

Audi

Workshop Manual Audi A8 2003 >

multitronic 01J, front-wheel drive

Edition 11.2007

List of Workshop Manual Repair Groups

Repair Group

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- 13 - Crankshaft group
- 37 - Controls, housing
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Technical information should always be available to the foremen and mechanics, because their careful and constant adherence to the instructions is essential to ensure vehicle road-worthiness and safety. In addition, the normal basic safety precautions for working on motor vehicles must, as a matter of course, be observed.

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00 – Technical data

1 Gearbox identification

The continuously variable automatic gearbox “multitronic 01J, front-wheel drive” is installed in the Audi A8 2003 ▶ in combination with various engine types. Allocation ⇒ [“3 Code letters, gearbox allocation, ratios, equipment”, page 3](#).

Location of code letters on gearbox

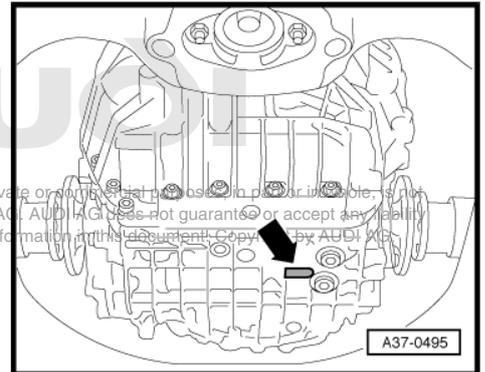
Gearbox code letters and gearbox serial number are stamped onto the bottom of the gearbox case -arrow-.

Example:	FRC	03	07	01
	Code letters	Day	Month	Year (2001) of manufacture



Note

The code letters for the gearbox are also given on the vehicle data stickers.



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2 Notes on CVT gearbox type “multitronic 01J (front-wheel drive)”

Detailed information on the basic principle of this gearbox ⇒ Self-study programme No. 228 ; CVT gearbox multitronic 01J .

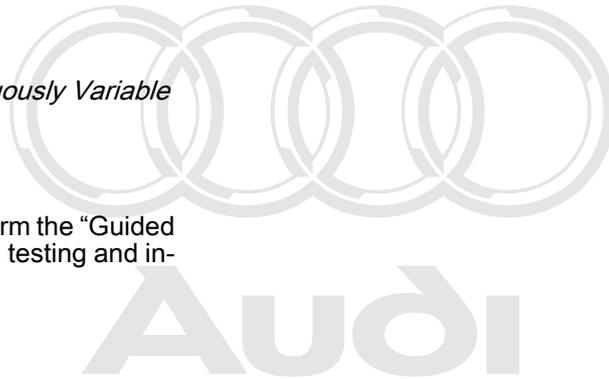


Note

The multitronic 01J is also referred to as “Continuously Variable Transmission”, in short “CVT”.

Guided Fault Finding

Before commencing any repair work, always perform the “Guided Fault Finding procedure” using vehicle diagnostic, testing and information system -VAS 5051 A- .



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3 Code letters, gearbox allocation, ratios, equipment

Front-wheel drive

multitronic		01J.G		01J.B		01J.B	
Gearbox	Code letters	GVN		GXU		HCQ	
	Manufactured from to	06.03		05.04 05.05		07.03 05.04	
Allocation	Model	Audi A8 2003 ▶		Audi A8 2003 ▶		Audi A8 2003 ▶	
	Engine	3.0 ltr. MPI 5V - 160 kW		3.0 ltr. MPI 5V - 162 kW		3.0 ltr. MPI 5V - 162 kW	
Input stage		51 : 46	1.109	51 : 46	1.109	51 : 46	1.109
Final drive		41 : 8	5.125	43 : 9	4.778	43 : 9	4.778

multitronic		01J.M		01J.B		01J.B	
Gearbox	Code letters	HJA		HRZ		HVA	
	Manufactured from to	05.05		03.05 05.05		05.05	
Allocation	Model	Audi A8 2003 ▶		Audi A8 2003 ▶		Audi A8 2003 ▶	
	Engine	3.2 ltr. 4V FSI -191 kW		3.0 ltr. MPI 5V - 162 kW		3.0 ltr. MPI 5V - 162 kW	
Input stage		49 : 48	1.021	51 : 46	1.109	51 : 46	1.109
Final drive		43 : 9	4.778	43 : 9	4.778	43 : 9	4.778

multitronic		01J.M		01J.M		01J.M	
Gearbox	Code letters	JLN		JSP		KEN	
	Manufactured from to	11.05		05.06		05.08	
Allocation	Model	Audi A8 2003 ▶		Audi A8 2003 ▶		Audi A8 2003 ▶	
	Engine	3.2 ltr. 4V FSI -191 kW		3.2 ltr. 4V FSI -191 kW		3.2 ltr. 4V FSI -191 kW	
Input stage		49 : 48	1.021	49 : 48	1.021	49 : 48	1.021
Final drive		43 : 9	4.778	43 : 9	4.778	43 : 9	4.778

multitronic		01J.M		01J.C		01J.B	
Gearbox	Code letters	KEP		KFT		KRH	
	Manufactured from to	05.08		05.08		05.08	
Allocation	Model	Audi A8 2003 ▶		Audi A8 2003 ▶		Audi A8 2003 ▶	
	Engine	3.2 ltr. 4V FSI -191 kW		2.8 ltr. 4V FSI - 154 kW		2.8 ltr. 4V FSI - 154 kW	
Input stage		49 : 48	1.021	53 : 45	1.178	51 : 46	1.109
Final drive		43 : 9	4.778	43 : 9	4.778	43 : 9	4.778

multitronic		01J.C		01J.B		01J.M	
Gearbox	Code letters	KRV		KRW		KTE	



multitronic		01J.C	01J.B	01J.M
	Manufactured from to	09.07	11.07	09.07
Allocation	Model	Audi A8 2003 ▶	Audi A8 2003 ▶	Audi A8 2003 ▶
	Engine	2.8 ltr. 4V FSI - 154 kW	2.8 ltr. 4V FSI - 154 kW	3.2 ltr. 4V FSI - 191 kW
Input stage		53 : 45 1.178	51 : 46 1.109	49 : 48 1.021
Final drive		43 : 9 4.778	43 : 9 4.778	43 : 9 4.778

multitronic		01J.M		
Gearbox	Code letters	KTF		
	Manufactured from to	09.07		
Allocation	Model	Audi A8 2003 ▶		
	Engine	3.2 ltr. 4V FSI - 191 kW		
Input stage		49 : 48 1.021		
Final drive		43 : 9 4.778		

4 Capacities

ATF section in gearbox

Capacities	Gearbox	multitronic
Initial filling	approx. 7.5 ltr.	01J
Changing	4.5 ... 5.0 ltr. Change interval for ATF⇒ Maintenance tables	
Lubricant	ATF for CVT gearbox	

ATF for CVT gearbox is available as a replacement part ⇒ Electronic parts catalogue

 **Caution**

The ATF required for the multitronic 01J gearbox is different to the ATF used for fixed-ratio automatic gearboxes. Only the ATF available as a replacement part for the CVT gearbox may be used in the gearbox.

Checking ATF level and changing ATF ⇒ [page 65](#)

Front final drive

Capacities	Front final drive	multitronic
Initial filling	approx. 1.3 ltr.	01J
Changing	No change intervals Lifetime filling No change required unless repair work has been performed (max. 1.3 ltr.)	
Lubricant	Gear oil for multitronic	

Gear oil for multitronic is available as a replacement part ⇒ Electronic parts catalogue

 **Caution**

The gear oil required for the multitronic 01J gearbox is different from the oil used in fixed-ratio automatic gearboxes. Only the gear oil available as a replacement part for the multitronic 01J may be used in the front final drive.

Checking oil level in front final drive ⇒ [page 97](#).

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5 Notes on towing



Caution

When the vehicle is towed, the selector lever must be set to position "N" and the vehicle must not be towed for a distance of more than 50 km or at a speed in excess of 50 km/h, as the gearbox would otherwise be seriously damaged.



Note

It is not possible to start the engine by means of tow-starting, for instance in the case of insufficient battery charge or if the starter is not working.

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6 Repair instructions

6.1 Contact corrosion!

General information:

Contact corrosion can occur if non-approved fasteners such as bolts, nuts, washers etc. are used on the vehicle.

For this reason, only fasteners with a special surface coating are fitted. These parts can be identified by their greenish colour.

Rubber, plastic and adhesives also consist of non-conductive materials.

If you are not sure whether used parts can be re-installed, always fit new parts.

The following applies in particular to gearboxes:

- ◆ The housing of the multitronic gearbox 01J is made of a magnesium alloy.
- ◆ Bolts and other components which have direct contact with the gearbox have a surface coating which is compatible with the magnesium gearbox housing.
- ◆ On gearboxes built of magnesium, the bolts must always be renewed on the following bolted connections: gearbox cover to gearbox housing, final drive cover to gearbox housing and engine to gearbox.
- ◆ If the incorrect components are used (bolts, nuts, washers etc.), this will cause contact corrosion. The gearbox housing will be damaged.
- ◆ The gearbox housing, gearbox cover and cover for final drive must also all be of the same material.
- ◆ If you are not sure whether used parts can be re-installed, always fit new parts.



Caution

- ◆ *We recommend using only Audi Genuine Parts.*
- ◆ *Accessories must be approved by AUDI AG.*
- ◆ *Damage resulting from contact corrosion is not covered by the warranty.*

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6.2 General repair instructions



WARNING

Prior to performing work with engine running, move selector lever to position "P" and operate parking brake button to apply the electronic parking brake.

Proper tools and the maximum possible care and cleanliness are essential for satisfactory gearbox repairs. The usual basic safety precautions also naturally apply when carrying out repair work.

A number of generally applicable instructions for the various repair procedures - which were previously repeated at numerous



places in the Workshop Manual - are summarised here. They apply to the work described in this Manual.

Special tools

For a complete list of special tools used in this Workshop Manual ⇒ "Special tools, Workshop equipment"

Gearbox

- ◆ Observe rules for cleanliness when working on gearbox ⇒ [page 9](#) .
- ◆ The engine must not be run and the vehicle must not be towed with the end cover removed or without ATF in the gearbox.
- ◆ Only install clean components: do not remove replacement parts from packaging until just before installation.
- ◆ After installing, the following fluid levels must be checked and topped up if necessary: ATF in planetary gearbox ⇒ [page 65](#) and gear oil in front final drive ⇒ [page 97](#) . Capacities and specifications ⇒ [page 5](#)

O-rings, oil seals, gaskets

- ◆ Always install new O-rings, oil seals and gaskets.
- ◆ After removing gaskets and seals, always inspect the contact surface on the housing or shaft for burrs resulting from removal or for other signs of damage.
- ◆ Thoroughly clean housing joint surfaces before assembling.
- ◆ Lightly lubricate the outer circumference and sealing lip of seals with ATF before installing.
- ◆ Lightly lubricate O-rings with ATF before installation to prevent them getting crushed during assembly.
- ◆ Use only ATF for parts running in ATF. Other lubricants will cause malfunction of the gearbox hydraulics.
- ◆ The open side of the oil seals faces toward the side with fluid filling.
- ◆ When installing a new oil seal, position the seal in the housing so that the sealing lip does not contact the shaft in the same place as the old seal (make use of insertion depth tolerances).
- ◆ After installing, the following fluid levels must be checked and topped up if necessary: ATF in planetary gearbox ⇒ [page 65](#) and gear oil in front final drive ⇒ [page 97](#) . Capacities and specifications ⇒ [page 5](#)

Nuts, bolts

- ◆ Loosen bolts in reverse sequence to the specified tightening sequence.
- ◆ Bolts and nuts used to secure covers and housings must be tightened in steps according to the specified tightening sequence and method.
- ◆ Nuts and bolts which secure covers and housings should be loosened and tightened in diagonal sequence and in stages if no tightening sequence is specified.
- ◆ The tightening torques stated apply to non-oiled nuts and bolts.
- ◆ Always renew self-locking bolts and nuts.
- ◆ Use a wire brush to clean the threads of bolts which are secured with locking fluid. Then install bolts with locking fluid; for locking fluid refer to ⇒ Electronic parts catalogue .

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- ◆ Threaded holes which take self-locking bolts or bolts coated with locking fluid must be cleaned (using a tap or similar). Otherwise there is a danger of the bolts shearing off the next time they are removed.

Locking elements

- ◆ Do not over-stretch circlips.
- ◆ Always renew circlips which have been damaged or over-stretched.
- ◆ Circlips must be properly seated in the base of the groove.

Bearings

- ◆ Install needle bearings so the lettering (side with thicker metal) faces towards the installing tool.
- ◆ Lubricate bearings with gear oil or ATF, depending on fitting location.
- ◆ Do not interchange inner or outer races of bearings of the same size.
- ◆ Always renew the tapered roller bearings on one shaft together and use new bearings from a single manufacturer.

Shims

- ◆ Use a micrometer to measure the shims at several points. Tolerance variations make it possible to obtain the exact shim thickness required.
- ◆ Check for burrs and damage. Install only shims which are in perfect condition.

Guided Fault Finding

Before commencing any repair work, always perform the "Guided Fault Finding procedure" using vehicle diagnostic, testing and information system -VAS 5051 A- .

6.3 Rules for cleanliness when working on the gearbox

- ◆ Thoroughly clean all joints and surrounding areas before dismantling.
- ◆ Place removed parts on a clean surface and cover them over. Use sheeting and paper. Use lint-free cloths.
- ◆ Carefully cover or seal open components if repairs cannot be carried out immediately.
- ◆ Only install clean components: do not remove replacement parts from packaging until just before installation.



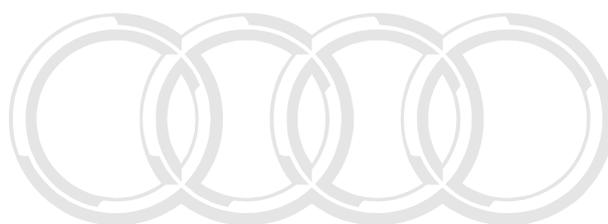
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13 – Crankshaft group

1 Damper unit, for description refer to: Engine, mechanics; Repair group 13

See the corresponding Workshop Manual ⇒ Rep. Gr. 13 for a description of how to remove and install the damper unit.



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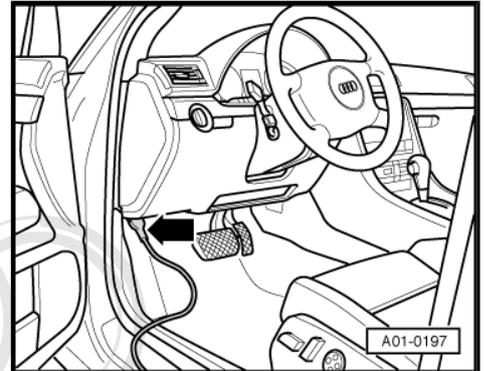
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37 – Controls, housing

1 Electrical/electronic components and fitting locations

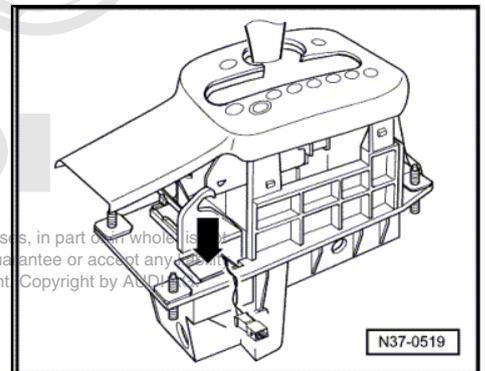
1. Diagnostic connector

- ◆ Fitting location: diagnostic connector -arrow- is located below knee padding on left side of steering wheel.



2. Selector lever lock solenoid -N110-

- ◆ Fitting location: The selector lever lock solenoid -N110- is a fixed component of the selector mechanism -arrow- and can only be renewed together with the shift unit.



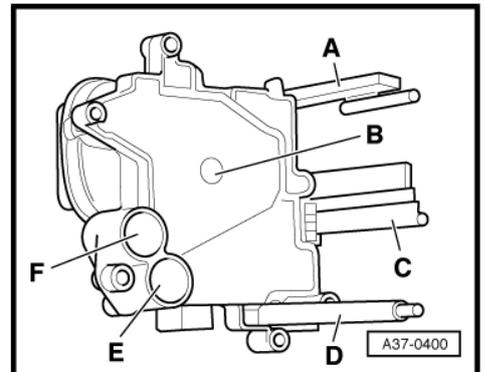
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3. Control unit for automatic gearbox -J217-

- ◆ Fitting location: The multitronic gearbox control unit -J217- is fitted to the rear end of the gearbox, directly onto the hydraulic control unit.

The components listed below are integrated in the automatic gearbox control unit -J217- :

- A - Gearbox output speed sender -G195- and gearbox output speed sender 2 -G196-
- B - Gearbox oil temperature sender -G93-
- C - Multi-function switch -F125-
- D - Gearbox input speed sender -G182-
- E - Automatic gearbox hydraulic pressure sender 1 -G193-
- F - Automatic gearbox hydraulic pressure sender 2 -G194-



Note

- ◆ *The automatic gearbox control unit -J217- is monitored via self-diagnosis.*
- ◆ *Removing and installing automatic gearbox control unit -J217- ⇒ Servicing multitronic 01J and 0AN; Rep. Gr. 38 .*



4. Hydraulic control unit

- ◆ Fitting location: The hydraulic control unit is bolted to rear end of gearbox. The multitronic gearbox control unit -J217- is fitted directly onto the hydraulic control unit.

A - Connector for automatic gearbox pressure control valve 1 - N215-

B - Connector for automatic gearbox pressure control valve 2 - N216-

C - Connector for solenoid valve 1 -N88-



Note

Removing and installing hydraulic control unit → Servicing multitronic 01J and 0AN; Rep. Gr. 38 .

The following valves are integrated into the hydraulic control unit (not shown in illustration):

- ◆ Automatic gearbox pressure control valve 1 -N215- (clutch solenoid valve)
- ◆ Automatic gearbox pressure control valve 2 -N216- (solenoid valve for transmission ratio)
- ◆ Solenoid valve 1 -N88- (clutch cooling/safety shut-off).
- ◆ Clutch cooling valve
- ◆ Minimum-pressure valve
- ◆ Pressure limiting valve
- ◆ Clutch control valve
- ◆ Control-pressure valve



Note

- ◆ *The valves are checked by self-diagnosis*
- ◆ *Description and function of the individual valves → Self-study programme No. 228 ; CVT gearbox multitronic 01J .*

5. tiptronic switch -F189-

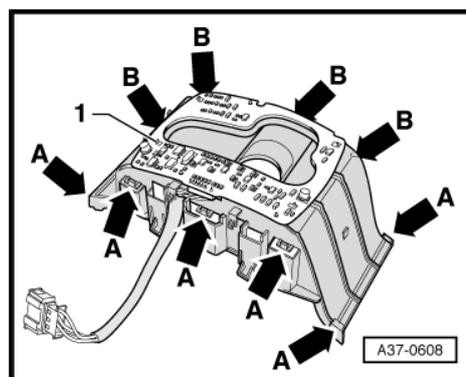
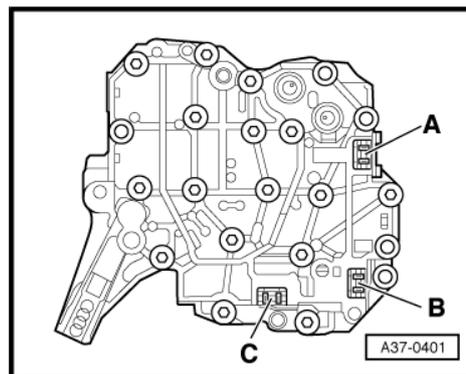
- ◆ Fitting location: The tiptronic switch -F189- is integrated in the printed circuit of the symbol panel, which is located in the selector mechanism cover.



Note

- ◆ *If malfunctions occur in the tiptronic switch -F189- , first check that the magnet on the transverse slide of the sliding cover is secured properly. If necessary, renew sliding cover. The printed circuit must only be renewed after the wiring has been checked.*
- ◆ *Removing and installing tiptronic switch -F189- → [page 18](#) .*

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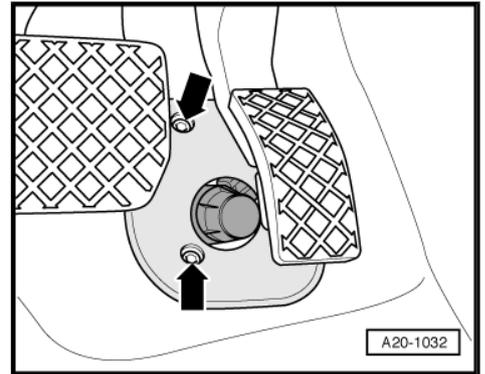


6. Kick-down switch -F8-

- ◆ Fitting location: The kick-down switch -F8- is bolted onto the floor under the pedals.

Note

- ◆ *The kick-down -F8- switch is tested via Self-diagnosis.*
- ◆ *Removing and installing kick-down switch -F8- ⇒ Fuel supply system, petrol engines; Rep. Gr. 20 .*

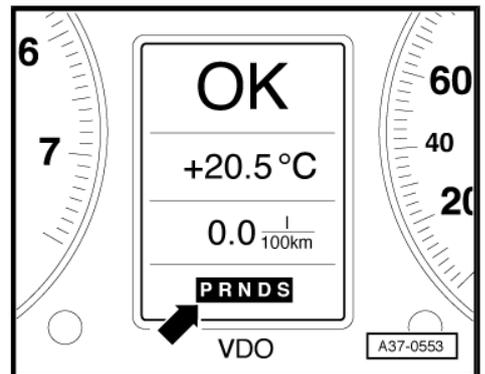


7. Selector lever position display -Y6-

- ◆ Fitting location: The selector lever position display -Y6- is integrated in the instrument cluster.

Note

- ◆ *If all the characters in the display light up together, this indicates a simple fault.*
- ◆ *A flashing display indicates a critical fault.*
- ◆ *A blank display indicates defective wiring or a defective selector lever position display -Y6- .*
- ◆ *If the selector lever position indicator -Y6- is defective, renew the instrument cluster ⇒ Electrical system; Rep. Gr. 90 .*



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2 Checking ignition key removal lock



WARNING

Prior to performing work with engine running, move selector lever to position "P" and operate parking brake button to apply the electronic parking brake.

- Turn the ignition key slightly clockwise to the "ignition on" position.
- Press and hold brake pedal.
- When interlock button in selector lever handle is pressed, it should be possible to move selector lever out of position "P" without "catching".
- Switch off ignition.
- It should not be possible to remove the ignition key when the selector lever is in any position other than "P".
- Shift selector lever to position "P".
- Remove ignition key.
- It should only be possible to remove ignition key in selector lever position "P".
- Selector lever can then not be shifted out of "P" position with interlock button pressed and brake pedal depressed.

If the ignition key removal lock does not function as described:

- Check entry and start authorisation control unit -J518- in function "Guided fault finding" ⇒ Vehicle diagnosis, testing and information system VAS 5051.



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3 Checking selector mechanism



WARNING

Prior to performing work with engine running, move selector lever to position "P" and operate parking brake button to apply the electronic parking brake.

- ◆ It should not be possible to operate the starter while the selector lever is in position "S", "D", "R" or in the "tiptronic gate".
- ◆ When travelling at speeds above 5 km/h and shifting into selector lever position "N", the solenoid for the selector lever lock must not engage and block the selector lever. The selector lever can be shifted into a driving gear.
- ◆ When travelling at speeds below 5 km/h (almost stationary) and shifting into selector lever position "N", the solenoid for the selector lever lock should only engage after about 1 second. Selector lever cannot be shifted out of "N" position until brake pedal is depressed.

Selector lever in "P" position and ignition switched on:

- Do not depress brake pedal.
- Selector lever is locked and cannot be shifted out of "P" position. Solenoid for selector lever lock blocks selector lever.
- Press and hold brake pedal.
- Solenoid for selector lever lock releases selector lever. It is possible to shift into a driving gear. Shift selector lever slowly from "P" position through "R, N, D and S" and check whether the display in the instrument cluster shows the correct selector lever position in each case.

Selector lever in "N" position and ignition switched on:

- Do not depress brake pedal.
- After a short waiting time: Selector lever is locked and cannot be shifted out of "N" position. Solenoid for selector lever lock blocks selector lever.
- Depress brake pedal.
- Solenoid for selector lever lock releases selector lever. It is possible to shift into a driving gear.

Selector lever in position "D", ignition and lights switched on:

- Shift selector lever into "tiptronic gate".
- The illuminated "D" symbol in the selector lever position display should go out and the "+" and "-" symbols should light up.
- The selector lever position indicator in the instrument cluster should switch from "PRNDS" to "7654321" when the selector lever is shifted into the "tiptronic gate".
- Adjust selector lever cable ⇒ [page 33](#) .
- Checking ignition key removal lock ⇒ [page 14](#) .

4 Servicing selector mechanism



WARNING

Prior to performing work with engine running, move selector lever to position "P" and operate parking brake button to apply the electronic parking brake.

4.1 Exploded view - selector mechanism cover, selector lever handle

1 - Guide for sliding cover

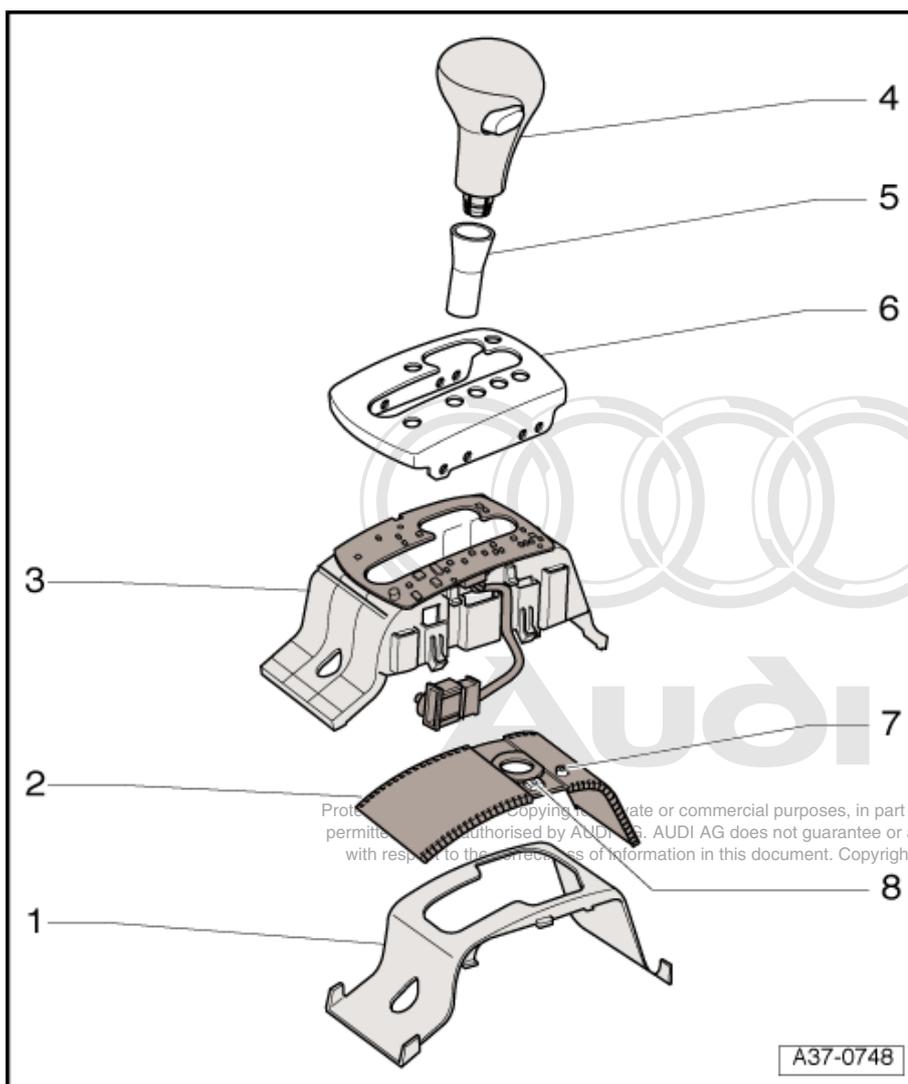
- To separate the two halves, lever out the retaining tabs, see "Removing tiptronic switch - F189-" => [page 18](#).

2 - Sliding cover

- With integrated magnet for tiptronic switch - F189- on transverse slide.
- Removing and installing => ["4.4 Removing and installing tiptronic switch F189"](#), [page 18](#)

3 - Frame with printed circuit

- With printed circuit; can only be renewed as complete unit
- With integrated tiptronic switch -F189-
- With symbol illumination switches
- If malfunctions occur in the switches, first check that the appropriate magnet on the sliding cover => [Item 2 \(page 16\)](#) is secured properly. If necessary, renew sliding cover.
- The printed circuit can be checked via "Guided Fault Finding"
- Removing and installing => [page 18](#)
- Before renewing printed circuit when fault memory indicates fault code "18161", first check adjustment of selector lever cable => [page 33](#)



4 - Selector lever handle

- Removing and installing => [page 17](#)
- Different versions (according to model) => Electronic parts catalogue

5 - Sleeve for selector lever

- Removing and installing => ["4.2 Removing and installing selector lever handle"](#), [page 17](#)

6 - Cover plate

- Includes symbol insert
- Removing and installing ⇒ [“4.4 Removing and installing tiptronic switch F189”, page 18](#)

7 - Magnet for symbol illumination switch

8 - Magnet for tiptronic recognition switch

4.2 Removing and installing selector lever handle

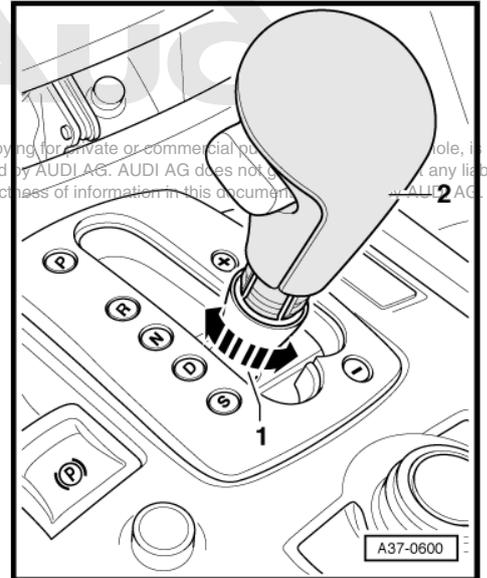
Removing

- Shift selector lever to position “D”.
- Turn sleeve -1- in clockwise direction until you feel it engage. Push sleeve downwards in this position.
- Pull off handle -2- from selector lever.

Installing

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

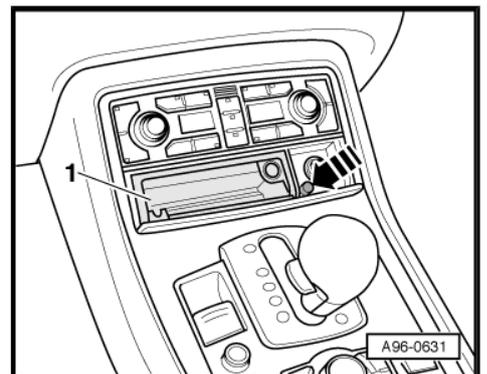
- Shift selector lever to position “D”.
- Fit sleeve -1- onto selector lever.
- Press handle -2- onto selector lever as far as it will go.
- Installation position: Button points to driver.
- Keep turning sleeve in both directions and simultaneously push it upwards until lugs on sleeve engage in slits on handle.
- Turn sleeve in anti-clockwise direction until you feel it engage.



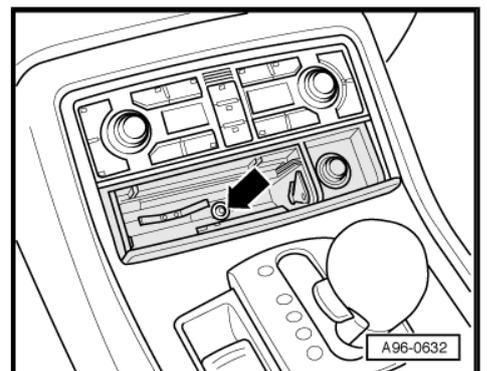
4.3 Removing and installing selector mechanism cover

Removing

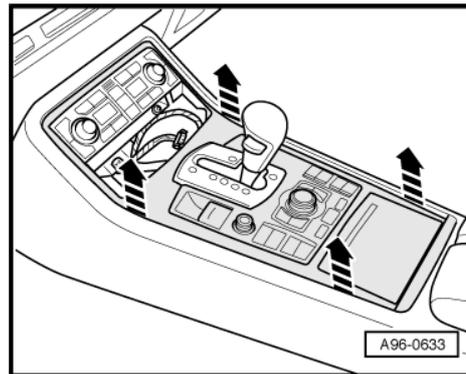
- Remove selector lever handle ⇒ [page 17](#) .
- Take out insert -1- for front ashtray by pressing button -arrow-.



- Unscrew bolt -arrow - and remove housing for front ashtray.
- Unplug electrical connector.



- Lift off centre console switch panel -arrows-.
- Unplug electrical connectors.

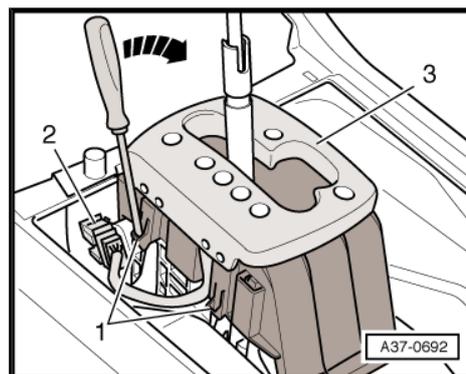


- Release locking hooks -1- on both sides of selector mechanism -arrow- and lift up cover -3-.
- Unplug electrical connector -2- and remove cover.

Installing

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

- Install selector lever handle ⇒ [page 17](#) .



4.4 Removing and installing tiptronic switch -F189-

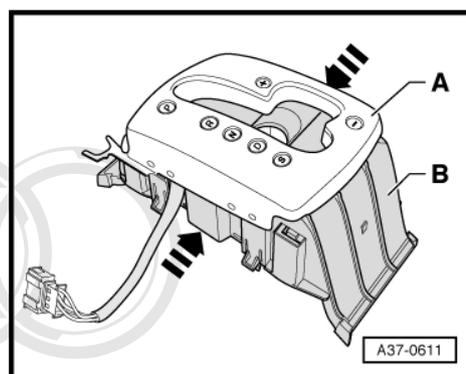


Note

- ◆ *The tiptronic switch -F189- is a fixed component of the printed circuit.*
- ◆ *The magnet for the tiptronic switch -F189- is attached to the sliding cover.*

Removing

- Remove selector lever handle ⇒ [page 17](#) .
- Remove selector mechanism cover ⇒ [page 17](#) .
- Press together middle section of frame -arrows- and simultaneously pull off the cover plate.

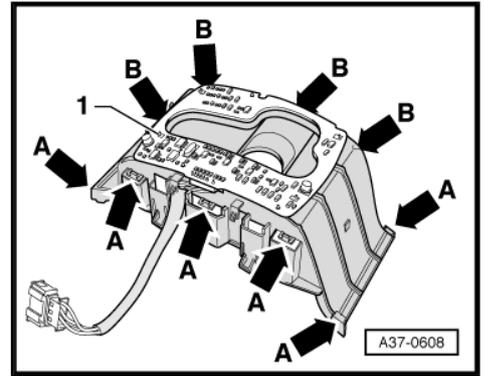


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- Carefully lever out retaining tabs -arrows A- and -arrows B- (retaining tabs are concealed).
- Detach guide and sliding cover together with tiptronic switch - F189- from frame.

 **Note**

- ◆ Printed circuit -1- can only be renewed together with frame.
- ◆ Magnet for tiptronic switch -F189- can only be renewed together with sliding cover.
- ◆ Guide must be renewed if retaining tabs are damaged.



Installing

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

- Install selector mechanism cover => [page 17](#) .

4.5 Exploded view - selector mechanism

1 - Rubber sleeve for selector lever cable

- Check that rubber sleeve for selector lever cable is correctly attached and make sure it seals it off properly

2 - Locking plate

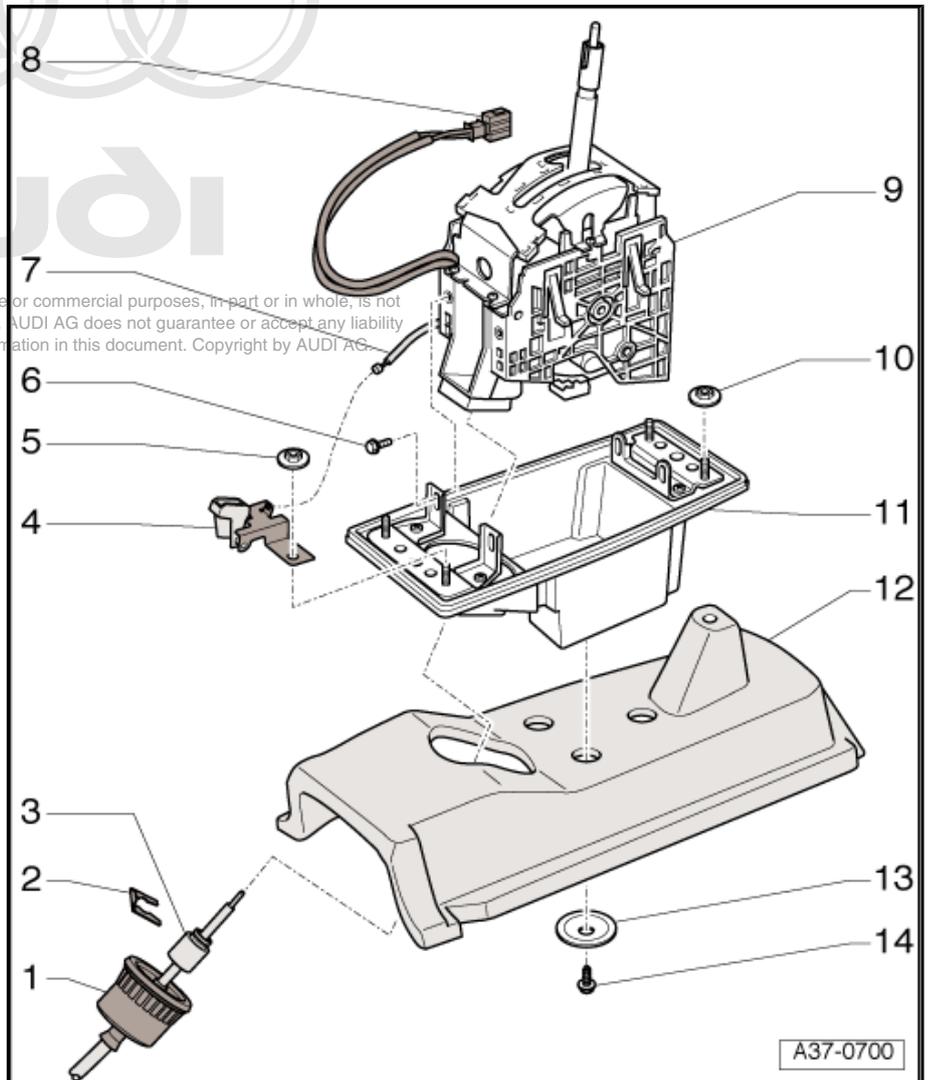
- For securing selector lever cable to shift unit
- Installation position: angled end points upwards

3 - Selector lever cable

- Do not bend or kink
- Selector lever cable must be renewed if rubber sleeve is damaged
- Removing and installing => [page 28](#)
- Before installing, lightly lubricate ball socket with polycarbamide grease - G 052 142 A2- .
- When installing, make sure that rubber sleeve on gearbox end is not twisted
- Adjusting => [page 33](#)

4 - Bracket

- With rocker mechanism for manual release
- Different versions (according to model) => Electronic parts catalogue



5 - 8 Nm

6 - 3.5 Nm

7 - Operating cable for manual release

- Removing and installing ⇒ [page 21](#)
- Different versions (according to model) ⇒ Electronic parts catalogue

8 - Electrical connector

- For selector lever lock solenoid -N110- and switch for gear selector position P -F305-

9 - Shift unit

- With selector lever lock solenoid -N110- and switch for gear selector position P -F305-
- Can only be renewed as a complete unit
- Different versions (according to model) ⇒ Electronic parts catalogue
- Removing and installing ⇒ [page 21](#)

10 - 8 Nm

11 - Cover for shift unit

- With glued-on gasket

12 - Noise insulation

13 - Securing clip

- For securing noise insulation to selector mechanism
- Renew

14 - 1.5 Nm

4.6 Operating manual release for selector mechanism



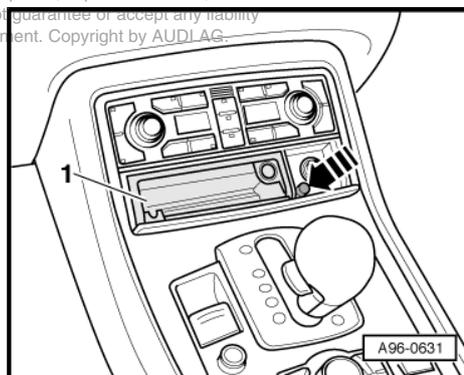
Note

- ◆ *If the battery is disconnected or discharged, the selector lever cannot be shifted from position "P".*
- ◆ *When you operate the manual release mechanism the selector lever lock solenoid -N110- will release the lock without current supply.*

Procedure

- Take out insert -1- for front ashtray by pressing button -arrow-.

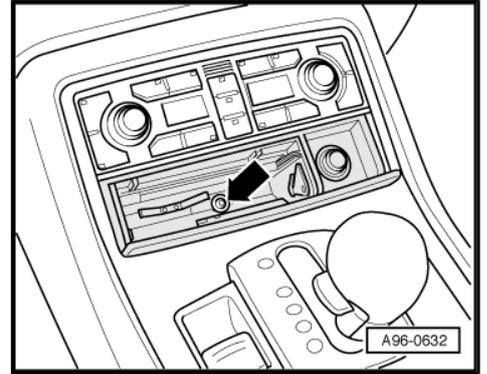
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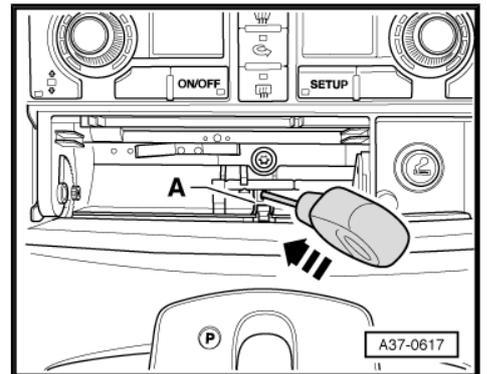
- Unscrew bolt -arrow - and remove housing for front ashtray.

 **Note**

Should there be a trim cap on the rocker mechanism for manual release, it will have to be levered off with a screwdriver.



- Use a screwdriver or similar to press on the rocker mechanism for manual release -A- and simultaneously shift the selector lever out of position "P" -arrow-.



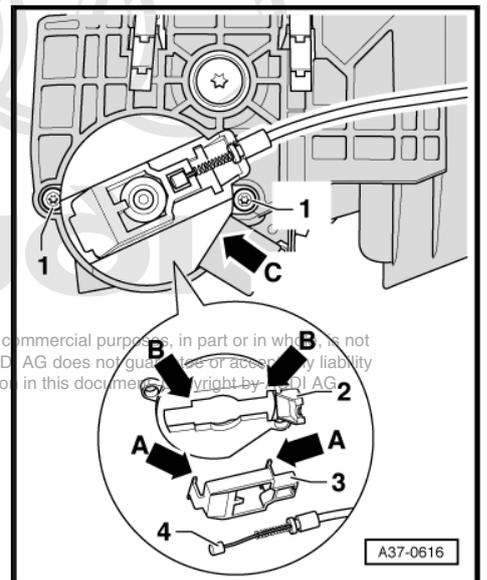
4.7 Removing and installing manual release mechanism

Removing

- Shift unit removed.
- Unscrew bolts -1- and remove manual release mechanism.

Installing

- To assemble manual release mechanism, insert slide -3- with lugs -arrows A- into recesses -arrows B- on cover -2-.
- Clip end of Bowden cable -4- into slide and support bracket into cover.
- Secure assembled manual release mechanism to shift unit.
- Flat edge -arrow C- points towards connecting wires.

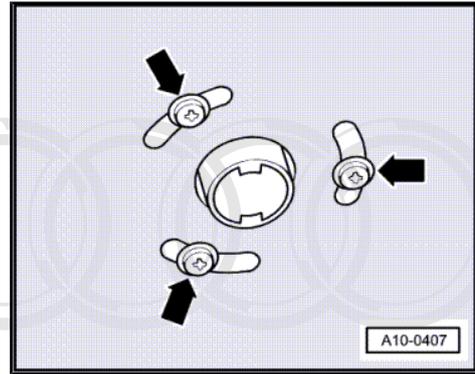


4.8 Removing and installing shift unit

Removing

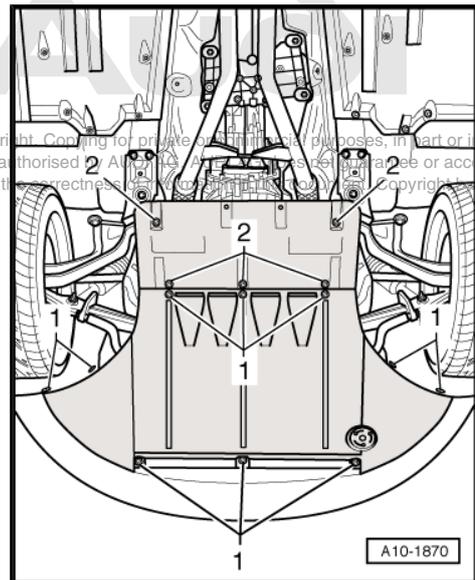
- If applicable, activate jacking mode when raising the vehicle
 ⇒ Running gear, front-wheel drive and four-wheel drive; Rep. Gr. 43 ; Adaptive air suspension .
- Raise vehicle or drive onto inspection pit.

- On vehicles fitted with auxiliary heater, remove screws -arrows- securing exhaust pipe of auxiliary/ additional heater to noise insulation.

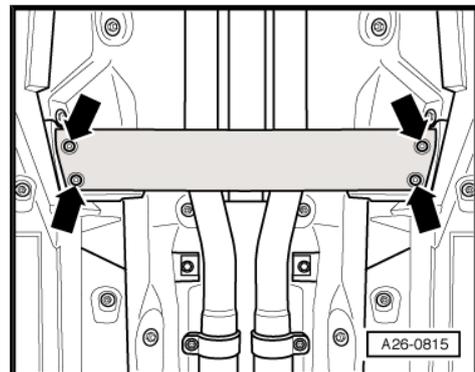


- Release quick-release fasteners -1- and -2- and detach noise insulation panels.

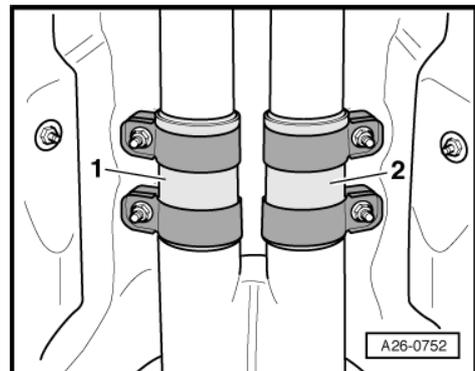
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- Remove front cross member -arrows-.



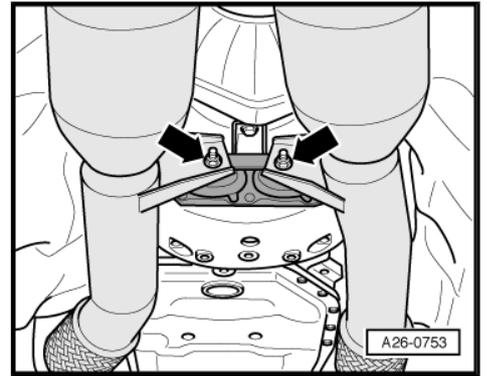
- Loosen clamps -1- and -2-.



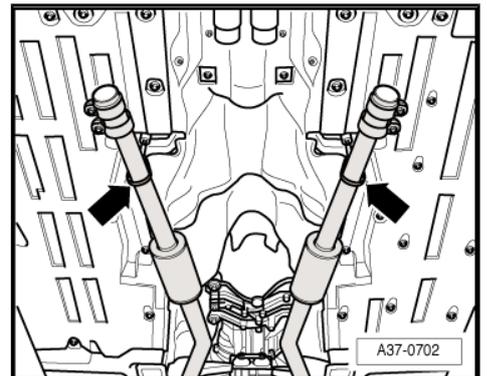
 **Note**

The flexible pipe connection (de-coupling element) on the front exhaust pipe must not be bent more than 10° - otherwise it can be damaged.

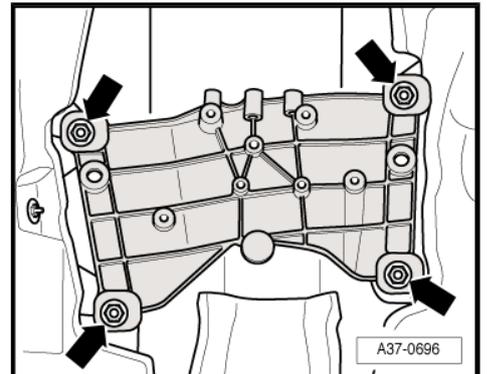
- Unscrew nuts -arrows- on brackets for front exhaust pipes (left and right).



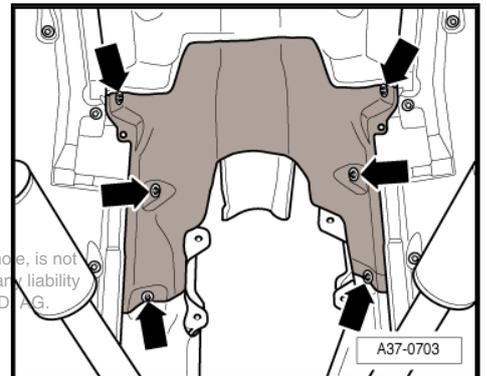
- Tie up left and right exhaust system onto body.



- Unscrew bolts -arrows- and remove tunnel cross member.

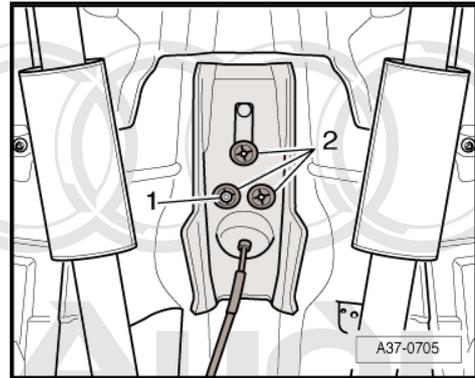


- Remove heat shield for selector mechanism -arrows-.

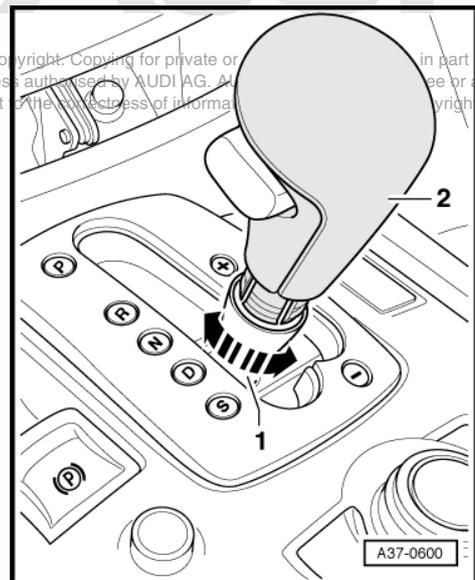


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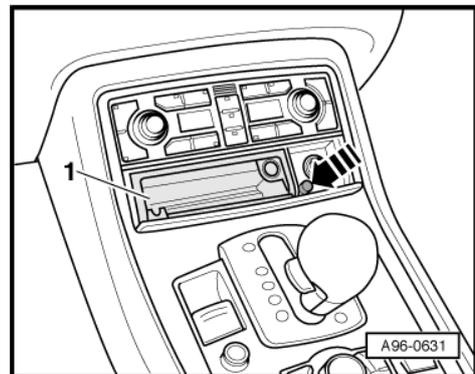
- Remove bolt -1-.
- Lever off lock washers -2- and remove noise insulation.



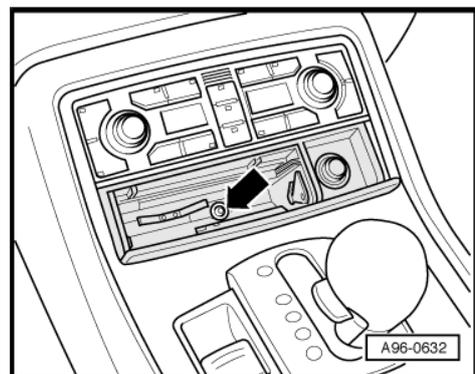
- Shift selector lever to position "D".
- Turn sleeve -1- in clockwise direction until you feel it engage. Push sleeve downwards in this position.
- Now pull off handle -2- from selector lever.



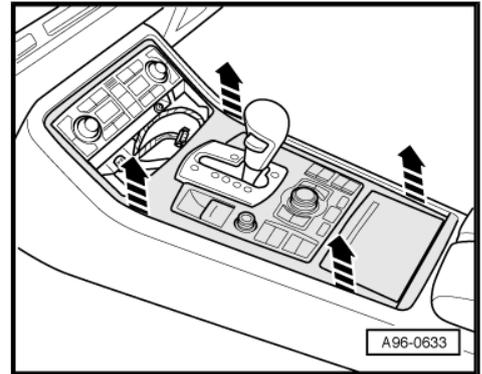
- Take out insert -1- for front ashtray by pressing button -arrow-.



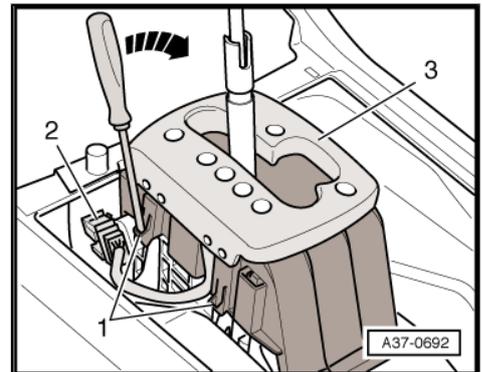
- Unscrew bolt -arrow - and remove housing for front ashtray.
- Unplug electrical connector.



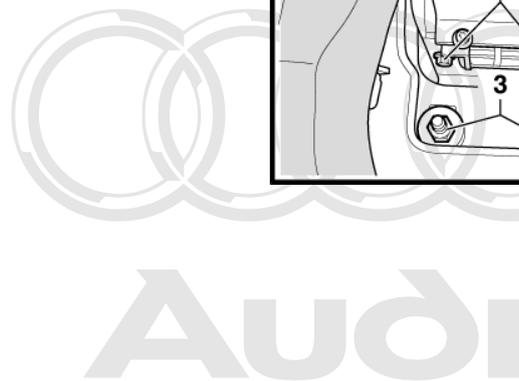
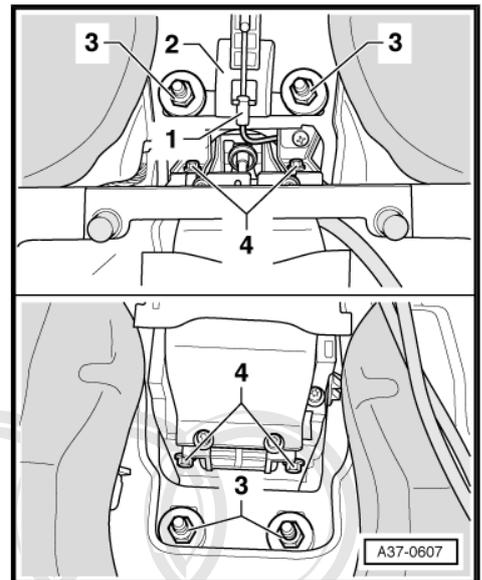
- Lift off centre console switch panel -arrows-.
- Unplug electrical connectors.



- Release locking hooks -1- on both sides of selector mechanism -arrow- and lift up cover -3-.
- Unplug electrical connector -2- and remove cover.
- Unplug electrical connector for selector lever lock solenoid -N110- and switch for gear selector position P -F305- .



- Lever Bowden cable for manual release mechanism -1- out of bracket -2-.
- Remove bolts -4-.
- Carefully pull shift unit upwards slightly...



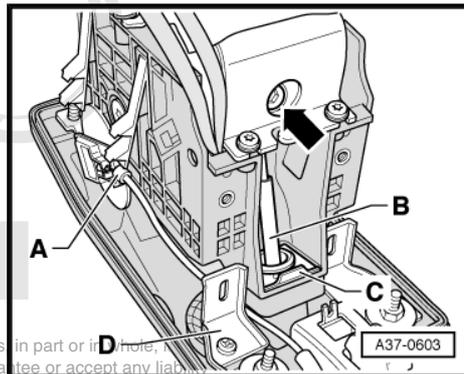
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- while simultaneously guiding manual release mechanism -A- and selector lever cable -B- out of cover for shift unit.

 **Note**

If necessary, unclip rubber sleeve of selector lever cable from cover for shift unit.

- Loosen clamping bolt -arrow- of selector lever cable with socket (Torx 25).
- Pull out locking plate -C- for selector lever cable towards the front.
- Pull shift unit out forwards, while simultaneously pulling out selector lever cable.



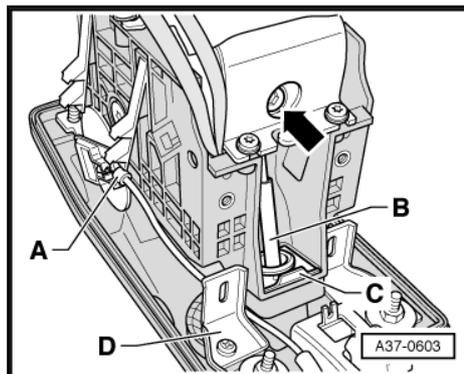
 **Note**

Do not bend or kink the selector lever cable.

Installing

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

- Selector lever and selector shaft lever in position "D".
- Insert selector lever cable -B- into hole for clamping bolt -arrow-.
- Fit locking plate -C- securing selector lever cable to shift unit.
- Installation position: angled end of locking plate points upwards.
- Check if rubber sleeve for selector lever cable is correctly hooked into cover of shift unit and make sure it seals it off properly.
- Carefully guide shift unit into cover for shift unit, making sure manual release mechanism stays in position and is not damaged.
- The Bowden cable must be routed beneath the mounting bracket (right-side) -D-.
- Adjust selector lever cable ⇒ [page 33](#) .

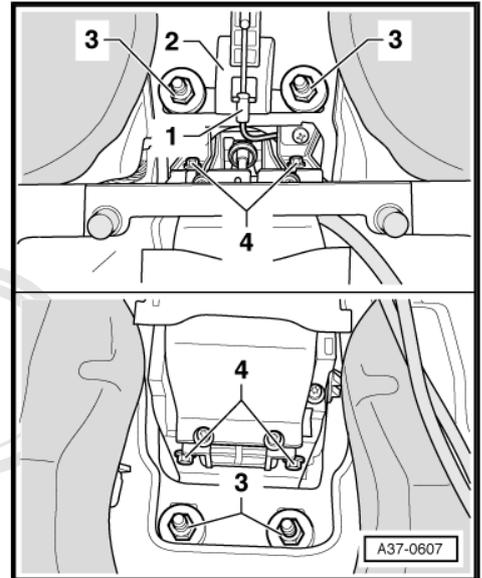


 **Note**

- ◆ Nuts -3- for lateral adjustment and/or bolts -4- for vertical adjustment have to be loosened in order to align selector mechanism with centre console switch panel.
- ◆ -Item 1- and -item 2- can be disregarded.
- Install front ashtray in centre console switch panel ⇒ General body repairs, interior; Rep. Gr. 68 .
- Check selector mechanism ⇒ [page 15](#) .
- Deactivate jacking mode ⇒ Running gear, front-wheel drive and four-wheel drive; Rep. Gr. 43 ; Adaptive air suspension .

Tightening torques

Component	Nm
Cover for shift unit to body	8
Shift unit to cover for shift unit	3.5
Front cross member to body	23



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4.9 Selector lever cable - exploded view of components

1 - Selector shaft lever

- With damper

2 - Locking plate

- For selector lever cable

3 - Selector lever cable

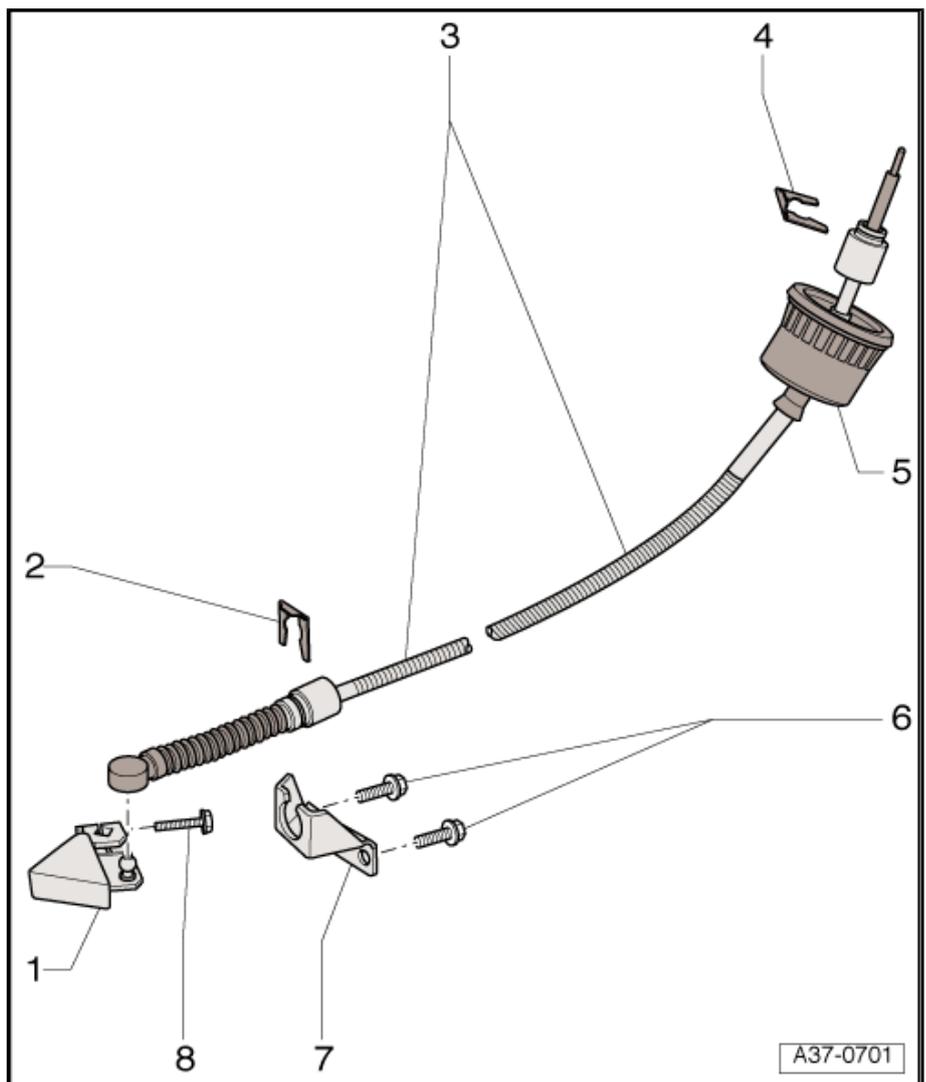
- Do not bend or kink
- Before installing, lightly lubricate ball socket with polycarbamide grease - G 052 142 A2- .
- Removing and installing ⇒ [page 28](#)
- Adjusting ⇒ [page 33](#)
- Selector lever cable must be renewed if rubber sleeve is damaged
- When installing, make sure that rubber sleeve on gearbox end is not twisted

4 - Locking plate

- For selector lever cable

5 - Rubber sleeve for selector lever cable

- Check if rubber sleeve for selector lever cable is correctly hooked into cover of shift unit and make sure it seals it off properly.



6 - 23 Nm

7 - Support bracket

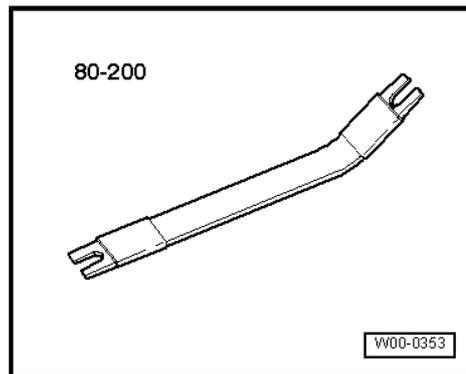
- For selector lever cable

8 - 9 Nm

4.10 Removing and installing selector lever cable

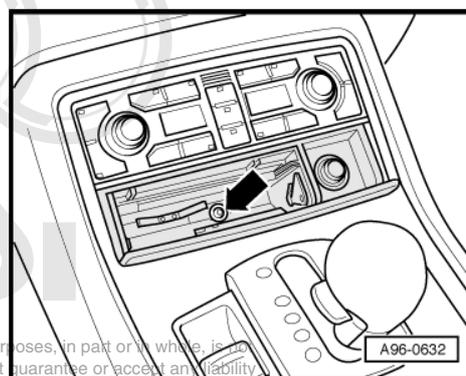
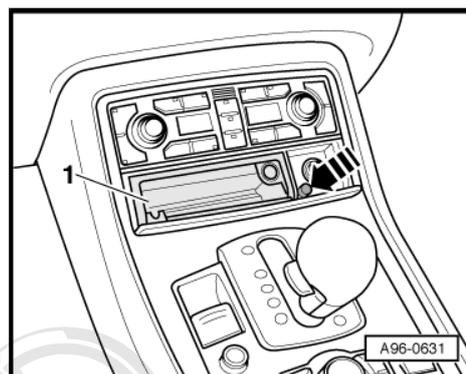
Special tools and workshop equipment required

- ◆ Removal lever -80-200-



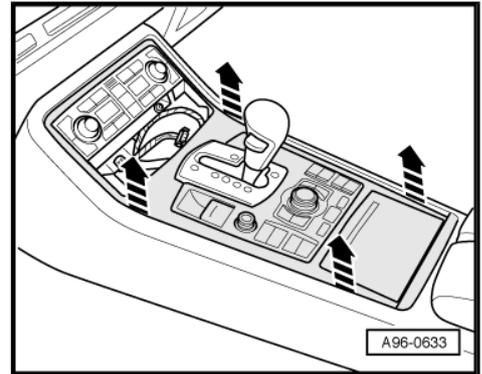
Removing

- If applicable, activate jacking mode when raising the vehicle
⇒ Running gear, front-wheel drive and four-wheel drive; Rep. Gr. 43 ; Adaptive air suspension .
- Shift selector lever to position "D".
- Take out insert -1- for front ashtray by pressing button -arrow-.
- Unscrew bolt -arrow- and remove housing for front ashtray.
- Unplug electrical connector.

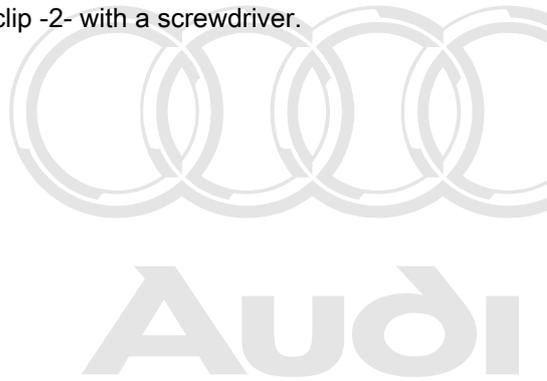


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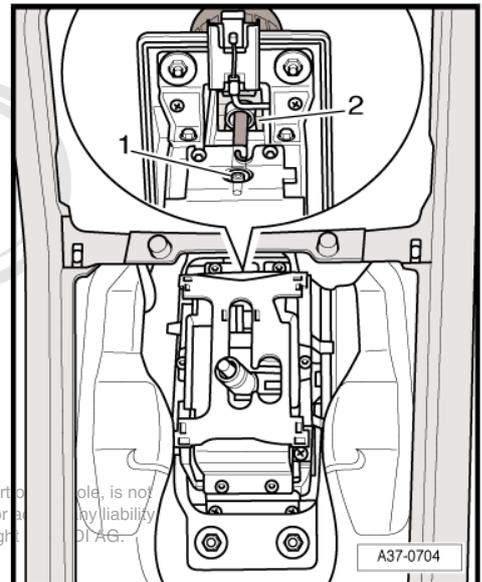
- Lift off centre console switch panel -arrows-.
- Unplug electrical connectors.



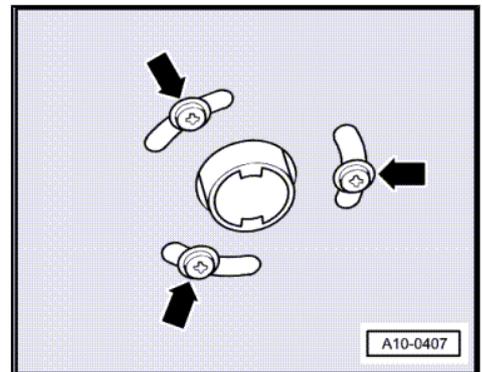
- Loosen clamping bolt -1- for selector lever cable by approx. 1 turn.
- Lever off retaining clip -2- with a screwdriver.
- Raise vehicle.



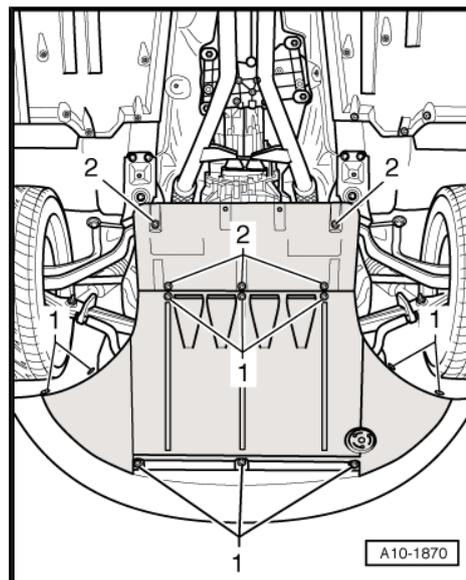
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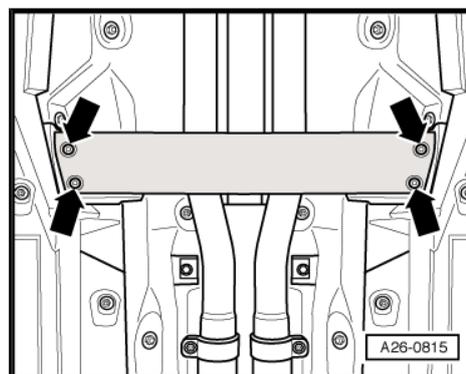
- On vehicles fitted with auxiliary heater, remove screws -arrows- securing exhaust pipe of auxiliary/ additional heater to noise insulation.



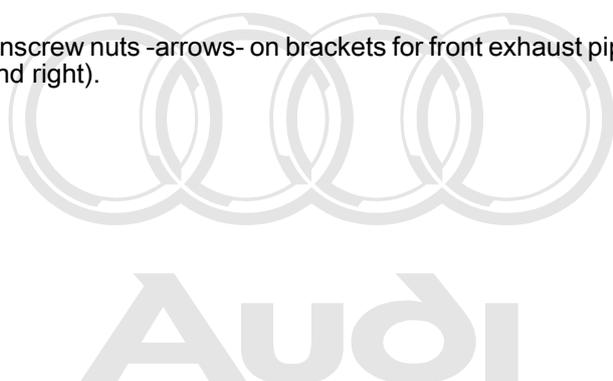
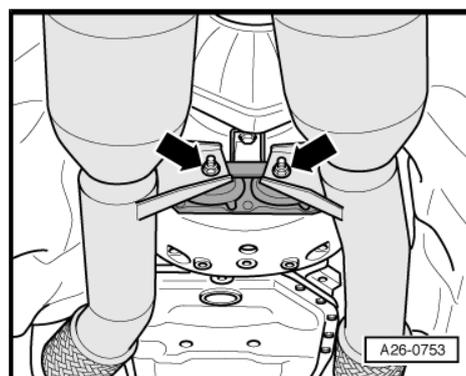
- Release quick-release fasteners -1- and -2- and detach noise insulation panels.



- Remove front cross member -arrows-.



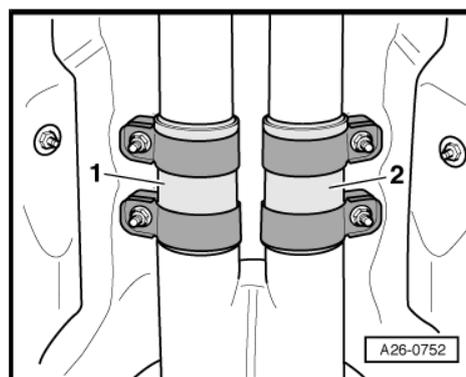
- Unscrew nuts -arrows- on brackets for front exhaust pipes (left and right).



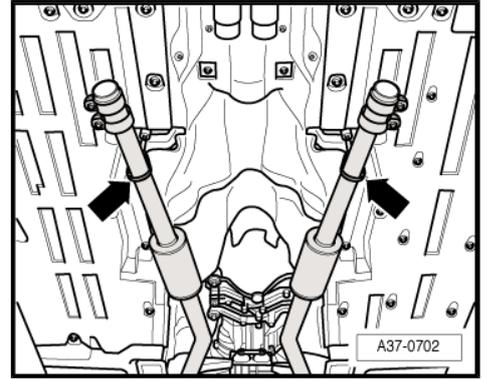
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The flexible pipe connection (de-coupling element) on the front exhaust pipe must not be bent more than 10° - otherwise it can be damaged.

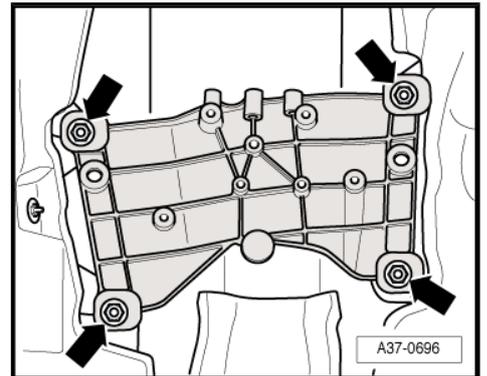
- Loosen clamps -1- and -2-.



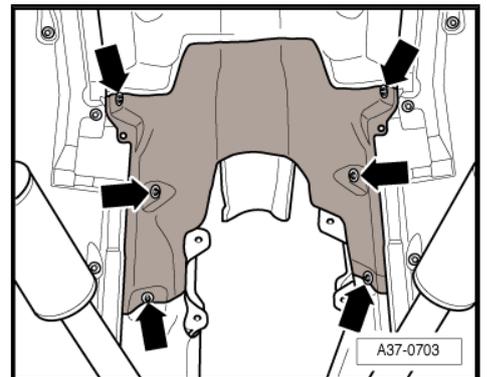
- Tie left and right front exhaust pipes up onto body -arrows-.



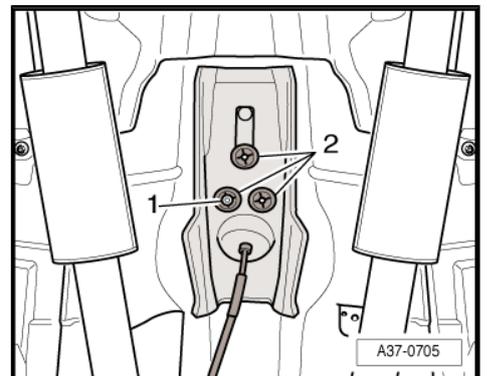
- Unscrew bolts -arrows- and remove tunnel cross member.



- Remove heat shield for selector mechanism -arrows-.



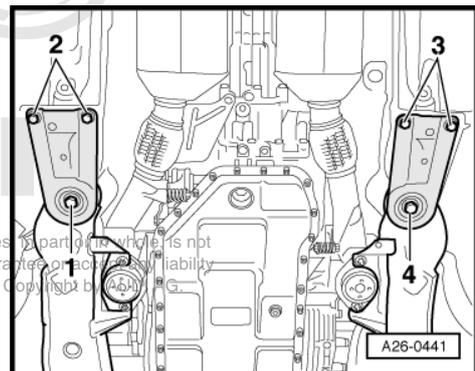
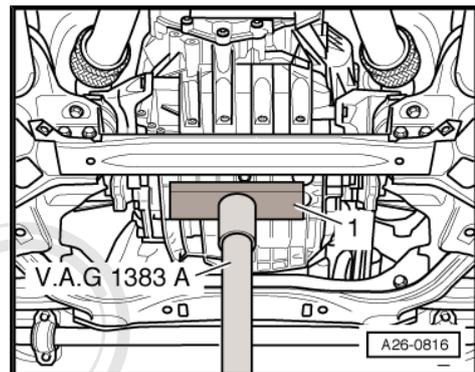
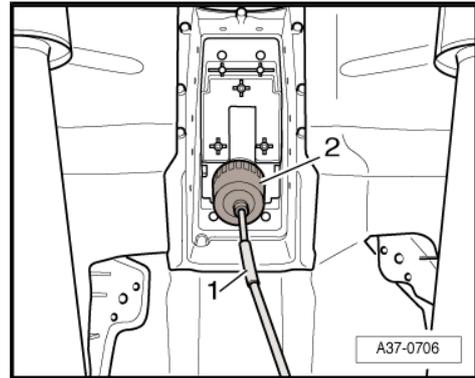
- If fitted, unscrew bolt -1-.
- Lever off lock washers -2-.
- Pull noise insulation downwards slightly.



 **Note**

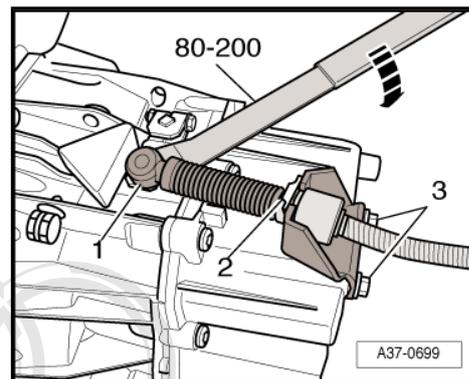
Do not bend or kink the selector lever cable.

- Remove rubber sleeve -2- from selector mechanism.
 - Remove retaining clip for selector lever cable (already released in an earlier step).
 - Detach selector lever cable -1- downwards out of shift unit.
-
- Apply lifting column of engine and gearbox jack -V.A.G 1383 A- to gearbox from below (place a block of wood -1- between lifting column and gearbox).
 - Use engine and gearbox jack to lift gearbox up slightly.
-
- First remove bolts -2- and -3- and then subframe securing bolts -1- and -4-.
 - Using engine and gearbox jack -V.A.G 1383 A-, lower gearbox far enough to be able to access selector lever cable at selector shaft lever at top of gearbox.



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- Remove bolts -3- at support bracket for selector lever cable.
- Use removal lever -80-200- to prise ball head -1- on selector lever cable off selector shaft lever -arrow-.



i Note

-Item 2- can be disregarded.

Installing

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

i Note

- ◆ Do not bend or kink the selector lever cable.
- ◆ Before installing, lightly lubricate ball socket on selector lever cable with polycarbamide grease -G 052 142 A2- .

- Push selector shaft lever into position "D".

i Note

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In order to securely set position "D" on selector shaft lever move the selector shaft lever on gearbox forwards as far as it will go, into position "P". Then shift it three positions to the back (opposite to direction of travel).

- Install subframe ⇒ Running gear, front-wheel drive and four-wheel drive; Rep. Gr. 40 .
- Adjust selector lever cable ⇒ [page 33](#) .
- Install exhaust system and perform stress-free alignment ⇒ Rep. Gr. 26 .
- Deactivate jacking mode ⇒ Running gear, front-wheel drive and four-wheel drive; Rep. Gr. 43 ; Adaptive air suspension .

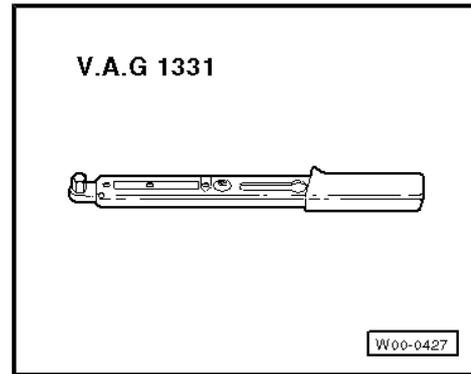
Tightening torques

Component	Nm
Support bracket to gearbox	23
Front cross member to body	23
Tunnel cross member to body	40

4.11 Adjusting selector lever cable

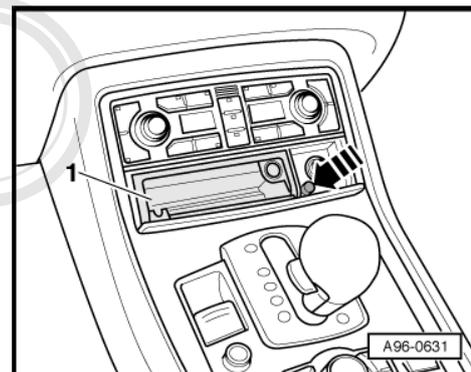
Special tools and workshop equipment required

◆ Torque wrench -V.A.G 1331-

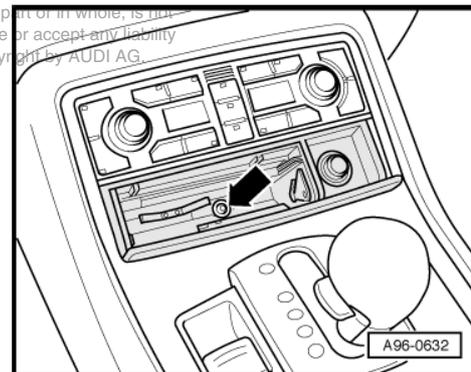


Procedure

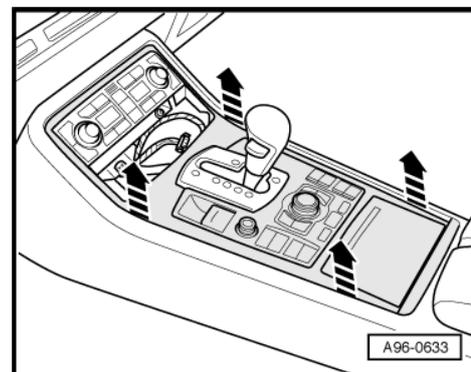
- Shift selector lever to position "D".
- The "D" symbol must be lit up in the selector lever position indicator in the instrument cluster.
- Take out insert -1- for front ashtray by pressing button -arrow-.



- Unscrew bolt -arrow- and remove housing for front ashtray.
- Unplug electrical connector.



- Lift off centre console switch panel -arrows-.
- Unplug electrical connectors.
- Cover on selector mechanism must remain installed for duration of adjustment process.
- Selector lever in position "D".



- Loosen clamping bolt for selector lever cable by approx. 1 turn.

 **Note**

- ◆ *Clamping bolt can only be accessed with selector lever in position "D".*
- ◆ *Loosen clamping bolt approx. 1 turn – do not remove.*

 **Caution**

- *After loosening clamping bolt, selector lever must remain in position "D" for total duration of adjustment process.*

- Carefully move selector lever slightly forwards and backwards, without shifting lever into a different selector lever position.

The selector lever cable is then relieved of stress.

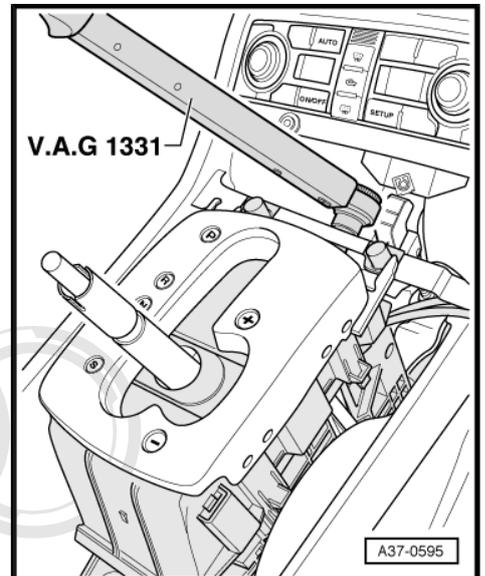
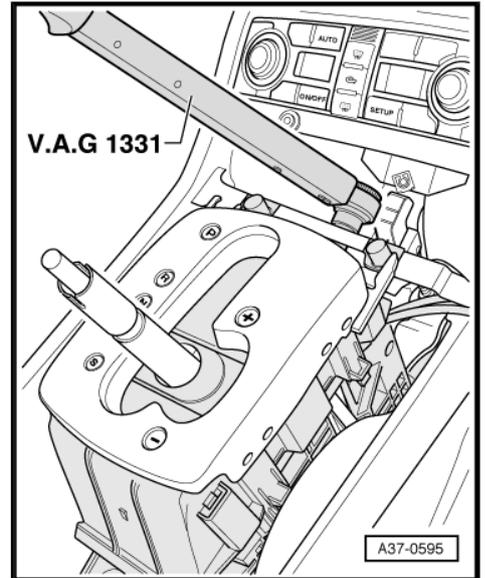
- Check that selector lever is set accurately in position "D". To do so, push selector lever slightly towards driver's seat and check selector lever position indicator in instrument cluster.

 **Caution**

- *When tightening the clamping bolt, the selector lever must not be pulled forwards or backwards, as otherwise the setting will not be accurate.*

- Tighten clamping bolt for selector lever cable in this position (tightening torque: 13 Nm).

Assembly is performed in reverse sequence.



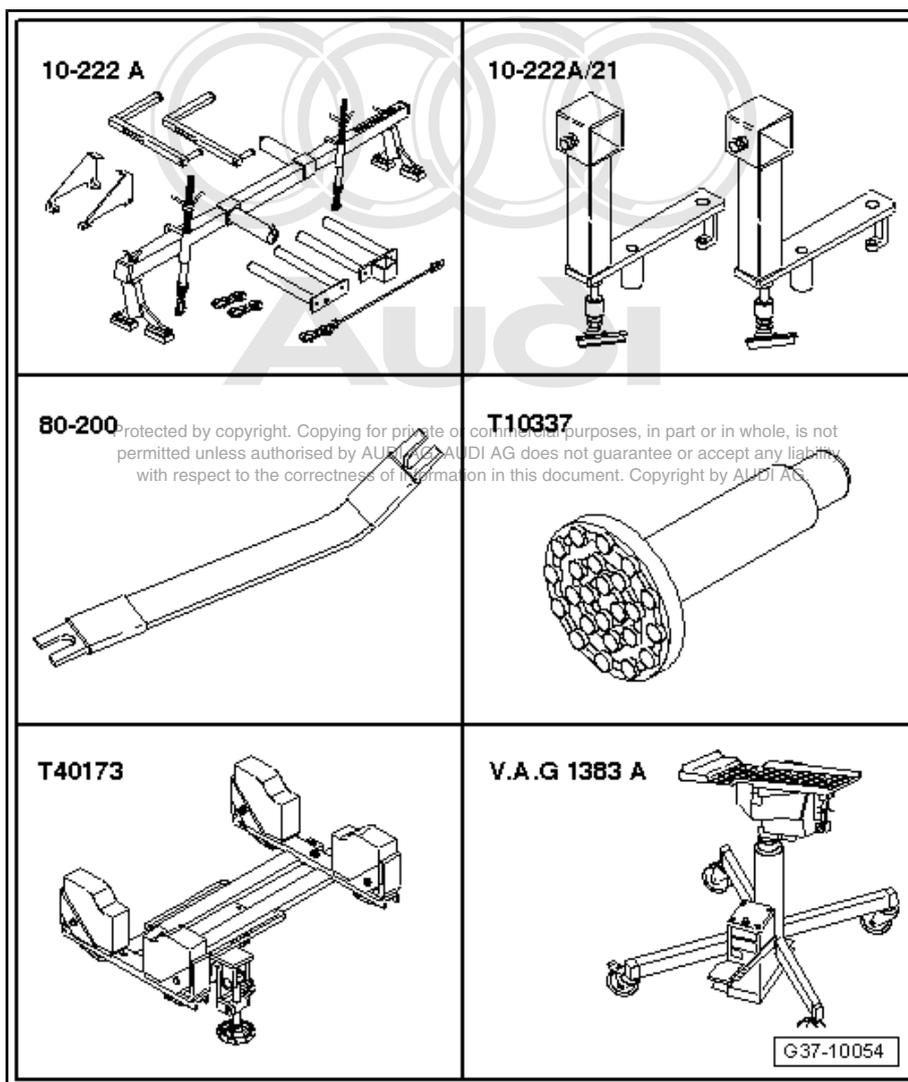
5 Removing and installing gearbox

- ◆ ⇒ ["5.1 Removing gearbox - vehicles with 3.0 ltr. MPI engine", page 36](#)
- ◆ ⇒ ["5.2 Installing gearbox - vehicles with 3.0 ltr. MPI engine", page 47](#)
- ◆ ⇒ ["5.3 Removing gearbox - vehicles with 3.2 ltr. FSI engine and 2.8 ltr. FSI engine", page 49](#)
- ◆ ⇒ ["5.4 Installing gearbox on vehicles with 3.2 ltr. FSI engine", page 55](#)

5.1 Removing gearbox - vehicles with 3.0 ltr. MPI engine

Special tools and workshop equipment required

- ◆ Support bracket -10-222 A-
- ◆ Adapters -10-222 A/21-
- ◆ Removal lever -80-200-
- ◆ Gearbox support -T10337-
- ◆ Gearbox support -T40173-
- ◆ Engine and gearbox jack - V.A.G 1383 A-



- Lock carrier and torque reaction support installed.



All cable ties which are released or cut open during removal must be fitted in the same position when installing.

- If applicable, activate jacking mode when raising the vehicle
 => Running gear, front-wheel drive and four-wheel drive; Rep. Gr. 43 ; Adaptive air suspension .



Caution

Follow steps required when disconnecting battery => Rep. Gr. 27 .

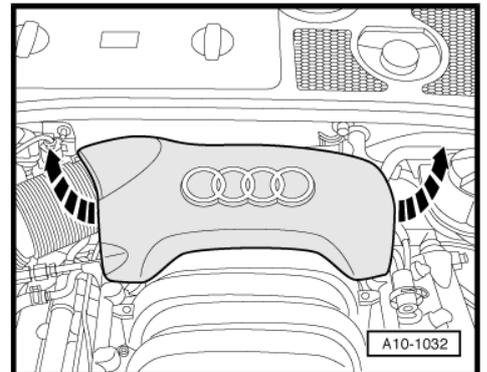
- Switch off ignition.

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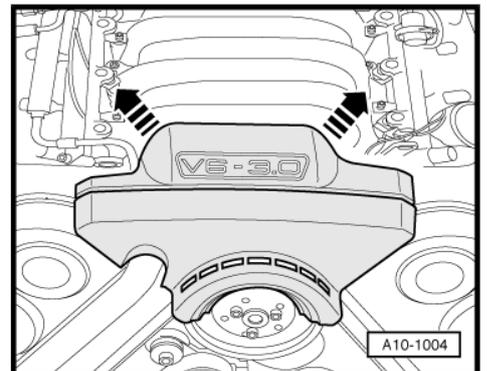
 **Note**

The ignition key must be left in the ignition lock when disconnecting the battery so that the front wheels can be turned after the battery has been disconnected.

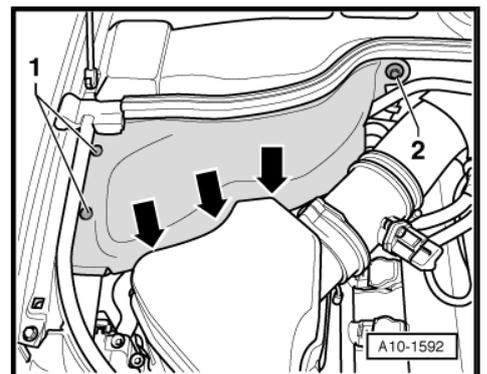
- Disconnect battery => Rep. Gr. 27 .
- Pull off rear engine cover panel -arrows-.



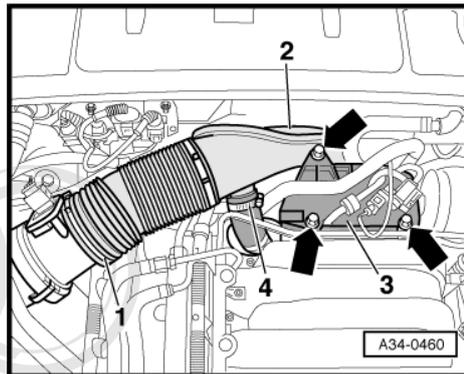
- Pull off front engine cover -arrows-.



- Remove cover for suspension turret (right-side); to do so, detach spreader clips -1- and unscrew nut -2-.
- Pull cover out of retainers -arrows-.



- Detach air intake hose -1- from air-mass meter -G70- .
- Remove bolts -arrows- from solenoid valve mounting plate -3-.
- Pull hose -4- off air duct -2-.



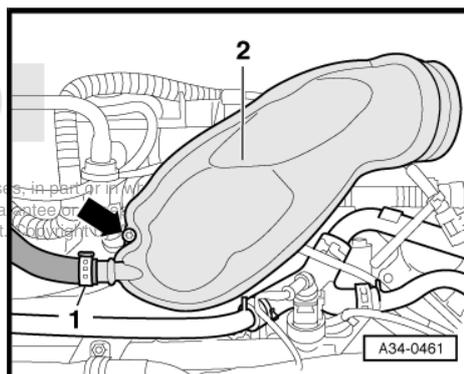
- Unscrew bolt -arrow- and detach air duct -2- from throttle valve module -J338- .
- If fitted, detach hose -1- from air duct.



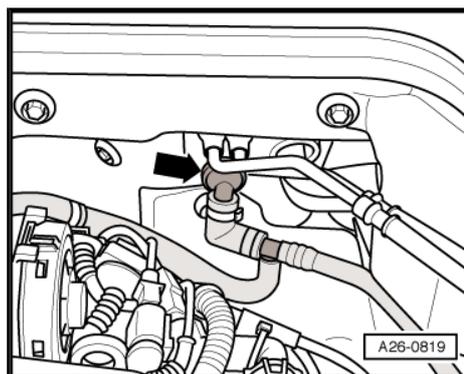
Note

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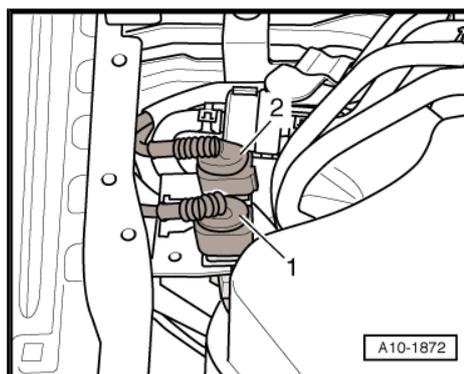
For illustration purposes, the air duct is shown from rear, with engine removed.



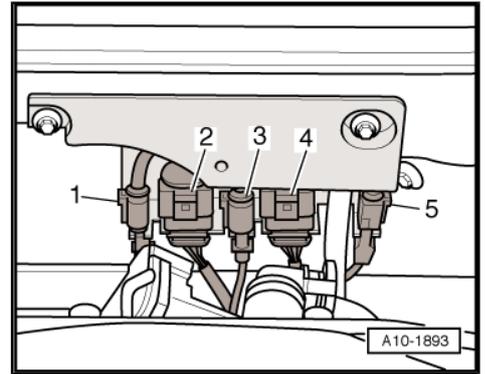
- Detach vacuum hose -arrow- to brake servo at bulkhead.



- Remove electrical connectors -1- and -2- from retainer and unplug.
- Guide electrical wires to Lambda probes downwards.



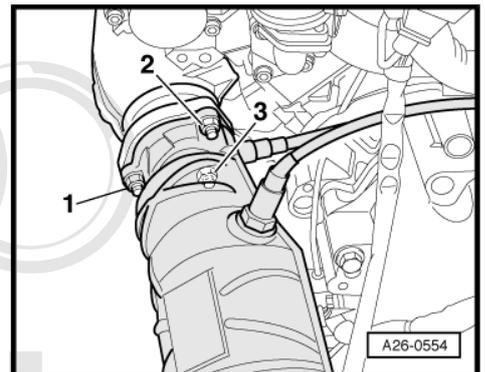
- Unscrew bracket for electrical connectors (left-side) from bulk-head and remove electrical connectors from bracket.
- Unplug electrical connectors -2-, -3- and -4- and move electrical wiring clear.
- Guide electrical wires to Lambda probes downwards.



- Unscrew nut -2- (access from above), connecting left front exhaust pipe with exhaust manifold.

 **Note**

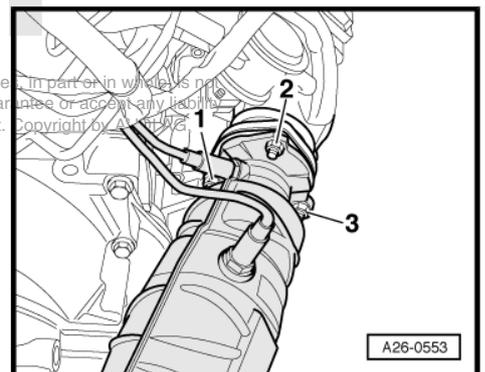
For illustration purposes here shown from rear, with engine removed.



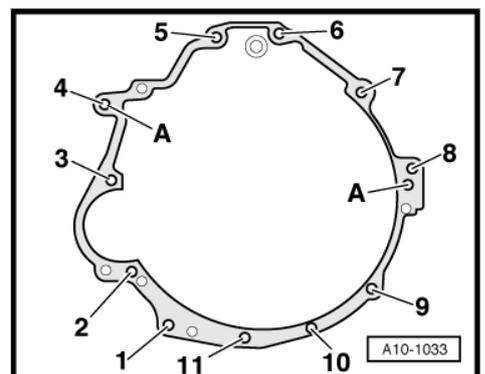
- Unscrew nut -2- (access from above), connecting right front exhaust pipe with exhaust manifold.

 **Note**

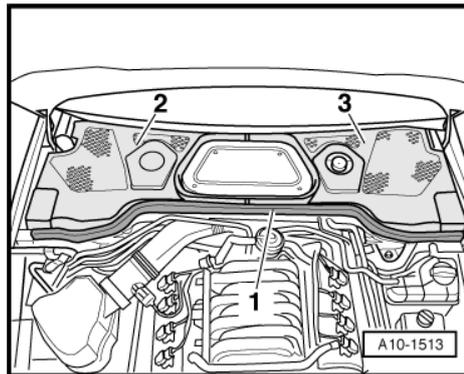
For illustration purposes here shown from rear, with engine removed.



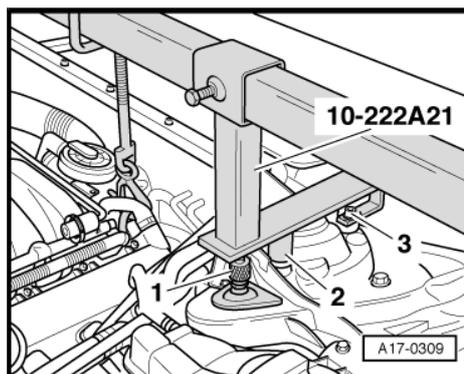
- Remove bolts -5- and -6- (access from above) from engine/gearbox flange.



- Pull rubber seal -1- off plenum chamber covers.
- Detach plenum chamber covers -2- and -3-.

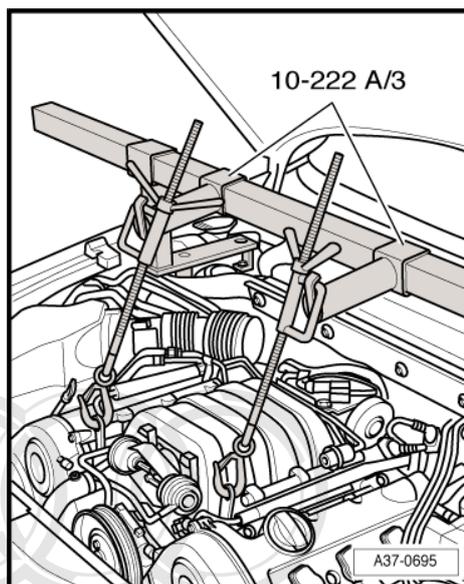


- Unscrew rear securing bolts -3- for body brace.
- Secure support bracket -10-222 A- with adapters -10-222 A/21- and adapter -10-222 A/3- to suspension turrets.
- The adapters -10-222 A/3- point to front.
- Adapters are marked for left and right side of vehicle.
- Centre resting point -2- for adapters is positioned on front bolts for body brace.
- The adapters -10-222 A/21- are secured with rear securing bolts -3- for body brace.
- Knurled screw -1- must be tightened far enough to allow support plate to rest on suspension turret.
- Hook spindles of support bracket -10-222 A- into front engine mounting eyes and adapters -10-222 A/3- .
- Lightly pre-tension spindles of support bracket.
- Remove both front wheels.

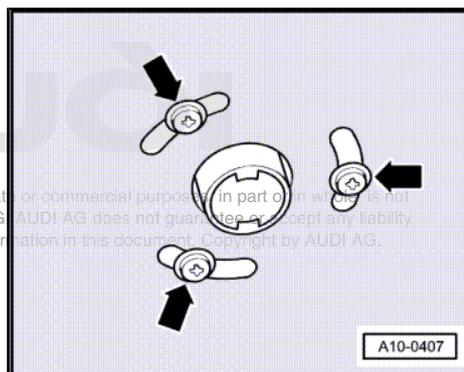


 **Note**

Secure brake discs with wheel bolts.

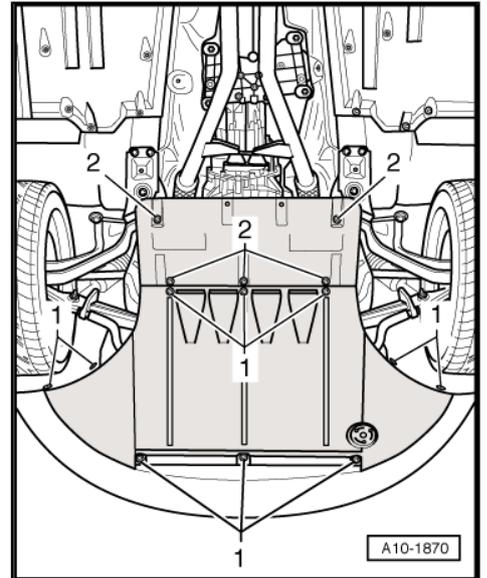


- On vehicles fitted with auxiliary heater, remove screws -arrows- securing exhaust pipe of auxiliary/ additional heater to noise insulation.

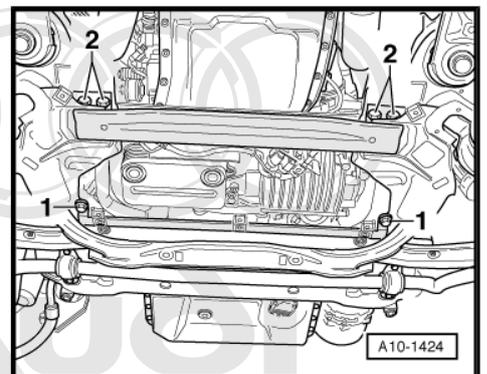


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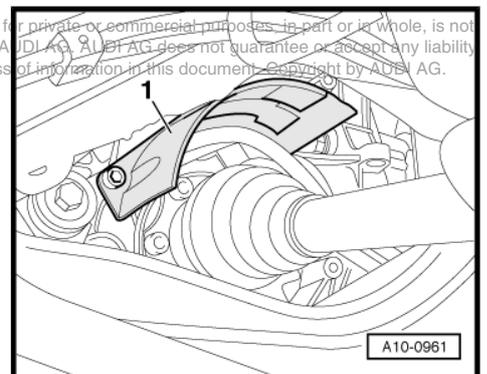
- Release quick-release fasteners -1- and -2- and detach noise insulation panels.



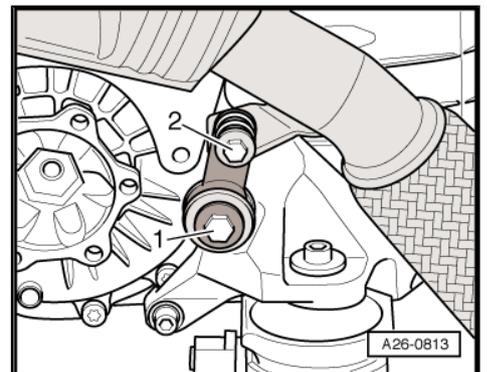
- Unscrew bolts -1- and remove bracket for noise insulation.
- Unscrew bolts -2- and remove cross member.



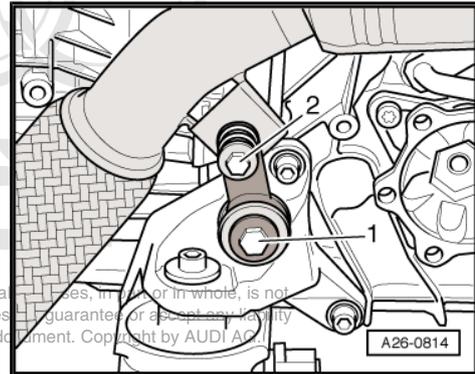
- Unbolt heat shields -1- for drive shafts (left and right)
- Unbolt drive shafts (left and right) from gearbox flanges.



- Unscrew bolts -1- and -2- on bracket for exhaust system (left-side) and remove bracket.

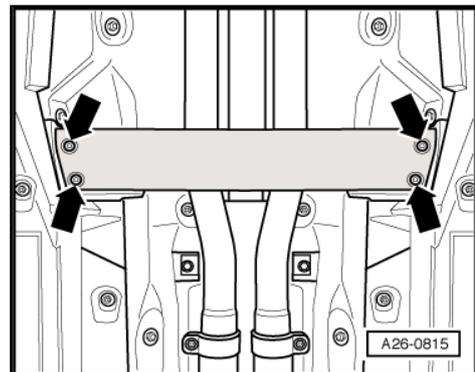


- Unscrew bolts -1- and -2- on bracket for exhaust system (right-side) and remove bracket.



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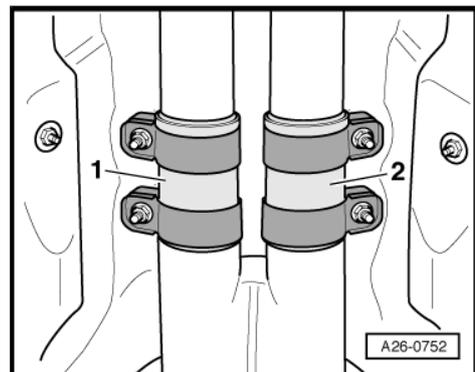
- Remove front cross member -arrows-.



- Loosen clamps -1- and -2-.

 **Note**

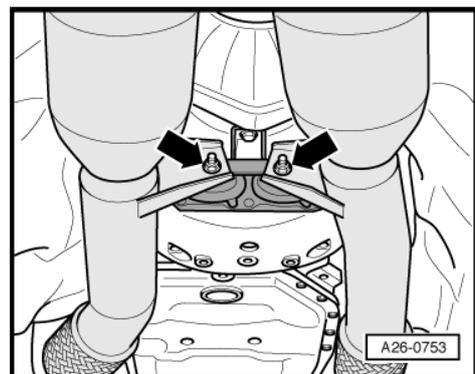
To stabilise exhaust system, the clamps must first remain in their installation position; the front exhaust pipes remain inserted in clamps.



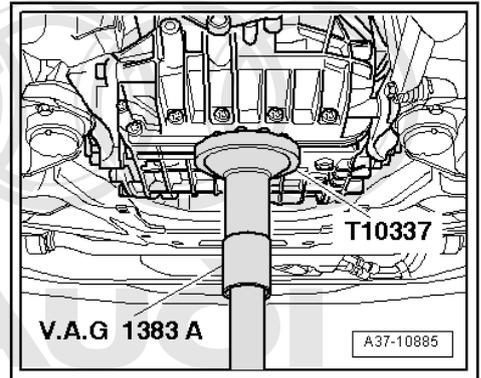
 **Note**

The flexible pipe connection (de-coupling element) on the front exhaust pipe must not be bent more than 10° - otherwise it can be damaged.

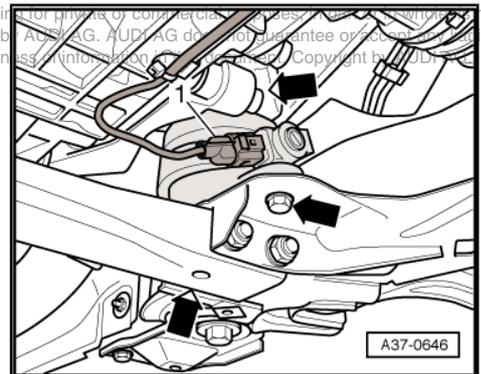
- Unscrew nuts -arrows- on brackets for front exhaust pipes (left and right).
- Remove bracket for exhaust system from gearbox.



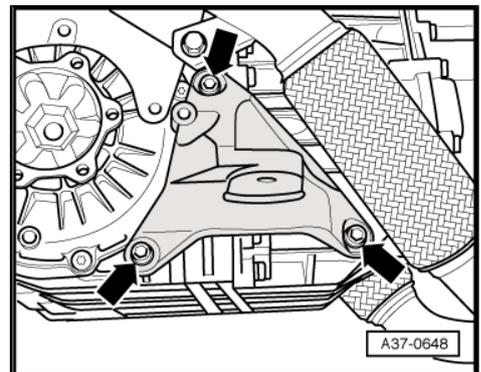
- Position engine and gearbox jack -V.A.G 1383 A- with gearbox support -T10337- underneath gearbox, as shown in illustration, and support gearbox.
- Slightly lift gearbox with engine and gearbox jack -V.A.G 1383 A- .



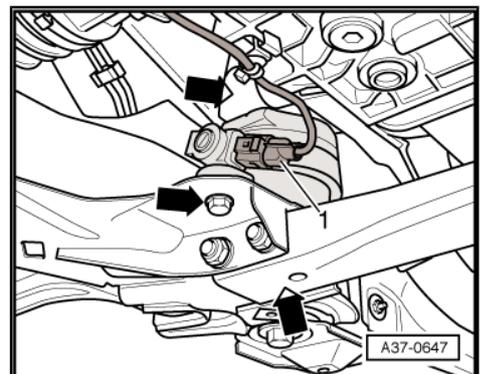
- Unplug electrical connector -1- at gearbox mounting (left side).
- Unscrew bolts -arrows- and remove gearbox mounting (left side).



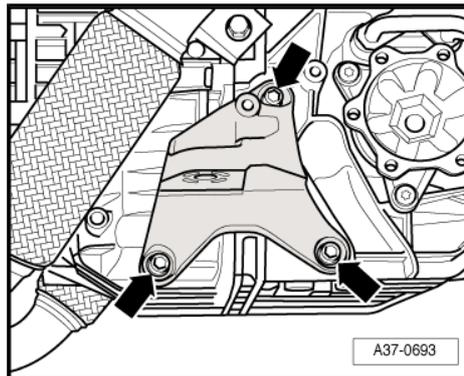
- Unscrew gearbox support (left-side) -arrows-.



- Unplug electrical connector -1- at gearbox mounting (right side).
- Unscrew bolts -arrows- and remove gearbox mounting (right side).



- Unscrew gearbox support (right-side) -arrows-.
- Lower gearbox slightly.

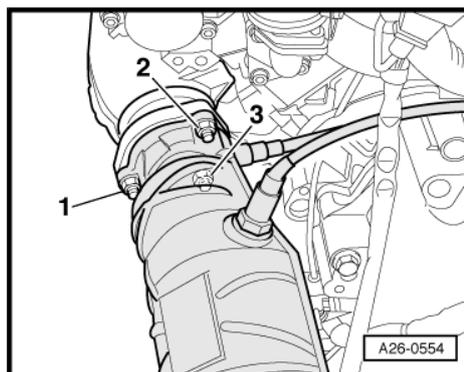


- Move Lambda probe wires clear.
- Unscrew nuts -1- and -3- (accessible from below) connecting front exhaust pipe to exhaust manifold on left side.

 **Note**

For illustration purposes here shown with engine removed.

- Remove front exhaust pipe with catalytic converter.

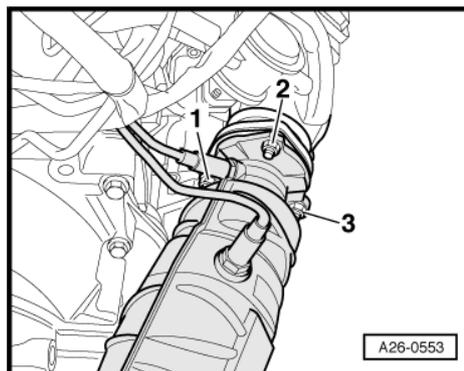


- Move Lambda probe wires clear.
- Unscrew nuts -1- and -3- (accessible from below) connecting front exhaust pipe to exhaust manifold on right side.

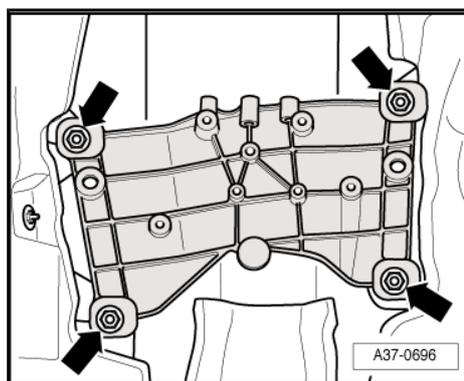
 **Note**

For illustration purposes here shown with engine removed.

- Remove front exhaust pipe with catalytic converter.

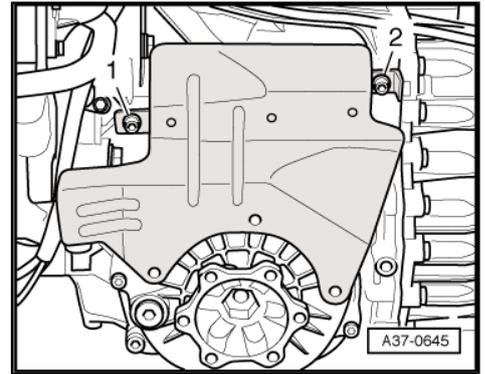


- Unscrew bolts -arrows- and remove tunnel cross member.

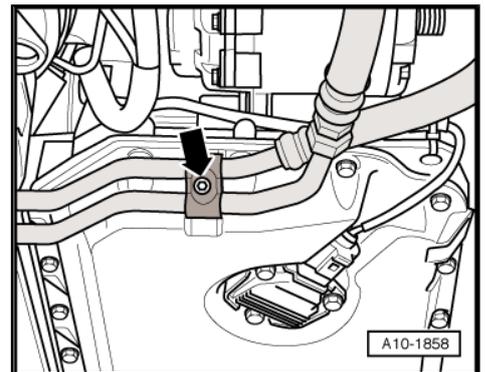


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- Unscrew bolts -1- and -2- and remove heat shield (left-side) from gearbox.



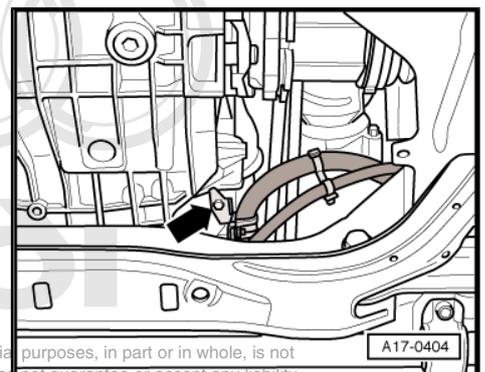
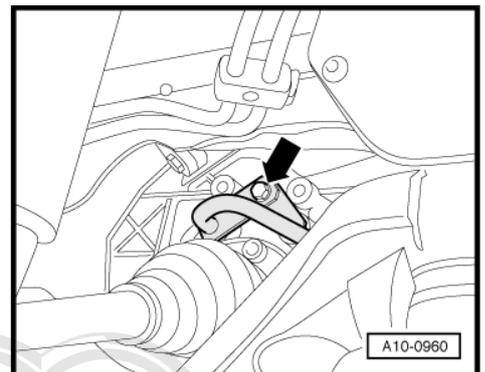
- Unbolt bracket for ATF pipe (right-side) on bottom section of sump -arrow-.



 **Note**

*Rules for cleanliness when working on the automatic gearbox
=> [page 9](#).*

- Place a cloth below the connection to catch escaping ATF.
 - Unscrew bolt -arrow- and detach ATF pipes from gearbox.
 - Tie ATF pipes to one side.
-
- Remove bolt -arrow- and detach bracket for wiring harness from top section of sump.



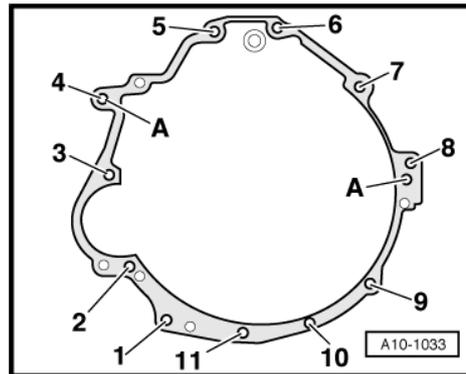
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- Remove bolts -1 ... 4- and -7 ... 11- from engine/gearbox flange.

 **Note**

Only slacken bolt -Item 8- and leave it in position (finger-tight).

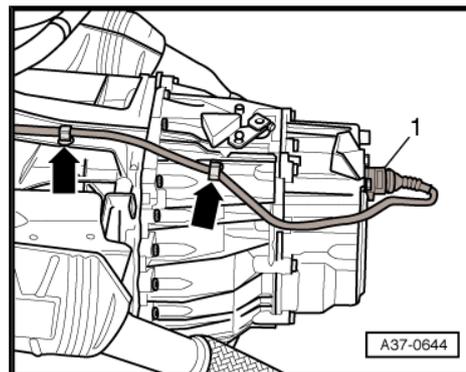
- Lower gearbox again slowly.



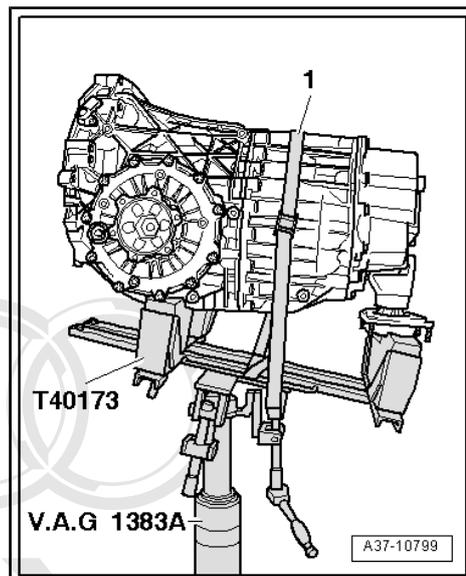
- Release electrical connector -1- and detach from gearbox.
- Move wiring harness to engine clear -arrows-.

 **Note**

For illustration purposes here shown with gearbox removed.



- Position engine and gearbox jack -V.A.G 1383 A- with gearbox support -T40173- underneath gearbox and secure with tensioning strap -1- as shown in illustration.
- Use engine and gearbox jack -V.A.G 1383 A- to lift gearbox up slightly.
- Remove the last engine/gearbox securing bolt.
- Pull gearbox off dowel sleeves and use engine and gearbox jack -V.A.G 1383 A- to carefully lower gearbox far enough to be able to access selector lever cable.

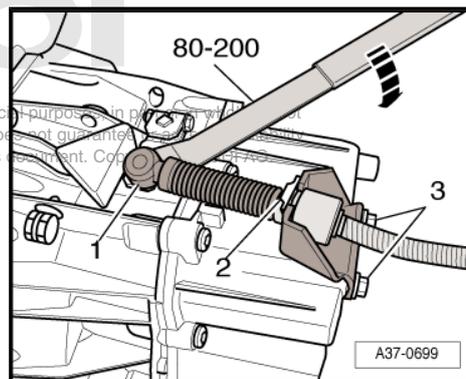


- Use removal lever -80-200- to prise ball head on selector lever cable off selector shaft lever -arrow-.
- Pull off retaining clip -2- and detach selector lever cable from gearbox.

 **Note**

-Item 3- can be disregarded.

- Lower gearbox out of vehicle slowly.
- When lowering gearbox make sure there is sufficient clearance for drive shaft flanges.



5.2 Installing gearbox - vehicles with 3.0 ltr. MPI engine

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

Note

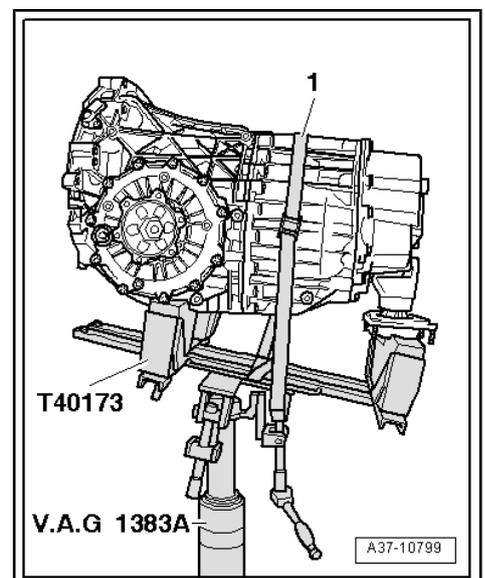
- ◆ *Before fitting a replacement gearbox, always clean the ATF pipes and ATF cooler ⇒ [page 75](#) and renew the additional ATF filter ⇒ [page 76](#).*
 - ◆ *Renew self-locking nuts and bolts when performing assembly work.*
 - ◆ *Renew oil seals, gaskets, O-rings and bolts which are tightened by turning through a specified angle.*
 - ◆ *Secure all hose connections with the correct hose clips (as original equipment); refer to ⇒ *Electronic parts catalogue*.*
 - ◆ *All cable ties which are released or cut open during removal must be fitted in the same position when installing.*
- Clean gearbox input shaft splines and damper unit splines on flywheel. Remove corrosion and apply only a very thin coat of grease for clutch plate splines -G 000 100- to the splines. It is important to remove excess grease.
 - Check that dowel sleeves for centralising engine/gearbox are in the cylinder block; install if necessary.
 - Before installing gearbox, tie electrical wiring off to one side so that it cannot be trapped between the engine and the gearbox.
 - Lift gearbox high enough to be able to install selector lever cable.

Note

- ◆ *Do not bend or kink the selector lever cable.*
 - ◆ *Before installing, lightly lubricate ball socket on selector lever cable with polycarbamide grease -G 052 142 A2-.*
- Raise gearbox carefully and move to installation position using gearbox support -T40173-.
 - Bolt gearbox onto engine.

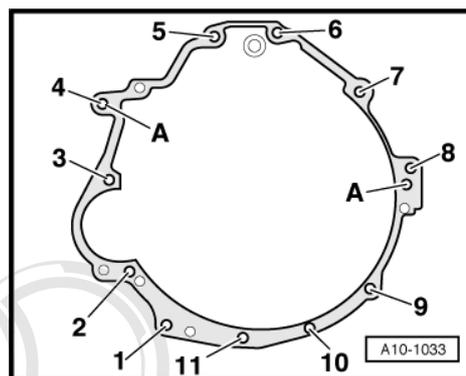
Note

- ◆ *Tightening torques apply only to lightly greased, oiled, phosphated or black-finished nuts and bolts.*
 - ◆ *Additional lubricant such as engine or gearbox oil may be used, but do not use graphite lubricant.*
 - ◆ *Do not use parts which have been degreased.*
 - ◆ *Tolerance for tightening torques ±15%.*
- Raise the gearbox slightly at the rear to install the lower bolts for securing gearbox to engine.



Tightening torques for securing gearbox to engine (illustration shows gearbox flange)

Item	Bolt 1	Nm
1, 10, 11	M10x45	45
2	M10x80	65 ²⁾
3	M12x100	65
4, 8	M12x67	65
5, 6	M12x75	65
7	M10x90	45
9	M10x57	45
A	Dowel sleeves for centralising	



- 1) Renew bolts for securing gearbox to engine.
- 2) Bolt strength rating 10.9

- Install ATF pipes with new O-rings ⇒ [page 74](#) .
- Install front exhaust pipes and align exhaust system so it is free of stress ⇒ Engine, mechanics; Rep. Gr. 26
- Install gearbox supports and gearbox mountings ⇒ [page 60](#) .
- Bolt drive shafts to flange shafts ⇒ Running gear, front-wheel drive and four-wheel drive; Rep. Gr. 40 .
- Adjust selector lever cable ⇒ [page 33](#) .
- Electrical connections and routing ⇒ Current flow diagrams, Electrical fault finding and Fitting locations.
- Check oil level in front final drive ⇒ [page 97](#) .
- Follow steps required after connecting battery ⇒ Electrical system; Rep. Gr. 27 .
- After gearbox has been installed, check and top up ATF level ⇒ [page 65](#) .
- Deactivate jacking mode ⇒ Running gear, front-wheel drive and four-wheel drive; Rep. Gr. 43 ; Adaptive air suspension .

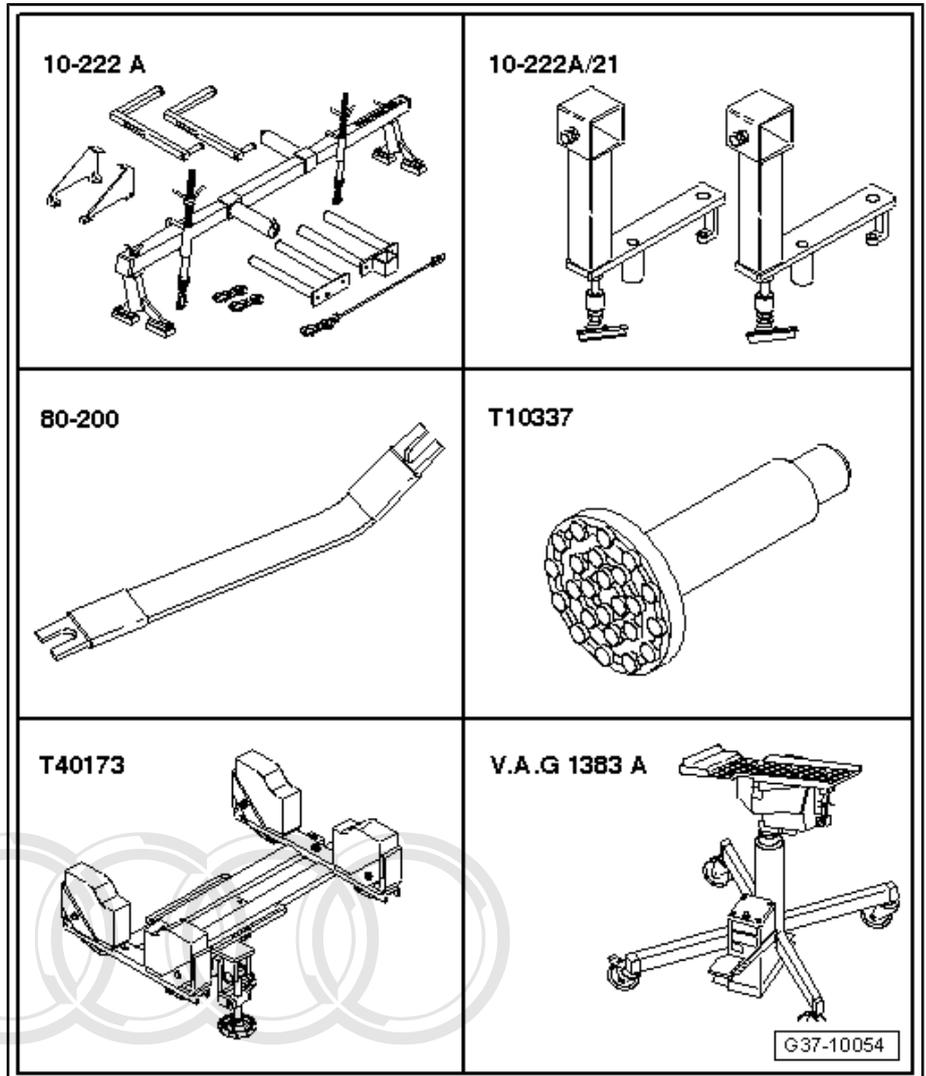
Tightening torques

Component		Nm
Bolts/nuts	M6	10
	M8	20
	M10	45
	M12	65
Except for the following:		
Heat shield (left-side) to gearbox		23
Tunnel cross member to body		40
Heat shield for drive shaft to gearbox		23
Front cross member to body		23
Cross member to subframe		56 ¹⁾
Air duct to throttle valve module -J338-		10
Body brace to suspension turret		45
• ¹⁾ Renew nuts.		

5.3 Removing gearbox - vehicles with 3.2 ltr. FSI engine and 2.8 ltr. FSI engine

Special tools and workshop equipment required

- ◆ Support bracket -10-222 A-
- ◆ Adapters -10-222 A/21-
- ◆ Removal lever -80-200-
- ◆ Gearbox support -T10337-
- ◆ Gearbox support -T40173-
- ◆ Engine and gearbox jack - V.A.G 1383 A-



- Lock carrier and torque reaction support installed.

 **Note**

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All cable ties which are released or cut open during removal must be fitted in the same position when installing.

- If applicable, activate jacking mode when raising the vehicle
 => Running gear, front-wheel drive and four-wheel drive; Rep. Gr. 43 ; Adaptive air suspension .



Caution

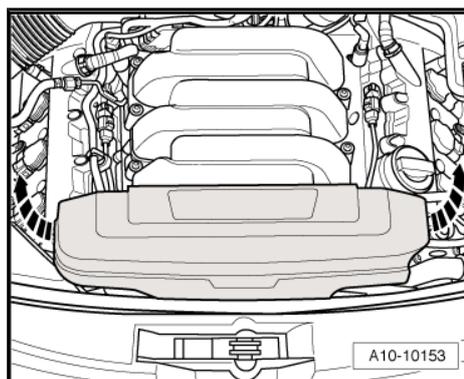
Follow steps required when disconnecting battery => Rep. Gr. 27.

- Switch off ignition.

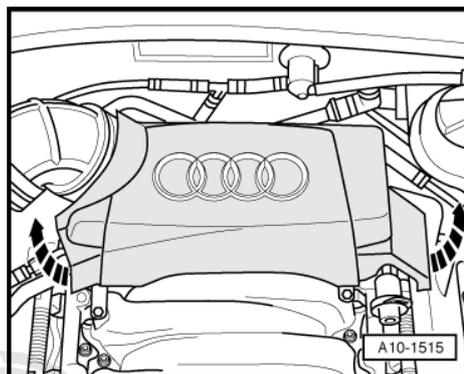
 Note

The ignition key must be left in the ignition lock when disconnecting the battery so that the front wheels can be turned after the battery has been disconnected.

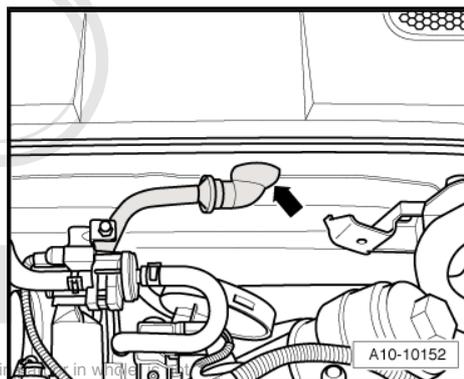
- Disconnect battery ⇒ Rep. Gr. 27 .
- Remove front exhaust pipes (left and right) ⇒ Rep. Gr. 26 .
- Pull off front engine cover -arrows-.



- Pull off rear engine cover panel -arrows-.

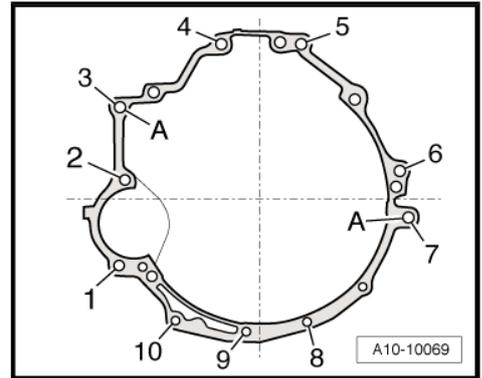


- Detach vacuum hose -arrow- (leading to brake servo) at bulk-head.

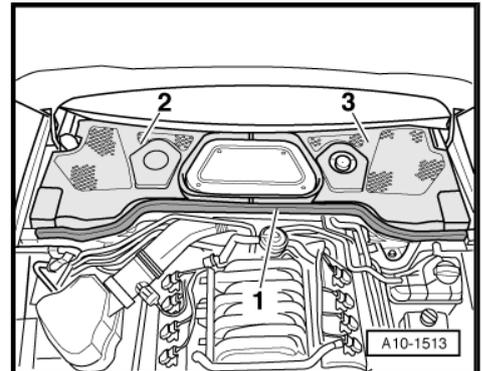
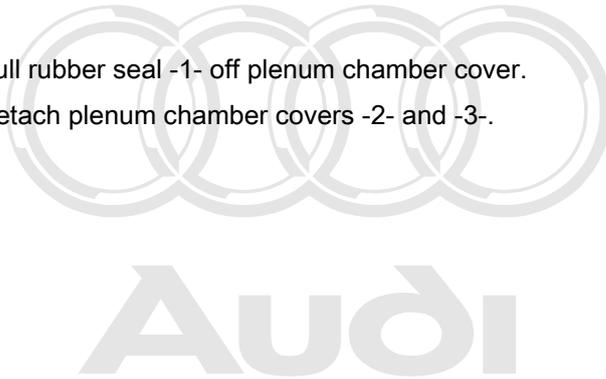


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- Remove bolts -3 ... 6- (access from above) from engine/gear-box flange.

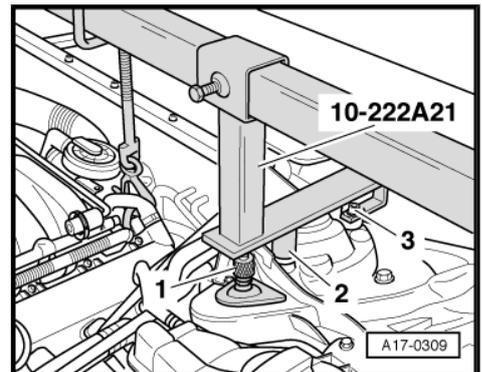


- Pull rubber seal -1- off plenum chamber cover.
- Detach plenum chamber covers -2- and -3-.



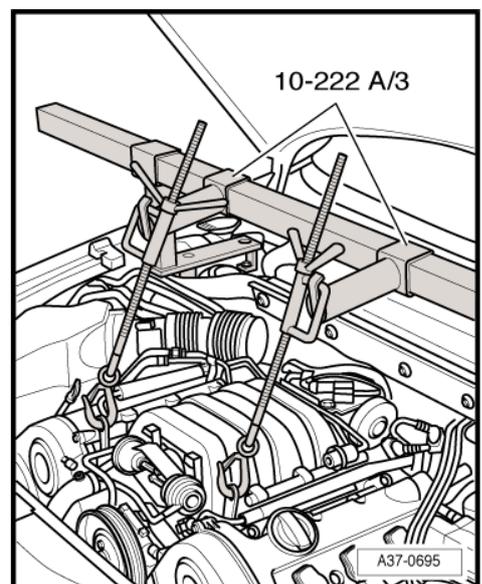
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- **Unscrew rear securing bolts -3- for body brace**
- Secure support bracket -10-222 A- with adapters -10-222 A/21- and adapter -10-222 A/3- to suspension turrets.
 - The adapters -10-222 A/3- point to front.
 - Adapters are marked for left and right side of vehicle.
 - Centre resting point -2- for adapters is positioned on front bolts for body brace.
 - The adapters -10-222 A/21- are secured with rear securing bolts -3- for body brace.
 - Knurled screw -1- must be tightened far enough to allow support plate to rest on suspension turret.
- Move electrical wires clear at engine lifting eye.
- Hook spindles of support bracket -10-222 A- into front engine mounting eyes and adapters -10-222 A/3- .
- Lightly pre-tension spindles of support bracket.
- Remove both front wheels.

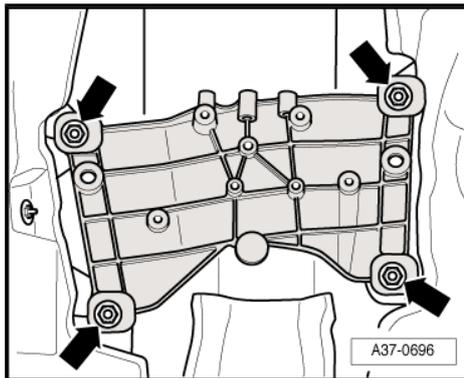


 **Note**

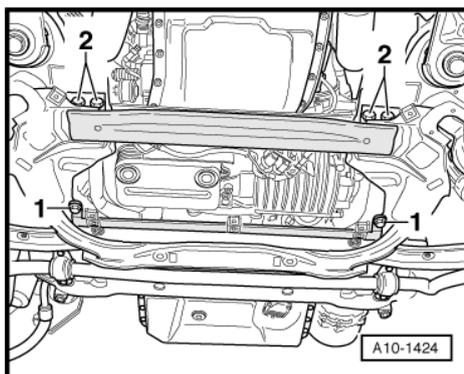
Secure brake discs with wheel bolts.



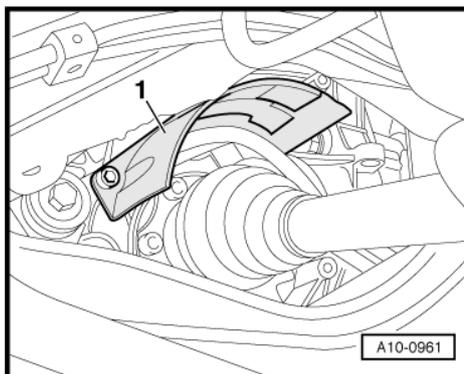
– Unscrew bolts -arrows- and remove tunnel cross member.



- Remove bolts -1- and detach noise insulation bracket.
- Remove bolts -2- and detach cross member.

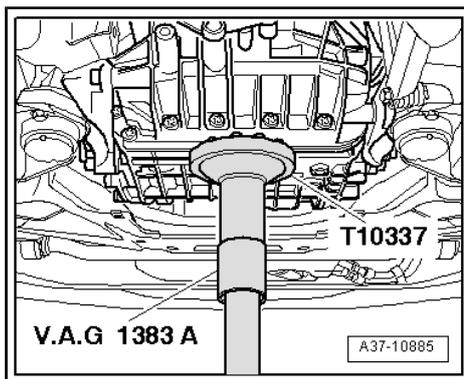


- Unbolt heat shields -1- for drive shafts (left and right).
- Unbolt drive shafts (left and right) from gearbox flange shafts.

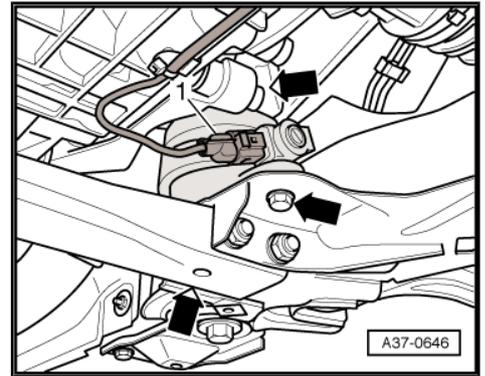


– Position engine and gearbox jack -V.A.G 1383 A- with gearbox support -T10337- underneath gearbox, as shown in illustration, and support gearbox.

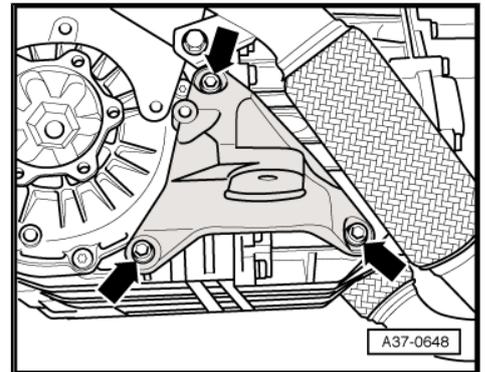
– Slightly lift gearbox with engine and gearbox jack -V.A.G 1383 A- .



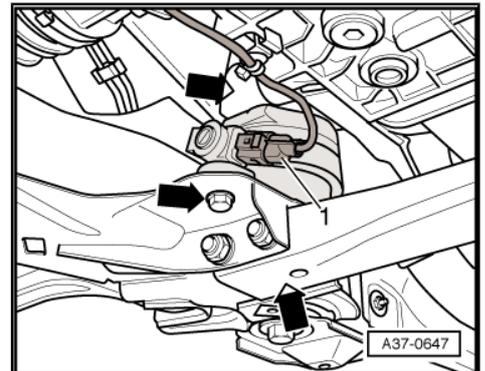
- Unplug electrical connector -1- at gearbox mounting (left-side).
- Unscrew bolts -arrows- and remove gearbox mounting (left-side).



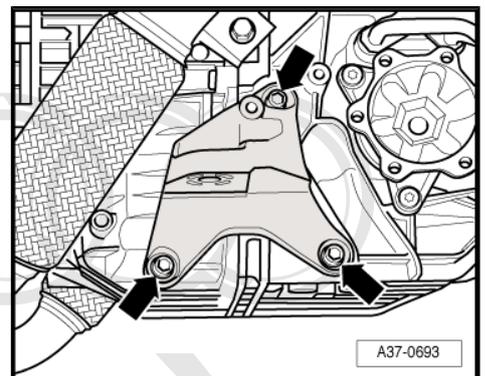
- Unscrew gearbox support (left-side) -arrows-.



- Unplug electrical connector -1- at gearbox mounting (right-side).
- Unscrew bolts -arrows- and remove gearbox mounting (right-side).

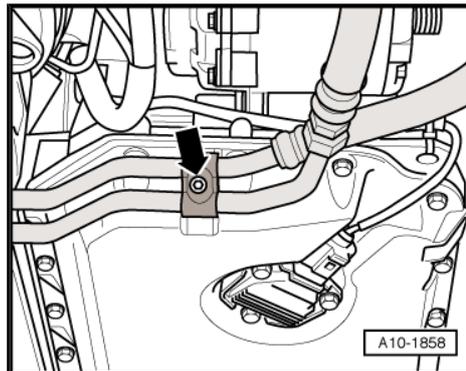


- Unscrew gearbox support (right-side) -arrows-.
- Lower gearbox slightly.



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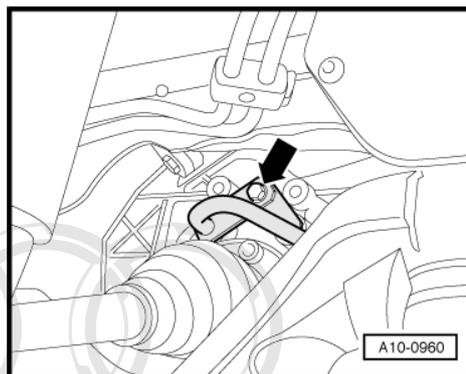
- Unbolt bracket for ATF pipe (right-side) on bottom section of sump -arrow-.



 **Note**

Observe rules for cleanliness when working on automatic gearbox ⇒ [page 9](#).

- Place a cloth below the connection to catch escaping ATF.
- Unscrew bolt -arrow- and detach ATF pipes from gearbox.
- Tie ATF pipes to one side.



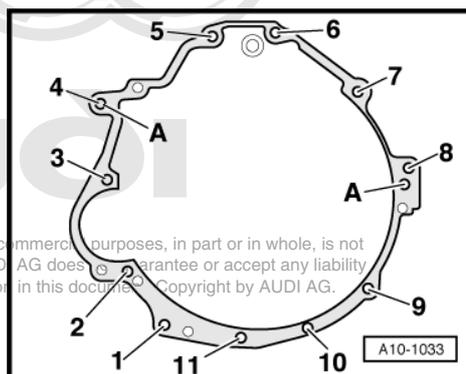
- Remove bolts -1-, -2- and -8 ... 10- on engine/gearbox flange.

 **Note**

Only slacken bolt -Item 7- and leave it in position (finger-tight).

- Lower gearbox again slowly.

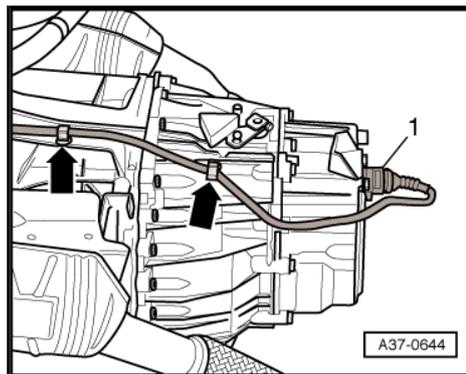
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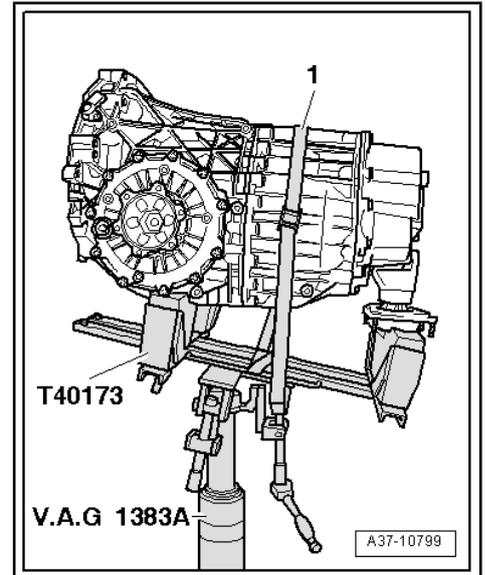
- Release electrical connector -1- and detach from gearbox.
- Move wiring harness to engine clear -arrows-.

 **Note**

For illustration purposes here shown with gearbox removed.



- Position engine and gearbox jack -V.A.G 1383 A- with gearbox support -T40173- underneath gearbox and secure with tensioning strap -1- as shown in illustration.
- Slightly lift gearbox with engine and gearbox jack -V.A.G 1383 A- .
- Remove the last engine/gearbox securing bolt.
- Pull gearbox off dowel sleeves and use engine and gearbox jack -V.A.G 1383 A- to carefully lower gearbox far enough to be able to access selector lever cable.

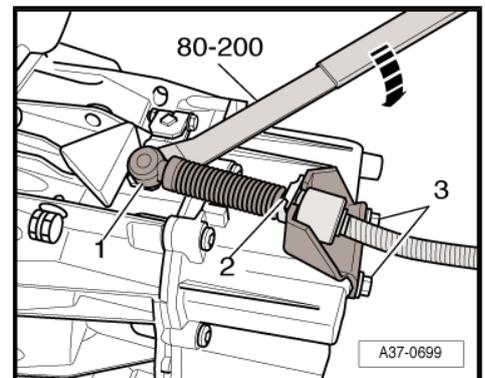


- Use removal lever -80-200- to prise ball head on selector lever cable off selector shaft lever -arrow-.
- Pull off retaining clip -2- and detach selector lever cable from gearbox.

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-Item 3- can be disregarded.

- Lower gearbox out of vehicle slowly.
- When lowering gearbox make sure there is sufficient clearance for drive shaft flanges.



5.4 Installing gearbox on vehicles with 3.2 ltr. FSI engine

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

 **Note**

- ◆ *Before fitting a replacement gearbox, always clean the ATF pipes and ATF cooler => [page 75](#) and renew the additional ATF filter => [page 83](#) .*
 - ◆ *Renew self-locking nuts and bolts when performing assembly work.*
 - ◆ *Renew oil seals, gaskets, O-rings and bolts which are tightened by turning through a specified angle.*
 - ◆ *Secure all hose connections with the correct hose clips (as original equipment); refer to => *Electronic parts catalogue* .*
 - ◆ *All cable ties which are released or cut open during removal must be fitted in the same position when installing.*
- Clean gearbox input shaft splines and damper unit splines on flywheel. Remove corrosion and apply only a very thin coat of grease for clutch plate splines -G 000 100- to the splines. It is important to remove excess grease.

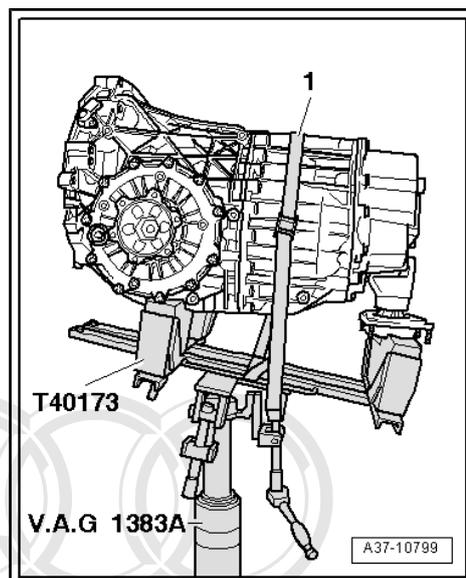
- Check that dowel sleeves for centralising engine/gearbox are in the cylinder block; install if necessary.
- Before installing gearbox, tie electrical wiring off to one side so that it cannot be trapped between the engine and the gearbox.
- Lift gearbox high enough to be able to install selector lever cable.

**Note**

- ◆ *Do not bend or kink the selector lever cable.*
- ◆ *Before installing, lightly lubricate ball socket on selector lever cable with polycarbamide grease -G 052 142 A2- .*
- Raise gearbox carefully and move to installation position using gearbox support -T40173- .
- Bolt gearbox onto engine.

**Note**

- ◆ *Tightening torques apply only to lightly greased, oiled, phosphated or black-finished nuts and bolts.*
- ◆ *Additional lubricant such as engine or gearbox oil may be used, but do not use graphite lubricant.*
- ◆ *Do not use parts which have been degreased.*
- ◆ *Tolerance for tightening torques $\pm 15\%$.*
- Raise the gearbox slightly at the rear to install the lower bolts for securing gearbox to engine.

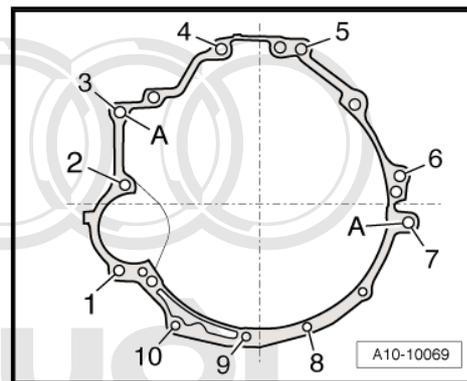


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Tightening torques for securing gearbox to engine (illustration shows gearbox flange)

Item	Bolt ¹	Nm
1, 7	M10x115	65 ²⁾
2	M12x130	65
3, 4, 5, 6	M12x110	65
8, 9, 10	M10x80	45
A	Dowel sleeves for centralising	
<ul style="list-style-type: none"> • ¹⁾ Renew bolts for securing gearbox to engine. • ²⁾ Bolt strength rating 10.9 		



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- Install ATF pipes with new O-rings ⇒ [page 82](#)
- Install front exhaust pipes and perform stress-free alignment ⇒ Rep. Gr. 26.
- Install gearbox supports and gearbox mountings ⇒ [page 60](#) .
- Install drive shafts ⇒ Running gear, front-wheel drive and four-wheel drive; Rep. Gr. 40 .
- Adjust selector lever cable ⇒ [page 33](#) .
- Electrical connections and routing ⇒ Current flow diagrams, Electrical fault finding and Fitting locations.
- Check oil level in front final drive ⇒ [page 97](#) .
- Follow steps required after connecting battery ⇒ Electrical system; Rep. Gr. 27 .
- Check ATF level ⇒ [page 65](#) .
- Deactivate jacking mode ⇒ Running gear, front-wheel drive and four-wheel drive; Rep. Gr. 43 ; Adaptive air suspension .

Tightening torques

Component	Nm	
Bolts/nuts	M6	10
	M8	20
	M10	45
	M12	65
Except for the following:		
Heat shield (left-side) to gearbox	23	
Tunnel cross member to body	40	
Heat shield for drive shaft to gearbox	23	
Front cross member to body	23	
Cross member to subframe	56 ¹⁾	
Body brace to suspension turret	45	
<ul style="list-style-type: none"> • ¹⁾ Renew nuts. 		



6 Securing gearbox to assembly stand

Description of work sequence ⇒ Servicing multitronic 01J and 0AN; Rep. Gr. 38



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7 Transporting the automatic gearbox

Special tools and workshop equipment required

- ◆ Lifting aid -T40013-

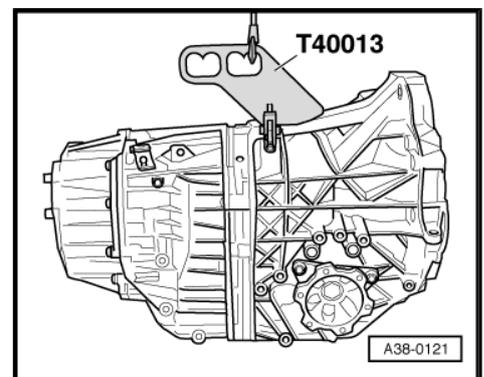
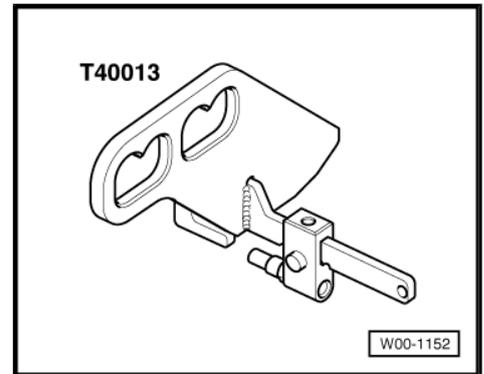


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Procedure

The lifting aid -T40013- can be used to transport the gearbox and also when setting up the gearbox on gearbox support -3282- .

- Attach lifting aid -T40013- to upper web of gearbox housing and secure in place.



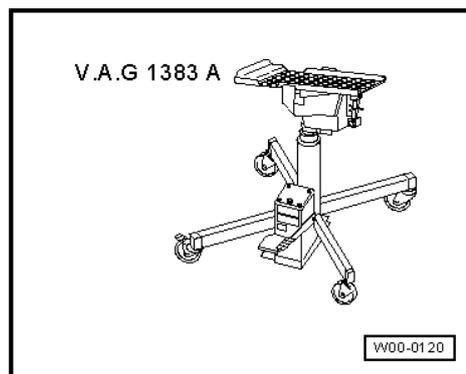
8 Removing and installing gearbox mounting and gearbox support

- ◆ ⇒ [“8.1 Removing and installing gearbox mounting and gearbox support \(left-side\)”, page 60](#)
- ◆ ⇒ [“8.2 Removing and installing gearbox mounting and gearbox support \(right-side\)”, page 62](#)

8.1 Removing and installing gearbox mounting and gearbox support (left-side)

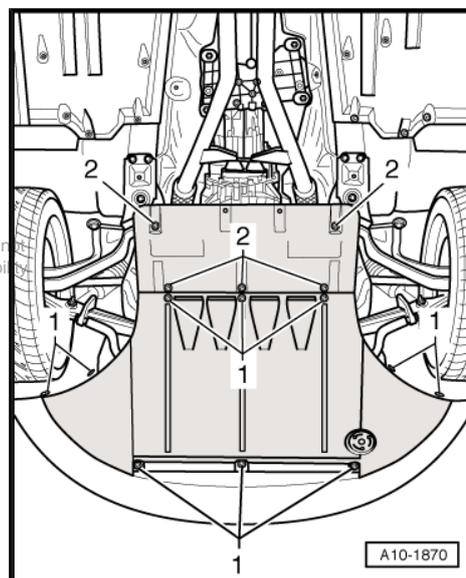
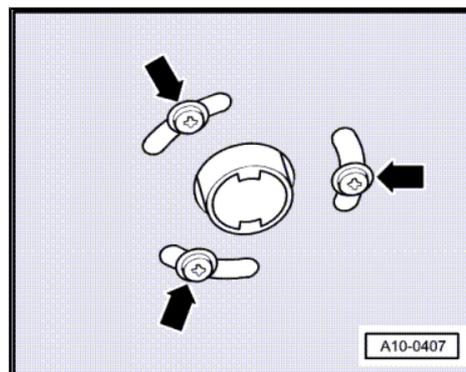
Special tools and workshop equipment required

- ◆ Engine and gearbox jack -V.A.G 1383 A-



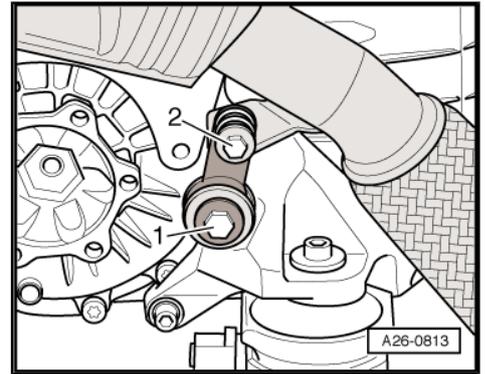
Removing

- If applicable, activate jacking mode when raising the vehicle
 ⇒ Running gear, front-wheel drive and four-wheel drive; Rep. Gr. 43 ; Adaptive air suspension .
- Raise vehicle or drive onto inspection pit.
- On vehicles fitted with auxiliary heater, remove screws -arrows- securing exhaust pipe of auxiliary/ additional heater to noise insulation.
- Release quick-release fasteners -1- and -2- and detach noise insulation panels.

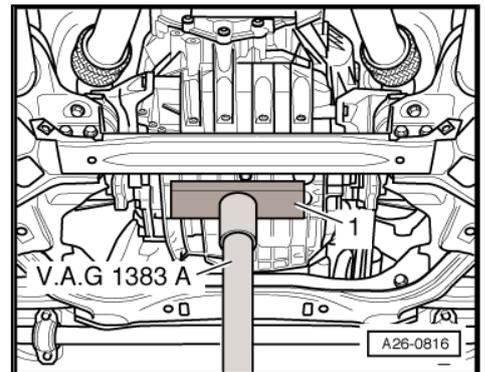


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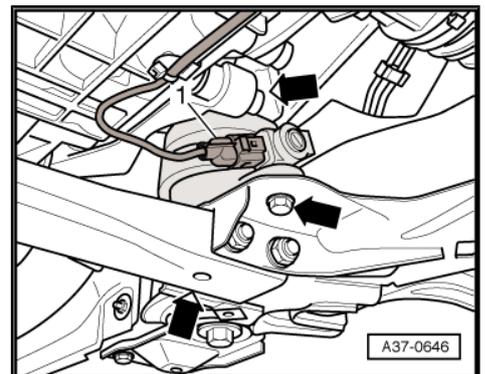
- Unscrew bolts -1- and -2- on bracket for exhaust system (left-side) and remove bracket.



- Apply lifting column of engine and gearbox jack -V.A.G 1383 A- to gearbox from below (place a block of wood -1- between lifting column and gearbox).
- Use engine and gearbox jack to lift gearbox up slightly.



- Unplug electrical connector -1- at gearbox mounting (left-side).
- Unscrew bolts -arrows- and remove gearbox mounting (left-side).

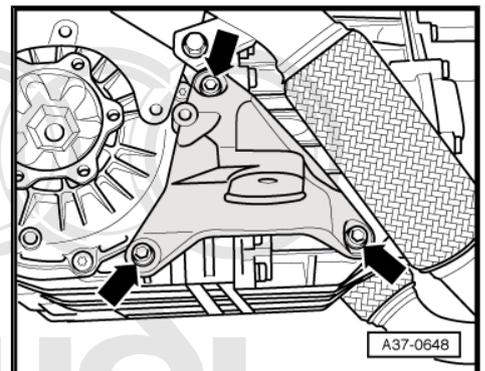


- Unscrew gearbox support (left-side) -arrows-.
- Lower gearbox slightly.

Installing

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

- Install bracket for front exhaust pipes ⇒ Rep. Gr. 26. .

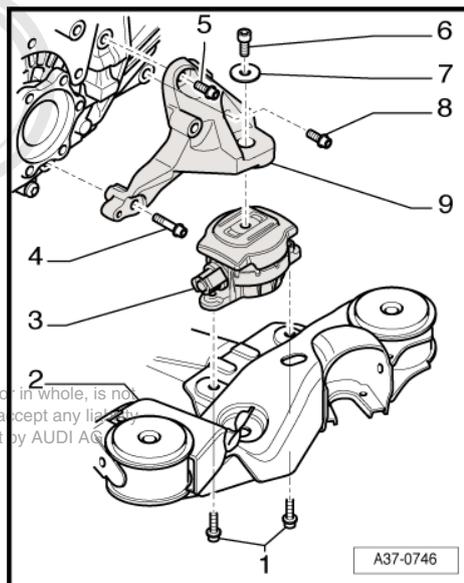


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Tightening torques for gearbox mounting (left-side)

- 1 - 23 Nm
- 2 - Subframe
- 3 - Gearbox mounting (left-side)
- 4 - 40 Nm
- 5 - 40 Nm
- 6 - 40 Nm
- 7 - Washer
- 8 - 40 Nm
- 9 - Gearbox support (left-side)

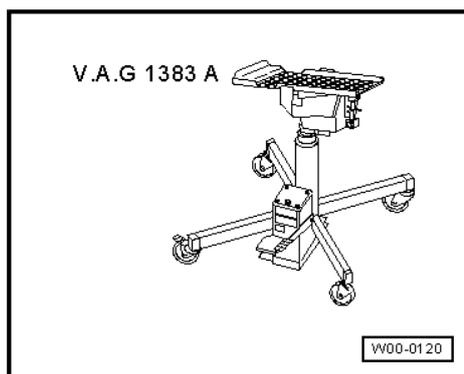
- Deactivate jacking mode => Running gear, front-wheel drive and four-wheel drive; Rep. Gr. 43 ; Adaptive air suspension .



8.2 Removing and installing gearbox mounting and gearbox support (right-side)

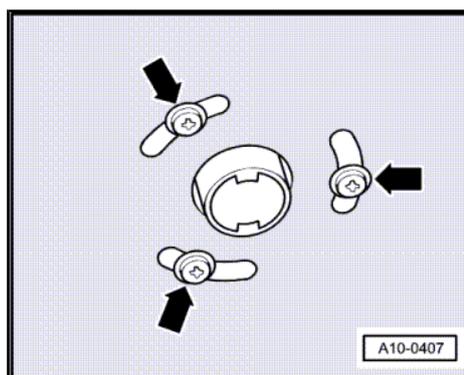
Special tools and workshop equipment required

- ◆ Engine and gearbox jack -V.A.G 1383 A-

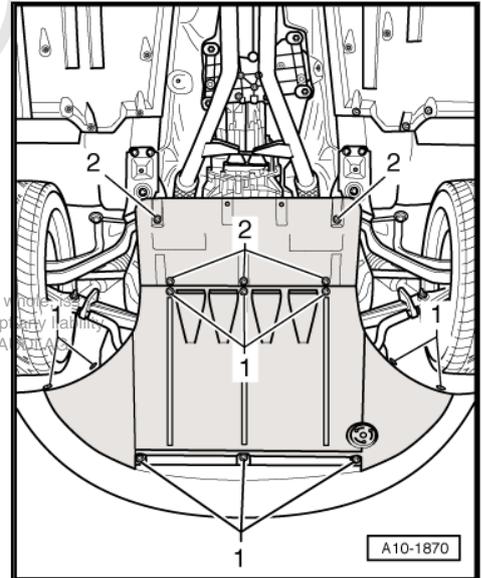


Removing

- If applicable, activate jacking mode when raising the vehicle => Running gear, front-wheel drive and four-wheel drive; Rep. Gr. 43 ; Adaptive air suspension .
- Raise vehicle or drive onto inspection pit.
- On vehicles fitted with auxiliary heater, remove screws -arrows- securing exhaust pipe of auxiliary/ additional heater to noise insulation.

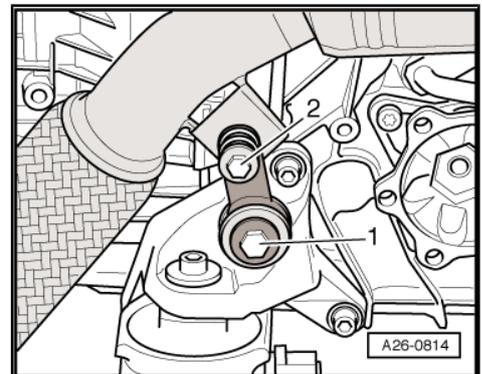


- Release quick-release fasteners -1- and -2- and detach noise insulation panels.

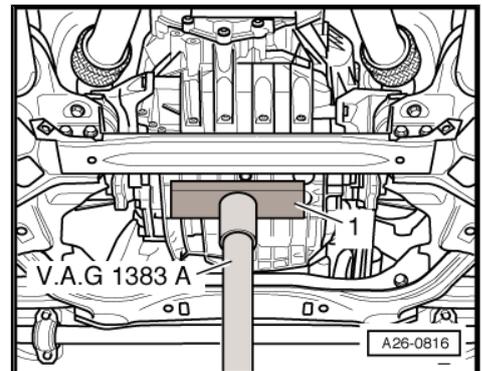


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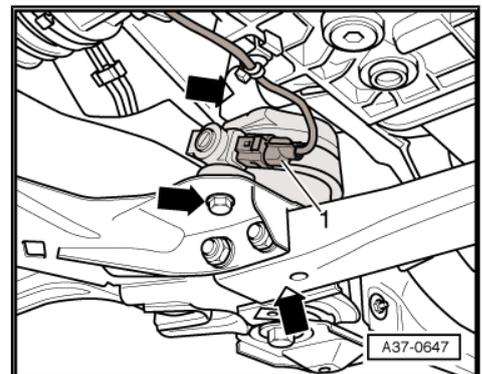
- Unscrew bolts -1- and -2- on bracket for exhaust system (right-side) and remove bracket.



- Apply lifting column of engine and gearbox jack -V.A.G 1383 A- to gearbox from below (place a block of wood -1- between lifting column and gearbox).
- Use engine and gearbox jack to lift gearbox up slightly.



- Unplug electrical connector -1- at gearbox mounting (right-side).
- Unscrew bolts -arrows- and remove gearbox mounting (right-side).

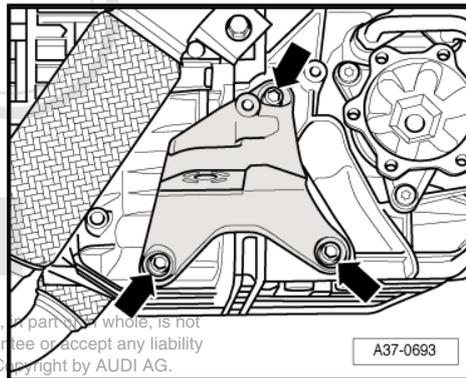


- Unscrew gearbox support (right-side) -arrows-.
- Lower gearbox slightly.

Installing

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

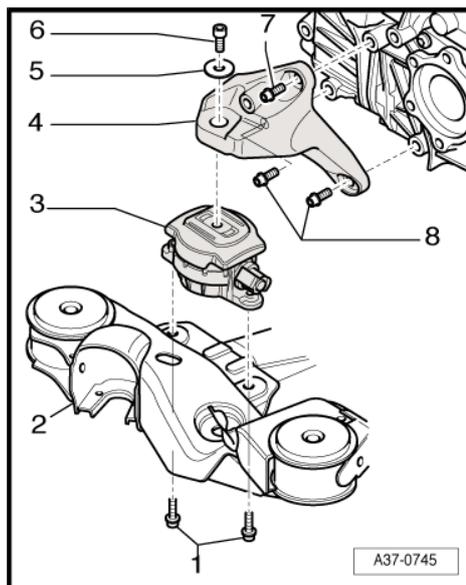
- Install bracket for front exhaust pipes ⇒ Rep. Gr. 26. .



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Tightening torques for gearbox mountings (right-side)

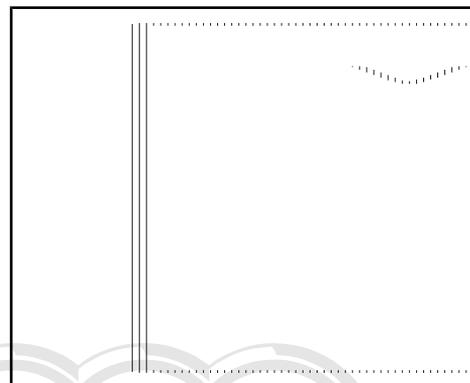
- 1 - 23 Nm
 - 2 - Subframe
 - 3 - Gearbox mounting (right-side)
 - 4 - Gearbox support (right-side)
 - 5 - Washer
 - 6 - 40 Nm
 - 7 - 40 Nm
 - 8 - 40 Nm
- Deactivate jacking mode ⇒ Running gear, front-wheel drive and four-wheel drive; Rep. Gr. 43 ; Adaptive air suspension .



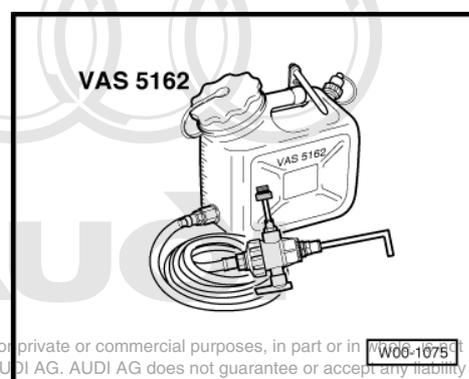
9 Checking ATF level and changing ATF

Special tools and workshop equipment required

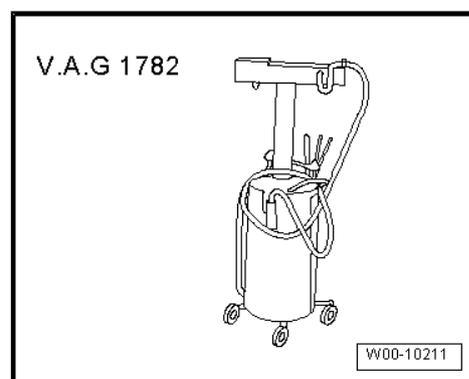
- ◆ Vehicle diagnostic, testing and information system -VAS 5051 A-



- ◆ ATF charging device for CVT gearboxes -VAS 5162-



- ◆ Used oil collection and extraction unit -V.A.G 1782-



- ◆ Safety goggles
- When the engine is running, the exhaust system must always be connected to the exhaust gas extractor.

9.1 Checking ATF level



Caution

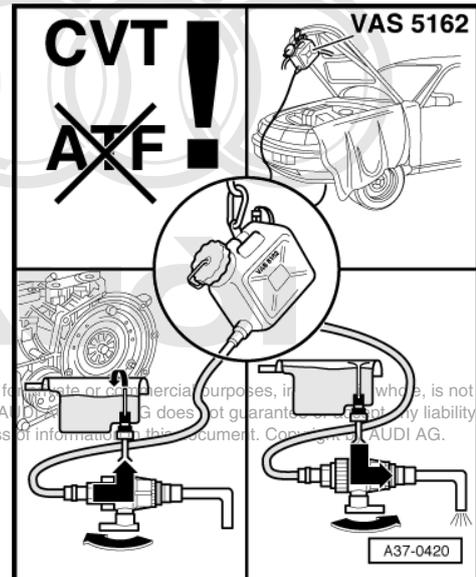
The ATF required for the CVT multitronic 01J gearbox is different from the fluid used in fixed-ratio automatic gearboxes. Only the ATF available as a replacement part for the CVT gearbox may be used in the planetary gearbox. ATF specification ⇒ [page 5](#).

 Note

- ◆ The illustration on the reservoir of the ATF charging device for CVT gearboxes -VAS 5162- displays a warning in the top left corner to use **ONLY** the ATF specially formulated for CVT gearboxes.
- ◆ The illustration also shows the steps to follow when filling up; these are also described below.

 Caution

- ◆ **The engine must not be started if only a little or no ATF remains in gearbox after repair work or after excessive ATF leakage.**
- ◆ **In this case you need to fill the gearbox first with 4.5 ... 5 litres of ATF.**



Test conditions

- Gearbox must not be in emergency running (backup) mode.
- Vehicle must be level (horizontal).
- Vehicle diagnostic, testing and information system -VAS 5051 A- connected; vehicle self-diagnosis and vehicle system "02 - Gearbox electronics" selected.
- Engine idling.
- The air-conditioner and heating system must be switched off.
- The ATF temperature at the beginning of the test must not be higher than 30°C. If necessary, first allow the gearbox to cool down.

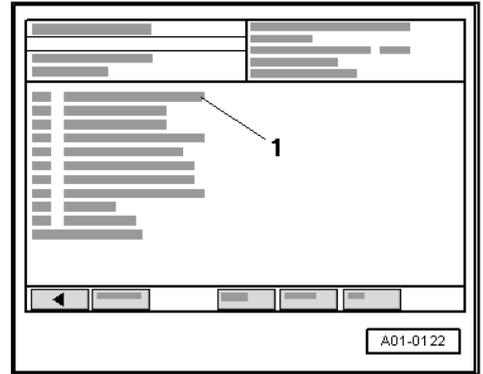
 Note

- ◆ The ATF level will vary according to the ATF temperature.
- ◆ If the ATF level is checked when the ATF temperature is too low, this will result in overfilling.
- ◆ If the level is checked when the ATF temperature is too high, this will result in underfilling.
- ◆ Both overfilling and underfilling will impair the function of the gearbox.
- ◆ The ATF temperature is taken from the reading on the vehicle diagnostic, testing and information system -VAS 5051 A-.

ATF temperature reading

Display on -VAS 5051 A- :

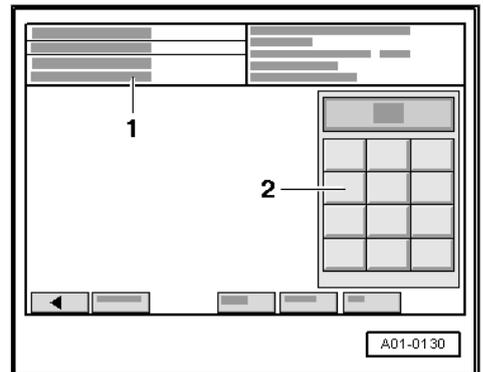
- From list -1-, select diagnostic function "08 - Read measured value block".



Display on -VAS 5051 A- :

1 - Enter display group (max. input value = 255).

- Use keypad -2- to enter "10" for "Display group number 10" and confirm by touching  key.

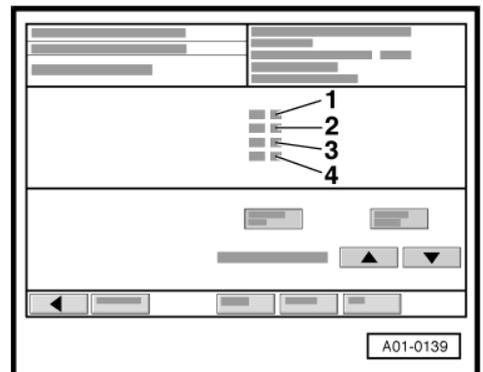


Display on -VAS 5051 A- :

- Reading for ATF temperature is shown in display zone -3-.

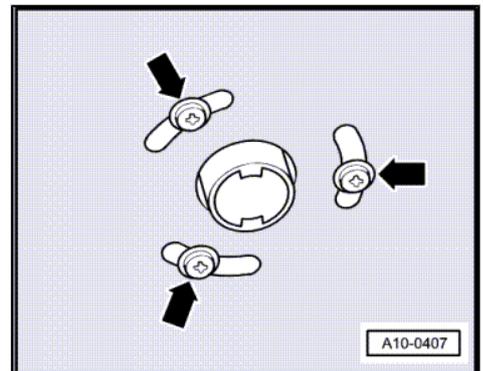
Checking ATF level

- With the brake pedal depressed, shift through all selector lever positions (P, R, N, D) and hold in each position for approx. 2 sec. at idling speed.
- If applicable, activate jacking mode when raising the vehicle => Running gear, front-wheel drive and four-wheel drive; Rep. Gr. 43 ; Adaptive air suspension.



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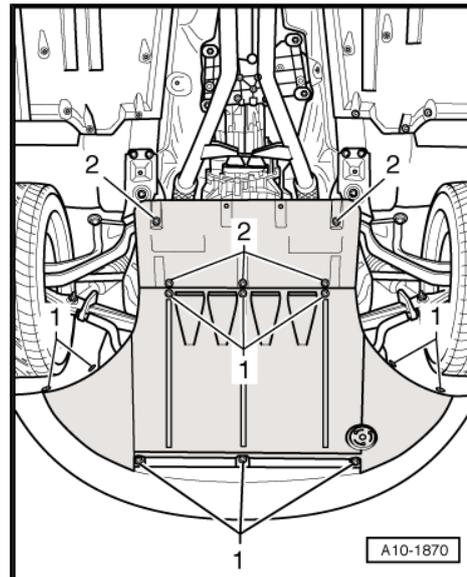
- Raise vehicle or drive onto inspection pit.
- On vehicles fitted with auxiliary heater, remove screws -arrows- securing exhaust pipe of auxiliary/ additional heater to noise insulation.



- Unfasten quick-release catches -2- and detach rear noise insulation. Do not remove front noise insulation.
- Place used oil collection and extraction unit -V.A.G 1782- below gearbox.



WARNING
Wear safety goggles.



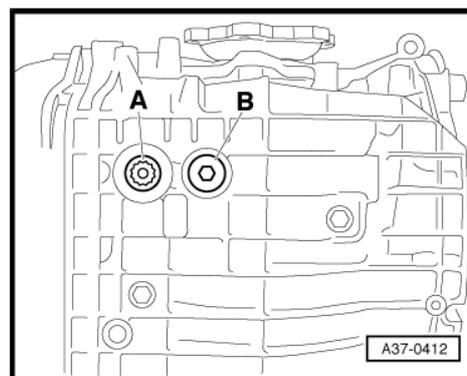
- When the ATF has reached a temperature of 35°C, unscrew ATF inspection plug -B-.

 **Note**

When the plug is opened, approx. 5 cl of ATF will always run out of the inner oil level tube.

The ATF level is correct if a small amount of fluid comes out at the ATF inspection plug when ATF temperature is between 35°C and 45°C, or 50°C in hot climates (the fluid level rises due to expansion as it warms up).

- Renew ATF inspection plug.
- Tightening torque: 30 Nm



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The ATF inspection plug must be screwed in again at the latest when ATF reaches a temperature of 45°C (or 50°C in hot climates).

If no ATF fluid has drained out of the inspection plug when temperature reaches 40 °C, top up ATF.

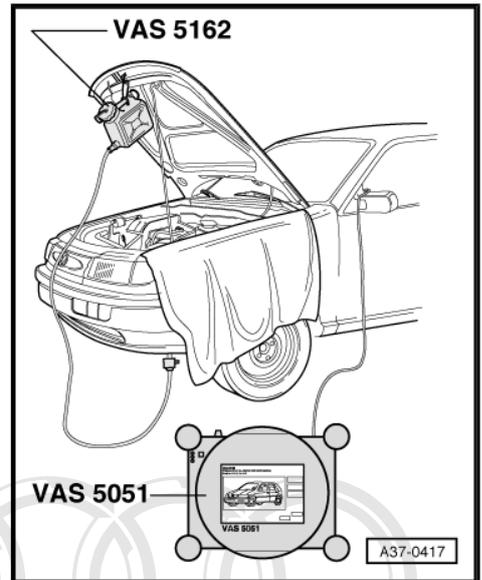
Filling up ATF

- Engine keeps running at idle speed.

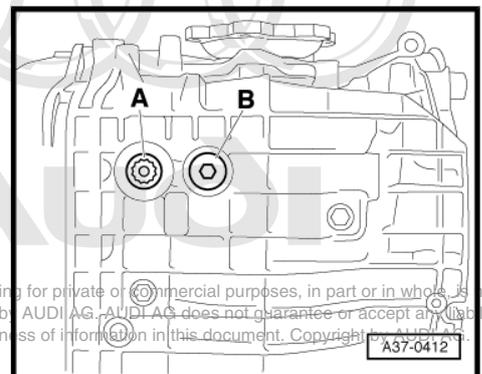
- Attach filled reservoir of ATF charging device for CVT gearboxes -VAS 5162- at the highest possible point on the vehicle.
- ◆ ATF specification ⇒ [page 5](#)

 **Note**

The stopcock on ATF charging device for CVT gearboxes -VAS 5162- must be closed.



- Screw connecting piece on stopcock of ATF charging device for CVT gearboxes -VAS 5162- into threaded hole for ATF inspection plug -B-.

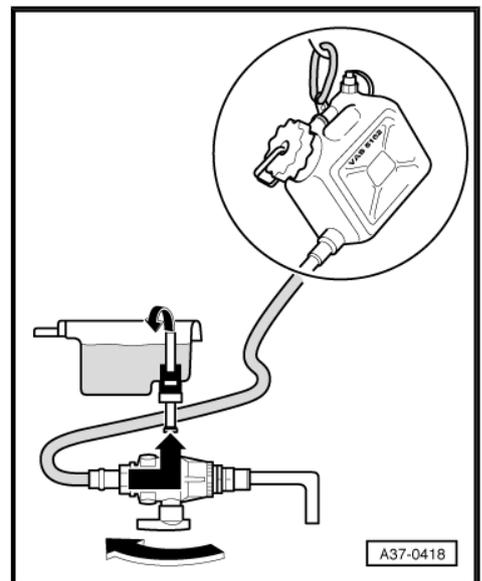


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- Turn stopcock in direction of filling hose -lower arrow-.

ATF flows into gearbox.

- Hold a suitable container under drain pipe of ATF charging device for CVT gearboxes -VAS 5162- .



- Check ATF level by turning stopcock in direction of drain pipe -lower arrow-.

Fluid level is correct if only a small quantity of ATF comes out of drain pipe before ATF reaches a temperature of 45 °C.

 **Note**

Approx. 5 cl of ATF will always run out of internal fluid level pipe.

- If no additional ATF emerges, turn stopcock back in direction of filler hose and allow some more ATF to flow into gearbox; check ATF level repeatedly.
- Once correct ATF level has been reached unscrew stopcock.

 **Note**

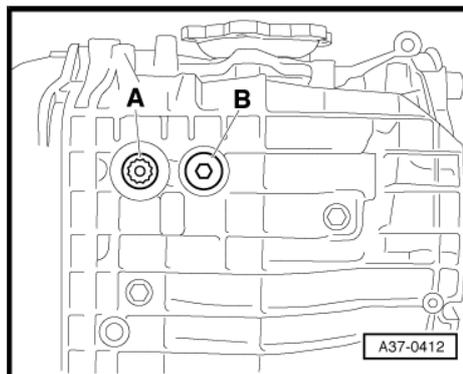
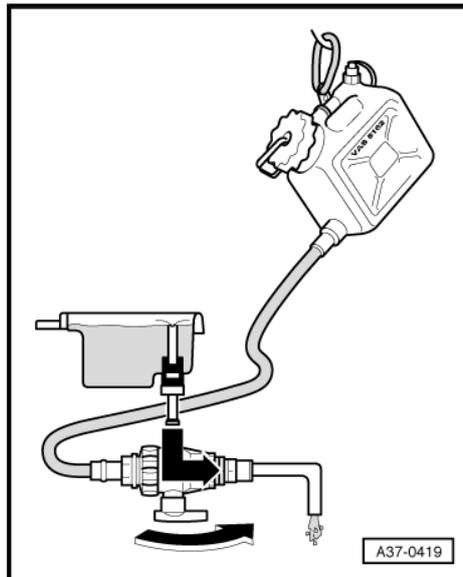
A few drops of ATF will escape after unscrewing stopcock.

- Renew ATF inspection plug.
- Close inspection plug -B- before ATF temperature exceeds 45 °C (50 °C in countries with hot climate).
- Tightening torque: 30 Nm

 **Note**

If ATF temperature exceeds 45 °C too much fluid will escape as it expands when heated. In this case the quantity of fluid in the gearbox is NOT sufficient!

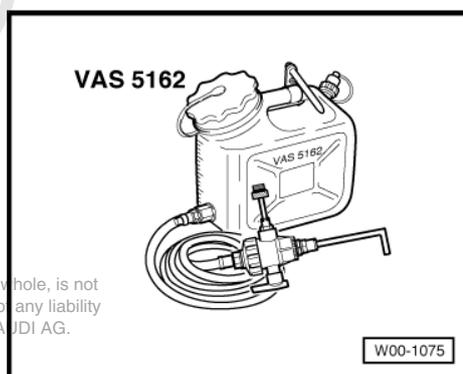
- Exit from function "08 - Read measured value block" by touching  key.
- Press "06 - End output".
- Switch off ignition and unplug diagnostic connector.



9.2 Changing ATF or filling up after performing repairs

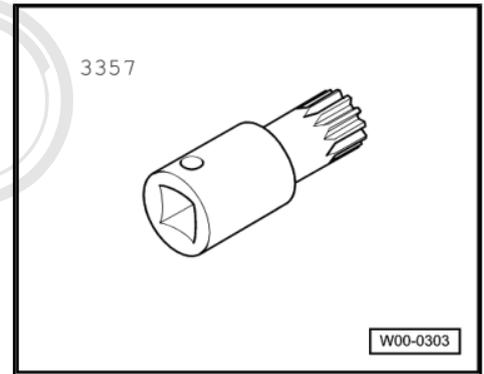
Special tools and workshop equipment required

- ◆ ATF charging device for CVT gearboxes -VAS 5162-



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- ◆ Socket -3357-



- ◆ Used oil collection and extraction unit -V.A.G 1782-

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- ◆ Safety goggles



Caution

Do not run engine or tow vehicle when there is no ATF in the gearbox.



Note

- ◆ *Please observe requirements for disposal.*
- ◆ *Before fitting a new gearbox, always blow through the ATF cooler and ATF pipes with compressed air (not more than 10 bar) and renew the additional ATF filter: vehicles with 3.0 ltr. MPI engine ⇒ [page 76](#) ; vehicles with 3.2 ltr. FSI engine ⇒ [page 83](#) .*

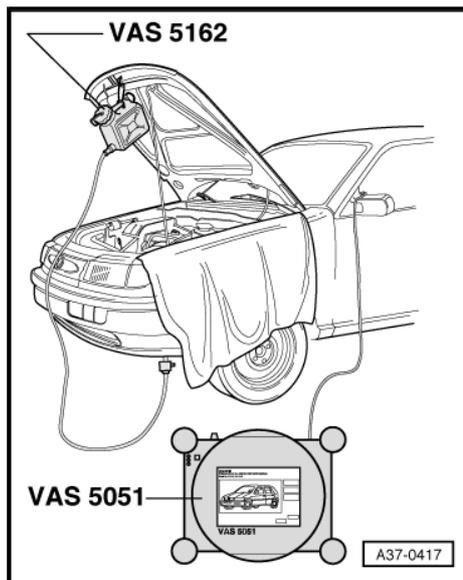
Procedure

- Attach filled reservoir of ATF charging device for CVT gearboxes -VAS 5162- at the highest possible point on the vehicle.
- ◆ ATF specification ⇒ [page 5](#)

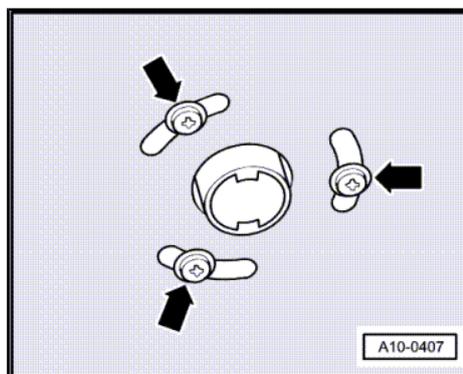
 **Note**

The stopcock on ATF charging device for CVT gearboxes -VAS 5162- must be closed.

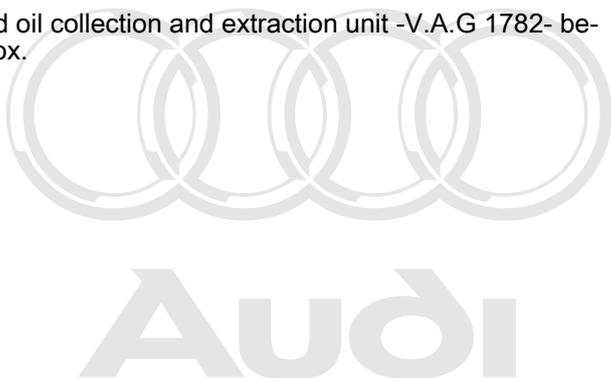
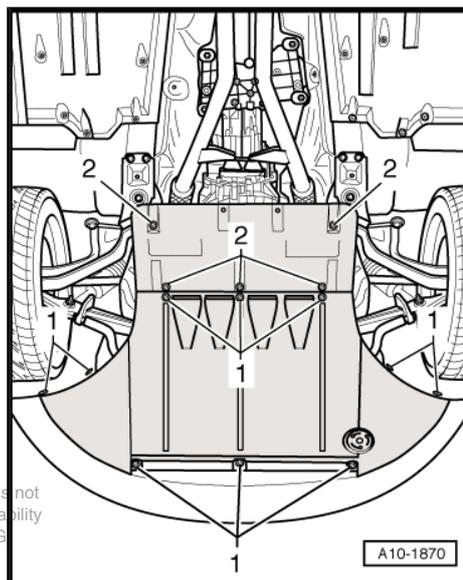
- If applicable, activate jacking mode when raising the vehicle ⇒ Running gear, front-wheel drive and four-wheel drive; Rep. Gr. 43 ; Adaptive air suspension .



- Raise vehicle or drive onto inspection pit.
- On vehicles fitted with auxiliary heater, remove screws -arrows- securing exhaust pipe of auxiliary/ additional heater to noise insulation.

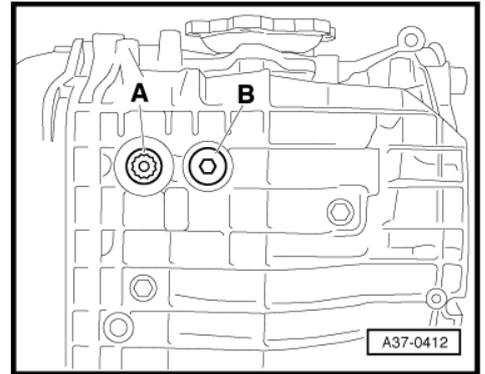


- Unfasten quick-release catches -2- and detach rear noise insulation. Do not remove front noise insulation.
- Place used oil collection and extraction unit -V.A.G 1782- below gearbox.



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- Unscrew ATF drain plug -A- with multi-point bit -3357- and drain off ATF.
- Tighten ATF drain plug to 24 Nm.
- Unscrew ATF inspection plug -B-.
- Screw connecting piece on stopcock of ATF charging device for CVT gearboxes -VAS 5162- into threaded hole for ATF inspection plug -B-.

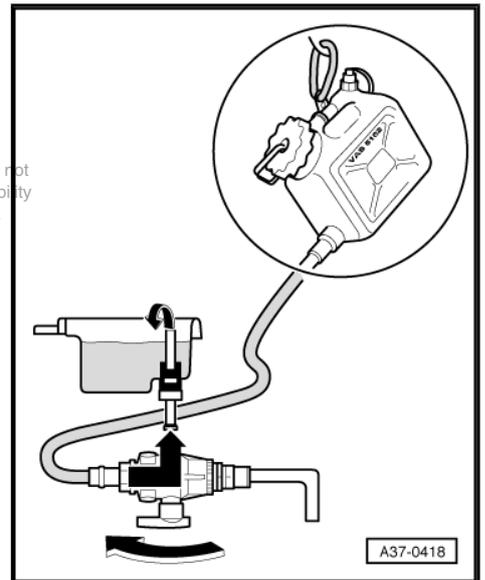


- Turn stopcock in direction of filling hose -lower arrow-. ATF flows into gearbox.
- Fill gearbox with at least 4.5 to 5 ltr. of fresh ATF.
- Move selector lever to position "P", start engine and allow to run at idling speed.

Vehicles from model year 2005:

- Shift selector lever to position "P".
- Start engine.
- Rev engine briefly to 2500 rpm.

 **Caution**
The engine must be revved to 2500 rpm to vent air from the ATF pump after performing repairs on the gearbox.



All models:

- Check and top up ATF level => [page 65](#) .

 **Note**

Observe all notes and test requirements for "Checking ATF level".



10 Servicing ATF cooling system on vehicles with 3.0 ltr. MPI engine

10.1 Removing and installing ATF pipes



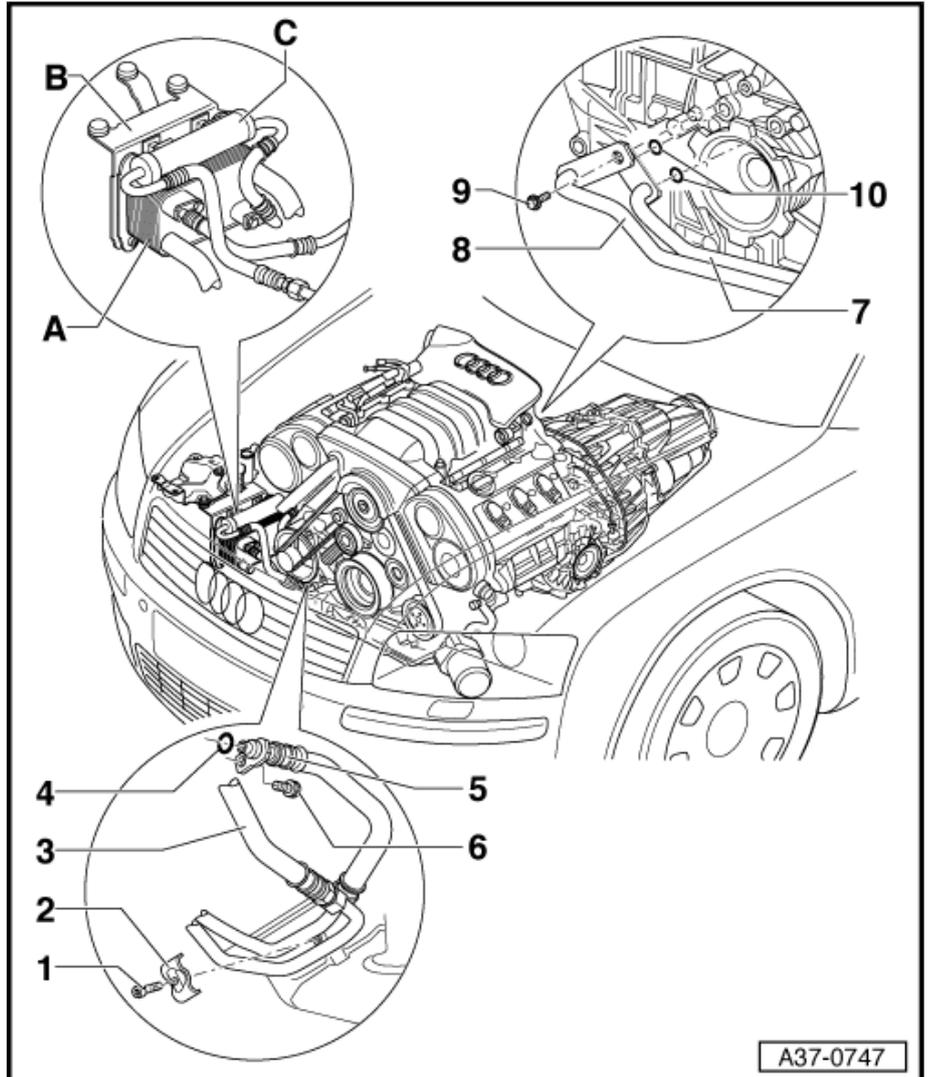
Note

- ◆ *General repair instructions* ⇒ [page 7](#).
- ◆ *Rules for cleanliness when working on the automatic gearbox* ⇒ [page 9](#).
- ◆ *To install, first press ATF pipes onto gearbox or cooler by hand until they engage, then bolt on.*
- ◆ *Check ATF level after renewing ATF pipes* ⇒ [page 65](#).



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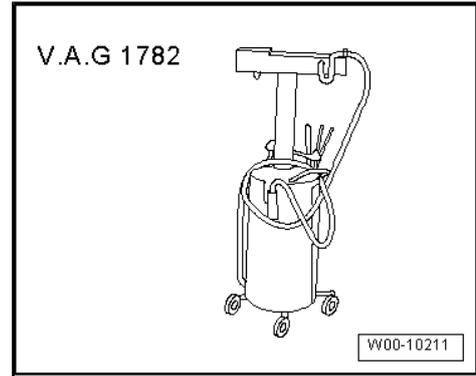
- 1 - Bolt, 9 Nm**
- 2 - Bracket for ATF pipes**
- 3 - ATF pipe**
 - Return pipe from additional ATF filter
 - Tighten union nut to 29 Nm
- 4 - O-ring**
 - Renew
 - Lubricate with ATF when fitting
- 5 - ATF pipe**
 - Supply pipe to additional ATF cooler
- 6 - Bolt, 5 Nm**
 - For securing ATF pipe to additional ATF cooler
- 7 - ATF pipe**
 - Supply pipe from gear-box to additional ATF cooler
- 8 - ATF pipe**
 - Return pipe from additional ATF filter to gear-box
- 9 - Bolt, 21 Nm**
 - Secures ATF pipes to gearbox
 - First push on ATF pipes with new O-rings by hand until they engage.
- 10 - O-rings**
 - Renew
 - Lubricate with ATF when fitting
- A - Auxiliary ATF cooler**
 - Removing and installing ⇒ [page 78](#)
- B - Bracket**
 - For additional ATF filter and additional ATF cooler
 - Removing and installing ⇒ [page 81](#)
- C - Additional ATF filter**
 - Removing and installing ⇒ [page 76](#)



10.2 Cleaning ATF pipes and ATF cooler

Special tools and workshop equipment required

- ◆ Used oil collection and extraction unit -V.A.G 1782-



- ◆ Hose, approx. 18 mm dia.
- ◆ Compressed air gun (commercially available)
- ◆ Safety goggles
- Before installing a replacement gearbox, always blow through the ATF cooler and ATF pipes with compressed air (not more than 10 bar).
- Also always renew additional ATF filter before installing replacement gearbox.



Note

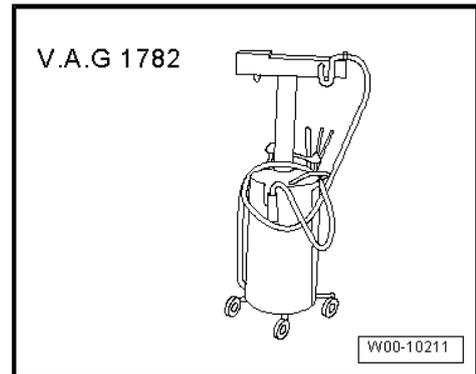
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- ◆ *If the ATF which emerges during cleaning is very dirty, the pipes and ATF cooler must additionally be flushed out with clean ATF.*
- ◆ *Removing and installing ATF pipes ⇒ [page 74](#).*

10.3 Removing and installing additional ATF filter

Special tools and workshop equipment required

- ◆ Used oil collection and extraction unit -V.A.G 1782-



Removing

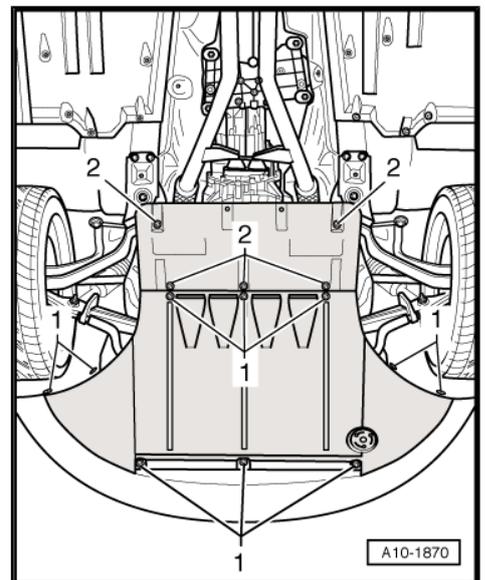
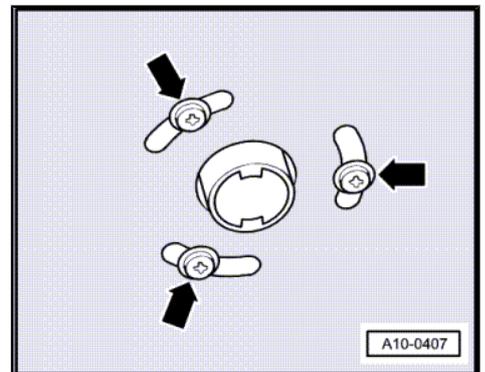
Note

- ◆ *General repair instructions ⇒ [page 7](#).*
 - ◆ *Rules for cleanliness when working on the automatic gearbox ⇒ [page 9](#).*
 - ◆ *Before fitting a new gearbox, always blow through the ATF cooler and ATF pipes with compressed air (not more than 10 bar) ⇒ [page 75](#) and renew the additional ATF filter. If the ATF which emerges during cleaning is very dirty, the pipes and ATF cooler must additionally be flushed out with clean ATF.*
 - ◆ *To install, first press ATF pipes onto gearbox or cooler by hand until they engage, then bolt on.*
- If applicable, activate jacking mode when raising the vehicle
 ⇒ Running gear, front-wheel drive and four-wheel drive; Rep. Gr. 43 ; Adaptive air suspension .
 - Raise vehicle.

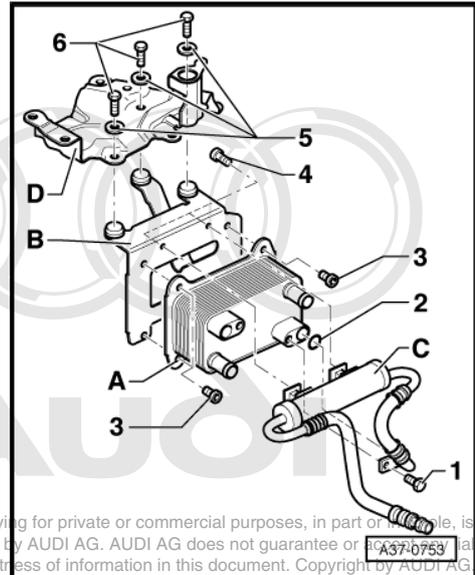
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On vehicles fitted with auxiliary heater, remove screws -arrows- securing exhaust pipe of auxiliary/ additional heater to noise insulation.

- Release quick-release fasteners -1- and -2- and detach noise insulation panels.
- Place used oil collection and extraction unit -V.A.G 1782- below gearbox.

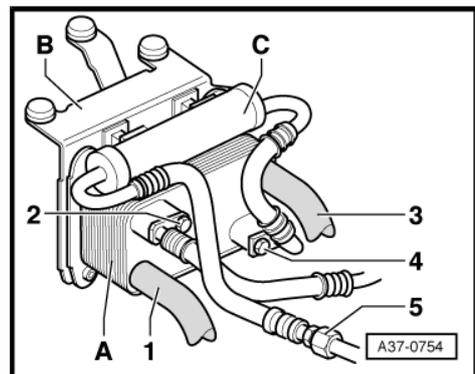


- Unscrew 2 bolts -4-.



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- Loosen union nut -5- and detach additional ATF filter -C- from ATF pipe.
- Remove bolt -4-.
- Detach pipe leading to additional ATF filter from additional ATF cooler -A-.



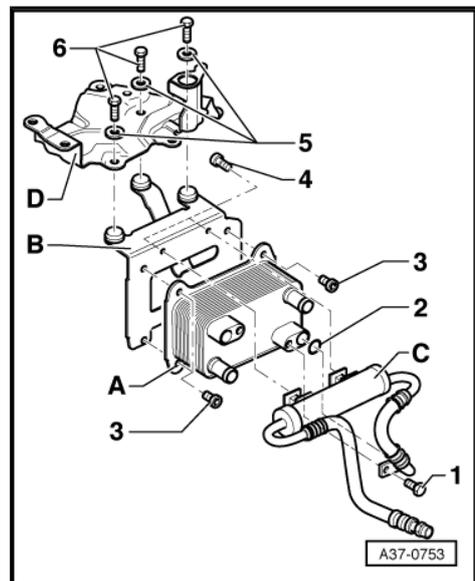
Installing

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

- Renew O-ring -2-.
- Check ATF level ⇒ [page 65](#) .

Tightening torques

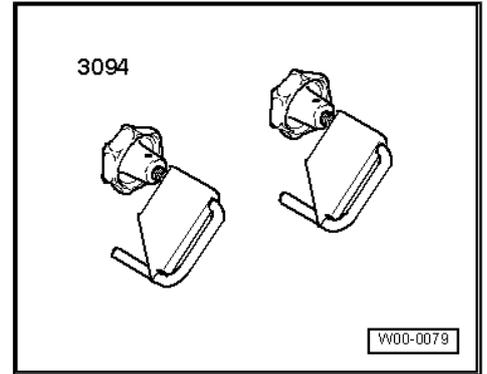
Component	Nm
Additional ATF filter -C- to bracket -B- 2 x bolt -4-	5
Pipe from additional ATF filter to additional ATF cooler -A- 1 x bolt -1-	5
Union nut for ATF pipe to additional ATF filter	29



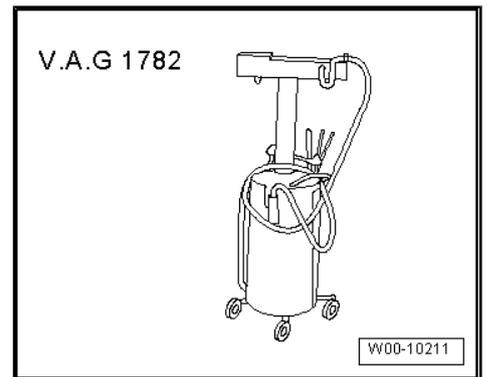
10.4 Removing and installing additional ATF cooler

Special tools and workshop equipment required

- ◆ Hose clamps, up to Ø 25 mm -3094-



- ◆ Used oil collection and extraction unit -V.A.G 1782-

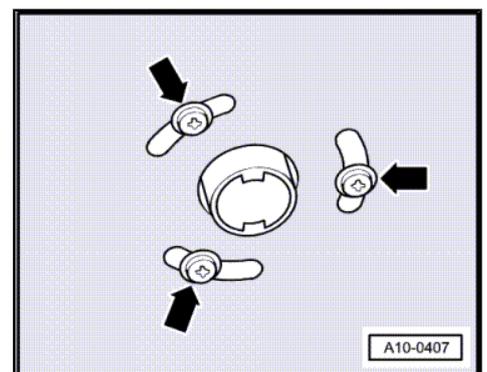


Removing

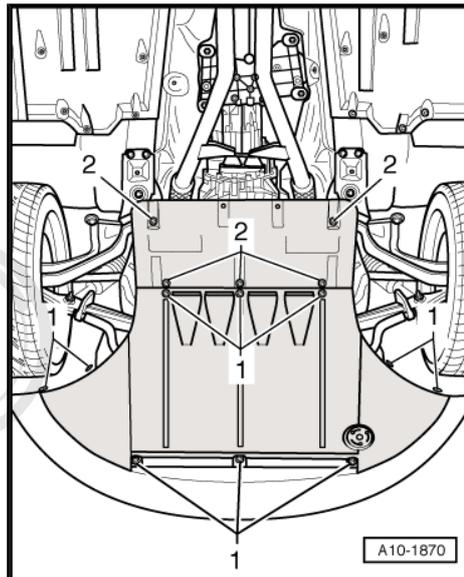


Note

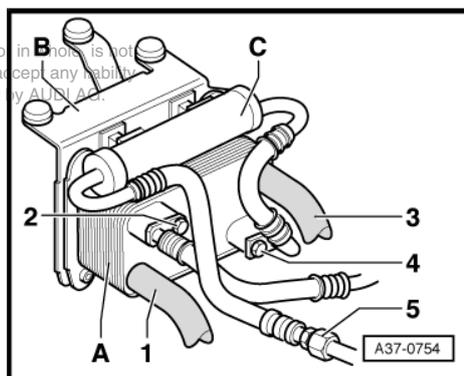
- ◆ *Rules for cleanliness when working on the automatic gearbox*
 ⇒ [page 9](#).
 - ◆ *General repair instructions* ⇒ [page 7](#).
 - ◆ *Before fitting a new gearbox, always blow through the ATF cooler and ATF pipes with compressed air (not more than 10 bar) ⇒ [page 75](#) and renew the additional ATF filter. If the ATF which emerges during cleaning is very dirty, the pipes and ATF cooler must additionally be flushed out with clean ATF.*
 - ◆ *To install, first press ATF pipes onto gearbox or cooler by hand until they engage, then bolt on.*
- If applicable, activate jacking mode when raising the vehicle
 ⇒ Running gear, front-wheel drive and four-wheel drive; Rep. Gr. 43 ; Adaptive air suspension .
 - Raise vehicle.
 - On vehicles fitted with auxiliary heater, remove screws -arrows- securing exhaust pipe of auxiliary/ additional heater to noise insulation.



- Release quick-release fasteners -1- and -2- and detach noise insulation panels.
- Place used oil collection and extraction unit -V.A.G 1782- below gearbox.
- If applicable, first remove additional ATF filter



- Remove bolts -2- and -4- and detach ATF pipes from additional ATF cooler -A-
- Clamp off cooling pipes 1 and 3 with hose clamps -3094- and remove from additional ATF cooler.



- Unscrew bolts -3- (4 x) and remove additional ATF cooler.

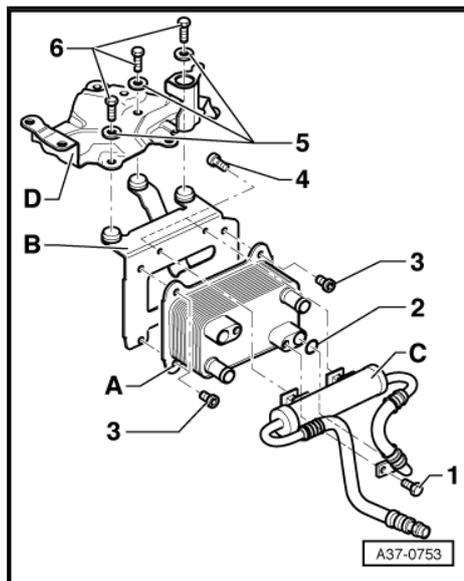
Installing

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

- Renew O-rings on ATF pipes leading to additional ATF cooler.
- Check ATF level ⇒ [page 65](#) .
- Check coolant level.

Tightening torques

Component	Nm
Additional ATF cooler -A- to bracket -B- 4 x bolt -3-	5
ATF pipes to additional ATF cooler -A-	5



10.5 Removing and installing bracket for additional ATF filter and additional ATF cooler

Removing

- Remove the three bolts -6-.
- Remove bolts with washers -5-.
- Remove the four bolts -3-.
- Remove additional ATF cooler -A- (hoses remain connected).
- Detach bracket -B-.



Note

When renewing bracket first remove additional ATF filter and additional ATF cooler from bracket.

Installing

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

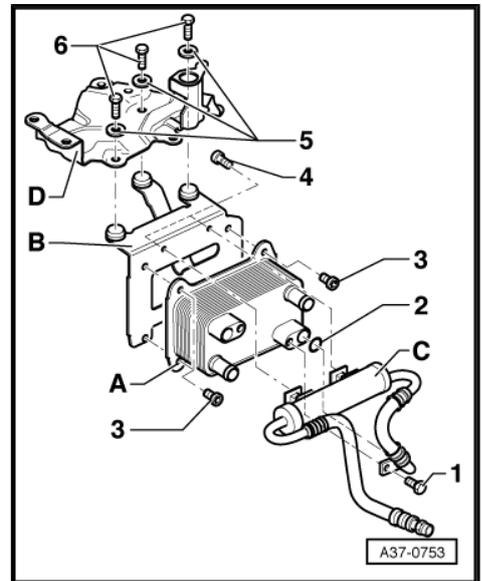


Note

Rubber buffers are fitted to the three attachment points at top of bracket. Before installing, check they are seated correctly and renew if necessary.

Tightening torques

Component	Nm
Bracket -B- to body -D- 3 x bolt -6- with washer -5-	10
Additional ATF cooler -A- to bracket -B- 4 x bolt -3-	5



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11 Servicing ATF cooling system on vehicles with 3.2 ltr. FSI engine and 2.8 ltr. FSI engine

11.1 Removing and installing ATF pipes

Note

- ◆ *Rules for cleanliness when working on the automatic gearbox ⇒ [page 9](#).*
- ◆ *General repair instructions ⇒ [page 7](#).*
- ◆ *To install, first press ATF pipes onto gearbox or cooler by hand until they engage, then bolt on.*
- ◆ *Check ATF level after renewing ATF pipes ⇒ [page 65](#).*

1 - Bolt, 9 Nm

2 - Bolt, 9 Nm

3 - O-ring

- Renew
- Lubricate with ATF when fitting

4 - Bolt, 5 Nm

5 - Union nut, 29 Nm

6 - Bolt, 21 Nm

- First push on ATF pipes with new O-rings by hand until they engage.
- Secures ATF pipes to gearbox

7 - ATF pipe

- Return pipe from additional ATF filter to gearbox

8 - O-rings

- Renew
- Lubricate with ATF when fitting

9 - ATF pipe

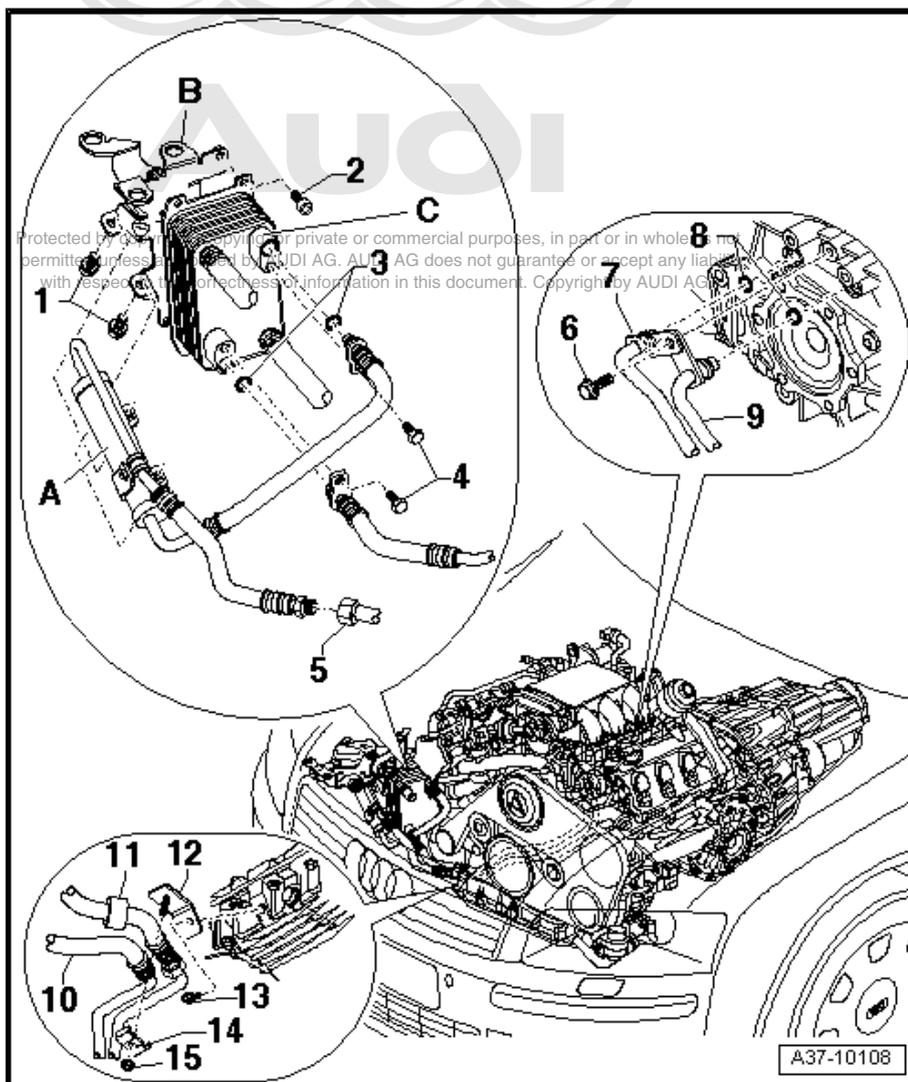
- Supply pipe from gearbox to additional ATF cooler

10 - ATF pipe

- Supply pipe to additional ATF cooler

11 - ATF pipe

- Return pipe from additional ATF filter



12 - Bracket for ATF pipes

13 - Bolt, 9 Nm

14 - Bracket for ATF pipes

15 - Nut, 5 Nm

A - Additional ATF filter

- Removing and installing ⇒ [page 83](#)

B - Bracket

- For additional ATF filter and additional ATF cooler
- Removing and installing ⇒ [page 88](#)

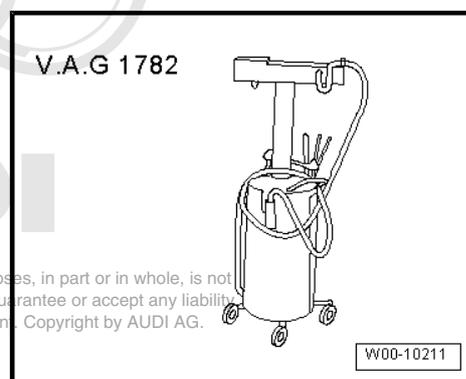
C - Auxiliary ATF cooler

- Removing and installing ⇒ [page 85](#)

11.2 Cleaning ATF pipes and ATF cooler

Special tools and workshop equipment required

- ◆ Used oil collection and extraction unit -V.A.G 1782-



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- ◆ Hose, approx. 18 mm dia.
- ◆ Compressed air gun (commercially available)
- ◆ Safety goggles
- Before installing a replacement gearbox, always blow through the ATF cooler and ATF pipes with compressed air (not more than 10 bar).
- Also always renew additional ATF filter before installing replacement gearbox.

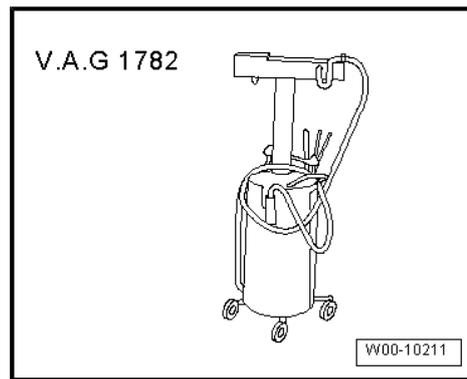
Note

- ◆ *If the ATF which emerges during cleaning is very dirty, the pipes and ATF cooler must additionally be flushed out with clean ATF.*
- ◆ *Removing and installing ATF pipes ⇒ [page 82](#).*

11.3 Removing and installing additional ATF filter

Special tools and workshop equipment required

◆ Used oil collection and extraction unit -V.A.G 1782-



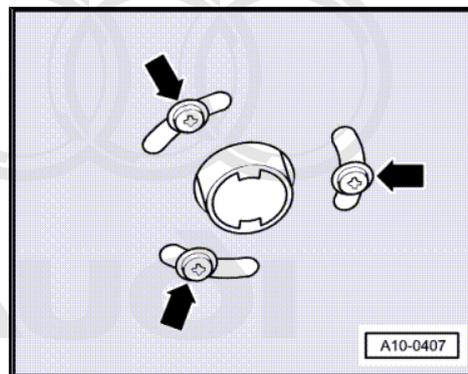
Removing



Note

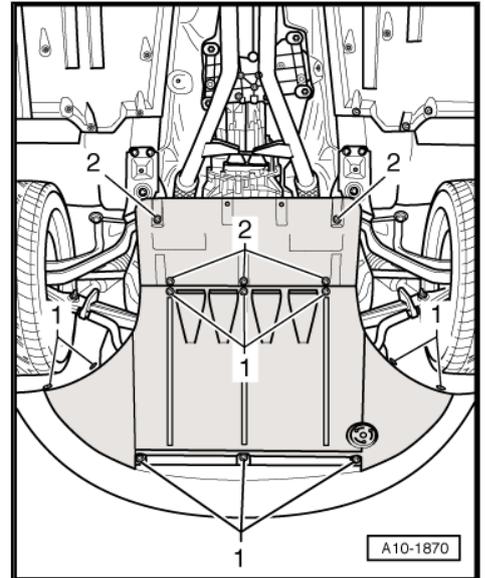
- ◆ *Rules for cleanliness when working on the automatic gearbox*
⇒ [page 9](#) .
- ◆ *General repair instructions* ⇒ [page 7](#) .
- ◆ *Before fitting a new gearbox, always blow through the ATF cooler and ATF pipes with compressed air (not more than 10 bar) ⇒ [page 83](#) and renew the additional ATF filter. If the ATF which emerges during cleaning is very dirty, the pipes and ATF cooler must additionally be flushed out with clean ATF.*
- ◆ *To install, first press ATF pipes onto gearbox or cooler by hand until they engage, then bolt on.*

- If applicable, activate jacking mode when raising the vehicle
⇒ Running gear, front-wheel drive and four-wheel drive; Rep. Gr. 43 ; Adaptive air suspension .
- Raise vehicle.
- On vehicles fitted with auxiliary heater, remove screws -arrows- securing exhaust pipe of auxiliary/ additional heater to noise insulation.

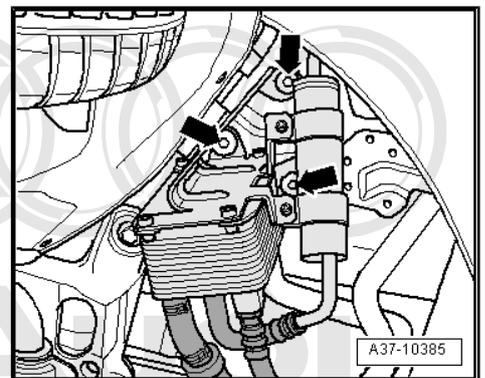


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- Release quick-release fasteners -1- and -2- and detach noise insulation panels.

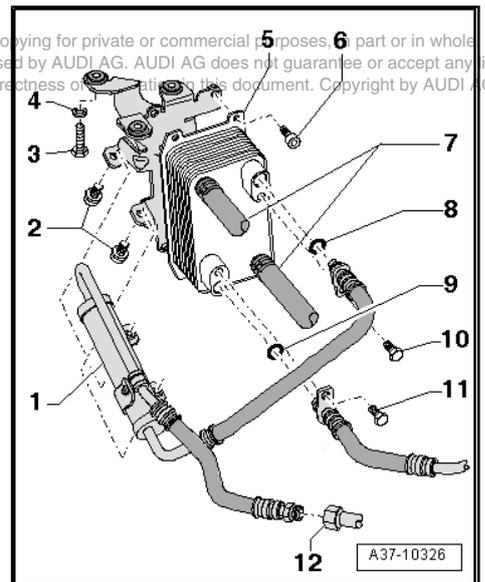


- Remove bolts -arrows- and detach ATF cooler with additional ATF filter (hoses remain connected).



- Place used oil collection and extraction unit -V.A.G 1782- below ATF cooler.
- Remove bolt -10- and detach ATF pipe from ATF cooler -5-.
- Loosen union nut -12-.
- Remove bolts -2- and detach additional ATF filter -1-.

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Installing

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

- Renew O-ring -8-.
- Check ATF level => [page 65](#) .

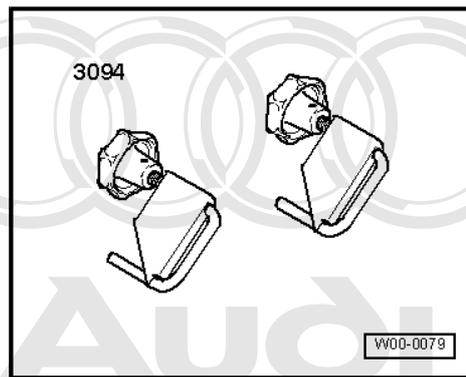
Tightening torques

Component	Nm
Additional ATF filter to bracket	9
Pipe to additional ATF cooler	5
Union nut for ATF pipe to additional ATF filter	29
Bracket for additional ATF cooler and additional ATF filter to body	9

11.4 Removing and installing additional ATF cooler

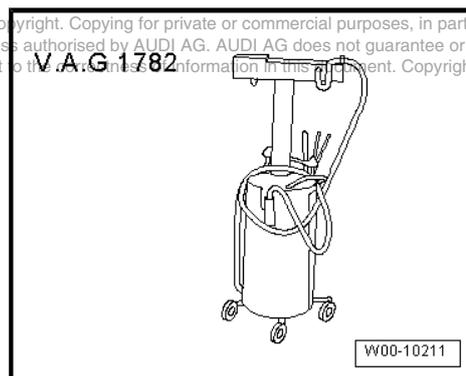
Special tools and workshop equipment required

- ◆ Hose clamps, up to Ø 25 mm -3094-



- ◆ Used oil collection and extraction unit -V.A.G 1782-

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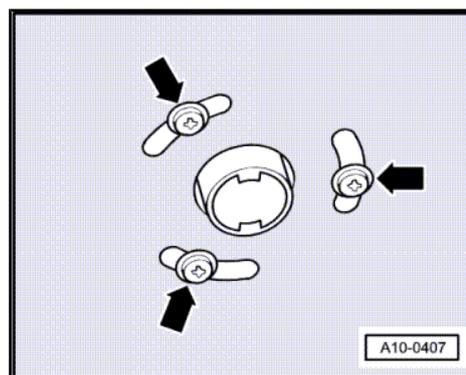


Removing

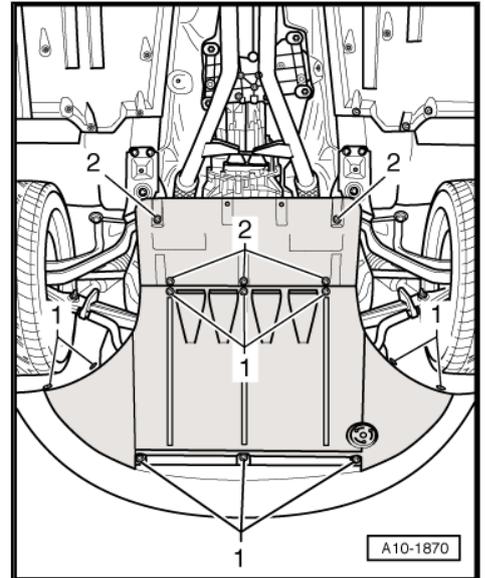


Note

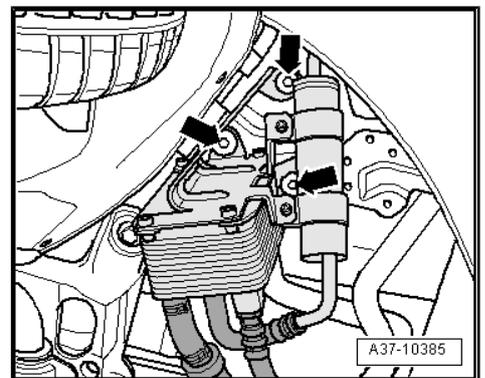
- ◆ *Rules for cleanliness when working on the automatic gearbox ⇒ [page 9](#).*
 - ◆ *General repair instructions ⇒ [page 7](#).*
 - ◆ *Before fitting a new gearbox, always blow through the ATF cooler and ATF pipes with compressed air (not more than 10 bar) ⇒ [page 75](#) and renew the additional ATF filter. If the ATF which emerges during cleaning is very dirty, the pipes and ATF cooler must additionally be flushed out with clean ATF.*
 - ◆ *To install, first press ATF pipes onto gearbox or cooler by hand until they engage, then bolt on.*
- If applicable, activate jacking mode when raising the vehicle
 ⇒ Running gear, front-wheel drive and four-wheel drive; Rep. Gr. 43 ; Adaptive air suspension .
 - Raise vehicle.
 - On vehicles fitted with auxiliary heater, remove screws -arrows- securing exhaust pipe of auxiliary/ additional heater to noise insulation.



- Release quick-release fasteners -1- and -2- and detach noise insulation panels.



- Remove bolts -arrows- and detach ATF cooler with additional ATF filter (hoses remain connected).

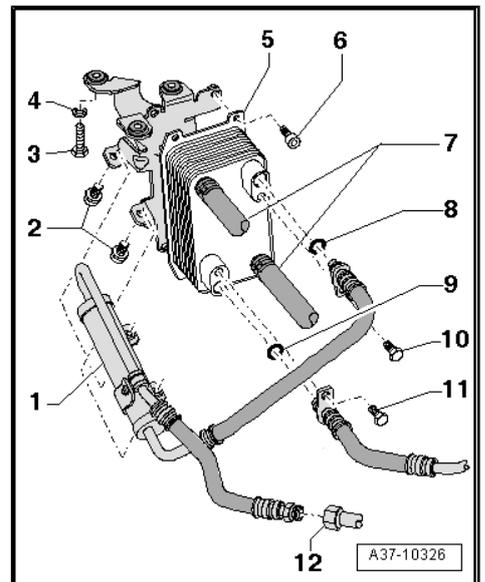


- Place used oil collection and extraction unit -V.A.G 1782- below ATF cooler.
- Remove bolts -10- and -11- and detach ATF pipes from additional ATF cooler -5-.
- Clamp off coolant hoses -7- with hose clamps -3094- and detach hoses from additional ATF cooler.
- Remove bolts -6- and take off additional ATF cooler.

Installing

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

- Renew O-rings -8- and -9- on ATF pipes leading to additional ATF cooler.
- Check ATF level => [page 65](#) .
- Check coolant level => Rep. Gr. 19 .



Tightening torques

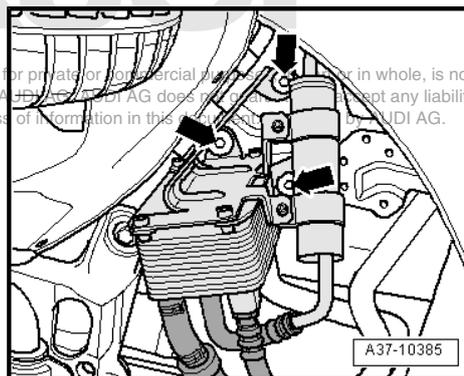
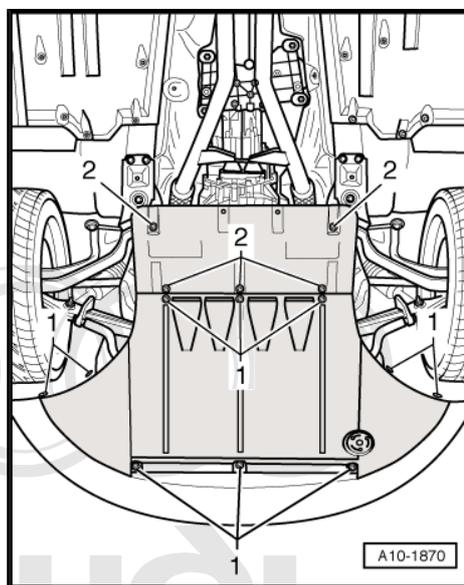
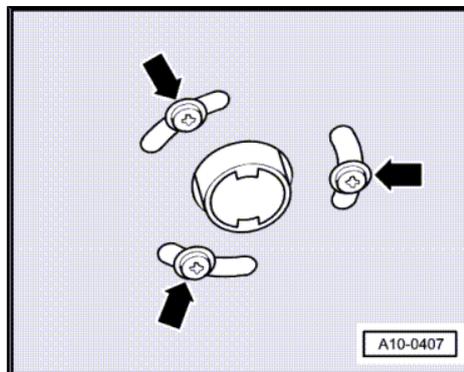
Component	Nm
Additional ATF cooler to bracket	9
Pipe to additional ATF cooler	5
Bracket for additional ATF cooler and additional ATF filter to body	9

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11.5 Removing and installing bracket for additional ATF filter and additional ATF cooler

Removing

- If applicable, activate jacking mode when raising the vehicle
⇒ Running gear, front-wheel drive and four-wheel drive; Rep. Gr. 43 ; Adaptive air suspension .
- Raise vehicle.
- On vehicles fitted with auxiliary heater, remove screws -arrows- securing exhaust pipe of auxiliary/ additional heater to noise insulation.
- Release quick-release fasteners -1- and -2- and detach noise insulation panels.
- Remove bolts -arrows- and detach ATF cooler with additional ATF filter (hoses remain connected).



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- Remove bolts -2- and -6-.
- Detach bracket.

 **Note**

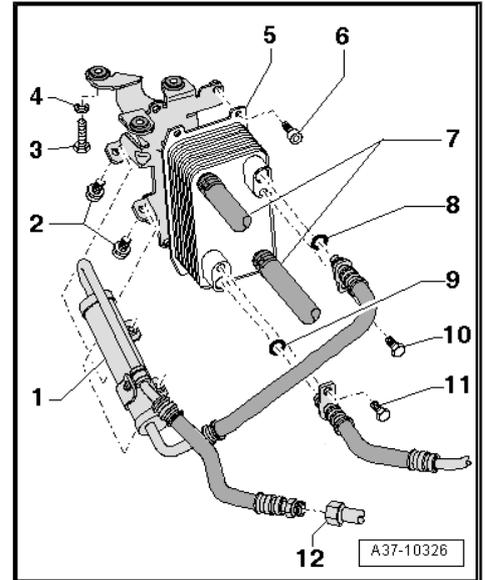
When renewing bracket first remove additional ATF filter and additional ATF cooler from bracket.

Installing

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

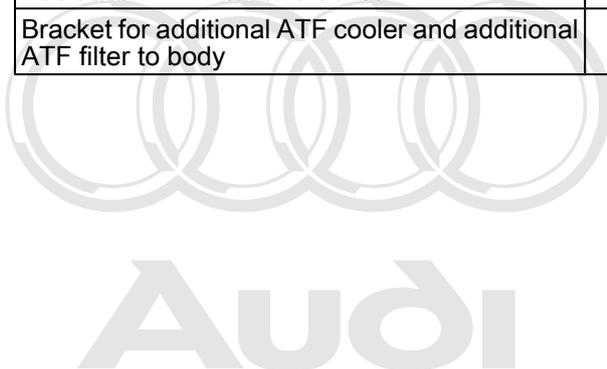
 **Note**

Rubber buffers are fitted to the three attachment points at top of bracket. Before installing, check they are seated correctly and renew if necessary.



Tightening torques

Component	Nm
Additional ATF cooler to bracket	9
Additional ATF filter to bracket	9
Bracket for additional ATF cooler and additional ATF filter to body	9



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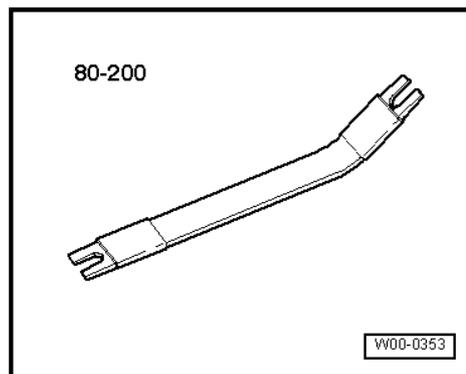
38 – Gears, control

1 Dismantling and assembling gearbox

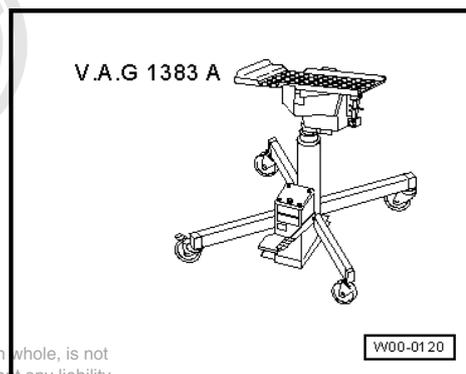
1.1 Removing and installing end cover

Special tools and workshop equipment required

- ◆ Removal lever -80-200-

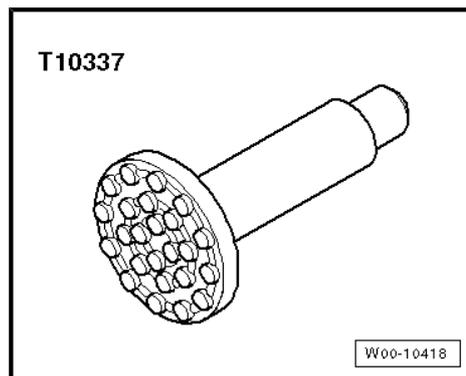


- ◆ Engine and gearbox jack -V.A.G 1383 A-



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- ◆ Gearbox support -T10337-



Caution

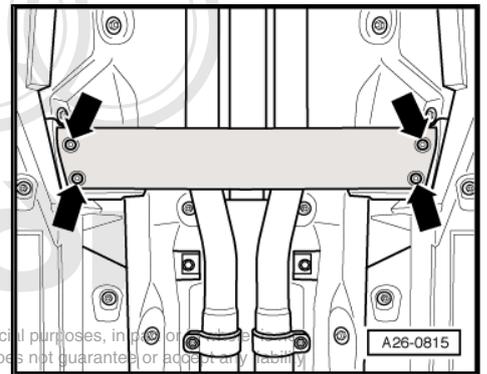
Do not run engine or tow vehicle with end cover removed or when there is no ATF in the gearbox.

 **Note**

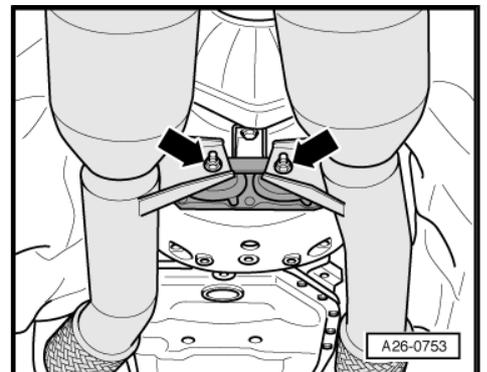
- ◆ *General repair instructions* ⇒ [page 7](#) .
- ◆ *Rules for cleanliness when working on the automatic gearbox* ⇒ [page 9](#) .

Removing

- If applicable, activate jacking mode when raising the vehicle
 ⇒ Running gear, front-wheel drive and four-wheel drive; Rep. Gr. 43 ; Adaptive air suspension .
- Raise vehicle.
- Drain off ATF ⇒ [page 70](#) .
- Remove front cross member -arrows-.



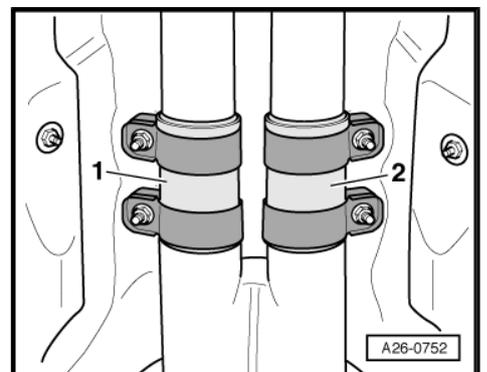
- Unscrew nuts -arrows- on brackets for front exhaust pipes (left and right).



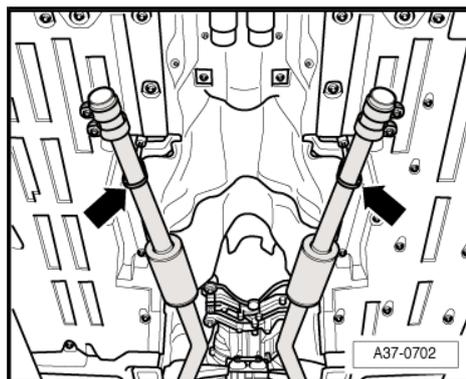
 **Note**

The flexible pipe connection (de-coupling element) on the front exhaust pipe must not be bent more than 10° – otherwise it can be damaged.

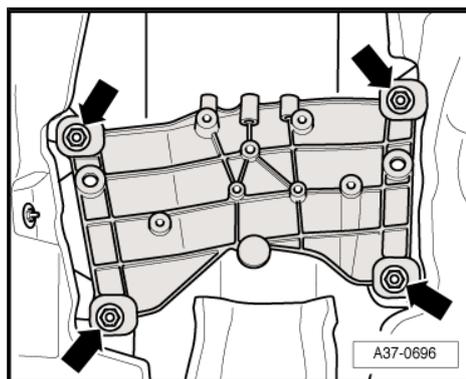
- Loosen clamps -1- and -2- ...



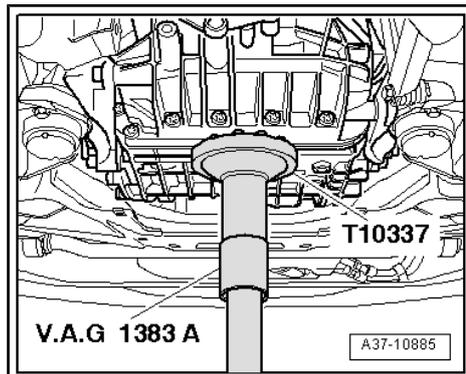
- ... and tie up front left and front right exhaust pipes onto body -arrows-.



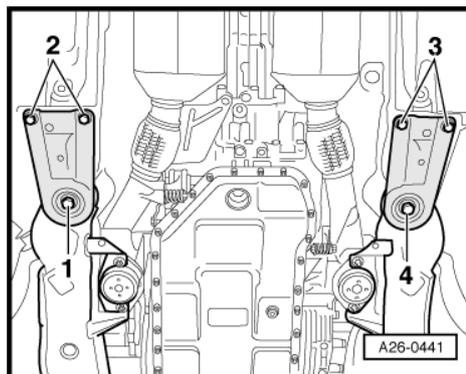
- Unscrew bolts -arrows- and remove tunnel cross member.



- Position engine and gearbox jack -V.A.G 1383 A- with gearbox support -T10337- underneath gearbox, as shown in illustration, and support gearbox.
- Use engine and gearbox jack to lift gearbox up slightly.



- First remove bolts -2- and -3- and then subframe securing bolts -1- and -4-.
- Using engine and gearbox jack -V.A.G 1383 A- , lower gearbox far enough to be able to access selector lever cable at selector shaft lever at top of gearbox.

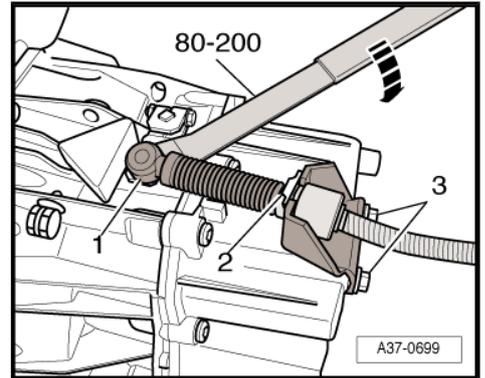


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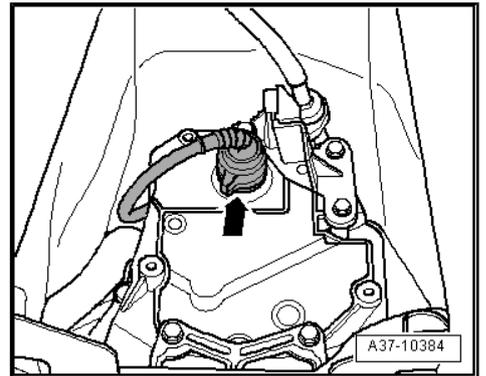
- Remove bolts -3- at support bracket for selector lever cable.
- Use removal lever -80-200- to prise ball head -1- on selector lever cable off selector shaft lever -arrow-.

 **Note**

-Item 2- can be disregarded.



- Release electrical connector -arrow- and detach from gear-box.



- Remove bolts -arrows- and take off end cover.

 **Note**

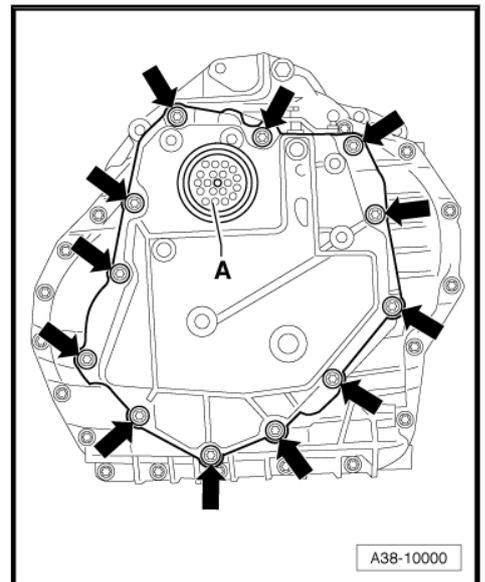
Fit new bolts when installing.

Installing

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

 **Note**

Renew gaskets and seals.



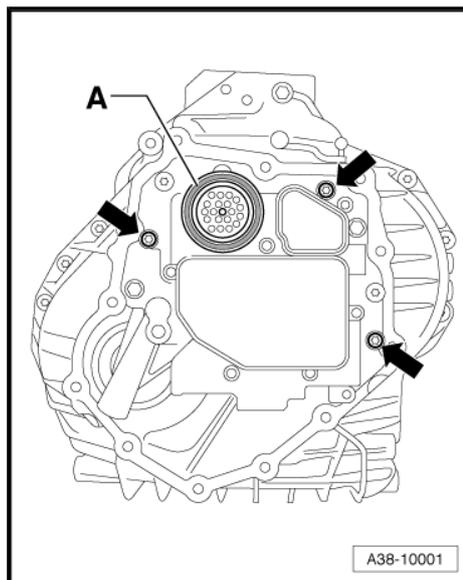
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- Slide new twin-lip oil seal -A- onto connector of gearbox control unit -J217- , with twin-lips facing outwards.
- Clean sealing surfaces on gearbox housing and end cover.
- If any dowel sleeves were removed from gearbox housing or cover, these must be re-fitted in same places.



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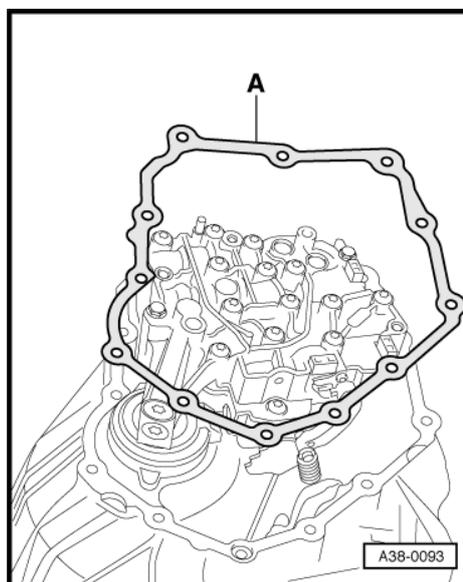


- Fit a new gasket -A- for end cover.



Note

- ◆ *The gaskets can be made of metal or paper. The new gasket must be made of the same material as the old one → Electronic parts catalogue .*
- ◆ *Make sure dowel sleeves are correctly seated.*



- Fit end cover and make sure that gasket does not move out of position.
- Fit new bolts -arrows-: tighten in diagonal sequence finger-tight to start with and then tighten to specified torque (see table).

 **Note**

Fit new bolts when installing.

- Carefully check installation position of twin-lip oil seal -A-: It must be flush (twin-lips must not fold over).
- Push selector shaft lever into position "D".

 **Note**

In order to securely set position "D" on selector shaft lever move the selector shaft lever on gearbox forwards as far as it will go, into position "P". Then shift it three positions to the back (opposite to direction of travel).

- Install selector lever cable and support bracket ⇒ [page 28](#) .

 **Note**

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- ◆ **Do not bend or kink the selector lever cable.**
- ◆ *Take care not to bend selector shaft lever when pressing on cable; support lever if necessary, as otherwise selector mechanism can no longer be adjusted accurately.*
- ◆ *Before installing, lightly lubricate ball socket on selector lever cable with polycarbamide grease -G 052 142 A2- .*

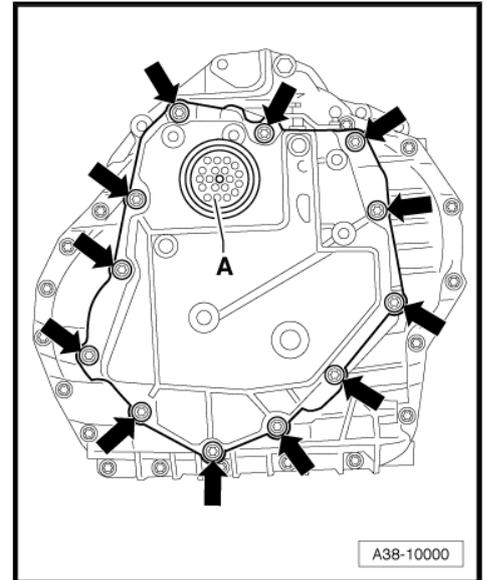
- Install subframe ⇒ Running gear, front-wheel drive and four-wheel drive; Rep. Gr. 40 .
- Adjust selector lever cable ⇒ [page 33](#) .
- Install exhaust system and perform stress-free alignment ⇒ Rep. Gr. 26 .
- Deactivate jacking mode ⇒ Running gear, front-wheel drive and four-wheel drive; Rep. Gr. 43 ; Adaptive air suspension .
- Fill up with fresh ATF ⇒ [page 70](#) .

Tightening torque

Component	Nm
End cover to gearbox	15 + 90° 1)2)
<ul style="list-style-type: none"> • 1) Renew bolts. • 2) 90° is equivalent to a quarter turn. 	

1.2 Removing and installing automatic gearbox control unit -J217-

- Remove end cover ⇒ [page 90](#) .
- Remove automatic gearbox control unit -J217- ⇒ Servicing multitronic 01J and 0AN; Rep. Gr. 38 .





1.3 Cleaning selector shaft

- Automatic gearbox control unit -J217- is removed

The description can be found under ⇒ Servicing multitronic 01J and 0AN; Rep. Gr. 38

1.4 Removing and installing hydraulic control unit

- Remove end cover ⇒ [page 90](#) .
- Remove hydraulic control unit ⇒ Servicing multitronic 01J and 0AN; Rep. Gr. 38 .

1.5 Removing and installing input shaft

- Remove gearbox:
 - ◆ ⇒ [“5.1 Removing gearbox - vehicles with 3.0 ltr. MPI engine”, page 36](#)
 - ◆ ⇒ [“5.3 Removing gearbox - vehicles with 3.2 ltr. FSI engine and 2.8 ltr. FSI engine”, page 49](#)

Remove input shaft ⇒ Servicing multitronic 01J and 0AN; Rep. Gr. 38 .



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39 – Final drive - differential

1 Checking gear oil in front final drive

Note

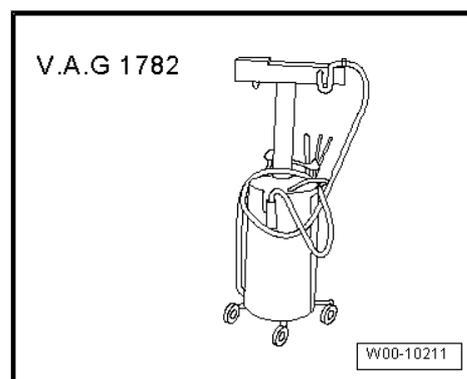
- ◆ *General repair instructions* ⇒ [page 7](#).
- ◆ *Rules for cleanliness when working on the automatic gearbox* ⇒ [page 9](#).

Special tools and workshop equipment required

- ◆ Used oil collection and extraction unit -V.A.G 1782-

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- ◆ Safety goggles

Note

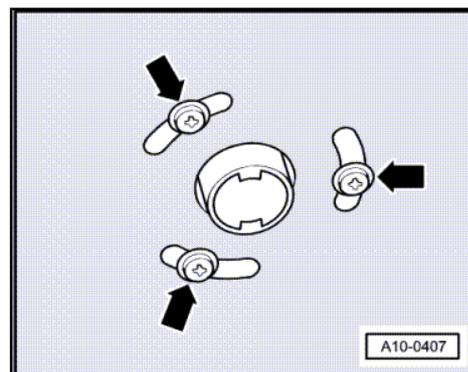
The prescribed oil level is to be adhered to exactly; the gearbox reacts very sensitively to over-filling.

Test sequence

- Carry out a short test drive in order to heat gear oil to approx. 60 °C.

If applicable, activate jacking mode when raising the vehicle ⇒ Running gear, front-wheel drive and four-wheel drive; Rep. Gr. 43 ; Adaptive air suspension .

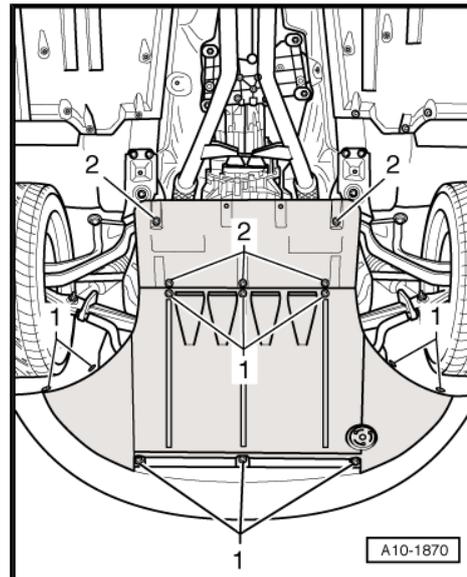
- Drive vehicle onto a lifting platform or over an inspection pit in order for it to be absolutely horizontal.
- Switch off engine and let gear oil drip into gearbox housing for 5 minutes.
- On vehicles fitted with auxiliary heater, remove screws -arrows- securing exhaust pipe of auxiliary/ additional heater to noise insulation.



- Release quick-release fasteners -1- and -2- and detach noise insulation panels.
- Place used oil collection and extraction unit -V.A.G 1782- below gearbox.



WARNING
Wear safety goggles.

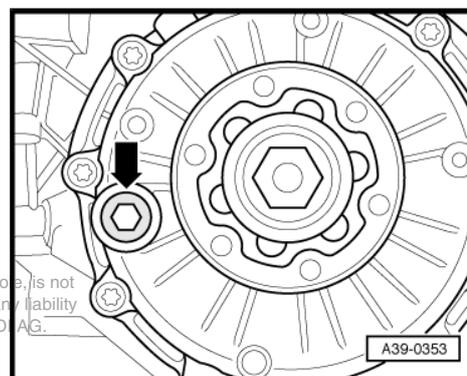


- Remove screw plug -arrow-.
- Check the oil level with a suitable improvised tool, e.g. bent wire.
- Specification: oil level 8.5 mm below bottom lip of oil filler hole.
- Top up gear oil if necessary.
- Gear oil specification ⇒ [page 5](#) .

 **Note**

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When servicing at the workshop the oil can also be filled up to the bottom lip of the oil filler hole. However, it will then be necessary to extract 0.2 litre in order to reach the correct oil level.



- Tighten new screw plug.

Tightening torque

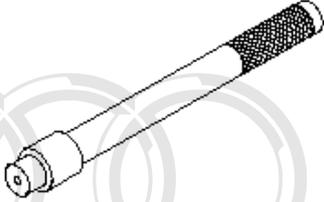
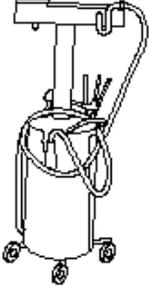
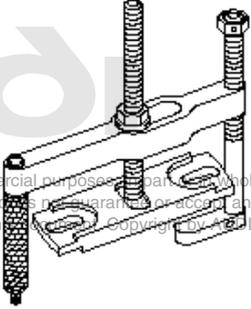
Component	Nm
Screw plug to gearbox	20 ¹⁾
• ¹⁾ Renew screw plug.	

2 Servicing front final drive

2.1 Removing and installing flange shaft (left-side)

Special tools and workshop equipment required

- ◆ Drift -VW 295-
- ◆ Puller -T10037-
- ◆ Used oil collection and extraction unit -V.A.G 1782-

<p>VW 295</p> 	<p>V.A.G 1782</p> 
<p>T10037</p> 	
	<p style="text-align: right;">G39-10022</p>

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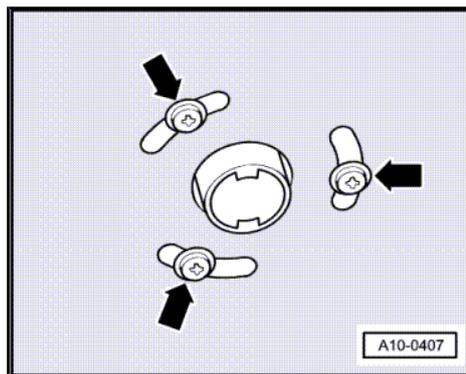
Removing

- Gearbox installed
- If applicable, activate jacking mode when raising the vehicle
 ⇒ Running gear, front-wheel drive and four-wheel drive; Rep. Gr. 43 ; Adaptive air suspension .
- Raise vehicle or drive onto inspection pit.
- Remove front left wheel.

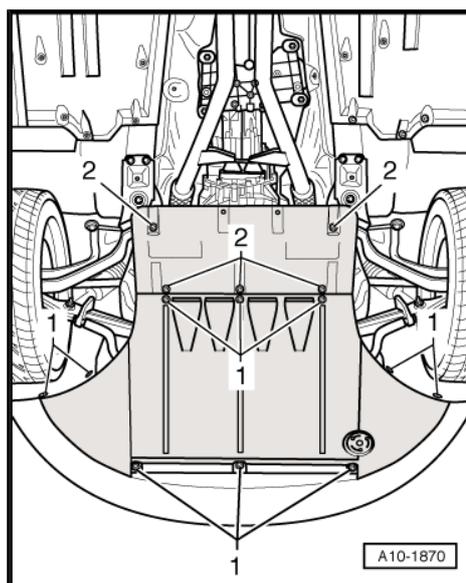
Note

Secure brake disc with wheel bolts.

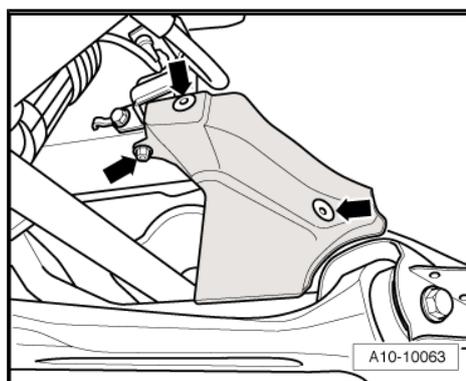
- On vehicles fitted with auxiliary heater, remove screws -arrows- securing exhaust pipe of auxiliary/ additional heater to noise insulation.



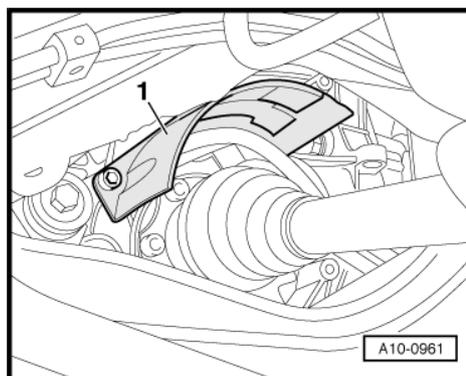
- Release quick-release fasteners -1- and -2- and detach noise insulation panels.



- Remove noise insulation in wheel housing (left-side) -arrows-.



- Remove heat shield -1- for drive shaft (left-side).
- Remove drive shaft (left-side) ⇒ Running gear, front-wheel drive and four-wheel drive; Rep. Gr. 40 .



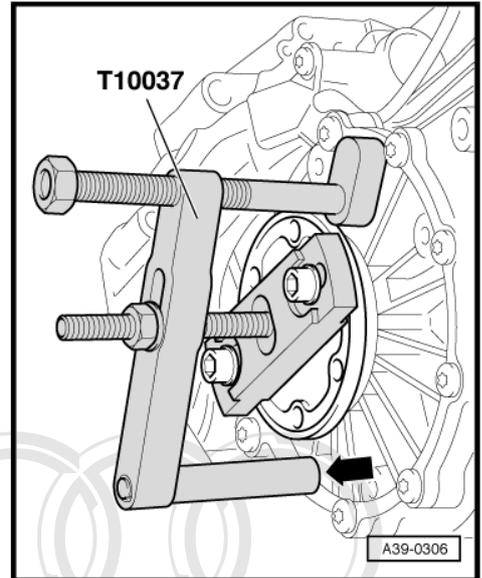
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- Place used oil collection and extraction unit -V.A.G 1782- below gearbox.
- Bolt bottom support of puller -T10037- onto differential cover -arrow-.

 **Note**

In order to prevent damage to the needle bearings (polygon bearings) or the differential during removal, the flange shaft must be kept straight when removing (pull out evenly).

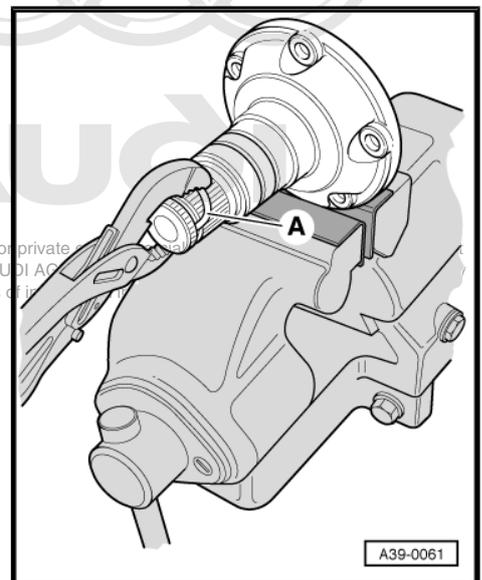
- Pull out left flange shaft using puller -T10037- only until bearing on shaft is removed from gearbox housing.



Installing

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

- Clamp flange shaft into vice with jaw protectors to renew circlip for flange shaft.
- Press old circlip from groove of flange shaft using new circlip -A-.
- Clean flange shaft.
- If oil seal is damaged, it must be renewed => **Servicing multitronic 01J and 0AN; Rep. Gr. 39** .
- Drive in flange shaft using drift -VW 295- .
- Install drive shaft (left-side) => Running gear, front-wheel drive and four-wheel drive; Rep. Gr. 40 .
- Check gear oil level in front final drive => [page 97](#) .



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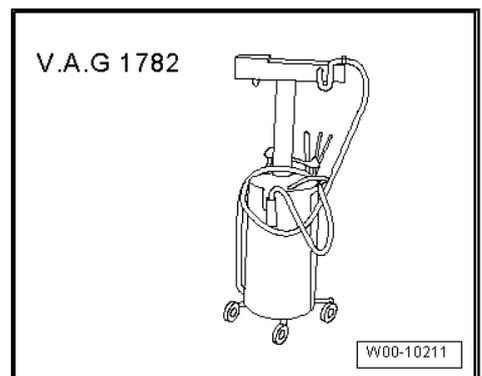
Tightening torque

Component	Nm
Heat shield for drive shaft to gearbox	23

2.2 Removing and installing flange shaft (right-side)

Special tools and workshop equipment required

- ◆ Used oil collection and extraction unit -V.A.G 1782-



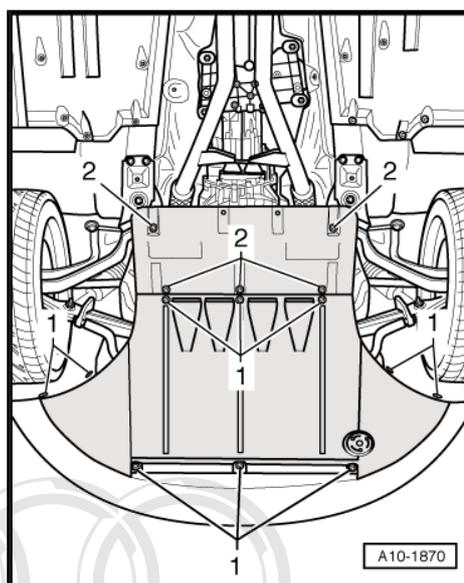
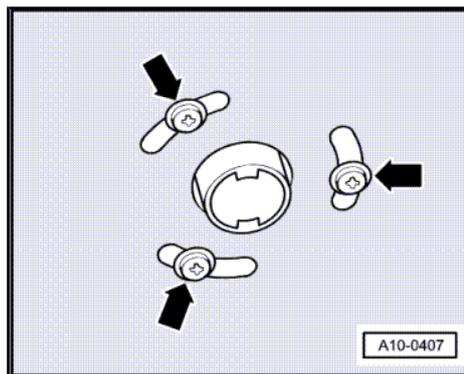
Removing

- Gearbox in vehicle
- Remove front right wheel.

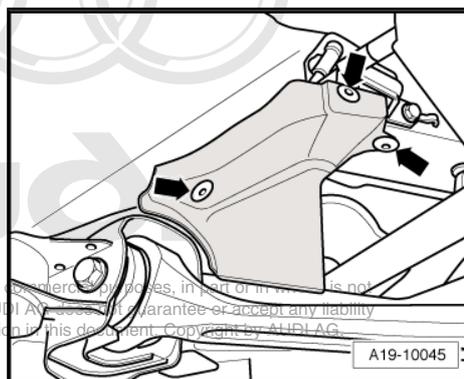
Note

Secure brake disc with wheel bolts.

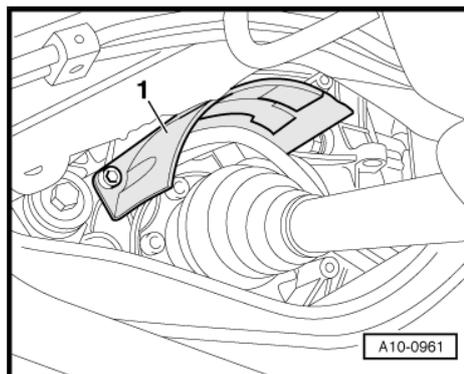
- On vehicles fitted with auxiliary heater, remove screws -arrows- securing exhaust pipe of auxiliary/ additional heater to noise insulation.
- Release quick-release fasteners -1- and -2- and detach noise insulation panels.



- Remove noise insulation in wheel housing (left-side) -arrows-.

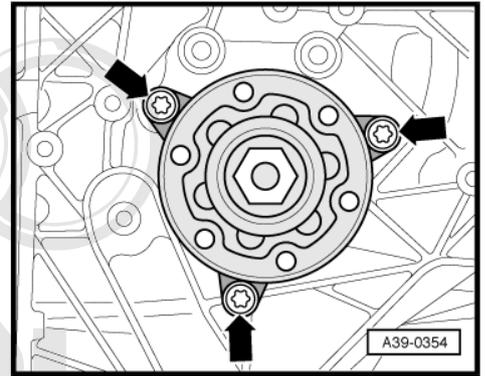


- Remove heat shield -1- for drive shaft (right-side).
- Remove drive shaft (right-side) ⇒ Running gear, front-wheel drive and four-wheel drive; Rep. Gr. 40 .



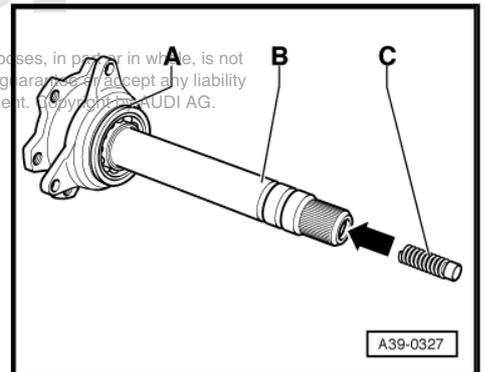
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- Unbolt bearing bracket for flange shaft -arrows-.
- Place used oil collection and extraction unit -V.A.G 1782- below gearbox.
- Pull out flange shaft (right side) together with bearing bracket.



Installing

- Clean flange shaft.
- If oil seal is damaged, it must be renewed → Servicing multitronic 01J and 0AN; Rep. Gr. 39 .
- Renew O-ring -arrow A- in flange shaft bearing bracket.
- Push spring -C- with cap facing outwards into drilling at end of flange shaft -arrow-.
- Insert flange shaft -B- into gearbox.



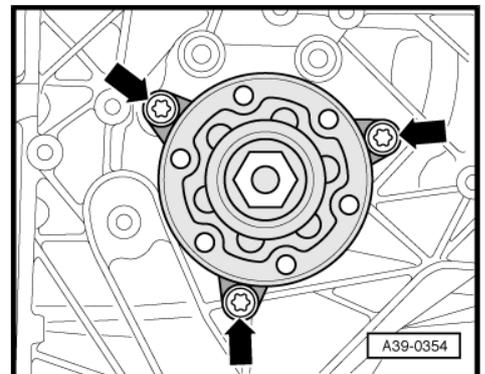
Note

Make sure that spring -C- remains in flange shaft when inserting, otherwise it might drop into gearbox.

- Bolt on bearing bracket for flange shaft -arrows-.
- Install drive shaft (right-side) ⇒ Running gear, front-wheel drive and four-wheel drive; Rep. Gr. 40 .
- Check gear oil level in front final drive ⇒ [page 97](#) .

Tightening torques

Component	Nm
Flange shaft bearing bracket (right-side) to gearbox	25
Heat shield for drive shaft to gearbox	23



2.3 Renewing flange shaft oil seal (left-side)

Description of work sequence ⇒ Servicing multitronic 01J and 0AN; Rep. Gr. 39

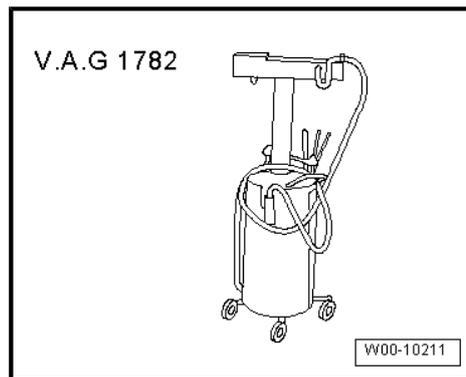
2.4 Renewing oil seal and grooved ball bearing for flange shaft (right-side)

Description of work sequence ⇒ Servicing multitronic 01J and 0AN; Rep. Gr. 39

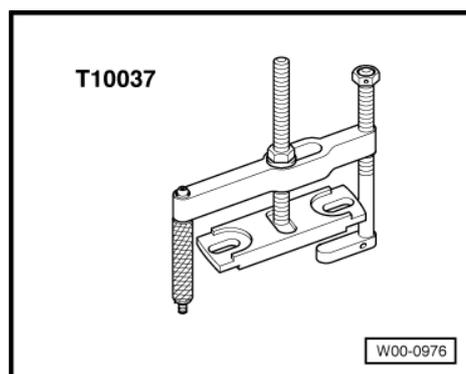
2.5 Removing and installing cover for front final drive

Special tools and workshop equipment required

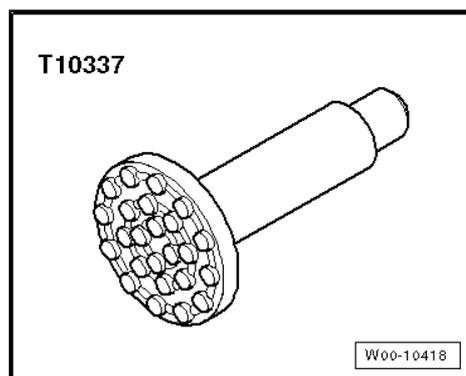
◆ Used oil collection and extraction unit -V.A.G 1782-



◆ Puller -T10037-



◆ Gearbox support -T10337-



Removing

- Gearbox installed

If applicable, activate jacking mode when raising the vehicle ⇒
Running gear, front-wheel drive and four-wheel drive; Rep. Gr.
43 ; Adaptive air suspension .

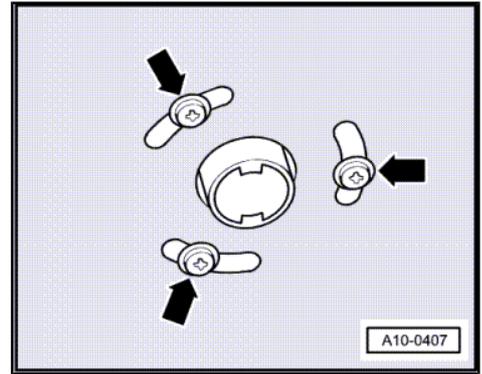
- Raise vehicle or drive onto inspection pit.
- Remove front left wheel.



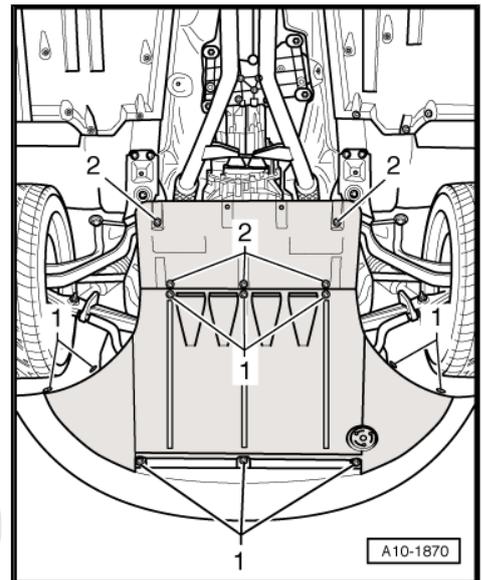
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Secure brake disc with wheel bolts.

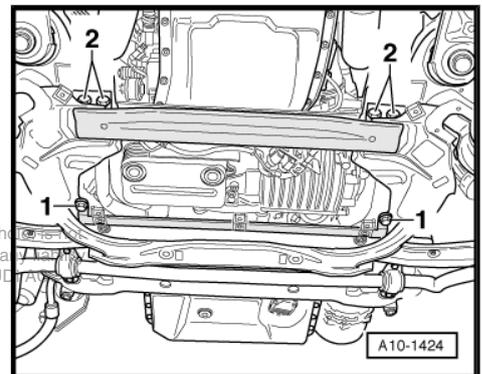
- On vehicles fitted with auxiliary heater, remove screws -arrows- securing exhaust pipe of auxiliary/ additional heater to noise insulation.



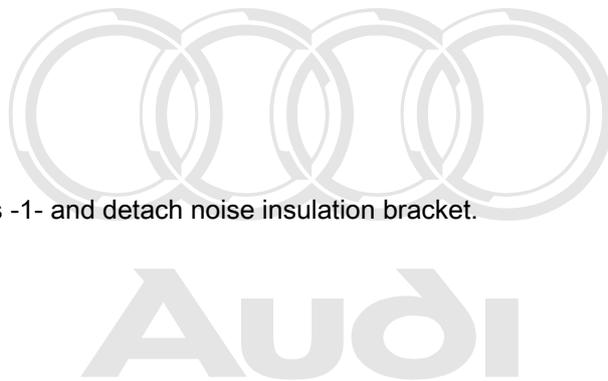
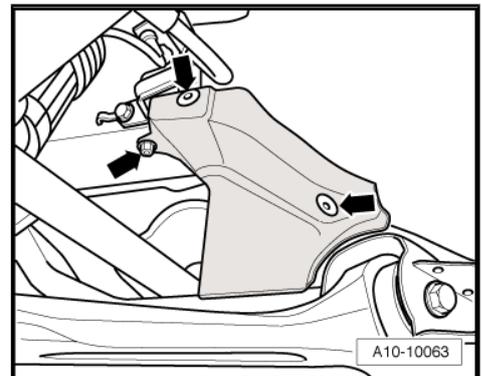
- Release quick-release fasteners -1- and -2- and detach noise insulation panels.



- Remove bolts -1- and detach noise insulation bracket.

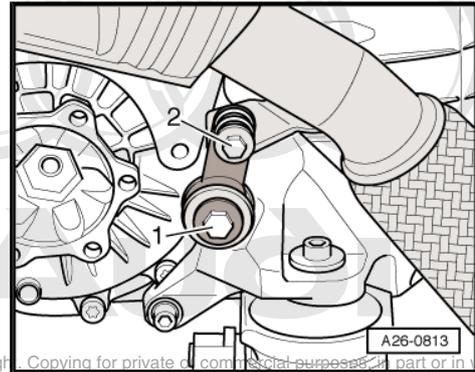


- Remove noise insulation in wheel housing (left-side) -arrows-.

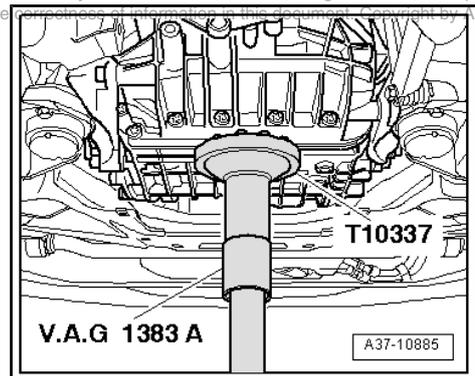


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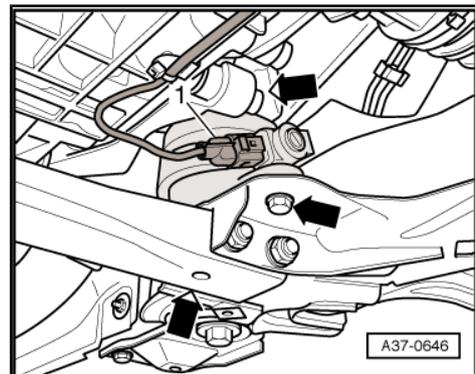
- Unscrew bolts -1- and -2- on bracket for exhaust system (left-side) and remove bracket.



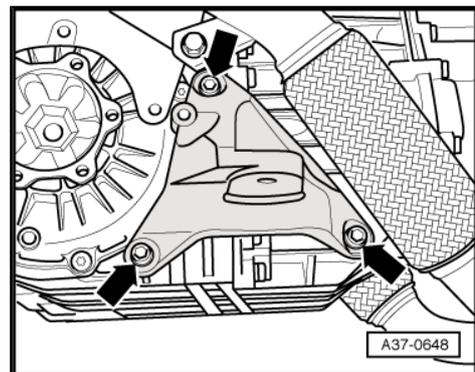
- Position engine and gearbox jack -V.A.G 1383 A- with gearbox support -T10337- underneath gearbox, as shown in illustration, and support gearbox.
- Use engine and gearbox jack to lift gearbox up slightly.



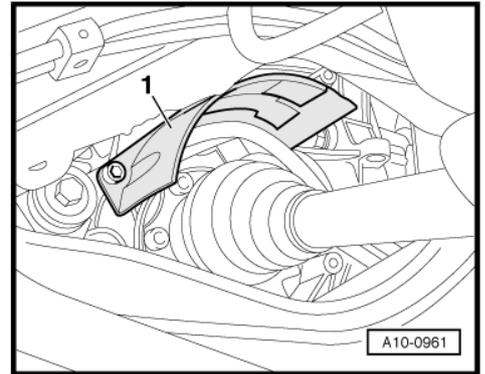
- Unplug electrical connector -1- at gearbox mounting (left-side).
- Unscrew bolts -arrows- and remove gearbox mounting (left-side).



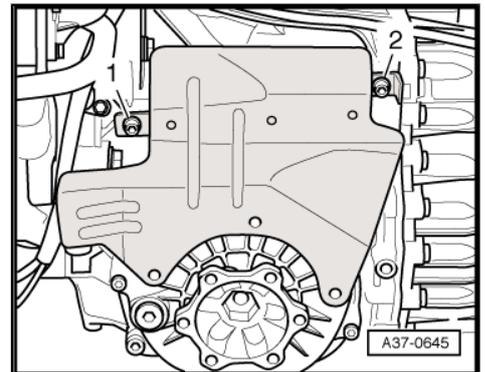
- Unscrew gearbox support (left-side) -arrows-.
- Lower gearbox slightly.



- Remove heat shield -1- for drive shaft (left-side).
- Remove front exhaust pipe ⇒ Rep. Gr. 26 .



- If fitted, unscrew bolts -1- and -2- and remove heat shield (left-side) from gearbox.
- Unbolt left drive shaft from gearbox flange.
- Move drive shaft to rear.





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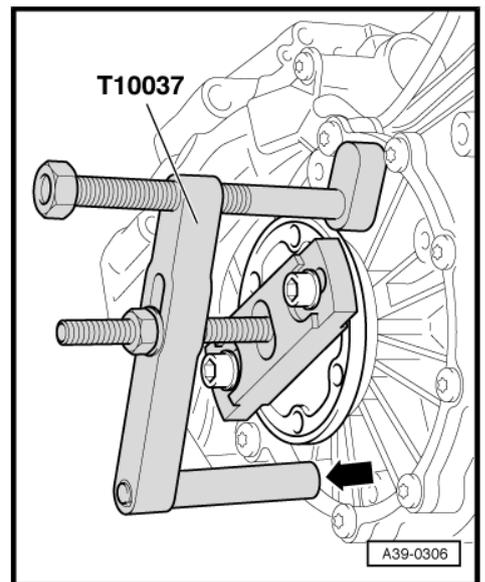
Place used oil collection and extraction unit V.A.G 1782 below gearbox.

- Bolt bottom support of puller -T10037- onto differential cover -arrow-.

 **Note**

In order to prevent damage to the needle bearings (polygon bearings) or the differential during removal, the flange shaft must be kept straight when removing (pull out evenly).

- Pull out left flange shaft using puller -T10037- only until bearing on shaft is removed from gearbox housing.



 **Caution**

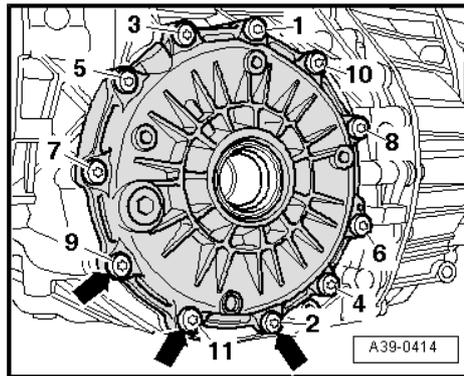
Make sure that flange shaft (right-side) is installed before removing cover for front final drive. The differential may otherwise drop out of the gearbox housing.

- Unscrew bolts for front final drive cover in sequence -11 ... 1-.

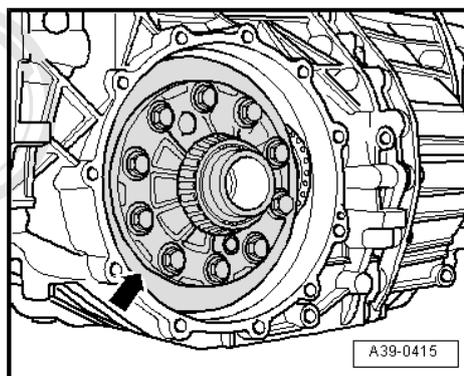


Caution

- ◆ *Detach cover for front final drive slowly and carefully from gearbox housing. The differential may otherwise fall out of the gearbox.*
- ◆ *A differential which has fallen to the ground can no longer be installed. Renew gearbox if differential has fallen to the ground.*
- ◆ *Make sure that the bearing races and shims for the differential do not drop out of the gearbox housing and the front final drive cover.*
- ◆ *Bearing races and shims cannot be re-allocated to their original positions by the workshop if they have dropped out.*



- Carefully take out differential -arrow-.
- Guide out differential downwards between gearbox and sub-frame.



Installing

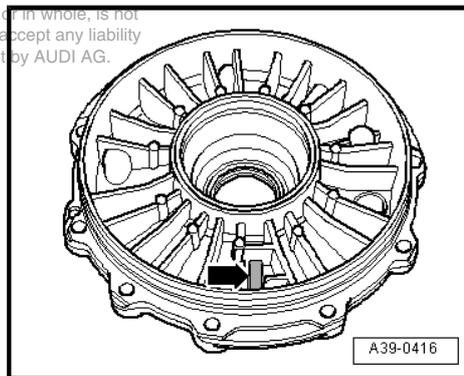
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- Check that magnet -arrow- is fitted under plastic cover in cover for front final drive.

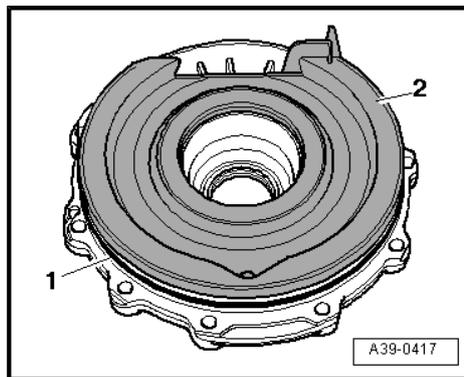


Note

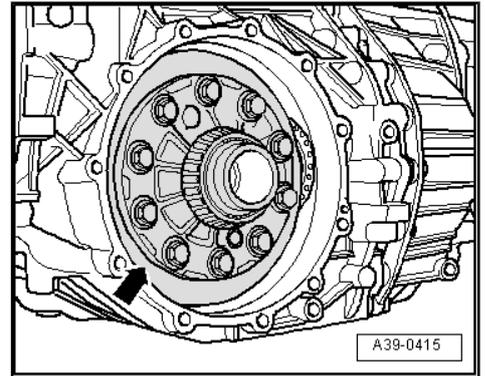
Shown without plastic cover in illustration.



- Renew O-ring -1- in cover for front final drive.
- Make sure plastic cover -2- is seated tightly in cover for front final drive.



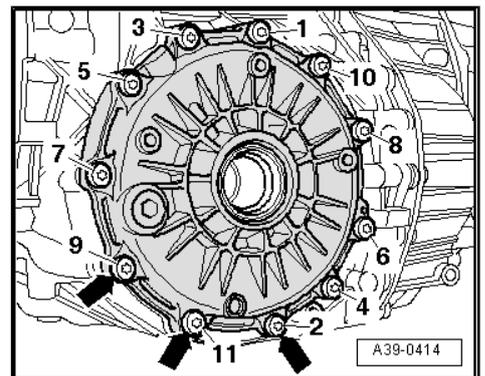
- Carefully install differential -arrow-.



- Fit cover for front final drive onto gearbox housing.
- Renew all bolts in cover for front final drive.

 **Caution**

- ◆ *Fit the three bolts with spacers at the positions shown -arrows-.*
- ◆ *Use only the correct bolts (same as original equipment) ⇒ Electronic parts catalogue .*



- Tighten bolts securing cover for front final drive in two stages in the sequence shown:
 1. Initially hand-tighten bolts in sequence -1 ... 11-.
 2. Tighten bolts in sequence -1 ... 11- in several stages to final torque.
 - Tightening torque: 25 Nm.
- Install flange shaft (left-side) ⇒ [page 99](#) .
- Install front exhaust pipe (left side) ⇒ Rep. Gr. 26 .
- Install gearbox support (left-side) ⇒ [page 60](#) .
- Fill up with gear oil and check gear oil level in front final drive ⇒ [page 97](#) .

Tightening torque

Component	Nm
Cover for front final drive to gearbox	25 ¹⁾
Heat shield for drive shaft to gearbox	23
Bracket for noise insulation to subframe	10

- ¹⁾ Renew bolts.

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