

Workshop Manual

Audi A6 2011 ➤

Audi A6 China 2012 ➤

Audi A7 Sportback 2011 ➤

7-speed dual clutch gearbox 0B5 (S tronic)

Edition 12.2016

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List of Workshop Manual Repair Groups

Repair Group

00 - Technical data

30 - Clutch

34 - Controls, housing

35 - Gears, shafts

39 - Final drive - front differential



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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 Identification

(ARL004987; Edition 12.2016)

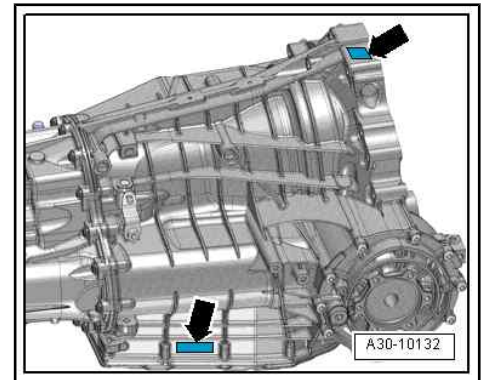
⇒ [“1.1 Gearbox identification”, page 1](#)

1.1 Gearbox identification

Allocation ⇒ [page 11](#) .

The following details are given on the gearbox housing -arrows-:

- LHF = Gearbox code letters
D04 = Manufacturing line code
0026 = Serial number
K100808 = Factory code:
• K = Kassel
Production date:
• 100808 = 10/08/2008



Note

- ◆ *The gearbox code letters can also be found on the vehicle data sticker.*
- ◆ *Location of vehicle data stickers ⇒ Maintenance ; Booklet 411 .*

2 Safety precautions

⇒ [“2.1 Safety precautions when working on vehicle”, page 2](#)

⇒ [“2.2 Safety precautions when working on vehicles with start/stop system”, page 3](#)

⇒ [“2.3 Safety precautions when using testers and measuring instruments during a road test”, page 3](#)

⇒ [“2.4 Safety precautions when working on subframe”, page 3](#)

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⇒ [“2.5 Safety precautions when tow-starting and towing”, page 4](#)

2.1 Safety precautions when working on vehicle

Observe the following precautions to avoid possible injury and/or damage to the vehicle:



WARNING

Accidents and injury can be caused if a gear is inadvertently engaged while the engine is running.

- ◆ *Before performing any work with the engine running, set the gearbox to position “P” and pull up the parking brake button to apply the electromechanical parking brake.*

Danger from toxic exhaust gases when engine is running.

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

Risk of injury as the radiator fan(s) may start up automatically.

- ◆ *Unplug electrical connectors before working in vicinity of radiator cowl.*

Observe the following precautions to avoid possible injury and/or irreparable damage to electrical and electronic components:

- ◆ Switch off ignition before disconnecting and connecting test equipment.



Caution

When disconnecting the battery there is a risk of irreparable damage to electronic components.

- ◆ *Observe notes on procedure for disconnecting the battery.*
- ◆ *Always switch off the ignition before disconnecting the battery ⇒ Electrical system; Rep. gr. 27 ; Battery; Disconnecting and connecting battery .*

2.2 Safety precautions when working on vehicles with start/stop system

Please note the following when working on vehicles with start/stop system:



WARNING

Risk of injury due to automatic engine start on vehicles with start/stop system.

- ◆ *On vehicles with activated start/stop system (indicated by a message in the instrument cluster), the engine may start automatically if it needs to.*
- ◆ *Therefore it is important to ensure that the start/stop system is deactivated when performing repairs (switch off ignition, if required switch on ignition again).*

2.3 Safety precautions when using testers and measuring instruments during a road test

Observe the following precautions if test equipment has to be used when road-testing the vehicle.



WARNING

Accidents can be caused if the driver is distracted by test equipment or if test equipment is not secured.

Injuries can be caused if the passenger's airbag is triggered in a collision.

- *The use of test equipment while driving causes distraction.*
- *There is an increased risk of injury if test equipment is not secured.*
- ◆ *Always secure test equipment to the rear seat with a strap and have it operated from there by a second person.*

2.4 Safety precautions when working on subframe

Note the following when working on the subframe:



Caution

Risk of damage to parts of the running gear.

- ◆ *Do not let the vehicle down on the wheels if the gearbox mounting, steering rack or subframe cross brace are not properly installed.*
- ◆ *Do NOT support the vehicle at the subframe or the subframe cross brace (e.g. with a trolley jack).*



2.5 Safety precautions when tow-starting and towing



Caution

Risk of irreparable damage to gearbox.

- ◆ ***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.***



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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3 Repair instructions

⇒ [“3.1 Rules for cleanliness”, page 5](#)

⇒ [“3.2 General notes”, page 5](#)

⇒ [“3.3 General repair instructions”, page 6](#)

⇒ [“3.4 Contact corrosion”, page 8](#)

⇒ [“3.5 Safety functions of gearbox control unit”, page 8](#)

⇒ [“3.6 Routing and attaching lines and wiring”, page 8](#)

3.1 Rules for cleanliness

- ◆ Thoroughly clean all joints and connections and the surrounding areas before disconnecting.
- ◆ Use cleaning fluid - D 009 401 04- to clean the gearbox and its components.
- ◆ Use commercially available lint-free cloths for cleaning, such as the “WYPALL X70 / WORKHORSE” cloth from Kimberly-Clark Professional.
- ◆ Seal off open lines and connections immediately with clean plugs or protective caps from engine bung set - VAS 6122- .
- ◆ After removal, place parts on a clean surface and cover them. Use sheeting or lint-free cloths.
- ◆ Carefully cover or seal open components if repairs cannot be carried out immediately.
- ◆ Only install clean components; replacement parts should only be unpacked immediately prior to installation.
- ◆ Protect unplugged electrical connectors against dirt and moisture and make sure connections are dry when attaching.

3.2 General notes

Gearbox

The engine torque is transferred to the gearbox via the flywheel. The layout of the gearbox is similar to that of a 7-speed manual gearbox. Gear changes are effected by two multi-plate "wet" clutches, which are regulated hydraulically and actuated alternately. The gears are engaged automatically, or can be selected manually using the tiptronic function. There is no clutch pedal. For further information please refer to ⇒ Self-study programme No. 429 ; Audi Q5 - Engines and Transmissions .

Technical data

Manufacturer's designation	DL501-7Q
Service designation	0B5
Sales designation	S tronic
Weight	Approx. 142 kg (with flywheel, ATF and oil filling)

ATF and gear oil (MTF)

The dual clutch gearbox 0B5 uses separate oil chambers for ATF and gear oil (MTF).

ATF = automatic transmission fluid



The gear oil in the dual clutch gearbox 0B5 is also referred to as MTF (manual transmission fluid).

- ◆ For the dual clutch and the hydraulic sections, use only the ATF available as a replacement part for dual clutch gearbox 0B5 ⇒ Electronic parts catalogue .
- ◆ For the gearbox section, the front final drive and the transfer box, use only the gear oil (MTF) available as a replacement part for dual clutch gearbox 0B5 ⇒ Electronic parts catalogue .
- ◆ Other types of ATF or gear oil cause malfunctions and/or failure of the gearbox.

Variation of gear-change points for gradients

An additional gear change map automatically selects gear changes for gradients depending on accelerator pedal position and driving speed.

- Gear change map for extreme uphill gradients is matched to engine output.
- Gear change map for extreme downhill gradients is matched to the braking effect of the engine.
- Increased engine braking effect can also be obtained by directly selecting a specific gear via the tiptronic function, e.g. when towing a trailer on downhill gradients

3.3 General repair instructions

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

To avoid repetition, a number of generally applicable instructions for the various repair procedures are summarised here. They apply to the work described in this Manual.

Guided Fault Finding, Vehicle self-diagnosis and Test Instruments

- ◆ Before servicing the gearbox, the cause of the fault should be identified as exactly as possible using the vehicle diagnostic tester via [Guided Fault Finding], [Vehicle Self-diagnosis] and [Test Instruments].

Environmental and waste disposal regulations for oil

- ◆ ATF, gear oil (MTF) and any other type of oil must be handled with care.
- ◆ Dispose of drained oil properly.
- ◆ ATF or gear oil (MTF) that has been drained off must not be used for refilling the gearbox.
- ◆ Always adhere to statutory environmental and waste disposal regulations.
- ◆ Observe the information shown on the packaging of the oil.

Special tool

For a complete list of special tools used in this Workshop Manual ⇒ Workshop equipment and special tools

Gearbox

- ◆ Rules for cleanliness when working on the dual clutch gearbox ⇒ [page 5](#) .
- ◆ Do not run the engine or tow the vehicle with the ATF oil pan removed or when there is no gear oil (MTF) in the gearbox.



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- ◆ After replacing the gearbox, check and correct the ATF level ⇒ [page 133](#) and the gear oil level ⇒ [page 141](#) . Capacities ⇒ [page 10](#) , specifications ⇒ Electronic parts catalogue .
- ◆ When installing gearbox, ensure that dowel sleeves are fitted correctly.

O-rings, oil seals and gaskets

- ◆ Rules for cleanliness when working on the dual clutch gearbox ⇒ [page 5](#) .
- ◆ Always renew 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.
- ◆ Before installing, lightly lubricate outer circumference and sealing lips of oil seals with ATF or gear oil (MTF), depending on fitting location.
- ◆ Lightly lubricate O-rings with ATF before installation to prevent them from being 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 seal should face the side containing the fluid.
- ◆ After installation, check and correct the ATF level ⇒ [page 133](#) and the gear oil level ⇒ [page 141](#) . Specifications ⇒ Electronic parts catalogue .

Nuts, bolts

- ◆ Slacken 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.
- ◆ Always renew self-locking bolts and nuts.
- ◆ Unless otherwise specified, 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 .
- ◆ Threaded holes which take self-locking bolts or bolts coated with locking fluid must be cleaned using a thread tap or similar. Otherwise there is a danger of the bolts shearing off the next time they are removed.
- ◆ The tightening torques stated apply to non-oiled nuts and bolts.

Circlips, snap rings

- ◆ Do not over-stretch circlips.
- ◆ Renew circlips which have been damaged or over-tensioned.
- ◆ 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 (MTF) 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. Different shim thicknesses make it possible to obtain the exact shim thickness required; if necessary, fit 2 shims.
- ◆ Check for burrs and damage. Install only shims which are in perfect condition.

Mechatronic unit



Caution

The gearbox control unit (mechatronic unit) can be irreparably damaged by electrostatic discharge.

- ◆ ***Before handling the electrical connector or mechatronic unit, the mechanic must discharge static by briefly touching an earthed metal object, such as a lifting platform or heater radiator, etc.***

- ◆ ***Do not touch contact pins in gearbox connector with bare hands.***

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3.4 Contact corrosion

Contact corrosion can occur if unsuitable fasteners are used (e.g. bolts, nuts, washers, etc.).

For this reason, only fasteners with a special surface coating are fitted.

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

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

Please note:

- ◆ Use only genuine spare parts: these have been fully tested and are compatible with aluminium.
- ◆ We recommend the use of accessories approved by Audi.
- ◆ Damage caused by contact corrosion is not covered by warranty.

3.5 Safety functions of gearbox control unit

In the event of a failure of one or more components/sensors, the gearbox control unit will activate appropriate backup functions. This ensures that the gearbox will not be damaged, however, the function and quality of the gear shifts will be impaired.

3.6 Routing and attaching lines and wiring

- ◆ Mark fuel lines, vacuum lines, pipes/hoses for activated charcoal filter system and electrical wiring etc. before removal so they can be re-installed in the original positions and correctly connected. If necessary, make sketches or take photographs.

- ◆ To avoid damaging pipes, hoses and wiring, ensure sufficient clearance from all moving or hot components in engine compartment (limited space in engine compartment).



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4 Technical data

⇒ ["4.1 Capacities", page 10](#)

⇒ ["4.2 Allocation of gearbox to engine", page 11](#)

4.1 Capacities

⇒ ["4.1.1 ATF capacity", page 10](#)

⇒ ["4.1.2 Gear oil \(MTF\) capacity", page 10](#)

4.1.1 ATF capacity

Capacities	Dual clutch gearbox 0B5: ATF
Initial filling by manufacturer	approx. 7 to 7.5 ltr. ¹⁾
ATF change capacity	⇒ ELSA maintenance tables
Change interval	⇒ ELSA maintenance tables
Lubricant	For ATF specifications for dual clutch gearbox 0B5 refer to ⇒ Electronic parts catalogue
¹⁾ The manufacturer fills the gearbox to the normal level plus 0.5 ltr. The excess quantity of 0.5 ltr. is for filling the empty ATF cooler after the gearbox is installed.	



Caution

Risk of damage to gearbox

- ◆ *Use only the ATF supplied as a replacement part for dual clutch gearbox 0B5.*
- ◆ *Select correct type ⇒ [Electronic parts catalogue](#) .*
- ◆ *Other types of ATF or other oils cause malfunctions and/or failure of the gearbox.*
- ◆ *The ATF filling unit must be clean and the ATF must not be mixed with other types of fluid!*

◆ ⇒ ["8.1 Checking ATF level", page 133](#)

◆ ⇒ ["8.2 Draining and filling ATF", page 135](#)

◆ The exchangeable ATF filter must also be renewed when changing the ATF ⇒ [page 121](#) .

4.1.2 Gear oil (MTF) capacity

The gearbox section (gear clusters), the front final drive and the transfer box in the dual clutch gearbox 0B5 have a common oil system. The same plug is used for filling and inspection.



Note

The gear oil in the dual clutch gearbox 0B5 is also referred to as MTF (manual transmission fluid).

Capacities	Dual clutch gearbox 0B5: gear oil (MTF)
Initial filling by manufacturer	approx. 4.35 ltr.
Fluid change	No change required: ◆ Lifetime filling; change only after repair work

Capacities	Dual clutch gearbox 0B5: gear oil (MTF)
Lubricant	For gear oil specifications for dual clutch gearbox 0B5 refer to ⇒ Electronic parts catalogue .

◆ ⇒ "2.1 Checking gear oil level", page 141

◆ ⇒ "2.2 Draining and filling gear oil", page 143

4.2 Allocation of gearbox to engine

Dual clutch gearbox			0B5 four-wheel drive		
Gearbox	Code letters		MKP, NHE, NPD, NSE, PXE	MKQ, NHG, NPC, NSH	MNR, NHF, NPD, NSF, PXB
	Manufactured	from to	10.2010	10.2010	10.2010
Allocation	Model		A6 2011 ►, A7 2011 ►	A6 2011 ►, A7 2011 ►	A6 2011 ►, A7 2011 ►
	Engine		2.8 ltr. FSI 150 kW, 162 kW	3.0 ltr. TFSI 220 kW	3.0 ltr. TDI 150 kW
Ratios	1st gear		48 : 13 = 3.692	48 : 13 = 3.692	48 : 13 = 3.692
	2nd gear		43 : 20 = 2.150	43 : 20 = 2.150	43 : 20 = 2.150
	3rd gear		45 : 32 = 1.406	45 : 32 = 1.406	43 : 32 = 1.344
	4th gear		41 : 40 = 1.025	41 : 40 = 1.025	38 : 39 = 0.974
	5th gear		37 : 47 = 0.787	37 : 47 = 0.787	34 : 46 = 0.739
	6th gear		30 : 48 = 0.625	30 : 48 = 0.625	27 : 47 = 0.574
	7th gear		27 : 52 = 0.519	27 : 52 = 0.519	24 : 52 = 0.462
	Reverse gear		53 : 18 = 2.944	53 : 18 = 2.944	53 : 18 = 2.944
Front axle	Spur gear drive		35 : 31 = 1.129	35 : 31 = 1.129	35 : 31 = 1.129
	Bevel gear drive		33 : 8 = 4.125	29 : 8 = 3.625	29 : 8 = 3.625
	Ratio "i"		4.657	4.093	4.093
Rear axle	Bevel gear drive		42 : 9 = 4.667	37 : 9 = 4.111	37 : 9 = 4.111
Overall ratio "i _{ov} " in top gear			2.417	2.125	1.889
Ratio spread			7.11	7.11	8.0

Dual clutch gearbox			0B5 four-wheel drive		
Gearbox	Code letters		MNR, NHF, NPB,	NWQ, PXD	NPC, NSH, PXF
	Manufactured	from to	07.2010 05.2013	04.2012	11.2011
Allocation	Model		A6 2011 ►, A7 2011 ►	A6 2011 ►, A7 2011 ►	A6 2011 ►, A7 2011 ►
	Engine		3.0 ltr. TDI 180 kW (500 Nm)	3.0 ltr. TDI 180 kW (580 Nm)	3.0 ltr. TFSI 228 kW
Ratios	1st gear		48 : 13 = 3.692	48 : 13 = 3.692	48 : 13 = 3.692
	2nd gear		43 : 20 = 2.150	43 : 20 = 2.150	43 : 20 = 2.150
	3rd gear		43 : 32 = 1.344	43 : 32 = 1.344	45 : 32 = 1.406
	4th gear		38 : 39 = 0.974	38 : 39 = 0.974	41 : 40 = 1.025



Dual clutch gearbox		0B5 four-wheel drive		
	5th gear	34 : 46 = 0.739	34 : 46 = 0.739	37 : 47 = 0.787
	6th gear	27 : 47 = 0.574	27 : 47 = 0.574	30 : 48 = 0.625
	7th gear	24 : 52 = 0.462	24 : 52 = 0.462	27 : 52 = 0.519
	Reverse gear	53 : 18 = 2.944	53 : 18 = 2.944	53 : 18 = 2.944
Front axle	Spur gear drive	35 : 31 = 1.129	35 : 31 = 1.129	35 : 31 = 1.129
	Bevel gear drive	29 : 8 = 3.625	29 : 8 = 3.625	29 : 8 = 3.625
	Ratio "i"	4.093	4.093	4.093
Rear axle	Bevel gear drive	37 : 9 = 4.111	37 : 9 = 4.111	37 : 9 = 4.111
Overall ratio "i _{ov} " in top gear		1.889	1.889	2.125
Ratio spread		8.0	8.0	7.11

Dual clutch gearbox			0B5 four-wheel drive		
Gearbox	Code letters		NHH, NSK, NSV, P XK	NMZ, NSJ, PXJ	NNA, NSG, PXG
	Manufactured from to		04.2012	04.2012	04.2012
Allocation	Model		A6 2011 ► , A7 2011 ►	A6 allroad 2011 ►	A6 allroad 2011 ►
	Engine		4.0 ltr. TFSI 300 kW, 309 kW	3.0 ltr. TFSI 228 kW	3.0 ltr. TDI 150 kW
Ratios	1st gear		48 : 13 = 3.692	48 : 13 = 3.692	48 : 13 = 3.692
	2nd gear		43 : 20 = 2.150	43 : 20 = 2.150	43 : 20 = 2.150
	3rd gear		45 : 32 = 1.406	45 : 32 = 1.406	43 : 32 = 1.344
	4th gear		41 : 40 = 1.025	41 : 40 = 1.025	38 : 39 = 0.974
	5th gear		37 : 47 = 0.787	37 : 47 = 0.787	34 : 46 = 0.739
	6th gear		30 : 48 = 0.625	30 : 48 = 0.625	27 : 47 = 0.574
	7th gear		27 : 52 = 0.519	27 : 52 = 0.519	24 : 52 = 0.462
	Reverse gear		53 : 18 = 2.944	53 : 18 = 2.944	53 : 18 = 2.944
Front axle	Spur gear drive		35 : 31 = 1.129	35 : 31 = 1.129	35 : 31 = 1.129
	Bevel gear drive		29 : 8 = 3.625	29 : 8 = 3.625	29 : 8 = 3.625
	Ratio "i"		4.093	4.093	4.093
Rear axle	Bevel gear drive		37 : 9 = 4.111	37 : 9 = 4.111	37 : 9 = 4.111
Overall ratio "i _{ov} " in top gear			2.124	2.125	1.889
Ratio spread			7.11	7.11	8.0

Dual clutch gearbox			0B5 four-wheel drive		
Gearbox	Code letters		NWR, NYA, PXH		
	Manufactured from to		04.2012		

Dual clutch gearbox		0B5 four-wheel drive		
Allocation	Model	A6 allroad 2011 ►		
	Engine	3.0 ltr. TDI 180 kW		
Ratios	1st gear	48 : 13 = 3.692		
	2nd gear	43 : 20 = 2.150		
	3rd gear	43 : 32 = 1.344		
	4th gear	38 : 39 = 0.974		
	5th gear	34 : 46 = 0.739		
	6th gear	27 : 47 = 0.574		
	7th gear	24 : 52 = 0.462		
	Reverse gear	53 : 18 = 2.944		
Front axle	Spur gear drive	35 : 31 = 1.129		
	Bevel gear drive	29 : 8 = 3.625		
	Ratio "i"	4.093		
Rear axle	Bevel gear drive	37 : 9 = 4.111		
Overall ratio "i _{ov} " in top gear		1.889		
Ratio spread		8.0		

4.3 Calculating gear ratios

Example:

	7th gear	Final drive	Spur gear drive
Driving gear	ZG ₁ = 52	ZA ₁ = 29	ZS ₁ = 31
Driven gear	ZG ₂ = 27	ZA ₂ = 8	ZS ₂ = 35

$i = Z_2 : Z_1$ (Z_1 = number of teeth on driving gear, Z_2 = number of teeth on driven gear)

i_G = gear ratio = $ZG_2 : ZG_1 = 27 : 52 = 0.519$

i_A = axle ratio = $ZA_2 : ZA_1 = 29 : 8 = 3.625$

i_S = spur gear ratio = $ZS_2 : ZS_1 = 35 : 31 = 1.129$

i_{ov} = overall ratio = $i_G \times i_A \times i_S = 0.519 \times 3.625 \times 1.129 = 2.125$

30 – Clutch

1 Clutch

⇒ [“1.1 Exploded view - flywheel and dual clutch”, page 14](#)

⇒ [“1.2 Removing and installing flywheel”, page 15](#)

⇒ [“1.3 Removing dual clutch”, page 15](#)

1.1 Exploded view - flywheel and dual clutch



Note

All repair work and tightening torques are described in Workshop Manual “Servicing 7-speed dual clutch gearbox 0B5 (S tronic)”.

1 - Flywheel

- ❑ Removing and installing
⇒ Servicing 7-speed dual clutch gearbox 0B5 (S tronic); Rep. gr. 30 ; Clutch; Removing and installing flywheel

2 - Clutch cover

- ❑ Different versions (with-out or with thrust washer
⇒ [Item 7 \(page 15\)](#)); observe notes and allocation in ⇒ Electronic parts catalogue
- ❑ Removing and installing
⇒ Servicing 7-speed dual clutch gearbox 0B5 (S tronic); Rep. gr. 30 ; Clutch; Removing dual clutch /⇒ Servicing 7-speed dual clutch gearbox 0B5 (S tronic); Rep. gr. 30 ; Clutch; Installing dual clutch

3 - Bolt

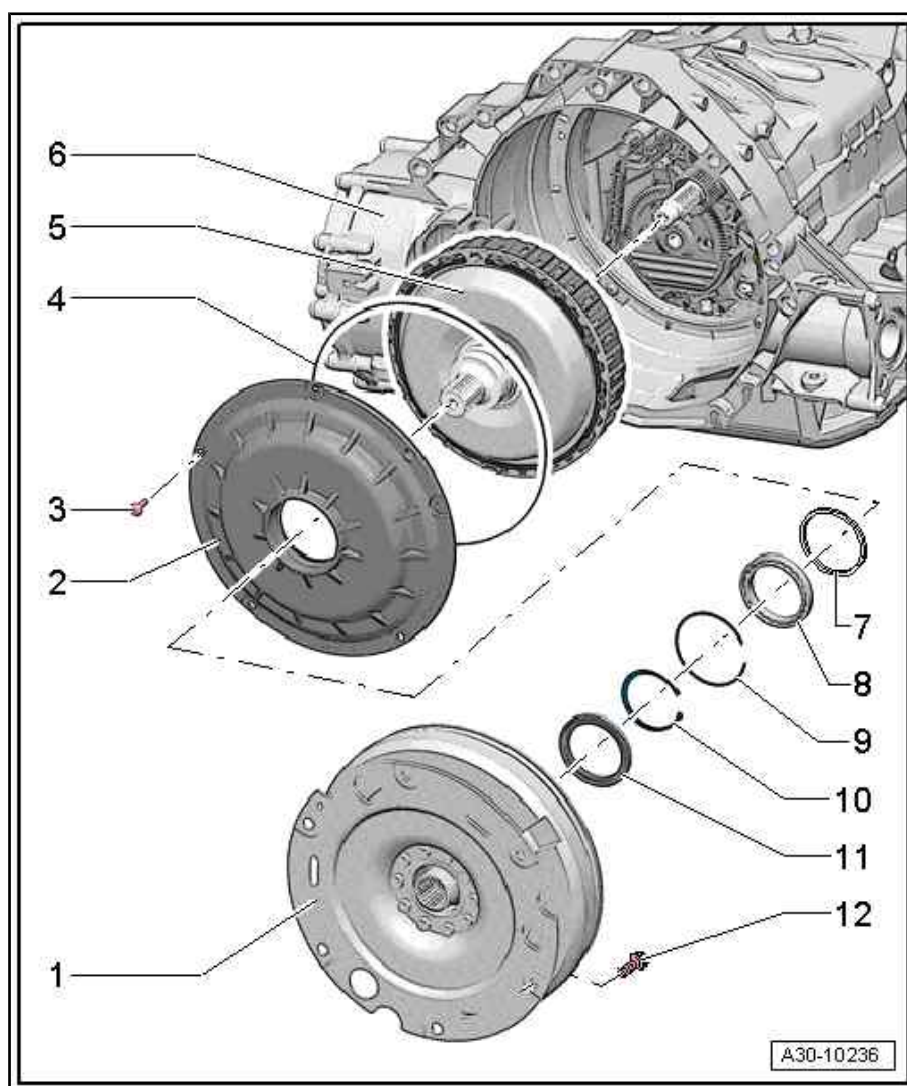
- ❑ Tightening torque and sequencing ⇒ Servicing 7-speed dual clutch gearbox 0B5 (S tronic); Rep. gr. 30 ; Clutch; Exploded view - flywheel and dual clutch

4 - O-ring

- ❑ Renew

5 - Dual clutch

- ❑ Different versions are available; for correct version refer to ⇒ Electronic parts catalogue
- ❑ Removing and installing ⇒ Servicing 7-speed dual clutch gearbox 0B5 (S tronic); Rep. gr. 30 ; Clutch; Removing dual clutch /⇒ Servicing 7-speed dual clutch gearbox 0B5 (S tronic); Rep. gr. 30 ; Clutch; Installing dual clutch



- After renewing dual clutch, run appropriate “Guided Function” using vehicle diagnostic tester ⇒ [page 166](#)

6 - Gearbox housing

7 - Thrust washer

- ☐ Not installed in all versions; note allocation to clutch cover in ⇒ Electronic parts catalogue

8 - Ball bearing

- ☐ For input shaft
- ☐ Renewing ⇒ Servicing 7-speed dual clutch gearbox 0B5 (S tronic); Rep. gr. 35 ; Input shaft

9 - Circlip

- ☐ For ball bearing
- ☐ Renew

10 - Circlip

- ☐ For dual clutch
- ☐ Renew

11 - Oil seal

- ☐ For input shaft
- ☐ Renewing ⇒ Servicing 7-speed dual clutch gearbox 0B5 (S tronic); Rep. gr. 35 ; Input shaft; Renewing input shaft oil seal

12 - Bolt

- ☐ 6-cylinder or 8-cylinder engine: 6x
- ☐ Tightening torque ⇒ Servicing 7-speed dual clutch gearbox 0B5 (S tronic); Rep. gr. 30 ; Clutch; Exploded view - flywheel and dual clutch

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1.2 Removing and installing flywheel

- Gearbox removed



Note

All repair work and tightening torques are described in Workshop Manual "Servicing 7-speed dual clutch gearbox 0B5 (S tronic)".

Description of work sequence ⇒ Servicing 7-speed dual clutch gearbox 0B5 (S tronic); Rep. gr. 30 ; Clutch; Removing and installing flywheel

1.3 Removing dual clutch

- Gearbox removed



Note

All repair work and tightening torques are described in Workshop Manual "Servicing 7-speed dual clutch gearbox 0B5 (S tronic)".

Description of work sequence ⇒ Servicing 7-speed dual clutch gearbox 0B5 (S tronic); Rep. gr. 30 ; Clutch; Removing dual clutch

34 – Controls, housing

1 Selector mechanism

⇒ [“1.1 Exploded view - selector lever handle”, page 16](#)

⇒ [“1.2 Exploded view - selector mechanism”, page 19](#)

⇒ [“1.3 Exploded view - selector lever cable”, page 20](#)

⇒ [“1.4 Manual release from position P”, page 21](#)

⇒ [“1.5 Removing and installing selector lever handle”,
page 21](#)

⇒ [“1.7 Removing and installing selector mechanism”, page 28](#)

⇒ [“1.8 Checking selector mechanism”, page 33](#)

⇒ [“1.9 Removing and installing selector lever cable”, page 36](#)

⇒ [“1.10 Checking and adjusting selector lever cable”, page 41](#)

⇒ [“1.11 Removing and installing selector lever lock solenoid N110
”, page 45](#)

⇒ [“1.12 Removing and installing selector lever sensors control
unit J587 ”, page 47](#)

⇒ [“1.13 Removing and installing gear selector position P switch
F305 ”, page 48](#)

⇒ [“1.14 Renewing selector shaft oil seal”, page 48](#)

1.1 Exploded view - selector lever handle

⇒ [“1.1.1 Exploded view - selector lever handle \(with interlock but-
ton on side\)”, page 16](#)

⇒ [“1.1.2 Exploded view - selector lever handle \(with interlock but-
ton on front\)”, page 18](#)

1.1.1 Exploded view - selector lever handle (with interlock button on side)

1 - Selector lever position display - Y26-

- ❑ Removing and installing
⇒ Electrical system;
Rep. gr. 96 ; Lights; Removing and installing selector lever position display - Y26-

2 - Multimedia system operating unit - E380-

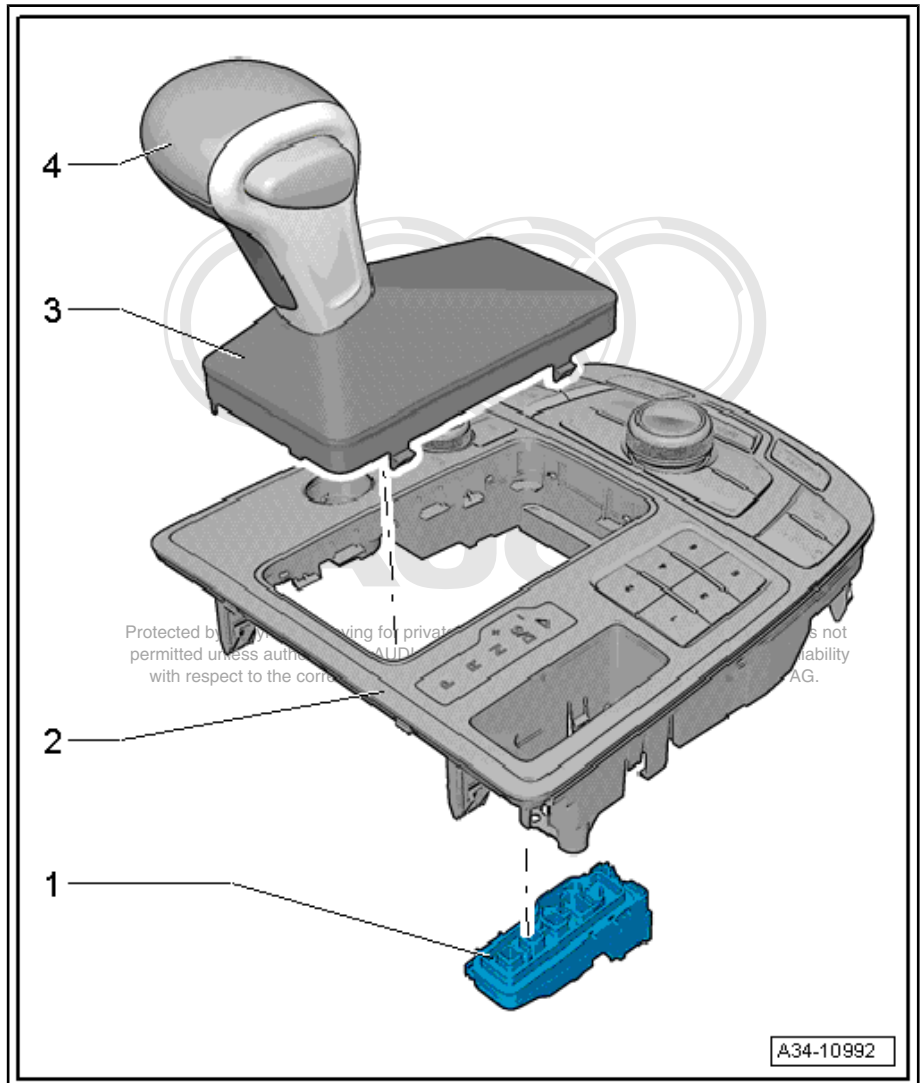
- ❑ Removing and installing
⇒ Communication;
Rep. gr. 91 ; Infotainment system; Removing and installing multimedia system operating unit - E380-

3 - Selector lever boot

- ❑ Remove and install together with selector lever handle ⇒ [page 21](#)

4 - Selector lever handle

- ❑ Removing and installing
⇒ [page 21](#)



1.1.2 Exploded view - selector lever handle (with interlock button on front)

1 - Selector lever position display - Y26-

- ❑ Removing and installing
⇒ Electrical system;
Rep. gr. 96 ; Lights; Re-
moving and installing
selector lever position
display - Y26-

2 - Multimedia system operating unit - E380-

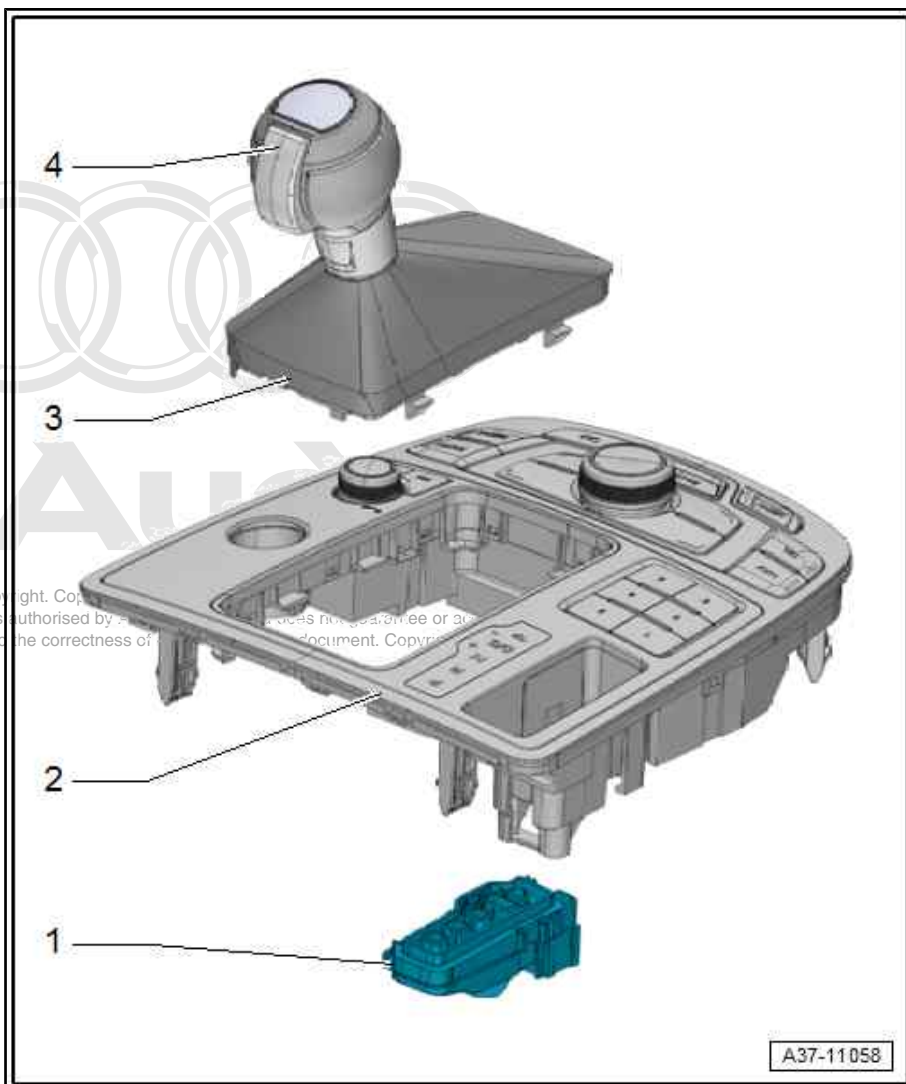
- ❑ Removing and installing
⇒ Communication;
Rep. gr. 91 ; Infotain-
ment system; Removing
and installing multime-
dia system operating
unit - E380-

3 - Selector lever boot

- ❑ Remove and install to-
gether with selector lev-
er handle ⇒ [page 24](#)

4 - Selector lever handle

- ❑ Removing and installing
⇒ [page 24](#)



1.2 Exploded view - selector mechanism

1 - O-ring

- ☐ Renew

2 - Selector lever cable

- ☐ Do not bend or kink
- ☐ Removing and installing
⇒ [page 20](#)

3 - Bolt

- ☐ For adjusting selector lever cable
- ☐ Tightening torque
⇒ [Item 3 \(page 20\)](#)

4 - Gear selector position P switch - F305-

- ☐ Consists of two reed contacts on printed circuit board in selector lever lock solenoid - N110-
- ☐ Can only be renewed together with selector lever lock solenoid - N110-
⇒ [page 45](#)

5 - Selector lever lock solenoid - N110-

- ☐ Removing and installing
⇒ [page 45](#)

6 - Sealing cap

- ☐ Above selector lever lock solenoid - N110-

7 - Selector lever sensors control unit - J587- and tiptronic switch - F189-

- ☐ Removing and installing
⇒ [page 47](#)

8 - Nut

- ☐ Secures selector mechanism to body
- ☐ 4x
- ☐ 8 Nm

9 - Gasket

10 - Shift unit

- ☐ Can only be renewed as a complete unit
- ☐ Removing and installing ⇒ [page 28](#)

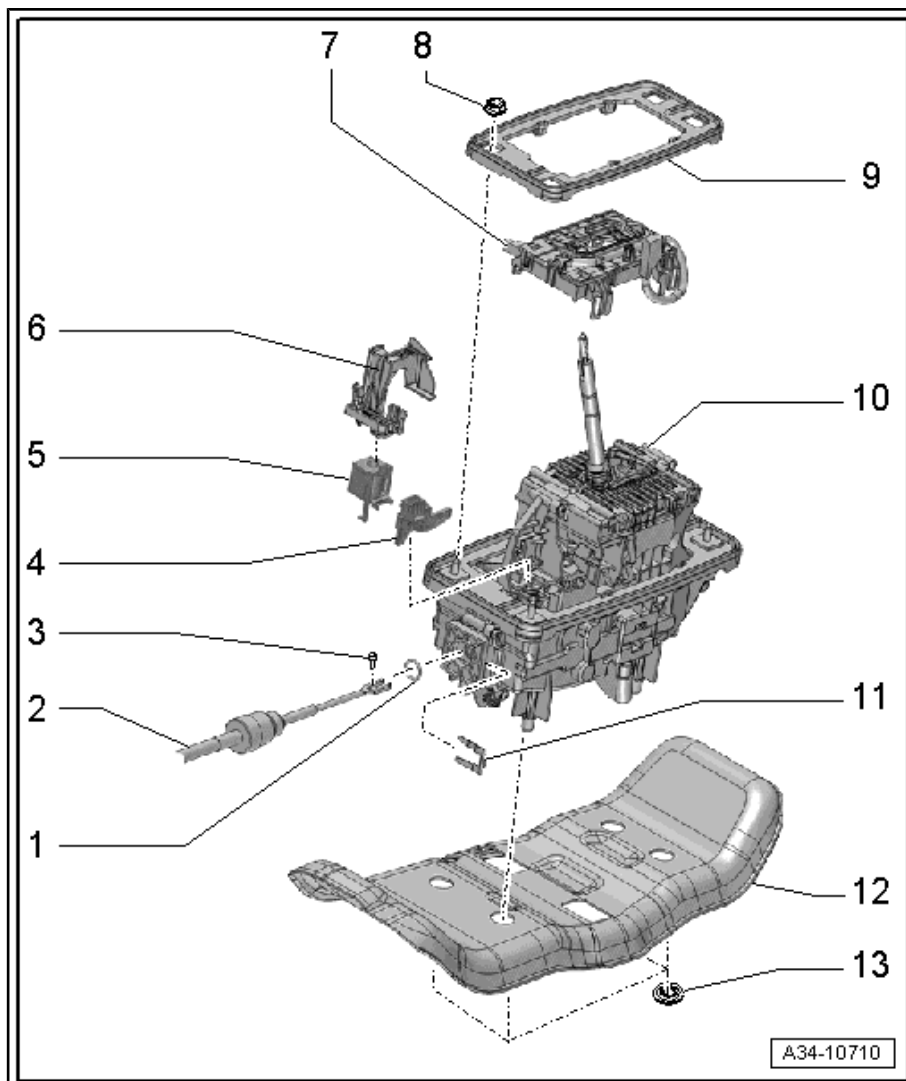
- After removing and installing shift unit, run appropriate "Guided Function" using vehicle diagnostic tester
⇒ [page 166](#)

11 - Retaining clip

- ☐ For selector lever cable

12 - Noise insulation

- ☐ Not fitted on all vehicles
- ☐ For correct version, refer to ⇒ [Electronic parts catalogue](#)



13 - Retaining washers

- ☐ For noise insulation
- ☐ 4x
- ☐ Renew

1.3 Exploded view - selector lever cable

1 - Retaining clip

- ☐ Secures selector lever cable to shift unit

2 - O-ring

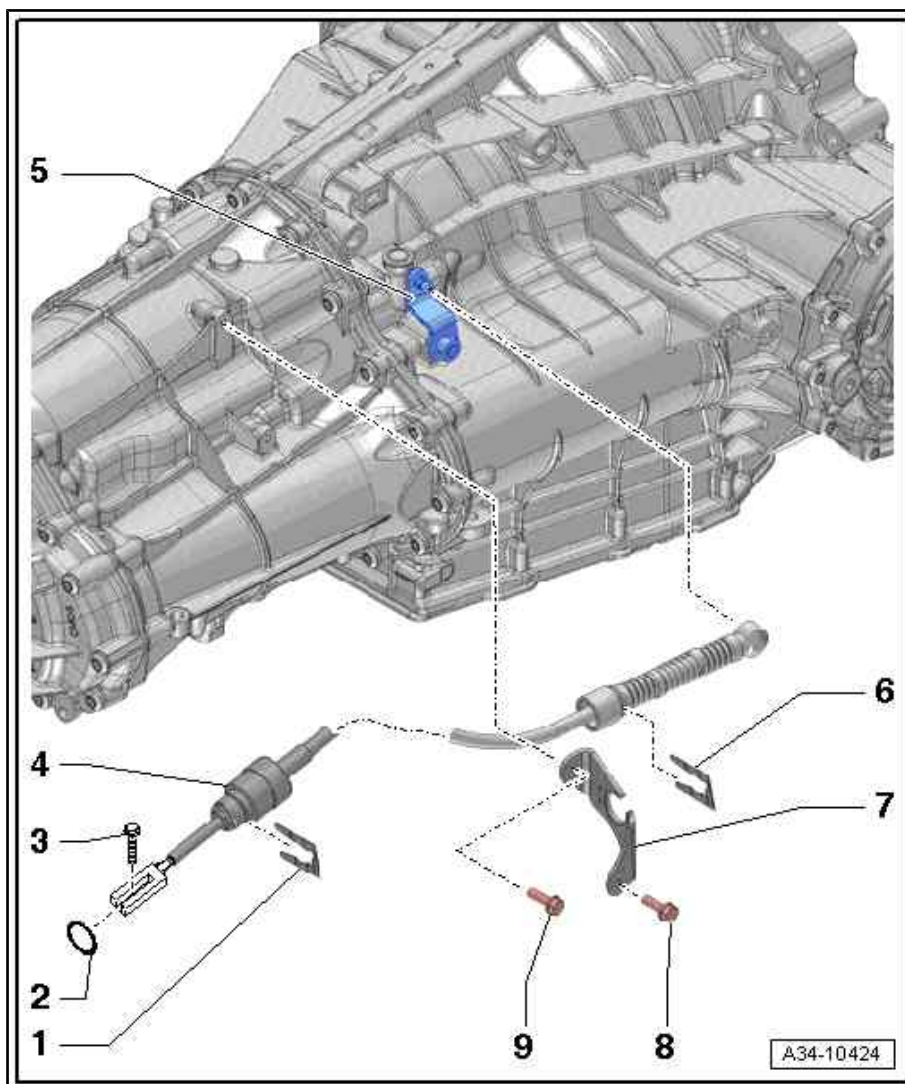
- ☐ Renew

3 - Bolt

- ☐ For adjusting selector lever cable
- ☐ 13 Nm

4 - Selector lever cable

- ☐ Do not bend or kink
- ☐ Different versions (according to vehicle); for correct version refer to ⇒ Electronic parts catalogue
- ☐ Removing and installing ⇒ [page 36](#)
- ☐ Selector lever cable must be renewed if rubber sleeve is damaged
- ☐ 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 41](#)
- After adjusting selector lever cable, run appropriate "Guided Function" on vehicle diagnostic tester ⇒ [page 166](#)



5 - Gearbox selector lever

6 - Retaining clip

- ☐ Secures selector lever cable to cable support bracket
- ☐ Depending on version: lock nut (13 Nm)

7 - Cable support bracket

8 - Bolt

- ☐ 8 Nm

9 - Bolt

- ☐ 8 Nm

1.4 Manual release from position P



Note

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

Procedure



Note

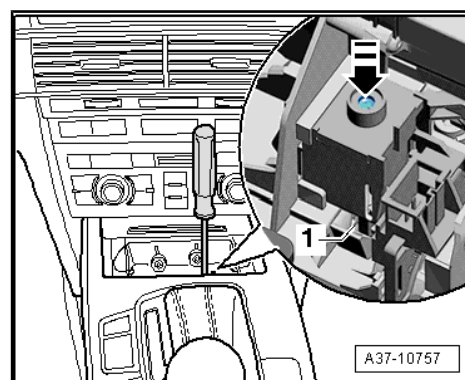
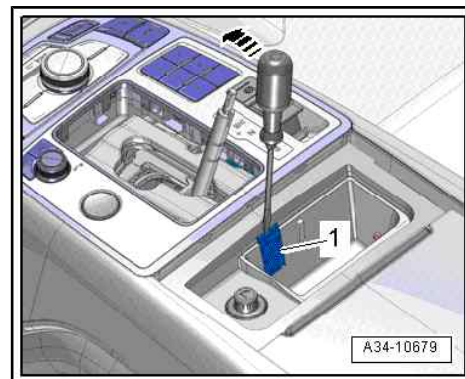
The selector lever handle is removed in the illustration. The handle does not have to be removed in order to manually release the selector mechanism from position "P".

- If fitted, remove front ashtray insert.
- Use screwdriver to pry off cover cap -1- in ashtray housing/ storage tray -arrow-.
- Carefully insert tool (e.g. screwdriver from tool kit) through centre opening in ashtray housing and into cylinder -arrow- on selector lever lock solenoid - N110- and at the same time press and hold interlock button and move selector lever out of position "P".



Note

- ◆ This releases the selector lever lock in position "P" by way of the locking lever -1-.
- ◆ The cylinder -arrow- on selector lever lock solenoid - N110- may be partially concealed by noise insulation or wiring (move clear to one side).



1.5 Removing and installing selector lever handle

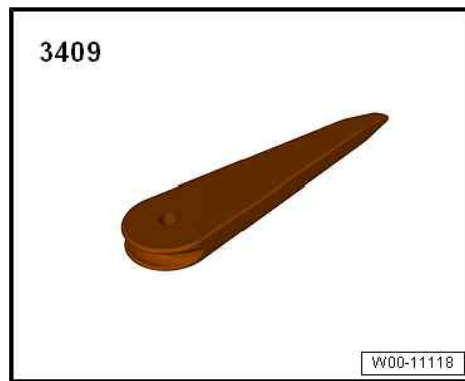
⇒ "1.5.1 Removing and installing selector lever handle (with interlock button on side)", page 21

⇒ "1.5.2 Removing and installing selector lever handle (with interlock button on front)", page 24

1.5.1 Removing and installing selector lever handle (with interlock button on side)

Special tools and workshop equipment required

◆ Removal wedge - 3409-



- ◆ Thin cable tie or assembly aid for interlock button on handle. A new selector lever handle is supplied with the assembly aid pre-fitted.

Removing

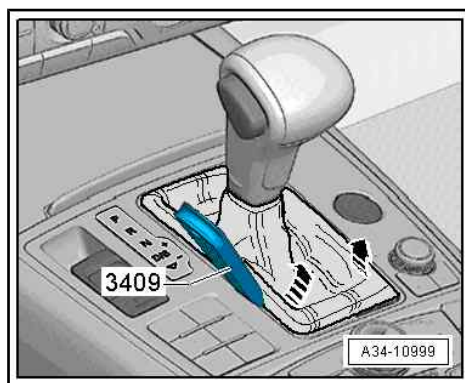
- Pull up parking brake button to apply electromechanical parking brake.
- Shift selector lever into position “N”.



Note

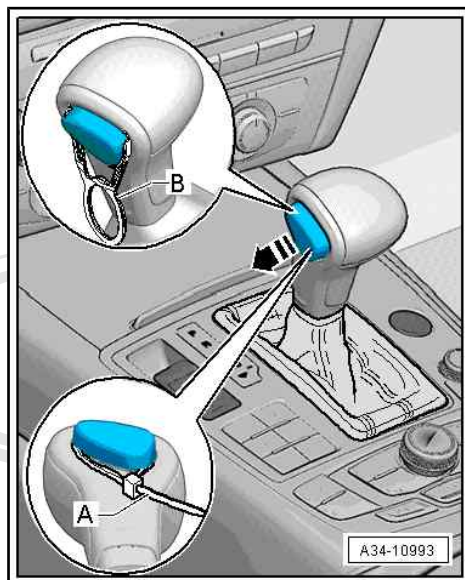
The selector lever handle is removed together with the selector lever boot.

- Carefully pry out selector lever boot at the sides in direction of -arrows- by hand or with removal wedge - 3409- .
- Pull out interlock button on selector lever handle -arrow- and secure in this position using cable tie -A- or assembly aid -B- as shown in illustration.



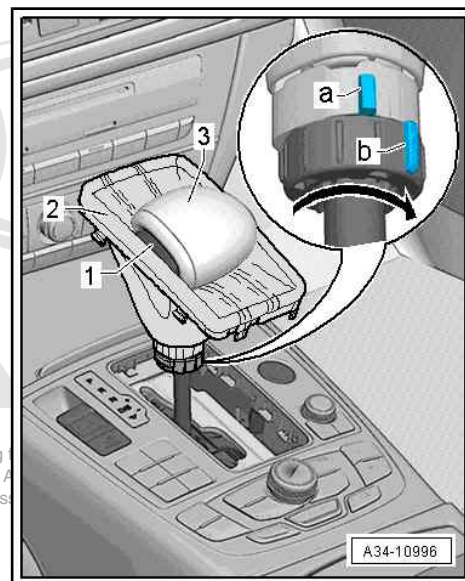
Note

The assembly aid -B- is pre-fitted at the factory on a new selector lever handle. The assembly aid must not be removed until the new handle has been installed. This assembly aid can then be kept for future use as a locking tool.



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- Turn selector lever boot -2- inside out over selector lever handle -3-.
- Turn locking ring as far as stop in direction of -arrow- so that markings -a- and -b- are no longer in line.
- Pull off selector lever handle together with selector lever boot, taking care not to touch interlock button -1-.



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Installing

- When installing the selector lever handle, the interlock button must be pulled out to the stop and secured with either a cable tie -A- or with the assembly aid -B- supplied together with the new handle.

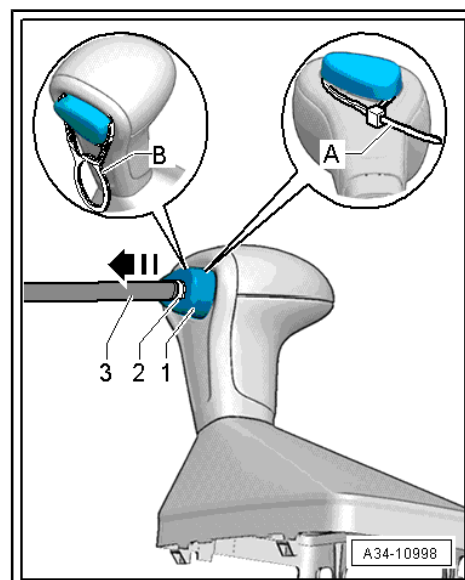
If the interlock button was not properly secured when the handle was removed, and has dropped inside the handle, it must be pulled out and secured as described below before it can be installed.

- Affix adhesive pad or double-sided adhesive tape -2- to interlock button -1- on selector lever handle.



Note

- ◆ *Alternatively, a small suction cup can also be used (approx. 15 mm dia., commercially available).*
- ◆ *The adhesive pad or double-sided adhesive tape must be completely removed after installing the handle.*



- Press a suitable tool -3- with clean, flat surface onto adhesive surface as shown in illustration and pull out interlock button by this means -arrow-.
- Secure interlock button in pulled-out position using cable tie -A- or assembly aid -B-, as shown in illustration.
- Remove adhesive pad or double-sided adhesive tape -2- and clean interlock button -1-.

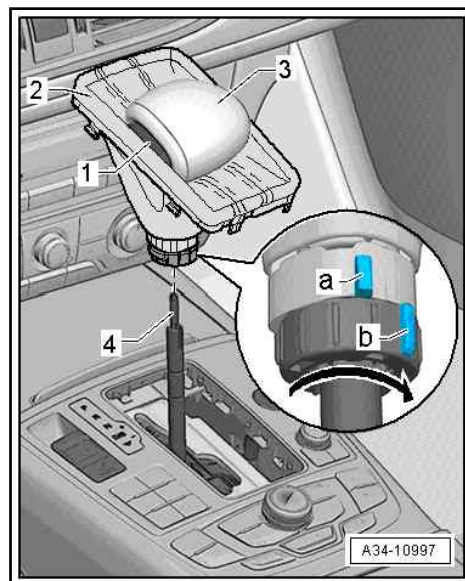
- Shift selector lever into position “N”.



Note

The selector lever can be moved by pulling the release rod -4-.

- Turn selector lever boot -2- inside out over selector lever handle -3-.
- Turn locking ring as far as stop in direction of -arrow- so that markings -a- and -b- are no longer in line.
- With interlock button facing driver's side, push selector lever handle fully onto selector lever so that catch engages.



- Turn locking ring in direction of -arrow- until it engages; markings -a- and -b- should be in line.

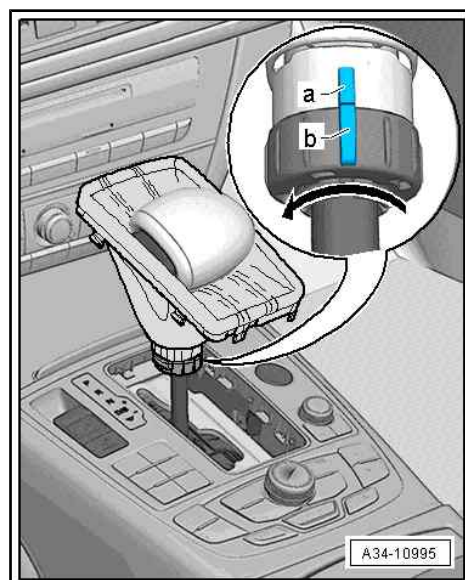


Caution

Risk of damage to selector lever handle

The locking ring can only be turned when the handle has been pushed on all the way.

- Remove the cable tie or assembly aid, allowing the interlock button mechanism to engage in the vertical groove on the selector lever. If necessary, press the interlock button into the selector lever handle.
- Move selector lever to positions “R” and “S” to check button mechanism.
- If the selector lever cannot be moved into the above positions, the handle must be removed again ⇒ [page 21](#).
- Pull selector lever boot down and clip onto multimedia system operating unit - E380- .

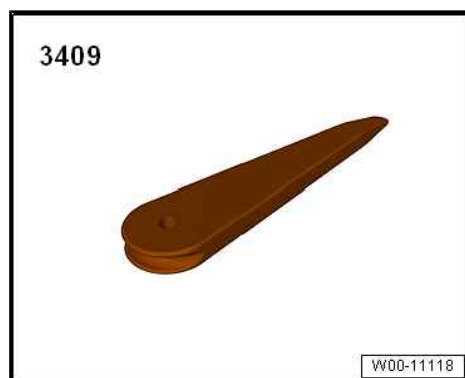


1.5.2 Removing and installing selector lever handle (with interlock button on front)

Special tools and workshop equipment required

- ◆ Removal wedge - 3409-

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- ◆ Thin cable tie or assembly aid for interlock button on handle.
A new selector lever handle is supplied with the assembly aid pre-fitted.

Removing

- Pull up parking brake button to apply electromechanical parking brake.
- Shift selector lever into position “N”.



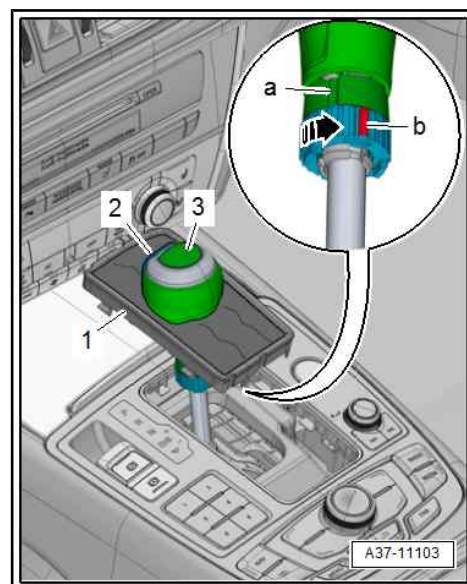
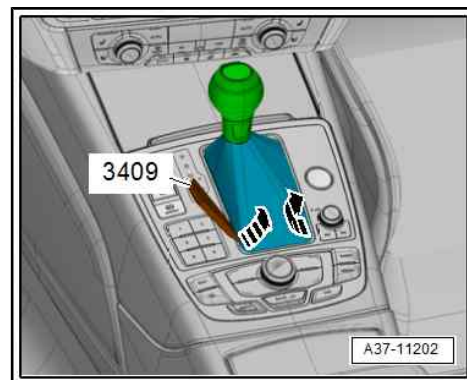
Note

The selector lever handle is removed together with the selector lever boot.

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Carefully pry out selector lever boot at the sides in direction of arrows using removal wedge - 3409.

- Turn selector lever boot -1- inside out over selector lever handle -3-.
- Turn locking ring as far as stop in direction of -arrow- so that markings -a- and -b- are no longer in line.
- Pull off selector lever handle -3- together with selector lever boot -1-, taking care not to touch interlock button -2-.



Installing

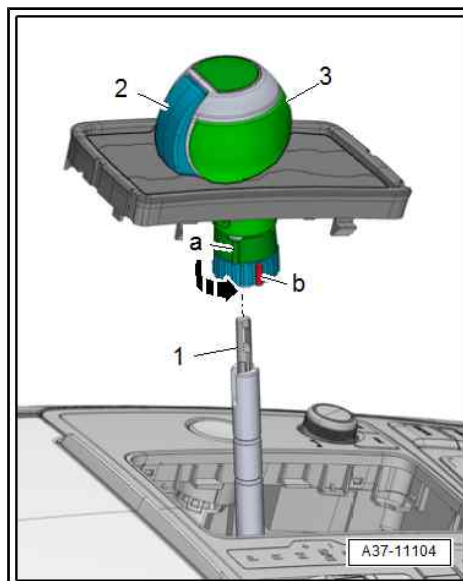
- Turn locking ring in direction of -arrow- as far as stop.
- Markings -a- and -b- should not be in line.
- Interlock button faces direction of travel.



Caution

Risk of damage to the selector mechanism.

- ◆ *The interlock button -2- must protrude from the selector lever handle during installation. If the interlock button was pressed in by mistake when the handle was removed, the interlock button must be moved back to its installation position ⇒ [page 26](#).*
- ◆ *If the interlock button has been pressed in and the handle is installed with the interlock button in this position, the handle and the pull rod of the selector mechanism -1- will be damaged irreparably.*

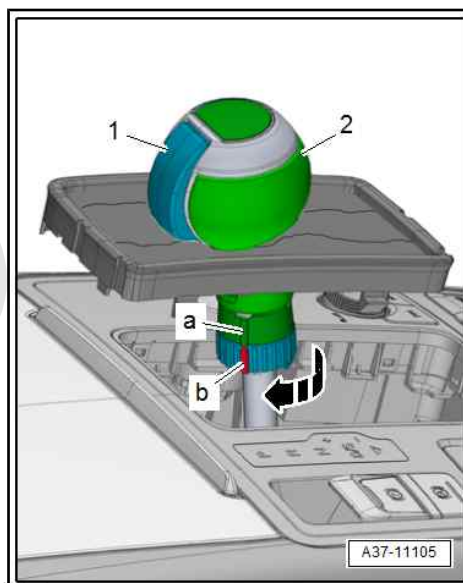


- Carefully press selector lever handle -3- fully onto selector lever, taking care not to touch interlock button -2-.
- The handle must engage in the annular groove on the selector lever.
- Turn locking ring in direction of -arrow- as far as stop.
- It must be possible to turn the locking ring; press handle -2- if necessary.
- Markings -a- and -b- should be in line.



Note

- ◆ *The handle is not locked until the locking ring has been turned. Only then should you press the interlock button on the handle.*
- ◆ *There may be increased resistance when you press the interlock button for the first time after installation.*
- Press interlock button -1- on selector lever handle.
- Move selector lever to positions “R” and “D/S” to check button mechanism.
- If the selector lever cannot be moved into the above positions, the handle must be removed again ⇒ [page 24](#).
- Pull selector lever boot down and clip onto multimedia system operating unit - E380- .



1.6 Bringing interlock button in handle into installation position

Special tools and workshop equipment required

◆ Release tool - T40203-

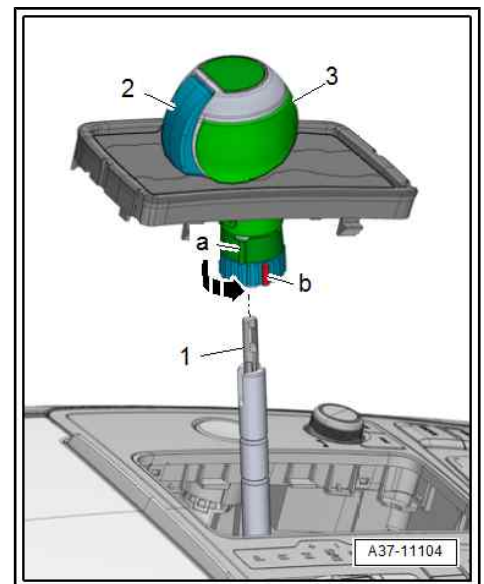
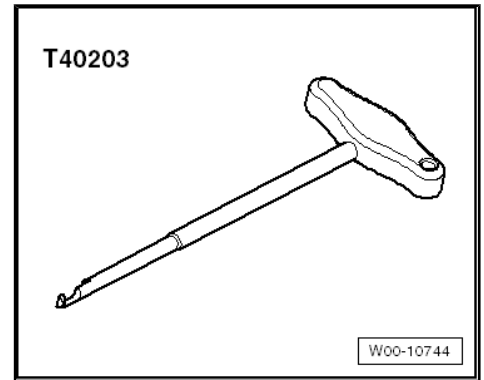


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Procedure

- Installation position: The interlock button -2- must protrude from the selector lever handle.

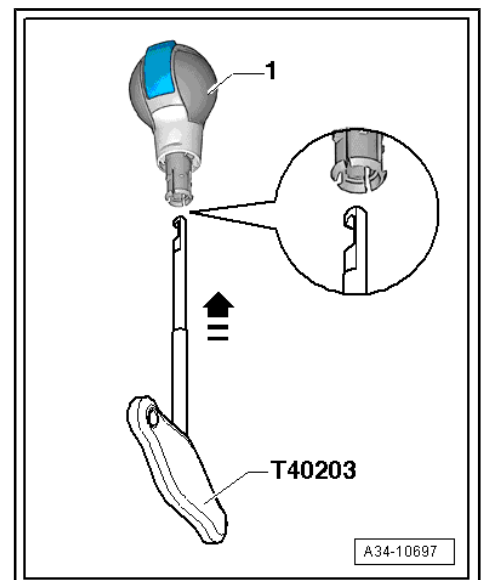
If the interlock button has been pressed in, it must be moved back into its installation position so that the selector lever handle -3- can be installed.



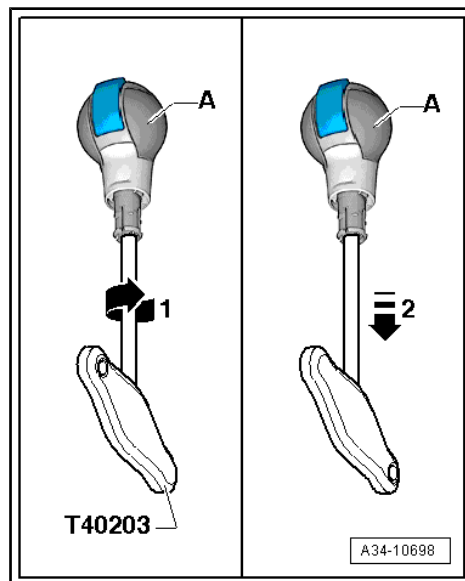
Note

For illustration purposes, the handle is shown without the selector lever boot in the following steps.

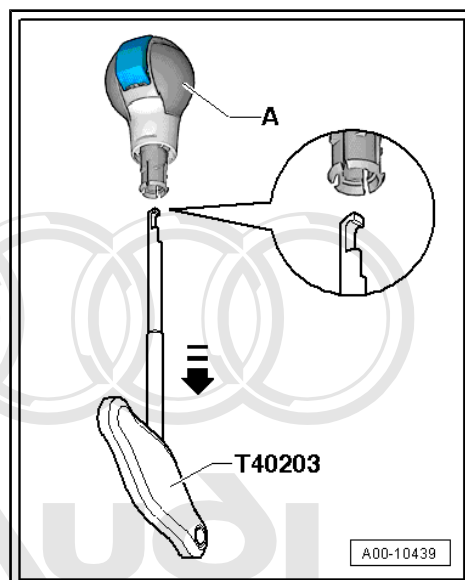
- Carefully insert release tool - T40203- into selector lever handle -1- as far as stop.
- Recess on release tool - T40203- should face interlock button, hook should point towards left.



- Hold selector lever handle -A- and turn release tool - T40203- 180° in direction of -arrow 1-.
- Hold handle and carefully pull out release tool - T40203- -arrow 2-.



- When pulling out release tool - T40203- , interlock button -A- on selector lever handle is pressed out and locked in position.
- Do not touch interlock button on selector lever handle before installing handle so that interlock button is not pressed in again.

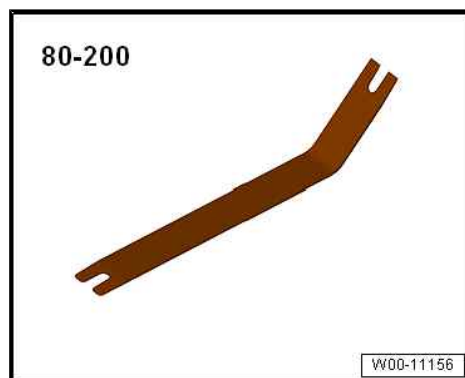


1.7 Removing and installing selector mechanism

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Special tools and workshop equipment required

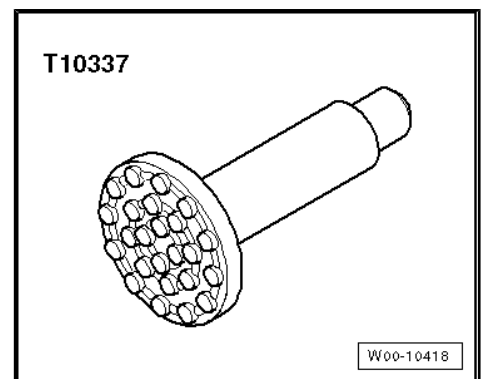
- ◆ Removal lever - 80 - 200-



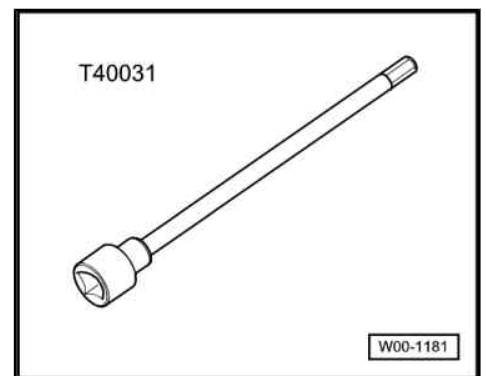
◆ Engine and gearbox jack - VAS 6931-



◆ Gearbox support - T10337-



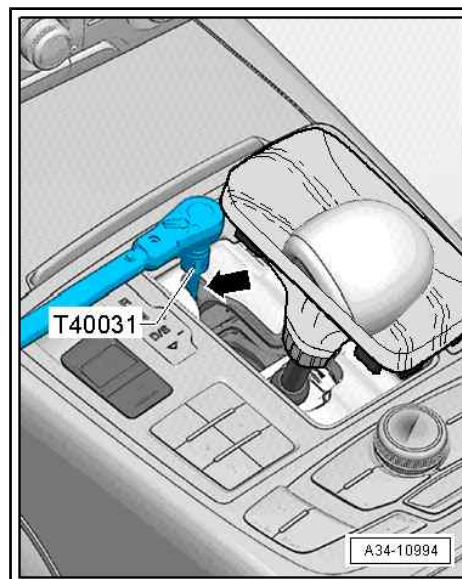
◆ Socket - T40031-



Removing

- Remove selector lever handle [→ page 21](#)
- Remove front ashtray or storage compartment [→ General](#)
body repairs, interior; Rep. gr. 68 ; Centre console; Exploded
view - centre console .
- Shift selector lever to position "D".

- Insert socket and key - T40031- through access hole -arrow- in selector mechanism and slacken bolt on selector lever cable approx. one turn.

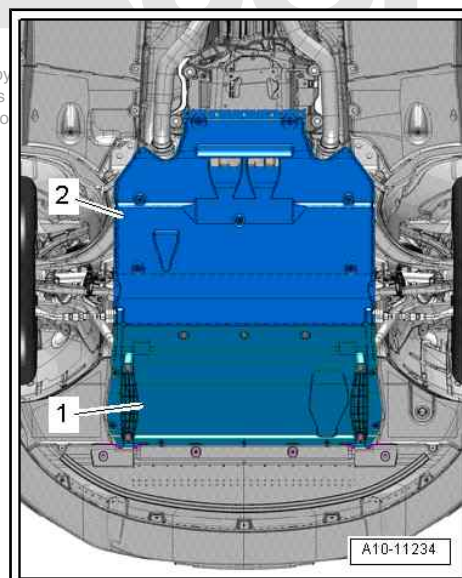
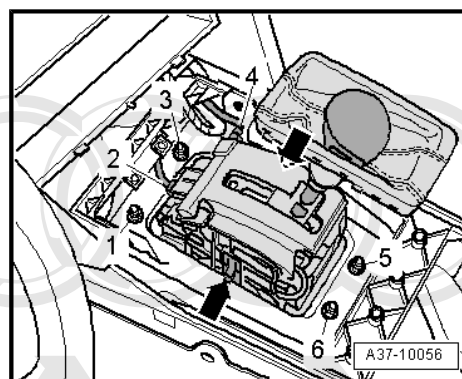


- Unplug electrical connectors -2- and -4-.



Note

- ◆ *Insulating mat is not shown in illustration.*
- ◆ *The assistance of a second mechanic is required to detach the selector mechanism from below.*
- ◆ *Disregard -arrows-.*
- Remove insulating mat above selector mechanism.
- Remove bolts -1, 3, 5, 6-.
- Remove noise insulation -1- and -2- ⇒ General body repairs, exterior; Rep. gr. 66 ; Noise insulation; Removing and installing noise insulation .



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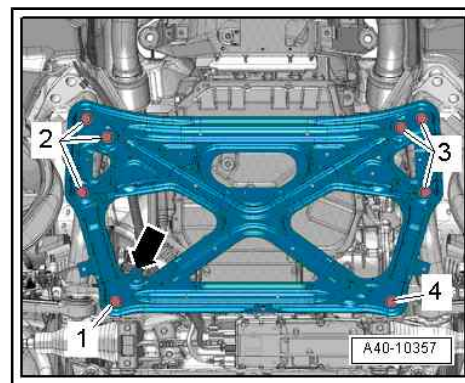
- Remove subframe cross brace ⇒ Running gear, axles, steering; Rep. gr. 40 ; Subframe; Removing and installing subframe cross brace .



Caution

Risk of damage to parts of the running gear.

- ◆ *Do not let the vehicle down on the wheels if the gearbox mounting, steering rack or subframe cross brace are not properly installed.*



Vehicles with 6-cyl. or 8-cyl. petrol engine:

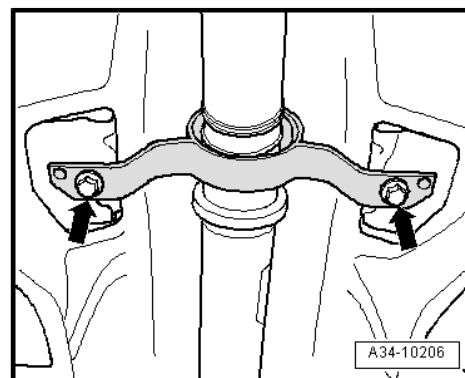
- Remove front silencers (left and right) ⇒ Rep. gr. 26 ; Exhaust pipes/silencers; Exploded view - silencers .

Vehicles with 6-cyl. TDI engine:

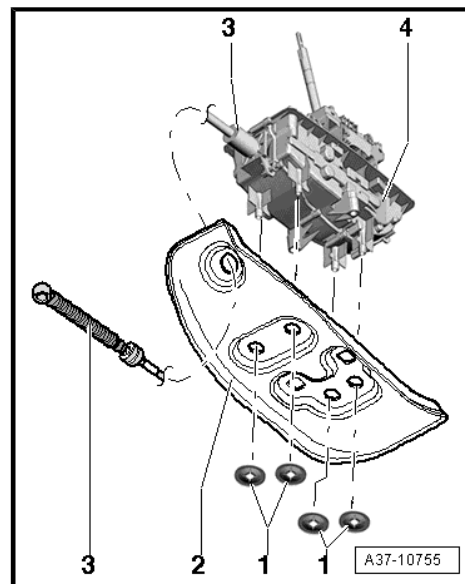
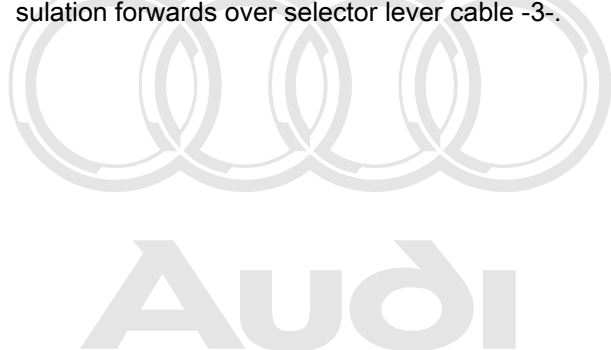
- Remove front exhaust pipe ⇒ Rep. gr. 26 ; Exhaust pipes/silencers; Exploded view - silencers .

Continued for all vehicles:

- Remove bolts -arrows- securing centre propshaft bearing.
- Carefully lower propshaft.



- Remove securing clips -1- from noise insulation -2- (if fitted).
- Detach noise insulation from shift unit -4- and slide noise insulation forwards over selector lever cable -3-.



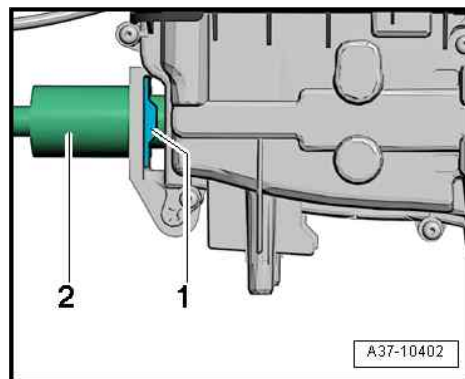
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- Pull out retaining clip -1- for selector lever cable from the side.
- Pull selector lever cable -2- out of selector mechanism.



Note

Do not bend or kink the selector lever cable.



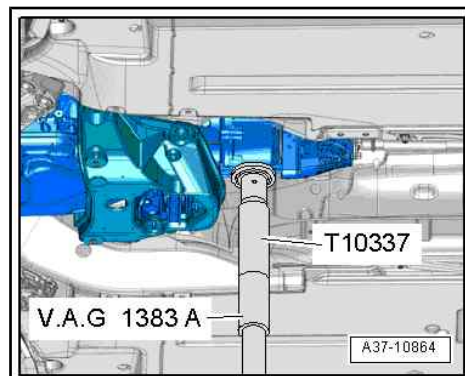
- Set up gearbox support - T10337- on engine and gearbox jack - VAS 6931- and position underneath gearbox.
- Raise gearbox slightly.



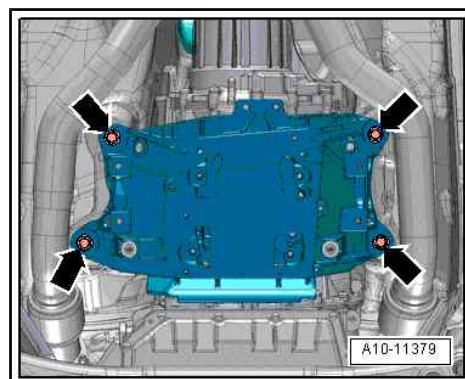
WARNING

Risk of accident.

- ◆ *Engine and gearbox jack - VAS 6931- must remain in position when work is being carried out and must not be left unattended under the vehicle.*



- Remove bolts -arrows- for tunnel cross member.

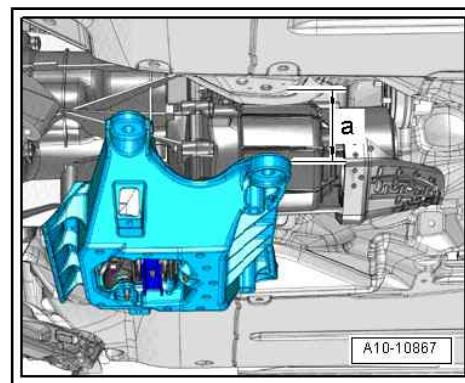


- Lower gearbox by dimension -a- using engine and gearbox jack - VAS 6931- .
- Dimension -a- = 70 mm (maximum)
- Take off shift unit.

Installing

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

- Insert shift unit and secure from above.
- Install selector lever cable ⇒ [page 36](#) .
- Adjust selector lever cable ⇒ [page 41](#) .
- Check selector mechanism ⇒ [page 33](#) .
- Install centre propshaft bearing ⇒ Rear final drive; Rep. gr. 39 ; Propshaft; Exploded view - propshaft .
- Install front ashtray or storage compartment ⇒ General body repairs, interior; Rep. gr. 68 ; Centre console; Exploded view - centre console .
- Install selector lever handle ⇒ [page 21](#) .
- After removing and installing the shift unit, run the appropriate "Guided Function" using the vehicle diagnostic tester ⇒ [page 166](#) .



Tightening torques

- ◆ ⇒ "1.2 Exploded view - selector mechanism", [page 19](#)
- ◆ ⇒ "1.3 Exploded view - selector lever cable", [page 20](#)
- ◆ ⇒ "3.1 Exploded view - assembly mountings", [page 106](#)
- ◆ ⇒ Rep. gr. 26 ; Exhaust pipes/silencers; Exploded view - silencers
- ◆ Subframe cross brace ⇒ Running gear, axles, steering; Rep. gr. 40 ; Subframe; Exploded view - subframe
- ◆ ⇒ General body repairs, exterior; Rep. gr. 66 ; Noise insulation; Exploded view - noise insulation

1.8 Checking selector mechanism

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WARNING

Accidents and injury can be caused if a gear is inadvertently engaged while the engine is running.

- ◆ ***Before performing any work with the engine running, set the gearbox to position "P" and pull up the parking brake button to apply the electromechanical parking brake.***
- ◆ ***Observe safety precautions when the vehicle is moving*** ⇒ [page 3](#) .
- ◆ ***You must work through all the tests listed. If specified results are not obtained, adjust selector lever cable (⇒ [page 41](#)) and perform "Guided Fault Finding" using vehicle diagnostic tester .***

Overview:

- ◆ 1. Checking operation of selector mechanism ⇒ [page 34](#)
- ◆ 2. Checking interlock button on selector lever handle ⇒ [page 35](#)

1. Checking operation of selector mechanism

- It should not be possible to operate the starter while the selector lever is in positions "R", "D/S" 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 2 km/h (almost stationary), the solenoid for the selector lever lock should only engage about 1 second after you shift into selector lever position "N". The selector lever cannot be shifted out of "N" position until the brake pedal is pressed.

Selector lever in position "P":

- Pull up parking brake button to apply electromechanical parking brake.
- Switch off ignition.
- The selector lever is locked and cannot be shifted out of "P" position, even when the interlock button on the handle is pressed in.
- Switch on ignition.



Note

To obtain the "ignition on" position, briefly press the entry and start authorisation button - E408-.

- Do not depress brake pedal.
- The selector lever is locked and cannot be shifted out of "P" position, even when the interlock button on the handle is pressed in. Selector lever lock solenoid - N110- blocks selector lever.
- Press and hold brake pedal.
- Selector lever lock solenoid - N110- releases selector lever. It is possible to shift into a driving gear. With interlock button on selector lever handle pressed, shift selector lever slowly from "P" position through "R, N, and D/S" and check whether the selector lever position display - Y6- in the instrument cluster shows the correct selector lever position in each case.
- Pull selector lever from "D/S" towards the rear and release selector lever.
- The selector lever will return automatically to the position "D/S". The selector lever position display - Y6- in the instrument cluster should change from "D" to "S1" and then back to "D" when the selector lever is pulled back once again.

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

- Do not depress brake pedal.
- After a short delay: Selector lever is locked and cannot be shifted out of "N" position even when pressing the interlock button on the selector lever handle. Selector lever lock solenoid - N110- blocks selector lever.
- Depress brake pedal.
- Selector lever lock solenoid - N110- releases selector lever. Shifting into position "D/S" is possible.

Selector lever in position "D/S", ignition switched on:

- Shift selector lever into “tiptronic gate”.
- The illuminated “D/S” symbol in the selector lever position display - Y26- should go out and the “+” and “-” symbols should light up.
- The selector lever position display - Y6- in the instrument cluster should change from “D” to “M1” when the selector lever is moved into the “tiptronic gate”.
- Do not move selector lever to position “P”; select e.g. position “N”.
- Switch off ignition.
- A warning message should be displayed in the instrument cluster.
- The vehicle cannot be locked.
- Move selector lever to position “P”.
- Switch off ignition.
- The vehicle can now be locked.

If results do not match specifications:

- Perform Guided Fault Finding routine using vehicle diagnostic tester .
- Adjust selector lever cable ➔ [page 41](#).
- Check interlock button on selector lever handle ➔ [page 35](#) .

2. Checking interlock button on selector lever handle

Check that interlock button moves freely:

- Interlock button should move easily when pressed without force.
- Interlock button should spring back fully on its own when released.

If results do not match specifications:

- Check whether selector lever handle is correctly installed ➔ [page 21](#) .
- Check whether selector lever is bent.

Function test:

- Ignition switched on

Press the interlock button on the selector lever handle to move the handle into the positions listed below; it should not be possible to move the selector lever into these positions unless the interlock button is pressed.

- ◆ “P” to “R” (also depress brake pedal)
- ◆ “N” to “R” (brake pedal also has to be depressed after a short delay when vehicle is stationary)
- ◆ “R” to “P”

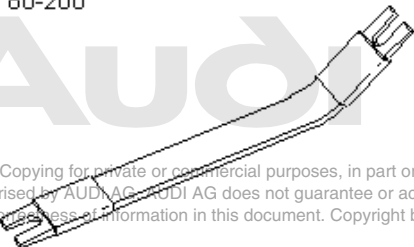
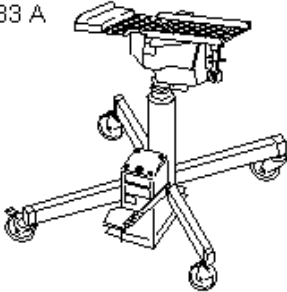
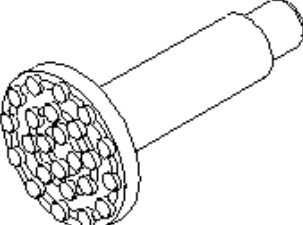
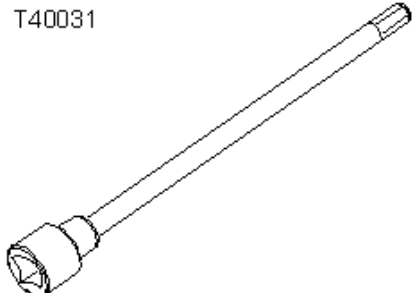
If results do not match specifications:

- Check whether selector lever handle is correctly installed ➔ [page 21](#) .
- Check electrical connectors on selector mechanism.
- Perform Guided Fault Finding using vehicle diagnostic tester and check selector lever lock solenoid - N110- .

- Adjust selector lever cable ⇒ [page 41](#) .

1.9 Removing and installing selector lever cable

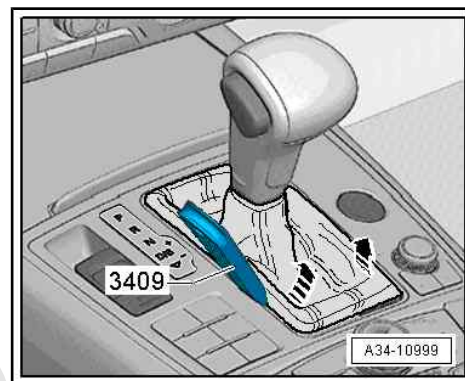
Special tools and workshop equipment required

80-200 	3409 
V.A.G 1383 A 	T10337 
T40031 	G34-10078

- ◆ Removal lever - 80 - 200-
- ◆ Removal wedge - 3409-
- ◆ Engine and gearbox jack - VAS 6931-
- ◆ Gearbox support - T10337-
- ◆ Socket - T40031-

Removing

- Pull up parking brake button to apply electromechanical parking brake.
- Shift selector lever to position “D”.
- Carefully pry out selector lever boot at the side -arrows- by hand or with removal wedge - 3409- and turn boot inside out over selector lever handle.

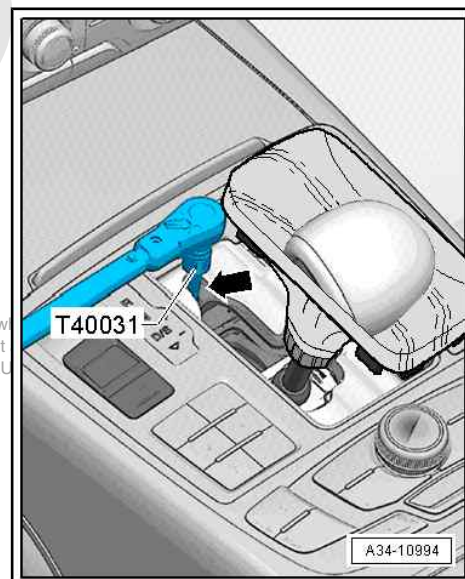


- Insert socket and key - T40031- through access hole -arrow- in selector mechanism and slacken bolt on selector lever cable approx. one turn.

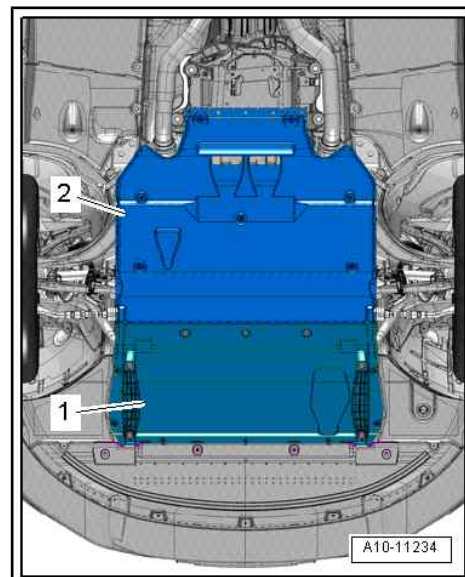


Note

- ◆ Only loosen clamping bolt – do not remove.
- ◆ Clamping bolt can only be accessed with selector lever in position “D”.
- ◆ With clamping bolt loosened, selector lever must remain in position “D”.



- Remove noise insulation -1- and -2- ⇒ General body repairs, exterior; Rep. gr. 66 ; Noise insulation; Removing and installing noise insulation .



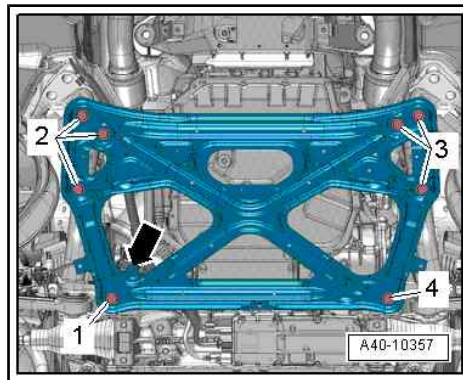
- Remove subframe cross brace ⇒ Running gear, axles, steering; Rep. gr. 40 ; Subframe; Removing and installing subframe cross brace .



Caution

Risk of damage to parts of the running gear.

- ◆ *Do not let the vehicle down on the wheels if the gearbox mounting, steering rack or subframe cross brace are not properly installed.*



Vehicles with 6-cyl. or 8-cyl. petrol engine:

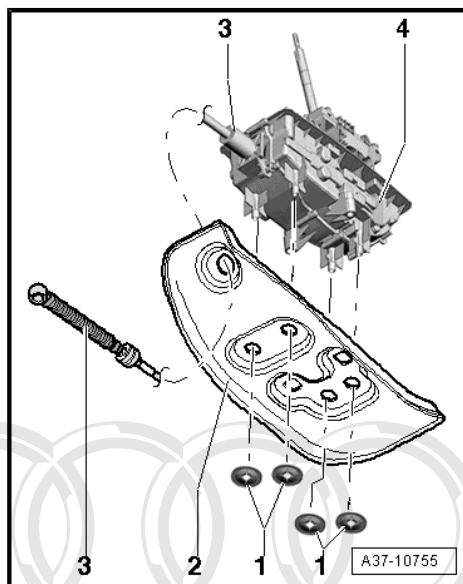
- Remove front silencers (left and right) ⇒ Rep. gr. 26 ; Exhaust pipes/silencers; Exploded view - silencers .

Vehicles with 6-cyl. TDI engine:

- Remove front exhaust pipe ⇒ Rep. gr. 26 ; Exhaust pipes/silencers; Exploded view - silencers .

Continued for all vehicles:

- Remove securing clips -1- from noise insulation -2- (if fitted).
- Detach noise insulation from shift unit -4- and slide noise insulation forwards over selector lever cable -3-.

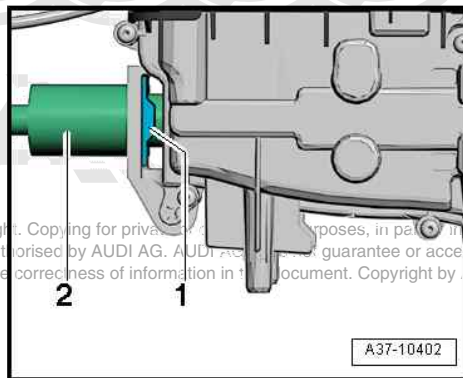


- Pull out retaining clip -1- for selector lever cable from the side.
- Pull selector lever cable -2- out of selector mechanism.



Note

Do not bend or kink the selector lever cable.



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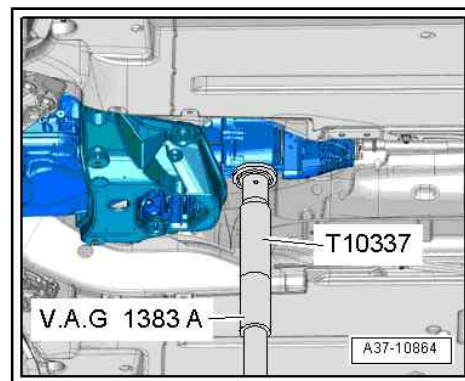
- Set up gearbox support - T10337- on engine and gearbox jack - VAS 6931- and position underneath gearbox.
- Raise gearbox slightly.



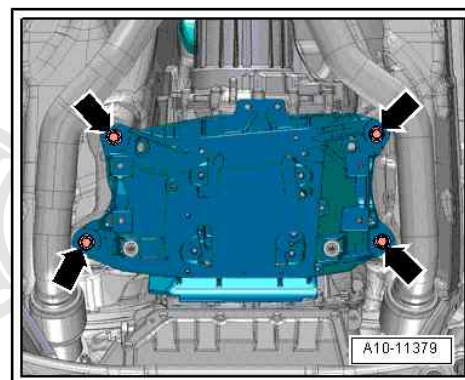
WARNING

Risk of accident.

- ◆ *Engine and gearbox jack - VAS 6931- must remain in position when work is being carried out and must not be left unattended under the vehicle.*

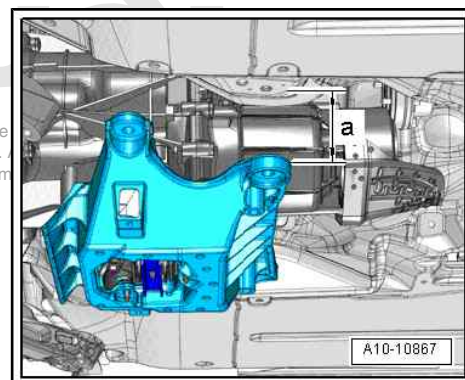


- Remove bolts -arrows- for tunnel cross member.



- Lower gearbox by dimension -a- using engine and gearbox jack - VAS 6931- .
- Dimension -a- = 70 mm (maximum)

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- Use removal lever - 80 - 200- to press ball socket -2- on selector lever cable off gearbox selector lever.
- Pry off retaining clip -1- and detach selector lever cable from gearbox.
- Depending on the version, a lock nut may be fitted instead of the retaining clip -1-.

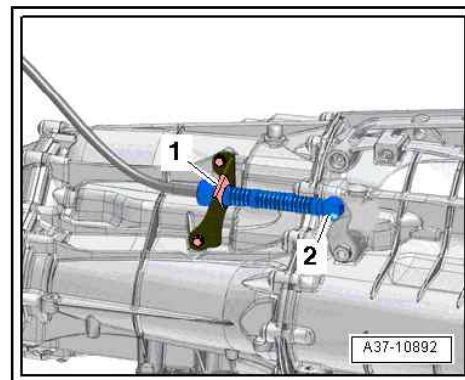
Installing

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

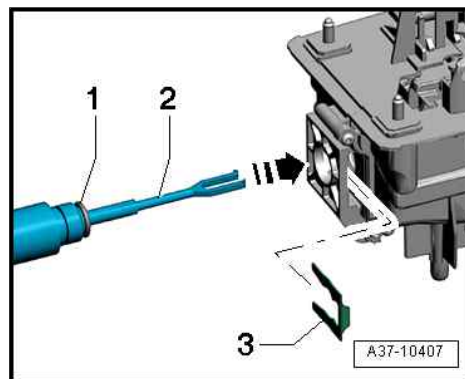


Note

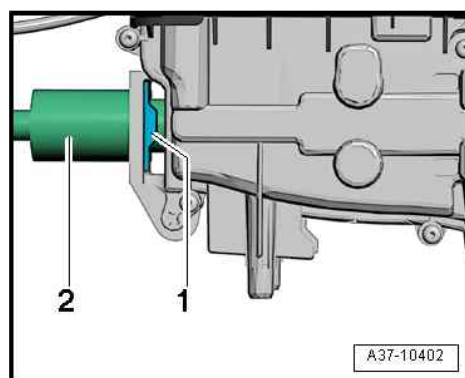
- ◆ *Renew retaining washers for noise insulation.*
- ◆ *Before installing, lightly grease cable eye and ball socket on selector lever cable with polycarbamide grease - G 052 142 A2- .*



- Fit O-ring -1- on selector lever cable.
- Insert selector lever cable -2- into shift unit -arrow-.
- Secure selector lever cable -2- with retaining clip -3-.

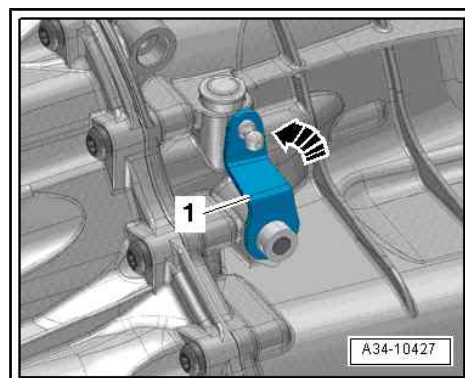


- Installation position: angled end of retaining clip -1- must point towards selector mechanism.



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- Press gearbox selector lever -1- on gearbox towards the rear as far as it will go -arrow- until parking lock engages.
- When the parking lock has engaged it should no longer be possible to rotate both front wheels in one direction at the same time.
- Then push gearbox selector lever forward 3 notches so that gearbox is in position "D".
- Check that selector lever is also in position "D" inside the vehicle.



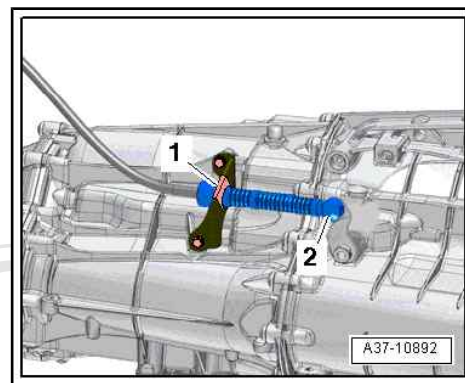
- Carefully press ball socket -2- of selector lever cable onto gearbox selector lever in this position.



Note

Take care not to bend gearbox selector lever when pressing on cable; support lever if necessary, as otherwise selector mechanism can no longer be adjusted accurately.

- Secure selector lever cable with retaining clip -1-.
- Depending on the version, a lock nut may be fitted instead of the retaining clip -1- (tightening torque for lock nut: 13 Nm).



Note

Do not bend or kink the selector lever cable.

- Check selector mechanism ⇒ [page 33](#) .
- Adjust selector lever cable ⇒ [page 41](#) .

Tightening torques

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- ◆ ⇒ [“1.3 Exploded view - selector lever cable”, page 20](#)
- ◆ ⇒ [“3.1 Exploded view - assembly mountings”, page 106](#)
- ◆ ⇒ Rep. gr. 26 ; Exhaust pipes/silencers; Exploded view - silencers
- ◆ Subframe cross brace ⇒ Running gear, axles, steering; Rep. gr. 40 ; Subframe; Exploded view - subframe
- ◆ ⇒ General body repairs, exterior; Rep. gr. 66 ; Noise insulation; Exploded view - noise insulation

1.10 Checking and adjusting selector lever cable

⇒ [“1.10.1 Checking and adjusting selector lever cable”, page 41](#)

⇒ [“1.10.2 Adjusting selector lever cable to basic setting”, page 42](#)

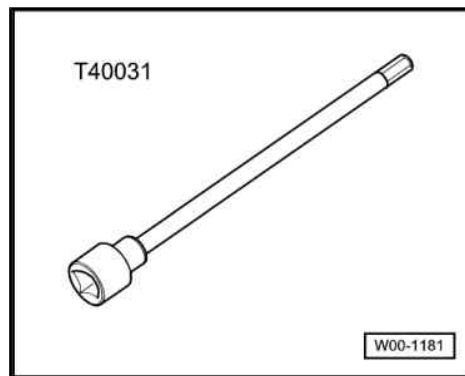
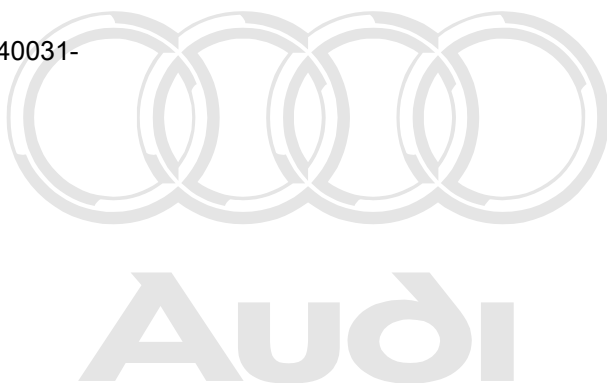
1.10.1 Checking and adjusting selector lever cable

Special tools and workshop equipment required

- ◆ Removal wedge - 3409-

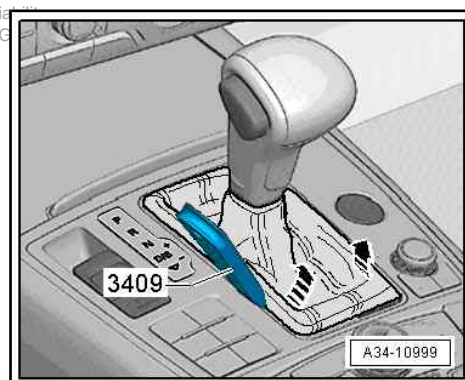


◆ Socket - T40031-

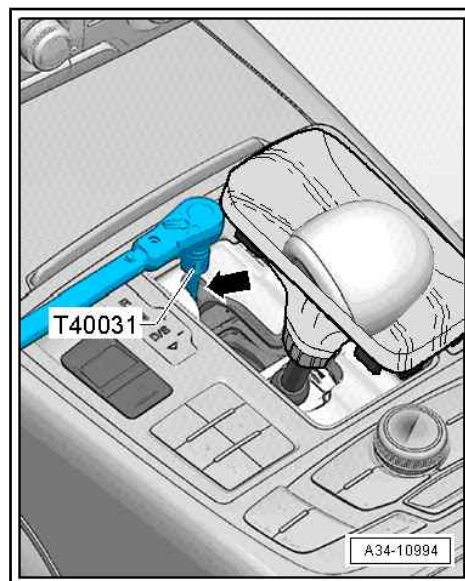


Procedure

- Pull up parking brake button to apply electromechanical parking brake.
- Shift selector lever to position "D".
- Carefully pry out selector lever boot at the side -arrows- by hand or with removal wedge - 3409- and turn boot inside out over selector lever handle.



- Insert socket and key - T40031- through access hole -arrow- in selector mechanism and slacken bolt on selector lever cable approx. one turn.



Note

- ◆ *Only loosen clamping bolt – do not remove.*
- ◆ *Clamping bolt can only be accessed with selector lever in position "D".*
- ◆ *With clamping bolt loosened, selector lever must remain in position "D".*
- Carefully move selector lever slightly forwards and backwards, without shifting lever into a different selector lever position. The selector lever cable is thereby slackened.
- Use socket and key - T40031- to tighten clamping bolt in this position, taking care not to touch selector lever.
- Check selector mechanism ⇒ [page 33](#) .
- After adjusting selector lever cable, run appropriate "Guided Function" on vehicle diagnostic tester ⇒ [page 166](#)

If selector mechanism is not functioning correctly after adjusting selector lever cable, proceed as follows:

- Adjust selector lever cable to basic setting ⇒ [page 42](#) .

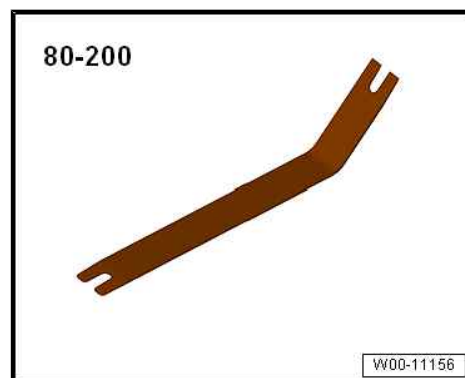
Tightening torques

- ◆ ⇒ ["1.3 Exploded view - selector lever cable", page 20](#)

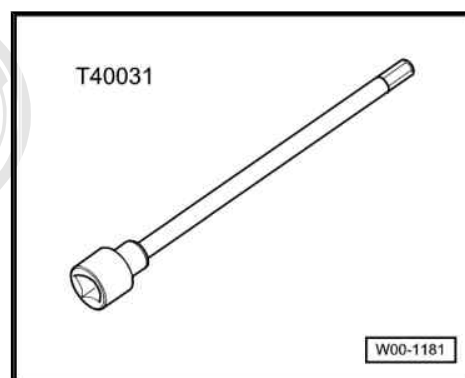
1.10.2 Adjusting selector lever cable to basic setting

Special tools and workshop equipment required

- ◆ Vehicle diagnostic tester
- ◆ Removal lever - 80 - 200-



- ◆ Socket - T40031-



Procedure

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- **Guided Fault Finding** using the vehicle diagnostic tester has been completed; all faults repaired.
- Using the diagnostic tester in “Guided Fault Finding” mode, go to **Function/Component Selection** and select the following menu items:
 - ◆ **Drive system**
 - ◆ **0B5 gearbox**
 - ◆ **01 - Self-diagnosis compatible systems**
 - ◆ **02 - Gearbox electronics**
 - ◆ **02 - Gearbox electronics, Functions**
 - ◆ **02 - Measured values**
- Select the value for **Gear** from the menu.
- Compare the following readings:
 - ◆ Value for **Gear** on vehicle diagnostic tester
 - ◆ Selector lever position
 - ◆ Gear indicated on selector lever position display - Y26- (on selector mechanism)
 - ◆ Selector lever position display - Y6- in instrument cluster

Requirement:

- The displays should match

If the displays do not match:

- Adjust selector lever cable ➔ [page 41](#) .

If the displays cannot be matched by adjusting the selector lever cable:

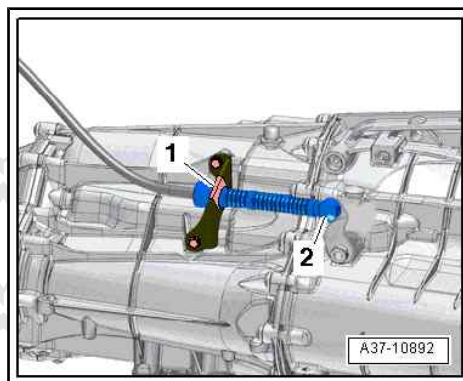
Adjusting selector lever cable to basic setting:

- Use removal lever - 80 - 200- to press ball socket -2- on selector lever cable off gearbox selector lever.

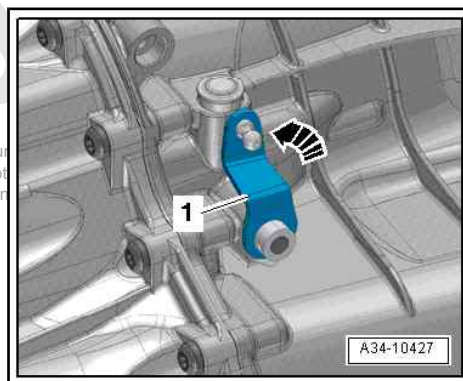


Note

- ◆ *Do not bend or kink the selector lever cable.*
- ◆ *Item -1- can be disregarded.*



- Press gearbox selector lever -1- on gearbox towards the rear as far as it will go -arrow- until parking lock engages.
- When the parking lock has engaged it should no longer be possible to rotate both front wheels in one direction at the same time.
- Then push gearbox selector lever forward 3 notches so that gearbox is in position “D”.
- Check that selector lever is also in position “D” inside the vehicle.

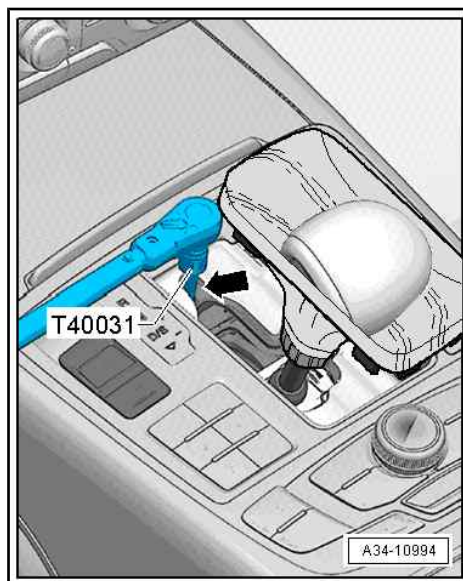


- Insert socket and key - T40031- through access hole -arrow- in selector mechanism and slacken bolt on selector lever cable approx. one turn.



Note

- ◆ *Only loosen clamping bolt – do not remove.*
- ◆ *Clamping bolt can only be accessed with selector lever in position “D”.*
- ◆ *With clamping bolt loosened, selector lever must remain in position “D”.*
- Detach socket and key - T40031- from torque wrench and leave it inserted in access hole -arrow- in selector mechanism.



- Carefully press ball socket -2- of selector lever cable onto gearbox selector lever in this position.

 Note

- ◆ *Take care not to bend gearbox selector lever when pressing on cable; support lever if necessary, as otherwise selector mechanism can no longer be adjusted accurately.*

- ◆ *Disregard -item 1-.*

- With vehicle diagnostic tester in Guided Fault Finding mode, select **[02 - Gearbox electronics]** and the function **[02 - Measured values]**.

- Select the value for **[Gear]** from the menu.

- Compare the following readings:

- ◆ Value for **[Gear]** on vehicle diagnostic tester
- ◆ Selector lever position
- ◆ Gear indicated on selector lever position display - Y26- (on selector mechanism)
- ◆ Selector lever position display - Y6- in instrument cluster

Requirement:

- The displays should match

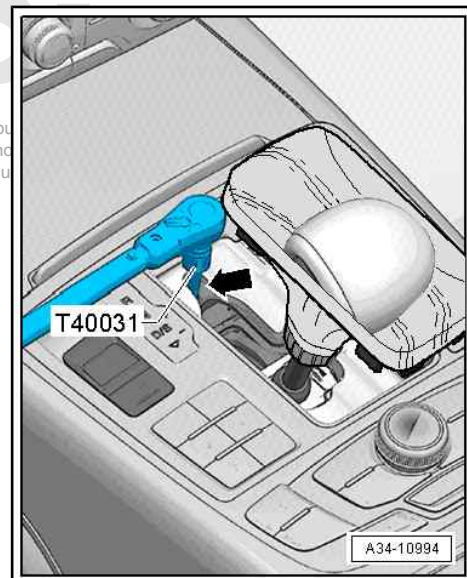
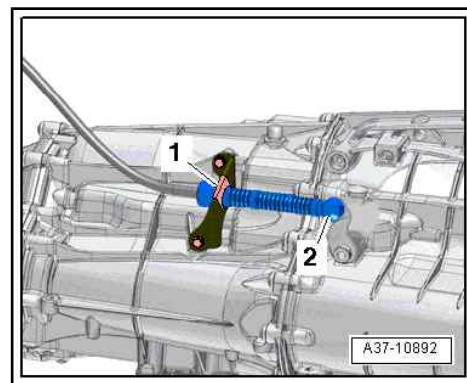
- Carefully move selector lever slightly forwards and backwards, without shifting lever into a different selector lever position. The selector lever cable is thereby slackened.

- Use socket and key - T40031- to tighten clamping bolt in this position, taking care not to touch selector lever.

- Check selector mechanism ⇒ [page 33](#) .

Tightening torques

- ◆ ⇒ [“1.3 Exploded view - selector lever cable”, page 20](#)



1.11 Removing and installing selector lever lock solenoid - N110-

Removing

- Move selector lever to position “P”.
- Remove front ashtray or storage compartment ⇒ General body repairs, interior; Rep. gr. 68 ; Centre console; Exploded view - centre console .

- Unscrew nuts -1, 3, 5, 6- a few turns, but do not remove completely.



Note

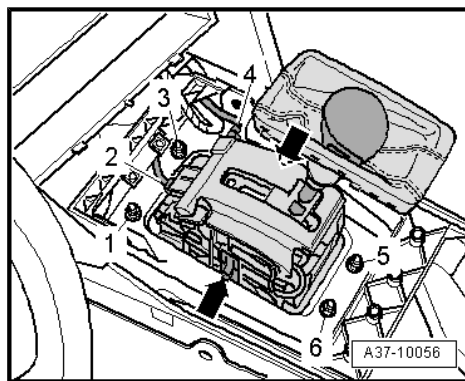
- ◆ This will lower the shift unit slightly and facilitate removal.
- ◆ Items marked -2, 4- and -arrows- can be disregarded.



Caution

The selector mechanism can be damaged by broken retaining clips, retaining tabs or other objects.

- ◆ **Make sure that no parts or objects drop into the selector mechanism. If this happens, the selector mechanism will have to be renewed!**



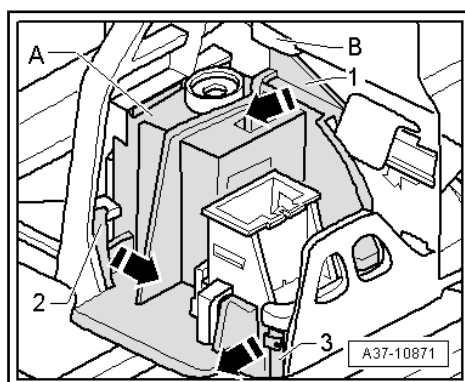
- Release retaining tabs -2- and -3- in direction of -arrow-, lift front of sealing cap -A- slightly and hold in that position.



Note

This prevents the retaining tabs from engaging again.

- Using a screwdriver, release top retaining tab -1- of sealing cap from retainer -B- in direction of -arrow- and lift out sealing cap -A-.

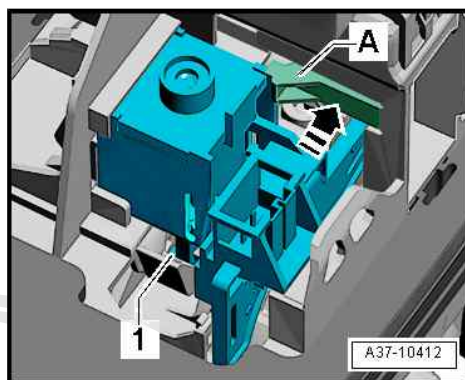


- Unplug electrical connector on selector lever lock solenoid - N110- .
- Press retaining hook -A- in direction of -arrow- and hold in this position.



Note

The shift unit must be renewed if the retaining hook -A- breaks off.

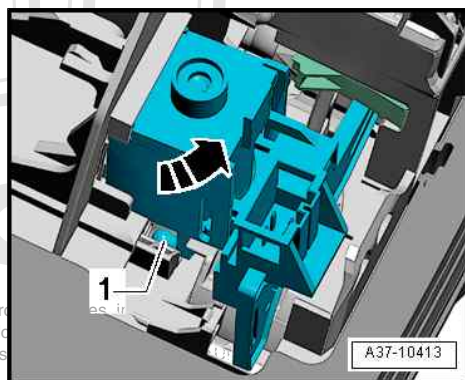


- Tilt bottom part of selector lever lock solenoid - N110- out in direction of -arrow- so that ball rod -1- disengages from operating lever on selector mechanism.
- Detach selector lever lock solenoid - N110- .

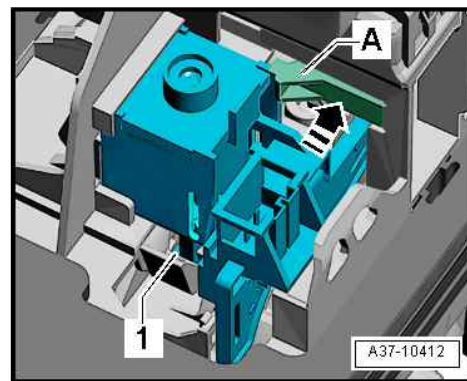
Installing

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

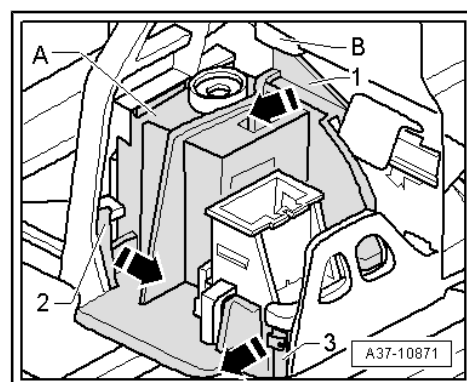
- Turn ball rod -1- into correct position for installation.
- Guide selector lever lock solenoid - N110- into selector mechanism at an angle from above and tilt bottom part in opposite direction of -arrow-.



- Ball rod -1- must engage fully in operating lever on selector mechanism; press home with a small screwdriver if necessary.
- Secure selector lever lock solenoid - N110- to retaining hook -A-.



- Place cover -A- over selector lever lock solenoid - N110- and carefully engage -1 ... 3-.
- Attach electrical connectors.
- Check function of selector mechanism before continuing assembly ⇒ [page 33](#) .
- Install front ashtray or storage compartment ⇒ General body repairs, interior; Rep. gr. 68 ; Centre console; Exploded view - centre console .



Tightening torques

- ◆ ⇒ [“1.2 Exploded view - selector mechanism”, page 19](#)

1.12 Removing and installing selector lever sensors control unit - J587-

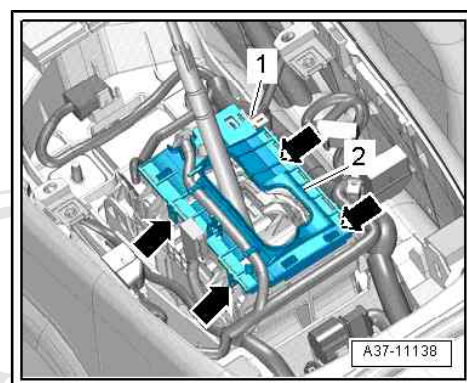
Removing

- Remove selector lever handle ⇒ [page 21](#) .
- Remove multimedia system operating unit - E380- ⇒ Communication; Rep. gr. 91 ; Infotainment system; Removing and installing multimedia system operating unit - E380- .
- Unplug electrical connector -1-.
- Release 4 retaining tabs -arrows- and lift out selector lever sensors control unit - J587- -item 2-.

Installing

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

- Make sure selector lever sensors control unit - J587- clicks in place with 4 retaining tabs.
- Install multimedia system operating unit - E380- ⇒ Communication; Rep. gr. 91 ; Infotainment system; Removing and installing multimedia system operating unit - E380- .
- Install selector lever handle ⇒ [page 21](#) .





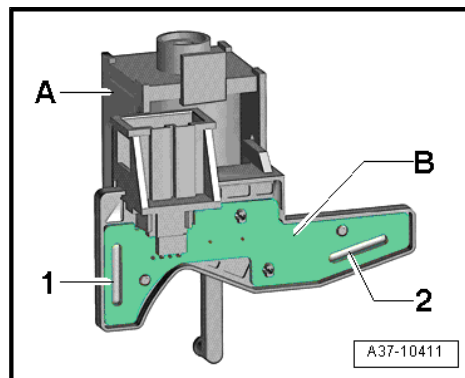
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1.13 Removing and installing gear selector position P switch - F305-

- ◆ Fitting location: Gear selector position P switch - F305- consists of two microswitches -1- and -2- and is installed on printed circuit board -B- in selector lever lock solenoid - N110- -A-.

Gear selector position P switch - F305- can only be renewed together with selector lever lock solenoid - N110- .

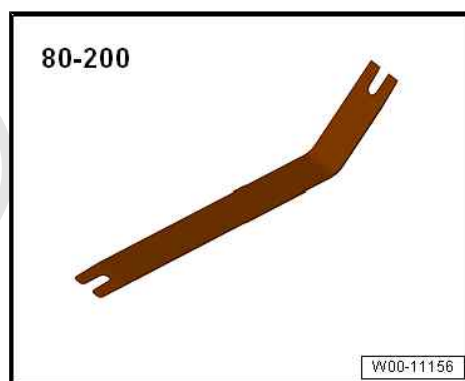
Removing and installing ➔ [page 45](#) .



1.14 Renewing selector shaft oil seal

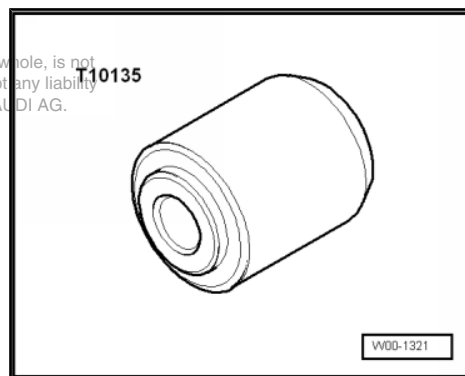
Special tools and workshop equipment required

- ◆ Removal lever - 80 - 200-



- ◆ Thrust piece - T10135-

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Procedure

Vehicles with 8-cyl. petrol engine:

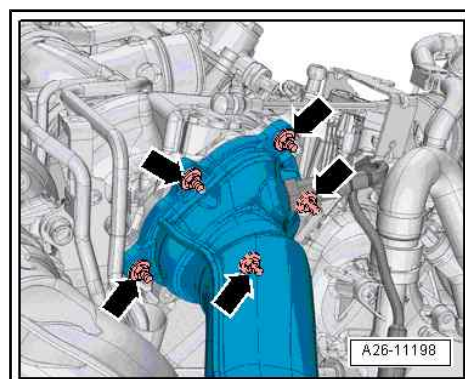
- Remove catalytic converters ➔ Rep. gr. 26 ; Emission control system; Removing and installing catalytic converter .

Vehicles with 6-cyl. TDI engine:

- Remove particulate filter ➔ Rep. gr. 26 ; Emission control system; Removing and installing particulate filter .

Continued for all vehicles:

- Remove plenum chamber partition panel ➔ General body repairs, exterior; Rep. gr. 50 ; Bulkhead; Exploded view - plenum chamber partition panel .

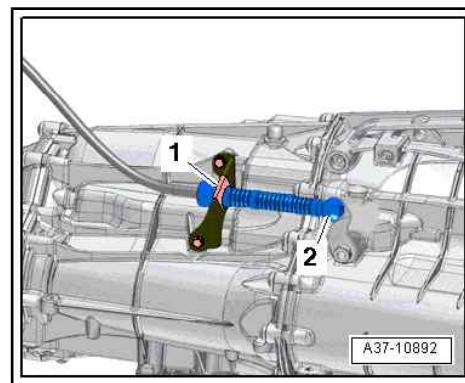


- Use removal lever - 80 - 200- to press ball socket -2- on selector lever cable off gearbox selector lever.

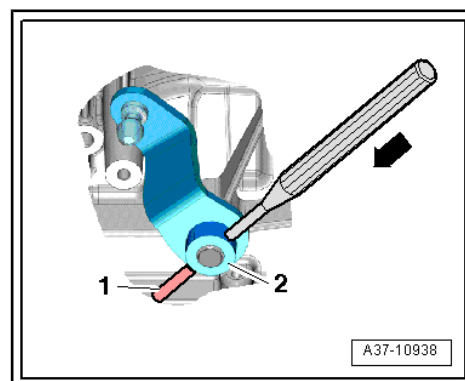


Note

Do not bend or kink the selector lever cable.



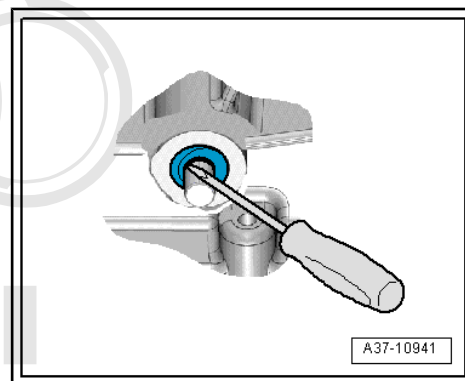
- Knock roll pin -1- out of gearbox selector lever -2- -arrow-.
- Pull gearbox selector lever off selector shaft.



Caution

Risk of damage to running surface of selector shaft.

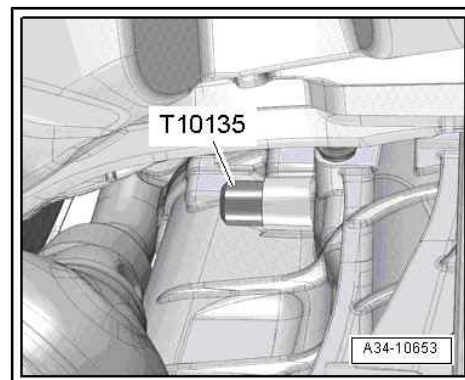
- ◆ *Apply screwdriver with care.*



- Push a small screwdriver through the oil seal and pull it out.
- Lubricate outer circumference and space between sealing lips of new oil seal with ATF.
- Installation position: open side of oil seal points towards gearbox
- Fit oil seal onto selector shaft.

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- Press in oil seal onto stop using thrust piece - T10135- . Take care to keep seal straight when installing.
- Before installing gearbox selector lever, knock back roll pin through lever in opposite direction.
- Push gearbox selector lever onto selector shaft and drive in roll pin.
- Install plenum chamber partition panel ⇒ General body repairs, exterior; Rep. gr. 50 ; Bulkhead; Exploded view - plenum chamber partition panel .
- Install catalytic converters/particulate filter ⇒ Rep. gr. 26 ; Exhaust pipes/silencers; Exploded view - silencers .





2 Removing and installing gearbox

⇒ [“2.1 Removing gearbox”, page 50](#)

⇒ [“2.2 Installing gearbox”, page 94](#)

⇒ [“2.3 Tightening torques for gearbox”, page 103](#)

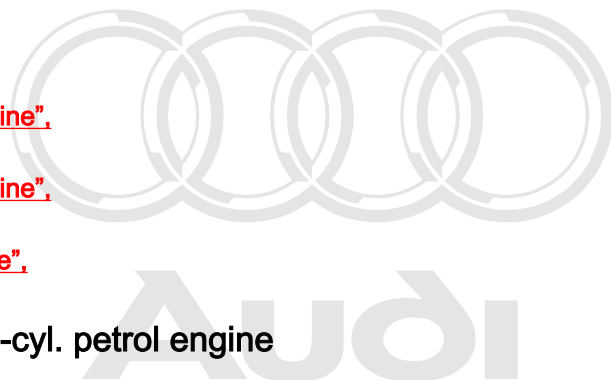
2.1 Removing gearbox

⇒ [“2.1.1 Removing gearbox - vehicles with 6-cyl. petrol engine”, page 50](#)

⇒ [“2.1.2 Removing gearbox - vehicles with 8-cyl. petrol engine”, page 61](#)

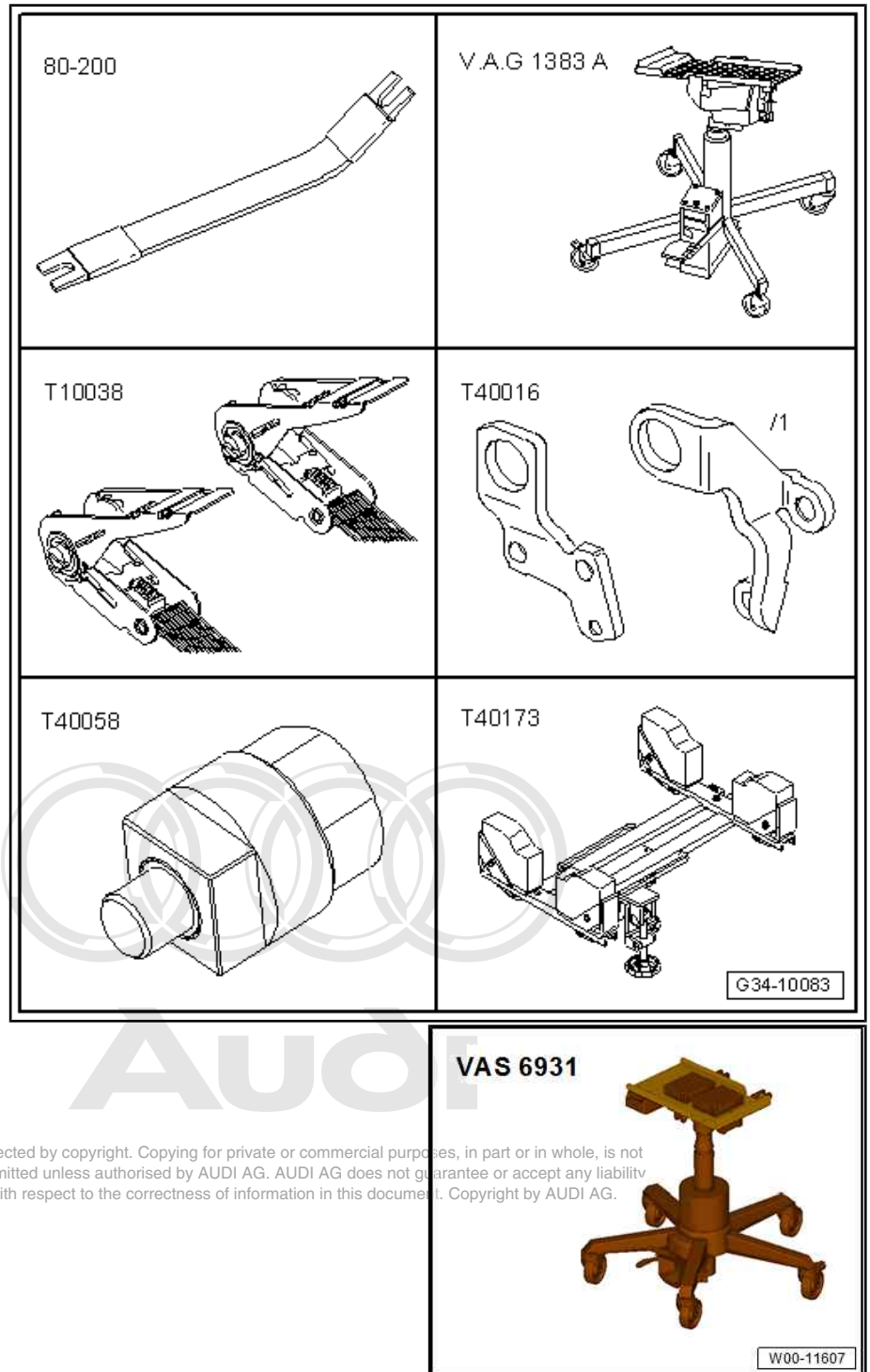
⇒ [“2.1.5 Removing gearbox - vehicles with 4-cyl. TDI engine”, page 87](#)

2.1.1 Removing gearbox - vehicles with 6-cyl. petrol engine



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Special tools and workshop equipment required

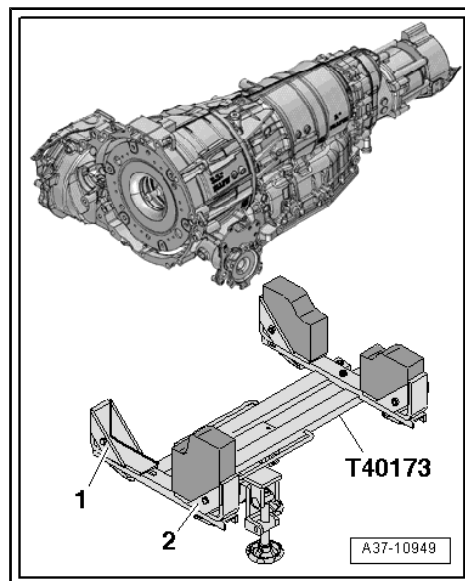


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- ◆ Removal lever - 80 - 200-
- ◆ Engine and gearbox jack - VAS 6931-
- ◆ Tensioning strap - T10038-
- ◆ Transportation shackle - T40016-
- ◆ Adapter - T40058-
- ◆ Gearbox support - T40173-
- ◆ M8x20 bolt

Preparing gearbox support - T40173- :

- Mounting block attached at -position 1- must be removed.
- Mounting block attached at -position 2- must be rotated so that the longer side faces upwards, as shown in illustration.



Removing

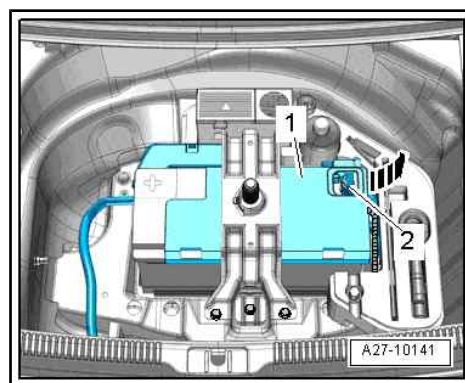
- Bring front wheels into straight-ahead position.
- Switch off ignition and remove ignition key.



Caution

When disconnecting the battery there is a risk of irreparable damage to electronic components.

- ♦ *Observe notes on procedure for disconnecting the battery.*



- Disconnect earth wire -2- from battery terminal ⇒ Electrical system; Rep. gr. 27 ; Battery; Disconnecting and connecting battery .

Vehicles with FSI engine:

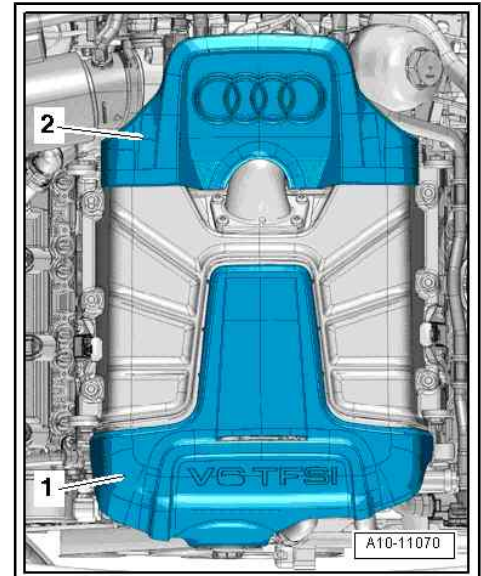
- Pull off engine cover panels upwards -arrows-.



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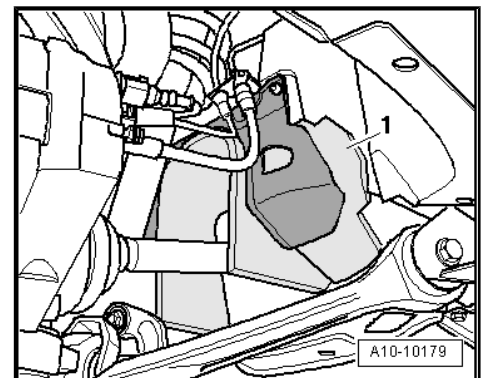
Vehicles with TFSI engine:

- Pull engine cover panels -1- and -2- off upwards.

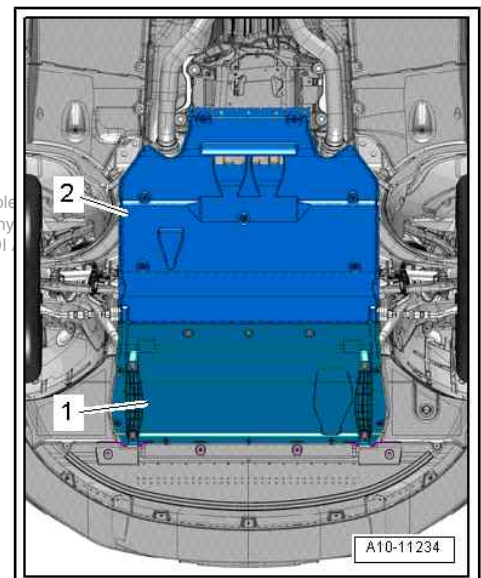


Continued for all vehicles:

- Remove front wheels ⇒ Running gear, axles, steering; Rep. gr. 44 ; Wheels, tyres .
- Remove cover -1- for drive shaft from wheel housing (both sides) ⇒ General body repairs, exterior; Rep. gr. 66 ; Noise insulation; Exploded view - noise insulation .

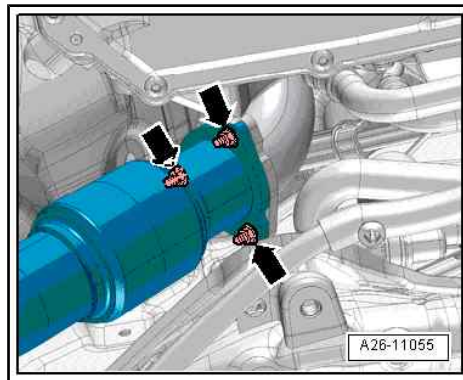


- Remove noise insulation -1- and -2- ⇒ General body repairs, exterior; Rep. gr. 66 ; Noise insulation; Removing and installing noise insulation .

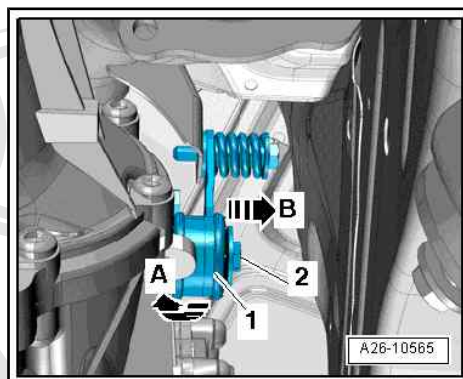


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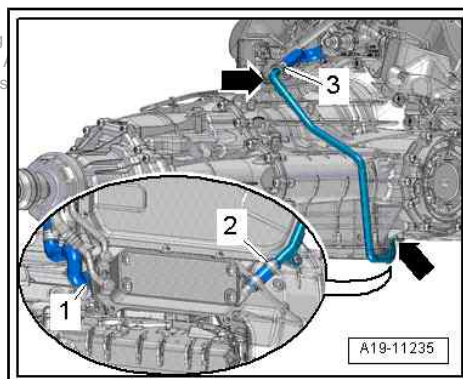
- Remove front silencers (left and right) ⇒ Rep. gr. 26 ; Exhaust pipes/silencers; Exploded view - silencers .



- Remove bolt -2-.
- Push retainer -1- in direction of -arrow B- and pivot to the rear -arrow A-.
- Remove plenum chamber partition panel ⇒ General body repairs, exterior; Rep. gr. 50 ; Bulkhead; Exploded view - plenum chamber partition panel .

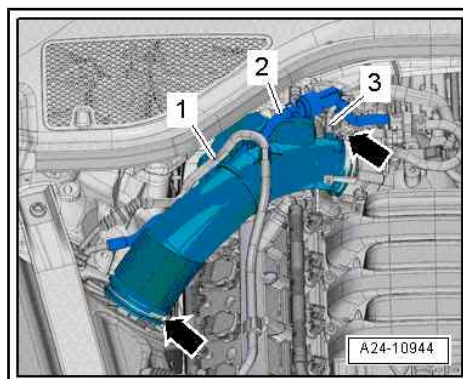


- Remove coolant pipe on gearbox (right-side) ⇒ Rep. gr. 19 : Coolant pipes; Removing and installing coolant pipes .

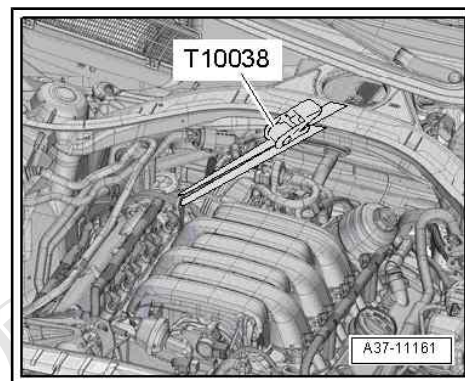


Vehicles with FSI engine:

- Move clear fuel hose -1- and hose -2- from activated charcoal filter to air pipe.
- Detach vacuum hose -3- from connection on air pipe.
- Loosen hose clips -arrows- and detach air pipe.

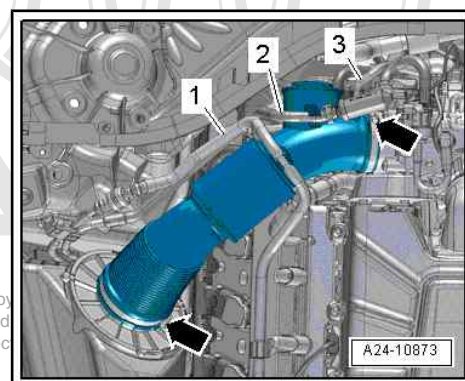


- Fit body brace in installation position and screw in bolts hand-tight.
- Secure engine with tensioning strap - T10038- as shown in illustration.

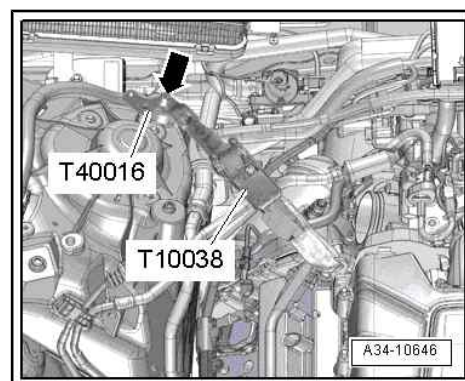


Vehicles with TFSI engine:

- Move clear fuel hose -1- and hose -2- from activated charcoal filter to air pipe.
- Detach vacuum hose -3- from connection on air pipe.
- Loosen hose clips -arrows- and detach air pipe.



- Secure transportation shackle - T40016- to threaded hole for body brace with M8x20 bolt -arrow-.
- Attach tensioning strap - T10038- as shown in illustration.



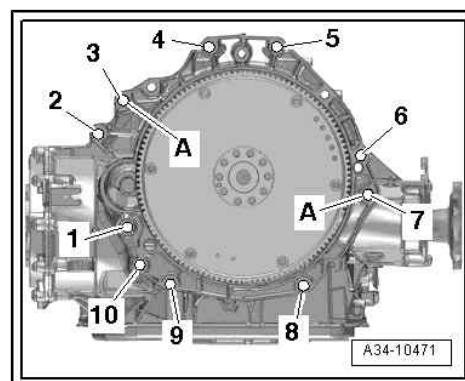
Continued for all vehicles:

- Remove bolts -2 ... 5- securing gearbox to engine (accessible from above).



Note

Item -A- can be disregarded.



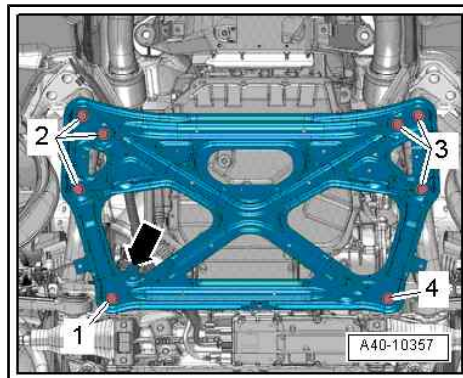
- Remove subframe cross brace ⇒ Running gear, axles, steering; Rep. gr. 40 ; Subframe; Removing and installing subframe cross brace .



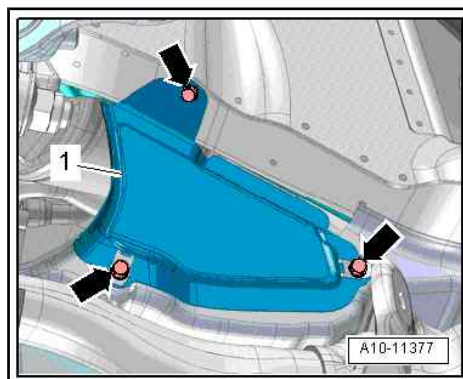
Caution

Risk of damage to parts of the running gear.

- ◆ *Do not let the vehicle down on the wheels if the gearbox mounting, steering rack or subframe cross brace are not properly installed.*

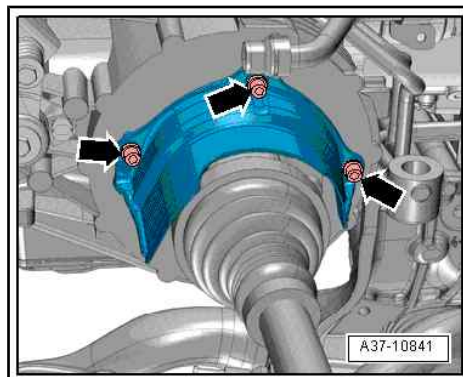


- Remove bolts -arrows- and detach heat shield (left-side) -1-.

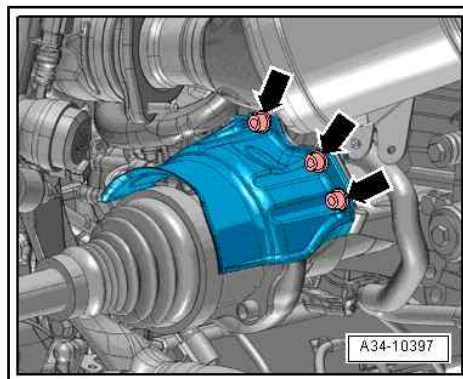


- Remove bolts -arrows- and detach heat shield for drive shaft (right-side).

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- Remove bolts -arrows- and detach heat shield for drive shaft (left-side).
- Unbolt drive shafts (left and right) from flange shafts of gearbox ⇒ Running gear, axles, steering; Rep. gr. 40 ; Drive shaft; Removing and installing drive shaft .
- Remove propshaft ⇒ Rear final drive; Rep. gr. 39 ; Propshaft; Removing and installing propshaft .

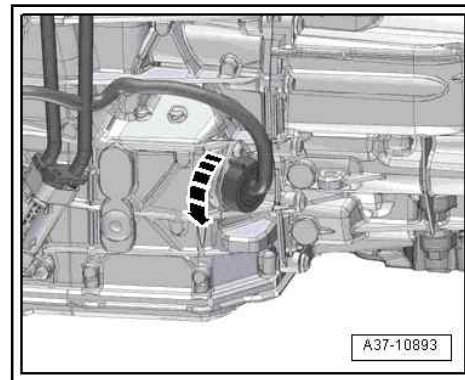




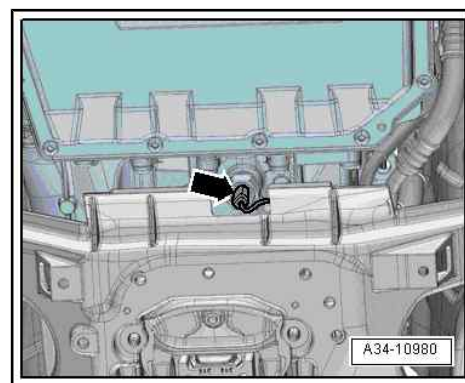
Caution

The gearbox control unit (mechatronic unit) can be irreparably damaged by electrostatic discharge.

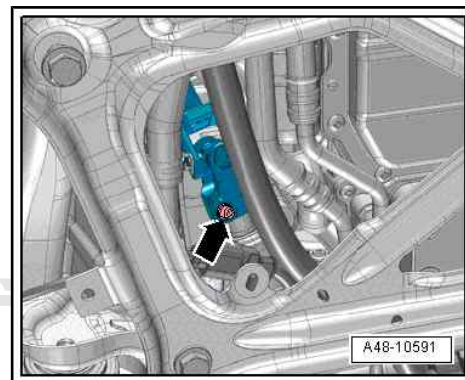
- ◆ *Before handling electrical connectors, mechanic must discharge static. To do so, touch an earthed metal object, such as a heater radiator or lifting platform, with your hand.*
- ◆ *Do not touch contact pins in gearbox connector with bare hands.*



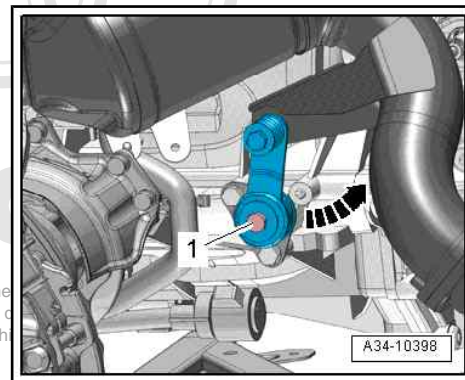
- Turn fastener anti-clockwise -arrow- and unplug electrical connector on gearbox.
- If fitted, unplug electrical connector -arrow- for gearbox oil temperature sender 2 - G754- .



- Detach intermediate steering shaft from steering rack and telescope splines upwards ⇒ Running gear, axles, steering; Rep. gr. 48 ; Steering column; Removing and installing intermediate steering shaft .



- Remove bolt -1-, press retainer off gearbox and swivel back towards rear -arrow-.



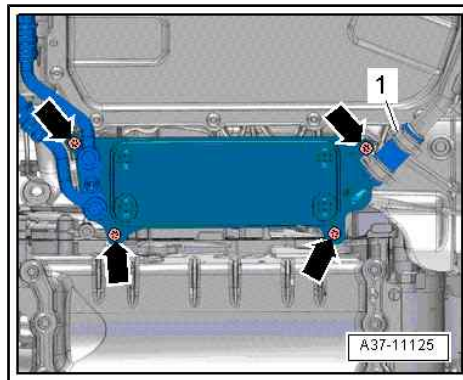
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- Remove bolts -arrows- and press ATF cooler to side.



Note

Disregard -item 1-.

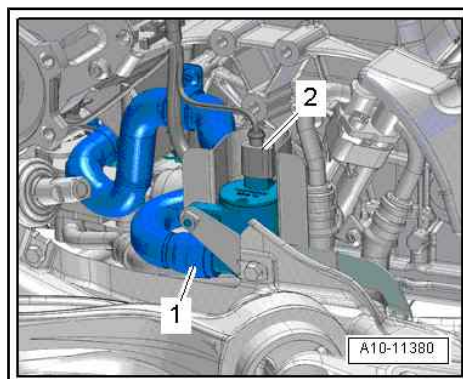


- Release hose clip -1- and detach coolant hose.

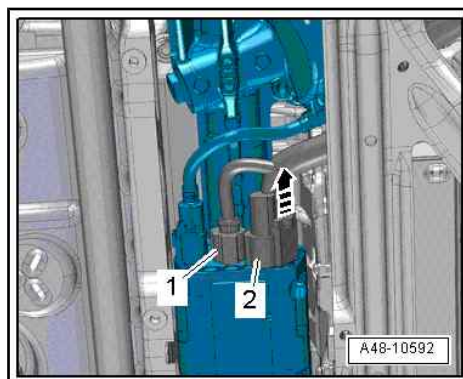


Note

Disregard -item 2-.



- Unplug electrical connector -2- for steering rack (to do so, push retainer towards rear -arrow- and press down release catch).
- Unplug electrical connector -1-.

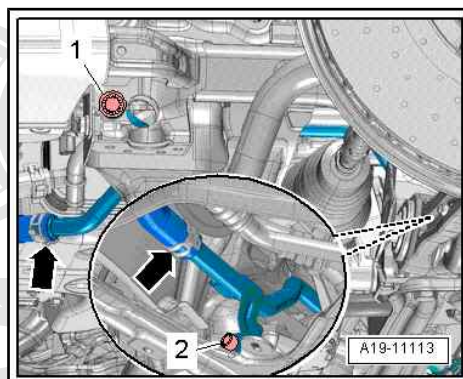


- Unscrew bolts -1 and 2- on coolant pipe (bottom left).



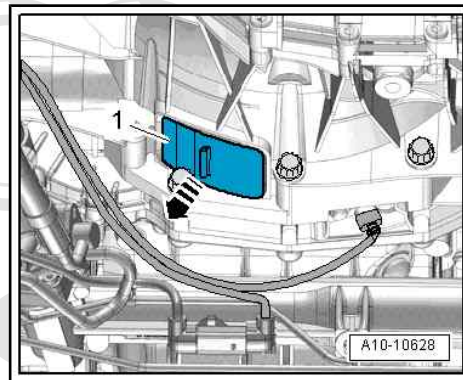
Note

Disregard -arrows-.



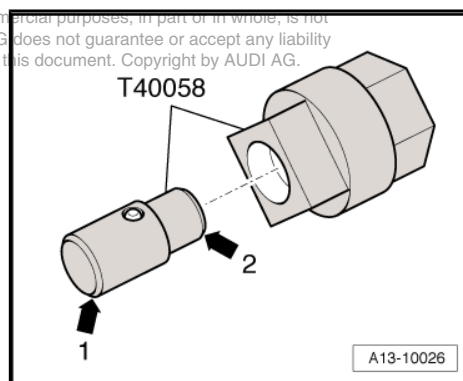
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- Pull cover -1- off bottom of gearbox -arrow-.



- Insert guide stud of adapter -T40058- as follows:

- The larger diameter -arrow 1- faces engine.
- The smaller diameter -arrow 2- faces adapter.



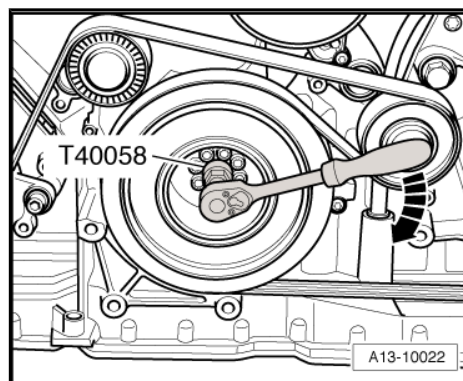
Vehicles with FSI engine:

- To slacken bolts for drive plate, counterhold crankshaft with adapter - T40058- and angled ring spanner.



Note

When you then turn the crankshaft, only turn crankshaft in direction of engine rotation -arrow-.



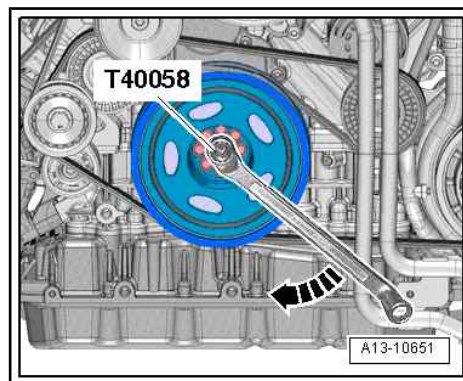
Vehicles with TFSI engine:

- To slacken bolts for drive plate, counterhold crankshaft with adapter - T40058- and angled ring spanner.



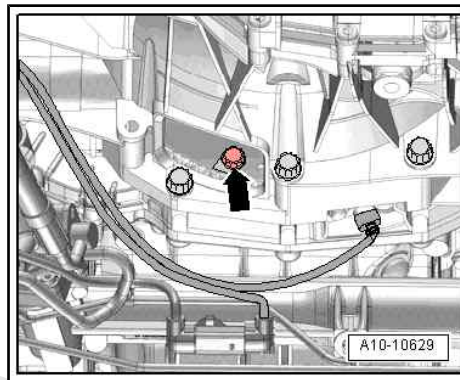
Note

When you then turn the crankshaft, only turn crankshaft in direction of engine rotation -arrow-.



Continued for all vehicles:

- Remove 6 bolts -arrow- for drive plate (turn crankshaft 60° in direction of engine rotation each time).

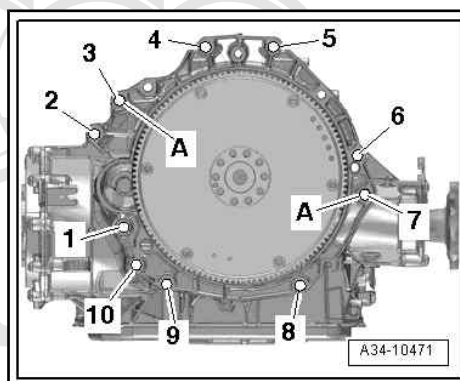


- Remove bolt -1- for starter.
- Detach starter from gearbox but do not remove starter.
- Remove remaining engine/gearbox securing bolts -6 ... 10-.



Note

Item -A- can be disregarded.



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Caution

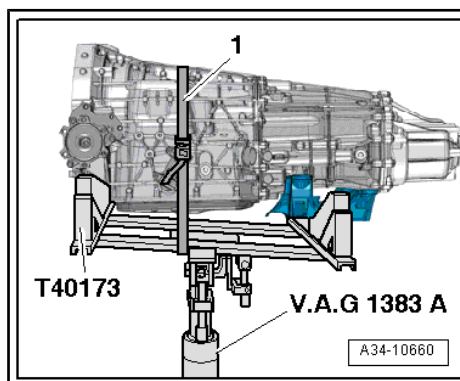
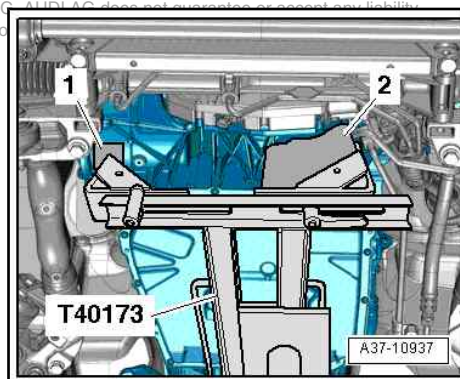
Risk of leaks on ATF oil pan.

- ◆ **Do not apply gearbox support - T40173- at ATF oil pan.**

- Position engine and gearbox jack - VAS 6931- with gearbox support - T40173- (already prepared) underneath gearbox.

Gearbox support must be positioned as follows at front of gearbox:

- On left side of gearbox, mounting block -2- engages in opening for flywheel on gearbox housing.
- On right side of gearbox, gearbox support is applied to differential housing. Place flat rubber block -1- between the two to protect housing.
- Use tensioning strap -1- to secure gearbox.

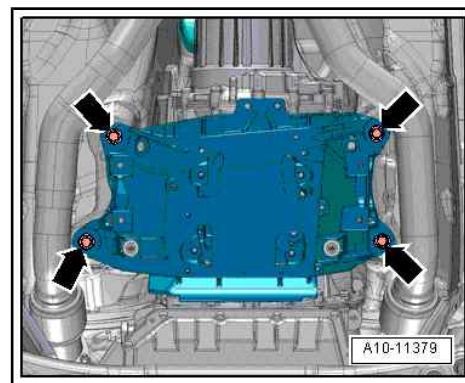


- Remove bolts -arrows- for tunnel cross member.

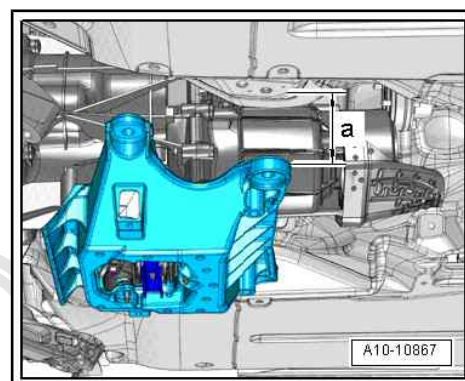


Note

The illustration does not show engine and gearbox jack - VAS 6931- .



- Lower tunnel cross member by dimension -a- using engine and gearbox jack - VAS 6931- .
- Dimension -a- = 100 mm (maximum)



- Use removal lever - 80 - 200- to press ball socket -2- on selector lever cable off gearbox selector lever.
- Pull off retaining clip -1- and move selector lever cable clear.

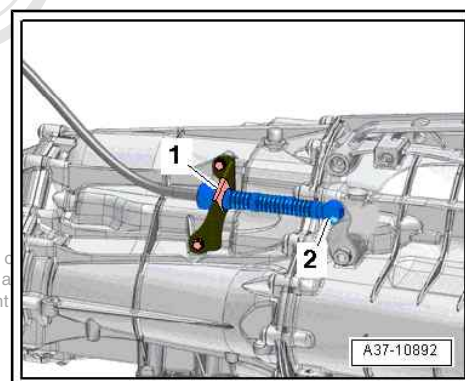


Note

Do not bend or kink the selector lever cable.

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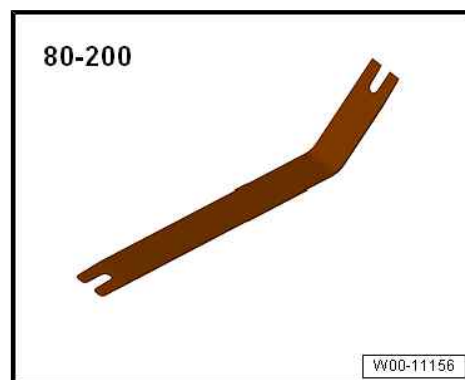
- Tighten tensioning strap - T10038- lightly.
- Detach gearbox from engine and lower carefully using engine and gearbox jack - VAS 6931- .



2.1.2 Removing gearbox - vehicles with 8-cyl. petrol engine

Special tools and workshop equipment required

- ◆ Removal lever - 80 - 200-





◆ Engine and gearbox jack - VAS 6931-

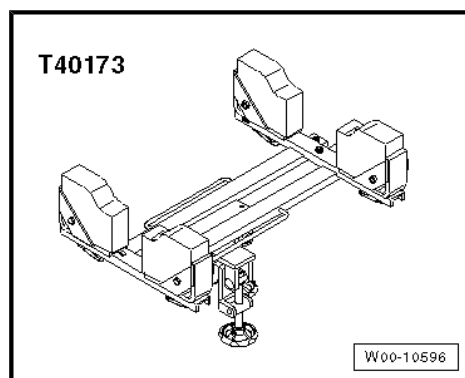


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◆ Tensioning strap - T10038-



◆ Gearbox support - T40173-

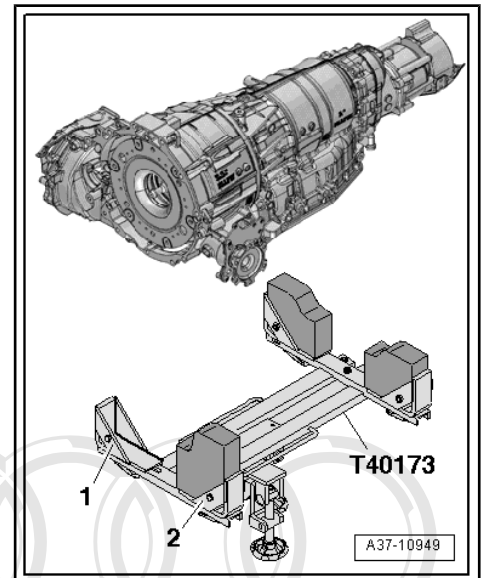


◆ Turning over tool - T40272-

◆ M8x20 bolt

Preparing gearbox support - T40173- :

- Mounting block attached at -position 1- must be removed.
- Mounting block attached at -position 2- must be rotated so that the longer side faces upwards, as shown in illustration.



Removing

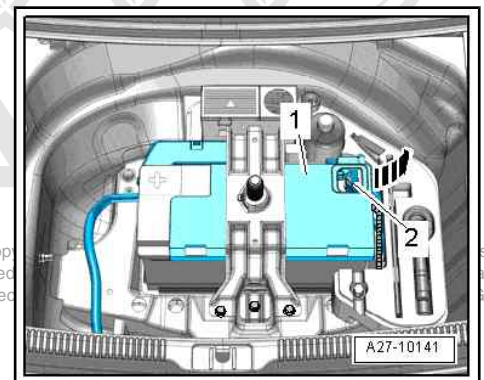
- Bring front wheels into straight-ahead position.
- Switch off ignition and remove ignition key.



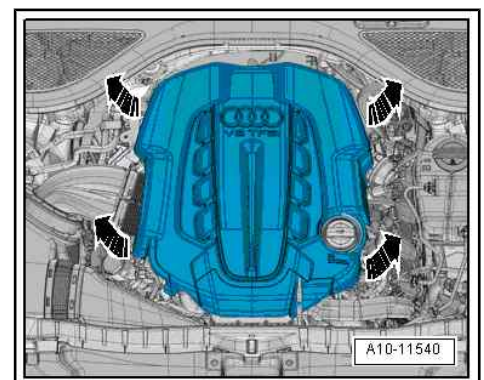
Caution

When disconnecting the battery there is a risk of irreparable damage to electronic components.

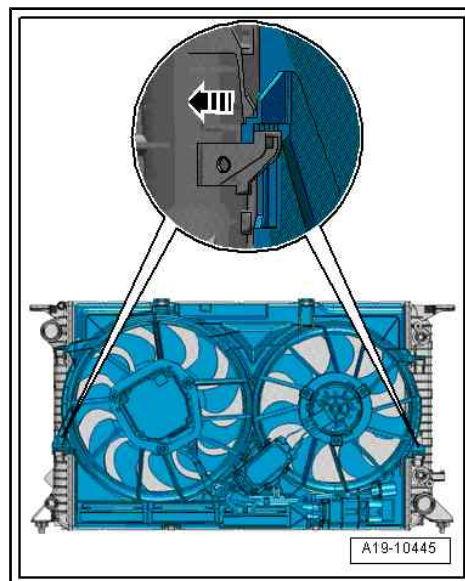
- ◆ *Observe notes on procedure for disconnecting the battery.*



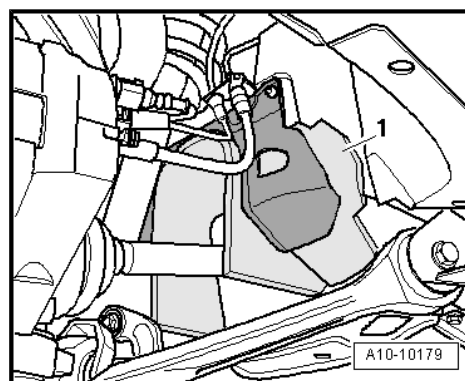
- Disconnect earth wire -2- from battery terminal ⇒ Electrical system; Rep. gr. 27 ; Battery; Disconnecting and connecting battery .
- Remove engine cover panel -arrows-.



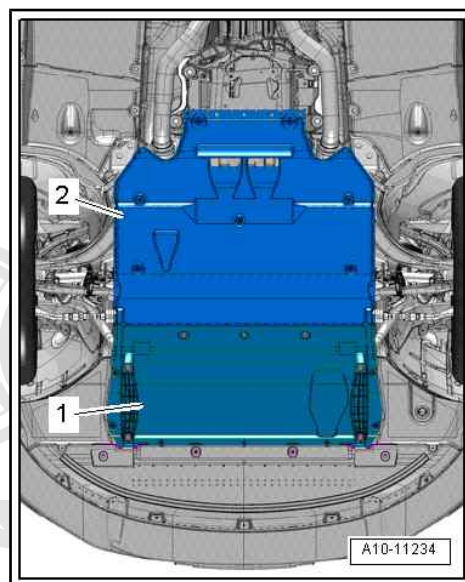
- Remove radiator cowl ⇒ Rep. gr. 19 ; Radiators/radiator fans; Removing and installing radiator cowl .
- Remove front wheels ⇒ Running gear, axles, steering; Rep. gr. 44 ; Wheels, tyres .



- Remove cover -1- for drive shaft from wheel housing (both sides) ⇒ General body repairs, exterior; Rep. gr. 66 ; Noise insulation; Exploded view - noise insulation .

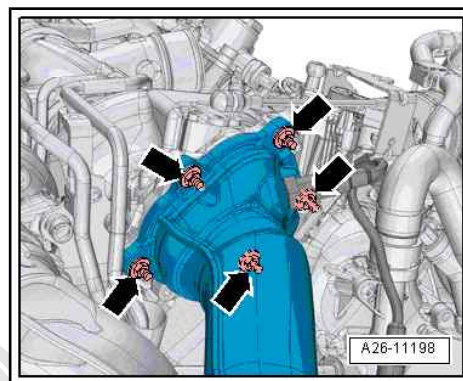


- Remove noise insulation -1- and -2- ⇒ General body repairs, exterior; Rep. gr. 66 ; Noise insulation; Removing and installing noise insulation .

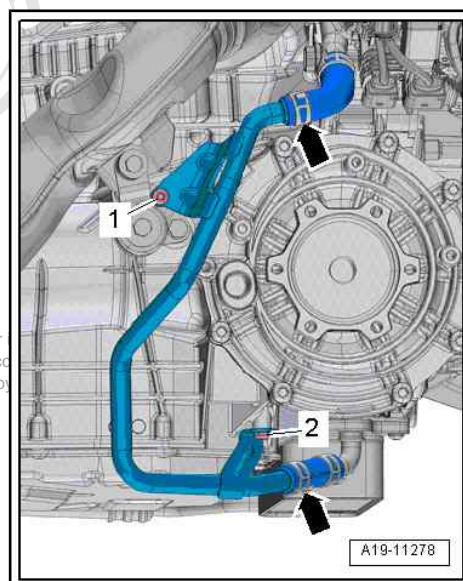


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- Remove catalytic converters ⇒ Rep. gr. 26 ; Emission control system; Removing and installing catalytic converter .



- Remove coolant pipe on gearbox (right-side) ⇒ Rep. gr. 19 ; Coolant pipes; Removing and installing coolant pipes .

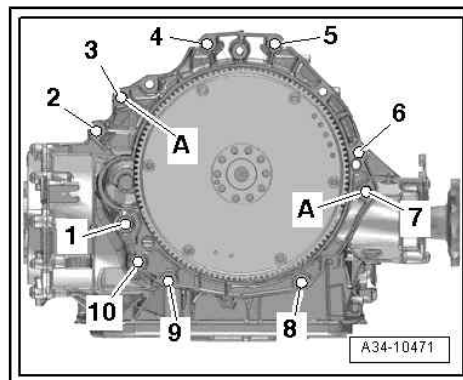


- Remove bolts -2 ... 5- securing gearbox to engine (accessible from above).

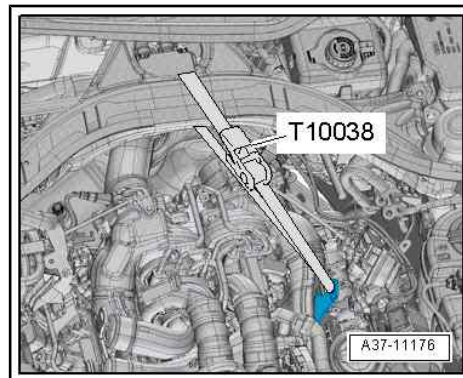


Note

Item -A- can be disregarded.



- Fit body brace in installation position and screw in bolts hand-tight.
- Secure engine with tensioning strap - T10038- as shown in illustration.



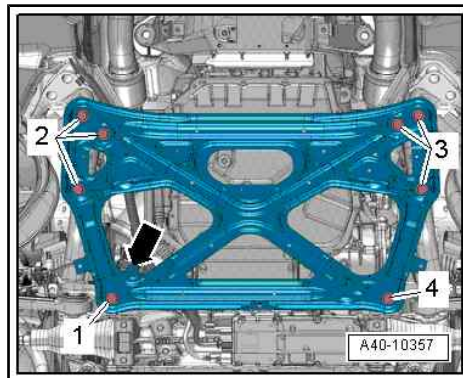
- Remove subframe cross brace ⇒ Running gear, axles, steering; Rep. gr. 40 ; Subframe; Removing and installing subframe cross brace .



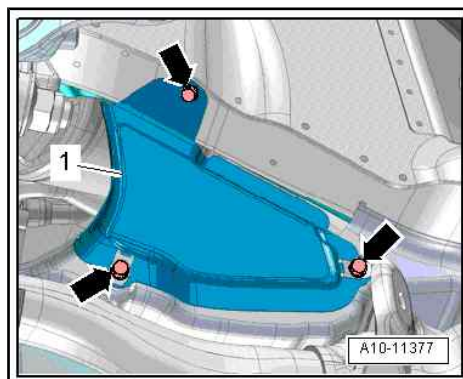
Caution

Risk of damage to parts of the running gear.

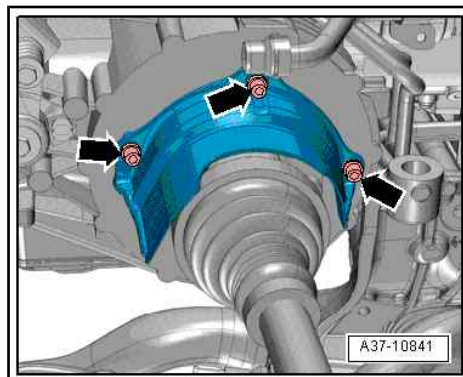
- ◆ **Do not let the vehicle down on the wheels if the gearbox mounting, steering rack or subframe cross brace are not properly installed.**



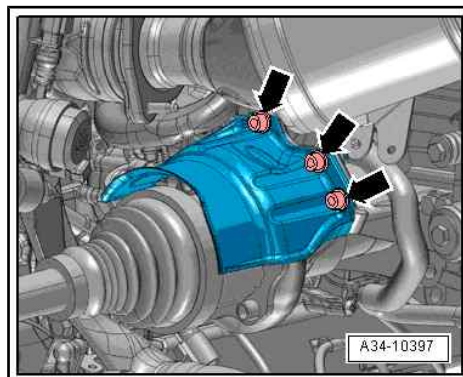
- Remove bolts -arrows- and detach heat shield (left-side) -1-.



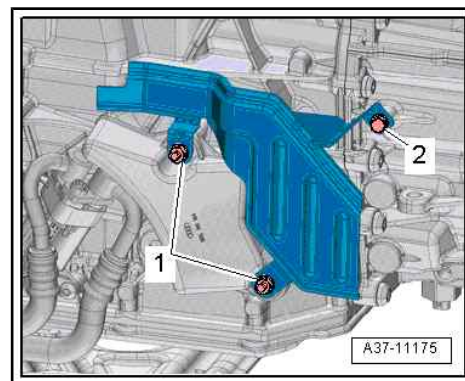
- Remove bolts -arrows- and detach heat shield for drive shaft (right-side).



- Remove bolts -arrows- and detach heat shield for drive shaft (left-side).
- Unbolt drive shafts (left and right) from flange shafts of gearbox ⇒ Running gear, axles, steering; Rep. gr. 40 ; Drive shaft; Removing and installing drive shaft .
- Remove propshaft ⇒ Rear final drive; Rep. gr. 39 ; Propshaft; Removing and installing propshaft .



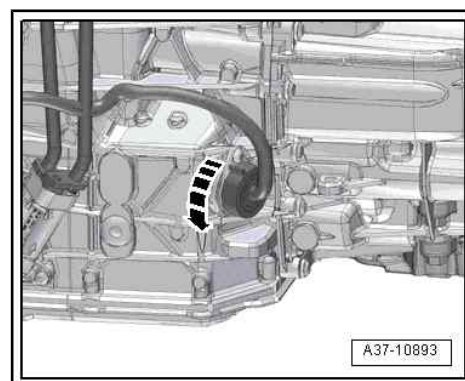
- Remove nuts -1- and bolt -2- and detach heat shield.



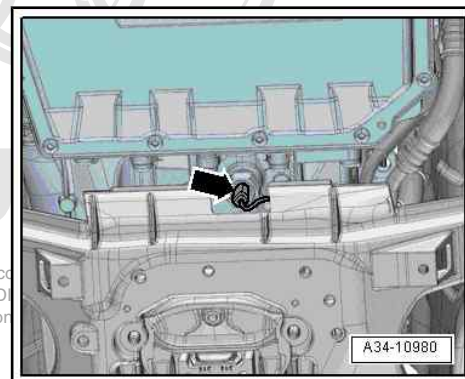
Caution

The gearbox control unit (mechatronic unit) can be irreparably damaged by electrostatic discharge.

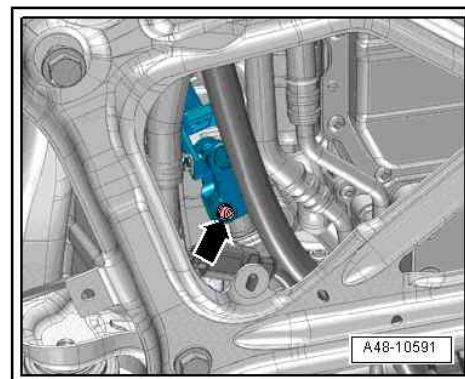
- ◆ *Before handling electrical connectors, mechanic must discharge static. To do so, touch an earthed metal object, such as a heater radiator or lifting platform, with your hand.*
- ◆ *Do not touch contact pins in gearbox connector with bare hands.*



- Turn fastener anti-clockwise -arrow- and unplug electrical connector on gearbox.
- Move electrical wiring harness clear on gearbox.
- If fitted, unplug electrical connector -arrow- for gearbox oil temperature sender 2 - G754- .



- Detach intermediate steering shaft from steering rack and telescope splines upwards ⇒ Running gear, axles, steering; Rep. gr. 48 ; Steering column; Removing and installing intermediate steering shaft .



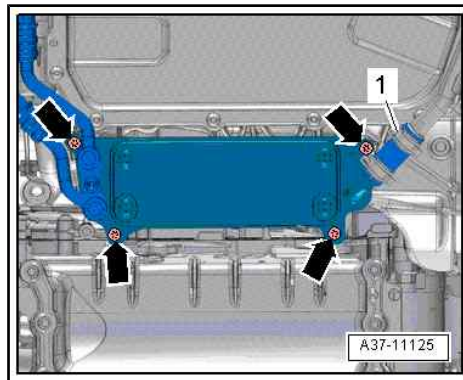
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- Remove bolts -arrows- and press ATF cooler to side.



Note

Disregard -item 1-.

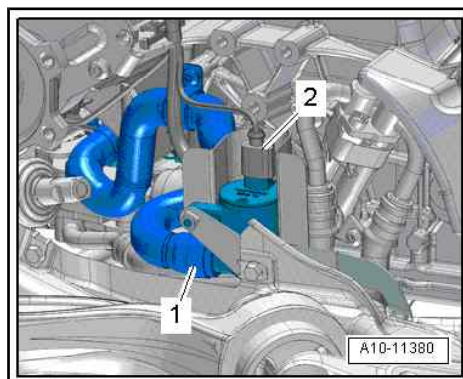


- Release hose clip -1- and detach coolant hose.

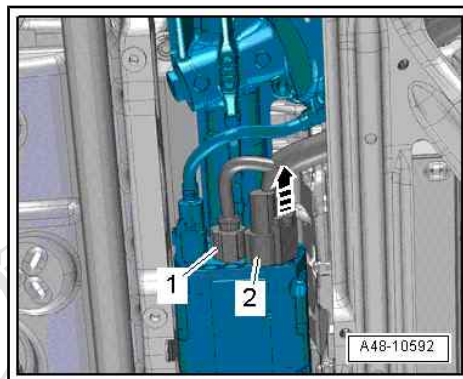


Note

Disregard -item 2-.



- Unplug electrical connector -2- from power steering control unit - J500- (to do so, release retainer -arrow- and press down release catch).
- Unplug electrical connector -1- on power steering control unit - J500- .

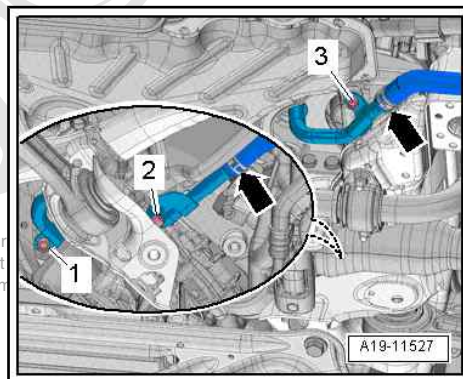


- Unscrew bolts -1, 2 and 3- on coolant pipe (bottom left).



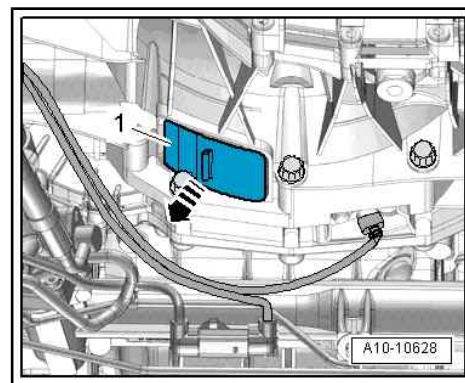
Note

Disregard -arrows-.



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- Pull cover -1- off bottom of gearbox -arrow-.



- Apply turning over tool - T40272- to bolts on vibration damper.
- The semi-circular recess -arrow A- on turning over tool - T40272- faces semi-circular recess -arrow B- on vibration damper.



Note

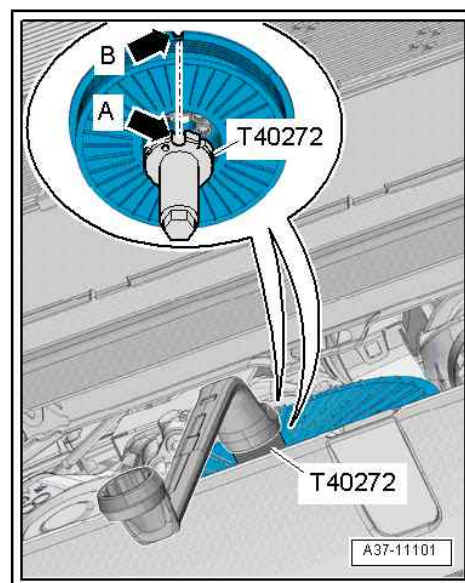
Disregard notch on turning over tool - T40272- .

- To slacken bolts for flywheel, counterhold crankshaft with turning over tool - T40272- and angled ring spanner.

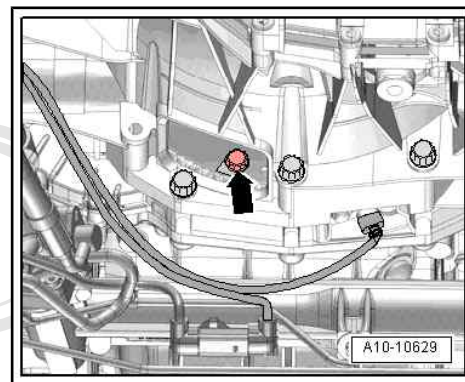


Note

When you then turn the crankshaft, only turn crankshaft in direction of engine rotation -arrow-.



- Remove 6 bolts -arrow- for flywheel (turn crankshaft 60° in direction of engine rotation each time).

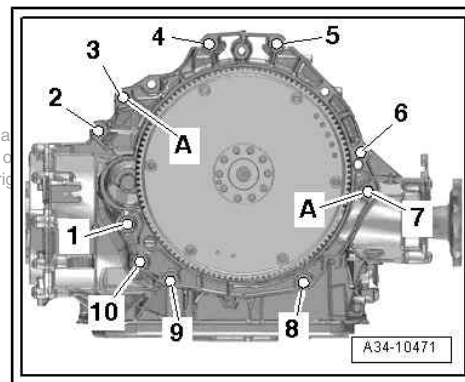


- Remove bolt -1- for starter.
- Detach starter from gearbox but do not remove starter.
- Remove remaining engine/gearbox securing bolts -6 ... 10-.



Note

Item -A- can be disregarded.





Caution

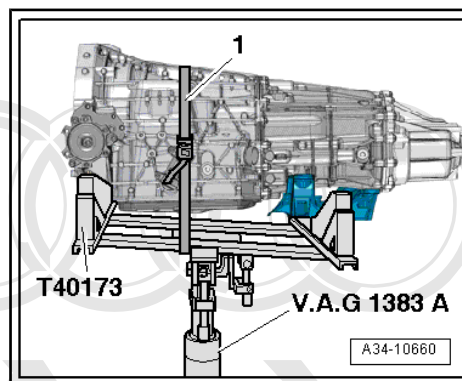
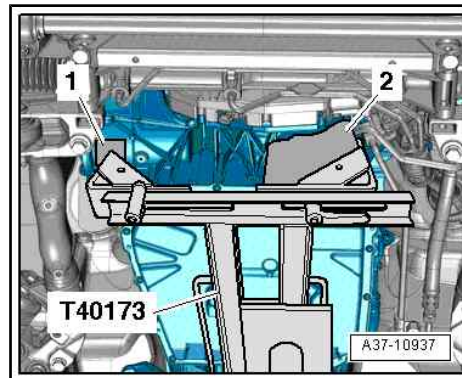
Risk of leaks on ATF oil pan.

◆ *Do not apply gearbox support - T40173- at ATF oil pan.*

- Position engine and gearbox jack - VAS 6931- with gearbox support - T40173- (already prepared) underneath gearbox.

Gearbox support must be positioned as follows at front of gearbox:

- On left side of gearbox, mounting block -2- engages in opening for flywheel on gearbox housing.
- On right side of gearbox, gearbox support is applied to differential housing. Place flat rubber block -1- between the two to protect housing.
- Use tensioning strap -1- to secure gearbox.



- Remove bolts -arrows- for tunnel cross member.

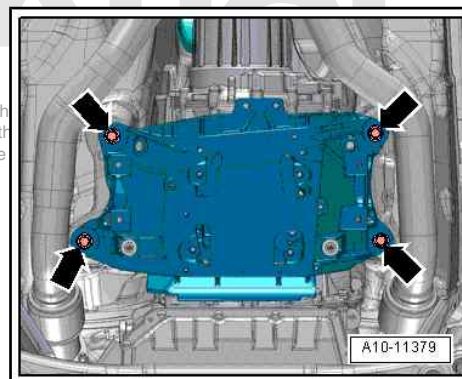


Note

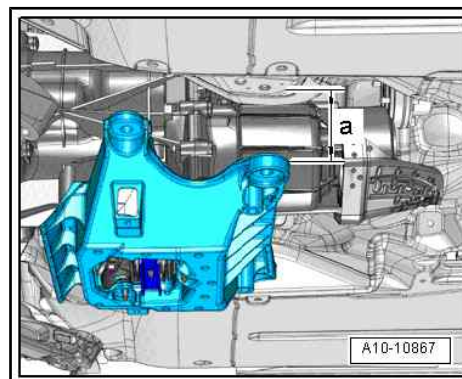
The illustration does not show engine and gearbox jack - VAS 6931- .

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- Lower tunnel cross member by dimension -a- using engine and gearbox jack - VAS 6931- .
- Dimension -a- = 100 mm (maximum)



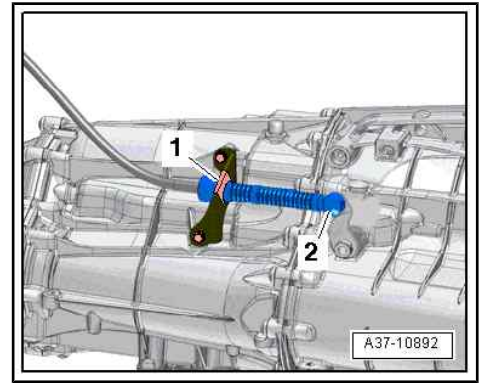
- Use removal lever - 80 - 200- to press ball socket -2- on selector lever cable off gearbox selector lever.
- Pull off retaining clip -1- and move selector lever cable clear.



Note

Do not bend or kink the selector lever cable.

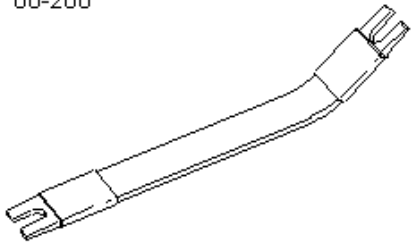
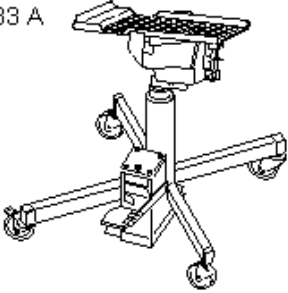
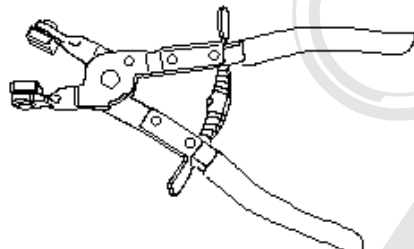
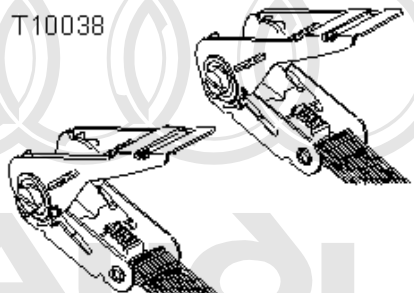
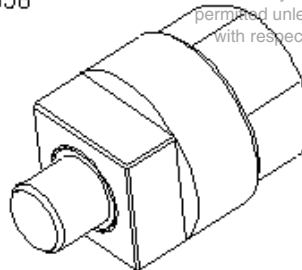
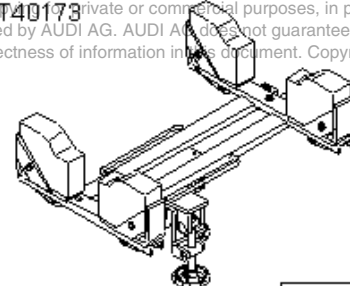
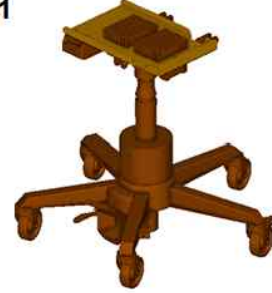
- Tighten tensioning strap - T10038- lightly.
- Detach gearbox from engine and lower carefully using engine and gearbox jack - VAS 6931- .



2.1.3 Removing gearbox - vehicles with 6-cyl. TDI engine

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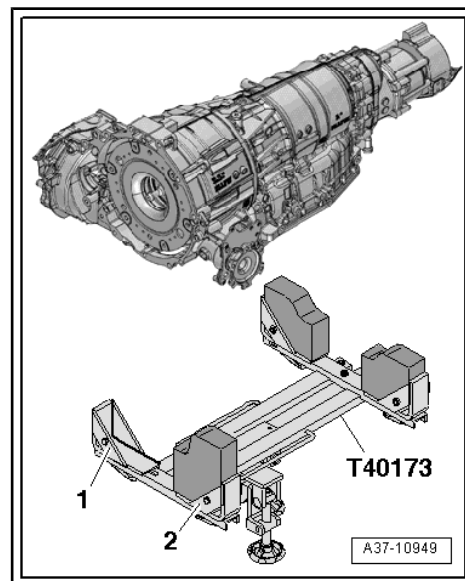
Special tools and workshop equipment required

80-200 	V.A.G 1383 A 
VAS 6362 	T10038 
T40058 	T40173  G34-10082
VAS 6931  W00-11607	

- ◆ Removal lever - 80 - 200-
- ◆ Engine and gearbox jack - VAS 6931-
- ◆ Hose clip pliers - VAS 6362-
- ◆ Tensioning strap - T10038-
- ◆ Adapter - T40058-
- ◆ Gearbox support - T40173-

Preparing gearbox support - T40173- :

- Mounting block attached at -position 1- must be removed.
- Mounting block attached at -position 2- must be rotated so that the longer side faces upwards, as shown in illustration.



Removing

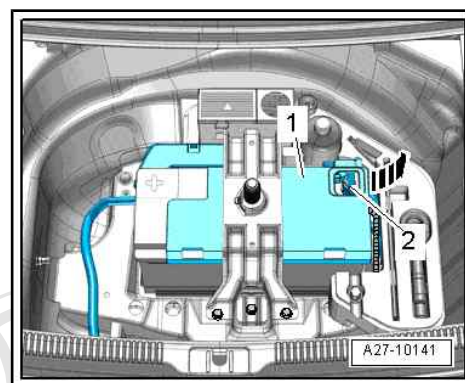
- Bring front wheels into straight-ahead position.
- Switch off ignition and remove ignition key.



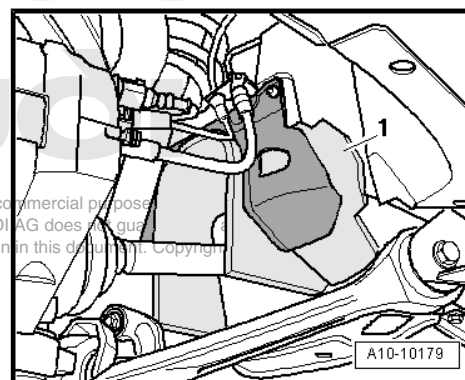
Caution

When disconnecting the battery there is a risk of irreparable damage to electronic components.

◆ *Observe notes on procedure for disconnecting the battery.*

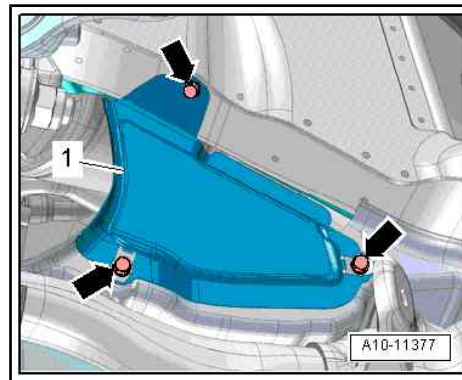


- Disconnect earth wire -2- from battery terminal ⇒ Electrical system; Rep. gr. 27 ; Battery; Disconnecting and connecting battery .
- Remove front wheels ⇒ Running gear, axles, steering; Rep. gr. 44 ; Wheels, tyres .
- Remove cover -1- for drive shaft from wheel housing (both sides) ⇒ General body repairs, exterior; Rep. gr. 66 ; Noise insulation; Exploded view - noise insulation .

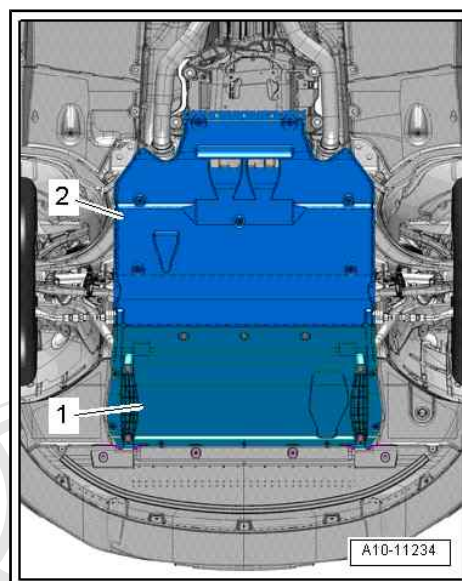


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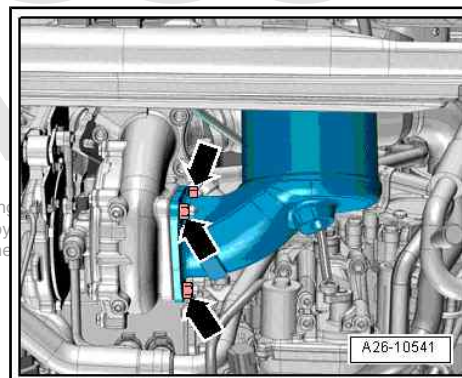
- Remove bolts -arrows- and detach heat shield (left-side) -1-.
- Remove propshaft ⇒ Rear final drive; Rep. gr. 39 ; Propshaft; Removing and installing propshaft .



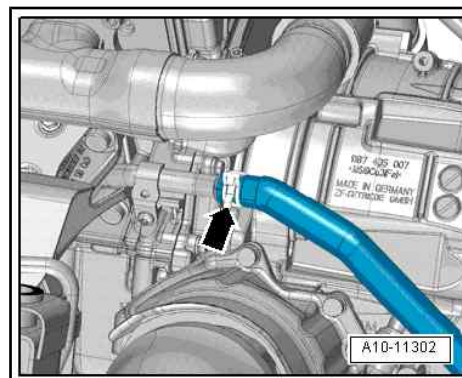
- Remove noise insulation -1- and -2- ⇒ General body repairs, exterior; Rep. gr. 66 ; Noise insulation; Removing and installing noise insulation .



- Remove particulate filter and front exhaust pipe ⇒ Rep. gr. 26 ; Exhaust pipes/silencers; Exploded view - silencers .

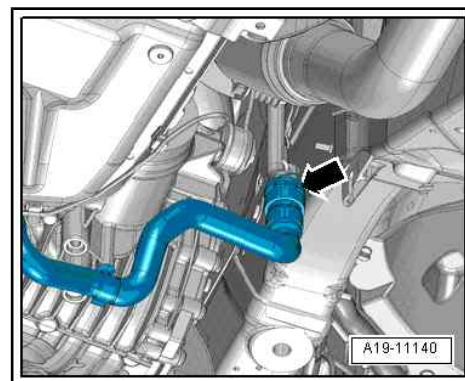


- Drain coolant ⇒ Rep. gr. 19 ; Cooling system/coolant; Draining and filling cooling system .
- Release hose clip -arrow- and disconnect coolant hose from coolant pipe (left-side).



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- Lift retaining clip -arrow- and disconnect coolant hose (right-side).

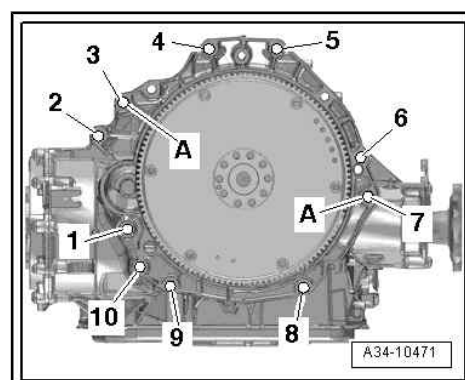


- Remove bolts -2 ... 5- securing gearbox to engine (accessible from above).



Note

Item -A- can be disregarded.

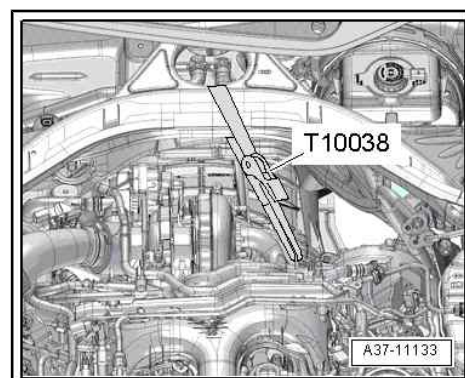


- Fit body brace in installation position and screw in bolts hand-tight.
- Secure engine with tensioning strap - T10038- as shown in illustration.



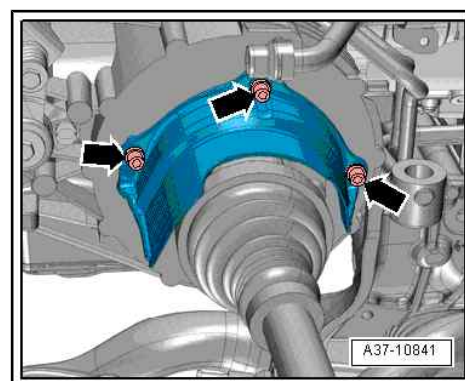
Note

Use engine support eyelet on cylinder bank 1 if required.



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- Remove bolts -arrows- and detach heat shield for drive shaft (right-side).
- Unbolt drive shafts (left and right) from flange shafts of gearbox ➔ Running gear, axles, steering; Rep. gr. 40 ; Drive shaft; Removing and installing drive shaft .

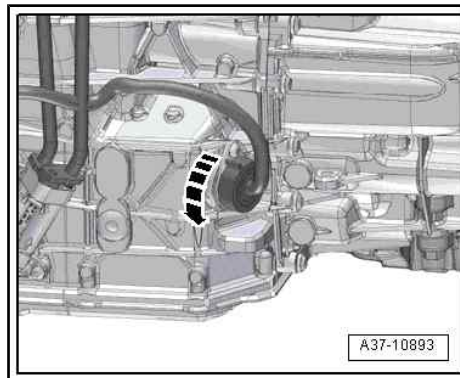




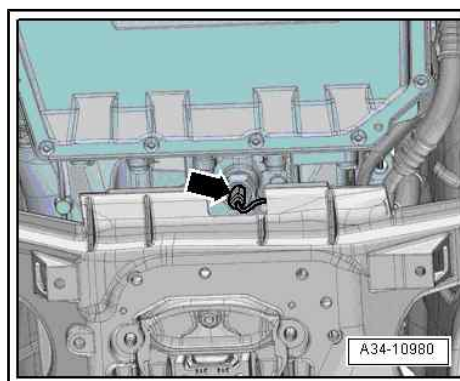
Caution

The gearbox control unit (mechatronic unit) can be irreparably damaged by electrostatic discharge.

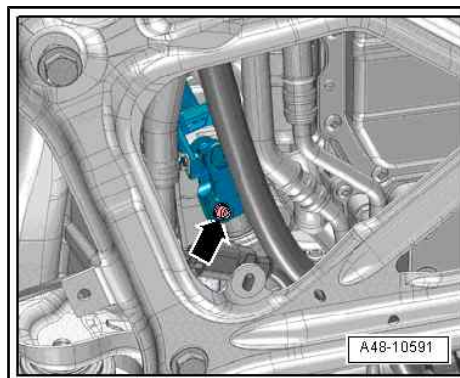
- ◆ *Before handling electrical connectors, mechanic must discharge static. To do so, touch an earthed metal object, such as a heater radiator or lifting platform, with your hand.*
- ◆ *Do not touch contact pins in gearbox connector with bare hands.*



- Turn fastener anti-clockwise -arrow- and unplug electrical connector on gearbox.
- If fitted, unplug electrical connector -arrow- for gearbox oil temperature sender 2 - G754- .



- Detach intermediate steering shaft from steering rack and telescope splines upwards ⇒ Running gear, axles, steering; Rep. gr. 48 ; Steering column; Removing and installing intermediate steering shaft .



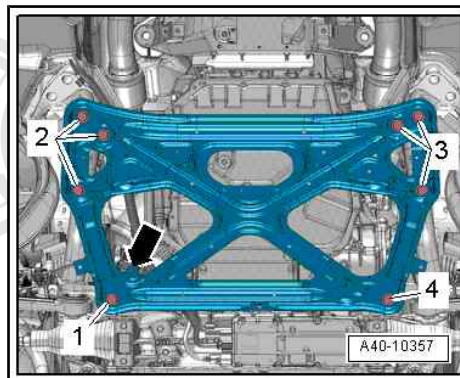
- Remove subframe cross brace ⇒ Running gear, axles, steering; Rep. gr. 40 ; Subframe; Removing and installing subframe cross brace .



Caution

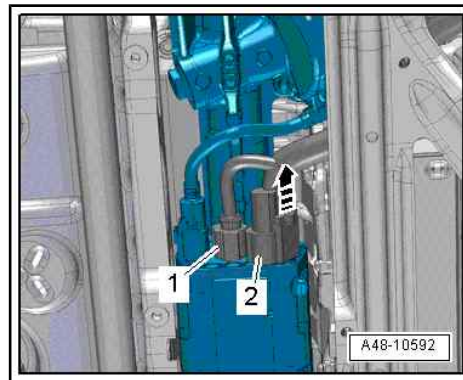
Risk of damage to parts of the running gear.

- ◆ *Do not let the vehicle down on the wheels if the gearbox mounting, steering rack or subframe cross brace are not properly installed.*



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- Unplug electrical connector -2- for steering rack (to do so, push retainer towards rear -arrow- and press down release catch).
- Unplug electrical connector -1-.



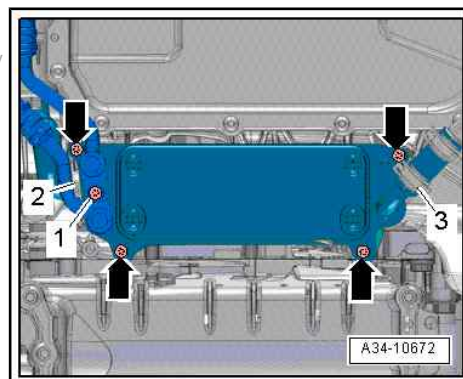
- Remove bolts -arrows- and press ATF cooler to side.

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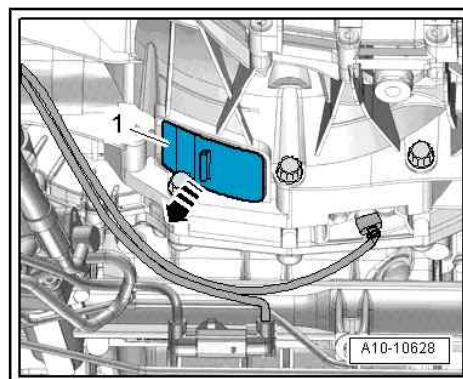


Note

Disregard -items 1, 2, 3-.

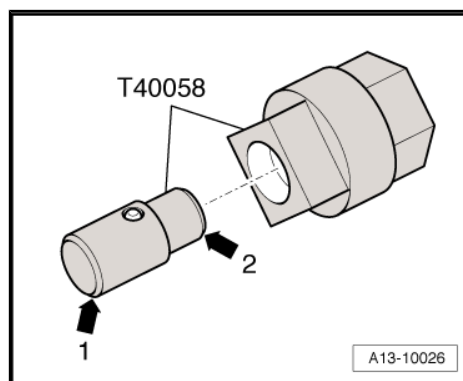


- Pull cover -1- off bottom of gearbox -arrow-.



- Insert guide stud of adapter -T40058- as follows:

- The larger diameter -arrow 1- faces engine.
- The smaller diameter -arrow 2- faces adapter.

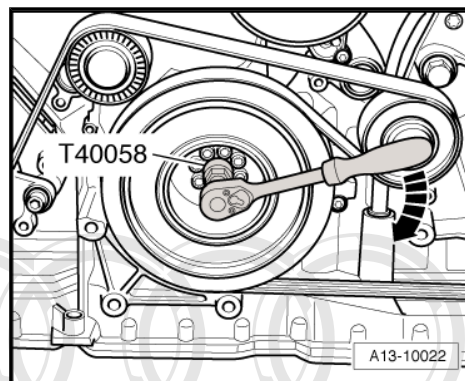


- To slacken bolts for drive plate, counterhold crankshaft with adapter - T40058- and angled ring spanner.

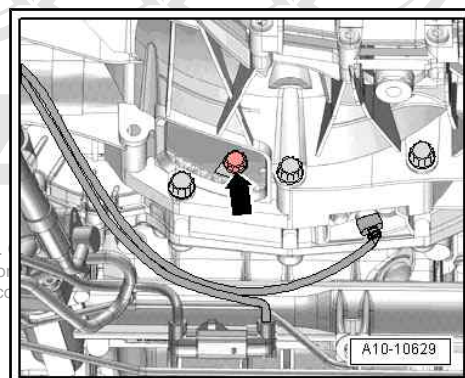


Note

When you then turn the crankshaft, only turn crankshaft in direction of engine rotation -arrow-.



- Remove 6 bolts -arrow- for drive plate (turn crankshaft 60° in direction of engine rotation each time).



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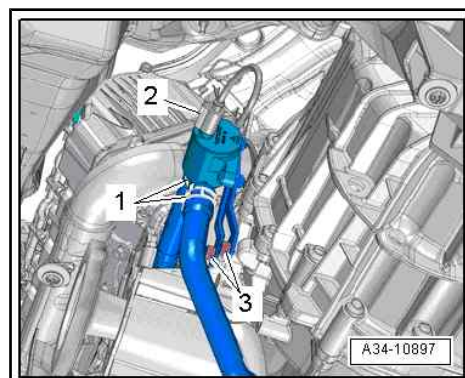
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- Unplug electrical connector -2-.
- Remove bolts -3- and move gearbox oil cooling valve - N509- to side.



Note

Disregard -item 1-.



- Remove bolt -1- for starter.
- Detach starter from gearbox but do not remove starter.



Note

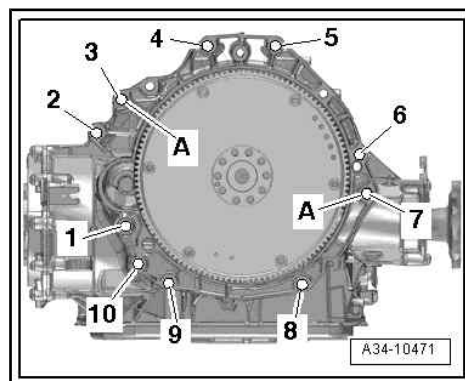
Bolt -7- has a nut with locking element on the engine side.

- Remove remaining engine/gearbox securing bolts -6 ... 10-.



Note

Item -A- can be disregarded.





Caution

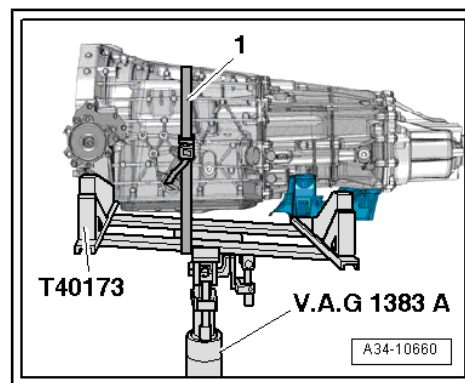
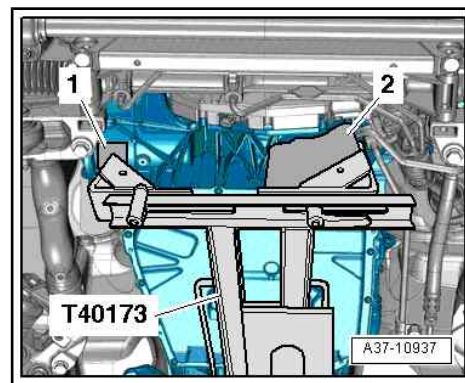
Risk of leaks on ATF oil pan.

◆ *Do not apply gearbox support - T40173- at ATF oil pan.*

- Position engine and gearbox jack - VAS 6931- with gearbox support - T40173- (already prepared) underneath gearbox.

Gearbox support must be positioned as follows at front of gearbox:

- On left side of gearbox, mounting block -2- engages in opening for flywheel on gearbox housing.
- On right side of gearbox, gearbox support is applied to differential housing. Place flat rubber block -1- between the two to protect housing.
- Use tensioning strap -1- to secure gearbox.

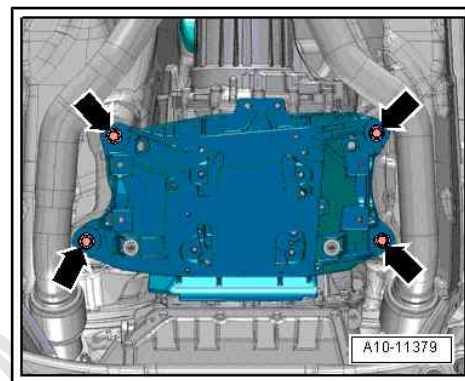


- Remove bolts -arrows- for tunnel cross member.

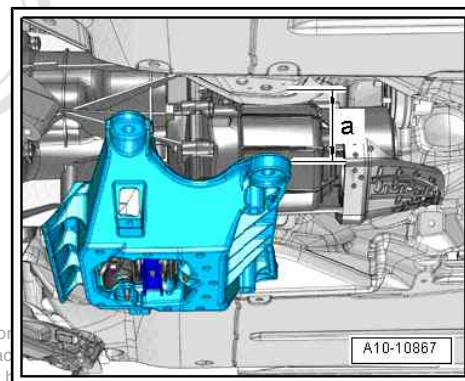


Note

The illustration does not show engine and gearbox jack - VAS 6931- .



- Lower tunnel cross member by dimension -a- using engine and gearbox jack - VAS 6931- .
- Dimension -a- = 100 mm (maximum)



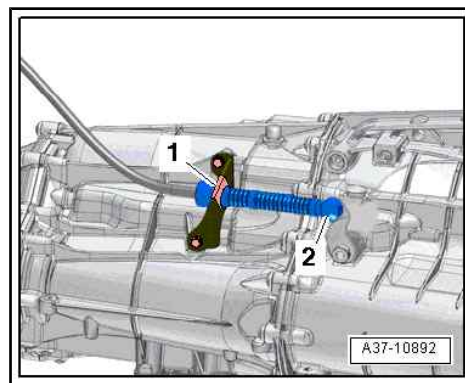
- Use removal lever - 80 - 200- to press ball socket -2- on selector lever cable off gearbox selector lever.
- Pull off retaining clip -1- and move selector lever cable clear.



Note

Do not bend or kink the selector lever cable.

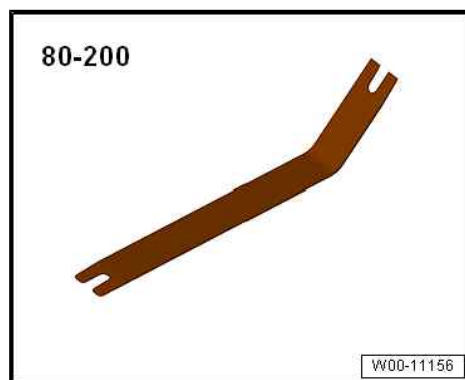
- Tighten tensioning strap - T10038- lightly.
- Detach gearbox from engine and lower carefully using engine and gearbox jack - VAS 6931- .



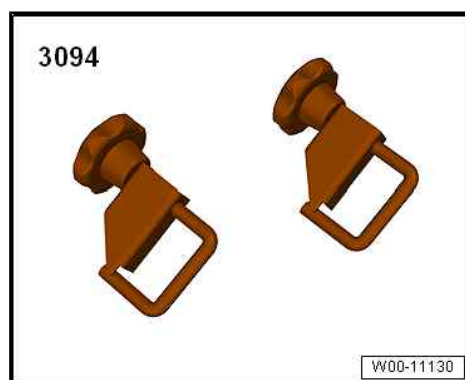
2.1.4 Removing gearbox - vehicles with 4-cyl. TFSI engine

Special tools and workshop equipment required

- ◆ Removal lever - 80 - 200-



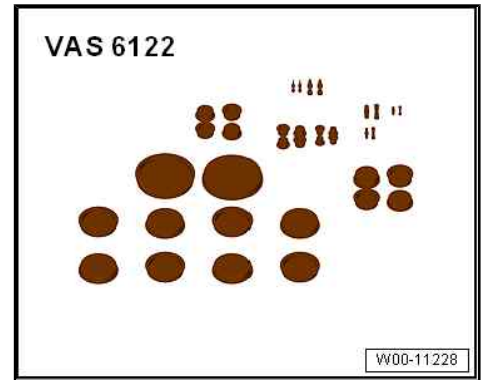
- ◆ Hose clamps, up to 25 mm - 3094-



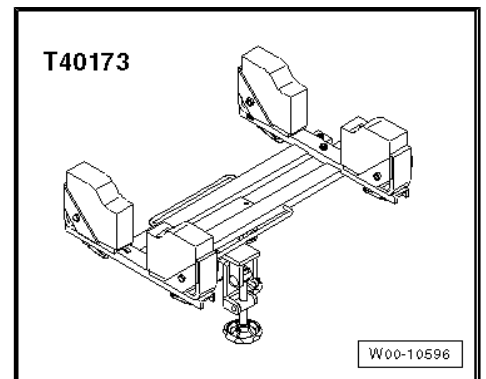
- ◆ Engine and gearbox jack - VAS 6931-



◆ Engine bung set - VAS 6122-



◆ Gearbox support - T40173-

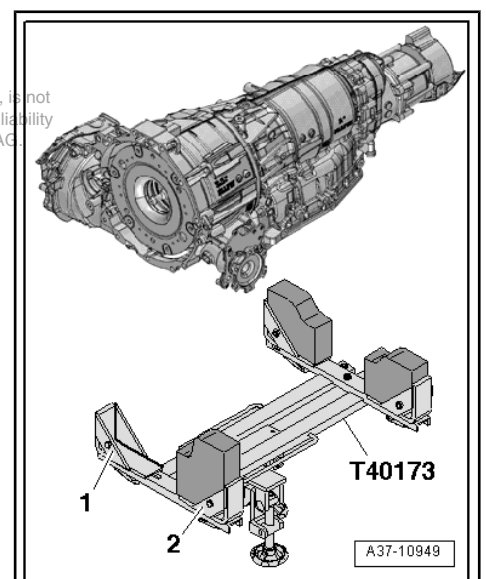


◆ Counterhold tool - T10355-



Preparing gearbox support - T40173- :

- Mounting block attached at -position 1- must be removed.
- Mounting block attached at -position 2- must be rotated so that the longer side faces upwards, as shown in illustration.



Removing

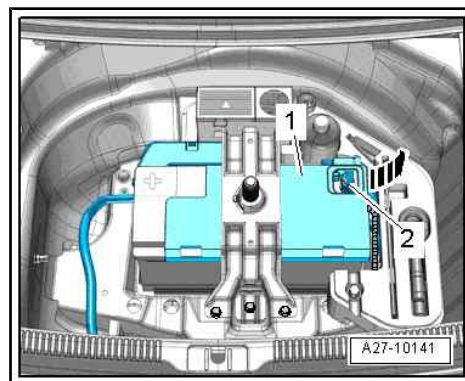
- Bring front wheels into straight-ahead position.
- Switch off ignition and remove ignition key.



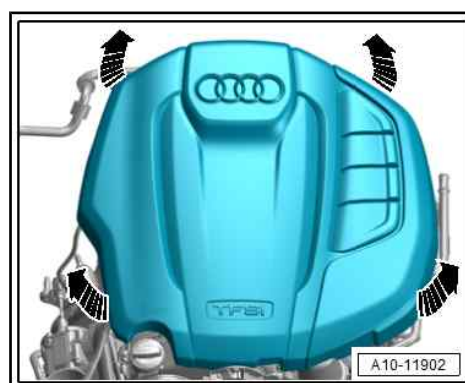
Caution

When disconnecting the battery there is a risk of irreparable damage to electronic components.

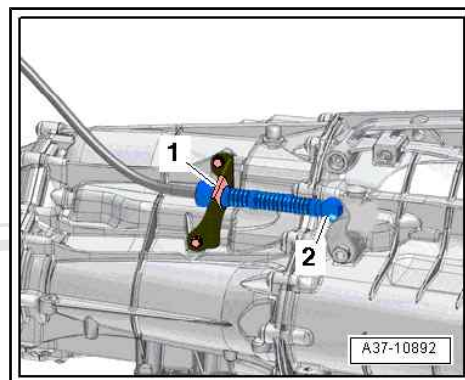
- ◆ *Observe notes on procedure for disconnecting the battery.*



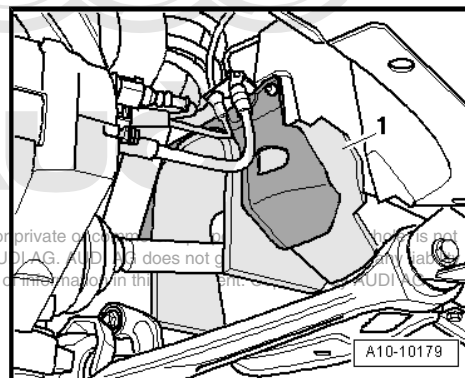
- Disconnect earth wire -2- from battery terminal ⇒ Electrical system; Rep. gr. 27 ; Battery; Disconnecting and connecting battery .
- Carefully pull engine cover panel off retaining pins one after another -arrows-. Do not jerk engine cover panel away, and do not try to pull on one side only.



- Use removal lever - 80 - 200- to press ball socket -2- on selector lever cable off gearbox selector lever.
- Pull off retaining clip -1- and move selector lever cable clear.

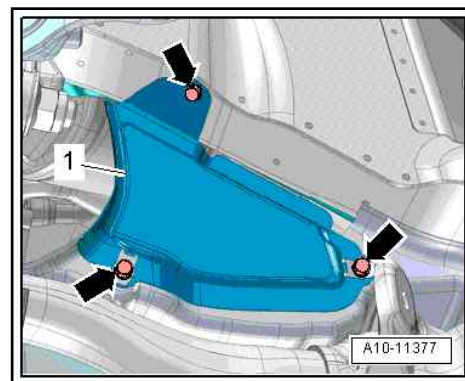


- Remove front wheels ⇒ Running gear, axles, steering; Rep. gr. 44 ; Wheels, tyres .
- Remove cover -1- for drive shaft from wheel housing (both sides) ⇒ General body repairs, exterior; Rep. gr. 66 ; Noise insulation; Exploded view - noise insulation .



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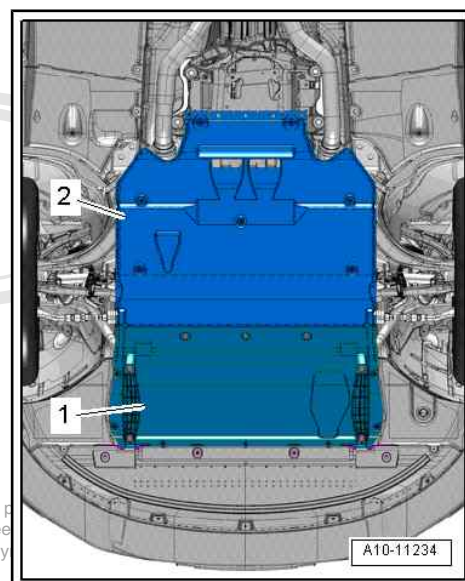
- Remove bolts (left and right) -arrows- and detach heat shield -1-.
- Remove propshaft ⇒ Rear final drive; Rep. gr. 39 ; Propshaft; Removing and installing propshaft .



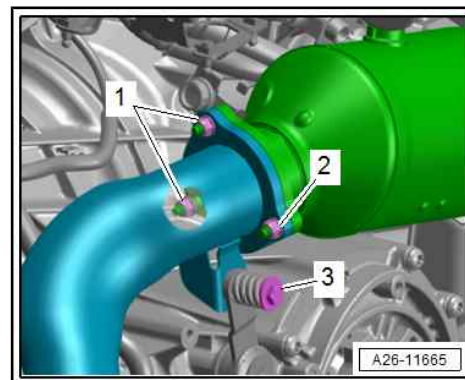
- Remove noise insulation -1- and -2- ⇒ General body repairs, exterior; Rep. gr. 66 ; Noise insulation; Removing and installing noise insulation .



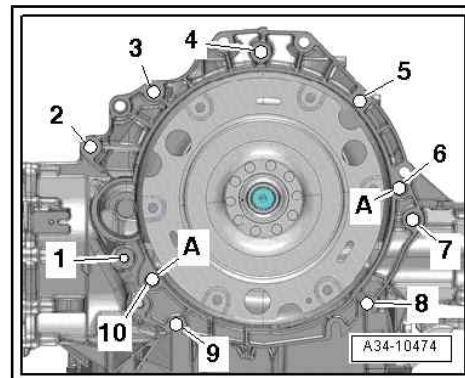
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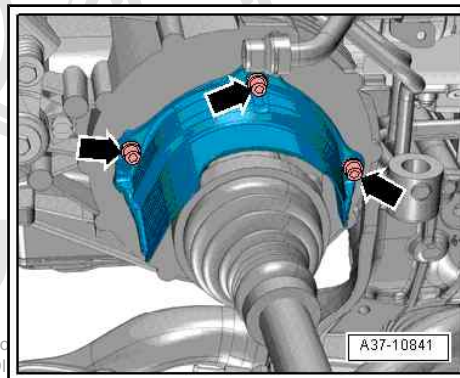
- Remove front exhaust pipe ⇒ Engine, mechanics; Rep. gr. 26 ; Exhaust pipes/silencers; Exploded view - silencers .



- Remove bolts -2 ... 5- securing gearbox to engine (accessible from above).
- Drain coolant ⇒ Rep. gr. 19 ; Cooling system/coolant; Draining and filling cooling system .
- Support engine in installation position ⇒ 4-cylinder direct injection engine (1.8 ltr., 2.0 ltr. 4V TFSI, generation III); Rep. gr. 10 ; Assembly mountings; Supporting engine in installation position .



- Remove bolts -arrows- and detach heat shield for drive shaft (right-side).
- Unbolt drive shafts (left and right) from flange shafts of gearbox and tie them up ⇒ Running gear, axles, steering; Rep. gr. 40 ; Drive shaft; Removing and installing drive shaft .



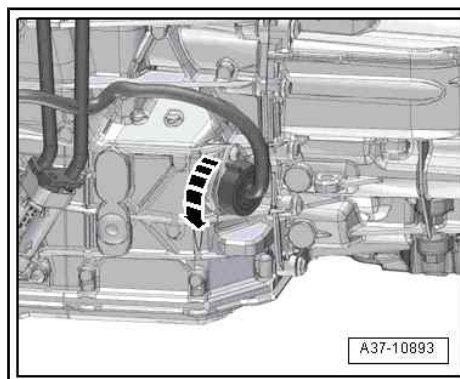
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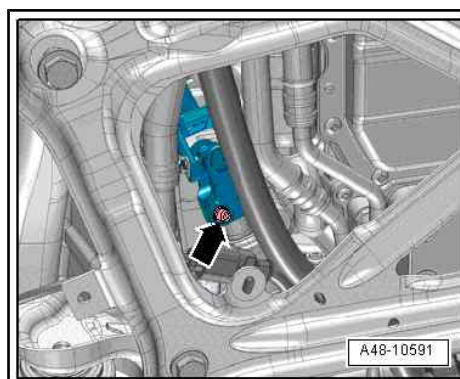
Caution

The gearbox control unit (mechatronic unit) can be irreparably damaged by electrostatic discharge.

- ◆ *Before handling electrical connectors, mechanic must discharge static. To do so, touch an earthed metal object, such as a heater radiator or lifting platform, with your hand.*
- ◆ *Do not touch contact pins in gearbox connector with bare hands.*



- Turn fastener anti-clockwise -arrow- and unplug electrical connector on gearbox.
- Detach intermediate steering shaft from steering rack and telescope splines upwards ⇒ Running gear, axles, steering; Rep. gr. 48 ; Steering column; Removing and installing intermediate steering shaft .



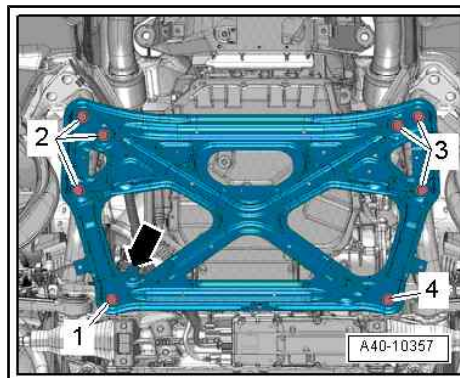
- Remove subframe cross brace ⇒ Running gear, axles, steering; Rep. gr. 40 ; Subframe; Removing and installing subframe cross brace .



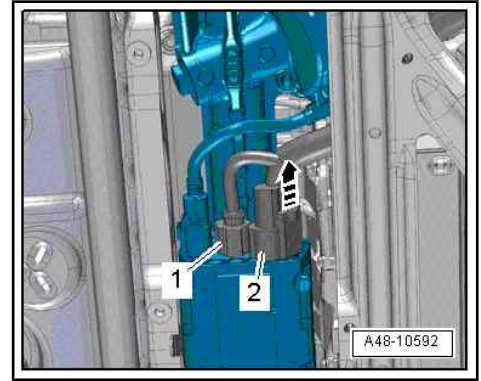
Caution

Risk of damage to parts of the running gear.

- ◆ *Do not let the vehicle down on the wheels if the gearbox mounting, steering rack or subframe cross brace are not properly installed.*



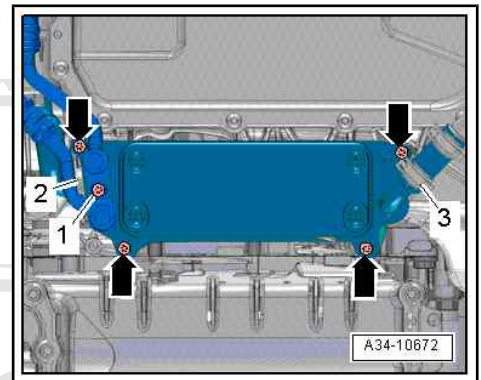
- Unplug electrical connector -2- for steering rack (to do so, push retainer towards rear -arrow- and press down release catch).
- Unplug electrical connector -1-.



- Remove bolts -arrows- and press ATF cooler to side.

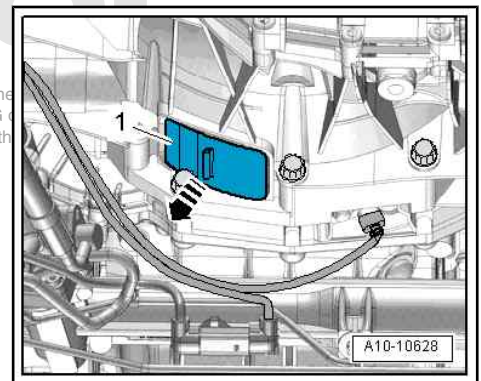
 Note

Disregard -items 1, 2, 3-.



- Pull cover -1- off bottom of gearbox -arrow-.

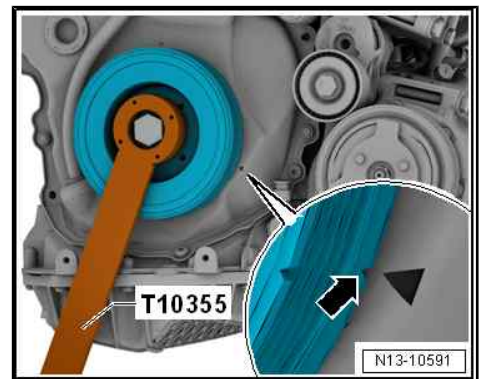
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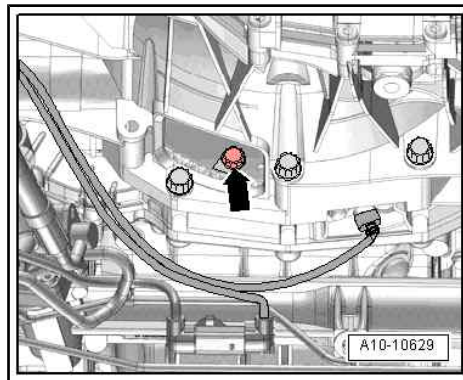
- To slacken bolts for flywheel, counterhold crankshaft.

 Note

When you then turn the crankshaft, only turn crankshaft in direction of engine rotation -arrow-.

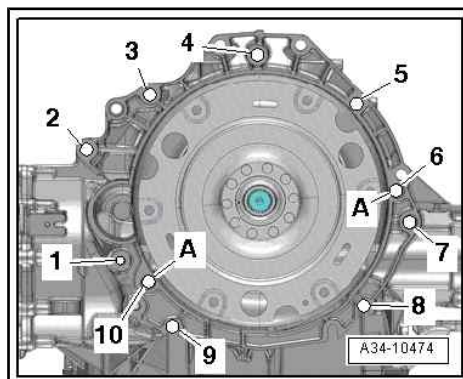


- Remove 3 bolts -arrow- for drive plate (turn crankshaft 60° in direction of engine rotation each time).



- Remove bolt -1- for starter.
- Detach starter from gearbox but do not remove starter.
- Remove remaining engine/gearbox securing bolts -6 ... 10-.

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Caution

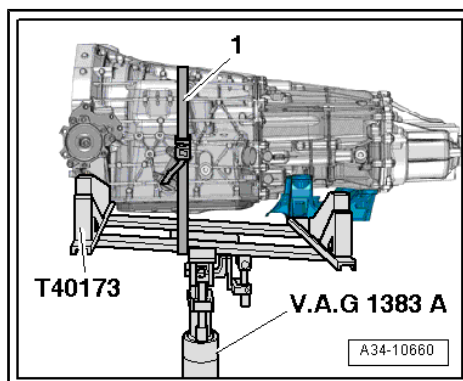
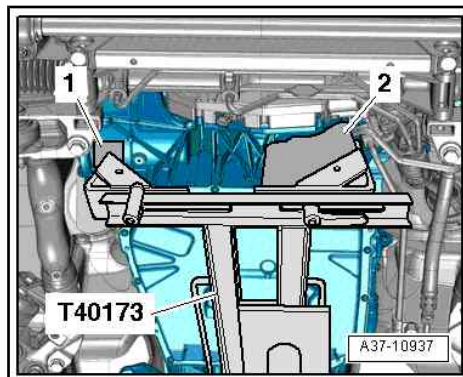
Risk of leaks on ATF oil pan.

◆ *Do not apply gearbox support - T40173- at ATF oil pan.*

- Position engine and gearbox jack - VAS 6931- with gearbox support - T40173- (already prepared) underneath gearbox.

Gearbox support must be positioned as follows at front of gearbox:

- On left side of gearbox, mounting block -2- engages in opening for flywheel on gearbox housing.
- On right side of gearbox, gearbox support is applied to differential housing. Place flat rubber block -1- between the two to protect housing.
- Use tensioning strap -1- to secure gearbox.



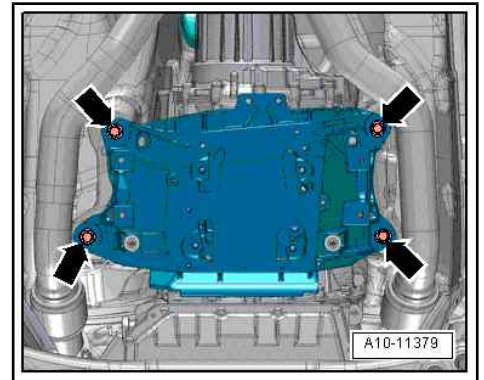
- Remove bolts -arrows- for tunnel cross member.



Note

The illustration does not show engine and gearbox jack - VAS 6931- .

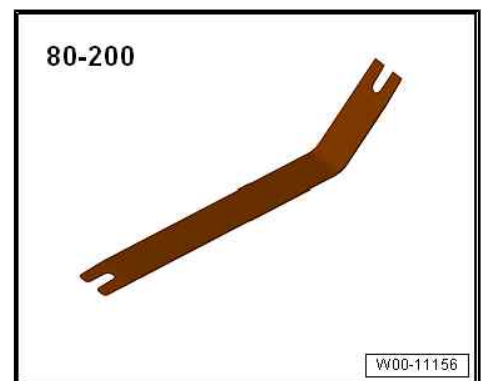
- Tighten tensioning strap - T10038- lightly.
- Detach gearbox from engine and lower carefully using engine and gearbox jack - VAS 6931- .



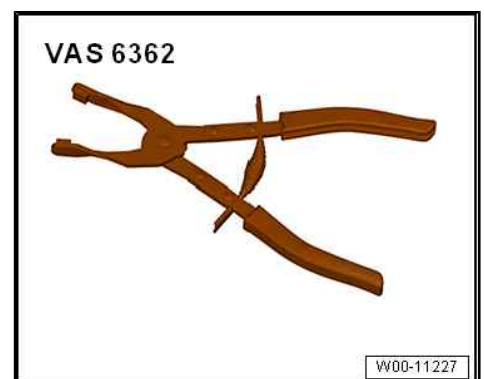
2.1.5 Removing gearbox - vehicles with 4-cyl. TDI engine

Special tools and workshop equipment required

- ◆ Removal lever - 80 - 200-
- ◆ Engine and gearbox jack - VAS 6931-



- ◆ Hose clip pliers - VAS 6362-

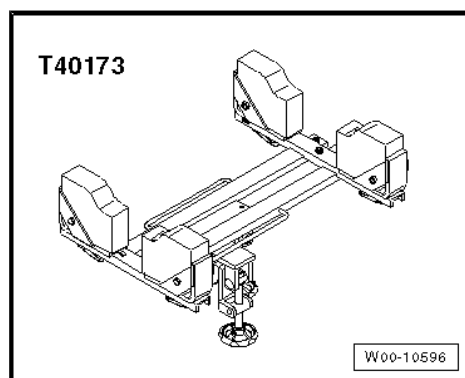


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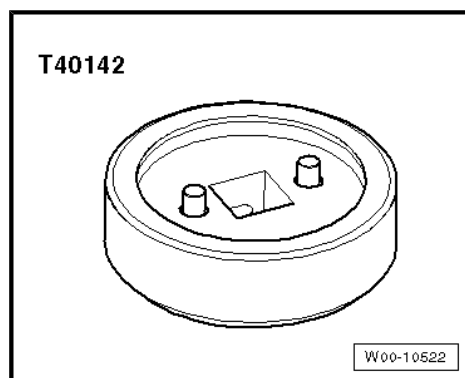
◆ Tensioning strap - T10038-



◆ Gearbox support - T40173-

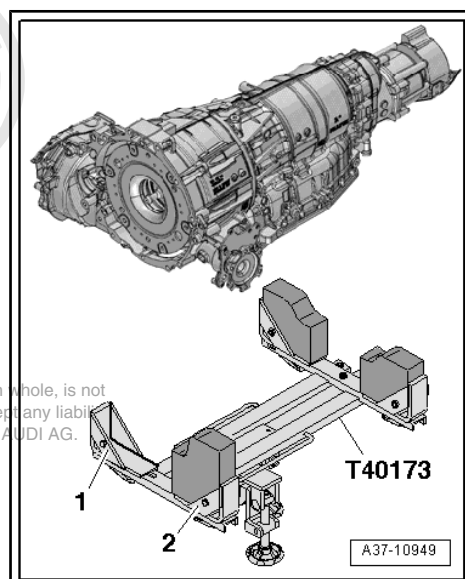


◆ Piston compressing tool - T40142-



Preparing gearbox support - T40173- :

- Mounting block attached at -position 1- must be removed.
- Mounting block attached at -position 2- must be rotated so that the longer side faces upwards, as shown in illustration.



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Removing

- Bring front wheels into straight-ahead position.
- Switch off ignition and remove ignition key.



Caution

When disconnecting the battery there is a risk of irreparable damage to electronic components.

◆ *Observe notes on procedure for disconnecting the battery.*

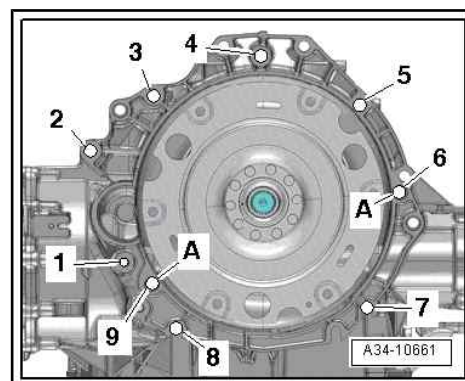
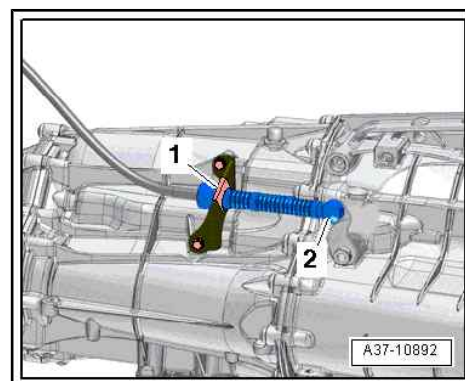
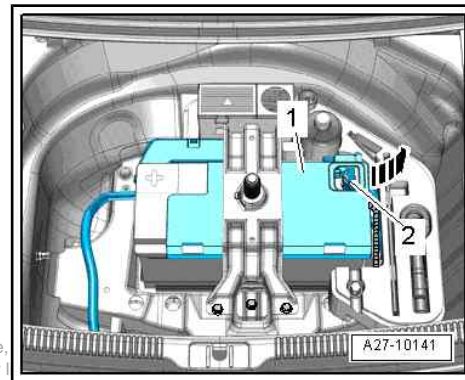
- Disconnect earth wire -2- from battery terminal ⇒ Electrical system; Rep. gr. 27 ; Battery; Disconnecting and connecting battery .
- Remove engine cover panel ⇒ Engine, mechanics; Rep. gr. 10 ; Engine cover panel; Removing and installing engine cover panel .
- Remove plenum chamber partition panel ⇒ General body repairs, exterior; Rep. gr. 50 ; Bulkhead; Removing and installing plenum chamber partition panel .
- Use removal lever - 80 - 200- to press ball socket -2- on selector lever cable off gearbox selector lever.
- Pull off retaining clip -1- and move selector lever cable clear.



Note

Depending on the version, a lock nut may be fitted instead of the retaining clip.

- Remove bolts -2 ... 5- securing gearbox to engine (accessible from above).

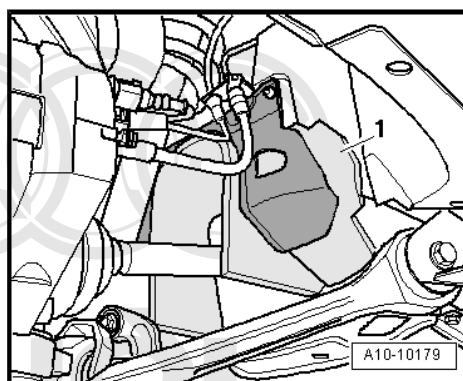
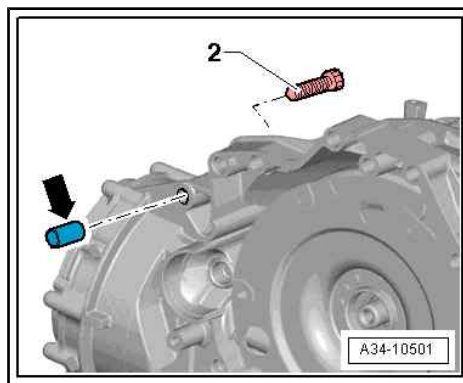




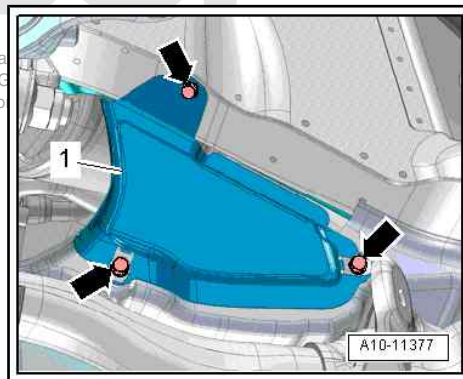
Note

Bolt -2- secures the starter to the gearbox and has an additional spacer sleeve -arrow-.

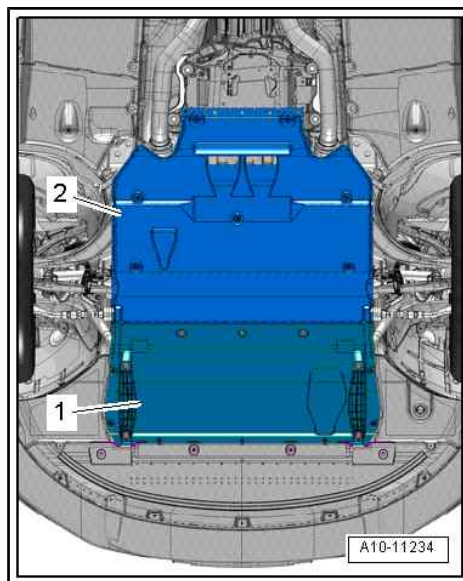
- Remove front wheels ⇒ Running gear, axles, steering; Rep. gr. 44 ; Wheels, tyres .
- Remove cover -1- for drive shaft from wheel housing (both sides) ⇒ General body repairs, exterior; Rep. gr. 66 ; Noise insulation; Exploded view - noise insulation .



- Remove bolts -arrows- and detach heat shield (left-side) -1-.
- Remove propshaft ⇒ Rear final drive; Rep. gr. 39 ; Propshaft; Removing and installing propshaft .



- Remove noise insulation -1- and -2- ⇒ General body repairs, exterior; Rep. gr. 66 ; Noise insulation; Removing and installing noise insulation .



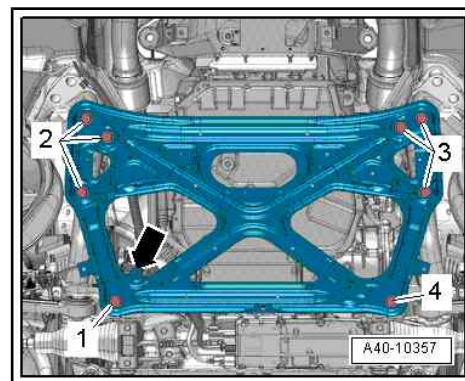
- Remove subframe cross brace ⇒ Running gear, axles, steering; Rep. gr. 40 ; Subframe; Removing and installing subframe cross brace .



Caution

Risk of damage to parts of the running gear.

- ◆ *Do not let the vehicle down on the wheels if the gearbox mounting, steering rack or subframe cross brace are not properly installed.*

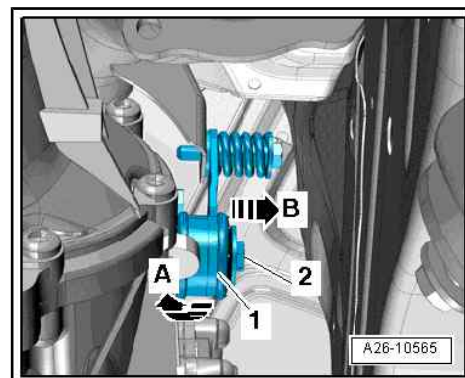


- Remove SCR catalytic converter ⇒ Rep. gr. 26 ; Emission control system; Removing and installing catalytic converter .
- Remove bolt -2- for retainer.
- Push retainer -1- in direction of -arrow B- and pivot to the rear -arrow A-.

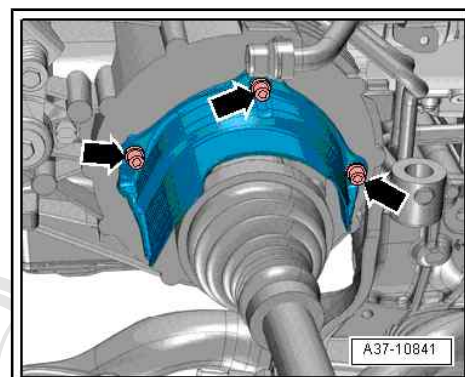


Note

The exhaust pipe remains installed.



- Remove bolts -arrows- and detach heat shield for drive shaft (right-side).
- Unbolt drive shafts (left and right) from flange shafts of gearbox ⇒ Running gear, axles, steering; Rep. gr. 40 ; Drive shaft; Removing and installing drive shaft .

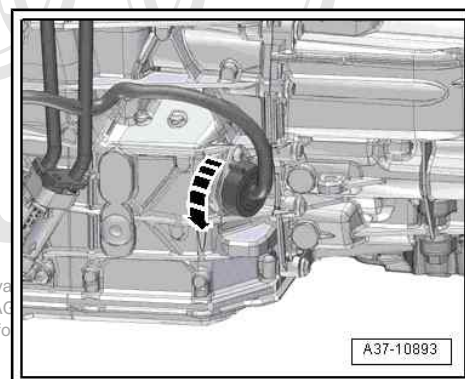


Caution

The gearbox control unit (mechatronic unit) can be irreparably damaged by electrostatic discharge.

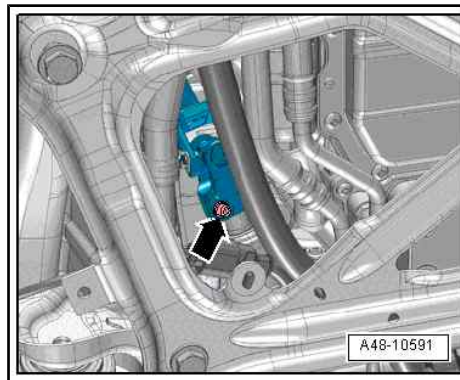
- ◆ *Before handling electrical connectors, mechanic must discharge static. To do so, touch an earthed metal object, such as a heater radiator or lifting platform, with your hand.*
- ◆ *Do not touch contact pins in gearbox connector with bare hands.*

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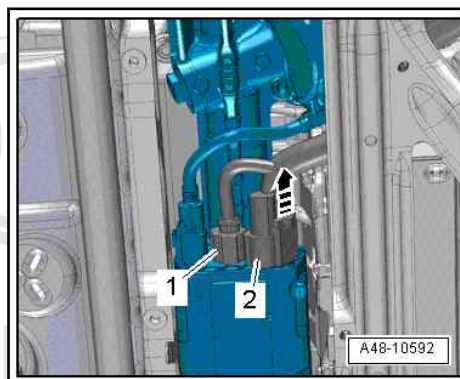


- Turn fastener anti-clockwise -arrow- and unplug electrical connector on gearbox.

- Detach intermediate steering shaft from steering rack and telescope splines upwards ➔ Running gear, axles, steering; Rep. gr. 48 ; Steering column; Removing and installing intermediate steering shaft .



- Unplug electrical connector -2- for steering rack (to do so, push retainer towards rear -arrow- and press down release catch).
- Unplug electrical connector -1-.



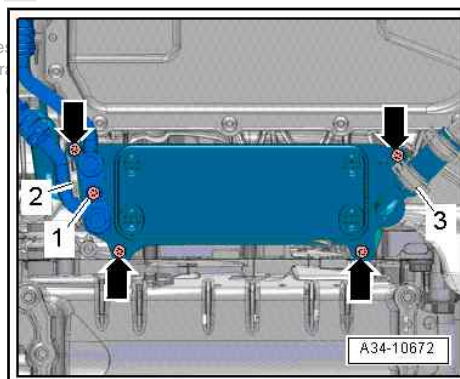
- Remove bolts -arrows- and press ATF cooler to side.

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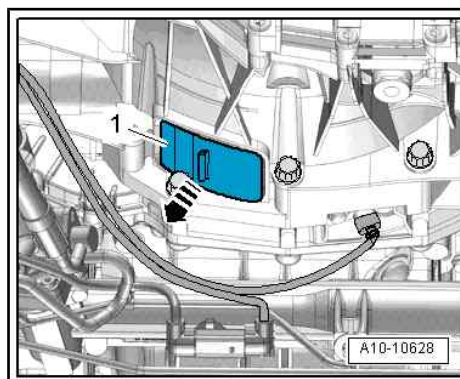


Note

Disregard -items 1, 2, 3-.



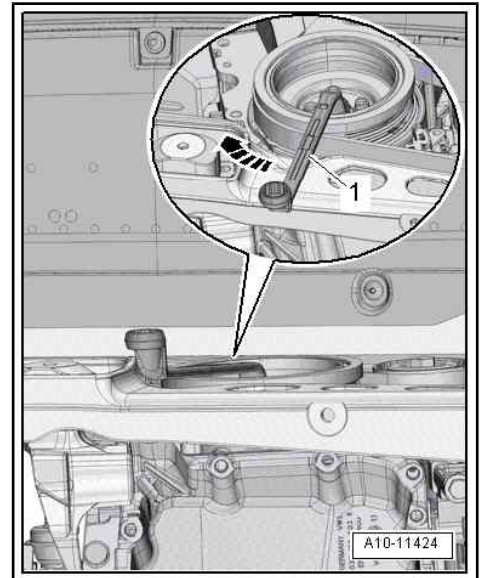
- Pull cover -1- off bottom of gearbox -arrow-.



- Remove cap from vibration damper.
- To slacken bolts for flywheel, counterhold crankshaft with angled ring spanner -1- at central bolt on vibration damper.

 Note

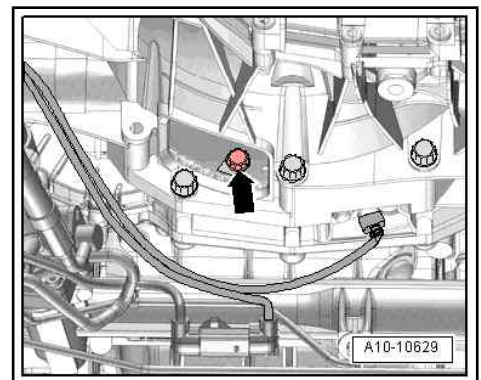
When you then turn the crankshaft, only turn crankshaft in direction of engine rotation -arrow-.



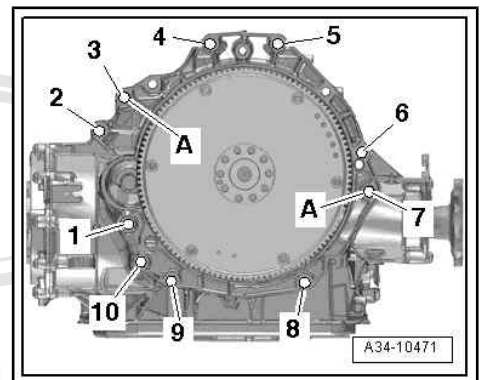
- Remove 3 bolts -arrow- for drive plate (turn crankshaft 120° in direction of engine rotation each time).

 Note

Disregard -item 1-.



- Remove bolt -1- for starter.
- Detach starter from gearbox but do not remove starter.
- Remove remaining engine/gearbox securing bolts -6 ... 10-.



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Caution

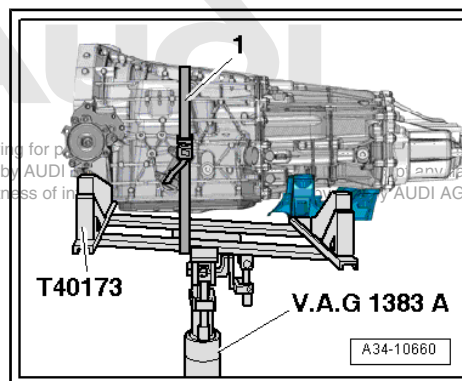
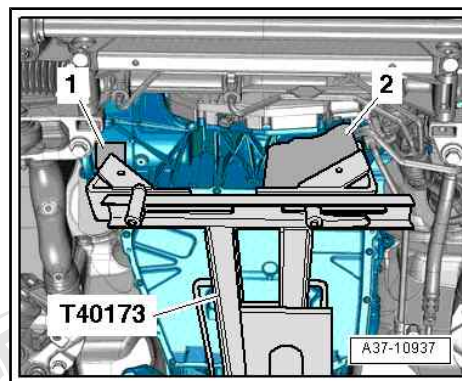
Risk of leaks on ATF oil pan.

- ◆ **Do not apply gearbox support - T40173- at ATF oil pan.**

- Position engine and gearbox jack - VAS 6931- with gearbox support - T40173- (already prepared) underneath gearbox.

Gearbox support must be positioned as follows at front of gearbox:

- On left side of gearbox, mounting block -2- engages in opening for flywheel on gearbox housing.
- On right side of gearbox, gearbox support is applied to differential housing. Place flat rubber block -1- between the two to protect housing.
- Use tensioning strap -1- to secure gearbox.

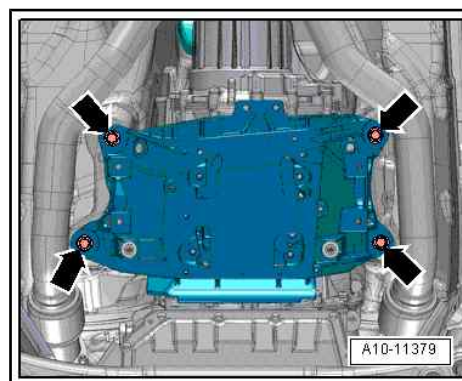


- Remove bolts -arrows- for tunnel cross member.

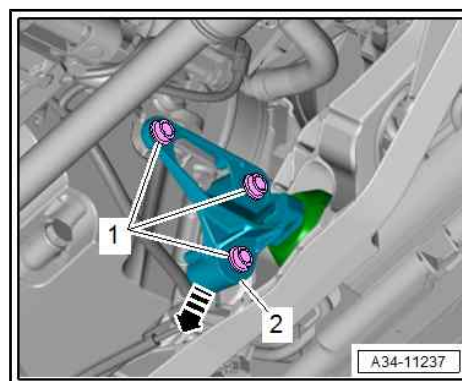


Note

The illustration does not show engine and gearbox jack - VAS 6931- .



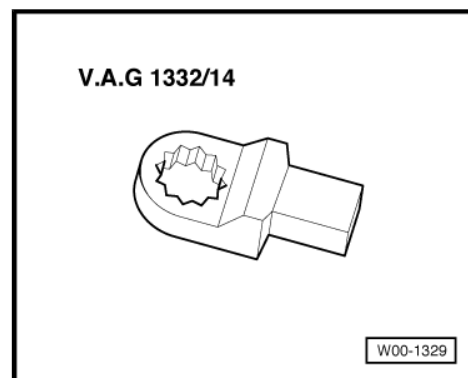
- Slacken bolts -1- for torque reaction support -2-.
- Lower gearbox using engine and gearbox jack - V.A.G 1383 A- just enough so that torque reaction support is positioned at very bottom of its adjustment range.
- Tighten bolts for torque reaction support again.
- Tighten tensioning strap - T10038- lightly.
- Detach gearbox from engine and lower carefully using engine and gearbox jack - V.A.G 1383 A- (pay attention to electrical wiring and SCR line when doing so).



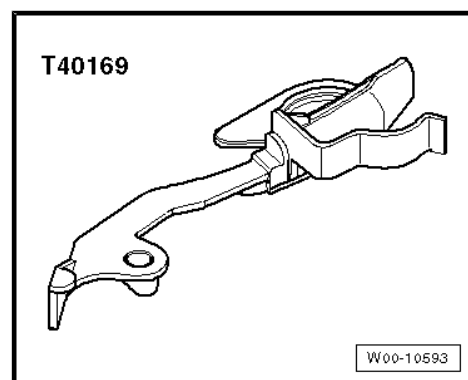
2.2 Installing gearbox

Special tools and workshop equipment required

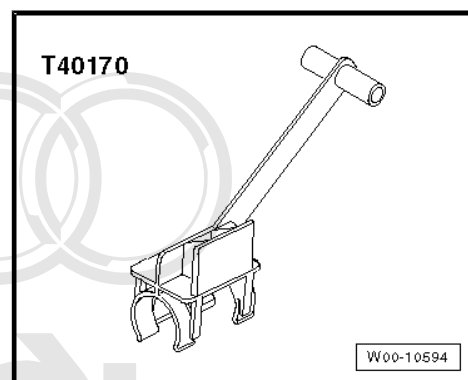
- ◆ Ring spanner insert, 16 mm - V.A.G 1332/14-



- ◆ Assembly aid - T40169-



- ◆ Transportation lock - T40170-



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Tightening torques for installing gearbox ⇒ [page 103](#)

Procedure

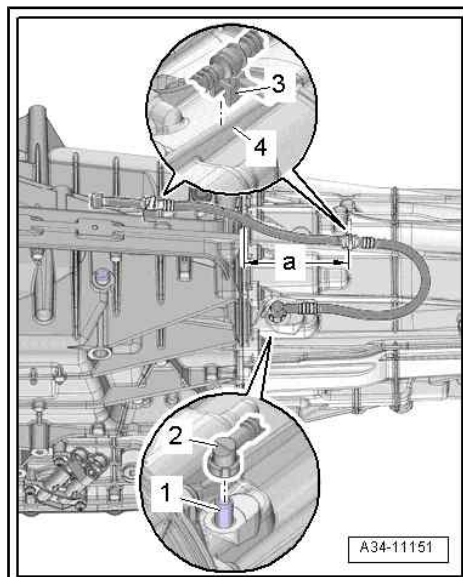


Note

- ◆ *Renew bolts which are tightened by turning through a specified angle.*
- ◆ *Renew self-locking nuts and bolts, and seals, O-rings and gaskets.*
- ◆ *Hose connections and air pipes/hoses must be free of oil and grease prior to fitting.*
- ◆ *Secure all hose connections with the correct type of hose clips (same as original equipment) ⇒ [Electronic parts catalogue](#) .*
- ◆ *The screw sections of used screw-type clips must be sprayed with rust remover prior to fitting so that the air hoses can be attached securely to the hose connections.*
- ◆ *Re-attach all cable ties at the same locations when re-installing.*

Checking proper installation of breather hose - vehicles with 6-cylinder engine:

- Angled connector of breather hose -2- must be pressed onto connection -1-.
- If loose, press angled connector on until it engages audibly.
- Check that the two mounting clips -3- are seated in the correct position on the ribs -4- of the housing:
- The distance -a- between mounting clip (rear) and housing flange must measure 130 mm.

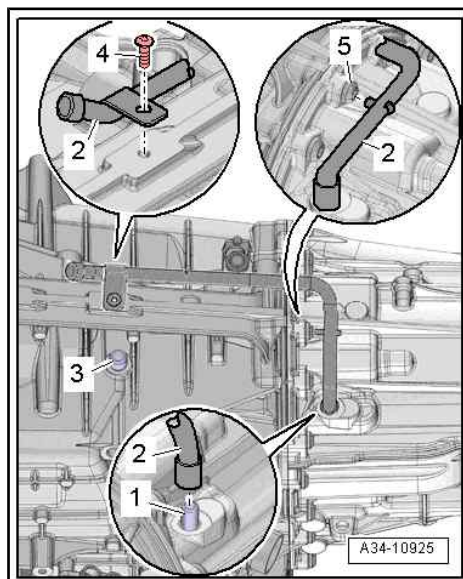


Checking proper installation of breather pipe - vehicles with 8-cylinder engine:

- Angled connector of breather pipe -2- must be pressed onto connection -1-.
- If loose, press angled connector on until it engages audibly.
- Retaining pin of breather pipe must be fitted into bolt head -5-.
- Bolt -4- must be tightened to 10 Nm.
- ATF breather -3- must remain clear.

Continued for all vehicles:

- Clean ATF lines and ATF cooler after renewing or repairing gearbox ⇒ [page 131](#) .
- Before installing gearbox, it is important to clean any residue from threads for engine/gearbox connection in cylinder block using a tap.



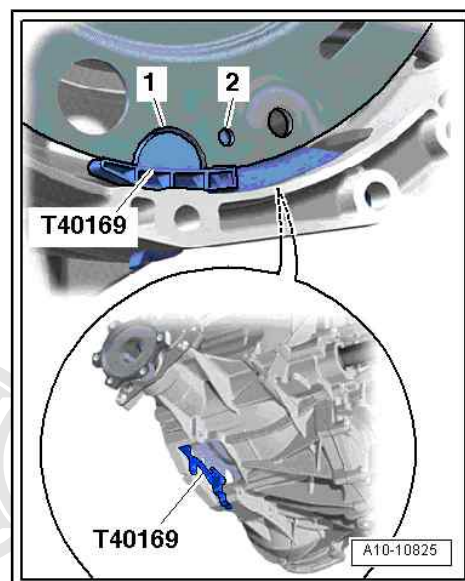
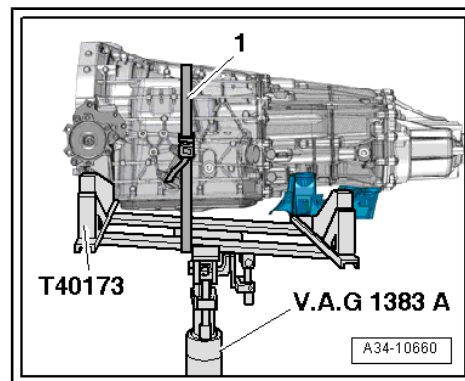


Caution

Risk of leaks on ATF oil pan.

◆ *Do not apply gearbox support - T40173- at ATF oil pan.*

- Position gearbox on gearbox support - T40173- and secure with tensioning strap -1-, as shown in illustration.
- The following preparations must be made before joining the engine and gearbox:
- Insert assembly aid - T40169- into gearbox housing and fly-wheel from below, as shown in illustration.

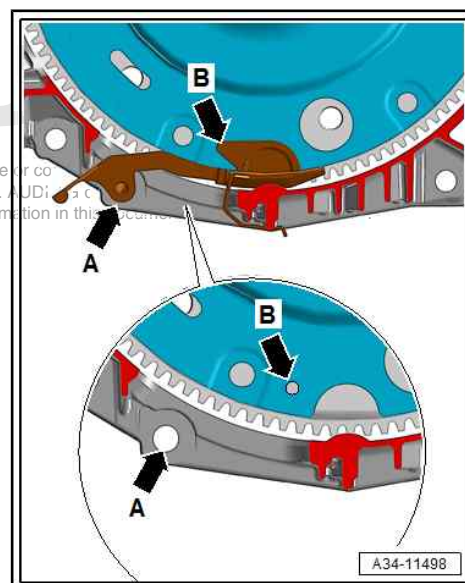


- The assembly tool must engage in the semi-circular recess and in the hole (-arrow A- and -arrow B-).

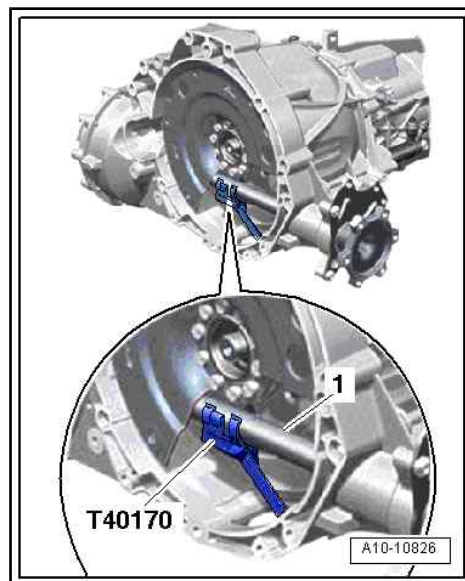


Note

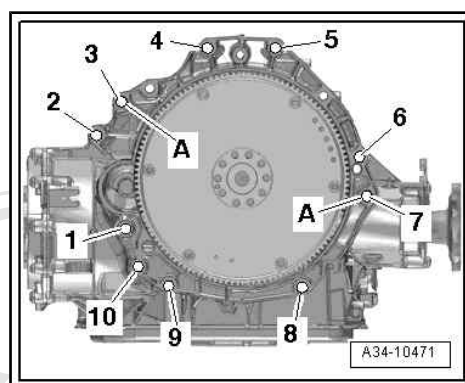
There is only one inspection hole at the periphery, turn the fly-wheel accordingly.



- Insert transportation lock - T40170- into gearbox housing from below and clamp onto flange shaft -1-.
- Check whether aluminium bolts for engine/gearbox connection can be reused and mark bolts if necessary ⇒ [page 105](#) .



- Check that dowel sleeves -A- for centralising engine/gearbox are in the cylinder block; install any missing dowel sleeves.
- Join gearbox with engine and tighten bolts -6- and -7-.



Vehicles with 4-cylinder TDI engine

- Loosen bolts -1- securing torque reaction support.
- Raise gearbox and secure tunnel cross member ⇒ [page 106](#) .
- Adjust and tighten torque reaction support -2- ⇒ Engine, mechanics; Rep. gr. 10 ; Assembly mountings.

All vehicles

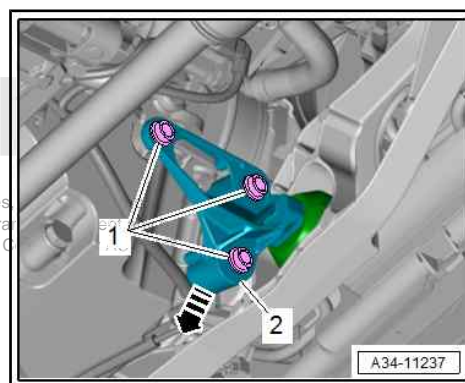
- Secure tunnel cross member ⇒ [page 106](#) .



Note

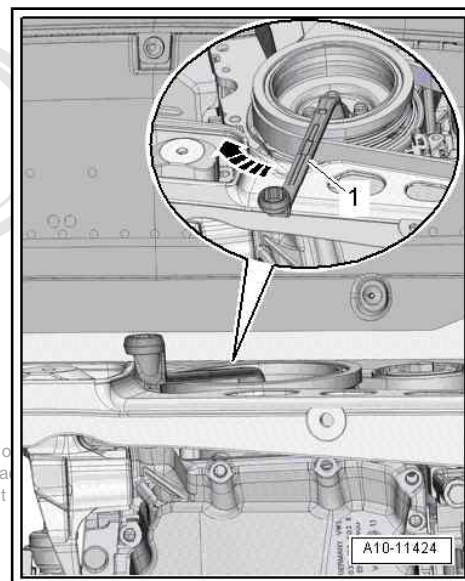
The illustration does not show engine and gearbox jack - VAS 6931- .

- Lower engine and gearbox jack - VAS 6931- with gearbox support - T40173- and move aside.

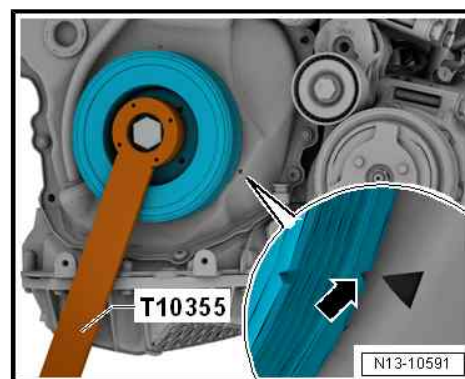


- Turn crankshaft at vibration damper 360° in direction of engine rotation -arrow-.

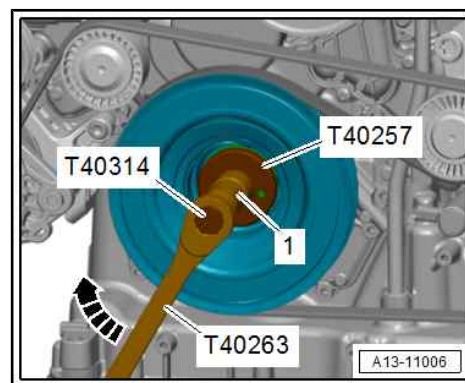
Vehicles with 4-cylinder TDI engine:



Vehicles with 4-cylinder TFSI engine:



Vehicles with 6-cylinder TDI engine



Vehicles with 8-cyl. petrol engine:

- Apply turning over tool - T40272- to bolts on vibration damper.
- The semi-circular recess -arrow A- on turning over tool - T40272- faces semi-circular recess -arrow B- on vibration damper.

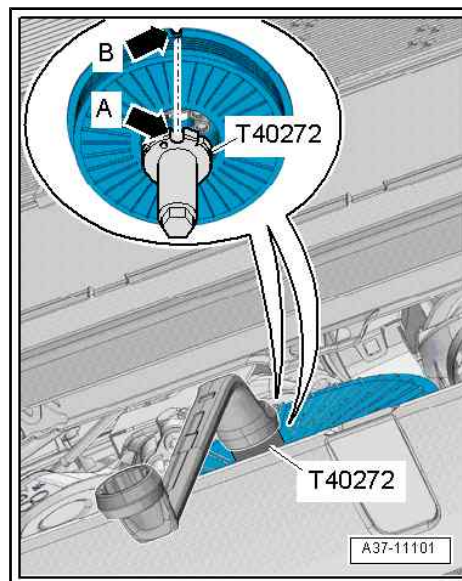


Note

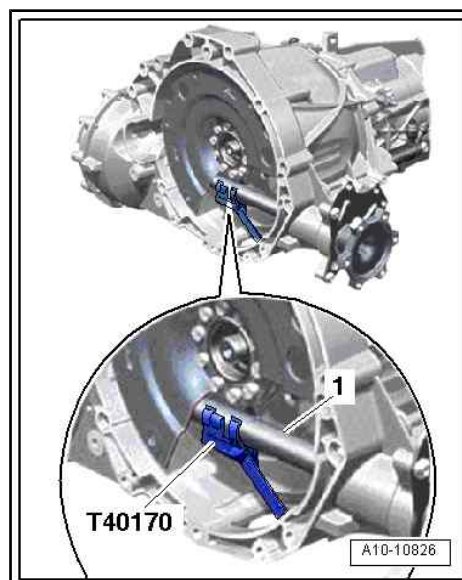
Disregard notch on turning over tool - T40272- .

All vehicles

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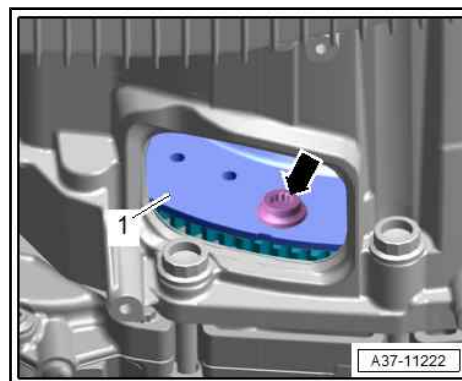
- Remove transportation lock - T40170- .



Note

The vibration damper - 1- must be flat on the drive plate when the first bolt is screwed in.

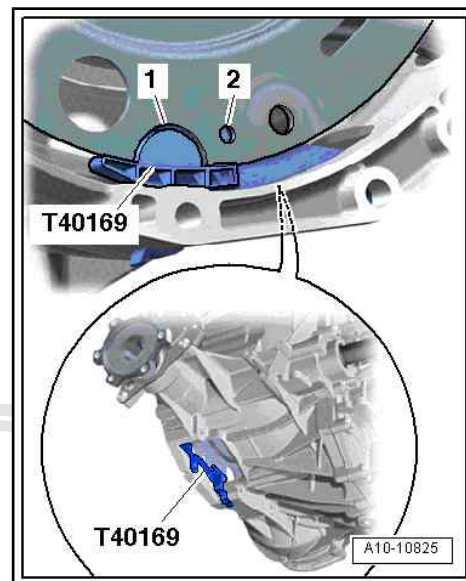
- Tighten first bolt -arrow- to 10 Nm and loosen again; then tighten to 2 Nm (hand-tight).



- Remove assembly aid - T40169- .
- Secure flywheel to drive plate as follows:

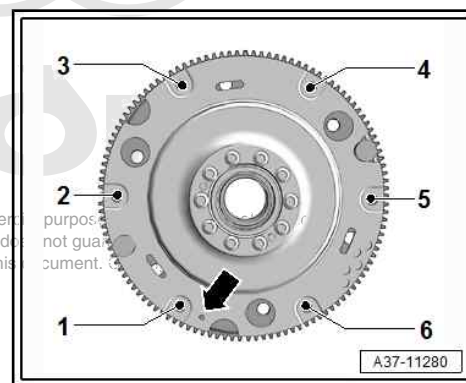
Vehicles with 4-cylinder engine (three securing bolts)

- Using an angled ring spanner, turn crankshaft at vibration damper 120° further in direction of engine rotation.
- Screw in next bolt in this crankshaft position and tighten to 60 Nm.
- Turn crankshaft 120° further in direction of engine rotation, screw in next bolt and tighten to 60 Nm.
- Turn crankshaft 120° further in direction of engine rotation and tighten final bolt to 60 Nm.



Vehicles with 6-cylinder engine (six securing bolts)

- Turn crankshaft via vibration damper 180° further in direction of engine rotation, screw in bolt -4- and tighten to 60 Nm.
- Turn crankshaft 60° further in direction of engine rotation (for each bolt), screw in bolts -5- and -6- and tighten to 60 Nm.
- Turn crankshaft 60° further in direction of engine rotation and tighten bolt -1- to 60 Nm.
- Turn crankshaft 60° further in direction of engine rotation (for each bolt), screw in bolts -2- and -3- and tighten to 60 Nm.



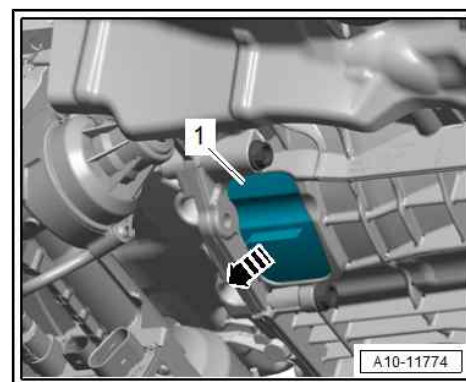
All vehicles

- Tighten engine/gearbox connecting bolts accessible from below.
- Install cover -1-.

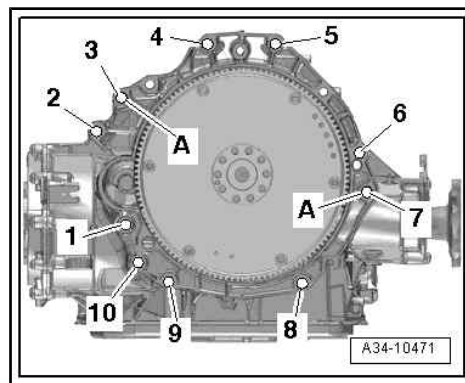
Continued for all vehicles:

Remaining installation steps are carried out in reverse sequence; note the following:

- Install selector lever cable ⇒ [page 36](#) .
- Install starter ⇒ Electrical system; Rep. gr. 27 ; Starter; Exploded view - starter .



- Tighten remaining gearbox/engine securing bolts -3 ... 5-.
- Install gearbox oil cooling valve - N509- ⇒ Rep. gr. 19 ; Coolant pump/thermostat assembly; Removing and installing coolant valves .
- Install coolant pipe ⇒ Rep. gr. 19 ; Coolant pipes; Removing and installing coolant pipes .
- Install ATF cooler ⇒ [page 118](#) .
- Secure intermediate steering shaft to steering rack ⇒ Running gear, axles, steering; Rep. gr. 48 ; Steering column; Removing and installing intermediate steering shaft .
- Electrical connections and routing ⇒ Current flow diagrams, Electrical fault finding and Fitting locations.
- Install propshaft ⇒ Rear final drive; Rep. gr. 39 ; Propshaft; Removing and installing propshaft .
- Install drive shafts and heat shield for drive shaft ⇒ Running gear, axles, steering; Rep. gr. 40 ; Drive shaft; Exploded view - drive shaft .
- Install heat shield on subframe ⇒ General body repairs, exterior; Rep. gr. 66 ; Strips / trim panels / extensions; Exploded view - heat shield .
- Install subframe cross brace ⇒ Running gear, axles, steering; Rep. gr. 40 ; Subframe; Exploded view - subframe .
- Install radiator cowl ⇒ Rep. gr. 19 ; Radiator/radiator fans; Removing and installing radiator cowl .
- Fill up with coolant ⇒ Rep. gr. 19 ; Cooling system/coolant; Draining and filling cooling system .
- Install plenum chamber partition panel ⇒ General body repairs, exterior; Rep. gr. 50 ; Bulkhead; Exploded view - plenum chamber partition panel .
- Install exhaust system ⇒ Rep. gr. 26 ; Exhaust pipes/silencers; Exploded view - silencers .
- Install covers for drive shafts and noise insulation ⇒ General body repairs, exterior; Rep. gr. 66 ; Noise insulation; Exploded view - noise insulation .
- Fit front wheels ⇒ Running gear, axles, steering; Rep. gr. 44 ; Wheels, tyres .
- Observe measures required after connecting battery ⇒ Electrical system; Rep. gr. 27 ; Battery; Disconnecting and connecting battery .



Caution

Overvoltage can cause irreparable damage to control units.

◆ ***Do not use charger for boost starting.***

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- Check selector lever cable and adjust if necessary
⇒ [page 41](#) .
- Check ATF level and top up as required ⇒ [page 133](#) .
- Check gear oil level and top up as required ⇒ [page 141](#) .

2.3 Tightening torques for gearbox



Note

- ◆ Tightening torques apply only to lightly greased, oiled, phosphated or black-finished nuts and bolts.
- ◆ Additional lubricant such as engine or gear oil may be used, but do not use graphite lubricant.
- ◆ Do not use parts which have been degreased.
- ◆ Tolerance for tightening torques is $\pm 15\%$.

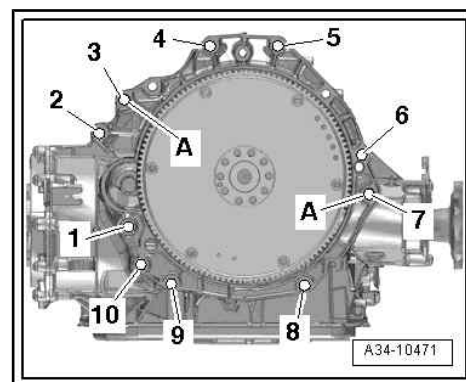
Component		Nm
Bolts and nuts	M6	9
	M7	15
	M8	20
	M10	40
	M12	65

Dual clutch gearbox to 6-cyl. petrol engine

Item	Bolt	Nm
1 ¹⁾	M10x50 ²⁾	65
2 ¹⁾ , 3 ... 6	M12x100 ³⁾	30 + 90°
7	M12x125 ³⁾	30 + 90°
8, 9, 10	M10x60 ³⁾	15 + 90°
A	Dowel sleeves for centralising	

- 1¹⁾ Also secures starter.
- 2²⁾ Property class 10.9; the steel bolt can be re-used any number of times.
- 3³⁾ Bolts can be used twice only ⇒ [page 105](#)

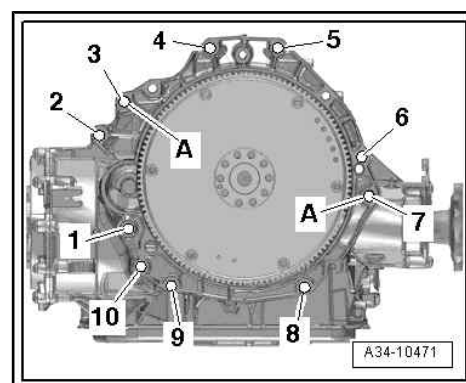
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Dual clutch gearbox to 8-cyl. petrol engine

Item	Bolt	Nm
1 ¹⁾	M10x50 ²⁾	65
2 ¹⁾ , 3 ... 6	M12x100 ³⁾	30 + 90°
7	M12x175 ³⁾	30 + 90°
8, 9, 10	M10x60 ³⁾	15 + 90°
A	Dowel sleeves for centralising	

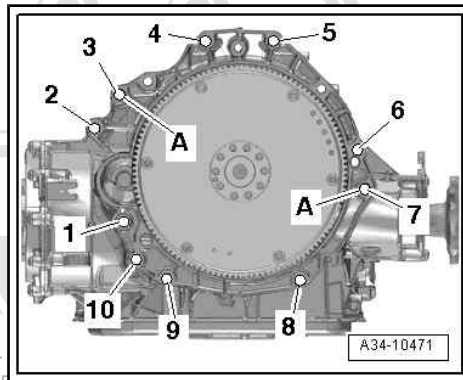
- 1¹⁾ Also secures starter.
- 2²⁾ Property class 10.9; the steel bolt can be re-used any number of times.
- 3³⁾ Bolts can be used twice only ⇒ [page 105](#) .



Dual clutch gearbox to 6-cyl. TDI engine

Item	Bolt	Nm
1 ¹⁾	M10x50 ²⁾	65
2 ¹⁾ , 3 ... 6	M12x100 ³⁾	30 + 90°
7	M12x125 ³⁾	30 + 90°
8	M10x60 ³⁾	15 + 90°
9, 10	M10x95 ³⁾	15 + 90°
A	Dowel sleeves for centralising	

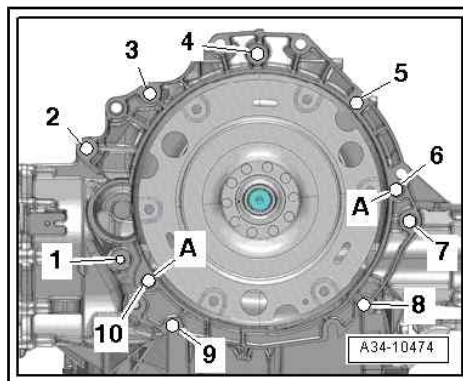
- 1¹⁾ Also secures starter.
- 2²⁾ Property class 10.9; the steel bolt can be re-used any number of times.
- 3³⁾ Bolts can be used twice only ⇒ [page 105](#) .



Dual clutch gearbox to 4-cyl. petrol engine

Item	Bolt	Nm
1 ¹⁾	M10x50 ²⁾	65
2 ³⁾ , 7	M12x100 ⁴⁾	30 + 90°
3	M12x75 ⁴⁾	30 + 90°
4, 5 ⁵⁾	M12x120 ⁴⁾	30 + 90°
6	M12x85 ⁴⁾	30 + 90°
8, 9	M10x40 ⁴⁾	15 + 90°
10	M12x50 ⁴⁾	30 + 90°
A	Dowel sleeves for centralising	

- 1¹⁾ Also secures starter.
- 2²⁾ Property class 10.9; the steel bolt can be re-used any number of times.
- 3³⁾ Also secures starter, with additional spacer sleeve between starter and gearbox.
- 3³⁾ Bolts can be used twice only ⇒ [page 105](#) .



Dual clutch gearbox to 2.0 ltr. TDI engine

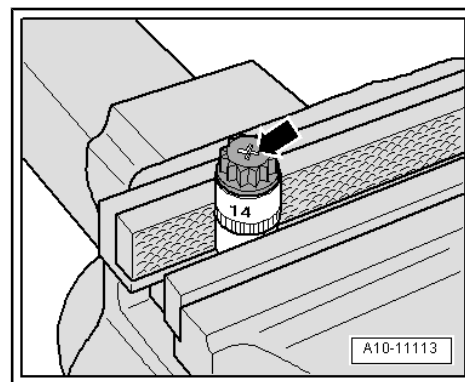
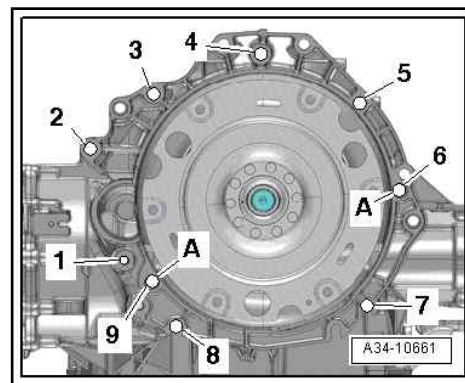
Item	Bolt	Nm
1 ¹⁾	M10x50 ²⁾	65
2 ³⁾	M12x100 ⁴⁾	30 + 90°
3	M12x70 ⁴⁾	30 + 90°
4, 5	M12x120 ⁴⁾	30 + 90°
6	M12x85 ⁴⁾	30 + 90°
7, 8	M10x40 ⁴⁾	15 + 90°
9	M12x50 ⁴⁾	30 + 90°
A	Dowel sleeves for centralising	

- 1¹⁾ Also secures starter.
- 2²⁾ Property class 10.9; the steel bolt can be re-used any number of times.
- 3³⁾ Also secures starter, with additional spacer sleeve between starter and gearbox.
- 3³⁾ Bolts can be used twice only ⇒ [page 105](#) .

- ◆ The aluminium bolts -2 ... 10- may only be used twice. After they have been used once, an "X"-arrow- must therefore be chiselled onto the bolts.
- ◆ To prevent damage to the bolts, they must not be clamped in a vice when marking them. Clamp a 14 mm socket with $\frac{1}{2}$ " drive in the vice instead, and insert the bolt into the socket, as shown in illustration.

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- ◆ Bolts marked with an "X" must not be used again.



3 Assembly mountings

⇒ "3.1 Exploded view - assembly mountings", page 106

⇒ "3.2 Removing and installing tunnel cross member",
page 107

3.1 Exploded view - assembly mountings

1 - Bolt

- ☐ 70 Nm

2 - Tunnel cross member

- ☐ Removing and installing
⇒ page 107
- ☐ On some versions an
additional air deflector is
bolted to the underside
of the tunnel cross
member to cool the self-
locking centre differen-
tial; tightening torque for
air deflector
⇒ page 107 .

3 - Stop

- ☐ For gearbox mounting

4 - Gearbox mounting

- ☐ Removing and installing
⇒ Rep. gr. 10 ; Assem-
bly mountings; Remov-
ing and installing gear-
box mounting

5 - Bolt

- ☐ 40 Nm

6 - Nut

- ☐ 20 Nm

7 - Bolt

- ☐ 20 Nm

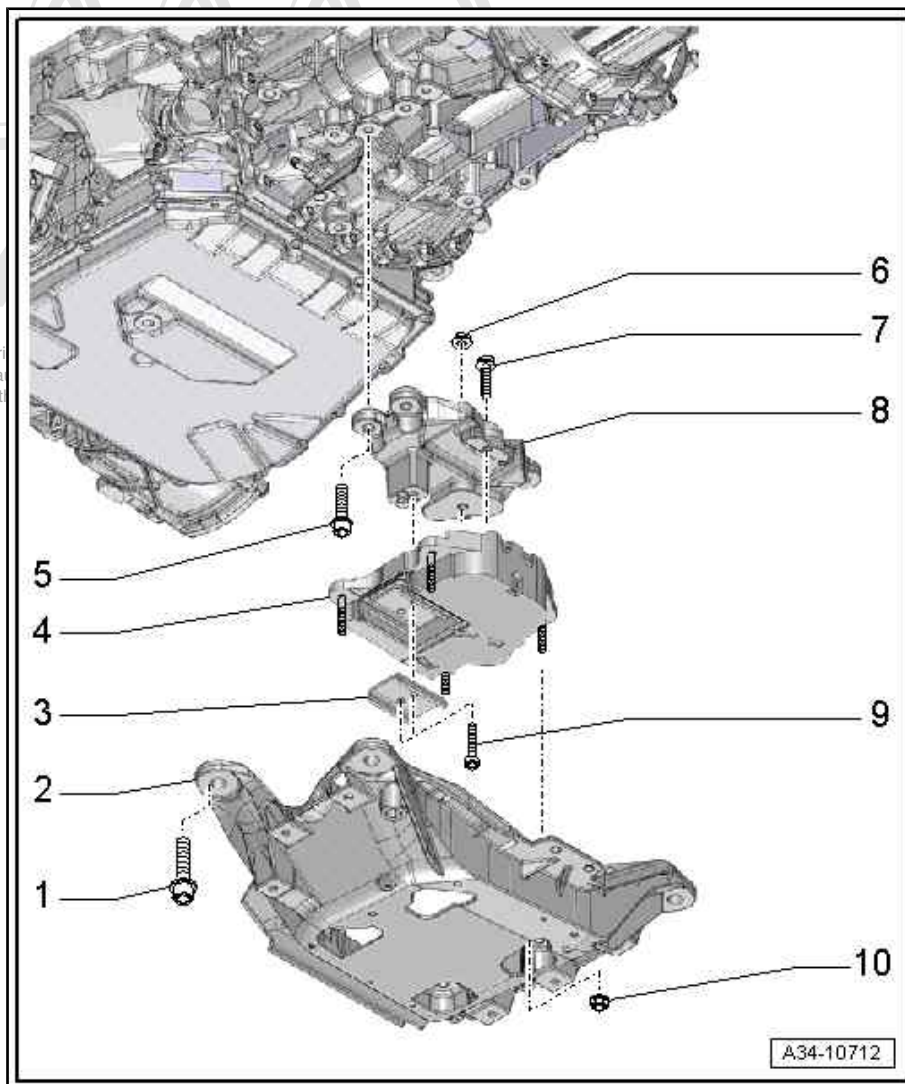
8 - Gearbox support

9 - Bolt

- ☐ Renew
- ☐ 20 Nm + 90°

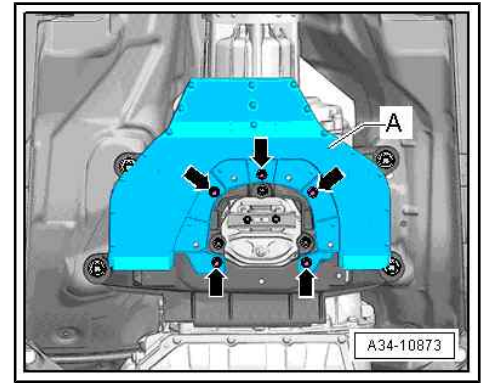
10 - Nut

- ☐ 20 Nm



Air deflector -A-

- ◆ Tightening torque for bolts -arrows-: 3 Nm



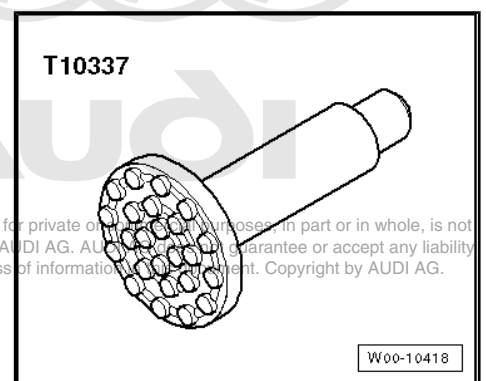
3.2 Removing and installing tunnel cross member

Special tools and workshop equipment required

- ◆ Engine and gearbox jack - VAS 6931-



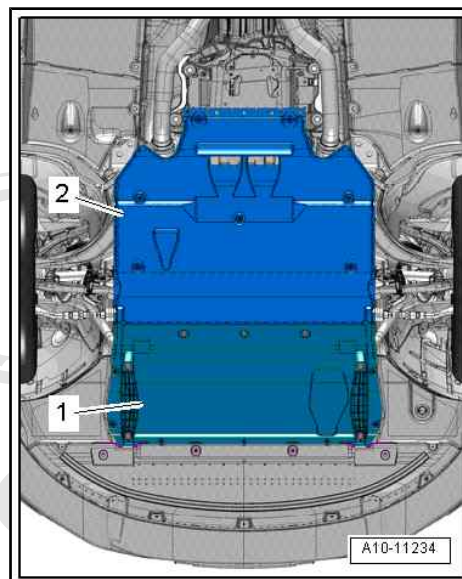
- ◆ Gearbox support - T10337-



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Removing

- Remove rear noise insulation -2- ⇒ General body repairs, exterior; Rep. gr. 66 ; Noise insulation; Removing and installing noise insulation .



- Set up gearbox support - T10337- on engine and gearbox jack - VAS 6931- and position underneath gearbox.
- Raise gearbox slightly.



Note

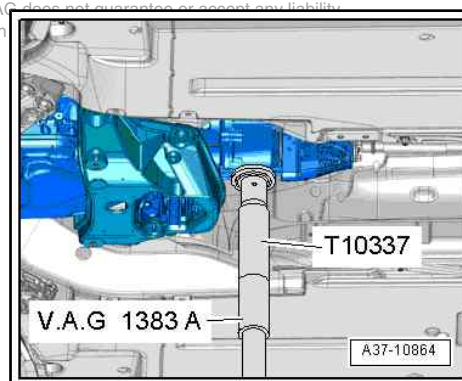
If the tunnel cross member is being removed in order to check or top up the gear oil level, the gearbox must be brought back to the normal position after the tunnel cross member is removed. Only then can the gear oil level be topped up correctly ⇒ [page 141](#) .



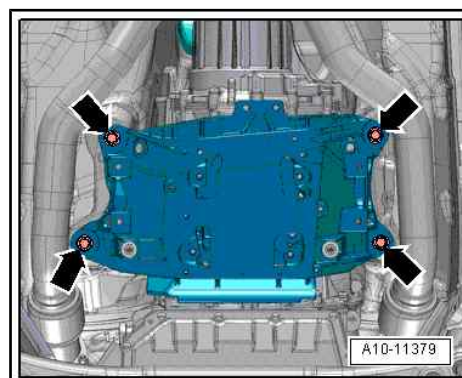
WARNING

Risk of accident.

- Engine and gearbox jack - VAS 6931- must remain in position when work is being carried out and must not be left unattended under the vehicle.



- Remove bolts -arrows- for tunnel cross member.



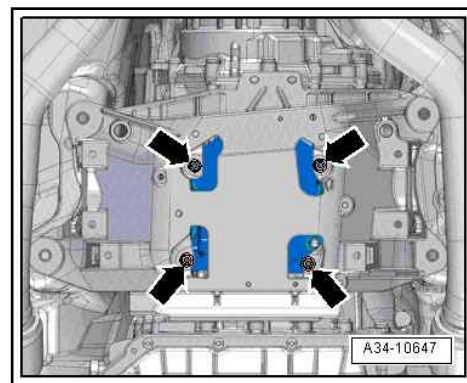
- Unscrew nuts -arrows- and remove tunnel cross member.

Installing

Installation is carried out in reverse sequence.

Tightening torques

- ◆ ⇒ [“3.1 Exploded view - assembly mountings”, page 106](#)
- ◆ ⇒ General body repairs, exterior; Rep. gr. 66 ; Noise insulation; Exploded view - noise insulation



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4 Transporting gearbox

Description of work sequence ⇒ Servicing 7-speed dual clutch
gearbox 0B5 (S tronic); Rep. gr. 34 ; Transporting gearbox



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5 Securing to engine and gearbox support

Description of work sequence ⇒ Servicing 7-speed dual clutch gearbox 0B5 (S tronic); Rep. gr. 34 ; Securing engine and gearbox support



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6 Mechatronic unit

⇒ [“6.1 Exploded view - mechatronic unit”, page 112](#)

⇒ [“6.2 Removing and installing oil pan”, page 114](#)

⇒ [“6.3 Removing and installing mechatronic unit”, page 115](#)

6.1 Exploded view - mechatronic unit

1 - ATF drain plug

- ☐ Tightening torque
⇒ [Item 1 \(page 149\)](#)

2 - Seal

- ☐ Renew

3 - Bolt

- ☐ Tightening torque and sequence ⇒ Servicing 7-speed dual clutch gearbox 0B5 (S tronic); Rep. gr. 34 ; Mechatronic unit; Exploded view - mechatronic unit

4 - Clip

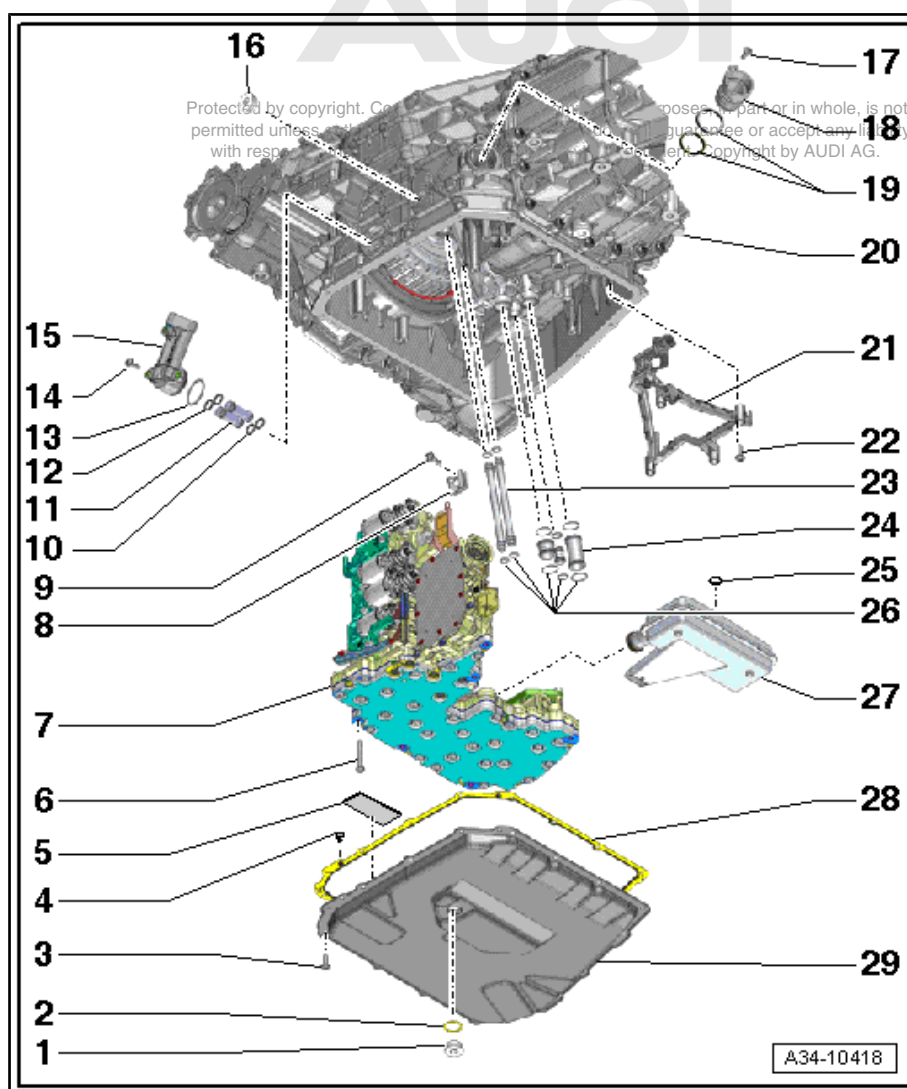
- ☐ In original equipment version for securing gasket to ATF oil pan
- ☐ Not essential for installation

5 - Magnet

- ☐ 2x
- ☐ Insert in recess in ATF oil pan
- ☐ Ensure that the magnet is in full contact with the ATF oil pan

6 - Bolt

- ☐ Tightening torque and sequence ⇒ Servicing 7-speed dual clutch gearbox 0B5 (S tronic); Rep. gr. 34 ; Mechatronic unit; Exploded view - mechatronic unit



7 - Mechatronic unit for dual clutch gearbox - J743-

- ☐ ⇒ [“6.3 Removing and installing mechatronic unit”, page 115](#)

- After renewing mechatronic unit for dual clutch gearbox - J743- , run appropriate “Guided Function” on vehicle diagnostic tester ⇒ [page 166](#)
- Disconnecting printed circuit from mechatronic unit for dual clutch gearbox - J743- ⇒ Servicing 7-speed dual clutch gearbox 0B5 (S tronic); Rep. gr. 34 ; Mechatronic unit

8 - Retaining plate

- ☐ For ATF pipes

9 - Bolt

- ☐ Tightening torque and sequence ⇒ Servicing 7-speed dual clutch gearbox 0B5 (S tronic); Rep. gr. 34 ; Mechatronic unit; Exploded view - mechatronic unit

10 - O-rings

- ☐ Are renewed together with ATF pipes (⇒ [Item 11 \(page 113\)](#))
- ☐ Lightly lubricate with ATF before inserting

11 - ATF pipes

- ☐ Renew

12 - O-rings

- ☐ Are renewed together with ATF pipes (⇒ [Item 9 \(page 118\)](#))
- ☐ Lightly lubricate with ATF before inserting

13 - O-ring

- ☐ Renew
- ☐ Lightly lubricate with ATF before inserting

14 - Bolt

- ☐ Tightening torque ⇒ [Item 12 \(page 118\)](#)

15 - Housing for exchangeable ATF filter

- ☐ Renew after removing
- ☐ Removing and installing ⇒ [page 126](#)
- ☐ Different versions are available; ensure that correct version is used

16 - ATF filler and inspection plug

- ☐ Tightening torque ⇒ [Item 4 \(page 149\)](#)

17 - Bolt

- ☐ Tightening torque and sequence ⇒ Servicing 7-speed dual clutch gearbox 0B5 (S tronic); Rep. gr. 34 ;
Mechatronic unit; Exploded view - mechatronic unit

18 - Connector housing

- To remove, unscrew bolt -item 17- and turn connector housing anti-clockwise

19 - O-rings

- ☐ Renew

20 - Gearbox housing

21 - Wiring harness

22 - Bolt

- ☐ Tightening torque and sequence ⇒ Servicing 7-speed dual clutch gearbox 0B5 (S tronic); Rep. gr. 34 ;
Mechatronic unit; Exploded view - mechatronic unit

23 - ATF pipes

24 - ATF pipes

- ☐ Different versions are possible: one-piece or three-piece

25 - O-ring

- ☐ Renew

26 - O-rings

- ☐ Renew
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27 - ATF intake filter

- ☐ Removing and installing ⇒ Servicing 7-speed dual clutch gearbox 0B5 (S tronic); Rep. gr. 34 ; Mecha-
tronic unit

28 - Gasket

- ☐ Renew
- ☐ Installing ⇒ [page 115](#)

29 - ATF oil pan

- ☐ ⇒ [“6.2 Removing and installing oil pan”, page 114](#)

6.2 Removing and installing oil pan

Removing



Note

- ◆ Observe the general repair instructions ⇒ [page 6](#) .
- ◆ Rules for cleanliness when working on the dual clutch gearbox ⇒ [page 5](#) .
- Remove subframe cross brace ⇒ Running gear, axles, steering; Rep. gr. 40 ; Subframe; Removing and installing subframe cross brace .



Caution

Risk of damage to parts of the running gear.

- ◆ Do not let the vehicle down on the wheels if the gearbox mounting, steering rack or subframe cross brace are not properly installed.

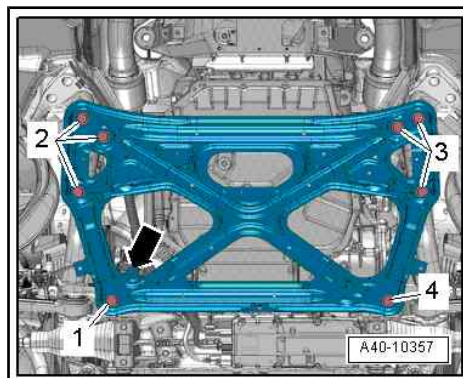
- Drain ATF ⇒ [page 135](#) .



Caution

Risk of damage to gearbox

- ◆ The engine must not be started when there is no more ATF in the gearbox.



Vehicles with 8-cyl. petrol engine:

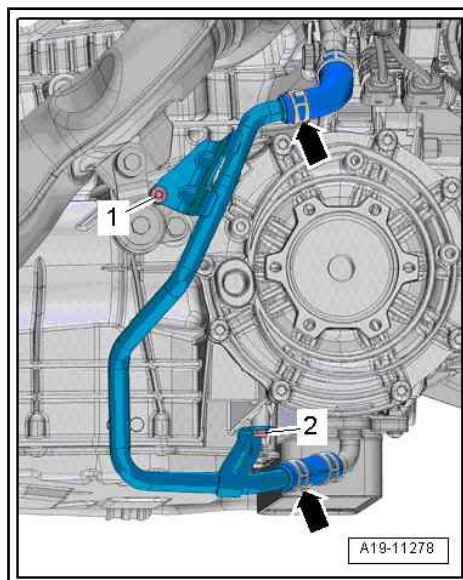
- Remove bolts -1, 2- and push coolant pipe (right-side) on gearbox to one side.



Note

-Item 3- and -arrows- can be disregarded.

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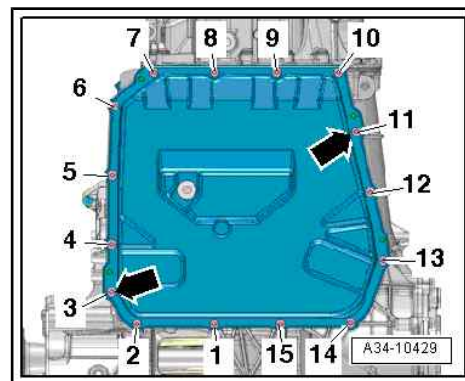
Continued for all vehicles:

- Slacken bolts -1 ... 15- in diagonal sequence.
- Remove bolts and detach ATF oil pan.



Note

Disregard -arrows-.



Installing

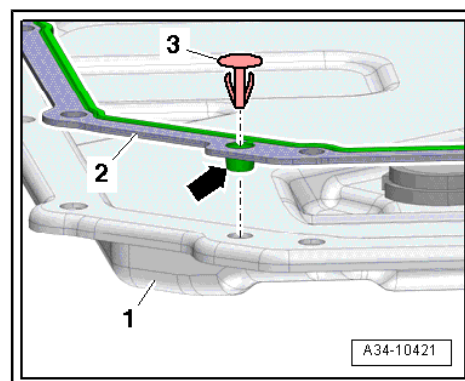
Installation is carried out in reverse sequence; note the following:

- Clean sealing surfaces.
- Renew bolts and gasket for ATF oil pan.
- Insert studs -arrow- on new gasket -2- into ATF oil pan -1-.
- Secure gasket to ATF oil pan with clips -3- (if fitted).

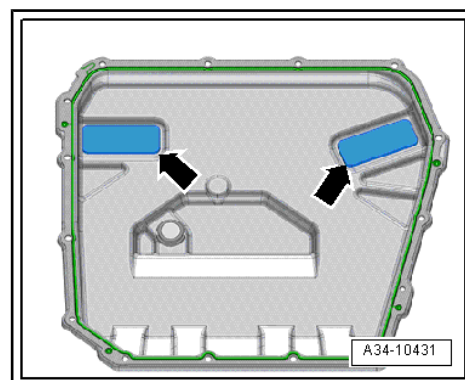


Note

Clips -item 3- are only used as an assembly aid during production.



- Clean magnets -arrows- in ATF oil pan.
- Ensure that magnets make full contact with ATF oil pan.

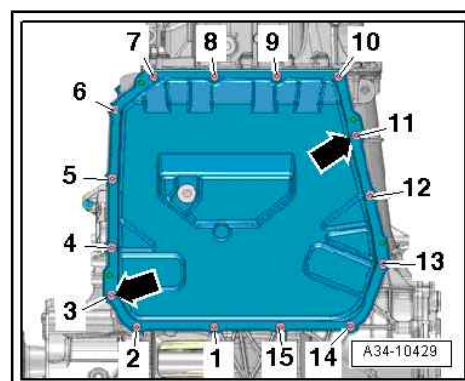


- Tighten bolts for ATF oil pan ⇒ Servicing 7-speed dual clutch gearbox 0B5 (S tronic); Rep. gr. 34 ; Mechatronic unit; Exploded view - mechatronic unit .
- Install coolant pipe on gearbox (right-side) ⇒ Rep. gr. 19 ; Coolant pipes; Removing and installing coolant pipes ;
- Fill up with ATF ⇒ [page 133](#) .

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Tightening torques

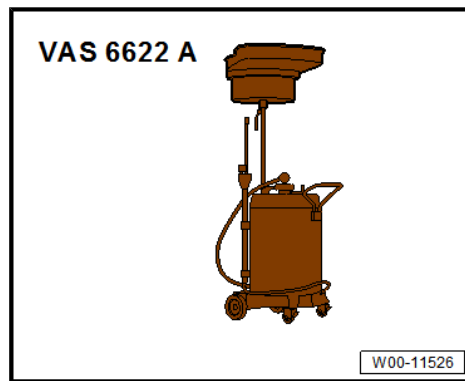
- ♦ Subframe cross brace ⇒ Running gear, axles, steering; Rep. gr. 40 ; Subframe; Exploded view - subframe



6.3 Removing and installing mechatronic unit

Special tools and workshop equipment required

- ◆ Used oil collection and extraction unit - VAS 6622A-



Removing

- Gearbox in vehicle



Caution

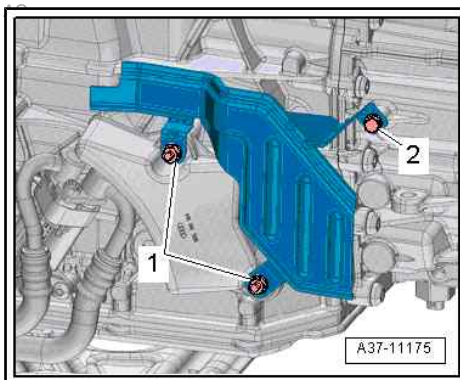
Risk of damage to gearbox

- ◆ *The engine must not be started when there is no more ATF in the gearbox and the mechatronic unit for dual clutch gearbox - J743- has been removed.*



Note

- ◆ *Observe the general repair instructions ⇒ [page 6](#) .*
- ◆ *Rules for cleanliness when working on the dual clutch gearbox ⇒ [page 5](#) .*
- ◆ *Notes on dual clutch gearbox 0B5 ⇒ [page 5](#) .*
- Move selector lever to position “P”.
- Switch off ignition and remove ignition key.
- If fitted, remove nuts -1- and bolt -2- and detach heat shield.

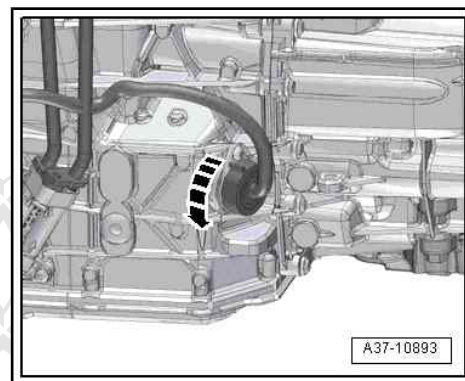




Caution

The gearbox control unit (mechatronic unit) can be irreparably damaged by electrostatic discharge.

- ◆ *Before handling electrical connectors, mechanic must discharge static. To do so, touch an earthed metal object, such as a heater radiator or lifting platform, with your hand.*
- ◆ *Do not touch contact pins in gearbox connector with bare hands.*



- Turn fastener anti-clockwise -arrow- and unplug electrical connector on gearbox.
- Remove ATF filter housing ➔ [page 126](#) .

Description of further work sequence ➔ Servicing 7-speed dual clutch gearbox 0B5 (S tronic); Rep. gr. 34 ; Mechatronic unit;
Removing and installing mechatronic unit

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Installing

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



Caution

The gearbox control unit (mechatronic unit) can be irreparably damaged by electrostatic discharge.

- ◆ *Before handling electrical connectors, mechanic must discharge static. To do so, touch an earthed metal object, such as a heater radiator or lifting platform, with your hand.*
- ◆ *Do not touch contact pins in gearbox connector with bare hands.*

- Make sure that electrical connector on mechatronic unit is properly engaged and secured.
- Install ATF filter housing ➔ [page 126](#) .
- Install ATF oil pan ➔ [page 114](#) .
- Fill up with ATF ➔ [page 133](#) .
- After renewing mechatronic unit for dual clutch gearbox - J743- , run appropriate “Guided Function” on vehicle diagnostic tester ➔ [page 166](#)

7 ATF circuit

⇒ [“7.1 Exploded view - ATF circuit”, page 118](#)

⇒ [“7.2 Removing and installing ATF cooler”, page 119](#)

⇒ [“7.3 Removing and installing ATF filter”, page 121](#)

⇒ [“7.4 Removing and installing ATF lines”, page 128](#)

7.1 Exploded view - ATF circuit

1 - ATF cooler

- ☐ ⇒ [“7.2 Removing and installing ATF cooler”, page 119](#)

2 - Bolt

- ☐ 9 Nm

3 - Bracket

- ☐ For ATF cooler

4 - Lid

- ☐ For exchangeable ATF filter
- ☐ 8 Nm
- ☐ Different versions are available; ensure that correct version is used

5 - O-ring

- ☐ Renew
- ☐ Lightly lubricate with ATF before inserting

6 - Cover

7 - Bolt

- ☐ 20 Nm

8 - O-rings

- ☐ Are renewed together with ATF pipes (⇒ [Item 9 \(page 118\)](#))
- ☐ Lightly lubricate with ATF before inserting

9 - ATF pipes

- ☐ Renewing
⇒ [“7.3.3 Removing and installing ATF filter housing”, page 126](#)

10 - O-rings

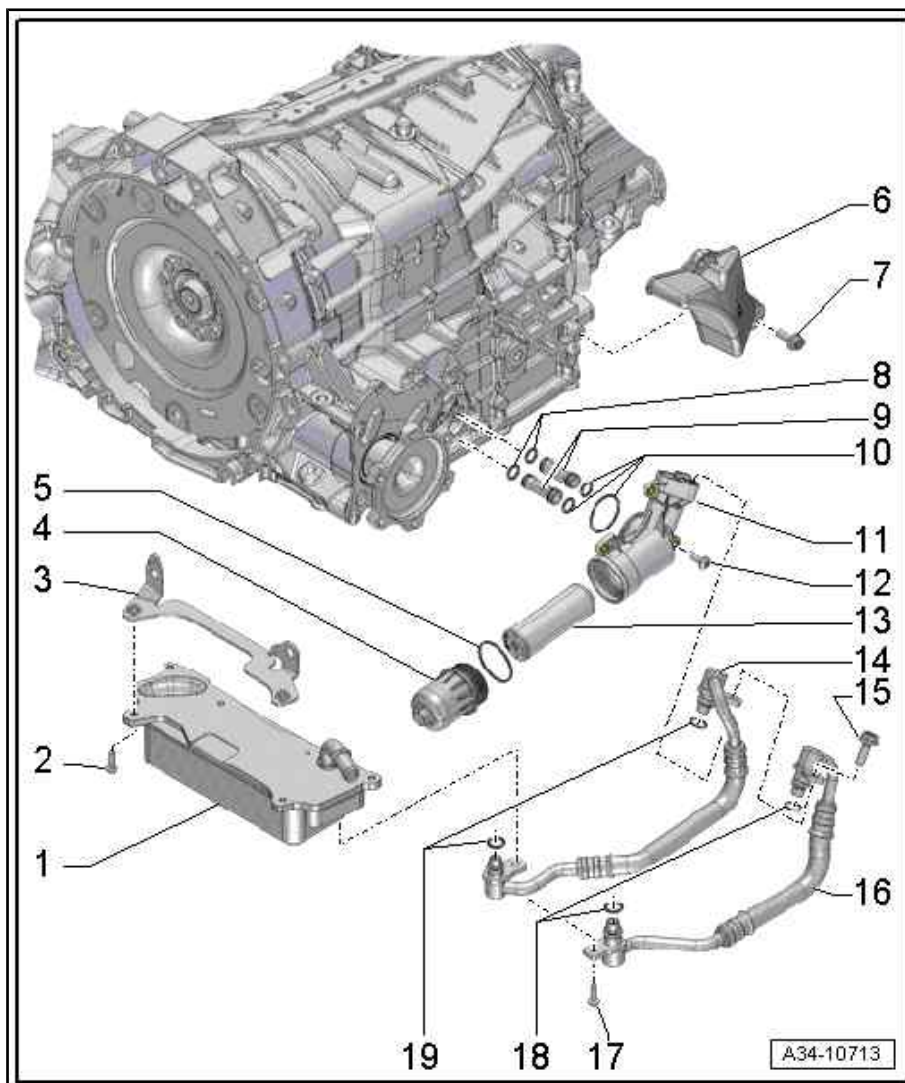
- ☐ Renew
- ☐ Lightly lubricate with ATF before inserting

11 - Housing for exchangeable ATF filter

- ☐ Renew after removal
- ☐ Different versions are available; ensure that correct version is used
- ☐ ⇒ [“7.3.3 Removing and installing ATF filter housing”, page 126](#)

12 - Bolt

- ☐ 10 Nm



13 - Exchangeable ATF filter

- ☐ ➔ [“7.3.2 Removing and installing exchangeable ATF filter”, page 121](#)

14 - ATF pipe/hose assembly

- ☐ Renewing ➔ [“7.4 Removing and installing ATF lines”, page 128](#)
- ☐ Cleaning ➔ [page 131](#)

15 - Bolt

- ☐ 20 Nm

16 - ATF pipe/hose assembly

- ☐ Renewing ➔ [“7.4 Removing and installing ATF lines”, page 128](#)
- ☐ Cleaning ➔ [page 131](#)

17 - Bolt

- ☐ 8 Nm

18 - O-rings

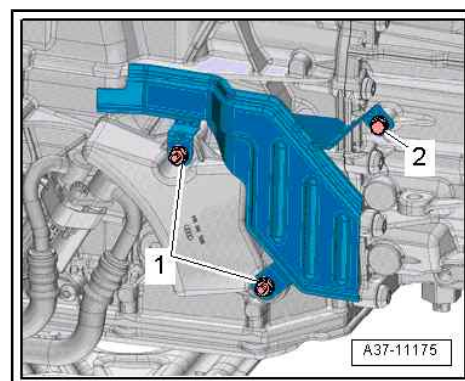
- ☐ Renew
- ☐ Lightly lubricate with ATF before inserting

19 - O-rings

- ☐ Renew
- ☐ Lightly lubricate with ATF before inserting

Heat shield - tightening torques

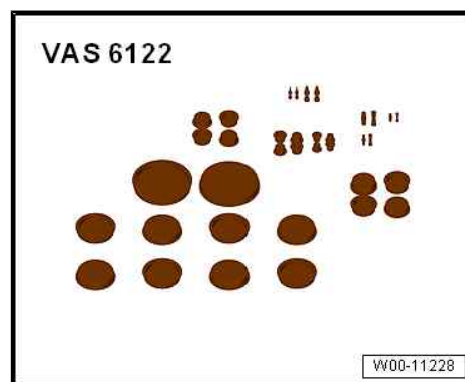
- Tighten bolt -2- and nuts -1- to 9 Nm.



7.2 Removing and installing ATF cooler

Special tools and workshop equipment required

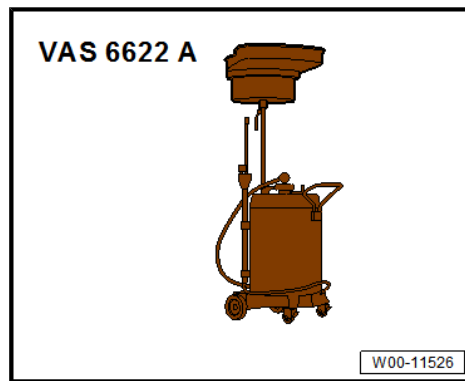
- ◆ Engine bung set - VAS 6122-



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- ◆ Used oil collection and extraction unit - VAS 6622A-



Removing

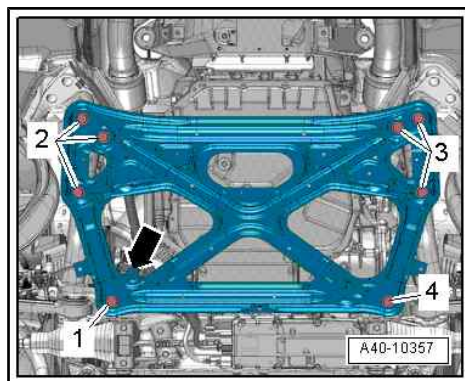
- Remove subframe cross brace ⇒ Running gear, axles, steering; Rep. gr. 40 ; Subframe; Removing and installing subframe cross brace .



Caution

Risk of damage to parts of the running gear.

- ◆ *Do not let the vehicle down on the wheels if the gearbox mounting, steering rack or subframe cross brace are not properly installed.*



- Drain coolant ⇒ Rep. gr. 19 ; Cooling system/coolant; Draining and filling cooling system .



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- Place used oil collection and extraction unit - VAS 6622A- below connections.
- Unscrew bolt -1- and detach ATF pipes/hoses from ATF cooler.
- Seal off open lines and connections with clean plugs from engine bung set - VAS 6122- .
- Remove bolts -arrows-.
- Release hose clips -2 and 3-, disconnect coolant hoses and detach ATF cooler.

Installing



Caution

Risk of leaks!

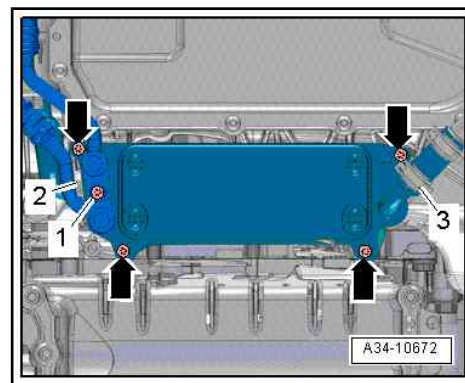
- ◆ *Always renew seals on oil lines and filter housing and coat new seals with ATF.*
- ◆ *Ensure that sealing surfaces are clean.*



Caution

Risk of damage to gearbox

- ◆ *All plugs from engine bung set - VAS 6122- which were inserted in the ATF pipes/hoses and gearbox when dismantling must be removed.*
- ◆ *If you forget to remove the plugs, the ATF cooling will be ineffective and the gearbox will be damaged.*



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

- Clean sealing surfaces and renew seals on oil lines.
- Fill up with coolant ⇒ Rep. gr. 19 ; Cooling system/coolant; Draining and filling cooling system .

Tightening torques

- ◆ ⇒ [“7.1 Exploded view - ATF circuit”, page 118](#)
- ◆ Subframe cross brace ⇒ Running gear, axles, steering; Rep. gr. 40 ; Subframe; Exploded view - subframe

7.3 Removing and installing ATF filter

⇒ [“7.3.1 Removing and installing ATF intake filter”, page 121](#)

⇒ [“7.3.2 Removing and installing exchangeable ATF filter”, page 121](#)

⇒ [“7.3.3 Removing and installing ATF filter housing”, page 126](#)

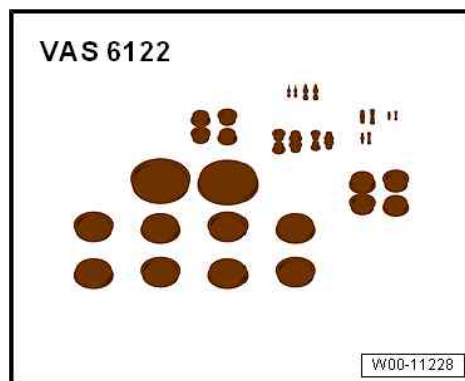
7.3.1 Removing and installing ATF intake filter

Description of work sequence ⇒ Servicing 7-speed dual clutch gearbox 0B5 (S tronic); Rep. gr. 34 ; Mechatronic unit .

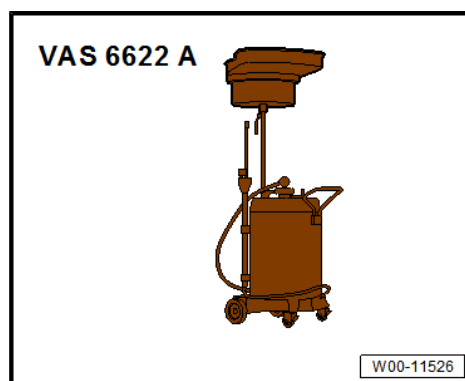
7.3.2 Removing and installing exchangeable ATF filter

Special tools and workshop equipment required

◆ Engine bung set - VAS 6122-

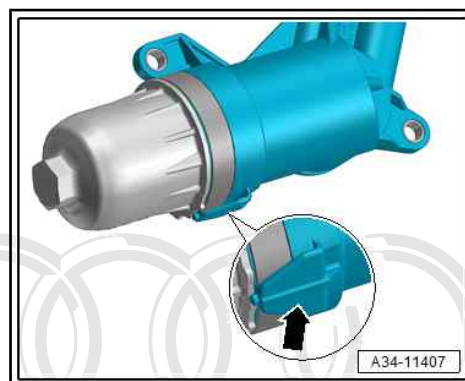


◆ Used oil collection and extraction unit - VAS 6622A-



i Note

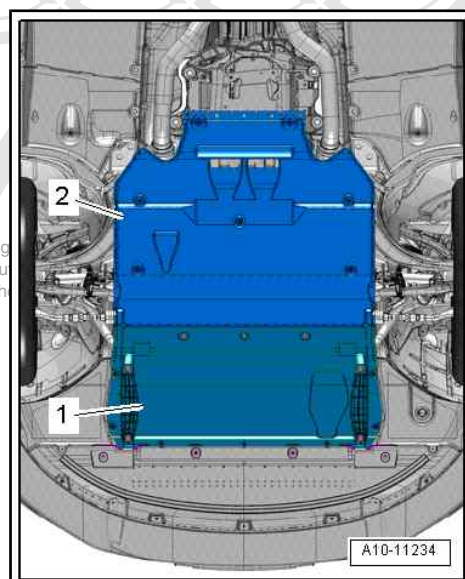
- ◆ Two different ATF filter housing versions are in use.
- ◆ If the locating element -arrow- (fitted at the factory) is not present, an ATF filter cap with a locating element must be installed.



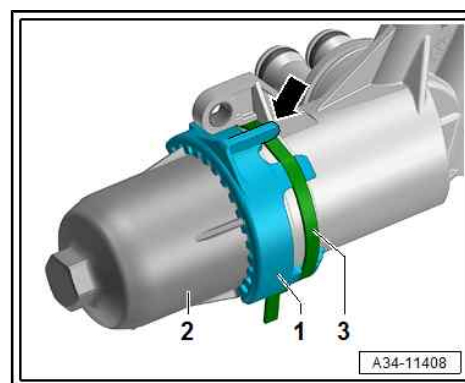
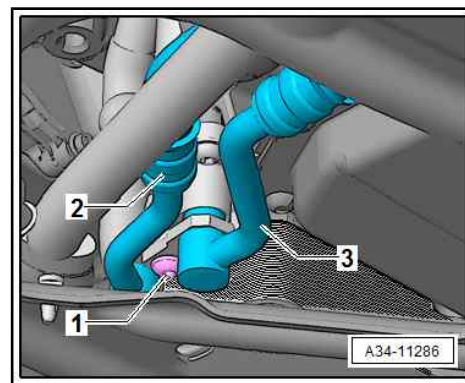
Removing

i Note

- ◆ Rules for cleanliness when working on the dual clutch gearbox ➔ [page 5](#).
- ◆ The exchangeable ATF filter must be renewed every time the ATF is changed.
- ◆ Before fitting a replacement gearbox, always blow through the ATF pipes/hoses and ATF cooler with compressed air (not more than 10 bar) ➔ [page 131](#).
- Remove rear noise insulation -2- ➔ General body repairs, exterior; Rep. gr. 66 ; Noise insulation; Removing and installing noise insulation .
- Drain ATF ➔ [page 135](#).



- Place used oil collection and extraction unit - VAS 6622A- below oil lines -2- and -3-.
- Remove bolt -1- and disconnect oil lines -2- and -3-; allow ATF to drain off.
- Seal off open lines and connections with clean plugs from engine bung set - VAS 6122- .



- If fitted, unfasten retaining strap -3- and remove locating element -1-.

- Unscrew and remove cap -1- for exchangeable ATF filter and allow ATF to drain off.
- Pull out exchangeable ATF filter -2- in direction of -arrow- and remove downwards.

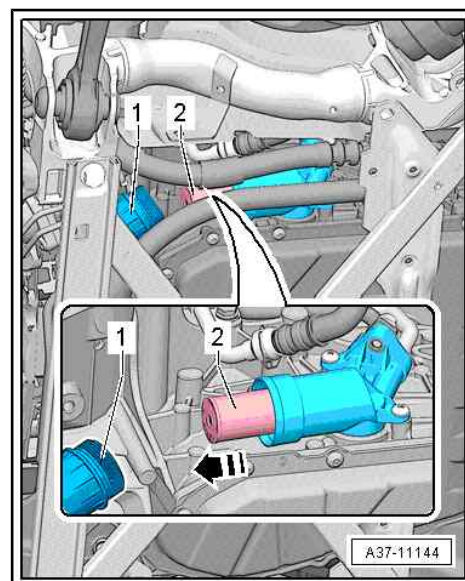
Installing



Caution

Risk of leaks!

- ◆ *Always renew seals on oil lines and filter housing and coat new seals with ATF.*
- ◆ *Ensure that sealing surfaces are clean.*



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

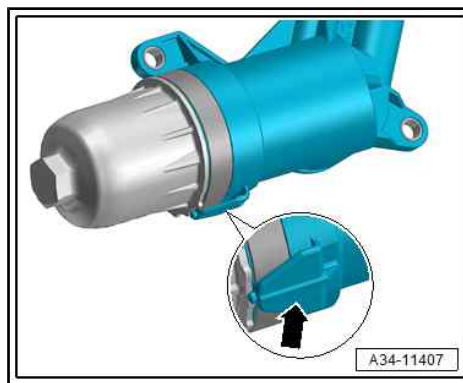
Two different ATF filter housing versions are in use.

If the locating element -arrow- (fitted at the factory) is not present, an ATF filter cap with a retrofittable locating element must be installed.



Note

The retrofittable locating element and the corresponding ATF filter cap are available in the ➔ Electronic parts catalogue (from approx. July 2014 onwards).



Caution

Risk of leaks at ATF filter!

- ◆ *It is important that only the correct version of the ATF filter cap is used for the corresponding ATF filter housing.*

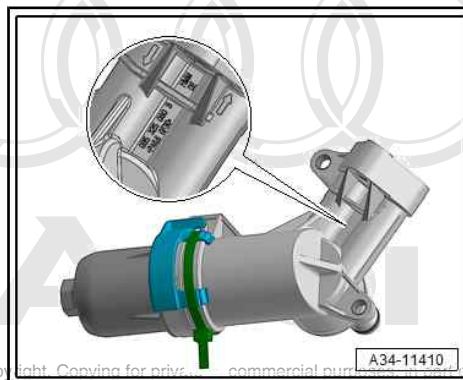
ATF filter cap versions for ATF filter housings:



Note

Note part number for ATF filter housing!

ATF filter housing:	Corresponding ATF filter cap:	Locating element:
0B5.325.060.B	0B5.325.240.C	Retrofitted
0B5.325.060.C	0B5.325.240.B	Fitted at factory



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Note

- ◆ *O-ring on cap for exchangeable ATF filter must be renewed.*
- ◆ *Exchangeable ATF filter must be renewed.*

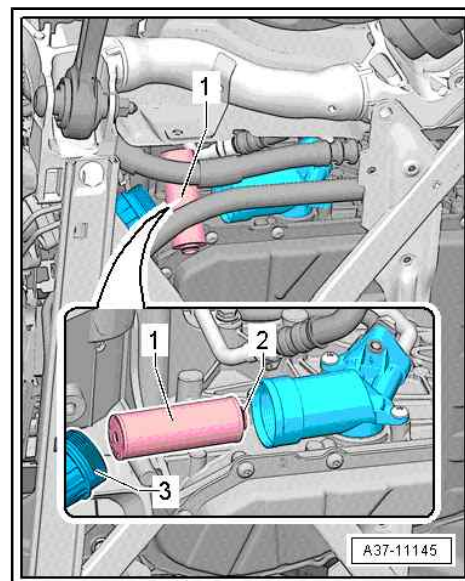


Caution

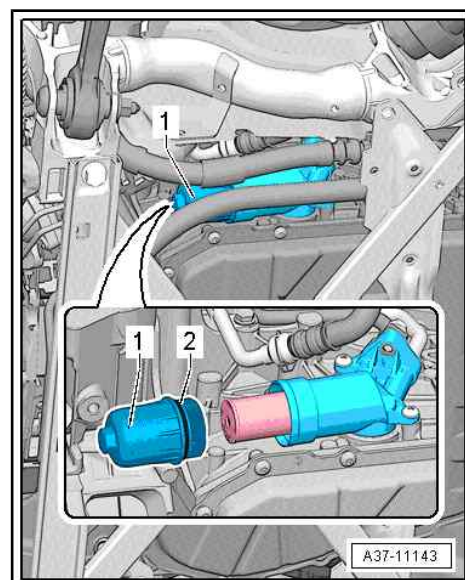
Risk of damage to gearbox

The new exchangeable ATF filter must not come into contact with water. Even small amounts of water, such as drips from the engine compartment or wet hands will cause the surface of the exchangeable ATF filter to swell. Small particles of paper can then separate from the surface of the filter and contaminate the mechatronic unit.

- Lubricate O-ring -2- on new exchangeable ATF filter -1- before fitting.



- Lubricate O-ring -2- on cap -1- for exchangeable ATF filter.
- Screw on cap -1- for exchangeable ATF filter and tighten it to specified torque.



Vehicles without factory-fitted locating element:



Caution

Risk of leaks on filter housing!

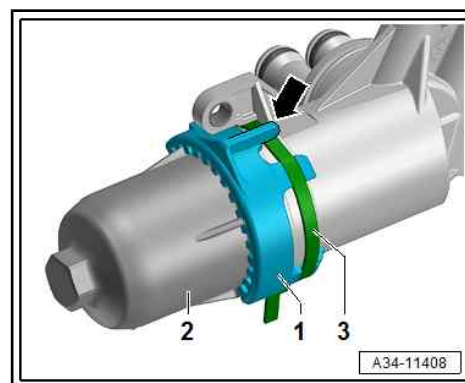
- ◆ *Filter housings without a factory-fitted locating element must always be fitted with a filter cap with a retrofittable locating element -1-.*

- Secure locating element -1- on ATF filter cap -2- with retaining strap -3-.



Note

The lug on the locating element -arrow- should rest against the filter housing, as shown.



All vehicles:

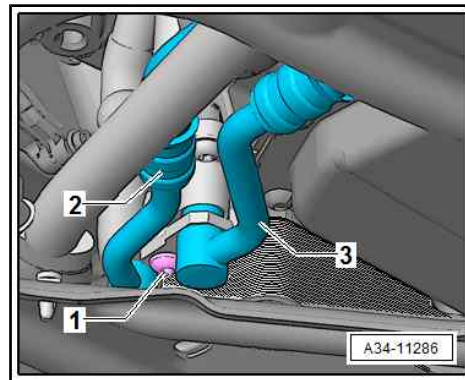
- Renew seals for oil lines -2- and -3-.
- Install oil lines -2- and -3-; screw in and tighten bolt -1-.



Caution

Risk of damage to gearbox

- ◆ *All plugs from engine bung set - VAS 6122- which were inserted in the ATF pipes/hoses and gearbox when dismantling must be removed.*
- ◆ *If you forget to remove the plugs, the ATF cooling will be ineffective and the gearbox will be damaged.*



- Clean gearbox and subframe cross brace.
- Fill up with ATF ⇒ [page 135](#) .

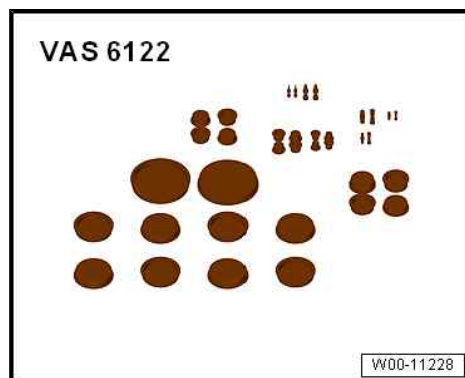
Tightening torques

- ◆ ⇒ [“7.1 Exploded view - ATF circuit”, page 118](#)

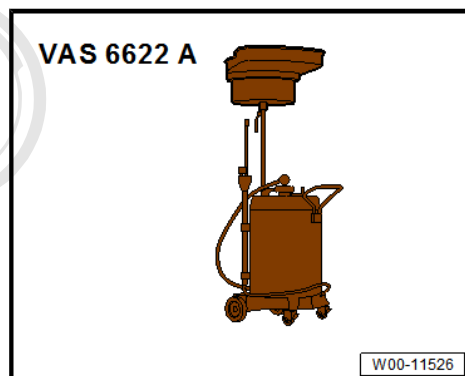
7.3.3 Removing and installing ATF filter housing

Special tools and workshop equipment required

- ◆ Engine bung set - VAS 6122-



- ◆ Used oil collection and extraction unit - VAS 6622A-



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Note

- ◆ Two different ATF filter housing versions are in use.
- ◆ If the locating element -arrow- (fitted at the factory) is not present, renew the ATF filter housing.
- ◆ See also
⇒ ["7.3.2 Removing and installing exchangeable ATF filter"](#),
[page 121](#).

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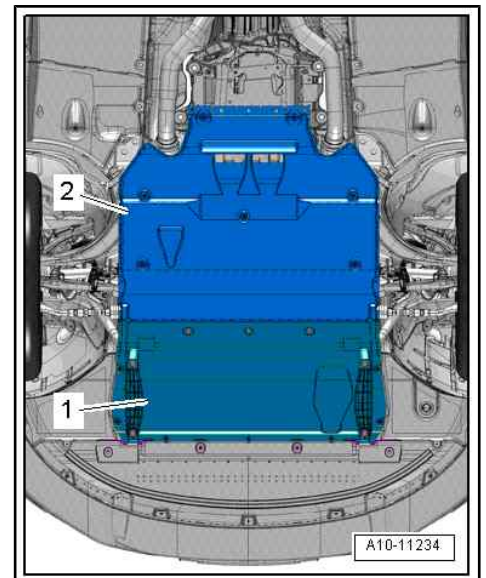
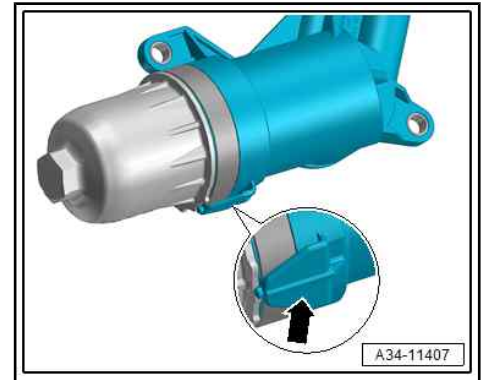
Removing



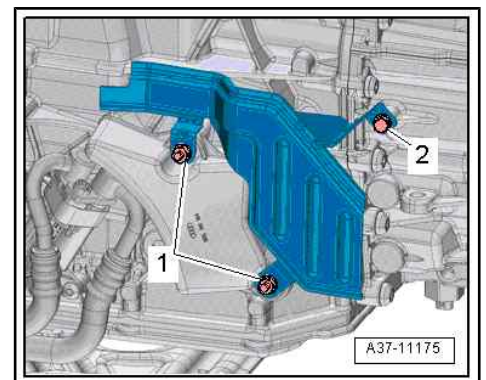
Note

Rules for cleanliness when working on the dual clutch gearbox
⇒ [page 5](#).

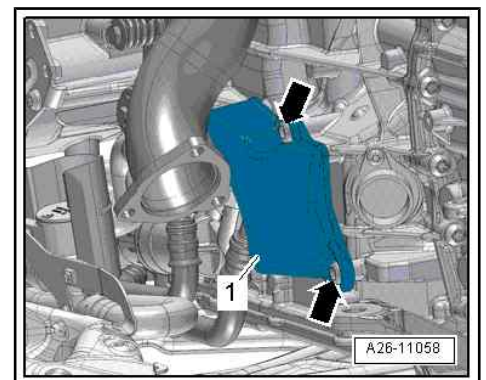
- Remove rear noise insulation -2- ⇒ General body repairs, exterior; Rep. gr. 66 ; Noise insulation; Removing and installing noise insulation .



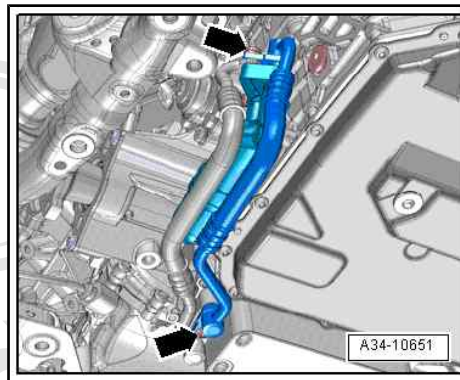
- If fitted, remove nuts -1- and bolt -2- and detach heat shield.



- Remove bolts -arrows- and detach cover -1- at side of gearbox.

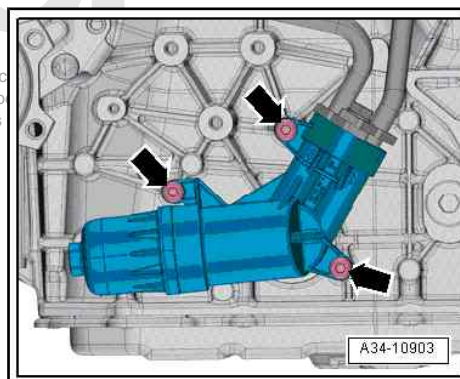


- Place used oil collection and extraction unit - VAS 6622A- below connections.
- Drain ATF ➔ [page 135](#) .
- Remove bolts -arrows- and detach ATF hoses.
- Seal off open lines and connections with clean plugs from engine bung set - VAS 6122- .



- Remove bolts -arrows- and detach filter housing.

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Installing



Caution

Risk of leaks!

- ◆ **Always renew seals on oil lines and filter housing and coat new seals with ATF.**
- ◆ **Ensure that sealing surfaces are clean.**

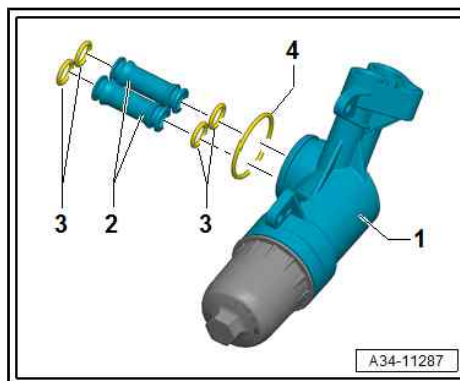
- Pull ATF fluid pipes -2- out of filter housing -1- and press in as far as stop with new seals -3-.
- Renew seal -4-.

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

- First press ATF pipes/hoses onto filter housing and cooler by hand until they engage, then bolt on.
- Fill up with ATF ➔ [page 135](#) .

Tightening torques

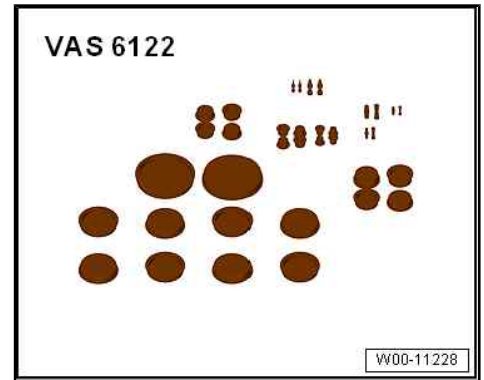
- ◆ ➔ [“7.1 Exploded view - ATF circuit”, page 118](#)
- ◆ ➔ [Fig. ““Heat shield - tightening torques”“, page 119](#)



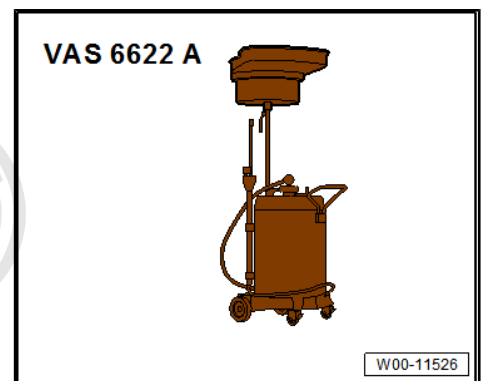
7.4 Removing and installing ATF lines

Special tools and workshop equipment required

◆ Engine bung set - VAS 6122-



◆ Used oil collection and extraction unit - VAS 6622A-



◆ Hose, approx. 18 mm dia.

◆ Compressed-air gun (commercially available)

◆ Safety goggles

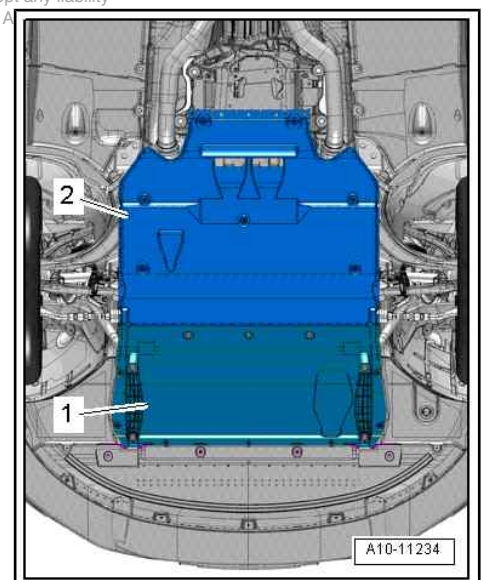
Removing



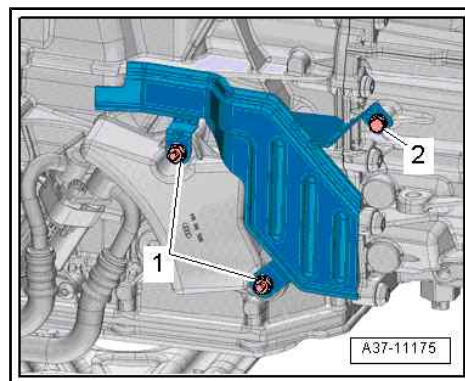
Note

*Rules for cleanliness when working on the dual clutch gearbox
⇒ [page 5](#).*

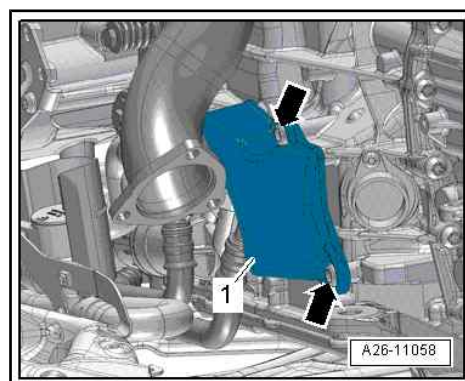
- Remove rear noise insulation -2- ⇒ General body repairs, exterior; Rep. gr. 66 ; Noise insulation; Removing and installing noise insulation .



- If fitted, remove nuts -1- and bolt -2- and detach heat shield.



- Remove bolts -arrows- and detach cover -1- at side of gear-box.



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- Place used oil collection and extraction unit - VAS 6622A- below connections.
- Remove bolts -arrows- and detach ATF hoses.
- Seal off open lines and connections with clean plugs from engine bung set - VAS 6122- .
- Detach ATF pipes/hoses.

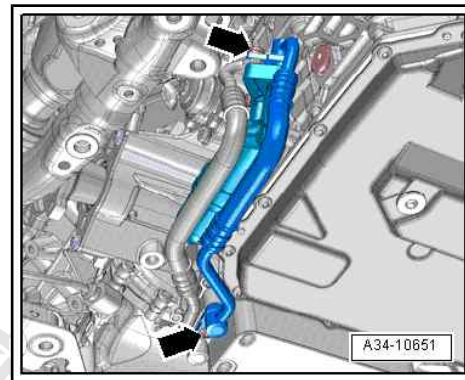
Installing

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



Note

Renew O-rings.



Caution

Risk of damage to gearbox

- ◆ ***All plugs from engine bung set - VAS 6122- which were inserted in the ATF pipes/hoses and gearbox when dismantling must be removed.***
- ◆ ***If you forget to remove the plugs, the ATF cooling will be ineffective and the gearbox will be damaged.***

- First press ATF pipes/hoses onto gearbox and cooler by hand until they engage, then bolt on.
- After installing gearbox, check and correct ATF level
⇒ [page 133](#) .

Cleaning



Note

- ◆ ***Rules for cleanliness when working on the dual clutch gearbox***
⇒ ***“3.1 Rules for cleanliness”, page 5*** .
- ◆ ***The oil lines and oil cooler must always be cleaned before installing a new gearbox.***



WARNING

Risk of eye injury.

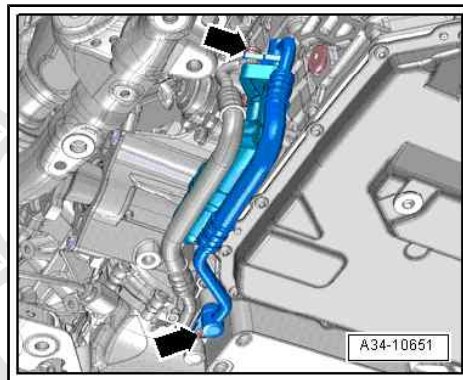
- ◆ ***Put on safety goggles.***

- Place used oil collection and extraction unit - VAS 6622A- below connections.
- Remove bolts -arrows- and detach ATF hoses.
- Blow out ATF cooler and ATF pipes and hoses with compressed air (not more than 10 bar).
- Install in reverse order of removal; refer also to
⇒ [“7.4 Removing and installing ATF lines”, page 128](#)



Note

If the ATF which emerges during cleaning is very dirty, the ATF cooler and the ATF pipes/hoses must additionally be flushed out with clean ATF.



Tightening torques

- ◆ ⇒ [“7.1 Exploded view - ATF circuit”, page 118](#)
- ◆ ⇒ [Fig. ““Heat shield - tightening torques””, page 119](#)

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8 ATF

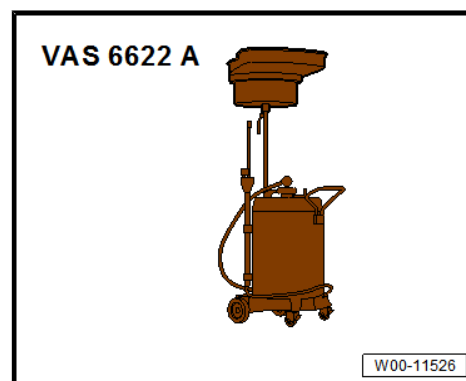
⇒ ["8.1 Checking ATF level", page 133](#)

⇒ ["8.2 Draining and filling ATF", page 135](#)

8.1 Checking ATF level

Special tools and workshop equipment required

- ◆ Vehicle diagnostic tester
- ◆ Used oil collection and extraction unit - VAS 6622A-



- ◆ Safety goggles

**Caution**

Risk of damage to gearbox

- ◆ ***Use only the ATF supplied as a replacement part for dual clutch gearbox 0B5.***
- ◆ ***Select correct type ⇒ Electronic parts catalogue .***
- ◆ ***Other types of ATF or other oils cause malfunctions and/or failure of the gearbox.***
- ◆ ***The ATF filling unit must be clean and the ATF must not be mixed with other types of fluid!***

Note

- ◆ *The ATF temperature is taken from the reading on the vehicle diagnostic tester .*
- ◆ *ATF level will change depending on ATF temperature.*
- ◆ *If ATF level is checked when ATF temperature is too low, this will lead to overfilling.*
- ◆ *If ATF level is checked when ATF temperature is too high, this will lead to underfilling.*
- ◆ *Both overfilling and underfilling will impair the function of the gearbox.*

Test conditions

- Gearbox must not be in emergency running (backup) mode.
- Vehicle must be absolutely horizontal (drive it onto a four-pillar lifting platform or over an inspection pit).
- Selector lever in "P".

- Parking brake button must be pulled up to apply the electro-mechanical parking brake.
- Extractor hose(s) of an exhaust gas extractor must be connected. Extractor switched on.
- Air conditioner and heating switched off.
- Vehicle diagnostic tester is connected.
- The ATF temperature should not be higher than 30°C at the beginning of the test (the temperature will rise during the test).

Checking ATF level

- Using the diagnostic tester in “Guided Fault Finding” mode, go to Function/Component Selection and select the following menu items:
 - ◆ Drive system
 - ◆ 0B5 gearbox
 - ◆ 01 - Self-diagnosis compatible systems
 - ◆ 02 - Gearbox electronics
 - ◆ 02 - Gearbox electronics, Functions
 - ◆ 02 - Measured values
- Select the value for Gearbox oil temperature (ATF) from the menu.
- Read off ATF temperature.

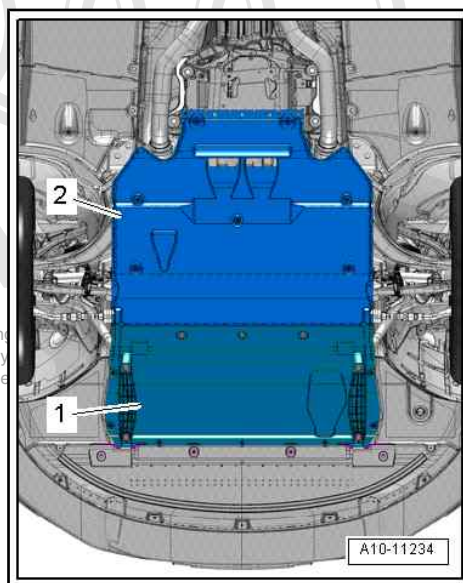


Caution

Risk of damage to gearbox

- ◆ *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 the gearbox must be filled with ATF before proceeding further ⇒ **page 135** .*

- Remove rear noise insulation -2- ⇒ General body repairs, exterior; Rep. gr. 66 ; Noise insulation; Removing and installing noise insulation .
- Start engine with selector lever in position “P”.
- With brake pedal still depressed, select all gear positions (“P”, “R”, “N”, “D”, “S”) one after the other at idling speed, maintaining each position for at least 10 seconds.
- Shift selector lever into position “N”.
- Move selector lever to position “P”.
- Allow engine to continue running at idling speed.



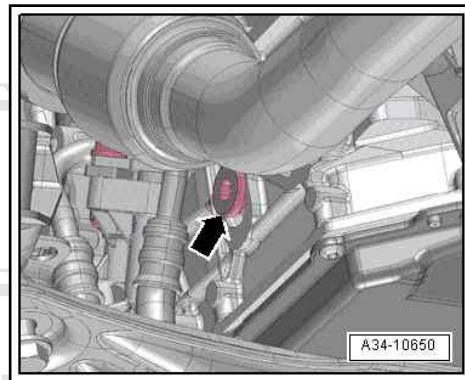
- Place used oil collection and extraction unit - VAS 6622A- below gearbox.



WARNING

Risk of eye injury.

- ◆ *Put on safety goggles.*



- When ATF reaches a temperature of 30 °C, unscrew ATF inspection plug -arrow-.
- The ATF level is correct if a small amount of fluid comes out at the ATF inspection plug when the ATF temperature is between 30 and 50 °C. If this is not the case, top up ATF [⇒ page 135](#).



Note

The ATF inspection plug must be screwed in again before the ATF reaches a temperature of 50 °C.

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- Tighten ATF inspection plug.

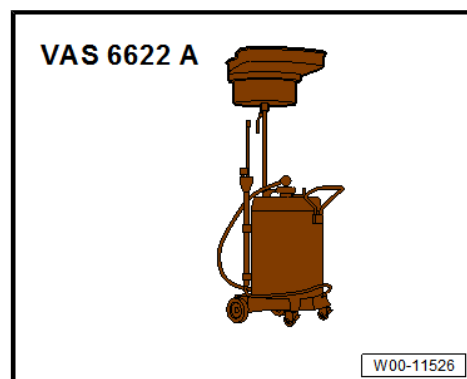
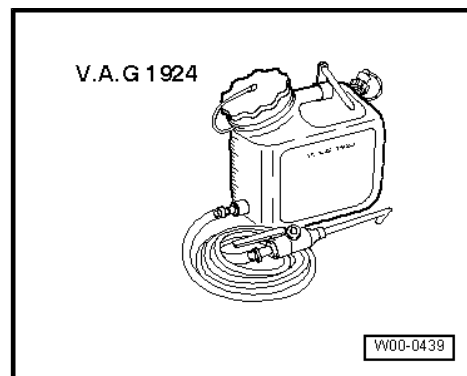
Tightening torques

- ◆ [⇒ "3.1 Overview of fitting locations - drain and inspection plugs", page 149](#)
- ◆ [⇒ General body repairs, exterior; Rep. gr. 66 ; Noise insulation; Exploded view - noise insulation](#)

8.2 Draining and filling ATF

Special tools and workshop equipment required

- ◆ ATF filling unit - V.A.G 1924-
- ◆ Used oil collection and extraction unit - VAS 6622A-



◆ Safety goggles



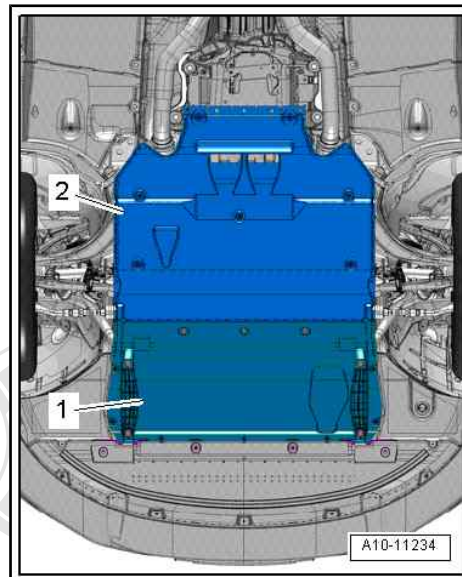
Caution

Risk of damage to gearbox

- ◆ *The engine must not be started when there is no more ATF in the gearbox.*

Draining ATF

- Engine not running.
- Vehicle must be absolutely horizontal (drive it onto a four-pillar lifting platform or over an inspection pit).
- Selector lever in "P".
- Parking brake button must be pulled up to apply the electro-mechanical parking brake.
- Remove rear noise insulation -2- ⇒ General body repairs, exterior; Rep. gr. 66 ; Noise insulation; Removing and installing noise insulation .



- Place used oil collection and extraction unit - VAS 6622A- below gearbox.

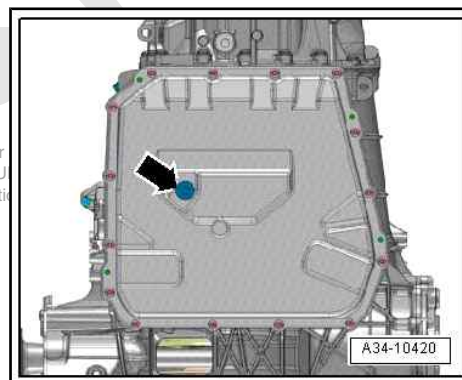


WARNING

Risk of eye injury.

- ◆ *Put on safety goggles.*

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- Remove ATF drain plug -arrow- and allow ATF to drain off.
- Renew seal for ATF drain plug.
- Tighten ATF drain plug.



Note

The exchangeable ATF filter must always be renewed if the ATF is changed ⇒ [page 121](#) .

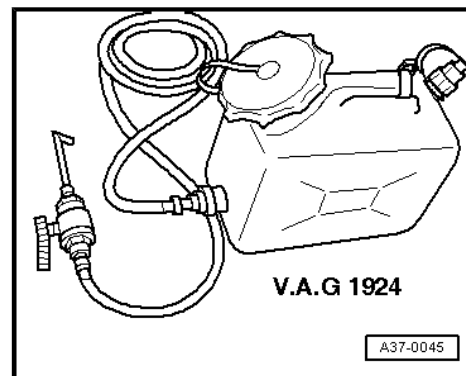
Filling gearbox with ATF



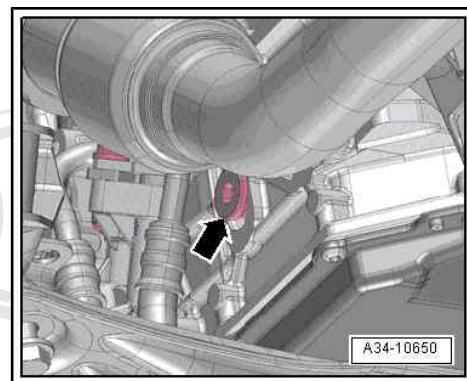
Caution

Risk of damage to gearbox

- ◆ *Use only the ATF supplied as a replacement part for dual clutch gearbox 0B5.*
- ◆ *Select correct type ⇒ Electronic parts catalogue .*
- ◆ *Other types of ATF or other oils cause malfunctions and/or failure of the gearbox.*
- ◆ *The ATF filling unit must be clean and the ATF must not be mixed with other types of fluid!*
- ◆ *The engine must not be started if only a little or no ATF remains in gearbox after repair work or after excessive ATF leakage.*



- Fill reservoir of ATF filling unit -V.A.G 1924- with ATF for "dual clutch gearbox 0B5". For ATF specification refer to ⇒ Electronic parts catalogue .
- Secure reservoir for ATF filling unit -V.A.G 1924- as high as possible on vehicle.
- Remove ATF inspection plug -arrow-.
- Insert filler nozzle of ATF filling unit -V.A.G 1924- into ATF inspection hole.
- Fill with ATF using ATF filling unit - V.A.G 1924- until ATF comes out of inspection hole.
- Move selector lever to position "P".
- Start engine and turn off after 20 seconds.
- Continue filling with ATF using ATF filling unit - V.A.G 1924- until ATF comes out of inspection hole.
- Start engine and allow to run at idling speed.
- Continue filling with ATF using ATF filling unit - V.A.G 1924- until ATF comes out of inspection hole again.
- Fit ATF inspection plug.
- Check ATF level ⇒ [page 133](#) .



Tightening torques

- ◆ ⇒ ["3.1 Overview of fitting locations - drain and inspection plugs", page 149](#)

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35 – Gears, shafts

1 Input shaft

⇒ [“1.1 Renewing ball bearing for input shaft”, page 138](#)

⇒ [“1.2 Renewing input shaft oil seal”, page 138](#)

1.1 Renewing ball bearing for input shaft

- Gearbox removed



Note

All repair work and tightening torques are described in Workshop Manual “Servicing 7-speed dual clutch gearbox 0B5 (S tronic)”.

Description of work sequence ⇒ Servicing 7-speed dual clutch gearbox 0B5 (S tronic); Rep. gr. 35 ; Input shaft

1.2 Renewing input shaft oil seal

- Gearbox removed

Description of work sequence ⇒ Servicing 7-speed dual clutch gearbox 0B5 (S tronic); Rep. gr. 35 ; Input shaft; Renewing input shaft oil seal .



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39 – Final drive - front differential

1 Final drive

⇒ [“1.1 Exploded view - final drive”, page 139](#)

1.1 Exploded view - final drive

1 - Flywheel

- ☐ Removing and installing
⇒ Servicing 7-speed dual clutch gearbox 0B5 (S tronic); Rep. gr. 30 ; Clutch; Removing and installing flywheel

2 - Oil seal

- ☐ For flange shaft (left-side)
- ☐ Between final drive and gearbox housing
- ☐ Renewing ⇒ Servicing 7-speed dual clutch gearbox 0B5 (S tronic); Rep. gr. 39 ; Oil seals; Renewing oil seal (left-side)

3 - Shim

- ☐ Behind tapered roller bearing outer race

4 - Tapered roller bearing outer race

5 - Differential

6 - Bolt

- ☐ 10x
- ☐ Tightening torque and sequence ⇒ Servicing 7-speed dual clutch gearbox 0B5 (S tronic); Rep. gr. 39 ; Final drive; Exploded view - final drive

7 - Circlip

- ☐ Renew

8 - Flange shaft (right-side)

- ☐ ⇒ [“5.2 Removing and installing flange shaft \(right-side\)”, page 152](#)

9 - Oil seal

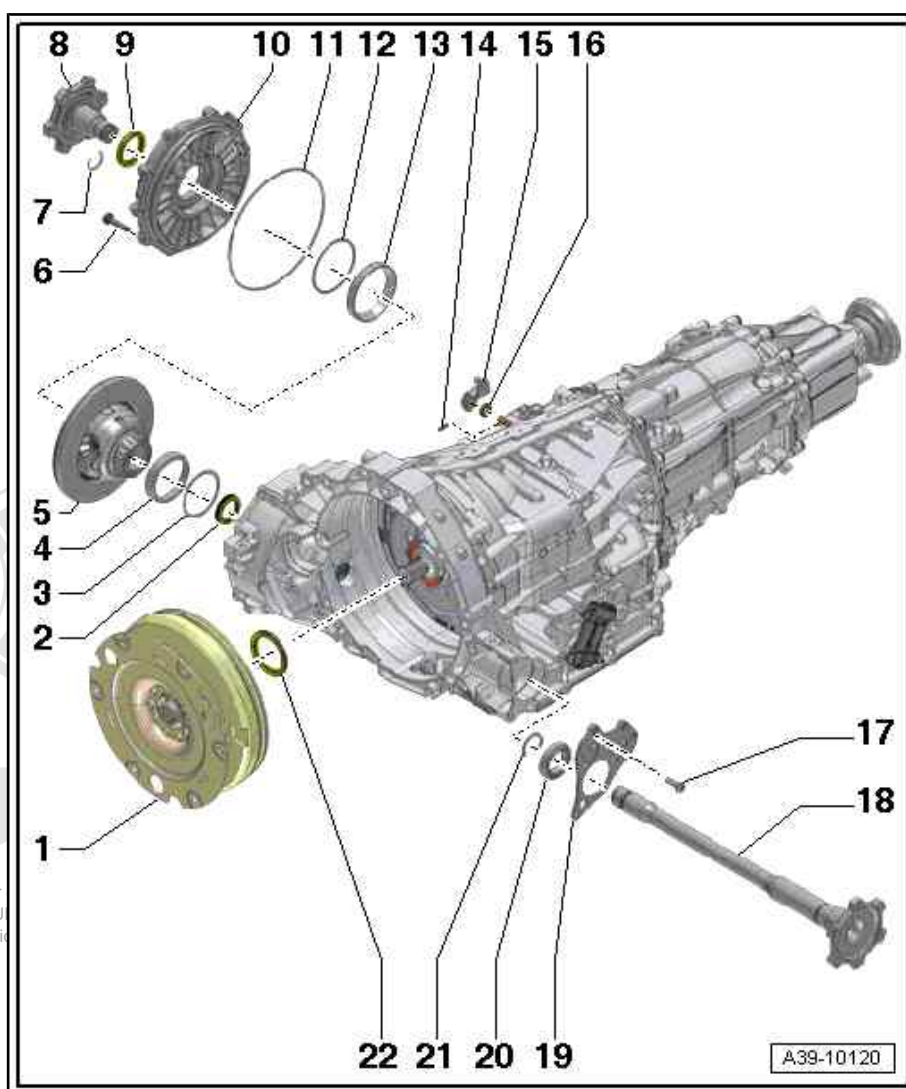
- ☐ For flange shaft (right-side)
- ☐ Renewing ⇒ Servicing 7-speed dual clutch gearbox 0B5 (S tronic); Rep. gr. 39 ; Oil seals; Renewing oil seal (right-side)

10 - Cover for front final drive

- ☐ Removing and installing ⇒ Servicing 7-speed dual clutch gearbox 0B5 (S tronic); Rep. gr. 39 ; Oil seals; Renewing oil seal (left-side)

11 - O-ring

- ☐ On cover for front final drive





- ☐ Renew

12 - Shim

- ☐ Behind tapered roller bearing outer race

13 - Tapered roller bearing outer race

14 - Roll pin

15 - Gearbox selector lever

16 - Oil seal

- ☐ For selector shaft
- ☐ ⇒ ["1.14 Renewing selector shaft oil seal", page 48](#)

17 - Bolt

- ☐ 3x
- ☐ Tightening torque ⇒ Servicing 7-speed dual clutch gearbox 0B5 (S tronic); Rep. gr. 39 ; Final drive; Exploded view - final drive

18 - Flange shaft (left-side)

- ☐ Removing and installing ⇒ Servicing 7-speed dual clutch gearbox 0B5 (S tronic); Rep. gr. 39 ; Differential; Removing and installing flange shaft (left-side)

19 - Bearing plate

- ☐ Secured to flange shaft (left-side) together with bearing -item 20- by circlip -21-.

20 - Bearing

- ☐ For flange shaft (left-side)
- ☐ Pressed onto flange shaft (left-side)

21 - Circlip

- ☐ For bearing for flange shaft (left-side)
- ☐ Renew

22 - Oil seal

- ☐ For input shaft
- ☐ Renewing ⇒ Servicing 7-speed dual clutch gearbox 0B5 (S tronic); Rep. gr. 35 ; Input shaft; Renewing input shaft oil seal

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2 Gear oil

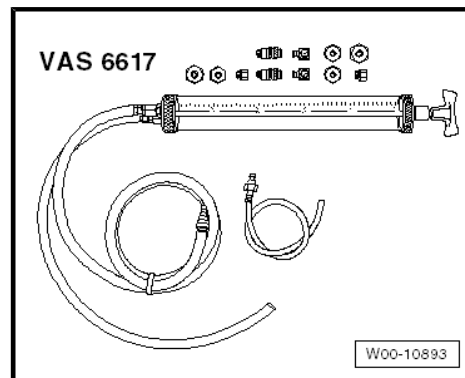
⇒ [“2.1 Checking gear oil level”, page 141](#)

⇒ [“2.2 Draining and filling gear oil”, page 143](#)

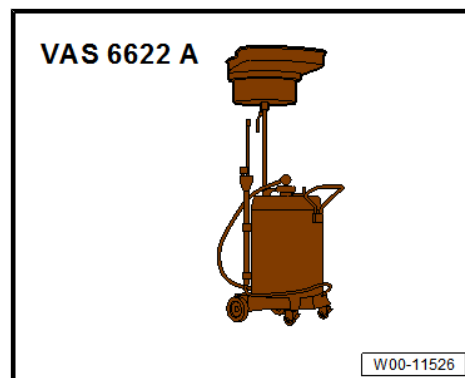
2.1 Checking gear oil level

Special tools and workshop equipment required

- ◆ Hand pump for gear oil - VAS 6617-



- ◆ Used oil collection and extraction unit - VAS 6622A-



- ◆ Safety goggles

Procedure



Note

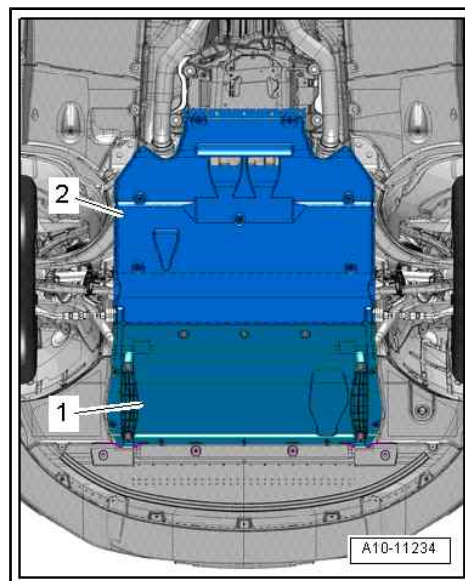
- ◆ Observe the general repair instructions ⇒ [page 6](#).
- ◆ Rules for cleanliness when working on the dual clutch gearbox ⇒ [page 5](#).
- ◆ Always use the correct fluid for the different parts of the gearbox: gear oil (MTF) system and ATF system.

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- ◆ The gearbox section (gear clusters), the front final drive and the transfer box in the dual clutch gearbox 0B5 have a common oil system (MTF). The same plug is used for filling and inspection.

- Gear oil about 20 °C (room temperature).
- Vehicle must be absolutely horizontal (drive it onto a four-pillar lifting platform or over an inspection pit).
- The hand pump for gear oil - VAS 6617- must be clean; flush out with gear oil (MTF) if necessary. The oil must not be mixed with other lubricants.

- The vehicle must be stationary with the engine switched off for at least 15 minutes to allow the oil level to stabilise.
- Remove rear noise insulation -2- ➔ General body repairs, exterior; Rep. gr. 66 ; Noise insulation; Removing and installing noise insulation .



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 Note

A cloth should be placed on the tunnel cross member to prevent gear oil (MTF) from running into the casting pockets on the tunnel cross member.

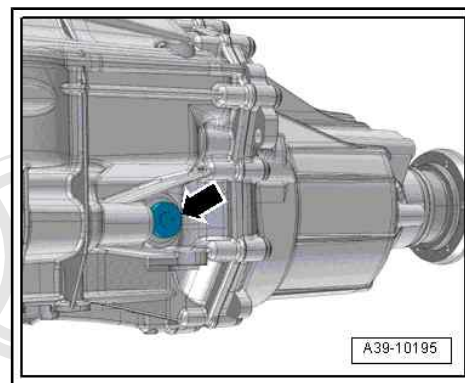
- Place used oil collection and extraction unit - VAS 6622A- below gearbox.



WARNING

Risk of eye injury.

◆ *Put on safety goggles.*



- Unscrew filler and inspection plug -arrow- at side of gearbox housing.
- Gear oil level (MTF) must be up to bottom lip of filler and inspection hole.

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If gear oil level (MTF) is not up to bottom lip of filler and inspection hole:

- Using hand pump for gear oil - VAS 6617- , fill up slowly with gear oil (MTF) until oil comes out at filler and inspection hole.
- Gear oil (MTF) specifications ⇒ Electronic parts catalogue
- Repeat the procedure in several steps by adding gear oil (MTF) every 15 seconds until the gearbox will not take any more oil.

 Note

Make sure to wait the required amount of time so that the various oil chambers in the gearbox are filled evenly.

- Tighten plug.

The remaining installation steps are carried out in reverse sequence; note the following:

 Note

Any gear oil (MTF) which has run into the casting pockets on the tunnel cross member must be removed completely.

- Remove cloth on tunnel cross member.
- Clean tunnel cross member and remove any remaining gear oil.

Tightening torques

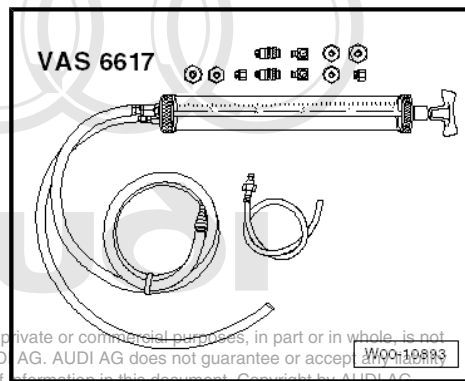
◆ ⇒ [page 149](#)

◆ ⇒ General body repairs, exterior; Rep. gr. 66 ; Noise insulation; Exploded view - noise insulation

2.2 Draining and filling gear oil

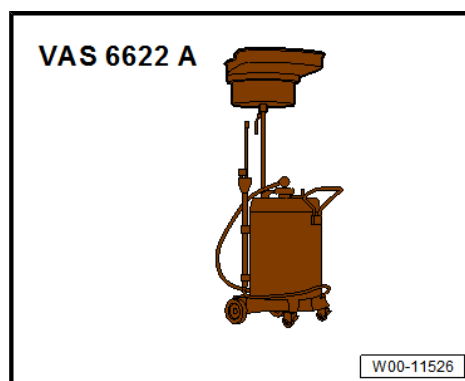
Special tools and workshop equipment required

◆ Hand pump for gear oil - VAS 6617-



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◆ Used oil collection and extraction unit - VAS 6622A-



◆ Safety goggles

Draining



Note

- ◆ *Observe the general repair instructions ⇒ [page 6](#).*
- ◆ *Rules for cleanliness when working on the dual clutch gearbox ⇒ [page 5](#).*
- Gear oil about 20 °C (room temperature).
- Vehicle must be absolutely horizontal (drive it onto a four-pillar lifting platform or over an inspection pit).

- Remove rear noise insulation -2- ➔ General body repairs, exterior; Rep. gr. 66 ; Noise insulation; Removing and installing noise insulation .
- Place used oil collection and extraction unit - VAS 6622A- below gearbox.



WARNING

Risk of eye injury.

◆ *Put on safety goggles.*



Note

- ◆ *A cloth should be placed on the tunnel cross member to prevent gear oil (MTF) from running into the casting pockets on the tunnel cross member.*
- ◆ *In the following description, vehicles with drain plug for gear oil (MTF) are differentiated from vehicles that are fitted with gearbox oil temperature sender 2 - G754- instead of drain plug for gear oil (MTF).*

- Place suitable cloth on tunnel cross member.

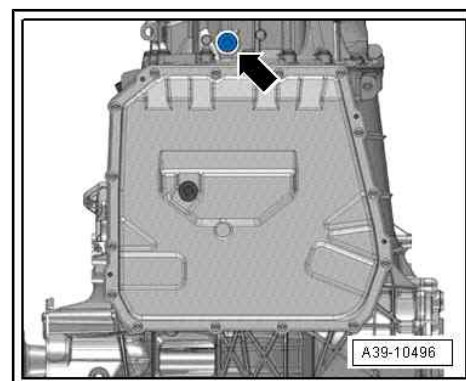
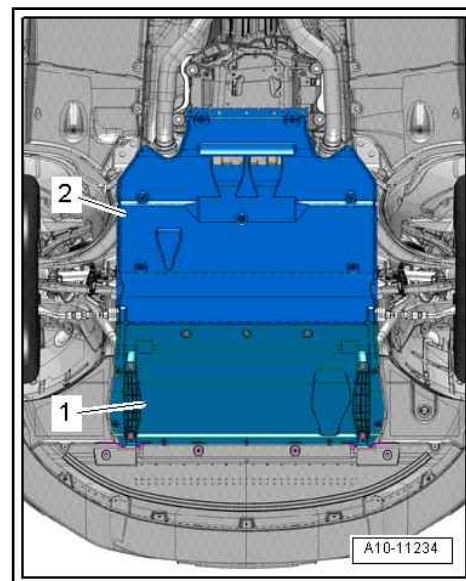
Vehicles with drain plug for gear oil (MTF) -arrow-:



Note

The drain plug for gear oil (MTF) is located behind the gearbox oil pan.

- Unscrew drain plug for gear oil (MTF) -arrow- under gearbox housing.
- Drain gear oil (MTF).
- Tighten drain plug for gear oil (MTF) -arrow-.



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Vehicles with gearbox oil temperature sender 2 - G754- -1- fitted in place of drain plug for gear oil (MTF):

- Switch off ignition.



Note

Always switch off ignition before unplugging connector at gearbox oil temperature sender 2 - G754- . If the ignition is on, the gearbox reverts to a backup programme. This increments the counter for high temperature operation, and after 10 minutes an entry is recorded in the event memory of the automatic gearbox control unit - J217- .

- Unplug connector -2- from gearbox oil temperature sender 2 - G754- , move clear to the top and tie up.



Note

Keep gear oil away from connector -2- and contacts on gearbox oil temperature sender 2 - G754- . The connector contacts must be cleaned immediately if they come into contact with gear oil (MTF). The gear oil (MTF) causes contact problems in the connector contacts.

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- Unscrew gearbox oil temperature sender 2 - G754- -1-.
- Drain gear oil (MTF).
- Tighten gearbox oil temperature sender 2 - G754- -1- and plug in connector -2-.
- Tightening torque: gearbox oil temperature sender 2 - G754- to gearbox, 45 Nm

Continued for all vehicles:

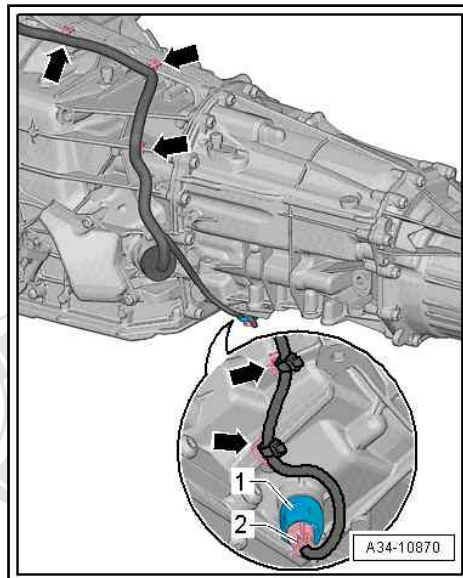


Caution

Risk of damage to gearbox

If there is no gear oil (MTF) in the gearbox (or not enough oil):

- ◆ ***The engine must not be started.***
- ◆ ***The vehicle must not be towed.***



Filling



Note

- ◆ *Observe the general repair instructions ➔ [page 6](#) .*
- ◆ *Rules for cleanliness when working on the dual clutch gearbox ➔ [page 5](#) .*
- Gear oil about 20 °C (room temperature).
- Vehicle must be absolutely horizontal (drive it onto a four-pillar lifting platform or over an inspection pit).
- The hand pump for gear oil - VAS 6617- must be clean; flush out with gear oil (MTF) if necessary. The oil must not be mixed with other lubricants.

- The vehicle must be stationary with the engine switched off for at least 15 minutes to allow the oil level to stabilise.
- Remove rear noise insulation if necessary ⇒ General body repairs, exterior; Rep. gr. 66 ; Noise insulation; Removing and installing noise insulation .

 Note

A cloth should be placed on the tunnel cross member to prevent gear oil (MTF) from running into the casting pockets on the tunnel cross member.

- Place used oil collection and extraction unit - VAS 6622A- below gearbox.

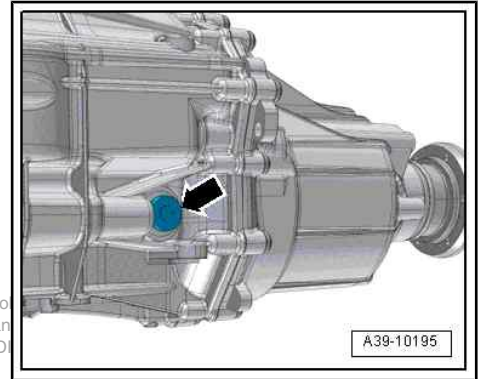


WARNING

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Risk of eye injury.

◆ ***Put on safety goggles.***



- Unscrew filler and inspection plug -arrow- at side of gearbox housing.
- Using hand pump for gear oil - VAS 6617- , fill up with gear oil (MTF) until oil comes out at filler and inspection hole.
- Gear oil (MTF) specifications ⇒ Electronic parts catalogue
- Repeat the procedure, adding 50 ml of gear oil (MTF) every 15 seconds until the gearbox will not take any more oil.

 Note

Make sure to wait the required amount of time so that the various oil chambers in the gearbox are filled evenly.

- Gear oil level (MTF) must be up to bottom lip of filler and inspection hole.
- Tighten plug.

 Note

The level does not need to be re-checked after this step.

The remaining installation steps are carried out in reverse sequence; note the following:

 Note

Any gear oil (MTF) which has run into the casting pockets on the tunnel cross member must be removed completely.

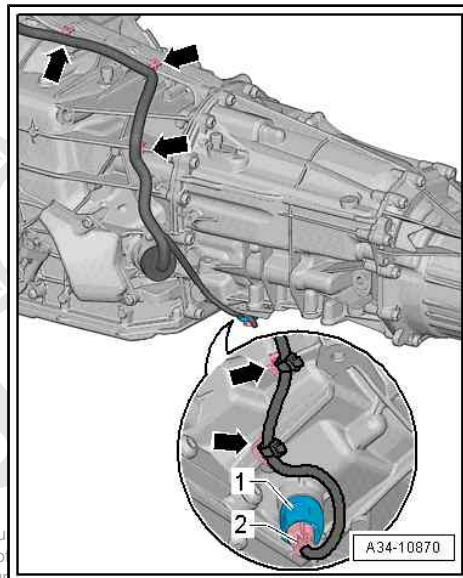
- Remove cloth on tunnel cross member.
- Clean tunnel cross member and remove any remaining gear oil.

Applies only to vehicles with gearbox oil temperature sender 2 - G754- -item 1-:

- After changing gear oil, perform "Guided Function" [02 - Re-set temperature counter (G754)] using vehicle diagnostic tester ➔ [page 166](#) .

Tightening torques

- ◆ ➔ ["3.1 Overview of fitting locations - drain and inspection plugs", page 149](#)
- ◆ ➔ General body repairs, exterior; Rep. gr. 66 ; Noise insulation; Exploded view - noise insulation



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3 ATF

⇒ [“3.1 Overview of fitting locations - drain and inspection plugs”,
page 149](#)

3.1 Overview of fitting locations - drain and inspection plugs



The gearbox section (gear clusters), the front final drive and the transfer box in the dual clutch gearbox 0B5 have a common oil system. The same plug is used for filling and inspection.

1 - ATF drain plug

- ☐ 45 Nm

2 - Seal

- ☐ For ATF drain plug
- ☐ Renew

3 - Filler and inspection plug for gear oil (MTF)

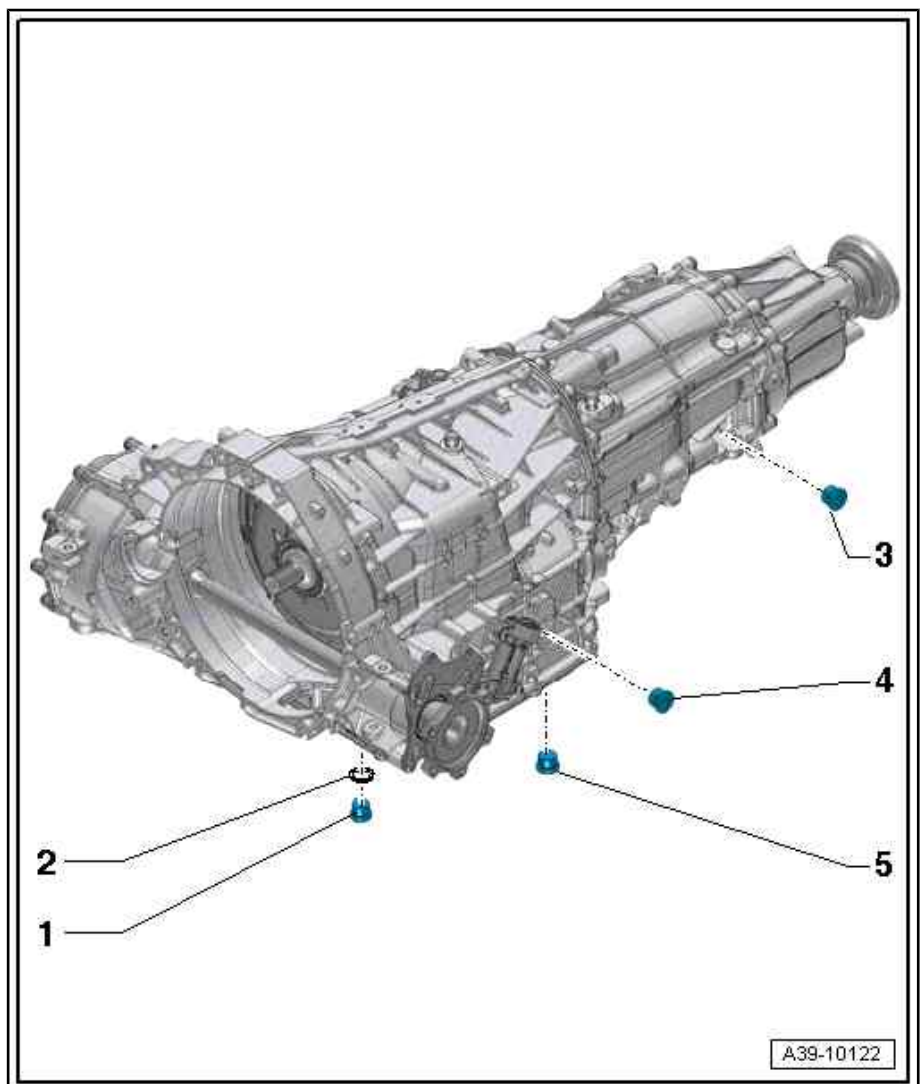
- ☐ In gearbox section, front final drive and transfer box
- ☐ 45 Nm

4 - ATF filler and inspection plug

- ☐ 45 Nm

5 - Drain plug for gear oil (MTF)

- ☐ In gearbox section, front final drive and transfer box
- ☐ 45 Nm
- ☐ On some versions the gearbox oil temperature sender 2 - G754- also serves as a drain plug for the gear oil (MTF); tightening torque, removing and installing
⇒ [page 146](#)



4 Oil seals

⇒ [“4.1 Overview of fitting locations - oil seals”, page 150](#)

⇒ [“4.2 Renewing oil seal \(left-side\)”, page 150](#)

⇒ [“4.3 Renewing oil seal \(right-side\)”, page 151](#)

4.1 Overview of fitting locations - oil seals

1 - Oil seal

- ☐ For input shaft
- ☐ Renewing ⇒ Servicing 7-speed dual clutch gearbox 0B5 (S tronic); Rep. gr. 35 ; Input shaft; Renewing input shaft oil seal

2 - Oil seal (left-side)

- ☐ For flange shaft
- ☐ Renewing ⇒ Servicing 7-speed dual clutch gearbox 0B5 (S tronic); Rep. gr. 39 ; Oil seals; Renewing oil seal (left-side)

3 - Cover for front final drive

4 - Oil seal (right-side)

- ☐ For flange shaft
- ☐ Renewing ⇒ [page 151](#)

5 - O-ring

- ☐ On cover for front final drive
- ☐ Can only be renewed with gearbox removed

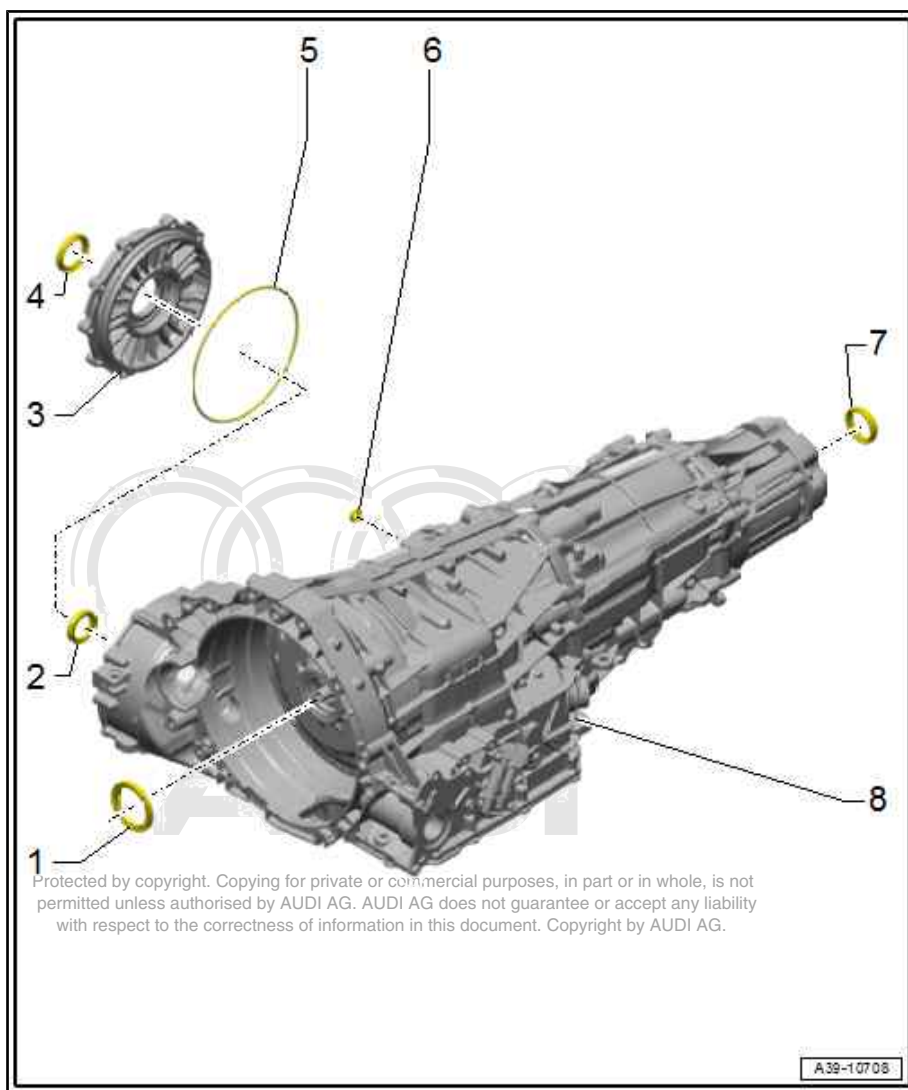
6 - Oil seal

- ☐ For selector shaft
- ☐ Renewing ⇒ [page 48](#)

7 - Oil seal

- ☐ For rear splined shaft
- ☐ Renewing ⇒ Servicing 7-speed dual clutch gearbox 0B5 (S tronic); Rep. gr. 39 ; Centre differential; Renewing oil seal for rear splined shaft

8 - Gearbox



4.2 Renewing oil seal (left-side)

- Gearbox removed

Description of work sequence ⇒ Servicing 7-speed dual clutch gearbox 0B5 (S tronic); Rep. gr. 39 ; Oil seals; Renewing oil seal (left-side) .

4.3 Renewing oil seal (right-side)

Procedure

- Gearbox installed or removed
- Remove flange shaft (right-side) ➔ [page 152](#) .
- Renew oil seal for flange shaft (right-side) ➔ Servicing 7-speed dual clutch gearbox 0B5 (S tronic); Rep. gr. 39 ; Oil seals; Renewing oil seal (right-side) .
- Install flange shaft (right-side) ➔ [page 152](#) .



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5 Differential

⇒ **"5.1 Removing and installing flange shaft (left-side)",**
page 152

⇒ **"5.2 Removing and installing flange shaft (right-side)",**
page 152

5.1 Removing and installing flange shaft (left-side)

- Gearbox removed

Description of work sequence ⇒ Servicing 7-speed dual clutch gearbox 0B5 (S tronic); Rep. gr. 39 ; Differential; Removing and installing flange shaft (left-side)

5.2 Removing and installing flange shaft (right-side)

Special tools and workshop equipment required

- ◆ Drift - VW 295-

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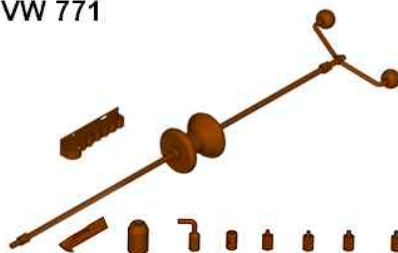
VW 295



W00-0125

- ◆ Multi-purpose tool - VW 771-

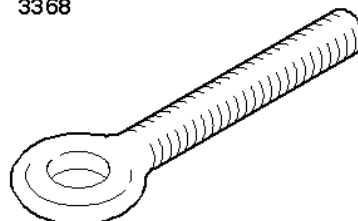
VW 771



W00-11119

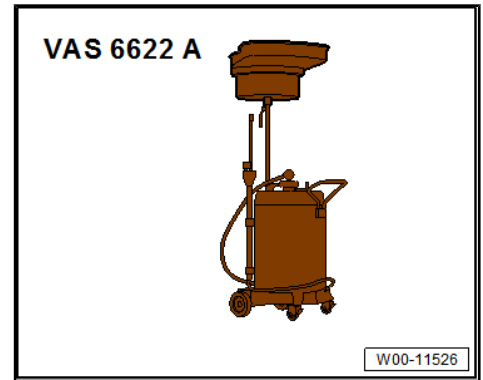
- ◆ Eye-head bolt - 3368-

3368



W00-0197

- ◆ Used oil collection and extraction unit - VAS 6622A-

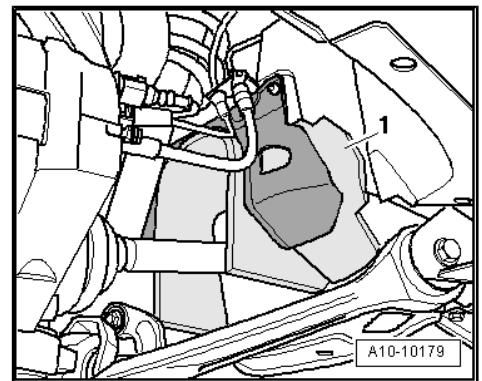


- ◆ Sealing grease ⇒ Electronic parts catalogue

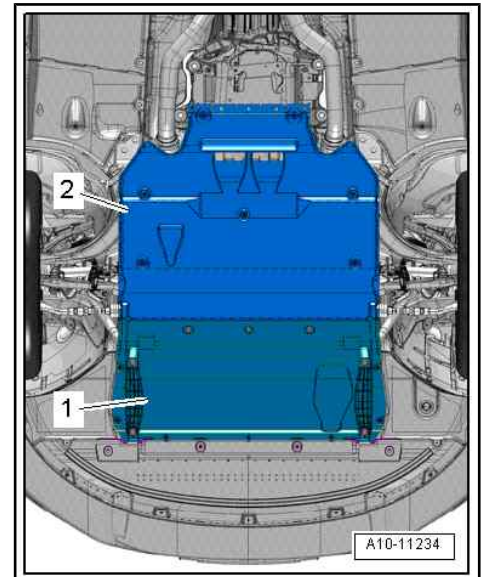
- ◆ Nuts M10 (2x)

Removing

- Gearbox in vehicle
- Remove front right wheel.
- Remove cover -1- for drive shaft (right-side) from wheel housing.

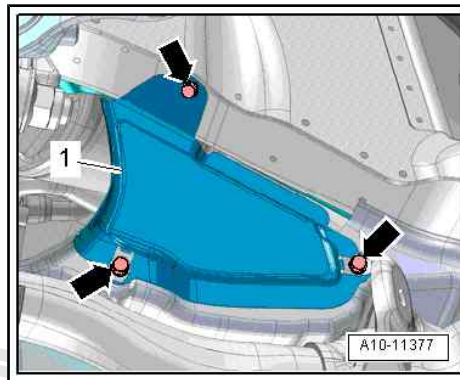


- Remove rear noise insulation -2- ⇒ General body repairs, exterior; Rep. gr. 66 ; Noise insulation; Removing and installing noise insulation .

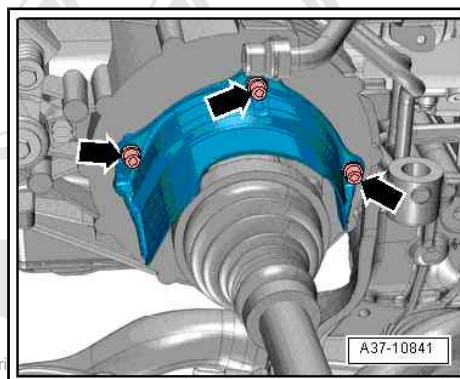


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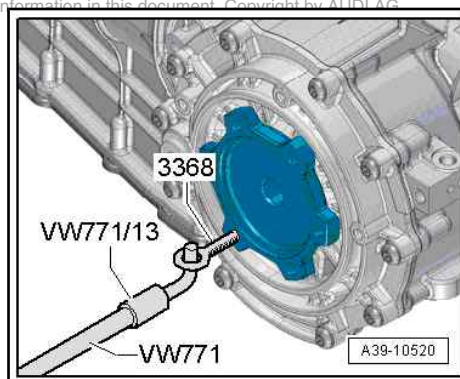
- Remove bolts -arrows- and detach heat shield -1- (right-side).



- Remove bolts -arrows- and detach heat shield for drive shaft (right-side).
- Unbolt drive shaft (right-side) from flange shaft on gearbox and move drive shaft to rear.



- Place used oil collection and extraction unit - VAS 6622A- below gearbox.
- Screw eye-head bolt - 3368- into threaded hole in flange shaft (right-side).
- Attach multi-purpose tool - VW 771- with -VW 771/13- to eye-head bolt - 3368- and knock out flange shaft.



Installing

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

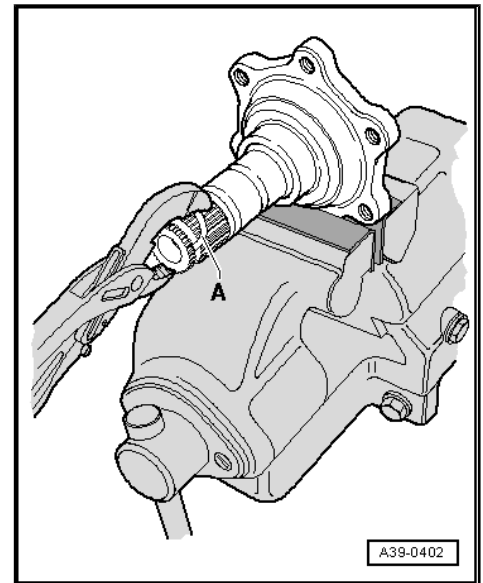


Renew circlip for flange shaft (right-side).

- Clamp flange shaft in vice, using jaw protectors. Use new circlip -A- to press old circlip out of groove in flange shaft.
- Pack space between sealing lip and dust lip half full with sealing grease; for sealing grease refer to ⇒ Electronic parts catalogue .
- Drive in flange shaft (right-side) with drift - VW 295- .
- Check gear oil level in final drive and top up as required
⇒ [page 141](#) .

Tightening torques

- ◆ ⇒ Running gear, axles, steering; Rep. gr. 40 ; Drive shaft;
Exploded view - drive shaft
- ◆ ⇒ General body repairs, exterior; Rep. gr. 66 ; Strips / trim
panels / extensions; Exploded view - heat shield



Audi

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6 Centre differential

⇒ ["6.1 Exploded view - centre differential", page 156](#)

⇒ ["6.2 Removing and installing centre differential", page 157](#)

⇒ ["6.3 Renewing oil seal for rear splined shaft", page 161](#)

6.1 Exploded view - centre differential



Note

- ◆ Observe the general repair instructions ⇒ [page 6](#).
- ◆ Rules for cleanliness when working on the dual clutch gearbox ⇒ [page 5](#).

1 - Bolt

- Tightening torque ⇒ Servicing 7-speed dual clutch gearbox 0B5 (S tronic); Rep. gr. 39 ; Centre differential

2 - Bolt

- Aluminium bolts
- 11x
- Tightening torque ⇒ Servicing 7-speed dual clutch gearbox 0B5 (S tronic); Rep. gr. 39 ; Centre differential

3 - Housing

- For centre differential
- ⇒ ["6.2 Removing and installing centre differential", page 157](#)

4 - Bearing plate

- Installation position: shoulder must engage in recess in gearbox housing

5 - Centre differential

6 - Spring

7 - Assembly sleeve

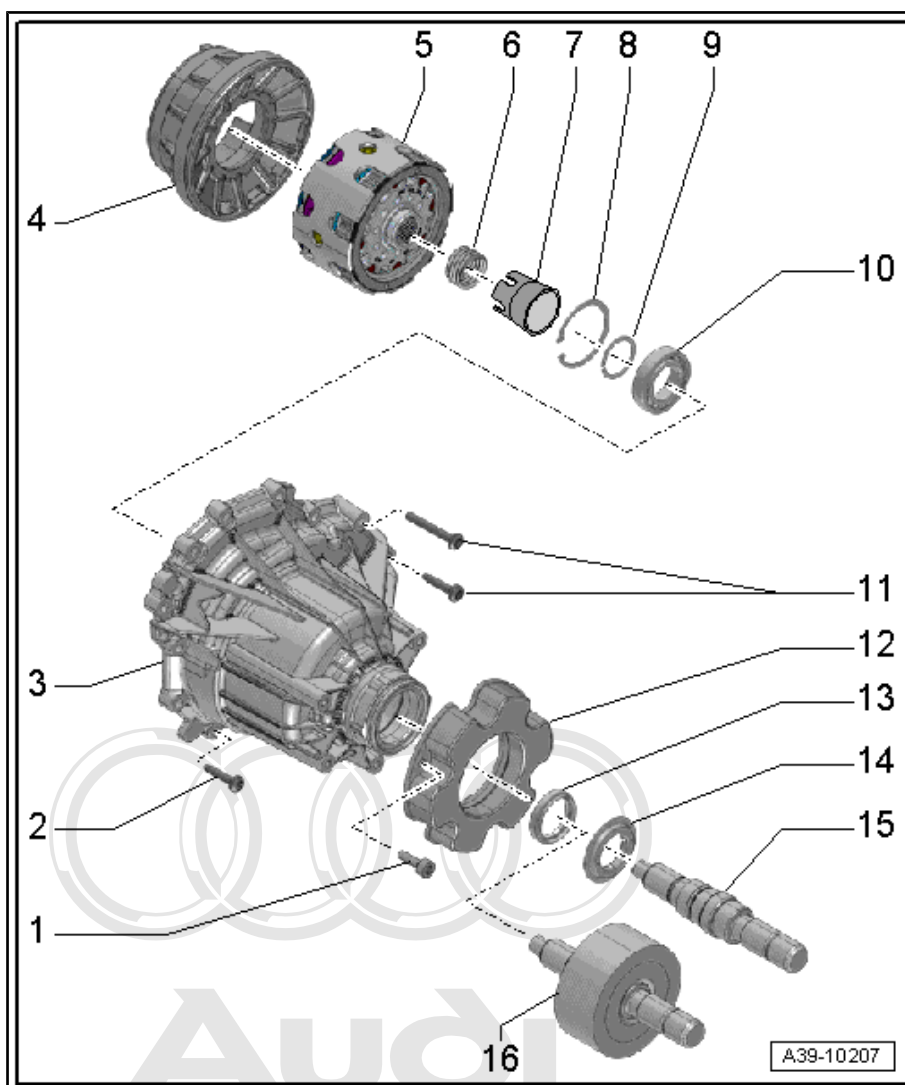
- Does not have to be re-installed

8 - Circlip

- For ball bearing for rear splined shaft
- Removing and installing ⇒ Servicing 7-speed dual clutch gearbox 0B5 (S tronic); Rep. gr. 39 ; Centre differential

9 - Circlip

- For rear splined shaft
- Removing and installing ⇒ Servicing 7-speed dual clutch gearbox 0B5 (S tronic); Rep. gr. 39 ; Centre differential



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10 - Ball bearing

- ☐ For rear splined shaft
- ☐ Removing and installing ⇒ Servicing 7-speed dual clutch gearbox 0B5 (S tronic); Rep. gr. 39 ; Centre differential

11 - Bolt

- ☐ Steel bolts
- ☐ 2x
- ☐ Tightening torque ⇒ Servicing 7-speed dual clutch gearbox 0B5 (S tronic); Rep. gr. 39 ; Centre differential

12 - Damper weight

- ☐ Depending on version

13 - Oil seal

- ☐ Renewing ⇒ Servicing 7-speed dual clutch gearbox 0B5 (S tronic); Rep. gr. 39 ; Centre differential; Renewing oil seal for rear splined shaft

14 - Dust ring

- ☐ Renew if removed

15 - Rear splined shaft without vibration damper

- ☐ For correct version, refer to ⇒ Electronic parts catalogue
- ☐ Pressing on and off ⇒ Servicing 7-speed dual clutch gearbox 0B5 (S tronic); Rep. gr. 39 ; Centre differential

16 - Rear splined shaft with vibration damper

- ☐ For correct version, refer to ⇒ Electronic parts catalogue
- ☐ Pressing on and off ⇒ Servicing 7-speed dual clutch gearbox 0B5 (S tronic); Rep. gr. 39 ; Centre differential
- ☐ Pressing on vibration damper ⇒ Servicing 7-speed dual clutch gearbox 0B5 (S tronic); Rep. gr. 39 ; Centre differential

6.2 Removing and installing centre differential

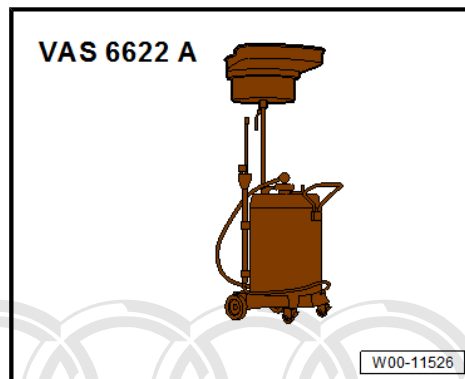
Special tools and workshop equipment required

- ◆ Engine and gearbox jack - VAS 6931-

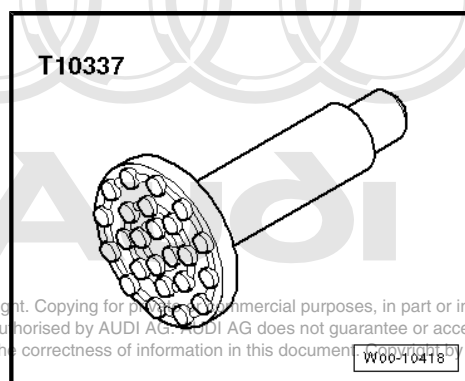
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- ◆ Used oil collection and extraction unit - VAS 6622A-



- ◆ Gearbox support - T10337-



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- ◆ For sealant, refer to ⇒ Electronic parts catalogue

Removing

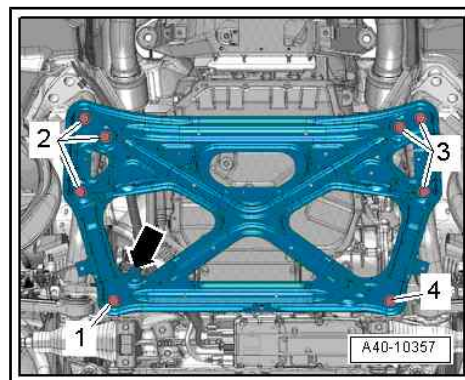
- Gearbox in vehicle
- Remove propshaft ⇒ Rear final drive; Rep. gr. 39 ; Propshaft; Removing and installing propshaft .
- Remove subframe cross brace ⇒ Running gear, axles, steering; Rep. gr. 40 ; Subframe; Removing and installing subframe cross brace .



Caution

Risk of damage to parts of the running gear.

- ◆ **Do not let the vehicle down on the wheels if the gearbox mounting, steering rack or subframe cross brace are not properly installed.**



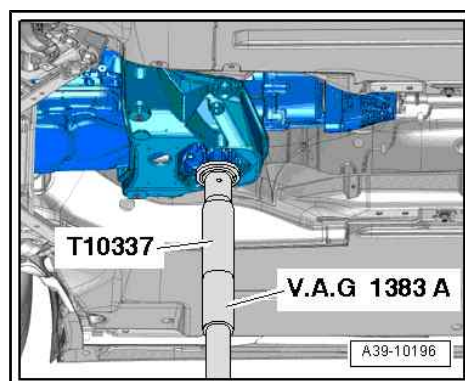
- Set up gearbox support - T10337- on engine and gearbox jack - VAS 6931- and position underneath gearbox mounting.
- Raise gearbox slightly using engine and gearbox jack - VAS 6931- .



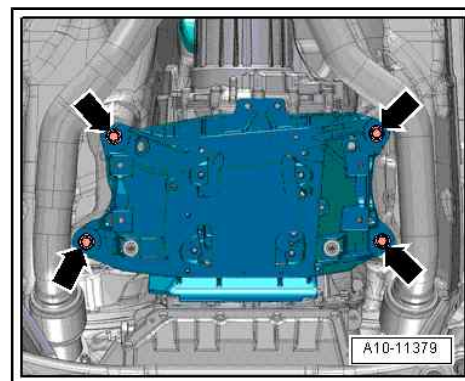
WARNING

Risk of accident.

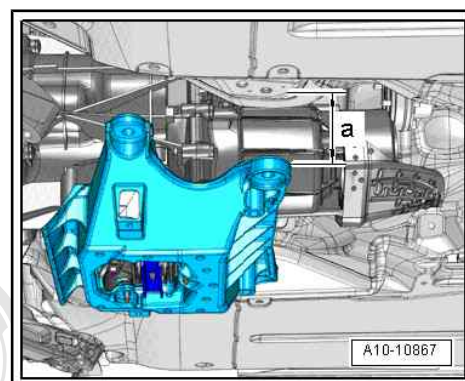
- ◆ **Engine and gearbox jack - VAS 6931- must remain in position when work is being carried out and must not be left unattended under the vehicle.**



- Remove bolts -arrows- for tunnel cross member.



- Lower gearbox by dimension -a- using engine and gearbox jack - VAS 6931- .
- Dimension -a- = 70 mm (maximum)



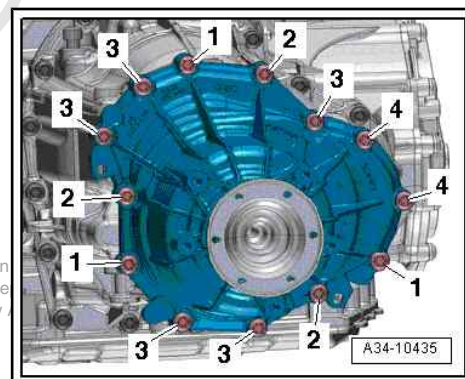
- Place used oil collection and extraction unit - VAS 6622A- below gearbox.



Caution

The centre differential is pre-tensioned with a spring; the housing may therefore detach itself suddenly from the gearbox.

- Remove bolts -1- 4- and carefully detach centre differential housing; gear oil (MTF) will drain off.



Caution

Risk of damage to the centre differential.

- ◆ *Pull the centre differential housing slowly and carefully towards the rear off the gearbox. The centre differential may otherwise fall out of the gearbox.*
- ◆ *A centre differential which has fallen to the ground can no longer be installed.*

If bearing plate -1- remains behind in centre differential housing, proceed as follows:

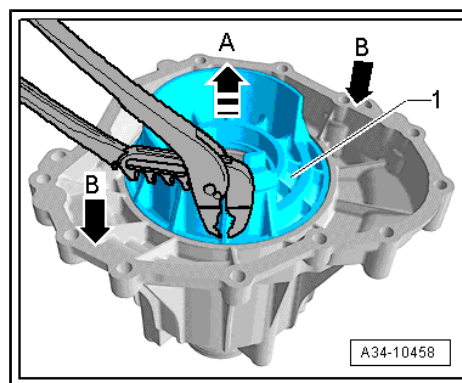


Caution

Risk of damage to the sealing surface of the centre differential housing.

♦ **Carefully tap the housing in several places with a hammer.**

- Grip one of the side ribs on bearing plate -1- with pliers and pull off in direction of -arrow A-.
- While doing so, carefully tap alternate sides of housing -arrows B- with a rubber-headed hammer.



Installing

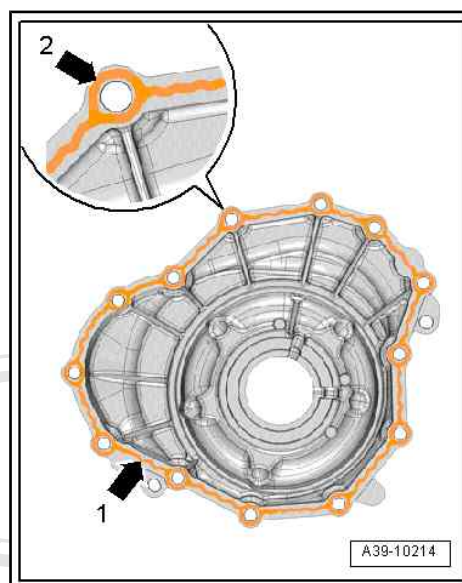
Installation is carried out in reverse sequence; note the following:



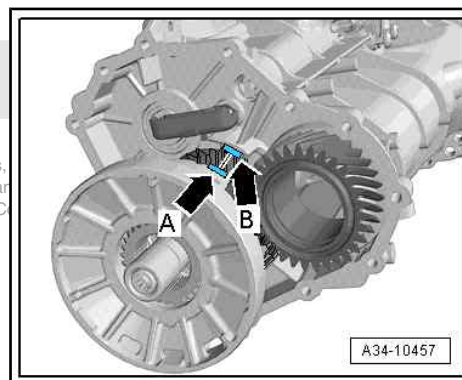
Note

Renew the bolts for the centre differential housing.

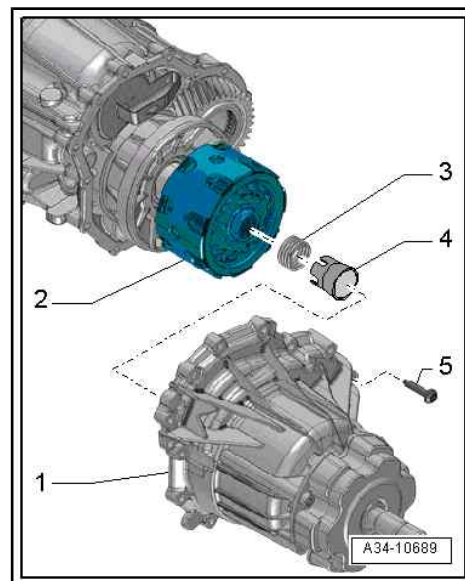
- Thoroughly clean both housing joint surfaces; they must be free from oil and grease.
- Apply bead of sealant -arrow 1- evenly and not too thick on housing joint surface; for sealant refer to ⇒ Electronic parts catalogue .
- To avoid contact corrosion, apply a ring of sealant around each bolt hole -arrow 2-.
- Lightly lubricate fitting surfaces for bearing plate with gear oil (MTF).



- Lightly lubricate surfaces of both races on outside of bearing plate with a small quantity of gear oil (MTF).
- Insert bearing plate.
- Installation position: shoulder of bearing plate -arrow A- must engage in recess on gearbox housing -arrow B-.



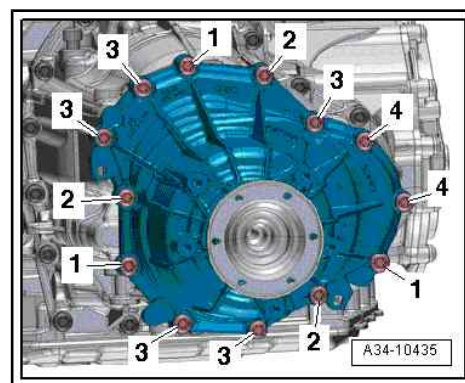
- Fit centre differential -2- onto gearbox -1-.
- Fit assembly sleeve -4- on centre differential.
- Insert spring -3- in centre differential.



- Press centre differential housing fully onto gearbox housing, keeping it centred, and hold in place.
- Tighten bolts for centre differential housing ⇒ Servicing 7-speed dual clutch gearbox 0B5 (S tronic); Rep. gr. 39 ; Centre differential
- Install propshaft ⇒ Rear final drive; Rep gr. 39 ; Propshaft; Removing and installing propshaft .
- Fill up gear oil (MTF) ⇒ [page 146](#) .

Tightening torques

- ◆ ⇒ [“3.1 Exploded view - assembly mountings”, page 106](#)
- ◆ Subframe cross brace ⇒ Running gear, axles, steering; Rep. gr. 40 ; Subframe; Exploded view - subframe



6.3 Renewing oil seal for rear splined shaft

Description of work sequence ⇒ Servicing 7-speed dual clutch gearbox 0B5 (S tronic); Rep. gr. 39 ; Centre differential; Renewing oil seal for rear splined shaft

7 Gearbox control system

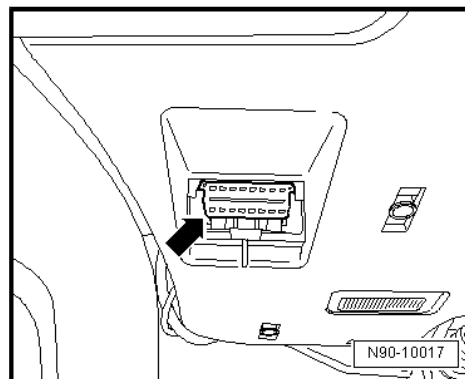
⇒ ["7.1 Overview of fitting locations - gearbox control system", page 162](#)

⇒ ["7.2 Guided Functions for gearbox", page 166](#)

7.1 Overview of fitting locations - gearbox control system

Diagnostic connection

- ◆ Fitting location: The diagnostic connection for the vehicle diagnostic tester is located in the driver's footwell.
- ◆ Before servicing the gearbox, the cause of the fault should be identified as exactly as possible using the vehicle diagnostic tester via [Guided Fault Finding](#), [Vehicle Self-diagnosis](#) and [Test Instruments](#).



Mechatronic unit for dual clutch gearbox - J743- , valves, sensors and gearbox input speed sender

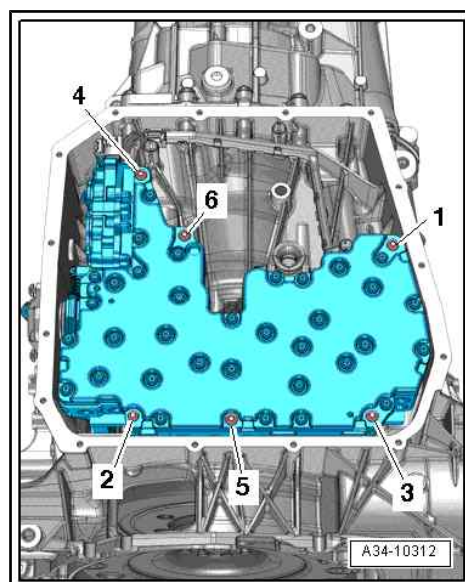
- ◆ Fitting location: the mechatronic unit for dual clutch gearbox - J743- is bolted to the bottom of the gearbox housing and covered by the ATF oil pan.



Note

- ◆ *The mechatronic unit incorporates the hydraulic control system, the electronic control unit and the sensors and actuators as a complete synchronised unit.*
- ◆ *All components mentioned are tested via self-diagnosis.*

⇒ ["6.3 Removing and installing mechatronic unit", page 115](#)



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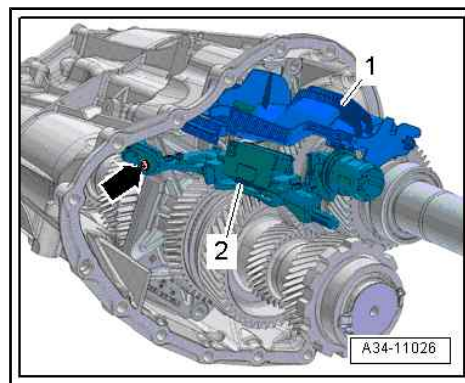
Diagram illustrating the front suspension assembly components, labeled 1 through 12. The components include the lower control arm (1), lower control arm bushings (2), lower control arm ball joint (3), lower control arm knuckle (4), lower control arm knuckle (5), lower control arm knuckle (6), lower control arm knuckle (7), lower control arm knuckle (8), lower control arm knuckle (9), lower control arm knuckle (10), lower control arm knuckle (11), and lower control arm knuckle (12). A box labeled A34-10657 is present in the bottom right corner.

Sensor module , with integrated senders and sensors -G612- , -G632- , -G676- and printed circuit 3

Sensor module -2- is installed in intermediate gearbox housing.

The following components are integrated in the sensor module :

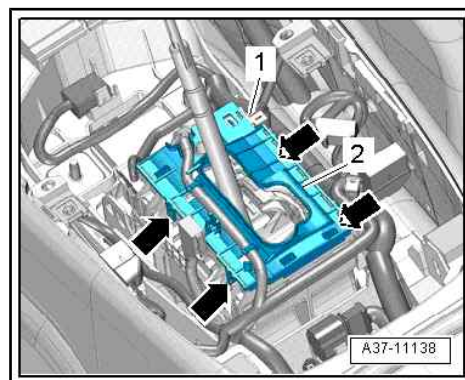
- ◆ Gear sensor - G676-
- ◆ Gearbox input speed sender 1 - G632-
- ◆ Gearbox input speed sender 2 - G612-
- ◆ Printed circuit 3
- Removing and installing sensor module ⇒ Servicing 7-speed dual clutch gearbox 0B5 (S tronic); Rep. gr. 34 ; Dismantling and assembling gearbox; Exploded view - gearbox



Selector lever sensors control unit - J587-

- ◆ Fitting location: the selector lever sensors control unit - J587- -item 2- is clipped onto the shift unit -arrows-.

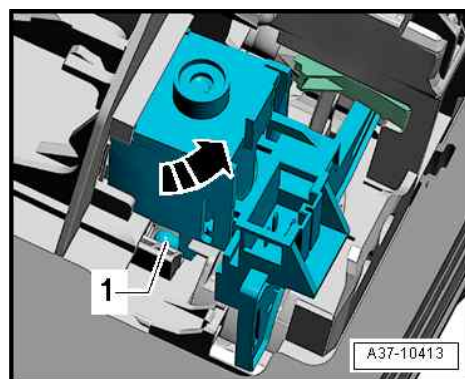
⇒ "1.12 Removing and installing selector lever sensors control unit J587", page 47



Selector lever lock solenoid - N110-

- ◆ Fitting location: the selector lever lock solenoid - N110- -item 1- is clipped onto the selector mechanism.

⇒ "1.11 Removing and installing selector lever lock solenoid N110", page 45



Gear selector position P switch - F305-

- ◆ Fitting location: the gear selector position P switch - F305- consists of two reed contacts (-1- and -2-) and is installed on printed circuit -B- in selector lever lock solenoid - N110- -item A-.

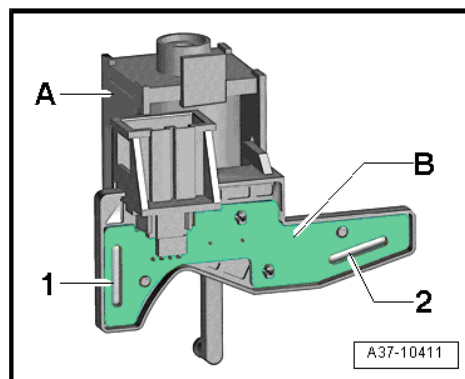


Note

Gear selector position P switch - F305- can only be renewed together with selector lever lock solenoid - N110- .

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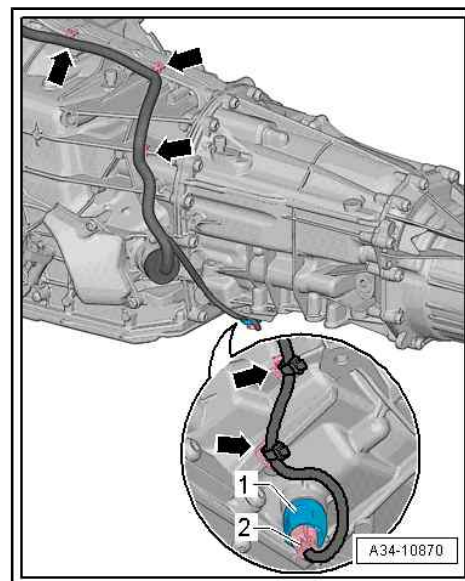
⇒ "1.11 Removing and installing selector lever lock solenoid N110", page 45



Gearbox oil temperature sender 2 - G754-

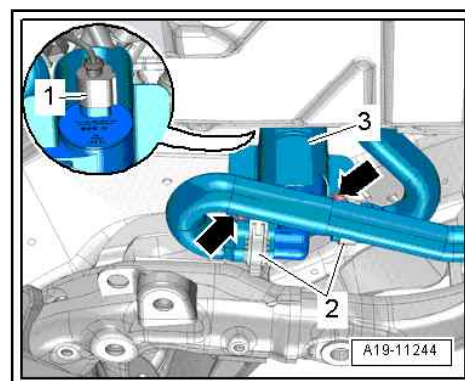
In conjunction with certain engine versions the 7-speed dual clutch gearbox 0B5 (S tronic) has an additional gearbox oil temperature sender 2 - G754- , which monitors the temperature of the gear oil (MTF) employed for the gear cluster.

- ◆ Fitting location: Depending on the version, there are two different types which can be fitted in different locations: either at the side or in place of the drain plug for gear oil (MTF) ⇒ Servicing 7-speed dual clutch gearbox 0B5 (S tronic); Rep. gr. 34 ; Gear oil .



Gearbox oil cooling valve - N509-

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Fitting location: installed on subframe or gearbox housing, depending on engine. Removing and installing gearbox oil cooling valve - N509- ⇒ Rep. gr. 19 ; Coolant pump/thermostat assembly; Removing and installing coolant valves .



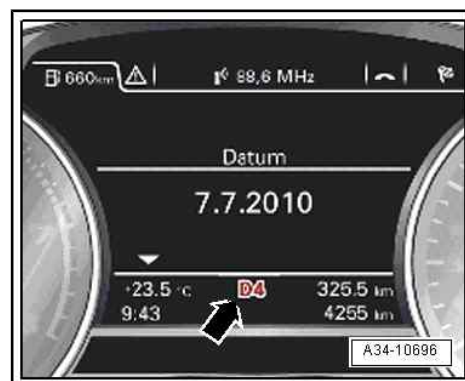
Selector lever position display - Y6-

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



Note

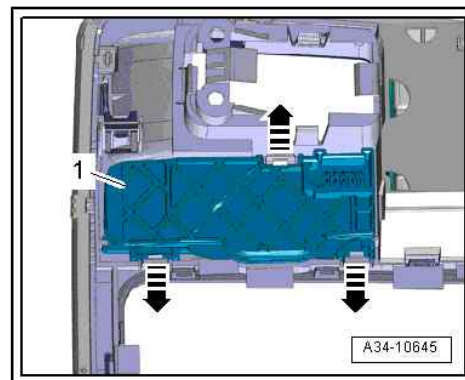
If the selector lever position display is defective, the instrument cluster must be renewed ⇒ Electrical system; Rep. gr. 90 ; Dash panel insert; Exploded view - dash panel insert .



Selector lever position display - Y26-

- ◆ Fitting location: selector lever position display - Y26- -item 1- is clipped into multimedia system operating unit - E380- .

Removing and installing ⇒ Electrical system; Rep. gr. 96 ; Lights; Removing and installing selector lever position display - Y26-



Kickdown switch - F8-

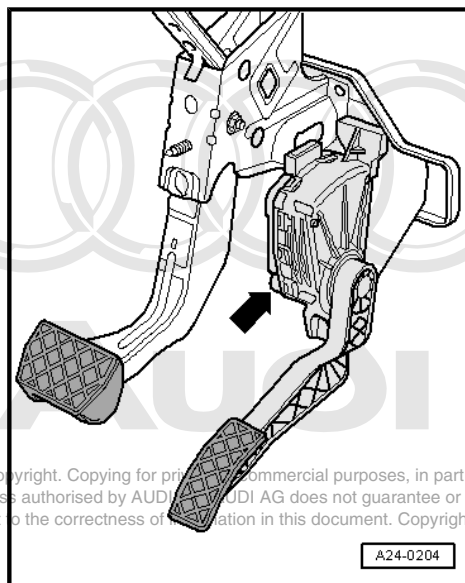
A programmed value from accelerator position sender - G185- / accelerator position sender 2 - G79- (integrated in accelerator pedal module) is stored in the engine control unit as the kickdown signal.

- ◆ Fitting location: the accelerator position senders are integrated in the accelerator pedal module -arrow-.



Note

The accelerator pedal module must be renewed if one of the accelerator position senders is defective; removing and installing ⇒ Fuel supply system; Rep. gr. 20; Accelerator mechanism; Removing and installing accelerator pedal module with accelerator position sender -G79- / -G185- .



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A24-0204

7.2 Guided Functions for gearbox

Special tools and workshop equipment required

- ◆ Vehicle diagnostic tester

Procedure:

- Vehicle diagnostic tester is connected.
- Using diagnostic tester in Guided Functions mode, select 02 - Gearbox electronics, functions and then select the appropriate "Guided Function".

Requirements:

- It is important to follow all the instructions given by the diagnostic tester exactly in order to complete the "Guided Function" successfully.

The appropriate "Guided Function" must be performed on the diagnostic tester after the following operations:

- 1 - Renewing shift unit: 02 - Basic setting (Rep. Gr. 34) ⇒ [page 167](#)
- 2 - Repair work on selector lever cable, including adjustment of selector lever cable: 02 - Basic setting (Rep. Gr. 34) ⇒ [page 167](#)
- 3 - Renewing mechatronic unit for dual clutch gearbox - J743- with automatic gearbox control unit - J217- : 02 - Replace control unit/mechatronics (Rep. Gr. 34) ⇒ [page 167](#)
- 4 - Renewing dual clutch, renewing automatic gearbox control unit -J217- , gearbox repairs, renewing gearbox components: 02 - Basic setting (Rep. Gr. 34) ⇒ [page 168](#)

1. Renewing shift unit

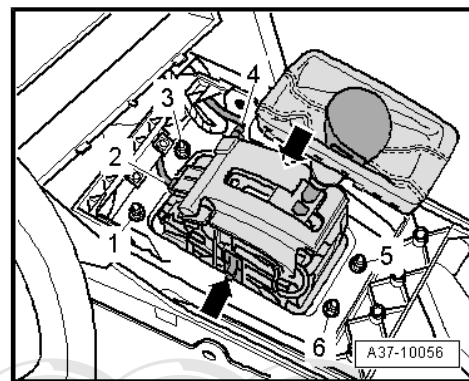


Note

Removing and installing shift unit ➔ [page 28](#)

The following steps are necessary after performing this work:

- In **Guided Functions** mode, select **02 - Gearbox electronics** and then select "Guided Function" **Basic setting (Rep.-Gr. 34)**.
- Select basic setting **Calibration of gear sensor - G676-** and follow instructions on diagnostic tester.



2. Performing repair work on selector lever cable and adjusting selector lever cable

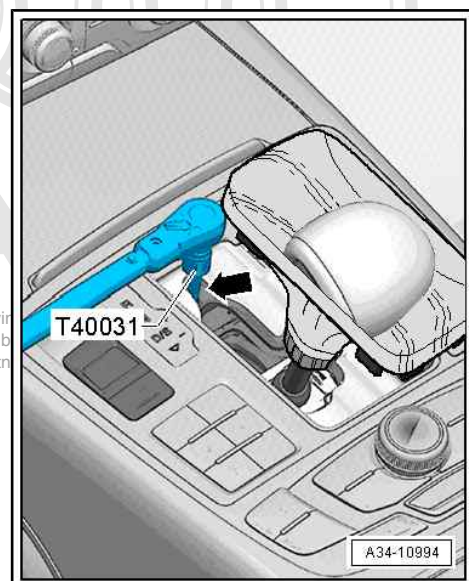


Note

Adjust selector lever cable ➔ [page 41](#).

The following steps are necessary after performing this work:

- In **Guided Functions** mode, select **02 - Gearbox electronics** and then select "Guided Function" **Basic setting (Rep.-Gr. 34)**.
- Select basic setting **Calibration of gear sensor - G676-** and follow instructions on diagnostic tester.



3. Renewing mechatronic unit for dual clutch gearbox - J743- with automatic gearbox control unit - J217-

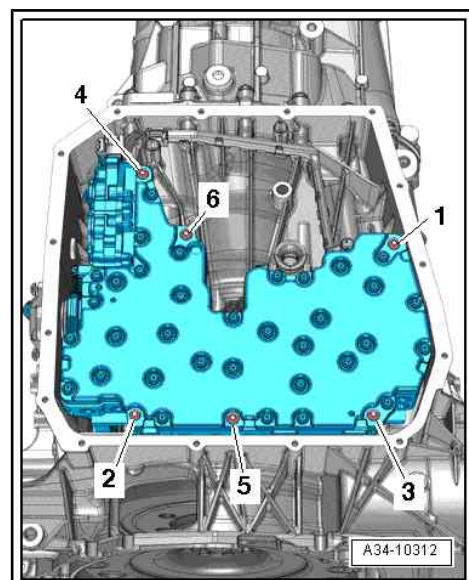


Note

Removing and installing mechatronic unit for dual clutch gearbox - J743- ➔ [page 115](#)

The following steps are necessary after performing this work:

- In **Guided Functions** mode, select **02 - Gearbox electronics** and then select "Guided Function" **Replace control unit/mechatronics (Rep.-Gr. 34)** and follow instructions on diagnostic tester.



4. Renewing dual clutch

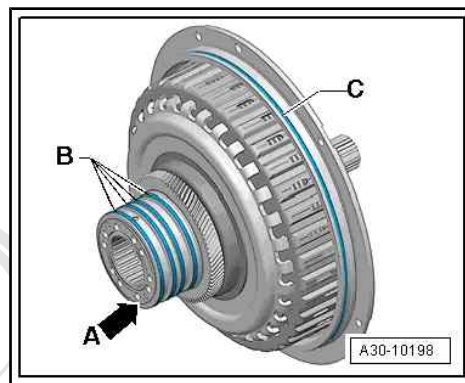


Note

Removing and installing dual clutch ⇒ Servicing 7-speed dual clutch gearbox 0B5 (S tronic); Rep. gr. 30 ; Clutch; Removing dual clutch /⇒ Servicing 7-speed dual clutch gearbox 0B5 (S tronic); Rep. gr. 30 ; Clutch; Installing dual clutch

The following steps are necessary after performing this work:

- In Guided Functions mode, select 02 - Gearbox electronics and then select "Guided Function" Basic setting (Rep.-Gr. 34).
- Select basic setting Adaption of clutch kiss points and follow instructions on diagnostic tester .



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