



Repair Manual

Taos Arg 2021 ➤

Taos Mex 2021 ➤

7-Speed DSG Transmission 0GC

Edition 02.2021



List of Workshop Manual Repair Groups

Repair Group

00 - General, 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 – General, Technical Data

1 Safety Precautions

(Edition 02.2021)

⇒ [S1.1 safety Precautions", page 1](#)

⇒ [P1.2 recautions when Working on Vehicles with Start/Stop System", page 1](#)

⇒ [P1.3 recautions during Road Test with Testing Equipment", page 2](#)

⇒ [P1.4 recautions when Tow Starting and Towing", page 2](#)

1.1 General Safety Precautions



WARNING

Risk of accident due to the uncontrolled movement of the vehicle

With the engine running the uncontrolled movement of the vehicle can be possible if a selector lever position is engaged.

- Place the selector lever into the "P" position.
- Engage the parking brake.



CAUTION

Risk of destroying the electronic components.

Risk of destroying electronic components when disconnecting the battery.

- Always turn off the ignition before disconnecting the battery.
- ◆ Only connect and disconnect test equipment when the ignition is off.
- Disconnect the battery. Refer to ⇒ Electrical Equipment; Rep. Gr. 27; Battery; Battery, Disconnecting and Connecting.

1.2 Safety Precautions when Working on Vehicles with Start/Stop System



WARNING

There is a risk of injury from unintended engine start.

The engine can start unexpectedly when the Start/Stop System is activated on the vehicle. A message in the instrument cluster indicates whether the Start/Stop System is activated.

- Deactivate the Start/Stop System: switch off the ignition.



1.3 Safety Precautions during Road Test with Testing Equipment

WARNING

There is a risk of injury due to unsecured testing equipment.

If the front passenger airbag activates during an accident unsecured testing equipment becomes a dangerous projectile.

- Secure testing equipment on the rear seat.

or

- Have a second person operate testing equipment on the rear seat.

1.4 Safety Precautions when Tow Starting and Towing

CAUTION

Risk of damaging the transmission.

It is possible to damage the transmission by towing the vehicle improperly.

- Place the selector lever in the “N” position to tow the vehicle.
- When towing, do not drive faster than 50 km/h and do not drive over 50 km.



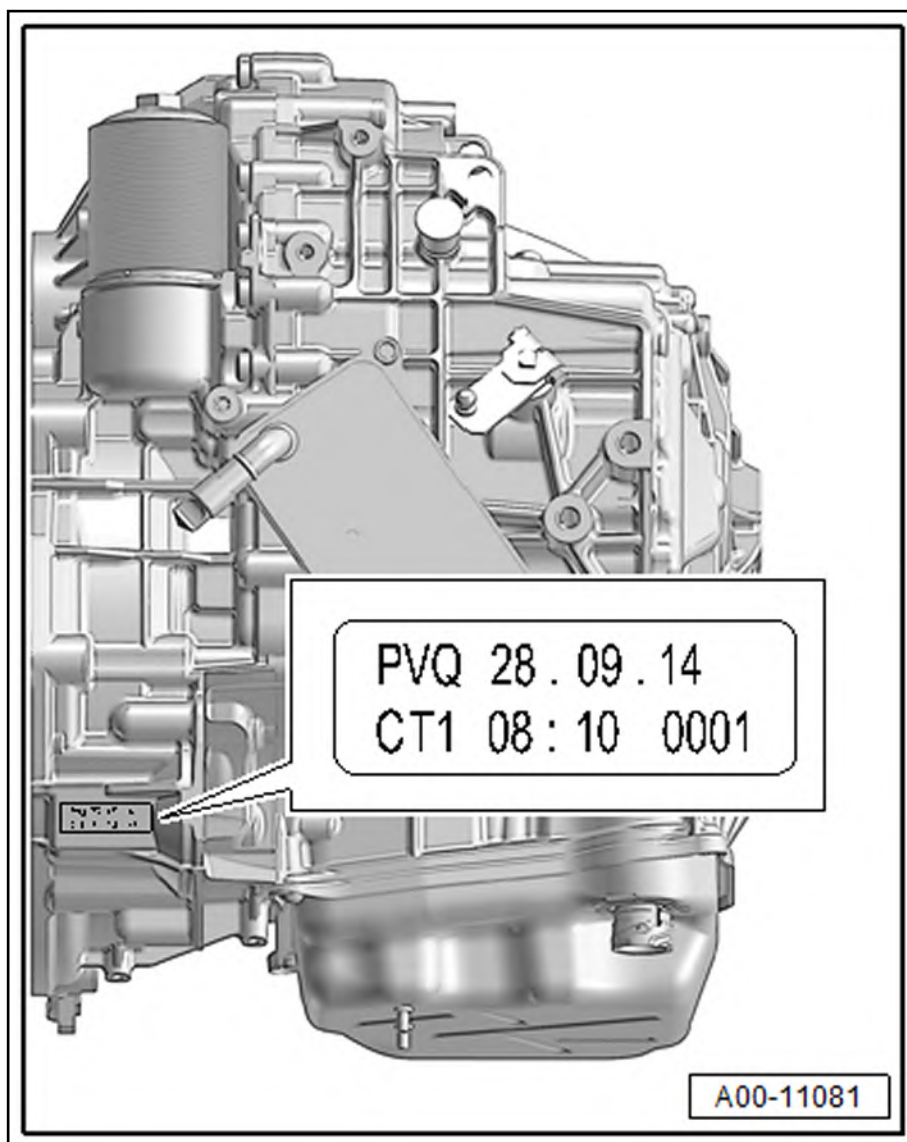
2 Identification

⇒ [I2.1 identification", page 3](#)

⇒ [B2.2 ox Identification", page 4](#)

2.1 Transmission Identification

The transmission code letters are on top of the transmission near the starter.



The transmission code is located on the top of the transmission.

Example

- ◆ PVQ = Transmission code
- ◆ 28.09.14 = production date September 28, 2014.
- ◆ The rest of the dates depend on manufacturing.

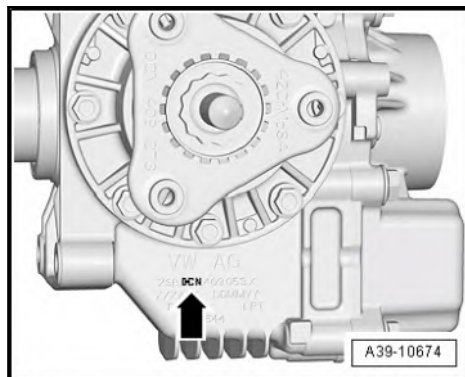
Tip:

- ◆ The transmission code is also on the vehicle data labels.



2.2 Bevel Box Identification

Either the “0AV / 0FV” Bevel Box or “0CN” Bevel Box is Installed.



The bevel boxes can be differentiated as follows:

The area indicated by the -arrow- has either the “0AV” or “0CN” designation.

Additional Characteristics:

The Output Flange on the “0AV / 0FV” Bevel Box is Secured with a Hex Nut. See the Overview - Bevel Box, “0AV / 0FV”. Refer to ➔ [-4.1.1 Bevel Box Components, 0AV / 0FV”, page 110](#) .

The Output Flange on the “0CN” Bevel Box is Secured with a Twelve-Point Nut. See the Overview - Bevel Box, “0CN”. Refer to ➔ [-4.1.2 Bevel Box Components, 0CN”, page 112](#) .

Further description: refer to ➔ [-4.1 Bevel Box Components”, page 110](#) .



3 Repair Information

⇒ [I3.1 nformation", page 5](#)

⇒ [f3.2 or Clean Working Conditions", page 5](#)

⇒ [R3.3 epair Information", page 5](#)

⇒ [a3.4 nd Gaskets", page 6](#)

⇒ [a3.5 nd Nuts", page 7](#)

3.1 General Information

Transmission Fluid

The dual-clutch transmission "OGC" contains only one oil system.

This oil system applies to the wheels/shafts, the final drive, the clutches and the Dual-Clutch Transmission Mechatronic -J743-.

Only use transmission fluid as specified in the Parts Catalog.

Transmission Fluid Filter - »When To Change«

- The transmission fluid filter does not need to be replaced in every case.

Do not replace the filter if:

- ◆ The transmission fluid cooler or its O-rings were replaced and no coolant has entered the transmission fluid.
- ◆ The shaft seals or transmission O-rings were replaced.
- ◆ The transmission fluid pan or Mechatronic were replaced.
- ◆ The maintenance interval was reached.

The filter must be replaced if:

- ◆ Metal shavings were found in the transmission fluid.
- ◆ The clutch is burned or has a mechanical fault.

3.2 Guidelines for Clean Working Conditions

- ◆ Thoroughly clean the connection points and the area around them first, and then loosen them.
- ◆ Seal all open lines and connections immediately with clean plugs or caps from the Engine Bung Set -VAS6122-.
- ◆ Place the removed parts on a clean surface and cover them so that they do not become contaminated. Use foil and paper. Only use lint-free cloths.
- ◆ Make sure no dirt enters an »open« transmission.
- ◆ Only install clean components. Install original parts immediately after removing them from their packaging.
- ◆ Carefully cover any open components if the repair is not going to be performed immediately.
- ◆ Protect the disconnected connectors from dirt and moisture and only connect when they are dry.

3.3 General Repair Information

The highest level of care and cleanliness along with tools that function properly are required to ensure a proper and success-



ful transmission repair. Of course the general safety precautions also apply when carrying out repair work.

General information that applies to various different repair procedures is listed here instead of repeating it multiple times throughout the manual. They apply to this repair manual.

Guided Fault Finding, OBD and Test Instruments

- ◆ Before starting any repairs on the transmission, determine the exact cause of the damage if possible using the Vehicle Diagnostic Tester in Guided Fault Finding, OBD or Test Instruments.

Special Tools

For a complete list of special tools used in the repair manual, refer to Workshop Equipment and Special Tools.

Transmission

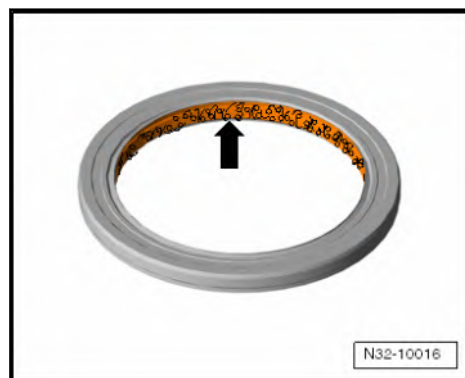
Always make sure that no dirt can get into an »open« transmission. Any dirt that enters can cause transmission failure, especially if the Dual-Clutch Transmission Mechatronic -J743- and/or the oil pump are »exposed«.

- ◆ Do not run the engine and do not tow the vehicle if the transmission cover is removed or if there is no transmission fluid inside the transmission.
- ◆ Thoroughly clean the connection points and the area around them first, and then loosen them.
- ◆ When installing the transmission, make sure the alignment sleeves are seated correctly between the engine and the transmission.

Circlips

- ◆ Do not stretch the circlips.
- ◆ Replace damaged or stretched circlips.
- ◆ The circlips must rest at the bottom of the groove.

3.4 Seals and Gaskets

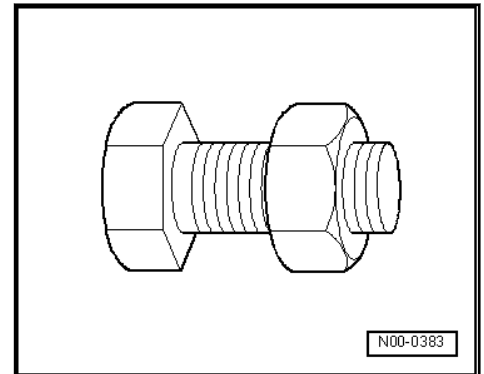


- ◆ Replace the O-rings, seals and gaskets.
- ◆ After removing gaskets and seals, always inspect the contact surfaces on the housing or shaft for burrs or damage resulting from removal.
- ◆ Before installing the gasket, lightly oil and fill the space between the sealing lips -arrow- halfway with Grease.
- ◆ The open side of the gaskets point toward the fluid to be sealed in.



- ◆ Only use DSG® transmission fluid. Other lubricants cause malfunctions.
- ◆ Coat the O-rings with DSG® transmission fluid before inserting to prevent crushing the rings during installation.
- ◆ After replacing seals, O-rings and gaskets, check the transmission fluid level and fill if necessary. Refer to [⇒ F9 fluid](#), [page 82](#).

3.5 Bolts and Nuts



- ◆ Loosen and tighten the bolts and nuts on the covers or housings in a diagonal sequence.
- ◆ The tightening specifications given apply to uncoiled bolts and nuts.
- ◆ Use a wire brush to clean the threads of the bolts that were installed with locking fluid. Insert the bolts with Locking Fluid.
- ◆ Use a thread cutter to clean all threaded holes containing self-locking bolts to remove any locking compound residue. Otherwise the bolts could shear the next time they are removed.
- ◆ Please make sure that the thread pitch is correct so that the proper thread cutter is used during cleaning, and the thread does not get damaged.
- ◆ Always replace self-locking bolts and nuts.



4 Technical Data

⇒ 4.1, page 8

⇒ A4.2 Allocation", page 8

4.1 Capacities

⇒ D4.1.1 SG® Transmission", page 8

⇒ B4.1.2 Box Capacities", page 8

4.1.1 Capacities, DSG® Transmission

Capacity	7-Speed DSG® Transmission 0GC
Initial filling	Refer to ⇒ Fluid Capacity Tables; Rep. Gr. 03
Change ◆ Change interval. Refer to ⇒ Maintenance Intervals; Rep. Gr. 03 and/or Refer to ⇒ Fluid Capacity Tables; Rep. Gr. 03.	⇒ Fluid Capacity Tables; Rep. Gr. 03
Grease	DSG Transmission Fluid

Transmission fluid is obtainable as a replacement part. Refer to the Parts Catalog for the part number.

4.1.2 Bevel Box Capacities

Capacity	Front Bevel Box
Initial filling	Refer to ⇒ Fluid Capacity Tables; Rep. Gr. 03
Change	Permanent fill, no change
Grease	Gear Oil

Transmission fluid is obtainable as a replacement part. Refer to the Parts Catalog for the part number.

4.2 Transmission/Engine Allocation

Always use the transmission code letters if a repair requires original parts.

7-Speed DSG® transmission 0CG »AWD«			
Codes	UAR		
Engine	1.5 - 118 kW TSI		



5 Electrical Components

⇒ [L5.1 ocation Overview - Electrical Components", page 9](#)

5.1 Component Location Overview - Electrical Components

1 - Dual-Clutch Transmission Mechatronic -J743-

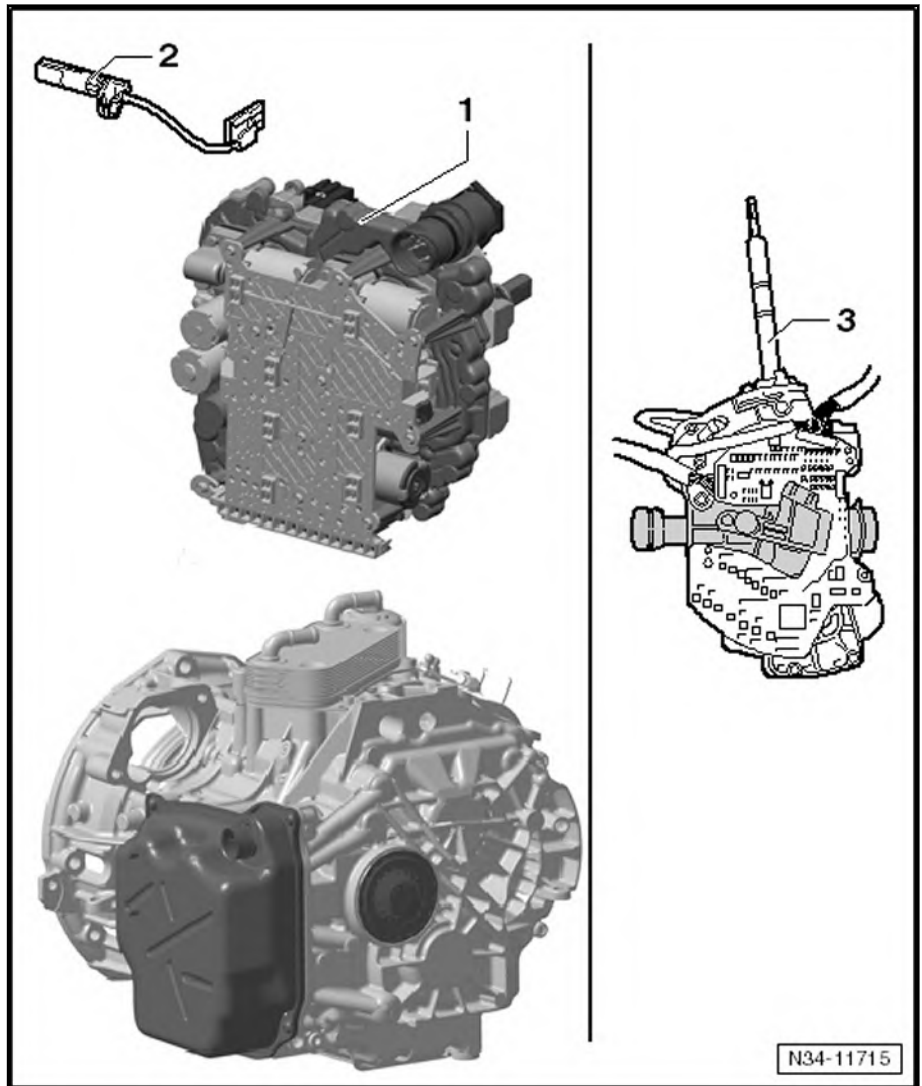
- ❑ Removing and Installing. Refer to ⇒ [R1.3 emoving and Installing", page 33](#) .

2 - Transmission Input Speed Sensor -G182- and Clutch Oil Temperature Sensor -G509-

- ❑ Not for this model

3 - Selector Lever -E313-

- ❑ With Selector Lever Sensor System Control Module -J587-, Shift Lock Solenoid -N110- and Selector Lever Park Position Lock Switch -F319-
- ❑ The components are integrated in the circuit board for the selector mechanism function unit and cannot be replaced individually.
- ❑ Checking. Refer to the Vehicle Diagnostic Tester.
- ❑ Shift Mechanism, Removing and Installing. Refer to ⇒ [M3.6 echanism, Removing and Installing", page 51](#) .





30 – Clutch

1 Clutch

⇒ -1.1 Dual Clutch", page 10

⇒ E1.2 nd Cover, Removing and Installing", page 10

⇒ C1.3 lutch, Removing", page 14

⇒ C1.4 lutch, Installing", page 17

1.1 Overview - Dual Clutch

Replacement Part Package

1 - Circlip for Dual Clutch End Cover

- ❑ Replace after removing

2 - Dual Clutch Circlip

- ❑ Replace after removing

3 - Drive Plate Circlip

4 - Dual Clutch

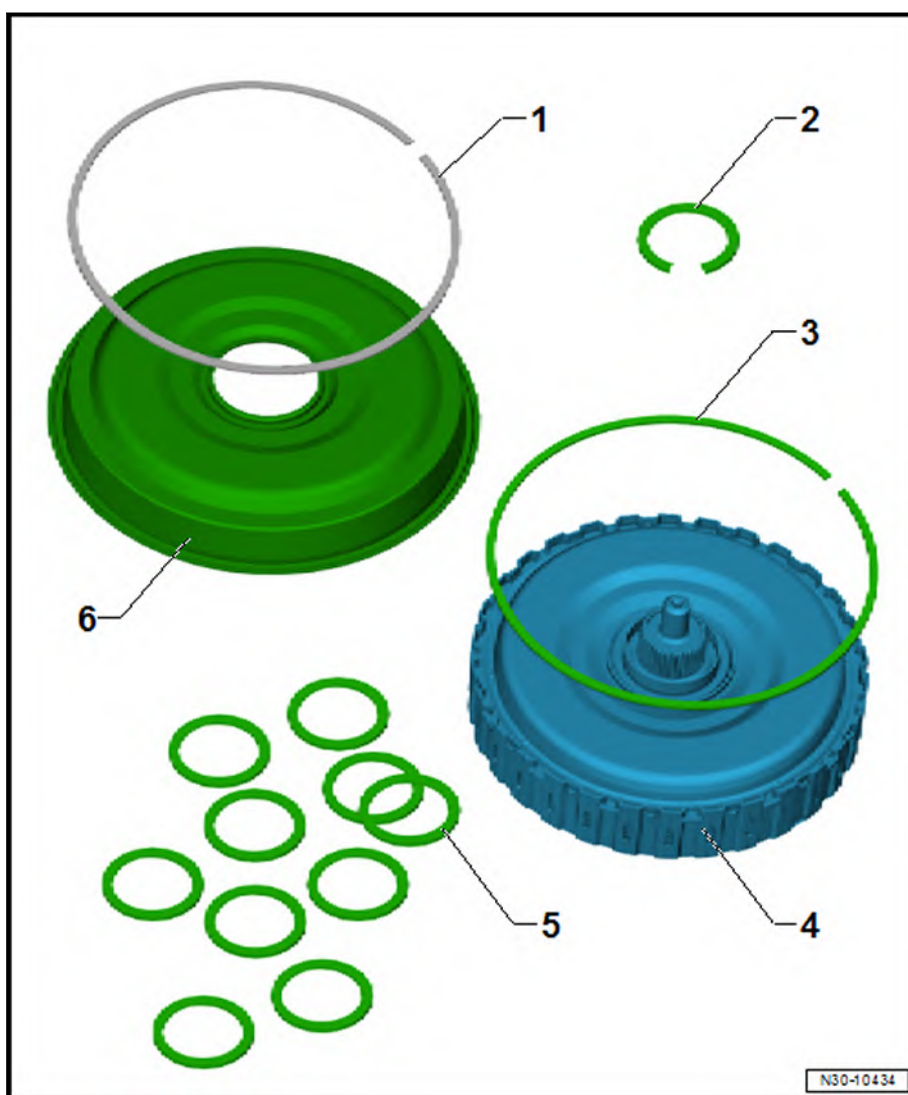
- ❑ Removing. Refer to ⇒ [C1.3 lutch, Removing", page 14](#) .
- ❑ Installing. Refer to ⇒ [C1.4 lutch, Installing", page 17](#) .

5 - Spacer Rings

- ❑ 10 spacer rings, that are different »thicknesses«. They are staggered in 0.05 mm increments.
- ❑ When installing the dual clutch, the thickness of the spacer ring must be determined.

6 - Dual Clutch End Cover

- ❑ Replace after removing
- ❑ Removing and Installing. Refer to ⇒ [E1.2 nd Cover, Removing and Installing", page 10](#) .



1.2 Clutch End Cover, Removing and Installing

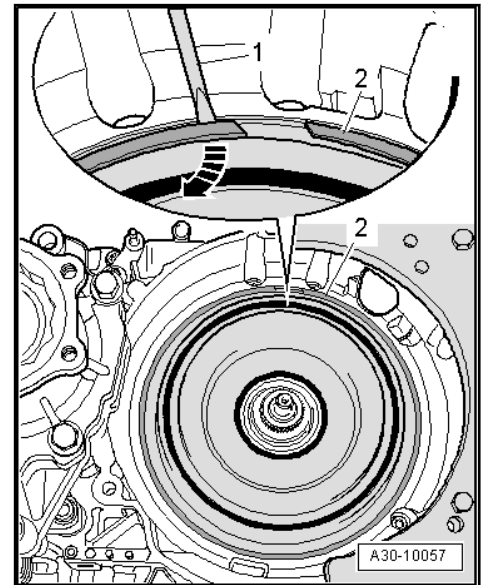
Special tools and workshop equipment required

- ◆ Assembly Sleeve -T10459-

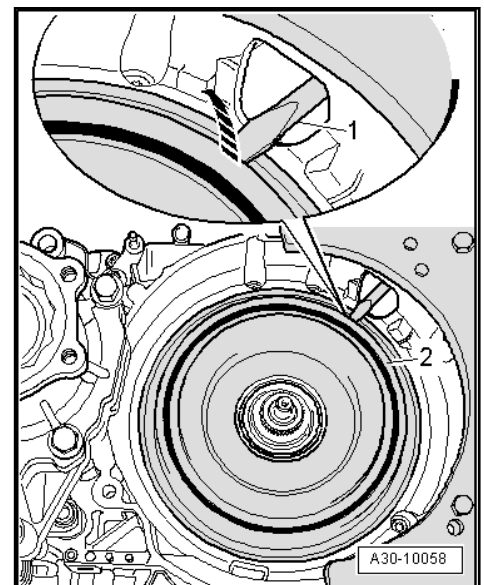


Removing

- The cover and the circlip must always be replaced.
- Drain the transmission fluid. Refer to [⇒ F9.4 Fluid, Draining and Filling](#), page 86 .
- Remove the transmission. Refer to [⇒ R4.2 Removing](#), page 58 .
- Secure the transmission vertically to the engine and transmission holder. Refer to [⇒ 07 n Engine and Transmission Holder](#), page 74 .
- Replace the transmission fluid filter. Refer to [⇒ F8.3 Fluid Filter, Removing and Installing](#), page 78 .
- Pry out the circlip -2- for the clutch end cover with a screwdriver -1- in direction of -arrow- and remove.



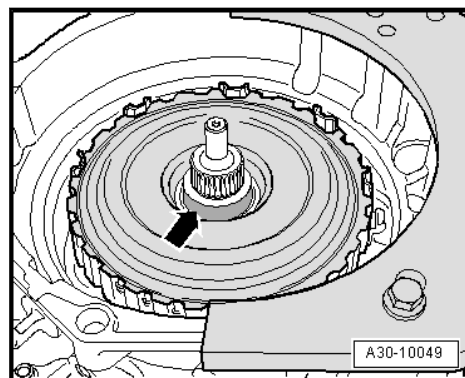
- Remove the clutch end cover -2- with a screwdriver -1- or a tire iron in direction of -arrow- through the side opening in the housing and then remove the clutch end cover.



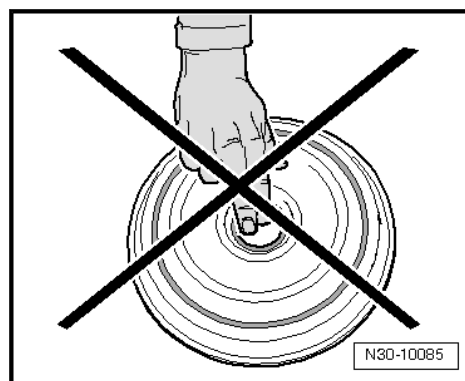
- The removed clutch end cover and the circlip may not be installed again.



Installing



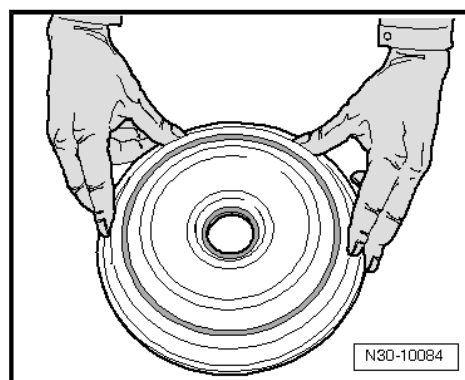
- Replacing clutch end cover and circlip.
- Thoroughly grease the contact surface for the seal from the clutch end cover -arrow-.
- Clean the running surface for the outer seal on the clutch end cover.



CAUTION

Risk of leaks on the clutch end cover.
Transmission damage due to oil loss.

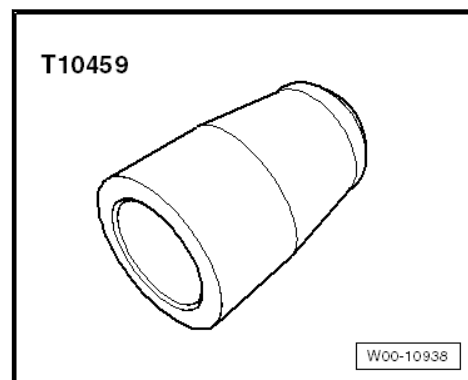
- Do not touch the seal in the inner opening of the clutch end cover!
 - Do not load the clutch end cover by hitting with a hammer.
-
- Only handle the clutch end cover as shown -in this illustration-!



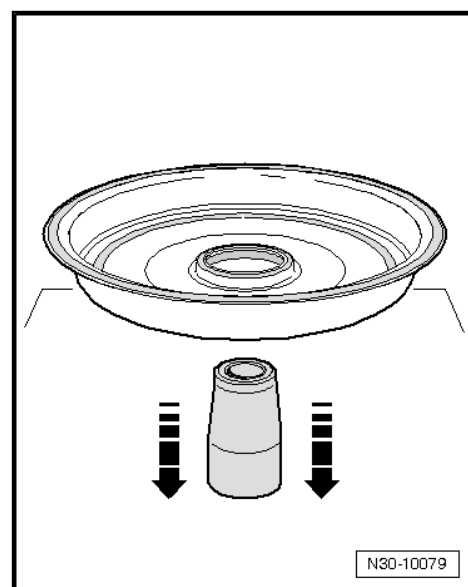
- Do not apply any stickers to inside of the clutch end cover. If there is a sticker carefully remove it.



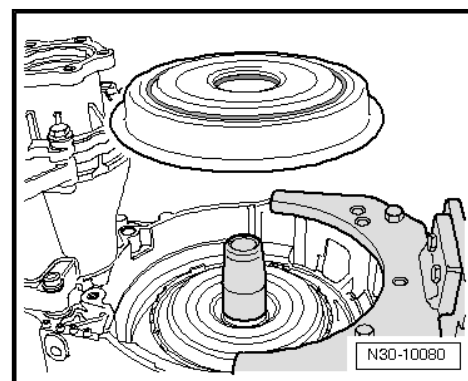
- Degrease and clean the -T10459- before using; do not use scratched sleeves.



- Place the -T10459- on a level surface.



- Guide the clutch end cover horizontally and evenly over the entire -T10459-. This brings the sealing lip into its installation position.
- Remove the -T10459- upward out of the cover and place it on the clutch shaft end.



- Coat the outer cover seal with oil.



⚠ CAUTION

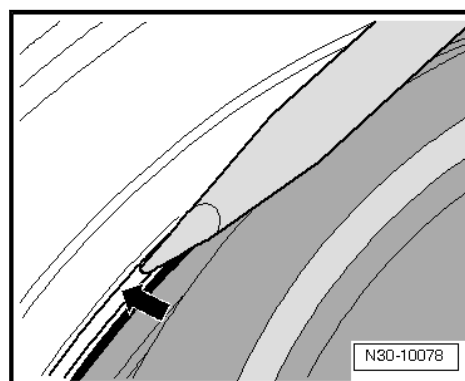
Risk of leaks on the clutch end cover.

Transmission damage due to oil loss.

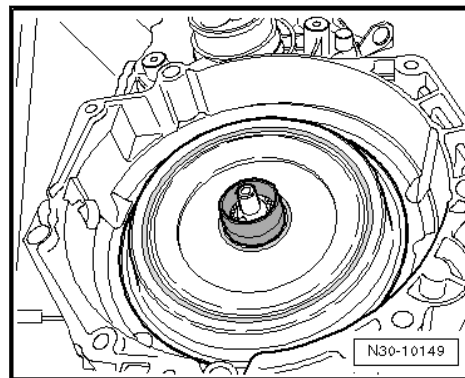
- Do not touch the seal in the inner opening of the clutch end cover!
- Do not load the clutch end cover by hitting with a hammer.

- Guide the cover horizontally over the -T10459- and press it evenly onto its seat.

It is possible to carefully pry the cover into its place using a -screwdriver-, until the »new« circlip can be installed.



- Install the new circlip.
- Only remove the -T10459- after the circlip is installed.



- Install the transmission. Refer to ⇒ [I4.3 nstalling](#)”, [page 66](#) .
- Fill the transmission fluid. Refer to ⇒ [F9.4 luid, Draining and Filling](#)”, [page 86](#) .
- After installing the transmission, perform the basic setting using the Guided Functions using the ⇒ Vehicle Diagnostic Tester.

1.3 Dual Clutch, Removing

Special tools and workshop equipment required

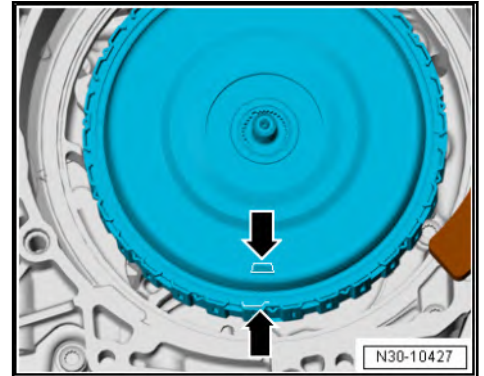
- ◆ T-Handle Hook -3438- (quantity: 2)
- ◆ Puller - Unit Injector -T10055-
- ◆ Puller -T10525-
- ◆ Retaining Bar -T10524-



Removing

- Remove the clutch end cover. Refer to [⇒ E1.2 nd Cover, Removing and Installing”, page 10](#).

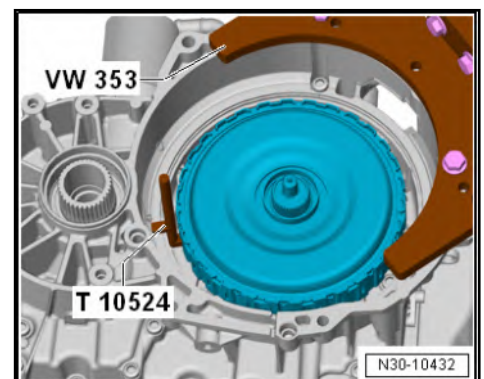
Important! Installation Position of the Drive Plate



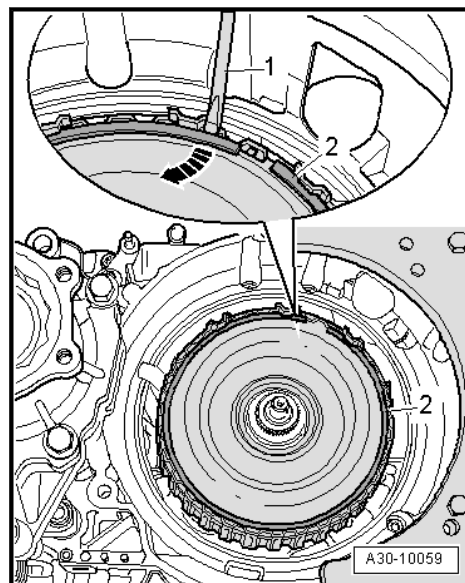
- Please check if the mark on the drive plate -arrow- aligns with the mark on the outer clutch plate carrier.

If there is no marking:

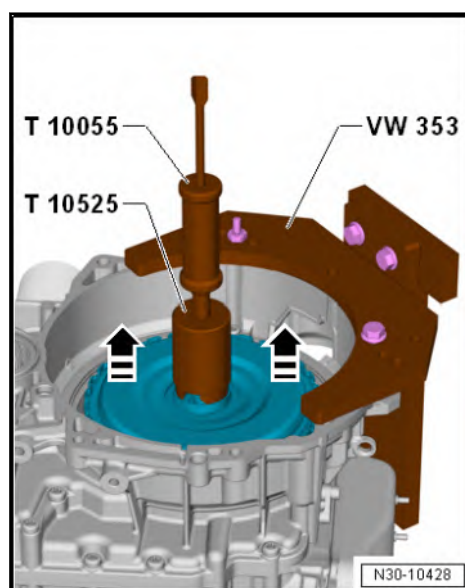
- Mark the installation position of the drive plate to the outline of the outer clutch plate carrier with a waterproof marker.
- When installing, the drive plate must be placed back on this marked location.
- Insert the -T10524-.



- Pry out the drive plate circlip -2- with a screwdriver -1- in direction of -arrow-.

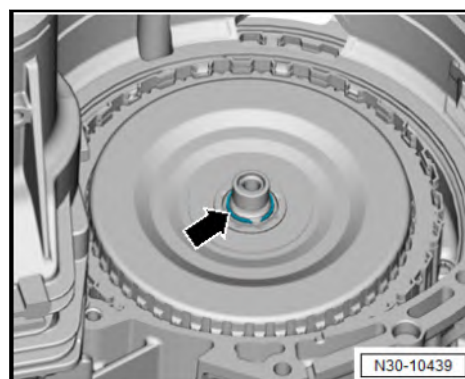


- Place the - T10525- with - T10055- on the splines and carefully drive out the drive plate from its seat in direction of -arrows-.



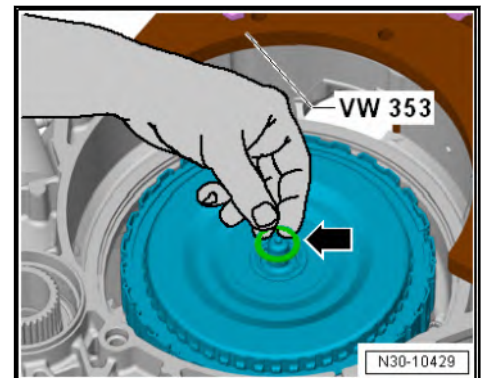
Tip:

- ◆ Secure the circlip from jumping away. The circlip can fall through an opening into the inner transmission.
- Remove the circlip -arrow- and store it for the time being.

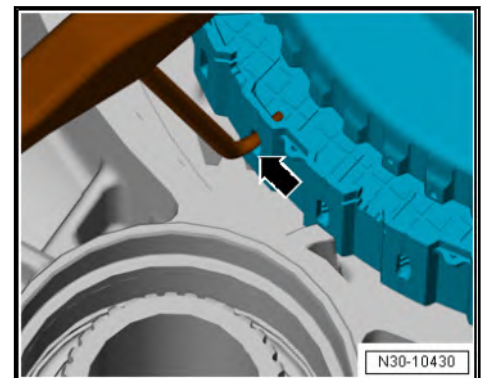




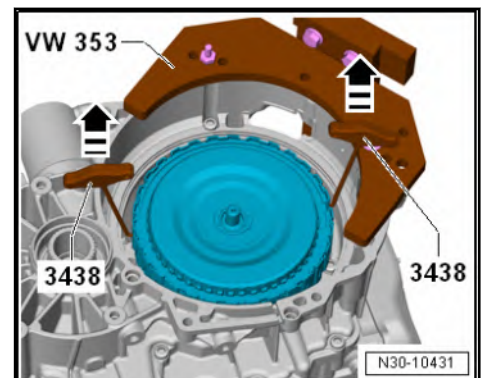
- Do not dispose of the circlip yet it is needed to measure the axial play.
- Remove the shim -arrow-.



- Hook the two - 3438- oppositely in the clutch -arrow-.



- Remove the dual clutch using the -3438-.



- Carefully remove the dual clutch. Make sure that no other parts of the clutch fall out; for this reason, never turn over the clutch!

Installing

- Dual Clutch, Installing. Refer to [⇒ C1.4 lutch, Installing](#), [page 17](#) .

1.4 Dual Clutch, Installing

Special tools and workshop equipment required

- ◆ Dial Indicator Holder -VW387-
- ◆ Dial Indicator - 0-10mm -VAS6079-
- ◆ Retaining Bar -T10524-

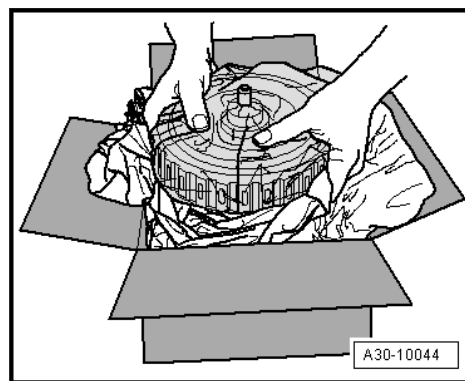


◆ Thrust Piece -T10526-

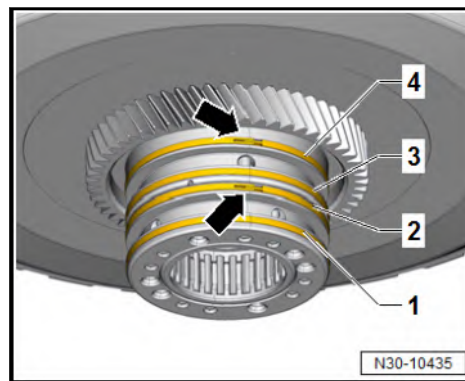
Tip:

- ◆ The drive plate must remain engaged between the teeth of the outer clutch plate carrier.
- ◆ If the drive plate is loosened, the clutch plates in the dual clutch can slip out of place. The dual clutch may not be correctly set during installation under certain circumstances.

Installing

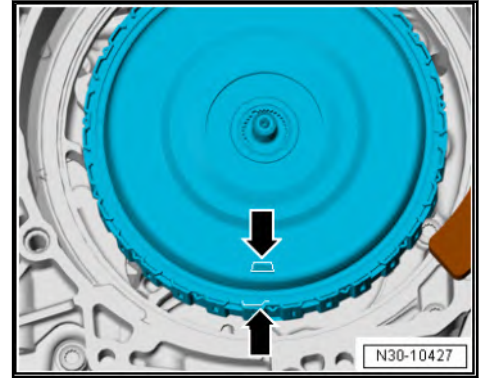


- Use special caution when removing the dual clutch from the packaging.
- Do not remove or lift the clutch pack, not even a small amount. The clutch plates can rotate themselves.
- Turn the piston ring by hand. They must move freely and must not stick.

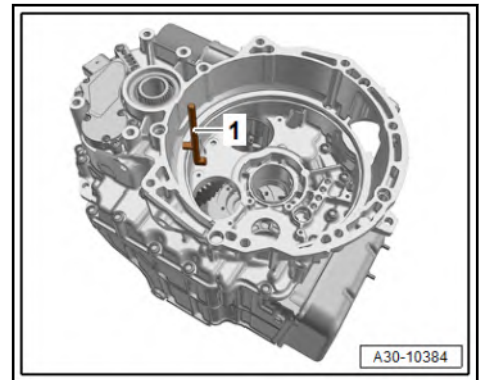


- Pay attention that the piston rings -1, 2, 3 and 4- are seated correctly. The ends of the ring -arrows- and the piston rings -1 and 3- must align with each other.
- The ends of the ring -arrows- of the piston rings -2- and -4- should be 180° offset to the ends of the ring of the piston rings -1 and 3- and align.

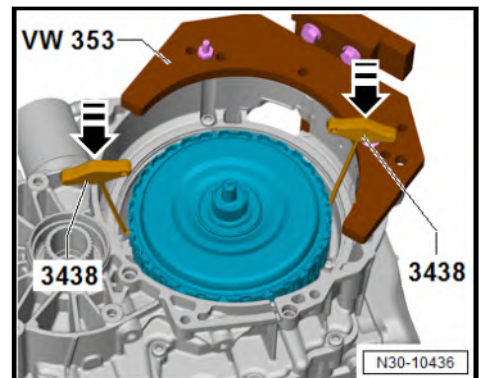
Important! Drive Plate Position



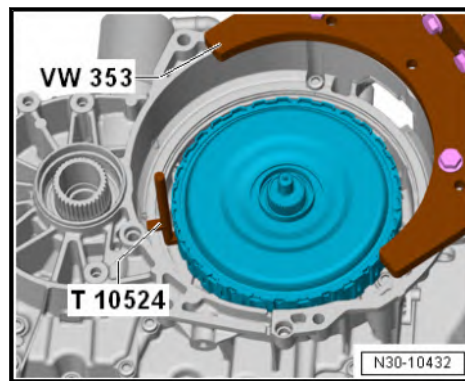
- Before installing, check if a mark -arrow- is on the dual clutch.
- If no mark is present, apply a color coding of the drive plate and on the outer clutch plate carrier with a waterproof pen.
- Insert the -T10524- -1-.



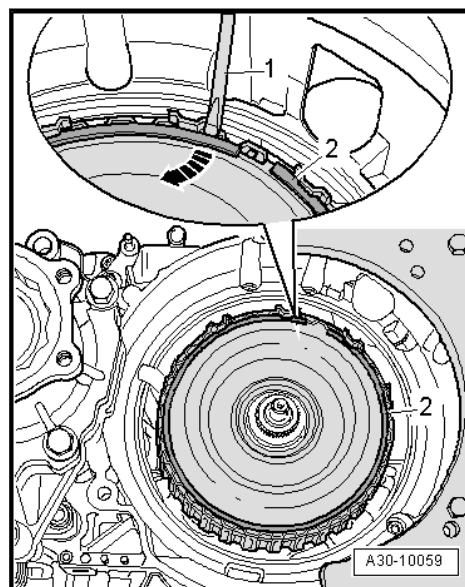
- A second technician should hold the -T10524- when inserting the dual clutch.
- Carefully insert the dual clutch do not let it fall.



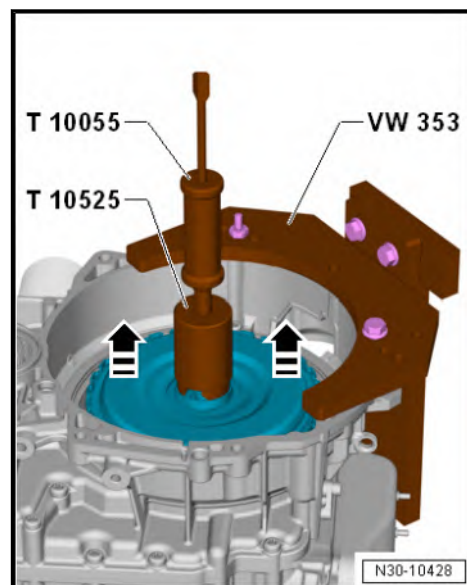
- If necessary insert by lightly turning the clutch.
- The dual clutch is in the correct installation position when the -T10524- has very little play.



- The retaining pin remains there until clutch end cover is installed.
- Do not turn the dual clutch any further, otherwise the - T10524- could be twisted in its position.
- Pry out the drive plate circlip -2- with a screwdriver -1- in direction of -arrow-.

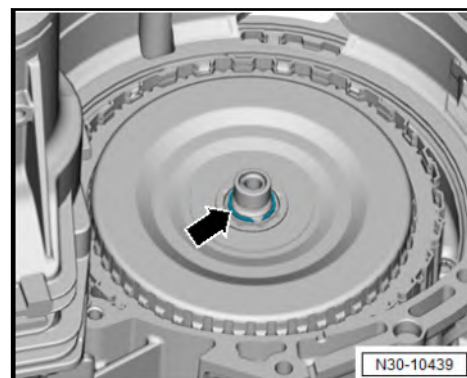


- The circlip is reinstalled. Do not dispose of.
- Place the - T10525- with - T10055- on the splines and carefully drive out the drive plate from its seat in direction of -arrows-.



- The -T10524- must be held by a second technician when removing.
- Carefully remove the drive plate from the dual clutch -arrows- and move to the side.

Determine the Shim for the Dual Clutch:

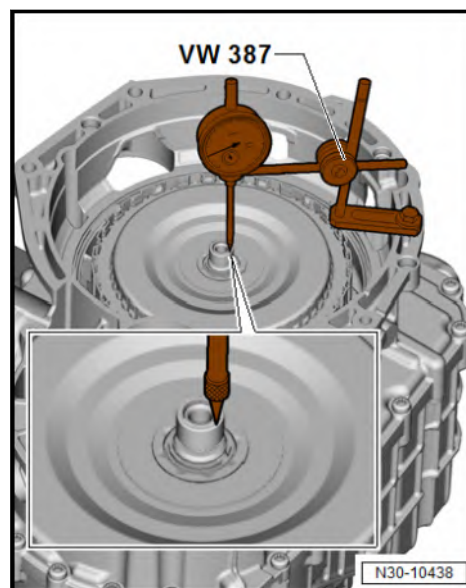


- The -T10524- remains inserted.
- Install the “old” circlip -arrow- temporarily.

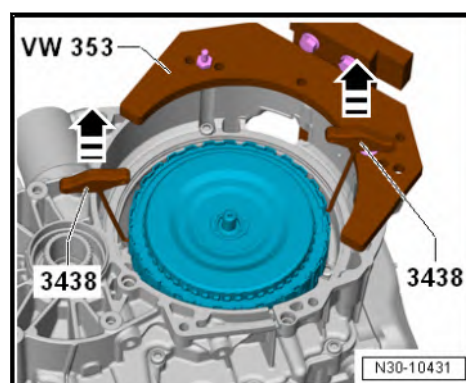
Before this ring is disposed of, three measurements must be performed first.



First Measurement (Axial Play of the Shaft)



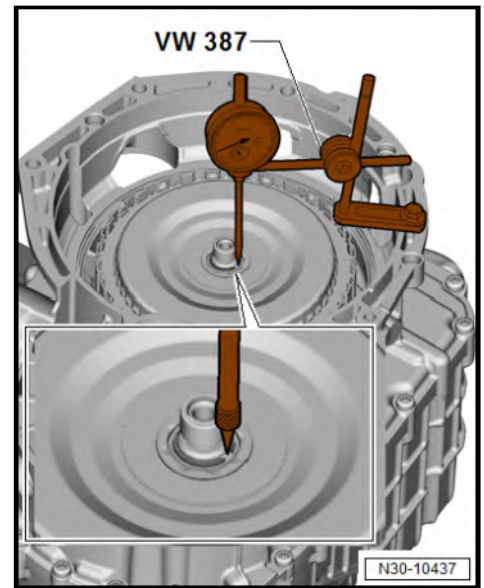
- Install the -VW387- on the transmission flange.
- Place the -dial gauge button- on the input shaft.
- Adjust the -dial gauge- pretension to 0.
- Pry up the dual clutch using the -3438- in the direction of -arrow- using force upward all the way and note the measurement result.



- Name this value “A”.
- The value is needed later for a measurement check for this reason retain the value “A” until the last measurement.



Second Measurement



- The -T10524- remains inserted.
- Place the gauge button
-on the hub of the large clutch plate carrier-.
- The plunger must not rest on the circlip.
- Adjust the -dial gauge- pretension again to 0.
- Raise the double clutch upward using force until stop and note the measurement.
- Name this value “B”.

Now Which Shim will be Installed is Calculated:

- Use this formula for this:
Measured value “B” minus the measured value “A” minus
0.11 = the thickness of the rings to be installed.
- Write down the measurement result.

The adjusting rings are staggered in 0.05 mm increments.

- Measure the shims and determine the shim which comes the closest to the result.

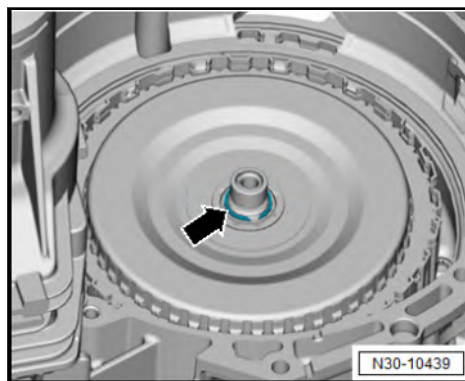
Tip:

- ◆ The next largest shim is always used, never install a smaller shim.

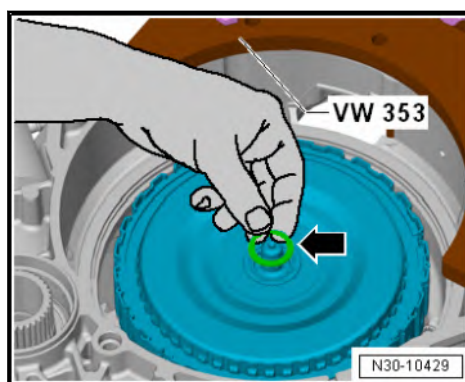
Example:

Determined Dimension of the Shim	New Shim
1.28 mm	1.3 mm
1.26 mm	1.3 mm

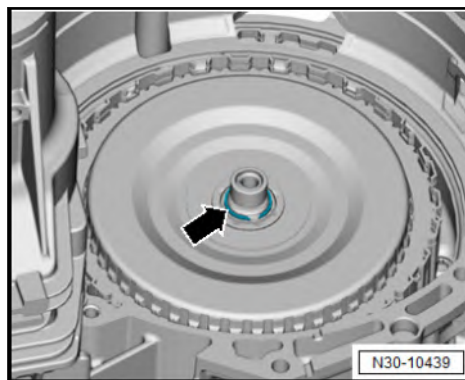
- Remove the old circlip -arrow-.



- Do not dispose of the ring yet it will be needed again.
- Install the determines shim.

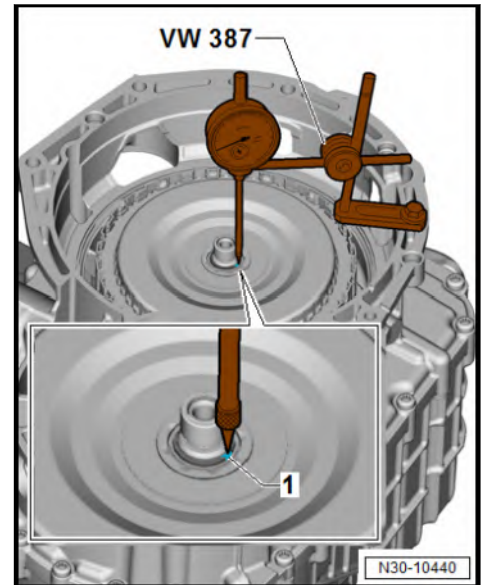


Three Measurements (Check Measurement)



Another measurement check is performed to check the shim.
To do so proceed as follows.

- The -T10524- remains inserted.
- Install the old circlip -arrow- again.
- Place the gauge button on the hub of the large clutch pack carrier.



- The test probe must contact the shim -1-.
- Adjust the -dial gauge- pretension again to 0.
- Raise the double clutch upward using force until stop and note the measurement.
- Name this value “C”.

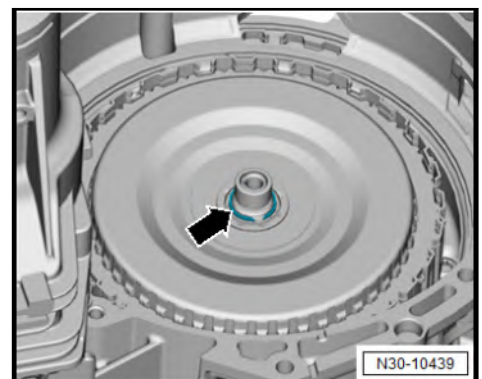
Now the Final Shim which will be Installed is Calculated:

- Use this formula for this:
Measured value “C” minus measured value “A” = specified value

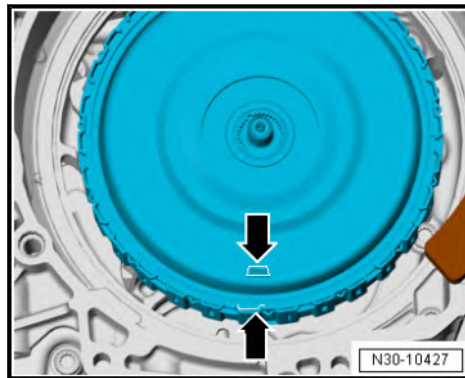
The specified value must be between 0.05 to 0.12 mm.

If the specified value is not reached then reach the specified value by installing a thicker or thinner shim.

- Install a new circlip -arrow-.



- Insert the drive plate into the dual clutch.



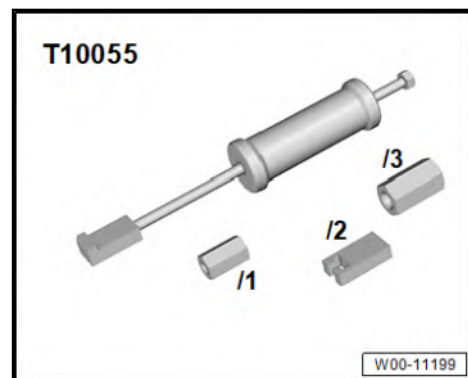
- When installing pay attention that the mark on the drive plate aligns with the mark on the outer clutch plate carrier -arrows-. Make note of markings that have been changed retrospectively.
- Have a second technician hold the -T10524- in its position and push it slightly outward.
- Using the -40-21- and a plastic mallet carefully drive the drive plate in its position.
- Install the drive plate circlip.
- Push the circlip on the opening starting clockwise in the end position.
- The circlip must be completely engaged.
- Check the exact installation position of the circlip and that the circlip is engaged using a screwdriver.
- Now remove the -T10524- between the dual clutch and the housing.
- Install the clutch end cover. Refer to [⇒ E1.2 nd Cover, Removing and Installing”, page 10](#) .



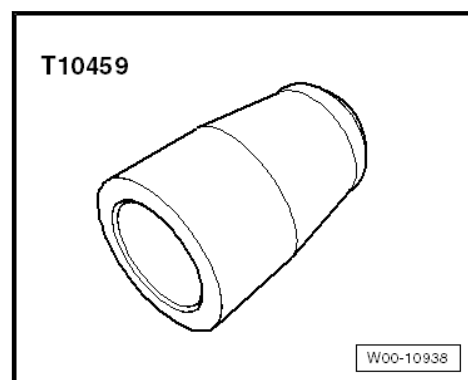
2 Special Tools

Special tools and workshop equipment required

- ◆ Puller - Unit Injector -T10055-



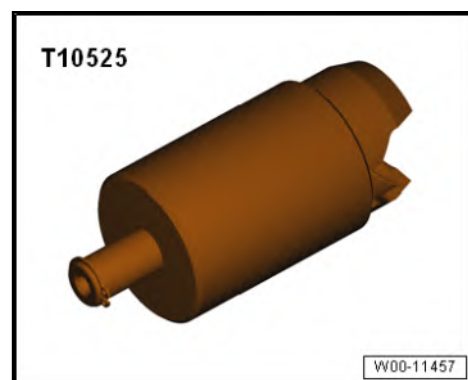
- ◆ Assembly Sleeve -T10459-



- ◆ Retaining Bar -T10524-

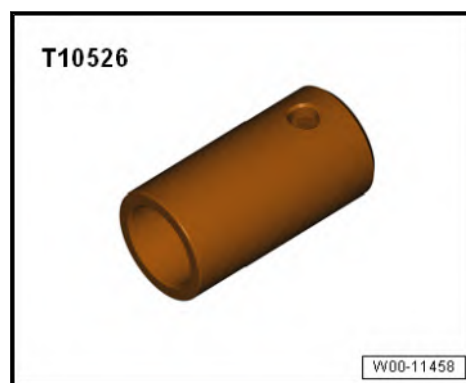


- ◆ Puller -T10525-

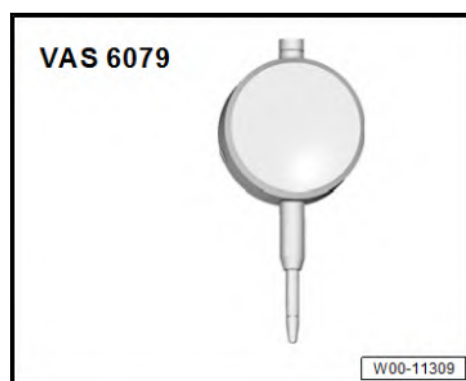




◆ Thrust Piece -T10526-



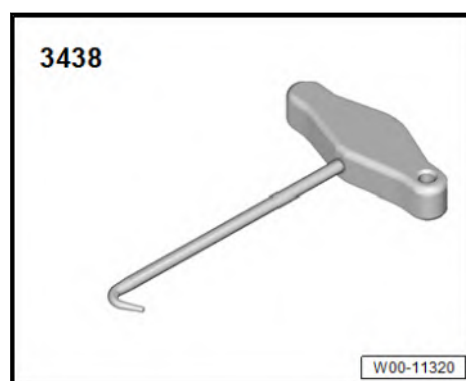
◆ Dial Indicator - 0-10mm -VAS6079-



◆ Dial Indicator Holder -VW387-



◆ T-Handle Hook -3438- (quantity: 2)





34 – Controls, Housing

1 Mechatronic

⇒ [-1.1 Mechatronic", page 29](#)

⇒ [F1.2 Fluid Pan, Removing and Installing", page 30](#)

⇒ [R1.3 Removing and Installing", page 33](#)

1.1 Overview - Mechatronic

1 - Transmission

2 - Dual-Clutch Transmission Mechatronic -J743-

- ☐ Removing and Installing. Refer to ⇒ [R1.3 Removing and Installing", page 33](#).

3 - Bolt

- ☐ Replace after removing
- ☐ Tightening sequence. Refer to ⇒ [Fig. "Dual-Clutch Transmission Mechatronic -J743- Tightening Specification and Sequence", page 29](#).

4 - Seal

- ☐ Replace after removing

5 - Bolt

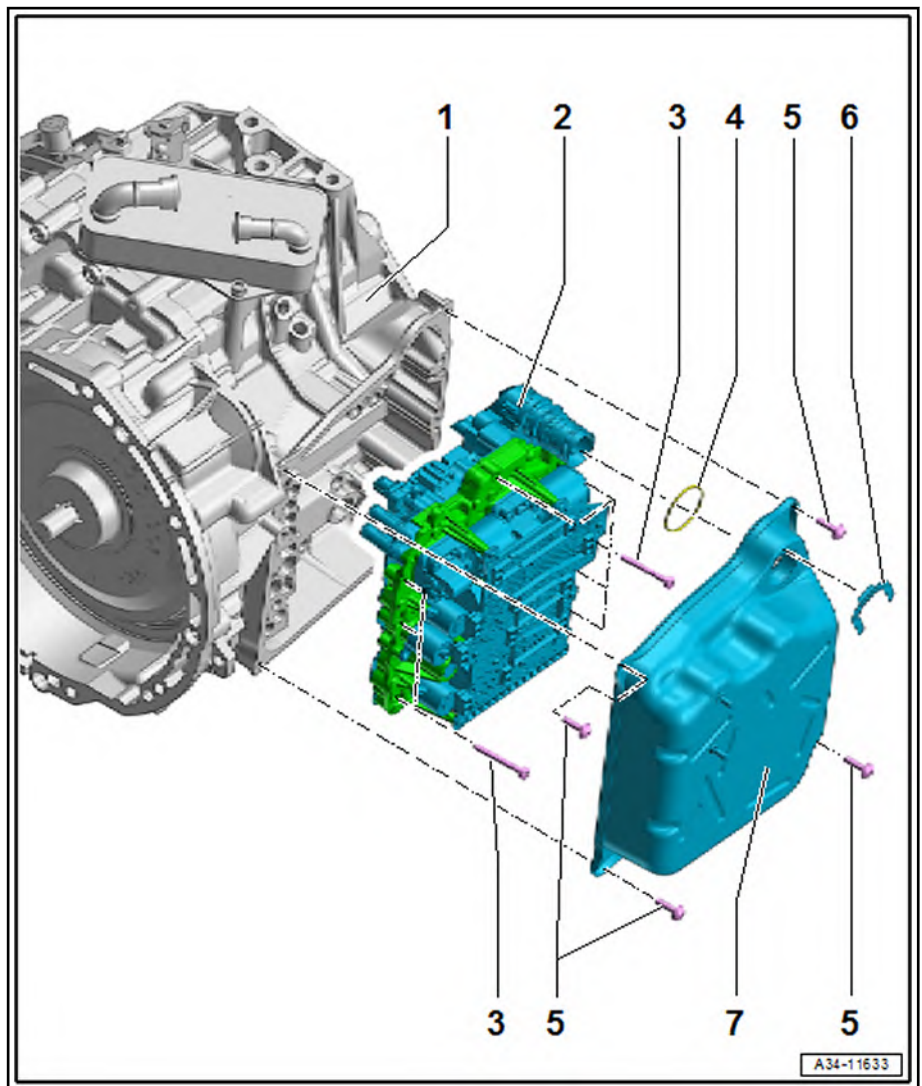
- ☐ 8 Nm +60°
- ☐ Replace after removing

6 - Clip

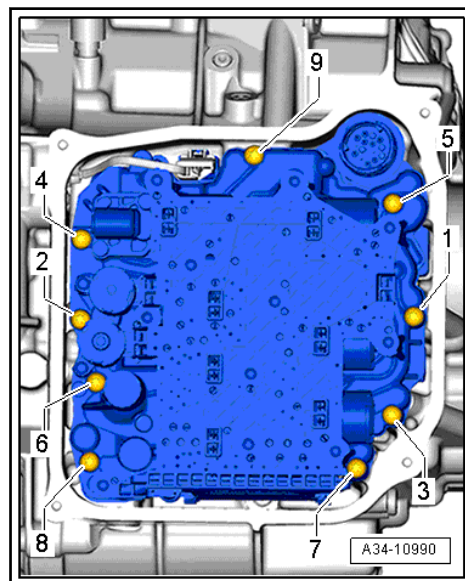
- ☐ Replace after removing

7 - Transmission Fluid Pan

- ☐ Replace after removing
- ☐ Removing and Installing. Refer to ⇒ [F1.2 Fluid Pan, Removing and Installing", page 30](#).



Dual-Clutch Transmission Mechatronic -J743- - Tightening Specification and Sequence



- Replace the bolts after removing them.
- Tighten the bolts in three steps in the sequence shown:

Step	Bolts	Tightening Specification/Additional Turn
1	-1 to 9-	Install all the way by hand
2	-1 to 9-	8 Nm
3	-1 to 9-	45° additional turn

1.2 Transmission Fluid Pan, Removing and Installing

Special tools and workshop equipment required

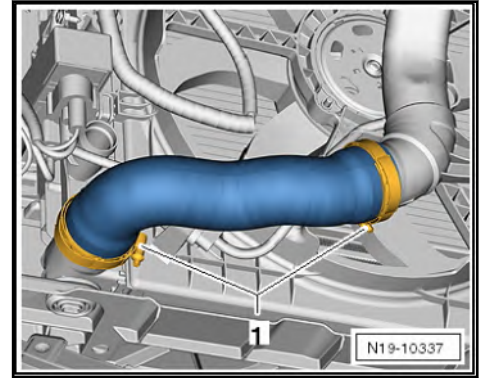
- ◆ Used Oil Collection and Extraction Unit -SMN372500-
- ◆ Engine Bung Set -VAS6122-

Removing

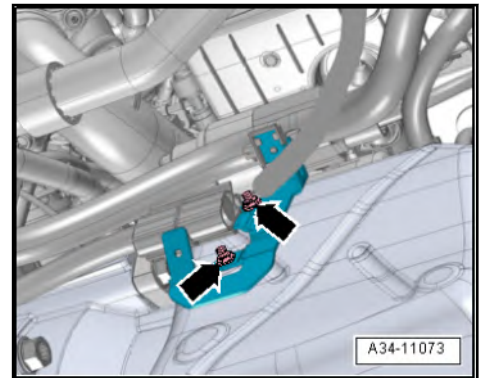
- Move the selector lever to “P”.

Always make sure that no dirt can get into an »open« transmission.

- Remove the noise insulation. Refer to ⇒ Body Exterior; Rep. Gr. 66; Noise Insulation; Noise Insulation, Removing and Installing.
- Remove the connecting hose between the charge air cooler and the charge air pipe. Refer to ⇒ Rep. Gr. 21; Charge Air System; Overview - Charge Air System.



- Remove the wire and bracket from the front oil pan -arrows-.

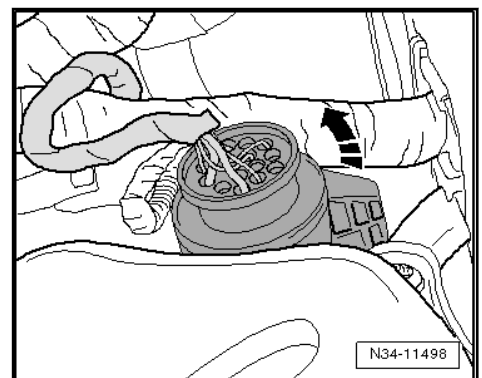


- Route the wires near the transmission fluid pan upward and tie them secure.
- Drain the transmission fluid. Refer to ➔ [F9.4 luid, Draining and Filling](#), page 86 .

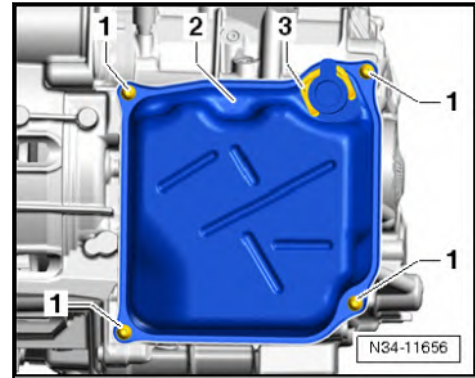
⚠ CAUTION

Risk of destroying due to electrostatic charge.

- Do not touch the connector terminals.
 - Touch a grounded object (for example the hoist) and discharge any static electricity.
-
- To discharge any static electricity, touch vehicle ground with hand (without wearing a glove).
 - Release the connector twist lock for the Mechatronic by turning it in the direction of the starter in direction of -arrow- and remove it.



- Place the -SMN372500- under the transmission.

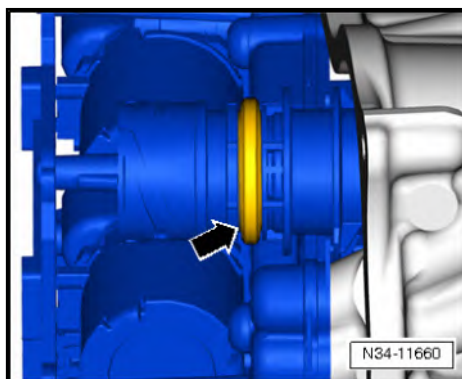


- Remove the clamp -3-.
- Loosen and remove the screws -1- in a diagonal sequence.
- Remove the oil pan -2- and if necessary loosen the oil pan by hitting lightly with a rubber hammer.

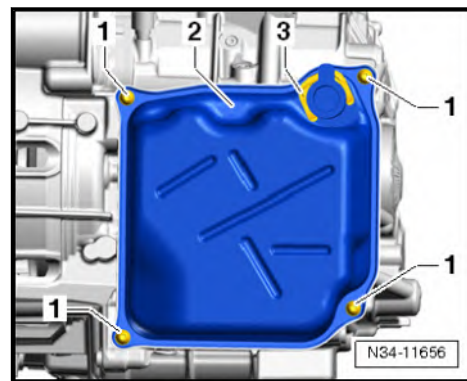
Installing

Install in the reverse order of removal while noting the following:

- Always replace the transmission fluid pan, the bolts of the transmission fluid pan and the clamp.
- Replace the O-ring -arrow- on the connector for the Dual-Clutch Transmission Mechatronic -J743-.
- If the Dual-Clutch Transmission Mechatronic -J743- is being replaced, the O-ring is included in the replacement part delivery package.



- Clean the sealing surface on the transmission housing of oil and grease.
- Coat the O-ring on the connector for the Dual-Clutch Transmission Mechatronic -J743- with transmission fluid.
- Position the new oil pan -2- and tighten the new bolts -1- diagonally in multiple steps.



- When positioning the oil pan, make sure the electrical wires are not pinched.
- Install the new clamp -3-.
- The offset side of the clamp points to the transmission.
- Attach and lock the mechatronic connector on the transmission.
- Install the air duct pipes and air duct hoses. Refer to ⇒ Rep. Gr. 21; Charge Air System; Overview - Charge Air System.
- Fill the transmission oil and check the oil level. Refer to ⇒ [F9 luid", page 82](#) .

Tightening Specifications

- ◆ Refer to ⇒ [-1.1 Mechatronic", page 29](#)

1.3 Mechatronic, Removing and Installing

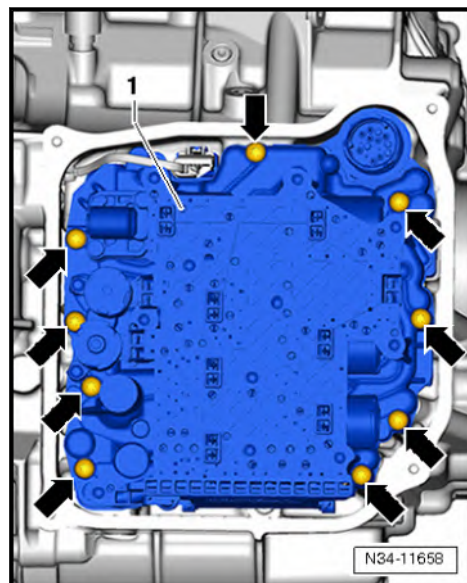
Removing

Always make sure that no dirt can get into an »open« transmission.

Dirt entering can cause a transmission failure especially with »open« Mechatronic and/or oil pump.

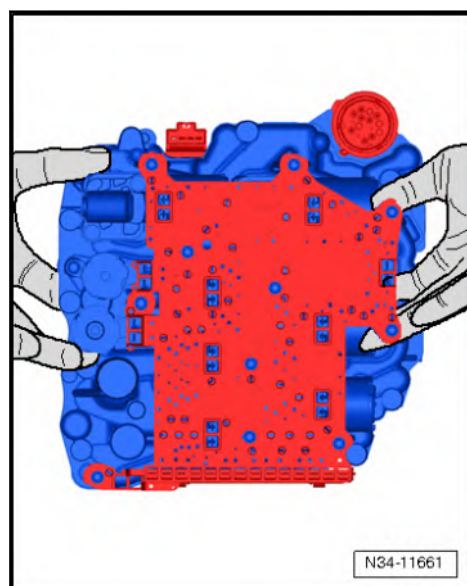
The Mechatronic can get stuck on the alignment pins when the transmission is very warm. Let the transmission cool down.

- Remove the transmission fluid pan. Refer to ⇒ [F1.2 luid Pan, Removing and Installing", page 30](#) .
- Loosen and remove the screws -arrows- in a diagonal sequence.



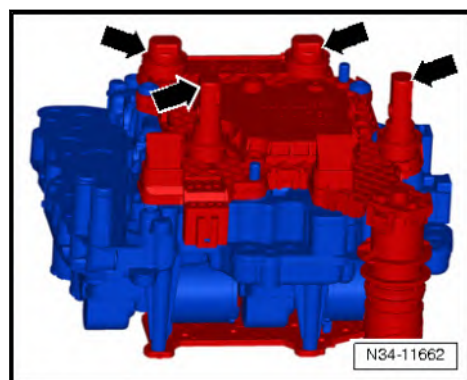
- Carefully remove the mechatronic -1-.

Holding and Carrying the Mechatronic



- Remove the Dual-Clutch Transmission Mechatronic -J743-.

Store the Mechatronic Properly



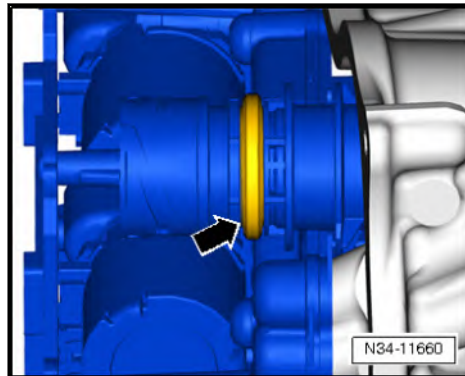
- Store the Mechatronic so that the sensors -arrows- face upward.



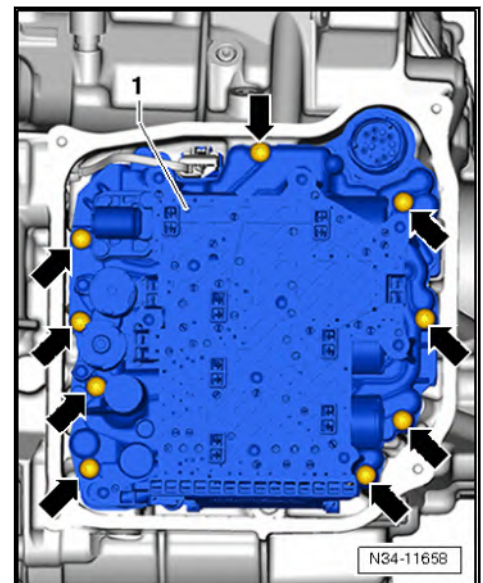
Installing

Install in the reverse order of removal while noting the following:

- Replace the O-ring -arrow- on the connector for the Dual-Clutch Transmission Mechatronic -J743-.



- Replace the bolts for the Dual-Clutch Transmission Mechatronic -J743-.
- If the Dual-Clutch Transmission Mechatronic -J743- is being replaced, the O-ring is included in the replacement part delivery package.
- Carefully place the Mechatronic -1- in the transmission.



- Tighten the bolts -arrows- for the Dual-Clutch Transmission Mechatronic -J743-. Refer to ⇒ [Fig. "" Dual-Clutch Transmission Mechatronic -J743- - Tightening Specification and Sequence""](#), page 29 .
- Install the transmission fluid pan. Refer to ⇒ [F1.2 Fluid Pan, Removing and Installing](#)", page 30 .
- Fill the transmission oil and check the oil level. Refer to ⇒ [F9 Fluid](#)", page 82 .

Basic Setting, Performing

- Connect the Vehicle Diagnostic Tester and select Individual test.
- ◆ DSG® Transmission 0GC
- ◆ 01 - OBD-capable systems



- ◆ 02 - Transmission electronics
- ◆ 02 - Transmission electronic functions
- ◆ 02 - Mechatronic, replacing
- Follow the instructions on the display.

Tightening Specifications

- ◆ Refer to [⇒ -1.1 Mechatronic", page 29](#)



2 Bevel Box

⇒ [-2.1 Bevel Box", page 37](#)

⇒ [B2.2 ox, Removing", page 38](#)

⇒ [B2.3 ox, Installing", page 40](#)

2.1 Overview - Bevel Box

1 - Bolt

- ☐ 25 Nm
- ☐ Replace after removing

2 - Heat Shield

- ☐ For the right drive axle

3 - Nut

- ☐ 20 Nm
- ☐ Quantity: 2 or 3

4 - Bolt

- ☐ 40 Nm

5 - Heat Shield

- ☐ For driveshaft

6 - Bolt

- ☐ 20 Nm

7 - Bevel Box

- ☐ Removing. Refer to ⇒ [B2.2 ox, Removing", page 38](#).
- ☐ Installing. Refer to ⇒ [B2.3 ox, Installing", page 40](#).

8 - Bolt

- ☐ 40 Nm +90°
- ☐ Replace after removing
- ☐ Quantity: 4

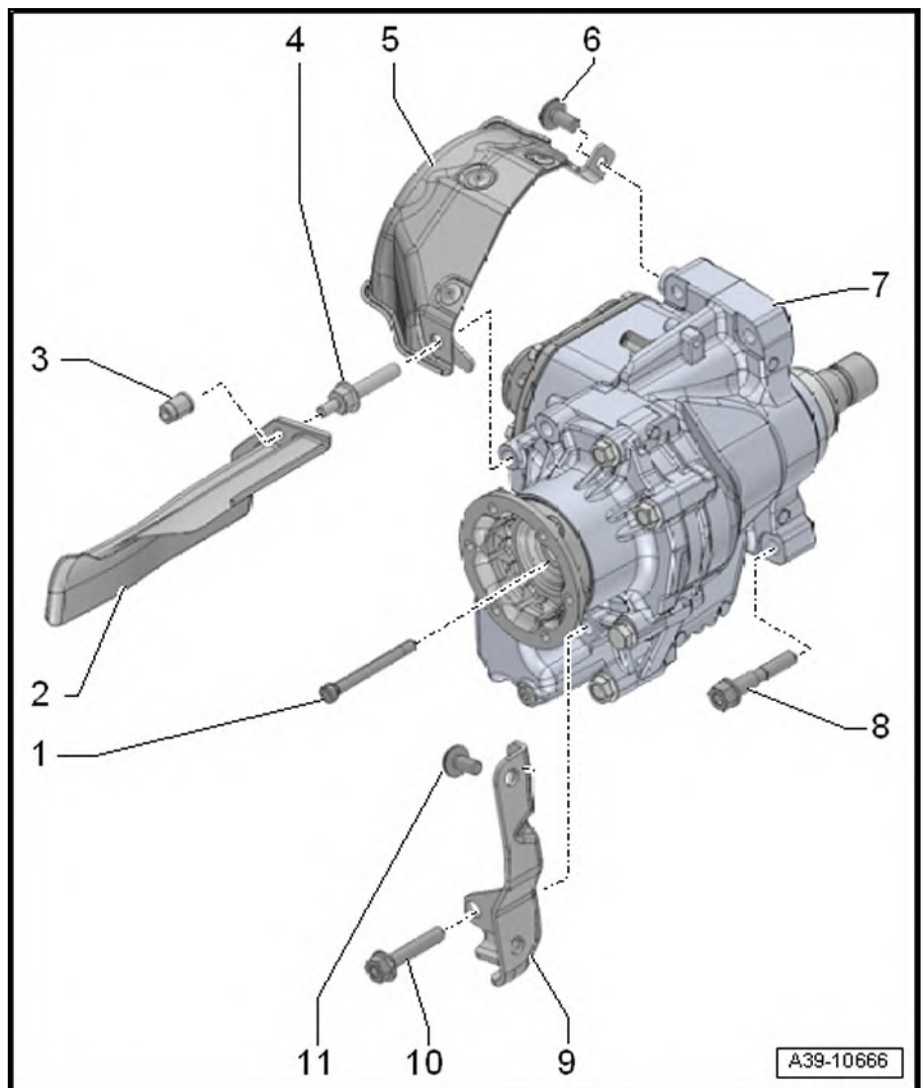
9 - Transmission Support

10 - Bolt

- ☐ Tightening specification and sequence. Refer to ⇒ [page 38](#).
- ☐ Transmission support to bevel box
- ☐ Quantity: 2

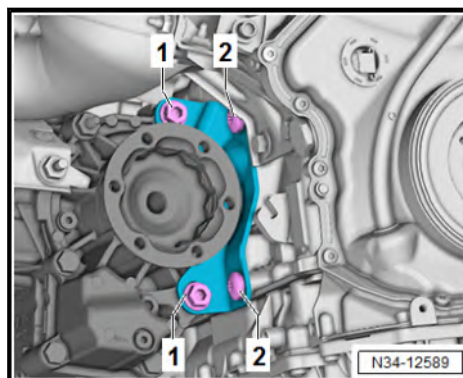
11 - Bolt

- ☐ Tightening specification and sequence. Refer to ⇒ [page 38](#).
- ☐ Transmission support to engine
- ☐ Quantity: 2





Transmission Support to Engine and Bevel Box



Item	Bolt
1	M10 x 45
2	M10 x 21

Se- quence	Bolts	Tightening Specification
1	-1 and 2-	Counter turn by hand
2	-2- tighten	40 Nm
3	-1- tighten	40 Nm

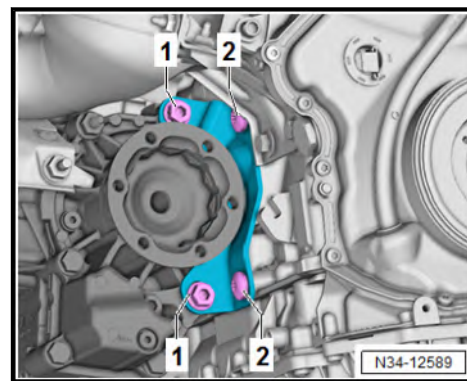
2.2 Bevel Box, Removing

Special tools and workshop equipment required

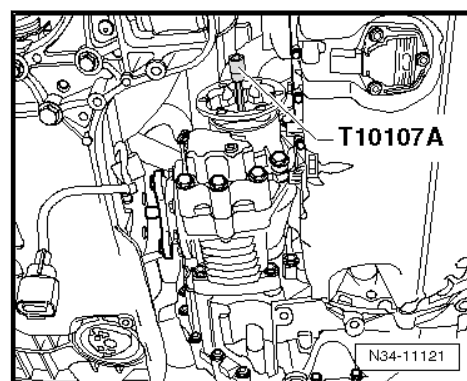
- ◆ Socket and Extended Bit -T10107A-
- ◆ Hex Ball Socket -3247-
- ◆ M8 x 30 collar bolt
- ◆ Grease for Clutch Plate Shaft Splines. Refer to Parts Catalog.

Removing

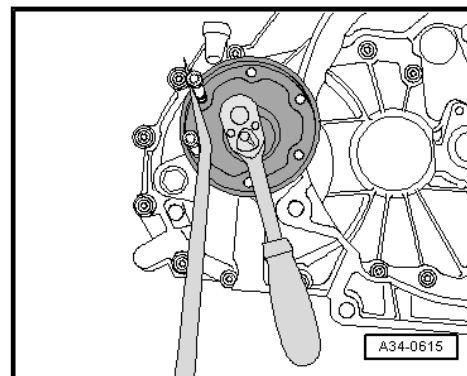
- Remove the noise insulation. Refer to ⇒ Body Exterior; Rep. Gr. 66; Noise Insulation; Overview - Noise Insulation.
- Remove the right drive axle. Refer to ⇒ Suspension, Wheels, Steering; Rep. Gr. 40; Drive Axle; Drive Axle, Removing and Installing.
- Remove the driveshaft from the bevel box. Refer to ⇒ Rep. Gr. 39; Driveshaft; Driveshaft, Removing and Installing.
- Lay the driveshaft on the subframe.
- Remove bolts -1 and 2- and bevel box transmission support.



- Remove the bolts -A and B- and remove the bevel box transmission support -1-.
- Remove the bolt for the right flange shaft using the - T10107A-.

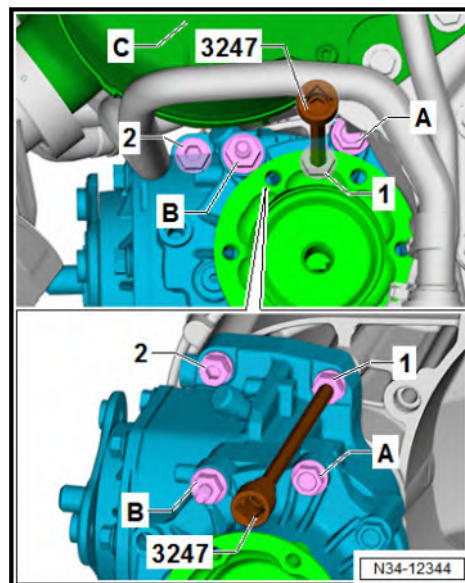


- Insert two bolts in the flange and counterhold the flange shaft with the tire iron.



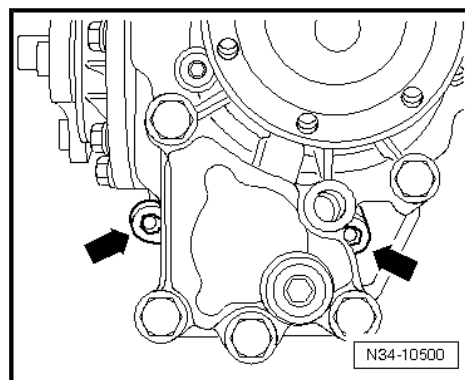
Replace the countersunk bolt after removing.

The accessibility of the upper bolts on the transmission is narrow on some engine types.



Layout of the upper bevel box bolts (-1 and 2-) on the transmission (covered by the bevel box).

- ◆ The bolt -1- is located near the bolt -A-.
- ◆ The bolt -2- is located near the bolt with the threaded connection -B-.
- ◆ The front exhaust pipe with the catalytic converter or the particulate filter -C- is located above the bolts.
- Remove the upper bevel box bolts -1 and 2- from the transmission.
- Remove the lower bevel box bolts -arrows- from the transmission.



- Carefully separate the bevel box and remove it.
- Install the bevel box. Refer to [⇒ B2.3 ox, Installing”, page 40](#).

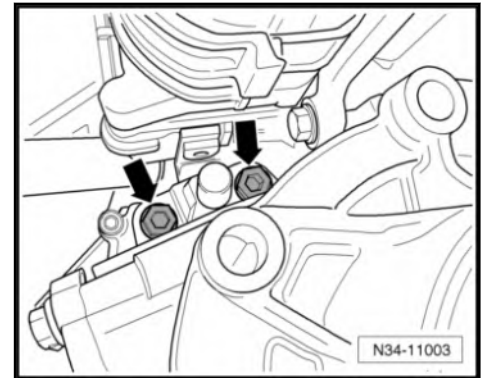
2.3 Bevel Box, Installing

Special tools and workshop equipment required

- ◆ Grease for Clutch Plate Shaft Splines. Refer to Parts Catalog



Installing



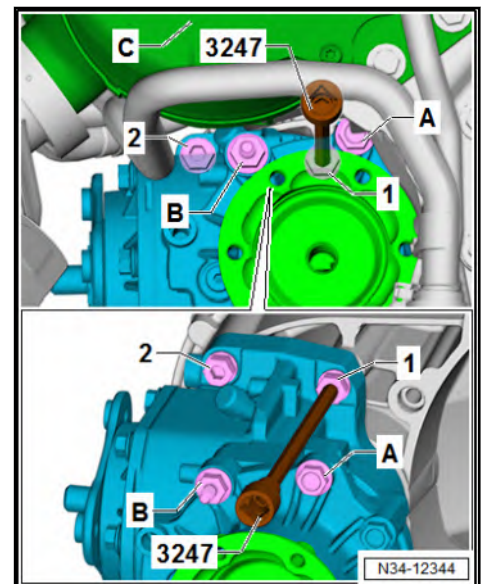
Install in the reverse order of removal while noting the following:

- Before guiding together the bevel box and the transmission insert the “new” upper bolts -arrows- in the bevel box.
- Install the bevel box with the new bolts inserted on top all the way on the top at the same time guide together the drive axle splines/bevel box with drive axle splines centered.

Tip:

- ◆ If the tooth position is incorrect the bevel box cannot be pressed against the transmission. To do so turn the flange shaft.
- ◆ If the tooth position is correct and it is guided centered, the bevel box slides against the transmission all the way.

The accessibility of the upper bolts on the transmission is narrow on some engine types.

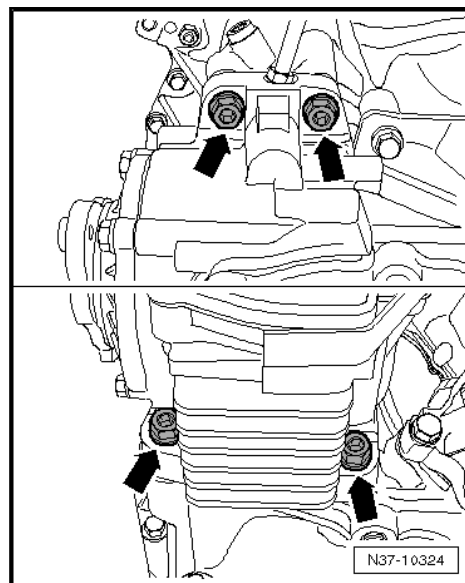


Layout of the upper bevel box bolts (-1 and 2-) on the transmission (covered by the bevel box).

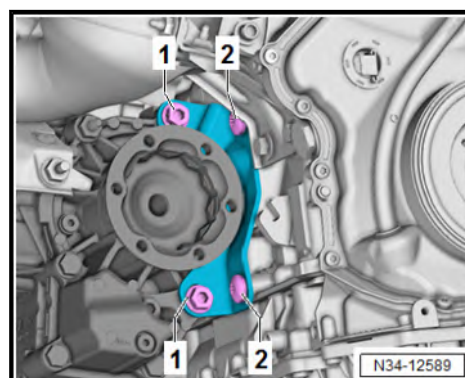
- ◆ The bolt -1- is located near the bolt -A-.
- ◆ The bolt -2- is located near the bolt with the threaded connection -B-.
- ◆ The front exhaust pipe with the catalytic converter or the particulate filter -C- is located above the bolts.



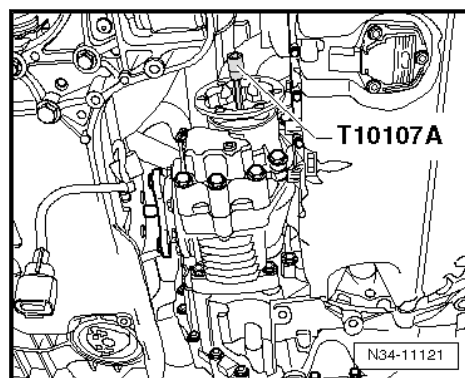
- Tighten the upper and lower bolts -arrows- for the bevel box to the transmission. Tightening specification. Refer to ➤ [T4.1 Tightening Specifications](#), page 58.



- Attach the bevel box transmission support to the engine and bevel box. At the same time, pay attention to the tightening sequence for the bolts. Refer to ➤ [-2.1 Bevel Box](#), page 37.



- Fasten the flange shaft with a new bolt.



- Install the driveshaft. Refer to ➤ Rep. Gr. 39; Driveshaft; Driveshaft, Removing and Installing.
- Install the right drive axle. Refer to ➤ Suspension, Wheels, Steering; Rep. Gr. 40; Drive Axle; Drive Axle, Removing and Installing.



- Install the drive axle heat shield. Refer to ⇒ Suspension, Wheels, Steering; Rep. Gr. 40; Drive Axle; Drive Axle Heat Shield, Removing and Installing.

Further installation is performed in reverse order of the removal.

- Check the gear oil level in bevel box. Refer to ⇒ [O1.1 il, Checking Level](#), page 98 .
- Install the noise insulation. Refer to ⇒ Body Exterior; Rep. Gr. 66; Noise Insulation; Overview - Noise Insulation.

Tightening Specifications

- ◆ Refer to ⇒ [-2.1 Bevel Box](#), page 37
- ◆ Refer to ⇒ Suspension, Wheels, Steering; Rep. Gr. 40; Drive Axle; Overview - Drive Axle.



3 Shift Mechanism

⇒ [-3.1 Selector Lever Handle", page 44](#)

⇒ [-3.2 Shift Mechanism", page 44](#)

⇒ [R3.3 release from P", page 46](#)

⇒ [L3.4 ever Handle, Removing and Installing", page 47](#)

⇒ [i3.5 n Handle, Moving into Installation Position", page 49](#)

⇒ [M3.6 echanism, Removing and Installing", page 51](#)

⇒ [M3.7 echanism, Checking", page 53](#)

⇒ [L3.8 ever Cable, Checking and Adjusting", page 54](#)

⇒ [S3.9 haft Seal, Replacing", page 55](#)

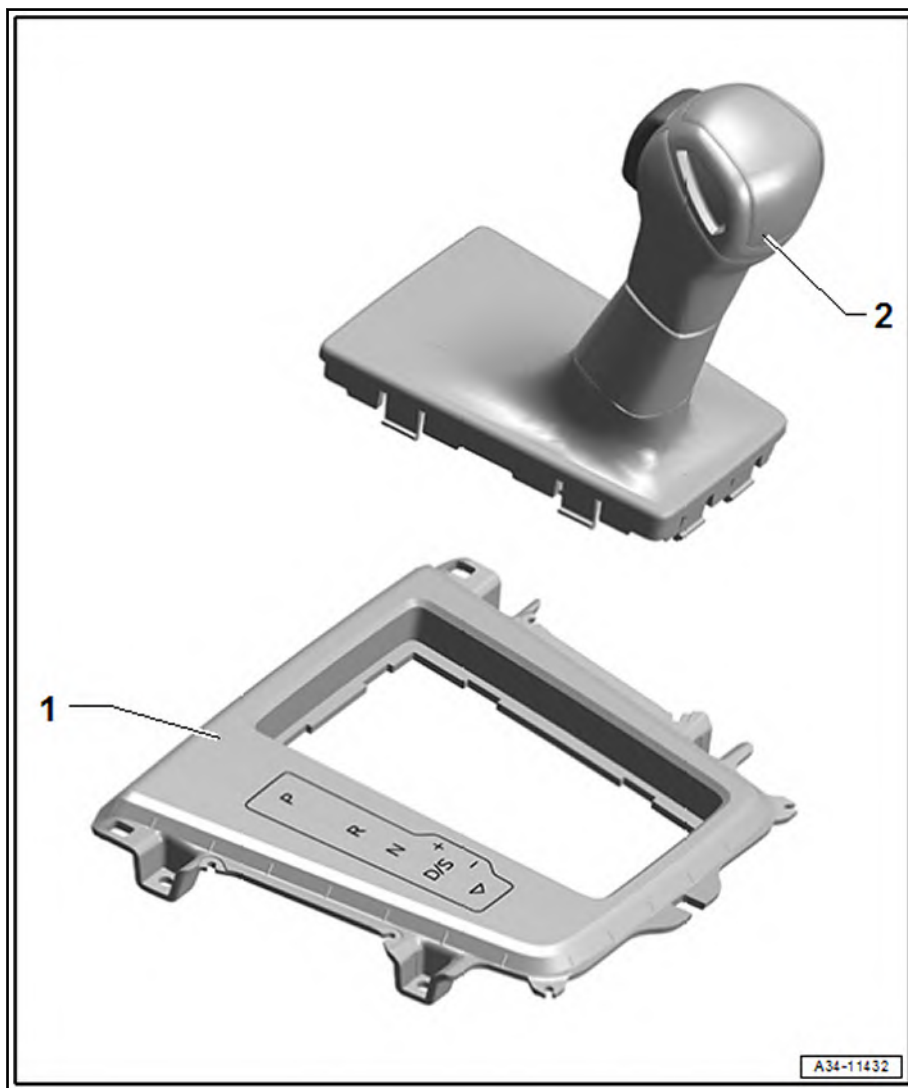
3.1 Overview - Selector Lever Handle

1 - Selector Lever Transmission Range Position Display Unit -Y26-

- ❑ Removing and Installing. Refer to ⇒ [Electrical Equipment; Rep. Gr. 96; Lamps; Selector Lever Transmission Range Position Display Unit -Y26-, Removing and Installing.](#)

2 - Selector Lever Handle

- ❑ With selector lever boot
- ❑ Removing and Installing. Refer to ⇒ [L3.4 ever Handle, Removing and Installing", page 47](#).
- ❑ Button in Handle, Moving Into Installation Position. Refer to ⇒ [i3.5 n Handle, Moving into Installation Position", page 49](#).

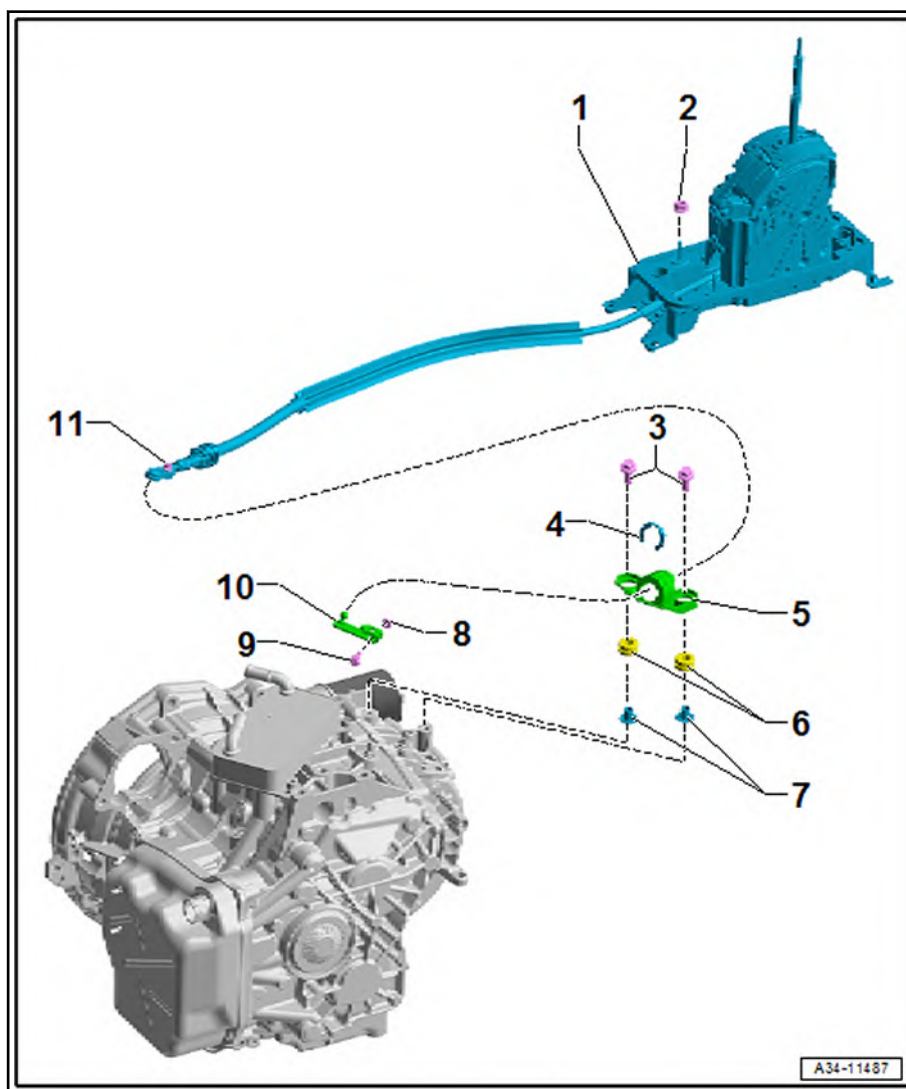


3.2 Overview - Shift Mechanism



1 - Shift Mechanism

- ☐ With the following integrated components:
- ◆ Selector Lever -E313-
- ◆ Selector Lever Sensor System Control Module -J587-
- ◆ Selector Lever Park Position Lock Switch -F319-
- ◆ Shift Lock Solenoid -N110-
- ◆ Selector Lever Cable
 - ☐ The components cannot be replaced separately if faulty.
 - ☐ Check using [Guided Fault Finding](#) using the Vehicle Diagnostic Tester
 - ☐ Do not lubricate the selector lever cable
 - ☐ Emergency release from P. Refer to [R3.3 release from P](#), page 46
 - ☐ Shift Mechanism, Removing and Installing. Refer to [M3.6 Mechanism, Removing and Installing](#), page 51.



2 - Nut

- ☐ 8 Nm
- ☐ For selector mechanism to body
- ☐ Quantity: 4

3 - Bolt

- ☐ 20 Nm

4 - Clamps

- ☐ Replace after removing
- ☐ Be careful not to damage the selector lever cable when removing
- ☐ Installation position: the offset side of the clamp points to the selector lever

5 - Cable Bracket

- ☐ For the selector lever cable

6 - Grommet

- ☐ Clipped in the cable bracket
- ☐ For the cable mounting bracket to transmission

7 - Spacer

- ☐ Installation position: the larger diameter points to the transmission

8 - Nut

9 - Bolt

- ☐ 10 Nm +90°
- ☐ Replace after removing



10 - Shift Lever

11 - Bolt

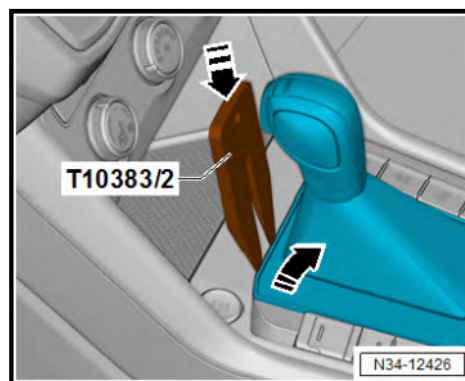
- ☐ 12 Nm
- ☐ Selector lever cable adjusting bolt

3.3 Emergency Release from P

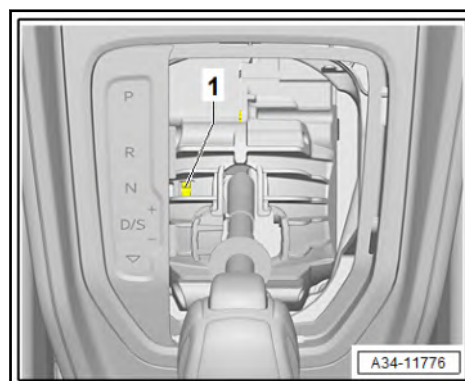
Special tools and workshop equipment required

- ◆ Wedge Set -T10383-
- The selector lever will not shift out of “P” if the battery is disconnected or drained. The vehicle cannot be moved or towed.
- The Shift Lock Solenoid -N110- will release the lock when the emergency release is activated.

Do Not Remove the Handle.



- Insert the -T10383/2- between the center console and shift cover at the front and pry the shift cover out of the center console by carefully pressing the wedge downward.
- Press the brake pedal or set the parking brake.
- Hold the shift cover to the side.
- With a screwdriver push the plastic part -1- from the top and hold it in this position.



- The solenoid releases the selector lever.
- When the solenoid is released, press the button in the selector lever handle and move the selector lever out of “P”.
- If the selector lever is shifted back into “P”, the shift lock solenoid will mechanically lock the selector lever in the “P” position again.



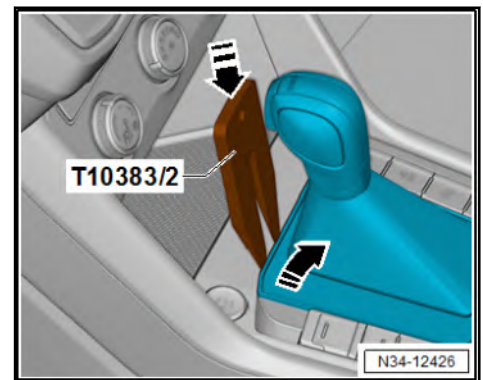
3.4 Selector Lever Handle, Removing and Installing

Special tools and workshop equipment required

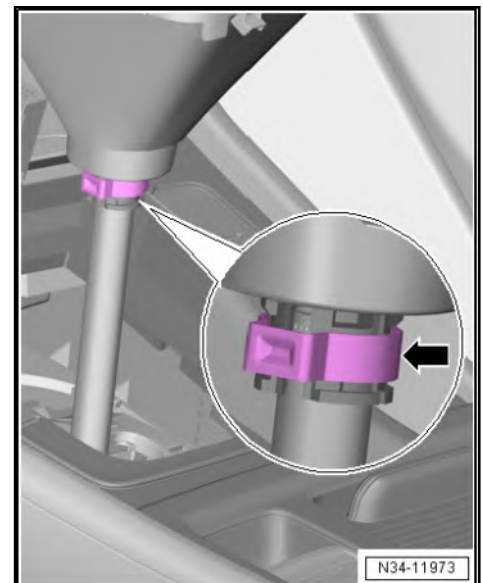
- ◆ Hose Clip Pliers -VAG1275A-
- ◆ Wedge Set - Wedge 2 -T10383/2-

Removing

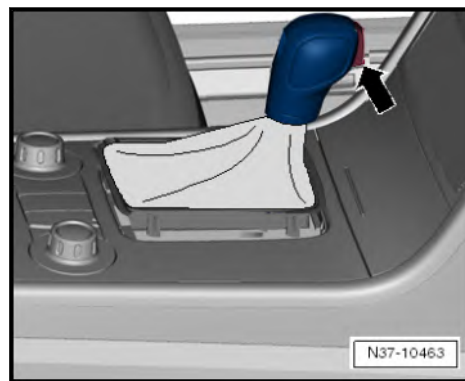
- Move the selector lever into “D” position.
- Insert the -T10383/2- between the center console and shift cover at the front and pry the shift cover out of the center console by carefully pressing the wedge downward.



- Release and disconnect the connector.
- Cut the clip -arrow- under the selector lever boot using a side cutter.



Remove the handle upward without pressing the button -arrow-. The button locks in the installation position by itself when the handle is removed.



⚠ CAUTION

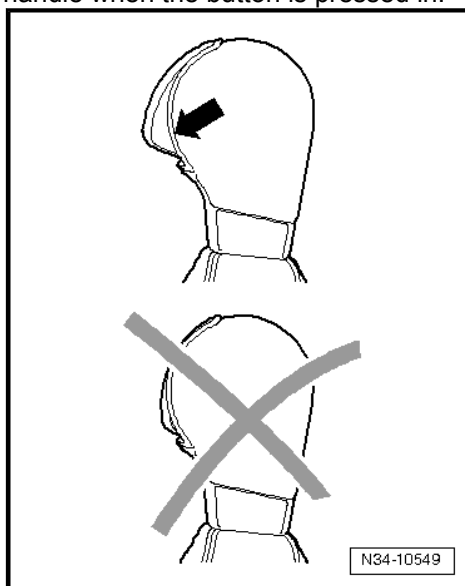
Risk of damaging the selector mechanism by incorrectly installing the selector lever.

- Do not press the locking button on the selector lever handle.

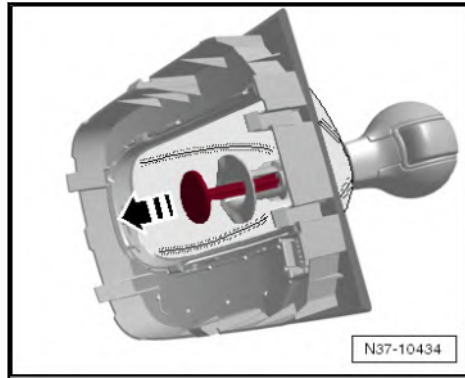
Installing

Install in the reverse order of removal while noting the following:

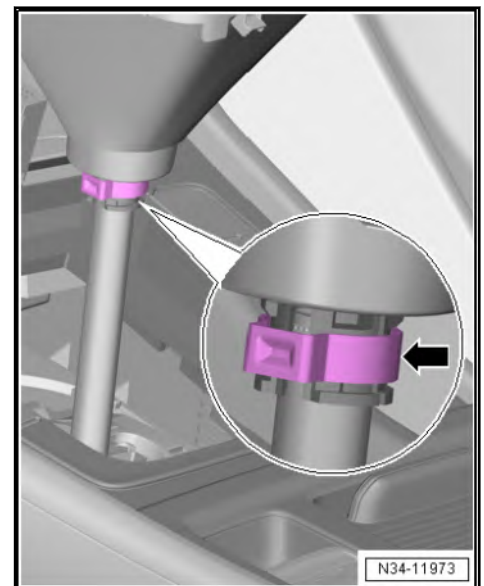
- The selector lever is in the “D” position.
- It is possible that the button could be pressed into the handle. Never install the handle when the button is pressed in.



- Move the button into the installation position. Refer to [⇒ i3.5 n Handle, Moving into Installation Position](#), page 49.
- A new handle is delivered with an assembly fastener. Pull out the retainer in the direction of -arrow- just before installing.



- Install the handle with a new clamp -arrow-. Do not clamp the clamps yet.



- Press the button after installation.

Tip:

- ◆ If the button stays in the handle after being pressed, this means it was installed incorrectly. If this happens, remove the handle again and move the button in the installation position again. Refer to [⇒ i3.5 n Handle, Moving into Installation Position](#), page 49 . Install the handle again.
- If the button returns to its starting position after being pressed, the clamp can be fastened using the -VAG1275A-.
- Connect the connector.
- Clip on the cover.
- Check the selector mechanism. Refer to [⇒ M3.7 echanism, Checking](#), page 53 .

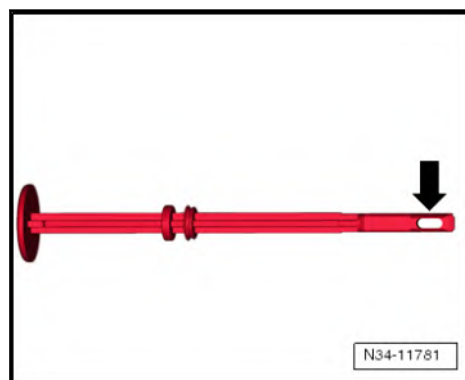
3.5 Button in Handle, Moving into Installation Position

If the button was pushed in by mistake, the installed position can be set again.

There are two ways to move the button into the installation position: »with« or »without« the assembly fastener. Both options are described here.

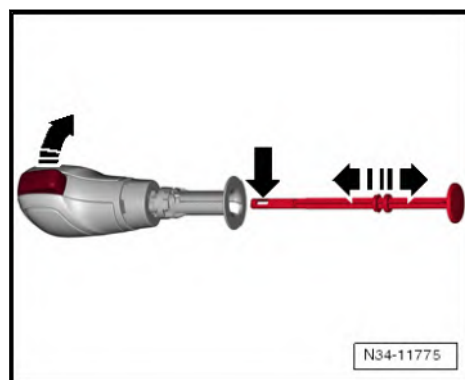


Handle, Moving into Installation Position »with« Assembly Fastener:

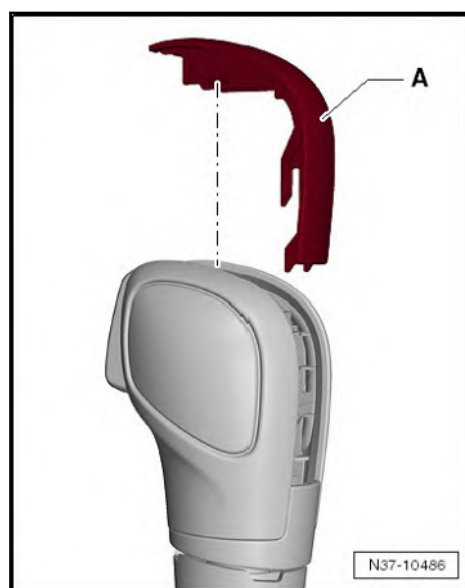


When using an assembly fastener, make sure that it has an eye -arrow- at the front. Other assembly fasteners are not suitable.

- With the button pressed, push the assembly fastener with the eye -arrow- all the way in until the assembly fastener engages. Then release the button. The button locks into the installation position when the assembly fastener is pulled out.



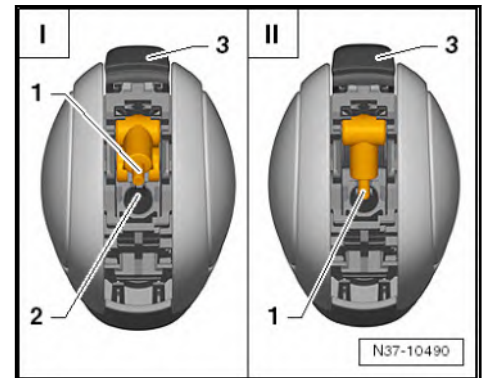
Handle, Moving into Installation Position »without« Assembly Fastener:



- Carefully unclip the handle trim -A- upward.



- Push the small lever -1- for the pull rod into the groove -2- using a screwdriver, for example. This pushes the button -3- back into its installation position.



I - Button in the pressed position

II - Button in the installation position

Tip:

- ◆ Only push the lever into the groove and no farther.
- ◆ Clip the handle trim onto the selector mechanism only after the handle is installed. This way it is possible to see if the small lever engages into the pull rod when the button is pushed.

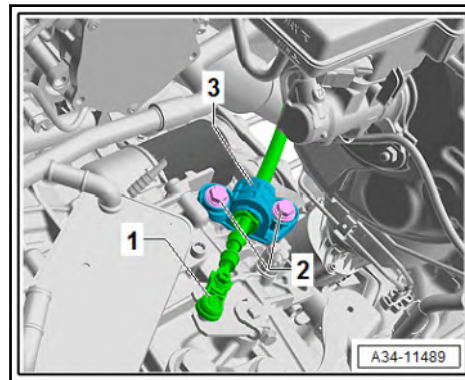
3.6 Shift Mechanism, Removing and Installing

Special tools and workshop equipment required

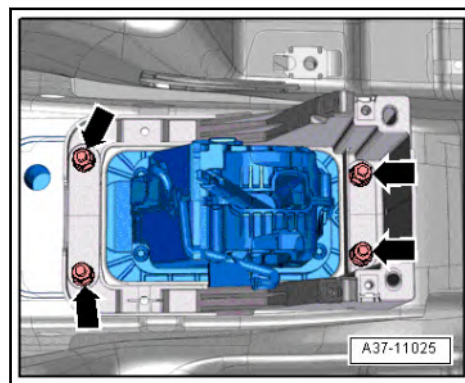
- ◆ Pry Lever -80-200-

Removing

- Remove the selector lever handle. Refer to [⇒ L3.4 ever Handle, Removing and Installing](#), page 47 .
- Remove the center console. Refer to ⇒ Body Interior; Rep. Gr. 68; Center Console; Center Console, Removing and Installing.
- Remove the securing bracket and the shifting mechanism insulation. Refer to ⇒ Body Interior; Rep. Gr. 68; Center Console; Center Console Bracket, Removing and Installing.
- If equipped, remove the footwell rear channel. Refer to ⇒ Heating, Ventilation and Air Conditioning; Rep. Gr. 87; Air Routing; Overview - Air Routing and Air Distribution in Passenger Compartment.
- Release and disconnect the connector from the selector mechanism to the vehicle wiring harness.
- Remove the battery and the battery tray. Refer to ⇒ Electrical Equipment; Rep. Gr. 27; Battery; Battery Tray, Removing and Installing.
- Remove the ball socket -1- on the selector lever cable from the selector shaft lever using the -80-200-.



- Remove the bolts -2- from the cable mounting bracket.
- Do not bend or kink the cable.
- Remove the center tunnel heat shield under the selector mechanism. Refer to ⇒ Body Exterior; Rep. Gr. 66; Heat Shields; Component Location Overview - Heat Shields.
- Remove the nuts -arrows- in the vehicle interior.



- Remove the selector mechanism -B- with the selector lever cable and selector housing downward.

Installing

Install in reverse order of removal. Note the following:

- Do not bend or kink the selector lever cable.
- Do not lubricate the selector lever cable.
- After installation the selector mechanism, the selector lever cable must be checked for ease of movement and adjusted.
- Install the heat shield under the selector mechanism. Refer to ⇒ Body Exterior; Rep. Gr. 66; Heat Shields; Component Location Overview - Heat Shields.
- If removed, install the footwell rear channel. Refer to ⇒ Heating, Ventilation and Air Conditioning; Rep. Gr. 87; Air Routing; Overview - Air Routing and Air Distribution in Passenger Compartment.
- Install the center console. Refer to ⇒ Body Interior; Rep. Gr. 68; Center Console; Center Console, Removing and Installing.
- Install the selector lever handle. Refer to ⇒ [L3.4 ever Handle, Removing and Installing](#), page 47 .
- Adjust the selector lever cable. Refer to ⇒ [L3.8 ever Cable, Checking and Adjusting](#), page 54 .



- Check the selector mechanism. Refer to [⇒ M3.7 echanism, Checking, page 53](#).
- Install the battery tray and the battery. Refer to ⇒ Electrical Equipment; Rep. Gr. 27; Battery; Battery Tray, Removing and Installing.

Tightening Specifications

- ◆ Refer to [⇒ -3.2 Shift Mechanism, page 44](#)

3.7 Shift Mechanism, Checking

Do not operate the starter when the selector lever is in the “R”, “D” and “S” positions or in the Tiptronic gate.

On RHD vehicles, the starter can only be operated when the selector lever is in the “P” and “N” positions and the button in the selector lever handle is not pressed.

- Over 5 km/h:

The shift lock solenoid must not block the selector lever when the selector lever is moved to the “N” position. The selector lever can be moved back again into another driving position.

- Below 5 km/h:

If the selector lever is moved into the “N” position, the shift lock solenoid may block the selector lever after approximately one second. The selector lever can only be moved out of “N” when the brake pedal is pressed.

Selector Lever in “P” and Ignition Switched On

- If the brake pedal is not pressed:

The selector lever is locked and cannot be moved out of “P” when the button is pressed. The shift lock solenoid blocks the selector lever.

- If the brake pedal is pressed:

The shift lock solenoid releases the selector lever. It is possible to select a gear. Move the selector lever slowly from “P” through “S”; while doing this, check whether the selector lever position displayed in the instrument cluster matches the actual selector lever position.

Selector Lever in “N” and Ignition Switched On

- If the brake pedal is not pressed:

The selector lever is locked and cannot be moved out of “N” when the button is pressed. The shift lock solenoid blocks the selector lever.

- If the brake pedal is pressed:

The shift lock solenoid releases the selector lever. It is possible to select a gear.

Selector Lever in “Tiptronic” Position

- Move the selector lever into the tiptronic gate:

The illuminated “D” symbol in the selector mechanism cover must turn off. The “+” and “-” must turn on.

The transmission range display in the instrument cluster must change from “P R N D S” to “6 5 4 3 2 1” when the selector lever is moved into the Tiptronic gate.

Ignition and Lights Switched On

The respective symbol is being illuminated in the selector mechanism cover.



Transmission Range Display

The transmission is in emergency mode when all segments in the transmission range display are illuminated at the same time.

3.8 Selector Lever Cable, Checking and Adjusting

Special tools and workshop equipment required

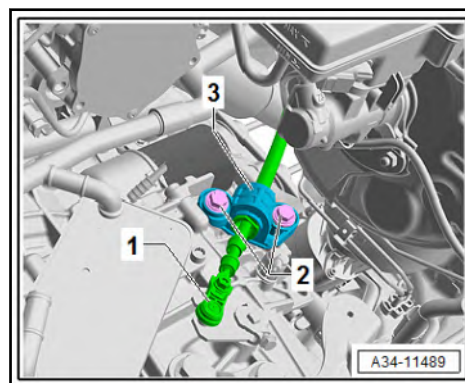
- ◆ Pry Lever -80-200-

Adjust the Selector Lever Cable, if:

- ◆ The selector lever cable was removed from the transmission.
- ◆ The engine and (or) transmission were removed and installed.
- ◆ Sections of the subframe mount were removed and installed.
- ◆ The cable itself or the selector mechanism was removed and installed.
- ◆ The engine/transmission position was changed, for example, were installed without tension.

Checking

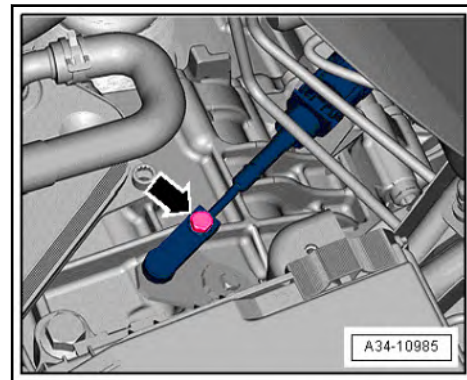
- Remove the battery and the battery tray. Refer to ⇒ Electrical Equipment; Rep. Gr. 27; Battery; Battery Tray, Removing and Installing.
- Move the selector lever into “P” position.
- Remove the ball socket -1- on the selector lever cable from the selector shaft lever using the -80-200-.



- Move the selector lever from »P« to »S« and back to »P« several times.
- The selector lever must have ease of movement.

Adjusting

- Move the selector lever into “P”.
- Selector shaft on the transmission is also set to “P”. Push the lever all the way to the rear, opposite to the direction of travel, to check it.
- Raise the vehicle to make sure the transmission is in “P” (parking lock is engaged). The front wheels must not turn together in any direction.
- Loosen the adjusting bolt -arrow- for the selector lever cable.



- Lightly tap the handle on the selector lever back and forth but do not move it out of “P” under any circumstances.
- Tighten the bolt -arrow-.

This ends the adjustment.

- Install the battery tray and the battery. Refer to ⇒ Electrical Equipment; Rep. Gr. 27; Battery; Battery Tray, Removing and Installing.

Tightening Specifications

- ◆ Refer to ⇒ [-3.2 Shift Mechanism”, page 44](#)

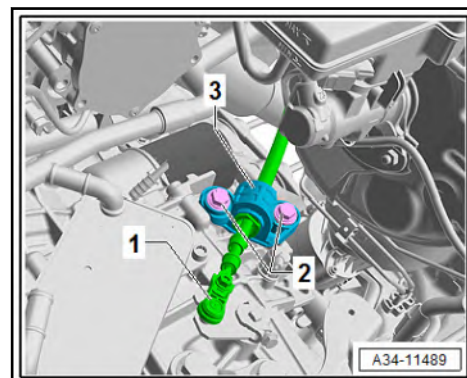
3.9 Selector Shaft Seal, Replacing

Special tools and workshop equipment required

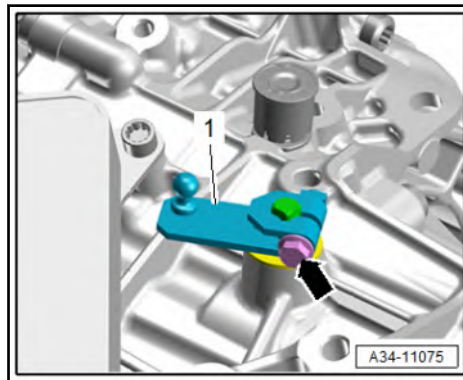
- ◆ Press Piece - Shift Rod/Alternator -VW423-
- ◆ Pry Lever -80-200-
- ◆ Puller - Crankshaft/Power Steering Seal -T20143-

Procedure

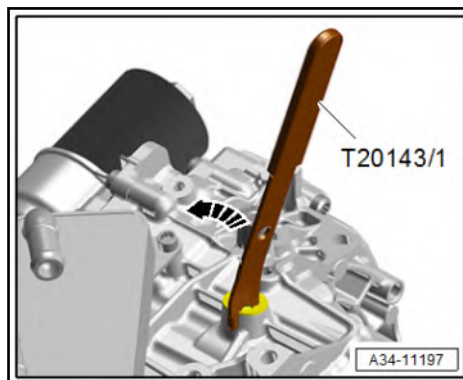
- The transmission is installed.
- Remove the battery tray. Refer to ⇒ Electrical Equipment; Rep. Gr. 27; Battery; Battery Tray, Removing and Installing.
- Remove the ball socket -1- on the selector lever cable from the selector shaft lever using the -80-200-.



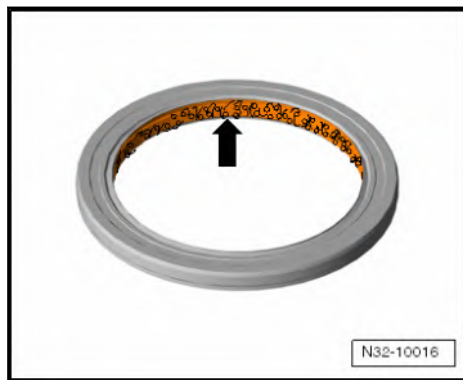
- Remove the bolts -2- and tie up the cable bracket -3- together with the selector lever cable.
- Remove the bolt -arrow- and the selector lever -1-.



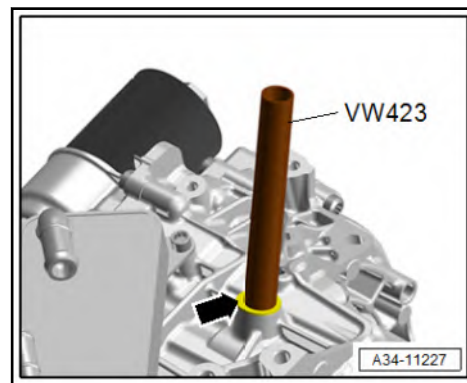
- Pry out the seal using the -T20143/1- in direction of -arrow-.



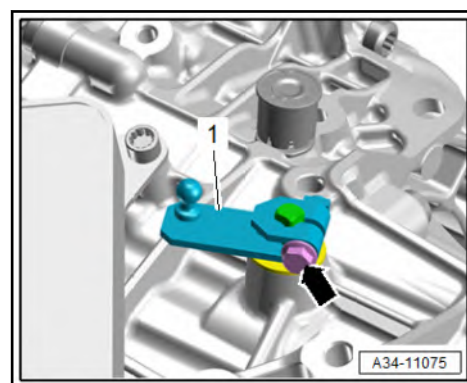
- Coat the outer edge and sealing lips on the new seal with transmission fluid.



- Fill the space between the sealing/dust lip -arrow- halfway with sealing grease. Refer to the Parts Catalog for the correct sealing grease.
- Drive in the seal using the -VW423- all the way at the same time do not tilt the gasket.



- The closed side of the seal -arrow- faces outward.
- Place the selector lever -1- on the parking lock shaft and tighten the bolt -arrow-.



- Press the selector lever cable onto the selector lever and adjust the selector lever cable. Refer to [⇒ L3.8 ever Cable, Checking and Adjusting](#), page 54 .
- Install the battery tray. Refer to [⇒ Electrical Equipment; Rep. Gr. 27; Battery; Battery Tray, Removing and Installing](#).

Tightening Specifications

- ◆ Refer to [⇒ -3.2 Shift Mechanism](#), page 44



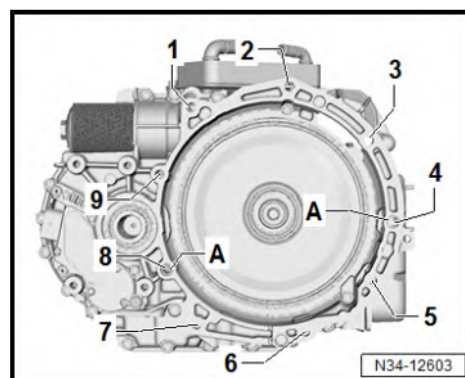
4 Transmission, Removing and Installing

⇒ [T4.1 Tightening Specifications", page 58](#)

⇒ [R4.2 Removing", page 58](#)

⇒ [I4.3 Installing", page 66](#)

4.1 Transmission Tightening Specifications



Item	Bolt	Nm
1, 2 and 3	M12 x 70	80 • Using the Insert Tool - 18mm T10179 or T10509: »65 Nm«
4	M12 x 80	80
5, 6 and 7	M10 x 60	40
8, 9	M12 x 80	80
A	Alignment sleeves for centering	

Component	Tightening Specification
Cable bracket on the oil pan (transmission cover)	10 Nm
Ground wire on the lower starter bolt	20 Nm

4.2 Transmission, Removing

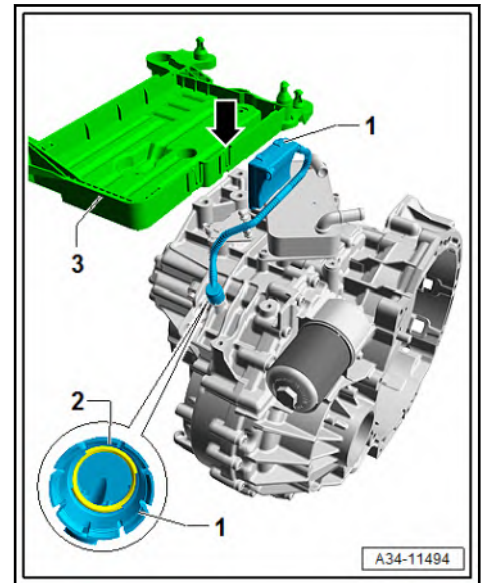
Special tools and workshop equipment required

- ◆ Transmission Support -3282-
- ◆ Engine and Gearbox Jack -VAS6931-
- ◆ Hose Clamps - Up To 25 mm -3094-
- ◆ Tensioning Strap -T10038-
- ◆ Engine Bung Set -VAS6122-
- ◆ Pry Lever -80-200-
- ◆ Insert Tool - 18mm -T10179- or Insert Tool - 18mm -T10509-
- ◆ Socket - Xzn 14 -T10061-
- ◆ Transmission Support - Mounting Plate 61 -3282/61-
- ◆ Transmission Support - Bolt -3282/34-

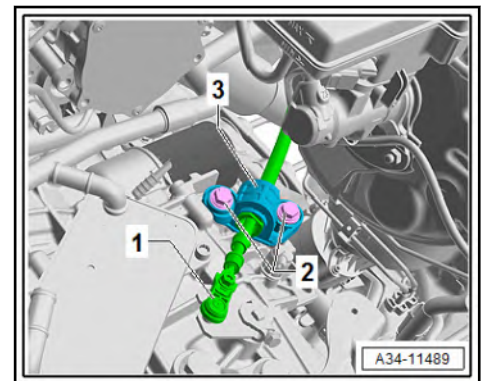


Removing

- Lift the vehicle, all four mounts from lifting platform at the same height.
- Move the selector lever into »P« position.
- Remove the engine cover. Refer to ⇒ Rep. Gr. 10; Engine Cover; Engine Cover, Removing and Installing.
- If equipped, remove the bleeder -1- with the bleeder hose from the locking mechanism -arrow- of the battery tray -3-.



- Remove the battery and the battery tray. Refer to ⇒ Electrical Equipment; Rep. Gr. 27; Battery; Battery Tray, Removing and Installing.
- Pry out the selector lever cable -1- from the selector lever using the -80-200-.



- Remove the bolts -2- and tie up the cable bracket -3- together with the selector lever cable.
- Do not bend or kink the cable.



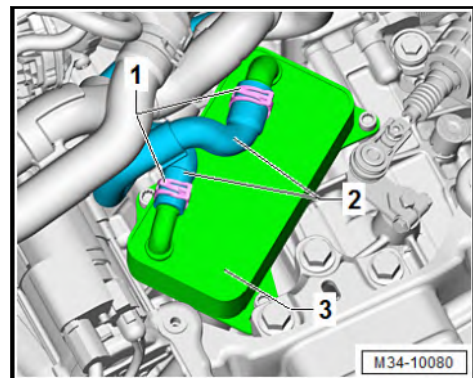
⚠ WARNING

The cooling system is under pressure when the engine is warm. Risk of scalding due to hot steam and hot coolant.

Burns to skin and other parts of the body are possible.

- Wear safety gloves.
- Wear protective eyewear.
- Reduce the pressure: cover the coolant reservoir cap with a cloth and carefully open.

- Place a lint-free cloth on to transmission fluid cooler and transmission to absorb escaping coolant.
- Clamp off the coolant hoses -2- with the -3094-.

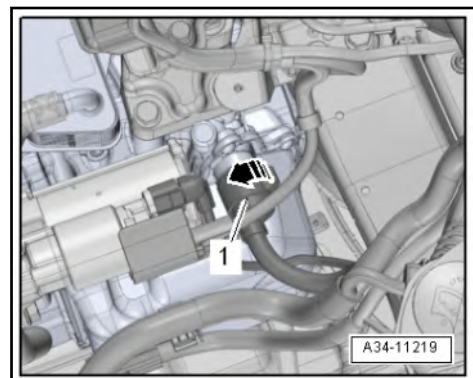


- Loosen the hose clamps for coolant hoses -1- and remove the coolant hoses from the transmission fluid cooler -3-.
- Seal off the transmission fluid cooler connections with suitable sealing plugs taken from the -VAS6122-.

⚠ CAUTION

Risk of destroying due to electrostatic charge.

- Do not touch the connector terminals.
 - Touch a grounded object (for example the hoist) and discharge any static electricity.
- Disconnect the connector -1- for the Dual-Clutch Transmission Mechatronic -J743-. To do so turn the twist lock counter-clockwise -arrow-.

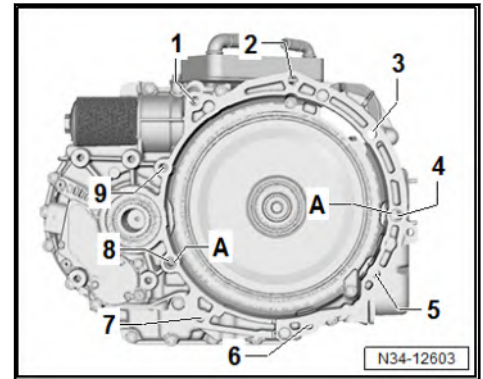


- Remove the starter. Refer to ➤ Electrical Equipment; Rep. Gr. 27; Starter; Starter, Removing and Installing.

It is recommended to remove the lower bolt first.

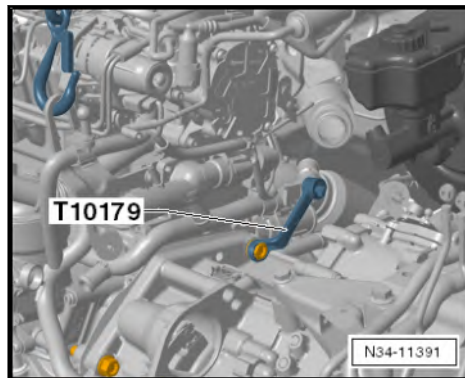


- Remove the bolts -1, 2 and 3- from the transmission/engine connection.

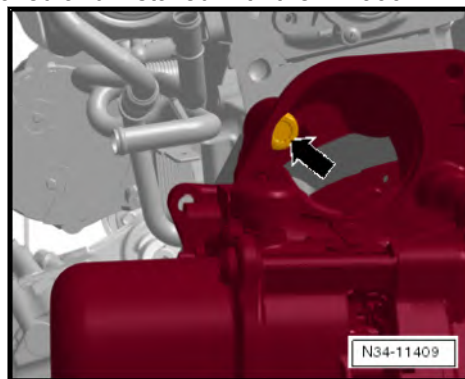


Tip:

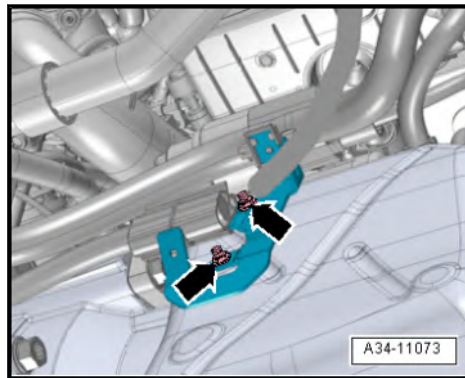
- ◆ The bolts -1 and 2- (previous illustration) can be removed and installed using the -T10179- or -T10509-.



- ◆ One bolt is located inside the hole for the starter -arrow-. This bolt can be removed and installed with the -T10061-.



- Support the engine and transmission in their installation position. Refer to ⇒ Rep. Gr. 10; Assembly Mounts; Engine in Installation Position, Supporting.
- Remove the noise insulation. Refer to ⇒ Body Exterior; Rep. Gr. 66; Noise Insulation.
- Remove the left front wheel housing liner. Refer to ⇒ Body Exterior; Rep. Gr. 66; Wheel Housing Liner; Front Wheel Housing Liner, Removing and Installing.
- Remove the nuts -arrows-.

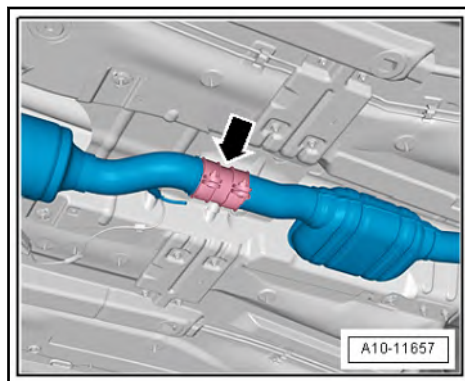


- Remove the wires and bracket from the transmission fluid pan and position and secure upward.
- Remove the subframe with the steering gear. Refer to ⇒ Suspension, Wheels, Steering; Rep. Gr. 40; Subframe; Subframe with Steering Gear, Removing and Installing.
- Secure the subframe. Refer to ⇒ Suspension, Wheels, Steering; Rep. Gr. 40; Subframe; Subframe, Securing.

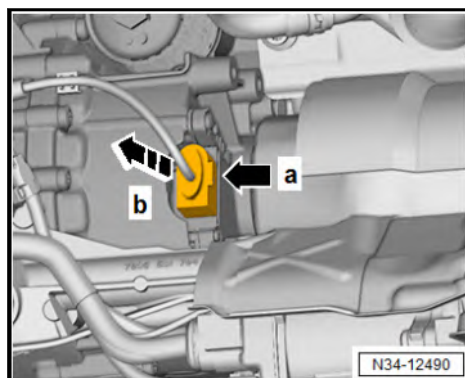
⚠ CAUTION

Incorrect handling can damage the coupling.

- Do not bend the coupling more than 10°.
 - Do not load the coupling.
-
- Disconnect the exhaust system from the clamping sleeve -arrows- and tie up the front exhaust pipe.

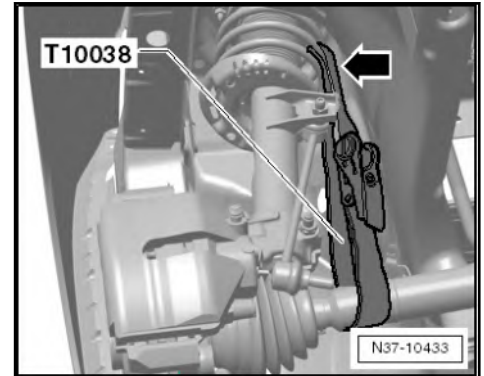


- Release the connector for the Transmission Fluid Auxiliary Hydraulic Pump 1 -V475- -arrow a- and remove the connector in direction of -arrow b-.





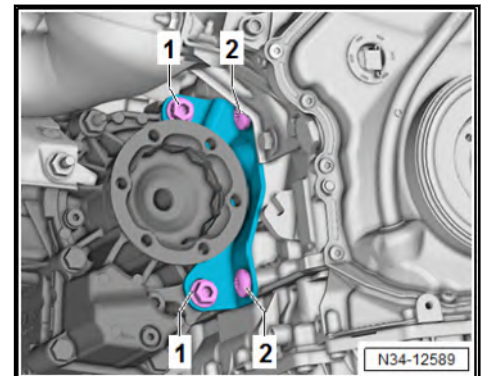
- Remove both drive axles from the transmission. Refer to
⇒ Suspension, Wheels, Steering; Rep. Gr. 40; Drive Axle;
Drive Axle, Removing and Installing.
- Secure the drive axle to the suspension strut using a -
T10038-.



Do not damage the surface protection of the shafts.

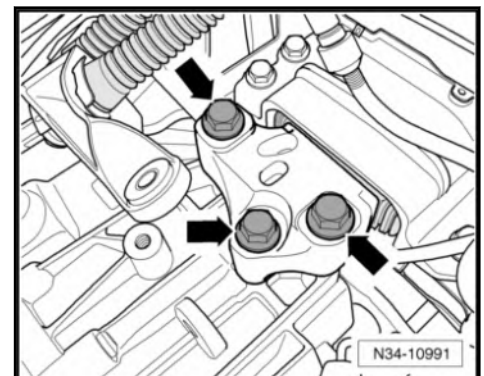
- Remove the right drive axle heat shield. Refer to ⇒ Suspension, Wheels, Steering; Rep. Gr. 40; Drive Axle, Drive Axle Heat Shield, Removing and Installing.

AWD Vehicles



- Remove bolts -1 and 2- and bevel box transmission support.
- Remove the driveshaft. Refer to ⇒ Rep. Gr. 39; Driveshaft; Driveshaft, Removing and Installing.

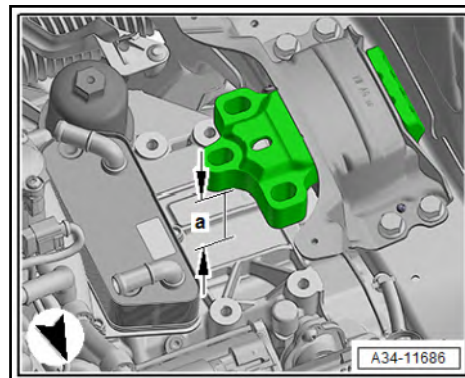
Continuation for All Vehicles



- Remove the bolts -arrows- of the assembly mounts for the transmission.



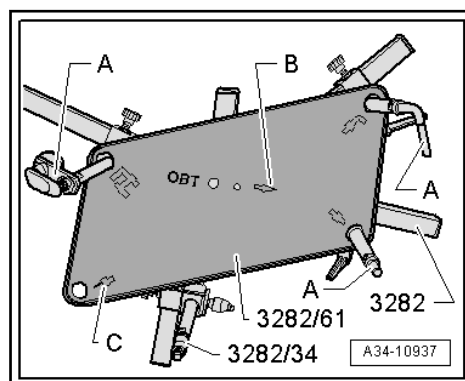
- Lower the engine/transmission »only« on the transmission side approximately to the dimension -a- using the spindles on the -10-222A-.



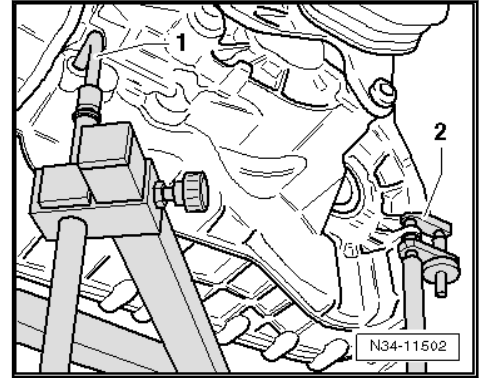
Dimension -a- = approximately 90 mm

The transmission is disconnected from the engine in this position.

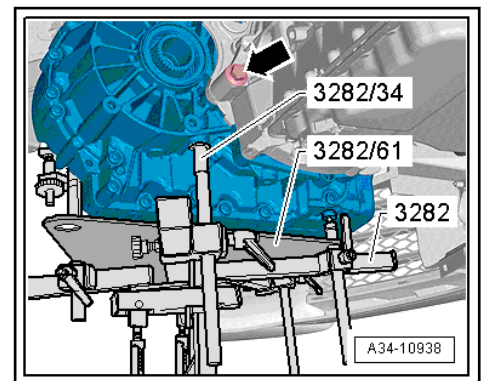
The -3282- is equipped with the -3282/61- to remove the dual-clutch transmission OGC.



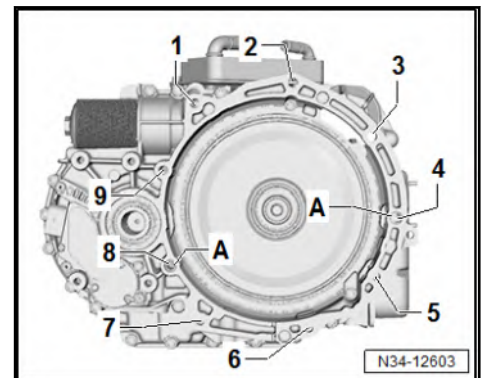
- The -3282- is inserted in the -VAG1383A- or -VAS6931-.
- Align the Transmission Support arms so that they align with the holes in the Adjusting Plate.
- Install the mounting elements -A- on the Adjustment Plate as shown. The -3282/34- is used as the right rear mounting element. This mounting element is located outside of the Adjusting Plate.
- The mounting element -C- on the Adjusting Plate is not used.
- Position the -VAG1383A- or -VAS6931- under the vehicle.
- The arrow symbol -B- on the Mounting Plate points in direction of travel.
- Align the -3282- so that it is parallel to the transmission.
- Insert the hook -1- in the dual-clutch transmission mount.



- Secure the safety support -2- in the dual-clutch transmission mount.
- Install the -3282/34- in the transmission.



- Support the transmission from underneath using the Engine and Gearbox Jack.
- Remove the engine to transmission bolt -arrow-.
- Remove the connecting bolts -4, 5, 6, 7 and 9- of the transmission and engine connection.



- Separate the transmission from the alignment sleeves on the engine.
- Carefully lower the transmission using the Engine-Transmission Jack. Be sure not to pinch any lines while doing so.
- When lowering, change the transmission position using the spindles on the -3282-.
- If necessary, when installing a new transmission refit the attachments.
- ◆ Selector lever cable bracket



- ◆ Bleeder with bleeder line
- ◆ Cable bracket on the oil pan (transmission cover)

Transmission, transporting. Refer to [⇒ T6 ransporting", page 73](#) .

Secure the transmission on the assembly stand. Refer to [⇒ o7 n Engine and Transmission Holder", page 74](#) .

Install the transmission. Refer to [⇒ I4.3 nstalling", page 66](#) .

4.3 Transmission, Installing

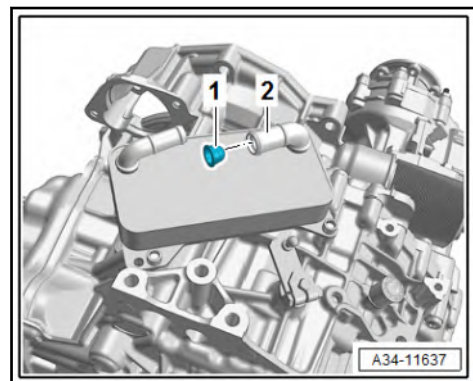
Special tools and workshop equipment required

- ◆ High Temperature Grease. Refer to Parts Catalog.
- ◆ Refer to the "Transmission, Removing" procedure for a list of the special tools needed. Refer to [⇒ R4.2 emoving", page 58](#) .
- ◆ Replace the bolts that were tightened with an additional turn.
- ◆ Replace the self-locking nuts and bolts as well as gaskets, seals and O-rings.
- ◆ Secure all hose connections with hose clamps corresponding to series production. Refer to the Parts Catalog.
- ◆ During installation, all cable ties must be installed at the same location.

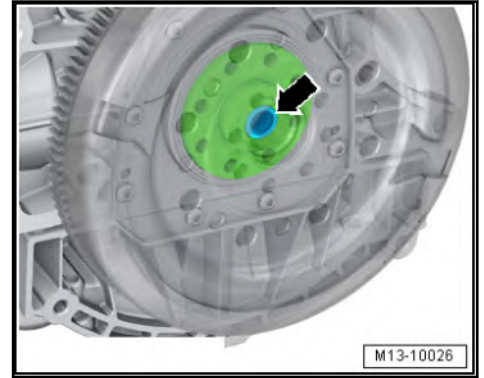
Procedure

Install in the reverse order of removal while noting the following:

- Remove the screen -1- of the transmission fluid cooler carefully using a screwdriver and check for contamination.

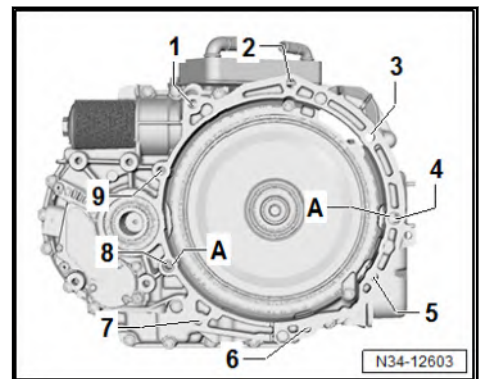


- If necessary clean and clip in the screen again.
- Replace the needle bearing -arrow- in the crankshaft. Refer to [⇒ Rep. Gr. 13; Crankshaft; Needle Bearing in Crankshaft, Replacing](#).

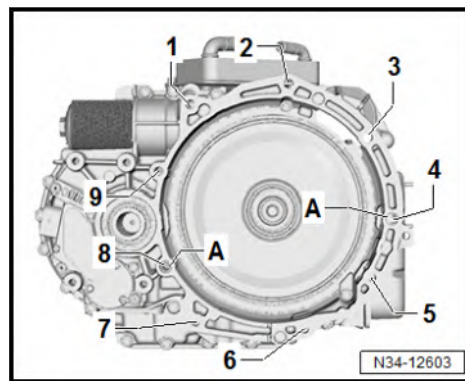


Tip:

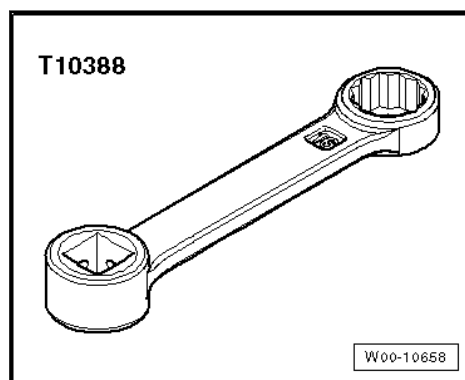
- ◆ If this needle bearing in the crankshaft is damaged, the gears are no longer able to shift correctly because the clutch is supported at this bearing.
- Lightly lubricate the pin and splines on the transmission.
- Check if the alignment sleeves -A- for centering the engine/transmission are in the cylinder block and insert them if they are not.



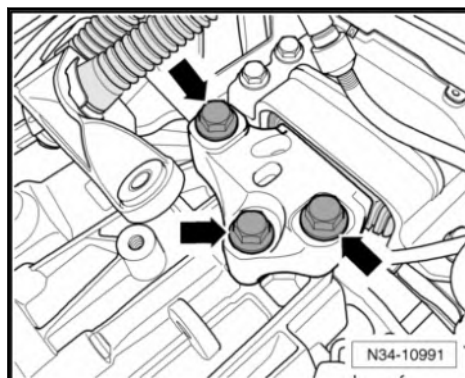
- The missing alignment sleeves due to an offset from the engine and transmission lead to damage to the needle bearing in the crankshaft.
- Make sure the intermediate plate is seated correctly.
- Carefully raise the transmission using the Engine and Gearbox Jack and bring it into its installation position with the -3282-.
- Insert the transmission without pinching any lines.
- Engine and transmission must be brought together by hand until both flanges contact all around!
- If this is not the case, re-adjust the transmission support until the engine and transmission align.
- Attach the transmission to the engine.



- Tighten the upper bolts -1 and 2- using the -T10179-; while doing so, note the changed tightening specification.



- The bolt -3- is only accessible via the opening for the removed starter. Use the -T10061- for this bolt.
- The lower bolts -6 and 7- can be tightened with the -T10388- together with the -VAG1331-. At the same time note the changed tightening specification.
- Remove the -3282- from the transmission.
- Lift the engine/transmission assembly using the spindles on the -10-222A-.
- Align the engine/transmission assembly in its installation position. To do so, lift it until the transmission is completely flat on the transmission mount.
- Install the new bolts -arrows- of the assembly mounts for the transmission.



- Check the subframe mount adjustment. Adjust if necessary. Refer to ➤ Rep. Gr. 10; Assembly Mounts; Assembly Mount, Adjusting.



- Only remove the -10-222A- when all assembly mount bolts are tightened to specification and the subframe is installed.
- Install the starter. Refer to ⇒ Electrical Equipment; Rep. Gr. 27; Starter; Starter, Removing and Installing.
- Install the coolant hoses on the transmission fluid cooler.

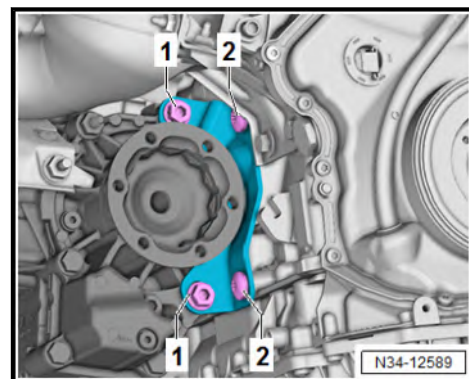
⚠ CAUTION

Risk of destroying due to electrostatic charge.

- Do not touch the connector terminals.
- Touch a grounded object (for example the hoist) and discharge any static electricity.
- To discharge any static electricity, touch vehicle ground with hand (without wearing a glove).
- Attach the connector for the Dual-Clutch Transmission Mechatronic -J743- and turn the twist lock clockwise to lock it.

AWD Vehicles

- Install the driveshaft. Refer to ⇒ Rep. Gr. 39; Driveshaft; Driveshaft, Removing and Installing.
- Secure the transmission support to the bevel box. Refer to ⇒ [page 38](#).

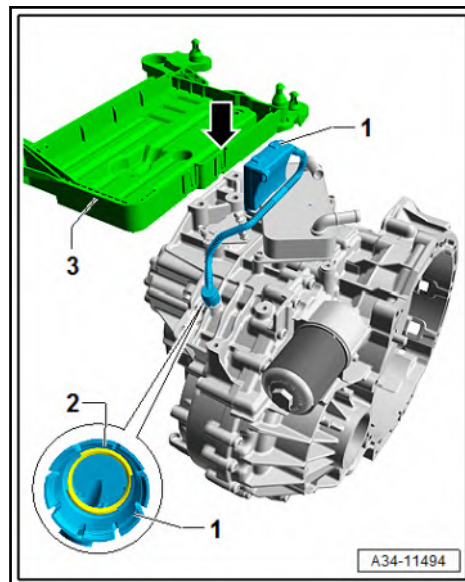


Continuation for All Vehicles

- Attach the drive axles to the transmission. Refer to ⇒ Suspension, Wheels, Steering; Rep. Gr. 40; Drive Axle; Drive Axle, Removing and Installing.
- Install the right drive axle heat shield. Refer to ⇒ Suspension, Wheels, Steering; Rep. Gr. 40; Drive Axle, Drive Axle Heat Shield, Removing and Installing.
- Install the subframe. Refer to ⇒ Suspension, Wheels, Steering; Rep. Gr. 40; Subframe; Subframe without Steering Gear, Removing and Installing.
- Install the pendulum support. Refer to ⇒ Rep. Gr. 10; Assembly Mounts; Overview - Assembly Mounts.
- Assemble the exhaust system and align it free of tension. Refer to ⇒ Rep. Gr. 26; Exhaust Pipes/Muffler; Exhaust Pipes, Aligning Without Tension.
- Install the air duct pipe and air duct hose. Refer to ⇒ Rep. Gr. 21; Charge Air System; Overview - Charge Air System.
- Install the selector lever cable on the dual-clutch transmission. Refer to ⇒ [-3.2 Shift Mechanism](#), [page 44](#).



- Adjust the selector lever cable. Refer to ⇒ [L3.8 ever Cable, Checking and Adjusting”, page 54](#) .
- If the bleeder -1- is installed with the bleeder hose on the transmission, the O-ring -2- must be located in the bleeder hose elbow.



- Install the battery tray -3-. Refer to ⇒ Electrical Equipment; Rep. Gr. 27; Battery; Battery, Removing and Installing.
- Clip in the bleeder -1- in the locking mechanism -arrow- of the battery tray.
- Install the battery. Refer to ⇒ Electrical Equipment; Rep. Gr. 27; Battery; Overview - Battery.
- Check the coolant level. Refer to ⇒ Rep. Gr. 19; Cooling System/Coolant; Coolant, Draining and Filling.
- Install the air filter housing. Refer to ⇒ Rep. Gr. 24; Air Filter; Air Filter Housing, Removing and Installing.
- Install the engine cover. Refer to ⇒ Rep. Gr. 10; Engine Cover; Engine Cover, Removing and Installing.
- Install the left front wheel housing liner. Refer to ⇒ Body Exterior; Rep. Gr. 66; Wheel Housing Liner; Overview - Front Wheel Housing Liner.
- Install the noise insulation. Refer to ⇒ Body Exterior; Rep. Gr. 66; Noise Insulation; Overview - Noise Insulation.
- Install the front wheels. Refer to ⇒ Suspension, Wheels, Steering; Rep. Gr. 44; Wheels, Tires.

If the transmission is replaced, the “Replace control module” function must be performed using the Vehicle Diagnostic Tester.

- Select Individual test on the Vehicle Diagnostic Tester.
- ◆ DSG® Transmission 0GC
- ◆ 01 - OBD-capable systems
- ◆ 02 - Transmission electronics
- ◆ 02 - Transmission electronic functions
- ◆ 02 - Mechatronic, replacing



Tightening Specifications

- ◆ Refer to ➤ [T4.1 Tightening Specifications", page 58](#)
- ◆ Refer to ➤ [-5.1 Assembly Mounts", page 72](#)



5 Assembly Mounts

⇒ -5.1 Assembly Mounts", page 72

5.1 Overview - Assembly Mounts

1 - Engine Support

- Overview. Refer to ⇒ Rep. Gr. 10; Subframe Mount; Overview - Subframe Mount.

2 - Bolt

- Tightening specification. Refer to ⇒ Rep. Gr. 10; Assembly Mounts; Overview - Assembly Mounts.

3 - Engine Mount

- Overview. Refer to ⇒ Rep. Gr. 10; Subframe Mount; Overview - Subframe Mount.

4, 5, 6, 7 - Bolt

- Tightening specification. Refer to ⇒ Rep. Gr. 10; Assembly Mounts; Overview - Assembly Mounts.

8 - Pendulum Support

- Overview. Refer to ⇒ Rep. Gr. 10; Subframe Mount; Overview - Subframe Mount.

9, 10, 11 - Bolt

- Tightening specification. Refer to ⇒ Rep. Gr. 10; Assembly Mounts; Overview - Assembly Mounts.

12 - Bolt

- 60 Nm +90°
- Replace after removing
- In the single and double bolt versions

13 - Bolt

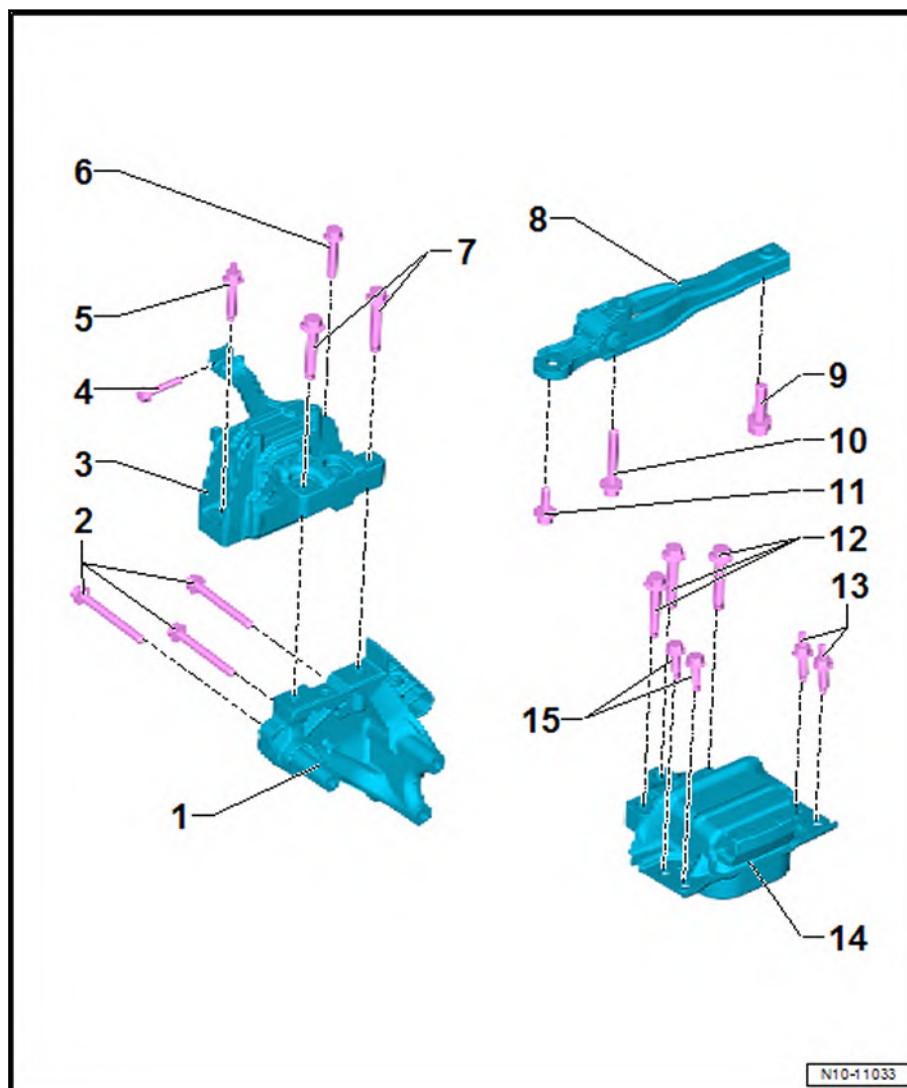
- 60 Nm +90°
- Replace after removing

14 - Transmission Mount

- Overview. Refer to ⇒ Rep. Gr. 10; Subframe Mount; Overview - Subframe Mount.

15 - Bolt

- 50 Nm +90°
- Replace after removing



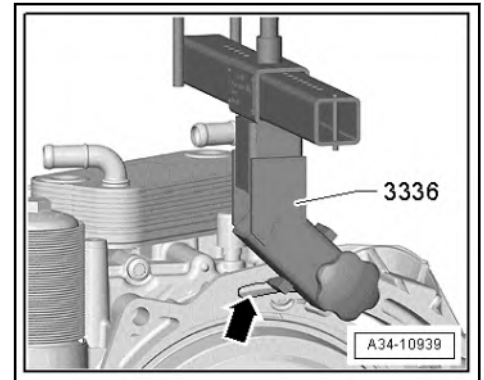


6 Transmission, Transporting

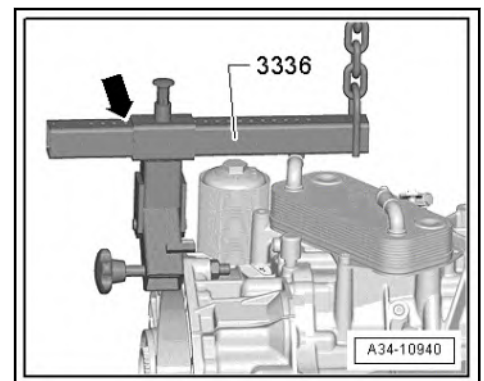
Special tools and workshop equipment required

- ◆ Transmission Support Jig -3336-
- ◆ Shop Crane -VAS6100-

Transmission, Transporting



- Attach the -3336- on the transmission. At the same time lock in the recess in the transmission -arrow-.
- Move the support arm on the sliding bar using the locking bolt -arrow-.



- Quantity of viable holes (without bevel box) = 5
- Quantity of viable holes (with bevel box) = 3
- Remove the transmission with the removed -3336- with the -VAS6100-.

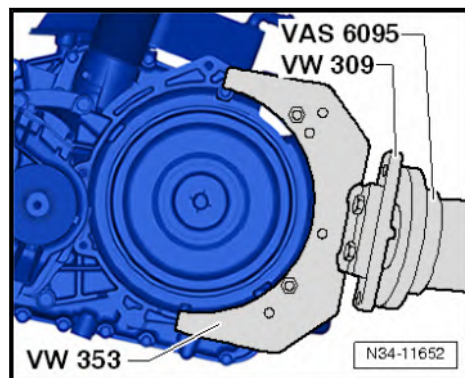


7 Securing on Engine and Transmission Holder

Special tools and workshop equipment required

- ◆ Holding Plate -VW309A-
- ◆ Transmission Support -VW353-
- ◆ Engine and Gearbox Bracket -VAS6095A-

Transmission, Securing to Engine/Transmission Holder



- Mount the transmission to the -VW353- and place it, with the -VW309- in the -VAS6095-.

Tip:

Risk of fluid leaking when turning the transmission.

- ◆ Vents for the transmission housing must be closed when turning a filled transmission on the engine and transmission holder with the bleeder downward.



8 Transmission Fluid Circuit

⇒ [8.1 Transmission Fluid Circuit", page 75](#)

⇒ [F8.2 luid Cooler, Removing and Installing", page 76](#)

⇒ [F8.3 luid Filter, Removing and Installing", page 78](#)

⇒ [f8.4 or Transmission Fluid Auxiliary Hydraulic Pump 1V475, Removing and Installing", page 80](#)

8.1 Overview - Transmission Fluid Circuit

1 - Bleeder Cap

2 - O-Rings

- ☐ Replace after removing

3 - Bolt

- ☐ 20 Nm

4 - Transmission Fluid Cooler

- ☐ Removing and Installing. Refer to ⇒ [F8.2 luid Cooler, Removing and Installing", page 76](#) .

5 - Transmission

- ☐ Removing and Installing. Refer to ⇒ [R4 emoving and Installing", page 58](#) .

6 - Bolt

- ☐ 8 Nm + 45°
- ☐ Replace after removing

7 - Engine for Transmission Fluid Auxiliary Hydraulic Pump 1 -V475-

- ☐ Removing and Installing. Refer to ⇒ [f8.4 or Transmission Fluid Auxiliary Hydraulic Pump 1V475, Removing and Installing", page 80](#) .

8 - Seal

- ☐ Replace after removing

9 - Transmission Fluid Filter

- ☐ Notes for oil change and filter replacement. Refer to ⇒ [I3.1 nformation", page 5](#) .
- ☐ Removing and Installing. Refer to ⇒ [F8.3 luid Filter, Removing and Installing", page 78](#) .

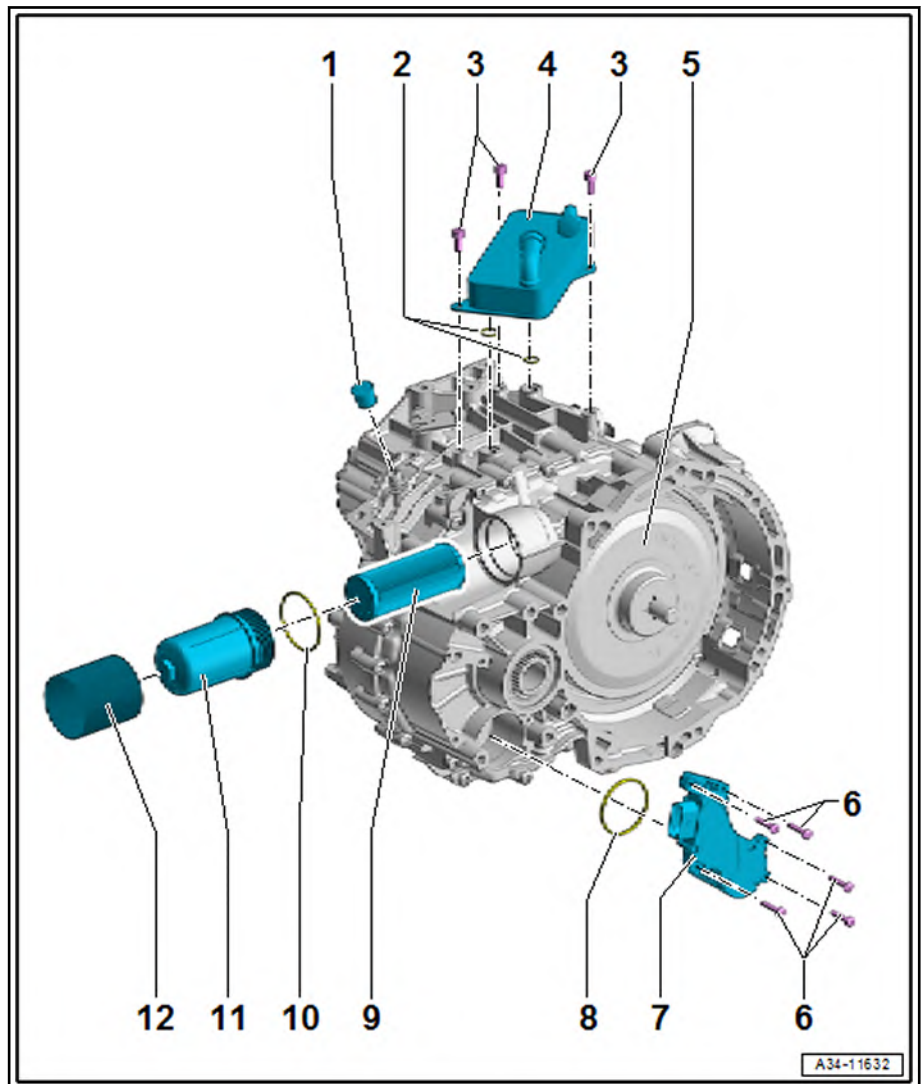
10 - O-Ring

- ☐ Replace after removing
- ☐ Coat with gear oil

11 - Filter Housing

- ☐ 50 Nm

12 - Heat Shield





8.2 Transmission Fluid Cooler, Removing and Installing

Special tools and workshop equipment required

- ◆ Hose Clamps - Up To 25 mm -3094-
- ◆ Engine Bung Set -VAS6122-

Removing

- Move the selector lever to “P”.
- Remove the air filter housing. Refer to ⇒ Rep. Gr. 23; Air Filter; Air Filter Housing, Removing and Installing.
- Remove the battery and the battery tray. Refer to ⇒ Electrical Equipment; Rep. Gr. 27; Battery; Battery Tray, Removing and Installing.



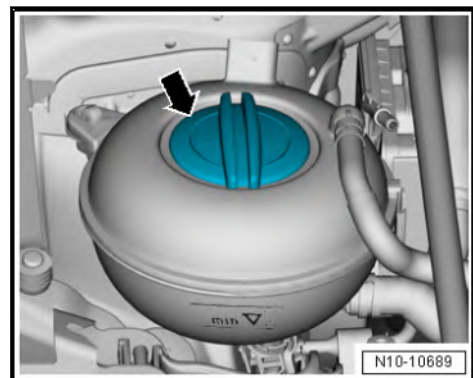
WARNING

The cooling system is under pressure when the engine is warm. Risk of scalding due to hot steam and hot coolant.

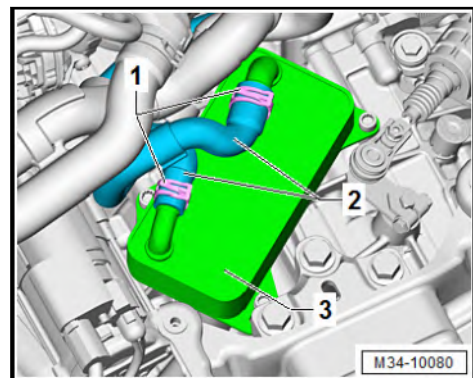
Burns to skin and other parts of the body are possible.

- Wear safety gloves.
- Wear protective eyewear.
- Reduce the pressure: cover the coolant reservoir cap with a cloth and carefully open.

- Open the coolant expansion tank cap -arrow-.



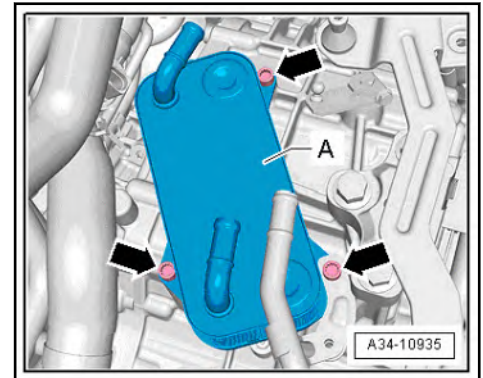
- Place a lint-free cloth on to transmission fluid cooler and transmission to absorb escaping coolant.
- Clamp off the coolant hoses -2- with the -3094-.



- Loosen the hose clamps for coolant hoses -1- and remove the coolant hoses from the transmission fluid cooler -3-.



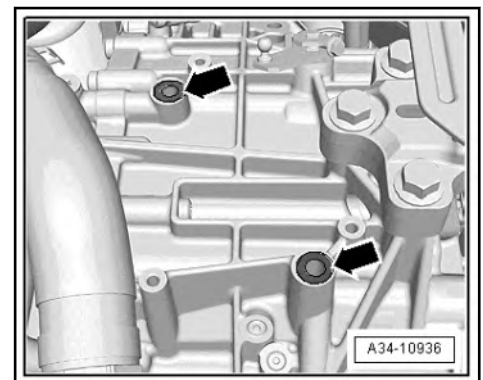
- Seal the open lines and connections with suitable plugs from the -VAS6122-.
- Cover the transmission with cloths to catch any escaping coolant.
- Remove the bolts -arrows- and the transmission fluid cooler -A-.



CAUTION

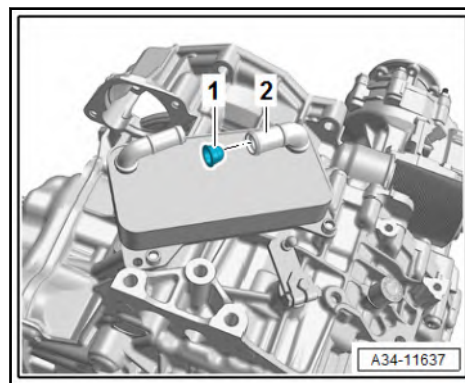
Transmission damage due to contaminated transmission fluid.
– Coolant must not drip into the transmission.

Installing

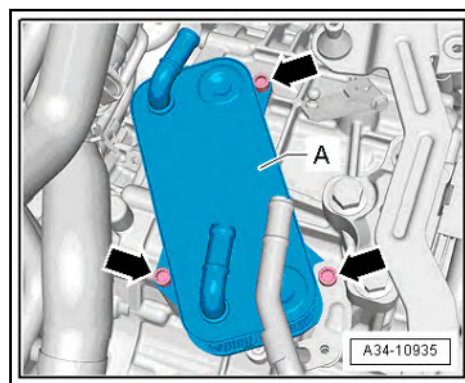


Install in the reverse order of removal while noting the following:

- ◆ Replace the O-rings -arrows- after removal.
- ◆ Coat the O-rings with transmission fluid before inserting to prevent the rings from being crushed during assembly.
- ◆ If there is damage to the sealing surface of the transmission fluid cooler it must be replaced.
- Remove the screen -1- of the transmission fluid cooler carefully using a screwdriver and check for contamination.



- If necessary clean and clip in the screen again.
- Carefully position the transmission fluid cooler -A-. At the same time pay attention to the sealing surface and the O-rings.



- Position the bolts -arrows- in steps diagonally.
- Install the battery tray and the battery. Refer to ⇒ Electrical Equipment; Rep. Gr. 27; Battery; Overview - Battery.
- Install the air filter housing. Refer to ⇒ Rep. Gr. 23; Air Filter; Air Filter Housing, Removing and Installing.
- Check the transmission fluid level and fill. Refer to ⇒ [F9.3 Fluid Level, Checking”, page 83](#) .
- Check the coolant level. Refer to ⇒ Rep. Gr. 19; Cooling System/Coolant; Coolant, Draining and Filling.

Tightening Specifications

- ◆ Refer to ⇒ [-8.1 Transmission Fluid Circuit”, page 75](#)

8.3 Transmission Fluid Filter, Removing and Installing

Special tools and workshop equipment required

- ◆ Used Oil Collection and Extraction Unit -SMN372500-
- Change the transmission fluid filter “yes or no”. Refer to ⇒ [13.1 Information”, page 5](#) .

Removing

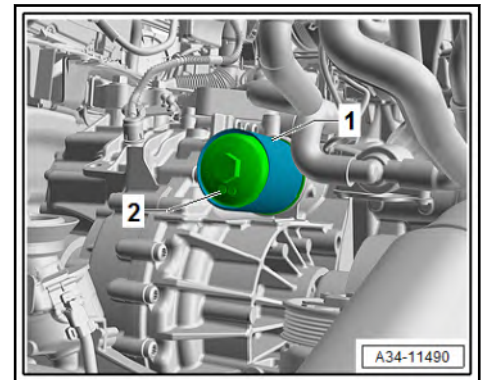
- Remove the noise insulation. Refer to ⇒ Body Exterior; Rep. Gr. 66; Noise Insulation; Noise Insulation, Removing and Installing.
- Remove the air filter housing. Refer to ⇒ Rep. Gr. 23; Air Filter; Air Filter Housing, Removing and Installing.



- Remove the battery and the battery tray. Refer to ⇒ Electrical Equipment; Rep. Gr. 27; Battery; Battery Tray, Removing and Installing.
- Place the -SMN372500- under the transmission.

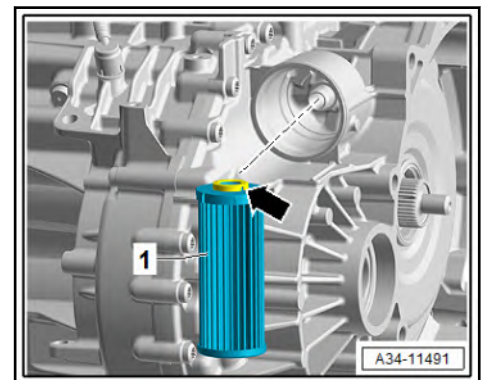
Tip:

- ◆ A residual amount of transmission fluid remains in the filter. This will drain out when removing the filter housing.
- ◆ Cover the area around the transmission fluid filter with some cloths before removing the filter housing.
- ◆ Thoroughly clean any lubricated areas on the transmission.
- Unscrew the filter housing -2- and remove it with the filter element.



Replace a missing or damaged heat shield -1-.

Installing



Install in the reverse order of removal while noting the following:

- Replace the O-ring after removal.
- Insert the filter element -1- with the suction collar -arrow- into the transmission.
- Tighten the filter housing.
- Install the battery tray and the battery. Refer to ⇒ Electrical Equipment; Rep. Gr. 27; Battery; Overview - Battery.
- Install the air filter housing. Refer to ⇒ Rep. Gr. 23; Air Filter; Air Filter Housing, Removing and Installing.
- Check the transmission fluid level and fill. Refer to ⇒ [F9.3 Fluid Level, Checking", page 83](#).
- Install the noise insulation. Refer to ⇒ Body Exterior; Rep. Gr. 66; Noise Insulation; Overview - Noise Insulation.



Tightening Specifications

- ◆ Refer to ➤ [-8.1 Transmission Fluid Circuit”, page 75](#)

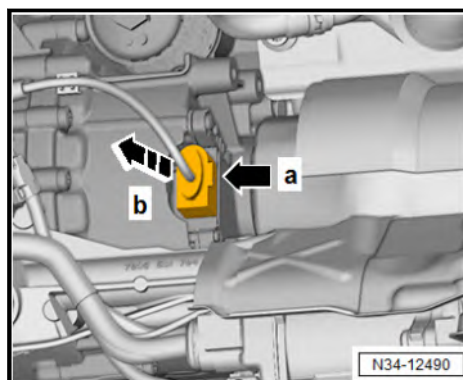
8.4 Engine for Transmission Fluid Auxiliary Hydraulic Pump 1 -V475-, Removing and Installing

Special tools and workshop equipment required

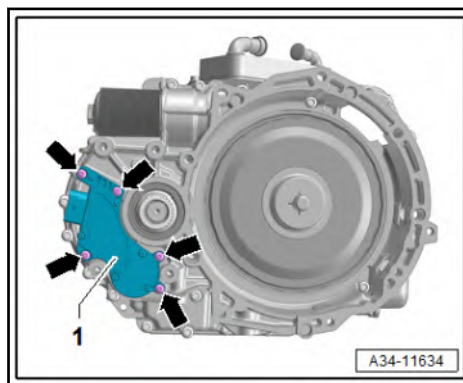
- ◆ Puller -T10530-

Removing

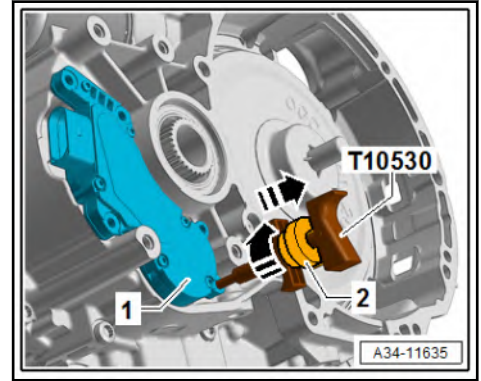
- Drain the transmission fluid. Refer to ➤ [F9.4 luid, Draining and Filling”, page 86](#) .
- AWD vehicles, remove the bevel box. Refer to ➤ [B2.2 ox, Removing”, page 38](#) .
- FWD vehicles: remove the right drive axle from the transmission. Refer to ➤ Suspension, Wheels, Steering; Rep. Gr. 40; Drive Axle; Drive Axle, Removing and Installing.
- Release the connector for the Transmission Fluid Auxiliary Hydraulic Pump 1 -V475- -a- and remove the connector -b-.



- Remove the bolts -arrows-.



- Guide the -T10530- in hole.



- Turn the knurled nut -2- clockwise until the puller clamps.
- Using the -T10530- carefully remove the pump motor horizontally to the side.

Installing

Install in the reverse order of removal while noting the following:

- Seal, replacing
- Push the pump motor by hand evenly in the housing.
- Tighten the pump motor.
- AWD vehicles, install the bevel box. Refer to [⇒ B2.3 ox, Installing”, page 40](#) .
- Install the right drive axle. Refer to [⇒ Suspension, Wheels, Steering; Rep. Gr. 40; Drive Axle; Drive Axle, Removing and Installing](#).
- Fill the transmission fluid. Refer to [⇒ F9.4 luid, Draining and Filling”, page 86](#) .

Tightening Specifications

- ◆ Refer to [⇒ -8.1 Transmission Fluid Circuit”, page 75](#)



9 Transmission Fluid

⇒ [9.1 Drain and Check Plugs", page 82](#)

⇒ [9.2 or Transmission Fluid Change", page 82](#)

⇒ [9.3 Fluid Level, Checking", page 83](#)

⇒ [9.4 Fluid, Draining and Filling", page 86](#)

9.1 Overview - Drain and Check Plugs

1 - Overflow Pipe

- 3 Nm

2 - Seal

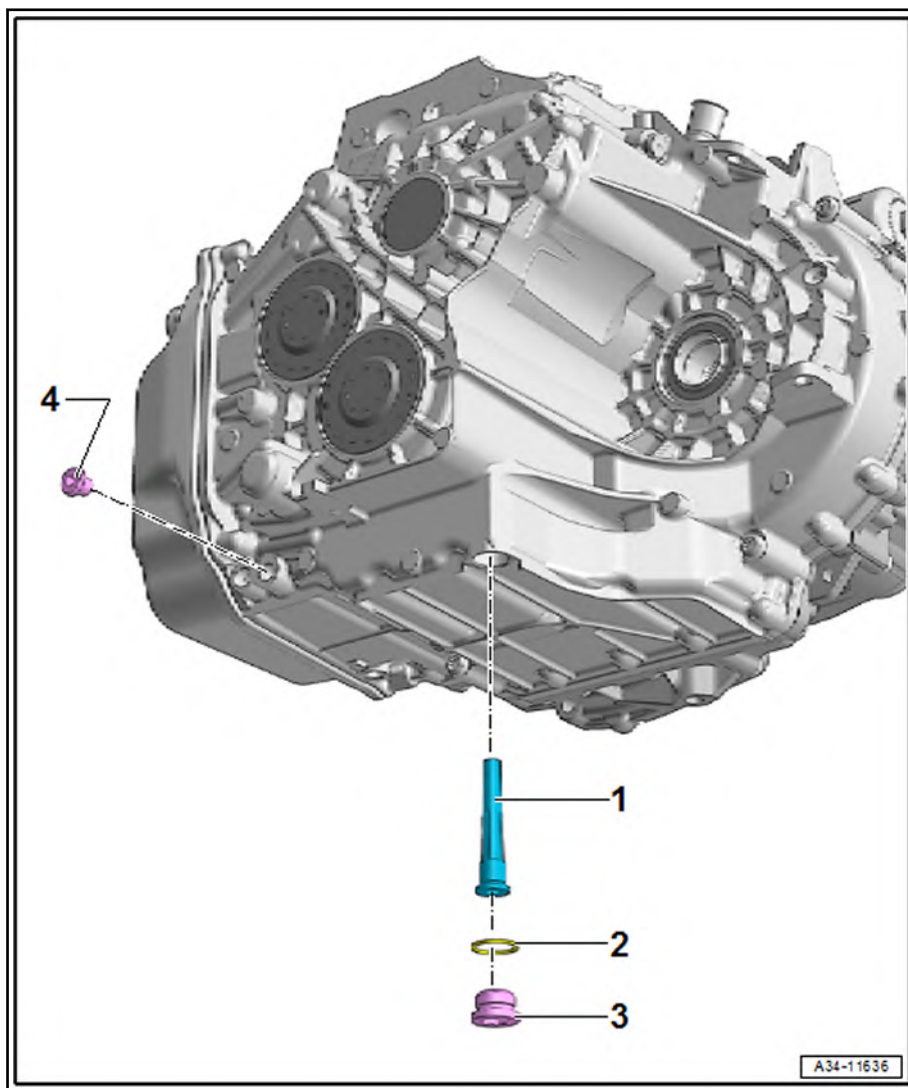
- Replace after removing

3 - Drain Plug

- 45 Nm
- For transmission fluid

4 - Mechatronic Drain Plug

- 10 Nm +45°



9.2 Tools for Transmission Fluid Change

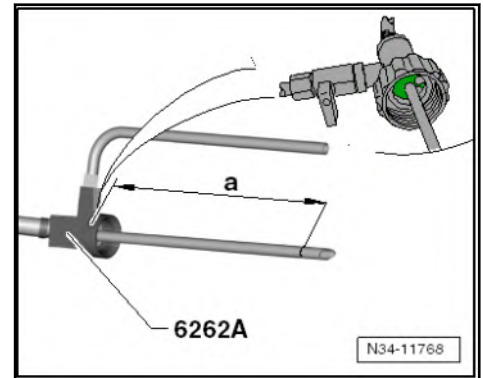
Special tools and workshop equipment required

- ◆ Oil Filler -VAS6262A- with Oil Filler - Adapter 1 -VAS6262/1-
- ◆ Used Oil Collection and Extraction Unit -SMN372500-
- ◆ If necessary: Oil Filler - Adapter 6 -VAS6262/6- or Oil Filler - Adapter -VAS6262/7-
- ◆ Original 1 liter transmission fluid container and dual-clutch transmission fluid. Refer to Parts Catalog for the part number.



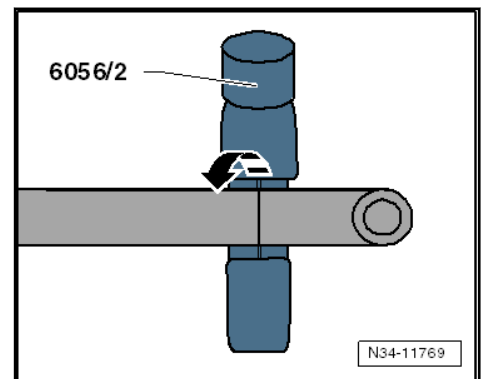
- ◆ Vehicle Diagnostic Tester
- ◆ Protective Eyewear
- ◆ Acid-Resistant Safety Gloves

Bleed Pipe Length, Measuring on Oil Filler -VAS6262A- and Shortening if Necessary



The pipe must be shorted to dimension -a- so that the bleed pipe on the adapter for the -VAS6262A- does not touch the bottom on some containers.

- Dimension -a- = 210 mm.
- Dimension -a- is measured starting from the shaft (the green surface in the magnified area) on the adapter for the -VAS6262A-.
- Mark the dimension on the bleed pipe and shorten it using the -VAS6056/2-.



- Clean the -VAS6262A-.

9.3 Transmission Fluid Level, Checking

Special tools and workshop equipment required

- ◆ Tools for Transmission Fluid Change. Refer to [⇒ f9.2 or Transmission Fluid Change](#), page 82 .

Procedure

WARNING

- Risk of injury due to the radiator fan turning on automatically.
- Maintain distance to the fan when working near the radiator.



Test Conditions

- Transmission not in emergency operation mode.
- Move the vehicle onto a four-column workshop hoist or over a work pit so it is completely level.
- Selector lever in "P".
- The parking brake button is pulled to activate the electro-mechanical parking brake.
- Suction hoses from an exhaust extracting system are connected.
- Engine running at idle.
- The A/C system and the heater are off.

Transmission Fluid Temperature, Reading

- ◆ The transmission fluid level changes with the transmission fluid temperature: too low of a transmission fluid temperature leads to overfilling, and too high of a transmission fluid temperature leads to underfilling.
- ◆ An incorrect transmission fluid filling impairs the transmission function.
- ◆ The transmission fluid temperature must not be higher than 30 °C (86 °F) when starting the procedure. Let the transmission cool down if necessary.
- ◆ Test temperature: 35 to 45 °C (95 to 113 °F).
- Connect the Vehicle Diagnostic Tester and select Individual test.
- ◆ DSG® Transmission 0GC
- ◆ 01 - OBD-capable systems
- ◆ 02 - Transmission electronics
- ◆ 02 - Transmission electronic functions
- ◆ 02 - Oil level, checking

Transmission Fluid Level, Checking

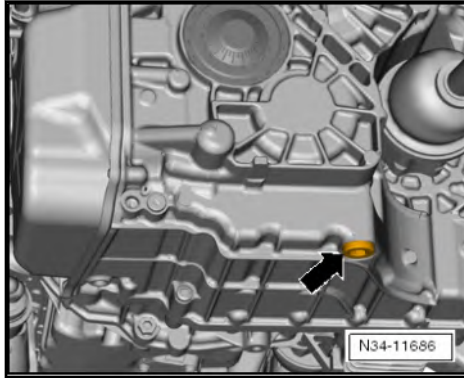
- Bring the transmission fluid temperature to approximately 30 °C (86 °F).
- Remove the noise insulation. Refer to ⇒ Body Exterior; Rep. Gr. 66; Noise Insulation; Noise Insulation, Removing and Installing.

WARNING

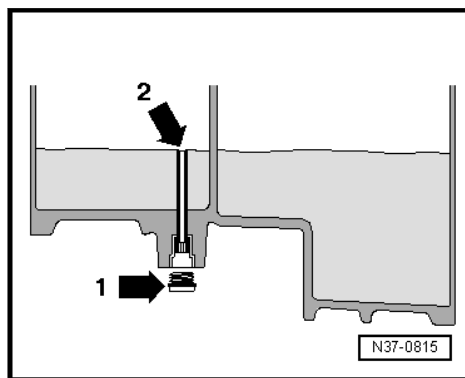
Risk of injury to the eyes and hands by escaping oil.

- **Wear protective eyewear.**
- **Wear acid-resistant safety gloves.**

- Place the -SMN372500- under the transmission.
- The engine is idling and the selector lever is in "P".



- Remove the check plug -arrow-.
- The collected transmission fluid runs out of the overflow pipe -arrow 2-.



- Some gear oil always leaks out when opening the inspection plug -arrow 1-, regardless of the gear oil level.

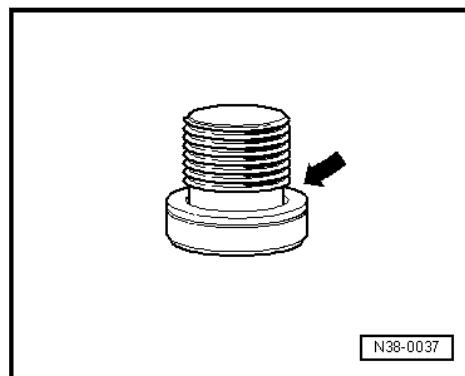
⚠ CAUTION

Transmission damage due to overfilling.

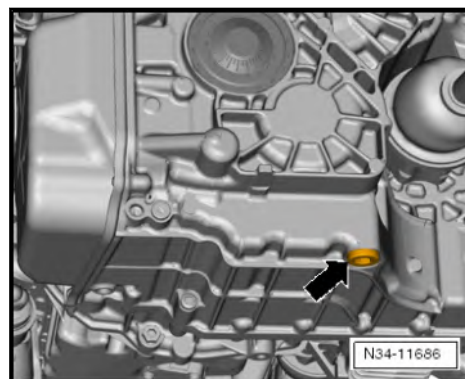
- The correct oil level lays under the level of the overflow pipe.
 - For this reason the unscrew the overflow pipe two turns for checking and the correct adjustment of the oil level.
- Loosen the overflow pipe two turns.
 - If some transmission fluid still leaks out at a transmission fluid temperature between 35 and 45 °C (due to additional warming), the transmission fluid level is OK.
 - Regardless of the gear oil level, a small wave of fluid comes out of the overflow tube every 30 seconds due to the multi-plate clutch cooling oil pulse. This procedure is irrelevant for checking the transmission fluid level.
 - Do not reuse transmission fluid that was drained.
 - If necessary, add transmission fluid. Refer to ➔ [F9.4 luid, Draining and Filling", page 86](#) .
 - If the transmission fluid level is OK, tighten the overflow pipe and then perform a measurement. Refer to ➔ [page 86](#) .



Final Procedures



- Replace the check plug seal -arrow-.
- Remove the -VAS6262A- from the transmission.
- Tighten the overflow pipe.
- Tightening the check plug -arrow-.



Tightening Specifications

- ♦ Refer to ⇒ [-9.1 Drain and Check Plugs”, page 82](#)
- ♦ Refer to ⇒ Body Exterior; Rep. Gr. 66; Noise Insulation; Overview - Noise Insulation.

9.4 Transmission Fluid, Draining and Filling

Special tools and workshop equipment required

- ♦ Tools for Transmission Fluid Change. Refer to ⇒ [f9.2 or Transmission Fluid Change”, page 82](#) .

Procedure



WARNING

Risk of injury due to the radiator fan turning on automatically.

- Maintain distance to the fan when working near the radiator.

Test Conditions

- Transmission not in emergency operation mode.
- Move the vehicle onto a four-column workshop hoist or over a work pit so it is completely level.
- Selector lever in “P”.



- The parking brake button is pulled on to activate the electro-mechanical parking brake.
- The engine is off.

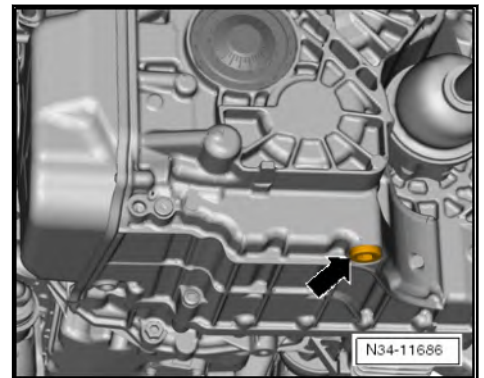
Transmission Fluid, Draining

- Remove the noise insulation. Refer to ⇒ Body Exterior; Rep. Gr. 66; Noise Insulation; Noise Insulation, Removing and Installing.

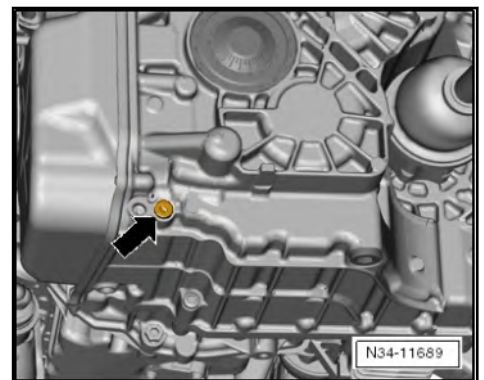
WARNING

Risk of injury to the eyes and hands by escaping oil.

- Wear protective eyewear.
 - Wear acid-resistant safety gloves.
-
- Place the -SMN372500- under the transmission.



- Remove the check plug -arrow-.
- The collected gear oil then runs out of the overflow tube.
- Remove the overflow pipe and let the transmission fluid drain.
- Remove the Mechatronic oil drain plug -arrow-.



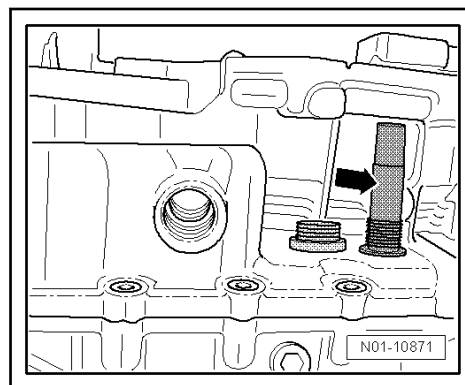
- Let the rest of the oil drain.

Tip:

- Wait approximately 4 minutes, until the entire oil has drained out.
- Apply the Mechatronic oil drain plug with a new seal and tighten.



Transmission Fluid, Filling

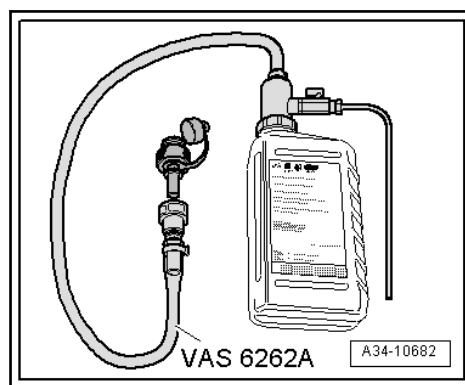


- Turn the overflow pipe -arrow- all the way again.
- The overflow pipe must be easy to install.

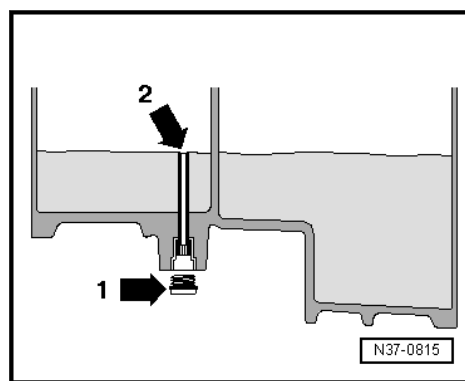
NOTICE

Transmission damage due to incorrect filling.

- Do not fill the transmission fluid over the bleeder.
- Shake the container before opening.



- Install the container with the transmission fluid for the DSG® transmission on the -VAS6262A-.
- If necessary, use the -VAS6262/6-.
- Install the -VAS6262A- into the opening for the check plug hand-tight.



- Hold the container with the -VAS6262A- as high as possible over the DSG® transmission and allow six liters of transmission fluid to flow into the DSG® transmission.



- Start the engine and let it run in idle.
- Press the foot brake and shift through all selector lever positions “P, R, N, D/S” at idle, retaining each position for at least 3 seconds.
- Move the selector lever into “P” position.
- Do not turn off the engine.
- Then check the transmission fluid level and add if necessary. Refer to ⇒ [F9.3 Fluid Level, Checking](#), page 83 .

Tightening Specifications

- ◆ Refer to ⇒ [-9.1 Drain and Check Plugs](#), page 82
- ◆ Refer to ⇒ Body Exterior; Rep. Gr. 66; Noise Insulation; Overview - Noise Insulation.



10 Special Tools

Special tools and workshop equipment required

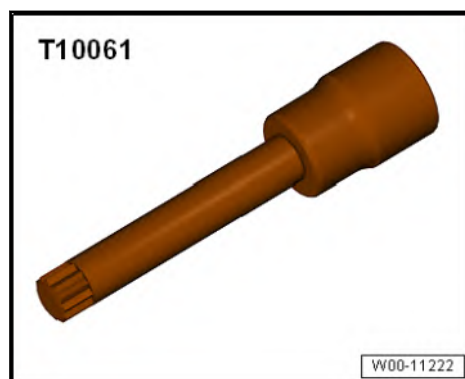
- ◆ Used Oil Collection and Extraction Unit -SMN372500-



- ◆ Tensioning Strap -T10038-



- ◆ Socket - Xzn 14 -T10061-



- ◆ Socket and Extended Bit -T10107A-

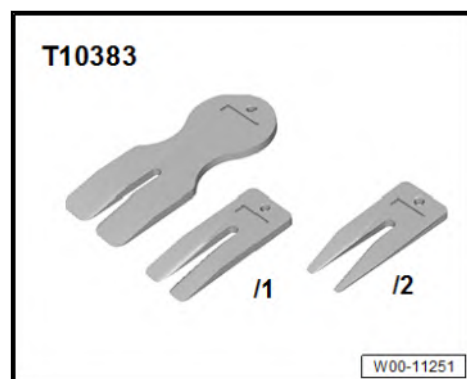




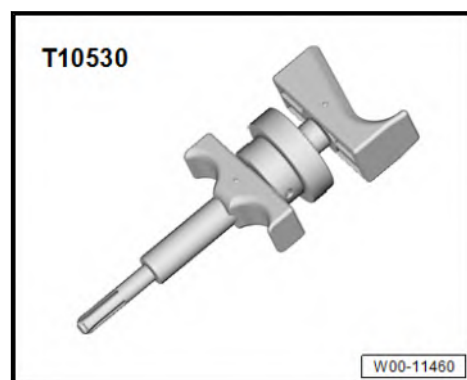
- ◆ Insert Tool - 18mm -T10179- or Insert Tool - 18mm -T10509-



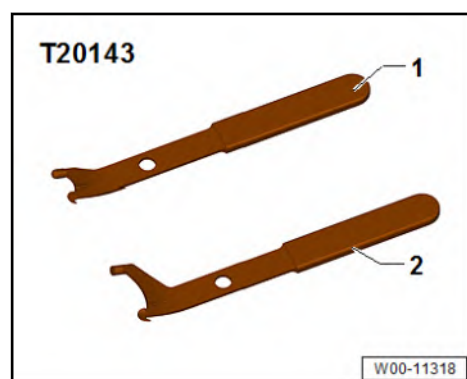
- ◆ Wedge Set -T10383-



- ◆ Puller -T10530-



- ◆ Puller - Crankshaft/Power Steering Seal -T20143-

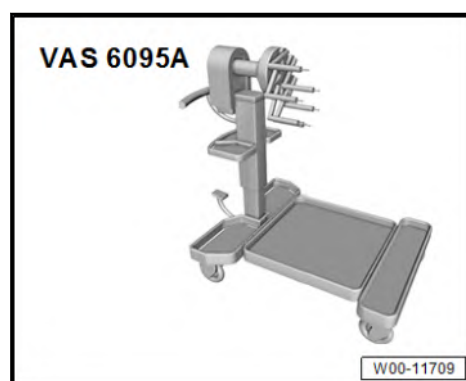




◆ Hose Clip Pliers -VAG1275A-



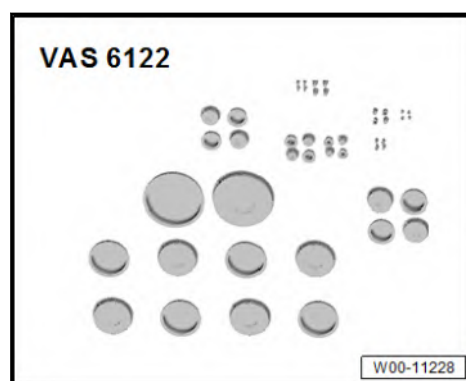
◆ Engine and Gearbox Bracket -VAS6095A-



◆ Shop Crane -VAS6100-



◆ Engine Bung Set -VAS6122-





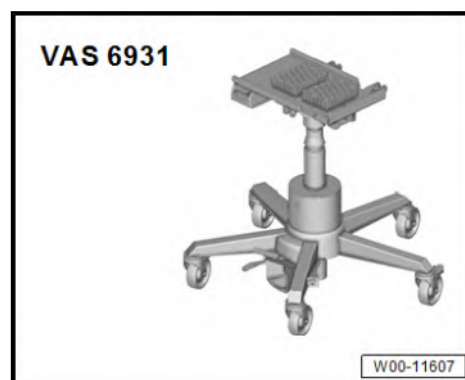
- ◆ Oil Filler -VAS6262A- with Oil Filler - Adapter 1 -VAS6262/1-



- ◆ If necessary: Oil Filler - Adapter 6 -VAS6262/6- or Oil Filler - Adapter -VAS6262/7-



- ◆ Engine and Gearbox Jack -VAS6931-

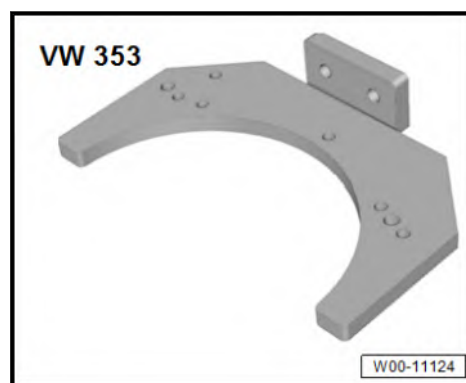


- ◆ Holding Plate -VW309A-

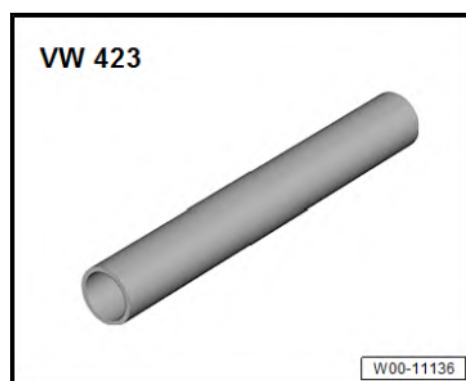




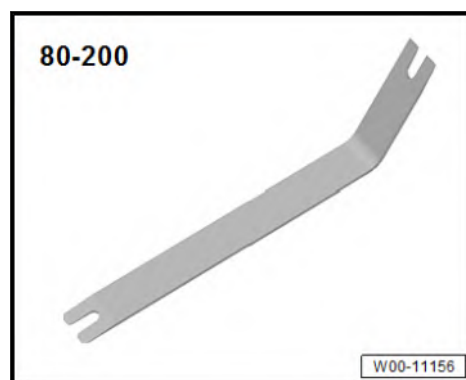
◆ Transmission Support -VW353-



◆ Press Piece - Shift Rod/Alternator -VW423-



◆ Pry Lever -80-200-



◆ Hose Clamps - Up To 25 mm -3094-

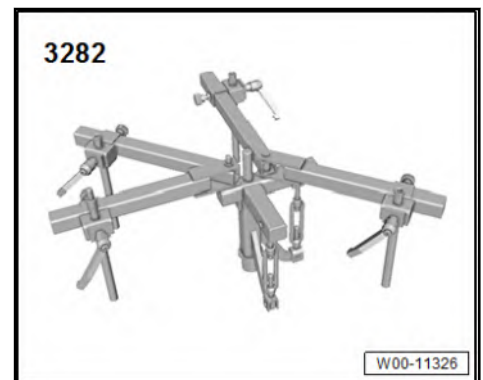




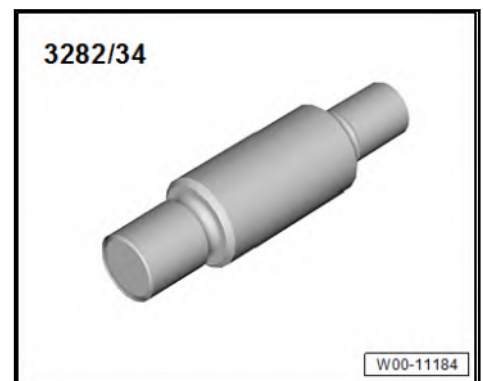
◆ Hex Ball Socket -3247-



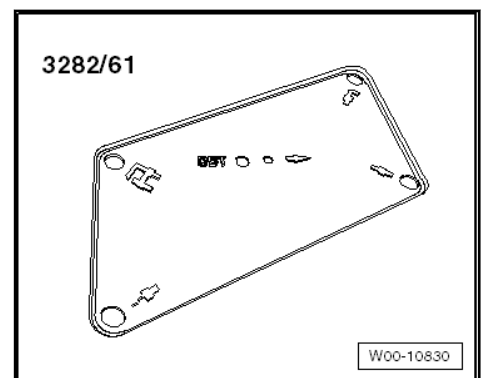
◆ Transmission Support -3282-



◆ Transmission Support - Bolt -3282/34-



◆ Transmission Support - Mounting Plate 61 -3282/61-





◆ Transmission Support Jig -3336-





35 – Gears, Shafts

- 1 No Repairs to Gears and Shafts at this Time



39 – Final Drive, Differential

1 Gear Oil

⇒ [O1.1 il, Checking Level", page 98](#)

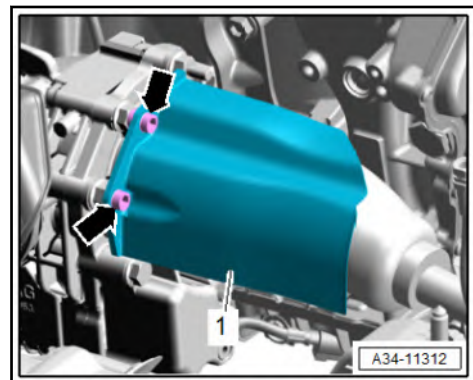
⇒ [O1.2 il, Draining and Filling", page 99](#)

1.1 Gear Oil, Checking Level

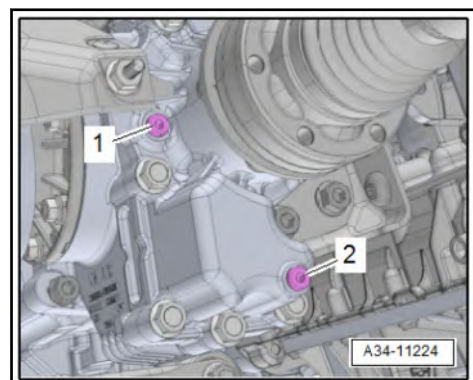
- The bevel box is attached to the side of the transmission and has its own oil system.
- Refer to the Parts Catalog for the gear oil specification.

Procedure

- Replace the fluid filler hole plug after removal.
- Move the vehicle onto a four-column workshop hoist or over a work pit so it is completely level.
- The engine is off.
- Remove the noise insulation. Refer to ⇒ Body Exterior; Rep. Gr. 66; Noise Insulation; Noise Insulation, Removing and Installing.
- Remove the nuts -arrows- and then remove the right drive axle heat shield, if equipped.



- Remove the oil filler hole plug -1-.



- Specified value: gear oil level up to lower edge of the oil filler hole.
- Add gear oil if necessary. Refer to ⇒ [O1.2 il, Draining and Filling", page 99](#).



- Install the drive axle heat shield. Refer to ⇒ Suspension, Wheels, Steering; Rep. Gr. 40; Drive Axle; Drive Axle Heat Shield, Removing and Installing.

Tightening Specifications

- ◆ Refer to ⇒ [-4.1 Bevel Box Components", page 110](#)
- ◆ Refer to ⇒ Body Exterior; Rep. Gr. 66; Noise Insulation; Overview - Noise Insulation.

1.2 Gear Oil, Draining and Filling

Special tools and workshop equipment required

- ◆ If necessary, Oil Filler - Adapter 6 -VAS6262/6-
- ◆ Charging Device for AWD Clutch Coupling 2 -VAS6291A-
- ◆ Charging Device For AWD Clutch Coupling 2 - Adapter 3 -VAS6291/3-
- ◆ Used Oil Collection and Extraction Unit -SMN372500-
- ◆ Refer to the Parts Catalog for the correct original transmission fluid container, gear oil; part number.
- ◆ Protective Eyewear
- ◆ Acid-Resistant Safety Gloves
- The gear oil in the bevel box must only be drained for a repair. Changing the oil is not intended.

Draining

- Replace the oil drain plug and fluid filler hole plug after removal.
- Move the vehicle onto a four-column workshop hoist or over a work pit so it is completely level.
- The engine is off.
- Remove the noise insulation. Refer to ⇒ Body Exterior; Rep. Gr. 66; Noise Insulation; Noise Insulation, Removing and Installing.
- Place the -SMN372500- under the transmission.

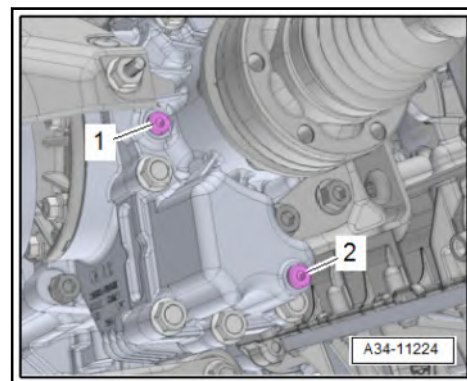


WARNING

Risk of injury to the eyes and hands by escaping oil.

- **Wear protective eyewear.**
- **Wear acid-resistant safety gloves.**

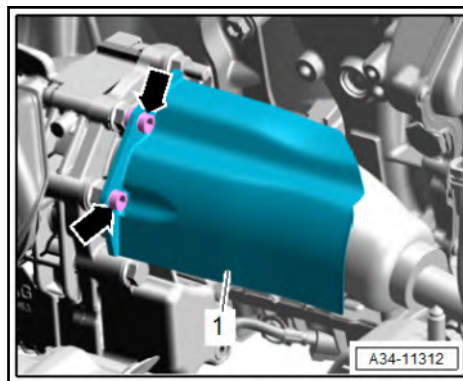
- Remove the oil drain plug -2- and drain the gear oil.



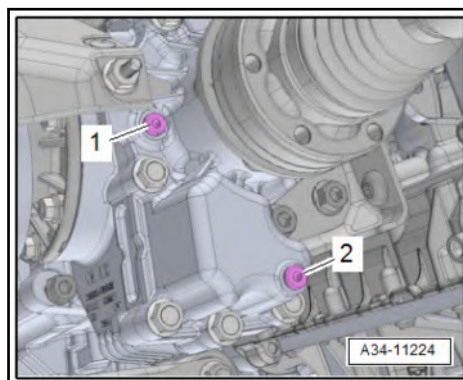


- Install the new oil drain plug -2-.

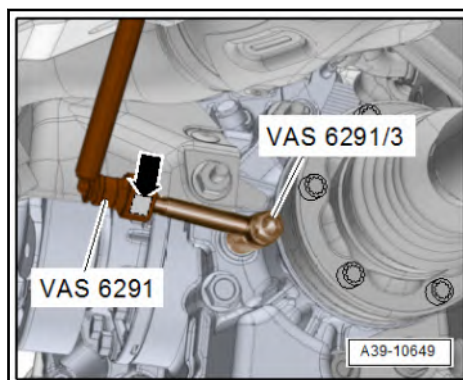
Filling



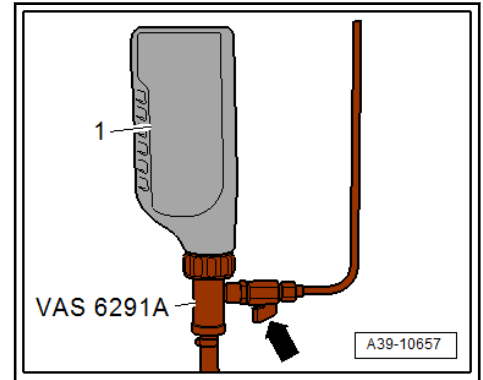
- Remove the nuts -1- and then remove the right drive axle heat shield, if equipped.
- Route the hose for the -VAS6291A- through the engine compartment.
- Remove the oil filler hole plug -1-.



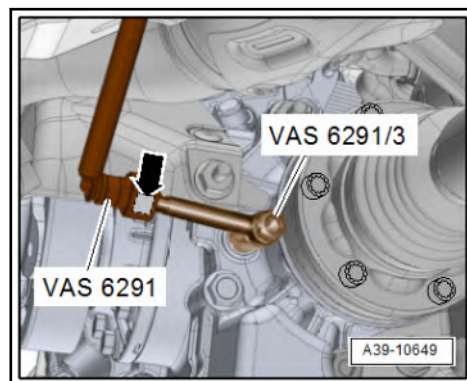
- Install the Charging Device for -VAS6291/3- all the way.



- Engage the elbow on the -VAS6291A- with the -VAS6291/3-
 - The hose must not sag.
- Pay attention to that the valve -arrow- is closed.



- Attach the fluid container -1- to the -VAS6291A-.
- The -VAS6262/6- must also be used on some fluid containers.
- Open the valve -arrow- and hold up the fluid container as shown.
- The bevel box is now filled.
- When the bevel box is filled correctly, fluid comes out at the -VAS6291/3-.



- If the gear oil leaks out at the -VAS6291/3-, hold the oil container in such a way so that any excess oil flows back into the container.
- When the oil stops flowing, remove the -VAS6291-.
- Install the »old« oil filler plug and lightly tighten it.
- Start the engine, engage a gear and let the transmission turn for approximately two minutes.
- Switch off the engine and remove the oil filler hole plug.
- Check the oil level and fill again with oil up to the lower edge of the filler hole.
- Tighten the new fluid filler plug.
- Carefully remove leaking oil from the bevel box.
- Install the drive axle heat shield. Refer to ⇒ Suspension, Wheels, Steering; Rep. Gr. 40; Drive Axle; Drive Axle Heat Shield, Removing and Installing.

Tightening Specifications

- ◆ Refer to ⇒ [-4.1 Bevel Box Components”, page 110](#)
- ◆ Refer to ⇒ Body Exterior; Rep. Gr. 66; Noise Insulation; Overview - Noise Insulation.



2 Seals

⇒ [L2.1 Location Overview - Seals](#), page 102

⇒ [S2.2 Seal, Replacing](#), page 102

⇒ [S2.3 Seal, Replacing](#), page 104

2.1 Component Location Overview - Seals

1 - Right Seal

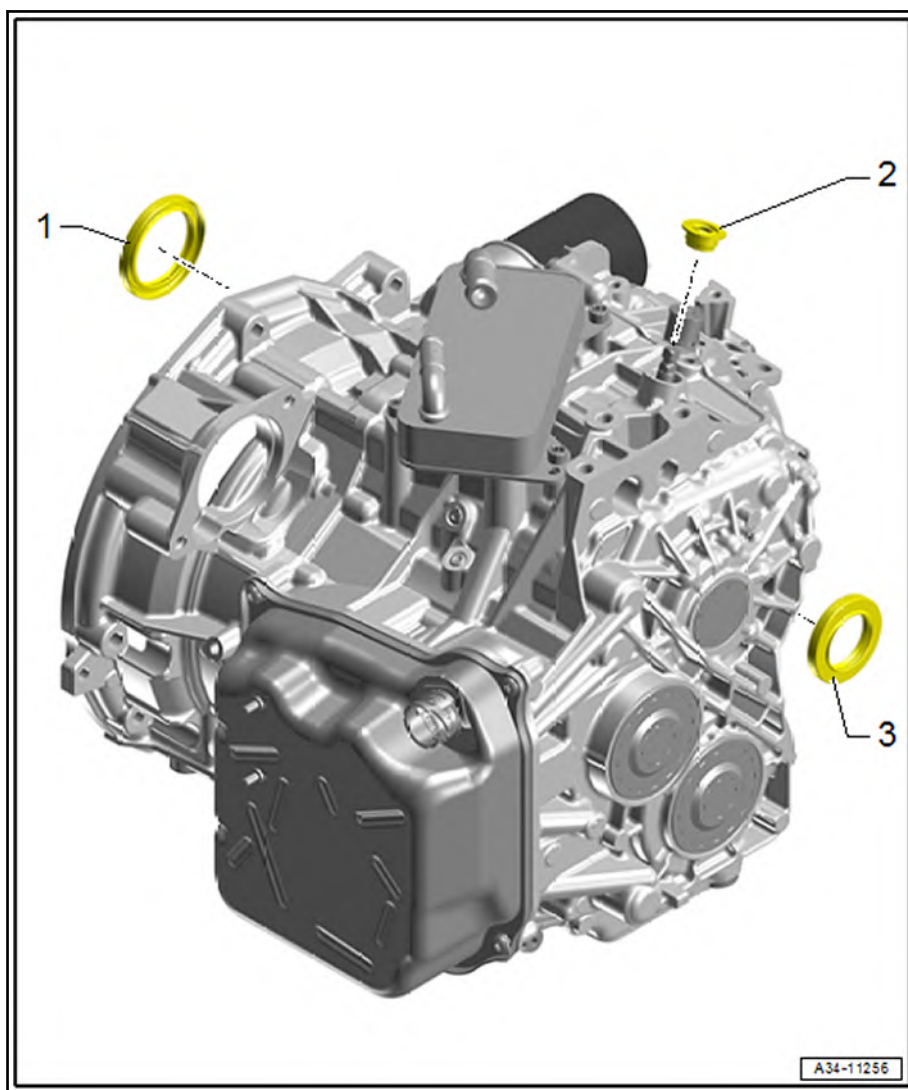
- ❑ Replacing. Refer to ⇒ [S2.3 Seal, Replacing](#), page 104 .

2 - Seal

- ❑ For the gearshift shaft
- ❑ Replacing. Refer to ⇒ [S3.9 Input Shaft Seal, Replacing](#), page 55 .

3 - Left Seal

- ❑ Replacing. Refer to ⇒ [S2.2 Seal, Replacing](#), page 102 .



2.2 Left Seal, Replacing

Special tools and workshop equipment required

- ◆ Puller - Unit Injector -T10055-
- ◆ Thrust Piece -T10457-
- ◆ Shop Crane - Drip Tray -VAS6208-
- ◆ Commercially Available Drill

Removing

- Remove the left drive axle. Refer to ⇒ Suspension, Wheels, Steering; Rep. Gr. 40; Drive Axle; Drive Axle, Removing and Installing.

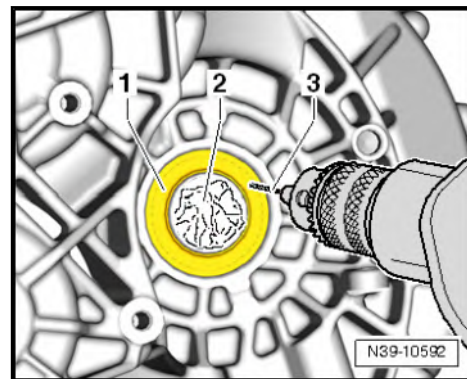


CAUTION

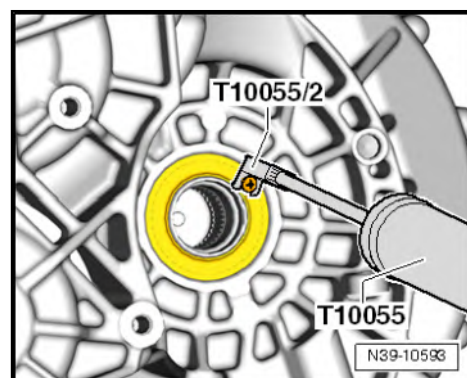
Risk of damaging the bearing when drilling.

- Only drill through the metal ring of the shaft seal.
- Do not install the screw too deep.

- Grease the drill bit -3- so that the shavings stick to it.



- Seal the opening on the transmission for the drive axle with a clean cloth -2-.
- Carefully drill a hole with a drill bit -3- (diameter 2 to 4 mm) in the outer metal ring -1- of the seal.
- Install a bolt (approximately 4 mm diameter) into the drilled out hole on the seal. Do not insert the screw too deeply so that the bearing underneath does not become damaged.



- Place the -VAS6208- under the transmission.
- Remove the seal using the -T10055- and the -T10055/2-.

Drill Shavings must not get into the transmission or into the opening for the drive axle. Vacuum up any shavings if necessary.

- Carefully remove the cloth and pay attention that no shavings get into the transmission.
- Carefully clean the transmission and the opening for the drive axle.

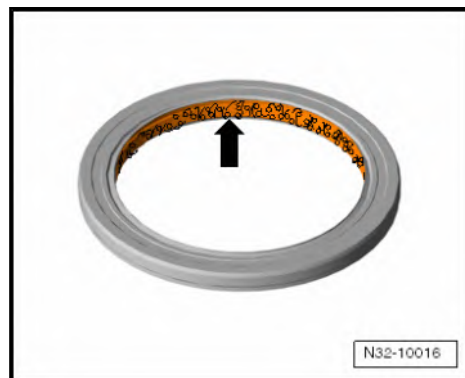
If only metal ring from the seal could be removed, carefully pry out remaining seal using screwdriver.

Installing

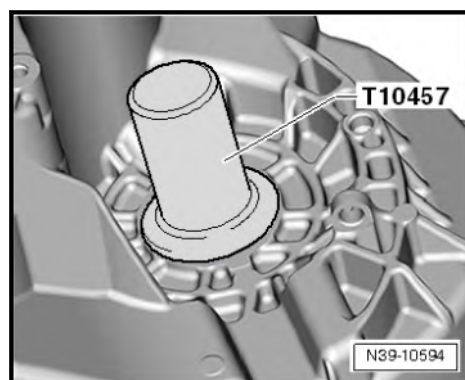
Install in reverse order of removal. Note the following:



Before installing, coat the sealing lips of the seal and the spaces between them with Radial Shaft Seal Sealing Grease and the outer edge with oil.



- Installation position: open side of the seal faces the transmission.
- Immediately mount the seal by hand and push it in as far as possible so that it is secure in the transmission housing.
- Install the seal all the way using the -T10457-. Do not tilt the seal.



- Install the left drive axle. Refer to ⇒ Suspension, Wheels, Steering; Rep. Gr. 40; Drive Axle; Drive Axle, Removing and Installing.
- Check the transmission fluid level and fill. Refer to ⇒ [F9 fluid", page 82](#).

2.3 Right Seal, Replacing

⇒ [S2.3.1 seal, Replacing, FWD Vehicles", page 104](#)

⇒ [S2.3.2 seal, Replacing, AWD Vehicles", page 106](#)

2.3.1 Right Seal, Replacing, FWD Vehicles

Special tools and workshop equipment required

- ◆ Puller - Unit Injector -T10055-
- ◆ Used Oil Collection and Extraction Unit -SMN372500-
- ◆ Not illustrated: Thrust Piece -T40372-
- ◆ Commercially available drill
- ◆ Commercially available metal drill bit, 2 to 4 mm diameter

Removing

- The transmission is installed.



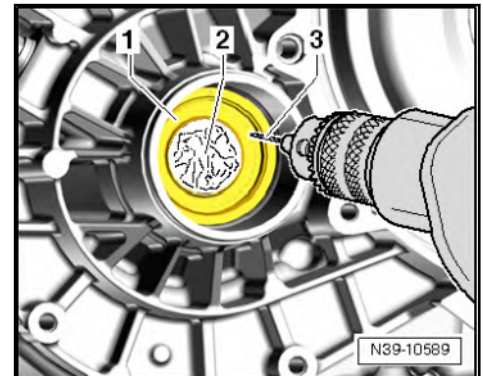
- Remove the right drive axle. Refer to ➤ Suspension, Wheels, Steering; Rep. Gr. 40; Drive Axle; Drive Axle, Removing and Installing.

⚠ CAUTION

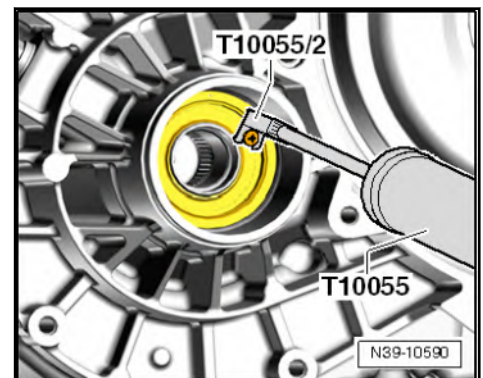
Risk of damaging the bearing when drilling.

- Only drill through the metal ring of the shaft seal.
- Do not install the screw too deep.

- Grease the drill bit -3- so that the shavings stick to it.



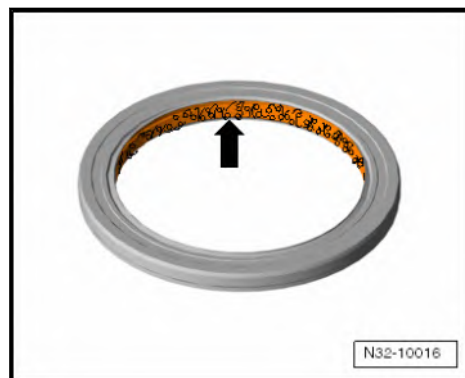
- Seal the opening on the transmission for the drive axle with a clean cloth -2-.
- Carefully drill a 2 to 4 mm hole into the outer metal ring -1- of the seal.
- Place the -SMN372500- under the transmission.
- Install a bolt (approximately 4 mm diameter) into the drilled out hole on the seal.



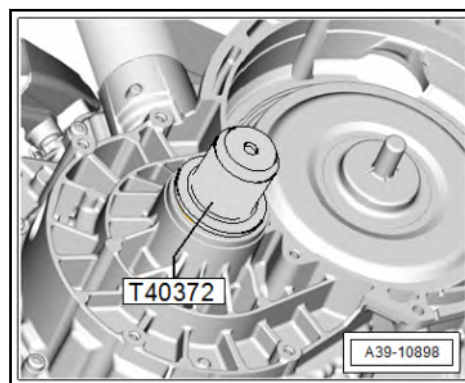
- Remove the seal using the -T10055- and the -T10055/2-.
- Carefully remove the cloth. Make sure that no shavings get into the transmission when doing so.
- Carefully clean the transmission and the opening for the drive axle.



Installing



- Coat the outer edge and sealing lips on the new seal with transmission fluid.
- Installation position: open side of the seal faces the transmission.
- Immediately mount the seal by hand and push it in as far as possible so that it is secure in the transmission housing.
- Drive in the seal all the way using the -T40372-; do not tilt the seal while doing so.



- Install the right drive axle. Refer to ⇒ Suspension, Wheels, Steering; Rep. Gr. 40; Drive Axle; Drive Axle, Removing and Installing.
- Check the transmission fluid level and fill. Refer to ⇒ [F9.3 Fluid Level, Checking](#), page 83 .

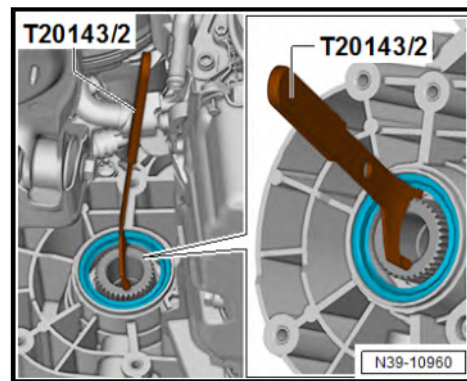
2.3.2 Right Seal, Replacing, AWD Vehicles

Special tools and workshop equipment required

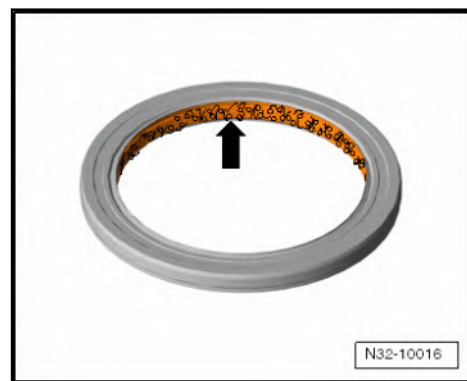
- ◆ Used Oil Collection and Extraction Unit -SMN372500-
- ◆ Seal Installer - Flange Shaft -T10049-
- ◆ Puller - Crankshaft/Power Steering Seal -T20143-
- ◆ Sealing Grease

Procedure

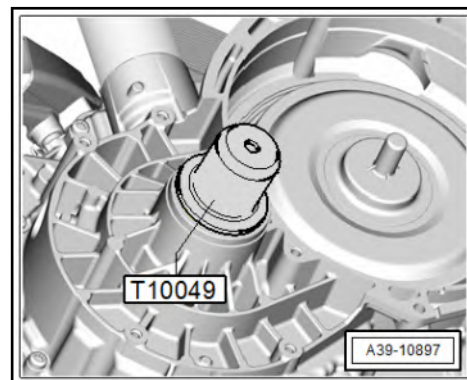
- Remove the bevel box. Refer to ⇒ [B2.2 Box, Removing](#), page 38 .
- Place the -SMN372500- under the transmission.
- Pry out the seal on the DSG® transmission using the -T20143/1- or -T20143/2-.



- Coat the outer circumference of the new seal with transmission fluid.



- Fill the area between the sealing lip and dust lip -arrow- halfway with Sealing Grease.
- Carefully install the seal using the -T10049- until it stops.



- Install the bevel box. Refer to ➔ [B2.3 ox, Installing](#)”, page [40](#) .



3 Differential

⇒ F3.1 lange Shaft, Removing and Installing", page 108

3.1 Right Flange Shaft, Removing and Installing

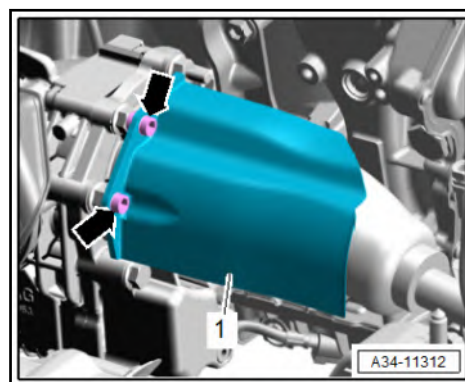
Special tools and workshop equipment required

- ◆ Used Oil Collection and Extraction Unit -SMN372500-
- ◆ Puller - Flanged Shaft -T10037-
- ◆ Socket and Extended Bit -T10107A-

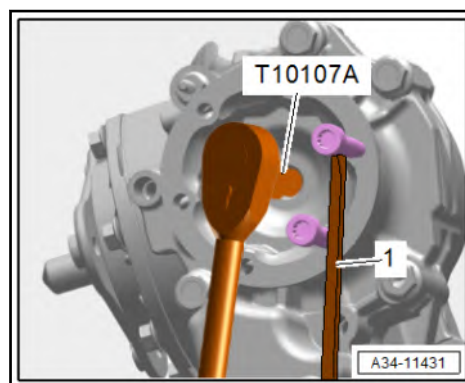
Only for AWD vehicles.

Removing

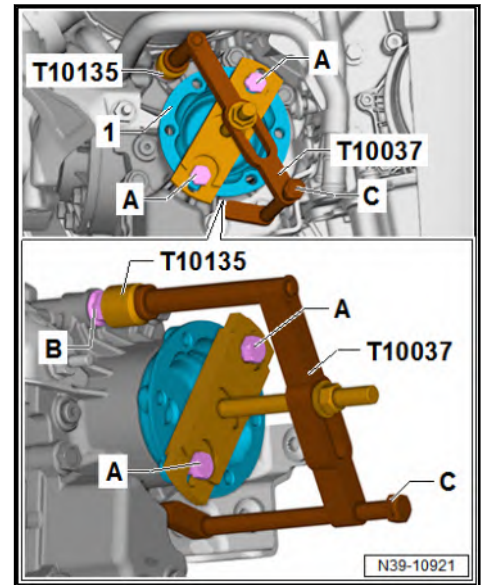
- The transmission is installed.
- Remove the nuts -arrows- and remove the right drive axle heat shield.



- Remove the right drive axle. Refer to ⇒ Suspension, Wheels, Steering; Rep. Gr. 40; Drive Axle; Drive Axle, Removing and Installing.
- Remove the flange shaft bolt using the -T10107A- by installing two bolts in the flange and counterholding the flange shaft with an assembly lever -1-.



- Remove the flange shaft -1- using the -T10037-.



-A- = M 10 X 25 bolts

- To remove the flange shaft, use the -T10037- to avoid damaging the bearing on the flange shaft.

At the top of the bevel box there is a hex bolt -B- with an M 8 threaded pin.

- Place the -T10135- on this hex bolt to support the Puller - Flanged Shaft.
- Align the Puller - Flanged Shaft parallel to the flange using the Spindle -C-.
- Remove the flange shaft.

Installing

Install in the reverse order of removal while noting the following:

- Carefully install the flange shaft while rotating it at the same time.
- Tighten the flange shaft.
- Gear Oil, Checking Level. Refer to [⇒ O1.1 il, Checking Level", page 98](#).

Tightening Specifications

- ◆ Refer to [⇒ -2.1 Bevel Box", page 37](#)
- ◆ Refer to [⇒ Suspension, Wheels, Steering; Rep. Gr. 40; Drive Axle; Overview - Drive Axle.](#)



4 Bevel Box Components

⇒ [4.1 Bevel Box Components", page 110](#)

⇒ [B4.2 ox Seals, Replacing", page 114](#)

⇒ [F4.3 lange Shaft Needle Bearing, Replacing", page 132](#)

4.1 Overview - Bevel Box Components

⇒ [4.1.1 Bevel Box Components, 0AV / 0FV ", page 110](#)

⇒ [4.1.2 Bevel Box Components, 0CN ", page 112](#)

4.1.1 Overview - Bevel Box Components, "0AV / 0FV"



1 - Left Seal

- ☐ Replacing. Refer to ➤ [S4.2.2 eal, Replacing](#), page 115 .

2 - Bevel Box

- ☐ Removing. Refer to ➤ [B2.2 ox, Removing](#), page 38 .
- ☐ Installing. Refer to ➤ [I4.3 nstalling](#), page 66 .

3 - Fluid Drain Plug

- ☐ 15 Nm
- ☐ Replace after removing
- ☐ With permanent seal

4 - Right Seal

- ☐ Replacing. Refer to ➤ [S4.2.1 eal, Replacing](#), page 114 .

5 - Fluid Filler Plug

- ☐ 15 Nm
- ☐ Replace after removing
- ☐ With permanent seal

6 - Bleed Pipe

- ☐ For bleeding the bevel box
- ☐ The component is not a replacement part

7 - Cap

- ☐ For bleeding the bevel box

8 - Right Flange Shaft

- ☐ Removing and Installing. Refer to ➤ [F3.1 lange Shaft, Removing and Installing](#), page 108 .

9 - Seal

- ☐ Replace after removing
- ☐ To replace, remove the needle bearing (polygon bearing)
- ☐ Insert into the surrounding right flange shaft groove

10 - Needle Bearing (Polygon Bearing)

- ☐ If it is difficult to move when the flange shaft is removed, this is not an indication of a malfunction.
- ☐ Acoustic test only when installed
- ☐ Check for damage, for example for cracks on the bearing outer race
- ☐ Replacing. Refer to ➤ [F4.3 lange Shaft Needle Bearing, Replacing](#), page 132 .

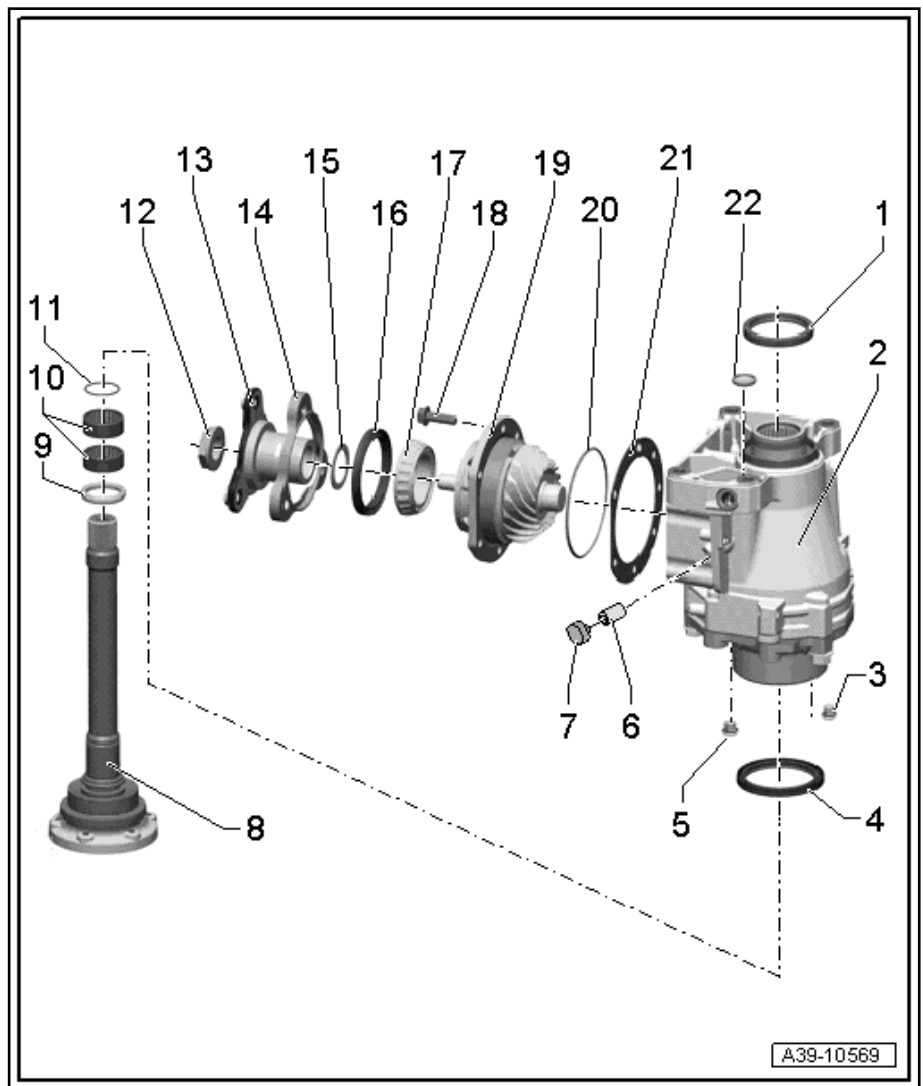
11 - Circlip

- ☐ Replace after removing

12 - Nut

- ☐ 480 Nm
- ☐ Replace after removing
- ☐ Install with Locking Fluid

13 - Bevel Box Output Flange





14 - Output Flange Cap

- ☐ Replace if damaged
- ☐ Locked with the output flange

15 - Shim

- ☐ The component is not a replacement part

16 - Output Flange Seal

- ☐ Replacing. Refer to ➔ [B4.2.4 ox Output Flange Seal, Replacing, 0AV / 0FV \(Bevel Box Removed\)](#)", [page 117](#) .

17 - Tapered Bearing Inner Race

- ☐ The component is not a replacement part

18 - Bolt

- ☐ 25 Nm
- ☐ Some bolts are double bolts for securing the right drive axle heat shield

19 - Pinion Housing

- ☐ With shaft bevel gear and outer race for tapered roller bearing
- ☐ Components are not replacement parts
- ☐ Carefully pry out from side to side
- ☐ Note the fastening holes; the pinion housing fits only in one position

20 - O-Ring

- ☐ To replace, remove the bolts -item 18- ➔ [Item 18 \(page 112\)](#) and carefully pry the pinion housing out at the tabs protruding all the way around.

21 - Shim

- ☐ The component is not a replacement part
- ☐ Note the bevel box fastening holes; the shim only fits in one position

22 - Cap

- ☐ Drive in all the way with the Holding Fixture - Spacers -VW540/1B-.

4.1.2 Overview - Bevel Box Components, "0CN"



1 - Seal

- ☐ Between the bevel box and the transmission
- ☐ Replacing. Refer to ➤ [S4.2.2 eal, Replacing](#), page 115 .

2 - Bevel Box

- ☐ Removing. Refer to ➤ [B2.2 ox, Removing](#), page 38 .
- ☐ Installing. Refer to ➤ [B2.3 ox, Installing](#), page 40 .

3 - Fluid Drain Plug

- ☐ 15 Nm
- ☐ Replace after removing
- ☐ With permanent seal

4 - Fluid Filler Plug

- ☐ 15 Nm
- ☐ Replace after removing
- ☐ With permanent seal

5 - Seal

- ☐ For the right flange shaft
- ☐ Replacing. Refer to ➤ [S4.2.1 eal, Replacing](#), page 114 .

6 - Bleed Pipe

- ☐ For bleeding the bevel box
- ☐ Press it in all the way

7 - Cap

- ☐ For bleeding the bevel box

8 - Right Flange Shaft

- ☐ Removing and Installing. Refer to ➤ [F3.1 lange Shaft, Removing and Installing](#), page 108 .

9 - Seal

- ☐ Insert into the surrounding right flange shaft groove
- ☐ Remove to replace the needle bearing (polygon bearing) -item 10-.

10 - Needle Bearing (Polygon Bearing)

- ☐ Replacing. Refer to ➤ [F4.3 lange Shaft Needle Bearing, Replacing](#), page 132 .

11 - Circlip

- ☐ Replace after removing

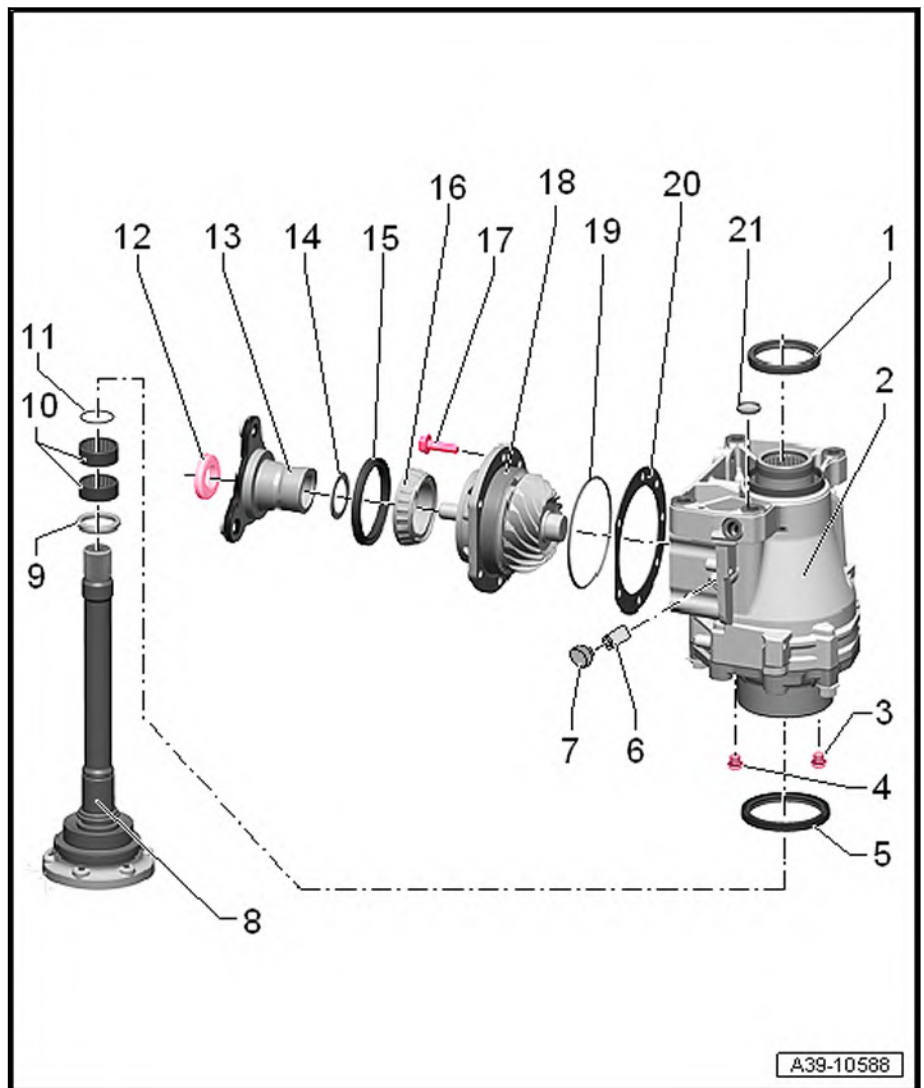
12 - Twelve-Point Nut

- ☐ 340 ±15 Nm
- ☐ Replace after removing
- ☐ Secure the new nut by peening

13 - Output Flange

14 - Shim

- ☐ No replacement part





15 - Seal

- ☐ For bevel box output flange
- ☐ Replacing. Refer to [⇒ B4.2.5 ox Output Flange Seal, Replacing, 0CN \(Bevel Box Removed\)", page 123](#).

16 - Tapered Bearing Inner Race

- ☐ No replacement part

17 - Bolt

- ☐ 38 Nm

18 - Pinion Housing

- ☐ With shaft bevel gear and outer race for tapered roller bearing
- ☐ No replacement part
- ☐ Carefully pry out, alternating from side to side
- ☐ Note the fastening holes; the pinion housing fits only in one position

19 - O-Ring

- ☐ To replace, remove the bolts -item 17- and carefully pry out the pinion housing at the notches in the pinion housing.
- ☐ Do not remove the twelve-point nut -item 12- and the output flange -item 13-.

20 - Shim

- ☐ No replacement part
- ☐ Note the bevel box fastening holes; the shim only fits in one position

21 - Cap

- ☐ No replacement part

4.2 Bevel Box Seals, Replacing

[⇒ S4.2.1 eal, Replacing", page 114](#)

[⇒ S4.2.2 eal, Replacing", page 115](#)

[⇒ b4.2.3 etween Bevel Box and Transmission, Replacing on Bevel Box", page 116](#)

[⇒ B4.2.4 ox Output Flange Seal, Replacing, 0AV / 0FV \(Bevel Box Removed\)", page 117](#)

[⇒ B4.2.5 ox Output Flange Seal, Replacing, 0CN \(Bevel Box Removed\)", page 123](#)

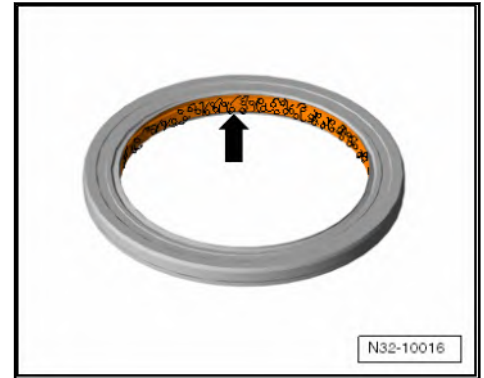
4.2.1 Right Seal, Replacing

Special tools and workshop equipment required

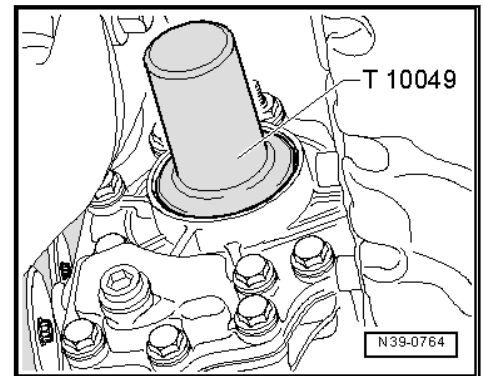
- ◆ Seal Installer - Flange Shaft -T10049-
- ◆ Puller - Crankshaft/Power Steering Seal -T20143-
- ◆ Sealing grease. Refer to the Parts Catalog.

Procedure

- The transmission is installed.
- Remove the right flange shaft. Refer to [⇒ F3.1 lange Shaft, Removing and Installing", page 108](#).
- Remove the right seal using the -T20143/2-.
- Coat the outer edge and sealing lips on the new seal with transmission fluid.



- Fill the space between the sealing/dust lip -arrow- halfway with sealing grease. Refer to the Parts Catalog for the correct sealing grease.
- Drive the new seal all the way in using the -T10049-. Do not tilt it while doing so.



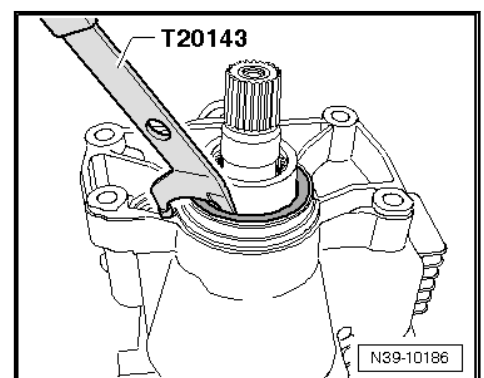
- Install the right flange shaft. Refer to [⇒ F3.1 Iange Shaft, Removing and Installing](#), page 108 .
- Gear Oil, Checking Level. Refer to [⇒ O1.1 il, Checking Level](#), page 98 .

4.2.2 Left Seal, Replacing

Special tools and workshop equipment required

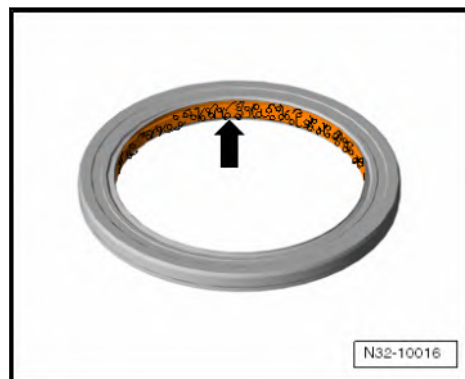
- ◆ Puller - Crankshaft/Power Steering Seal -T20143-
- ◆ Seal Installer - Bevel Box -T10298-
- ◆ Sealing Grease. Refer to the Parts Catalog for the correct allocation.

Procedure

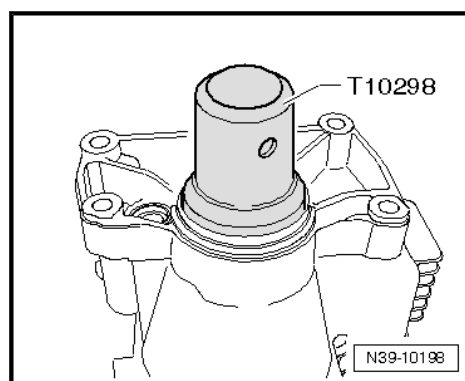




- Remove the bevel box. Refer to [⇒ B2.2 ox, Removing”, page 38](#).
- Pry out the seal on the bevel box using the -T20143/1- or -T20143/2-.
- Coat the outer edge and sealing lips on the new seal with transmission fluid.



- Fill the space between the sealing/dust lip -arrow- halfway with sealing grease. Refer to the Parts Catalog for the correct sealing grease.
- Drive the new seal all the way in using the -T10298-. Do not tilt it while doing so.



- Install the bevel box. Refer to [⇒ B2.3 ox, Installing”, page 40](#).

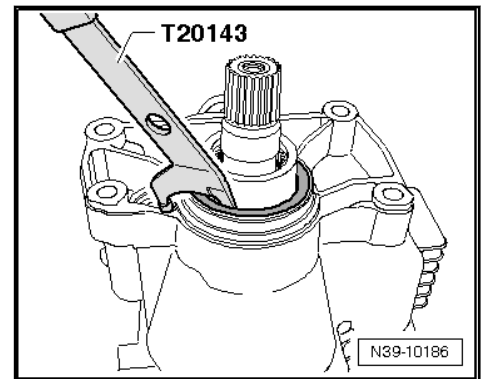
4.2.3 Seal between Bevel Box and Transmission, Replacing on Bevel Box

Special tools and workshop equipment required

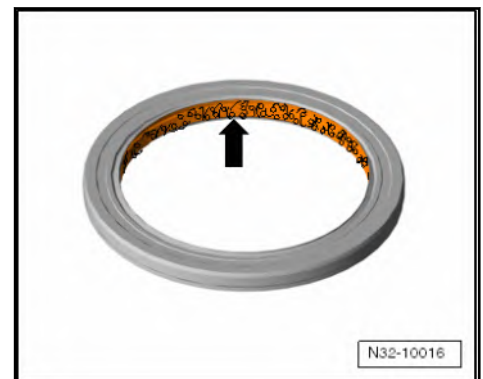
- ◆ Puller - Crankshaft/Power Steering Seal -T20143-
- ◆ Seal Installer - Bevel Box -T10298-
- ◆ Sealing Grease. Refer to the Parts Catalog.



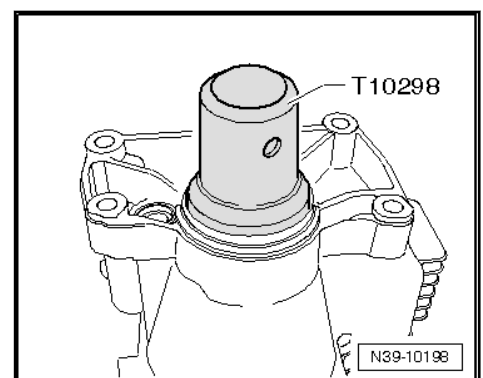
Procedure



- Remove the bevel box. Refer to [⇒ B2.2 ox, Removing](#), page [38](#).
- Pry out the seal using the -T20143/1- or -T20143/2-.
- Fill the space between the sealing lip and dust lip -arrow- halfway with Sealing Grease.



- Lightly oil the outer edge of the new seal.
- Drive the new seal all the way in using the -T10298-. Do not tilt it while doing so.



- Install the bevel box. Refer to [⇒ B2.3 ox, Installing](#), page [40](#).
- Check the level of the gear oil inside the bevel box. Refer to [⇒ O1.1 il, Checking Level](#), page [98](#).

4.2.4 Bevel Box Output Flange Seal, Replacing, "0AV / 0FV" (Bevel Box Removed)

Special tools and workshop equipment required

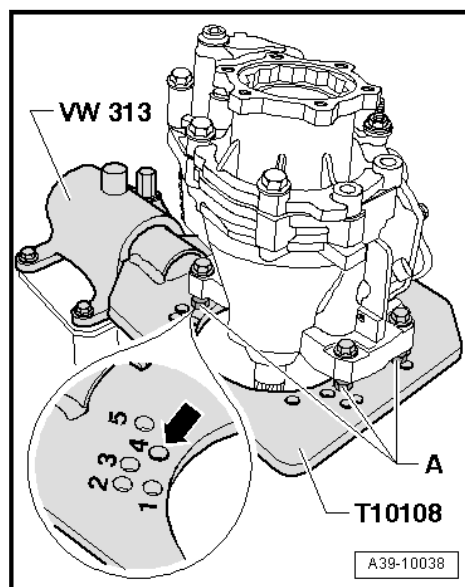


- ◆ Press Piece - Multiple Use -VW412-
- ◆ Press Piece - Multiple Use -VW454-
- ◆ Press Piece - Multiple Use -VW455-
- ◆ Press Plate -VW401-
- ◆ Two M8 x 30 mm stud bolts or Guide Pins - M8 -T10273-
- ◆ Removal Device Pin 2 -VW460/2-
- ◆ Press Piece - Multiple Use -40-105-
- ◆ Seal Installer - Flange Shaft -T10049-
- ◆ Gearbox Support -T10108-
- ◆ Gearbox Support -T10108/1-
- ◆ Puller - Taper Roller Bearing -VAG1582-
- ◆ Puller - Taper Roller Bearing - Adapter 13 -VAG1582/13-
- ◆ Dial Indicator Holder -VW387-
- ◆ Torque Wrench 1601 -VAG1601-
- ◆ Three-Arm Puller (Kukko 45/2) -VAS251205-
- ◆ Dial Indicator -VAS6080A-
- ◆ Sealing Grease
- ◆ M10 x 30 bolts (quantity: 2)
- ◆ M12 x 10 nuts (quantity: 4)

Characteristics of the bevel box. Refer to ⇒ [B2.2 on Identification](#), page 4 .

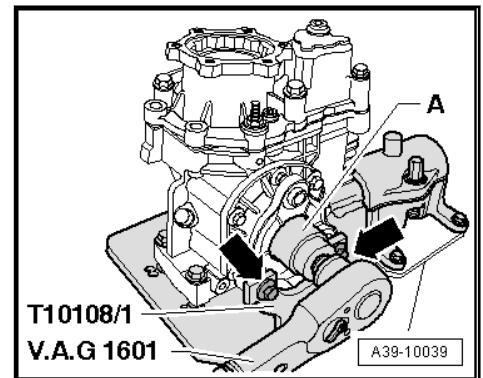
- ◆ Pay attention to the different versions of the bevel box. Refer to ⇒ [B2.2 on Identification](#), page 4 .
- ◆ A inner race/tapered roller bearing is pressed onto the bevel box output flange.
- ◆ This is removed later in the procedure.
- Do not replace the tapered roller bearing for the bevel box output flange and the shims.

Remove the Seal for the Output Flange

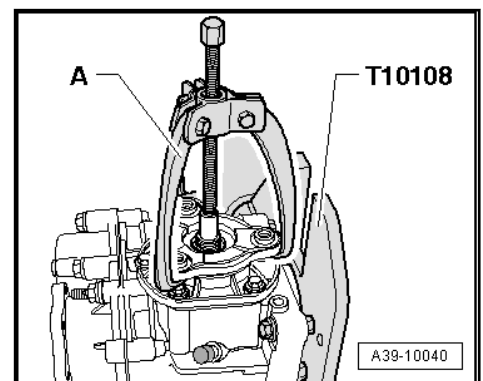




- Remove the bevel box. Refer to ⇒ [B2.2 ox, Removing](#), page [38](#).
- Place the bevel box on the hole -arrow- marked with “4” in the -T10108- by placing M12 x 10 nuts -A- between the bevel box and the transmission holder.
- Align the bevel box with the remaining three holes and secure it with the nut -A-.
- Place an oil collection device underneath, for example -VAS6208-.
- Drain the gear oil from the bevel box.
- Lock the bevel box output flange using the -T10108/1- by installing the two M10 x 30 bolts -arrows-.



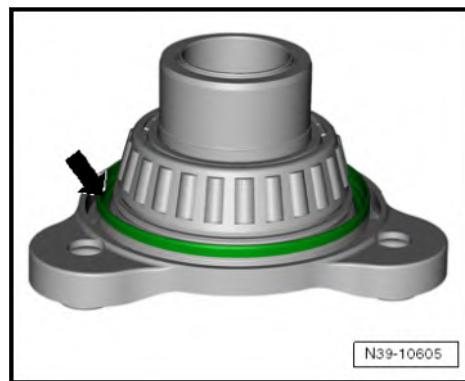
- Remove the output flange nut.
- A - 36 mm Socket for $\frac{3}{4}$ Drive
- Pivot the bevel box so that the output flange faces upward.



- Remove the output flange from the bevel box shaft bevel gear.

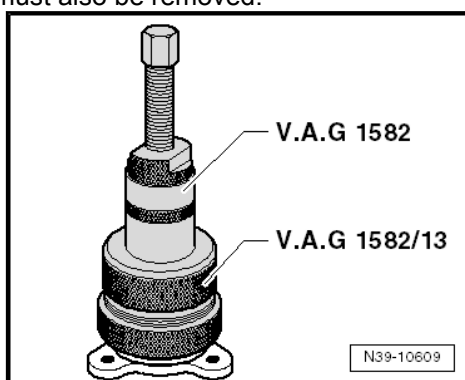
A - -VAS251205-

When removing the output flange the tapered bearing inner race and the seal -arrow- remain on the output flange.



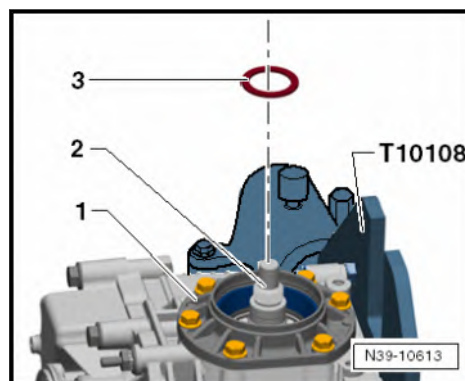
Remove the seal as follows:

- When removing the output flange seal, the inner race/tapered roller bearing must also be removed.



- Place the -40-105- on the output flange.
- Remove the tapered roller bearing inner race from the output flange using the -VAG1582A- and -VAG1582/13-.
- Remove the output flange seal.

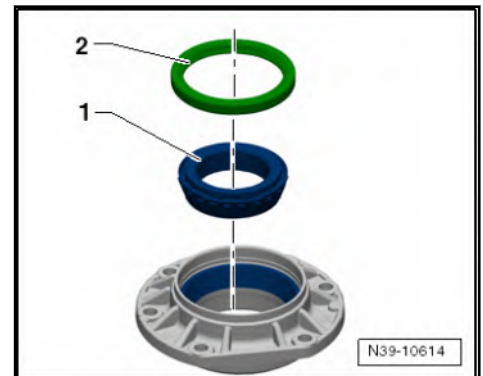
Install the Output Flange Seal



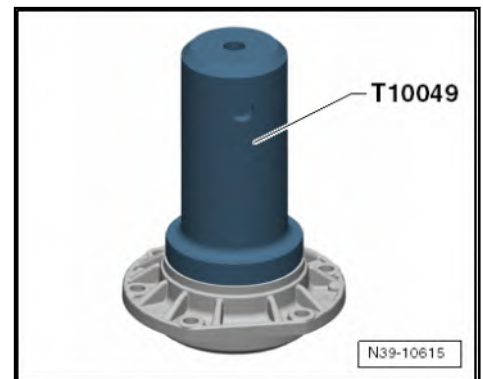
- First remove the pinion housing -1- along with the shaft bevel gear -2- in order to install the seal.
- Remove the bolts for the pinion housing -1-; and carefully remove the pinion housing diagonally off the protruding edges.
- Remove the pinion housing and the shaft bevel gear -2-.
- Clean the thread on the shaft bevel gear.
- If the shim -3- was also removed when removing the output flange, it must be reinstalled in the pinion housing.



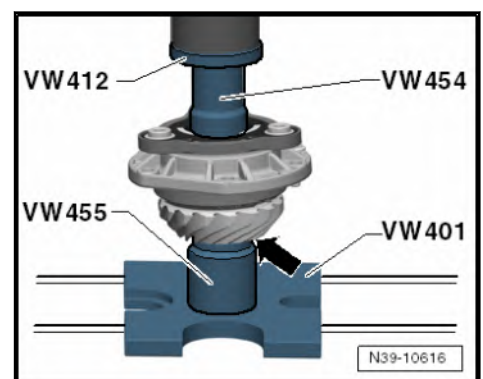
- This will maintain the bearing pre-load on the shaft bevel gear inside the pinion housing.
- Place the old inner race/tapered roller bearing -1- into the pinion housing.



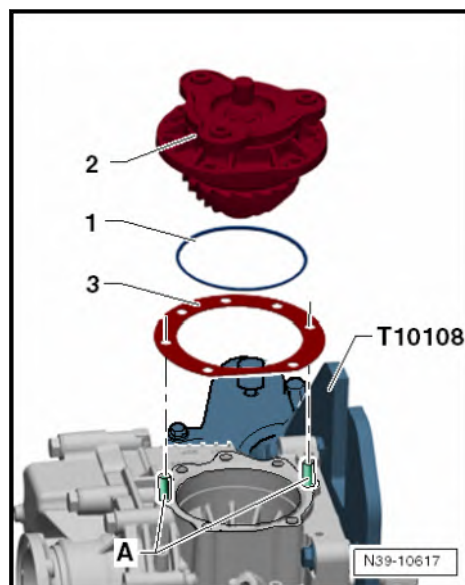
- Lightly lubricate the outer diameter of the new output flange seal -2-.
- Drive in the new seal using the -T10049-.



- The seal must be flush with the upper edge of the housing.
- Fill the area between the sealing lip and the seal dust lip halfway with Sealing Grease.
- Press the output flange all the way in along with the pinion housing and shaft bevel gear.



- The shoulder -arrow- of the -VW455- points to the shaft bevel gear.
- Install the M8 X 30 mm stud bolts = -A- or -T10273- in the axle drive housing.

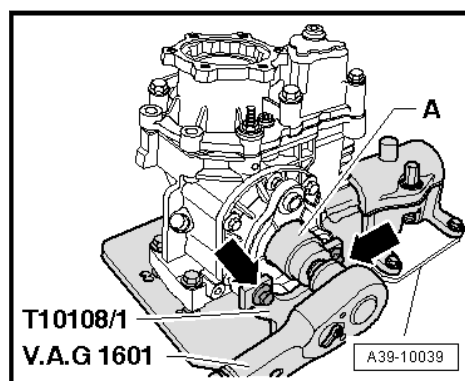


- Slide a new O-Ring -1- onto the pinion housing -2-.
- The pinion housing -2- and shim -3- only fit in one position.
- Install the previous shim -3-.
 - Carefully install the pinion housing diagonally all the way with -VW460/2-.

There is very little space between the pinion housing and the bevel box housing.

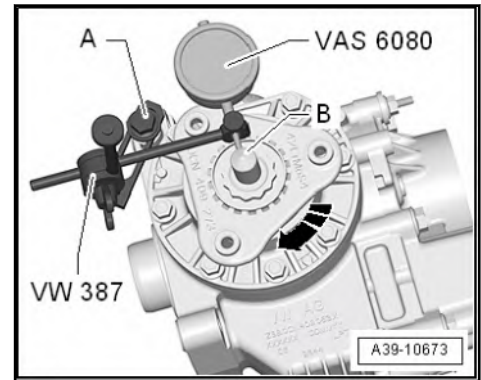
The gap is closed when the pinion housing is tightened.

- Tighten the bolts for the pinion housing -2- diagonally.
- Coat the threads of the new output flange nut with Locking Fluid and then tighten.



A - 36 mm Socket for $\frac{3}{4}$ Drive

Radial Run-Out on Output Flange/Shaft Bevel Gear, Measuring



- Check the radial run-out on the shaft bevel gear alignment pin after tightening the output flange nut.
- Secure measuring tools to bevel box with bolt -A- (M8 x 25 mm).
- Position the Dial Gauge for example -VAS6080A- on the shaft bevel gear alignment pin -B- and set it to “0” with 1 mm pre-tension.
- Turn the output flange one complete rotation in direction of -arrow-.
- Read the measured value on the Dial Gauge.
- Maximum radial run-out = 0.05 mm.
- Install the bevel box. Refer to [⇒ B2.3 ox, Installing”, page 40](#) .
- Check the gear oil level in bevel box. Refer to [⇒ O1.1 il, Checking Level”, page 98](#) .

Tightening Specifications

- ◆ Refer to [⇒ -4.1.1 Bevel Box Components, 0AV / 0FV”, page 110](#)

4.2.5 Bevel Box Output Flange Seal, Replacing, “0CN” (Bevel Box Removed)

Special tools and workshop equipment required

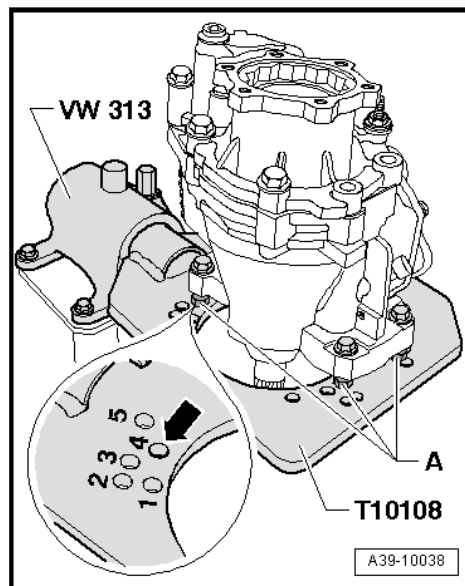
- ◆ Press Plate -VW401-
- ◆ Press Plate -VW402-
- ◆ Press Piece - Rod -VW407-
- ◆ Press Piece - Multiple Use -VW412-
- ◆ Press Piece - Multiple Use -VW454-
- ◆ Press Piece - Multiple Use -VW455-
- ◆ Support Channels -VW457-
- ◆ Press Piece - Reverse Gear Syncro -3296-
- ◆ Gearbox Support -T10108-
- ◆ Gearbox Support -T10108/1-
- ◆ Puller - Taper Roller Bearing -VAG1582- with a short sleeve
- ◆ Puller - Taper Roller Bearing - Adapter 13 -VAG1582/13-
- ◆ Torque Wrench 1601 -VAG1601-
- ◆ Seal Installer - Crankshaft -VW204B-



- ◆ Dial Indicator Holder -VW387-
- ◆ Dial Indicator -VAS6080A-
- ◆ Press Piece - Multiple Use -40-105-
- ◆ Socket AF 34 mm -T50019-
- ◆ Two M8 x 30 mm stud bolts or Guide Pins - M8 -T10273-
- ◆ Shop Crane - Drip Tray -VAS6208-
- ◆ or Shop Crane - Drip Tray -VAS6208-
- ◆ Sealing Grease. Refer to the Parts Catalog for the correct allocation.
- ◆ Universal Grease. Refer to Parts Catalog.
- ◆ M10 x 30 bolts (quantity: 2)
- ◆ M12 x 10 nuts (quantity: 4)

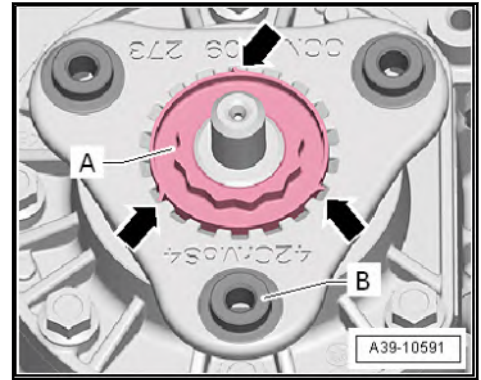
Characteristics of the bevel box. Refer to [⇒ B2.2 ox Identification", page 4](#) .

- ◆ A tapered roller bearing inner race is pressed onto the bevel box output flange.
- ◆ This is removed later in the procedure.
- ◆ Do not replace the tapered roller bearing for the bevel box output flange and the shims.
- Remove the bevel box. Refer to [⇒ B2.2 ox, Removing", page 38](#) .
- Mount the bevel gear on the hole marked with the number -4- -arrow- in the -T10108-.

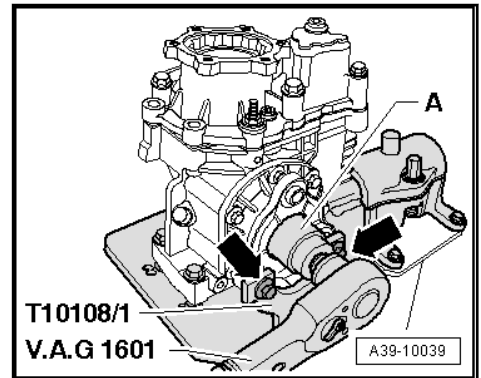


A - Insert the M12 x 10 nut (quantity: 4) between bevel box and Transmission Holder.

- Then align the bevel box to the remaining three holes and secure.
- Place the Drip Tray underneath.
- Drain the transmission fluid from the bevel box.
- Turn the points -arrows- on the twelve-point nut -A- back into the recesses on the output flange -B-.



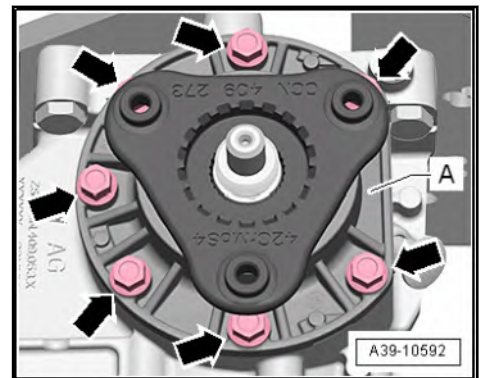
Remove Output Flange Twelve-Point Nut



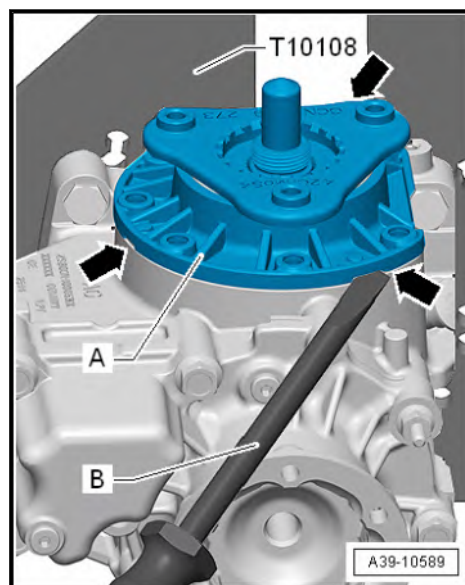
- Secure the bevel box output flange using the -T10108/1-. To do so install the M10 x 30 bolts -arrows-.

A - Socket AF 34 mm -T50019-

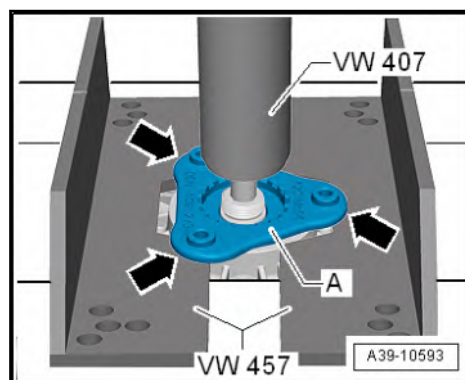
- Pivot the bevel box so that the output flange faces upward.



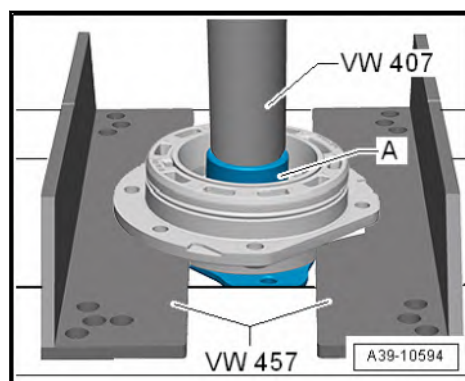
- Remove bolts -arrows- for the pinion housing -A-.
- Position a suitable flat-head screwdriver -B- into the three recesses -arrows- on the pinion housing -A- and carefully pry out the pinion housing together with the shaft bevel gear.



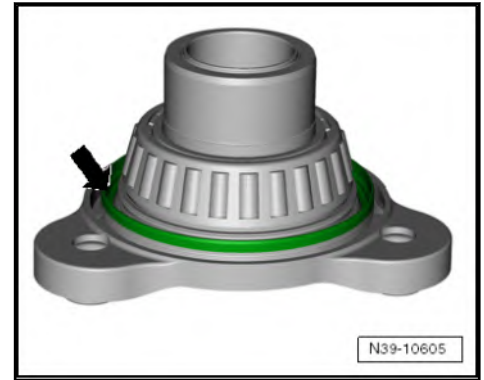
- Place the output flange -A- evenly onto the -VW457- -arrows-.



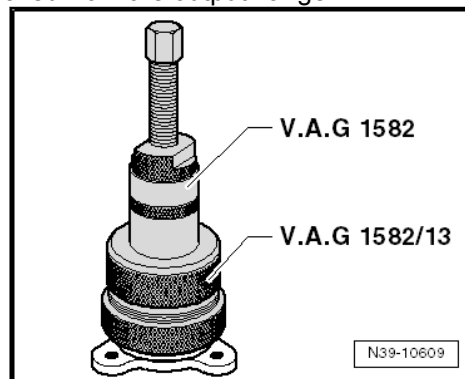
- Remove the shaft bevel gear from the output flange -A-.
- While doing this, secure the shaft bevel gear and inner race/ tapered roller bearing to prevent from falling.
- Remove output flange -A- from pinion housing.



The seal -arrow- is located on the output flange.



- To remove the seal, the bearing inner race/tapered roller bearing must be removed from the output flange.



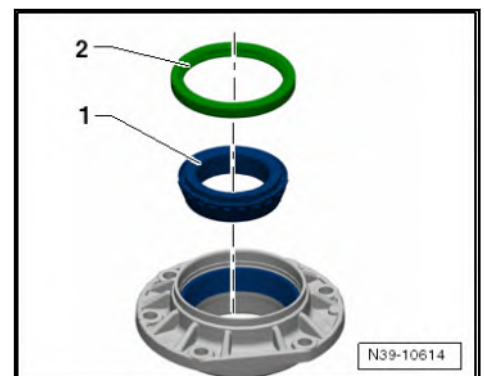
CAUTION

Risk of damaging the tapered bearing inner race.

- Remove the tapered bearing inner race using the - VAG1582/13-.
- Replace the bevel box if the tapered bearing inner race is damaged.

- Place the -40-105- on the output flange.
- Remove the bearing inner race/tapered roller bearing from output flange using the Tapered Roller Bearing Puller.
- Remove the output flange seal.

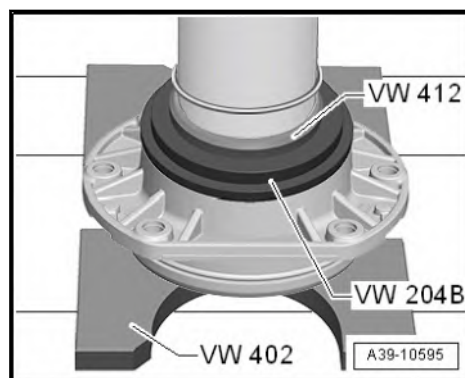
Seal and Output Flange, Installing



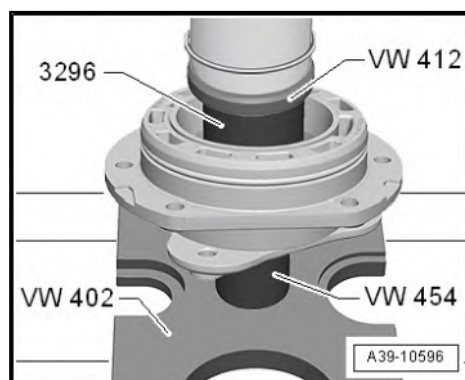
- Place the old bearing inner race/tapered roller bearing -1- into the pinion housing.
- Lightly lubricate the outer diameter of the new output flange seal -2-.



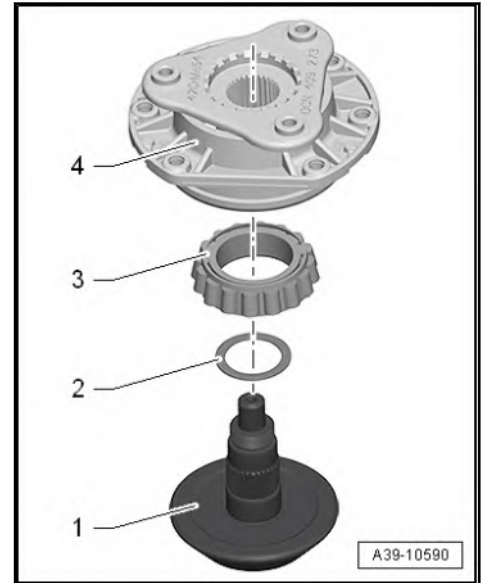
- Install new seal so that it is flush.



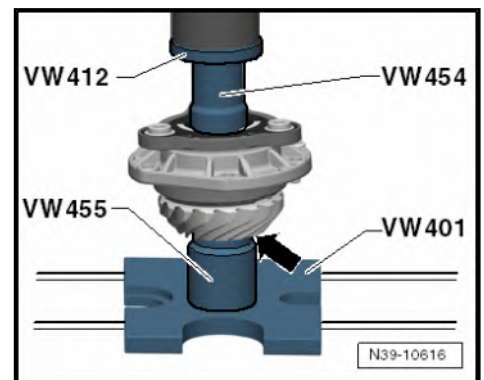
- The large diameter on the -VW204B- faces the seal.
- Fill the area between the sealing lip and the seal dust lip halfway with Sealing Grease.
- Install pinion housing and inner race/tapered roller bearing on the output flange.
- Press the inner race/tapered roller bearing (refer to ➤ [-4.1.2 Bevel Box Components, 0CN”, page 112](#)) all the way onto the output flange.



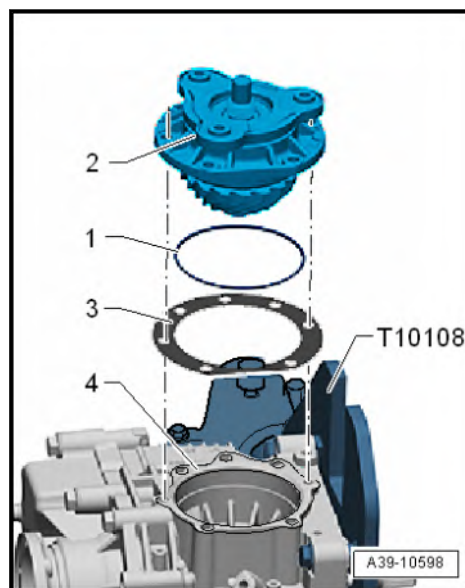
- The large diameter on the -VW454- faces the output flange.
- Only press the inner race/tapered roller bearing until stop.
- Do not apply any greater pressure to the tapered roller bearing.
- Fit the shim -2-, the inner race/tapered roller bearing -3- and the pinion housing -4- onto the shaft bevel gear -1-.



- Re-install the old shim -2-. This ensures the bearing pre-load of the shaft bevel gear in the pinion housing.
- Lightly apply Universal Grease to the output flange splines.



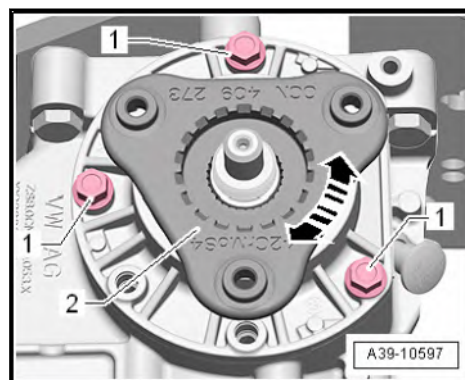
- Press the output flange all the way in along with the pinion housing and shaft bevel gear.
- The shoulder -arrow- of the -VW455- points to the shaft bevel gear.
- Turn the pinion housing during pressing procedure.
- Align the old shim -3- to the pinion housing -2-.



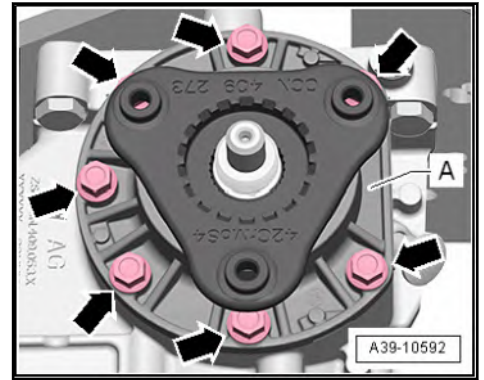
- The pinion housing -2- and shim -3- only fit in one position.
- Coat the new O-ring -1- with gear oil and slide it onto the pinion housing -2-.
- Insert the pinion housing -2- into the axle drive housing -4-.

Note:

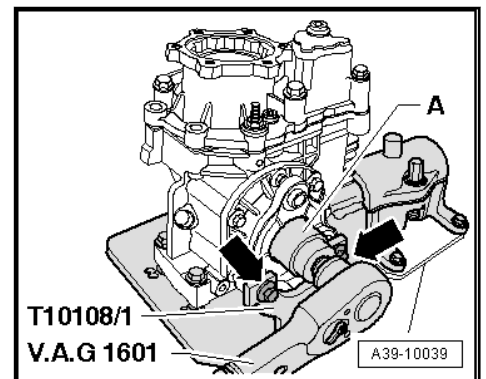
- ◆ The splines on the shaft and head bevel gear must come in contact.
- ◆ Align the openings for the pinion housing bolts to the axle drive housing.
- Tighten the bolts -1- alternating in small steps, all the while turning the output flange -2- back and forth gently.



- Tighten the bolts -arrows- for the pinion housing -A- in a diagonal sequence.



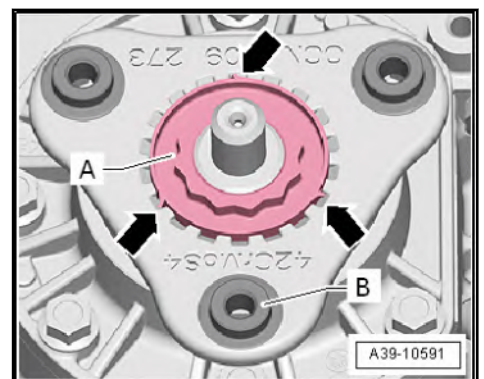
Tighten New Output Flange Twelve-Point Nut.



- Secure the bevel box output flange using the -T10108/1-. To do so install the M10 x 30 bolts -arrows-.
- Tighten the new twelve-point nut for the output flange. Refer to ➤ [-4.1.2 Bevel Box Components, OCN”, page 112](#) .

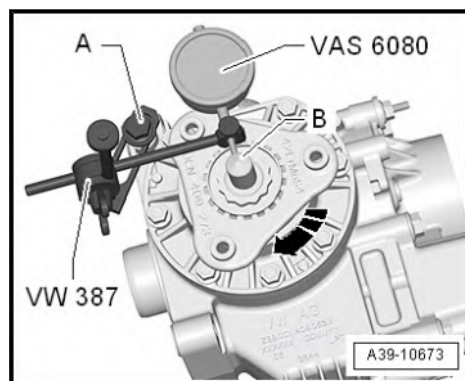
A - -T50019-

- Secure the twelve-point nut -A-.



- Nut is offset by 120°, cover in the beading -B- on the output shaft with peen -arrows-.

Radial Run-Out on Output Flange/Shaft Bevel Gear, Measuring



- Check the radial run-out on the shaft bevel gear alignment pin after tightening the output flange nut.
- Secure the measuring tools to bevel box with bolt -A- (M8 x 25).
- Position the -VAS6080A- on the shaft bevel gear alignment pin -B- and set the 1 mm pre-tension to "0".
- Turn the output flange one complete rotation in direction of -arrow-.
- Read the measured value on the dial gauge.
- Maximum radial run-out = 0.05 mm.
- Install the bevel box. Refer to [⇒ B2.3 ox, Installing", page 40](#).
- Gear Oil, Checking Level. Refer to [⇒ O1.1 il, Checking Level", page 98](#).

Tightening Specifications

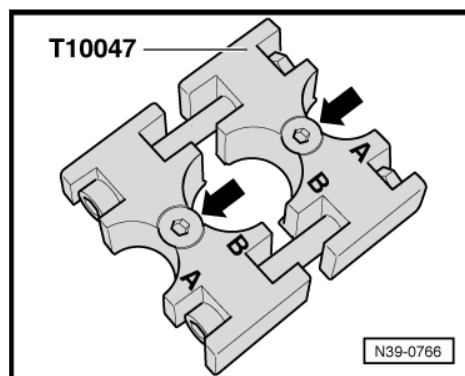
- ◆ Refer to [⇒ -4.1.2 Bevel Box Components, 0CN", page 112](#)

4.3 Right Flange Shaft Needle Bearing, Replacing

Special tools and workshop equipment required

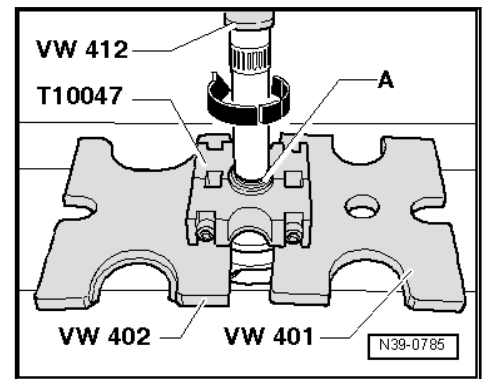
- ◆ Press Plate -VW401-
- ◆ Press Plate -VW402-
- ◆ Press Piece - Rod -VW407-
- ◆ Press Piece - Multiple Use -VW412-
- ◆ Bearing Installer - Rear Wheel Bearing Kit -VAS3253-
- ◆ Bearing Installer - Needle Bearing -T10047-

Procedure

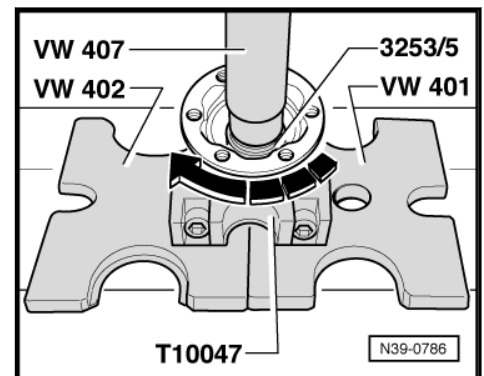




- Remove the right flange shaft. Refer to [⇒ F3.1 Iange Shaft, Removing and Installing”, page 108](#).
- Mount the -T10047- as shown.
 - The markings “B” on both parts face each other
 - The depressions -arrows- must be under the bearing.
- Bolt the parts together all the way.
- Remove the circlip -A-.



- The shaft must be rotated when pressing off -arrow- so that the needle bearing contact surface on the shaft does not get damaged.

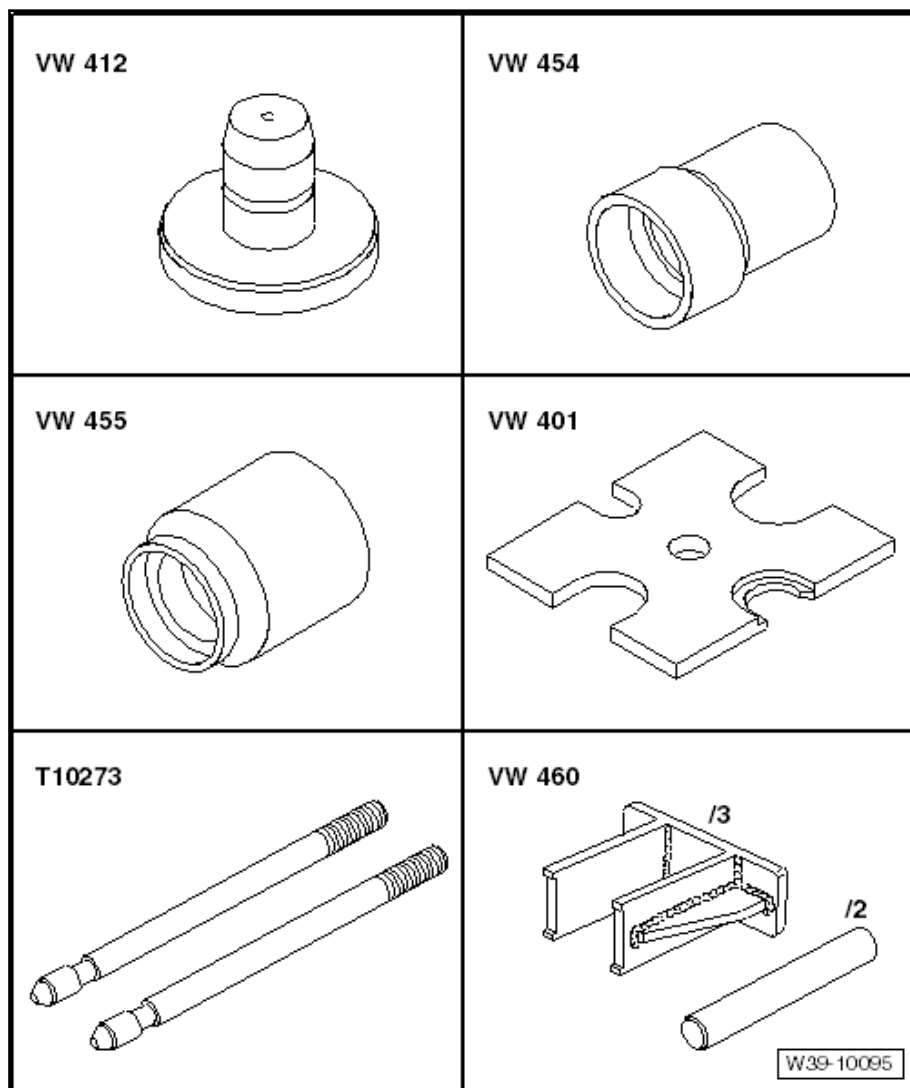


- Secure the needle bearing with a new circlip.
- Install the right flange shaft. Refer to [⇒ F3.1 Iange Shaft, Removing and Installing”, page 108](#).

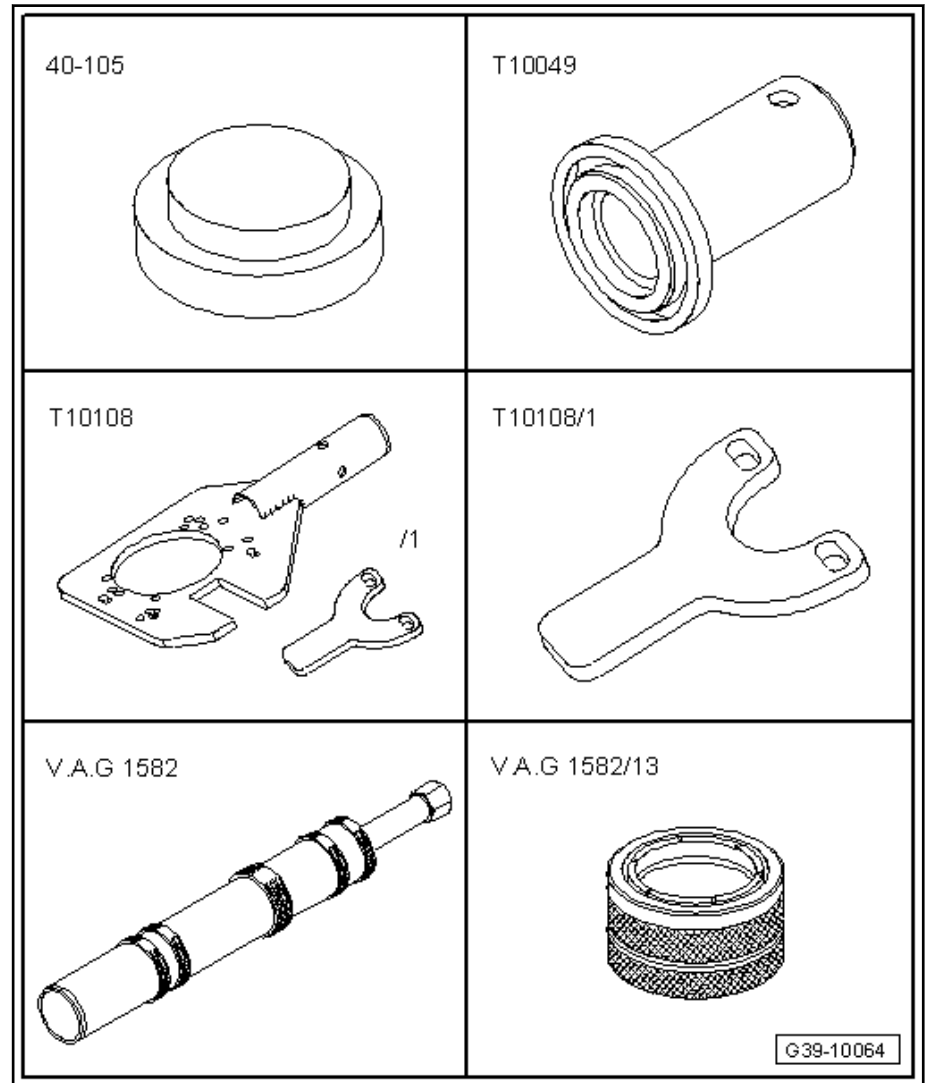


5 Special Tools

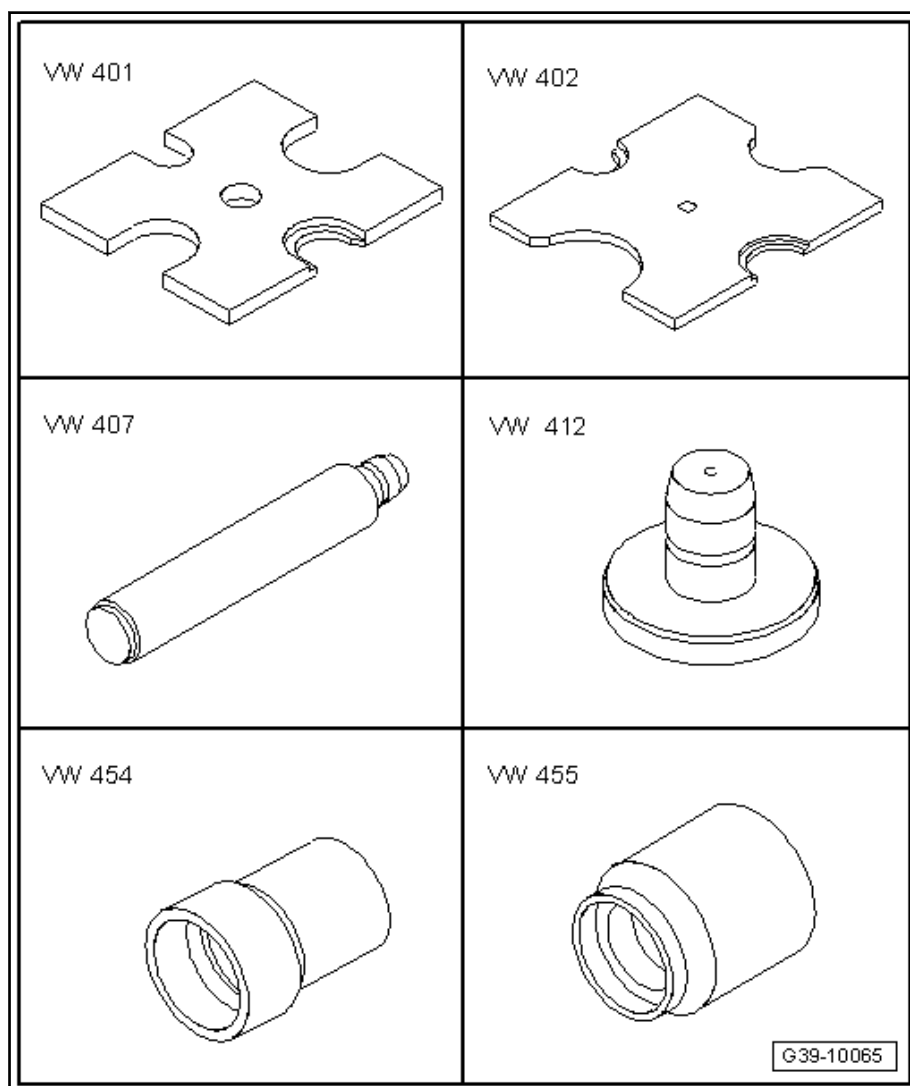
Special tools and workshop equipment required



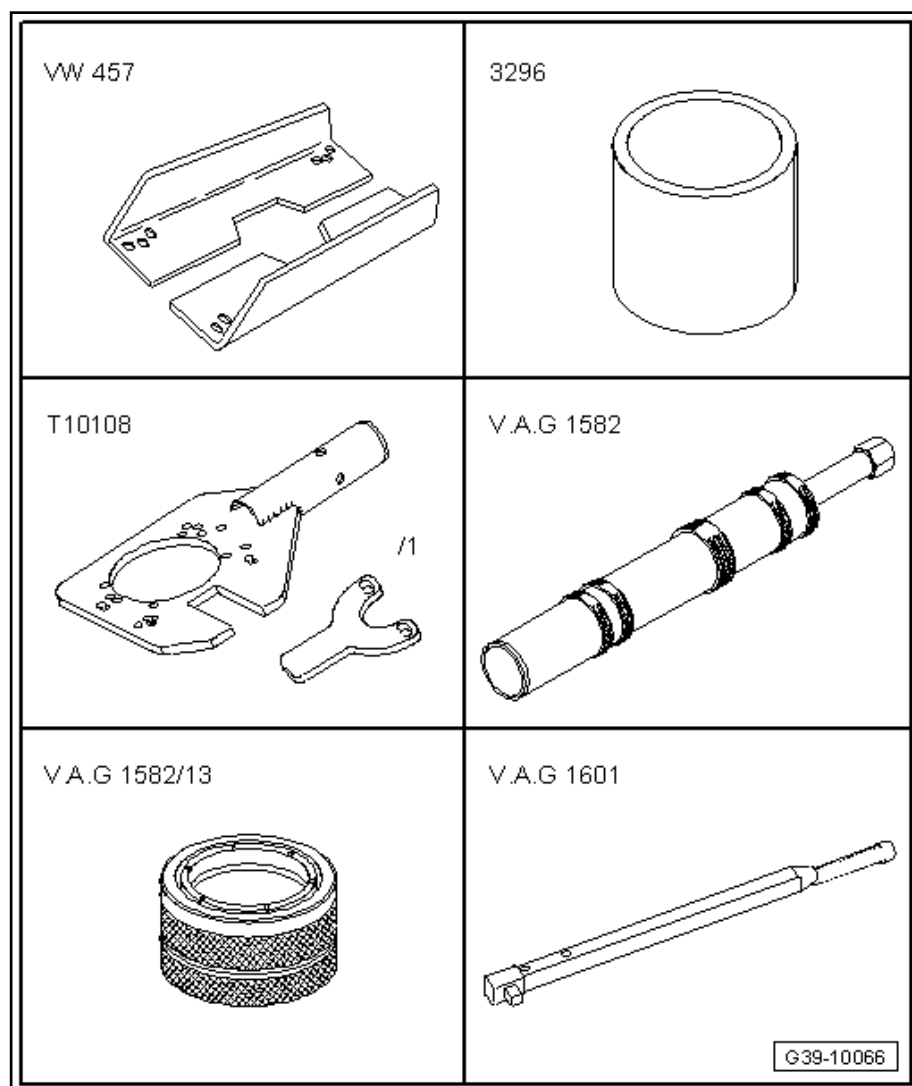
- ◆ Press Piece - Multiple Use -VW412-
- ◆ Press Piece - Multiple Use -VW454-
- ◆ Press Piece - Multiple Use -VW455-
- ◆ Press Plate -VW401-
- ◆ Two M8 x 30 mm stud bolts or Guide Pins - M8 -T10273-
- ◆ Removal Device Pin 2 -VW460/2-



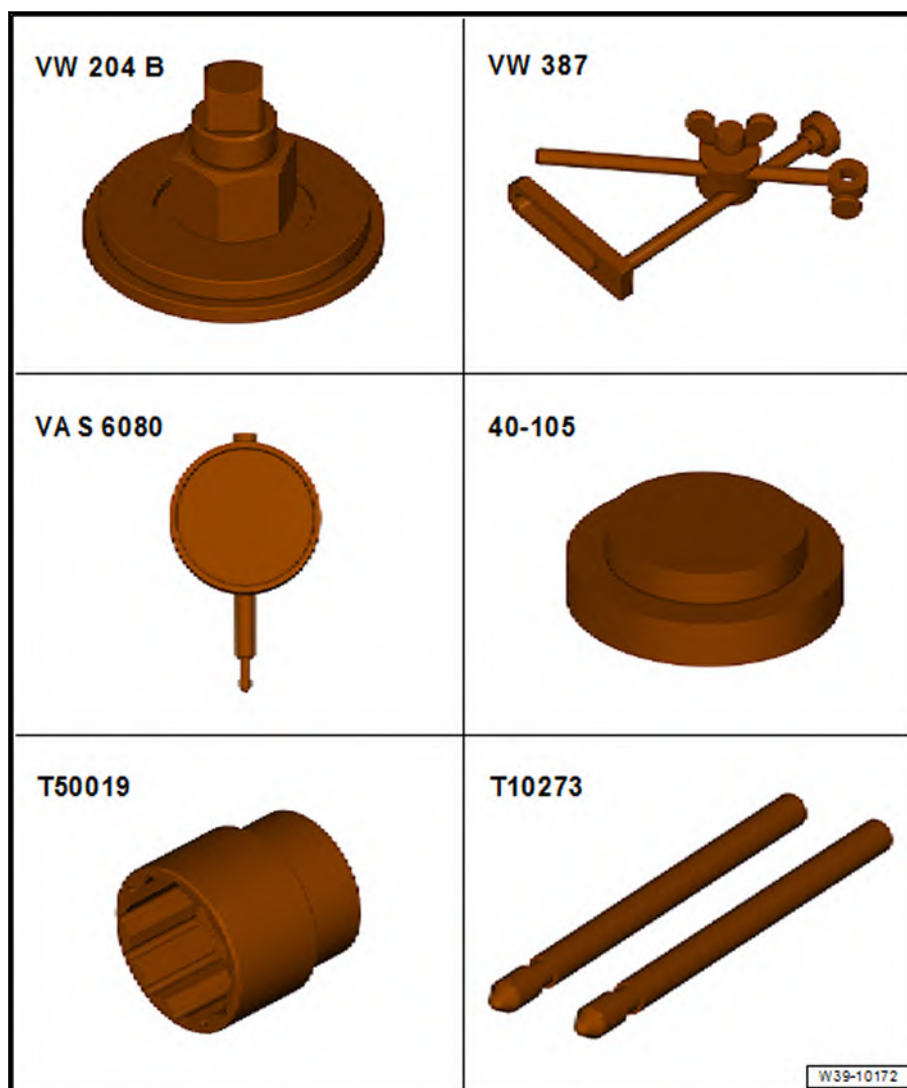
- ◆ Press Piece - Multiple Use -40-105-
- ◆ Seal Installer - Flange Shaft -T10049-
- ◆ Gearbox Support -T10108-
- ◆ Gearbox Support -T10108/1-
- ◆ Puller - Taper Roller Bearing -VAG1582-
- ◆ Puller - Taper Roller Bearing - Adapter 13 -VAG1582/13-



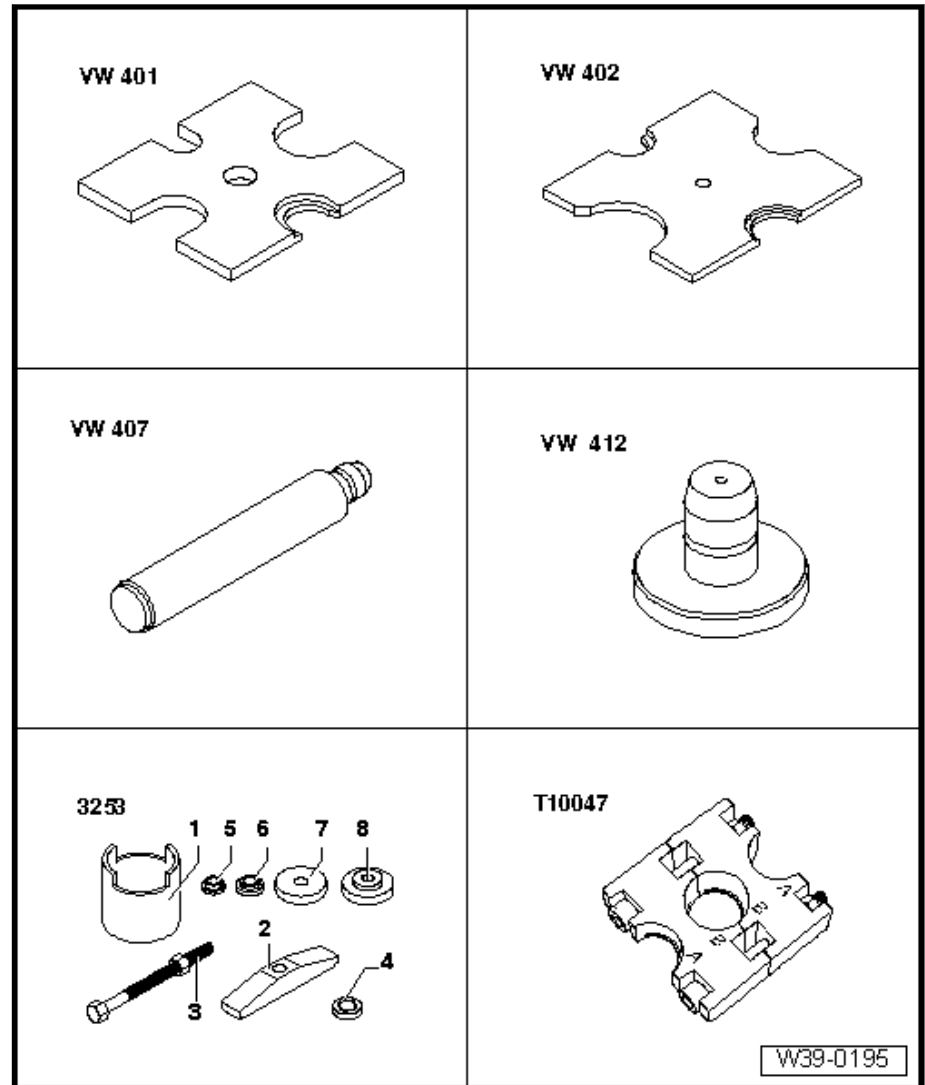
- ◆ Press Plate -VW401-
- ◆ Press Plate -VW402-
- ◆ Press Piece - Rod -VW407-
- ◆ Press Piece - Multiple Use -VW412-
- ◆ Press Piece - Multiple Use -VW454-
- ◆ Press Piece - Multiple Use -VW455-



- ◆ Support Channels -VW457-
- ◆ Press Piece - Reverse Gear Syncro -3296-
- ◆ Gearbox Support -T10108-
- ◆ Gearbox Support -T10108/1-
- ◆ Puller - Taper Roller Bearing -VAG1582- with a short sleeve
- ◆ Puller - Taper Roller Bearing - Adapter 13 -VAG1582/13-
- ◆ Torque Wrench 1601 -VAG1601-



- ◆ Seal Installer - Crankshaft -VW204B-
- ◆ Dial Indicator Holder -VW387-
- ◆ Dial Indicator -VAS6080A-
- ◆ Press Piece - Multiple Use -40-105-
- ◆ Socket AF 34 mm -T50019-
- ◆ Two M8 x 30 mm stud bolts or Guide Pins - M8 -T10273-
- ◆ Shop Crane - Drip Tray -VAS6208-
- ◆ or Shop Crane - Drip Tray -VAS6208-
- ◆ Sealing Grease. Refer to the Parts Catalog for the correct allocation.
- ◆ Universal Grease. Refer to Parts Catalog.
- ◆ M10 x 30 bolts (quantity: 2)
- ◆ M12 x 10 nuts (quantity: 4)

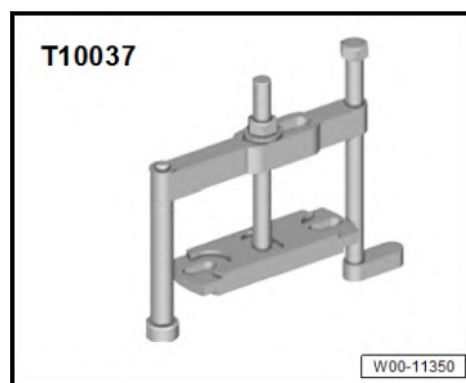


- ◆ Press Plate -VW401-
- ◆ Press Plate -VW402-
- ◆ Press Piece - Rod -VW407-
- ◆ Press Piece - Multiple Use -VW412-
- ◆ Bearing Installer - Rear Wheel Bearing Kit -VAS3253-
- ◆ Bearing Installer - Needle Bearing -T10047-
- ◆ Used Oil Collection and Extraction Unit -SMN372500-

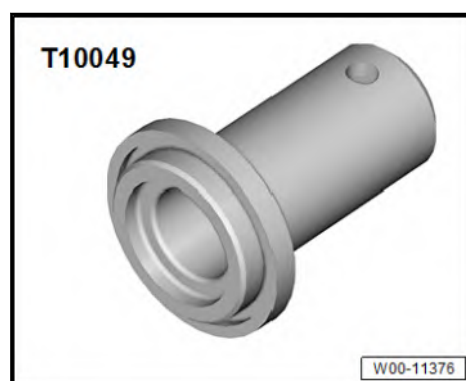




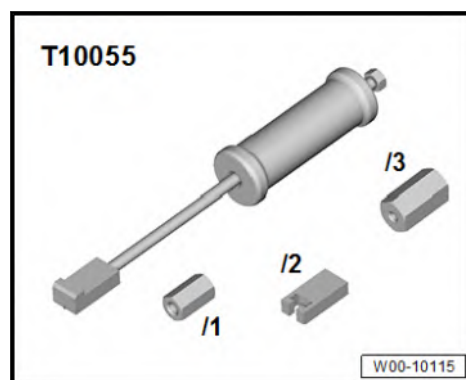
◆ Puller - Flanged Shaft -T10037-



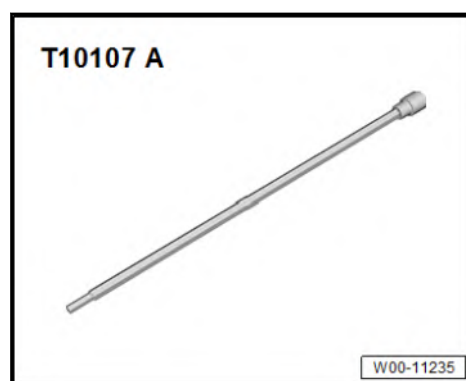
◆ Seal Installer - Flange Shaft -T10049-



◆ Puller - Unit Injector -T10055-

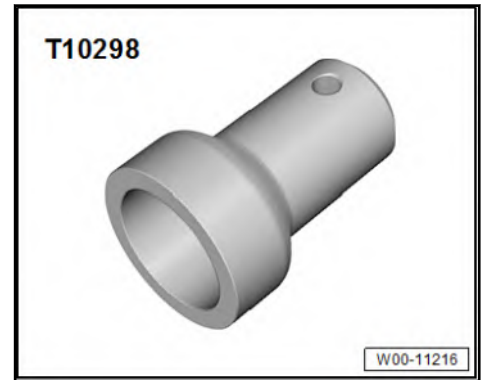


◆ Socket and Extended Bit -T10107A-

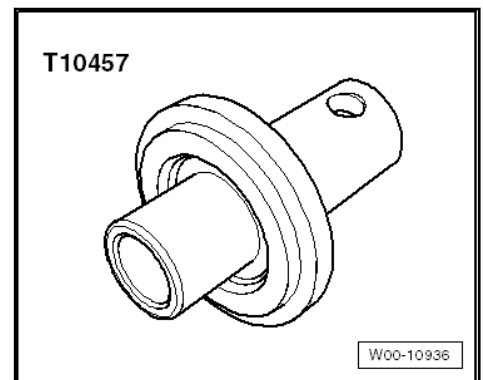




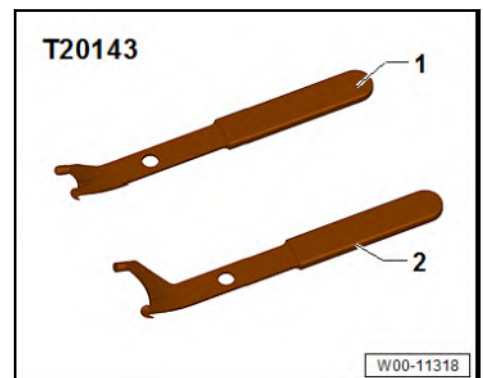
◆ Seal Installer - Bevel Box -T10298-



◆ Thrust Piece -T10457-



◆ Puller - Crankshaft/Power Steering Seal -T20143-



◆ Shop Crane - Drip Tray -VAS6208-

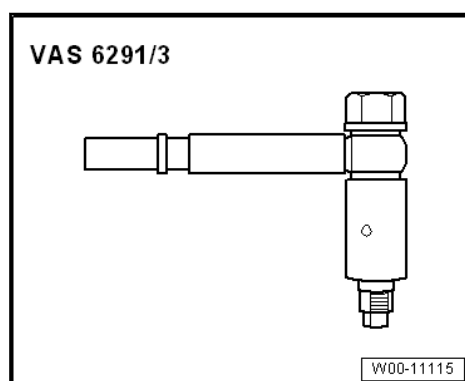




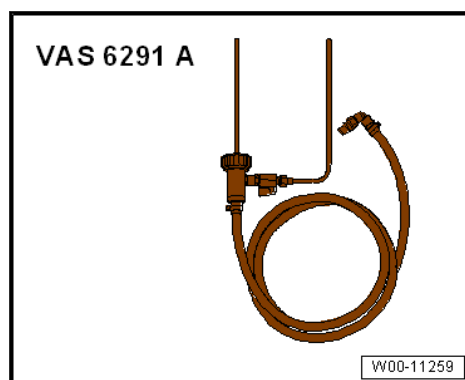
- ◆ If necessary, Oil Filler - Adapter 6 -VAS6262/6-



- ◆ Charging Device For AWD Clutch Coupling 2 - Adapter 3 -VAS6291/3-



- ◆ Charging Device for AWD Clutch Coupling 2 -VAS6291A-



- ◆ Three-Arm Puller (Kukko 45/2) -VAS251205-





6 Revision History

DRUCK NUMBER: K0059442821

Factory Edition	Edit Edition	Job Type	Feedback	Notes	Quality Checked By
02.2 021	03/23/2021	Factory New	N/A		Eric P.