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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	

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.*

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.

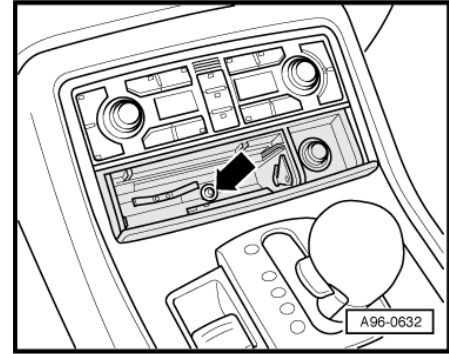
A number of generally applicable instructions for the various repair procedures - which were previously repeated at numerous

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

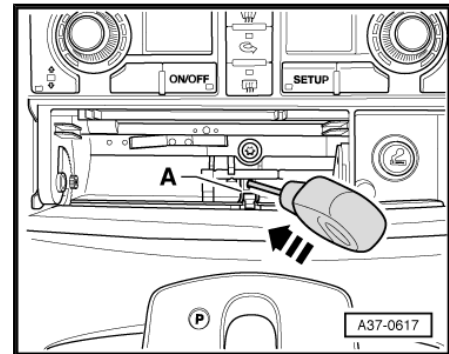


Note

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-.



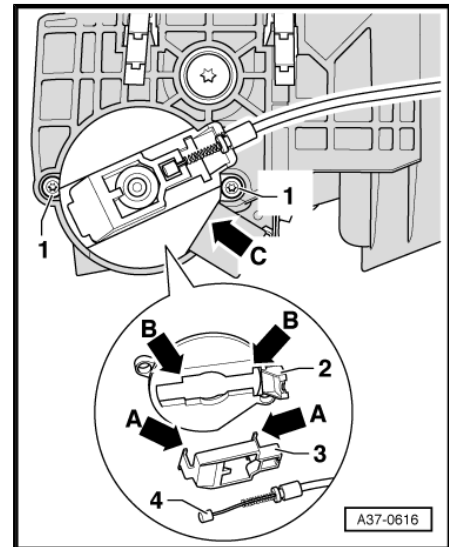
4.7 Removing and installing manual release mechanism

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.

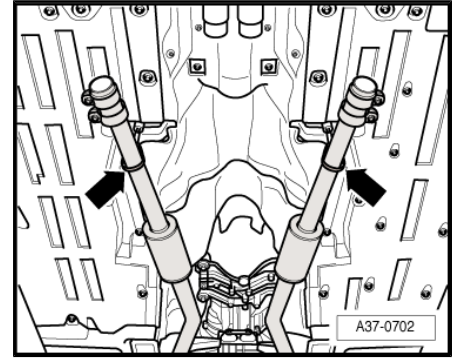


4.8 Removing and installing shift unit

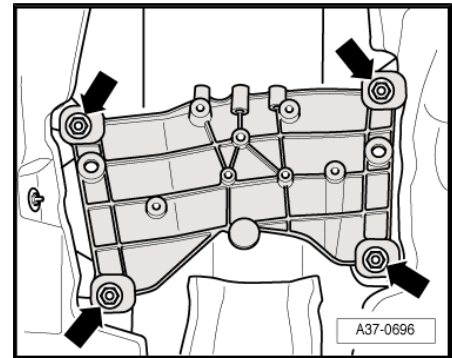
Removing

- 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.

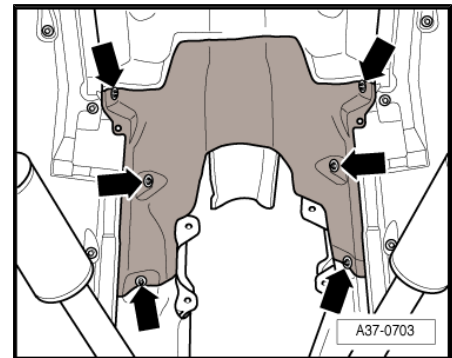
- Tie left and right front exhaust pipes up onto body -arrows-.



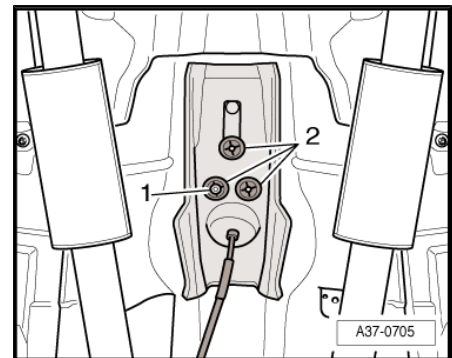
- Unscrew bolts -arrows- and remove tunnel cross member.



- Remove heat shield for selector mechanism -arrows-.



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



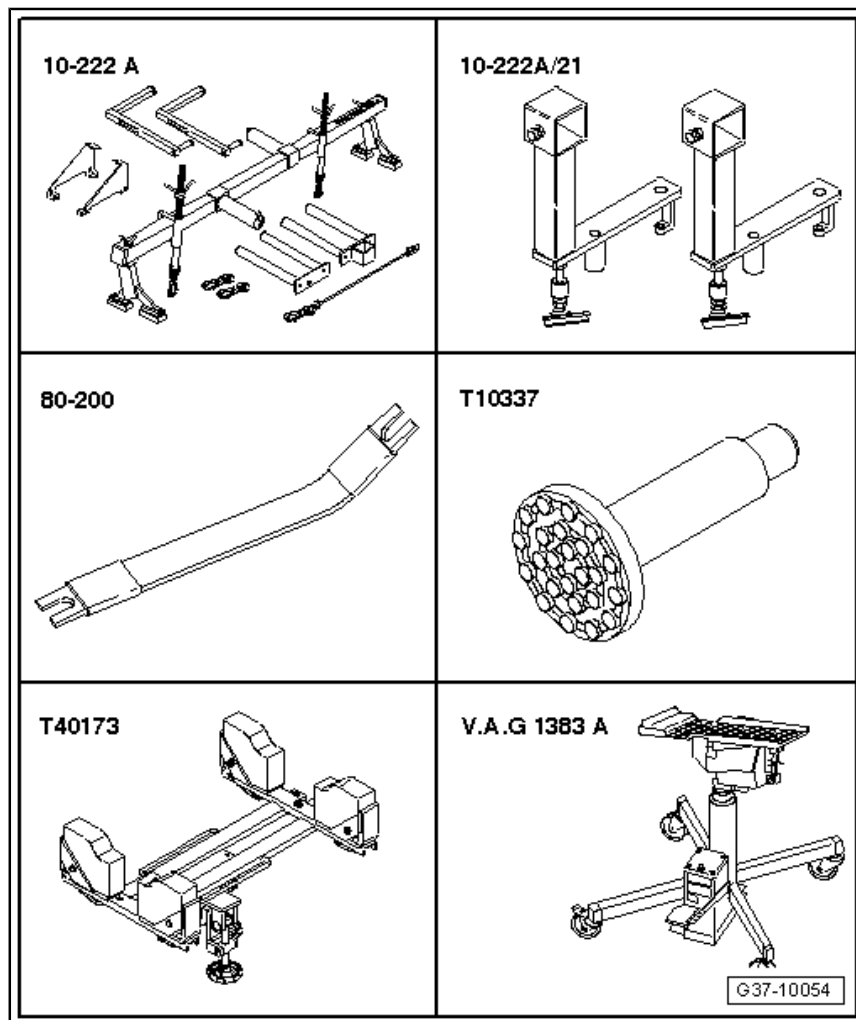
5 Removing and installing gearbox

- ◆ ⇒ [“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-

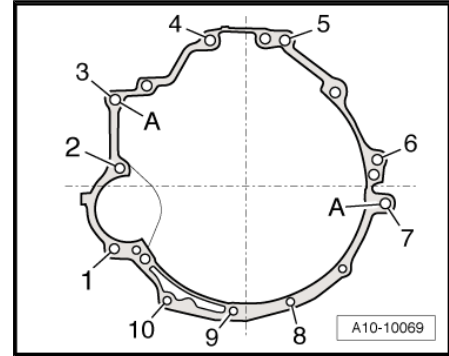


- Lock carrier and torque reaction support installed.

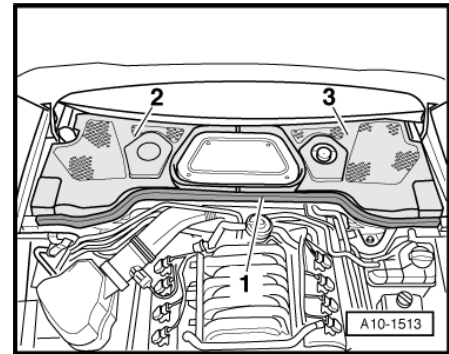
Note

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

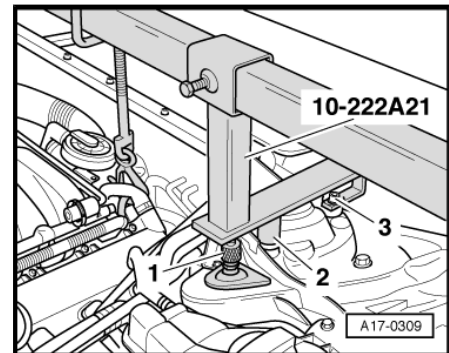
- Remove bolts -3 ... 6- (access from above) from engine/gear-box flange.



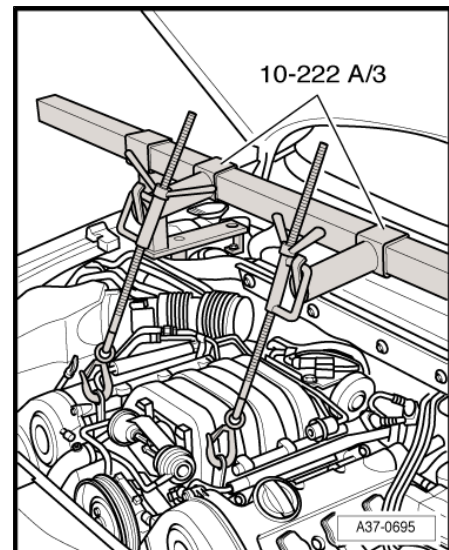
- Pull rubber seal -1- off plenum chamber cover.
- Detach plenum chamber covers -2- and -3-.



- 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.

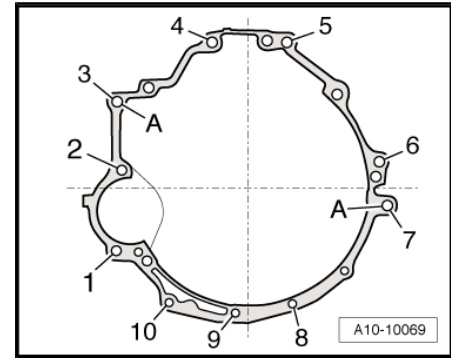


i Note

Secure brake discs with wheel bolts.

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 		



- 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. 		

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

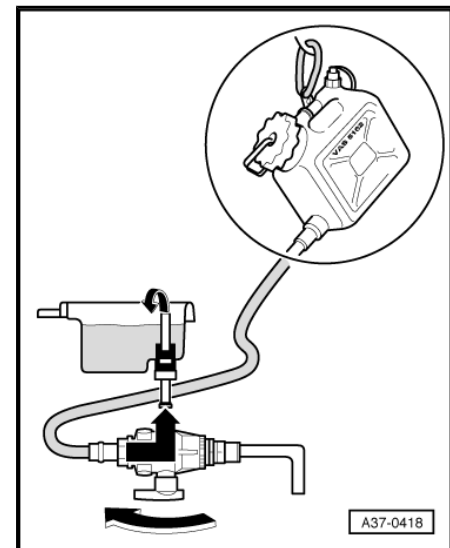
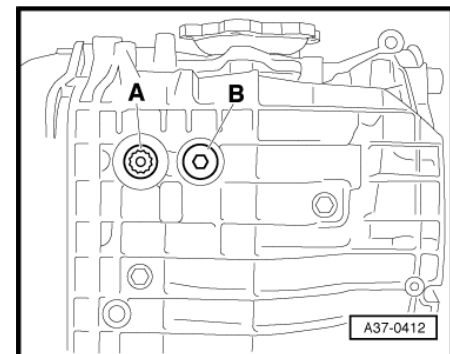
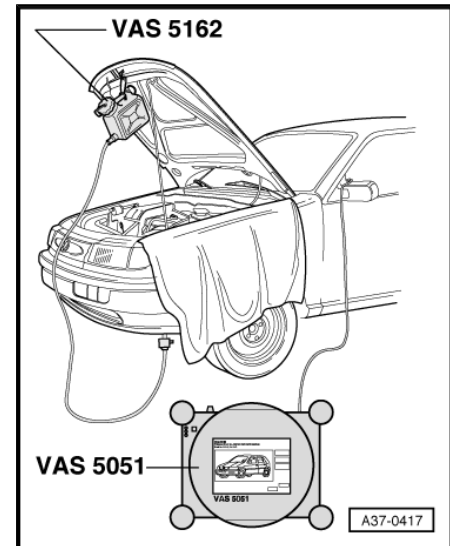


Note

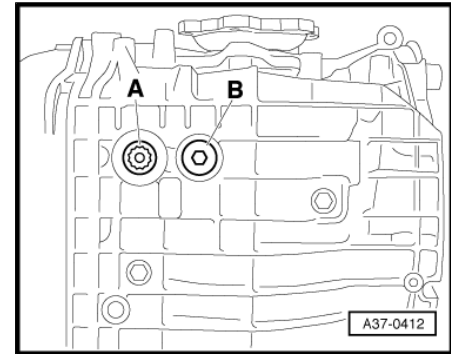
The stopcock on ATF charging device for CVT gearboxes -VAS 5162- must be closed.

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

- 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- .




- 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-.



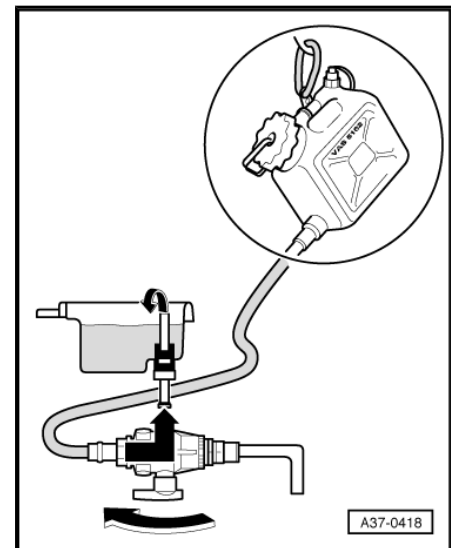
- Turn stopcock in direction of filling hose -lower arrow-. ATF flows into gearbox.
- Fill gearbox with at least 4.5 to 5 ltr. of fresh ATF.
- Move selector lever to position "P", start engine and allow to run at idling speed.

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.



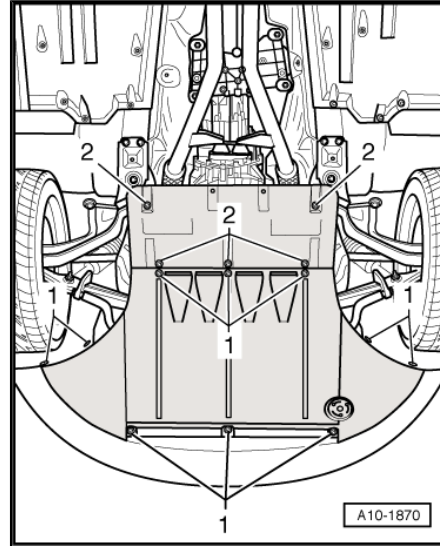
All models:

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

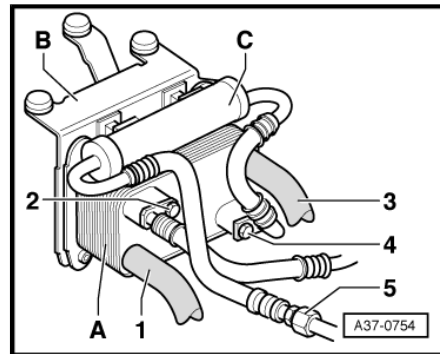
 **Note**

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

- 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.

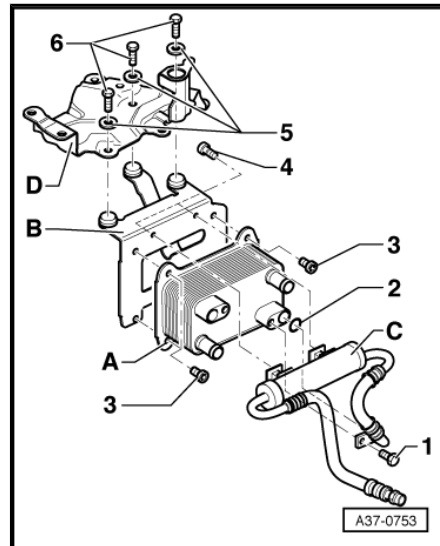
Installing

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

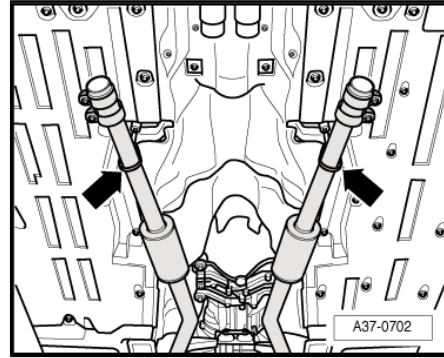
- Renew O-rings on ATF pipes leading to additional ATF cooler.
- Check ATF level ⇒ [page 65](#) .
- Check coolant level.

Tightening torques

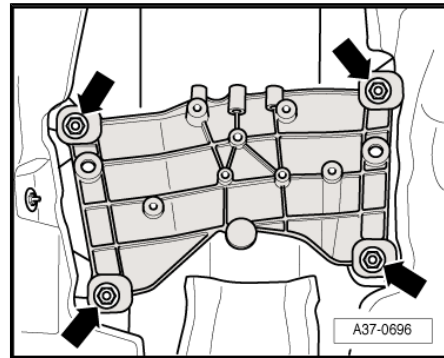
Component	Nm
Additional ATF cooler -A- to bracket -B- 4 x bolt -3-	5
ATF pipes to additional ATF cooler -A-	5



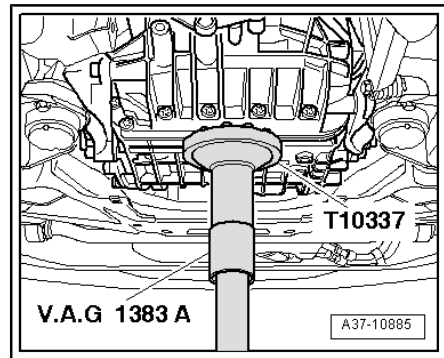
- ... and tie up front left and front right exhaust pipes onto body -arrows-.



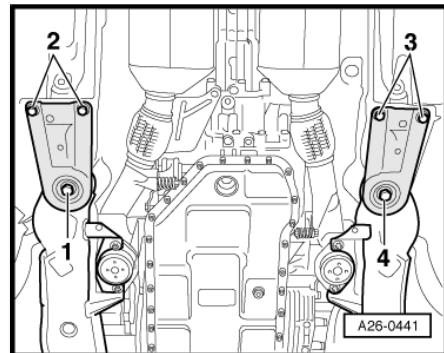
- Unscrew bolts -arrows- and remove tunnel cross member.



- 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.



39 – Final drive - differential

1 Checking gear oil in front final drive

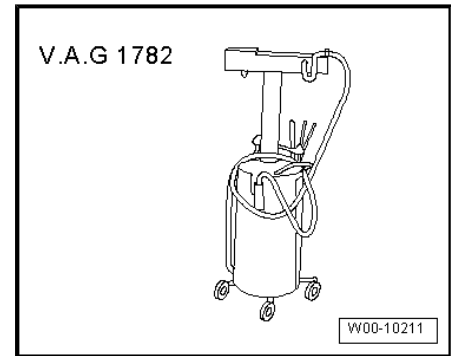


Note

- ◆ 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-



- ◆ Safety goggles



Note

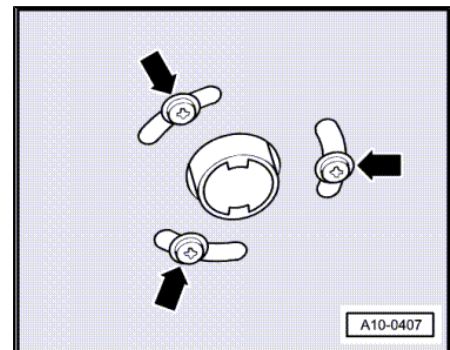
The prescribed oil level is to be adhered to exactly; the gearbox reacts very sensitively to over-filling.

Test sequence

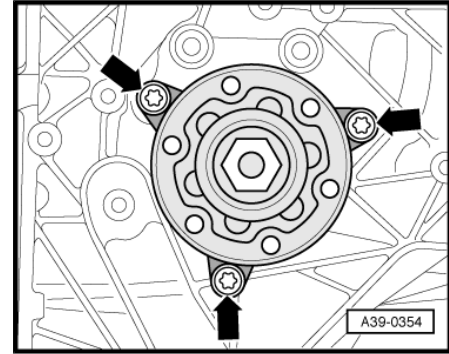
- Carry out a short test drive in order to heat gear oil to approx. 60 °C.

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.

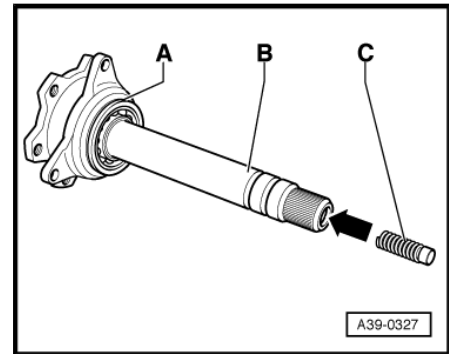


- Unbolt bearing bracket for flange shaft -arrows-.
- Place used oil collection and extraction unit -V.A.G 1782- below gearbox.
- Pull out flange shaft (right side) together with bearing bracket.



Installing

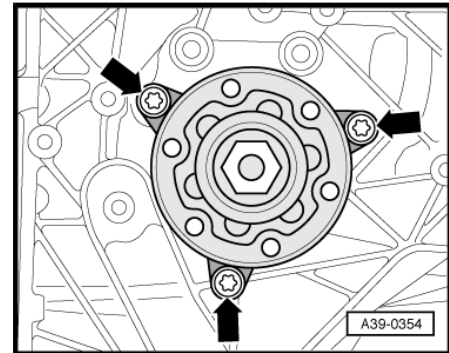
- Clean flange shaft.
- If oil seal is damaged, it must be renewed ⇒ Servicing multitrionic 01J and 0AN; Rep. Gr. 39 .
- Renew O-ring -arrow A- in flange shaft bearing bracket.
- Push spring -C- with cap facing outwards into drilling at end of flange shaft -arrow-.
- Insert flange shaft -B- into gearbox.



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 multitrionic 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 multitrionic 01J and 0AN; Rep. Gr. 39

2.5 Removing and installing cover for front final drive

Special tools and workshop equipment required