

Workshop Manual

Audi Q3 2012 ➤
Audi Q3 China 2013 ➤

7-speed dual clutch gearbox 0BH (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 - differential



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

(ARL005065; Edition 12.2016)

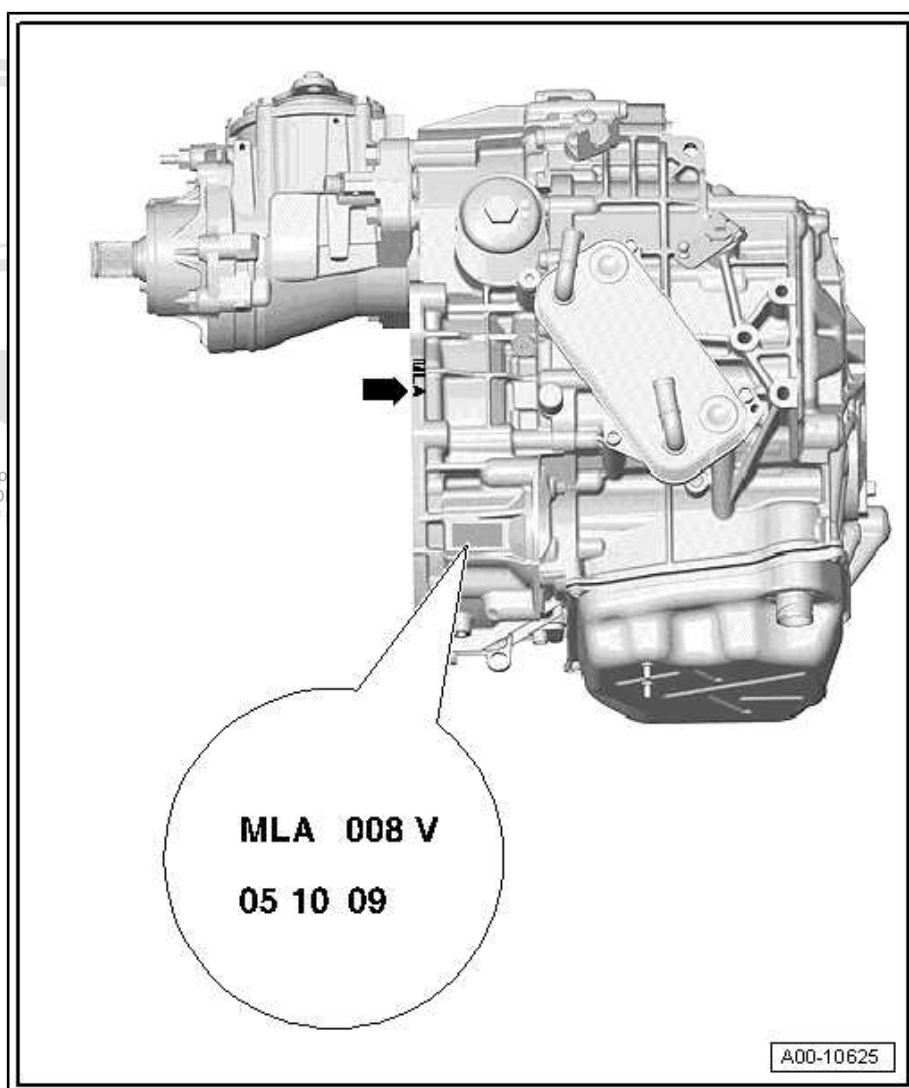
⇒ [“1.1 Gearbox identification”, page 1](#)

⇒ [“1.2 Bevel box identification”, page 2](#)

1.1 Gearbox identification

The “7-speed dual clutch gearbox 0BH (S tronic)” is installed in the Audi Q3 2012 ►.

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The gearbox code letters are located on the top of the gearbox near the starter and on the gearbox flange -arrow-.



Example



Note

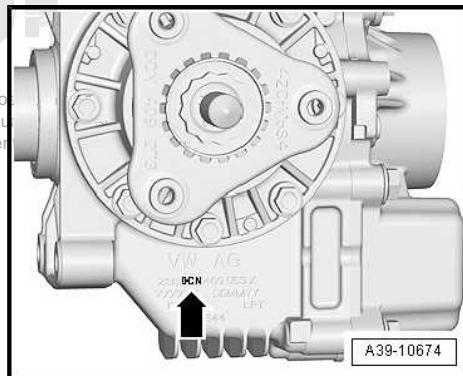
- ◆ The gearbox code letters are also given on the vehicle data stickers.
- ◆ Location of vehicle data stickers ⇒ Maintenance ; Booklet 820

1.2 Bevel box identification

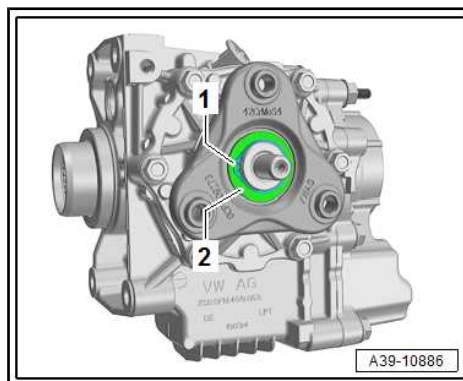
The bevel boxes 0A6 and 0CP are installed on the Audi Q3.

Code letters and part number of bevel box -arrow-

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- ◆ Bevel box "0A6": The output flange is secured with a six-point nut.
- ◆ Bevel box "0CP": The output flange is secured with a circlip.
- ◆ Bevel box "0CP" is fitted in the Audi RS Q3 starting from the product upgrade.



2 Technical data

⇒ [“2.1 Capacities”, page 3](#)

2.1 Capacities

⇒ [“2.1.1 Capacities - 7-speed dual clutch gearbox 0BH, front-wheel drive”, page 3](#)

⇒ [“2.1.2 Capacities - 7-speed dual clutch gearbox 0BH, four-wheel drive”, page 3](#)

2.1.1 Capacities - 7-speed dual clutch gearbox 0BH, front-wheel drive

Capacities	Dual clutch gearbox 0BH, front-wheel drive
Initial filling	7.0 ltr. + 0.1 ltr.
Oil change	Approx. 5.5 ltr.
Change interval	⇒ Maintenance tables
Lubricant	Gear oil for dual clutch gearbox ⇒ Electronic parts catalogue



Caution

Risk of damage to gearbox

- ◆ *Use only the gear oil available as a replacement part for the 7-speed dual clutch gearbox 0BH ⇒ Electronic parts catalogue .*
- ◆ *Other types of oil cause malfunctions and/or failure of the gearbox.*

- Check gear oil level and top up as required ⇒ [page 140](#) .
- Fill up with gear oil after repair ⇒ [page 146](#) .

2.1.2 Capacities - 7-speed dual clutch gearbox 0BH, four-wheel drive

Gearbox capacity

Capacities	Dual clutch gearbox 0BH, four-wheel drive
Initial filling	7.0 ltr. + 0.1 ltr.
Oil change	Approx. 5.5 ltr.
Change interval	⇒ Maintenance tables
Lubricant	Gear oil for dual clutch gearbox ⇒ Electronic parts catalogue

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Caution

Risk of damage to gearbox

- ◆ *Use only the gear oil available as a replacement part for the 7-speed dual clutch gearbox 0BH ➔ Electronic parts catalogue .*
- ◆ *Other types of oil cause malfunctions and/or failure of the gearbox.*

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- Check gear oil level and top up as required ➔ [page 140](#) .
- Fill up with gear oil after repair ➔ [page 146](#) .

Bevel box capacity

Capacities	Bevel box 0A6	Bevel box 0CP
Initial filling	0.9 ltr.	0.8 ltr.
Oil change	Filled for life, no change	Filled for life, no change
Lubricant	Gear oil ➔ Electronic parts catalogue	Gear oil ➔ Electronic parts catalogue



Caution

Risk of damage to the bevel box.

- ◆ *Only the gear oil available as a replacement part may be used for the bevel box ➔ Electronic parts catalogue .*
- ◆ *Other oils cause faults and/or failure of the bevel box.*

- Check gear oil level and top up as required ➔ [page 159](#) .
- Fill up with gear oil after repair ➔ [page 160](#) .

3 Safety precautions

⇒ [“3.1 General safety precautions”, page 5](#)

⇒ [“3.2 Safety precautions when working on vehicles with start/stop system”, page 5](#)

⇒ [“3.3 Safety precautions when using testers and measuring instruments during a road test”, page 6](#)

⇒ [“3.4 Safety precautions when tow-starting and towing”, page 6](#)

3.1 General safety precautions

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.

- ◆ *Prior to performing work with the engine running, move the selector lever to position “P” and pull up the parking brake button to apply the electromechanical parking brake.*

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.

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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.*

- Disconnect battery ⇒ Electrical system; Rep. gr. 27 ; Battery; Disconnecting and connecting battery .

3.2 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).*

3.3 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.*

3.4 Safety precautions when tow-starting and towing



Caution

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

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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.

4 Repair instructions

⇒ [“4.1 General notes”, page 7](#)

⇒ [“4.2 Rules for cleanliness”, page 8](#)

⇒ [“4.3 General repair instructions”, page 8](#)

⇒ [“4.4 Contact corrosion”, page 10](#)

⇒ [“4.5 Safety functions of gearbox control unit”, page 10](#)

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4.1 General notes

Gearbox

The layout of the dual clutch gearbox 0BH “S tronic” is similar to that of a 7-speed manual gearbox. The engine torque is transferred to the gearbox via the dual-mass flywheel. The two multi-plate clutches are controlled hydraulically and actuated alternately so that the gearbox is operated like an automatic gearbox, in other words the gears are engaged automatically (but can also be selected manually via the tiptronic function). There is no clutch pedal. For further information please refer to ⇒ Self-study programme No. 454 ; 7-speed dual clutch gearbox 0BT .

Selector mechanism

In selector lever position “P” the selector lever cable is used to engage the parking lock mechanically. All other gearshift commands and selector lever positions are transmitted via the CAN data bus from the selector lever - J743- (selector mechanism) to the mechatronic unit for dual clutch gearbox - E313- .

Gear oil (gearbox and bevel box)

The dual clutch gearbox “0BH” has a common oil system.

This oil system lubricates the gears and shafts, the final drive, the clutches and the mechatronic unit for dual clutch gearbox - J743- .



Caution

Risk of damage to gearbox

- ◆ *Use only the gear oil available as a replacement part for the 7-speed dual clutch gearbox 0BH ⇒ Electronic parts catalogue .*
- ◆ *Other types of oil cause malfunctions and/or failure of the gearbox.*

The bevel box has a separate oil filling ⇒ [page 4](#) .



Caution

Risk of damage to the bevel box.

- ◆ *Only the gear oil available as a replacement part may be used for the bevel box ⇒ Electronic parts catalogue .*
- ◆ *Other oils cause faults and/or failure of the bevel box.*

When does the gear oil filter have to be changed?



Note

The gear oil filter does not always require replacement.

Do not change the filter if:

- ◆ The gear oil cooler or its O-rings have been renewed and no coolant has entered the oil system.
- ◆ Oil seals or O-rings have been renewed in the gearbox.
- ◆ The oil pan or mechatronic unit have been renewed.
- ◆ The maintenance interval has been reached.

The filter must be changed if:

- ◆ Metal particles are found in the oil.
- ◆ The clutch is burnt out or mechanically defective.

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.

4.2 Rules for cleanliness

- ◆ Carefully clean connection points and the surrounding area with engine cleaner or brake cleaner and dry thoroughly before opening.
- ◆ Use cleaning fluid - D 009 401 04- to clean the gearbox and its components.
- ◆ Use 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 and paper. Use 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.

4.3 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 exact cause of the failure should be identified using Guided Fault Finding, Vehicle Self-diagnosis and Test Instruments ⇒ Vehicle diagnostic tester.

Special tools

For a complete list of special tools used in this Workshop Manual please refer to ⇒ "Workshop equipment and special tools" .

Environmental and waste disposal regulations for oil

- ◆ Gear oil and any other type of oil must be handled with care.
- ◆ Dispose of drained oil properly.
- ◆ Always adhere to statutory environmental and waste disposal regulations.
- ◆ Observe the information shown on the packaging of the oil.

Gearbox

- ◆ Do not run the engine or tow the vehicle with the oil pan removed or when there is no gear oil in the gearbox.
- ◆ Thoroughly clean all joints and connections and the surrounding areas before disconnecting.
- ◆ When installing gearbox, ensure that dowel sleeves are fitted correctly.

O-rings, oil seals and gaskets

- ◆ 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.
- ◆ Always replace paper gaskets. Completely remove old gasket and clean sealing surfaces thoroughly.
- ◆ Lightly lubricate the outer circumference and sealing lip of oil seals with gear oil before installing.
- ◆ Lightly lubricate O-rings with gear oil or vaseline before installation to prevent them from getting crushed during assembly.
- ◆ Do not use any other lubricants where gear oil is specified. Otherwise, there is a risk of problems occurring in the gearbox hydraulics.
- ◆ The open side of the oil seal should face the side containing the fluid.
- ◆ When installing a new oil seal, position the seal such that the sealing lip does not contact the shaft in the same place as the old seal (make use of installation depth tolerances).
- ◆ Observe rules for cleanliness ⇒ [page 8](#) .

Locking elements

- ◆ 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.



Nuts, bolts

- ◆ Loosen bolts in reverse sequence to the specified tightening sequence.
- ◆ 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.
- ◆ Renew self-locking nuts.
- ◆ Use a wire brush to clean the threads of bolts which are secured with locking fluid. Then apply locking fluid - AMV 185 101 A1- to bolt threads before installing.
- ◆ The tightening torques stated apply to non-oiled nuts and bolts.

4.4 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.

4.5 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.

Faults detected by the gearbox are classified in four different categories.

- ◆ 1) The fault is stored and a backup programme enables the vehicle to drive on (in some cases with restrictions). The driver will not be made aware of the problem, as it is not critical to driving safety or to the gearbox itself. The selector lever position display in the instrument cluster will continue to show the selector lever position currently engaged in the normal way. If at all, the driver will only notice the fault if he experiences driveability problems, and will then automatically contact an Audi Service Partner to identify the cause.
- ◆ 2) Certain positions on the selector lever position display in the instrument cluster start to flash. This is to inform the driver that this particular selector lever position is currently not available. Example: position "D" is not available when the selector lever is in position "R" and the vehicle is still rolling backwards. In this case, selector lever position "D" will start to flash on the selector lever position display in the instrument cluster. The gearbox control unit prevents 1st gear from being engaged in order to avoid damage to the gearbox. 1st gear will be engaged once the vehicle has come to a standstill.
- ◆ 3) The complete selector lever position display in the instrument cluster is lit up and flashing. The current selector lever

position is indicated in the instrument cluster (e.g. "D" is highlighted). This is an indication that the gearbox has been overloaded or the maximum temperature in the gearbox has been exceeded (overheating), e.g. towing a load that was too heavy.

- ◆ 4) If the complete selector lever position display in the instrument cluster is lit up and flashing, this means that a serious fault in the gearbox has been identified. The display in the instrument cluster no longer shows the current selector lever position. The defect is critical with regard to driving safety or the gearbox itself. It may no longer be possible to use all gears. The driver is made aware by the flashing gear selection indicator that he should immediately contact an Audi Service Partner.



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5 Electrical components

⇒ ["5.1 Overview of fitting locations - electrical components", page 12](#)

5.1 Overview of fitting locations - electrical components

Refer to

⇒ ["1.1 Overview of fitting locations - gearbox control system", page 151](#)



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30 – Clutch

1 Clutch

⇒ [“1.1 Exploded view - dual clutch”, page 13](#)

⇒ [“1.2 Removing and installing clutch end cover”, page 14](#)

⇒ [“1.3 Removing dual clutch”, page 18](#)

⇒ [“1.4 Installing dual clutch”, page 21](#)

1.1 Exploded view - dual clutch

Replacement parts

1 - Circlip for dual clutch end cover

- ☐ Always renew after removal

2 - Circlip for dual clutch

3 - Circlip for drive plate

4 - Dual clutch



Caution

The drive plate must remain engaged between the splines of the outer plate carrier.

If the drive plate comes loose, the clutch plates can slip out of position inside the dual clutch unit. If this happens, it may not be possible to adjust the dual clutch correctly during installation.

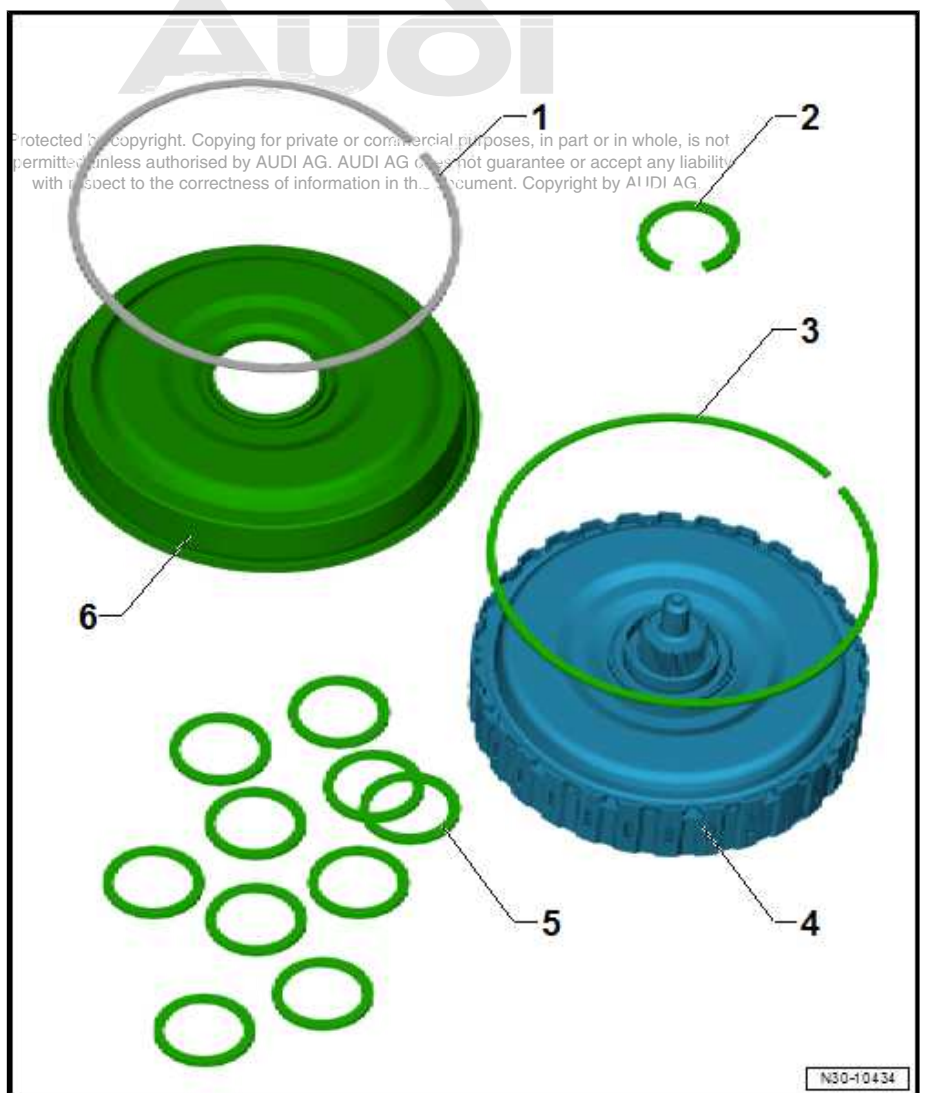
5 - Spacer rings

- ☐ 10 spacer rings of different thicknesses (graduated in steps of 0.05 millimetres)
- ☐ The thickness of the required spacer ring must be determined when installing the dual clutch.

6 - Dual clutch end cover

- ☐ Always renew after removal

- ☐ ⇒ [“1.2 Removing and installing clutch end cover”, page 14](#)



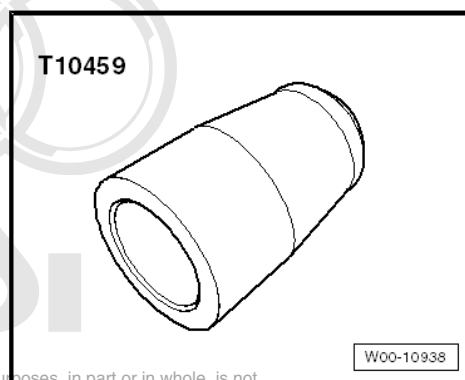
**Caution**

- ◆ *This illustration serves only as an overview of the components. The dual clutch unit must NOT be dismantled, as all plates were matched and balanced before being installed.*
- ◆ *If the drive plate is loosened, the plates can slip out of position inside the dual clutch unit, and it may then not be possible to adjust the dual clutch correctly during installation.*

1.2 Removing and installing clutch end cover

Special tools and workshop equipment required

- ◆ Assembly sleeve - T10459-



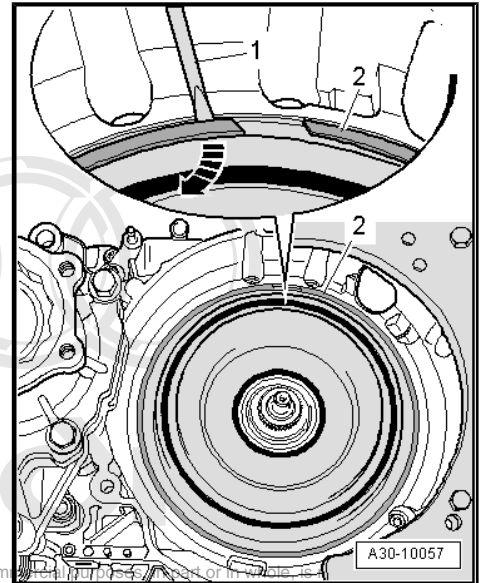
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Removing**Note**

The cover and circlip must always be renewed.

- Draining off gear oil ➔ [page 146](#)
- Remove gearbox ➔ [page 47](#) .
- Secure gearbox in a vertical position on engine and gearbox support ➔ [page 91](#) .
- Renew gear oil filter ➔ [page 126](#) .

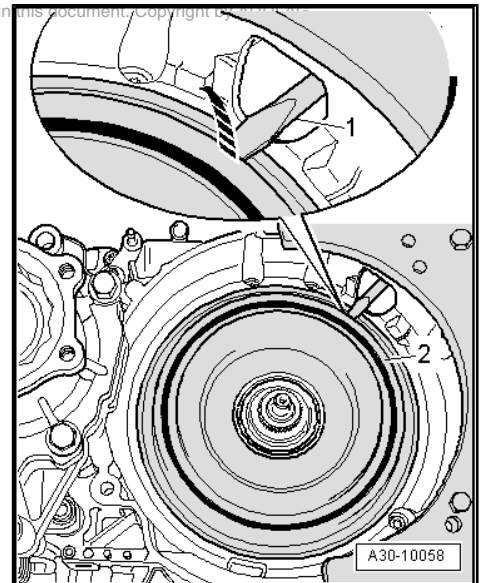
- Lever out and remove circlip -2- for clutch end cover using a screwdriver -1- -arrow-.



- Working through side opening in housing, pry off clutch end cover -2- using a screwdriver -1- or suitable lever -arrow- and take off clutch end cover.

 Note

The original clutch end cover and circlip must not be re-installed after removal.



Installing

 Note

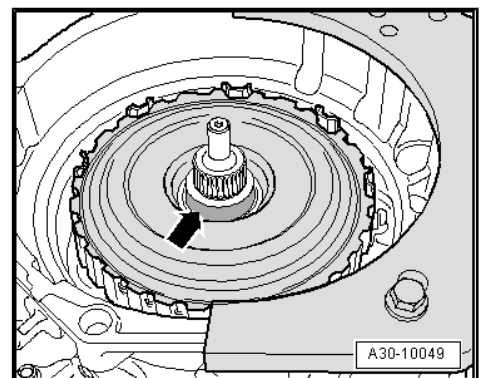
Renew clutch end cover and circlip.

- Thoroughly degrease running surface for seal of clutch end cover -arrow-.



Caution

The contact surfaces of the clutch end cover must be cleaned very thoroughly, otherwise leaks can occur.



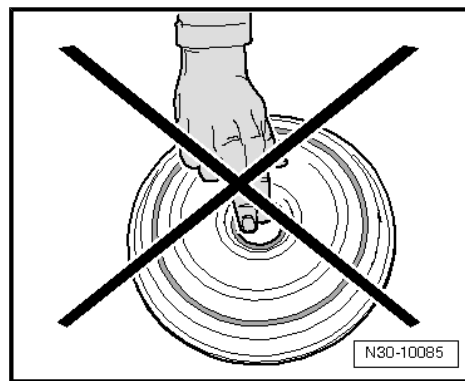
- Clean contact surface for outer seal of clutch end cover.



Caution

Risk of leaks.

- ◆ *Do not touch the seal inside the opening in the clutch end cover. This seal will only seal properly if the running surface is absolutely free of grease when installed.*
- ◆ *Do not apply hammer blows directly to the clutch end cover. Any force applied to the inner part of the clutch end cover will cause malfunctions.*

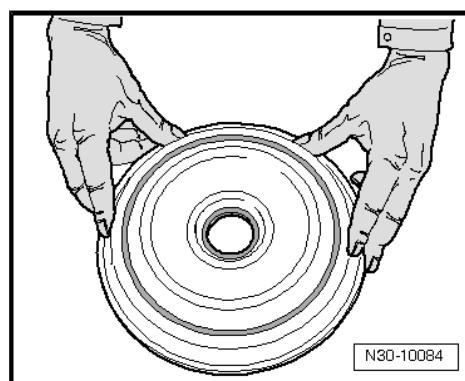


- Hold clutch end cover only as shown in -illustration-.



Note

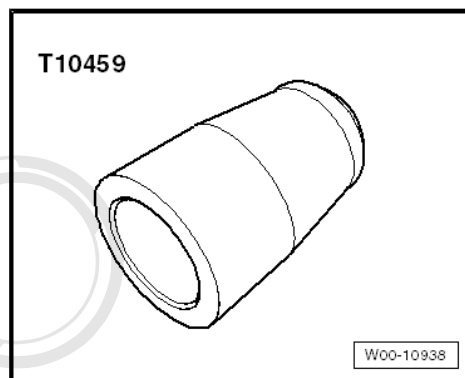
- ◆ *There should be no stickers on the inside of the clutch end cover. If there are stickers, please remove them carefully.*
- ◆ *Never lubricate or touch the centre seal. It will only seal properly if the running surface is absolutely dry and free of oil.*



WARNING

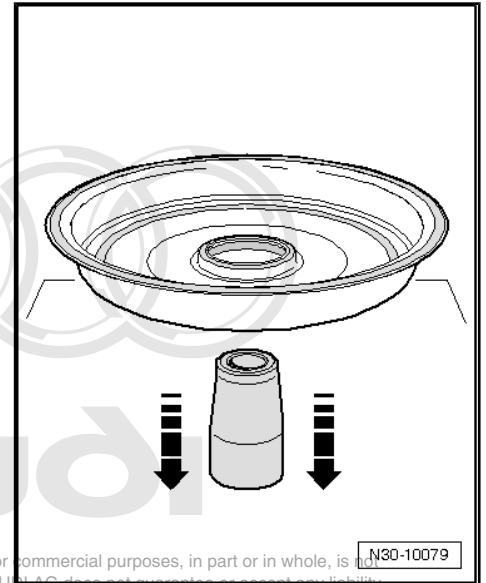
The seal in the centre of the new clutch end cover must be »pre-formed« before installation:

- Assembly sleeve - T10459- must be degreased and cleaned before use; do not use an assembly sleeve if it is scratched.



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- Place assembly sleeve - T10459- on a flat surface.
- Hold clutch end cover horizontally as shown in -illustration- and guide it down evenly over complete length of assembly sleeve - T10459- . This will bring the sealing lip into its installation position.



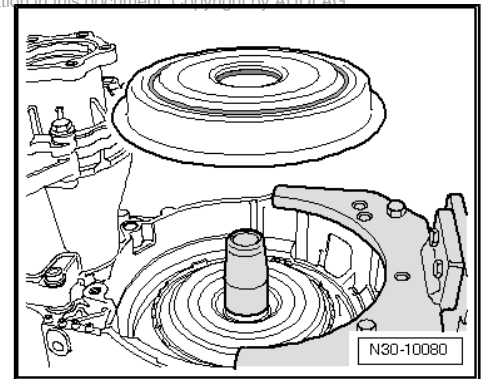
- Lift assembly sleeve - T10459- vertically out of cover and fit assembly sleeve onto end of clutch shaft.
- Lightly lubricate outer seal of cover with oil.



Caution

Risk of leaks.

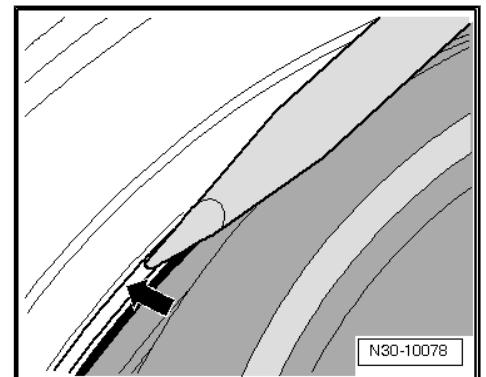
- ◆ *Do not apply hammer blows directly to the clutch end cover. Any force applied to the inner part of the clutch end cover will cause malfunctions.*



- Guide cover horizontally over assembly sleeve - T10459- and press cover down evenly onto its seat.

It is possible to lever the cover carefully into its seat using a -screwdriver- until the »new« circlip can be fitted.

- Fit new circlip.



- Do not remove assembly sleeve - T10459- until circlip has been fitted.
- Install gearbox ➔ [page 84](#) .
- Fill up with gear oil ➔ [page 146](#) .

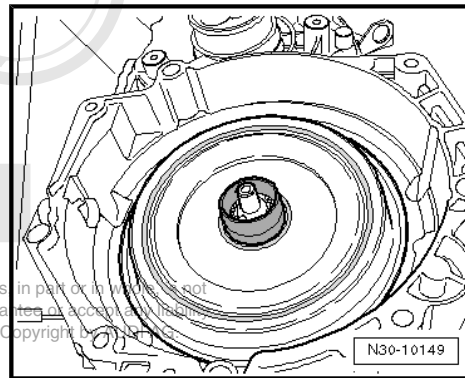


WARNING

The engine must not be started when there is no oil in the gearbox.

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- After installing the gearbox, run the **Basic setting** function in **Guided Functions** ➔ vehicle diagnostic tester .



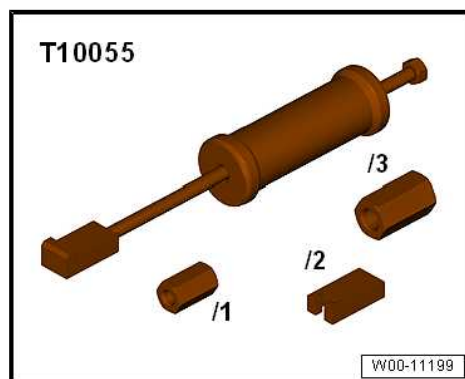
1.3 Removing dual clutch

Special tools and workshop equipment required

- ◆ 2x hooks - 3438-



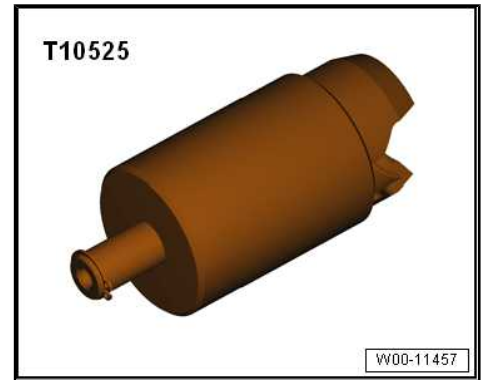
- ◆ Puller - T10055-



- ◆ Retaining pin - T10524-

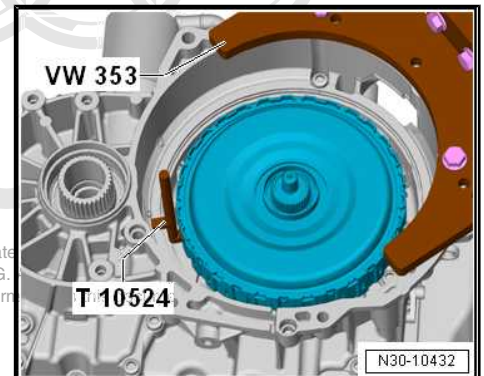


◆ Puller - T10525-

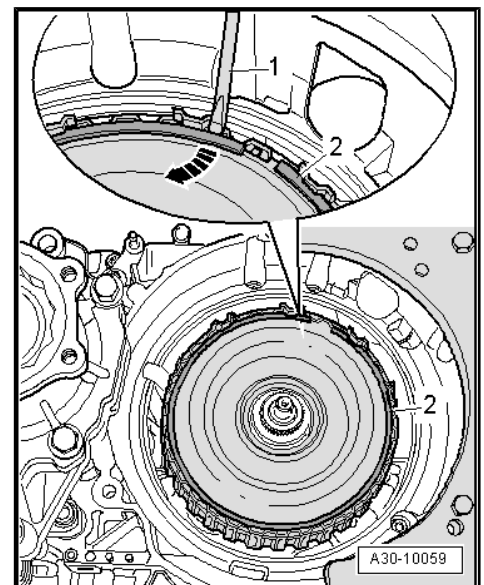


Removing

- Secure gearbox in a vertical position on engine and gearbox support ➔ [page 91](#) .
- Remove clutch end cover ➔ [page 14](#) .
- Fit retaining pin - T10524- .



- Pry out circlip -2- for drive plate using a screwdriver -1-
-arrow-.

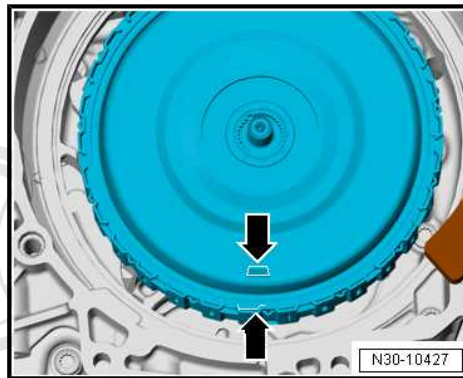


Important! Installation position of drive plate

- Check if the marking on the drive plate -arrow- is aligned with the marking on the outer plate carrier.

If no markings are provided:

- Mark installation position of drive plate in relation to outer rim of outer plate carrier with waterproof pen as illustrated.
- When re-assembling, the drive plate must be located again at this marked position.



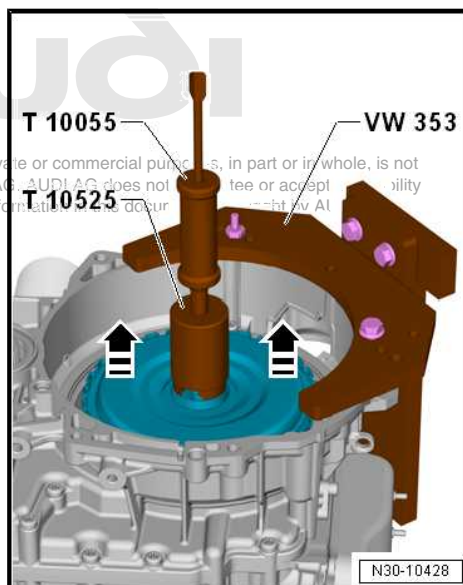
- Place puller - T10525- with puller - T10055- onto spline and carefully drive out drive plate from its seating position -arrows-.



Caution

Secure circlip so it cannot spring off. The circlip could otherwise fall through an opening into the inside of the gearbox.

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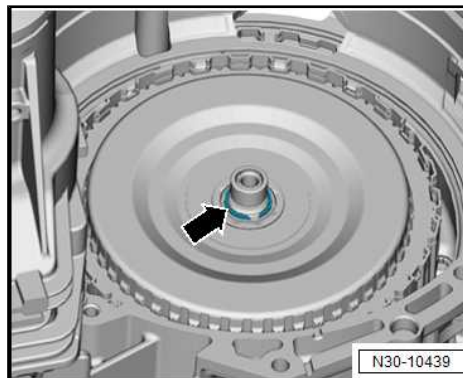


- Remove circlip -arrow- and retain it for the time being.



Note

Do not dispose of the circlip yet; it will be needed later to measure the axial play.

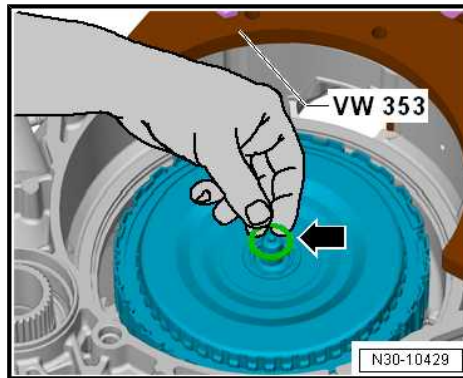


- Remove shim -arrow-.

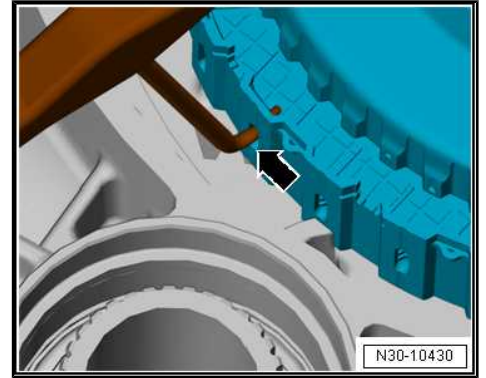


Caution

Remove dual clutch carefully. Make sure that no parts fall out; you should not turn the clutch over under any circumstances.



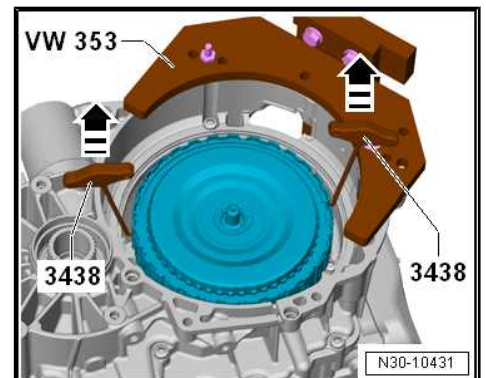
- Hook two hooks - 3438- into clutch -arrow- on opposite sides.



- Remove dual clutch using hooks - 3438- .

Installing

- Install dual clutch ➔ [page 21](#) .



1.4 Installing dual clutch



Caution

- ◆ *The drive plate must remain engaged between the splines of the outer plate carrier.*
- ◆ *If the drive plate comes loose, the clutch plates can slip out of position inside the dual clutch unit. If this happens, it may not be possible to adjust the dual clutch correctly during installation.*

Special tools and workshop equipment required

- ◆ Universal dial gauge bracket - VW 387-



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◆ Dial gauge - VAS 6079-



◆ Retaining pin - T10524-



◆ Thrust piece - T10526-



Caution

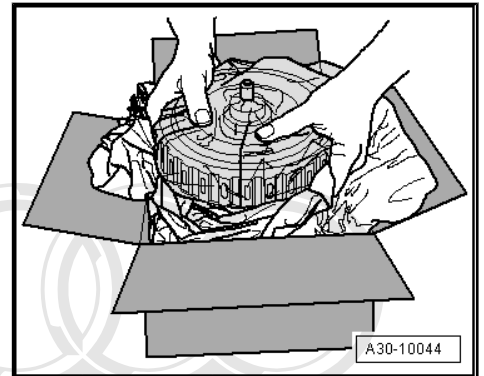
DO NOT remove or even slightly lift up the plate carrier as this could cause the plates to rotate.

Brief description

- The gearbox must be fixed in a vertical position on the assembly stand to remove and install the clutch.
- In the dual clutch unit, the large plate carrier is in contact with all the plates. It must not slide out of the lowest plate.

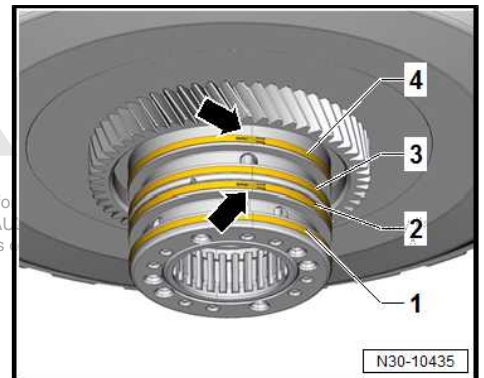
Installing

- Be especially careful when taking dual clutch out of packaging.



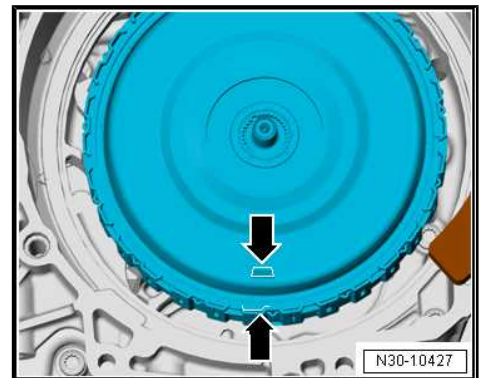
- Turn piston rings by hand. They must move freely and not get stuck.
- Ensure the piston rings -1, 2, 3, 4- are properly seated. The gaps -arrows- of piston rings -1- and -3- must be aligned.
- The gaps -arrows- of piston rings -2- and -4- should be aligned and offset to the gaps of piston rings -1- and -3- by 180°.

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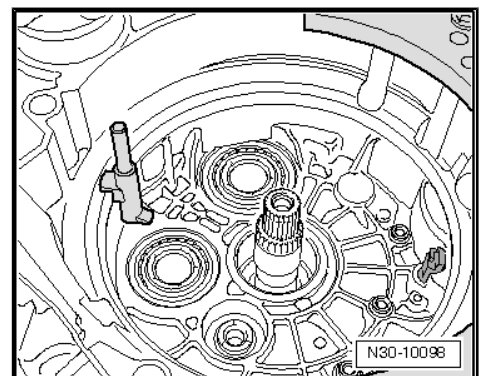
Important! Position of drive plate

- Before installing, check if a marking -arrow- has been made on the dual clutch.
- If no marking is present, make a coloured marking on the drive plate and on the outer plate carrier with a waterproof pen.

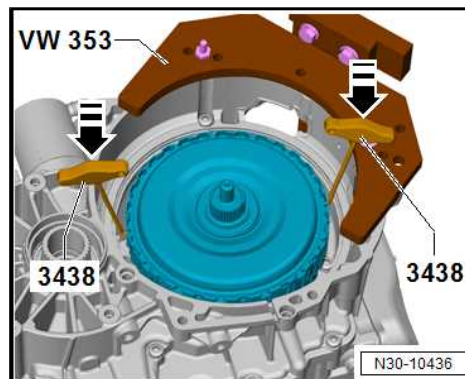


- Fit retaining pin - T10524- .

The retaining pin - T10524- must be held in place by a second mechanic while the dual clutch is being inserted.



- Insert -dual clutch- carefully, making sure it does not fall in.
- If necessary, rotate clutch slightly when inserting.



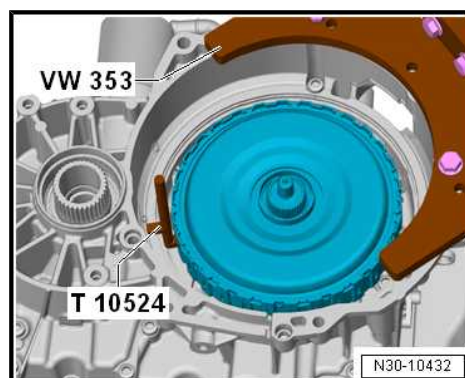
The dual clutch is in the correct installation position when the retaining pin - T10524- has hardly any play.



Note

- ♦ The retaining pin remains in position until the clutch end cover is installed.
- ♦ The dual clutch must not be rotated from this point onwards, as this would move the retaining pin - T10524- out of position.

- Pry off circlip for drive plate.
- Place puller - T10525- with puller - T10055- onto spline and carefully drive out drive plate from its seating position -arrows-.

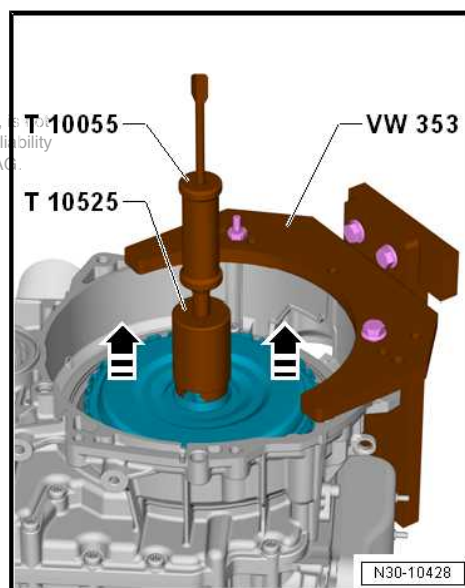


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Retaining pin - T10524- must be held in place by a second mechanic while driving out procedure is being performed.

- Carefully remove drive plate from dual clutch -arrows- and move to side.



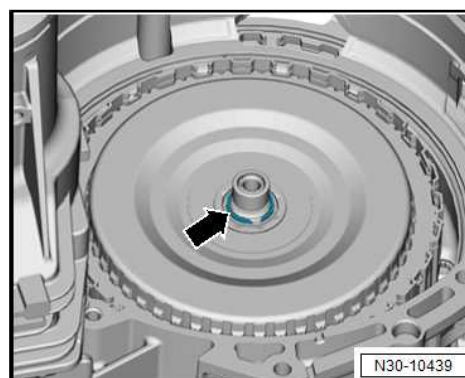
Caution

DO NOT remove or even slightly lift up the plate carrier as this could cause the plates to rotate.

Determining shim for dual clutch

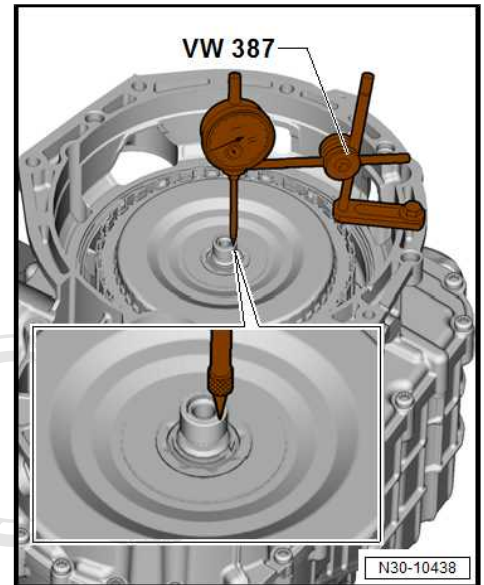
- Retaining pin - T10524- remains inserted.
- Temporarily fit OLD circlip -arrow-.

Two measurements must be made before this ring is removed again.



First measurement (axial play of shaft)

- Secure universal dial gauge bracket - VW 387- to gearbox flange.
- Place -tip of dial gauge- on input shaft.
- Preload -dial gauge- and set to 0.



- Using hooks - 3438- , lift dual clutch upwards significantly in direction of -arrow- as far as it will go and note measurement.
- This value should be noted as value "A".



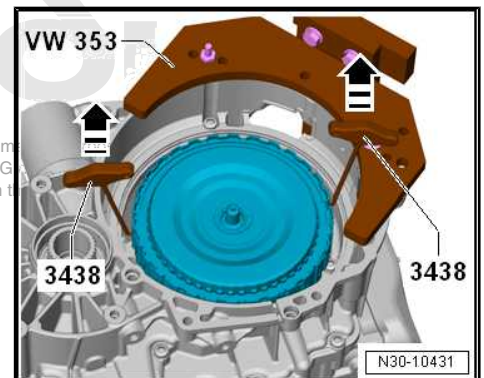
Note

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This value will be required later for the measurement check. You should therefore retain value "A" until the last measurement.

Second measurement

- Retaining pin - T10524- remains inserted.



- Place tip of dial gauge -onto hub of large plate carrier-.



Note

The tip of the dial gauge must not contact the circlip.

- Preload -dial gauge- and set to 0 again.
- Lift dual clutch upwards significantly in direction of arrow as far as it will go and note measurement.
- This value should be noted as value "B".

Calculating which shim is to be installed

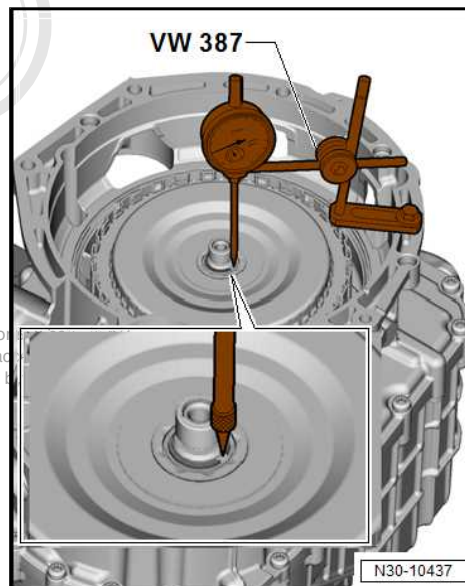
- Use the following formula:

Measured value "B" – measured value "A" – 0.11 = thickness of the shim to install

- Note measurement.

The thickness of the shims is graduated in steps of 0.05 mm.

- Measure the shims and ascertain which shim is closest to the result.



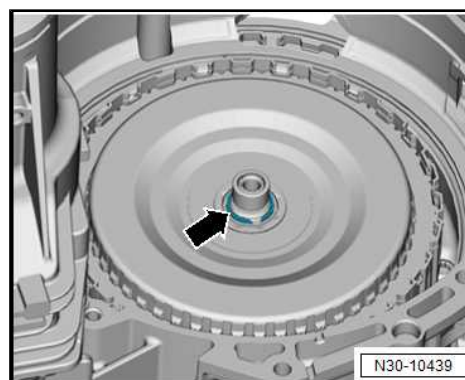
WARNING

Always use the next biggest shim, never fit a smaller shim.

Example:

Calculated thickness of shim	New shim
1.28 mm	1.3 mm
1.26 mm	1.3 mm

- Remove old circlip -arrow-.

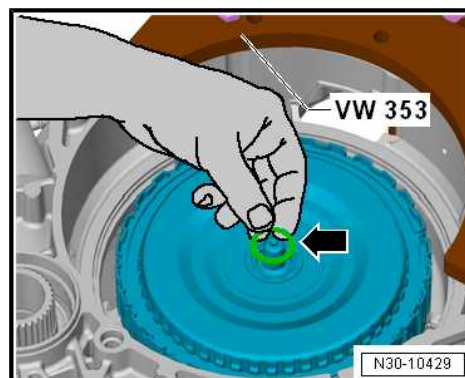


- Install appropriate shim (as measured earlier).

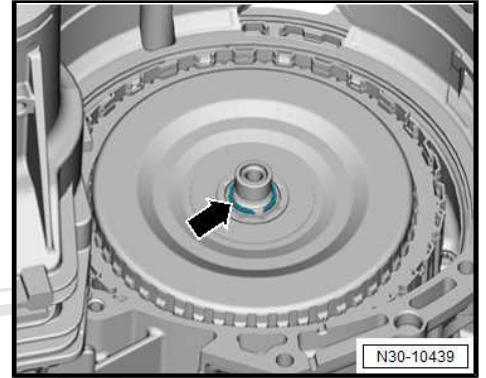
Checking adjustment

Another measurement check must be performed to ensure that the correct shim is fitted. The check is performed as follows:

- Retaining pin - T10524- remains inserted.



- Re-install old circlip -arrow-.



- Place tip of dial gauge -onto hub of large plate carrier-.

 Note

Tip of dial gauge must make contact with shim -1-.

- Preload -dial gauge- and set to 0 again.
- Lift dual clutch upwards significantly in direction of arrow as far as it will go and note measurement.
- This value should be noted as value “C”.

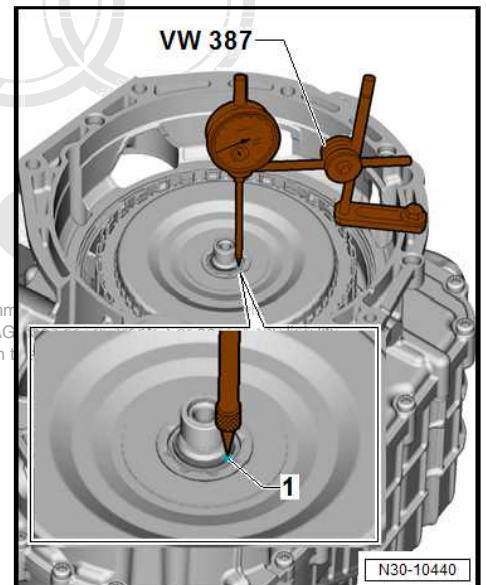
Calculating which shim is to be installed

- Use the following formula:

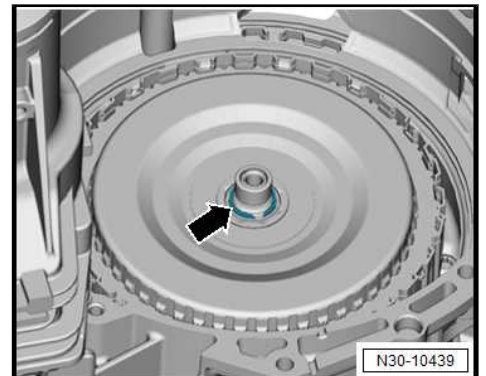
Measured value “C” - measured value “A” = specified value

This specified value must be between 0.05 ... 0.12 mm.

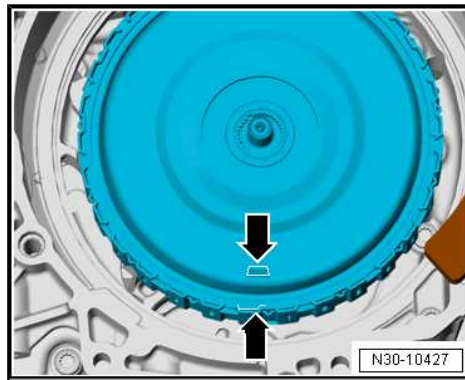
If measurement does not match specified value, install a thicker/ thinner shim to obtain specified value.



- Install new circlip -arrow-.



- Install drive plate in dual clutch.
- When installing, make sure that the marking on the drive plate is aligned with the marking on the outer plate carrier -arrows-. Alternatively, align the new markings made earlier in this procedure.
- Have a second mechanic hold retaining pin - T10524- in position and press outwards slightly.
- Carefully drive in drive plate to its seating position using thrust piece - T10526- and plastic hammer.
- Fit new circlip for drive plate.
- Press circlip into its end position clockwise, beginning at opening.
- The circlip must be fully engaged all round.
- Use a screwdriver to check that the circlip is properly seated and fully engaged.
- Now take out retaining pin - T10524- between dual clutch and housing.
- Install clutch end cover ➤ [page 14](#) .



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34 – Controls, housing

1 Selector mechanism

⇒ [“1.1 Exploded view - selector lever handle”, page 29](#)

⇒ [“1.2 Exploded view - selector mechanism”, page 31](#)

⇒ [“1.3 Manual release from position P”, page 32](#)

⇒ [“1.4 Removing and installing selector lever handle”, page 34](#)

⇒ [“1.5 Removing and installing selector mechanism”, page 39](#)

⇒ [“1.6 Checking selector mechanism”, page 42](#)

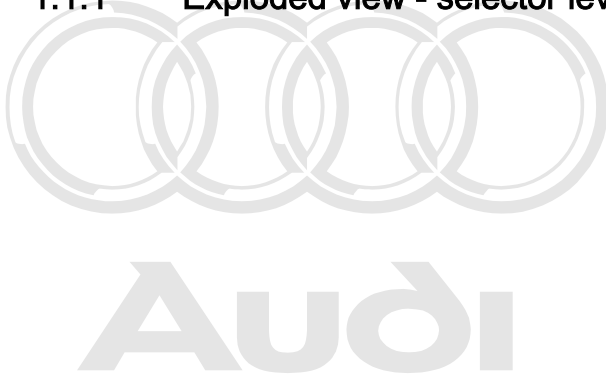
⇒ [“1.7 Checking and adjusting selector lever cable”, page 45](#)

1.1 Exploded view - selector lever handle

⇒ [“1.1.1 Exploded view - selector lever handle \(with interlock button on side\)”, page 29](#)

⇒ [“1.1.2 Exploded view - selector lever handle \(with interlock button on front\)”, page 31](#)

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



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1 - Trim frame with selector lever position display - Y26-

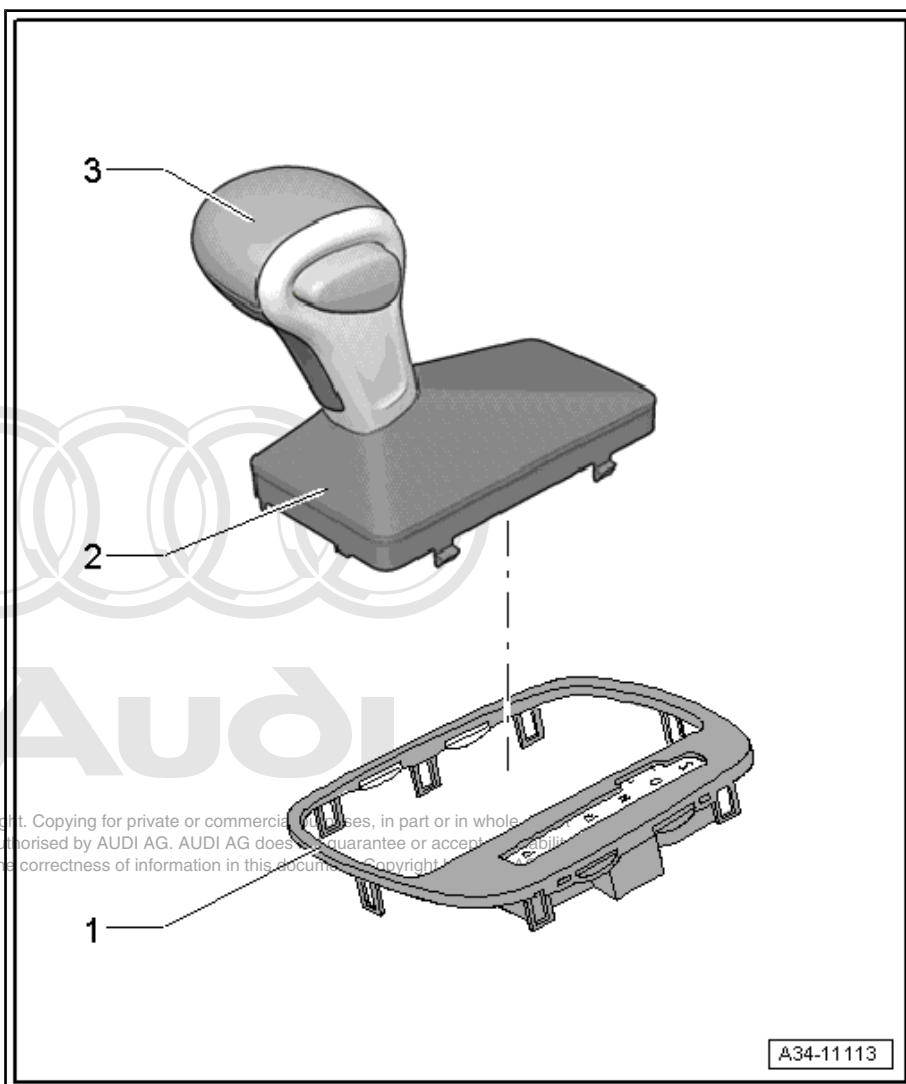
- ❑ Removing and installing
⇒ Electrical system;
Rep. gr. 96 ; Lights; Re-
moving and installing
selector lever position
display - Y26-

2 - Selector lever boot

- ❑ Removing and installing
⇒ ["1.4.1 Removing and
installing selector lever
handle \(with interlock
button on side\)",
page 34](#)

3 - Selector lever handle

- ❑ Removing and installing
⇒ [page 34](#)



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

1 - Trim frame with selector lever position display - Y26-

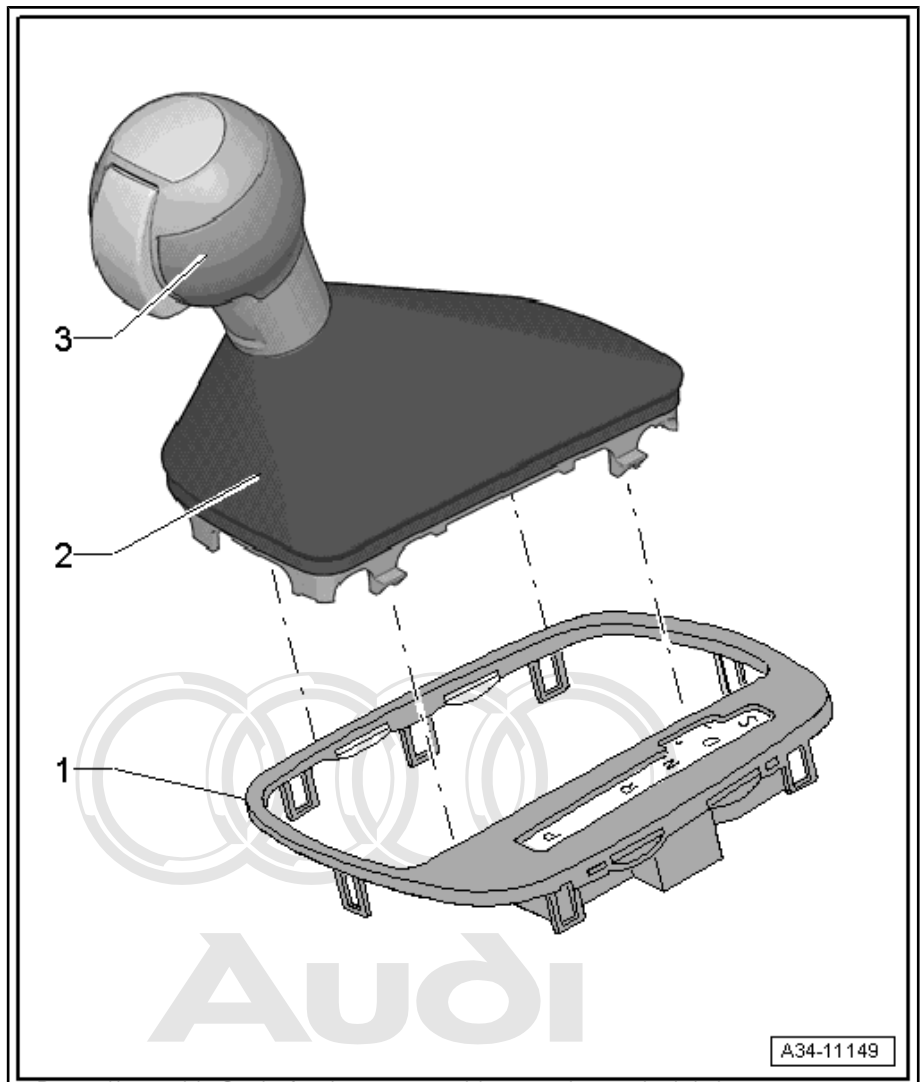
- ❑ Removing and installing
⇒ Electrical system;
Rep. gr. 96 ; Lights; Re-
moving and installing
selector lever position
display - Y26-

2 - Selector lever boot

- ❑ Removing and installing
⇒ ["1.4.2 Removing and
installing selector lever
handle \(with interlock
button on front\)",
page 37](#)

3 - Selector lever handle

- ❑ Removing and installing
⇒ [page 37](#)



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1.2 Exploded view - selector mechanism



WARNING

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

- ◆ *Prior to performing work with engine running, move selector lever to position "P" and pull up parking brake button to apply the electromechanical parking brake.*

1 - Bolt

- ☐ Renew
- ☐ 10 Nm +90°

2 - Gearbox selector lever

3 - Nut

4 - Bolt

- ☐ Adjuster screw for selector lever cable
- ☐ 12 Nm

5 - Cable support bracket

- ☐ For selector lever cable

6 - Bolt

- ☐ Renew
- ☐ 10 Nm +45°

7 - Shift unit

- ☐ With integrated selector lever - E313- with selector lever sensors control unit - J587- , selector lever locked in position P switch - F319- and selector lever lock solenoid - N110-

- ☐ Can be checked via Guided Fault Finding function ⇒ Vehicle diagnostic tester

- ☐ The selector lever - E313- with selector lever sensors control unit - J587- , selector lever locked in position P switch - F319- and selector lever lock solenoid - N110- can only be renewed together with shift unit as a complete unit ⇒ [page 39](#)

- ☐ Selector lever cable can only be renewed together with complete shift unit ⇒ [page 39](#)

- ☐ Do not grease selector lever cable

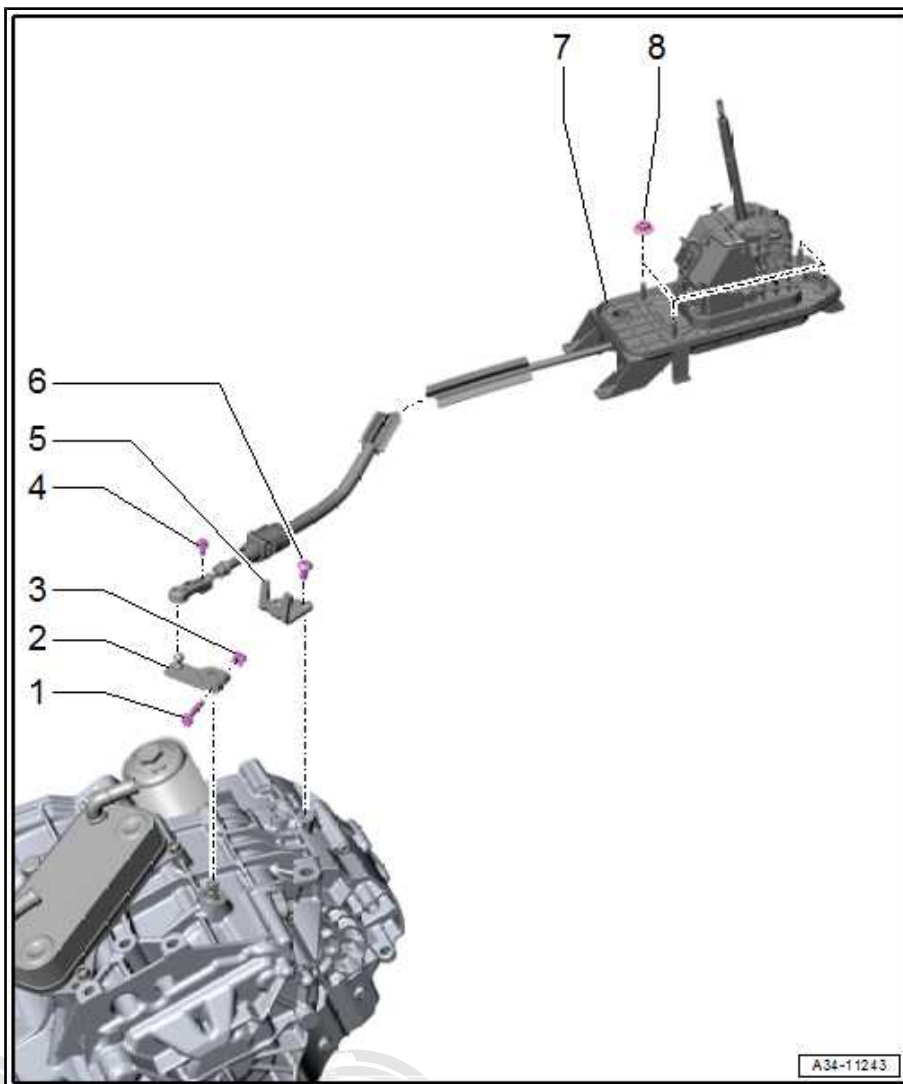
- ☐ Manual release from position P ⇒ [page 32](#)

- ☐ Removing and installing selector mechanism ⇒ [page 39](#)

8 - Nut

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

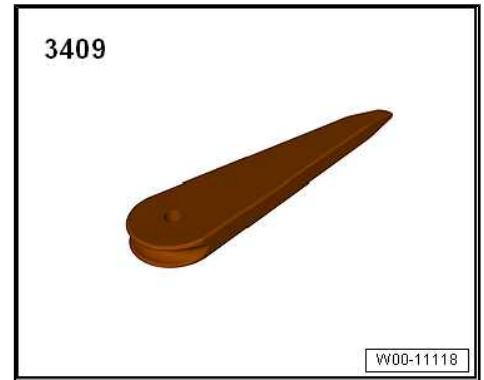
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1.3 Manual release from position P

Special tools and workshop equipment required

◆ Removal wedge - 3409-

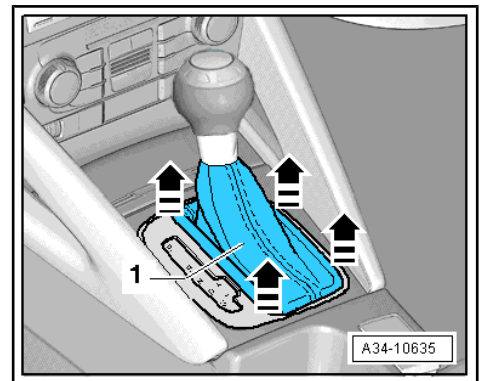


 Note

- ◆ *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

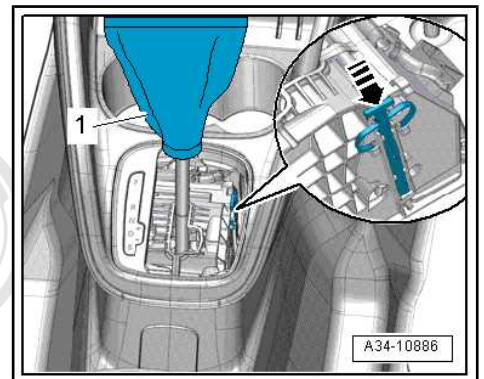
- Pull up parking brake button to apply electromechanical parking brake.
- Unclip selector lever boot on both sides by hand or using removal wedge - 3409- and turn inside out over selector lever handle -arrows-.



- Using a suitable screwdriver or similar, release selector lever lock solenoid - N110- -arrow- and at the same time press and hold interlock button and move selector lever out of position "P".

 Note

However, if the selector lever is now moved back to "P" the selector lever lock solenoid - N110- will once again mechanically lock it in position "P". The solenoid must be released once again.



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1.4 Removing and installing selector lever handle

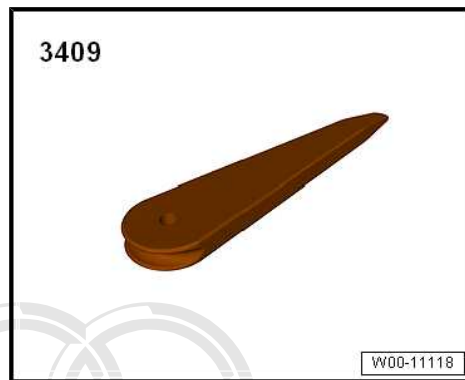
⇒ "1.4.2 Removing and installing selector lever handle (with interlock button on front)", page 37

⇒ "1.4.1 Removing and installing selector lever handle (with interlock button on side)", page 34

1.4.1 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.

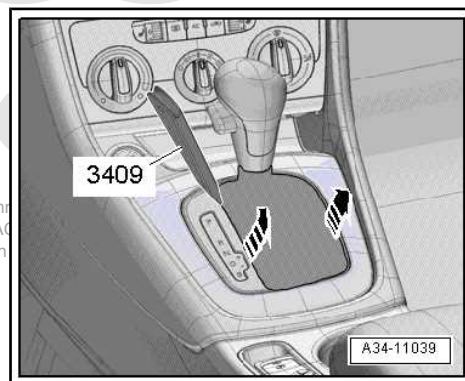
Removing



Note

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

- Pull up parking brake button to apply electromechanical parking brake.
- Shift selector lever into position "N" and switch off ignition.
- Unclip selector lever boot on both sides using removal wedge - 3409- -arrows-.



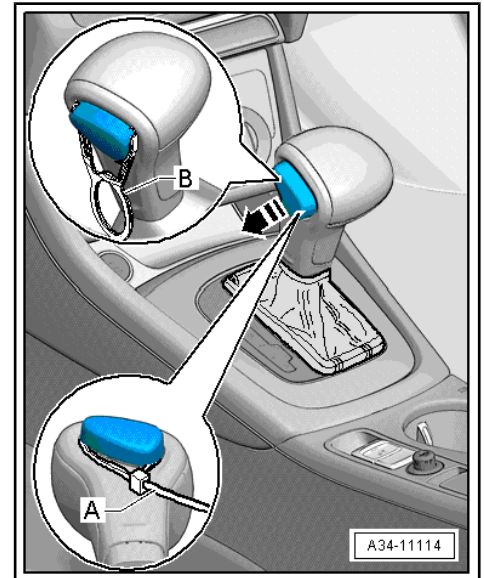
- Pull out interlock button on selector lever handle -arrow- and secure in this position using cable tie -A- or assembly aid -B- as shown in illustration.



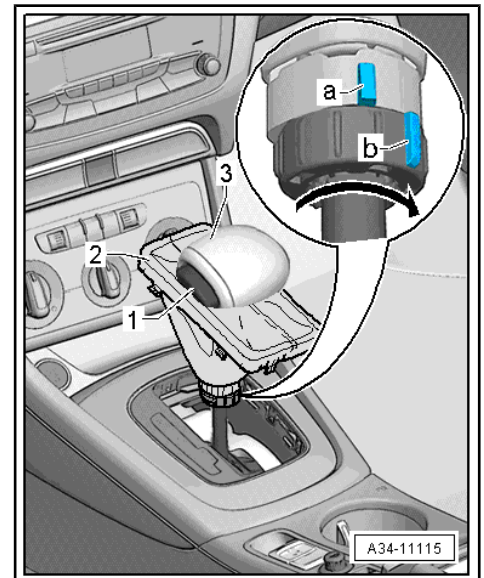
Note

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-.



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.

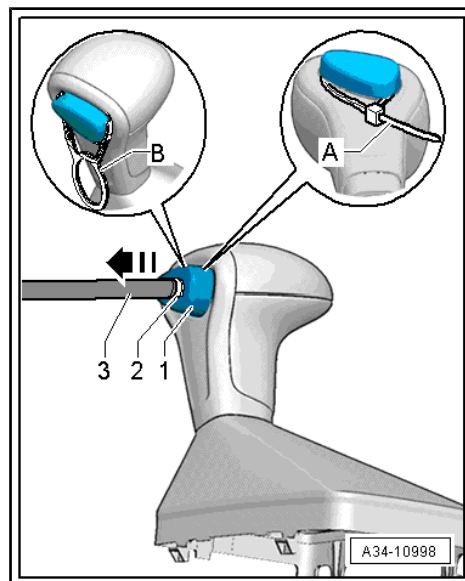
If the interlock button was not properly secured when the handle was removed, and has dropped inside the handle, it must be pulled out and secured as described below before it can be installed.

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



Note

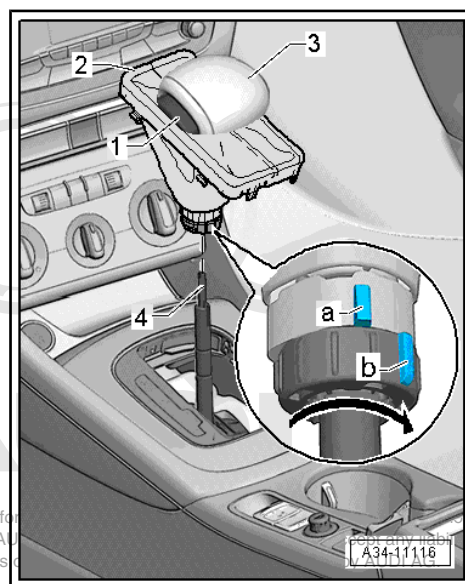
- Alternatively, a small suction cup can also be used (approx. 15 mm dia., commercially available).
- The adhesive pad or double-sided adhesive tape must be completely removed after installing the handle.
- Press a suitable tool -3- with clean, flat surface onto adhesive surface as shown in illustration 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.
- Push selector lever handle on fully with interlock button facing driver's side.



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



Caution

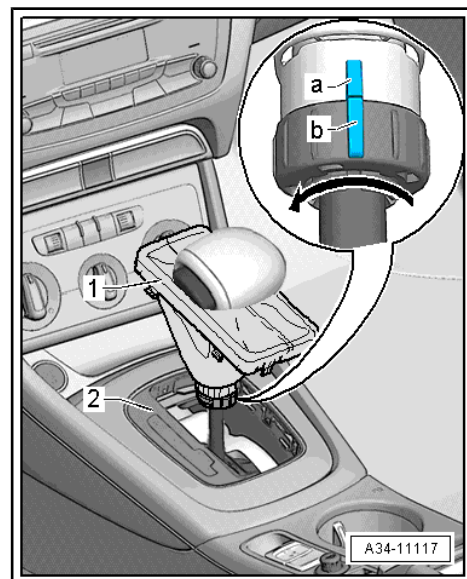
Risk of damage to selector lever handle

- ◆ *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.

To check button mechanism:

- Switch on ignition and move selector lever to positions “R” and “S”.
- If the selector lever cannot be moved into the above positions, the handle must be removed again ➔ [page 34](#) .
- Pull selector lever boot -1- down and clip onto trim frame -2- with selector lever position display - Y26- .
- Check selector mechanism ➔ [page 42](#) .



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

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.

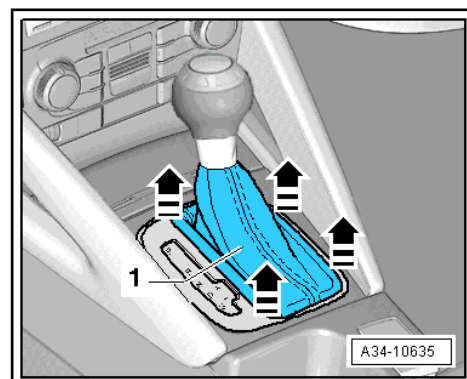
Removing



Note

The selector lever handle is removed together with the selector lever boot -1-.

- Pull up parking brake button to apply electromechanical parking brake.
- Shift selector lever into position “N” and switch off ignition.
- Unclip selector lever boot on both sides by hand or using removal wedge - 3409- -arrows-.



- 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.



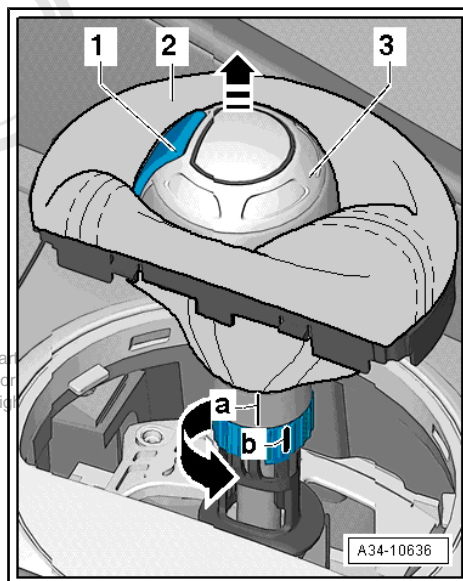
Caution

Risk of damage to the selector mechanism.

- ◆ **Do not touch the interlock button -1- on the selector lever handle when pulling off the handle.**
- ◆ **Otherwise the selector lever handle or the pull rod of the selector mechanism will be damaged when the handle is pulled off.**

- Pull off selector lever handle together with selector lever boot, taking care not to touch interlock button -1-.

Interlock button -1- will be pressed outwards and lock while the selector lever handle is being removed. Do not press in the interlock button -1- on the selector lever handle when the handle is removed.



Installing



Caution

Risk of damage to the selector mechanism.

- ◆ **Do not press in the interlock button -1- on the selector lever handle when the handle is removed.**
- ◆ **Interlock button -1- on selector lever handle must protrude and must not be touched during installation.**
- ◆ **Otherwise the selector lever handle or the pull rod of the selector mechanism will be damaged when the handle is installed.**

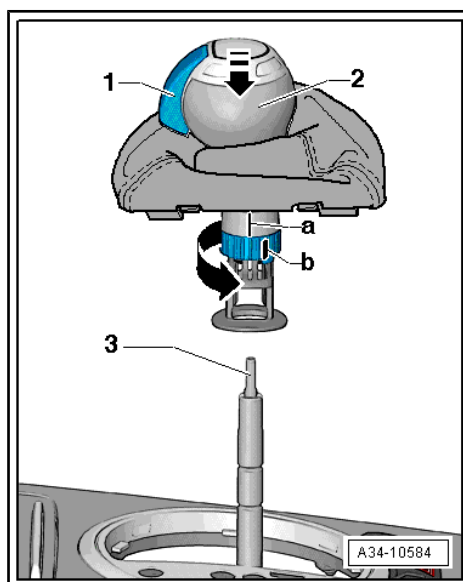
- Shift selector lever into position “N”.



Note

The selector lever can be moved by pulling the release rod -3-.

- Turn selector lever boot inside out over selector lever handle -2-.
- 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 -1- facing towards front of vehicle, push selector lever handle fully onto selector lever without touching interlock button -1-.
- The handle must engage in the annular groove on the selector lever.



- Turn locking ring in direction of -arrow- until it engages (press handle if necessary); 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.



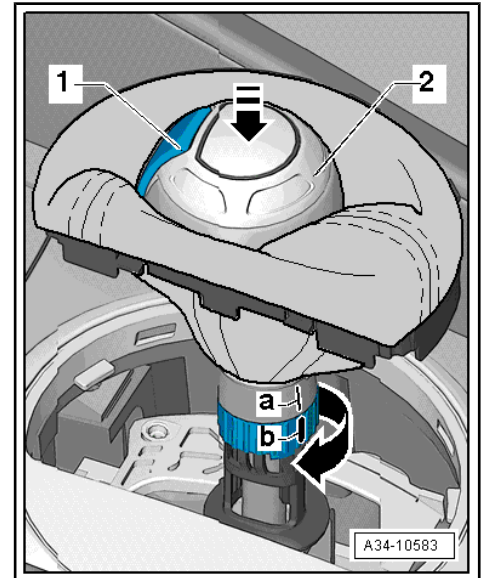
Note

- ◆ 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.

To check button mechanism:

- Switch on ignition and move selector lever to positions “R” and “S”.
- If the selector lever cannot be moved into the above positions, the handle must be removed again ➔ [page 34](#).
- Pull selector lever boot -1- down and clip onto trim frame -2- with selector lever position display - Y26-.
- Check selector mechanism ➔ [page 42](#).

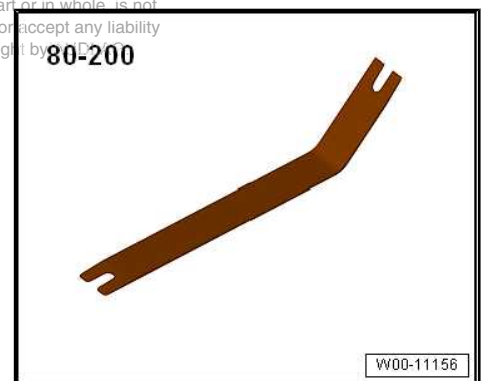


1.5 Removing and installing selector mechanism

Special tools and workshop equipment required

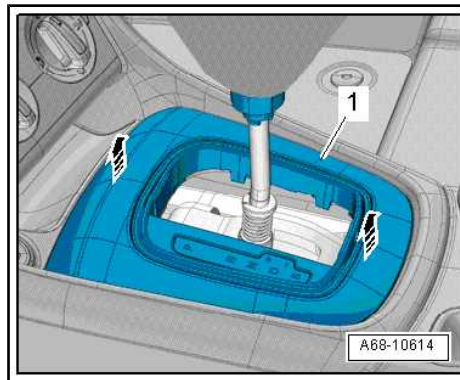
- ◆ Removal lever - 80-200-

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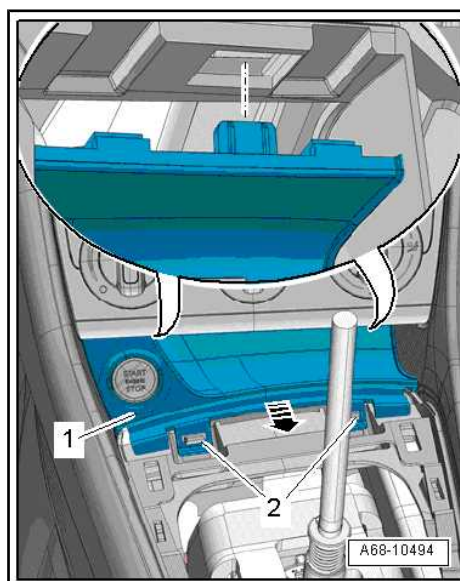


Removing

- Remove selector lever handle with selector lever boot
⇒ [page 34](#) .
- Carefully unclip centre console insert -1- upwards -arrows-.
- Unplug electrical connector to selector lever position display -Y26- and detach centre console insert -1-.



- Remove front centre console storage box ⇒ General body repairs, interior; Rep. gr. 68 ; Centre console; Removing and installing centre console storage box (front) .

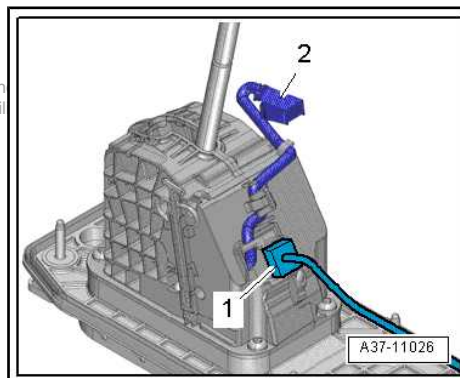


- Unplug electrical connector -1- between shift unit and vehicle wiring harness.



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Disregard -item 2-.

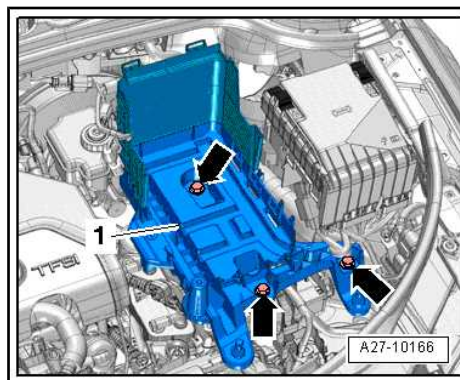


Vehicles with battery in engine compartment (except 2.0 ltr. TFSI, generation III):

- Remove battery and battery tray -1- ⇒ Electrical system; Rep. gr. 27 ; Battery; Removing and installing battery tray .

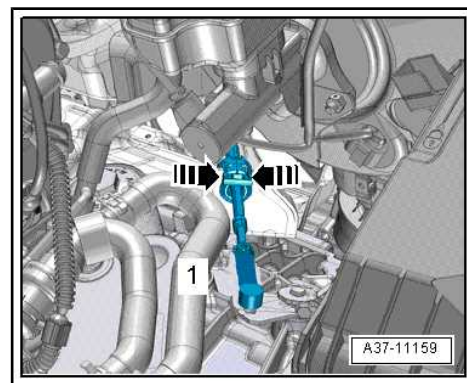
2.0 ltr. TFSI (generation III), 2.5 ltr. TFSI:

- Remove air cleaner housing ⇒ Rep. gr. 24 ; Air cleaner; Removing and installing air cleaner housing .



Continued for all vehicles:

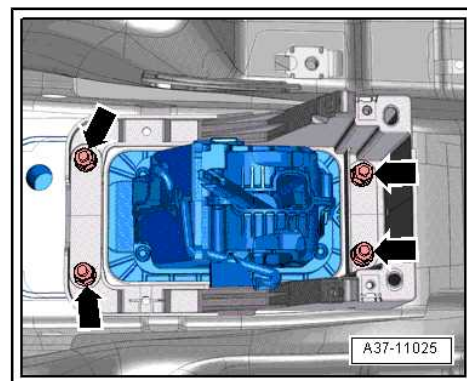
- Pry selector lever cable -1- off gearbox selector lever using removal lever - 80-200- .
- Compress locking mechanism on selector lever cable -arrows- and lift cable out of cable support bracket.
- Remove heat shield for centre tunnel ⇒ General body repairs, exterior; Rep. gr. 66 ; Strips / trim panels / extensions; Removing and installing heat shield for floor .



Note

The assistance of a second mechanic is required to detach the shift unit from below.

- Remove nuts -arrows- in vehicle interior.
- Detach shift unit together with selector lever cable from below.



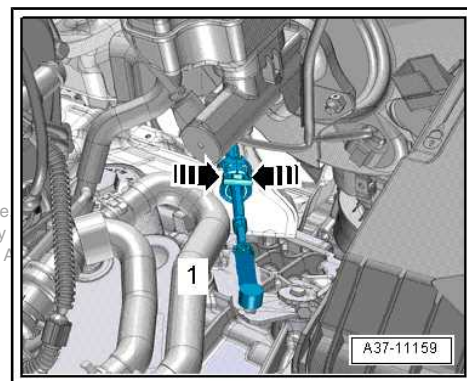
Note

Do not bend or kink the selector lever cable.

Installing

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

- Fit selector lever cable in cable support bracket -arrows-.
- Carefully press ball socket -1- of selector lever cable onto gearbox selector lever.



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- ◆ **Do not bend or kink the selector lever cable.**
- ◆ **Do not grease the selector lever cable.**
- Install centre console storage box (front) ⇒ General body repairs, interior; Rep. gr. 68 ; Centre console; Removing and installing centre console storage box (front) .
- Install selector lever handle with selector lever boot ⇒ [page 34](#) .
- Adjust selector lever cable ⇒ [page 45](#) .
- Check selector mechanism and ignition key removal lock ⇒ [page 42](#) .

Tightening torques

- ◆ ⇒ [“1.2 Exploded view - selector mechanism”, page 31](#)
- ◆ ⇒ General body repairs, exterior; Rep. gr. 66 ; Strips / trim panels / extensions; Exploded view - heat shield
- ◆ ⇒ Electrical system; Rep. gr. 27 ; Battery; Exploded view - battery

1.6 Checking selector mechanism

Overview:

- ◆ 1. Checking operation of selector mechanism ⇒ [page 42](#)
- ◆ 2. Checking ignition key removal lock ⇒ [page 43](#)
- ◆ 3. Checking door locking disable ⇒ [page 43](#)
- ◆ 4. Checking interlock button on selector lever handle ⇒ [page 44](#)
- ◆ 5. Checking connectors on selector mechanism ⇒ [page 44](#)

1. Checking operation of selector mechanism

- It should not be possible to operate the starter while the selector lever is in position “D”, “S”, “R” or in the “tiptronic gate”.
- When travelling at speeds above 5 km/h and shifting into selector lever position “N”, the solenoid for the selector lever lock must not engage and block the selector lever. The selector lever can be shifted into a driving gear.
- When travelling at speeds below 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.
- 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, D and S” and check whether the selector lever position display in the dash panel insert and in the centre console shows the correct selector lever position in each case.

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” or “R” is possible.

Selector lever in position “D”, ignition switched on:

- Shift selector lever into “tiptronic gate”.
- The illuminated “D” symbol in the selector lever position display - Y26- should go out and the “+” and “-” symbols should light up.
- The selector lever position display in the dash panel insert should change from “D” to “M1” when the selector lever is moved into the “tiptronic gate”.

Selector lever in position “D”, ignition switched on:

- Press interlock button on selector lever handle.
- Shifting into position “S” is possible.

If results do not match specifications:

- Perform Guided Fault Finding ⇒ Vehicle diagnostic tester.
- Adjust selector lever cable ⇒ [page 45](#).
- Check interlock button on selector lever handle ⇒ [page 44](#).

2. Checking ignition key removal lock on vehicles with ignition key

- Pull up parking brake button to apply electromechanical parking brake.
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- Do not depress brake pedal.
- Switch on ignition.
- Press and hold brake pedal.
- When interlock button in selector lever handle is pressed, it should be possible to move selector lever out of position “P” without “catching”.
- Switch off ignition.
- It should not be possible to remove the ignition key when the selector lever is in any position other than “P”.
- Move selector lever to position “P”.
- Pull out ignition key.
- It should only be possible to remove ignition key in selector lever position “P”.
- It should not be possible to shift selector lever out of “P” position with interlock button pressed and foot brake depressed.

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

- Fault finding ⇒ Vehicle diagnostic tester, Guided Fault Finding.

3. Checking door locking disable - vehicles with keyless locking and starting system

- Switch on ignition.
- 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”.
- The vehicle can now be locked.

If results do not match specifications:

- Fault finding ⇒ Vehicle diagnostic tester, Guided Fault Finding.
- Adjust selector lever cable ⇒ [page 45](#) .
- Check interlock button on selector lever handle ⇒ [page 44](#) .

4. 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 specified results are not obtained, check that selector lever handle is correctly installed ⇒ [page 34](#) .
- 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"

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If results do not match specifications:

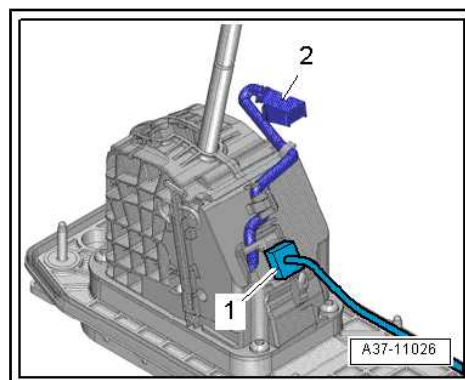
- Check whether selector lever handle is correctly installed ⇒ [page 34](#) .
- Check electrical connectors on selector mechanism.
- Check selector lever lock solenoid - N110- ⇒ Vehicle diagnostic tester, Guided Fault Finding.
- Adjust selector lever cable ⇒ [page 45](#) .

5. Checking connectors on selector mechanism

Before repairing or checking connectors, check all control units in vehicle for entries in event memory ⇒ Vehicle diagnostic tester; Guided Fault Finding; rectify faults as required.

Before checking the connectors, all the control units in the vehicle should be checked for entries in the event memory; repair faults as necessary ⇒ Vehicle diagnostic tester.

- Check connectors according to ⇒ Current flow diagrams, Electrical fault finding and Fitting locations.
- 1 - Electrical connector for wiring from shift unit to gearbox (with CAN bus wire) and to selector lever lock solenoid - N110- and selector lever locked in position P switch - F319-
- 2 - Electrical connector for selector lever position display - Y26-



1.7 Checking and adjusting selector lever cable

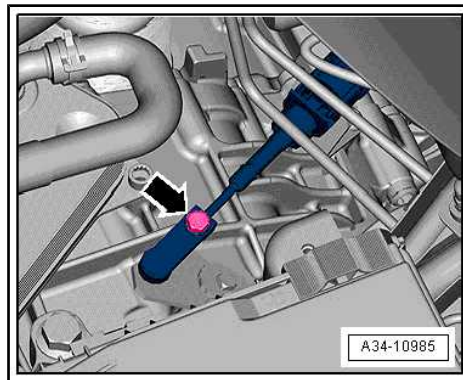
Adjusting selector lever cable

- Selector mechanism and selector lever cable operate smoothly when changing gears.
- Sleeve on selector lever cable is undamaged.

The selector lever cable must be adjusted if:

- ◆ The selector lever cable has been detached from the gearbox.
 - ◆ The engine and/or gearbox have been removed and installed.
 - ◆ The selector lever cable has been removed and installed with the selector mechanism.
 - ◆ The position of the engine/gearbox assembly has been altered, e.g. installed so it is free of stress.
- Remove air cleaner housing ⇒ Rep. gr. 23 ; Air cleaner; Removing and installing air cleaner housing or ⇒ Rep. gr. 24 ; Air cleaner; Removing and installing air cleaner housing .

- Move selector lever to position "P".
- Loosen bolt -arrow- for adjustment of selector lever cable.
- Move gearbox selector lever into position "P" on gearbox. To check this position, press gearbox selector lever towards rear of vehicle as far as stop.
- Turn both front wheels in one direction, e.g. by pushing the vehicle forwards, until the detent lever in the gearbox engages in the parking lock gear.
- The parking lock has engaged when it is no longer possible to rotate both wheels in the same direction.
- Carefully move selector lever forwards and backwards slightly, but without shifting to another selector lever position.



Note

The selector lever cable is then relieved of strain.

- Tighten adjuster screw -arrow-, taking care not to alter position of selector lever cable.

Checking adjustment of selector lever cable

- Keep button pressed, while pulling selector lever approx. 5 mm to the rear out of position "P". Then keep lever in this position, do not move it into "R".
- Release selector lever.
- The selector lever should spring back into position "P" by itself.
- Shift selector lever into position "N".
- Keep button pressed, while pulling selector lever approx. 5 mm to the rear out of position "N". Then keep lever in this position, do not move it into "D".
- Release selector lever.
- The selector lever should spring back into position "N" by itself.
- Keep button pressed, while pushing selector lever approx. 5 mm to the front out of position "N". Then keep lever in this position, do not move it into "R".
- Release selector lever.
- The selector lever should spring back into position "N" by itself.
- Repeat the adjustment if the selector lever does not react as described.
- Check selector mechanism ⇒ [page 42](#).
- Install air cleaner housing ⇒ Rep. gr. 23 ; Air cleaner; Removing and installing air cleaner housing or ⇒ Rep. gr. 24 ; Air cleaner; Removing and installing air cleaner housing.

Tightening torques

- ♦ ⇒ ["1.2 Exploded view - selector mechanism", page 31](#)

2 Removing and installing gearbox

⇒ [“2.1 Removing gearbox”, page 47](#)

⇒ [“2.2 Installing gearbox”, page 84](#)

⇒ [“2.3 Tightening torques for gearbox”, page 87](#)

2.1 Removing gearbox

⇒ [“2.1.1 Removing gearbox - vehicles with 2.0 ltr. TFSI engine \(TD6\)”, page 47](#)

⇒ [“2.1.2 Removing gearbox - vehicles with 2.0 ltr. TFSI engine \(TA9\)”, page 55](#)

⇒ [“2.1.3 Removing gearbox - vehicles with 2.5 ltr. TFSI engine”, page 62](#)

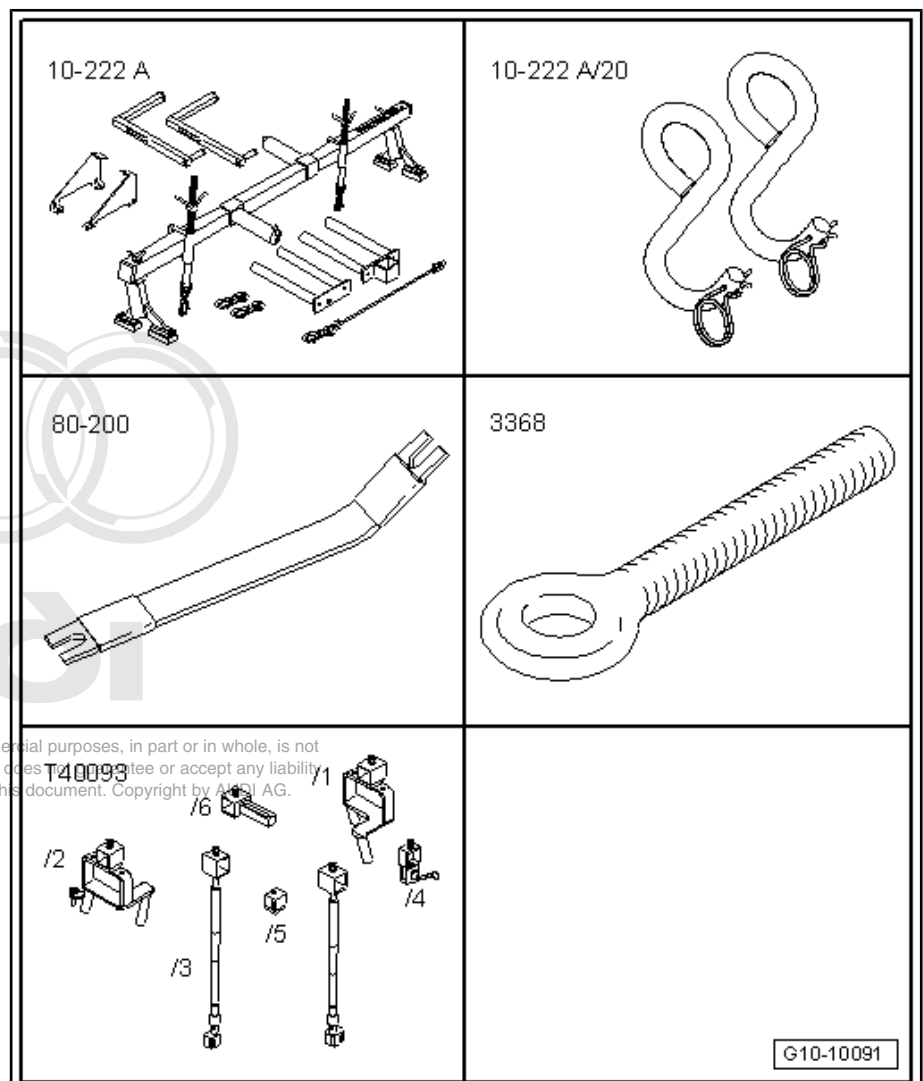
⇒ [“2.1.4 Removing gearbox - vehicles with 2.0 ltr. TDI engine \(TL4\)”, page 69](#)

⇒ [“2.1.5 Removing gearbox - vehicles with 2.0 ltr. TDI engine \(T0N, T1I\)”, page 78](#)

2.1.1 Removing gearbox - vehicles with 2.0 ltr. TFSI engine (TD6)

Special tools and workshop equipment required

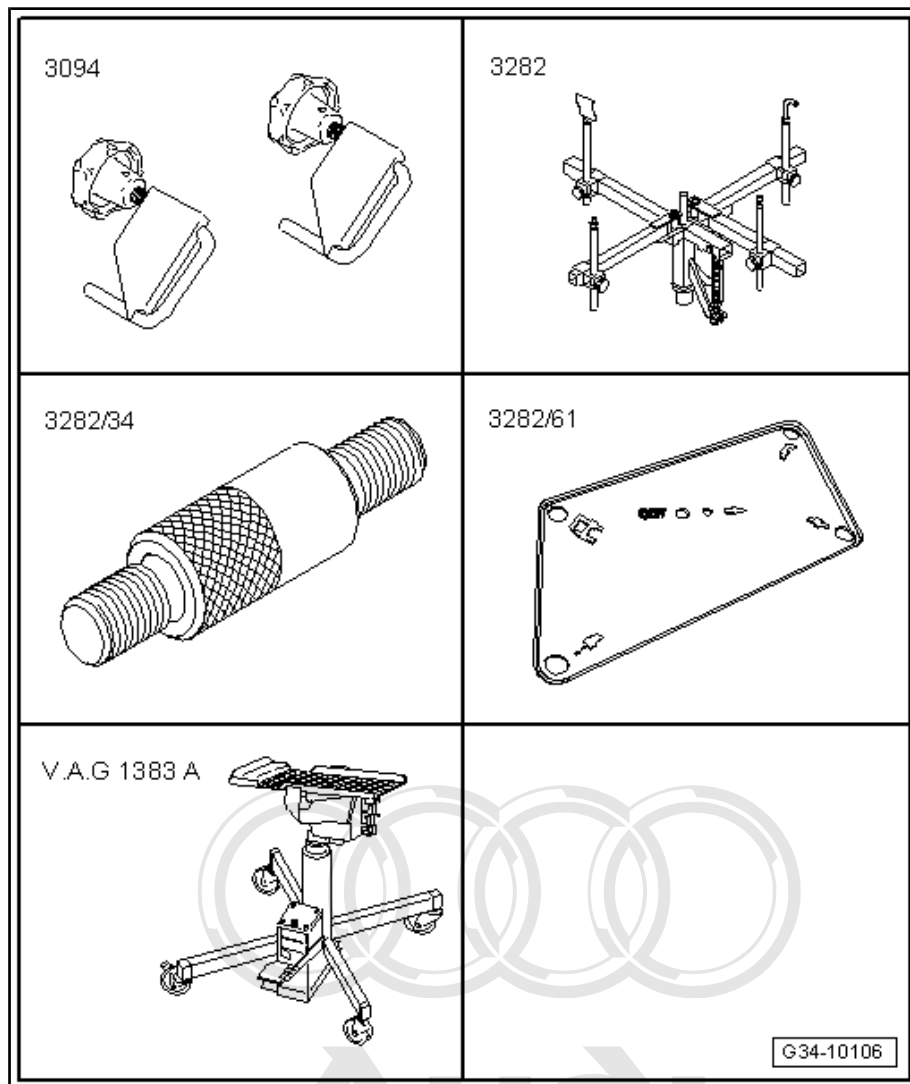
- ◆ Support bracket - 10-222A-
- ◆ Adapters - 10-222A/20-
- ◆ Removal lever - 80-200-
- ◆ Eye-head bolt - 3368-
- ◆ -T40093/6- from engine support supplementary set - T40093-
- ◆ Flange nut M10 or nut with washer



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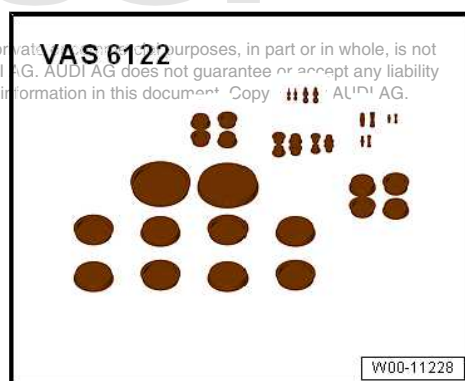


- ◆ Hose clamps, up to 25 mm - 3094-
- ◆ Gearbox support - 3282-
- ◆ Pin - 3282/34-
- ◆ Adjustment plate - 3282/61-
- ◆ Engine and gearbox jack - V.A.G 1383 A-



- ◆ Engine bung set - VAS 6122-

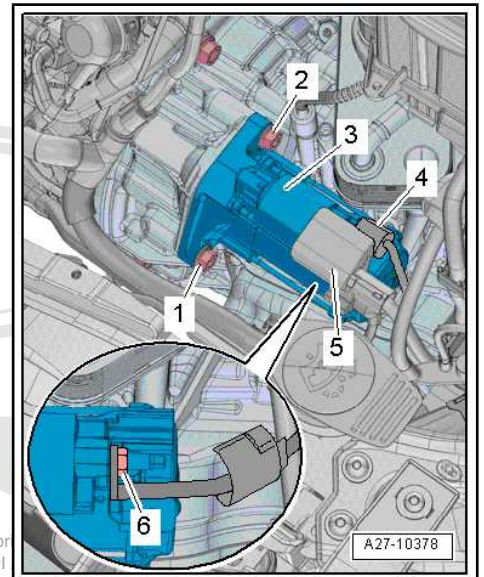
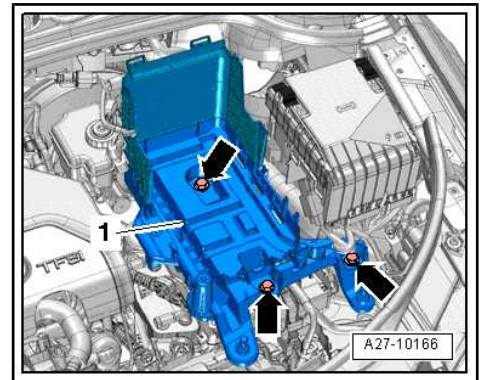
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Procedure

Note

- ◆ Please refer to ⇒ [“4 Repair instructions”, page 7](#).
 - ◆ Please refer to ⇒ [“4.2 Rules for cleanliness”, page 8](#).
 - ◆ Observe notes on dual clutch gearbox 0BH
⇒ [“4.1 General notes”, page 7](#).
 - ◆ All cable ties which are released or cut open during removal
must be fitted in the same position when installing.
- Move selector lever to position “P”.
 - Bring front wheels into straight-ahead position.
 - Switch off ignition.
 - Remove battery and battery tray -1- ⇒ Electrical system; Rep.
gr. 27 ; Battery; Removing and installing battery tray .
-
- Remove starter ⇒ Electrical system; Rep. gr. 27 ; Starter;
Removing and installing starter

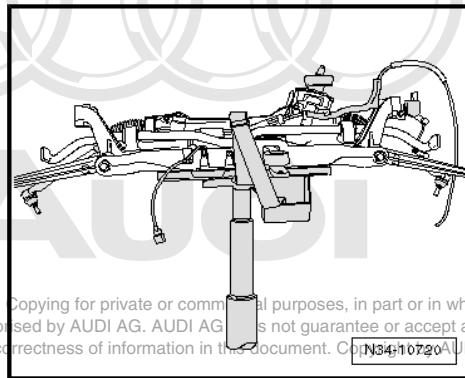


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- Remove subframe; when doing so, fit locating pins - T10096-
⇒ Running gear, axles, steering; Rep. gr. 40 ; Subframe;
Removing and installing subframe without steering rack .

Vehicles with four-wheel drive:

- Remove bevel box ⇒ [page 93](#) .



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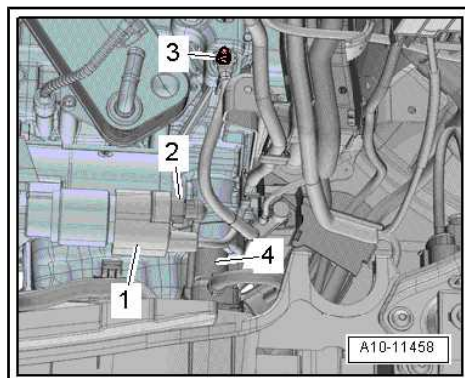
Continued for all vehicles:

- Remove nut -3- and detach earth wire.


Caution

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

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



- Touch a suitable earthed object with your hand (without gloves) to discharge any static electricity.
- Turn fastener anti-clockwise and unplug electrical connector -4- on gearbox.

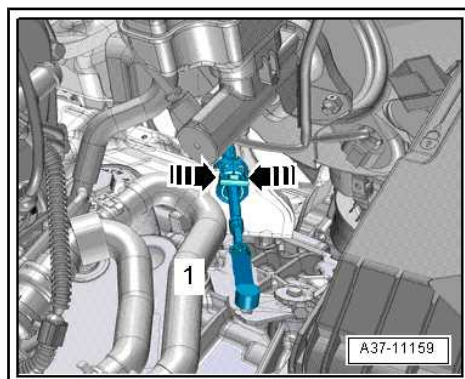

Note

Disregard items -1 and 2-.

- Use removal lever - 80-200- to press ball socket -1- on selector lever cable off gearbox selector lever.
- Release catches -arrows- and move selector lever cable clear.


Note

Do not bend or kink the selector lever cable.



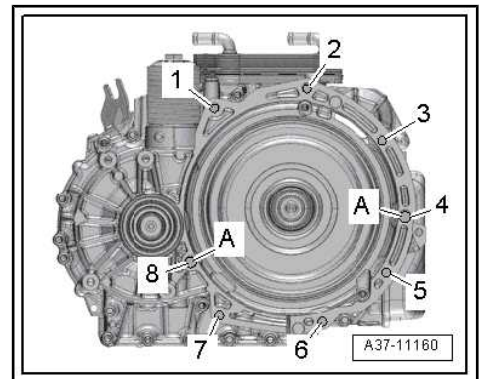
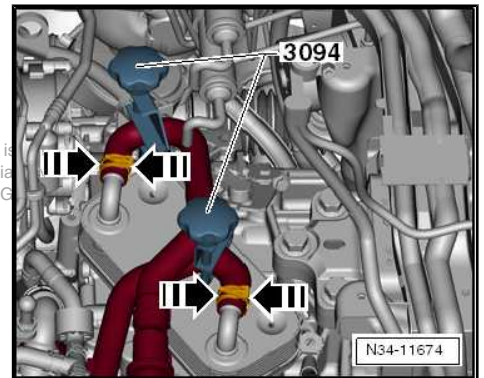
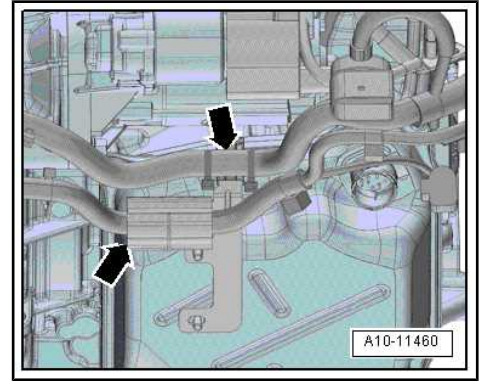
- Move electrical wiring harnesses clear -arrows-.



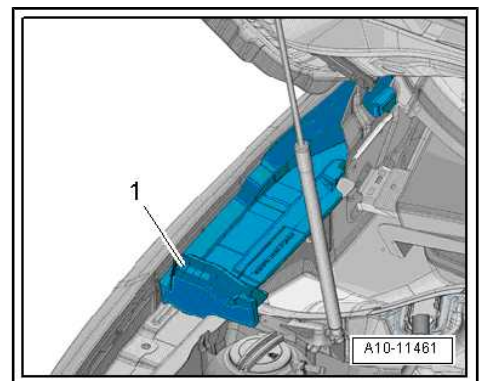
Note

Place a cloth on the gear oil cooler and gearbox to catch escaping coolant.

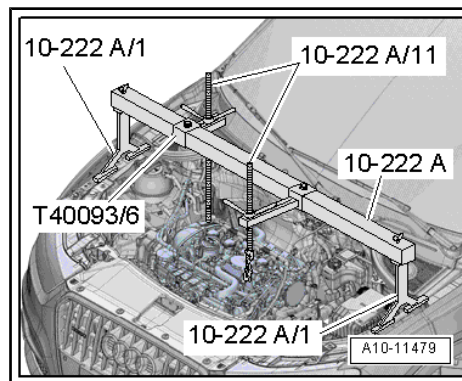
- Clamp off coolant hoses leading to gear oil cooler using hose clamps -3094- . Then release hose clips -arrows- and disconnect hoses.
- Seal off open lines and connections with clean plugs from engine bung set - VAS 6122- .
- Remove bolts -1, 2, 3- securing gearbox to engine.



- Unclip sealing element -1- on both sides using removal lever - 80-200- .



- Set up support bracket - 10-222A- with spindles -10-222A/11- on wing mounting flanges, as shown in illustration.



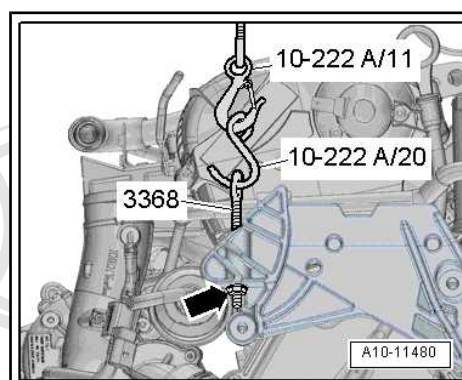
- Engage hook of spindle (left-side) in engine lifting eye.



WARNING

Risk of accident if threaded attachment comes loose.

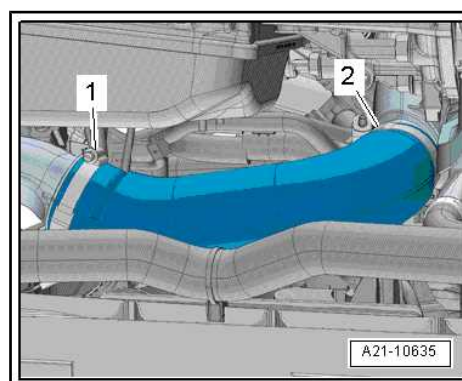
- ◆ *To ensure that the eye-head bolt - 3368- is securely attached, screw on a flange nut or nut with washer -arrow- at least 6 turns.*



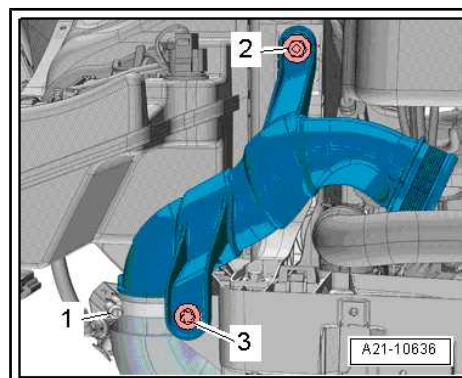
- Secure eye-head bolt - 3368- with M10 flange nut or nut with washer to engine support as shown in illustration.
- Hook spindle - 10-222A/11- with adapter - 10-222A/20- (right-side) onto eye-head bolt - 3368- .
- Take up weight of engine/gearbox assembly evenly with both spindles; do not lift.
- Remove wheel spoiler (front left) ➔ General body repairs, exterior; Rep. gr. 66 ; Wheel housing liners; Exploded view - wheel housing liner (front) .

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- Release hose clips -1 and 2- and remove air intake hose.
- Seal off open lines and connections with clean plugs from engine bung set - VAS 6122- .



- Remove nut -2- and bolt -3-.
- Release hose clip -1- and detach air pipe.
- Seal off open lines and connections with clean plugs from engine bung set - VAS 6122- .



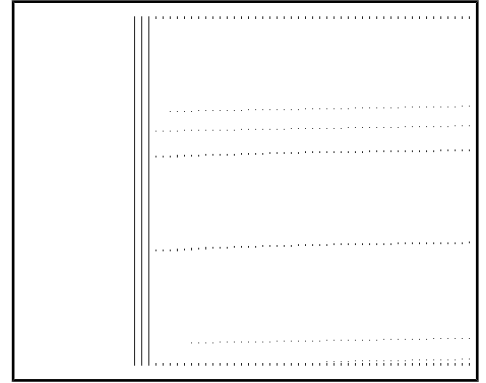
- Disconnect exhaust system at clamp -arrows-.



Caution

Risk of damage to flexible joint.

- ◆ **The flexible joint in the front exhaust pipe must not be bent further than 10°.**



- Tie up front exhaust pipe.
- Detach drive shaft (left-side) from gearbox and tie up ⇒ Running gear, axles, steering; Rep. gr. 40 ; Drive shaft; Removing and installing drive shaft .



Note

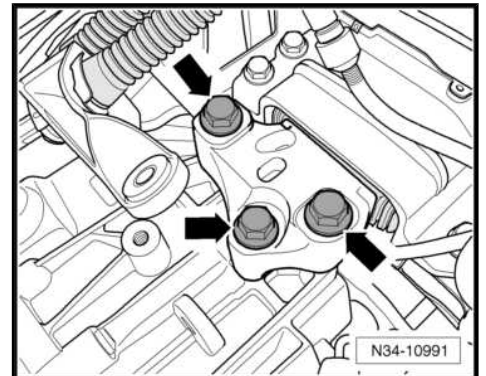
Make sure you do not damage surface coating on drive shaft.

Vehicles with front-wheel drive:

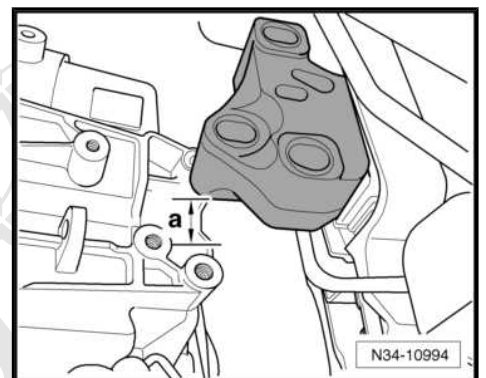
- Detach drive shaft (right-side) from gearbox and tie up ⇒ Running gear, axles, steering; Rep. gr. 40 ; Drive shaft; Removing and installing drive shaft .

Continued for all vehicles:

- Remove bolts -arrows- from gearbox mounting.



- Lower engine/gearbox assembly using spindles of support bracket - 10-222A- until distance -a- is obtained between gearbox housing and gearbox mounting.
- Dimension -a- = 100 ... 110 mm



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To remove dual clutch gearbox 0BH, set up gearbox support - 3282- with adjustment plate - 3282/61- and fit onto engine and gearbox jack - V.A.G 1383 A- .

- Align arms of gearbox support according to holes in adjustment plate .
- Screw in support elements -A-, as illustrated on adjustment plate . However, use pin - 3282/34- as support element on right side (rear). This support element is outside the adjustment plate .

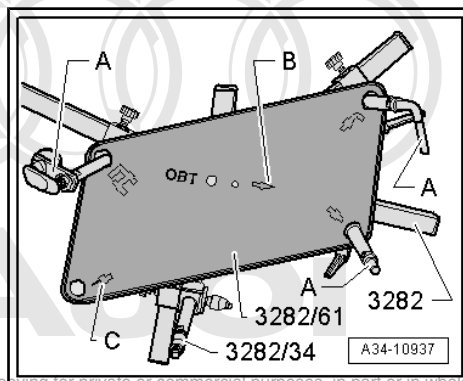


Note

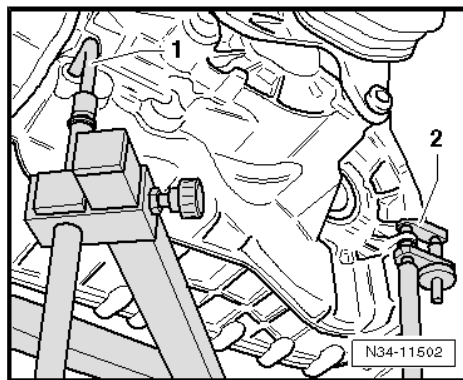
The support element -C- on the adjustment plate is not used.

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- Place engine and gearbox jack - V.A.G 1383 A- underneath vehicle.
- The arrow symbol -B- on the adjustment plate points in the direction of travel.
- Align gearbox support - 3282- parallel with gearbox.
- Insert hook -1- in mounting on dual clutch gearbox.
- Secure safety support -2- in mounting on dual clutch gearbox.

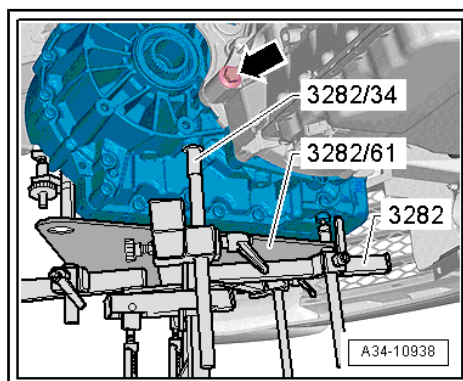


- Screw pin - 3282/34- into gearbox.
- Support gearbox by lifting from underneath with engine and gearbox jack - V.A.G 1383 A- .

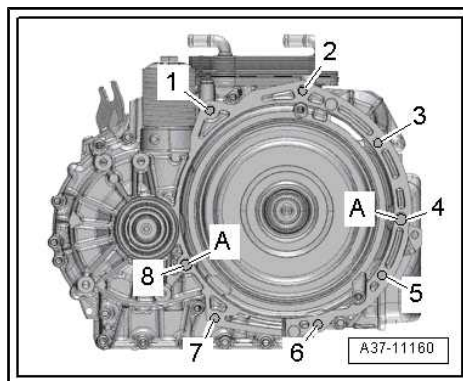


Note

-Arrow- can be disregarded.



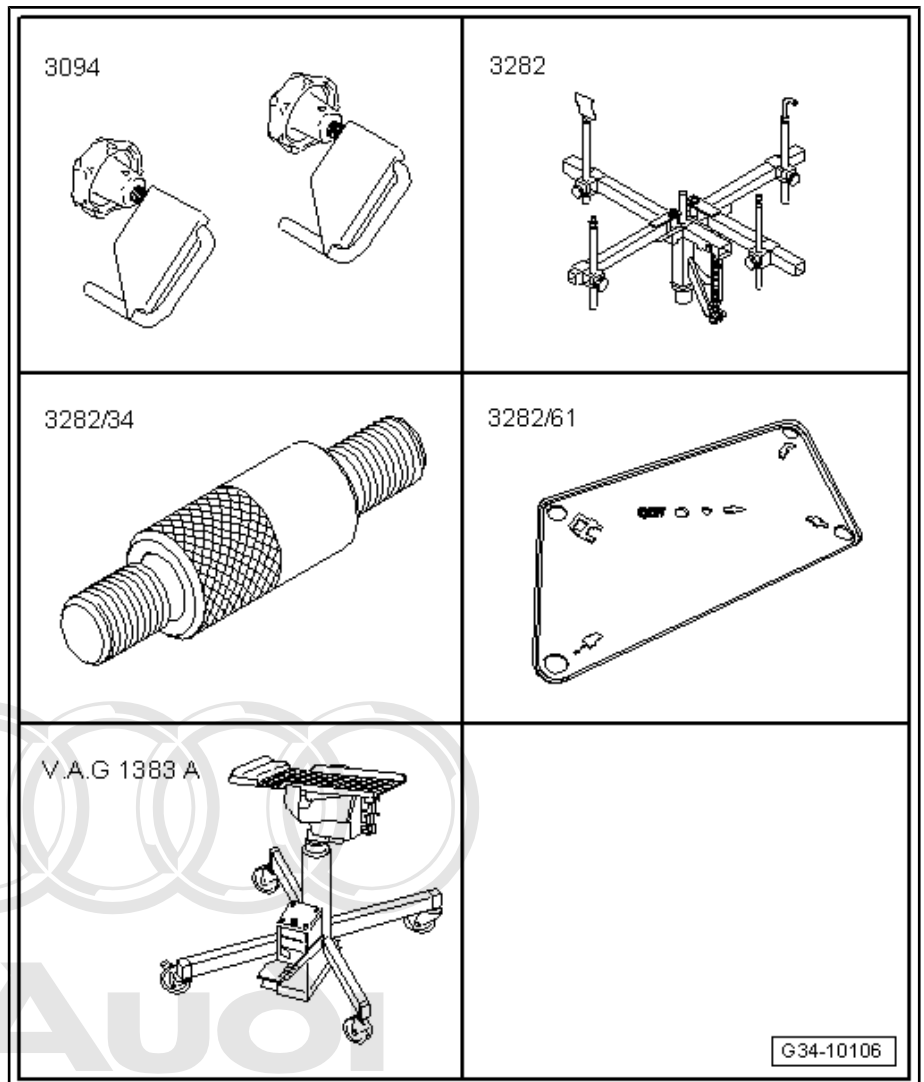
- Remove bolts -4 ... 8- securing gearbox to engine.
- Press gearbox off dowel sleeves on engine.
- Carefully lower gearbox using engine and gearbox jack - V.A.G 1383 A- , taking care not to trap wiring or other connections.
- While lowering gearbox, adjust position of gearbox using spindles on gearbox support - 3282- .



2.1.2 Removing gearbox - vehicles with 2.0 ltr. TFSI engine (TA9)

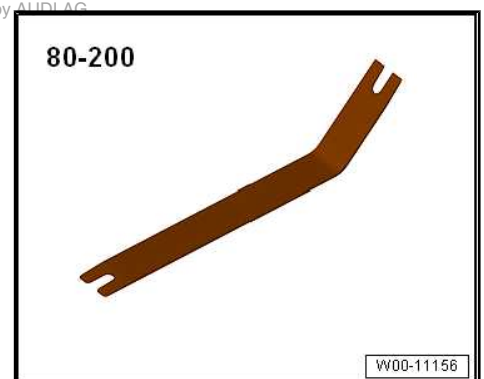
Special tools and workshop equipment required

- ◆ Hose clamps, up to 25 mm - 3094-
- ◆ Gearbox support - 3282-
- ◆ Pin - 3282/34-
- ◆ Adjustment plate - 3282/61-
- ◆ Engine and gearbox jack - V.A.G 1383 A-

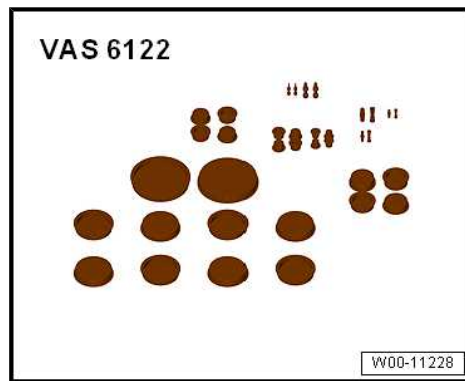


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- ◆ Removal lever - 80-200-



♦ Engine bung set - VAS 6122-

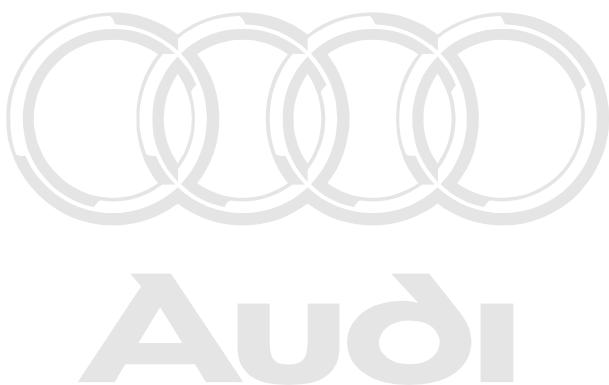
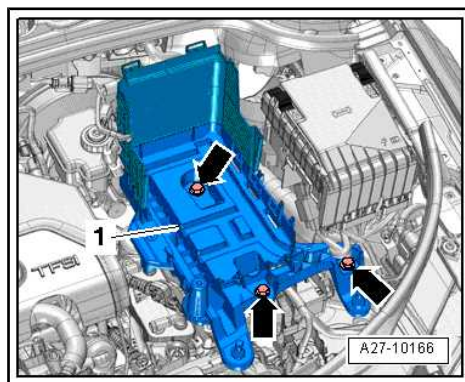


Procedure



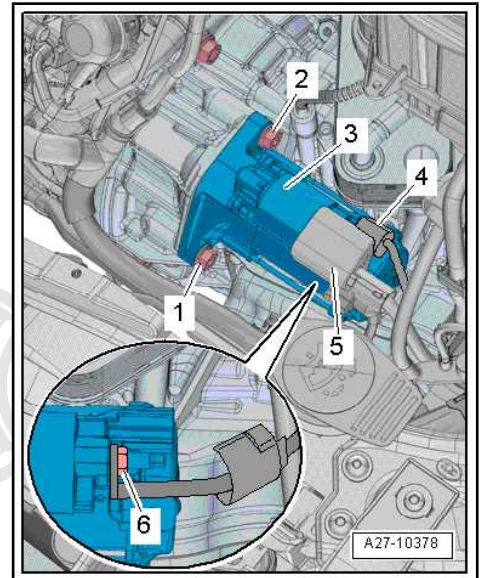
Note

- ♦ Please refer to ➤ [“4 Repair instructions”, page 7](#) .
 - ♦ Please refer to ➤ [“4.2 Rules for cleanliness”, page 8](#) .
 - ♦ Observe notes on dual clutch gearbox 0BH
➤ [“4.1 General notes”, page 7](#) .
 - ♦ All cable ties which are released or cut open during removal
must be fitted in the same position when installing.
- Move selector lever to position “P”.
 - Switch off ignition.
 - Remove battery and battery tray -1- ➤ Electrical system; Rep.
gr. 27 ; Battery; Removing and installing battery tray .



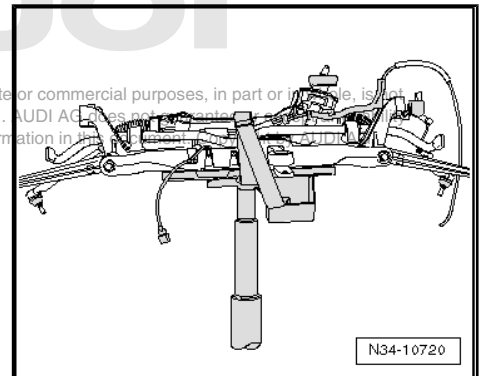
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- Remove starter ⇒ Electrical system; Rep. gr. 27 ; Starter; Removing and installing starter



- Remove subframe with steering rack; when doing so, fit locating pins - T10096- ⇒ Running gear, axles, steering; Rep. gr. 40 ; Subframe; Removing and installing subframe with steering rack .

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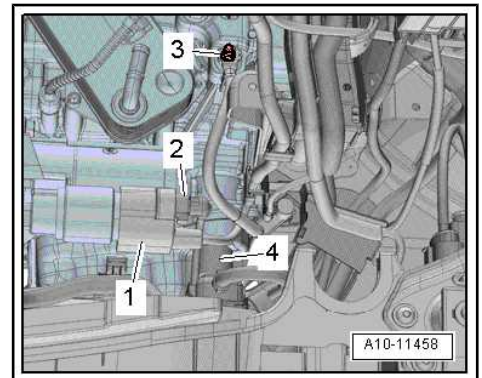
- Remove nut -3- and detach earth wire.



Caution

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

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



- Touch a suitable earthed object with your hand (without gloves) to discharge any static electricity.
- Turn fastener anti-clockwise and unplug electrical connector -4- on gearbox.



Note

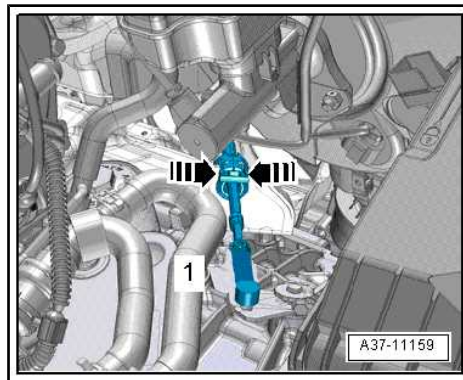
Disregard items -1 and 2-.

- Use removal lever - 80-200- to press ball socket -1- on selector lever cable off gearbox selector lever.
- Release catches -arrows- and move selector lever cable clear.

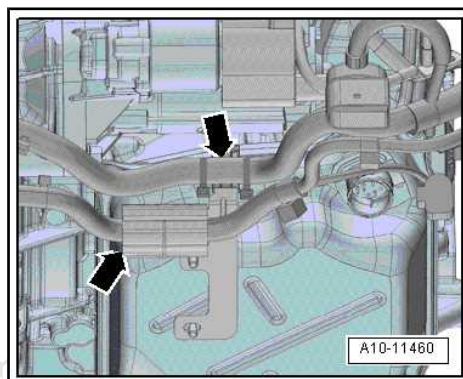


Note

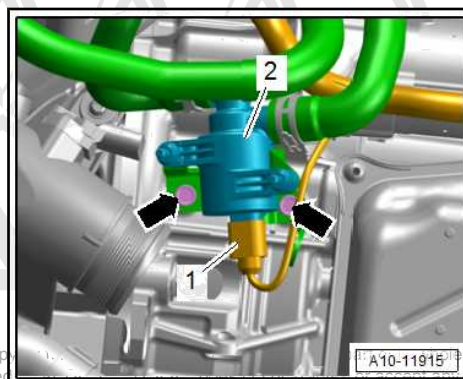
Do not bend or kink the selector lever cable.



- Move electrical wiring harnesses clear -arrows-.



- Unplug electrical connector -1-.
- Remove bolts -arrows- and press coolant valve for gearbox - N488- -item 2- to one side.



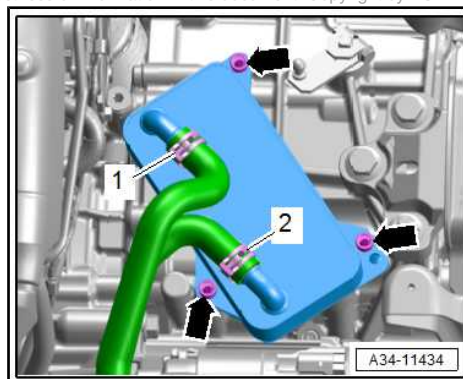
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Note

Place a cloth on the gear oil cooler and gearbox to catch escaping coolant.

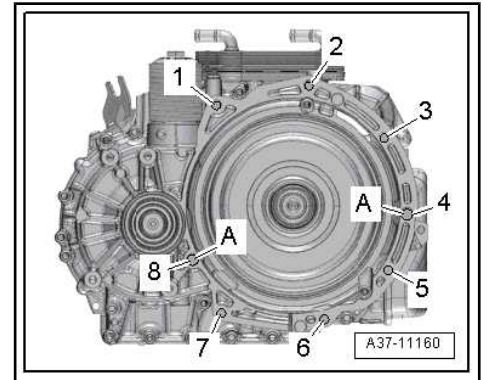
- Clamp off coolant hoses leading to gear oil cooler using hose clamps -3094- , release hose clips -1 and 2- and disconnect coolant hoses.
- Seal off open lines and connections with clean plugs from engine bung set - VAS 6122- .



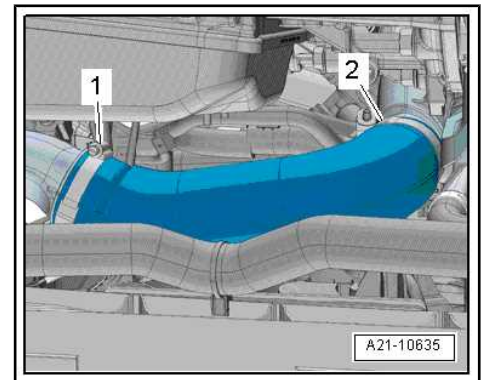
Note

Disregard -arrows-.

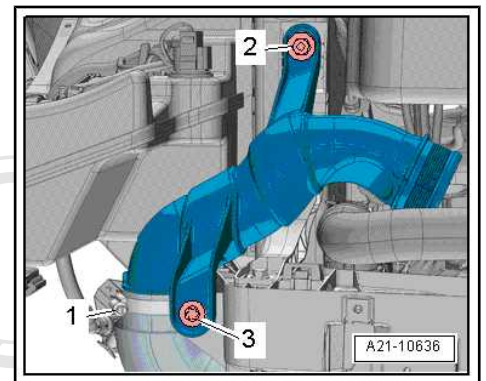
- Remove bolts -1, 2, 3- securing gearbox to engine.
- Support engine in installation position ⇒ Rep. gr. 10 ; Assembly mountings; Supporting engine in installation position .
- Remove wheel spoiler (front left) ⇒ General body repairs, exterior; Rep. gr. 66 ; Wheel housing liners; Exploded view - wheel housing liner (front) .



- Release hose clips -1 and 2- and remove air intake hose.
- Seal off open lines and connections with clean plugs from engine bung set - VAS 6122- .



- Remove nut -2- and bolt -3-.
- Release hose clip -1- and detach air pipe.
- Seal off open lines and connections with clean plugs from engine bung set - VAS 6122- .



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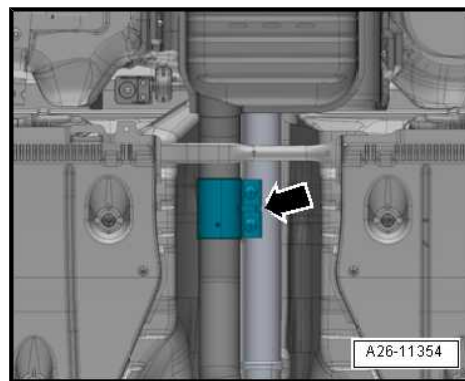
- Disconnect exhaust system at clamp -arrow-.



Caution

Risk of damage to flexible joint.

- ◆ *The flexible joint in the front exhaust pipe must not be bent further than 10°.*



- Tie up front exhaust pipe.
- Detach drive shaft (left-side) from gearbox and tie up ⇒ Running gear, axles, steering; Rep. gr. 40 ; Drive shaft; Removing and installing drive shaft .



Note

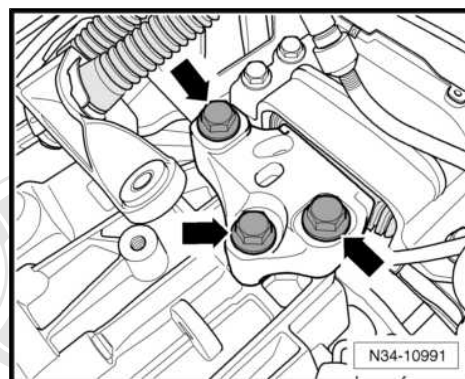
Make sure you do not damage surface coating on drive shaft.

Vehicles with front-wheel drive:

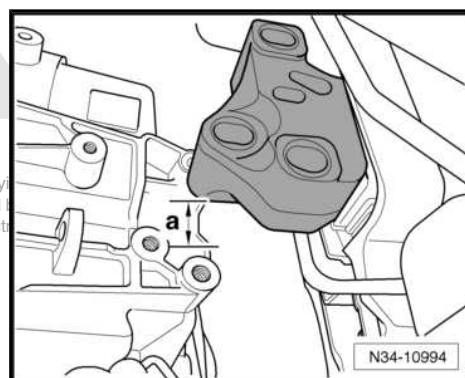
- Detach drive shaft (right-side) from gearbox and tie up ⇒ Running gear, axles, steering; Rep. gr. 40 ; Drive shaft; Removing and installing drive shaft .

Continued for all vehicles:

- Remove bolts -arrows- from gearbox mounting.



- Lower engine/gearbox assembly using spindles of support bracket - 10-222A- until distance -a- is obtained between gearbox housing and gearbox mounting.
- Dimension -a- = 100 ... 110 mm



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ability

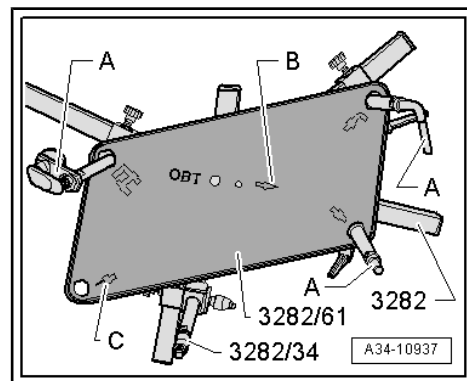
To remove dual clutch gearbox 0BH, set up gearbox support - 3282- with adjustment plate - 3282/61- and fit onto engine and gearbox jack - V.A.G 1383 A- .

- Align arms of gearbox support according to holes in adjustment plate .
- Screw in support elements -A-, as illustrated on adjustment plate . However, use pin - 3282/34- as support element on right side (rear). This support element is outside the adjustment plate .

 Note

The support element -C- on the adjustment plate is not used.

- Place engine and gearbox jack - V.A.G 1383 A- underneath vehicle.
- The arrow symbol -B- on the adjustment plate points in the direction of travel.
- Align gearbox support - 3282- parallel with gearbox.
- Insert hook -1- in mounting on dual clutch gearbox.
- Secure safety support -2- in mounting on dual clutch gearbox.

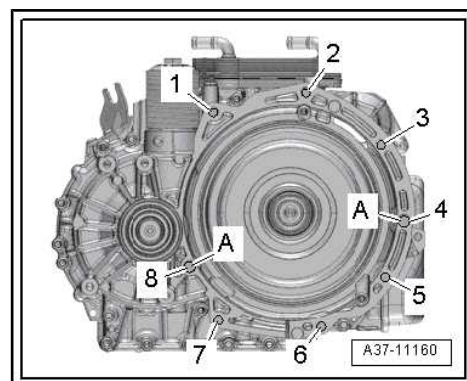
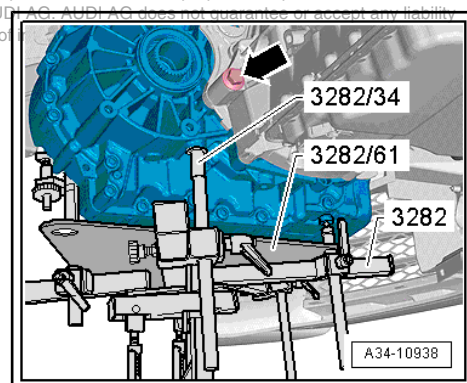
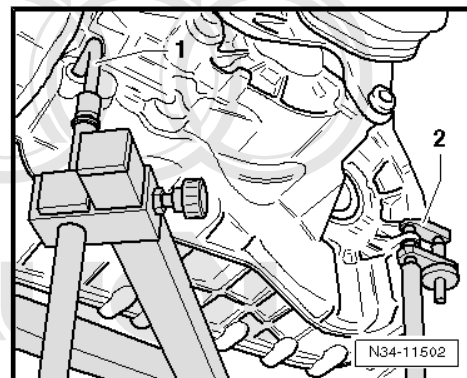


- Screw pin - 3282/34- into gearbox.
- Support gearbox by lifting from underneath with engine and gearbox jack - V.A.G 1383 A- .

 Note

-Arrow- can be disregarded.

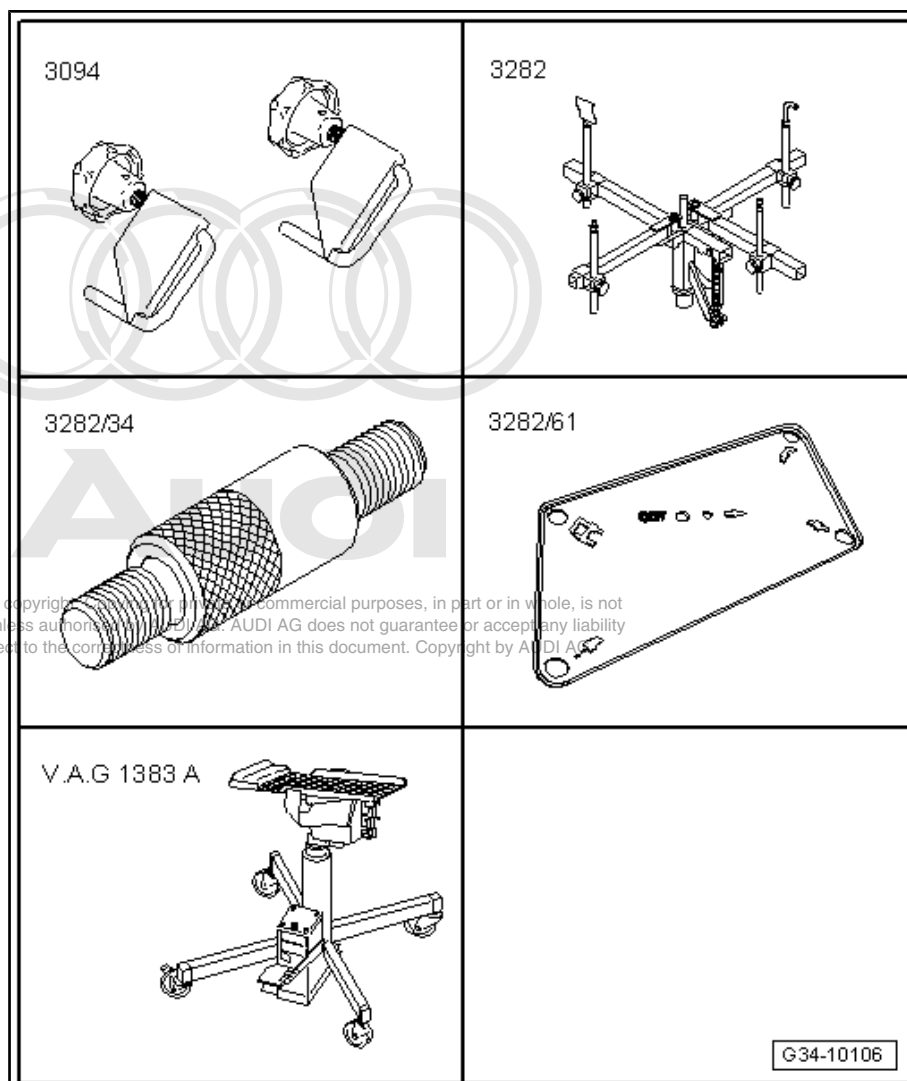
- Remove bolts -4 ... 8- securing gearbox to engine.
- Press gearbox off dowel sleeves on engine.
- Carefully lower gearbox using engine and gearbox jack - V.A.G 1383 A- , taking care not to trap wiring or other connections.
- While lowering gearbox, adjust position of gearbox using spindles on gearbox support - 3282- .



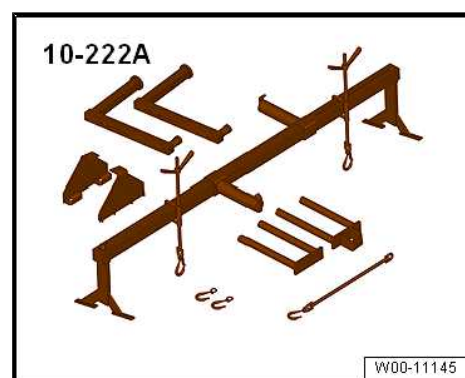
2.1.3 Removing gearbox - vehicles with 2.5 ltr. TFSI engine

Special tools and workshop equipment required

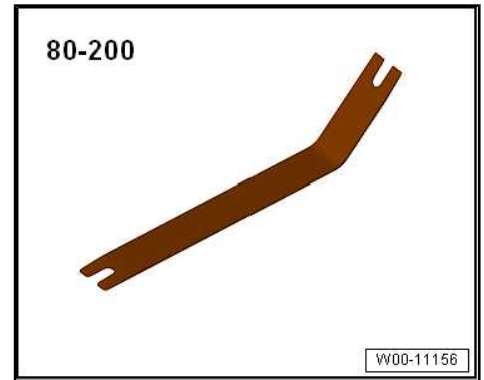
- ◆ Hose clamps, up to 25 mm - 3094-
- ◆ Gearbox support - 3282-
- ◆ Pin - 3282/34-
- ◆ Adjustment plate - 3282/61-
- ◆ Engine and gearbox jack - V.A.G 1383 A-



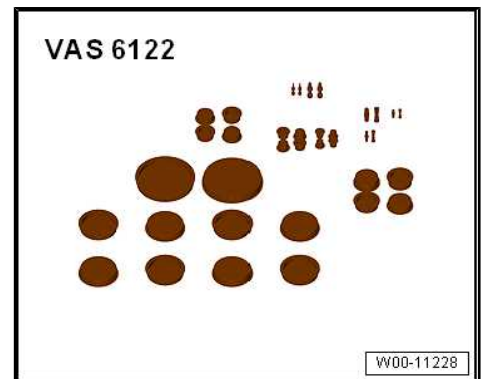
- ◆ Support bracket - 10-222A-



- ◆ Removal lever - 80-200-



- ◆ Engine bung set - VAS 6122-



- ◆ Bracket - T40299-
- ◆ M6x25 bolts (2x) and M6x20 bolt (1x)

Procedure

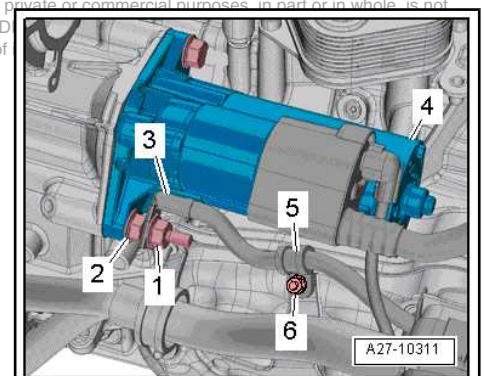


Note

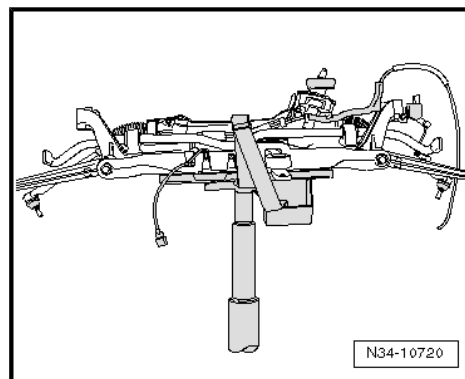
- ◆ Please refer to ⇒ ["4 Repair instructions", page 7](#).
- ◆ Please refer to ⇒ ["4.2 Rules for cleanliness", page 8](#).
- ◆ Observe notes on dual clutch gearbox 0BH ⇒ ["4.1 General notes", page 7](#).
- ◆ All cable ties which are released or cut open during removal must be fitted in the same position when installing.

- Move selector lever to position "P".
- Bring front wheels into straight-ahead position.
- Switch off ignition.
- Remove starter ⇒ Electrical system; Rep. gr. 27; Starter; Removing and installing starter

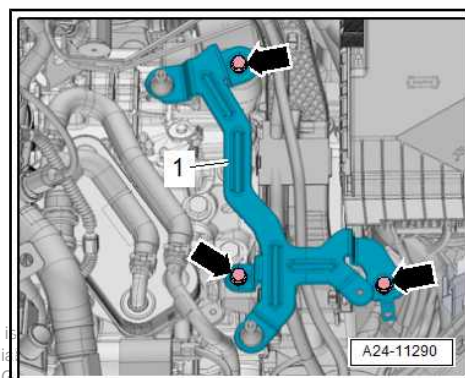
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- Remove subframe; when doing so, fit locating pins - T10096- ➔ Running gear, axles, steering; Rep. gr. 40 ; Subframe; Removing and installing subframe without steering rack .
- Remove bevel box ➔ [page 103](#) .
- Remove front wheel spoiler (both sides) ➔ General body repairs, exterior; Rep. gr. 66 ; Wheel housing liners; Exploded view - wheel housing liner (front) .

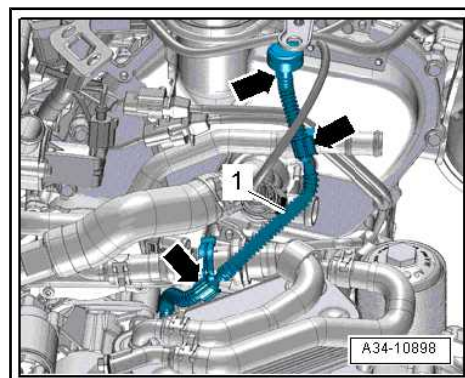


- Remove bolts -arrows- and detach bracket -1- for air cleaner housing.



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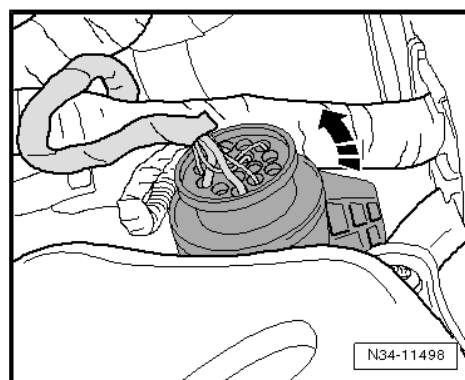
- Move clear breather hose -1- -arrows-.



Caution

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

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



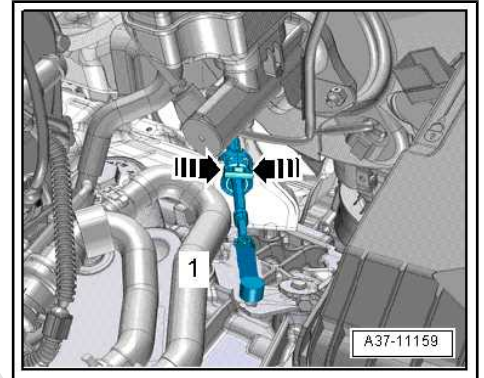
- Touch a suitable earthed object with your hand (without gloves) to discharge any static electricity.
- Turn fastener anti-clockwise -arrow- and unplug electrical connector on gearbox.

- Use removal lever -80-200- to press ball socket -1- on selector lever cable off gearbox selector lever.

 Note

Do not bend or kink the selector lever cable.

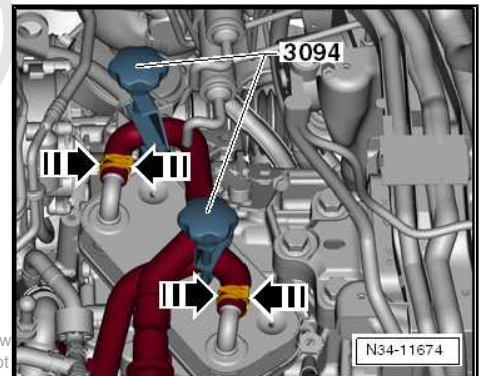
- Release catches -arrows- and move selector lever cable clear.



 Note

Place a cloth on the gear oil cooler and gearbox to catch escaping coolant.

- Clamp off coolant hoses leading to gear oil cooler using hose clamps -3094-. Then release hose clips -arrows- and disconnect hoses.
- Seal off open lines and connections with clean plugs from engine bung set -VAS 6122-.

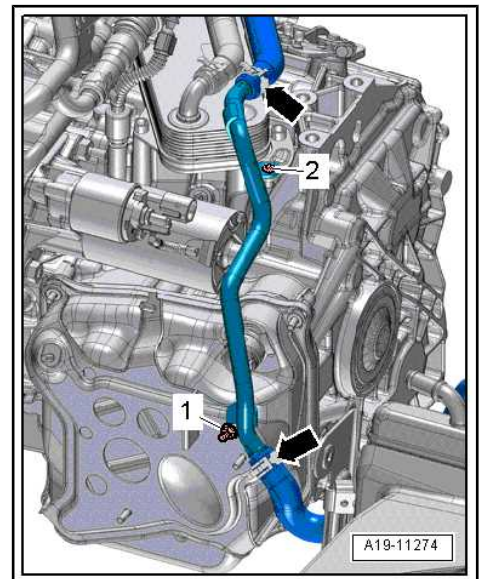


- Remove nut -1- and bolt -2- and push coolant pipe on gearbox slightly to one side.

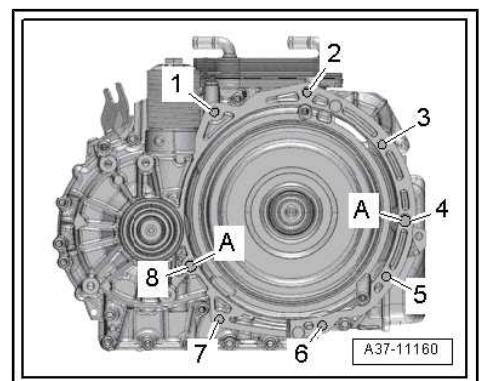
 Note

Disregard -arrows-.

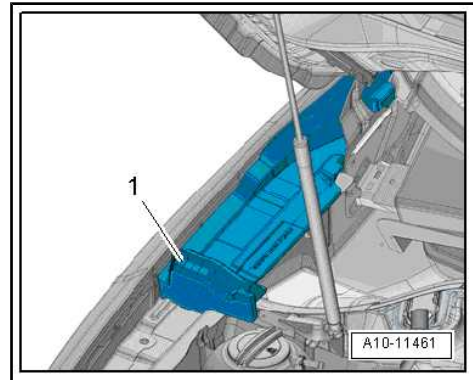
- Remove gear oil filter ➔ [page 126](#) and cover opening with a clean cloth.



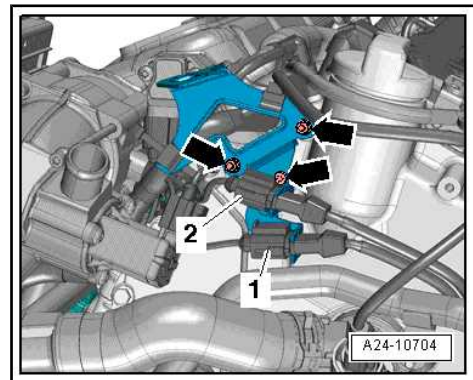
- Remove bolts -1, 2, 3- securing gearbox to engine.



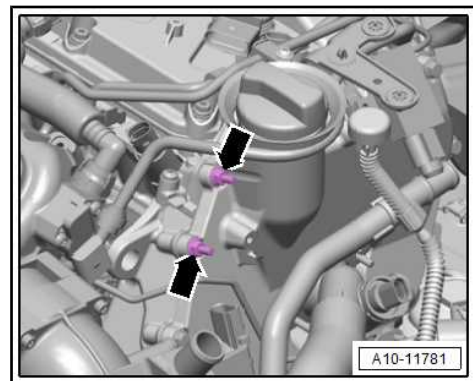
- Unclip sealing element -1- on both sides using removal lever -80-200- .



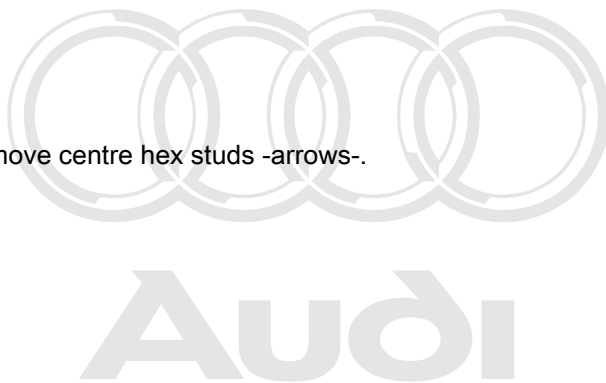
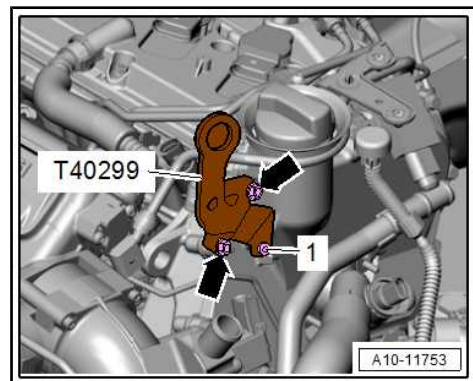
- Take electrical connectors -1, 2- out of bracket.
- Remove nuts and bolt -arrows- and detach bracket.



- Remove centre hex studs -arrows-.



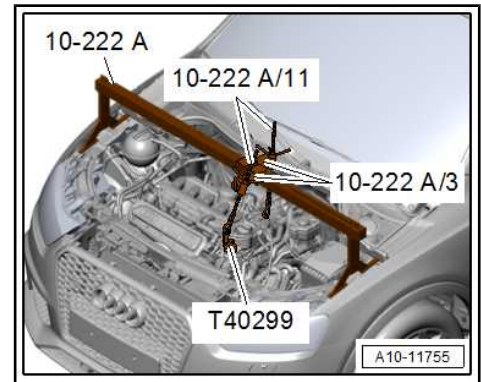
- Secure bracket -T40299- with M6x25 bolts -arrows- and M6x20 bolt -1-, as shown in illustration.



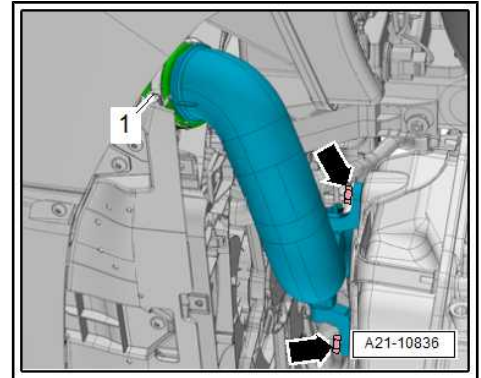
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- Set up support bracket - 10-222A- with spindles -10-222A/11- on wing mounting flanges, as shown in illustration.
- Engage rear hook of spindle - 10-222A/11- in engine lifting eye.
- Engage front hook of spindle - 10-222A/11- in bracket - T40299- .
- Take up weight of engine/gearbox assembly evenly with both spindles; do not lift.

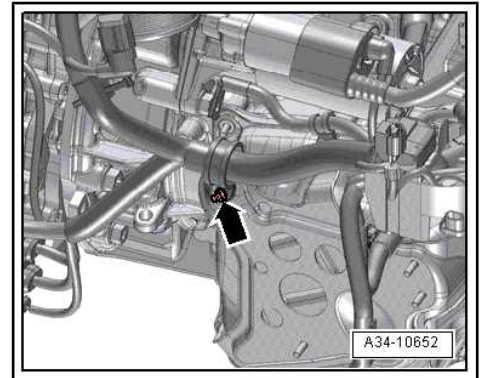
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- Remove nuts -arrows-.
- Move air pipe clear at bracket.



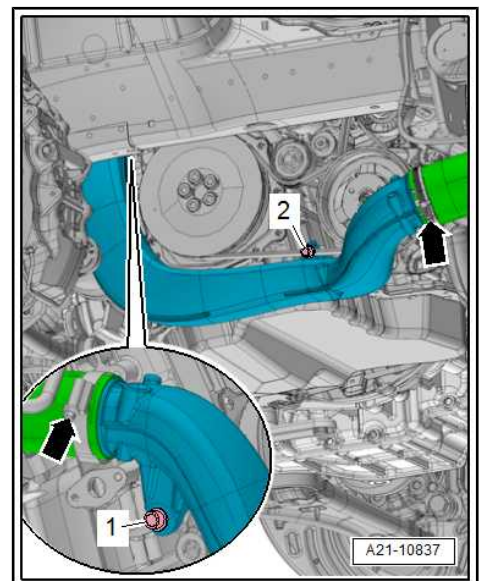
- Remove nut -arrow- and move electrical wiring harness clear.



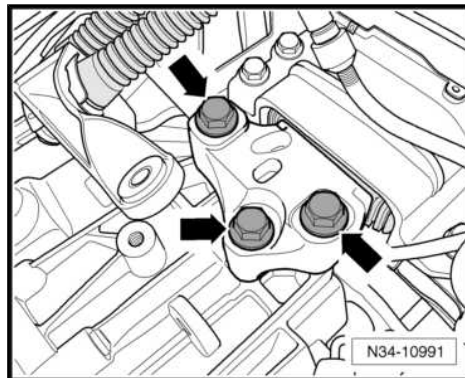
- Remove bolts -1- and -2-.
- Loosen hose clips -arrows- and detach air pipe.
- Detach drive shaft (both sides) from gearbox and tie up towards rear ⇒ Running gear, axles, steering; Rep. gr. 40 ; Drive shaft; Removing and installing drive shaft .

 Note

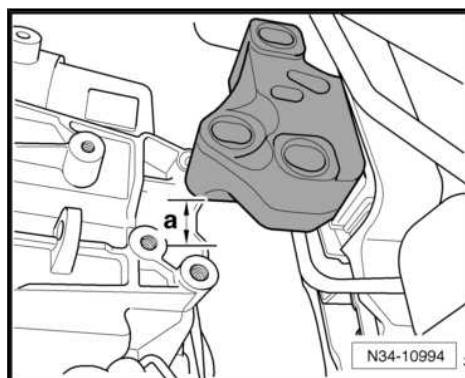
Make sure you do not damage surface coating on drive shaft.



- Remove bolts -arrows- from gearbox mounting.

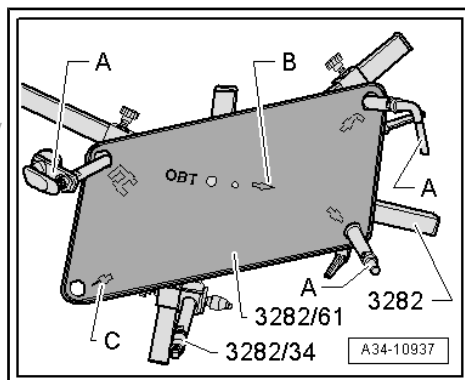


- Lower engine/gearbox assembly using spindles of support bracket - 10-222A- until distance -a- is obtained between gearbox housing and gearbox mounting.
- Dimension -a- = 60 mm



To remove dual clutch gearbox 0BH, set up gearbox support - 3282- with adjustment plate - 3282/61- and fit onto engine and gearbox jack - V.A.G 1383 A- .

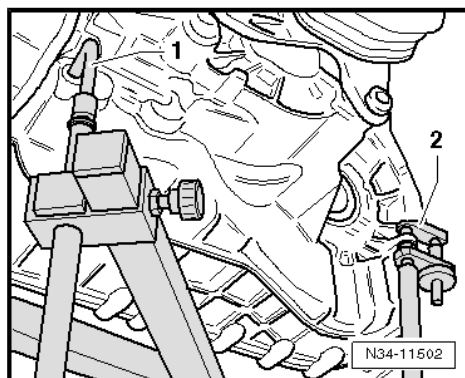
- Align arms of gearbox support according to holes in adjustment plate .
- Screw in support elements -A-, as illustrated on adjustment plate . However, use pin - 3282/34- as support element on right side (rear). This support element is outside the adjustment plate .



Note

The support element -C- on the adjustment plate is not used.

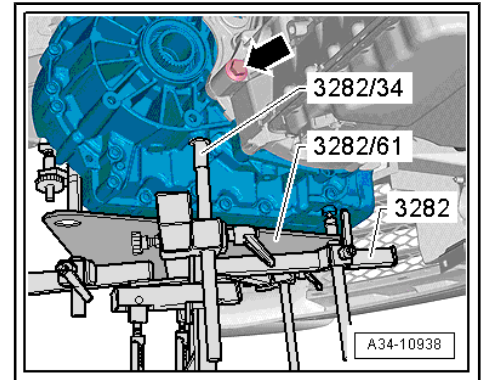
- Place engine and gearbox jack - V.A.G 1383 A- underneath vehicle.
- The arrow symbol -B- on the adjustment plate points in the direction of travel.
- Align gearbox support - 3282- parallel with gearbox.
- Insert hook -1- in mounting on dual clutch gearbox.
- Secure safety support -2- in mounting on dual clutch gearbox.



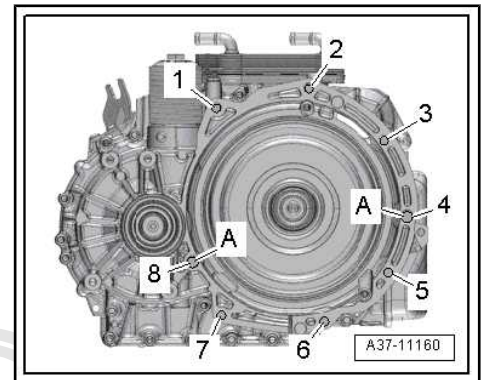
- Screw pin - 3282/34- into gearbox.
- Support gearbox by lifting from underneath with engine and gearbox jack - V.A.G 1383 A- .



-Arrow- can be disregarded.



- Remove bolts -4 ... 8- securing gearbox to engine.
- Press gearbox off dowel sleeves on engine.
- Carefully lower gearbox using engine and gearbox jack - V.A.G 1383 A- , taking care not to trap wiring or other connections.
- While lowering gearbox, adjust position of gearbox using spindles on gearbox support - 3282- .



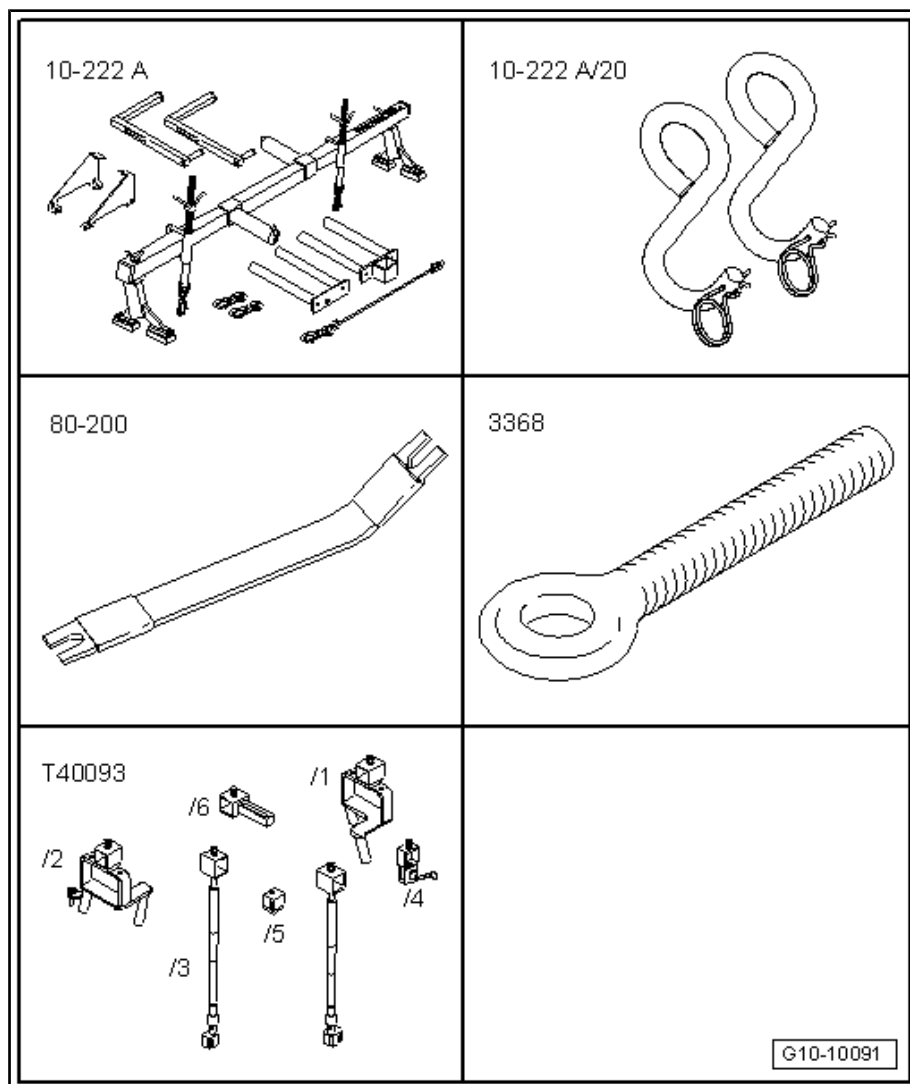
2.1.4 Removing gearbox - vehicles with 2.0 ltr. TDI engine (TL4)

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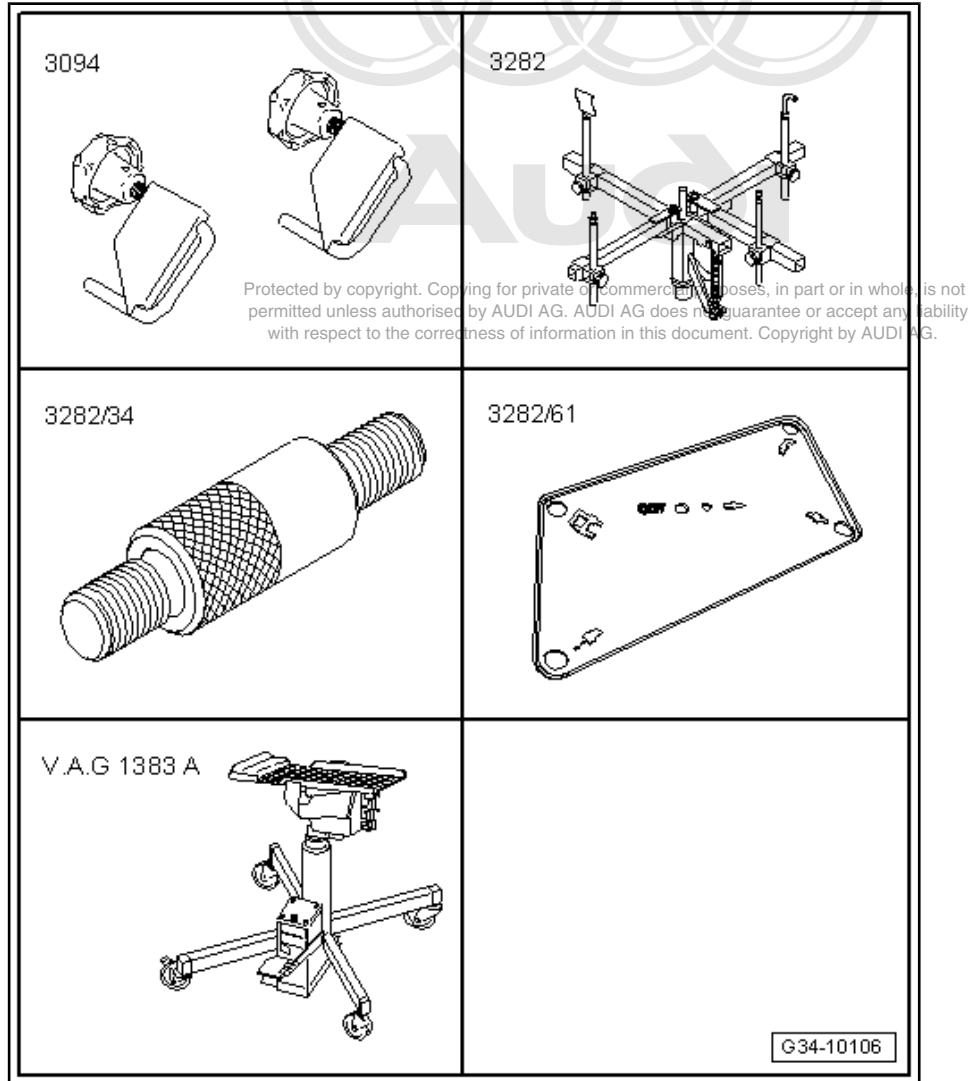
Special tools and workshop equipment required

- ◆ Support bracket - 10-222A-
- ◆ Adapters - 10-222A/20-
- ◆ Removal lever - 80-200-
- ◆ Eye-head bolt - 3368-
- ◆ -T40093/6- from engine support supplementary set - T40093-
- ◆ Flange nut M10 or nut with washer

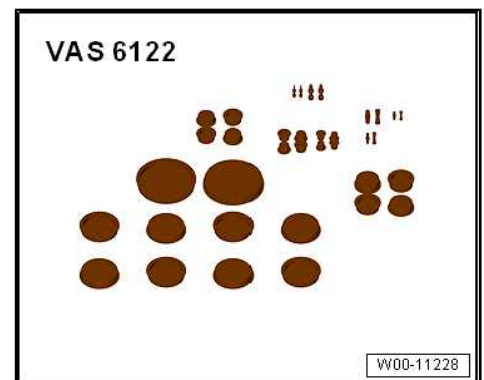


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- ◆ Hose clamps, up to 25 mm - 3094-
- ◆ Gearbox support - 3282-
- ◆ Pin - 3282/34-
- ◆ Adjustment plate - 3282/61-
- ◆ Engine and gearbox jack - V.A.G 1383 A-



- ◆ Engine bung set - VAS 6122-



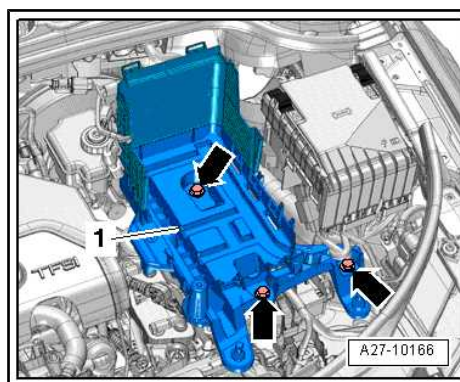
Procedure



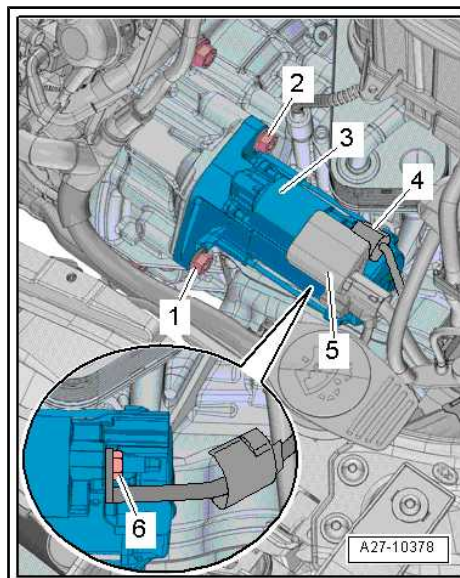
Note

- ◆ Please refer to ➔ ["4 Repair instructions", page 7](#).
- ◆ Please refer to ➔ ["4.2 Rules for cleanliness", page 8](#).
- ◆ Observe notes on dual clutch gearbox 0BH ➔ ["4.1 General notes", page 7](#).
- ◆ All cable ties which are released or cut open during removal must be fitted in the same position when installing.

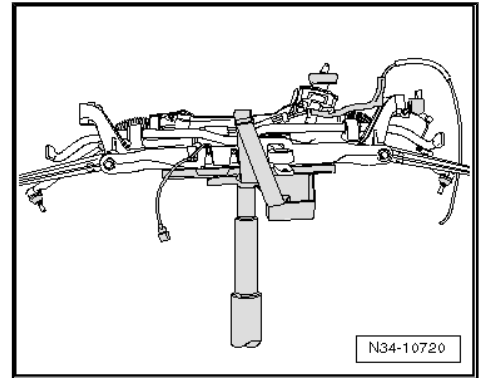
- Move selector lever to position "P"
- Bring front wheels into straight-ahead position.
- Switch off ignition.
- Remove battery and battery tray -1- ➔ Electrical system; Rep. gr. 27 ; Battery; Removing and installing battery tray .



- Remove starter ➔ Electrical system; Rep. gr. 27 ; Starter; Removing and installing starter



- Remove subframe; when doing so, fit locating pins - T10096- ➔ Running gear, axles, steering; Rep. gr. 40 ; Subframe; Removing and installing subframe without steering rack .
- Remove bevel box ➔ [page 109](#) .



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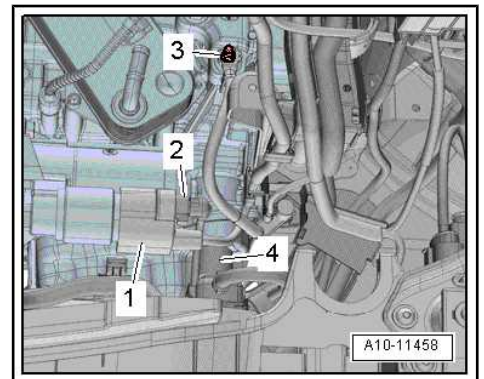
Remove nut -3- and detach earth wire.



Caution

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

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



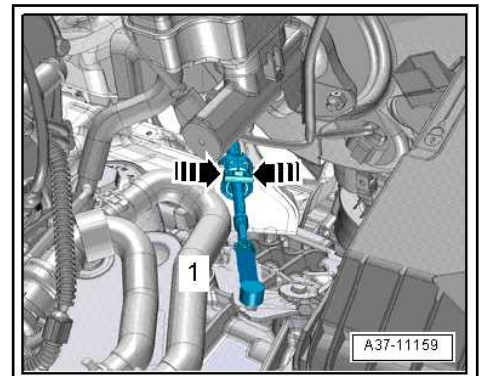
- Touch a suitable earthed object with your hand (without gloves) to discharge any static electricity.
- Turn fastener anti-clockwise and unplug electrical connector -4- on gearbox.



Note

Disregard items -1 and 2-.

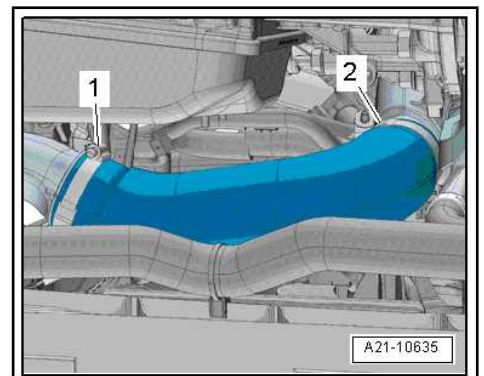
- Use removal lever - 80-200- to press ball socket -1- on selector lever cable off gearbox selector lever.
- Release catches -arrows- and move selector lever cable clear.



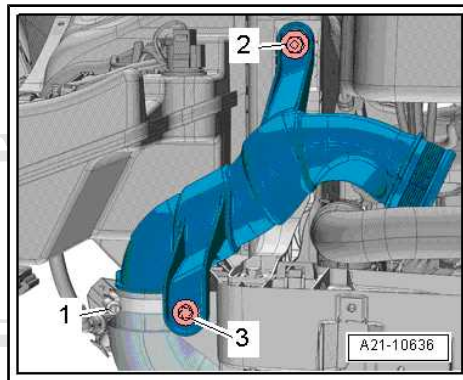
Note

Do not bend or kink the selector lever cable.

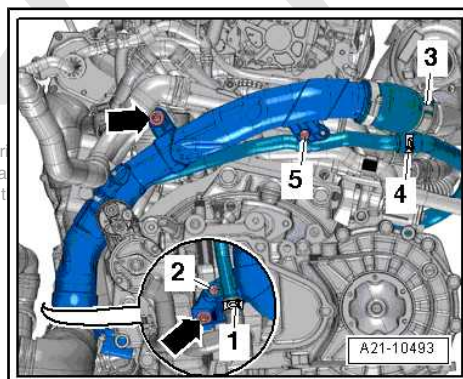
- Release hose clips -1- and -2- and remove air hose.
- Seal off open lines and connections with clean plugs from engine bung set - VAS 6122- .



- Remove nut -2- and bolt -3-.
- Release hose clip -1- and detach air pipe.
- Seal off open lines and connections with clean plugs from engine bung set - VAS 6122- .



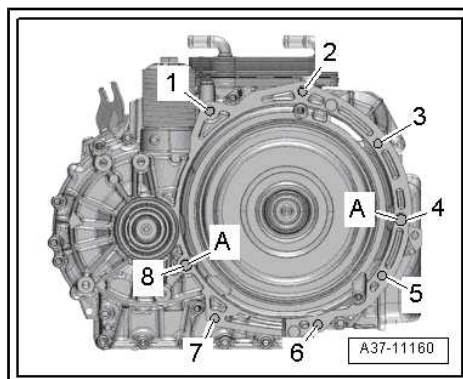
- Remove bolts -2, 5- and -arrows-.
- Move electrical wiring and hoses clear at air pipe (left-side) using removal lever - 80-200- .
- Release hose clip -3- and detach air pipe (left-side) from below.



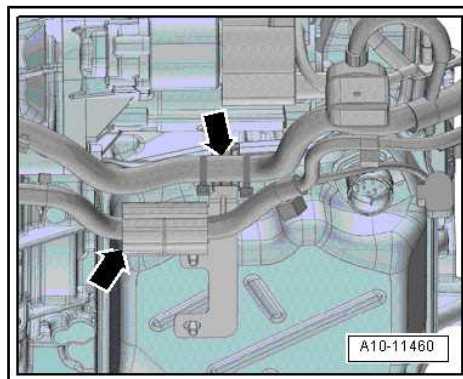
Note

Disregard items -1 and 4-.

- Remove bolts -1, 2, 3- securing gearbox to engine.



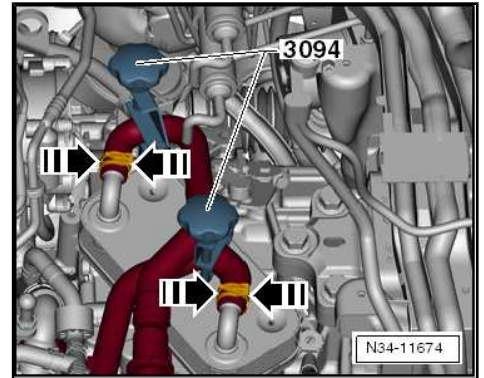
- Move electrical wiring harnesses clear -arrows-.



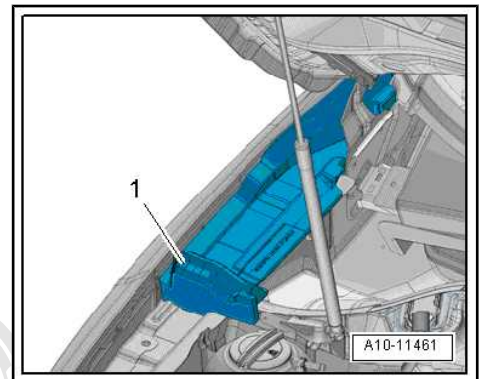
 Note

Place a cloth on the gear oil cooler and gearbox to catch escaping coolant.

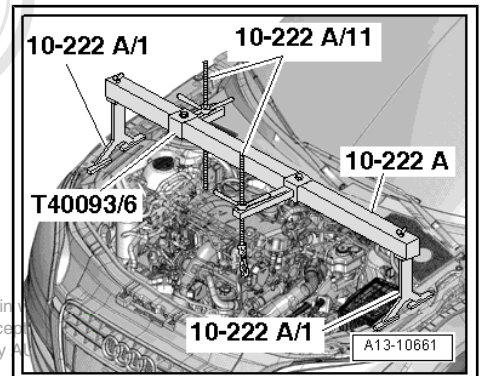
- Clamp off coolant hoses leading to gear oil cooler using hose clamps -3094-. Then release hose clips -arrows- and disconnect hoses.



- Unclip sealing element -1- on both sides using removal lever -80-200-.



- Set up support bracket -10-222A- with spindles -10-222A/11- on wing mounting flanges, as shown in illustration.
- Engage hook of spindle (left-side) in engine lifting eye.

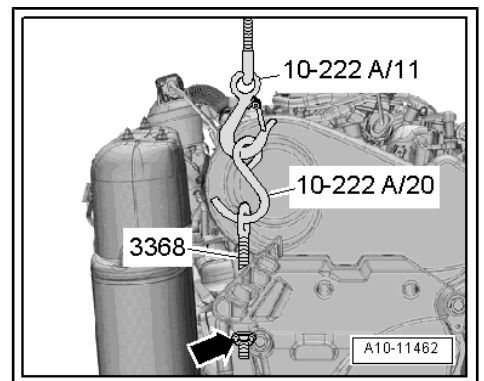


WARNING

Risk of accident if threaded attachment comes loose.

- ◆ *To ensure that the eye-head bolt - 3368- is securely attached, screw on a flange nut or nut with washer -arrow- at least 6 turns.*

- Secure eye-head bolt - 3368- with M10 flange nut or nut with washer to engine support as shown in illustration.
- Hook spindle - 10-222A/11- with adapter - 10-222A/20- (right-side) onto eye-head bolt - 3368-.
- Take up weight of engine/gearbox assembly evenly with both spindles; do not lift.
- Remove wheel spoiler (front left) ⇒ General body repairs, exterior; Rep. gr. 66 ; Wheel housing liners; Exploded view - wheel housing liner (front) .



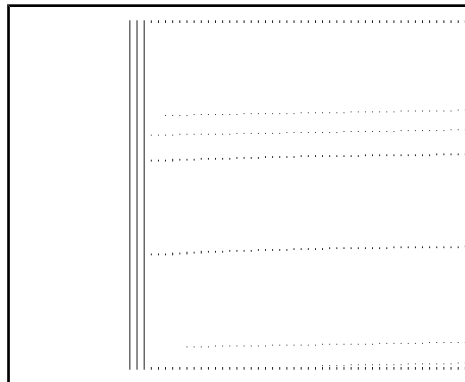
- Disconnect exhaust system at clamp -arrows-.



Caution

Risk of damage to flexible joint.

- ◆ **The flexible joint in the front exhaust pipe must not be bent further than 10°.**



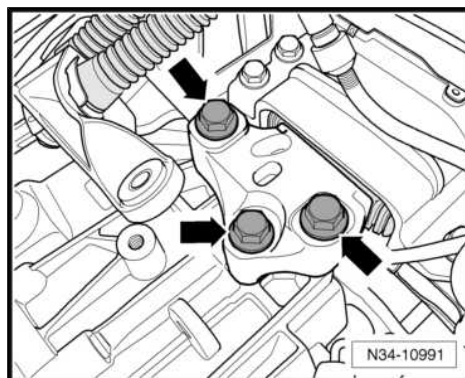
- Tie up front exhaust pipe.
- Detach drive shaft (left-side) from gearbox and tie up ⇒ Running gear, axles, steering; Rep. gr. 40 ; Drive shaft; Removing and installing drive shaft .



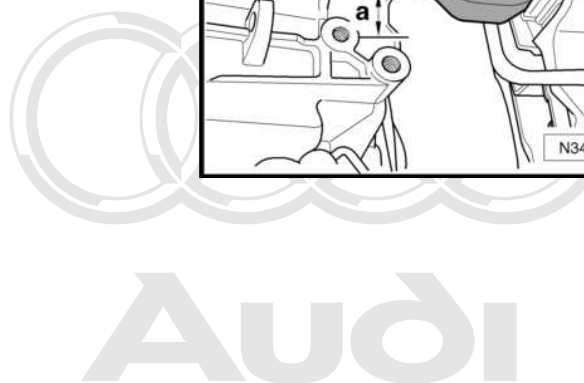
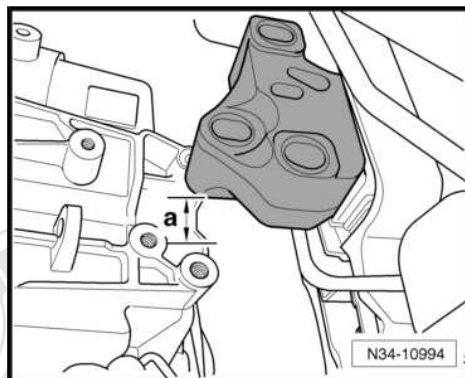
Note

Make sure you do not damage surface coating on drive shaft.

- Remove bolts -arrows- from gearbox mounting.



- Lower engine/gearbox assembly using spindles of support bracket - 10-222A- until distance -a- is obtained between gearbox housing and gearbox mounting.
- Dimension -a- = 100 ... 110 mm



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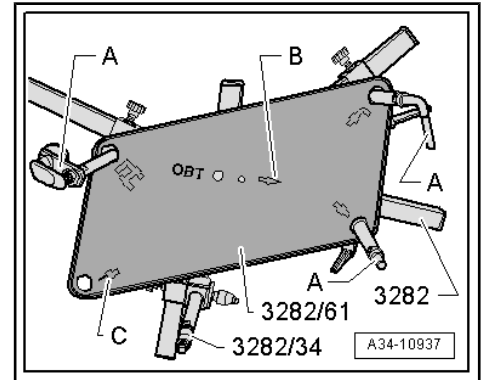
To remove dual clutch gearbox 0BH, set up gearbox support - 3282- with adjustment plate - 3282/61- and fit onto engine and gearbox jack - V.A.G 1383 A- .

- Align arms of gearbox support according to holes in adjustment plate .
- Screw in support elements -A-, as illustrated on adjustment plate . However, use pin - 3282/34- as support element on right side (rear). This support element is outside the adjustment plate .

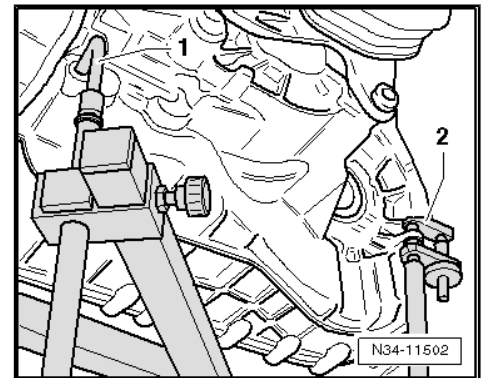
 Note

The support element -C- on the adjustment plate is not used.

- Place engine and gearbox jack - V.A.G 1383 A- underneath vehicle.
- The arrow symbol -B- on the adjustment plate points in the direction of travel.
- Align gearbox support - 3282- parallel with gearbox.
- Insert hook -1- in mounting on dual clutch gearbox.
- Secure safety support -2- in mounting on dual clutch gearbox.

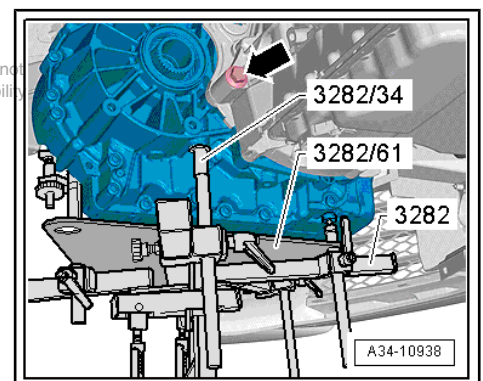


- Screw pin - 3282/34- into gearbox.
- Support gearbox by lifting from underneath with engine and gearbox jack - V.A.G 1383 A- .

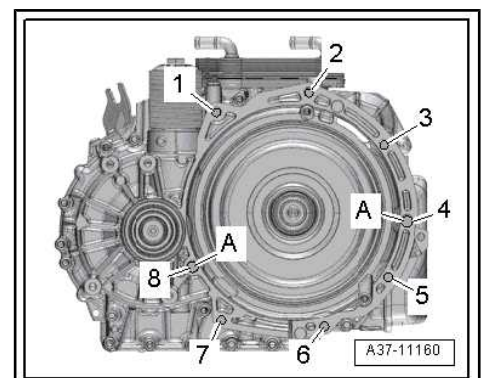


 Note

-Arrow- can be disregarded.



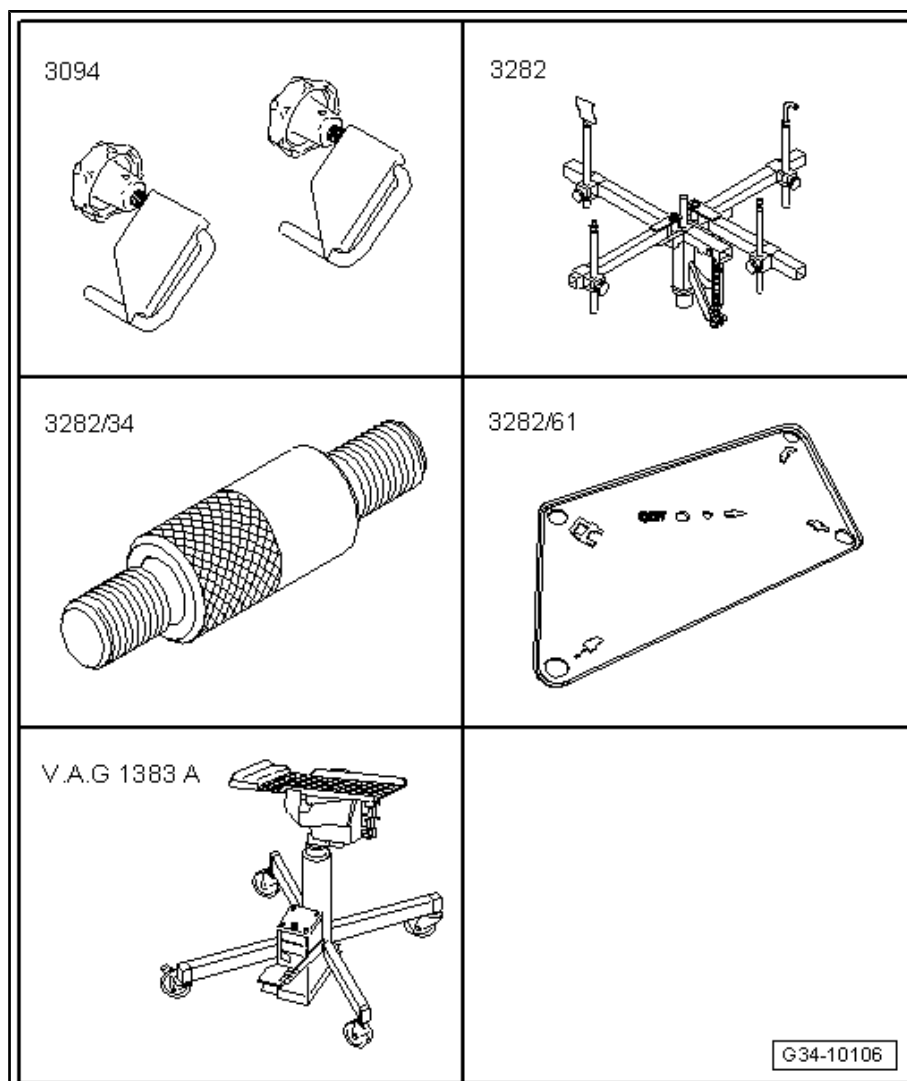
- Remove bolts -4 ... 8- securing gearbox to engine.
- Press gearbox off dowel sleeves on engine.
- Carefully lower gearbox using engine and gearbox jack - V.A.G 1383 A- , taking care not to trap wiring or other connections.
- While lowering gearbox, adjust position of gearbox using spin-dles on gearbox support - 3282- .



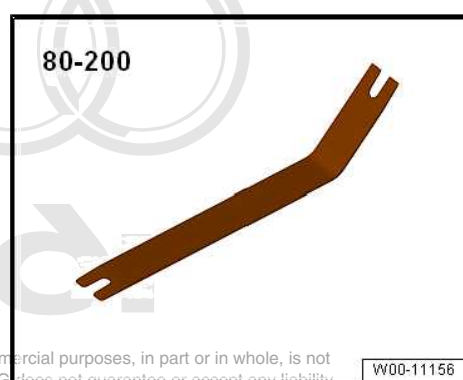
2.1.5 Removing gearbox - vehicles with 2.0 ltr. TDI engine (T0N, T1I)

Special tools and workshop equipment required

- ◆ Hose clamps, up to 25 mm - 3094-
- ◆ Gearbox support - 3282-
- ◆ Pin - 3282/34-
- ◆ Adjustment plate - 3282/61-
- ◆ Engine and gearbox jack - V.A.G 1383 A-

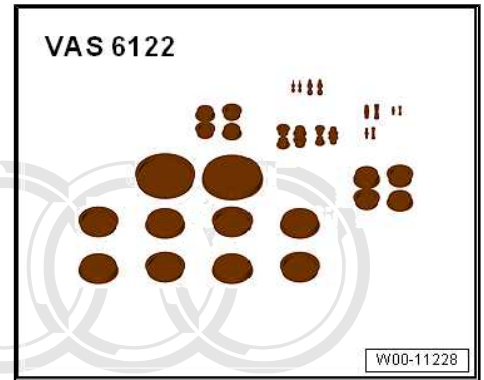


- ◆ Removal lever - 80-200-



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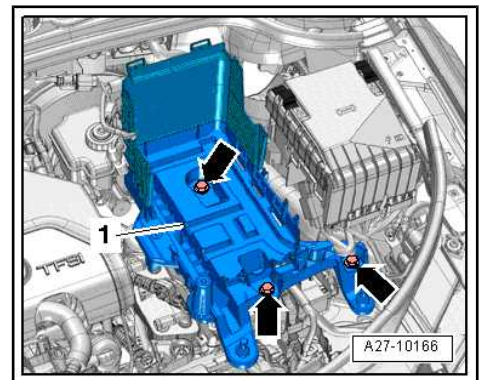
◆ Engine bung set - VAS 6122-



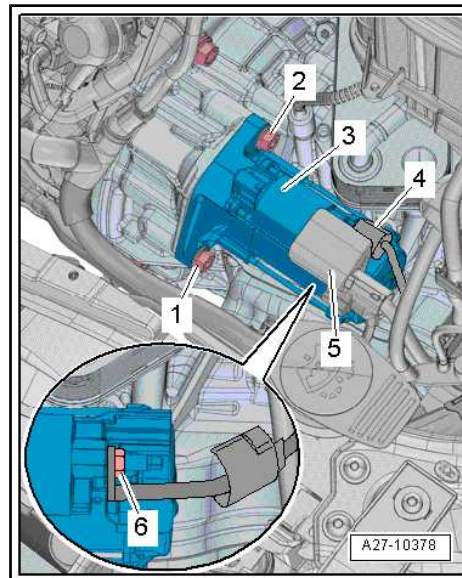
Procedure

 Note

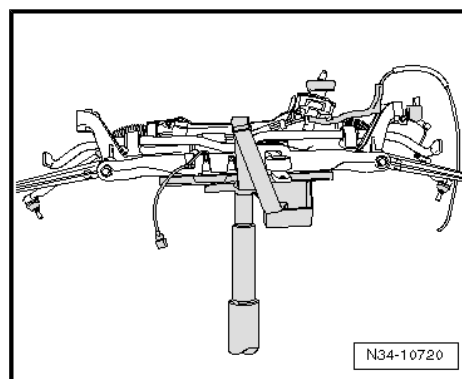
- ◆ Please refer to ⇒ [“4 Repair instructions”, page 7](#).
 - ◆ Please refer to ⇒ [“4.2 Rules for cleanliness”, page 8](#).
 - ◆ Observe notes on dual clutch gearbox 0BH
⇒ [“4.1 General notes”, page 7](#).
 - ◆ All cable ties which are released or cut open during removal
must be fitted in the same position when installing.
- Move selector lever to position “P”.
 - Switch off ignition.
 - Remove battery and battery tray -1- ⇒ Electrical system; Rep.
gr. 27 ; Battery; Removing and installing battery tray .



- Remove starter ➔ Electrical system; Rep. gr. 27 ; Starter; Removing and installing starter



- Remove subframe with steering rack; when doing so, fit locating pins - T10096- ➔ Running gear, axles, steering; Rep. gr. 40 ; Subframe; Removing and installing subframe with steering rack .



- Remove nut -3- and detach earth wire.



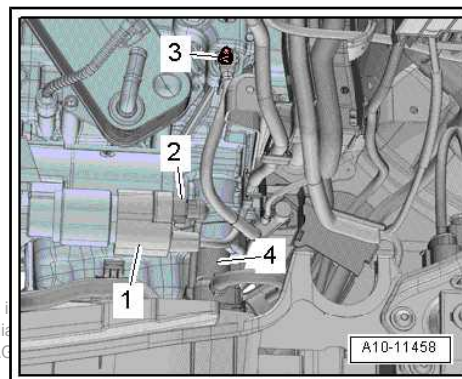
Caution

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

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

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- Touch a suitable earthed object with your hand (without gloves) to discharge any static electricity.
- Turn fastener anti-clockwise and unplug electrical connector -4- on gearbox.



Note

Disregard items -1 and 2-.

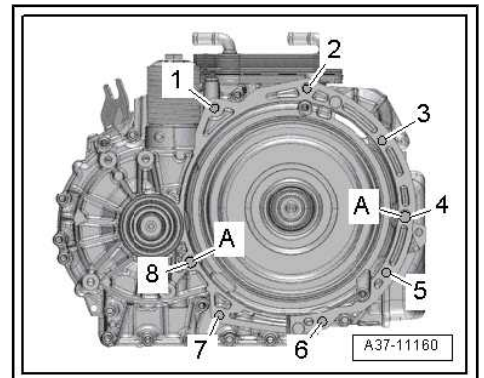
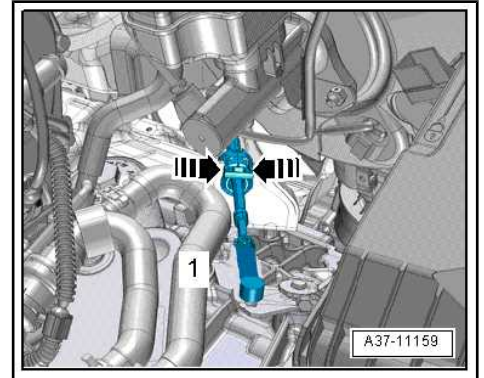
- Use removal lever - 80-200- to press ball socket -1- on selector lever cable off gearbox selector lever.
- Release catches -arrows- and move selector lever cable clear.



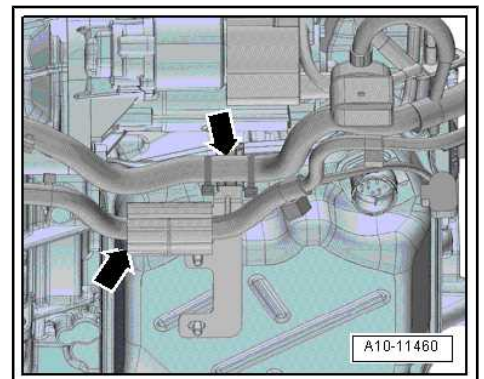
Do not bend or kink the selector lever cable.

- Remove bolts -1, 2, 3- securing gearbox to engine.

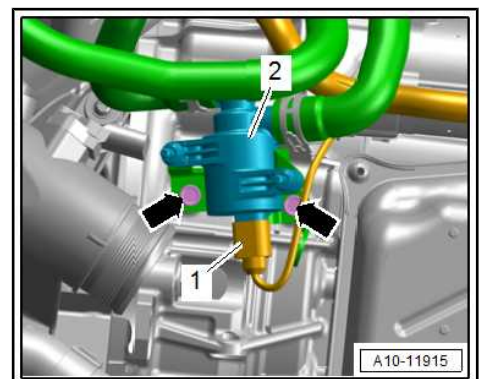
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- Move electrical wiring harnesses clear -arrows-.



- Unplug electrical connector -1-.
- Remove bolts -arrows- and press coolant valve for gearbox - N488- to one side.

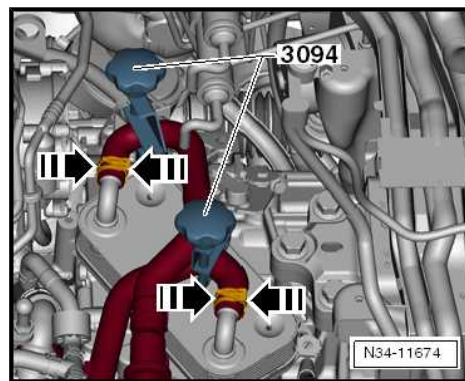




Note

Place a cloth on the gear oil cooler and gearbox to catch escaping coolant.

- Clamp off coolant hoses leading to gear oil cooler using hose clamps -3094- . Then release hose clips -arrows- and disconnect hoses.
- Support engine in installation position ➔ Rep. gr. 10 ; Assembly mountings; Supporting engine in installation position .
- Remove wheel spoiler (front left) ➔ General body repairs, exterior; Rep. gr. 66 ; Wheel housing liners; Exploded view - wheel housing liner (front) .
- Disconnect exhaust system at clamp -arrow-.

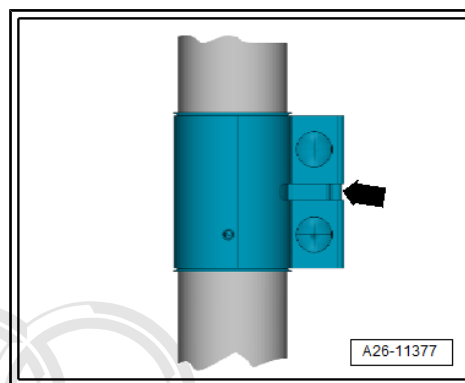


Caution

Risk of damage to flexible joint.

- ◆ **The flexible joint in the front exhaust pipe must not be bent further than 10°.**

- Tie up front exhaust pipe.
- Detach drive shaft (left-side) from gearbox and tie up ➔ Running gear, axles, steering; Rep. gr. 40 ; Drive shaft; Removing and installing drive shaft .

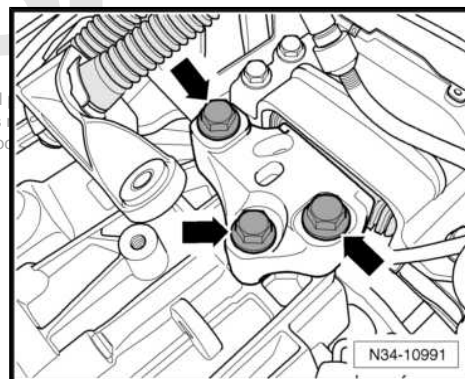


Note

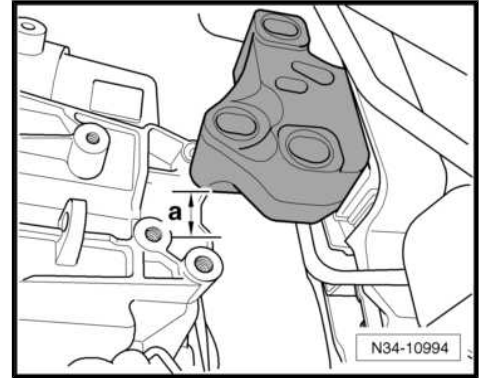
Make sure you do not damage surface coating on drive shaft.

- Remove bolts -arrows- from gearbox mounting.

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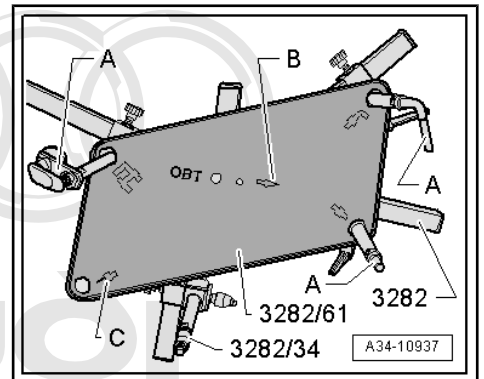


- Lower engine/gearbox assembly using spindles of support bracket - 10-222A- until distance -a- is obtained between gearbox housing and gearbox mounting.
- Dimension -a- = 100 ... 110 mm



To remove dual clutch gearbox 0BH, set up gearbox support - 3282- with adjustment plate - 3282/61- and fit onto engine and gearbox jack - V.A.G 1383 A- .

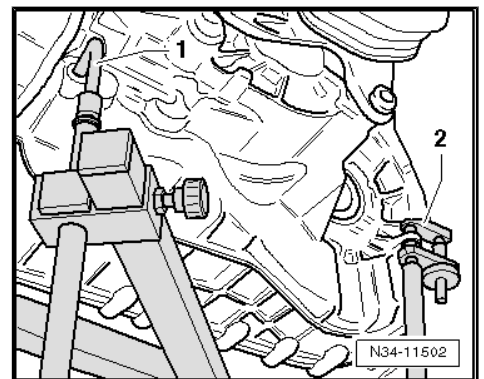
- Align arms of gearbox support according to holes in adjustment plate .
- Screw in support elements -A-, as illustrated on adjustment plate . However, use pin - 3282/34- as support element on right side (rear). This support element is outside the adjustment plate .



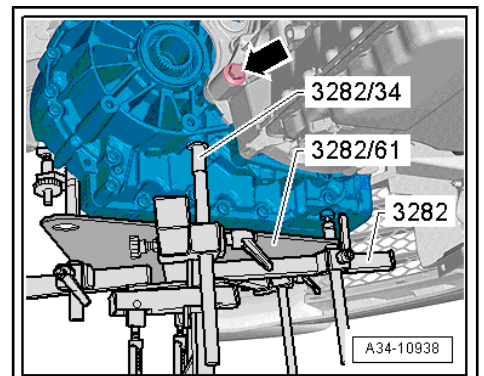
Note

The support element -C- on the adjustment plate is not used.

- Place engine and gearbox jack - V.A.G 1383 A- underneath vehicle.
- The arrow symbol -B- on the adjustment plate points in the direction of travel.
- Align gearbox support - 3282- parallel with gearbox.
- Insert hook -1- in mounting on dual clutch gearbox.
- Secure safety support -2- in mounting on dual clutch gearbox.



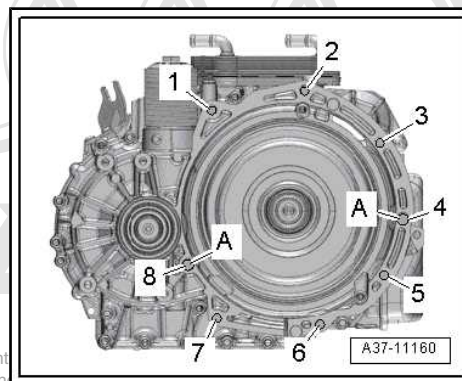
- Screw pin - 3282/34- into gearbox.
- Support gearbox by lifting from underneath with engine and gearbox jack - V.A.G 1383 A- .



Note

-Arrow- can be disregarded.

- Remove bolts -4 ... 8- securing gearbox to engine.
- Press gearbox off dowel sleeves on engine.
- Carefully lower gearbox using engine and gearbox jack - V.A.G 1383 A- , taking care not to trap wiring or other connections.
- While lowering gearbox, adjust position of gearbox using spindles on gearbox support - 3282- .



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2.2 Installing gearbox

Special tools and workshop equipment required

- ◆ High-temperature grease - G 052 133 A2-

Procedure

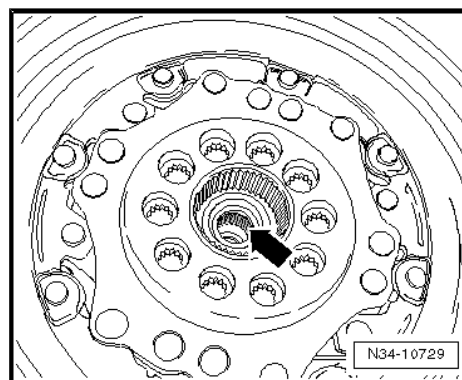


Note

- ◆ *The special tools required are listed in the procedure for "Removing gearbox" ⇒ [page 47](#) .*
- ◆ *Renew bolts which are tightened by turning through a specified angle.*
- ◆ *Renew self-locking nuts and bolts, and O-rings, seals, and gaskets.*
- ◆ *Secure all hose connections with the correct type of hose clips (same as original equipment) ⇒ *Electronic parts catalogue* .*
- ◆ *Re-attach all cable ties at the same locations when re-installing.*

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

- Tightening torques
⇒ ["2.3 Tightening torques for gearbox", page 87](#)
- Check needle bearing -arrow- in crankshaft. If it is damaged or has visible blue discolouration, it must be renewed ⇒ Rep. gr. 13 ; Crankshaft; Renewing needle bearing in crankshaft .
- If it is not damaged, lubricate lightly with high-temperature grease - G 052 133 A2- .
- The end of the gearbox shaft (not the splines) should also be greased lightly.



- If not already fitted, install dowel sleeves -A- for centralising engine/gearbox in cylinder block.

 Note

If the dowel sleeves are not fitted, the resulting misalignment of the engine and gearbox will destroy the needle bearing in the crankshaft.

- Carefully raise gearbox using engine and gearbox jack - V.A.G 1383 A- and position correctly using gearbox support - 3282- .
- Join gearbox to engine, taking care not to trap wiring or other connections.

 Note

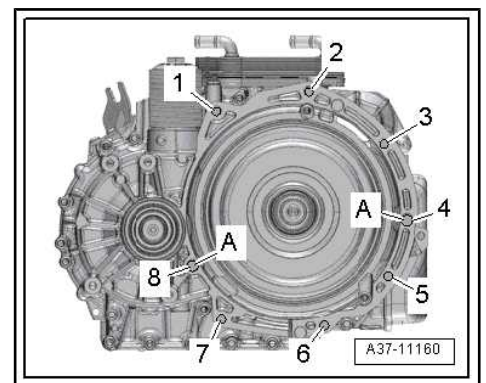
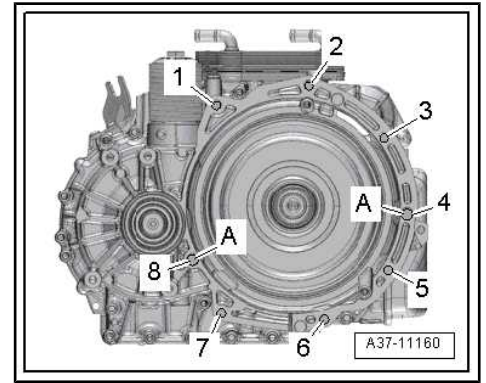
- ◆ *It should be possible to bring the engine and gearbox together by hand so that the two flanges make contact all round.*
- ◆ *If this is not the case, readjust the gearbox support so that the engine and gearbox are fully in line.*

- Secure gearbox to engine.

 Note

The bolt -3- is only accessible through the opening where the starter has been removed.

- Detach gearbox support - 3282- from gearbox.
- Raise engine/gearbox assembly via spindles of support bracket - 10-222A- .
- Align engine/gearbox assembly in installation position. To do so, raise engine/gearbox assembly until gearbox makes full contact with gearbox mounting.



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**Caution**

The threads in the gearbox can be damaged if the bolts are not inserted straight.

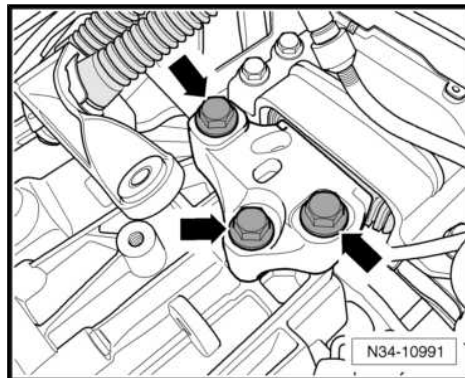
- ◆ *Before fitting the bolts -arrows-, the gearbox and the gearbox mounting must be aligned so they are parallel. If necessary, press gearbox up with engine and gearbox jack - V.A.G 1383 A- .*

- Hand-tighten bolts -arrows- initially.
- Check adjustment of assembly mountings. Adjust assembly mountings if necessary ⇒ Rep. gr. 10 ; Assembly mountings; Adjusting assembly mountings .

**WARNING**

Risk of accident!

- ◆ *Do not remove support bracket - 10-222 A- until all bolts for the assembly mounting have been tightened to specified torque and the subframe is installed.*



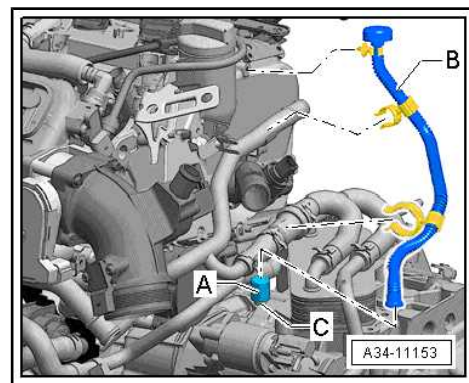
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Vehicles with breather pipe -B- at gearbox breather opening

- If new gearbox was installed: remove breather cap -A- and fit breather pipe -B- onto gearbox breather opening -C-.
- Secure breather pipe -B- with retaining clips.

All vehicles

- Install drive shaft ⇒ Running gear, axles, steering; Rep. gr. 40 ; Drive shaft; Removing and installing drive shaft .
- Install exhaust system and perform stress-free alignment ⇒ Rep. gr. 26 ; Exhaust pipes/silencers; Stress-free alignment of exhaust system .
- Detach support bracket - 10-222A- from engine.
- Install air pipes and air hoses ⇒ Rep. gr. 21 ; Charge air system; Exploded view - charge air system .
- Install wheel spoiler (front left) ⇒ General body repairs, exterior; Rep. gr. 66 ; Wheel housing liners; Exploded view - wheel housing liner (front) .
- Connect selector lever cable to dual clutch gearbox ⇒ [page 39](#) .
- Adjust selector lever cable ⇒ [page 45](#) .
- Install bevel box ⇒ [page 120](#) .
- Install subframe ⇒ Running gear, axles, steering; Rep. gr. 40 ; Subframe; Removing and installing subframe without steering rack .
- Install starter ⇒ Electrical system; Rep. gr. 27 ; Starter; Removing and installing starter .
- Electrical connections and routing ⇒ Current flow diagrams, Electrical fault finding and Fitting locations.
- Install battery tray and battery ⇒ Electrical system; Rep. gr. 27 ; Battery; Removing and installing battery tray .
- Check gear oil level and top up as required ⇒ [page 140](#) .
- Check coolant level ⇒ Rep. gr. 19 ; Cooling system/coolant; Draining and filling cooling system .



2.3 Tightening torques for gearbox



Note

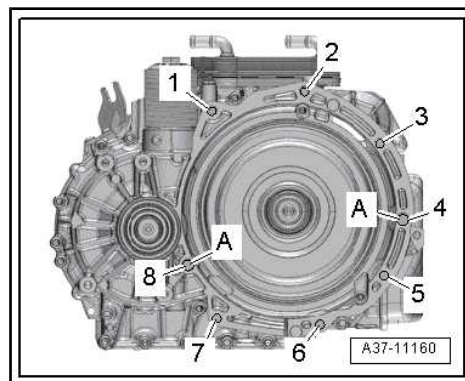
- ◆ *Tightening torques apply only to lightly greased, oiled, phosphated or black-finished nuts and bolts.*
- ◆ *Additional lubricant such as engine or gear oil may be used, but do not use graphite lubricant.*
- ◆ *Do not use parts which have been degreased.*
- ◆ *Tolerance for tightening torques is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

Assembly mountings

⇒ "5.1 Exploded view - assembly mountings", page 92

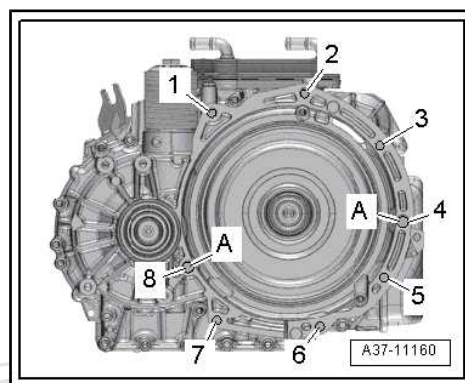
Gearbox to 2.0 ltr. TFSI/TDI engine:

Item	Bolt	Nm
1, 2, 3	M12x55	80
4	M12x65	80
5, 6, 7	M10x50	40
8	M12x70	80
A	Dowel sleeves for centralising	



Gearbox to 2.5 ltr. TFSI engine:

Item	Bolt	Nm
1	M12x65	80
2, 3, 4	M12x70	80
5, 6, 7	M10x60	40
8 1)	M12x95	80
A	Dowel sleeves for centralising	
• 1) Screwed into gearbox from engine side.		



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3 Transporting gearbox

Special tools and workshop equipment required

- ◆ Gearbox lifting tackle - 3336-

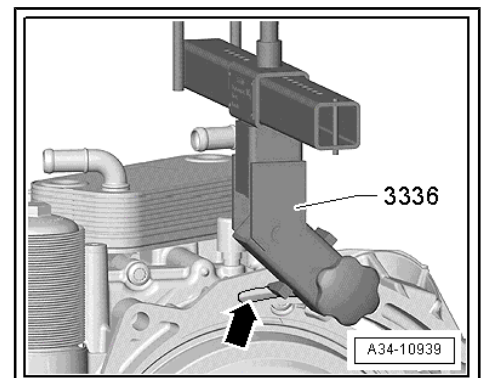


- ◆ Workshop hoist - VAS 6100-



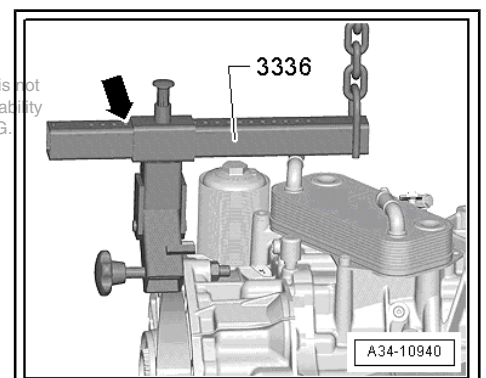
Procedure

- Bolt gearbox lifting tackle - 3336- to gearbox. Engage in recess in housing -arrow-.



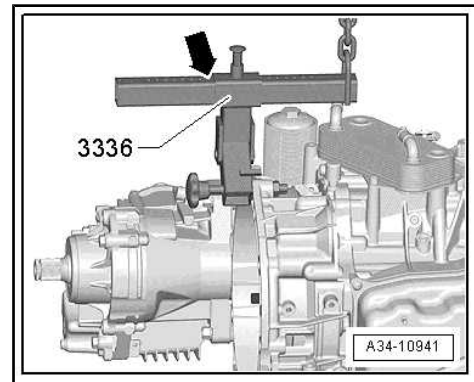
A - Bevel box detached:

- Set support arm on sliding bracket by means of locking pin -arrow-.
- Number of holes visible = 4



B - Bevel box attached:

- Set support arm on sliding bracket by means of locking pin -arrow-.
- Number of holes visible = 8
- With gearbox lifting tackle - 3336- attached, take up gearbox using workshop hoist - VAS 6100- .

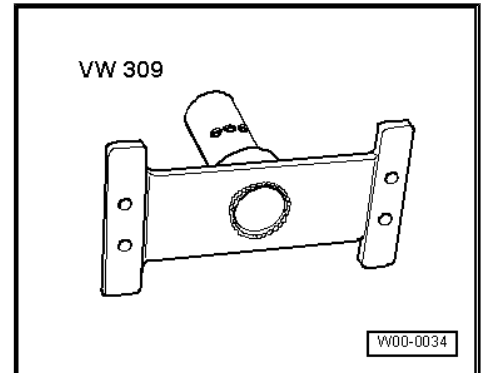


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4 Securing to engine and gearbox support

Special tools and workshop equipment required

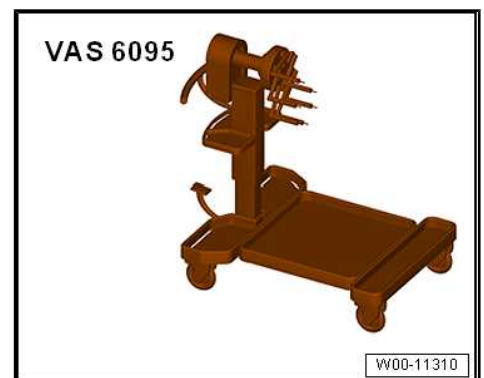
- ◆ Retaining plate - VW 309-



- ◆ Gearbox support - VW 353-



- ◆ Engine and gearbox support - VAS 6095-



Securing gearbox to engine and gearbox support

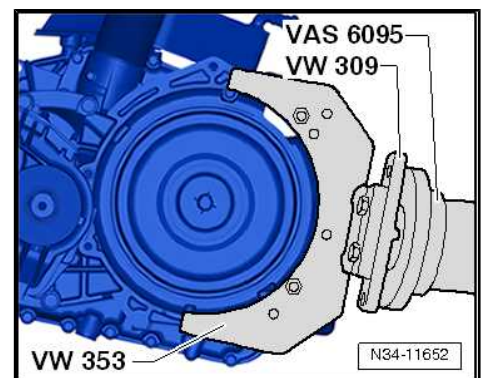
- Secure gearbox to gearbox support - VW 353- and fit into engine and gearbox support - VW 309- using support plate - VAS 6095- .



WARNING

Oil can escape when the gearbox is rotated in the support clamp.

- ◆ *The breather on the gearbox housing must be sealed off if the gearbox (with oil filling) is turned on the engine and gearbox support so that the breather faces downwards.*



5 Assembly mountings

⇒ "5.1 Exploded view - assembly mountings", page 92

5.1 Exploded view - assembly mountings

1 - Engine support

- ☐ Different versions available; for correct version refer to ⇒ Electronic parts catalogue

2 - Bolt

- ☐ Tightening torque ⇒ Rep. gr. 10 ; Assembly mountings; Exploded view - assembly mountings

3 - Engine mounting

- ☐ With support arm
- ☐ Different versions available; for correct version refer to ⇒ Electronic parts catalogue
- ☐ Removing and installing ⇒ Rep. gr. 10 ; Assembly mountings; Removing and installing engine mounting

4, 5, 6 - Bolt

- ☐ Tightening torque ⇒ Rep. gr. 10 ; Assembly mountings; Exploded view - assembly mountings

7 - Pendulum support

8, 9, 10 - Bolt

- ☐ Tightening torque ⇒ Rep. gr. 10 ; Assembly mountings; Exploded view - assembly mountings

11 - Bolt

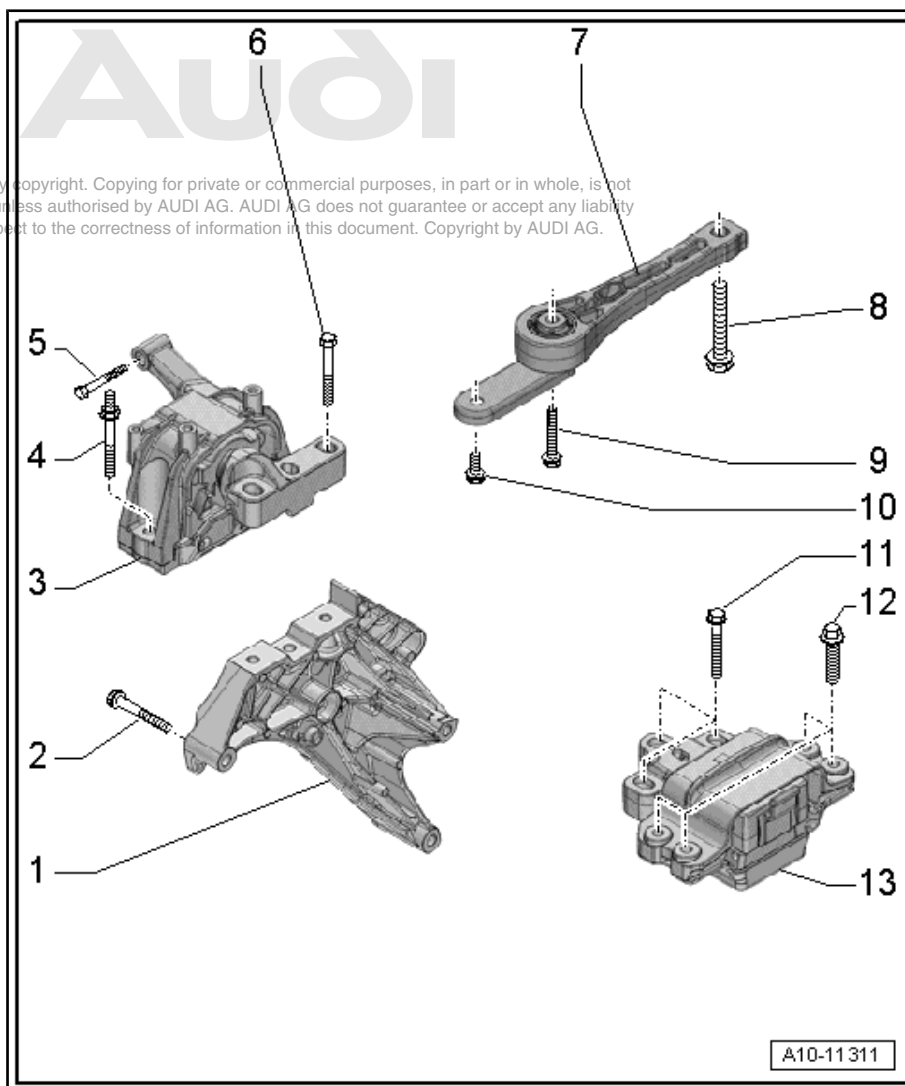
- ☐ Renew
- ☐ 60 Nm +90°

12 - Bolt

- ☐ Renew
- ☐ 60 Nm +90°

13 - Gearbox mounting

- ☐ Removing and installing ⇒ Rep. gr. 10 ; Assembly mountings; Removing and installing gearbox mounting



6 Bevel box

⇒ [“6.1 Removing bevel box”, page 93](#)

⇒ [“6.2 Installing bevel box”, page 120](#)

6.1 Removing bevel box

⇒ [“6.1.1 Removing bevel box - vehicles with 2.0 ltr. TFSI engine \(TD6\)”, page 93](#)

⇒ [“6.1.2 Removing bevel box - vehicles with 2.0 ltr. TFSI engine \(TA9\)”, page 98](#)

⇒ [“6.1.3 Removing bevel box - vehicles with 2.5 ltr. TFSI engine”, page 103](#)

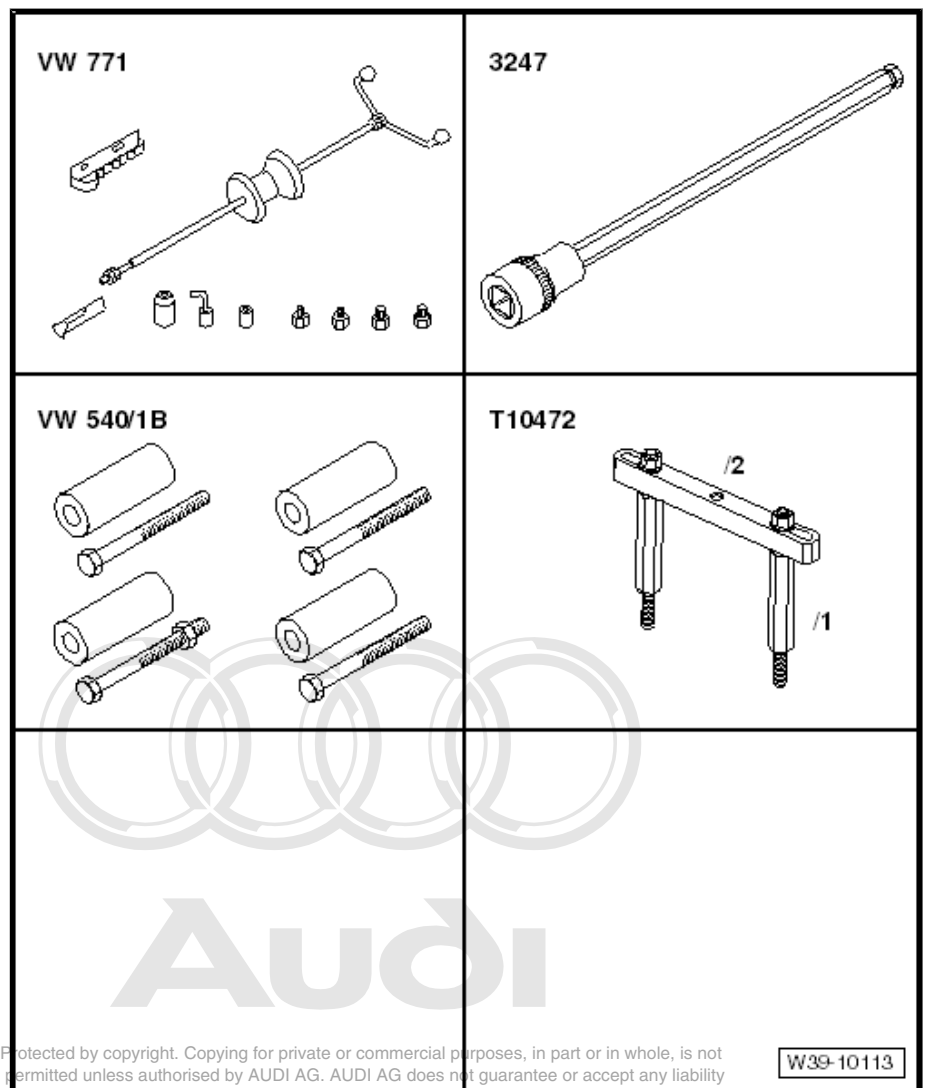
⇒ [“6.1.4 Removing bevel box - vehicles with 2.0 ltr. TDI engine \(TL4\)”, page 109](#)

⇒ [“6.1.5 Removing bevel box - vehicles with 2.0 ltr. TDI engine \(T0N, T1I\)”, page 115](#)

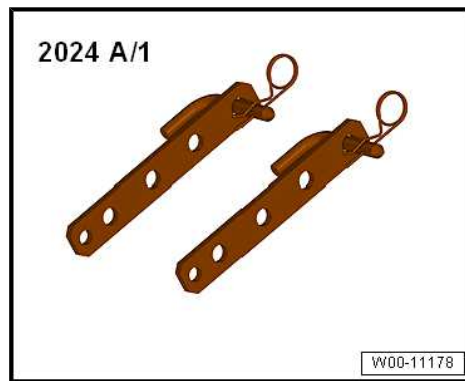
6.1.1 Removing bevel box - vehicles with 2.0 ltr. TFSI engine (TD6)

Special tools and workshop equipment required

- ◆ Multi-purpose tool - VW 771-
- ◆ Socket (8 mm) - 3247-
- ◆ Engine and gearbox support supplement - VW 540/1 B-
- ◆ Puller - T10472-

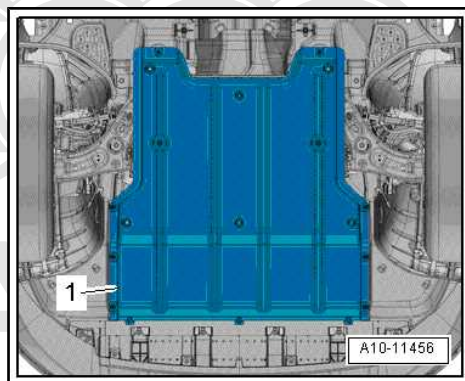


◆ Extension -2024A/1-

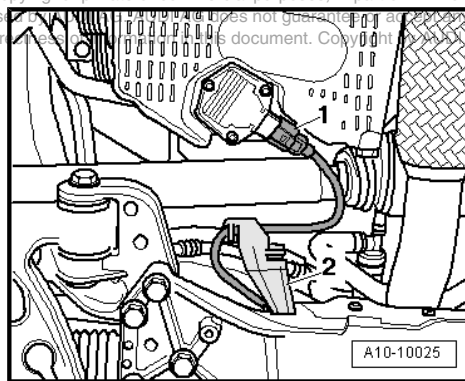


Removing

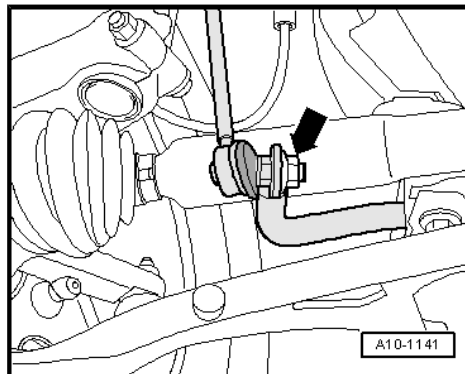
- Remove front wheel (right-side) ⇒ Running gear, axles, steering; Rep. gr. 44 ; Wheels, tyres .
- Remove noise insulation -1- ⇒ General body repairs, exterior; Rep. gr. 66 ; Noise insulation; Removing and installing noise insulation .



- Unplug electrical connector -1- at oil level and oil temperature sender - G266- .
- Unclip bracket -2- for electrical wiring leading to oil level and oil temperature sender - G266- at subframe.



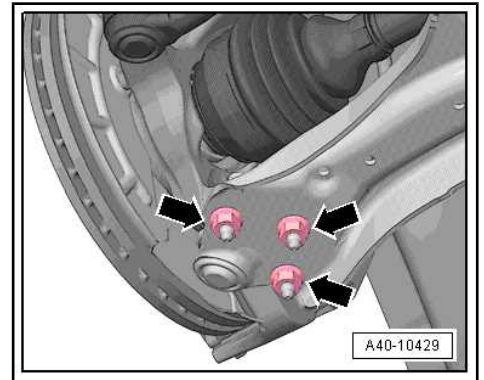
- Unscrew nut -arrow- for coupling rod on anti-roll bar (right-side).
- If fitted, unscrew nut for bracket for front right vehicle level sender - G289- .



- Remove nuts -arrows- securing swivel joint (right-side).
- Disengage swivel joint (right-side) from wishbone.
- Detach drive shaft (right-side) from bevel box and tie up ⇒ Running gear, axles, steering; Rep. gr. 40 ; Drive shaft; Removing and installing drive shaft .

 Note

Make sure you do not damage surface coating on drive shaft.



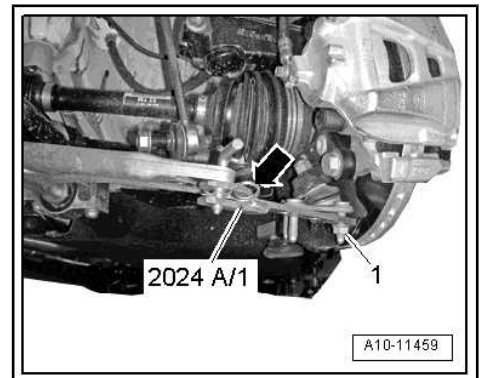
- Swivel suspension strut (right-side) outwards and support with extension -2024A/1- , as shown in illustration.



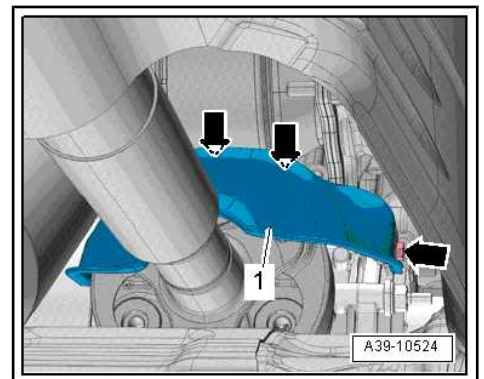
WARNING

Risk of accident if parts of support are not properly secured.

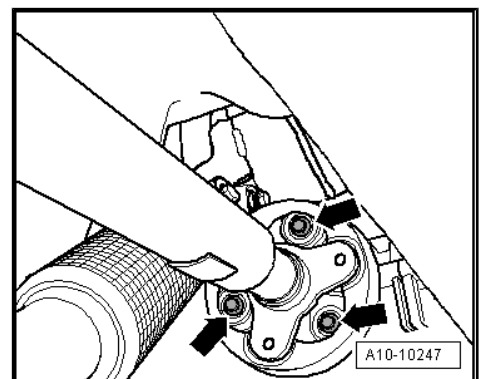
- ◆ *Secure locking pin and swivel joint with retaining clip -arrow- and nut -1-.*



- Remove bolts -arrows- and detach heat shield -1-.

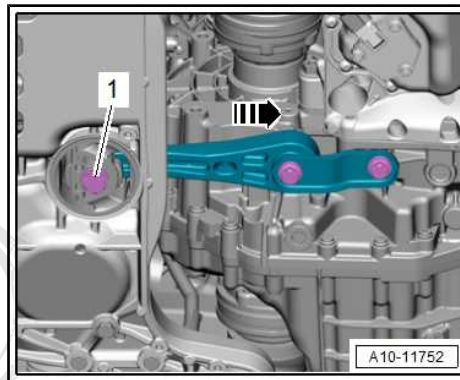


- Mark position of flexible coupling relative to bevel box flange for re-installation.
- Remove bolts -arrows- securing flexible coupling of propshaft to bevel box (counterhold triangular flange with suitable lever).



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- Remove bolt -1- for pendulum support and push engine/gear-box assembly forwards -arrow- until it is possible to re-install bolt.



- Detach propshaft from bevel box.

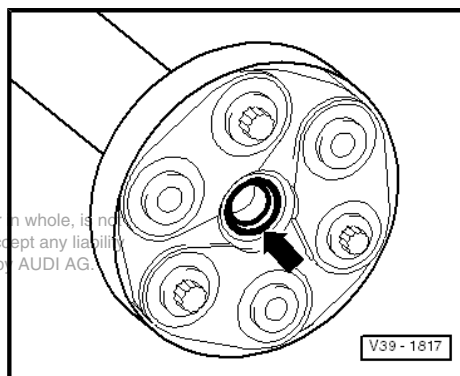


Caution

The seal -arrow- in the propshaft flange can be damaged.

- ◆ *Push propshaft towards the rear and to the right side of the vehicle as far as possible.*

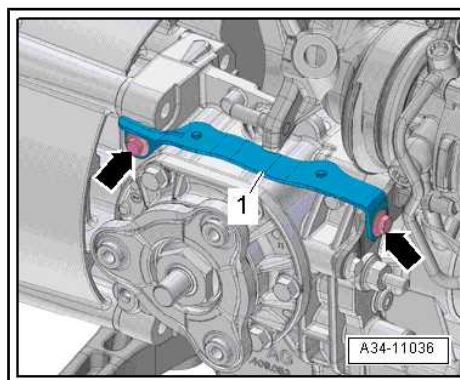
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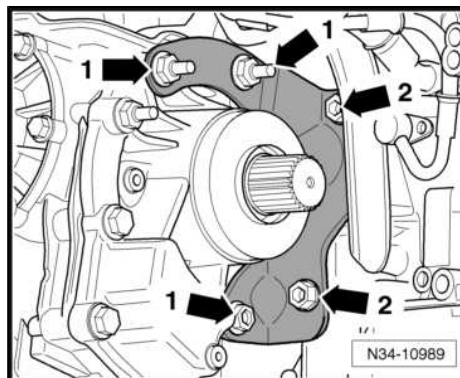
Note

The propshaft must be renewed if the oil seal is damaged.

- Remove bolts -arrows- and detach bracket -1-.



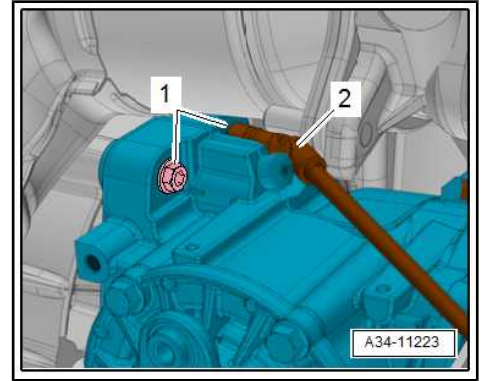
- Remove bolts -arrows 1, 2- and detach bracket for bevel box.



- Remove top bolts -1- securing bevel box to gearbox.



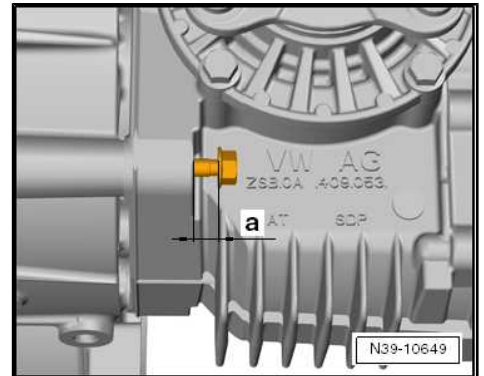
Use a jointed socket wrench -2- to unscrew bolts.



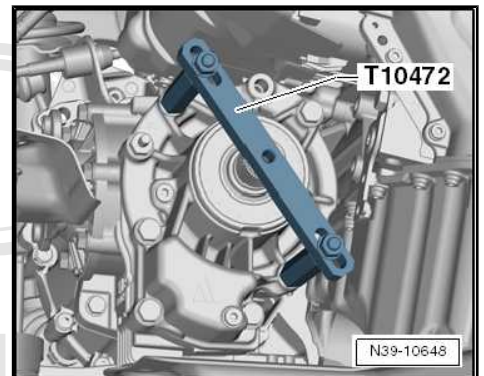
- Loosen bottom bolts -arrows- securing bevel box to gearbox: unscrew only as far as dimension -a-.
- Dimension -a- = 15 mm



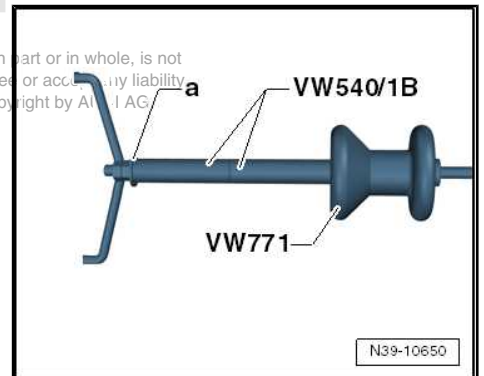
This prevents the gearbox from dropping out when it is slackened with multi-purpose tool - VW 771- .



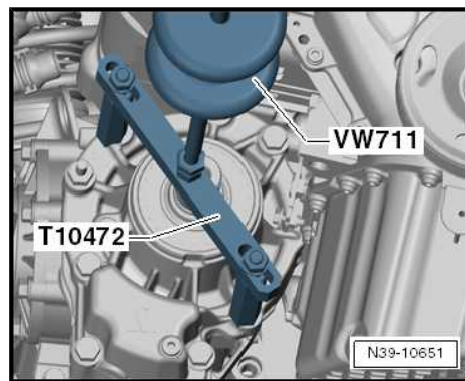
- Attach puller - T10472- to bevel box, as shown in illustration.



- Prepare multi-purpose tool - VW 771- with a washer -a- and 2 sleeves from engine and gearbox support supplement - VW 540/1 B- , as shown in illustration.



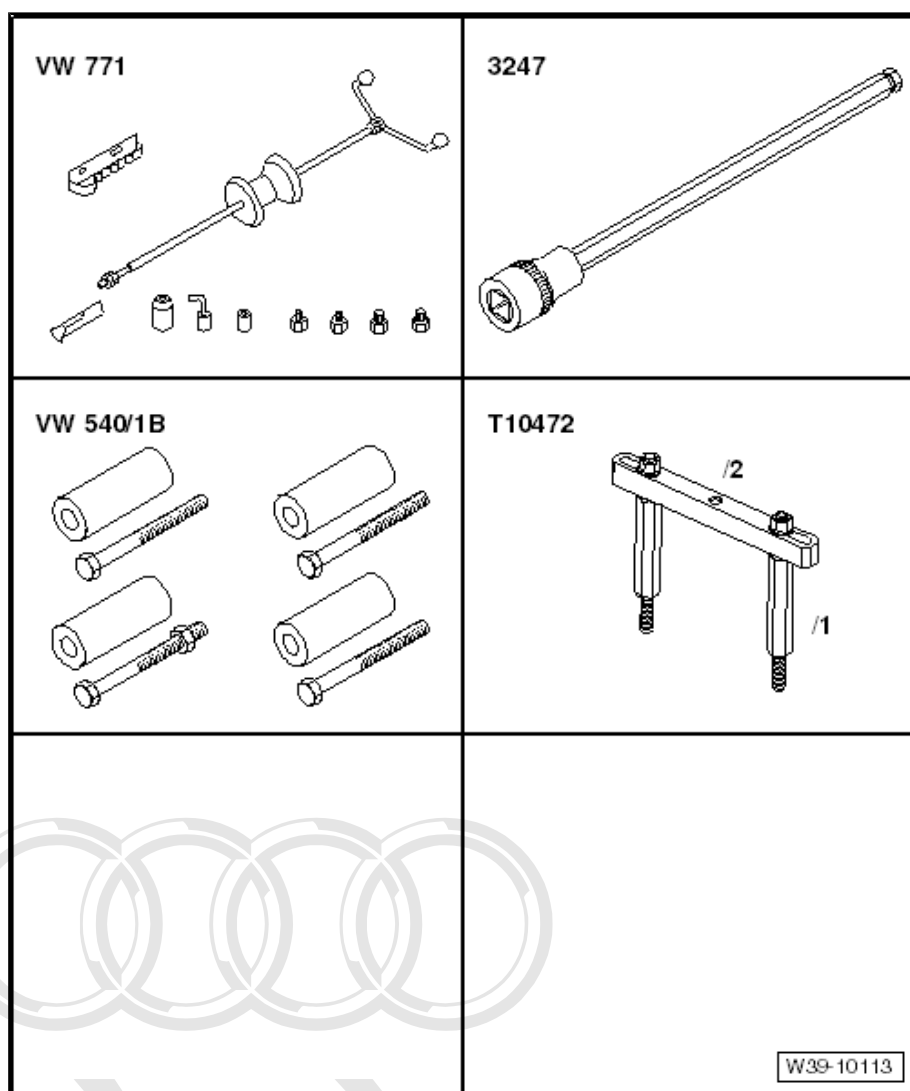
- Secure multi-purpose tool - VW 771- to puller - T10472- and detach bevel box from gearbox.
- Remove multi-purpose tool and puller.
- Remove bottom bolts and remove bevel box.



6.1.2 Removing bevel box - vehicles with 2.0 ltr. TFSI engine (TA9)

Special tools and workshop equipment required

- ◆ Multi-purpose tool - VW 771-
- ◆ Socket (8 mm) - 3247-
- ◆ Engine and gearbox support supplement - VW 540/1 B-
- ◆ Puller - T10472-

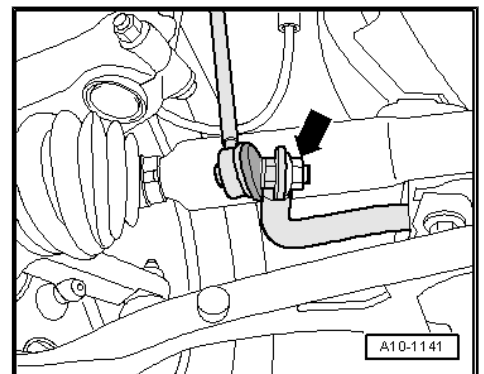
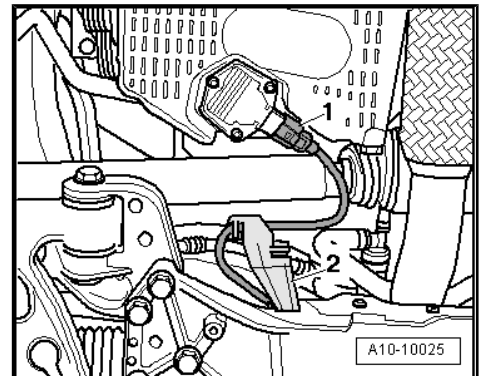
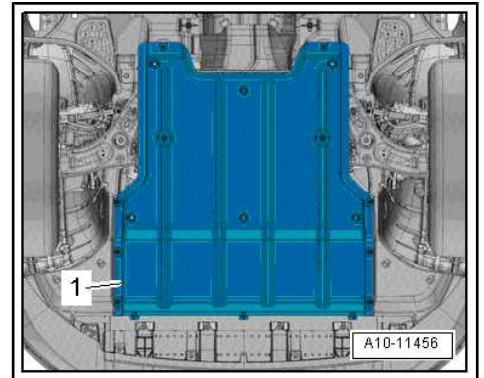


◆ Extension -2024A/1-



Removing

- Remove front wheel (right-side) ⇒ Running gear, axles, steering; Rep. gr. 44 ; Wheels, tyres .
- Remove noise insulation -1- ⇒ General body repairs, exterior; Rep. gr. 66 ; Noise insulation; Removing and installing noise insulation .
- Unplug electrical connector -1- at oil level and oil temperature sender - G266- .
- Unclip bracket -2- for electrical wiring leading to oil level and oil temperature sender - G266- at subframe.
- Unscrew nut -arrow- for coupling rod on anti-roll bar (right-side).
- If fitted, unscrew nut for bracket for front right vehicle level sender - G289- .

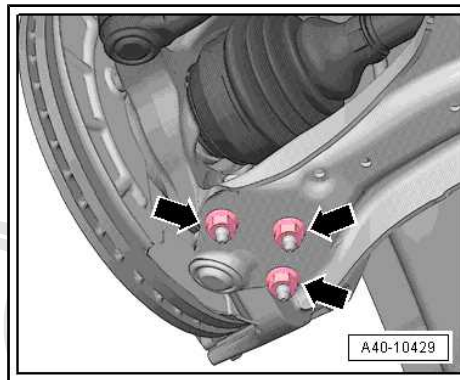


- Remove nuts -arrows- securing swivel joint (right-side).
- Disengage swivel joint (right-side) from wishbone.
- Detach drive shaft (right-side) from bevel box and tie up ⇒ Running gear, axles, steering; Rep. gr. 40 ; Drive shaft; Removing and installing drive shaft .



Note

Make sure you do not damage surface coating on drive shaft.



- Swivel suspension strut (right-side) outwards and support with extension -2024A/1- , as shown in illustration.

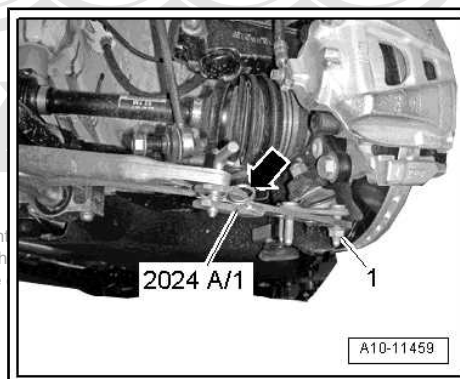


WARNING

Risk of accident if parts of support are not properly secured.

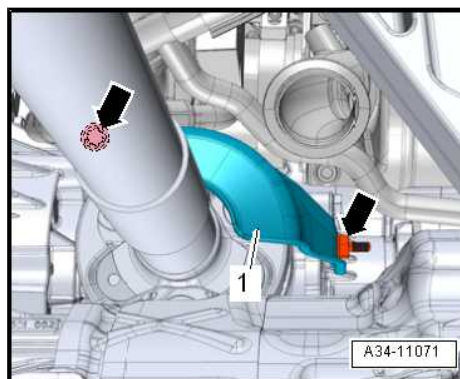
- ◆ **Secure locking pin and swivel joint with retaining clip -arrow- and nut -1-.**

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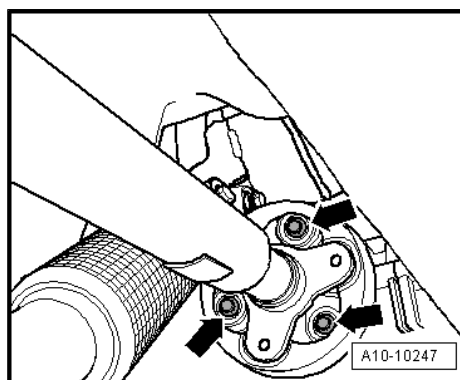


hole, is not
any liability
DI AG.

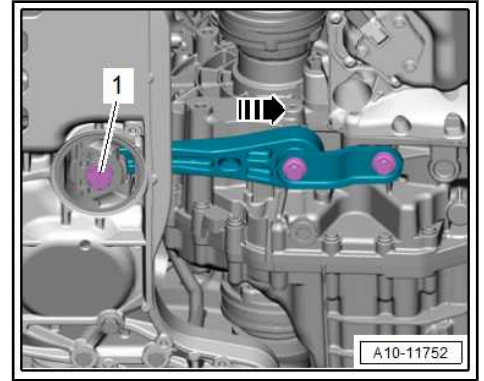
- Remove bolts -arrows- and detach heat shield -1-.



- Mark position of flexible coupling relative to bevel box flange for re-installation.
- Remove bolts -arrows- securing flexible coupling of propshaft to bevel box (counterhold triangular flange with suitable lever).



- Remove bolt -1- for pendulum support and push engine/gear-box assembly forwards -arrow- until it is possible to re-install bolt.



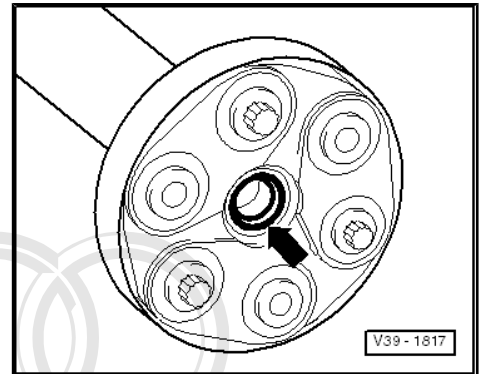
- Detach propshaft from bevel box.



Caution

The seal -arrow- in the propshaft flange can be damaged.

- ◆ *Push propshaft towards the rear and to the right side of the vehicle as far as possible.*



Note

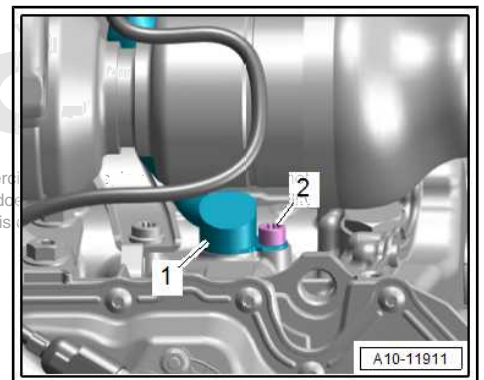
The propshaft must be renewed if the oil seal is damaged.



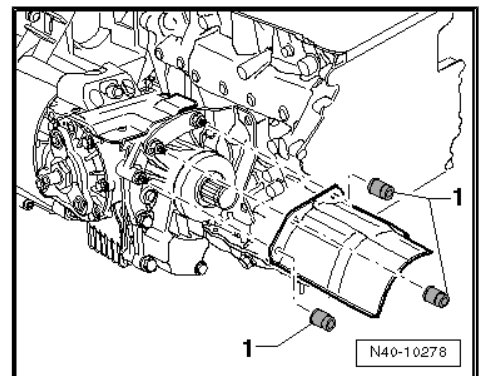
Note

Place cloth below connection to catch escaping engine oil.

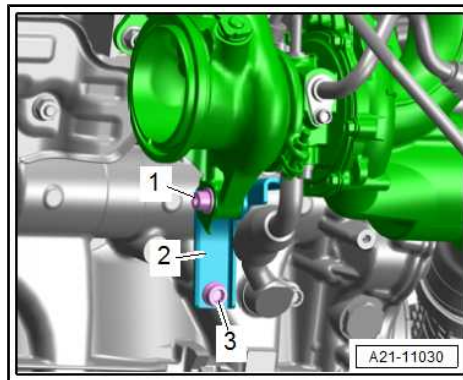
- Remove bolt -2-, disconnect oil supply connection -1- from cylinder block and press to one side.



- Remove nuts -1- and detach heat shield for drive shaft (right-side).



- Remove bolts -1, 3- and detach support for turbocharger.

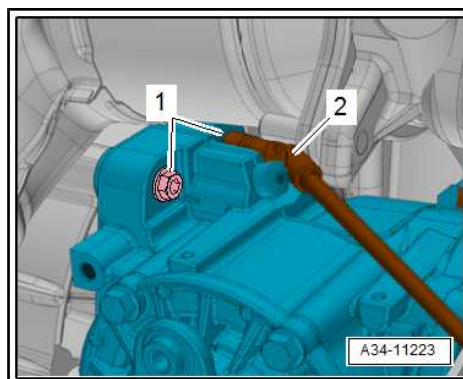


- Remove top bolts -1- securing bevel box to gearbox.



Note

Use a jointed socket wrench -2- to unscrew bolts.



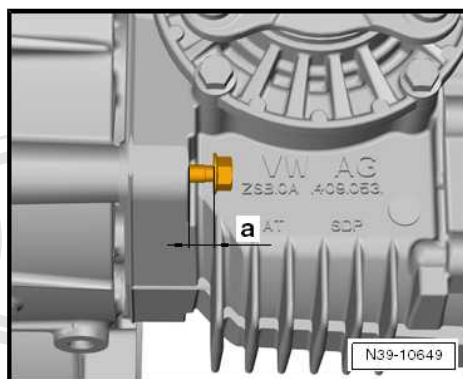
- Loosen bottom bolts -arrows- securing bevel box to gearbox: unscrew only as far as dimension -a-.

- Dimension -a- = 15 mm

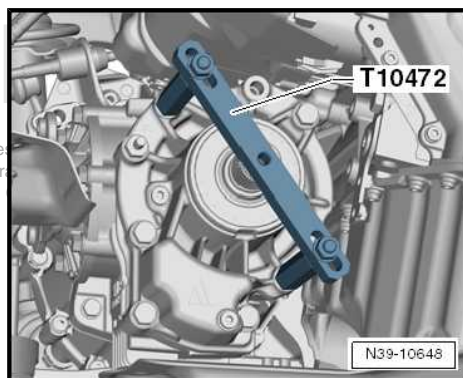


Note

This prevents the gearbox from dropping out when it is slackened with multi-purpose tool - VW 771- .

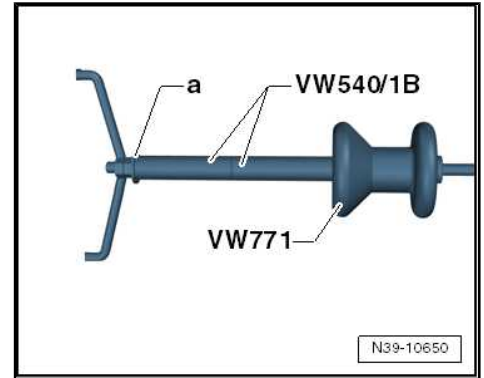


- Attach puller - T10472- to bevel box, as shown in illustration.

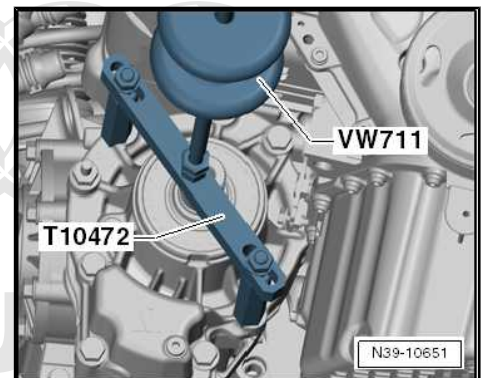


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- Prepare multi-purpose tool - VW 771- with a washer -a- and 2 sleeves from engine and gearbox support supplement - VW 540/1 B- , as shown in illustration.



- Secure multi-purpose tool - VW 771- to puller - T10472- and detach bevel box from gearbox.
- Remove multi-purpose tool and puller.
- Remove bottom bolts and remove bevel box.

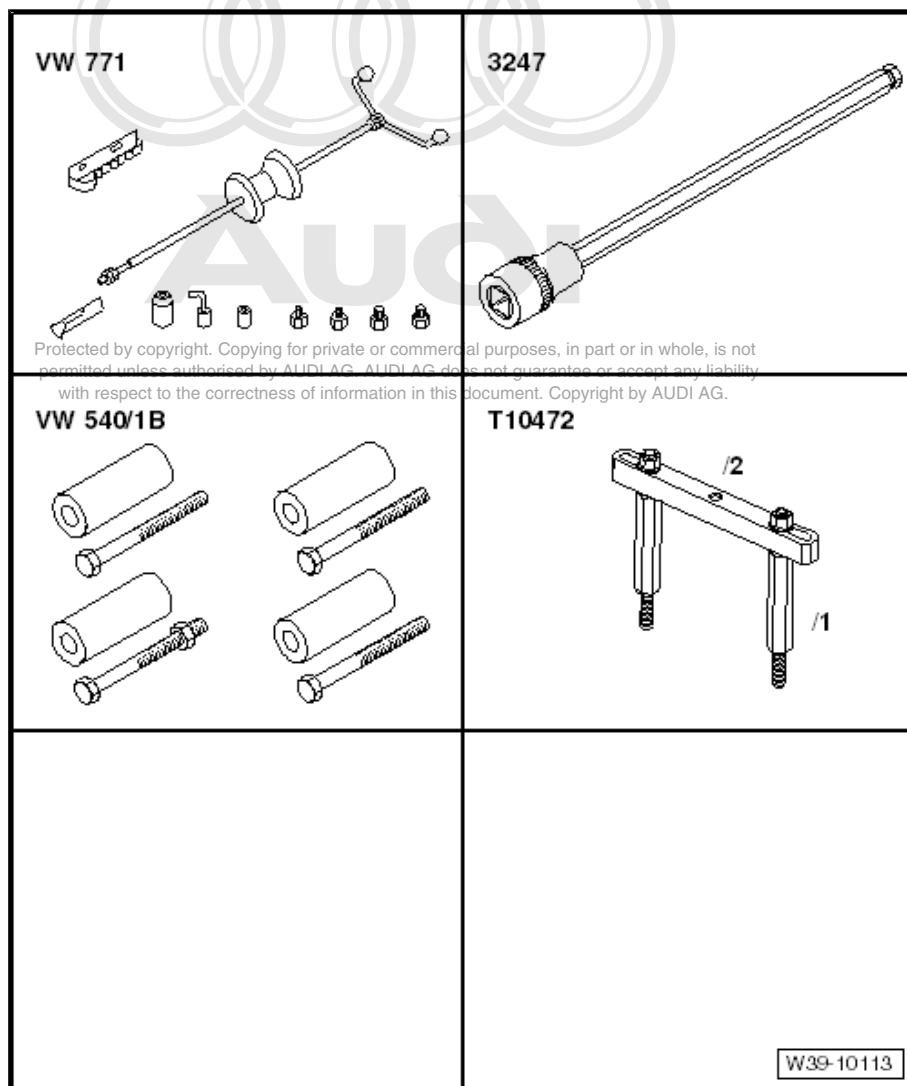


6.1.3 Removing bevel box - vehicles with 2.5 ltr. TFSI engine

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Special tools and workshop equipment required

- ◆ Multi-purpose tool - VW 771-
- ◆ Socket (8 mm) - 3247-
- ◆ Engine and gearbox support supplement - VW 540/1 B-
- ◆ Puller - T10472-

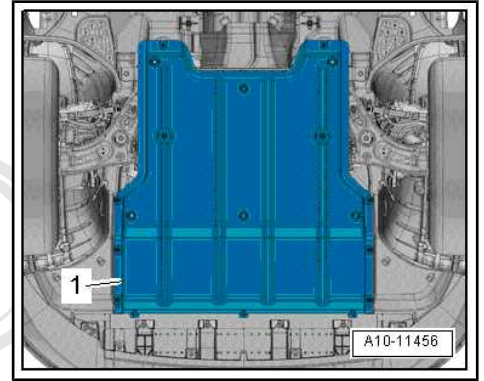


- ◆ Extension -2024A/1-

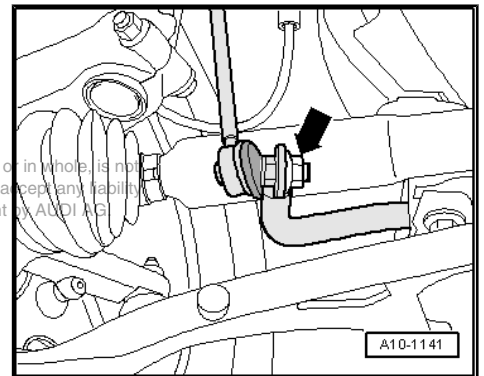


Removing

- Remove front wheel (right-side) ⇒ Running gear, axles, steering; Rep. gr. 44 ; Wheels, tyres .
- Remove noise insulation -1- ⇒ General body repairs, exterior; Rep. gr. 66 ; Noise insulation; Removing and installing noise insulation .
- Remove catalytic converters ⇒ Rep. gr. 26 ; Emission control system; Removing and installing catalytic converter .



- Unscrew nut -arrow- for coupling rod on anti-roll bar (right-side).



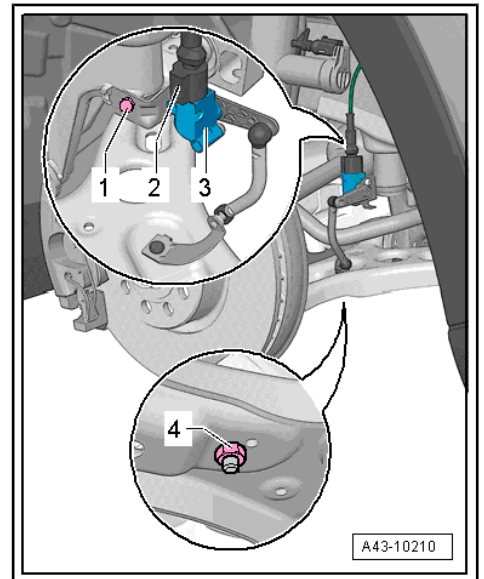
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- If fitted, unscrew nut -4- for bracket for front right vehicle level sender - G289- .

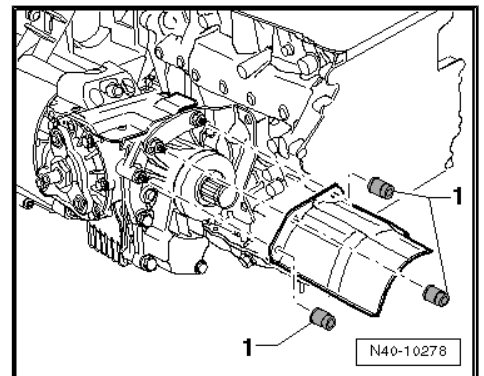


Note

Disregard -items 1, 2, 3-.



- Remove nuts -1- and detach heat shield for drive shaft (right-side).

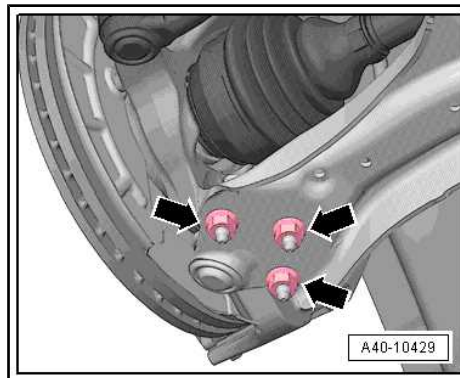


- Remove nuts -arrows- securing swivel joint (right-side).
- Disengage swivel joint (right-side) from wishbone.
- Detach drive shaft (right-side) from bevel box and tie up ⇒ Running gear, axles, steering; Rep. gr. 40 ; Drive shaft; Removing and installing drive shaft .



Note

Make sure you do not damage surface coating on drive shaft.



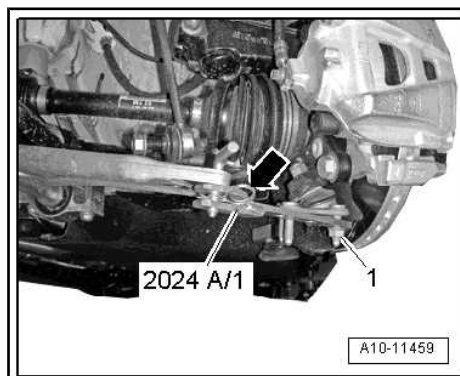
- Swivel suspension strut (right-side) outwards and support with extension -2024A/1- , as shown in illustration.



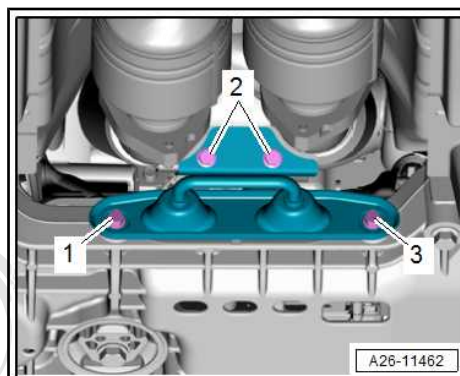
WARNING

Risk of accident if parts of support are not properly secured.

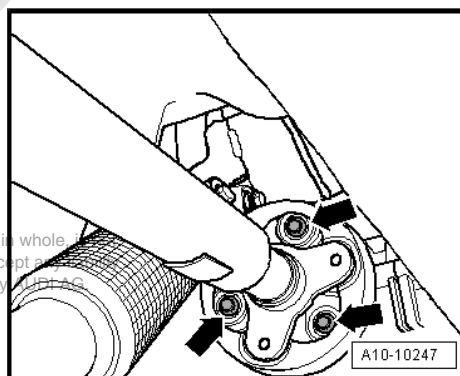
- ◆ *Secure locking pin and swivel joint with retaining clip -arrow- and nut -1-.*



- Remove bolts -1, 2, 3- and detach bracket for starter catalytic converter.

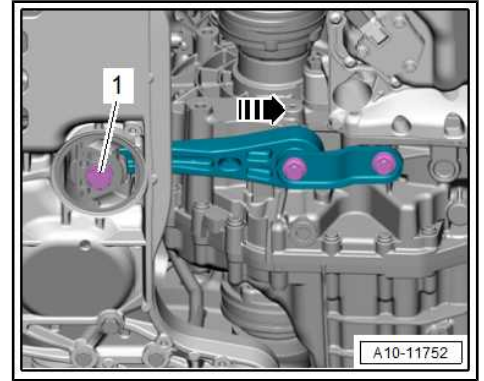


- Mark position of flexible coupling relative to bevel box flange for re-installation.
- Remove bolts -arrows- securing flexible coupling of propshaft to bevel box (counterhold triangular flange with suitable lever).



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- Remove bolt -1- for pendulum support and push engine/gear-box assembly forwards -arrow- until it is possible to re-install bolt.



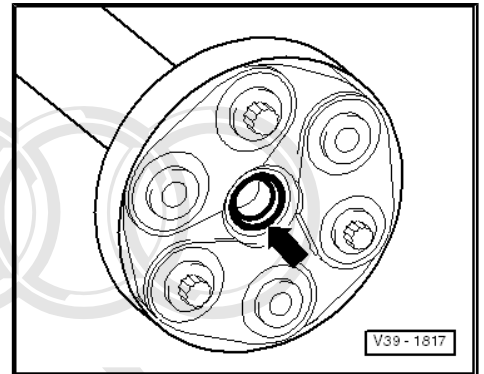
- Detach propshaft from bevel box.



Caution

The seal -arrow- in the propshaft flange can be damaged.

- ◆ *Push propshaft towards the rear and to the right side of the vehicle as far as possible.*



Note

The propshaft must be renewed if the oil seal is damaged.

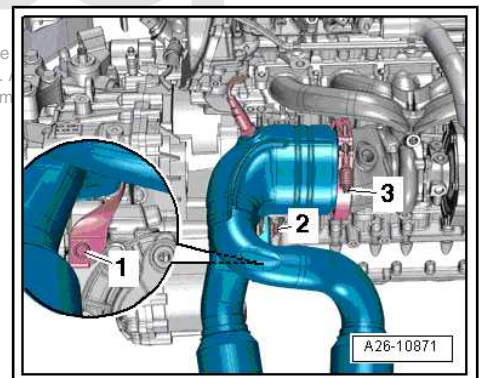
- Remove bolts -1- and -2- and detach bracket for starter catalytic converter.



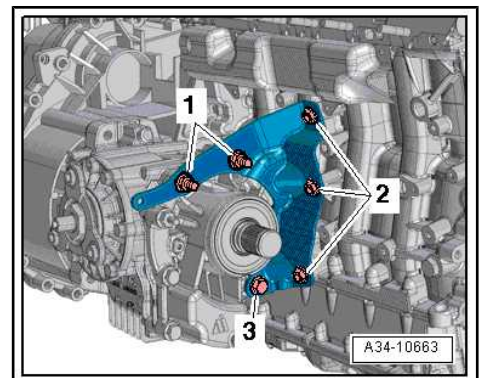
Note

Disregard -item 3-.

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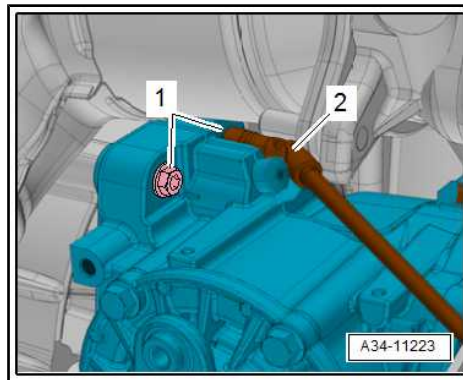
- Remove bolts -1, 2, 3- and detach bracket for bevel box.



- Remove top bolts -1- securing bevel box to gearbox.


Note

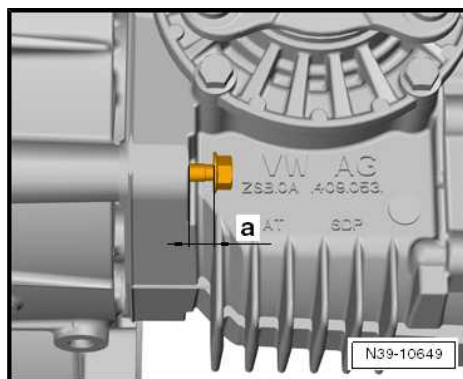
Use a jointed socket wrench -2- to unscrew bolts.



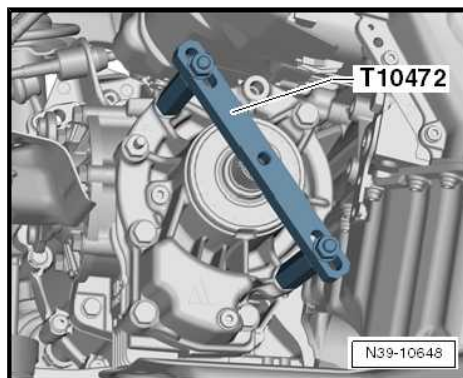
- Loosen bottom bolts -arrows- securing bevel box to gearbox: unscrew only as far as dimension -a-.
- Dimension -a- = 15 mm


Note

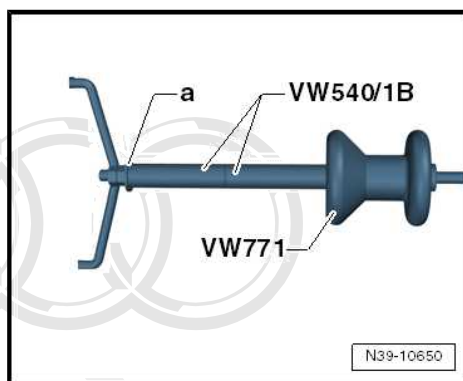
This prevents the gearbox from dropping out when it is slackened with multi-purpose tool - VW 771- .



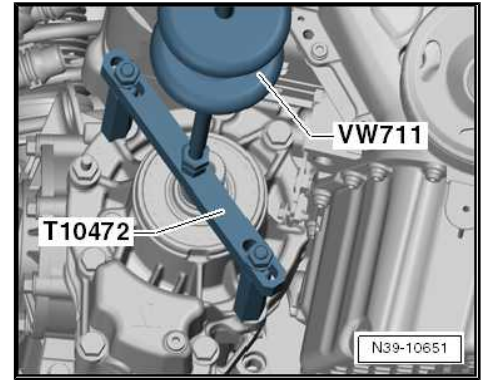
- Attach puller - T10472- to bevel box, as shown in illustration.



- Prepare multi-purpose tool - VW 771- with a washer -a- and 2 sleeves from engine and gearbox support supplement - VW 540/1 B- , as shown in illustration.



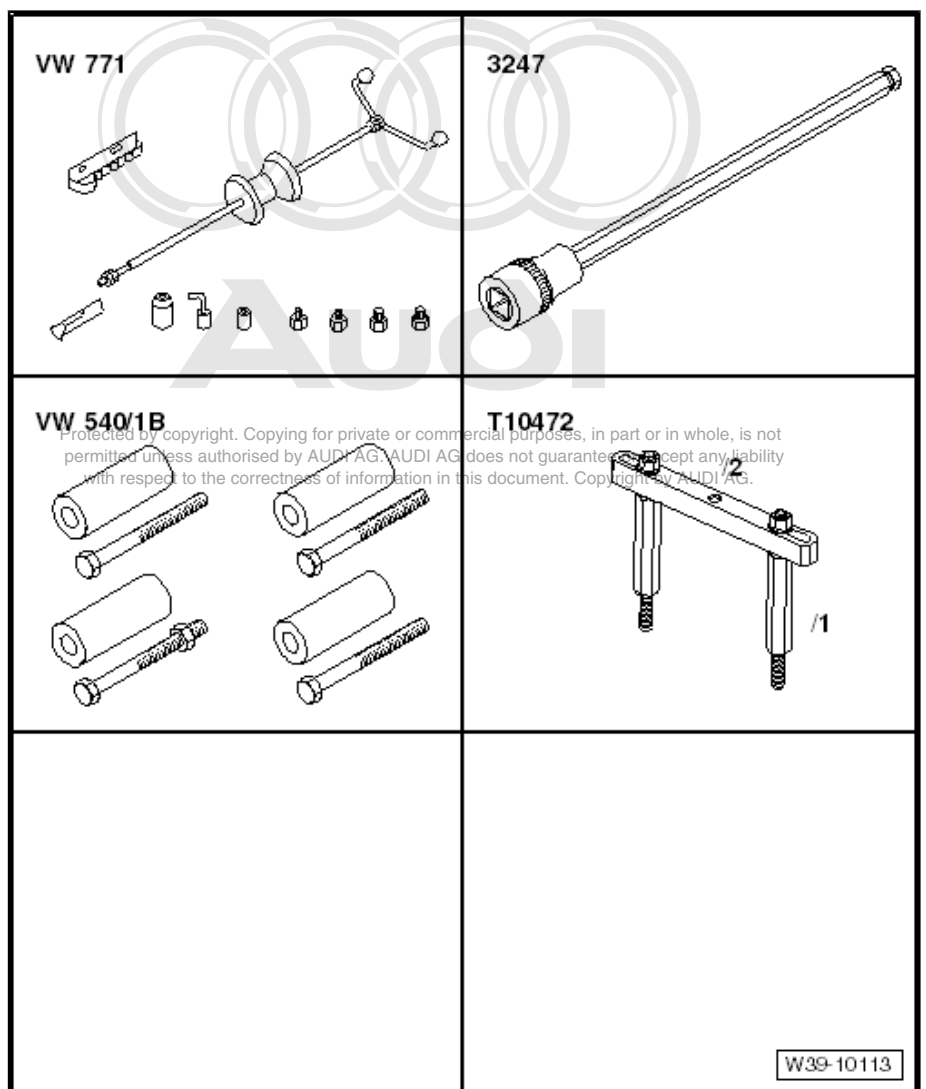
- Secure multi-purpose tool - VW 771- to puller - T10472- and detach bevel box from gearbox.
- Remove multi-purpose tool and puller.
- Remove bottom bolts and remove bevel box.



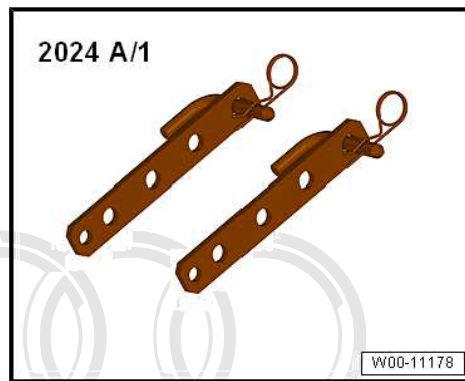
6.1.4 Removing bevel box - vehicles with 2.0 ltr. TDI engine (TL4)

Special tools and workshop equipment required

- ◆ Multi-purpose tool - VW 771-
- ◆ Socket (8 mm) - 3247-
- ◆ Engine and gearbox support supplement - VW 540/1 B-
- ◆ Puller - T10472-



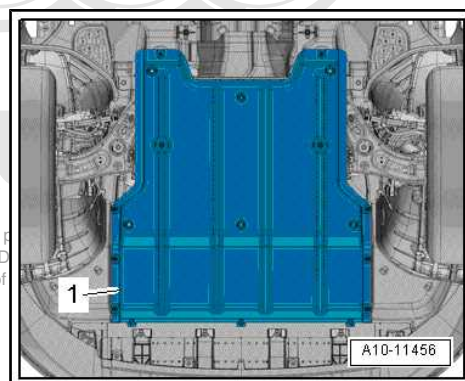
◆ Extension -2024A/1-



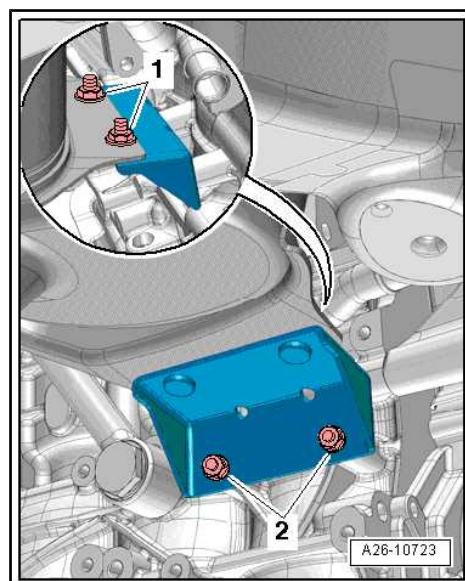
Removing

- Remove front wheel (right-side) ⇒ Running gear, axles, steering; Rep. gr. 44 ; Wheels, tyres .
- Remove noise insulation -1- ⇒ General body repairs, exterior; Rep. gr. 66 ; Noise insulation; Removing and installing noise insulation .

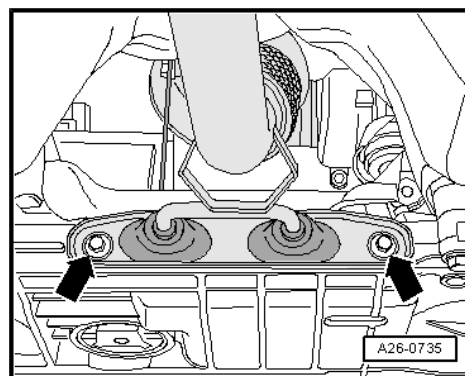
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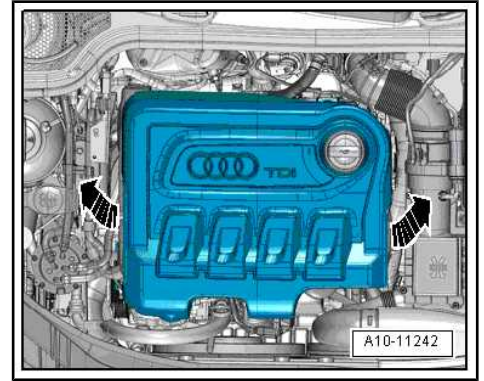
- Remove nuts -1, 2- and detach bracket for particulate filter.



- Remove bolts -arrows- for exhaust pipe bracket.



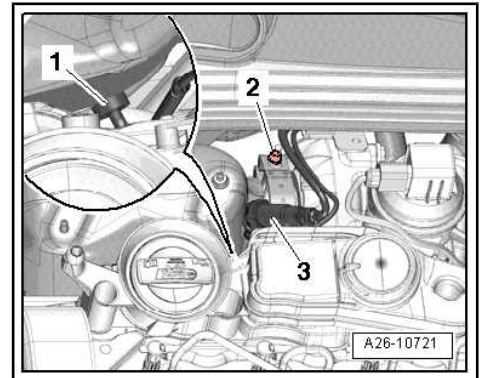
- Remove engine cover panel ⇒ Rep. gr. 10 ; Engine cover panel; Removing and installing engine cover panel .



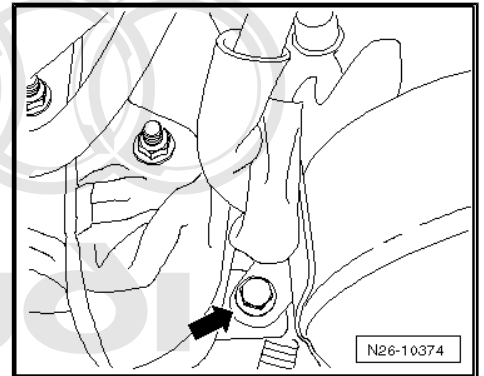
- Loosen bolt -2- and remove clamp.



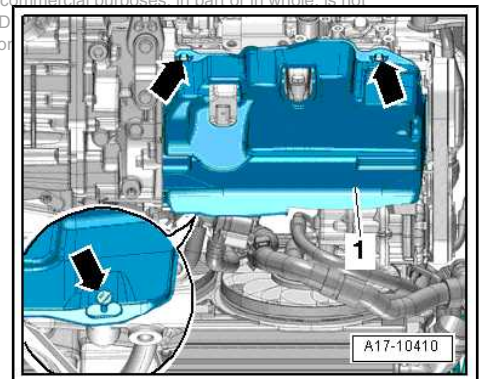
Disregard items -1 and 3-.



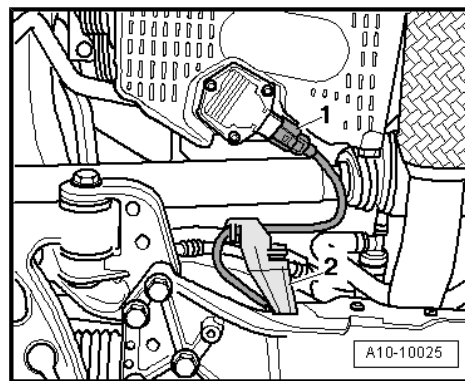
- Remove bolt -arrow- on upper bracket for particulate filter.
- Tie up particulate filter towards rear.



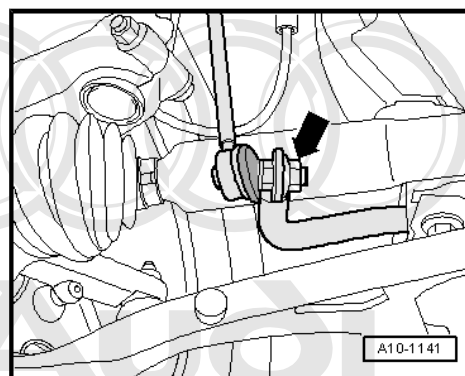
- Loosen fasteners -arrows- and remove noise insulation panel -1- for oil pan.



- Unplug electrical connector -1- at oil level and oil temperature sender - G266- .
- Unclip bracket -2- for electrical wiring leading to oil level and oil temperature sender - G266- at subframe.



- Unscrew nut -arrow- for coupling rod on anti-roll bar (right-side).
- If fitted, unscrew nut for bracket for front right vehicle level sender - G289- .

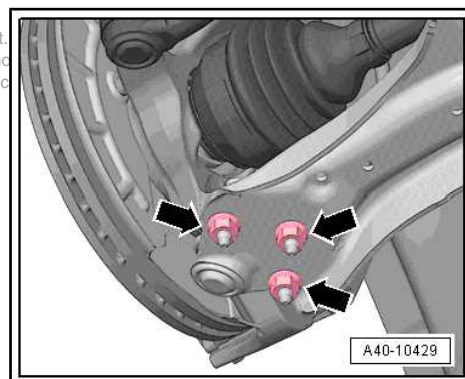


- Remove nuts -arrows- securing swivel joint (right-side).
- Disengage swivel joint (right-side) from wishbone.
- Remove drive shaft (right-side) ⇒ Running gear, axles, steering; Rep. gr. 40 ; Drive shaft; Removing and installing drive shaft .



Note

Make sure you do not damage surface coating on drive shaft.



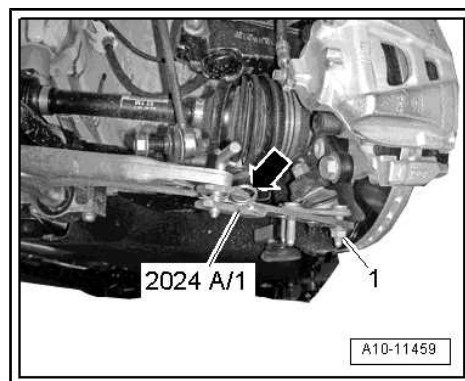
- Swivel suspension strut (right-side) outwards and support with extension -2024A/1- , as shown in illustration.



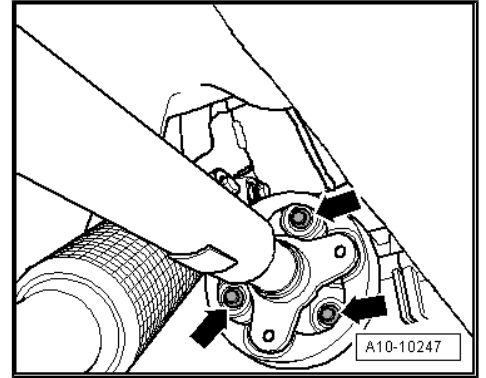
WARNING

Risk of accident if parts of support are not properly secured.

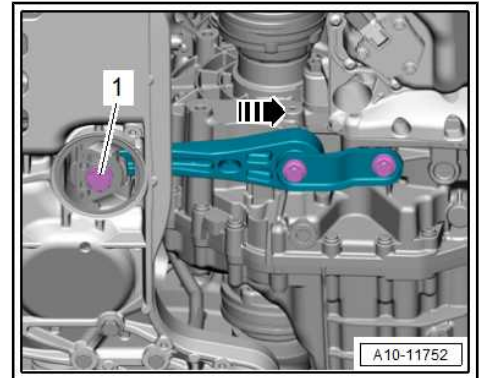
- ◆ Secure locking pin and swivel joint with retaining clip -arrow- and nut -1-.



- Mark position of flexible coupling relative to bevel box flange for re-installation.
- Remove bolts -arrows- securing flexible coupling of propshaft to bevel box (counterhold triangular flange with suitable lever).



- Remove bolt -1- for pendulum support and push engine/gear-box assembly forwards -arrow- until it is possible to re-install bolt.



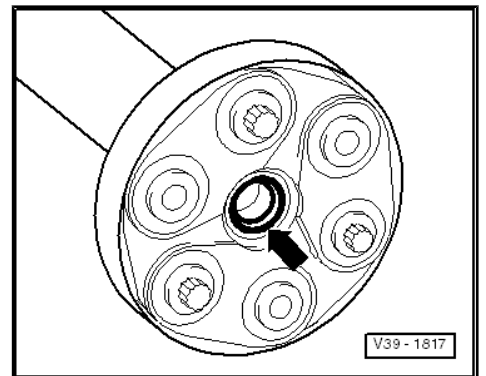
- Detach propshaft from bevel box.



Caution

The seal -arrow- in the propshaft flange can be damaged.

- ◆ *Push propshaft towards the rear and to the right side of the vehicle as far as possible.*



Note

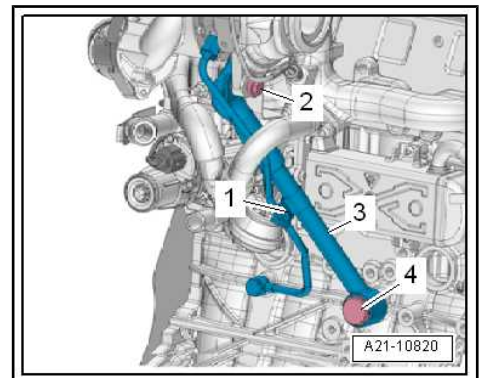
The propshaft must be renewed if the oil seal is damaged.



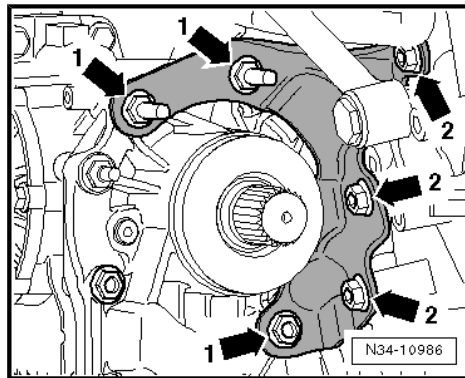
Note

Place a cloth underneath to catch escaping engine oil.

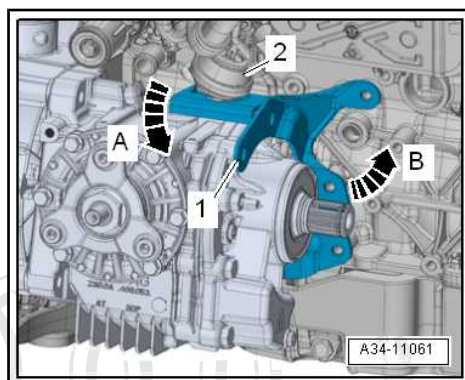
- Remove banjo bolt -4- and bolts -1 and 2- and detach support -3- for turbocharger.



- Remove bolts (-arrows 1 and 2-).



- Press bracket for bevel box -1- downwards in direction of -arrow A- at actuator -2- for exhaust gas recirculation cooler, and detach bracket by turning slightly -arrow B-.

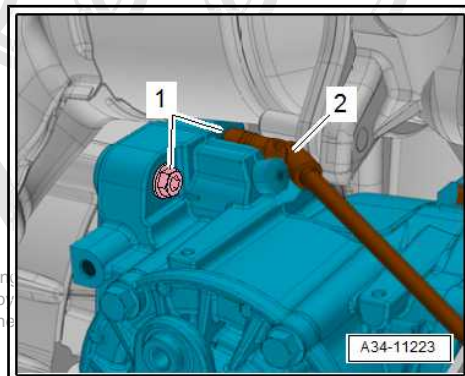


- Remove top bolts -arrows- securing bevel box to gearbox.



Note

Use a jointed socket wrench -2- to unscrew bolts at top right.



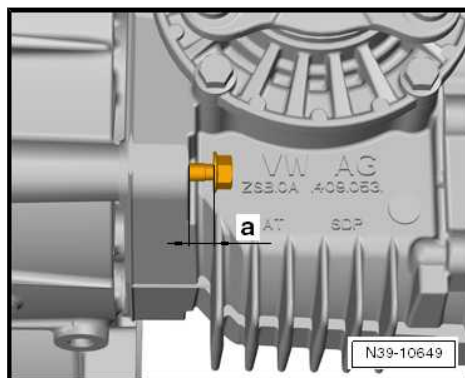
- Loosen bottom bolts -arrows- securing bevel box to gearbox: unscrew only as far as dimension -a-.

- Dimension -a- = 15 mm

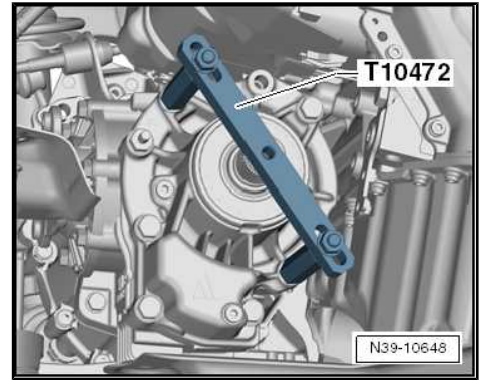


Note

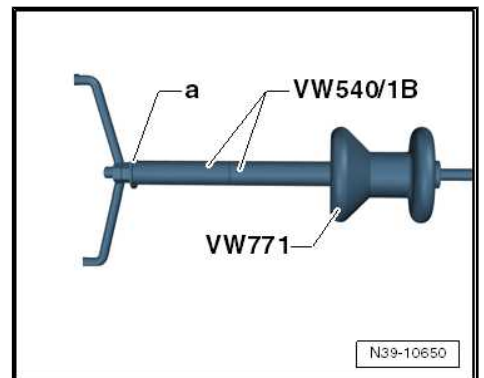
This prevents the gearbox from dropping out when it is slackened with multi-purpose tool - VW 771- .



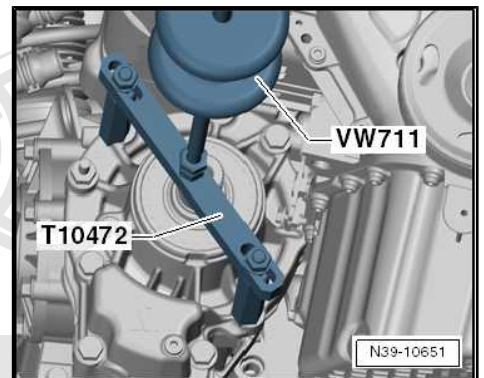
- Attach puller - T10472- to bevel box, as shown in illustration.



- Prepare multi-purpose tool - VW 771- with a washer -a- and 2 sleeves from engine and gearbox support supplement - VW 540/1 B- , as shown in illustration.



- Secure multi-purpose tool - VW 771- to puller - T10472- and detach bevel box from gearbox.
- Remove multi-purpose tool and puller.
- Remove bottom bolts and remove bevel box.

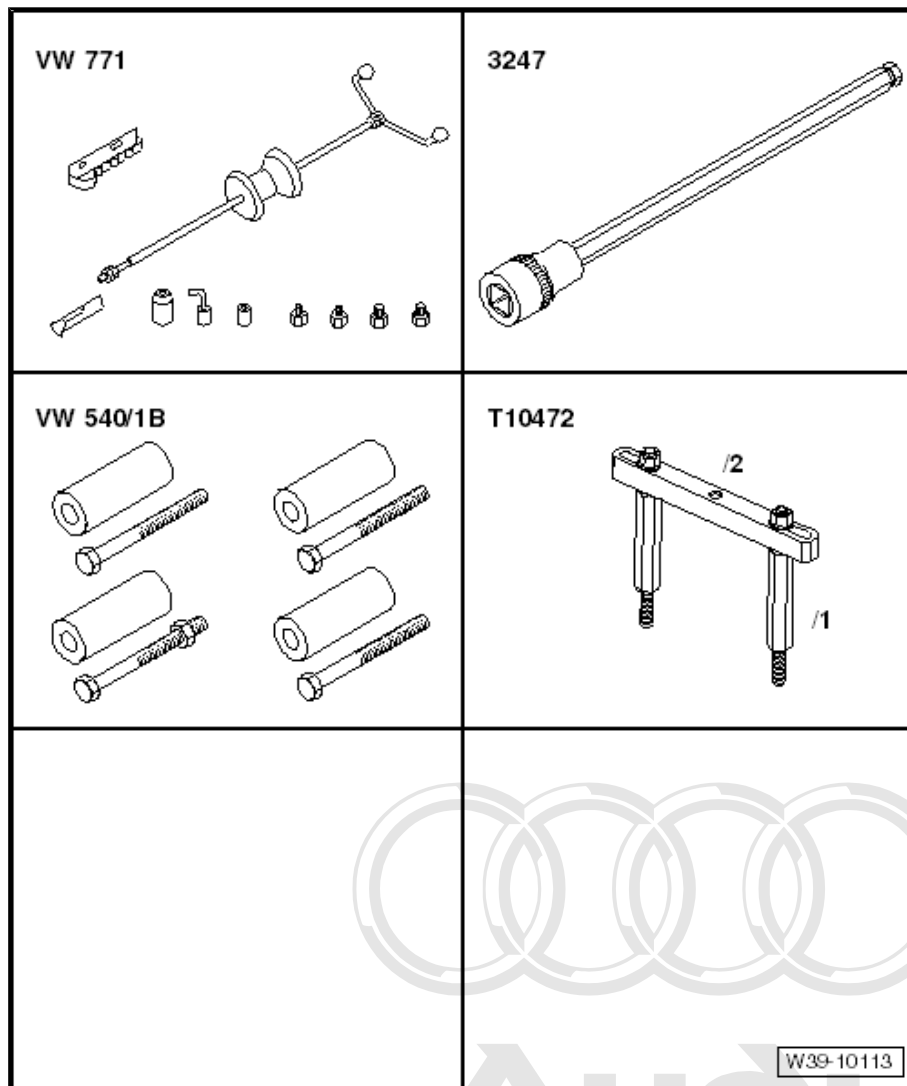


6.1.5 Removing bevel box - vehicles with 2.0 ltr. TDI engine (T0N, T1I)

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Special tools and workshop equipment required

- ◆ Multi-purpose tool - VW 771-
- ◆ Socket (8 mm) - 3247-
- ◆ Engine and gearbox support supplement - VW 540/1 B-
- ◆ Puller - T10472-



- ◆ Extension -2024A/1-

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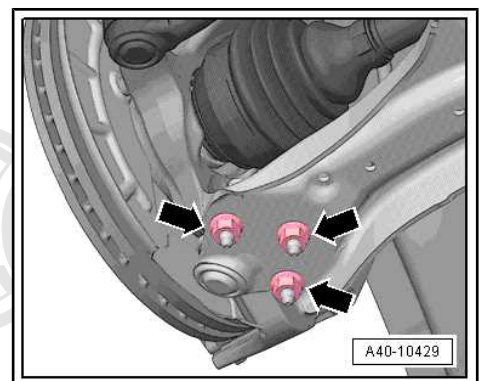
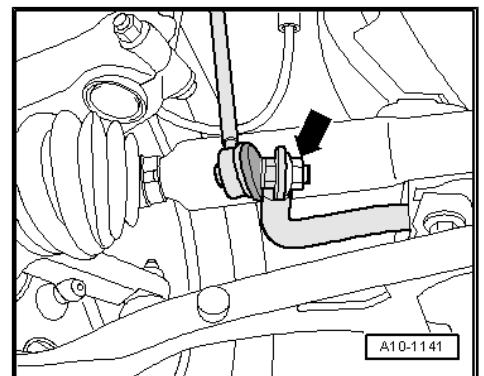
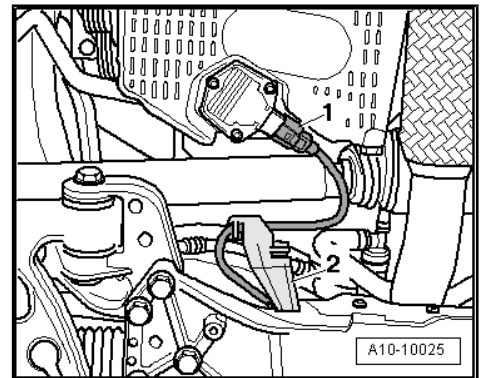
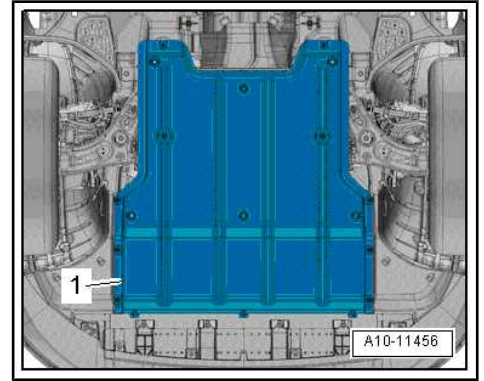
Removing

- Remove front wheel (right-side) ⇒ Running gear, axles, steering; Rep. gr. 44 ; Wheels, tyres .
- Remove noise insulation -1- ⇒ General body repairs, exterior; Rep. gr. 66 ; Noise insulation; Removing and installing noise insulation .
- Unplug electrical connector -1- at oil level and oil temperature sender - G266- .
- Unclip bracket -2- for electrical wiring leading to oil level and oil temperature sender - G266- at subframe.
- Unscrew nut -arrow- for coupling rod on anti-roll bar (right-side).
- If fitted, unscrew nut for bracket for front right vehicle level sender - G289- .
- Remove nuts -arrows- securing swivel joint (right-side).
- Disengage swivel joint (right-side) from wishbone.
- Detach drive shaft (right-side) from bevel box and tie up ⇒ Running gear, axles, steering; Rep. gr. 40 ; Drive shaft; Removing and installing drive shaft .



Note

Make sure you do not damage surface coating on drive shaft.



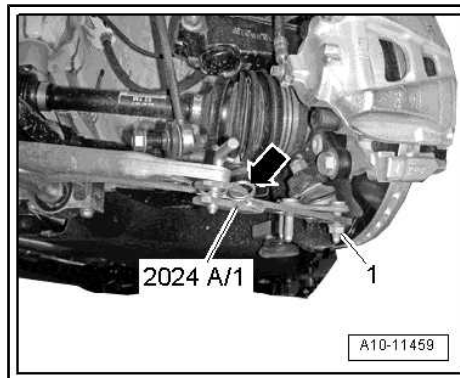
- Swivel suspension strut (right-side) outwards and support with extension -2024A/1-, as shown in illustration.



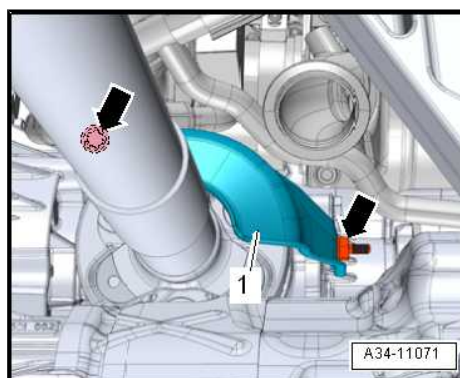
WARNING

Risk of accident if parts of support are not properly secured.

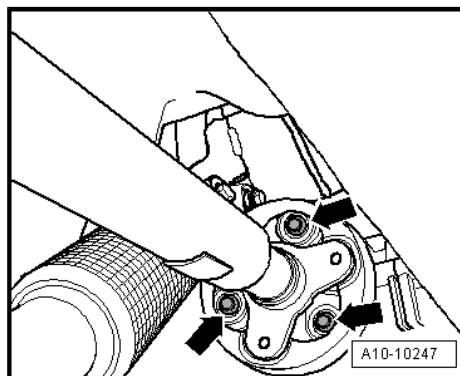
- ◆ *Secure locking pin and swivel joint with retaining clip -arrow- and nut -1-.*



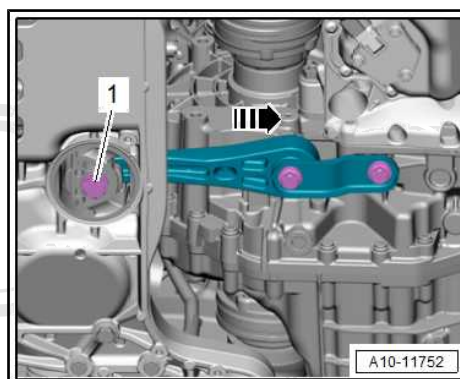
- Remove bolts -arrows- and detach heat shield -1-.



- Mark position of flexible coupling relative to bevel box flange for re-installation.
- Remove bolts -arrows- securing flexible coupling of propshaft to bevel box (counterhold triangular flange with suitable lever).



- Remove bolt -1- for pendulum support and push engine/gear-box assembly forwards -arrow- until it is possible to re-install bolt.



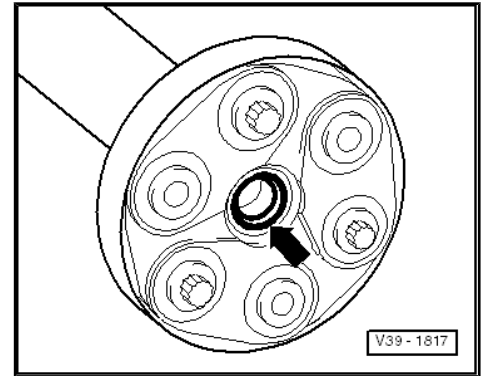
- Detach propshaft from bevel box.



Caution

The seal -arrow- in the propshaft flange can be damaged.

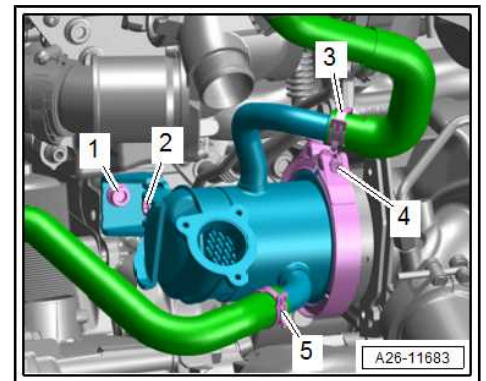
- ◆ *Push propshaft towards the rear and to the right side of the vehicle as far as possible.*



Note

The propshaft must be renewed if the oil seal is damaged.

- Remove exhaust gas recirculation cooler ➔ Rep. gr. 26 ; Exhaust gas recirculation; Removing and installing exhaust gas recirculation cooler .

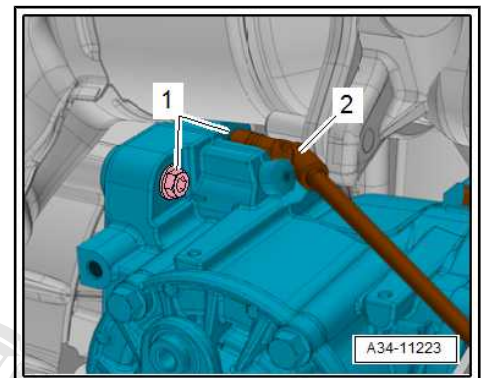


- Remove top bolts -1- securing bevel box to gearbox.



Note

Use a jointed socket wrench -2- to unscrew bolts.

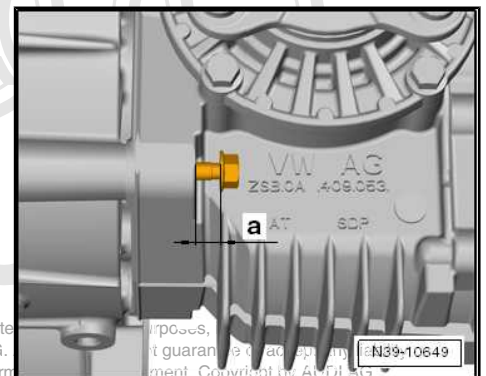


- Loosen bottom bolts -arrows- securing bevel box to gearbox: unscrew only as far as dimension -a-.
- Dimension -a- = 15 mm



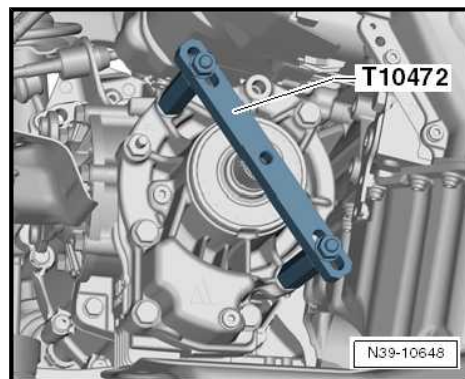
Note

This prevents the gearbox from dropping out when it is slackened with multi-purpose tool - VW 771- .

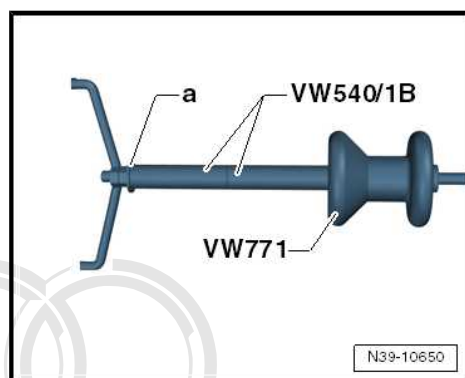


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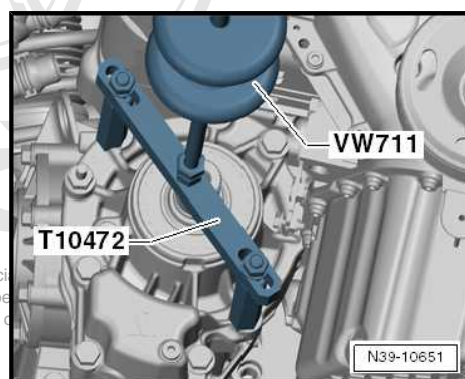
- Attach puller - T10472- to bevel box, as shown in illustration.



- Prepare multi-purpose tool - VW 771- with a washer -a- and 2 sleeves from engine and gearbox support supplement - VW 540/1 B- , as shown in illustration.



- Secure multi-purpose tool - VW 771- to puller - T10472- and detach bevel box from gearbox.
- Remove multi-purpose tool and puller.
- Remove bottom bolts and remove bevel box.



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6.2 Installing bevel box

⇒ ["6.2.1 Installing bevel box", page 120](#)

⇒ ["6.2.2 Tightening torques for bevel box", page 122](#)

6.2.1 Installing bevel box

Special tools and workshop equipment required

- ◆ Grease for clutch plate splines ⇒ Electronic parts catalogue

Installing

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

- Tightening torques
⇒ ["6.2.2 Tightening torques for bevel box", page 122](#)

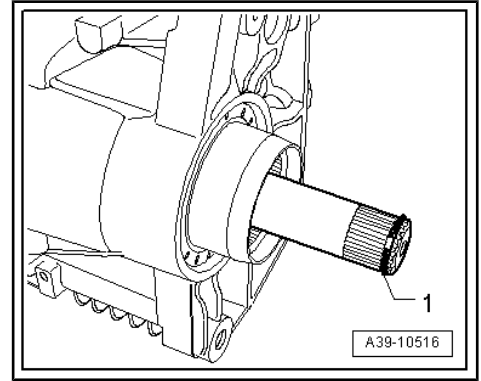
- Grease splines on bevel box.
- Fit new circlip -1- on stub shaft.



Caution

Risk of damage to gearbox or bevel box.

- ◆ ***To enable the circlip on the stub shaft to engage properly in the differential bevel gear, strike the end face of the splined shaft with a plastic hammer.***
- ◆ ***Do not attempt to pull the bevel box onto the gearbox by force by tightening the securing bolts.***



- Insert bevel box and press onto gearbox as far as stop.



Note

If the splines are not aligned (and the bevel box can therefore not be pressed onto the gearbox), turn the stub shaft.

- If the splines are correctly positioned and the components are located centrally, the bevel box will slide against the gearbox onto the stop.
- Secure bevel box ⇒ [page 122](#) .
- Secure bracket for bevel box ⇒ [page 123](#) .
- Install pendulum support ⇒ Rep. gr. 10 ; Assembly mountings; Exploded view - assembly mountings .



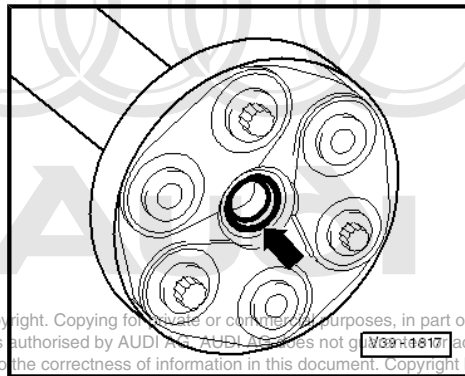
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Caution

Risk of damage to oil seal -arrow- in propshaft flange.

- ◆ **Press engine/gearbox assembly towards plenum chamber partition panel; at the same time carefully inserting guide pin on bevel box into propshaft flange.**



- Secure propshaft ⇒ Rep. gr. 39 ; Propshaft; Removing and installing propshaft .
- Install exhaust system and perform stress-free alignment ⇒ Rep. gr. 26 ; Exhaust pipes/silencers; Exploded view - silencers .
- Install drive shaft ⇒ Running gear, axles, steering; Rep. gr. 40 ; Drive shaft; Removing and installing drive shaft .
- Install wishbone and swivel joint ⇒ Running gear, axles, steering; Rep. gr. 40 ; Lower wishbone, swivel joint; Exploded view - lower wishbone, swivel joint .
- Install coupling rod ⇒ Running gear, axles, steering; Rep. gr. 40 ; Subframe; Exploded view - subframe .
- Install noise insulation ⇒ General body repairs, exterior; Rep. gr. 66 ; Noise insulation; Removing and installing noise insulation .
- Fit front wheel (right-side) ⇒ Running gear, axles, steering; Rep. gr. 44 ; Wheels, tyres .
- Check gear oil level in bevel box ⇒ [page 159](#) .

6.2.2 Tightening torques for bevel box

Bevel box to dual clutch gearbox - tightening torque

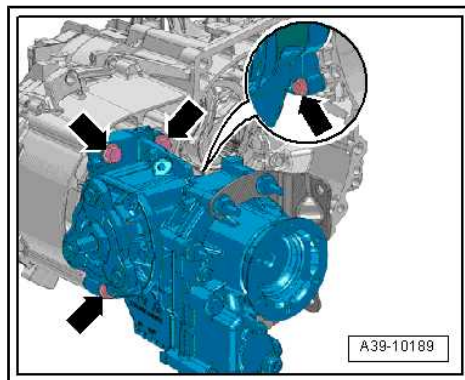


Note

Renew bolts which are tightened by turning through a specified angle.

- Tighten bolts in stages as follows:

Stage	Bolts	Tightening torque/angle specification
1.	-arrows-	Screw in by hand until contact is made
2.	-arrows-	40 Nm in diagonal sequence
3.	-arrows-	Turn 90° further in diagonal sequence



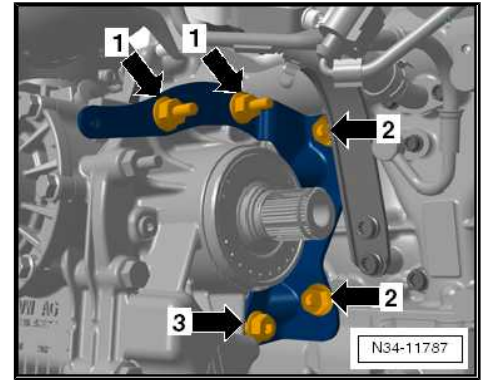
Bracket for bevel box for vehicles with 2.0 ltr. TFSI/TDI engine: tightening torque and sequence

– Install bolts as follows:

- 1 - M10x45
- 2 - M10x21
- 3 - M20x45

– Tighten bolts in stages as follows:

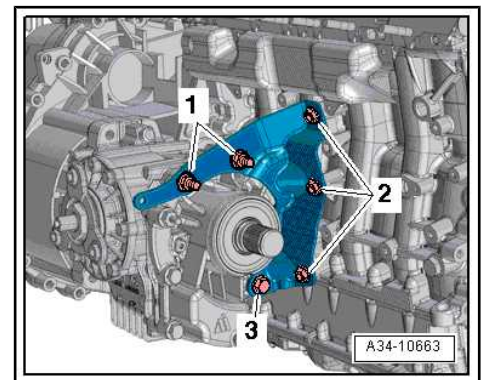
Stage	Bolts	Tightening torque
1.	-1, 3-	Screw in by hand until contact is made
2.	-2-	40 Nm
3.	-1, 3-	40 Nm



Bracket for bevel box for vehicles with 2.5 ltr. TFSI engine: tightening torque and sequence

– Tighten bolts in stages as follows:

Stage	Bolts	Tightening torque
1.	-1, 2, 3-	Screw in by hand until contact is made
2.	-2-	8 Nm
3.	-1, 3-	8 Nm
4.	-2-	40 Nm
5.	-1, 3-	40 Nm



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7

⇒ “7.1 Overview - gear oil circuit”, page 124

⇒ **“7.2 Removing and installing gear oil cooler”, page 124**

⇒ **“7.3 Removing and installing gear oil filter”, page 126**

7.1



Note

-Items 1 ... 10- and -18 ... 36- can be disregarded here.

- ## 11 - O-ring

- ☐
- Renew

- ## 12 - Gear oil cooler

- ❑ Removing and installing
⇒ [page 124](#)

- ### 13 - Bolt

- 15 Nm +60°

- ## 14 - Filter housing

- 50 Nm

- ### 15 - O-ring

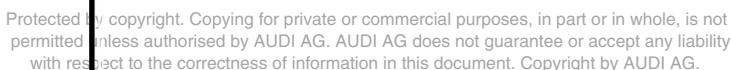
- ☐
- Renew

- ## 16 - Heat shield

- ## 17 - Gear oil filter

- Notes on oil and filter change $\Rightarrow$ page 7

- ❑ Removing and installing
⇒ [page 126](#)



N00-10809

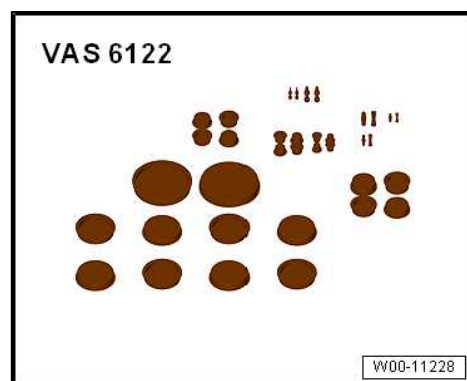
7.2

Special tools and workshop equipment required

- ◆ Hose clamps, up to 25 mm - 3094-



- ◆ Engine bung set - VAS 6122-



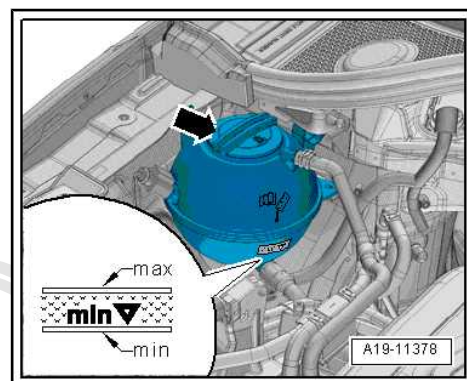
Removing



WARNING

Risk of scalding from hot steam and hot coolant.

- ◆ *The cooling system is under pressure when the engine is hot.*
- ◆ *Cover filler cap on expansion tank with a cloth and open carefully to release pressure.*



- Open filler cap -arrow- on expansion tank.
- Remove air cleaner housing ⇒ Rep. gr. 23 ; Air cleaner; Removing and installing air cleaner housing or ⇒ Rep. gr. 24 ; Air cleaner; Removing and installing air cleaner housing .

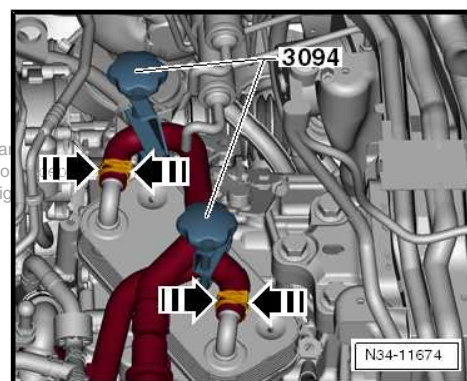


Note

Place a cloth on the gear oil cooler and gearbox to catch escaping coolant.

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- Clamp off coolant hoses leading to gear oil cooler using hose clamps -3094- . Then release hose clips -arrows- and disconnect hoses.
- Seal off open lines and connections with clean plugs from engine bung set - VAS 6122- .





Note

Place a cloth around the gear oil cooler to catch escaping gear oil.

- Remove bolts -arrows- and detach gear oil cooler -A-.

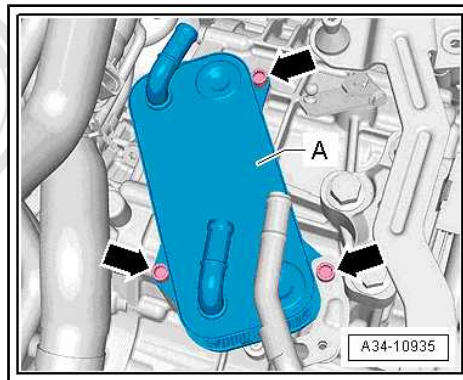


Caution

Risk of contamination of gear oil.

- ◆ **Do not allow coolant to drip into gearbox.**

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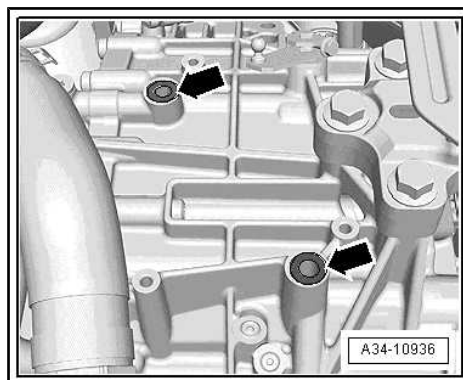
Installing

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

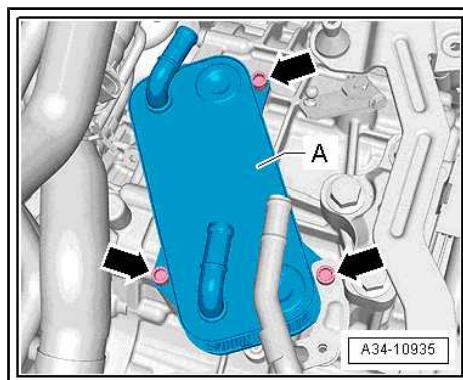


Note

- ◆ Renew O-rings -arrows-.
- ◆ If the sealing surface on the gear oil cooler is damaged, the gear oil cooler must be renewed.



- Carefully fit gear oil cooler -A-, paying attention to sealing surface and O-rings.
- Check gear oil level and top up as required ⇒ [page 140](#) .
- Install air cleaner housing ⇒ Rep. gr. 23 ; Air cleaner; Removing and installing air cleaner housing or ⇒ Rep. gr. 24 ; Air cleaner; Removing and installing air cleaner housing .
- Check coolant level ⇒ Rep. gr. 19 ; Cooling system/coolant; Draining and filling cooling system .



Tightening torques

- ◆ ⇒ [“7.1 Overview - gear oil circuit”, page 124](#)

7.3 Removing and installing gear oil filter

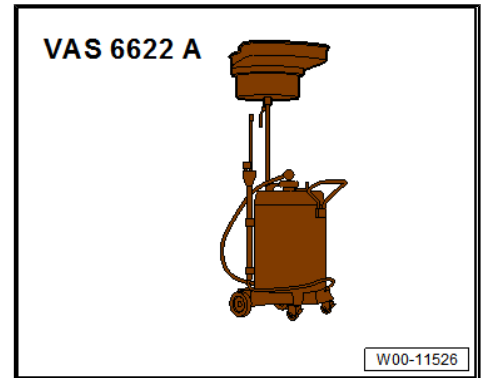


Note

- ◆ The gear oil filter does not normally have to be renewed.
- ◆ When does the gear oil filter have to be changed? ⇒ [page 7](#) .

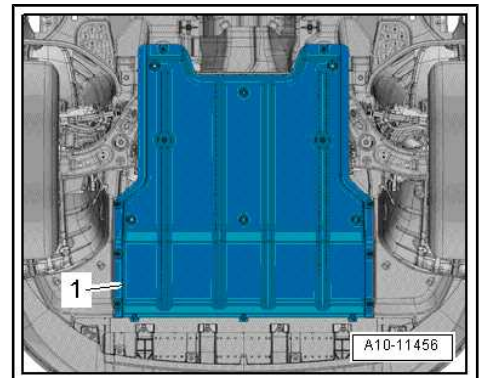
Special tools and workshop equipment required

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



Removing

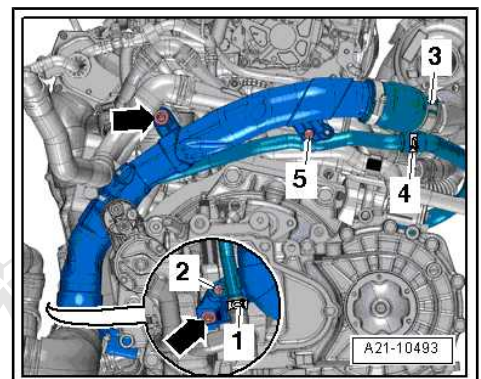
- Remove noise insulation -1- ⇒ General body repairs, exterior; Rep. gr. 66 ; Noise insulation; Removing and installing noise insulation .
- Remove air cleaner housing ⇒ Rep. gr. 23 ; Air cleaner; Removing and installing air cleaner housing or ⇒ Rep. gr. 24 ; Air cleaner; Removing and installing air cleaner housing .



Vehicles with TDI engine:

- Remove bolts -2, 5 and arrows-.
- Release hose clip -3- and detach air pipe (left-side) from below.

Continued for all vehicles:



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



Caution

Risk of contamination from gear oil.

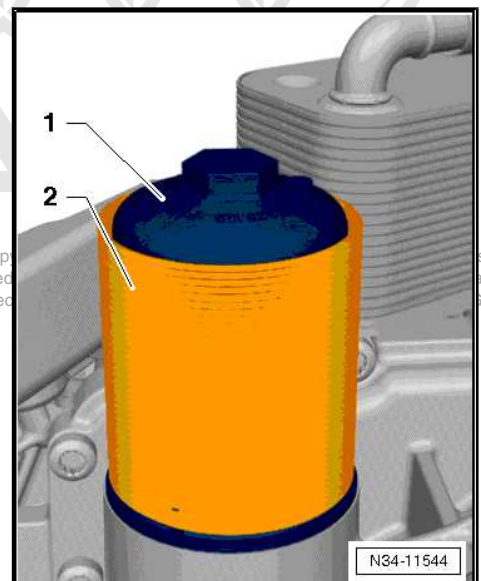
- ◆ *A large amount of gear oil escapes when the filter housing is unscrewed.*
- ◆ *Thoroughly clean off any oil that has spilled on gearbox.*

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- First unscrew filter housing -1- approx. 7 turns.
- Wait approx. 10 seconds.

This will enable the oil in the filter housing to drain back into the gearbox.

- Unscrew filter housing -1- and detach.
- Renew heat shield -2- if missing or damaged.



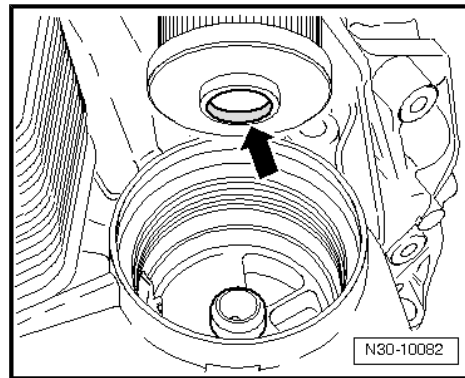
Installing

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

- Install gear oil filter with collar -arrow- facing downwards.
- Screw in and tighten filter housing.
- Install air cleaner housing ⇒ Rep. gr. 23 ; Air cleaner; Removing and installing air cleaner housing or ⇒ Rep. gr. 24 ; Air cleaner; Removing and installing air cleaner housing .
- Fill up gear oil ⇒ [page 140](#) .

Tightening torques

- ◆ ⇒ [“7.1 Overview - gear oil circuit”, page 124](#)



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8 Mechatronic unit

⇒ "8.1 Exploded view - mechatronic unit", page 129

⇒ "8.2 Removing and installing oil pan", page 130

⇒ "8.3 Removing and installing mechatronic unit", page 135

⇒ "8.4 Removing and installing gearbox input speed sender G182 / clutch temperature sender G509", page 138

8.1 Exploded view - mechatronic unit



-Items 1 ... 23- can be disregarded here.

24 - Seal

- ☐ Renew

25 - Oil drain plug

- ☐ For gear oil
- ☐ 20 Nm

26 - Overflow pipe

- ☐ 3 Nm



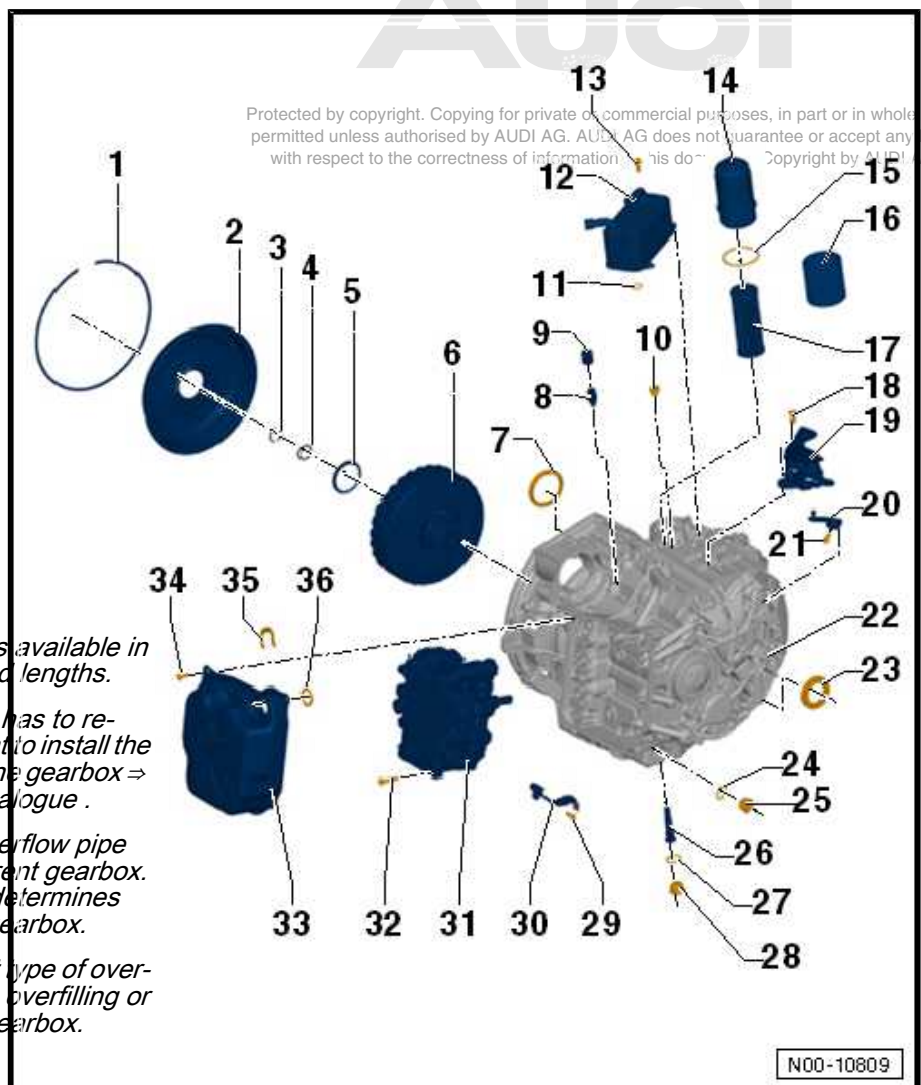
Caution

Keep exactly to specified torque.

The overflow pipe can break between the thread and the collar.



- ◆ The overflow pipe is available in different colours and lengths.
- ◆ If the overflow pipe has to be renewed it is important to install the correct version for the gearbox → *Electronic parts catalogue*.
- ◆ Do not install an overflow pipe intended for a different gearbox. The overflow pipe determines the oil level in the gearbox.
- ◆ Installing a different type of overflow pipe will cause overfilling or underfilling of the gearbox.



27 - Seal

- ☐ Renew

28 - Inspection plug

- ☐ For gear oil
- ☐ 45 Nm

29 - Bolt

- ☐ 10 Nm

30 - Gearbox input speed sender - G182- / clutch temperature sender - G509-

- ☐ Removing and installing ⇒ [page 138](#)

31 - Mechatronic unit for dual clutch gearbox - J743-

- ☐ Renew after removing
- ☐ Removing and installing ⇒ [page 135](#)

32 - Bolt

- ☐ 9x
- ☐ Renew
- ☐ Tightening torque and sequence ⇒ [page 130](#)

33 - Oil pan

- ☐ With gasket
- ☐ Renew
- ☐ Removing and installing ⇒ [page 130](#)

34 - Bolt

- ☐ Renew
- ☐ 8 Nm +60°

35 - Securing clip

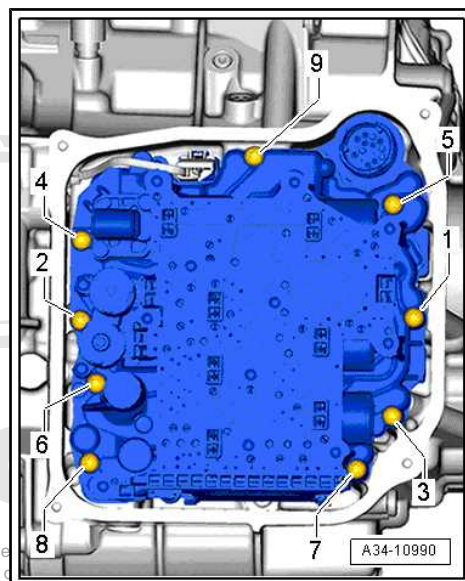
- ☐ Renew

36 - O-ring

Mechatronic unit for dual clutch gearbox - J743- : tightening torque and sequence

- The mechatronic unit must not be re-installed after removal as there is a risk of leaks.
- The bolts must be renewed.
- Tighten bolts in 3 stages in the sequence shown:

Stage	Bolts	Tightening torque/angle specification
1.	-1 ... 9-	Screw in by hand until contact is made
2.	-1 ... 9-	8 Nm
3.	-1 ... 9-	Turn 45° further

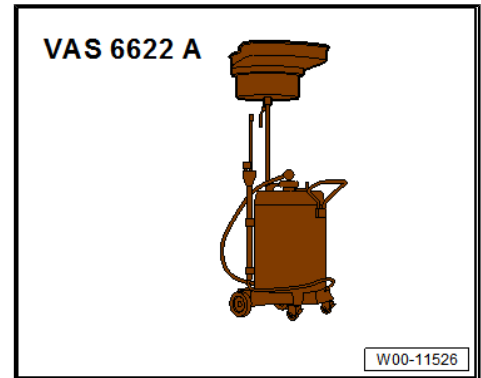


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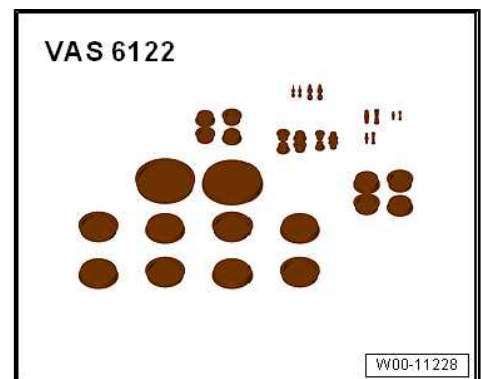
8.2 Removing and installing oil pan

Special tools and workshop equipment required

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



- ◆ Engine bung set - VAS 6122-



Removing



Caution

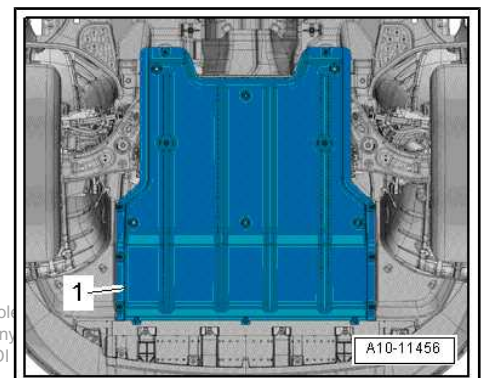
Risk of damage to the gearbox.

- ◆ *Do not run the engine or tow the vehicle with the oil pan removed or when there is no gear oil in the gearbox.*



Note

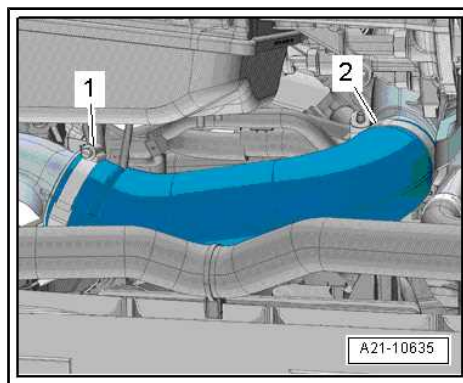
- ◆ Please refer to ⇒ ["4 Repair instructions", page 7](#).
- ◆ Please refer to ⇒ ["4.2 Rules for cleanliness", page 8](#).
- Remove noise insulation -1- ⇒ General body repairs, exterior; Rep. gr. 66 ; Noise insulation; Removing and installing noise insulation .
- Remove wheel spoiler (front left) ⇒ General body repairs, exterior; Rep. gr. 66 ; Wheel housing liners; Exploded view - wheel housing liner (front) .



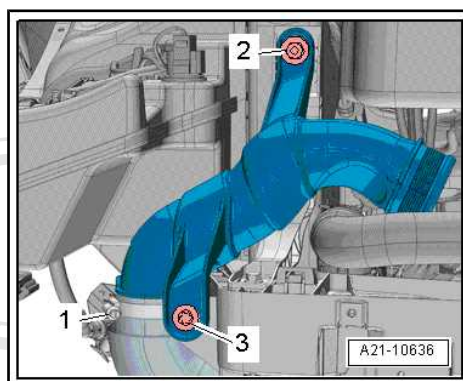
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Vehicles with 2.0 ltr. TFSI/TDI engine:

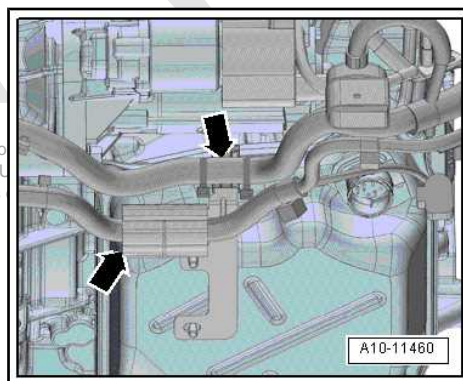
- Release hose clips -1- and -2- and remove air hose.
- Seal off open lines and connections with clean plugs from engine bung set - VAS 6122- .



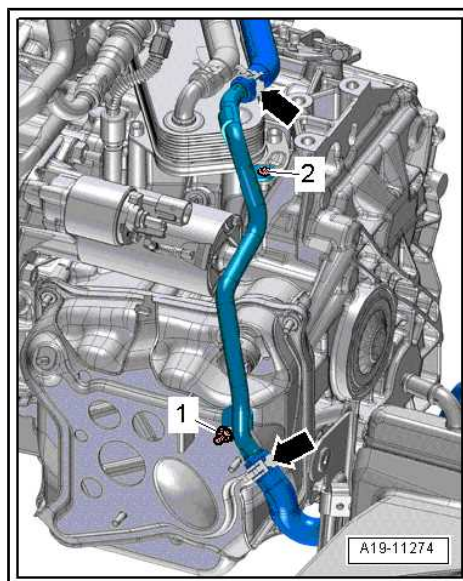
- Remove nut -2- and bolt -3-.
- Release hose clip -1- and detach air pipe.
- Seal off open lines and connections with clean plugs from engine bung set - VAS 6122- .



- Move electrical wiring harnesses clear -arrows-.


Vehicles with 2.5 ltr. TFSI engine:

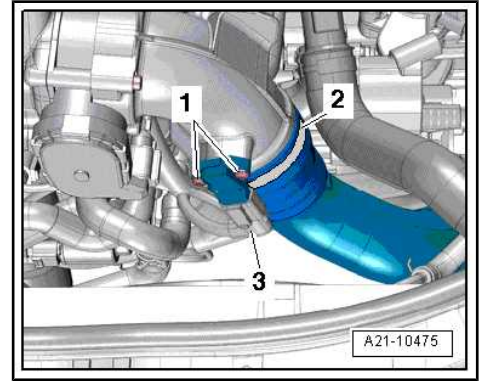
- Remove nut -1- and bolt -2- and push coolant pipe on gearbox slightly to one side.


Note
Disregard -arrows-.


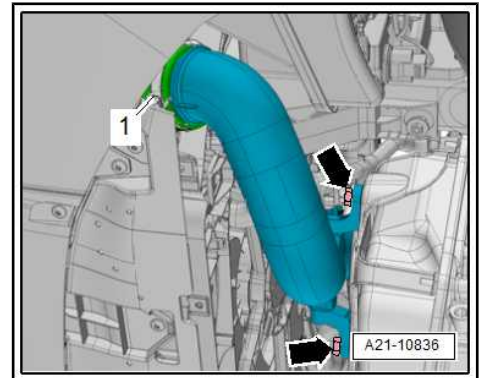
- Release hose clip -2- securing air pipe.



Disregard items -1 and 3-.



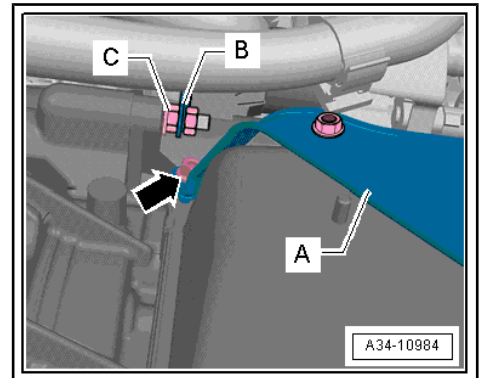
- Remove nuts -arrows-.
- Release hose clip -1- and detach air pipe.



- Detach electrical wiring from bracket -A- at front of gearbox.
- Remove nuts -arrow- from bolts for oil pan and remove bracket -A-.



-Items B and C- can be disregarded.



Continued for all vehicles:

- Drain off gear oil ⇒ [page 146](#) .



Caution

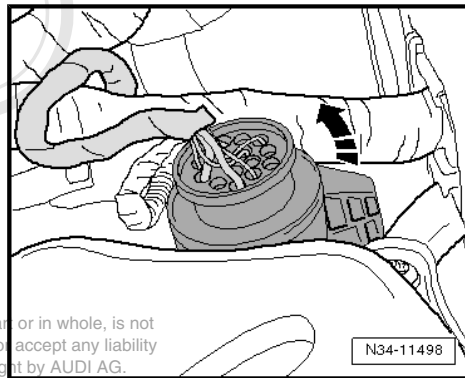
Mechatronic unit for dual clutch gearbox - J743- can be irreparably damaged by electrostatic discharge.

- ◆ ***Do not touch contact pins in connector for mechatronic unit for dual clutch gearbox - J743- with bare hands.***

- Touch an earthed metal object, such as a heater radiator or lifting platform with your hand (without gloves) to discharge static electricity.



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



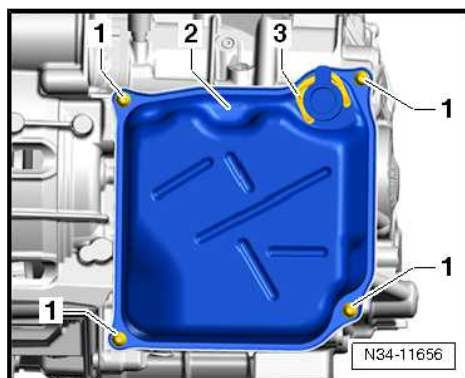
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- Place used oil collection and extraction unit - VAS 6622- below gearbox.
- Remove securing clip -3-.
- Loosen bolts -1- in diagonal sequence and remove.
- Detach oil pan -2- (if necessary, knock oil pan loose by striking lightly with a rubber-headed hammer).



Note

Allow remaining gear oil in oil pan to drain off into used oil collection and extraction unit - VAS 6622- .



Installing

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



Note

Renew oil pan, bolts for oil pan and securing clip.

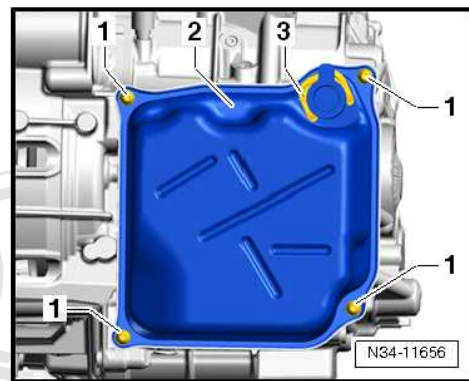
- Clean sealing surfaces on gearbox housing; they must be free from oil and grease.
- Lightly lubricate O-ring on connector for mechatronic unit for dual clutch gearbox - J743- with gear oil.

- Fit new oil pan -2- and tighten new bolts -1- in diagonal sequence and in several stages.

 Note

Make sure no electrical wiring is trapped when fitting oil pan.

- Install new securing clip -3-.
- Angled side of securing clip faces gearbox.
- Plug in connector for mechatronic unit on gearbox and lock connector.
- Install air pipes and air hoses ⇒ Rep. gr. 21 ; Charge air system; Exploded view - charge air system .
- Install wheel spoiler (front left) ⇒ General body repairs, exterior; Rep. gr. 66 ; Wheel housing liners; Exploded view - wheel housing liner (front) .
- Fill up with gear oil ⇒ [page 146](#) and check gear oil level ⇒ [page 140](#) .



Tightening torques

- ◆ ⇒ [“8.1 Exploded view - mechatronic unit”, page 129](#)

8.3 Removing and installing mechatronic unit

Removing



Caution

Risk of damage to the gearbox.

- ◆ *Do not run the engine or tow the vehicle with the oil pan removed or when there is no gear oil in the gearbox.*



Note

- ◆ Please refer to ⇒ [“4 Repair instructions”, page 7](#) .
- ◆ Please refer to ⇒ [“4.2 Rules for cleanliness”, page 8](#) .
- Remove oil pan ⇒ [page 130](#) .



Caution

The mechatronic unit can be irreparably damaged by electrostatic discharge.

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

- Touch an earthed metal object, such as a heater radiator or lifting platform with your hand (without gloves) to discharge static electricity.



Caution

The electrical wiring can be damaged.

- ◆ *Do not pull on the electrical wiring.*
- ◆ *Work very carefully and do not use force. The catch on connector -2- can break off. If this happens, the mechatronic unit for dual clutch gearbox - J743- must be renewed.*

- Using a small screwdriver, carefully release connector -1- for gearbox input speed sender - G182- and clutch temperature sender - G509- and unplug connector.



Note

-G182- and -G509- will have to be renewed if the electrical wiring is damaged.

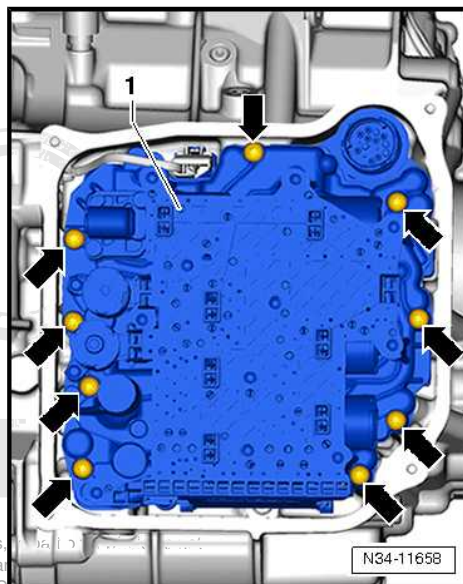
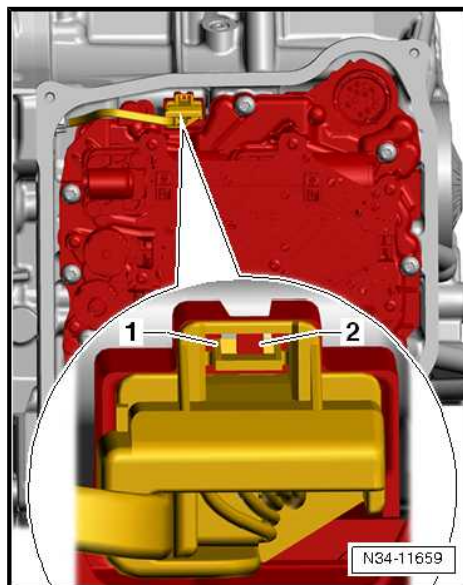
- Loosen bolts -arrows- in diagonal sequence and remove.
- Carefully detach mechatronic unit -1-.



Caution

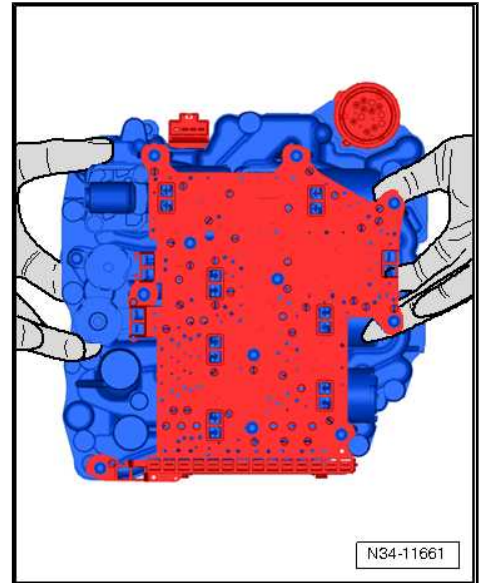
The mechatronic unit can be damaged.

- *When handling the mechatronic unit only take hold of the housing and the solenoid valves; put it down on the housing and the solenoid valves.*



Handling mechatronic unit

- Take out mechatronic unit for dual clutch gearbox - J743- .



Putting down the mechatronic unit correctly

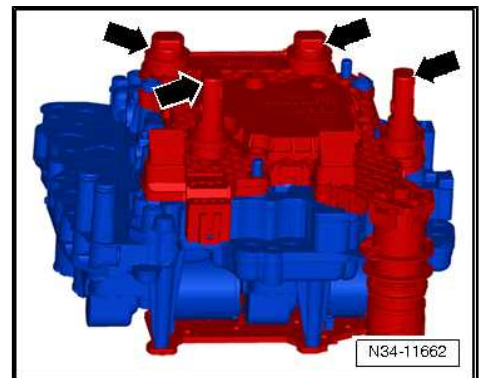
- Put down the mechatronic unit so that the sensors -arrows- face upwards.

Installing

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



Renew bolts for mechatronic unit for dual clutch gearbox - J743- .



Caution

The mechatronic unit can be damaged.

- *When handling the mechatronic unit only take hold of the housing and the solenoid valves; put it down on the housing and the solenoid valves.*

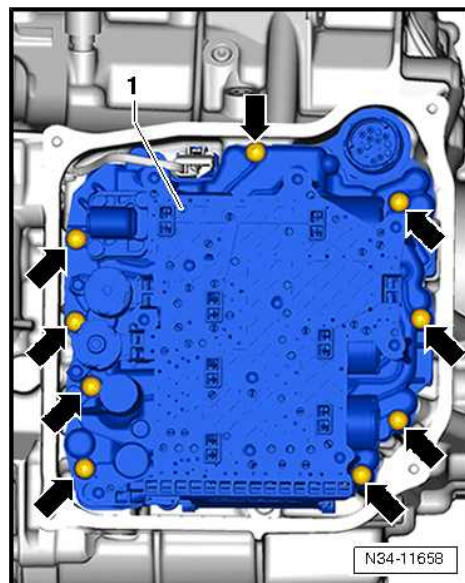
The mechatronic unit can be irreparably damaged by electrostatic discharge.

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

- Before touching the mechatronic unit, touch an earthed metal object, such as a heater radiator or lifting platform with your hand (without gloves) to discharge static electricity.

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- Carefully fit mechatronic unit -1- into gearbox.
- The electrical wiring for -G182- and -G509- must not become trapped.
- Tighten bolts -arrows- for mechatronic unit for dual clutch gearbox - J743- ➔ [page 130](#) .

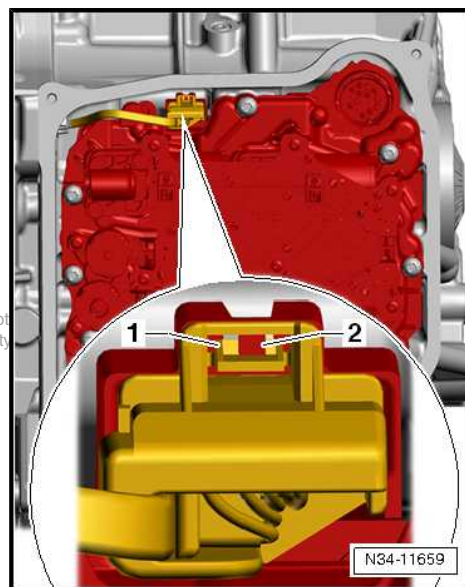


Caution

There is a risk of damage to the catch on the connector.

- *Work very carefully and do not use force. The catch on connector -2- can break off. If this should happen, the connector will not be secure and the mechatronic unit for dual clutch gearbox - J743- must be renewed.*

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- Plug in and lock connector 1- on -G182- and -G509-.
 - Then check that catch -2- is not damaged.
 - Install oil pan ➔ [page 130](#) .
 - Fill up with gear oil ➔ [page 146](#) and check gear oil level ➔ [page 140](#) .
 - Perform Basic setting ➔ Vehicle diagnostic tester.



Tightening torques

- ♦ ➔ ["8.1 Exploded view - mechatronic unit", page 129](#)

8.4 Removing and installing gearbox input speed sender - G182- / clutch temperature sender - G509-

Removing



Caution

Risk of damage to the gearbox.

- ♦ *Do not run the engine or tow the vehicle with the oil pan removed or when there is no gear oil in the gearbox.*



Note

- ◆ Please refer to ⇒ [“4 Repair instructions”, page 7](#).
- ◆ Please refer to ⇒ [“4.2 Rules for cleanliness”, page 8](#).

- Remove oil pan ⇒ [page 130](#).
- Remove mechatronic unit for dual clutch gearbox - J743-
⇒ [page 135](#).



Caution

The electrical wiring can be damaged.

- ◆ *Do not pull on the electrical wiring.*

- Remove bolt -2- and pull out sender -1-.

Installing

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

The old sender should only be re-installed if:

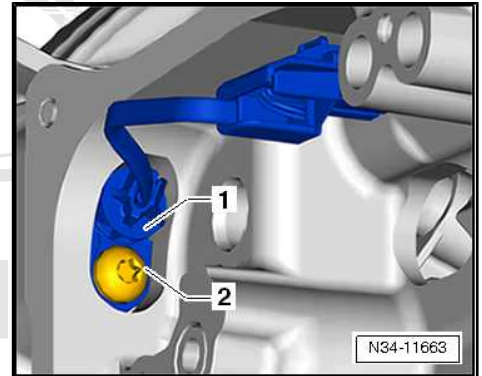
- The sender is in proper working condition.
- The wire was not pulled when removing the sender.

Otherwise install a new sender.

- Lightly lubricate gearbox input speed sender - G182- / clutch temperature sender - G509- with gear oil before installing.
- Install mechatronic unit for dual clutch gearbox - J743-
⇒ [page 135](#).
- Install oil pan ⇒ [page 130](#).
- Fill up with gear oil ⇒ [page 146](#) and check gear oil level
⇒ [page 140](#).
- Perform [Basic setting](#) ⇒ Vehicle diagnostic tester.

Tightening torques

- ◆ ⇒ [“8.1 Exploded view - mechatronic unit”, page 129](#)



9 Gear oil

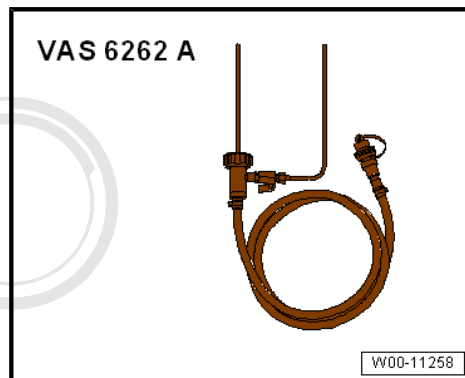
⇒ "9.1 Checking gear oil level", page 140

⇒ "9.2 Draining and filling gear oil", page 146

9.1 Checking gear oil level

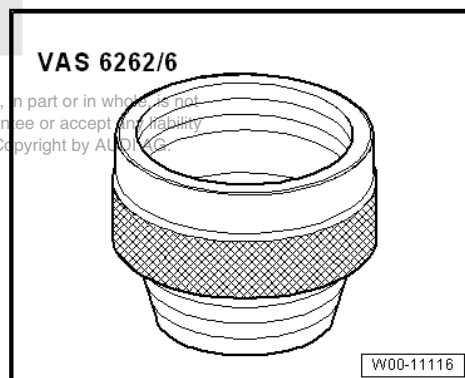
Special tools and workshop equipment required

- ◆ Adapter for oil filling - VAS 6262 A-

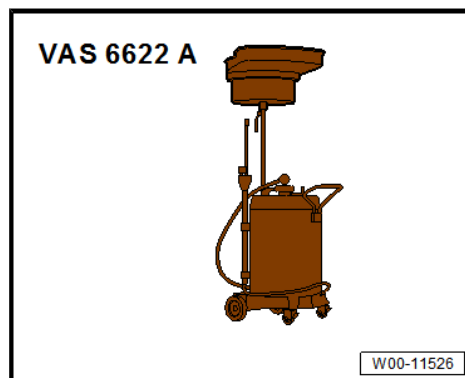


- ◆ If necessary, adapter - VAS 6262/6-

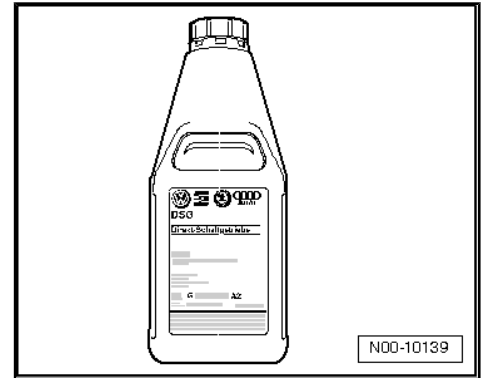
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- ◆ Used oil collection and extraction unit - VAS 6622A-



- ◆ 1 litre ATF container (genuine replacement part). gear oil for dual clutch gearbox; for part number refer to ⇒ Electronic parts catalogue .



- ◆ Vehicle diagnostic tester
- ◆ Safety goggles
- ◆ Protective gloves (acid resistant)

Measure length of breather pipe on adapter for oil filling - VAS 6262 A- and shorten if necessary.

To ensure that breather pipe of adapter for oil filling -VAS 6262 A- does not make contact with bottom of oil container, breather pipe must be shortened to dimension -a-.

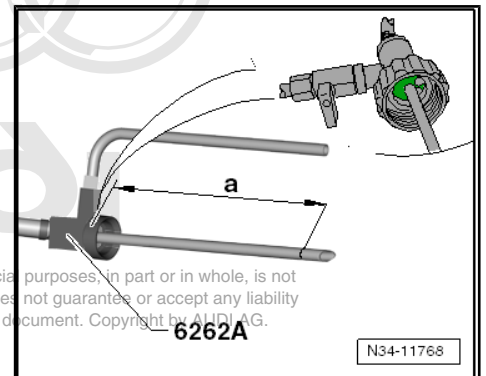
- Dimension -a- = 210 mm



Note

Dimension -a- is measured from stem (green area in magnified view) of adapter for oil filling -VAS 6262 A- .

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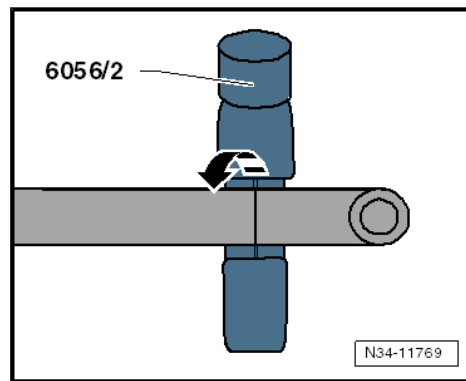
- Mark length on breather pipe and shorten breather pipe using pipe cutter -6056/2- .
- Clean adapter for oil filling - VAS 6262 A- .

Procedure



Note

- ◆ Please refer to ⇒ *"4 Repair instructions", page 7* .
- ◆ Please refer to ⇒ *"4.2 Rules for cleanliness", page 8* .
- ◆ Please refer to general notes on "Environmental and waste disposal regulations for oil" ⇒ *page 8* .



WARNING

Risk of injury.

- ◆ *Put on safety goggles.*
- ◆ *Wear protective gloves (acid resistant).*
- ◆ *When working close to the radiator maintain a safe distance from the fan - fan may switch on automatically.*

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

- ◆ *Prior to performing work with engine running, move selector lever to position "P" and pull up parking brake button to apply the electromechanical parking brake.*



Caution

Risk of damage to gearbox

- ◆ *The engine must NOT be started if there is only little or no oil left in the gearbox after repair work or after excessive loss of oil.*
- ◆ *After repair work or after excessive loss of oil, put in a suitable amount of gear oil before proceeding.*
- ◆ *Use only the gear oil available as a replacement part for the 7-speed dual clutch gearbox 0BH; refer to ⇒ *Electronic parts catalogue* .*
- ◆ *Other types of oil cause malfunctions and/or failure of the gearbox.*
- ◆ *The adapter for oil filling - VAS 6262 A- must be clean; the gear oil must not be mixed with any other types of oil.*



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- Measure length of breather pipe on adapter for oil filling - VAS 6262 A- and shorten if necessary ⇒ [page 141](#) .

Test conditions

- Gearbox not in backup mode (emergency running mode)
- Vehicle must be absolutely horizontal (on a four-pillar lifting platform or over an inspection pit).
- Selector lever is in position “P”.
- Parking brake button must be pulled up to apply the electro-mechanical parking brake.
- Extraction hoses of an exhaust gas extractor connected and extractor switched on.
- Engine idling.
- Air conditioner and heating switched off.

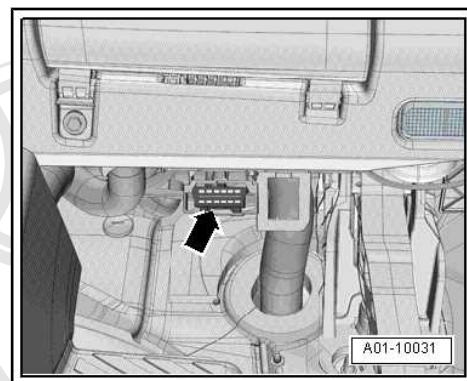
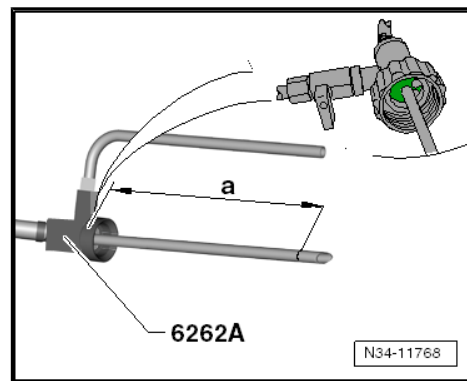
Reading off gear oil temperature



Note

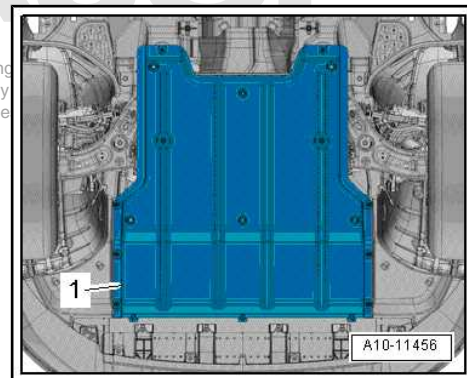
- ◆ *The gear oil level varies according to the oil temperature: if the oil temperature is too low, this will result in overfilling; if it is too high this will result in underfilling.*
- ◆ *An incorrect gear oil level will impair the function of the gearbox.*
- ◆ *The gearbox oil temperature at the beginning of the test must not be higher than 30° C. If necessary, allow the gearbox to cool down before testing.*
- ◆ *Test temperature: 35 - 45 °C*

- Connect vehicle diagnostic tester -arrow- and identify vehicle in Guided Functions.
- Select 02 - Gearbox electronics.
- Select 02 - Read measured values.
- Read off measurement for gearbox oil temperature.
- Specification at commencement of test: Not higher than 30 ° C, otherwise allow gearbox to cool down.

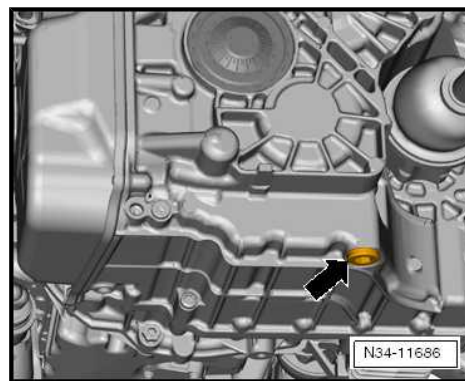


Checking gear oil level

- Remove noise insulation -1- ⇒ General body repairs, exterior; Copying Rep. gr. 66 ; Noise insulation; Removing and installing noise insulation .
- Place used oil collection and extraction unit - VAS 6622A- below gearbox.



- Engine running at idling speed and selector lever in "P".
- Unscrew inspection plug -arrow-.



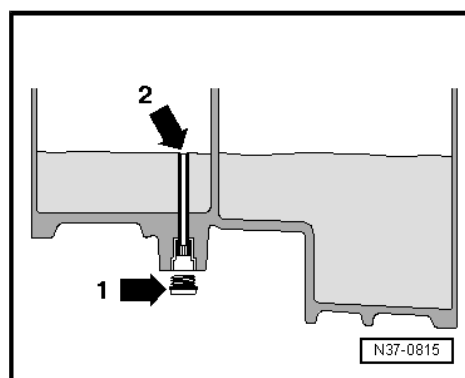
- The gear oil that has collected in the overflow pipe -arrow 2- will drain off first.



Note

Regardless of the gear oil level itself, a certain amount of gear oil will always drain off when inspection plug -arrow 1- is opened.

- Check that overflow pipe is securely screwed into inspection plug opening.



Note

The gear oil level cannot be checked reliably if the overflow pipe is loose.

- The gear oil level is correct if a small amount of oil drains out when the oil temperature is between 35 and 45 °C (the oil level rises as the oil temperature continues to increase).



Note

- ♦ *Every 30 seconds a small surge of oil will come out of the overflow pipe, regardless of the oil level (this is caused by the intermittent supply of cooling oil to the multiple clutch). This surge of oil is not relevant when checking the gear oil level and can be disregarded.*

- ♦ *Do not re-use drained-off gear oil.*

- If gear oil level is OK, carry out final steps ➔ [page 145](#) .

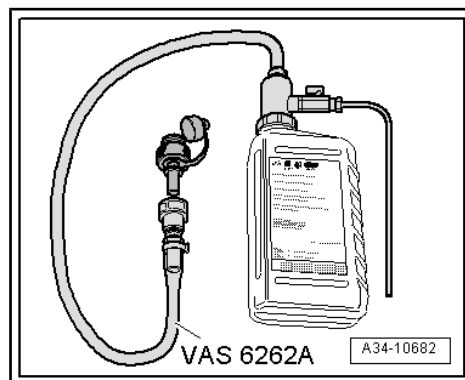
Filling up with gear oil

- If no gear oil drains out when the oil temperature is between 35°C and 45°C, top up gear oil as follows.
- Shake container before opening.
- Screw container of dual clutch gearbox oil onto adapter for oil filling - VAS 6262 A- .

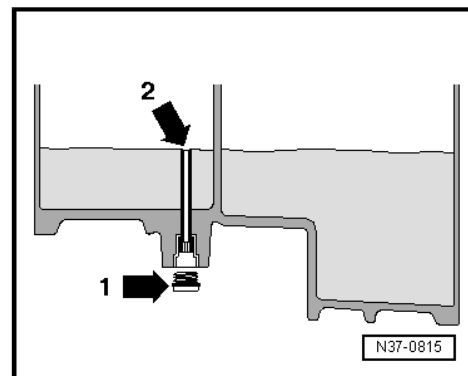


Note

If thread on container does not fit onto adapter for oil filling - VAS 6262 A- , use adapter - VAS 6262/6- .



- Screw adapter for oil filling - VAS 6262 A- hand-tight into opening for inspection plug.
- Hold container with adapter for oil filling - VAS 6262 A- as high as possible over dual clutch gearbox and let gear oil run into gearbox.
- To check whether enough oil has run into dual clutch gearbox, detach quick-release coupling on adapter for oil filling - VAS 6262 A- at regular intervals and plug the connection with a finger or a clean plug.
- The gear oil that has collected in the overflow pipe -arrow 2- will drain off first.



Note

Regardless of the gear oil level, a certain amount of gear oil will always drain off.

- The gear oil level is correct if a small amount of oil drains out when the oil temperature is between 35 and 45 °C (the oil level rises as the oil temperature continues to increase).



Note

- ◆ *Every 30 seconds a small surge of oil will come out of the overflow pipe, regardless of the oil level (this is caused by the intermittent supply of cooling oil to the multiple clutch). This surge of oil is not relevant when checking the gear oil level and can be disregarded.*
- ◆ *Do not re-use drained-off gear oil.*
- ◆ *Check the gear oil temperature on the vehicle diagnostic tester while filling the gearbox with oil. Stop filling and allow the gearbox to cool down if the temperature exceeds 45 °C.*
- If gear oil level is OK, carry out final steps ➔ [page 145](#) .

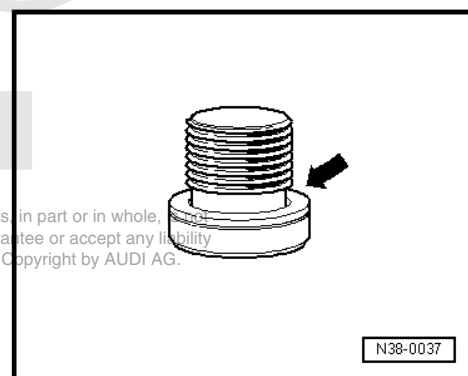
Final steps



Note

Renew seal -arrow- for inspection plug.

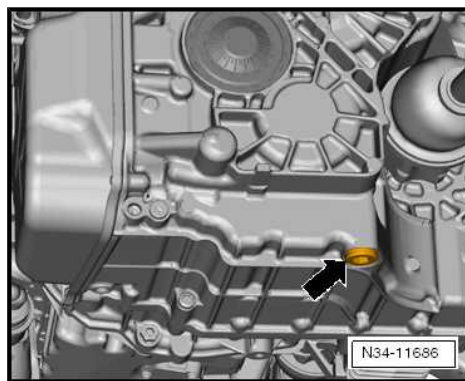
- Unscrew adapter for oil filling - VAS 6262 A- from gearbox.



- Tighten inspection plug -arrow-.
- Switch off ignition and unplug diagnostic connector.

Tightening torques

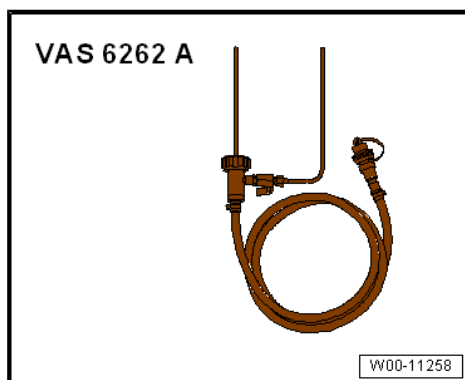
- ◆ ⇒ ["8.1 Exploded view - mechatronic unit", page 129](#)
- ◆ ⇒ General body repairs, exterior; Rep. gr. 66 ; Noise insulation; Exploded view - noise insulation



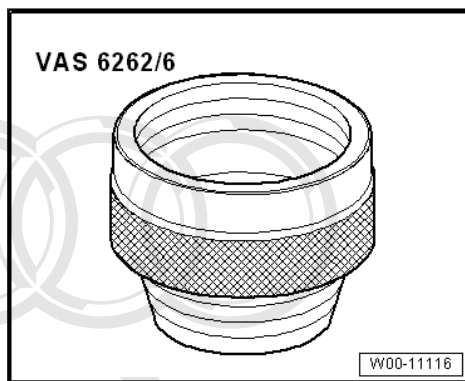
9.2 Draining and filling gear oil

Special tools and workshop equipment required

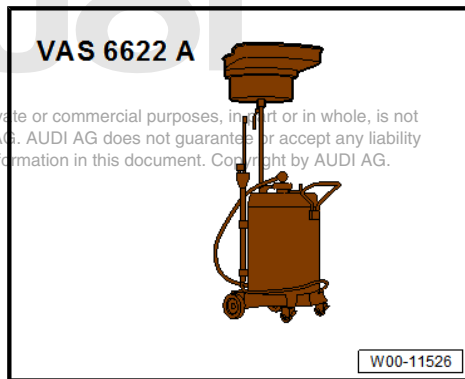
- ◆ Adapter for oil filling - VAS 6262 A-



- ◆ If necessary, adapter - VAS 6262/6-

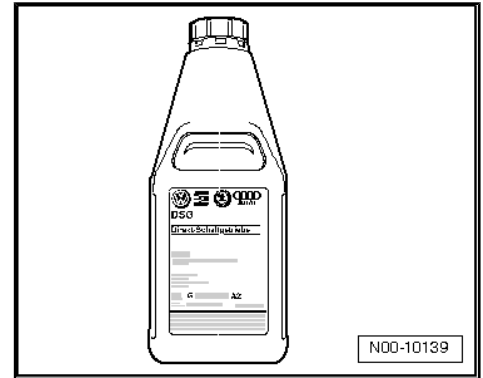


- ◆ Used oil collection and extraction unit - VAS 6622A-



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- ◆ 1 litre ATF container (genuine replacement part). gear oil for dual clutch gearbox; for part number refer to ⇒ Electronic parts catalogue .



- ◆ Safety goggles
- ◆ Protective gloves (acid resistant)

Procedure



Note

- ◆ Please refer to ⇒ ["4 Repair instructions", page 7](#) .
- ◆ Please refer to ⇒ ["4.2 Rules for cleanliness", page 8](#) .
- ◆ Please refer to general notes on "Environmental and waste disposal regulations for oil" ⇒ [page 8](#) .



WARNING

Risk of injury.

- ◆ *Put on safety goggles.*
- ◆ *Wear protective gloves (acid resistant).*
- ◆ *When working close to the radiator maintain a safe distance from the fan - fan may switch on automatically.*

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

- ◆ *Prior to performing work with engine running, move selector lever to position "P" and pull up parking brake button to apply the electromechanical parking brake.*

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Caution

Risk of damage to gearbox

- ◆ **The engine must NOT be started if there is only little or no oil left in the gearbox after repair work or after excessive loss of oil.**
- ◆ **After repair work or after excessive loss of oil, put in a suitable amount of gear oil before proceeding.**
- ◆ **Use only the gear oil available as a replacement part for the 7-speed dual clutch gearbox 0BH; refer to ➔ Electronic parts catalogue .**
- ◆ **Other types of oil cause malfunctions and/or failure of the gearbox.**
- ◆ **The adapter for oil filling - VAS 6262 A- must be clean; the gear oil must not be mixed with any other types of oil.**

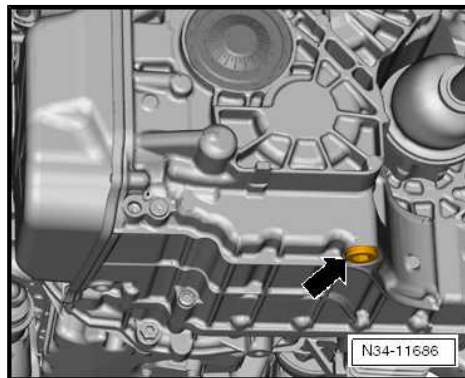
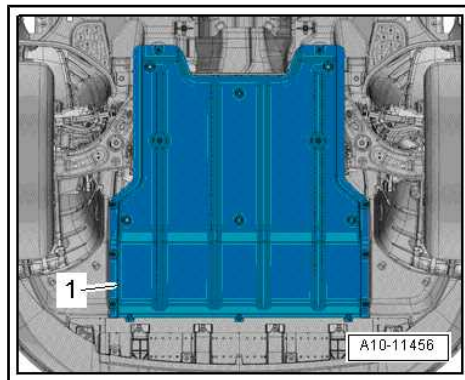
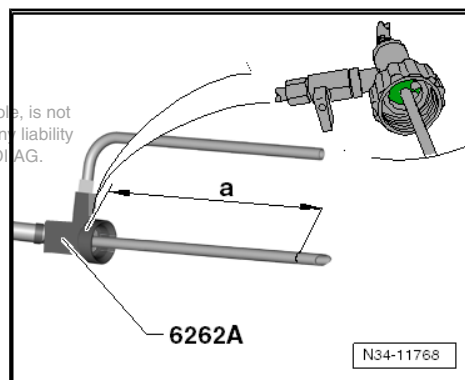
- Measure length of breather pipe on adapter for oil filling - VAS 6262 A- and shorten if necessary ➔ [page 141](#) .

Test conditions

- Gearbox not in backup mode (emergency running mode)
- Vehicle must be absolutely horizontal (on a four-pillar lifting platform or over an inspection pit).
- Selector lever is in position "P".
- Parking brake button must be pulled up to apply the electro-mechanical parking brake.
- Engine not running.

Draining off gear oil

- Remove noise insulation -1- ➔ General body repairs, exterior; Rep. gr. 66 ; Noise insulation; Removing and installing noise insulation .
- Place used oil collection and extraction unit - VAS 6622- below gearbox.
- Unscrew inspection plug -arrow-.
- The gear oil that has collected in the overflow pipe will drain off first.
- Unscrew overflow pipe and allow gear oil to drain.

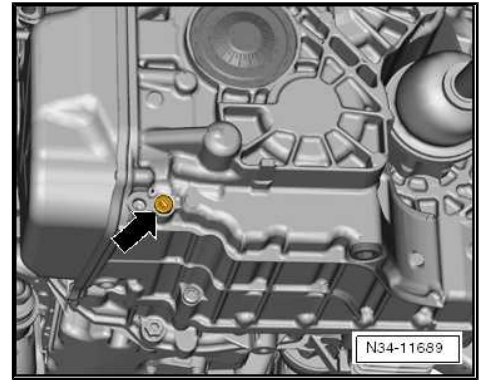


- Unscrew oil drain plug -arrow- from mechatronic unit.



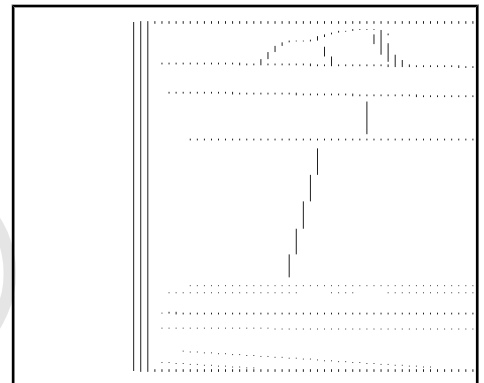
Note

- ◆ *Use a suitable strip of metal or similar to catch the gear oil as it comes out and allow it to run into the used oil collection and extraction unit .*
- ◆ *Approx. 1.2 ltr. of oil will now drain out.*
- Fit new seal on oil drain plug of mechatronic unit and tighten plug.



Filling up with gear oil

- Screw in overflow pipe -arrow- again as far as stop and tighten.



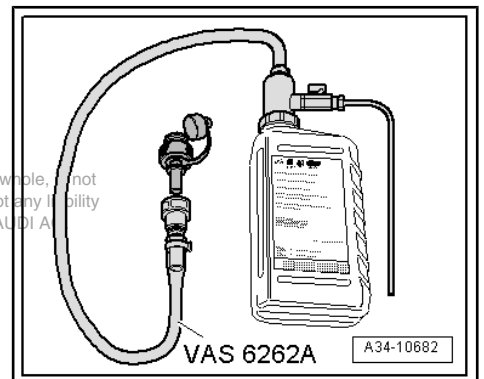
- Shake container before opening.
- Screw container of gear oil for dual clutch gearbox onto adapter for oil filling - VAS 6262 A- .



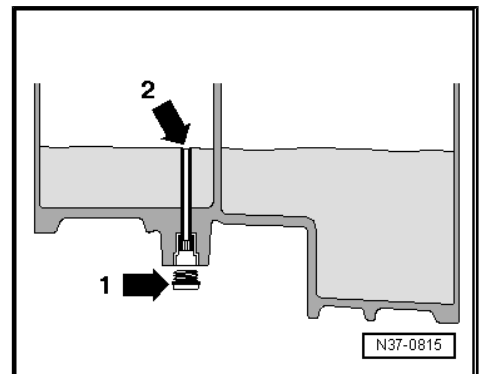
Note

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If thread on container does not fit onto adapter for oil filling - VAS 6262 A- , use adapter - VAS 6262/6- .



- Screw adapter for oil filling - VAS 6262 A- hand-tight into opening for inspection plug.
- Hold container with adapter for oil filling - VAS 6262 A- as high as possible over dual clutch gearbox and let 5.5 ltr. gear oil run into gearbox.
- Start engine and run at idling speed.
- Depress brake pedal and select all gear positions "P, R, N, D/ S" one after the other at idling speed, maintaining each position for at least 3 seconds.
- Move selector lever to position "P".
- Do not switch off engine
- Check gearbox oil level and top up if necessary ➔ [page 140](#) .



Tightening torques

- ◆ ➔ ["8.1 Exploded view - mechatronic unit", page 129](#)
- ◆ ➔ General body repairs, exterior; Rep. gr. 66 ; Noise insulation; Exploded view - noise insulation



35 – Gears, shafts

1 Dismantling and assembling gears and shafts

At present there is no provision for dismantling and assembling gears and shafts.



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39 – Final drive - differential

1 Gearbox control system

⇒ [“1.1 Overview of fitting locations - gearbox control system”, page 151](#)

⇒ [“1.2 Overview of fitting locations - mechatronic unit senders”, page 152](#)

1.1 Overview of fitting locations - gearbox control system

1 - Brake light switch - F- / brake pedal switch - F63-

- ☐ On brake master cylinder
- ☐ Exploded view ⇒ Rep. gr. 47 ; Brake servo/brake master cylinder; Exploded view - brake servo/brake master cylinder

2 - Mechatronic unit for dual clutch gearbox - J743-

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- ☐ Bolted onto front of gearbox housing
- ☐ Exploded view ⇒ [page 129](#)
- ☐ ⇒ [“1.2 Overview of fitting locations - mechatronic unit senders”, page 152](#)

3 - Gearbox input speed sender - G182- / clutch temperature sender - G509-

- ☐ Bolted onto gearbox housing
- ☐ Exploded view ⇒ [page 129](#)

4 - Selector lever - E313-

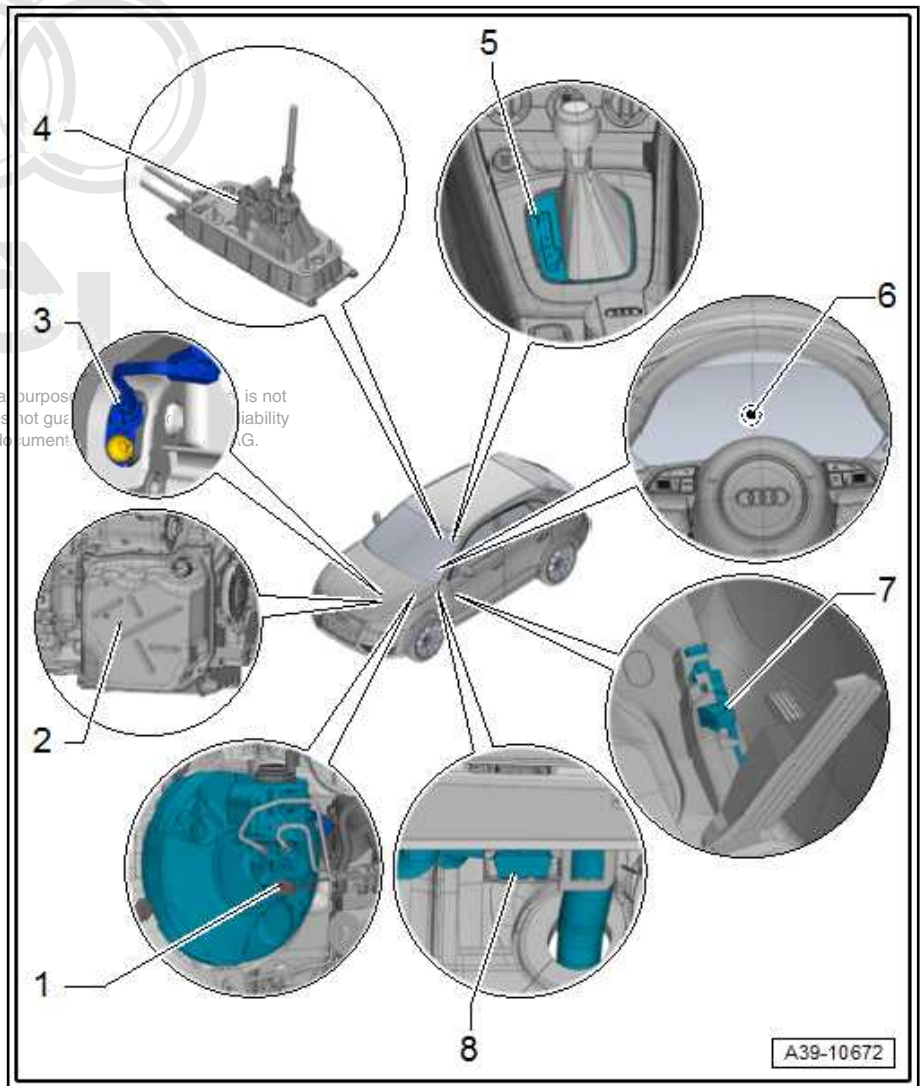
- ☐ With selector lever sensors control unit - J587- , selector lever lock solenoid - N110- and selector lever locked in position P switch - F319-
- ☐ The components are integrated in the printed circuit of the shift unit; they cannot be renewed separately
- ☐ Removing and installing selector mechanism ⇒ [page 39](#)

5 - Selector lever position display - Y26-

- ☐ In centre console insert
- ☐ Overview of fitting locations ⇒ Electrical system; Rep. gr. 96 ; Lights; Overview of fitting locations - lights in centre console

6 - Selector lever position display - Y6-

- ☐ Integrated into dash panel insert



- ☐ If the selector lever position display flashes or lights up, please refer to safety functions of gearbox control unit ➔ [page 10](#)
- ☐ Cannot be renewed individually
- ☐ Exploded view of dash panel insert ➔ Electrical system; Rep. gr. 90 ; Dash panel insert; Exploded view - dash panel insert

7 - Kick-down switch

- ☐ An adapted value from accelerator position sender - G79- / accelerator position sender 2 - G185- (integrated in accelerator pedal module) is stored in the engine control unit as the kickdown signal
- ☐ Signal transmission from engine control unit to gearbox control unit via CAN bus
- ☐ Exploded view ➔ Rep. gr. 20 ; Accelerator mechanism; Exploded view - accelerator pedal module

8 - Diagnostic connection

- ☐ For vehicle diagnostic tester
- ☐ In footwell on driver's side
- ☐ Testing all components listed ➔ Vehicle diagnostic tester, [Guided Fault Finding](#)

1.2 Overview of fitting locations - mechatronic unit senders

A - Gear selector movement sensor 4 - G490- for reverse gear and 4th gear

B - Gear selector movement sensor 1 - G487- for 5th and 1st gear

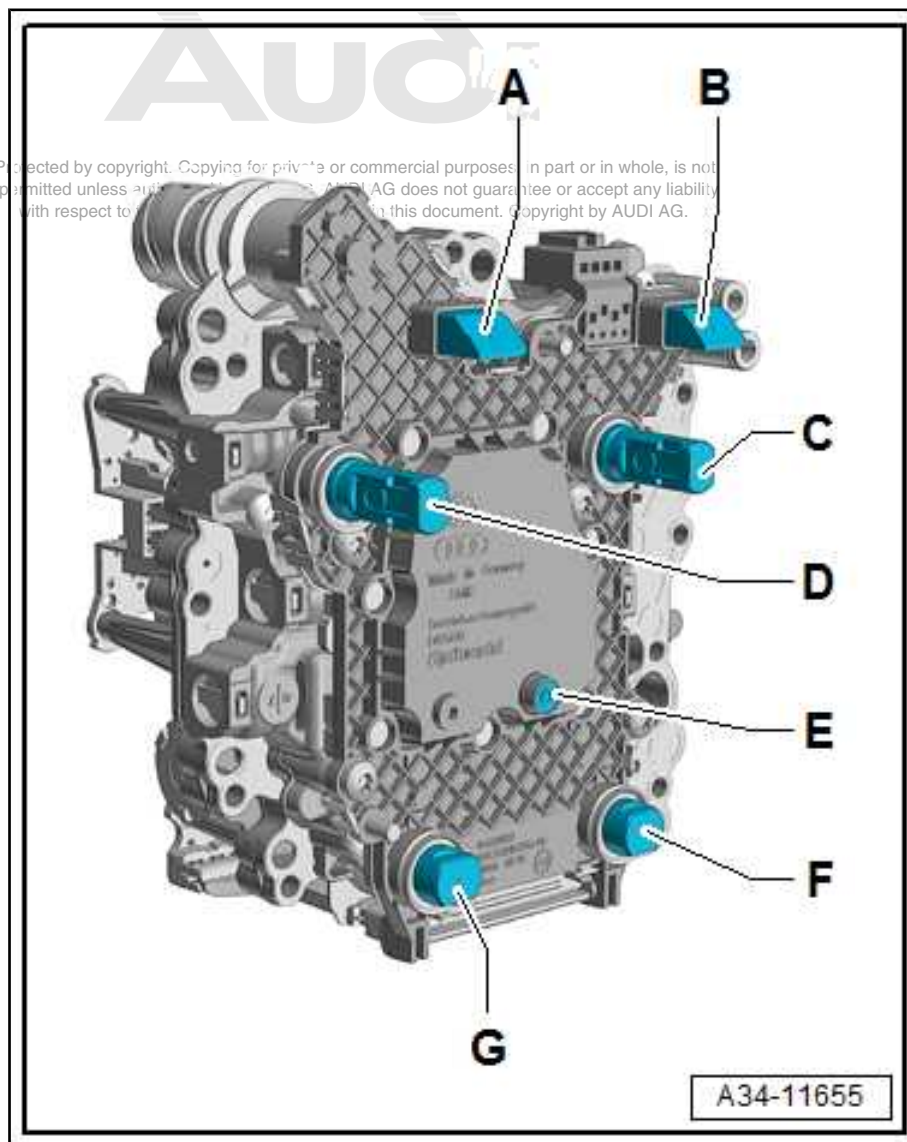
C - Gearbox input speed sender 2 - G612-

D - Gearbox input speed sender 1 - G632-

E - Gearbox oil temperature sender - G93-

F - Gear selector movement sensor 2 - G488- for 2nd and 6th gear

G - Gear selector movement sensor 3 - G489- for 3rd and 7th gear



2 Oil seals

⇒ [“2.1 Overview of fitting locations - oil seals”, page 153](#)

⇒ [“2.2 Renewing oil seal \(left-side\)”, page 154](#)

⇒ [“2.3 Renewing oil seal \(right-side\)”, page 155](#)

2.1 Overview of fitting locations - oil seals

1 - Gearbox

2 - Oil seal (right-side)

- ☐ Renewing ⇒ [page 155](#)

3 - Oil seal

- ☐ For stub shaft on bevel box (right-side)
- ☐ For four-wheel drive vehicles
- ☐ Renewing ⇒ [page 168](#)
- ☐ Renew together with -item 9- ⇒ [page 172](#)

4 - Stub shaft (right-side)

- ☐ For four-wheel drive vehicles

5 - Needle bearing (polygon bearing)

- ☐ Does not turn easily when stub shaft (right-side) is removed; this does not indicate a fault
- ☐ Acoustic check can only be performed when installed
- ☐ Check for damage such as cracking in outer race
- ☐ Renewing ⇒ [page 175](#)

6 - Bevel box

7 - Oil seal

- ☐ For output flange
- ☐ For four-wheel drive vehicles
- ☐ Renewing ⇒ [page 177](#)

8 - Oil seal

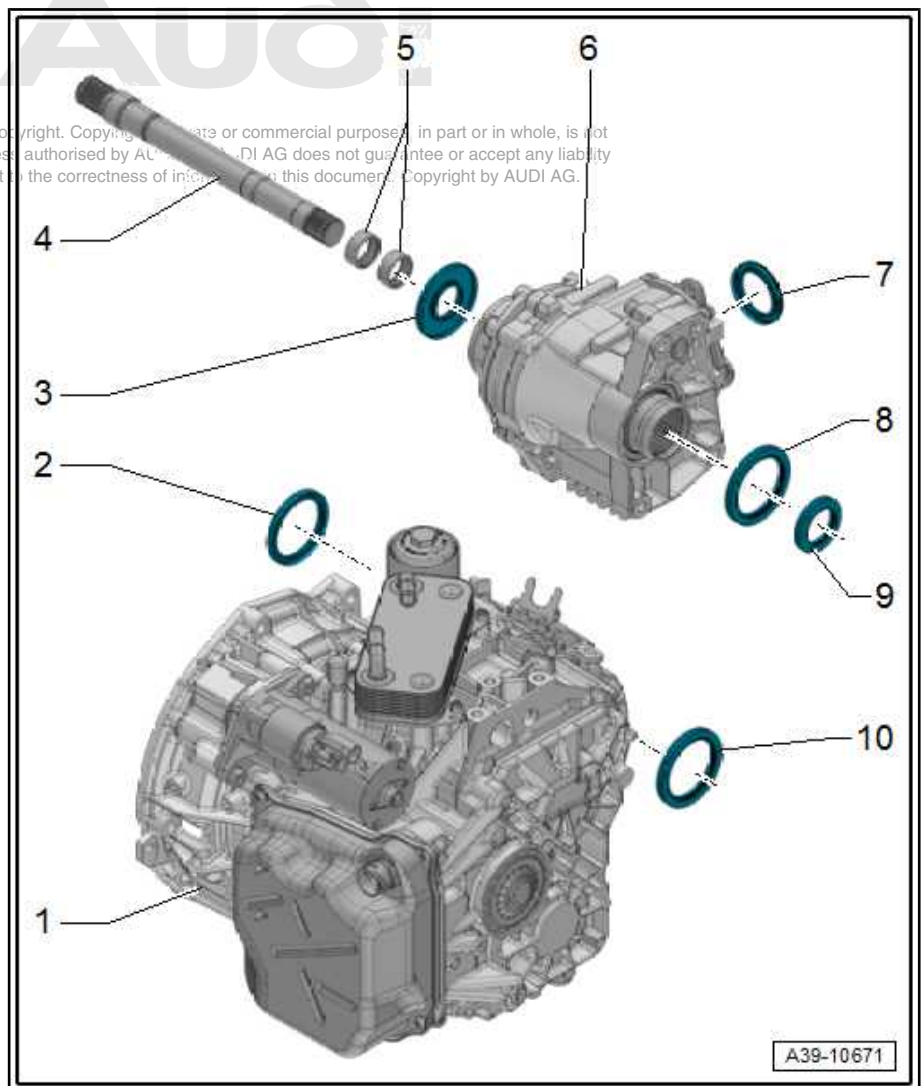
- ☐ On bevel box (left-side) between gearbox and bevel box
- ☐ For four-wheel drive vehicles
- ☐ Renewing ⇒ [page 170](#)

9 - Oil seal

- ☐ For stub shaft on bevel box (left-side)
- ☐ For four-wheel drive vehicles
- ☐ Renew together with -item 3- ⇒ [page 172](#)

10 - Oil seal (left-side)

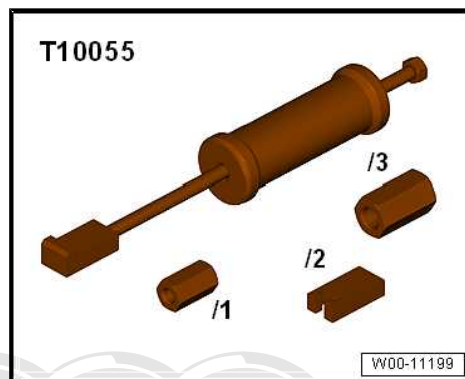
- ☐ Renewing ⇒ [page 154](#)



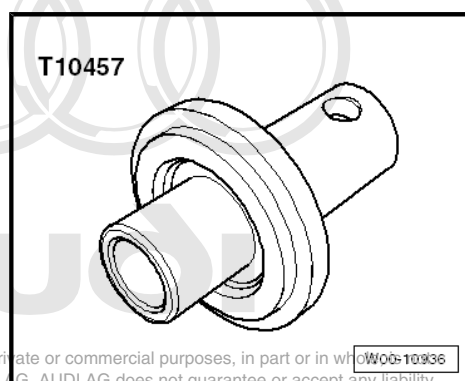
2.2 Renewing oil seal (left-side)

Special tools and workshop equipment required

- ◆ Puller - T10055-



- ◆ Thrust piece - T10457-



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- ◆ Electric drill (commercially available)
- ◆ Metal drill bit $\varnothing$ 2 ... 4 mm, commercially available
- ◆ Sealing grease - G 052 128 A1-

Procedure

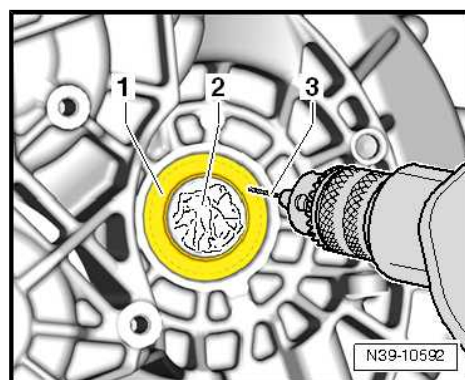
- Gearbox in vehicle
- Remove drive shaft (left-side) ⇒ Running gear, axles, steering; Rep. gr. 40 ; Drive shaft; Removing and installing drive shaft .
- Apply grease to drill bit -3- so that drilling swarf adheres to drill bit.



Caution

Risk of damage to bearing behind oil seal.

- ◆ Take care to drill only through the metal ring of the oil seal.
- ◆ Do not screw in the self-tapping screw too far.



- Seal off opening for drive shaft on gearbox with a clean cloth -2-.
- Using drill bit $\varnothing$ 2 ... 4 mm, carefully drill hole in outer metal ring -1- of oil seal.

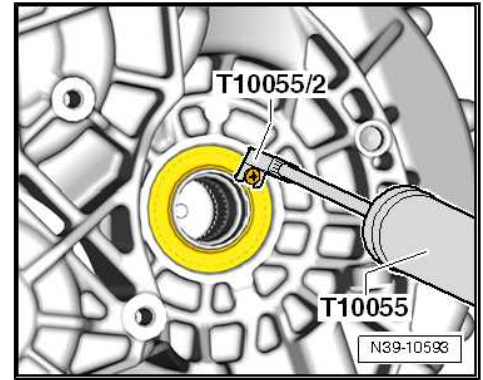
- Screw self-tapping screw (approx. 4 mm Ø) into hole drilled in oil seal.
- Pull out oil seal using puller - T10055- and adapter - T10055/2- .



Caution

Risk of damage to gearbox

- ◆ **No metal particles must be allowed to enter the gearbox or the opening for the drive shaft. If necessary, vacuum out particles before proceeding.**



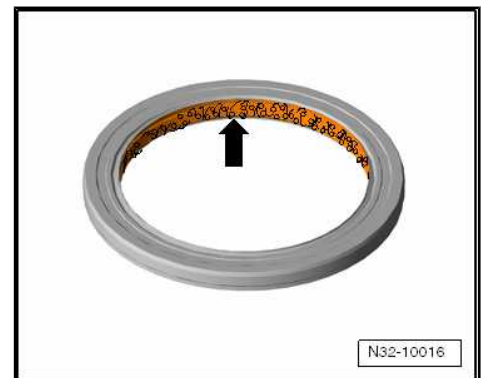
- Carefully remove cloth, taking care not to let metal particles drop into gearbox.
- Thoroughly clean gearbox and opening for drive shaft.



Note

If it was only possible to remove the metal ring, carefully prise out the rest of the oil seal using a screwdriver.

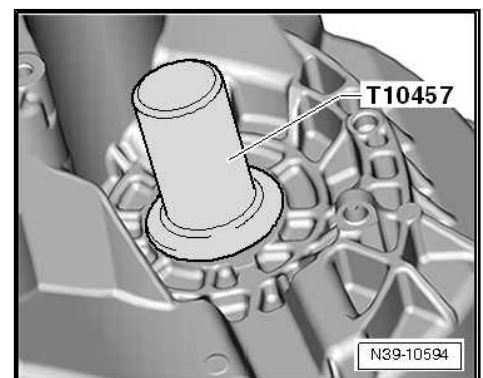
- Lightly lubricate outer circumference and sealing lips of new oil seal with gear oil.
- Installation position: open side of oil seal points towards gearbox
- Fit oil seal by hand, keeping it straight and pushing it in as far as it will go, so that oil seal is held in gearbox housing



- Drive in oil seal onto stop using thrust piece - T10457- . Take care to keep seal straight when installing.
- Check gear oil level and top up as required ➔ [page 140](#) .

Tightening torques

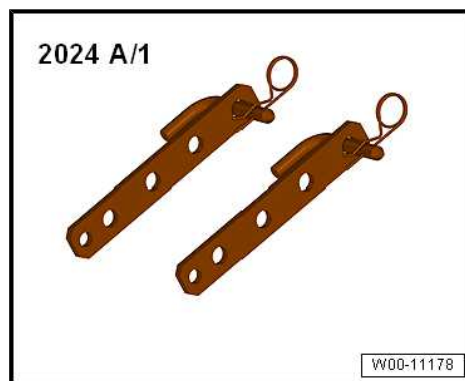
- ◆ ➔ Running gear, axles, steering; Rep. gr. 40 ; Lower wishbone, swivel joint; Exploded view - lower wishbone, swivel joint



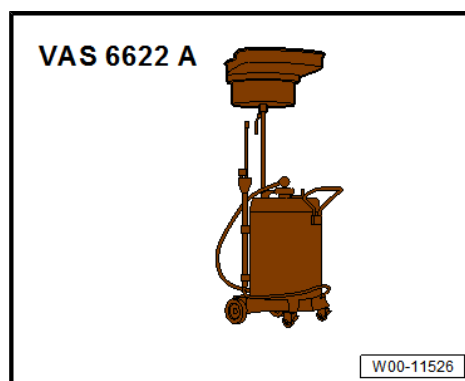
2.3 Renewing oil seal (right-side)

Special tools and workshop equipment required

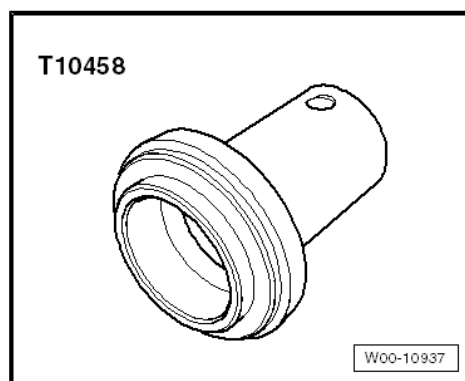
- ◆ Extension -2024A/1- for vehicles with front-wheel drive



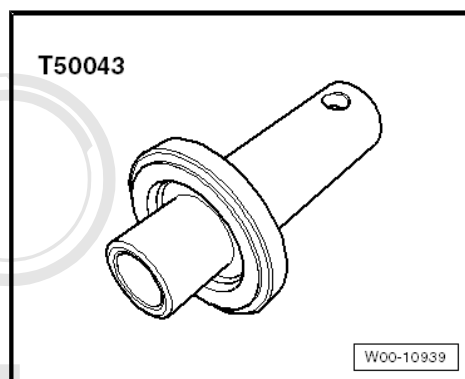
- ◆ Used oil collection and extraction unit - VAS 6622A-



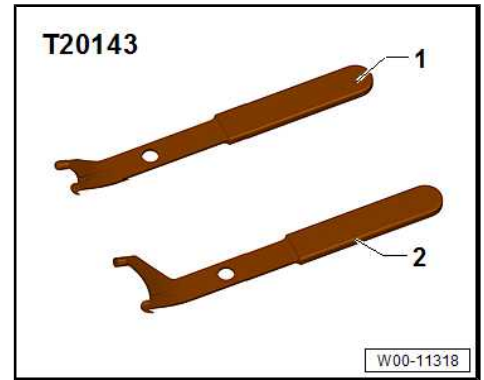
- ◆ Thrust piece - T10458- for four-wheel drive vehicles



- ◆ Thrust piece - T50043- for front-wheel drive vehicles



◆ Extractor tool - T20143-



◆ Sealing grease - G 052 128 A1-

Procedure

Vehicles with front-wheel drive:

- Remove nuts -arrows- securing swivel joint (right-side).
- Disengage swivel joint (right-side) from wishbone.
- Detach drive shaft (right-side) from gearbox and tie up ⇒ Running gear, axles, steering; Rep. gr. 40 ; Drive shaft; Removing and installing drive shaft .

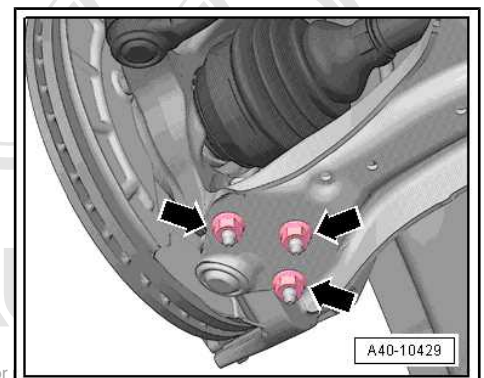


Note

Make sure you do not damage surface coating on drive shaft.

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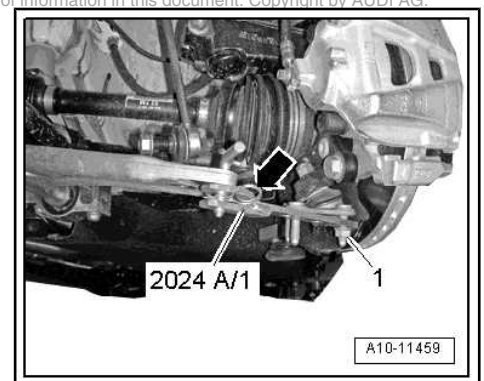
- Swivel suspension strut (right-side) outwards and support with extension -2024A/1- , as shown in illustration.



WARNING

Risk of accident if parts of support are not properly secured.

- ◆ *Secure locking pin and swivel joint with retaining clip -arrow- and nut -1-.*

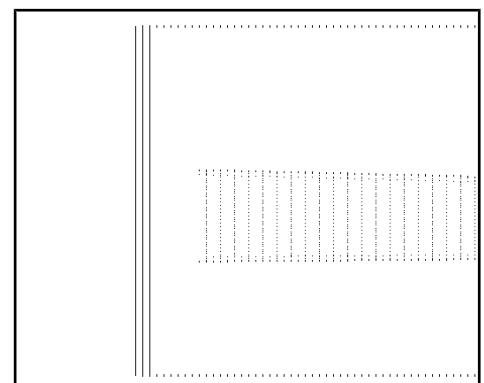


Vehicles with four-wheel drive:

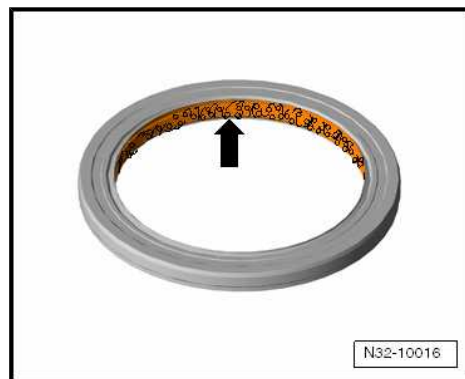
- Remove bevel box ➔ [page 93](#) .

Continued for all vehicles:

- Place used oil collection and extraction unit - VAS 6622- below gearbox.
- Pry out oil seal from dual clutch gearbox using extractor tool - T20143/1- or - T20143/2- .

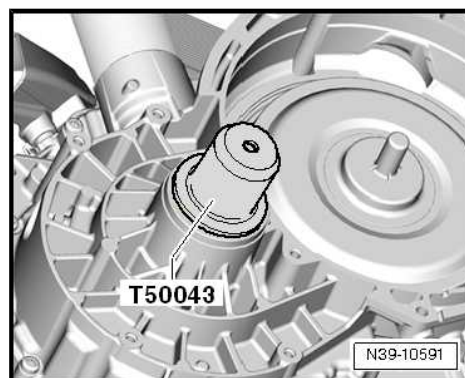


- Lubricate outer circumference of new oil seal with gear oil.
- Pack space between sealing lip and dust lip -arrow- half full with sealing grease - G 052 128 A1- .



Vehicles with front-wheel drive:

- Drive oil seal in onto stop using thrust piece - T50043- . Make sure seal remains straight.

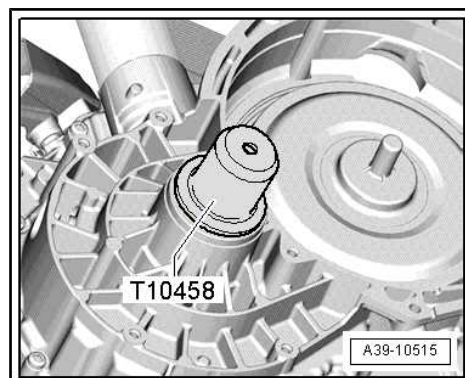


Vehicles with four-wheel drive:

- Carefully drive in oil seal as far as stop using thrust piece - T10458- .
- Install bevel box ⇒ [page 120](#) .

Tightening torques

- ◆ ⇒ Running gear, axles, steering; Rep. gr. 40 ; Drive shaft; Exploded view - drive shaft
- ◆ ⇒ Running gear, axles, steering; Rep. gr. 40 ; Lower wishbone, swivel joint; Exploded view - lower wishbone, swivel joint



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3 Gear oil

⇒ "3.1 Checking gear oil level", page 159

⇒ "3.2 Draining and filling gear oil", page 160

3.1 Checking gear oil level

Note

- ◆ The bevel box is secured to the side of the gearbox and has a separate self-contained oil filling.
- ◆ For gear oil specifications, refer to ⇒ Electronic parts catalogue .

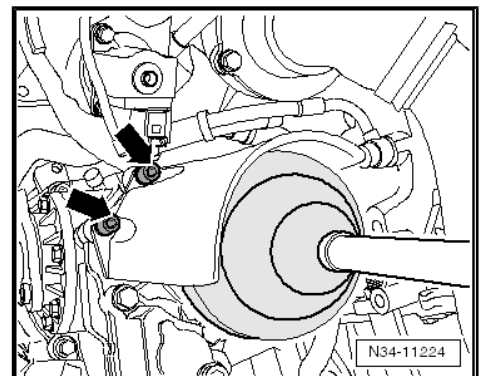
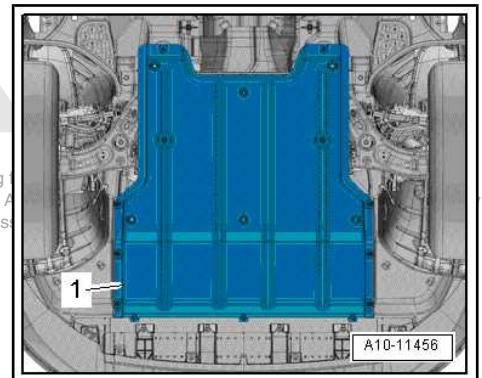
Procedure

Note

Renew screw plug for oil filler hole.

- Vehicle must be absolutely horizontal (on a four-pillar lifting platform or over an inspection pit).
- Engine not running.
- Remove noise insulation -1- ⇒ General body repairs, exterior; Rep. gr. 66 ; Noise insulation; Removing and installing noise insulation .
- If necessary, unbolt heat shield for drive shaft (right-side) from bevel box, 2 nuts -arrows-.

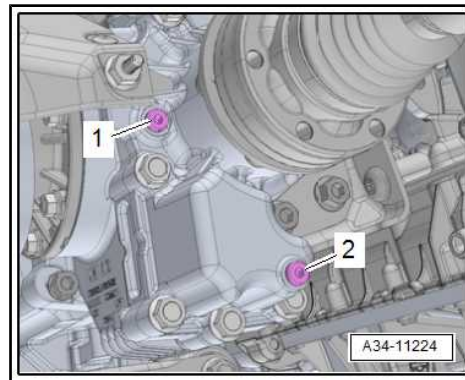
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Note

Place a cloth below to catch escaping gear oil.

- Remove screw plug -1- from oil filler hole.
- Specification: gear oil level up to bottom lip of filler hole.
- Specification for RS Q3: gear oil level is below filler hole and therefore cannot be checked.
- Top up gear oil as necessary ➔ [page 160](#) .


Note

Carefully remove any traces of escaped oil on bevel box.

Tightening torques

- ◆ Oil filler plug ➔ [Fig. ““Tightening torques””, page 164](#)
- ◆ Heat shield for drive shaft ➔ Running gear, axles, steering; Rep. gr. 40 ; Drive shaft; Exploded view - drive shaft .
- ◆ ➔ General body repairs, exterior; Rep. gr. 66 ; Noise insulation; Exploded view - noise insulation

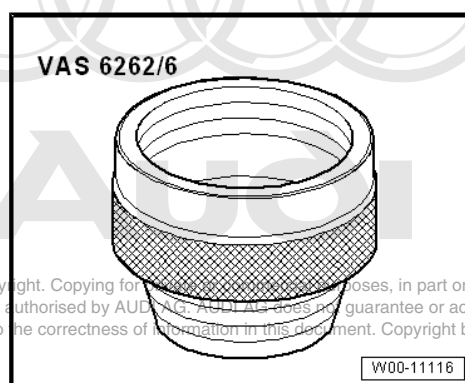
3.2 Draining and filling gear oil


Note

- ◆ The gear oil in the bevel box only needs to be drained if repairs are required. An oil change is not normally required.
- ◆ For gear oil specifications, refer to ➔ *Electronic parts catalogue* .

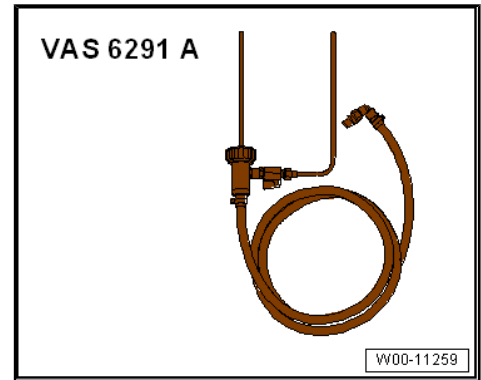
Special tools and workshop equipment required

- ◆ If necessary, adapter - VAS 6262/6-



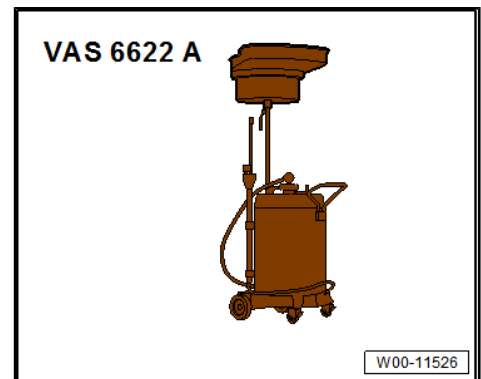
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- ◆ Charging device for Haldex coupling 2 - VAS 6291 A- with adapter -VAS 6291/3-



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



- ◆ Safety goggles
- ◆ Protective gloves (acid resistant)
- ◆ Injector with hose, max. dia. 6 mm (commercially available)

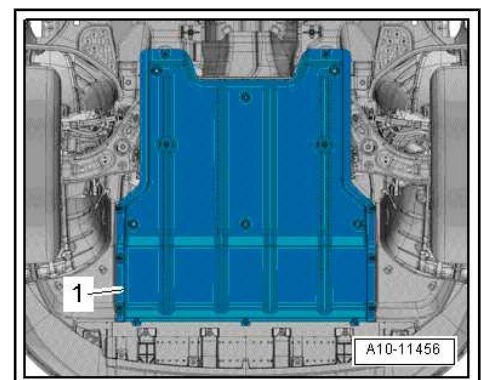
Draining



Note

Renew oil drain plug and oil filler plug.

- Vehicle must be absolutely horizontal (on a four-pillar lifting platform or over an inspection pit).
- Engine not running.
- Remove noise insulation -1- ⇒ General body repairs, exterior; Rep. gr. 66 ; Noise insulation; Removing and installing noise insulation .



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


WARNING

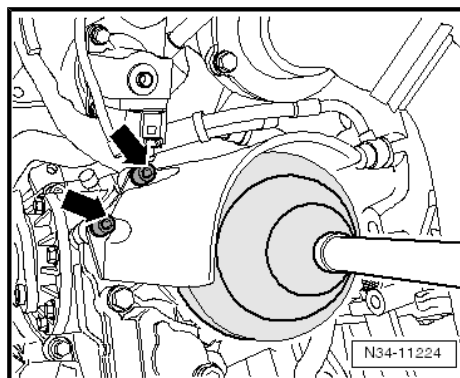
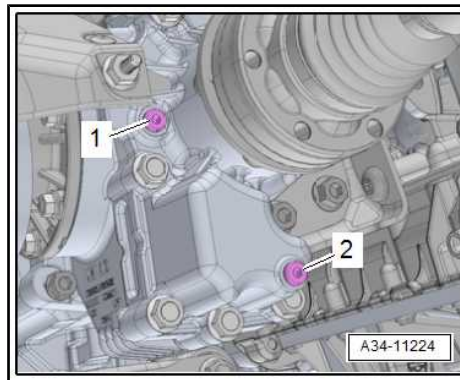
Hot gear oil can cause burns.

- ◆ *Put on safety goggles.*
- ◆ *Wear protective gloves (acid resistant).*

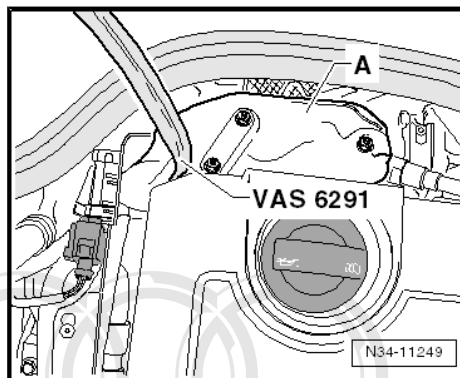
- Remove oil drain plug -2- and allow gear oil to drain off.
- Tighten new oil drain plug.

Filling

- If fitted, remove bolts -arrows- and detach heat shield for drive shaft (right-side).
- Route hose for charging device for Haldex coupling 2 - VAS 6291 A- through engine compartment.

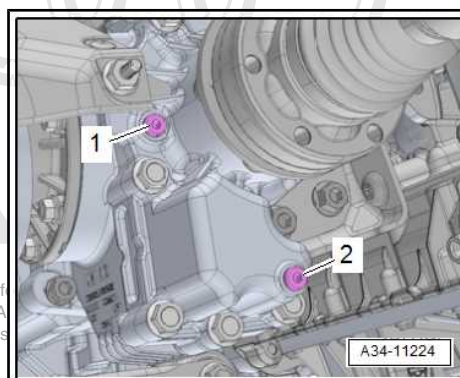


- Vehicles with particulate filter -A-: Guide hose of charging device for Haldex coupling 2 - VAS 6291 A- past particulate filter on right side.


Note

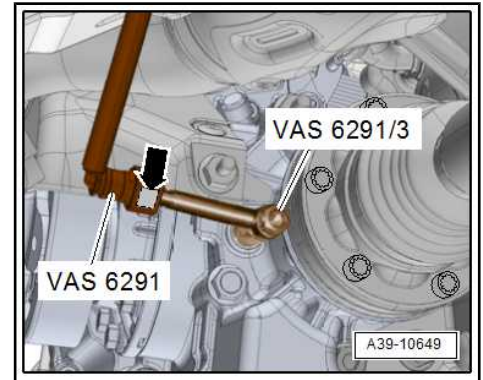
Leave used oil collection and extraction unit - VAS 6622- in position below gearbox to catch escaping gear oil.

- Remove screw plug -1- from oil filler hole.



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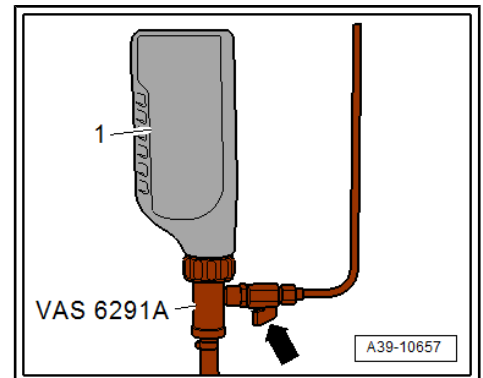
- Screw in adapter -VAS 6291/3- as far as stop.
- Connect elbow joint of charging device for Haldex coupling 2 - VAS 6291 A- to adapter -VAS 6291/3- , making sure it engages.
- The hose must not hang down.



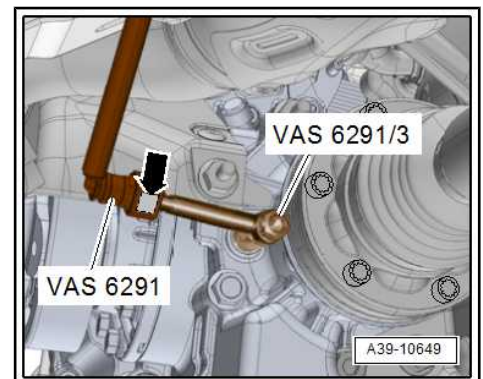
- Make sure that valve -arrow- is closed.
- Screw oil container -1- onto charging device for Haldex coupling 2 - VAS 6291 A- .



For some oil containers, an additional adapter -VAS 6262/6- must be used.



- Open valve -arrow- and hold up oil container as shown in illustration.
- The bevel box will now be filled.
- When bevel box is filled correctly oil will emerge at adapter -VAS 6291/3-.
- When gear oil comes out at adapter - VAS 6291/3- , put down oil container so that excess oil can drain back into container.
- When oil stops flowing back, detach charging device for Haldex coupling 2 - VAS 6291 A- .



Audi RS Q3

- ◆ On the Audi RS Q3 with bevel box 0CP, oil may escape from the breather opening; identification ➔ [page 2](#) .
- ◆ After filling, 100 ml of gear oil must therefore be extracted from the bevel box.
- ◆ To do so, use an injector with hose, max. dia. 6 mm (commercially available).

Continued for all vehicles

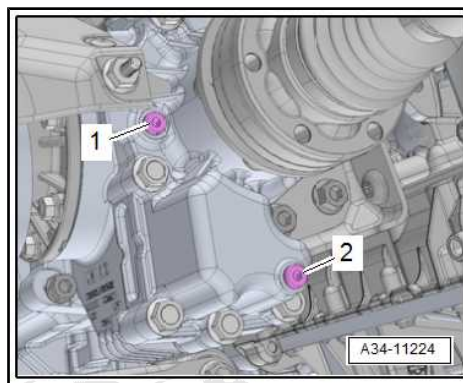
- Tighten new oil filler plug.



Carefully remove any traces of escaped oil on bevel box.

Tightening torques

- 1 - Oil filler plug
 - Renew
 - 15 Nm
- 2 - Oil drain plug
 - Renew
 - 15 Nm
- ◆ Heat shield for drive shaft ⇒ Running gear, axles, steering;
Rep. gr. 40 ; Drive shaft; Exploded view - drive shaft
- ◆ Exploded view of noise insulation ⇒ General body repairs,
exterior; Rep. gr. 66 ; Noise insulation; Exploded view - noise
insulation



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4 Components of bevel box

⇒ [“4.1 Exploded view - components of bevel box”, page 165](#)

⇒ [“4.2 Renewing oil seals for bevel box”, page 168](#)

4.1 Exploded view - components of bevel box

⇒ [“4.1.1 Exploded view - components of bevel box 0A6”, page 165](#)

⇒ [“4.1.2 Exploded view - components of bevel box 0CP”, page 167](#)

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4.1.1 Exploded view - components of bevel box 0A6

1 - Oil seal

- ☐ On bevel box between gearbox and bevel box
- ☐ Renewing ⇒ [page 170](#)

2 - Oil seal

- ☐ For stub shaft on bevel box (left-side)
- ☐ Renew together with -item 4- ⇒ [page 172](#)

3 - Bevel box

- ☐ Removing ⇒ [page 93](#)
- ☐ Installing ⇒ [page 120](#)

4 - Oil seal

- ☐ For stub shaft on bevel box (right-side)
- ☐ Renewing ⇒ [page 168](#)
- ☐ Renew together with -item 2- ⇒ [page 172](#)

5 - Circlip

- ☐ Renew
- ☐ Fit in annular groove in stub shaft

6 - O-ring

- ☐ Renew
- ☐ Fit in annular groove in stub shaft

7 - Stub shaft (right-side)

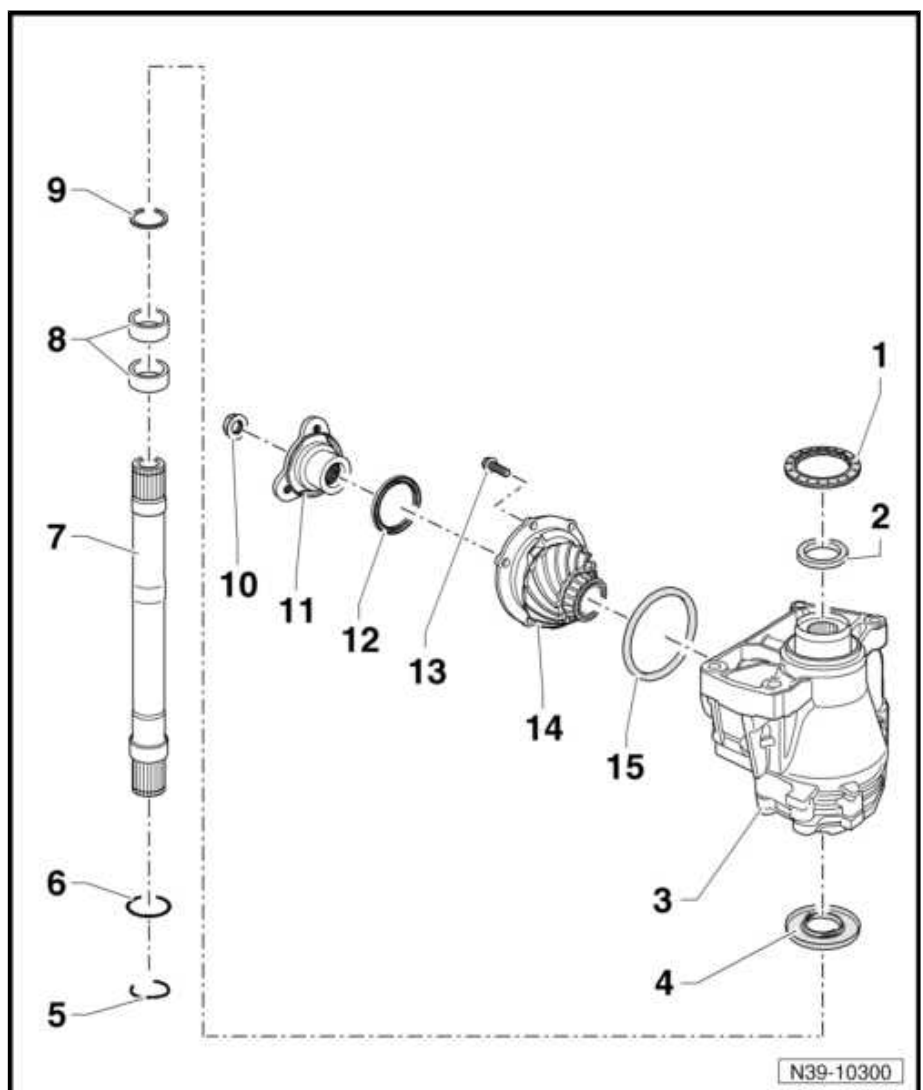
- ☐ Removing and installing ⇒ [page 175](#)

8 - Needle bearing (polygon bearing)

- ☐ Does not turn easily when stub shaft (right-side) is removed; this does not indicate a fault
- ☐ Acoustic check can only be performed when installed
- ☐ Check for damage such as cracking in outer race
- ☐ Renewing ⇒ [page 175](#)

9 - Circlip

- ☐ Renew





- ☐ Fit in annular groove in stub shaft

10 - Nut

- ☐ Remove
- ☐ Renew
- ☐ Install with locking fluid; for locking fluid refer to ⇒ Electronic parts catalogue
- ☐ Installing
- ☐ 480 Nm

11 - Output flange

- ☐ For bevel box

12 - Oil seal

- ☐ For output flange on bevel box
- ☐ Renewing ⇒ [page 177](#)

13 - Bolt

- ☐ Tighten diagonally
- ☐ 25 Nm

14 - Pinion housing

- ☐ With shaft bevel gear
- ☐ Drive in carefully on alternate sides
- ☐ Observe bolt holes; pinion housing fits only in one position

15 - O-ring

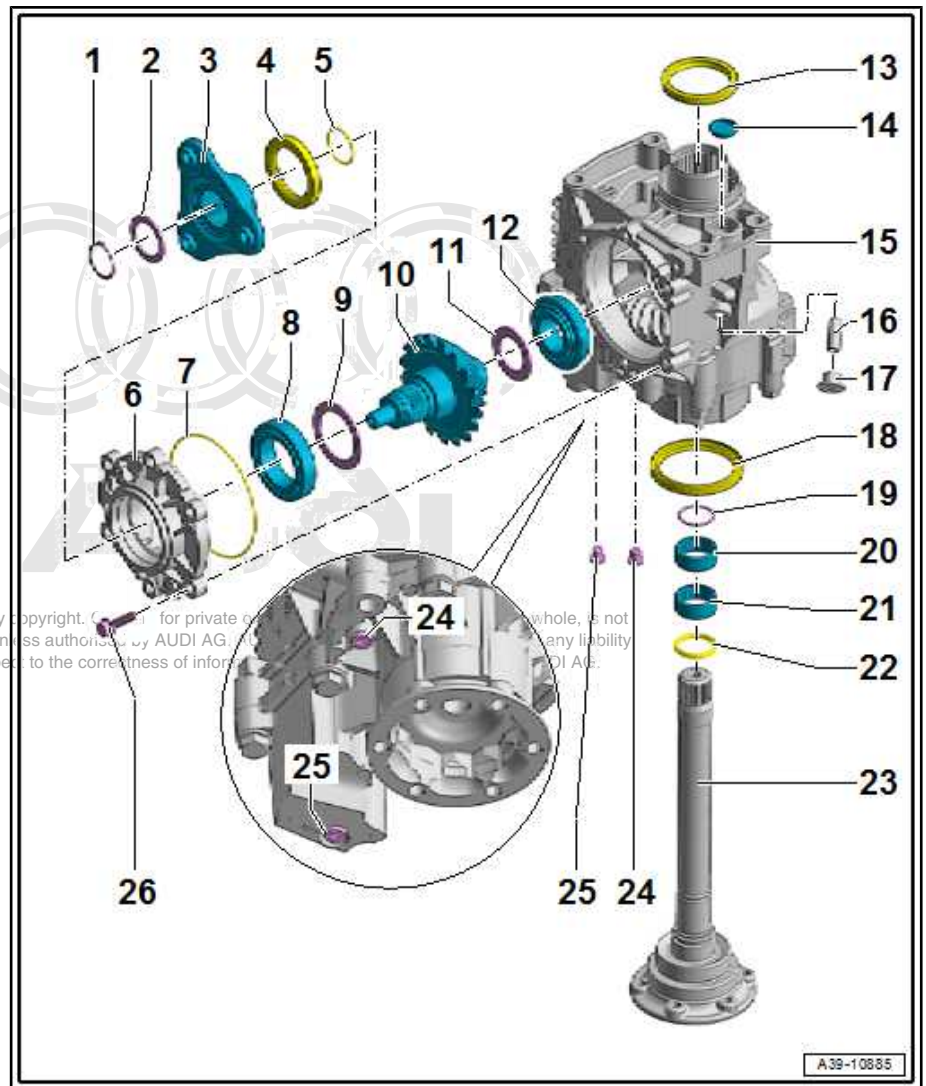
- ☐ To renew, unscrew bolts ⇒ [Item 13 \(page 166\)](#) and carefully lever off pinion housing at projecting webs on outside edge
- ☐ Do not remove nut ⇒ [Item 10 \(page 166\)](#) and output flange ⇒ [Item 11 \(page 166\)](#)



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4.1.2 Exploded view - components of bevel box 0CP

- 1 - Circlip
 - ☐ Renew
- 2 - Washer
 - ☐ Renew
- 3 - Output flange
 - ☐ Removing and installing
⇒ [page 182](#)
- 4 - Oil seal
 - ☐ Renewing ⇒ [page 182](#)
- 5 - O-ring
 - ☐ Renewing ⇒ [page 182](#)
- 6 - Housing cover
- 7 - O-ring
 - ☐ Renew
- 8 - Bearing
 - ☐ Not available as replacement part
- 9 - Shim
 - ☐ Not available as replacement part
- 10 - Pinion shaft
 - ☐ Not available as replacement part
- 11 - Shim
 - ☐ Not available as replacement part
- 12 - Bearing
 - ☐ Not available as replacement part
- 13 - Oil seal
 - ☐ Renewing ⇒ [page 170](#)
- 14 - Cap
- 15 - Bevel box
 - ☐ Removing ⇒ [page 93](#)
 - ☐ Installing ⇒ [page 120](#)
- 16 - Breather
- 17 - Breather cap
- 18 - Oil seal
 - ☐ Renewing ⇒ [page 168](#)
- 19 - Circlip
- 20 - Needle bearing
 - ☐ Renewing ⇒ [page 175](#)
- 21 - Needle bearing
 - ☐ Renewing ⇒ [page 175](#)



22 - O-ring

23 - Flange shaft

24 - Oil filler plug

□ 20 Nm

25 - Oil drain plug

□ 20 Nm

26 - Bolt

□ 38 Nm

□ Tighten diagonally

4.2 Renewing oil seals for bevel box

⇒ [“4.2.1 Renewing oil seal for stub shaft on bevel box \(right-side\)”, page 168](#)

⇒ [“4.2.2 Renewing oil seal between gearbox and bevel box \(on bevel box, left-side\)”, page 170](#)

⇒ [“4.2.3 Renewing oil seals for stub shaft on bevel box \(left-side\)”, page 172](#)

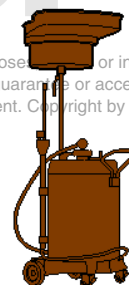
4.2.1 Renewing oil seal for stub shaft on bevel box (right-side)

Special tools and workshop equipment required

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

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VAS 6622 A



W00-11526

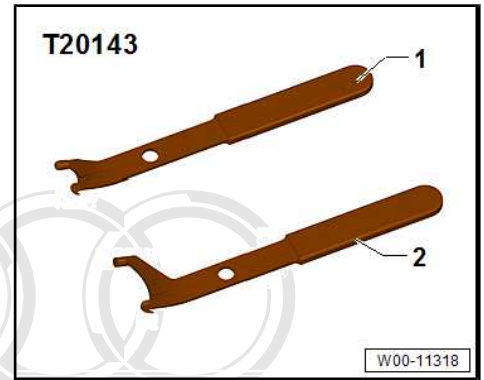
◆ Thrust piece - T10143-

T10143



W00-11446

- ◆ Extractor tool - T20143-



- ◆ Sealing grease - G 052 128 A1-
- ◆ Grease for stub shaft splines ⇒ Electronic parts catalogue

Procedure

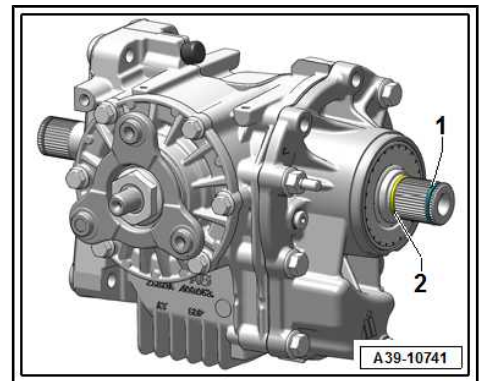
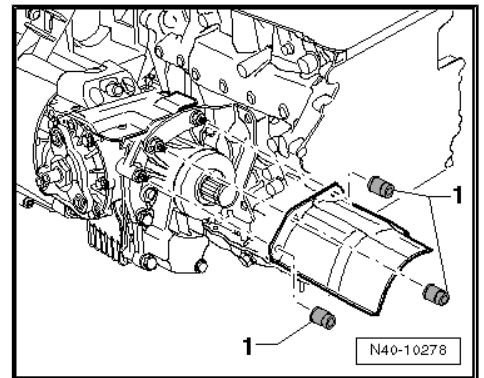
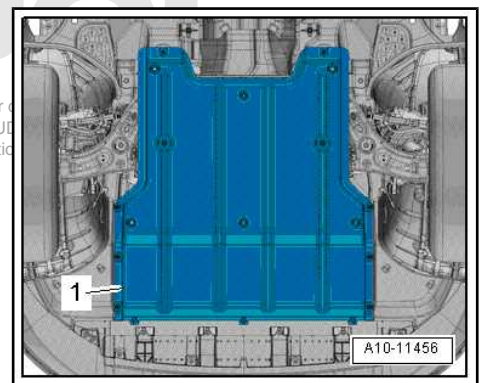
- Bevel box must be installed.



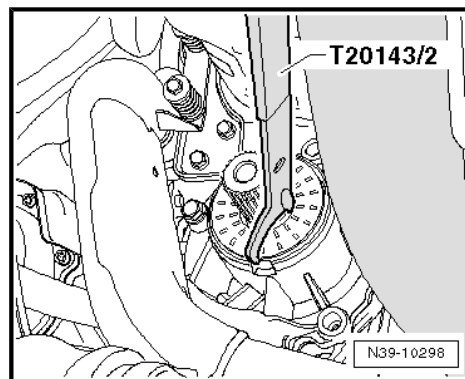
Note

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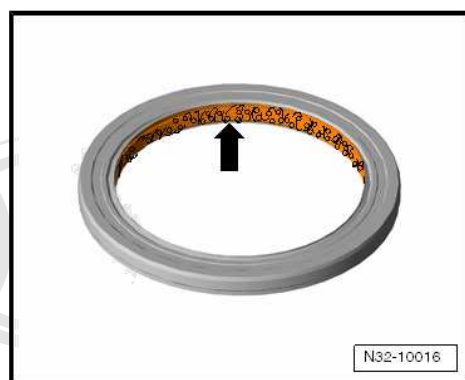
- ◆ Please refer to ⇒ ["4 Repair instructions", page 7](#).
- ◆ Please refer to ⇒ ["4.2 Rules for cleanliness", page 8](#).
- Remove noise insulation -1- ⇒ General body repairs, exterior; Rep. gr. 66 ; Noise insulation; Removing and installing noise insulation .
- Vehicles with 2.0 ltr. TDI engine: Remove nuts -1- and detach heat shield for drive shaft (right-side).
- Remove drive shaft (right-side) ⇒ Running gear, axles, steering; Rep. gr. 40 ; Drive shaft; Removing and installing drive shaft .
- Detach circlip -1- and O-ring -2- from stub shaft.



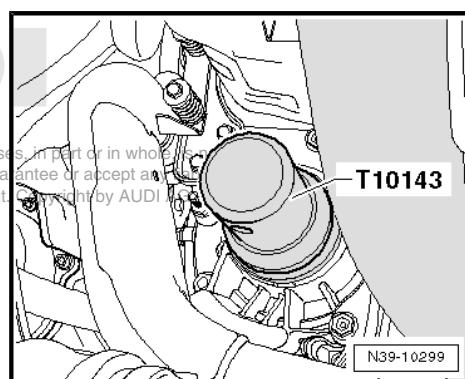
- Place used oil collection and extraction unit - VAS 6622- below bevel box.
- Pry out oil seal.



- Lubricate outer circumference of new oil seal with gear oil.
- Pack space between sealing lip and dust lip -arrow- half full with sealing grease - G 052 128 A1- .



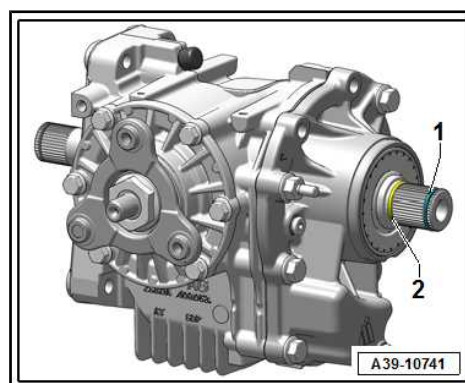
- Drive in oil seal onto stop (take care to keep oil seal straight).



- Fit new circlip -1- and new O-ring -2-.
- Grease splines of stub shaft.
- Check gear oil level and top up as required ➔ [page 159](#) .

Tightening torques

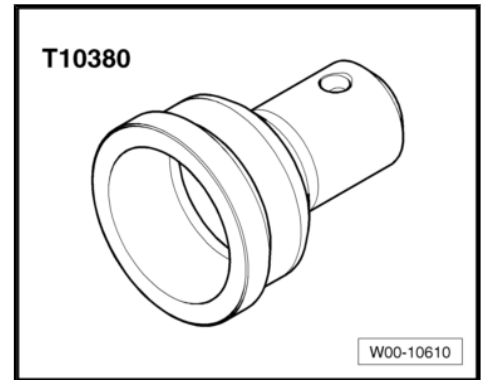
- ♦ ➔ Running gear, axles, steering; Rep. gr. 40 ; Drive shaft;
Exploded view - drive shaft



4.2.2 Renewing oil seal between gearbox and bevel box (on bevel box, left-side)

Special tools and workshop equipment required

◆ Thrust piece -T10380-



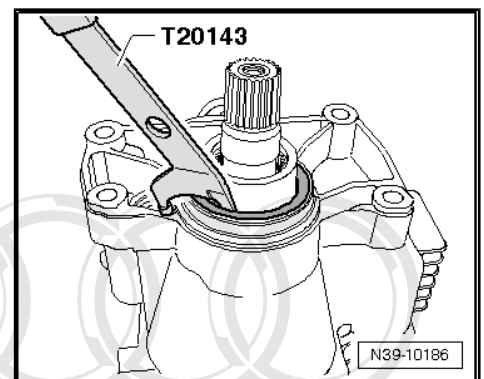
◆ Extractor tool - T20143-



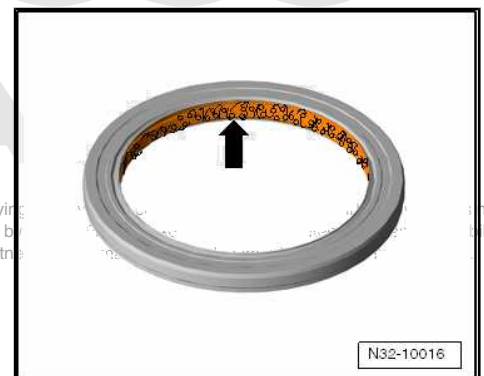
◆ Sealing grease - G 052 128 A1-

Procedure

- Bevel box removed ⇒ [page 93](#) .
- Pull oil seal out of bevel box using extractor tool - T20143/1- or - T20143/2- .



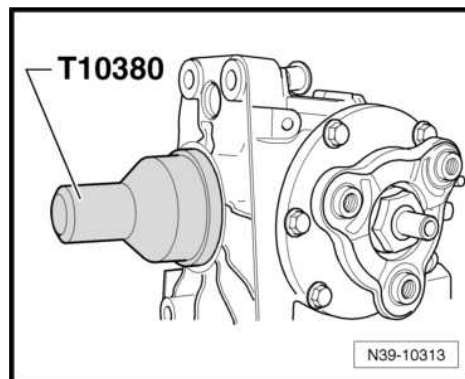
- Lubricate outer circumference of new oil seal with gear oil.
- Pack space between sealing lip and dust lip -arrow- half full with sealing grease - G 052 128 A1- .



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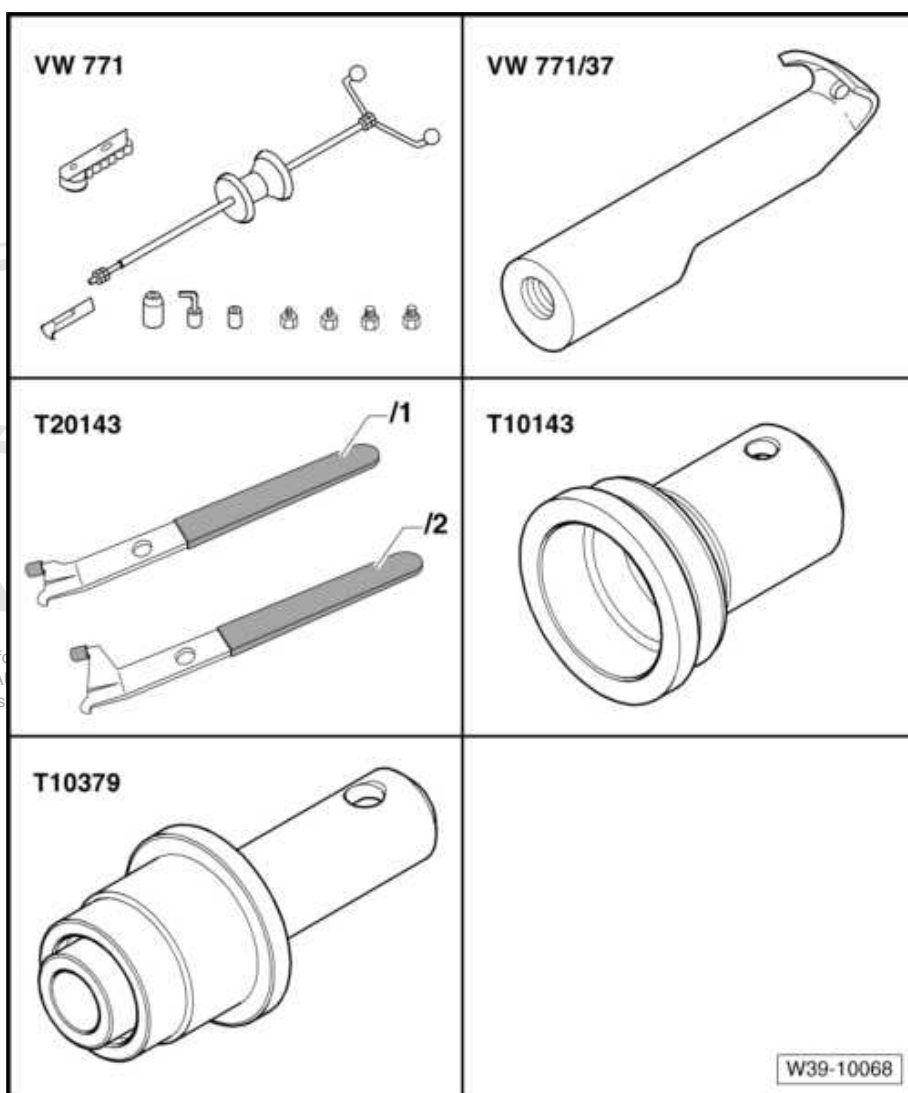
- Drive in oil seal as far as stop using thrust piece - T10380- .



4.2.3 Renewing oil seals for stub shaft on bevel box (left-side)

Special tools and workshop equipment required

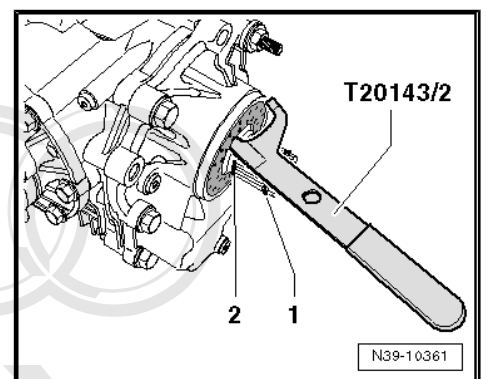
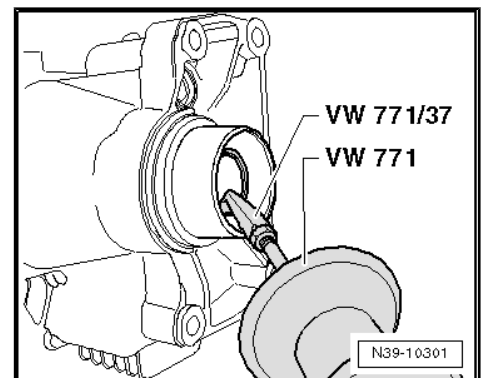
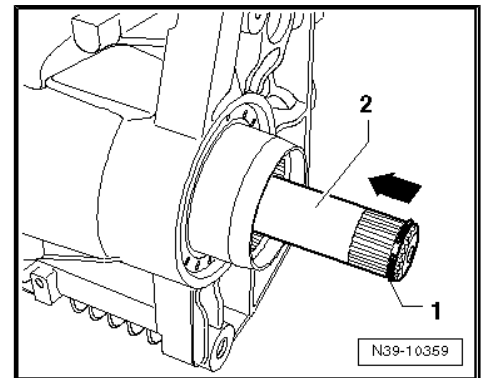
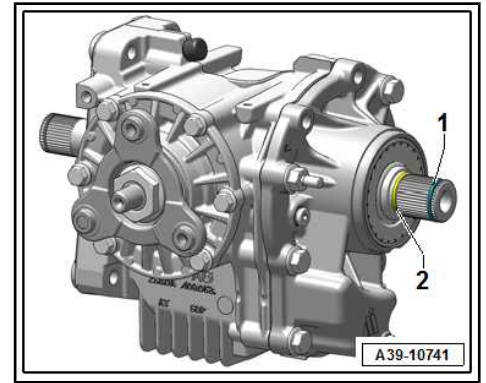
- ◆ Multi-purpose tool - VW 771
- ◆ Extractor tool - VW 771/37-
- ◆ Extractor tool - T20143-
- ◆ Thrust piece - T10143-
- ◆ Thrust piece - T10379-
- ◆ Grease for stub shaft ➔ Electronic parts catalogue
- ◆ Sealing grease - G 052 128 A1-



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Procedure

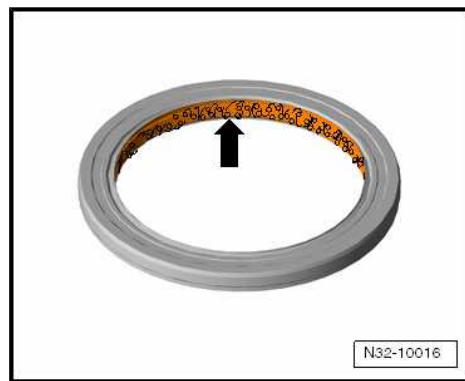
- Bevel box removed ⇒ [page 93](#) .
- Detach circlip -1- and O-ring -2- from stub shaft.
- Detach circlip -1- from stub shaft -2-.
- Carefully drive out stub shaft using plastic hammer -arrow-.
- Pull out stub shaft oil seal on gearbox side.
- Lever out stub shaft oil seal on drive shaft side.



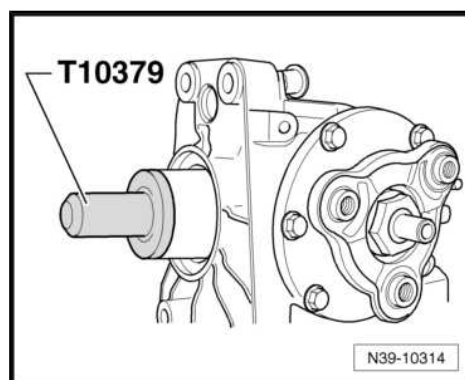
Disregard items -1 and 2-.

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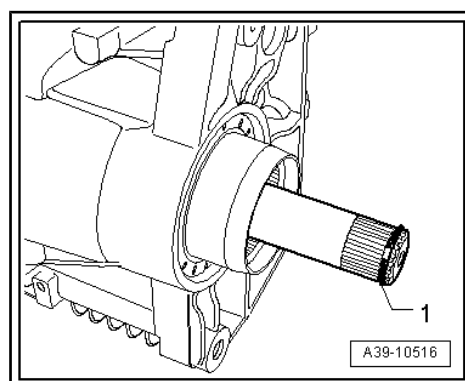
- Lubricate outer circumference of new oil seal with gear oil.
- Pack space between sealing lip and dust lip -arrow- half full with sealing grease - G 052 128 A1- .



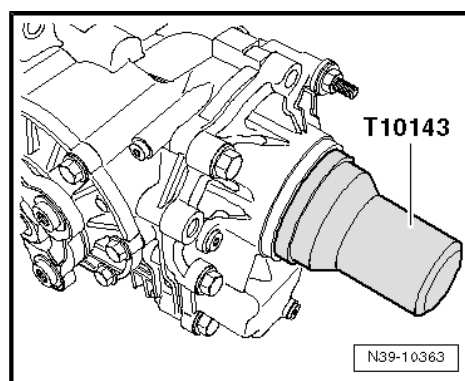
- Drive in oil seal on gearbox side as far as stop.



- Carefully drive stub shaft into bevel box as far as stop using plastic hammer.
- Fit new circlip -1- on stub shaft on gearbox side.

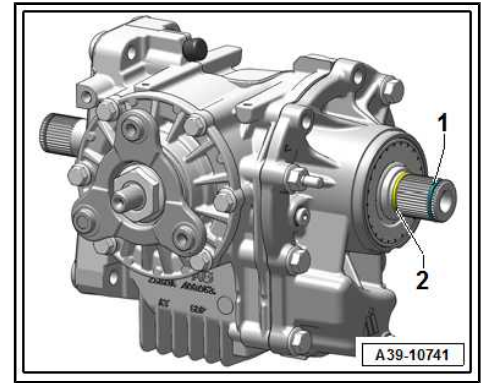


- Drive in oil seal on drive shaft side as far as stop.



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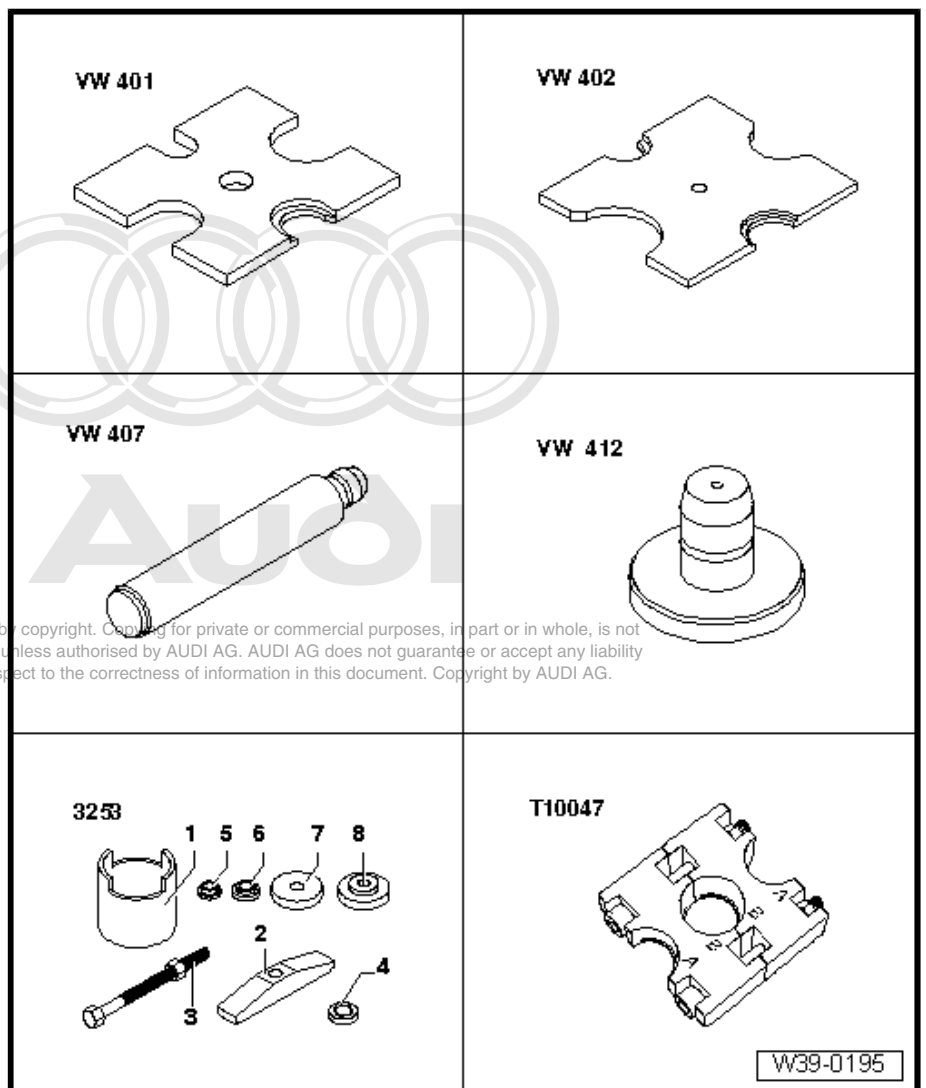
- Fit new circlip -1- and new O-ring -2-.
- Grease splines of stub shaft.



4.3 Renewing needle bearings for stub shaft (right-side)

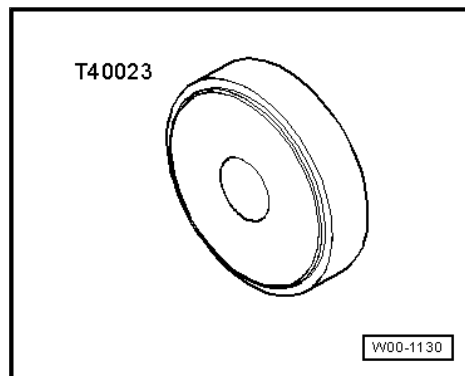
Special tools and workshop equipment required

- ◆ Thrust plate - VW 401-
- ◆ Thrust plate - VW 402-
- ◆ Press tool - VW 407-
- ◆ Press tool - VW 412-
- ◆ -3253/5- from assembly tool - 3253/5-
- ◆ Clamp - T10047-



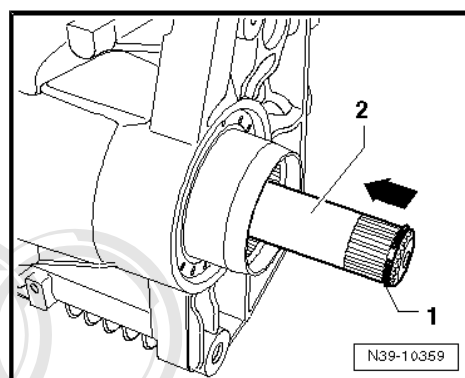
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◆ Thrust piece - T40023-

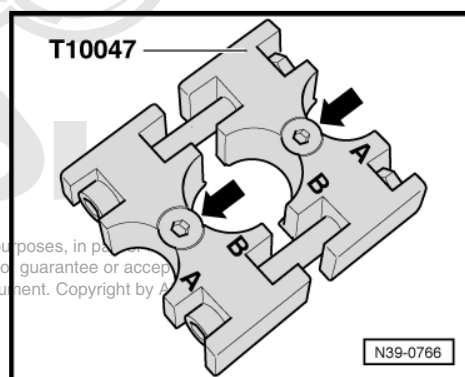


Procedure

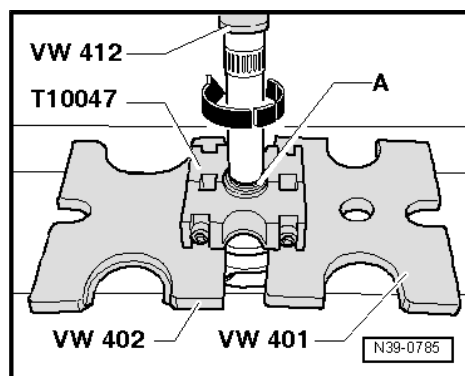
- Bevel box removed ➔ [page 93](#) .
- Detach circlip -1- from stub shaft -2-.
- Carefully knock out stub shaft -2- in direction of arrow using a plastic hammer.



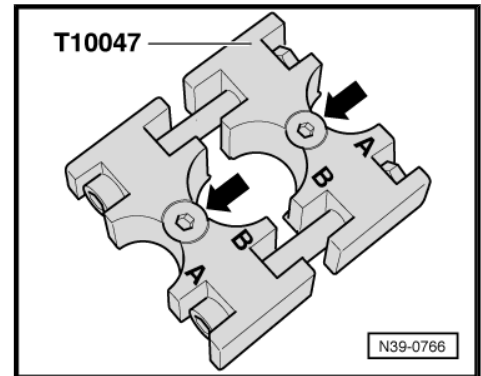
- Assemble assembly tool - T10047- , as shown in illustration.
- Marks “B” on both parts of tool face each other.
- The stepped shoulders -arrows- must then be below the bearing.
- Screw parts together as far as stop.



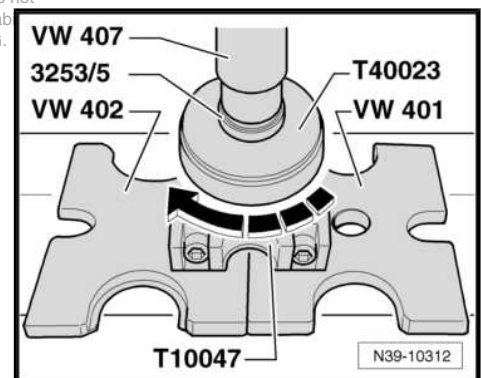
- Remove circlip -A-.
- Rotate shaft when pressing off -arrow- to prevent contact surface of needle bearings on shaft from being damaged.



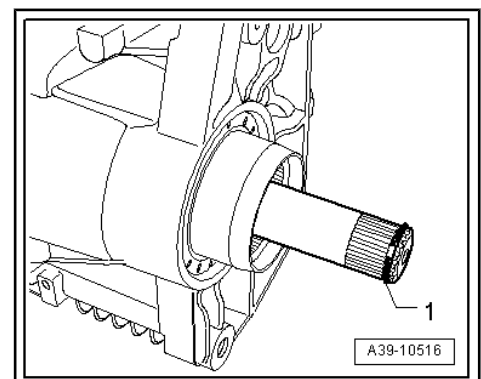
- Assemble assembly tool - T10047- , as shown in illustration.



- Rotate shaft when pressing on -arrow- to prevent contact surface of needle bearings on shaft from being damaged.
- Secure needle bearings in position with new circlip.
- Carefully drive stub shaft into bevel box as far as stop using plastic hammer.



- Fit new circlip -1- on stub shaft.



4.4 Removing and installing output flange

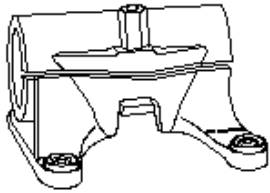
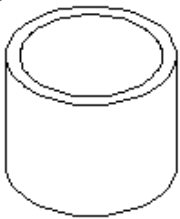
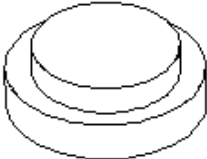
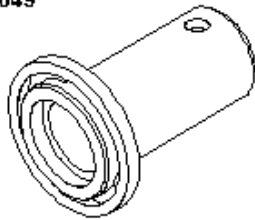
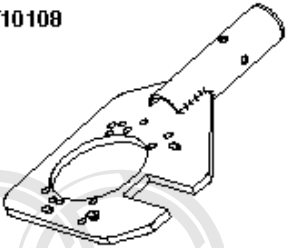
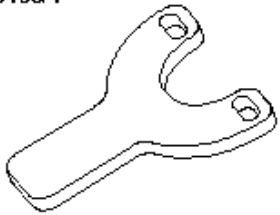
⇒ ["4.4.1 Removing and installing output flange - 0A6", page 177](#)

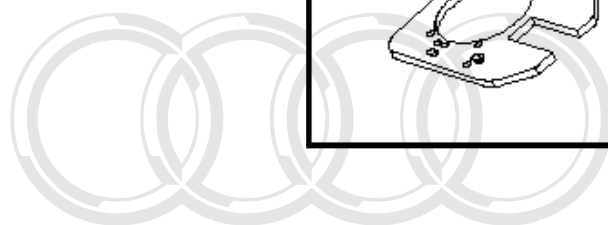
⇒ ["4.4.2 Removing and installing output flange - 0CP", page 182](#)

4.4.1 Removing and installing output flange - 0A6

Special tools and workshop equipment required

- ◆ Support clamp - VW 313-
- ◆ Tube - VW 516-
- ◆ Thrust plate - 40-105-
- ◆ Thrust piece - T10049-
- ◆ Gearbox support - T10108-
- ◆ Support plate - T10108/1-

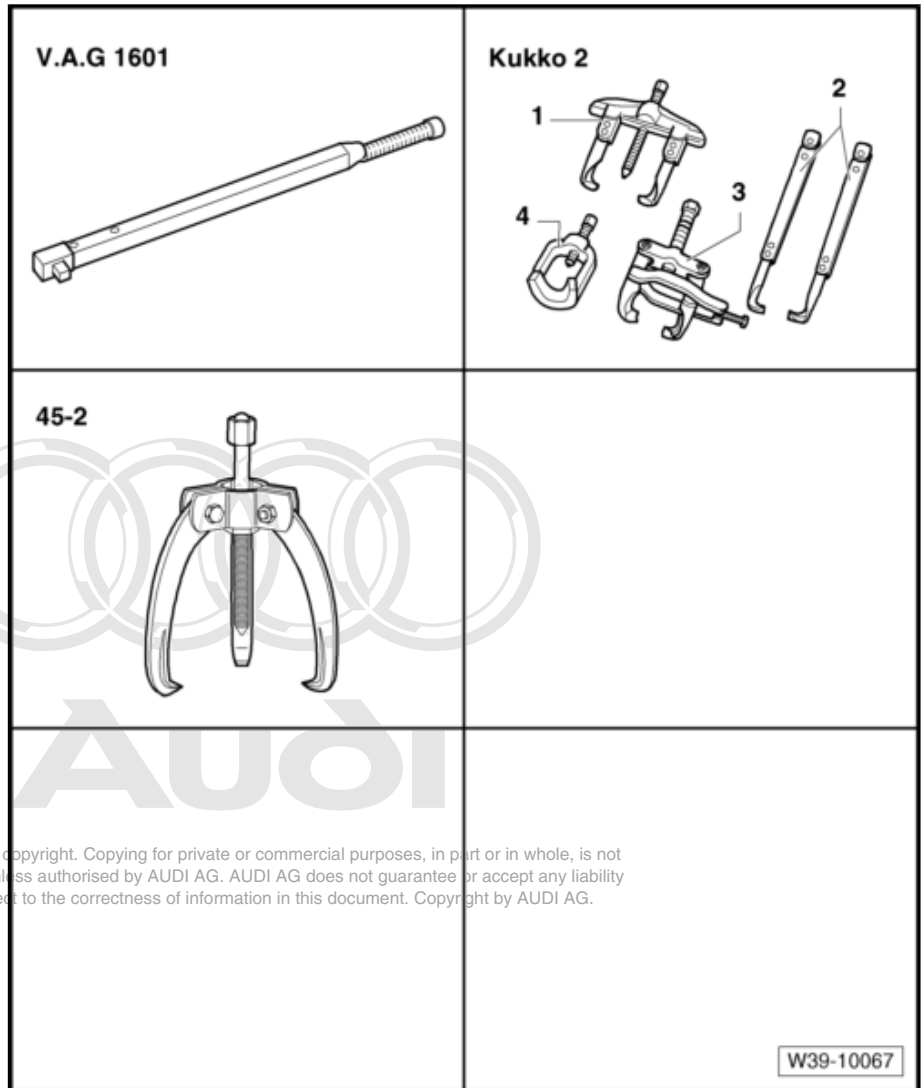
VW 313 	VW 516 
40-105 	T10049 
T10108 	T10108/1  W39-0385



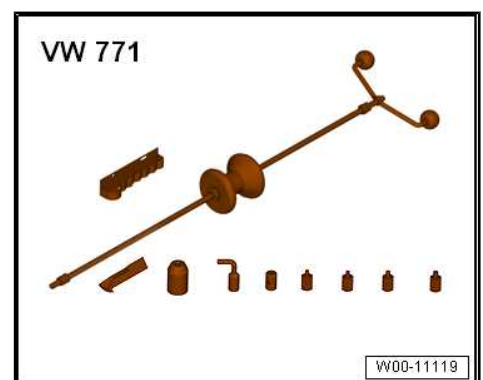
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- ◆ Torque wrench - V.A.G 1601-
- ◆ -1- Two-arm puller - Kukko 20/10-
- ◆ Three-arm puller - Kukko 45-2-



- ◆ Multi-purpose tool - VW 771-



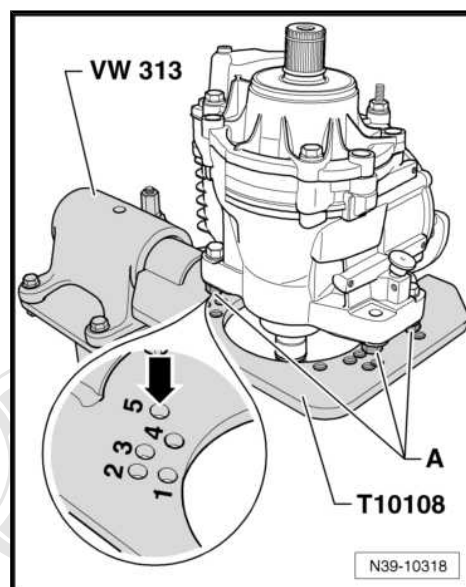
- ◆ Extractor tool - VW 771/37-



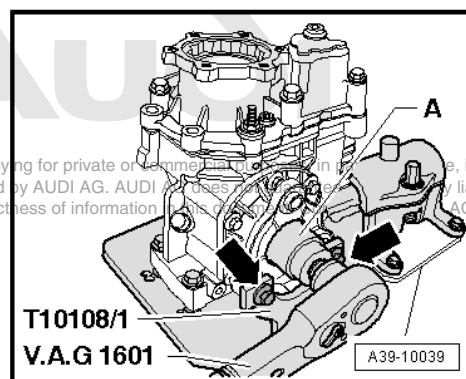
- ◆ Sealing grease - G 052 128 A1-
- ◆ Locking fluid ⇒ Electronic parts catalogue
- ◆ Bolt M10x30 (2x)
- ◆ Nuts M12x10 (4x)

Procedure

- Bevel box removed ⇒ [page 93](#) .
- Locate bevel box on hole marked -5- -arrow- in gearbox support - T10108- .
- A - Place nuts M 12 x 10 (4x) between bevel box and gearbox support . Nuts function as spacers.
- Then align bevel box with hole opposite and secure.
- Drain gear oil out of bevel box ⇒ [page 160](#) .



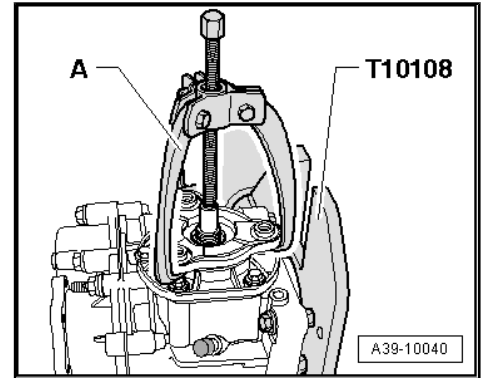
- Lock output flange for bevel box in position using support plate - T10108/1- and bolts M10x30 (2x) -arrows-.
- Unscrew hexagon nut for output flange.
- A - 36 mm socket for 3/4" drive
- Swing bevel box so that output flange points upwards.



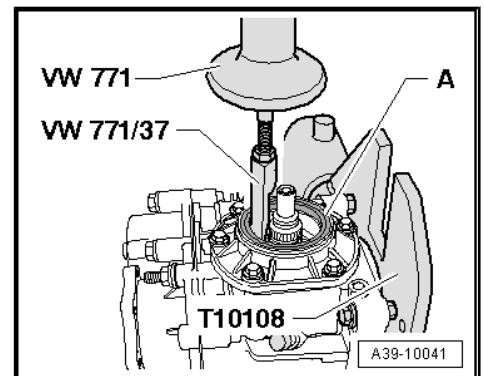
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- Pull output flange off shaft bevel gear of bevel box.

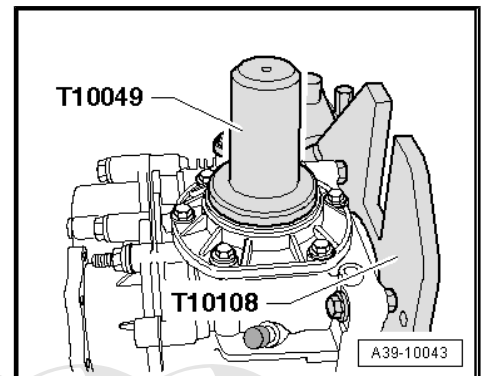
A - Three-arm puller , e.g. -Kukko 45-2-



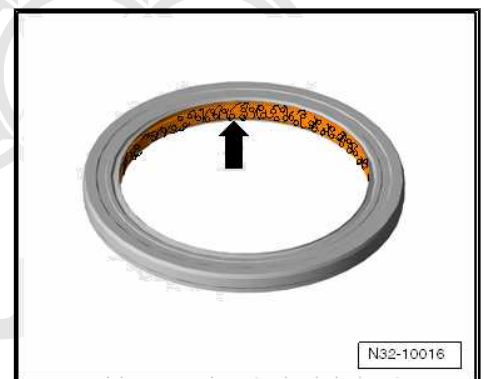
- Pull out oil seal -A- for output flange.
- Clean residual locking fluid from thread of shaft bevel gear.



- Lubricate outer circumference of new oil seal with gear oil.
- Drive in oil seal as far as stop using thrust piece - T10049- .



- Pack space between sealing lip and dust lip half-full with sealing grease - G 052 128 A1- .

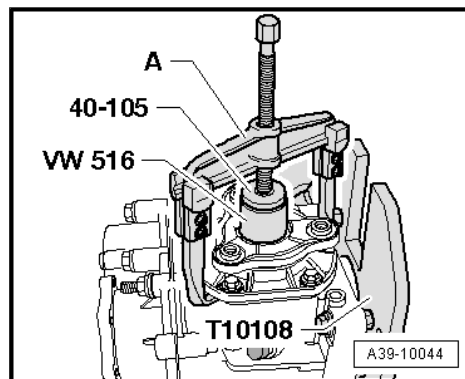


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- Apply puller hooks to underside of pinion housing and draw in output flange.

A - Two-arm puller , e.g. -Kukko 20/10-

- Coat thread of new nut for output flange with locking fluid.

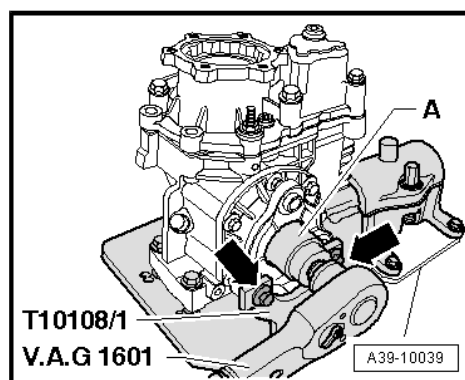


Tightening new hexagon nut for output flange to specified torque

- Tightening torque ➔ [Item 10 \(page 166\)](#)

A - 36 mm socket for 3/4" drive

- Fill up gear oil after installing bevel box ➔ [page 160](#) .



4.4.2 Removing and installing output flange - OCP

Special tools and workshop equipment required

- ◆ Support clamp - VW313-



- ◆ Gearbox support - T10108-

- ◆ Three-arm puller, e.g. KUKKO 45-2, -VAS 251 205-

- ◆ Extractor tool - T20143-

- ◆ Locking tool - T40265-

- ◆ Drift sleeve - 40-21-

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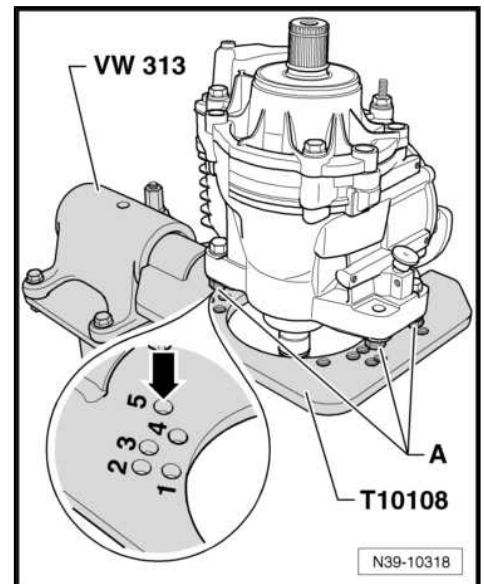
- ◆ Thrust piece - T10565-



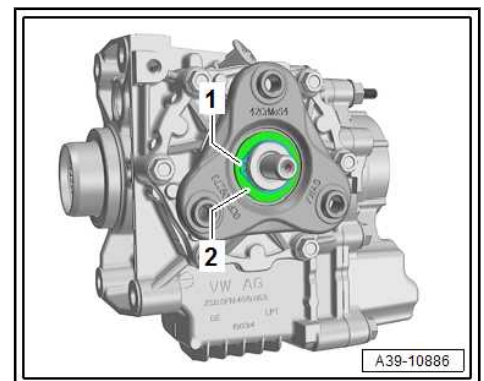
- ◆ Sealing grease - G 052 128 A1-
- ◆ Locking fluid ⇒ Electronic parts catalogue
- ◆ Bolt M10x30 (2x)
- ◆ Nuts M12x10 (4x)

Removing

- Bevel box removed.
- Locate bevel box on hole marked -5- -arrow- in gearbox support - T10108- .
- A - Place nuts M 12 x 10 (4x) between bevel box and gearbox support . Nuts function as spacers.
- Then align bevel box with hole opposite and secure.
- Drain gear oil out of bevel box ⇒ [page 160](#) .
- Swing bevel box so that output flange points upwards.



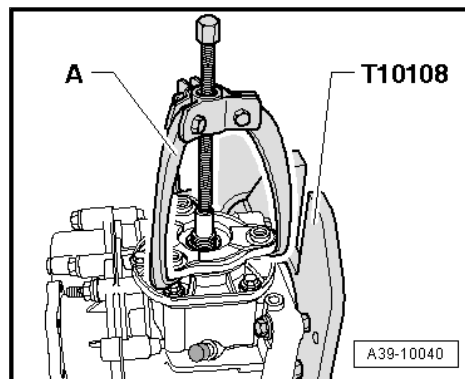
- Remove circlip and take out shim.



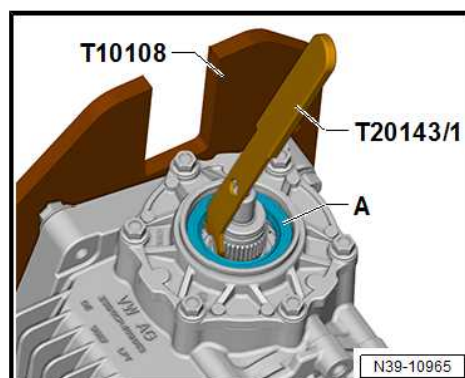
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- Pull output flange off shaft bevel gear of bevel box.

A - Three-arm puller , e.g. -Kukko 45-2-

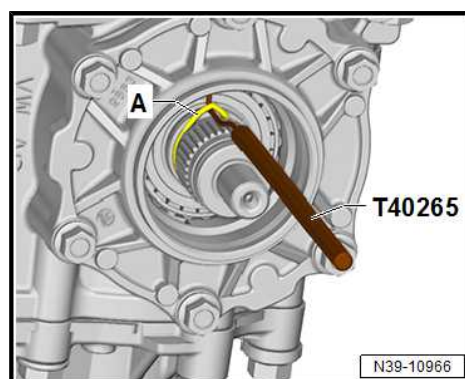


- **Pry out oil seal -A- for output flange.**
- Take care not to damage the seat of the oil seal in the housing.
- Clean oil seal residue from area of shaft bevel gear.

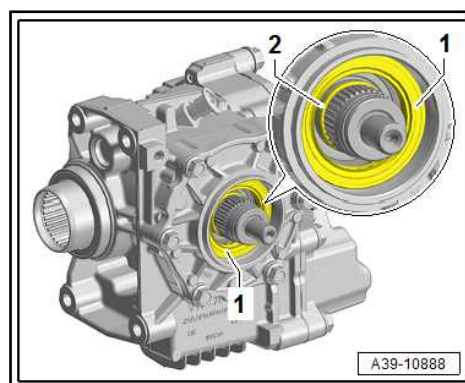


- Remove O-ring -A- from shaft.

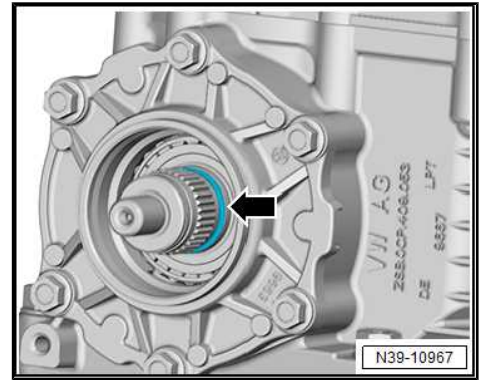
Installing



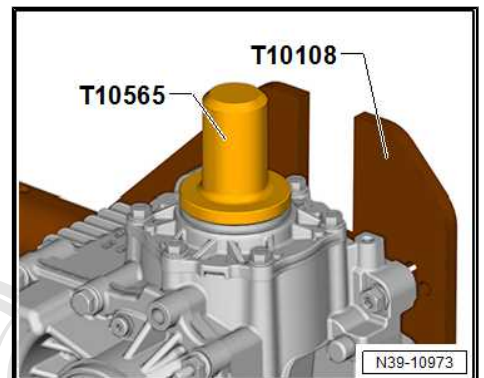
- Renew O-ring for input shaft.
- Lubricate outer circumference of new oil seal with gear oil.



- O-ring must be fitted behind splines in bottom of groove -arrow-.



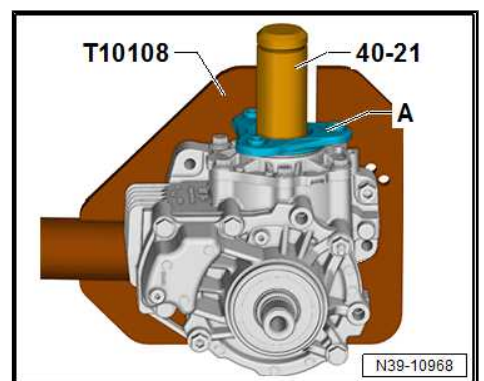
- Drive in oil seal as far as stop using thrust piece - T10565- .



- Pack space between sealing lip and dust lip half-full with sealing grease - G 052 128 A1- .

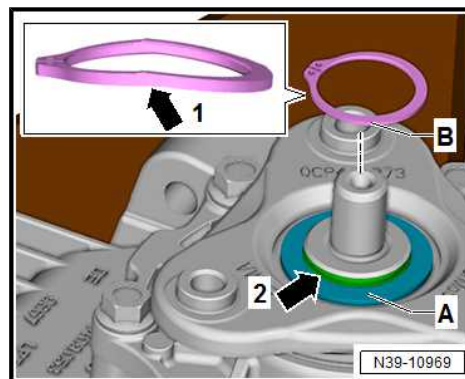


- Using a plastic hammer, carefully drive output flange -A- onto shaft as far as stop.

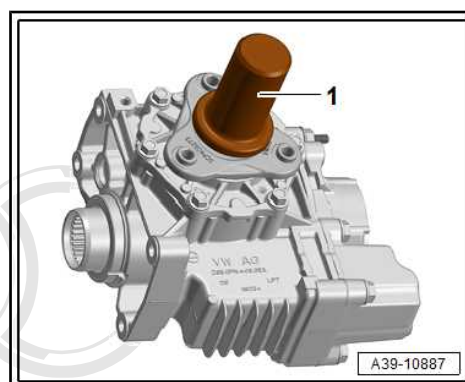


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- Fit shim -A-.
- Secure output flange with circlip -B-.
- The shape of circlip -B- is uneven -arrow 1-.
- Circlip -B- must be fitted in bottom of groove -arrow 2-.



- Fill up gear oil ➔ [page 160](#) .



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