Repair Manual

Golf Variant 2007 ➤
Golf Variant 2010 ➤
Jetta 2005 ➤
Jetta 2011 ➤

7-Speed Dual Clutch Transmission 0AM

Edition 09.2015

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 Transmission Identification

(Edition 09.2015)

KHN - Transmission Code

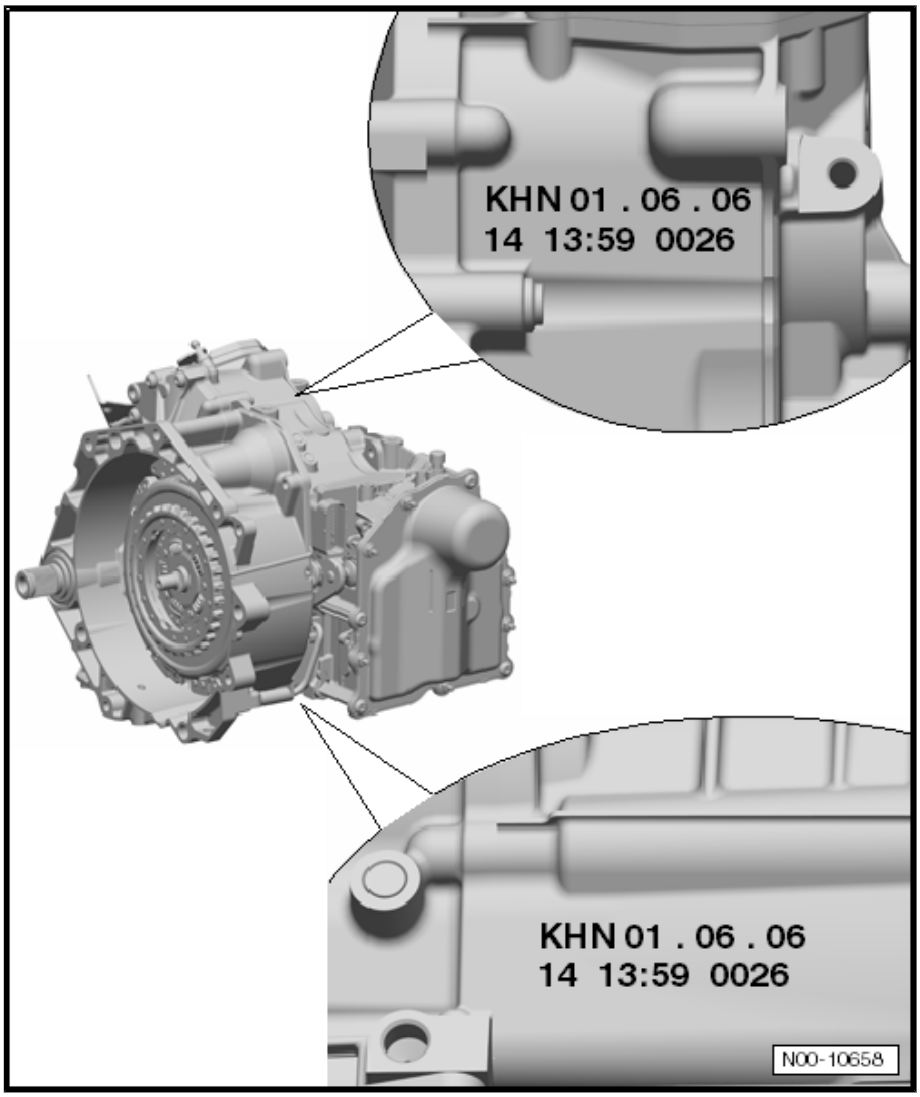
Refer to
⇒ “3 Engine Codes, Engine Allocation”, page 3

01.06.06 - Production Date: 06/01/2006

14 - Plant Code

13 59 - Time

0026 - Serial Number



The transmission code is also listed on the vehicle data label.

2 Overview - Transmission

The 7-speed DSG® transmission 0AM has 5 shafts. Two input shafts and three output shafts.

A1 - Input Shaft 1

A2 - Input Shaft 2

B1 - Output Shaft 1

B2 - Output Shaft 2

B3 - Output Shaft 3

C - Front Final Drive

K1 - Clutch 1

K2 - Clutch 2

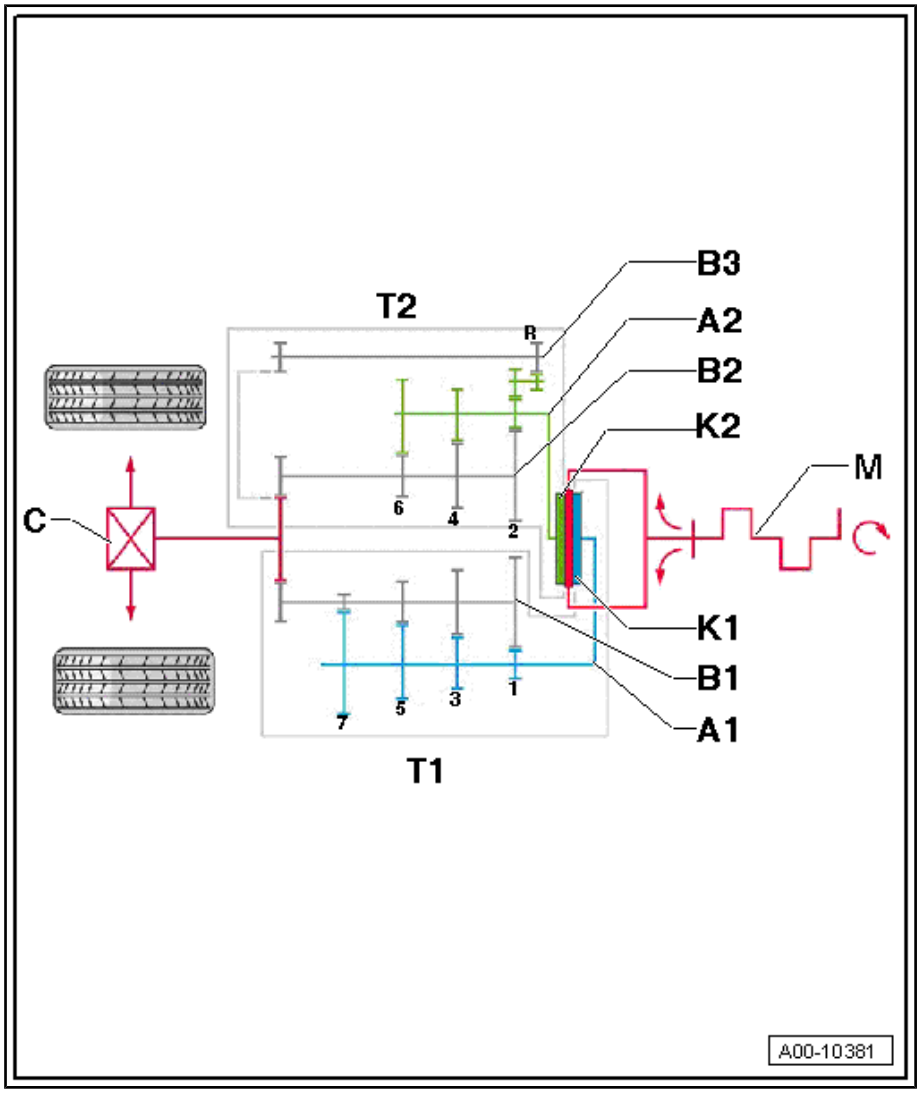
M - Engine

T1 - Sub-Transmission 1

- With 1st, 3rd, 5th and 7th gears

T2 - Sub-Transmission 2

- With 2nd, 4th, 6th and reverse gears



3 Engine Codes, Engine Allocation

Use the transmission code if a repair requires replacement parts.

Allocation: Transmission Codes for Gasoline Engines		
Codes	KUC, LWE, MDH, MGK, MGU, MLB, MPH, NAS, NBA, NQA, NQK, NTP, NTZ, PKM, PKW, PMH, PMS	KHN, LKG, LKM, LPJ, LWZ, MGK, MLB, MPH, NAS, NQA, NTP, PKM, PMH
Engine	1.2L - 77 kW TSI	1.4L - 90 kW TSI

For the following data. Refer to the Parts Catalog.

- The individual gear ratios
- Transmission fluid
- Clutch allocation

Allocation: Transmission Codes for Gasoline Engines		
Codes	KUT, LKP, LPL, LWW, MGM, MLD, MPK, MSL, MUV, NAU, NAZ, NQA, NQJ, NTP, NTX, PKM, PMH, PMQ	LKJ, LPN, LSU, MGP, MLF, MPM
Engine	1.4L - 118 kW TSI	1.6L - 75 kW MPI

For the following data. Refer to the Parts Catalog.

- The individual gear ratios
- Transmission fluid
- Clutch allocation

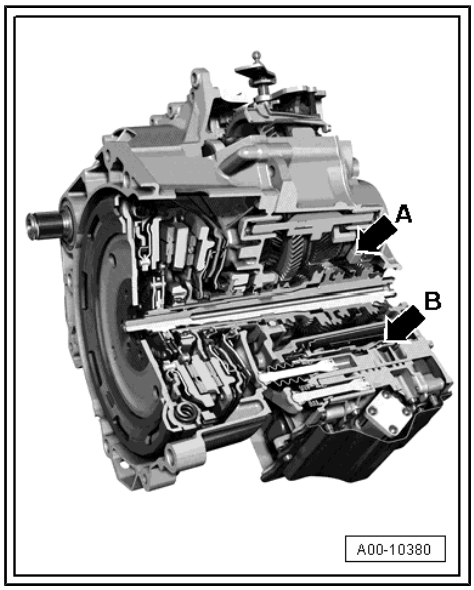
Allocation: Transmission Codes for Diesel Engines		
Codes	KHM, LKF, LKL, LPH, LSR, MGJ	LKQ, LQN, LST, MGN, MLE, MPL, NAV, NQD, NTS, PKP, PMK
Engine	1.9L - 77 kW TDI PD	1.6L - 77 kW TDI Common Rail

For the following data. Refer to the Parts Catalog.

- The individual gear ratios
- Transmission fluid
- Clutch allocation

4 Capacities

The 7-Speed DSG® transmission has two separate, different fluid systems. One for the transmission fluid -arrow A- and one for the hydraulic fluid -arrow B-.



Capacities	Transmission Fluid
Refill	Refer to ⇒ Fluid Capacity Tables; Rep. Gr. 03
Change	No change required
Grease	Transmission fluid for DSG® transmission 0AM . Refer to the Parts Catalog for the part number.

Capacities	Hydraulic fluid in DSG Transmission Mechatronic - J743-
Refill	Refer to ⇒ Fluid Capacity Tables; Rep. Gr. 03
Change	Change not possible Checking the hydraulic fluid level for the DSG Transmission Mechatronic - J743- is not possible.
Grease	Hydraulic oil . Refer to the Parts Catalog for the part number.

For more details, refer to the part number on the container.

Caution

Risk of damaging the transmission.

- *Use only the transmission fluid specifically for the 7-speed DSG® transmission 0AM. It is available as a replacement part. Refer to the Parts Catalog.*
- *Using other fluids can cause malfunctions or transmission failure.*
- *Checking the hydraulic fluid level in the DSG Transmission Mechatronic - J743- is not possible. The vent on the DSG Transmission Mechatronic - J743- must be sealed tight before performing any assembly work.*
- *Fluid that has leaked out of the DSG Transmission Mechatronic - J743- hydraulic area may not be refilled or checked.*
- *If transmission fluid has leaked out, then it is necessary to perform a transmission fluid replacement. It is not possible to check the fluid level.*
- *Underfilling or overfilling both fluid systems will impair the function of the transmission.*

5 Safety Precautions

⇒ “5.1 General Safety Precautions”, page 5

⇒ “5.2 Safety Precautions when Working on Vehicles with Start/Stop System”, page 5

⇒ “5.3 Safety Precautions during Road Test with Testing Equipment”, page 6

5.1 General Safety Precautions

To avoid personal injury and damage to the vehicle, observe the following:

WARNING

Risk of injury and accident by accidentally engaging a gear with the engine running.

- *Move the selector lever into “P” and set the parking brake before working on a running engine.*

To prevent personal injury and damage to the electrical/electronic components, note the following:

- Only connect and disconnect test equipment when the ignition is off.

Caution

Risk of destroying electronic components when disconnecting the battery.

- *Follow the steps when disconnecting the battery.*
- *Always turn off the ignition before disconnecting the battery.*

– Disconnect the battery. Refer to ⇒ Electrical Equipment; Rep. Gr. 27 ; Battery; Battery, Disconnecting and Connecting .

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

Note the following when working on vehicles with a Start/Stop System:

WARNING

Risk of injury if the engine starts automatically in vehicles with a Start/Stop System.

- *For vehicles with an activated Start/Stop System (recognizable from a notification in the instrument cluster), the engine can be started automatically if needed.*
- *For this reason make sure the Start/Stop System is disabled when working on the vehicle (turn off ignition, if needed, turn the ignition back on).*

5.3 Safety Precautions during Road Test with Testing Equipment

Performing road tests while using testing equipment:

WARNING

There is a risk of an accident due to distractions and improperly secured testing equipment.

The front passenger airbag poses a risk if it deploys during an accident.

- *Operating testing equipment while driving is a distraction.*
- *Testing equipment that is not secured properly increases the risk of personal injury.*

◆ *Always secure testing equipment on the rear seat with a strap and have a second technician operate it from the rear seat.*

6 Tow Starting and Towing Notes

Caution

Risk of destroying the transmission.

- *When towing the vehicle, move the selector lever to "N". Do not tow the vehicle farther than 50 km and do not drive faster than 50 km/h.*

Note

The engine cannot be tow-started to start the engine, for example, if the battery is too weak or if the starter is not working.

7 General Repair Information

⇒ “7.1 Tools”, page 8

⇒ “7.2 Transmission”, page 8

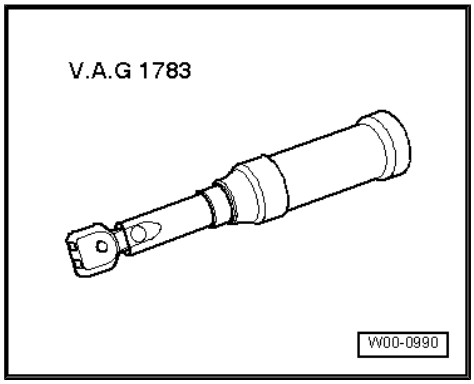
⇒ “7.3 Working with Vehicle Diagnostic Testers ”, page 13

7.1 Tools

A list of special tools and workshop equipment required for repair procedures in a manual can be found at the beginning of each Repair Group section and in the Workshop Equipment and Special Tools catalog.

The catalog is also available on CD-ROM and can be ordered the standard way through Bertelsmann.

Uncertainties often exist on smaller screws with lower tightening specifications. The Torque Wrench 1783 - 2-10Nm - VAG1783- can be used for these bolts.



7.2 Transmission

The flywheel transfers the engine torque to the dual clutch. The flywheel and the dual clutch are connected to each other via splines. Together they take over the function of the dual mass flywheel.

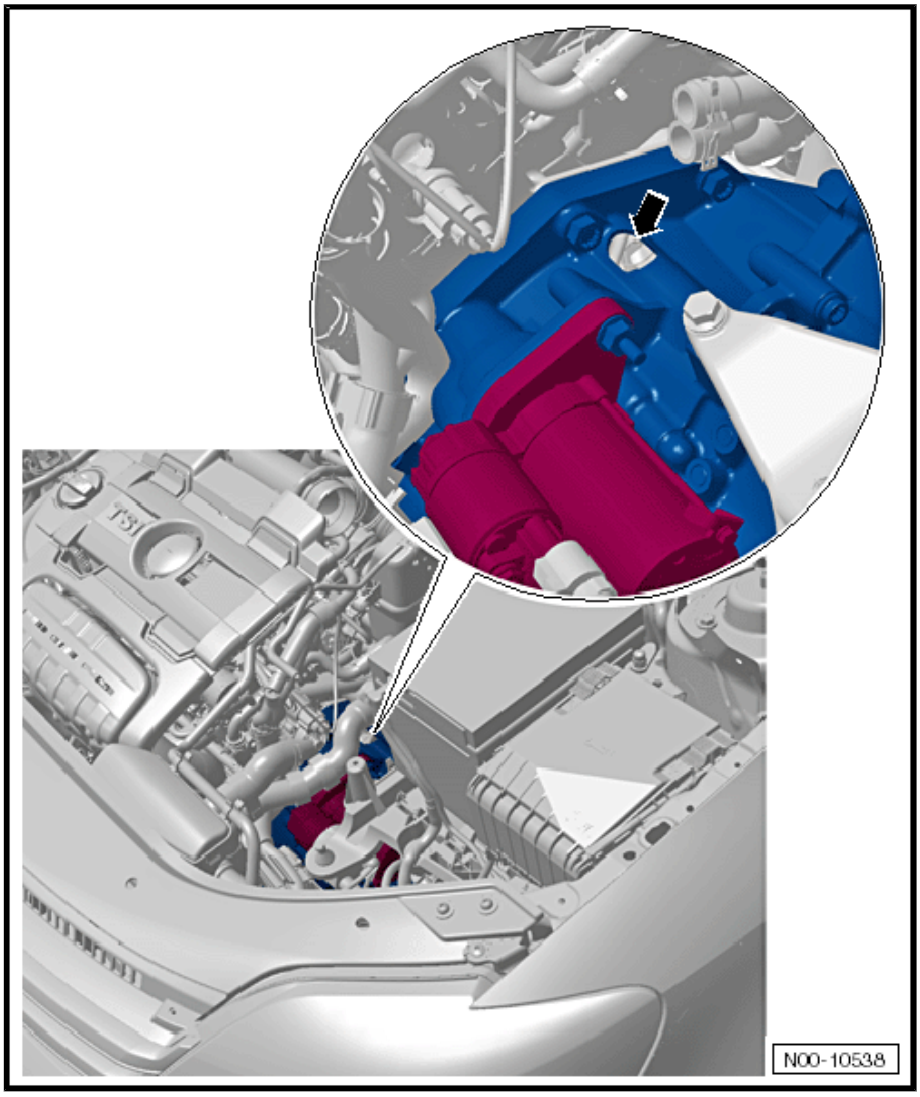
The transmission is built like a 7-speed manual transmission. The alternating hydraulic actuation of the two dry multi-plate clutches permits operation similar to that of an automatic transmission. This means the gears are automatically or manually shifted via the Tiptronic mode. There is no clutch pedal.

The transmission has an opening in the housing.

Note

This opening is sealed with a cap on some transmissions.

– Make sure that no small pieces fall into this opening -arrow- during assembly work. Cover the opening with a cloth.



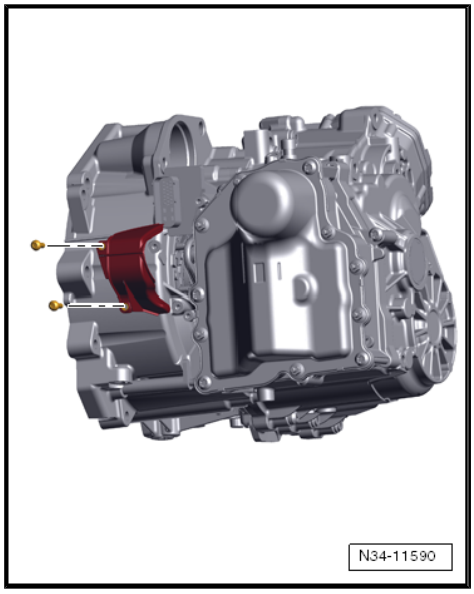
Always make sure that no dirt enters an »open« transmission.

- Do not run the engine when the cover is removed from the transmission or when there is no transmission fluid in the transmission. Do not tow the vehicle.
- Thoroughly clean the connection points and the area around them first, and then loosen them.
- Make sure that the alignment sleeves between the engine and transmission are positioned correctly when installing the transmission.
- 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.
- Only install clean components. Install replacement parts immediately after removing them from their packaging.
- Cover all opened components carefully if it necessary to perform a repair.

Some Vehicles Have A Cover Over the Engaging Levers

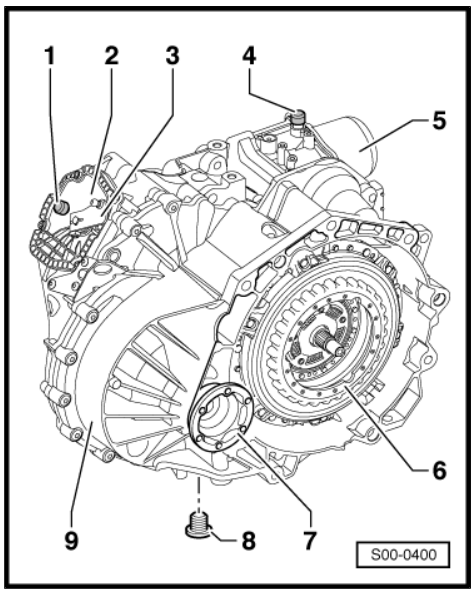
The cover prevents dirt from getting in.

Tightening specification for bolts: 8 Nm

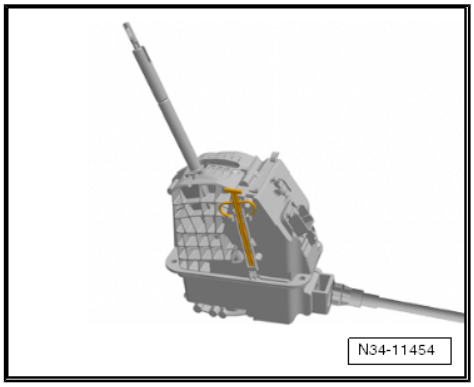


Overview - Transmission

1 - Transmission ventilation cap
2 - Cover
3 - Selector Lever
4 - DSG Transmission Mechatronic - J743- Bleed Unit
5 - DSG Transmission Mechatronic - J743-
6 - Dual Clutch
7 - Flange Shaft
8 - Oil Drain Plug, 30 Nm
9 - S tronic Transmission



Selector Mechanism



Similar to an automatic transmission, the selector lever position is no longer transmitted mechanically to the transmission via the selector lever cable and the multifunction transmission range switch (drive position sensor). The selector lever positions and shifts are transmitted via a separate control module in the selector mechanism to the transmission control module via the CAN bus. Shifting occurs without a selector lever cable. The selector lever cable mechanically brings the parking lock into the selector lever position “P”.

Transmission Fluid

Only transmission fluids available as replacement part may be used for the DSG® transmission 0AM. Using other oils can lead to function problems or can even cause the transmission to fail, for the specification. Refer to the Parts Catalog.

It is not possible to check the transmission fluid level in the transmission. A transmission fluid level adjustment can only be done when replacing the transmission fluid.

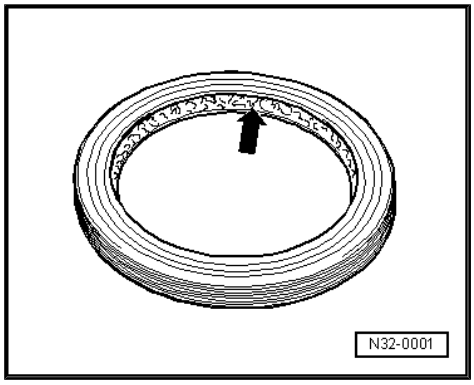
Do not reuse drained oil.

Caution

Be very careful when handling transmission fluid. Dispose of drained transmission fluid correctly.

O-Rings, Gaskets and Seals

- O-rings, gaskets and seals must always be replaced.
- The seals for the stub shaft or the flange shaft and drive axle are also called shaft seals.
- After removing seal rings and seals, always inspect the contact surfaces at housing or shaft for burrs resulting from removal, or for other signs of damage.
- Before installing the seals, lightly oil the outer circumference and fill the space between the sealing lips -arrow- halfway with Grease - G 052 128 A1- .
- The open side of the gaskets point toward the fluid to be sealed in.
- Coat the O-rings with transmission fluid or Vaseline before inserting to prevent them from being crushed during assembly.
- Do not use any other lubricants in the transmission fluid area. Otherwise there is a danger of the hydraulic transmission control malfunctioning.



Circlips

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

Bolts and Nuts

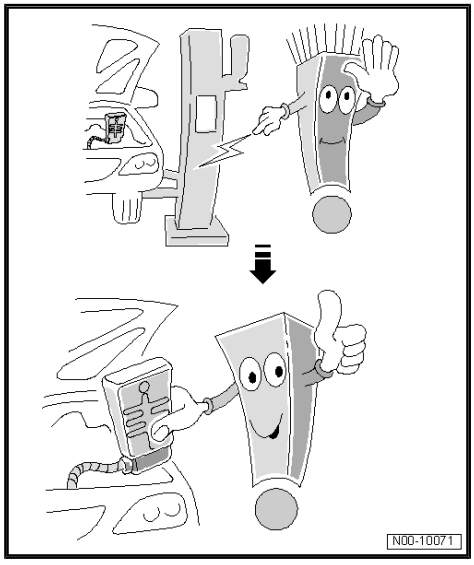
- Loosen or tighten bolts and nuts on the covers or housings diagonally.
- The tightening specifications given apply to unoiled bolts and nuts.
- Use a wire brush to clean the threads of the bolts that were installed with locking fluid. Install the bolts with Locking Fluid - AMV 185 101 A1- .
- Clean the threaded holes for the self-locking bolts or for the bolts coated with locking fluid (for example with a thread tap). Otherwise there is the risk that the bolts could break off the next time they are removed.
- Always replace self-locking bolts and nuts.

Electrical Components

Due to an electrostatic charge to the human body, a person can receive an electrostatic shock when metal objects are touched.

This charge can damage the electrical/electronic components on the transmission and the selector mechanism.

– Touch a grounded object, such as, a water pipe or a vehicle hoist, before working on electrical/electronic components. Do not touch connector or »open« electronic components directly.



7.3 Working with Vehicle Diagnostic Testers

⇒ "7.3.1 Adapting Installation Information", page 13

⇒ "7.3.2 Mandatory Reporting Measurements, Reading", page 13

⇒ "7.3.3 Basic Measurement, Performing", page 13

- Use only Volkswagen Vehicle Diagnostic Tester .

♦ Vehicle Diagnostic Tester

♦ Vehicle Diagnostic Tester

♦ Vehicle Diagnostic Tester

The Guided Functions button and the Guided Fault Finding button offer various functions. The 3 most important functions are:

♦ Adapting Installation Information

♦ Mandatory Reporting Measurements, Reading

♦ Basic Measurement, Performing

7.3.1 Adapting Installation Information

The Mechatronic recognizes other control modules in the vehicle by signals from the Data bus. Pressing the adapt installation information button tells the Mechatronic to forget all communication partners.

All »active partners« are recognized the next time the ignition is turned on.

Faults cannot be »generated« with this function. Always use the Adapt installation information after the following tasks:

♦ After installing a gearshift mechanism.

♦ After a different control module is installed, for example, engine, ABS or Gateway.

♦ After working on the steering wheel paddle.

7.3.2 Mandatory Reporting Measurements, Reading

It is necessary to upload the measurements before contacting the Technical Service Center or the importer.

Save the measurements in the diagnostic log so that all the necessary transmission data is available for analyzing the faults.

7.3.3 Basic Measurement, Performing

This is how the Mechatronic learns the important settings. Also important adjustments are learned new or reset to the pre-programmed points. Among others, these are the synchronizing points and the »corner points« for the engaging lever and the gear selector.

WARNING

Do not perform a basic measurement without cause or without being requested.

– Press the J743 perform Mechatronic basic measurement screen button only:

- If “Guided Fault Finding” requests it
- after having corrected a fault stored in the DTC memory
- after have installed a dual clutch
- or after having installed a Mechatronic

30 – Clutch

1 Dual Clutch, Removing and Installing, through Transmission Production Date 05/2011

Transport the Transmission and Secure to the Assembly Stand.
Refer to
⇒ **"6 Transmission, Transporting and Securing To Assembly Stand", page 191** .

Dual Clutch, Removing and Installing, from Transmission Production Date 06/2011. Refer to
⇒ "2 Dual Clutch, Removing and Installing, from Transmission Production Date 06/2011", page 40 .

⇒ **"1.1 Overview - Dual Clutch, through Transmission Production Date 05/2011", page 15**

⇒ **"1.2 Dual Clutch, Removing, through Transmission Production Date 05/2011", page 17**

⇒ **"1.3 K 1 and K 2 Clutch Engaging Bearing Position, Adjusting, Transmission Production Date through 05/2011", page 20**

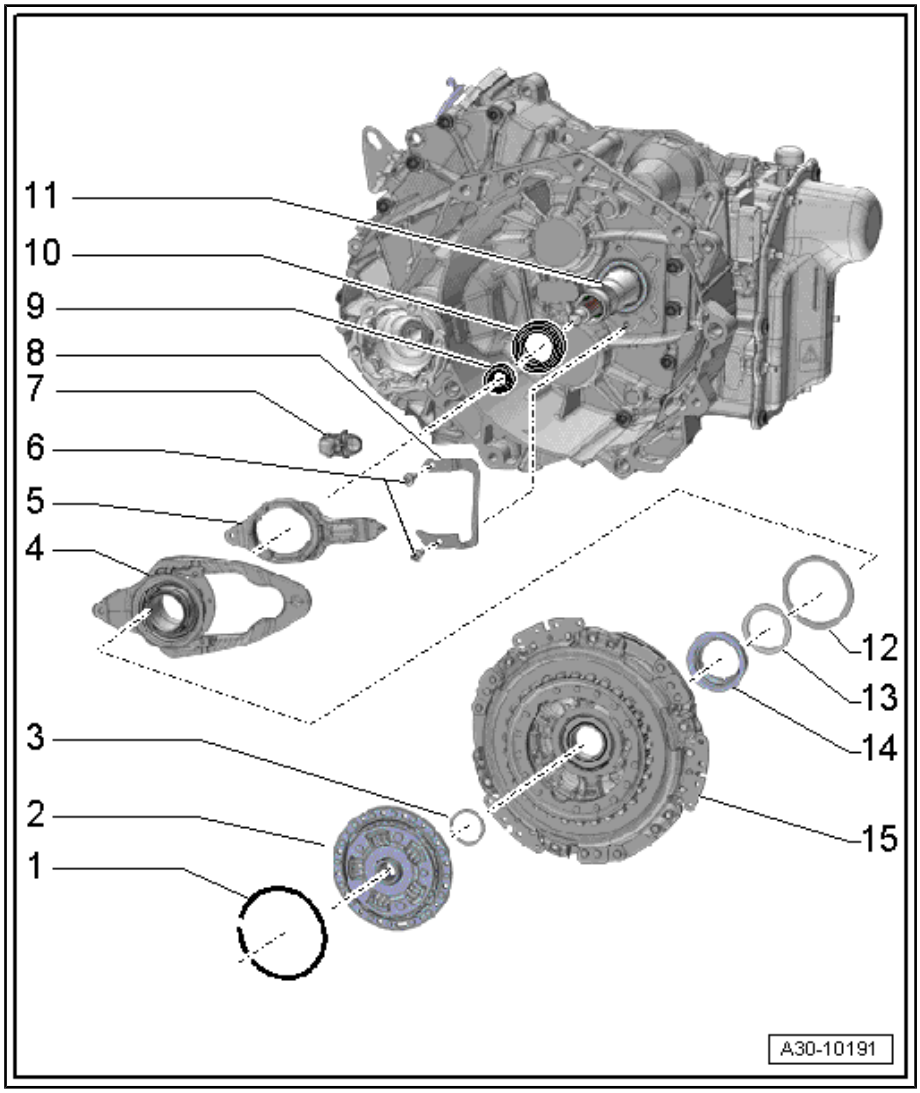
⇒ **"1.4 Dual Clutch, Installing, Transmission Production Date through 05/2011", page 33**

1.1 Overview - Dual Clutch, through Transmission Production Date 05/2011

Caution

Danger of causing damage to the clutch adjusting tool.

- *The clutch is self-adjusting. Vibrations can affect the adjusting tool. Be careful not to drop the clutch into the transmission when installing.*
- *Do not install a clutch that has fallen onto a hard surface or shows signs of damage.*



1 - Circlip

- ❑ Always replace after removing

2 - Hub

3 - Circlip

- ❑ Always replace after removing

4 - Large Engaging Lever for "K 1"

- ❑ With large engaging bearing
- ❑ Always replace when replacing the dual clutch

5 - Small Engaging Lever for »K 2«

- ❑ Always replace when replacing the dual clutch

6 - Bolts

- ❑ 8 Nm +90°
- ❑ Always replace after removing

7 - Support

- ❑ For engaging lever
- ❑ Always replace when replacing the dual clutch

8 - Bracket

- ❑ For small engaging lever
- ❑ Not equipped on some older transmissions
- ❑ Always replace when replacing the dual clutch

9 - Seal

- ❑ For the inner input shaft
- ❑ Replacing. Refer to ⇒ "3 Clutch-Side Seals, Removing and Installing", page 63 .

10 - Seal

- ❑ For the outer input shaft
- ❑ Replacing. Refer to ⇒ "3 Clutch-Side Seals, Removing and Installing", page 63 .

11 - Outer Input Shaft

12 - Shim "SK 2"

- ❑ Selecting thickness. Refer to ⇒ "1.3 K 1 and K 2 Clutch Engaging Bearing Position, Adjusting, Transmission Production Date through 05/2011", page 20 .

13 - Shim "SK 1"

- ❑ Selecting thickness. Refer to ⇒ "1.3 K 1 and K 2 Clutch Engaging Bearing Position, Adjusting, Transmission Production Date through 05/2011", page 20 .

14 - Small Engaging Bearing for »K 2«

- ❑ Refer to ⇒ "1.3 K 1 and K 2 Clutch Engaging Bearing Position, Adjusting, Transmission Production Date through 05/2011", page 20

15 - Dual Clutch

- ❑ Removing. Refer to
  ⇒ “1.2 Dual Clutch, Removing, through Transmission Production Date 05/2011”, page 17 .
- ❑ Installing. Refer to
  ⇒ “1.4 Dual Clutch, Installing, Transmission Production Date through 05/2011”, page 33 .

1.2 Dual Clutch, Removing, through Transmission Production Date 05/2011

Special tools and workshop equipment required

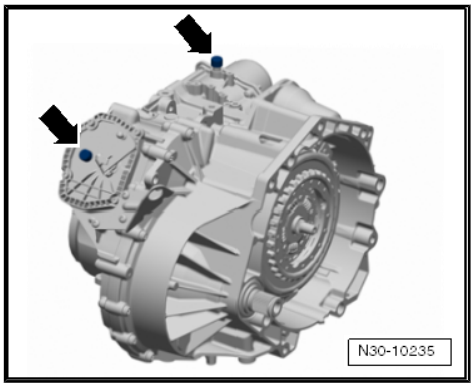
- ♦ T-Handle Hook - 3438-
- ♦ Support Bridge - T10323-
- ♦ -T10356/5- from the Subframe Bushing Assembly Tool Kit - T10356-
- ♦ Puller - Clutch - T10373-
- ♦ Clutch Press Piece - T10376-
- ♦ Engine Bung Set - VAS6122-

– Remove the transmission:

- ♦ Refer to
  ⇒ “4 Transmission, Removing and Installing, Jetta from MY 2005, Golf Wagon from MY 2007 and Golf Wagon from MY 2010”, page 127
- ♦ Refer to
  ⇒ “5 Transmission, Removing and Installing, Jetta from MY 2011”, page 166

• The DSG Transmission Mechatronic - J743- is installed in the transmission.

– Remove both caps -arrows- and seal with suitable oil-tight plugs from the Engine Bung Set - VAS6122- for example.



Caution

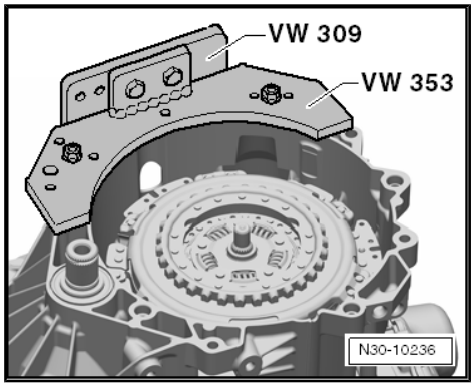
On some transmissions, the breather cap on the Mechatronic is destroyed during removal and must be replaced.

Checking the hydraulic fluid level for the Mechatronic is not possible. The Mechatronic vent must be sealed oil-tight before performing any assembly work.

Fluid that has leaked out of the Mechatronic hydraulic area may not be refilled or checked. Replace the Mechatronic if fluid is leaking.

Turn the transmission on the engine/transmission holder with the clutch facing up.

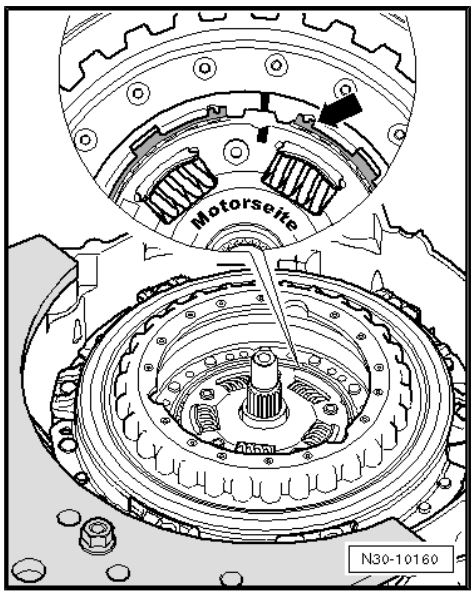
Refer to
⇒ “6 Transmission, Transporting and Securing To Assembly Stand”, page 191 for information on securely transporting the transmission and securing to the assembly stand.



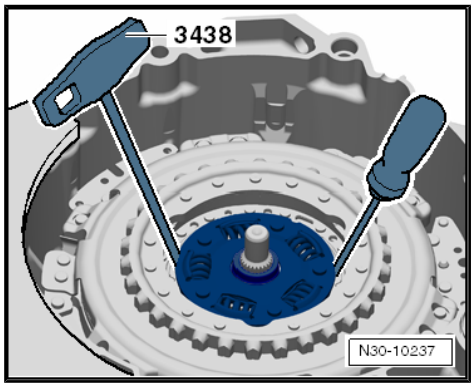
Note

The dual clutch is removed upward. The Mechatronic stays on the transmission.

– Remove the locking ring -arrow- from the hub.

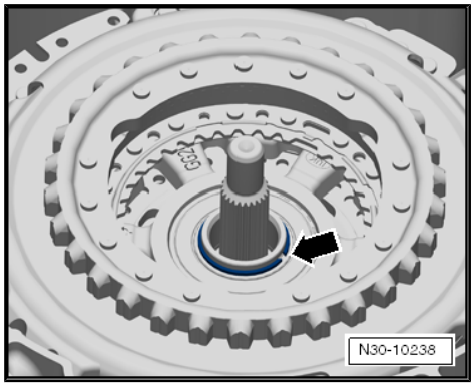


– Remove the hub using T-Handle Hook - 3438- and a screwdriver.



– Remove the locking ring -arrow- from the clutch.

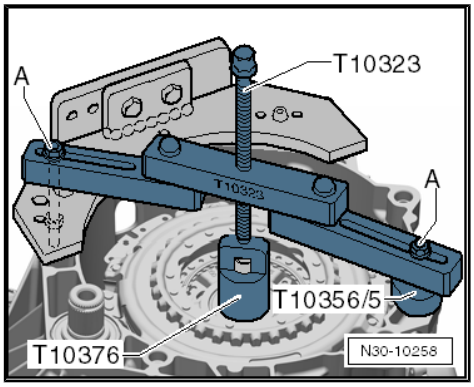
If it is Not Possible to Remove the Locking Ring:



Note

- *The clutch is »jamming« the circlip from underneath if the circlip cannot be removed.*
- *If this is the case, then push the clutch slightly down and this will release the pressure on the locking ring. Never hit the clutch or the shaft with a hammer.*
- *Always replace the locking ring.*

– Position the Support Bridge - T1032- parallel to the transmission flange, as illustrated.
– If necessary, even out the gaps with Assembly Tool - 5 - T10356A/5- for example.
– Tighten the bolts -A- hand-tight.



Note

Secure the bolts -A- with a nut, if needed.

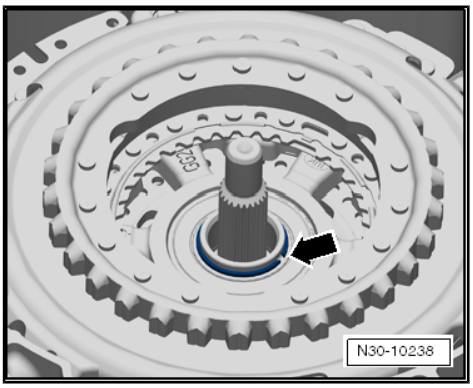
Caution

Danger of damaging the clutch and other components.

- ***Push the clutch down gently without pressing.***

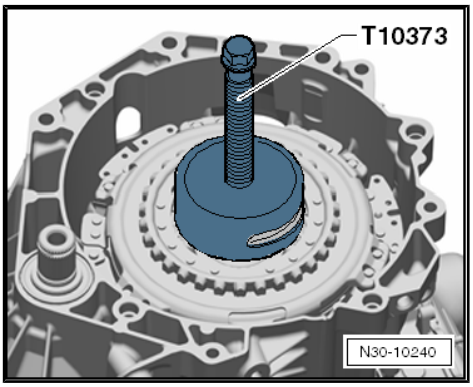
– Turn the spindle against the Clutch Press Piece - T10376- to lower it.

– Remove the special tool and remove the circlip -arrow- for the clutch.

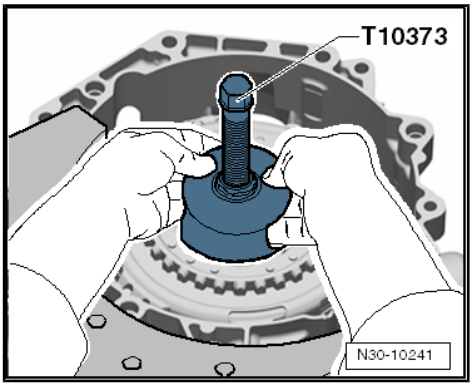


Continuation for Removing the Locking Ring:

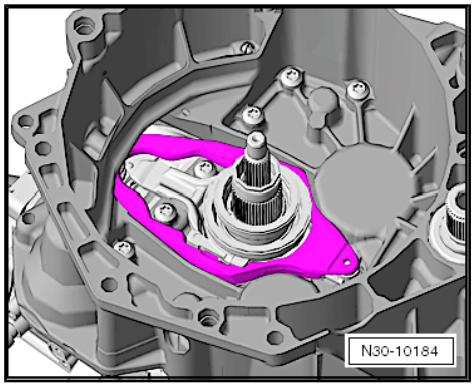
– Insert the Puller - Clutch - T10373- into the clutch and remove the clutch.



– Remove the clutch together with the Puller - Clutch - T10373- .



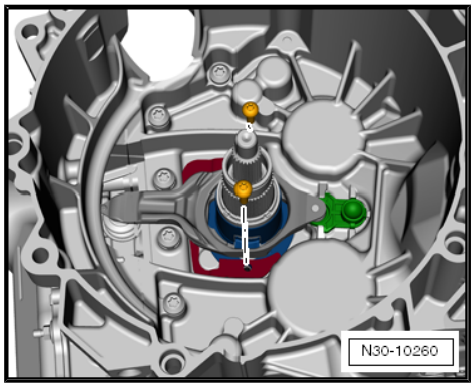
– Remove the small engaging bearing.
– Remove the large engaging lever.



– Remove the bolts and remove the engaging lever with the bracket.

Note

Only a few »older« transmissions do not have a bracket.

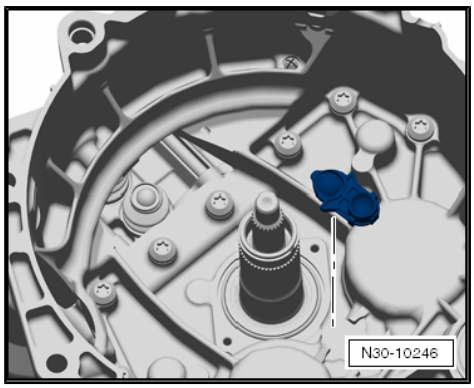


– Remove the engaging lever mount.

Before installing the clutch, check if the »clutch needs to be adjusted or not during assembly«. Refer to
⇒ “1.3 K 1 and K 2 Clutch Engaging Bearing Position, Adjusting, Transmission Production Date through 05/2011”, page 20 .

Adjusting. Refer to
⇒ “1.3 K 1 and K 2 Clutch Engaging Bearing Position, Adjusting, Transmission Production Date through 05/2011”, page 20

Install the Dual Clutch. Refer to
⇒ “1.4 Dual Clutch, Installing, Transmission Production Date through 05/2011”, page 33 .



1.3 “K 1” and “K 2” Clutch Engaging Bearing Position, Adjusting, Transmission Production Date through 05/2011

Special tools and workshop equipment required

- Setting Tool - Release Bearing - T10374-
- Ruler (2 pc.) - T40100-
- Digital Depth Gauge - 300mm for example -VAS6594-
- Adhesive - AMV 195 KD1 01-
- Micrometer

Caution

The following components must also be replaced if the dual clutch is replaced:

- *Both engaging levers with engaging bearing.*
- *Engaging lever mount.*
- *Engaging bearing shims.*

When replacing the dual clutch and its components, the "K 1 and K 2" engaging bearing position must always be readjusted.

Note

- *It is not necessary to perform an adjustment if all the mentioned components are only removed and reinstalled.*
- *The locking ring must be replaced in each case.*

Brief Description

- The position of the engaging bearing is comparable to clutch play on a manual transmission. There are tolerances in the 7-speed DSG® transmission 0AM engaging system and in the transmission itself. There are also tolerances within the dual clutch. These tolerances must be taken into account separately when performing the adjustments.
- The following procedure describes how all necessary measurements are determined from the transmission side in order to select the correct shim. In addition to this, the tolerances in the clutch already determined by the manufacturer. The transmission side tolerances and the tolerances in the clutch determine the thickness of the shim.
- Follow the work sequence.

Overview - Clutch Mechanism

1 - Small Engaging Lever for »K 2«

- ❑ Always replace when replacing the dual clutch

2 - Shim for »K 2«

3 - Engaging Bearing for »K 2«

- ❑ Always replace when replacing the dual clutch

4 - Large Engaging Lever for "K 1"

- ❑ With large engaging bearing
- ❑ Always replace when replacing the dual clutch

5 - Shim for "K 1"

6 - Bolts

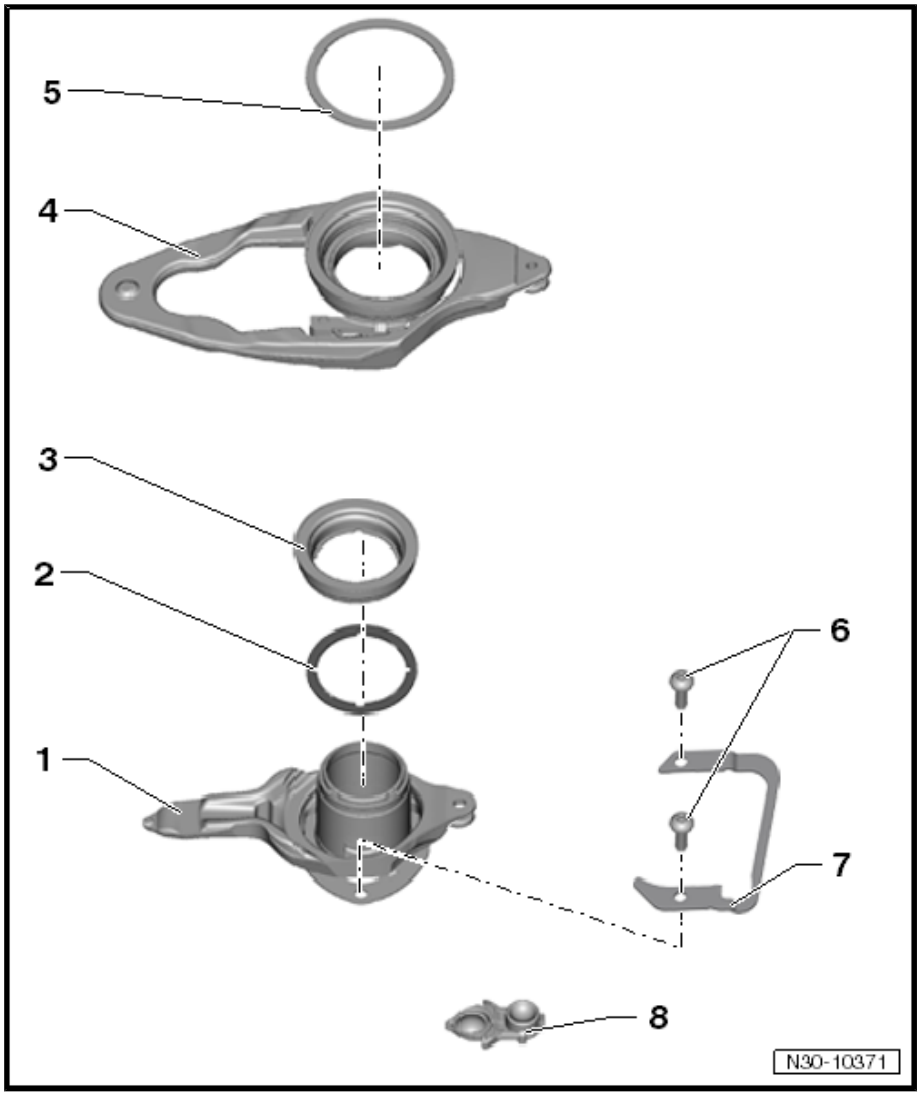
- ❑ 8 Nm +90°
- ❑ Always replace after removing

7 - Bracket

- ❑ Not equipped in some older transmissions
- ❑ Always replace when replacing the dual clutch

8 - Support

- ❑ Always replace when replacing the dual clutch



Requirement:

- The transmission flange must be even so that it has a good surface for the ruler.
- DSG Transmission Mechatronic - J743- must be installed.
- Tightening specifications. Refer to ⇒ "1.1 Overview - Dual Clutch, through Transmission Production Date 05/2011", page 15 .

Note

Replace any bolts that were tightened with an additional turn.

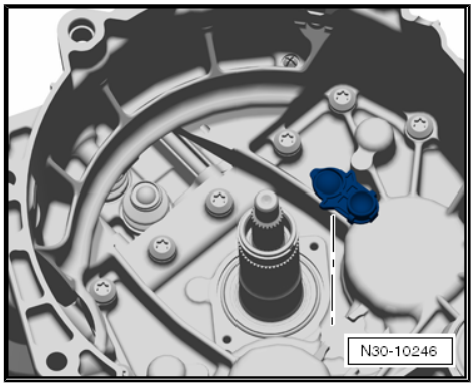
Caution

Danger of damaging the clutch and other components.

- ***The mount for the engaging lever and the entire mechanical system for the engaging bearing must be dry and free from oil and grease.***

Step 1: Prepare to Measure the Dual Clutch

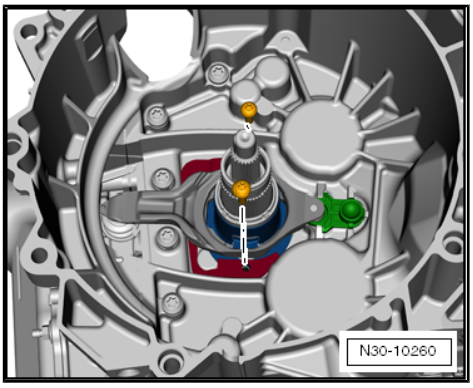
– Insert the engaging lever mount.



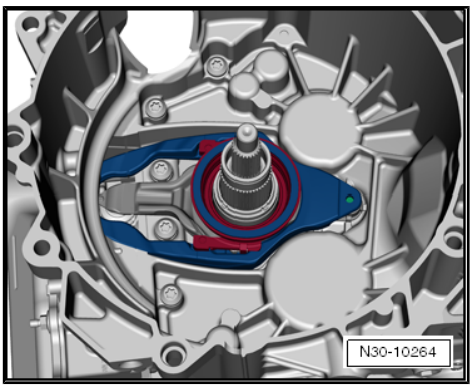
– Install the small engaging lever with the bracket and tighten with two new screws.

Note

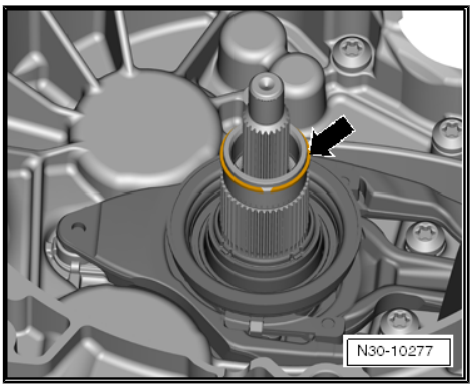
Only a few »older« transmissions do not have a bracket.



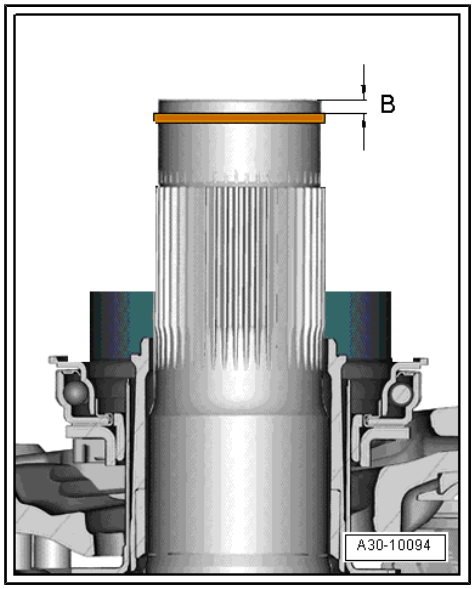
– Install the large engaging lever.
– Make sure both engaging levers fit correctly.



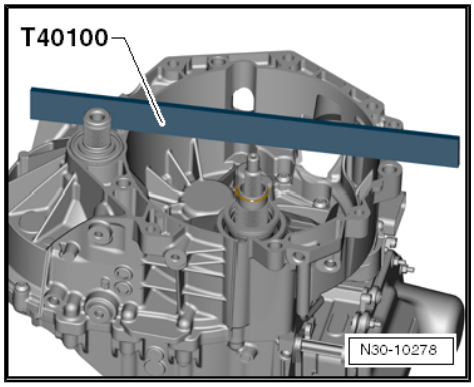
– Install the old circlip -arrow- for the outer input shaft.



Step 2: Determine the Dimension “B” for Clutch “K 1” and “K 2”.



– Place Ruler (2 pc.) - T40100- across the end of the shaft on the transmission flange.



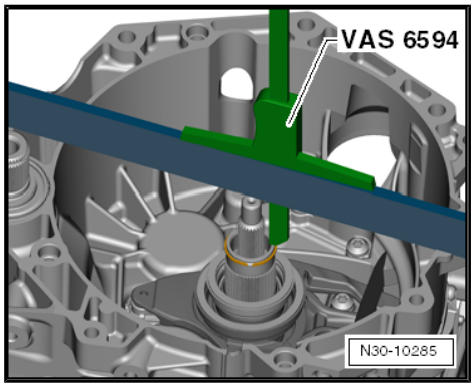
Caution

There is the risk of incorrect measurements.

- *The Ruler (2 pc.) - T40100- should stay in this position for the following measurements. Do not move it or take if off.*

– Place the Digital Depth Gauge - 300mm - VAS6594- on top of the Ruler (2 pc.) - T40100- and position the depth slide on the outer input shaft.

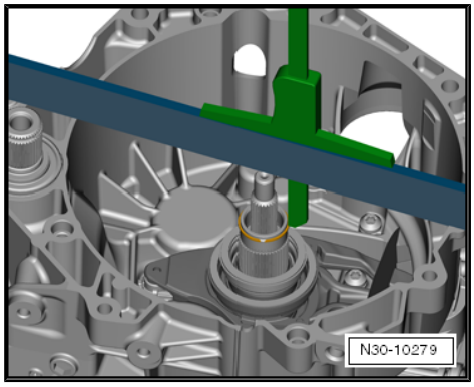
– Set the Depth Gauge to “0”.



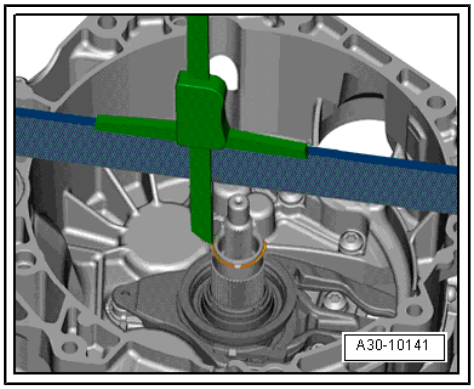
– Position the depth slide on the locking ring, as illustrated.

– Measure dimension “B_1 ” on the locking ring in this position.

• Example: dimension “B_1 ” = 2.92 mm



– Measure dimension “B_2 ” on the opposite side of the locking ring.



Note

Do not measure on the end of the locking ring. The circlip could get pushed away and this would falsify the measurement.

- Example: dimension “B_2 ” = 3.00 mm

– Calculate the mean value from “B_1 ” and “B_2 ”.

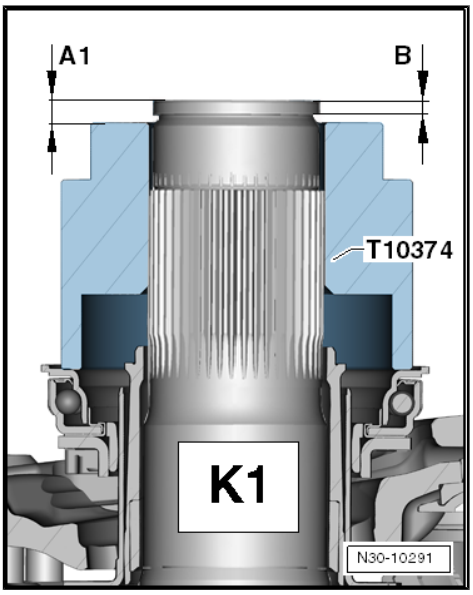
Formula: $B_1 + B_2$ 2

Example:

- 2.92 + 3.002 = 2.96 mm
- Result: dimension “B” = 2.96 mm

– Remove the circlip again and dispose it.

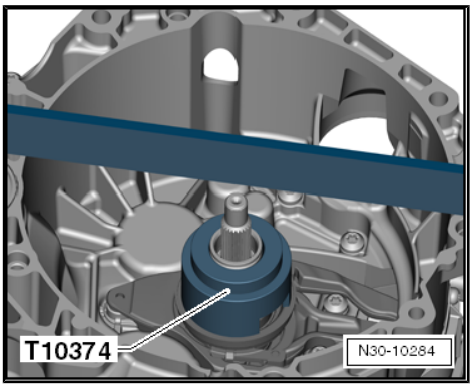
Step 3: Determine the Dimension “A 1” for the “K 1” Clutch Engaging Bearing.



– Place the Setting Tool - Release Bearing - T10374- with the large opening downward on the larger engaging bearing.

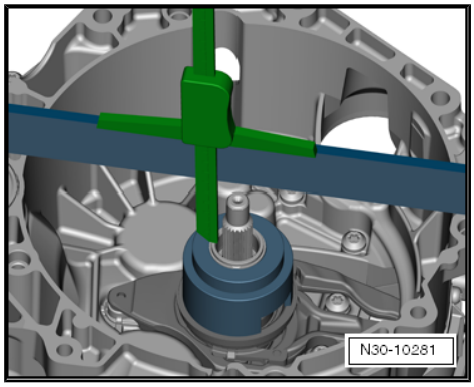
– Press and turn the Setting Tool - Release Bearing - T10374- to make sure the Setting Tool - Release Bearing sits correctly on the engaging bearing.

- The engaging bearing turns with the Setting Tool - Release Bearing - T10374- .



– Place the Digital Depth Gauge - 300mm - VAS6594- on top of the Ruler (2 pc.) - T40100- and position the depth slide on the outer input shaft.

• The Ruler (2 pc.) - T40100- lies straight across the transmission flange over the end of the shaft.



Caution

There is the risk of incorrect measurements.

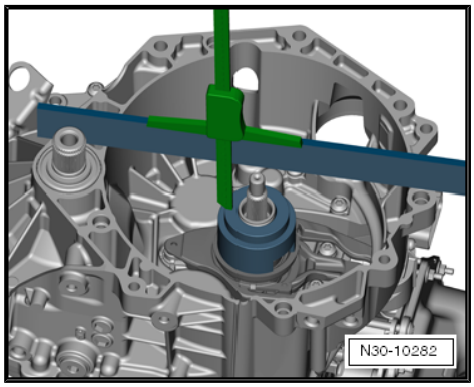
- *The Ruler (2 pc.) - T40100- should stay in this position for the following measurements. Do not move it or take if off.*

– Set the Depth Gauge to “0”.

– Position the depth gauge on the Setting Tool - Release Bearing - T10374- as shown.

– Measure dimension “A 1_a ” at this position on the Setting Tool - Release Bearing - T10374- .

• Example: dimension “A 1_a ” = 2.61 mm



– On the opposite side, measure the dimension “A 1_b ” on the Setting Tool - Release Bearing - T10374- .

• Example: dimension “A 1_b ” = 2.81 mm

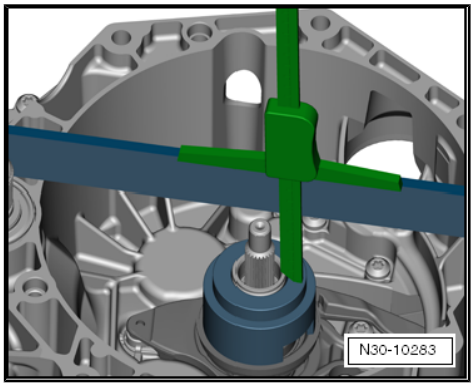
– Calculate the average value from dimension “A 1_a ” and “A 1_b ”.

Formula: A 1_a + A1_b 2

Example:

• 2.61 + 2.812 = 2.71 mm

• Result: dimension “A 1” = 2.71 mm



Step 4: Measuring the Installation Depth for the “K 1” Clutch Engaging Bearing.

Note

Based on dimension “A 1” and dimension “B”, calculate the actual value for the “K 1” clutch engaging bearing as follows:

	Dimension “A 1”
–	Dimension “B”
+	Outer Setting Tool - Release Bearing - T10374- height (51.81 mm; fixed value)
=	Actual value of the “K 1” clutch engaging bearing installation depth

Example:

• 2.71 mm – 2.96 mm + 51.81 mm = 51.56 mm

• Result: installation depth for “K 1” clutch engaging bearing = 51.56 mm

Step 5: Measure the Air Gap for “K 1” Clutch.

Note

Based on the actual value and the specified value of the installation depth for the engaging bearing, the air gap for “K 1” clutch is measured as follows:

	Engaging bearing installation depth actual value
–	Engaging bearing installation depth specified value (50.08 mm; fixed value)
=	Air gap for “K 1” clutch

Example:

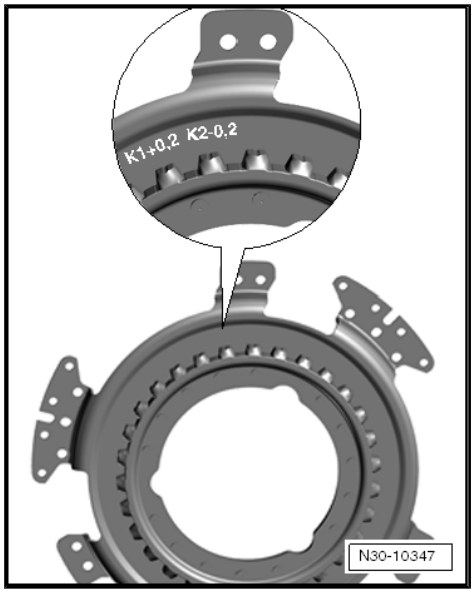
• 51.56 mm – 50.08 mm = 1.48 mm

• Result: “K 1” clutch air gap = 1.48 mm

Step 6: Measure the Clutch Tolerance for "K 1" Clutch.

– Read the clutch tolerance value on the new clutch.

• Example: clutch tolerance read on the clutch "K 1 = +0.2", as illustrated.



Step 7: Measure the "SK 1" Shim Thickness.

Note

Based on the air gap and the clutch tolerance for the "K 1" clutch, now the "SK 1" shim thickness can be calculated as follows:

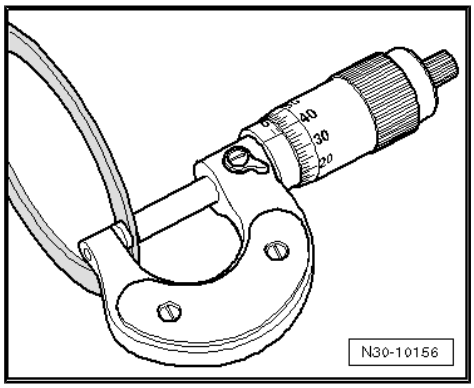
	Air gap for "K 1" clutch
–/+	Clutch tolerance for clutch "K 1"
=	Calculated thickness for shim "SK 1"

Example:

• 1.48 mm + 0.20 mm = 1.68 mm

• Result: calculated "SK 1" shim thickness = 1.68 mm

– Measure the needed shim from the shims supplied and keep it close for installation.



Calculated Shim Thickness mm	Available Shim Thicknesses in mm
0.31 to 0.90	0.80
0.91 to 1.10	1.00
1.11 to 1.30	1.20
1.31 to 1.50	1.40
1.51 to 1.70	1.60
1.71 to 1.90	1.80
1.91 to 2.10	2.00
2.11 to 2.30	2.20
2.31 to 2.50	2.40
2.51 to 2.70	2.60
2.71 to 3.30	2.80

Example:

• Result: calculated "SK 1" shim thickness = 1.68 mm

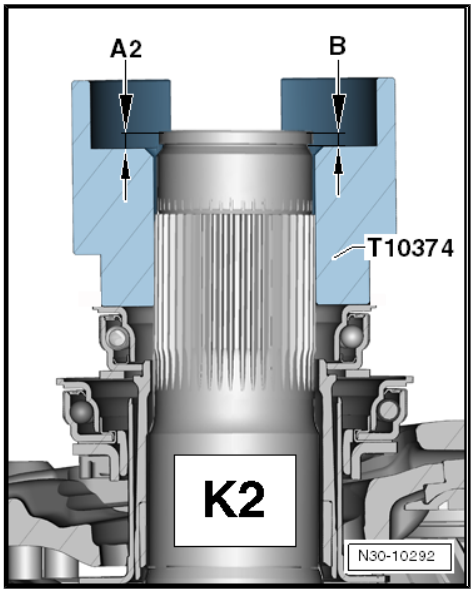
• Selected shim thickness = 1.60 mm

Caution

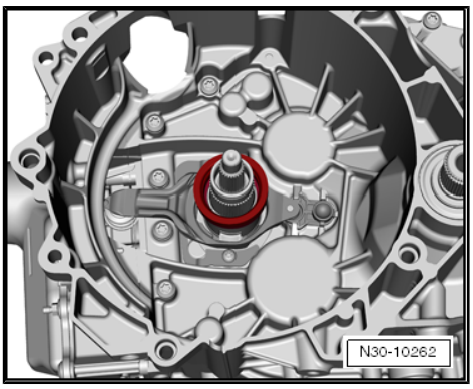
Risk of damaging the transmission.

- *Mark the shim with "SK 1" and keep it ready for assembly.*
- *Only this "SK 1" shim may be inserted to adjust the small engaging bearing.*

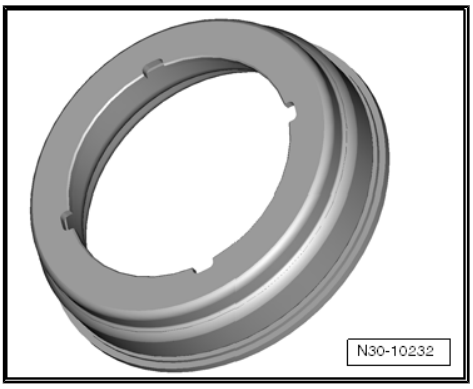
Step 8: Determine Dimension “A 2” for “K 2” Clutch Engaging Bearing



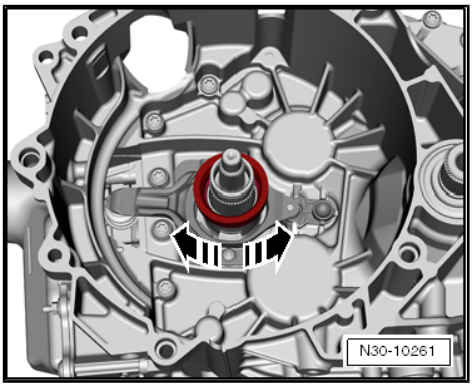
– Only insert the small engaging bearing.



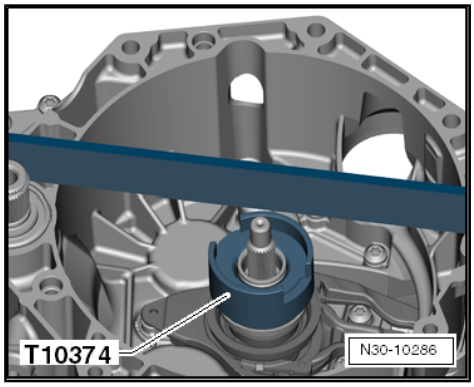
- The small engaging bearing fits in only one position due to the 4 grooves.



– Turn the engaging bearing in direction of -arrows- to make sure it is installed correctly and fits correctly in the grooves.

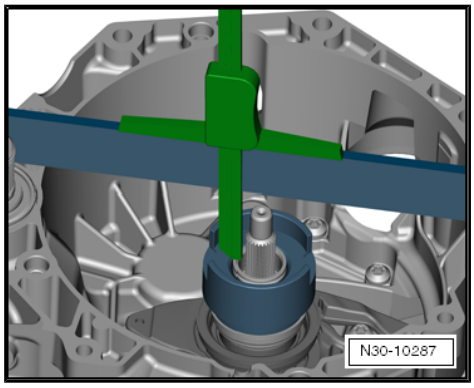


– Place the Setting Tool - Release Bearing - T10374- with the large opening upward on the small engaging bearing.



– Place the Digital Depth Gauge - 300mm - VAS6594- on top of the Ruler (2 pc.) - T40100- and position the depth slide on the outer input shaft.

• The Ruler (2 pc.) - T40100- lies straight across the transmission flange over the end of the shaft.



Caution

There is the risk of incorrect measurements.

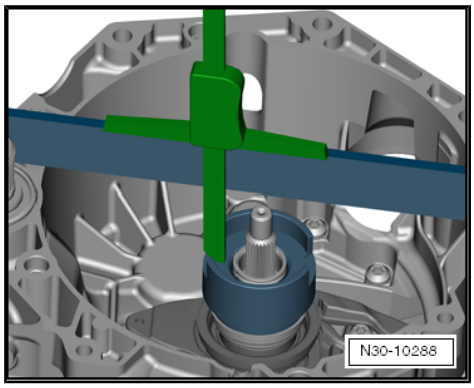
- *The Ruler (2 pc.) - T40100- should stay in this position for the following measurements. Do not move it or take if off.*

– Set the Depth Gauge to “0”.

– Position the depth gauge on the Setting Tool - Release Bearing - T10374- as shown.

– Measure dimension “A 2_a ” at this position on the Setting Tool - Release Bearing - T10374- .

• Example: dimension “A 2_a ” = 2.50 mm



– On the opposite side, measure the dimension “A 2_b ” on the Setting Tool - Release Bearing - T10374- .

• Example: dimension “A 2_b ” = 2.54 mm

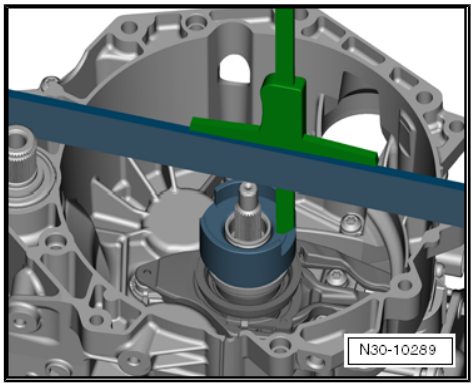
– Calculate the average value from dimension “A 2_a ” and “A 2_b ”.

Formula: A 2_a + A 2_b 2

Example:

• 2.50 + 2.542 = 2.52 mm

• Result: dimension “A 2” = 2.52 mm



Step 9: Measure the Installation Depth for the “K 2” Clutch Engaging Bearing.

Note

Based on dimension “A 2” and dimension “B”, calculate the actual value for the “K 2” clutch engaging bearing as follows:

	Dimension “A 2”
–	Dimension “B”
+	Inner Setting Tool - Release Bearing - T10374- dimension (36.20 mm; fixed value)
=	Actual value of the “K 2” clutch engaging bearing installation depth

Example:

• 2.52 mm – 2.96 mm + 36.20 mm = 35.76 mm

• Result: Actual value for “K 2” clutch engaging bearing installation depth = 35.76 mm

Step 10: Measure the Air Gap for “K 2” Clutch.

Note

Based on the actual value and the specified value of the installation depth for the engaging bearing, the air gap for the “K 2” clutch is measured as follows:

	Engaging bearing installation depth actual value
–	Specified value for engaging bearing installation depth (34.35 mm; fixed value)
=	Air gap for “K 2” clutch

Example:

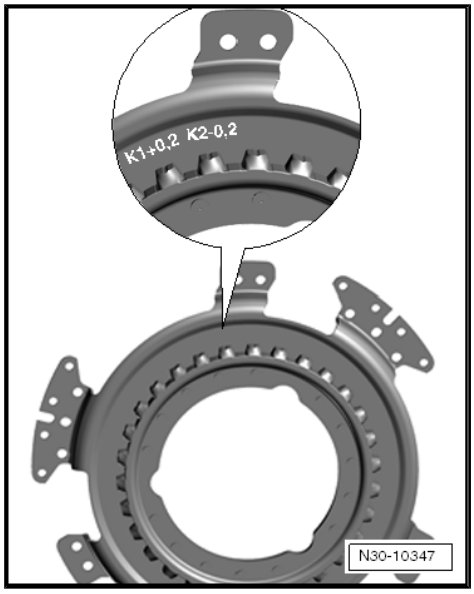
• 35.76 mm – 34.35 mm = 1.41 mm

• Result: Air gap for “K 2” clutch = 1.41 mm

Step 11: Measure the Clutch Tolerance for "K 2" Clutch.

– Read the clutch tolerance value on the new clutch.

• Example: clutch tolerance read on the clutch "K 2 = – 0.2", as illustrated.



Step 12: Measure the "SK 2" Shim Thickness.

Note

Based on the air gap and the clutch tolerance for the "K 2" clutch, now the "SK 2" shim thickness can be calculated as follows:

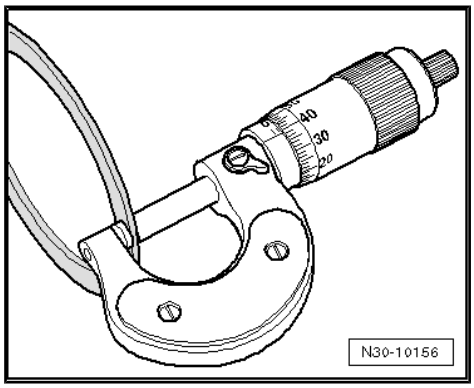
	Air gap for "K 2" clutch
–/+	Clutch tolerance for the clutch "K 2"
=	Calculated thickness for shim "SK 2"

Example:

• 1.41 mm – 0.20 mm = 1.21 mm

• Result: calculated "SK 2" shim thickness = 1.21 mm

– Measure the needed shim from the shims supplied and keep it close for installation.



Calculated Shim Thickness mm	Available Shim Thicknesses in mm
0.31 to 0.90	0.80
0.91 to 1.10	1.00
1.11 to 1.30	1.20
1.31 to 1.50	1.40
1.51 to 1.70	1.60
1.71 to 1.90	1.80
1.91 to 2.10	2.00
2.11 to 2.30	2.20
2.31 to 2.50	2.40
2.51 to 2.70	2.60
2.71 to 3.30	2.80

Example:

• Result: calculated "SK 2" shim thickness = 1.21 mm

• Selected shim thickness = 1.20 mm

Caution

Risk of damaging the transmission.

- ***Mark the shim with "SK 2" and keep it ready for assembly.***
- ***Only this "SK 2" shim may be inserted for an adjustment.***

– Install the dual clutch. Refer to
⇒ "1.4 Dual Clutch, Installing, Transmission Production Date through 05/2011", page 33 .

1.4 Dual Clutch, Installing, Transmission Production Date through 05/2011

Special tools and workshop equipment required

- Support Bridge - T10323-
- -T10356/5- from the Subframe Bushing Assembly Tool Kit - T10356-
- Puller - Clutch - T10373-
- Clutch Press Piece - T10376-
- Adhesive - AMV 195 KD1 01-
- Tightening specifications. Refer to ⇒ "1.1 Overview - Dual Clutch, through Transmission Production Date 05/2011", page 15 .

Caution

The following components must also be replaced if the dual clutch is replaced:

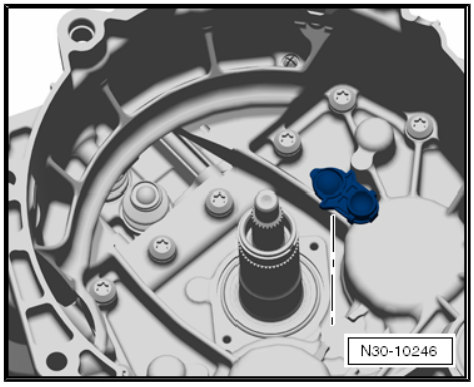
- *Both engaging levers with engaging bearing.*
- *Engaging lever mount.*
- *Engaging bearing shims.*

When replacing the dual clutch and its components, the "K 1 and K 2" engaging bearing position must always be readjusted. Refer to ⇒ "1.3 K 1 and K 2 Clutch Engaging Bearing Position, Adjusting, Transmission Production Date through 05/2011", page 20 .

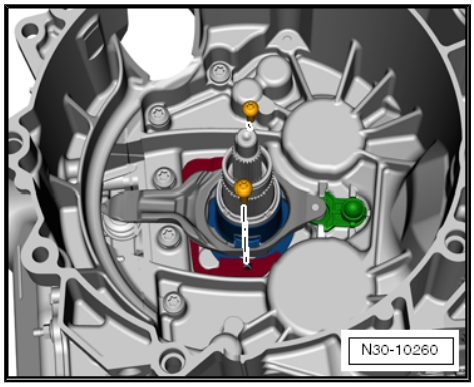
Note

- *Clutch components must have no oil or grease on them when being installed.*
- *Replace all bolts that were tightened with an additional turn.*
- *The following four steps are only necessary if the engaging bearing position did not need to be adjusted.*

– Insert the engaging lever mount.



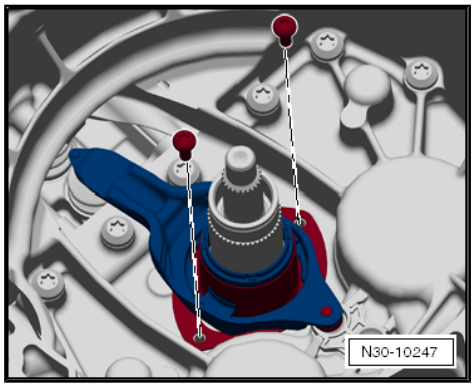
– Install the small engaging lever with the bracket.



Note

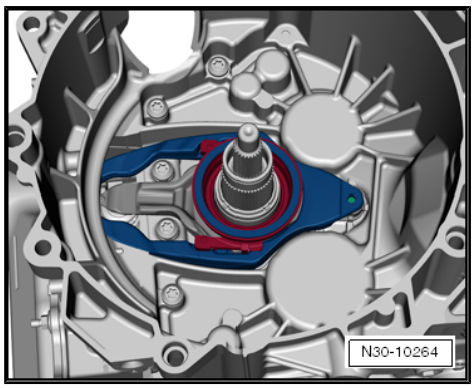
Only a few »older« transmissions do not have a bracket.

– Tighten the small engaging lever with two new bolts.



– Install the large engaging lever.

– Make sure both engaging levers fit correctly.



Caution

Danger of damaging the dual clutch and other components.

- *The position of the engaging bearings must be adjusted correctly.*

Adjusting the engaging bearings can only be performed prior to installing the dual clutch.

The position of the engaging bearing must be adjusted after completing the following:

- *The dual clutch was replaced.*
- *The engaging levers were replaced.*
- *The engaging lever mount was replaced.*
- *The engaging bearings were replaced.*

It is necessary to adjust the position of the "K 1 and K 2" engaging bearings first if one of the above mentioned procedures was performed and the readjusted shim is inserted. Refer to ⇒ "1.3 K 1 and K 2 Clutch Engaging Bearing Position, Adjusting, Transmission Production Date through 05/2011", page 20 .

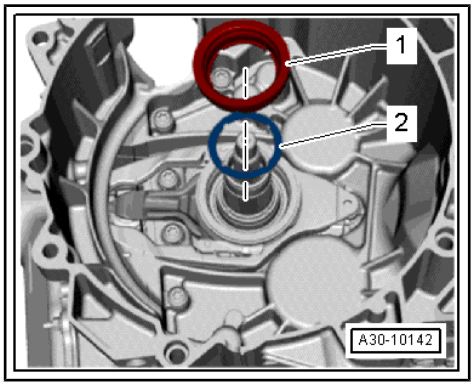
Continue with assembling only when the adjustment is correct.

The removed shims can be used again if no new parts were installed.

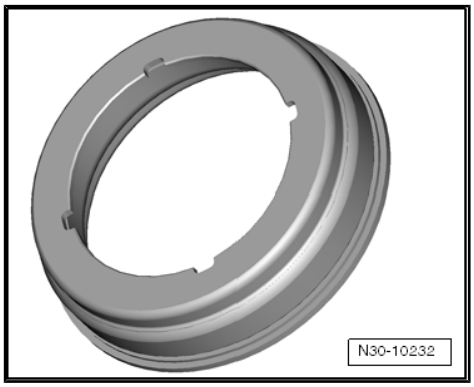
Only one shim per engaging bearing can be inserted for the adjustment.

– Insert the small engaging bearing -1- with the measured shim -2- for the “K 2” clutch.

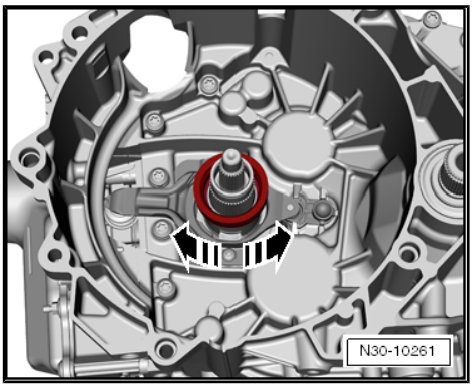
The Shim Belongs Under the Small Engaging Bearing. Install the Shim First.



• The small engaging bearing fits in only one position due to the 4 grooves.

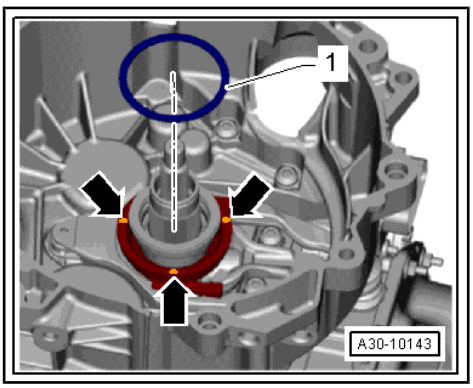


– Turn the engaging bearing in direction of -arrows- to make sure it is installed correctly and fits correctly in the grooves.

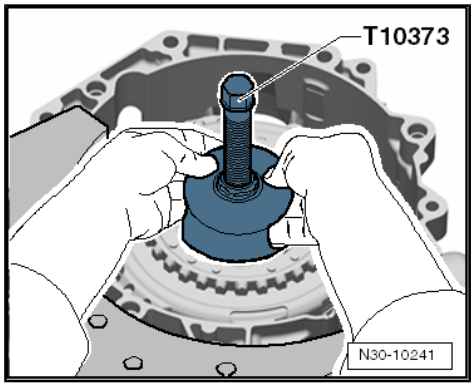


– Secure the »large« shim -1- for the “K 1” clutch with three drops of Adhesive - AMV 195 KD1 01- -arrows-.

This prevents the shim from sliding out of its position when inserting the clutch.



– Turn back the spindle on the Puller - Clutch - T10373- .



Caution

Danger of causing damage to the clutch adjusting tool.

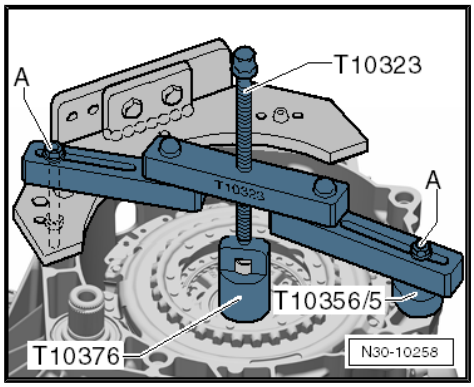
- *The clutch is self-adjusting. Vibrations can affect the adjusting tool. Be careful not to drop the clutch into the transmission when installing.*

– Install the clutch in the transmission using the Puller - Clutch - T10373- as shown.

– Position the Support Bridge - T1032- parallel to the transmission flange, as illustrated.

– If necessary, even out the gaps using, for example, -T10356/5- from the Assembly Tool - T10356A- .

– Tighten the bolts -A- hand-tight.



Note

Secure the bolts -A- with a nut, if needed.

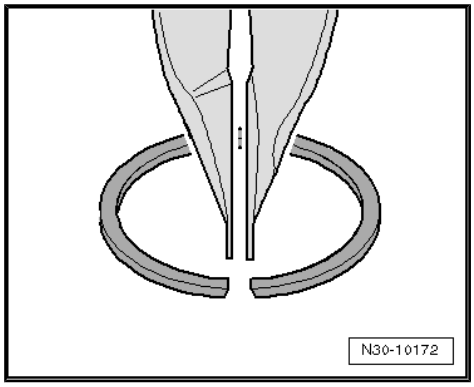
– Install the clutch all the way.

Note

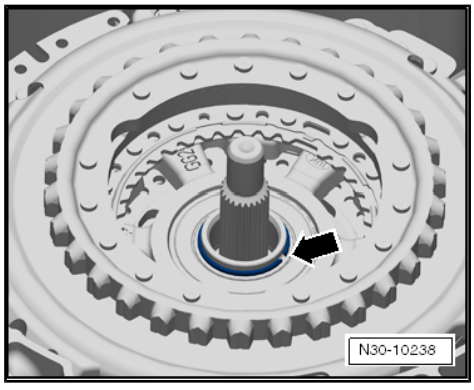
Keep on hand on the clutch while pressing it on. A slight »vibrating« can be felt. Vibrating means the clutch is being pushed onto its press-fit. It can also be felt when the clutch has reached its stop.

– Hold the new locking ring with locking ring pliers, as illustrated.

• Installed position: narrow ends of the locking ring at the top.



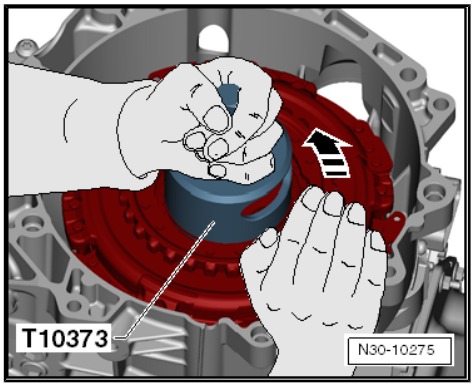
– Install the circlip -arrow-



Note

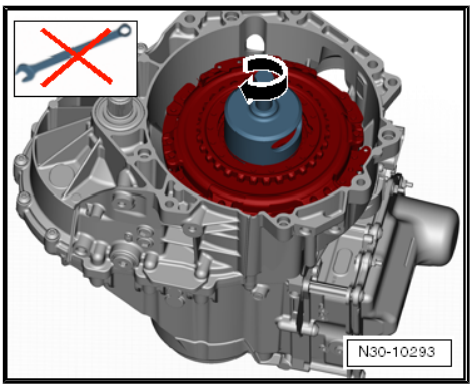
The clutch is not pressed correctly on the stop if the locking ring cannot be installed.

– Turn the clutch against the Puller - Clutch - T10373- by hand without using any other tools so that it can move into its operating position in direction of -arrow-.



Note

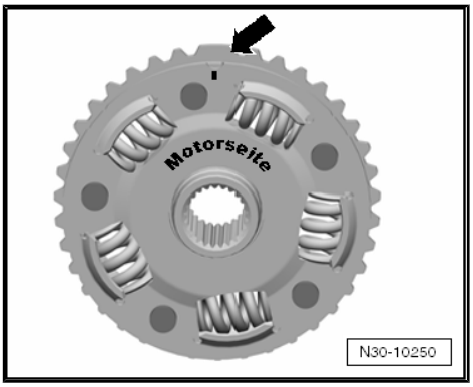
- *The clutch sits on the stop at the bottom of the input shaft. This is not its optimal position.*
- *The clutch should be pulled up just far enough until it touches the locking ring.*



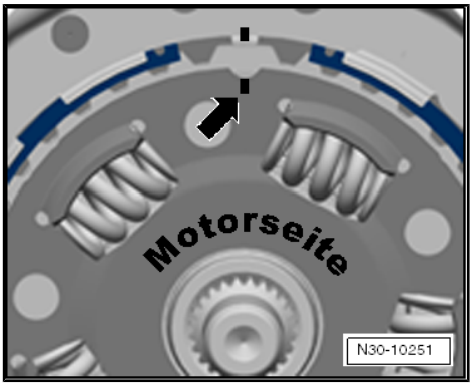
Note

Only turn it by hand. This way the clutch slides against the locking ring. Do not use any other tool.

– Install the hub.

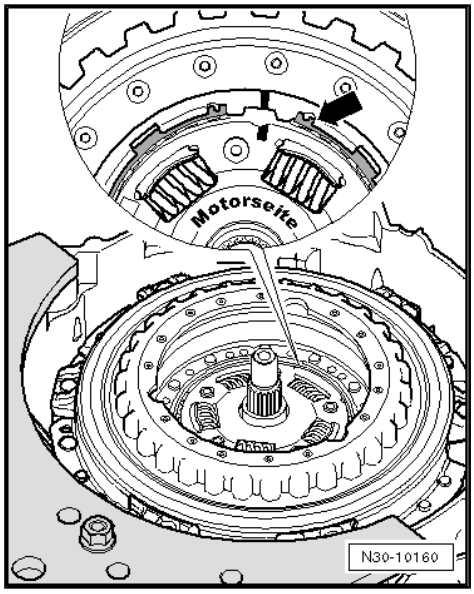


- The hub as a single »large tooth« -arrow- and fits in only one position.
- The »large tooth« has a marking -arrow- on the engine side.

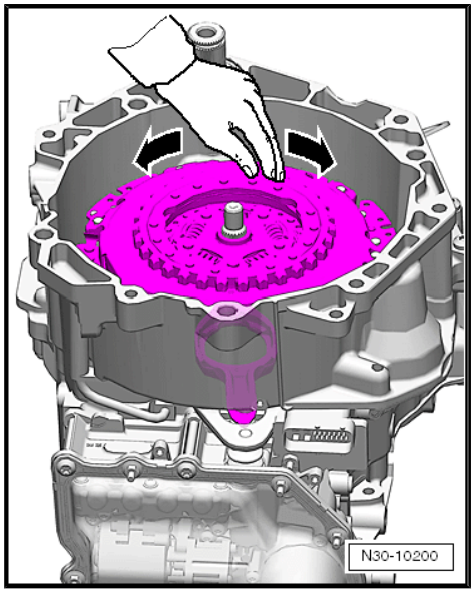


– Insert the locking ring -arrow-.

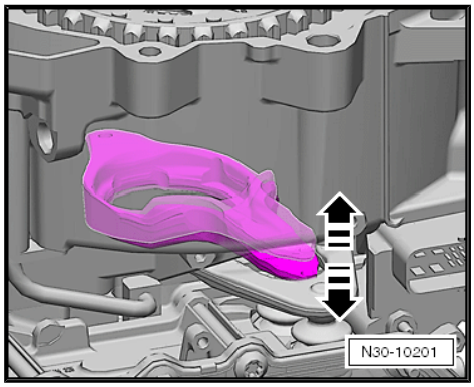
• The end of the locking ring must face the »nose« on the clutch.



– Turn the clutch by hand and pay attention to the small engaging lever when turning.

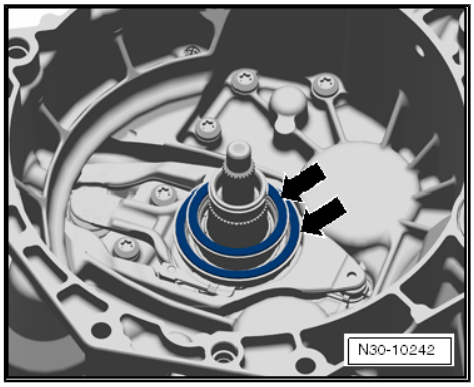


• The small engaging lever must not move at all when turning the clutch. It must not move back and forth.



Note

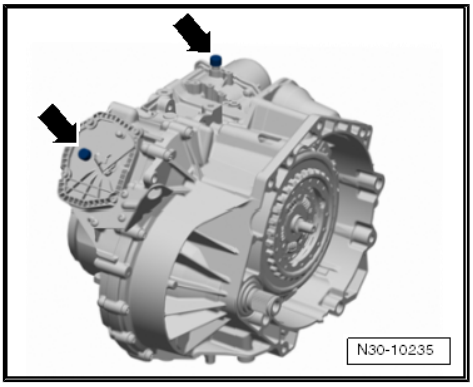
- *If an engaging lever is moving back and forth, then the shim is not in its correct position.*
- *In this case, remove the clutch again. Refer to* *⇒ "1.2 Dual Clutch, Removing, through Transmission Production Date 05/2011", page 17* .
- *Check the shims -arrows-.*
- *The shims must fit correctly and must not be damaged.*
- *It is possible there was a calculation error. Check the measurements one more time. Refer to* *⇒ "1.3 K 1 and K 2 Clutch Engaging Bearing Position, Adjusting, Transmission Production Date through 05/2011", page 20* .



– Remove the plugs and mount both breather caps -arrows- again.

Caution

On some transmissions, the breather cap on the Mechatronic is destroyed during removal and must be replaced.



– After installing the transmission, perform the `Complete basic setting` using `Guided Functions` in the Vehicle Diagnostic Tester .

2 Dual Clutch, Removing and Installing, from Transmission Production Date 06/2011

Dual Clutch, Removing and Installing, through Transmission Production Date 05/2011. Refer to
⇒ “1 Dual Clutch, Removing and Installing, through Transmission Production Date 05/2011”, page 15 .

Caution

Danger of causing damage to the clutch adjusting tool.

- *The clutch is self-adjusting. Vibrations can affect the adjusting tool. Be careful not to drop the clutch into the transmission when installing.*
- *Do not install a clutch that has fallen onto a hard surface or shows signs of damage.*

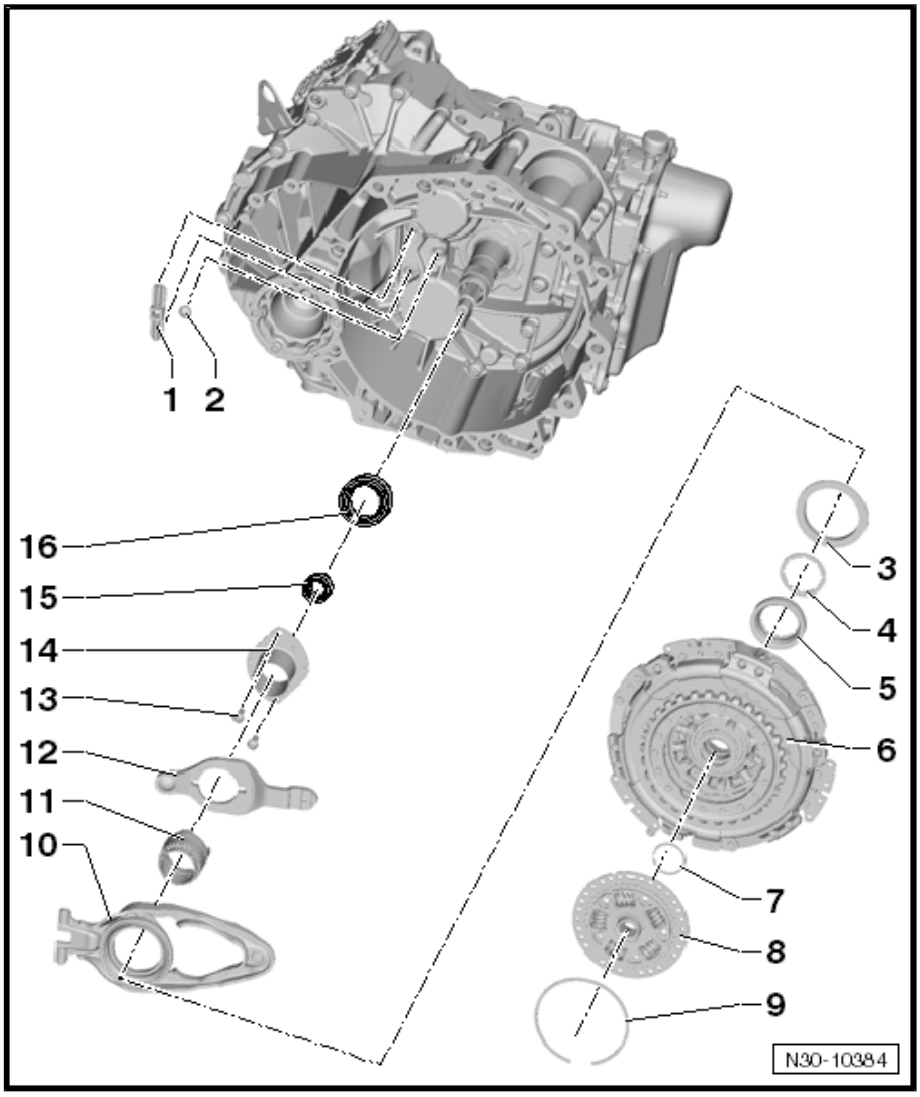
⇒ “2.1 Overview - Dual Clutch, Transmission Production Date from 06/2011”, page 40

⇒ “2.2 Dual Clutch, Removing, Transmission Production Date from 06/2011”, page 42

⇒ “2.3 K 1 and K 2 Clutch Engaging Bearing Position, Adjusting, Transmission Production Date from 06/2011”, page 45

⇒ “2.4 Dual Clutch, Installing, Transmission Production Date from 06/2011”, page 58

2.1 Overview - Dual Clutch, Transmission Production Date from 06/2011



1 - Engaging Lever Support

- ❑ For the large engaging lever “K 1”
- ❑ Is not replaced

2 - Ball Stud

- ❑ For the small engaging lever “K 2”
- ❑ Always replace when replacing the dual clutch

3 - Shim “SK 1”

- ❑ Selecting thickness. Refer to ⇒ “2.3 K 1 and K 2 Clutch Engaging Bearing Position, Adjusting, Transmission Production Date from 06/2011”, page 45 .

4 - Shim “SK 2”

- ❑ Selecting thickness. Refer to ⇒ “2.3 K 1 and K 2 Clutch Engaging Bearing Position, Adjusting, Transmission Production Date from 06/2011”, page 45 .

5 - Small Engaging Bearing for “K 2”

- ❑ Always replace when replacing the dual clutch

6 - Dual Clutch

- ❑ Removing. Refer to ⇒ “2.2 Dual Clutch, Removing, Transmission Production Date from 06/2011”, page 42 .
- ❑ Installing. Refer to ⇒ “2.4 Dual Clutch, Installing, Transmission Production Date from 06/2011”, page 58 .

7 - Circlip

- ❑ Always replace after removing

8 - Hub

9 - Circlip

- ❑ Always replace after removing

10 - Large Engaging Lever for “K 1”

- ❑ With engaging bearing
- ❑ Always replace when replacing the dual clutch

11 - Guide Sleeve Upper Section

- ❑ For the small engaging lever “K 2”
- ❑ Removed and installed together with the guide sleeve lower section

12 - Small Engaging Lever for “K 2”

- ❑ Is removed and installed together with the guide sleeve upper section and lower section
- ❑ Refer to ⇒ “2.3 K 1 and K 2 Clutch Engaging Bearing Position, Adjusting, Transmission Production Date from 06/2011”, page 45

13 - Bolts

- ❑ 8 Nm +90°
- ❑ Always replace after removing

14 - Guide Sleeve Lower Section

- ❑ For the small engaging lever “K 2”
- ❑ Removed and installed together with the guide sleeve upper section

15 - Seal

- ❑ For the inner input shaft
- ❑ Replacing. Refer to ⇒ “3 Clutch-Side Seals, Removing and Installing”, page 63 .

16 - Seal

- ❑ For the outer input shaft
- ❑ Replacing. Refer to ⇒ “3 Clutch-Side Seals, Removing and Installing”, page 63 .

2.2 Dual Clutch, Removing, Transmission Production Date from 06/2011

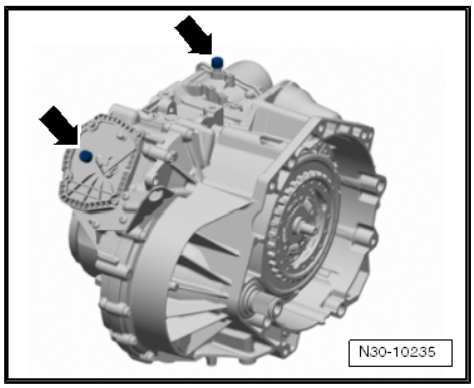
Special tools and workshop equipment required

- ♦ T-Handle Hook - 3438-
- ♦ Engine Bung Set - VAS6122-
- ♦ Support Bridge - T10323-
- ♦ -T10356/5- from the Subframe Bushing Assembly Tool Kit - T10356-
- ♦ Puller - Clutch - T10373-
- ♦ Clutch Press Piece - T10376-

Requirement

- The transmission is removed and mounted to the engine/ transmission holder. Refer to ⇒ “6 Transmission, Transporting and Securing To Assembly Stand”, page 191 .
- The DSG Transmission Mechatronic - J743- is installed in the transmission.

– Remove both breather caps -arrows- and seal with clean oil-tight plugs from the Engine Bung Set - VAS6122- for example.



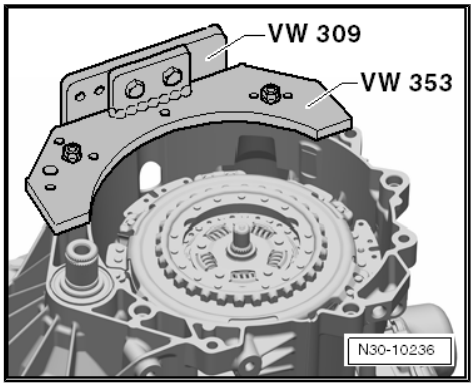
Caution

The vent cap on the Mechatronic will be destroyed during removal and must be replaced.

Checking the hydraulic fluid level for the Mechatronic is not possible. The Mechatronic vent must be sealed oil-tight before performing any assembly work.

Fluid that has leaked out of the Mechatronic hydraulic area may not be refilled or checked. Replace the Mechatronic if fluid is leaking.

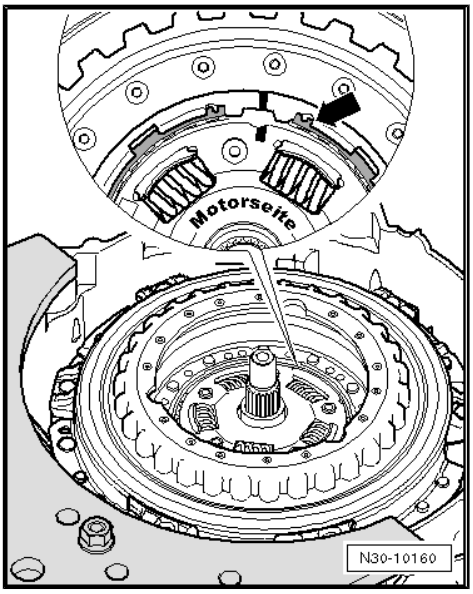
– Turn the transmission on the engine/transmission holder with the clutch facing up.



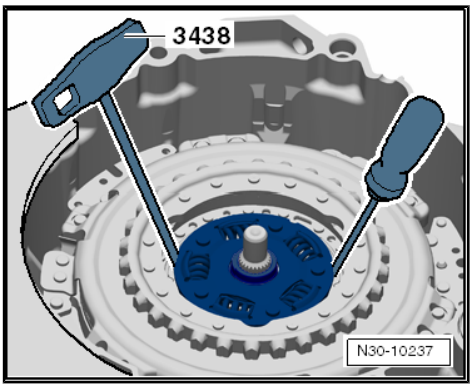
Note

The clutch is removed upward. The Mechatronic stays on the transmission.

– Remove the circlip on the hub -arrow-.



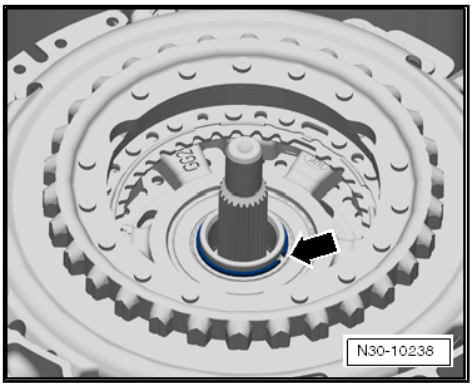
– Remove the hub using T-Handle Hook - 3438- and a screwdriver.



Note

The position of the “K 1” and “K 2” engaging bearings must be adjusted later when clutch components are replaced. It is advisable to determine dimension “B” for the measurements. Refer to ⇒ “2.3 K 1 and K 2 Clutch Engaging Bearing Position, Adjusting, Transmission Production Date from 06/2011”, page 45 .

– Remove the circlip -arrow- for the clutch
.

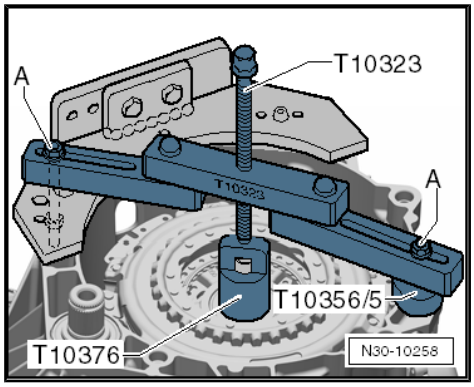


If It Is Not Possible to Remove the Locking Ring

Note

- *The clutch is »jamming« the circlip from underneath if the circlip cannot be removed.*
- *If this is the case, press the clutch downward as described in the following. The circlip will then be relieved. Never hit the clutch or the shaft with a hammer.*
- *Always replace the locking ring.*

– Position the Support Bridge - T1032- parallel to the transmission flange, as illustrated.
– If necessary, even out the gaps with Assembly Tool - 5 - T10356A/5- for example.
– Tighten the bolts -A- hand-tight.



Note

Secure the bolts -A- with a nut, if needed.

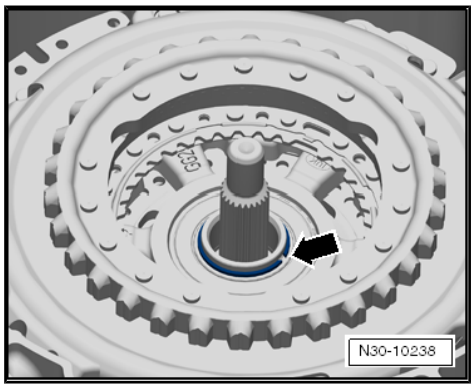
Caution

Danger of damaging the clutch and other components.

- *Push the clutch down gently without pressing.*

– Turn the spindle against the Clutch Press Piece - T10376- to lower it.

– Remove the locking ring -arrow- from the clutch.

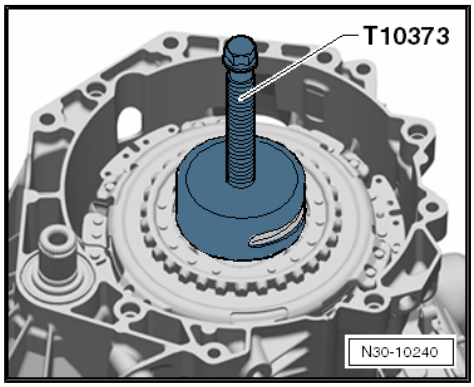


WARNING

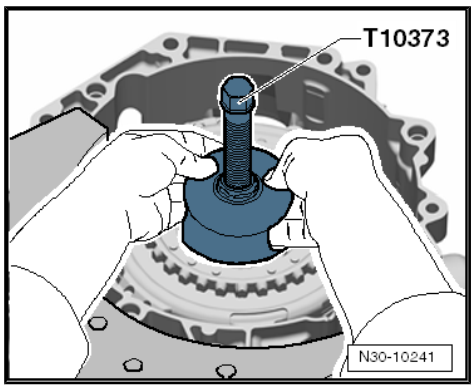
Do not re-use the locking ring.

Continuation for Removing the Locking Ring

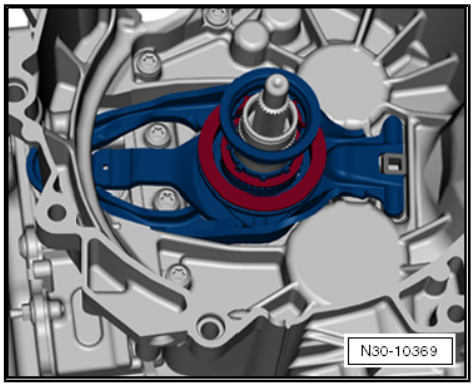
– Insert the Puller - Clutch - T10373- into the clutch and remove the clutch.



– Remove the clutch together with the Puller - Clutch - T10373- .



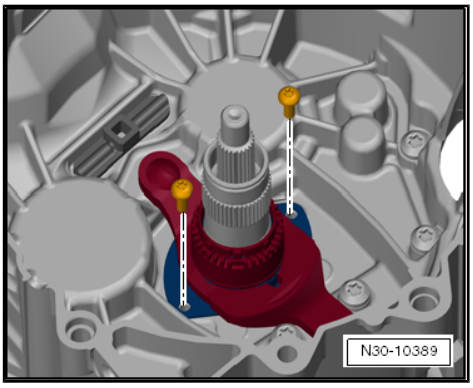
– Remove the »large« engaging lever with the »small« engaging bearing.



Note

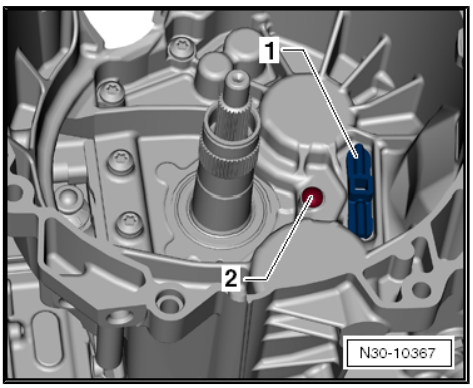
The guide sleeve upper section cannot be removed or installed separately. It is always removed and installed together with the guide sleeve lower section and the »small« engaging lever.

– Remove the bolts and the »small« engaging lever with the guide sleeve upper and lower sections.



The ball stud -2- remains installed if no components are replaced.

The engaging lever support -1- is not removed.



Note

If dimension “B” was already measured, then step “2” of the measurement can be made now. Refer to ⇒ page 50 .

2.3 “K 1” and “K 2” Clutch Engaging Bearing Position, Adjusting, Transmission Production Date from 06/2011

Caution

The following components must also be replaced if the dual clutch is replaced:

- ***Both engaging levers with engaging bearing.***
- ***Ball stud for the “K 2” engaging lever.***
- ***Engaging bearing shims.***

When replacing the dual clutch and its components, the “K 1 and K 2” engaging bearing position must always be readjusted.

Note

- *It is not necessary to perform an adjustment if all the components mentioned are only removed and reinstalled.*
- *The locking ring must be replaced in each case.*

Brief Description

- The position of the engaging bearing is comparable to clutch play on a manual transmission. There are tolerances in the 7-speed DSG® transmission 0AM engaging system and in the transmission itself. There are also tolerances within the dual clutch. These tolerances must be taken into account separately when performing the adjustments.
- The following procedure describes how all necessary measurements are determined from the transmission side in order to select the correct shim. In addition to this, the tolerances in the clutch already determined by the manufacturer. The transmission side tolerances and the tolerances in the clutch determine the thickness of the shim.
- Follow the work sequence.

Overview - Clutch Mechanism

1 - Shim for “K 1”

- ❑ Refer to ⇒ “2.3 K 1 and K 2 Clutch Engaging Bearing Position, Adjusting, Transmission Production Date from 06/2011”, page 45

2 - Large Engaging Lever for “K 1”

- ❑ With engaging bearing
- ❑ Always replace when replacing the dual clutch

3 - Engaging Lever Support

- ❑ For the large engaging lever “K 1”
- ❑ Is not replaced

4 - Small Engaging Bearing for “K 2”

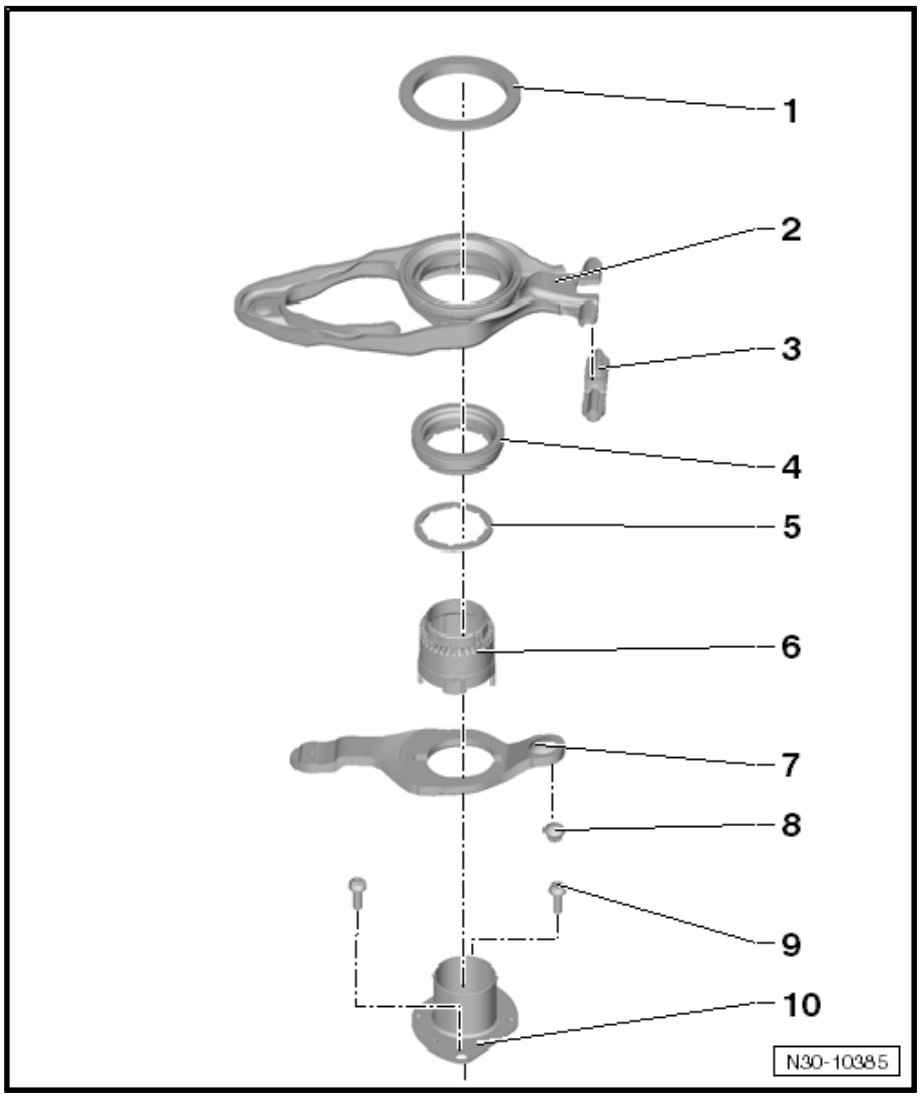
- ❑ Always replace when replacing the dual clutch

5 - Shim for “K 2”

- ❑ Refer to ⇒ “2.3 K 1 and K 2 Clutch Engaging Bearing Position, Adjusting, Transmission Production Date from 06/2011”, page 45

6 - Guide Sleeve Upper Section

- ❑ For the small engaging lever “K 2”



- ❑ Removed and installed together with the guide sleeve lower section

7 - Small Engaging Lever for "K 2"

- ❑ Is removed and installed together with the guide sleeve upper section and lower section
- ❑ Always replace when replacing the dual clutch

8 - Ball Stud

- ❑ For the small engaging lever "K 2"
- ❑ Always replace when replacing the dual clutch

9 - Bolts

- ❑ 8 Nm +90°
- ❑ Always replace after removing

10 - Guide Sleeve Lower Section

- ❑ For the small engaging lever "K 2"
- ❑ Removed and installed together with the guide sleeve upper section

Special tools and workshop equipment required

- ♦ Digital Depth Gauge - 300mm - VAS6594-
- ♦ Gauge - Clutch Bearings - T10466-
- ♦ Ruler (2 pc.) - T40100-

Requirement

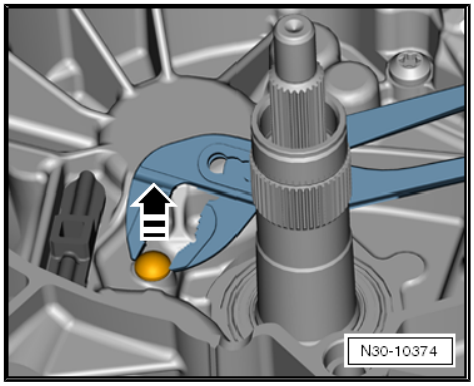
- The transmission flange must be even so that it has a good surface for the ruler.
- DSG Transmission Mechatronic - J743- must be installed.

Caution

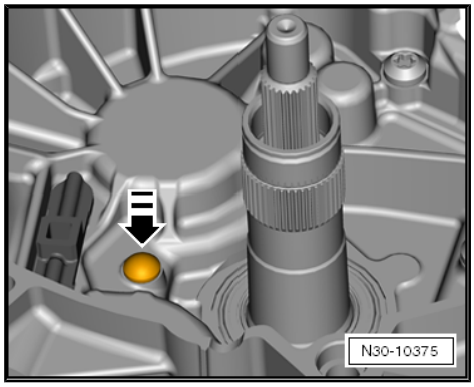
Danger of damaging the clutch and other components.

- *The mount for the engaging lever and the entire mechanical system for the engaging bearing must be dry and free from oil and grease.*

– Remove the ball stud installed using pliers.



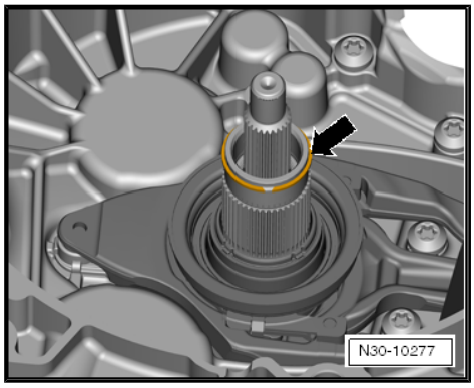
– Install the »new« ball stud by hand. Use a plastic hammer and drift gently, if necessary.



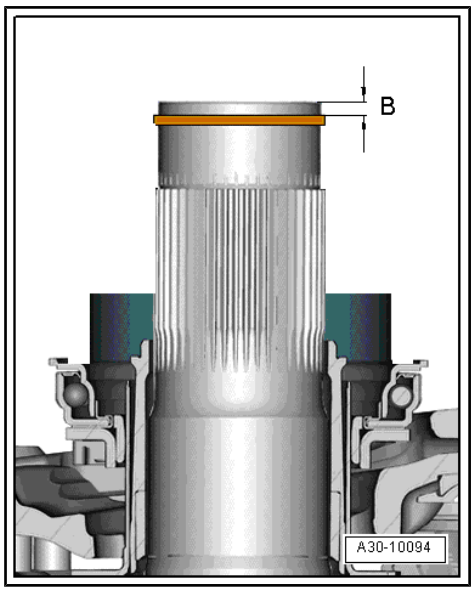
Note

Tap the drift gently with a hammer to avoid damaging the ball stud.

– Install the old circlip for the outer input shaft.



Step 1: Determine Dimension “B” for “K 1” and “K 2” Clutch.

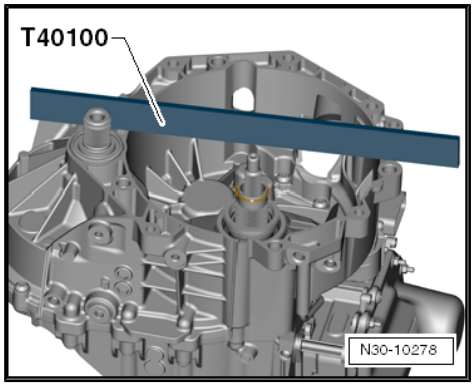


– Place Ruler (2 pc.) - T40100- across the end of the shaft on the transmission flange.

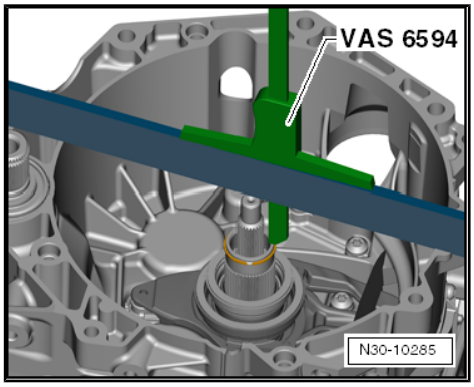
Caution

There is the risk of incorrect measurements.

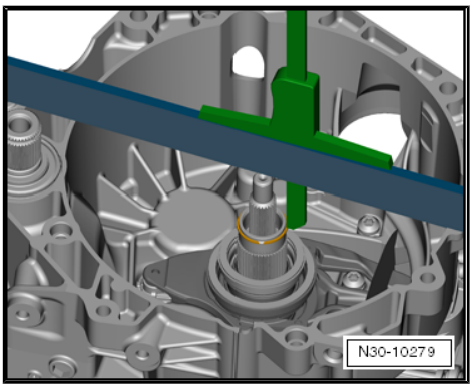
- *The Ruler (2 pc.) - T40100- should stay in this position for the following measurements. Do not move it or take if off.*



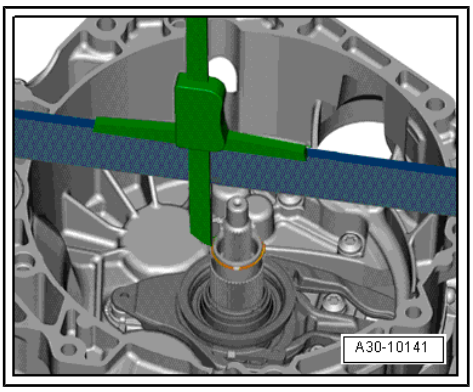
– Place the Digital Depth Gauge - 300mm - VAS6594- on top of the Ruler (2 pc.) - T40100- and position the depth slide on the outer input shaft.
– Set the depth gauge to “0”.



– Position the depth slide on the locking ring, as illustrated.
– Measure dimension “B_1 ” on the locking ring in this position.
• Example: measurement “B_1 ” = 2.62 mm



– Measure dimension “B_2 ” on the opposite side of the locking ring.



Note

Do not measure on the end of the locking ring. The circlip could get pushed away and this would falsify the measurement.

• Example: dimension “B_2 ” = 2.58 mm
– Calculate the mean value from “B_1 ” and “B_2 ”.

Formula: $B_1 + B_2$ 2

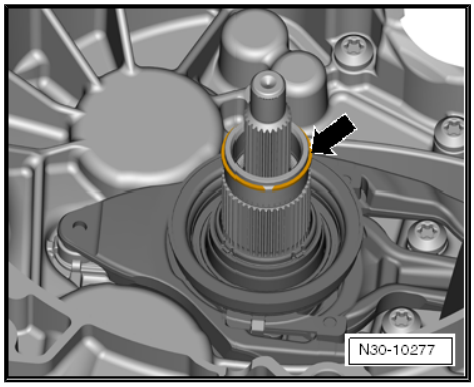
Example:

• Refer to 2.62 + 2.582 = 2.60 mm
• Result: dimension “B” = 2.60 mm

Note

If the dual clutch continues to be installed according to this measurement, then it must be removed now. Refer to ⇒ page 43 .

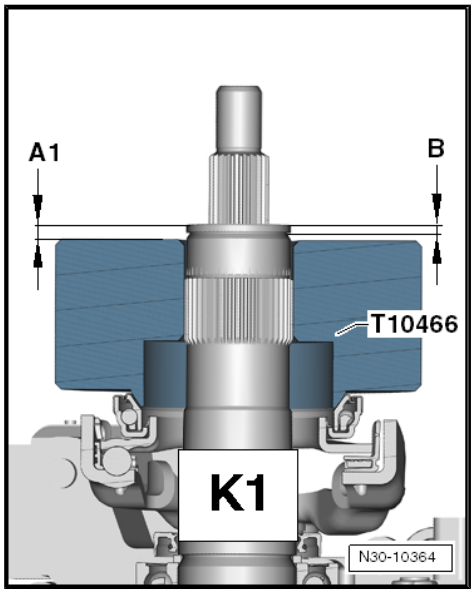
– Remove the circlip from the outer input shaft and dispose of it.



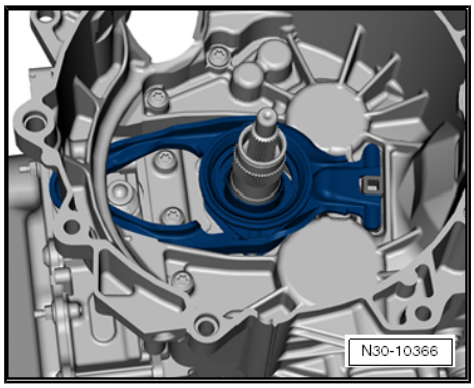
WARNING

Do not re-use the locking ring.

Step 2: Determine Dimension “A 1” for the “K 1” Clutch Engaging Bearing.



– Install the large engaging lever.



WARNING

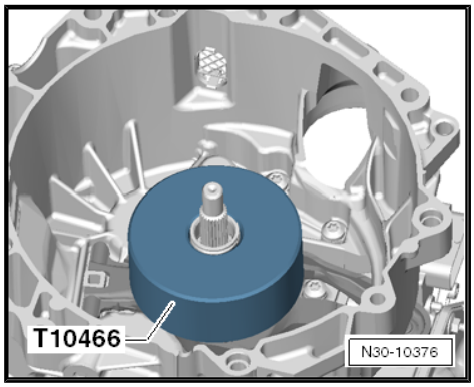
Do not install the shim.

– Make sure the engaging lever fits correctly.

– Place the Gauge - Clutch Bearings - T10466- on the large engaging bearing. The flat side faces up

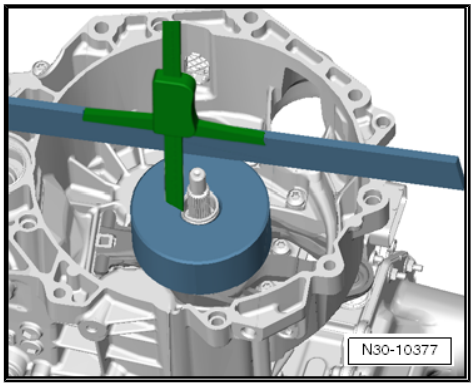
– Press and turn the Gauge - Clutch Bearings - T10466- to make sure it seats correctly on the engaging bearing.

• The engaging bearing turns with the Gauge - Clutch Bearings - T10466- .



– Place the Digital Depth Gauge - 300mm - VAS6594- on top of the ruler and position the depth slide on the outer input shaft.

• The Ruler (2 pc.) - T40100- lies straight across the transmission flange over the end of the shaft.



Caution

There is the risk of incorrect measurements.

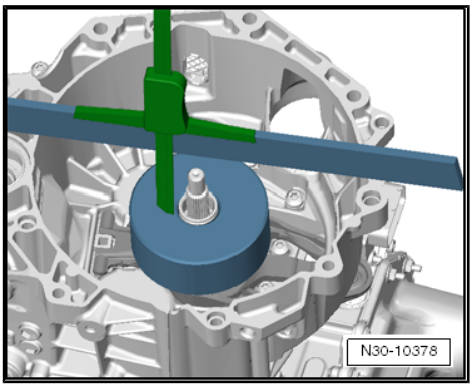
- *The Ruler (2 pc.) - T40100- should stay in this position for the following measurements. Do not move it or take if off.*

– Set the depth gauge to “0”.

– Position the depth slide on the Gauge - Clutch Bearings - T10466- , as illustrated.

– Measure dimension “A 1_a ” on the Gauge - Clutch Bearings - T10466- .

• Example: dimension “A 1_a ” = 4.93 mm

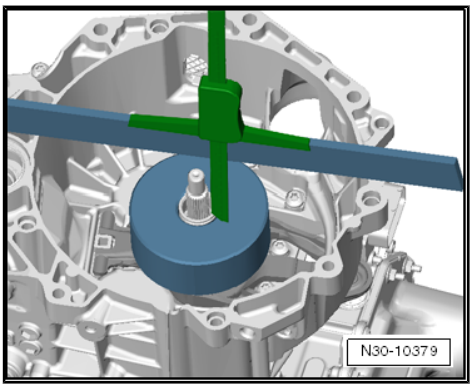


– Measure dimension “A 1_b ” on the other side of the Gauge - Clutch Bearings - T10466- .

• Example: dimension “A 1_b ” = 4.91 mm

– Calculate the average value from dimension “A 1_a ” and “A 1_b ”.

Formula: A 1_a + A 1_b 2



Example:

• 4.93 + 4.912 = 4.92 mm

• Result: dimension “A 1” = 4.92mm

Step 3: Determine the Height Tolerance for the “K 1” Clutch Engaging Bearing.

Note

Using dimension “A 1” and dimension “B”, calculate the height tolerance for clutch “K 1” engaging bearing as follows:

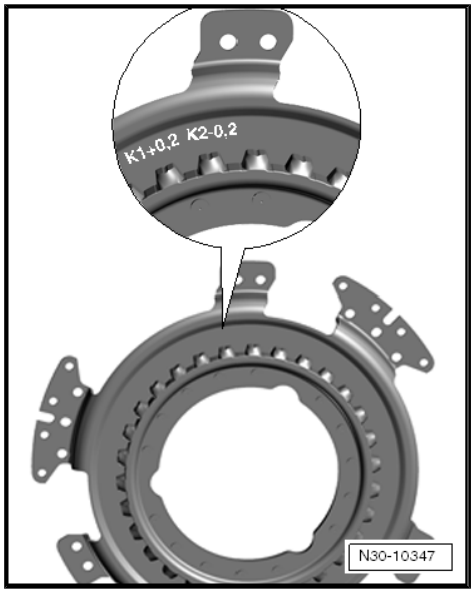
	Dimension “A 1”
–	Dimension “B”
=	Height tolerance for clutch “K 1” engaging bearing

Example:

• 4.92 mm – 2.60 mm = 2.32 mm

• Result: height tolerance for “K 1” clutch engaging bearing = 2.32 mm

Step 4: Determine the Clutch Tolerance for the "K 1" Clutch.



– Read the clutch tolerance value on the new clutch.

- Example: clutch tolerance read on the clutch "K 1 = +0.2", as illustrated.
- Result: clutch "K 1" clutch tolerance = + 0.20 mm.

Step 5: Determine the "SK 1" Shim Thickness.

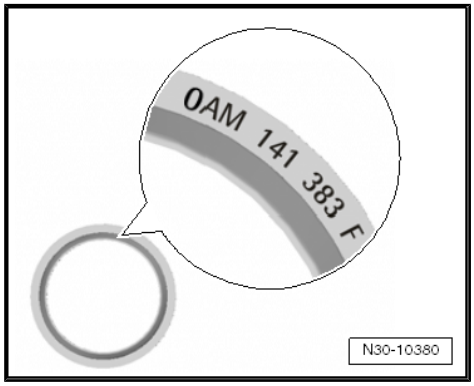
Note

Using the clutch tolerance of clutch "K 1", now the thickness of shim "SK 1" can be calculated as follows:

	Height tolerance for the engaging bearing "K 1"
–/+	Clutch tolerance for clutch "K 1"
=	Calculated thickness for shim "SK 1"

Example:

- 2.32 mm + 0.20 mm = 2.52 mm
- Result: calculated "SK 1" shim thickness= 2.52 mm



– Select the shim from the table using the part number -magnifying glass- on the shim and lay it nearby for installation.

Calculated Shim Thickness mm	Available Shim Thicknesses in mm	Shim Part Number
1.21 to 1.60	1.50	0AM 141 383
1.61 to 1.80	1.70	0AM 141 383 A
1.81 to 2.00	1.90	0AM 141 383 B
2.01 to 2.20	2.10	0AM 141 383 C
2.21 to 2.40	2.30	0AM 141 383 D
2.41 to 2.60	2.50	0AM 141 383 E
2.61 to 2.80	2.70	0AM 141 383 F
2.81 to 3.00	2.90	0AM 141 383 G
3.01 to 3.20	3.10	0AM 141 383 H
3.21 to 3.40	3.30	0AM 141 383 J
3.41 to 3.80	3.50	0AM 141 383 K

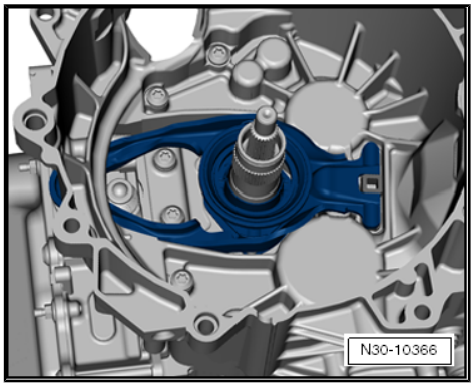
Example:

- Result: calculated "SK 1" shim thickness= 2.52 mm
- Selected shim thickness = 2.50 mm = part number 0AM 141 383 E

Caution

Only install these shims later to avoid damaging the clutch.

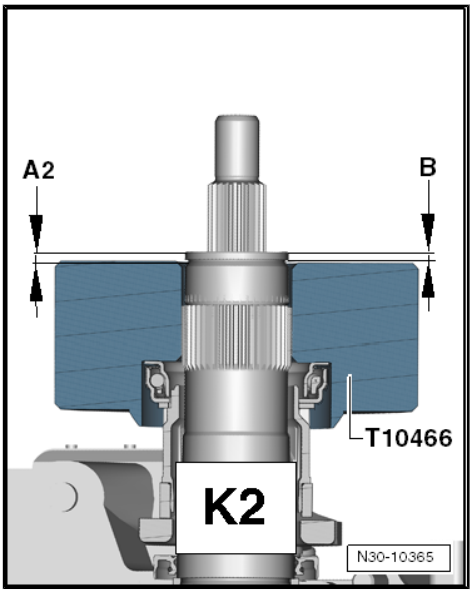
– Remove the Gauge - Clutch Bearings - T10466- and large engaging lever.



Step 6: Determine Dimension “A 2” for “K 2” Clutch Engaging Bearing

Note

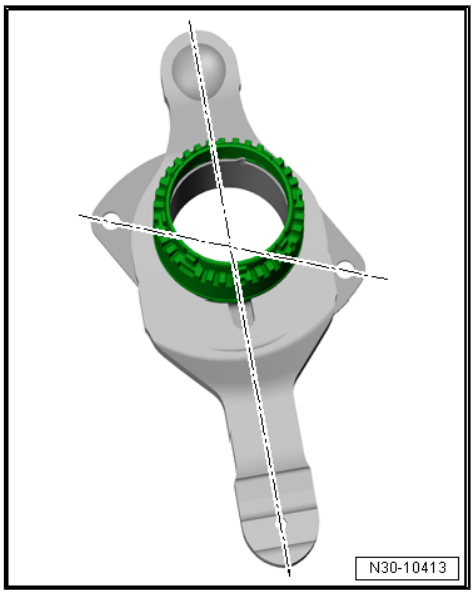
The guide sleeve upper section cannot be removed or installed separately. It is always removed and installed together with the guide sleeve lower section and the »small« engaging lever.



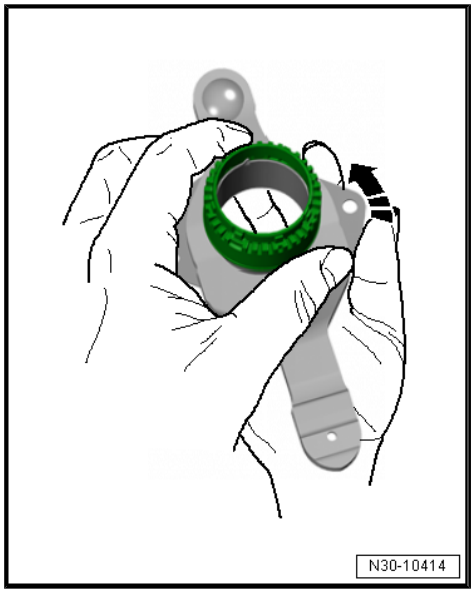
Note the Following when Installing A New »K2« Engaging Lever:

A new »K 2« engaging lever with guide sleeve upper and lower sections are in their shipment positions when they are delivered -image-, and they must first be moved into their installation position before installing.

Move the »K 2« engaging lever into its installation position:



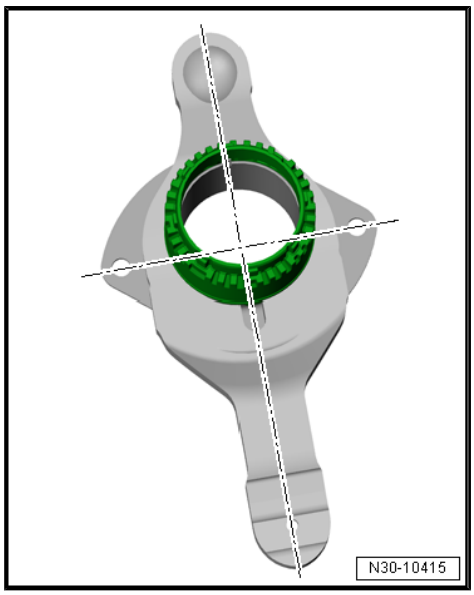
– Hold the guide sleeve upper section with one hand. Turn the guide sleeve lower section in direction of -arrow- with the other hand until the sleeve moves freely.



Note

Hold both parts securely because a lot of force is needed to turn the guide sleeve lower section.

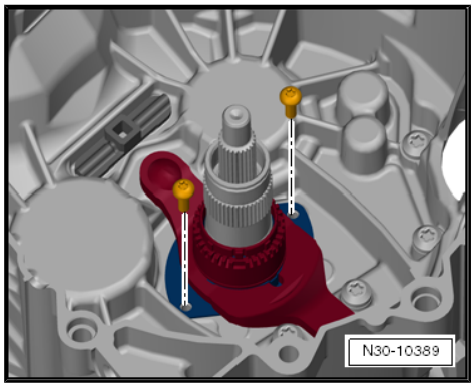
In the installed position, the holes in the guide sleeve lower section are at a right angle to the engaging lever and the sleeve can be moved freely.



Continuation for All

– Install the »small« engaging lever with the upper and lower sections of the guide sleeve. Insert new bolts and tighten them.

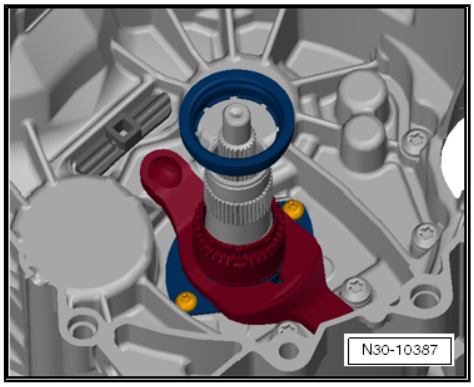
Tightening specification. Refer to ⇒ page 47 .



– Install the »small« engaging bearing without the shim.

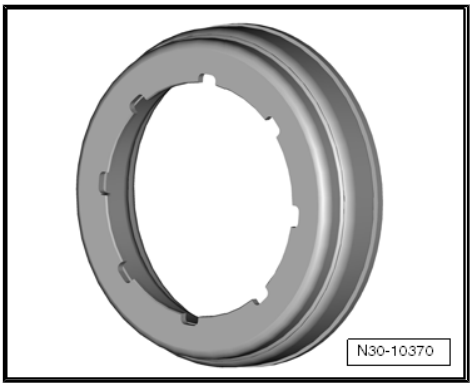
WARNING

Do not install the shim.



- The small engaging bearing fits in only one position due to the 8 grooves.

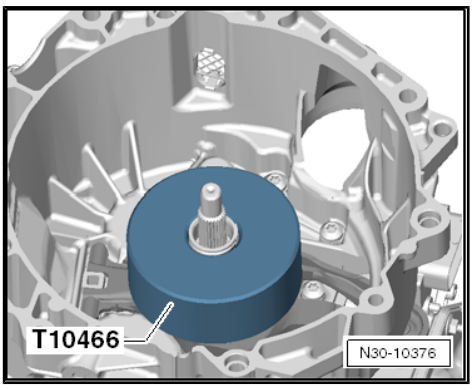
– Turn the small engaging bearing to make sure it is installed correctly and fits correctly in the grooves.



– Place the Gauge - Clutch Bearings - T10466- on the small engaging bearing. The flat side faces up

– Press and turn the Gauge - Clutch Bearings - T10466- to make sure it seats correctly on the engaging bearing.

- The engaging bearing turns with the Gauge - Clutch Bearings - T10466- .



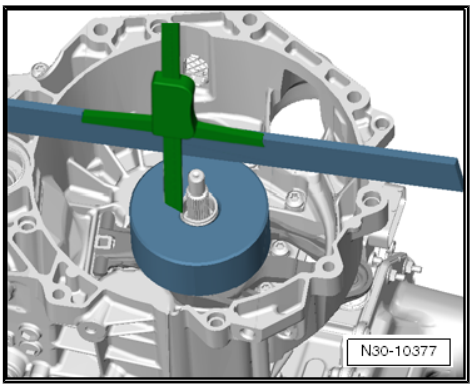
– Place the Digital Depth Gauge - 300mm - VAS6594- on top of the ruler and position the depth slide on the outer input shaft.

- The Ruler (2 pc.) - T40100- lies straight across the transmission flange over the end of the shaft.

Caution

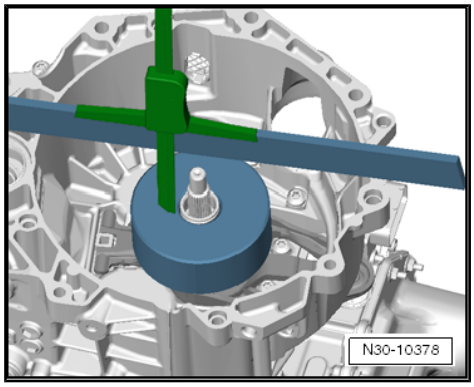
There is the risk of incorrect measurements.

- *The Ruler (2 pc.) - T40100- should stay in this position for the following measurements. Do not move it or take if off.*



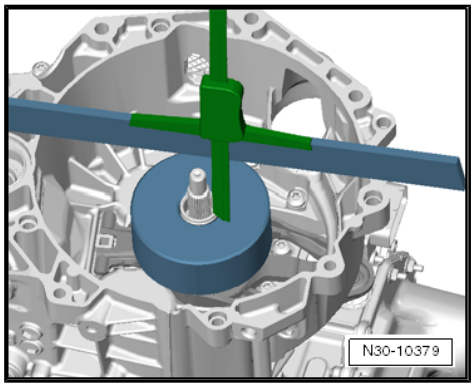
– Set the depth gauge to “0”.

– Position the depth slide on the Gauge - Clutch Bearings - T10466- , as illustrated.
– Measure dimension “A 2_a ” on the Gauge - Clutch Bearings - T10466- .
• Example: dimension “A 2_a ” = 4.79 mm



– Measure dimension “A 2_b ” on the other side of the Gauge - Clutch Bearings - T10466- .
• Example: dimension “A 2_b ” = 4.75 mm
– Calculate the average value from dimension “A 2_a ” and “A 2_b ”.

Formula: A 2_a + A 2_b 2



Example:

• 4.79 + 4.752 = 4.77 mm
• Result: dimension “A 2” = 4.77 mm

Step 7: Determine the Height Tolerance for the “K 2” Clutch Engaging Bearing.

Note

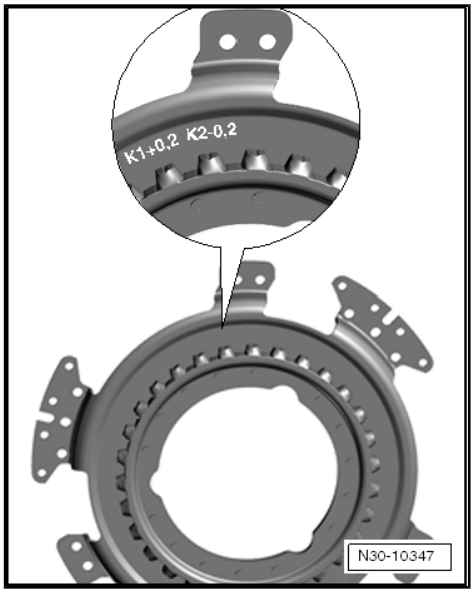
Using dimension “A 2” and dimension “B”, calculate the height tolerance for clutch “K 2” engaging bearing as follows:

	Dimension “A 2”
–	Dimension “B”
=	Height tolerance for clutch “K 2” engaging bearing

Example:

• 4.77 mm - 2.60 mm = 2.17 mm
• Result: height tolerance for clutch “K 2” engaging bearing = 2.17 mm

Step 8: Determine the Clutch Tolerance for the “K 2” Clutch.



– Read the clutch tolerance value on the new clutch.

• Example: clutch tolerance read on the clutch “K 2 = – 0.2”, as illustrated.

Step 9: Determine the “SK 2” Shim Thickness.

Note

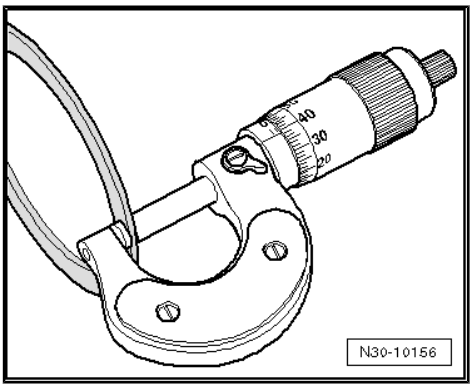
Using the clutch tolerance of clutch “K 2”, now the thickness of shim “SK 2” can be calculated as follows:

	Height tolerance for the engaging bearing “K 2”
–/+	Clutch tolerance for the clutch “K 2”
=	Calculated thickness for shim “SK 2”

Example:

• 2.17 mm – 0.20 mm = 1.97 mm

• Result: calculated shim thickness “SK 2” = 1.97 mm



– Measure the needed shim from the shims supplied and keep it close for installation.

Calculated Shim Thickness mm	Available Shim Thicknesses in mm
0.31 to 0.90	0.80
0.91 to 1.10	1.00
1.11 to 1.30	1.20
1.31 to 1.50	1.40
1.51 to 1.70	1.60
1.71 to 1.90	1.80
1.91 to 2.10	2.00
2.11 to 2.30	2.20
2.31 to 2.50	2.40
2.51 to 2.70	2.60
2.71 to 3.30	2.80

Example:

• Result: calculated shim thickness “SK 2” = 1.97 mm

• Selected shim thickness = 2.00 mm

WARNING

Only install these shims later to avoid damaging the clutch.

The adjustment is now complete and the »small« engaging lever is already installed. The next step is to reinstall the clutch.

– Install the clutch. Refer to
⇒ “2.4 Dual Clutch, Installing, Transmission Production Date from 06/2011”, page 58 .

2.4 Dual Clutch, Installing, Transmission Production Date from 06/2011

Special tools and workshop equipment required

- Support Bridge - T10323-
- -T10356/5- from the Subframe Bushing Assembly Tool Kit - T10356-
- Puller - Clutch - T10373-
- Clutch Press Piece - T10376-

Installing

Caution

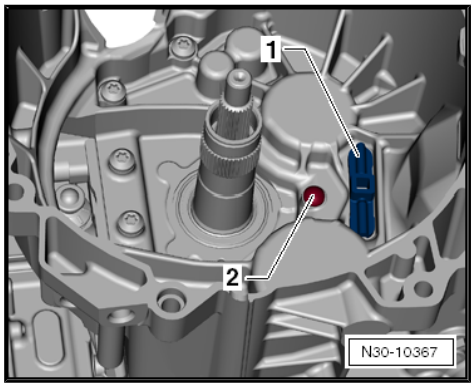
The following components must also be replaced if the dual clutch is replaced:

- *Both engaging levers with engaging bearing.*
- *Ball stud for the "K 2" engaging lever.*
- *Engaging bearing shims.*

The hinge mount cannot be removed.

When replacing the dual clutch and its components, the "K 1 and K 2" engaging bearing position must always be readjusted. Refer to *⇒ "2.3 K 1 and K 2 Clutch Engaging Bearing Position, Adjusting, Transmission Production Date from 06/2011", page 45* *.*

The engaging lever support -1- and ball stud -2- are installed.

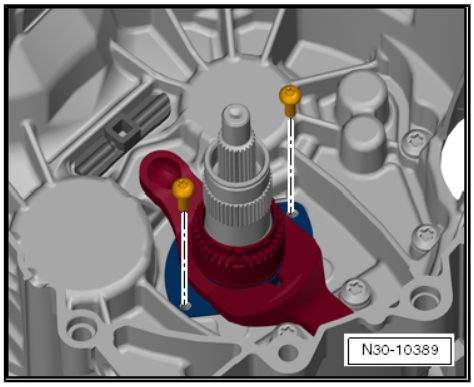


Note

- *Replace all bolts that were tightened with an additional turn.*
- *The guide sleeve upper section cannot be removed or installed separately. It is always removed and installed together with the guide sleeve lower section and the »small« engaging lever.*

The Following Procedure Is Only Then Necessary If All of the Components Mentioned are Removed and Reinstalled.

– Install the »small« engaging lever with the upper and lower sections of the guide sleeve. Install new bolts and tighten them.



Tightening specification. Refer to ⇒ page 47 .

Continuation for All

Caution

Danger of damaging the dual clutch and other components.

- ***The position of the engaging bearings must be adjusted correctly.***

Adjusting the engaging bearings can only be performed prior to installing the dual clutch.

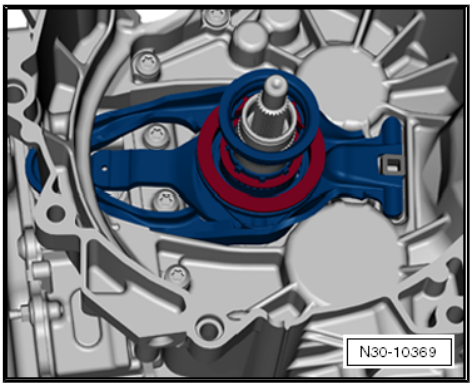
Continue with assembling only when the adjustment is correct.

The removed shims can be used again if no new parts were installed.

Only one shim per engaging bearing can be inserted for the adjustment.

- ***Clutch components must have no oil or grease on them when being installed.***

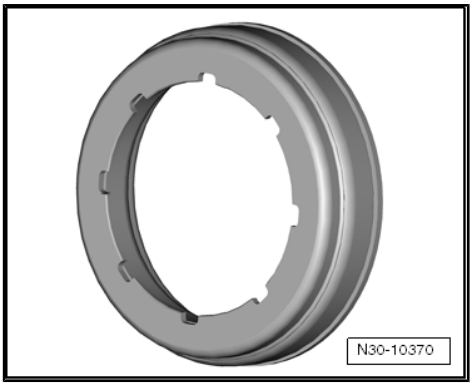
– Install the »large« engaging lever with the measured shims for “K 1” and “K 2” and with the small engaging bearing.



Note

- *The large shim in the large engaging bearing with the half-round side facing down.*
- *The small shim belongs under the small engaging bearing. Install the shim first.*

The shim and the small engaging bearing fit only in one position due to the 8 grooves.



– Turn and make sure the parts are installed correctly and fit correctly in the grooves.

– Make sure both engaging levers fit correctly.

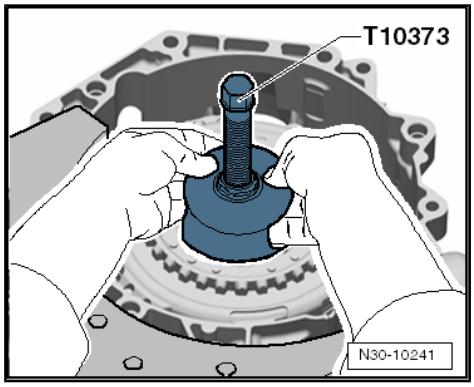
– Turn back the Puller - Clutch - T10373- spindle.

Caution

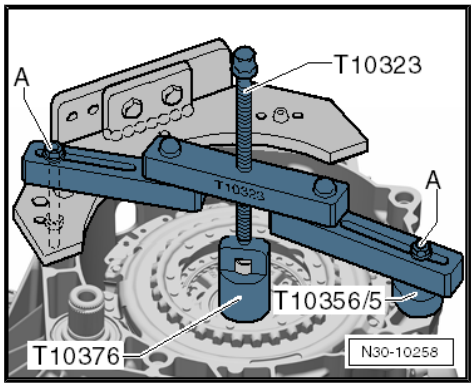
Danger of causing damage to the clutch adjusting tool.

- ***The clutch is self-adjusting. Vibrations can affect the adjusting tool. Be careful not to drop the clutch into the transmission when installing.***

– Install the clutch in the transmission using the Puller - Clutch - T10373- as shown.



– Position the Support Bridge - T1032- parallel to the transmission flange, as illustrated.
– If necessary, even out the gaps using, for example, -T10356/5- from the Assembly Tool - T10356A- .
– Tighten the bolts -A- hand-tight.



Note

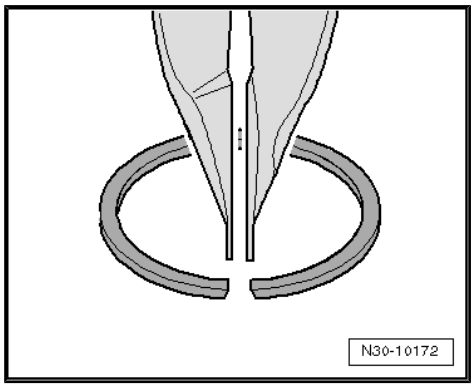
Secure the bolts -A- with a nut, if needed.

– Install the clutch all the way.

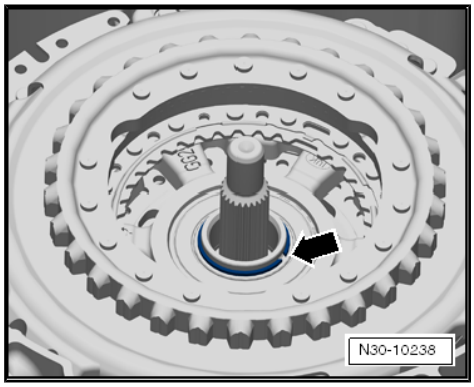
Note

Keep on hand on the clutch while pressing it on. A slight »vibrating« can be felt. Vibrating means the clutch is being pushed onto its press-fit. It can also be felt when the clutch has reached its stop.

– Hold the new locking ring with locking ring pliers, as illustrated.
• Installed position: narrow ends of the locking ring at the top.



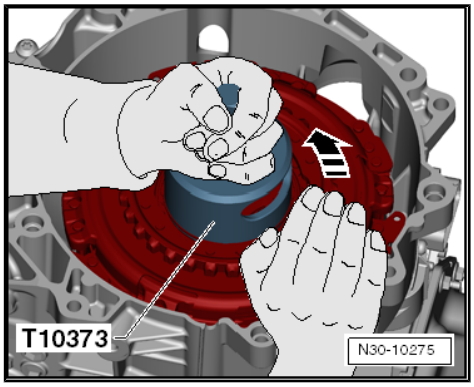
– Install the circlip -arrow-



Note

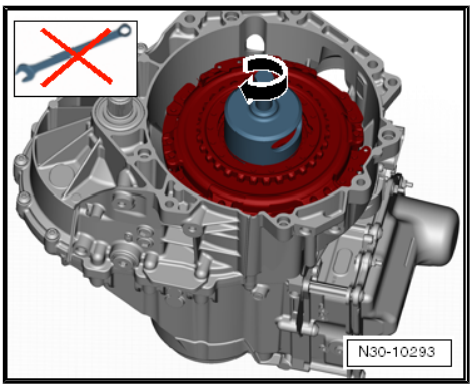
The clutch is not pressed correctly on the stop if the locking ring cannot be installed.

– Turn the clutch against the Puller - Clutch - T10373- by hand without using any other tools so that it can move into its operating position in direction of -arrow-.



Note

- *The clutch sits on the stop at the bottom of the input shaft. This is not its optimal position.*
- *The clutch should be pulled up just far enough until it touches the locking ring.*

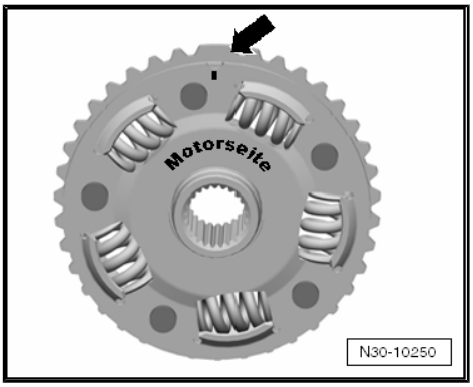


Note

Only turn it by hand. This way the clutch slides against the locking ring. Do not use any other tool.

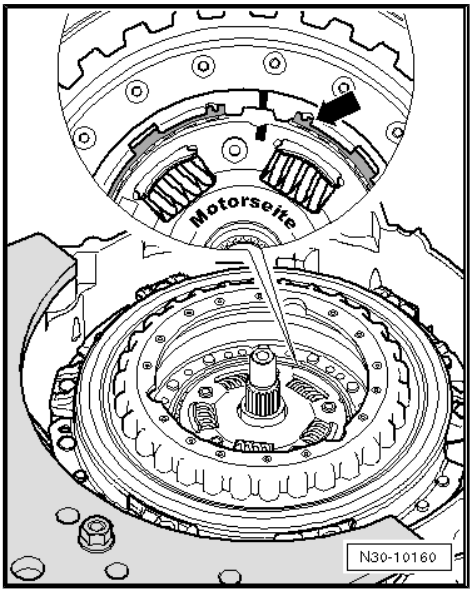
– Install the hub.

- The hub as a single »large tooth« -arrow- and fits in only one position.
- The »large tooth« has a marking on the engine side.

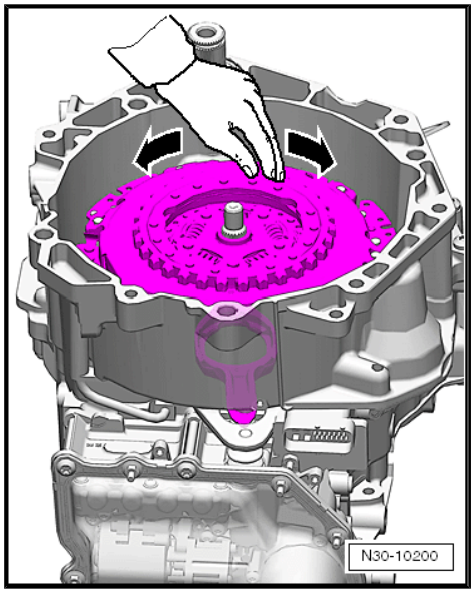


– Insert the locking ring -arrow-.

- The end of the locking ring must face the »nose« on the clutch.

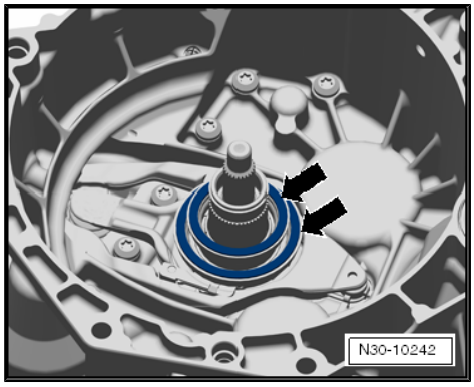


– Turn the clutch by hand. It should turn without any problem.



Note

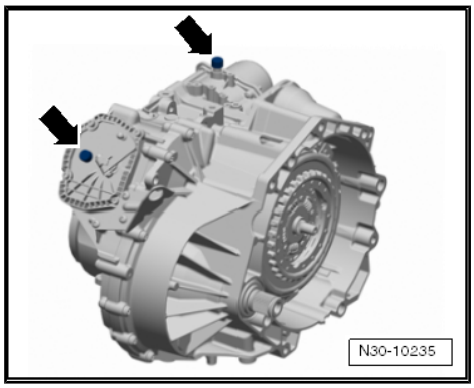
- *Remove the clutch if it is difficult to turn or if the it grinds against the clutch plates while being turned. Refer to ⇒ "2.2 Dual Clutch, Removing, Transmission Production Date from 06/2011", page 42 .*
- *Check the installed position of the shims -arrows-.*
- *The shims must fit correctly and must not be damaged. Refer to ⇒ "2.4 Dual Clutch, Installing, Transmission Production Date from 06/2011", page 58 .*
- *It is possible there was a calculation error. Check the measurements one more time. Refer to ⇒ "2.3 K 1 and K 2 Clutch Engaging Bearing Position, Adjusting, Transmission Production Date from 06/2011", page 45 .*
- *If there is no error, then it is possible the clutch shifted during transportation/assembly. In this case it is necessary to install a new clutch. Then it is necessary to adjust the position of the engaging bearing again. Refer to ⇒ "2.3 K 1 and K 2 Clutch Engaging Bearing Position, Adjusting, Transmission Production Date from 06/2011", page 45 .*



– Remove both plugs and mount the vent caps -arrows-.

WARNING

The vent cap on the Mechatronic will be destroyed during removal and must be replaced.

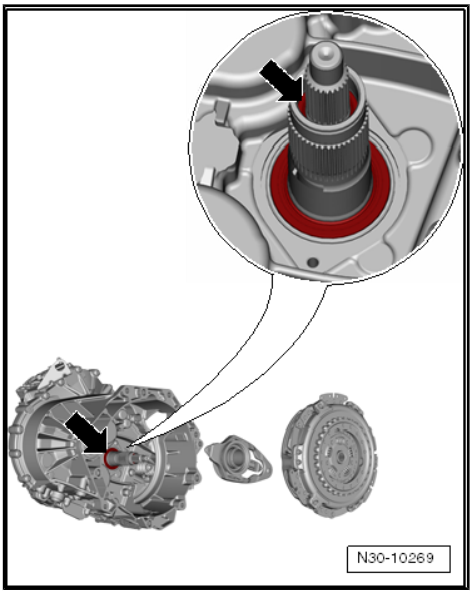


– After installing the transmission, perform the `Complete basic setting` using `Guided Functions` in the Vehicle Diagnostic Tester .

3 Clutch-Side Seals, Removing and Installing

Replacing the Input Shaft Seal

There are 2 seals in the transmission on the clutch side. It is possible to replace both seals -arrows- without disassembling the transmission. It is not necessary to adjust the clutch if only the seals are being replaced.



Special tools and workshop equipment required

- Press Piece - 60mm - VW415A-
- Puller - Shaft Seal - T10420-
- Seal Installer - Shaft Seal - T10421-
- Puller - Crankshaft/Power Steering Seal - T20143/2-

– Remove the transmission:

- Refer to
⇒ “4 Transmission, Removing and Installing, Jetta from MY 2005, Golf Wagon from MY 2007 and Golf Wagon from MY 2010”, page 127
- Refer to
⇒ “5 Transmission, Removing and Installing, Jetta from MY 2011”, page 166

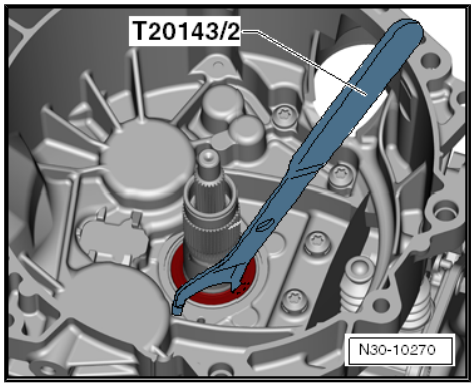
– Dual Clutch, Removing:

- through Transmission Production Date 05/2011. Refer to
⇒ “1 Dual Clutch, Removing and Installing, through Transmission Production Date 05/2011”, page 15
- from Transmission Production Date 06/2011. Refer to
⇒ “2 Dual Clutch, Removing and Installing, from Transmission Production Date 06/2011”, page 40 .

Caution

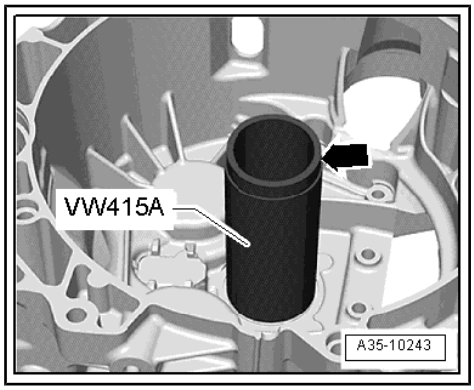
Always check the clutch if there are leaks. The dual clutch must be replaced if it is covered with fluid.

– Remove the outer seal.



– Drive in the outer, »new« seal flush to the clutch housing using a plastic mallet.

• The Press Piece - 60mm - VW415A- offset points upward -arrow-.



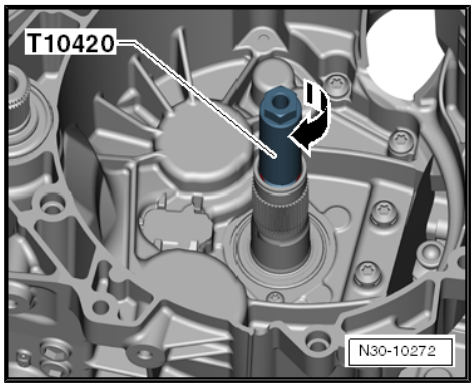
WARNING

Install the seal flush with the clutch housing so that the oil bore behind it is not sealed. Otherwise the outer input shaft ball bearing will not have enough oil.

– Remove the Puller - Shaft Seal - T10420- spindle.

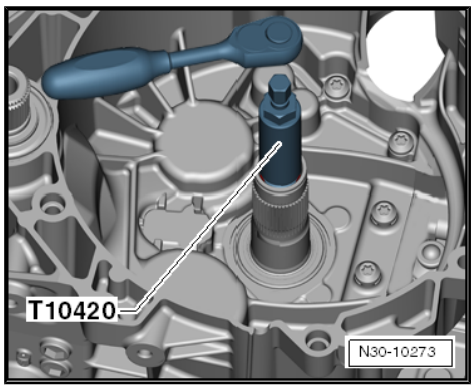
– Install the Puller - Shaft Seal - T10420- on the »small«, inner seal. Press on the Puller - Shaft Seal when doing so.

The Puller - Shaft Seal will jam the seal when it is being turned It can be »felt« when the seal begins to move in its place.



– Now install the spindle.

– Remove the seal using the spindle.



– Drive in the »new« seal all the way.

– Dual Clutch, Installing:

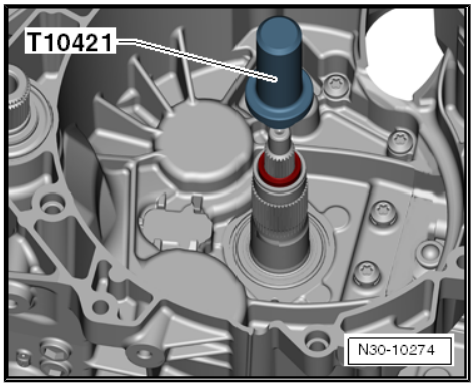
♦ Through Transmission Production Date 05/2011. Refer to
⇒ “1.4 Dual Clutch, Installing, Transmission Production Date through 05/2011”, page 33

♦ From Transmission Production Date 06/2011. Refer to
⇒ “2.4 Dual Clutch, Installing, Transmission Production Date from 06/2011”, page 58 .

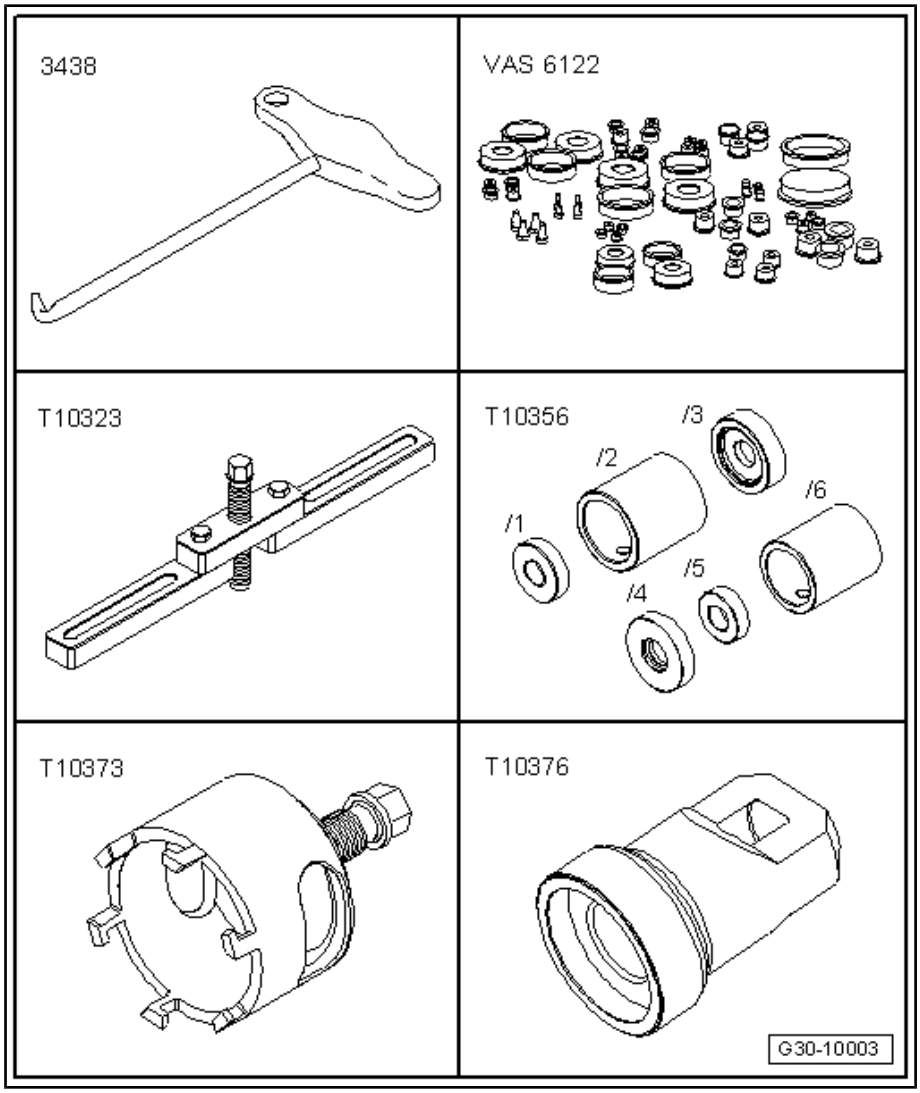
– Install the transmission:

♦ Refer to
⇒ “4 Transmission, Removing and Installing, Jetta from MY 2005, Golf Wagon from MY 2007 and Golf Wagon from MY 2010”, page 127

♦ Refer to
⇒ “5 Transmission, Removing and Installing, Jetta from MY 2011”, page 166

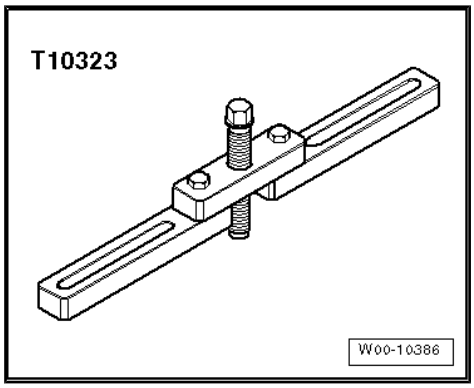


4 Special Tools

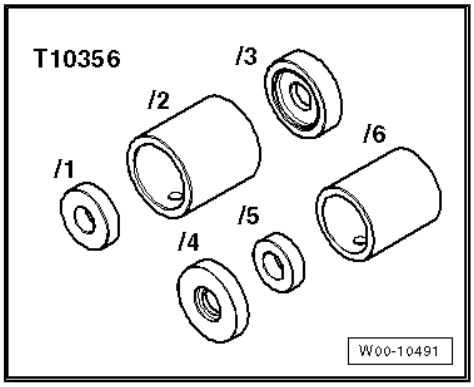


Special tools and workshop equipment required

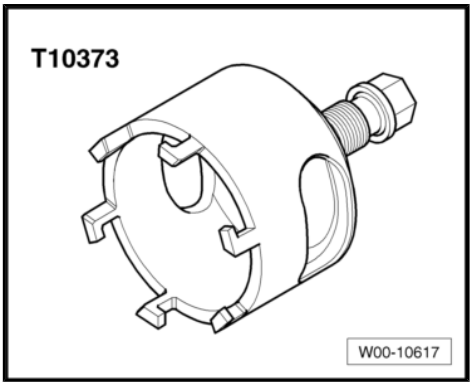
- Support Bridge - T10323-



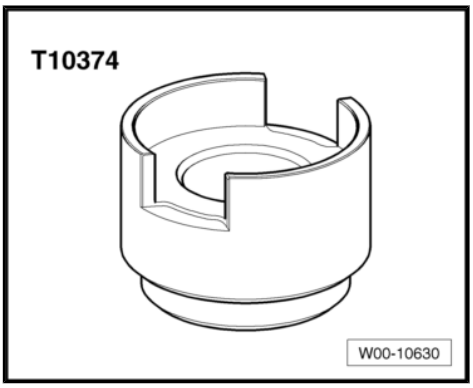
- -T10356/5- from the Subframe Bushing Assembly Tool Kit - T10356-



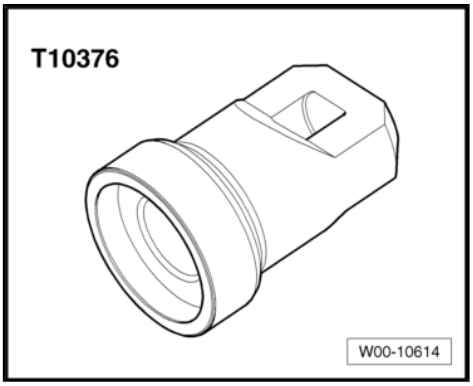
- Puller - Clutch - T10373-



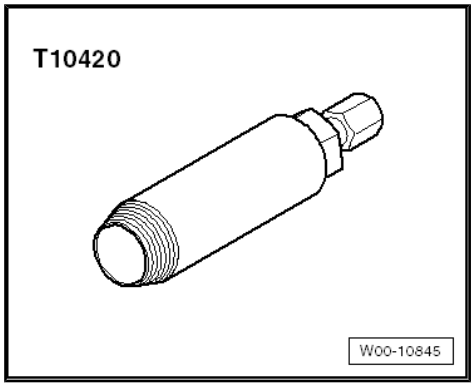
- Setting Tool - Release Bearing - T10374-



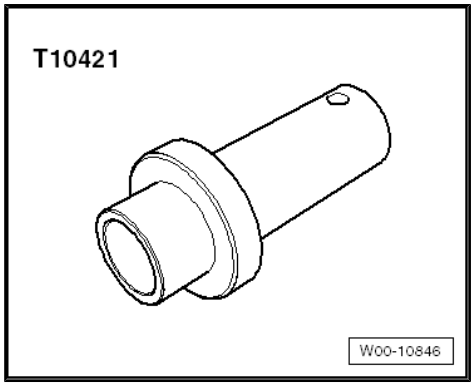
- Clutch Press Piece - T10376-



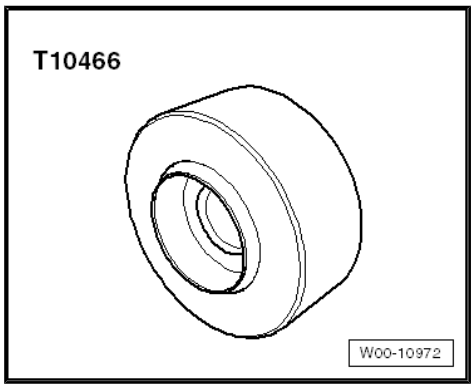
- Puller - Shaft Seal - T10420-



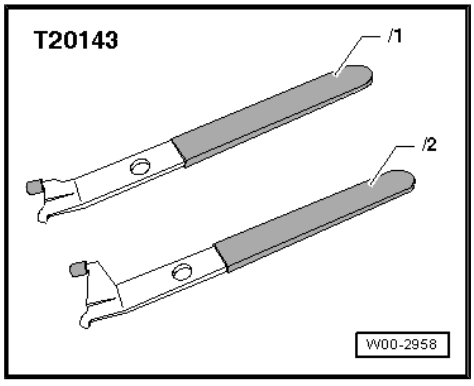
- Seal Installer - Shaft Seal - T10421-



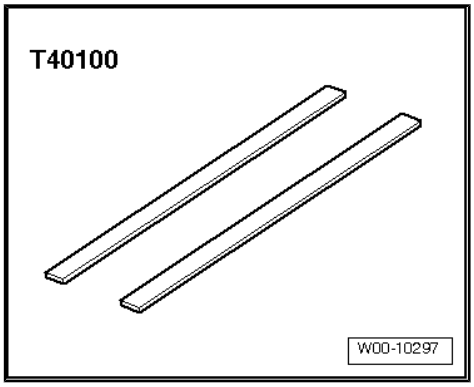
- Gauge - Clutch Bearings - T10466-



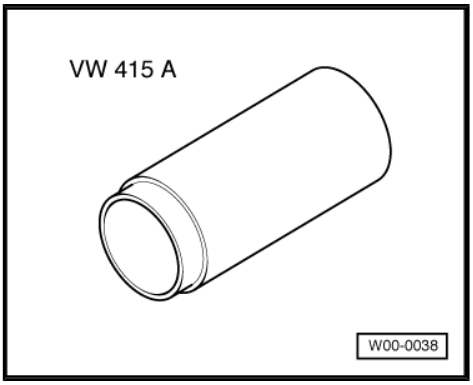
- Puller - Crankshaft/Power Steering Seal - T20143/2-



- Ruler (2 pc.) - T40100-



- Press Piece - 60mm - VW415A-



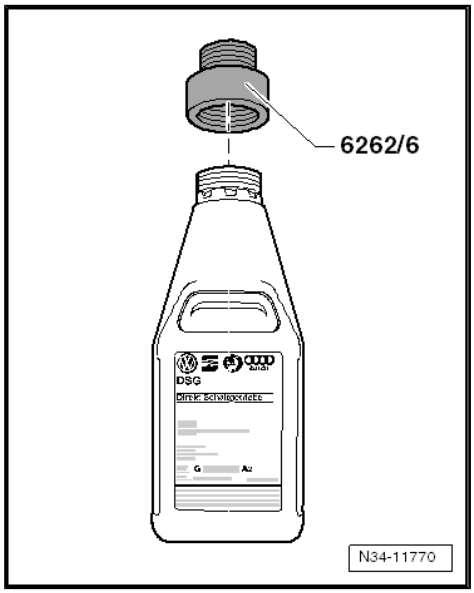
- Engine Bung Set - VAS6122-
- Digital Depth Gauge - 300mm - VAS6594-
- T-Handle Hook - 3438-
- Micrometer

34 – Controls, Housing

1 Transmission Fluid, Replacing

Special tools and workshop equipment required

- Used Oil Collection and Extraction Unit - SMN372500-
- Oil Filler - VAS6262A- with Adapter For Oil Filling - VAS6262/4-
- It is necessary to use the Oil Filler - Adapter 6 - VAS6262/6- on some oil containers.

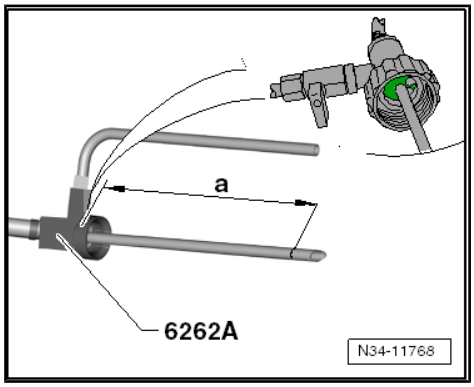


- It may be necessary to shorten the bleed pipe on the Adapter For Oil Filling - VAS6262A- . Refer to ⇒ page 70 .
- Container with the transmission fluid for the 7-speed DSG® transmission 0AM. Refer to the Parts Catalog for the part number.

Measuring the Length of the Bleed Pipe on the Adapter For Oil Filling - VAS6262A- and Shortening if Necessary.

The bleed pipe on the Adapter For Oil Filling - VAS6262A- must be shorted to dimension -a- so that it does not touch the bottom on some containers.

- Dimension -a- = 210 mm



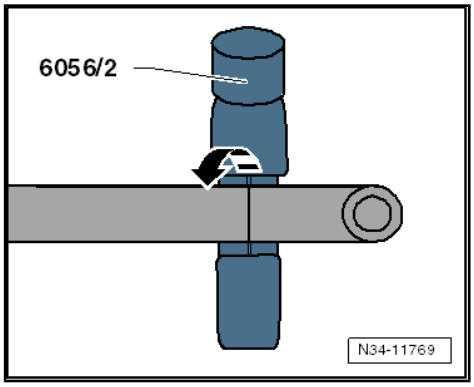
Note

Dimension -a- is measured starting from the shaft (the green surface in the magnified area) on the adapter for the Oil Filler - VAS6262A- .

If dimension -a- is greater than 210 mm:

– Make a mark on the bleed pipe, dimension -a-, and cut it, with for example the Brake Line Tool Kit - Pipe Cutter - VAS6056/2- .

– Clean the Oil Filler - VAS6262A- .



Procedure

Note

- *The transmission fluid is a permanent filling. For this reason, a fluid level check is not necessary on this transmission.*
- *A fluid level check does therefore not exist.*
- *If leaks occur at the transmission, the cause is to be determined and faults must be corrected.*
- *After that it is necessary to drain all the transmission fluid and fill it again.*

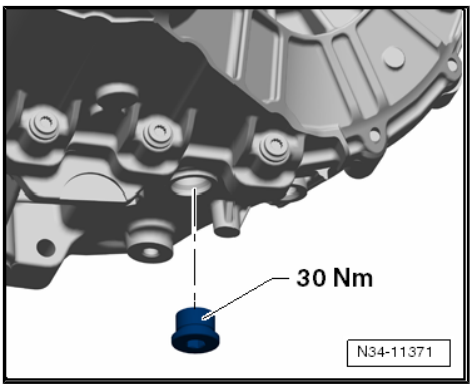
– Raise the vehicle.

– Remove the noise insulation. Refer to ⇒ Body Exterior; Rep. Gr. 50 ; Noise Insulation .

– Place the Used Oil Collection and Extraction Unit - SMN372500- or Drip Tray under the transmission.

– Remove the drain plug from the transmission.

– Drain the fluid and then install the drain plug and tighten it.



Note

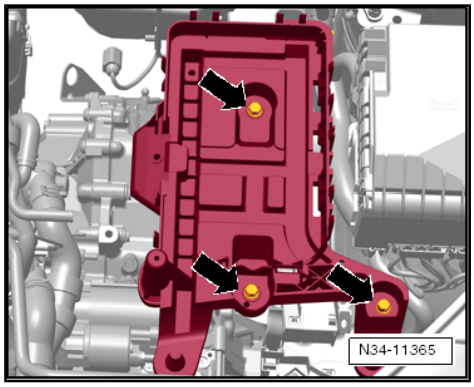
- *It is not possible to check the transmission fluid level.*
- *Fill the fluid exactly to the specified quantity.*
- *This assures the transmission is filled correctly.*
- *Underfilling or overfilling the transmission fluid will cause the transmission to malfunction.*

Caution

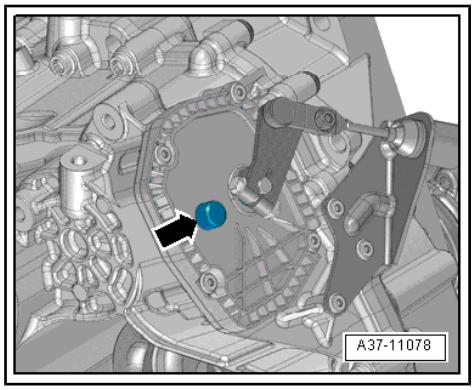
Risk of damaging the transmission.

- ***Use only the transmission fluid specifically for the 7-speed DSG® transmission 0AM. It is available as a replacement part. Refer to the Parts Catalog.***
- ***Using other fluids can cause malfunctions or transmission failure.***

– Remove the battery and the battery tray -arrows-. Refer to ⇒ Electrical Equipment; Rep. Gr. 27 ; Battery; Battery, Removing and Installing .



– Remove the bleed cap -arrow- next to the transmission gearshift lever.



Note

For clarity, the installation position is pictured with the transmission removed.

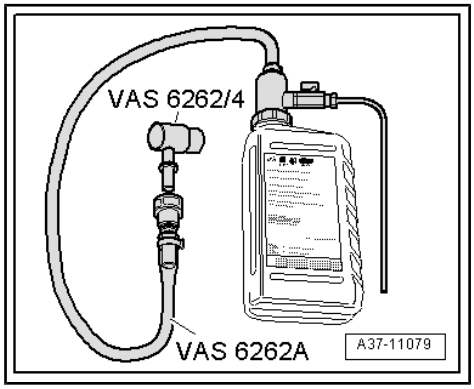
Caution

Risk of damaging the transmission.

- ***The Oil Filler - VAS6262A- with the Adapter For Oil Filling -VAS6262/4- must be clean and transmission fluid must not be mixed with another fluid!***

– Shake the container before opening.

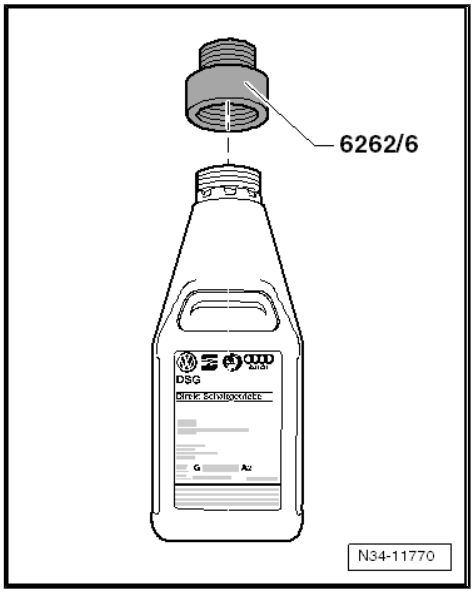
– Attach the transmission fluid container for the 7-speed DSG® transmission 0AM to the Adapter For Oil Filling - VAS6262A- . Refer to the Parts Catalog for the part number.



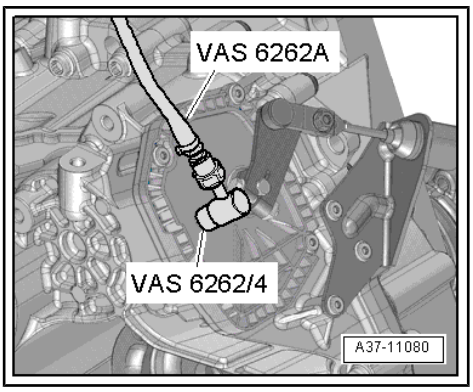
Note

Use the Oil Filler - Adapter 6 - VAS6262/6- if the container thread does not fit on the Adapter For Oil Filling - VAS6262A- .

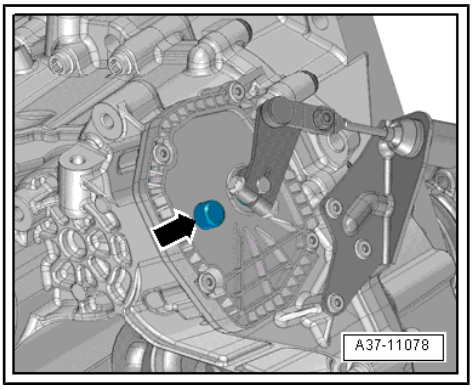
– Hold the container so that no fluid can run into the filling hose.



– Connect the Oil Filler - Adapter 4 - VAS6262/4- to the filling hose and mount it on the bleeder on the transmission.
– Screw in the container and fill 1.7 liters (1.79 quarts) of transmission fluid.



– Remove the Oil Filler - VAS6262A- after filling. Wipe the area around the bleed hole with a clean cloth and install the bleeder cap -arrow-.
– Install the battery tray and the battery -arrows-. Refer to ⇒ Electrical Equipment; Rep. Gr. 27 ; Battery; Battery, Removing and Installing .
– Install the noise insulation. Refer to ⇒ Body Exterior; Rep. Gr. 50 ; Noise Insulation .



2 Selector Mechanism

WARNING

Move the selector lever into "P" and set the parking brake before working with the engine running.

⇒ "2.1 Selector Mechanism Overview, through 02/2009", page 74

⇒ "2.2 Selector Lever Cable, Removing and Installing, through 02/2009", page 76

⇒ "2.3 Selector Mechanism Overview, from 03/2009", page 84

⇒ "2.4 Selector Mechanism, Removing and Installing, Vehicles from 03/2009", page 85

⇒ "2.5 Selector Lever Cable, Checking", page 93

⇒ "2.6 Selector Lever Cable, Adjusting", page 94

⇒ "2.7 Selector Lever, Emergency Release", page 96

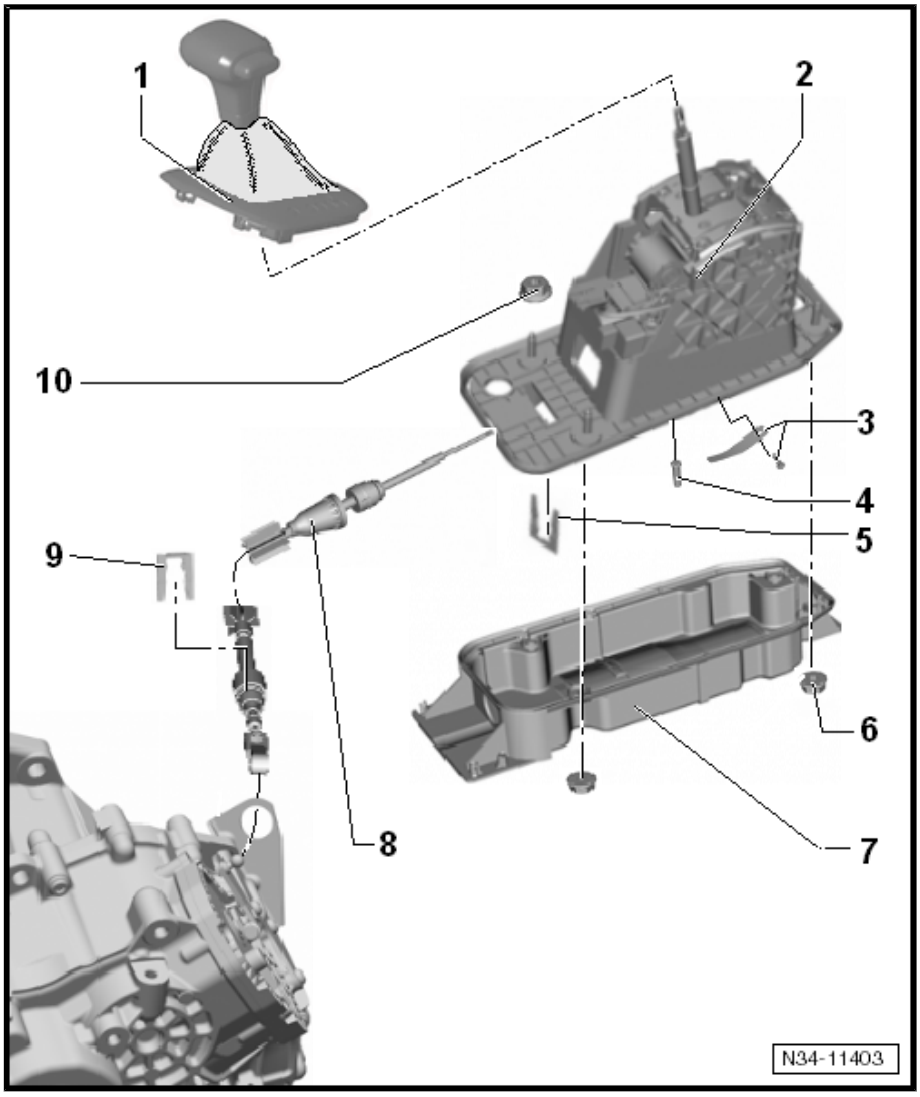
⇒ "2.8 Selector Lever Handle, Removing and Installing", page 96

⇒ "2.9 Button in Handle, Moving into Installation Position", page 99

⇒ "2.10 Selector Mechanism, Checking", page 101

2.1 Selector Mechanism Overview, through 02/2009

Selector mechanism from 03/2009. Refer to
⇒ "2.3 Selector Mechanism Overview, from 03/2009", page 84 .



1 - Shift Cover with Handle

- ❑ Do not remove the handle unnecessarily. Only the cover must be unclipped for the emergency release. Refer to ⇒ “2.7 Selector Lever, Emergency Release”, page 96 .
- ❑ Pull the button past its pressure point before removing the handle. Secure the button with a cable tie or some suitable wire. This can prevent the button from being accidentally pushed back into the handle.
- ❑ Selector lever handle, removing and installing. Refer to ⇒ “2.8 Selector Lever Handle, Removing and Installing”, page 96 .

2 - Selector Mechanism with Selector Lever

- ❑ With Shift Lock Solenoid - N110-
- ❑ Emergency release. Refer to ⇒ “2.7 Selector Lever, Emergency Release”, page 96 .
- ❑ Short description for removal and installation:

– Remove the center bracket.

– Remove the selector lever cable from the transmission. Refer to ⇒ “2.2 Selector Lever Cable, Removing and Installing, through 02/2009”, page 76 .

– If necessary, disconnect or remove sections of the exhaust system. Refer to ⇒ Rep. Gr. 26 ; Exhaust System or ⇒ Rep. Gr. 26 ; Exhaust Pipes/Mufflers .

– Remove the heat shield under the selector mechanism.

– Adjust the selector lever cable after installing. Refer to ⇒ “2.6 Selector Lever Cable, Adjusting”, page 94 .

3 - Bolt with Spring

- ❑ 3 Nm

4 - Pin

- ❑ Removing. Refer to ⇒ “2.2 Selector Lever Cable, Removing and Installing, through 02/2009”, page 76 .
- ❑ Do not lubricate

5 - Locking Plate

- ❑ Always replace after removing

6 - Nut

- ❑ 9 Nm
- ❑ Quantity: 4

7 - Gearshift Housing

- ❑ With seal

8 - Selector Lever Cable

- ❑ Do not grease the selector lever cable.
- ❑ Removing and Installing. Refer to ⇒ “2.2 Selector Lever Cable, Removing and Installing, through 02/2009”, page 76 .
- ❑ Checking. Refer to ⇒ “2.5 Selector Lever Cable, Checking”, page 93 .
- ❑ Adjusting. Refer to ⇒ “2.6 Selector Lever Cable, Adjusting”, page 94 .

9 - Lock Washer

- ❑ Always replace after removing

10 - Hex Nut with Collar

- ❑ 8 Nm
- ❑ Quantity: 4

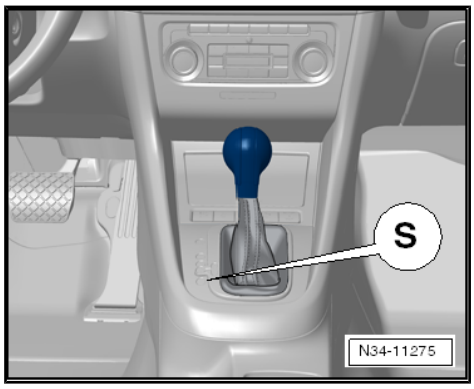
2.2 Selector Lever Cable, Removing and Installing, through 02/2009

Note

After installation, the selector lever cable must be checked for ease of movement and adjusted.

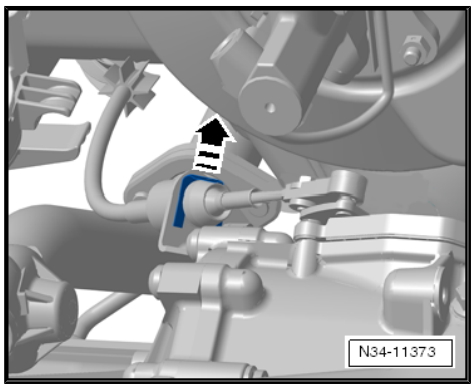
Removing

– Move the selector lever into “S”.



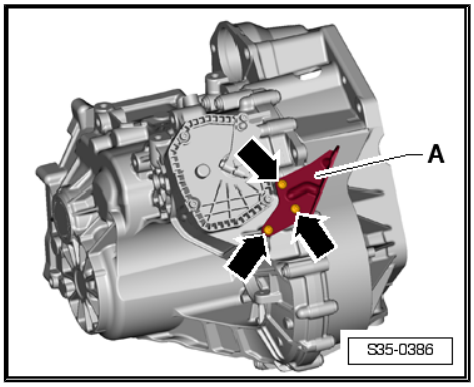
– Remove the lock washer in the direction of the -arrow-.

Always replace the circlip on the selector lever cable.



Note

- *Use pliers to remove the lock washer. Do not use a sharp-edged lever. Otherwise the selector lever cable could get damaged.*
- *Remove the cable bracket -A- and selector lever cable from the transmission, if necessary. To do this, remove the bolts -arrows-. These bolts must be replaced.*
- *Bolt tightening specification -arrows-: 8 Nm +90° additional turn.*



– Remove the selector lever cable from the ball head on the selector lever using, for example, a Pry Lever - 80-200- .

– Raise the vehicle.

To remove the selector level cable or the selector mechanism, the heat shield under the selector mechanism must be removed as follows:

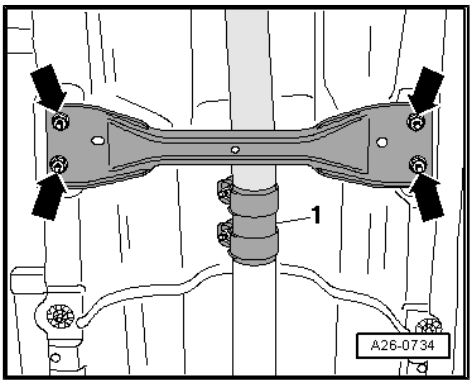
Caution

Risk of damaging the decoupling element.

- *Do not bend the decoupling element more than 10°.*
- *Do not load the decoupling element.*
- *Do not damage the wire mesh on the decoupling element.*

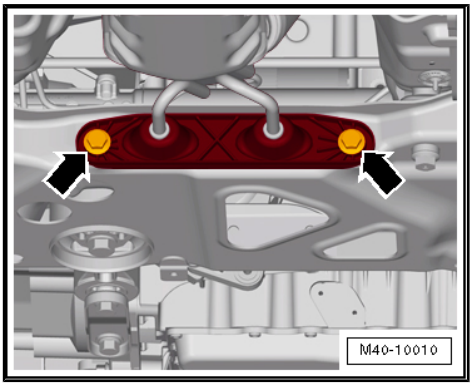
– Loosen the nuts on the clamping sleeve -1- and then slide it toward the rear.

– Remove the front tunnel brace -arrows- from the underbody.

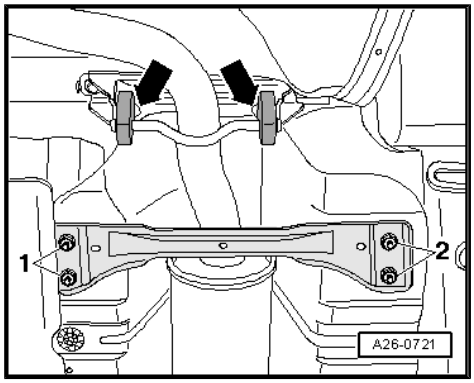


– If necessary remove the exhaust system bracket from the subframe -arrows-.

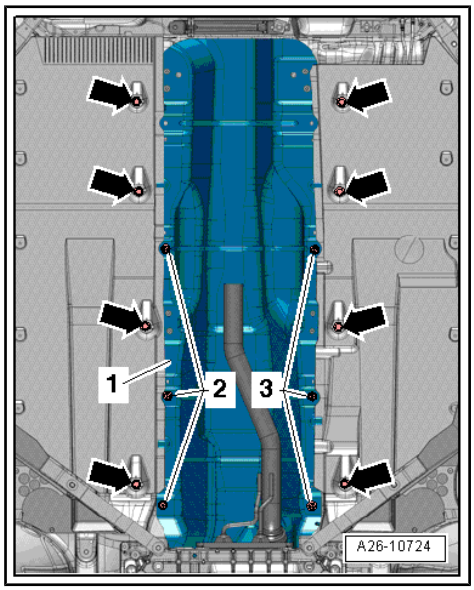
– Tie up the front exhaust pipe.



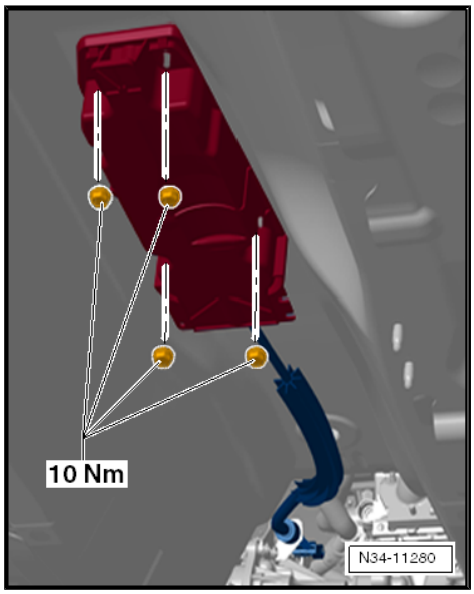
– If equipped, remove nuts -1 and 2- and remove the rear tunnel brace.
– Disengage the center muffler and the rear muffler from the retaining loops -arrows- and tie them to the body for example with a wire. Remove the exhaust system rear section, if necessary.



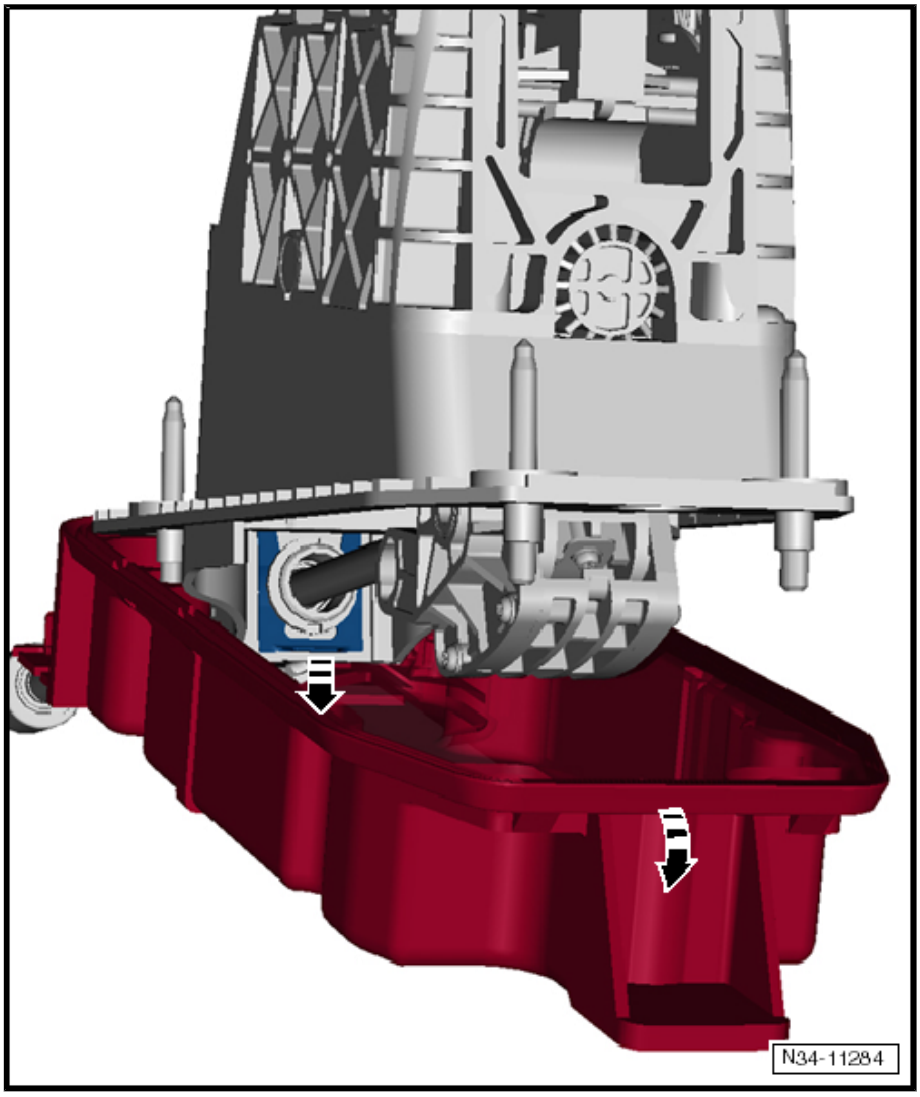
– Remove the underbody trim panel nuts -arrows-.
– Remove the lock washers -2 and 3-.
– Lower the underbody trim panel on the inside just enough until the heat shield -1- for the center tunnel can be removed.



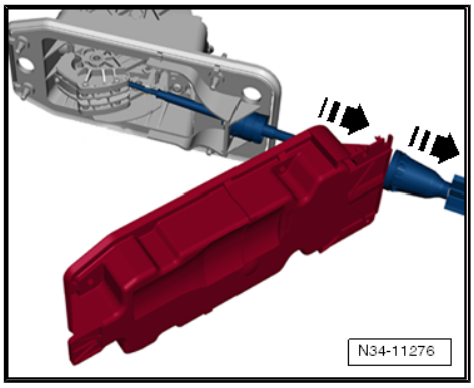
– Remove the -selector housing- from under the selector lever.



– Remove the locking plate on the cable mounting bracket. Always replace the locking plate.

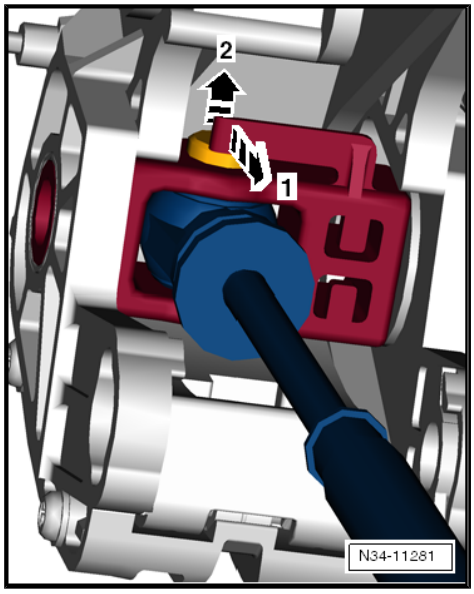


The -shift housing- is pushed forward slightly on the selector lever cable.

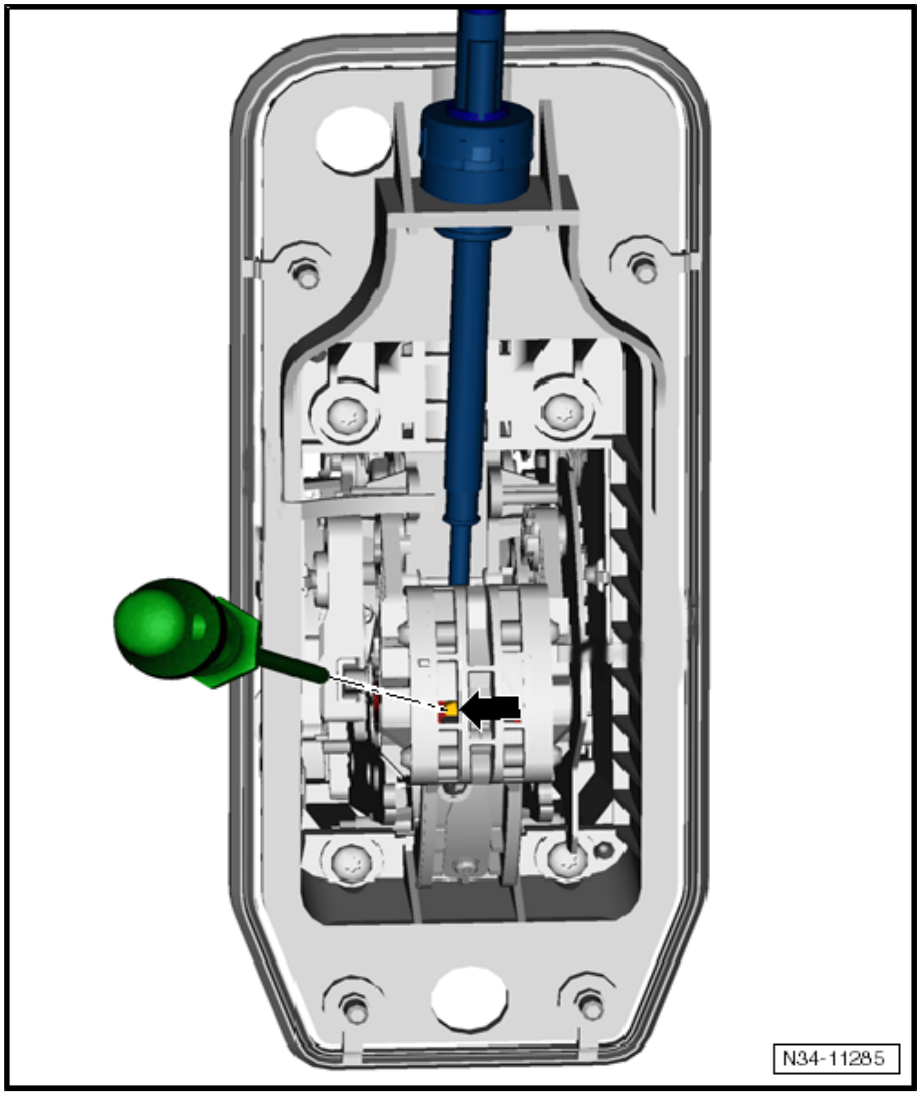


The locking strap must be pushed forward in order to remove the selector lever cable -arrow 1-.

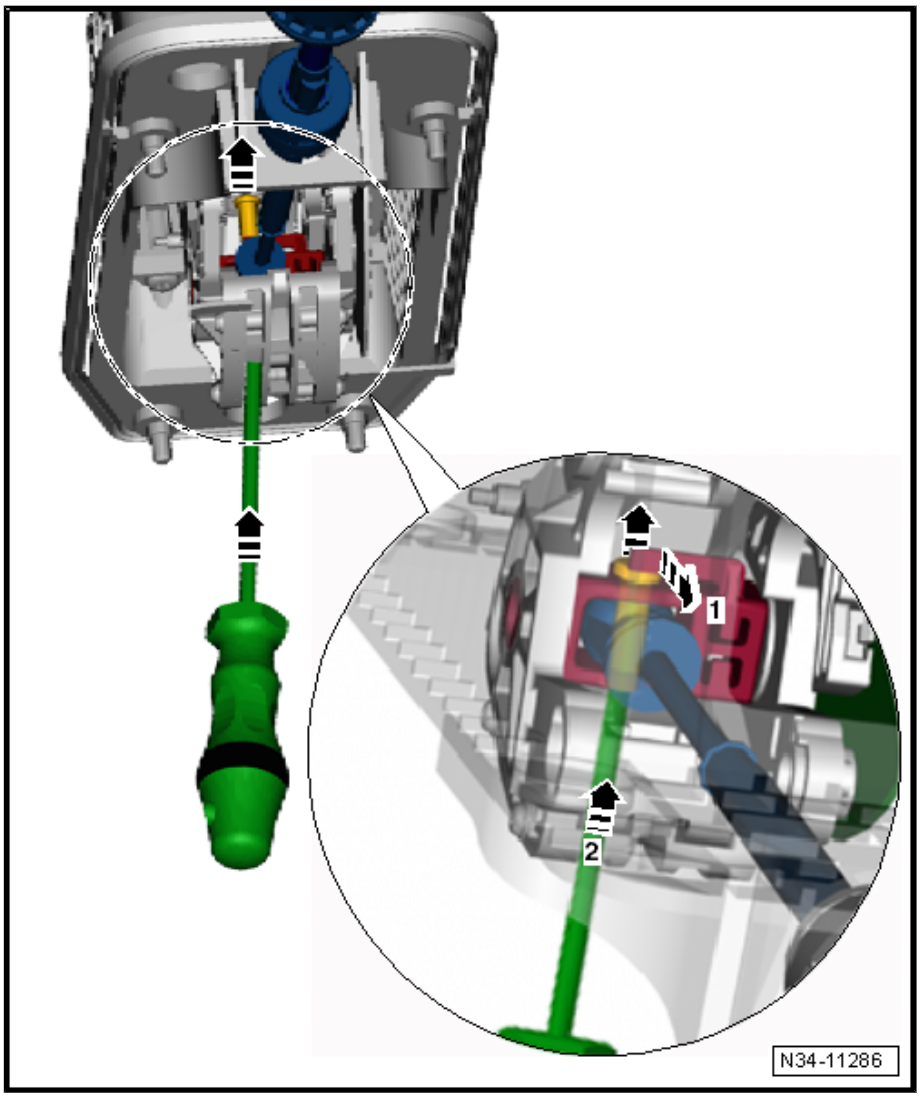
– Push the -pin- upward with a screwdriver at the same time -arrow 2-.



– Insert the -screwdriver- from underneath while pushing the securing tab forward.



For Clarity



– Remove the selector lever cable.

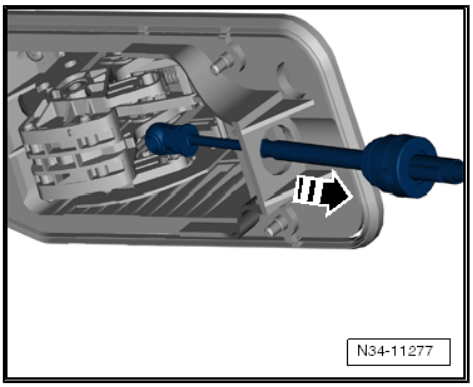
Remove the selector lever cable from the selector housing.

Installing

Note

Do not lubricate the selector lever cable.

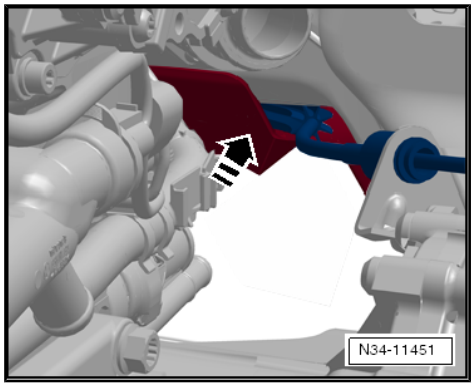
– Route the selector lever cable making sure it is free of tension. Install is also into the cable bracket on the transmission. Do not secure yet with the lock washers. Do not install the ball head.



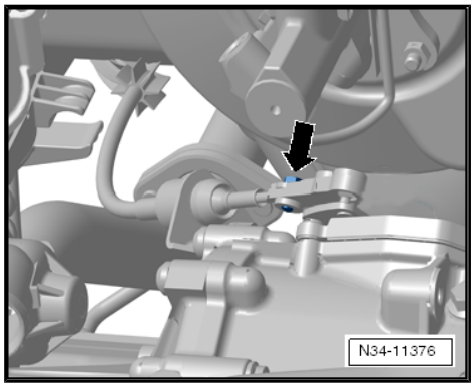
– When installing, make sure the selector lever cable is routed correctly.

If the heat shield underneath is bent, there will be noises. The selector lever cable will then »flap« on the heat shield.

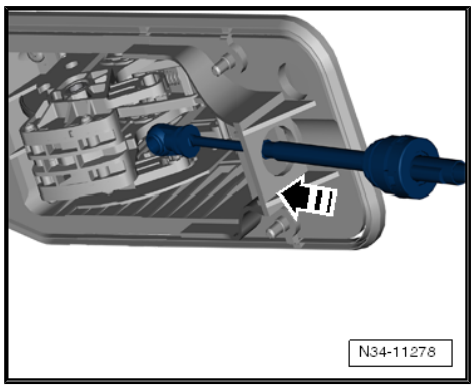
– Pay attention to the heat shield. Push it upward into the tunnel direction of -arrow-.



Loosen the adjusting screw -arrow-.

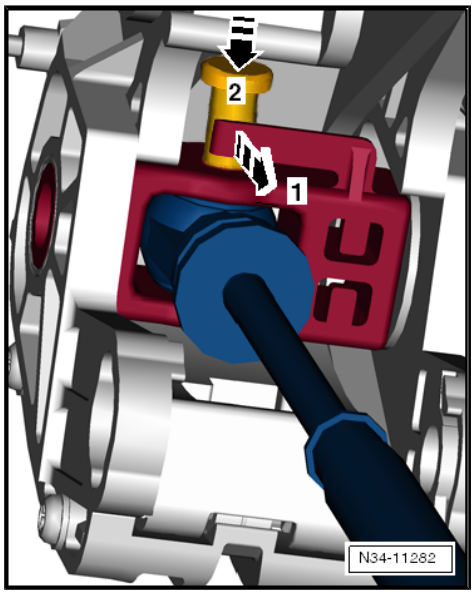


– Position the selector housing on the selector lever cable.

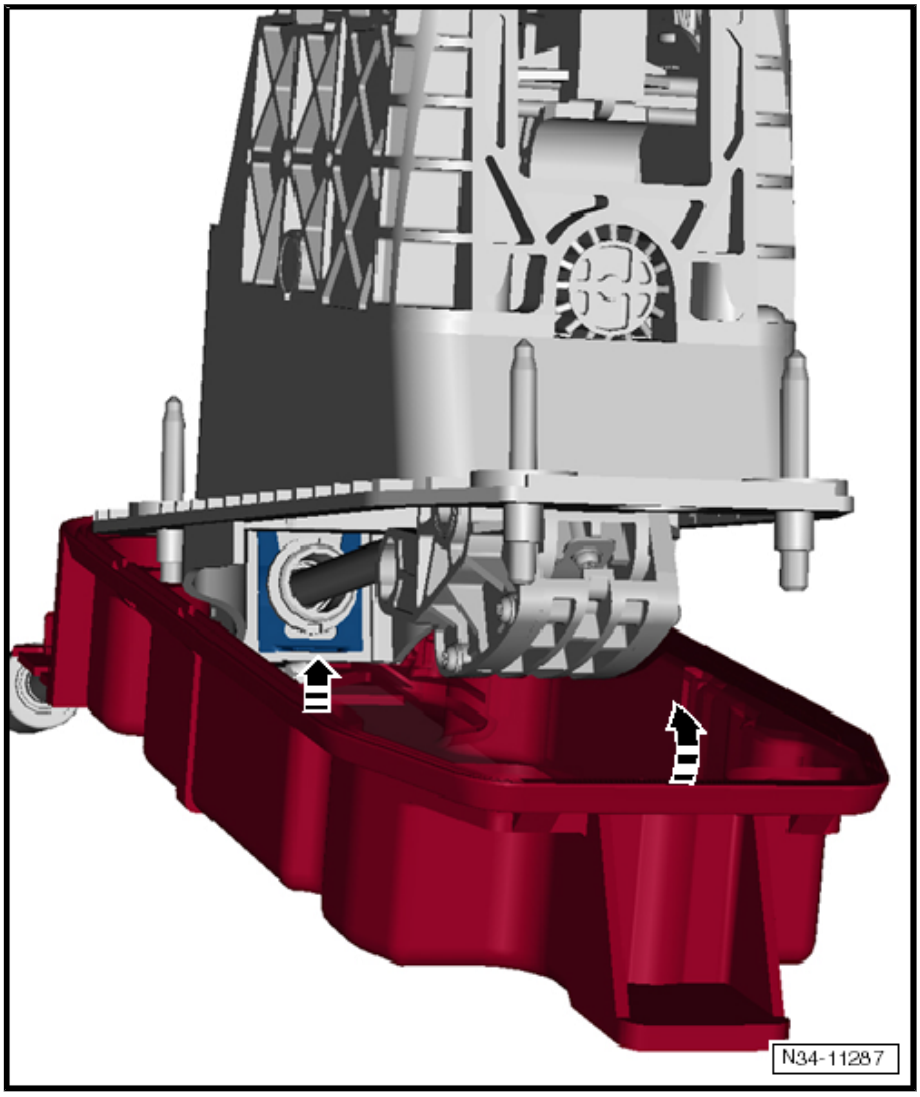


– Install the selector lever cable into the selector mechanism.
– Insert the selector lever cable into the bracket and then insert the bolt through the eye from the top in the direction of the -arrow 2-.

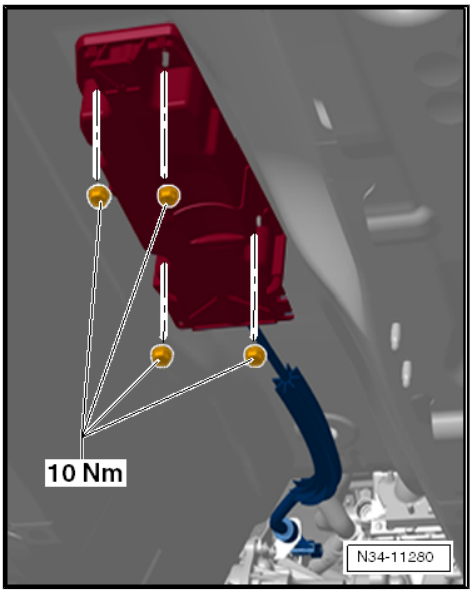
Install the locking plate only after having checked the selector lever cable for ease of movement. Refer to
⇒ “2.5 Selector Lever Cable, Checking”, page 93 .



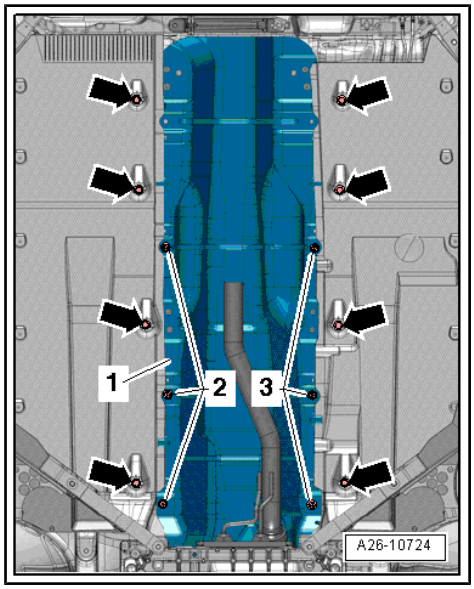
– Secure the selector lever cable with a new securing plate to the cable bracket on the selector mechanism.



– Install the selector housing.



- Install the heat shield -1- under the selector mechanism and attach with the lock washers -2 and 3-.
- Attach the underbody trim panel to the body -arrows-.
- Install the exhaust system and align free of tension. Refer to ⇒ Rep. Gr. 26 ; Exhaust System or ⇒ Rep. Gr. 26 ; Exhaust Pipes/Mufflers .
- Install the tunnel braces under the exhaust system. Refer to ⇒ Body Exterior; Rep. Gr. 50 ; Tunnel Brace .
- Adjust the selector lever cable after installing. Refer to ⇒ “2.6 Selector Lever Cable, Adjusting”, page 94 .



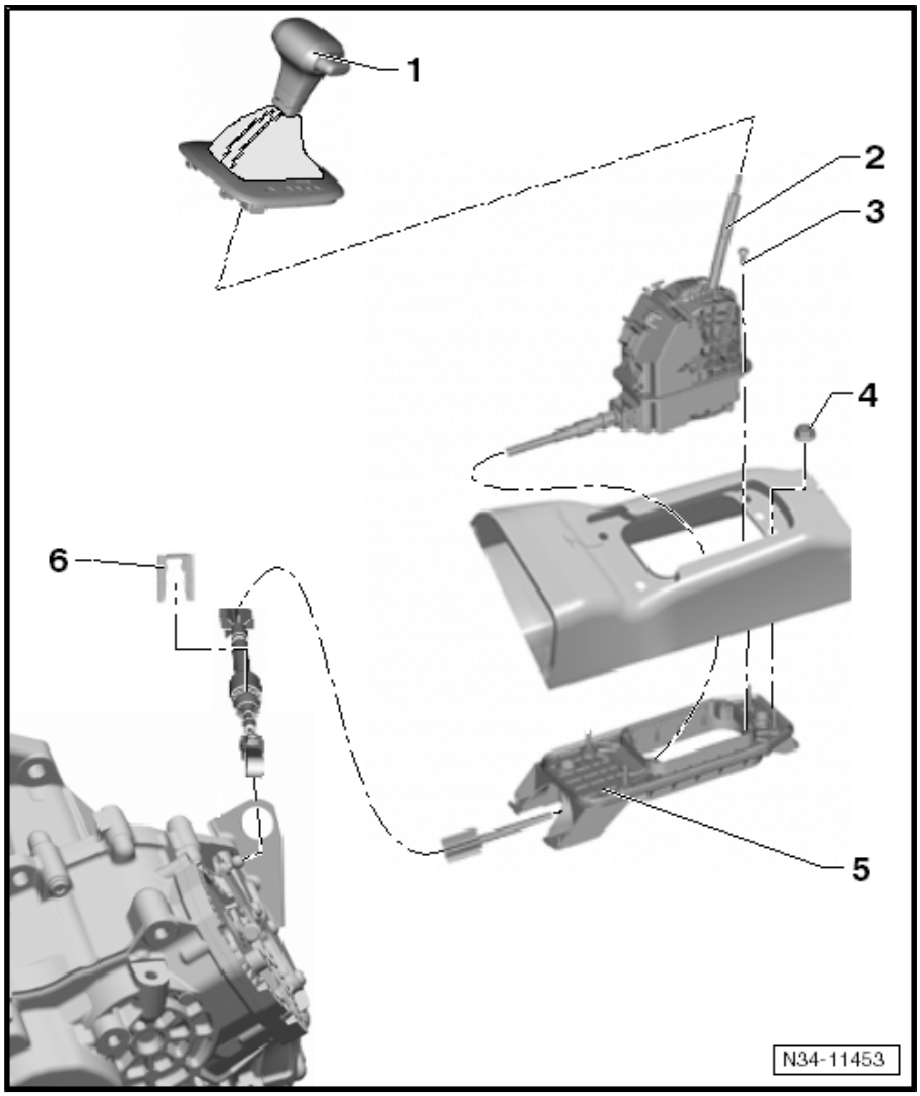
2.3 Selector Mechanism Overview, from 03/2009

1 - Shift Cover with Handle

- ❑ Do not remove the handle unnecessarily. Only the cover must be unclipped for the emergency release. Refer to ⇒ “2.7 Selector Lever, Emergency Release”, page 96 .
- ❑ Pull the button past its pressure point before removing the handle. Secure the button with a cable tie or some suitable wire. This prevents the locking button from being pushed back into knob accidentally.
- ❑ Selector lever handle, removing and installing. Refer to ⇒ “2.8 Selector Lever Handle, Removing and Installing”, page 96 .

2 - Selector Mechanism with Selector Lever and Selector Lever Cable

- ❑ With integrated Selector Lever Sensor System Control Module - J587- with Selector Lever - E313- , Tiptronic Switch - F189- , Selector Lever Park Position Lock Switch - F319- and Shift Lock Solenoid - N110- .
- ❑ The selector lever cable can only be replaced together with the selector mechanism. Refer to ⇒ “2.4 Selector Mechanism, Removing and Installing, Vehicles from 03/2009”, page 85 .



- ❑ Do not grease the selector lever cable.
- ❑ Removing and Installing. Refer to ⇒ “2.4 Selector Mechanism, Removing and Installing, Vehicles from 03/2009”, page 85 .
- ❑ Checking. Refer to ⇒ “2.5 Selector Lever Cable, Checking”, page 93 .
- ❑ Adjusting. Refer to ⇒ “2.6 Selector Lever Cable, Adjusting”, page 94 .

3 - Bolt

- ❑ 8 Nm

4 - Hex Nut with Collar

- ❑ 8 Nm
- ❑ Quantity: 4

5 - Gearshift Housing

- ❑ Available only together with the selector mechanism. Refer to the Parts Catalog.

6 - Lock Washer

- ❑ Always replace after removing

Note

The lock washer fit very tightly on the cable bracket. If necessary, remove the cable bracket and selector lever cable from the transmission. Refer to ⇒ page 87 .

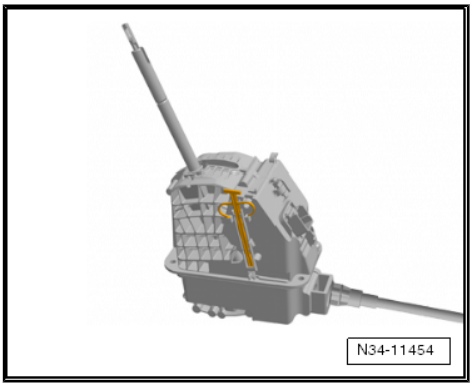
2.4 Selector Mechanism, Removing and Installing, Vehicles from 03/2009

⇒ “2.4.1 Selector Mechanism with Selector Housing, Removing and Installing”, page 85

⇒ “2.4.2 Selector Mechanism without Selector Housing, Removing and Installing”, page 90

2.4.1 Selector Mechanism with Selector Housing, Removing and Installing

Brief Description



The selector mechanism and the selector lever cable must be separated from each other. Both are removed with the selector housing.

Remove the center console inside the vehicle interior.

It is necessary to remove the heat shield under the vehicle.

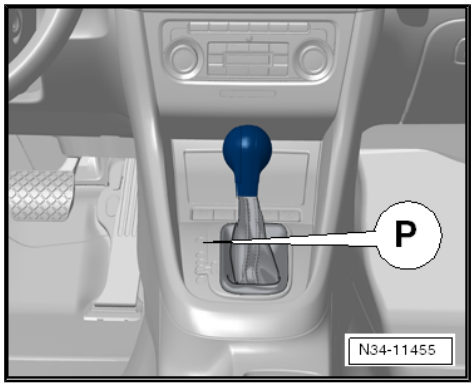
It is possible to remove and install the selector mechanism with selector lever cable alone without the selector housing. Refer to ⇒ “2.4.2 Selector Mechanism without Selector Housing, Removing and Installing”, page 90 .

Note

After installation, the selector lever cable must be checked for ease of movement and adjusted.

Removing

– Move the selector lever into “P”.



– Remove the selector lever handle and disconnect the connector -2- from the cover while doing so. Refer to ⇒ “2.8 Selector Lever Handle, Removing and Installing”, page 96 .

– Remove the center console. Refer to ⇒ Body Interior; Rep. Gr. 68 ; Center Console; Center Console, Removing and Installing, »Basic« .

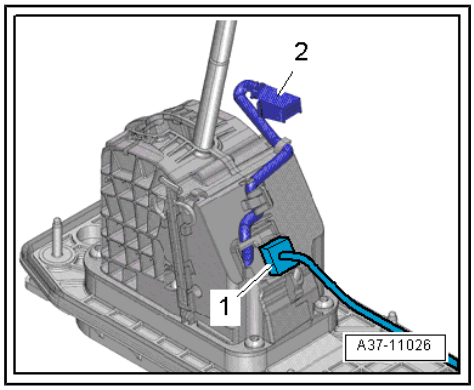
– Disconnect the connector -1- from the selector mechanism to the vehicle wiring harness.

– Remove the engine cover if necessary.

– Remove the air filter housing:

♦ Gasoline engine. Refer to ⇒ Rep. Gr. 24 ; Air Filter; Overview - Air Filter Housing .

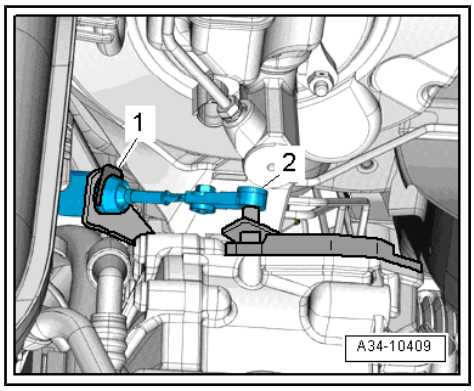
♦ TDI engine. Refer to ⇒ Rep. Gr. 23 ; Diesel Direct Injection System; Overview - Air Filter .



– Remove the lock washer -1- from the selector lever cable.

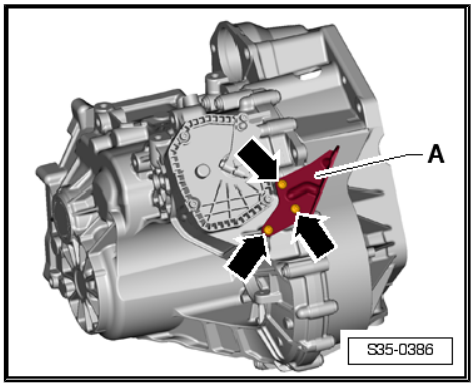
Always replace the circlip on the selector lever cable.

– Remove the selector lever cable -2- from the ball head on the selector lever using, for example, a Pry Lever - 80-200- .



Note

- *Use pliers to remove the lock washer -1-. Do not use a sharp-edged lever. Otherwise the selector lever cable could get damaged.*
- *Remove the cable bracket -A- and selector lever cable from the transmission, if necessary. To do this, remove the bolts -arrows-. These bolts must be replaced.*
- *Bolt tightening specification -arrows-: 8 Nm +90° additional turn.*



Caution

Risk of damaging the selector lever cable.

- ***Do not push the selector lever cable out of the cable bracket toward the rear. When removing the selector mechanism, first guide the selector lever cable out of the cable bracket.***

– Raise the vehicle.

To remove the selector level cable or the selector mechanism, the heat shield under the selector mechanism must be removed as follows:

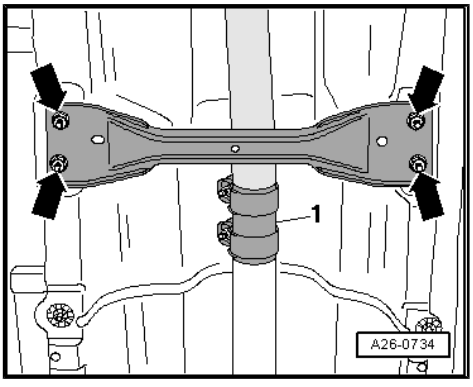
Caution

Risk of damaging the decoupling element.

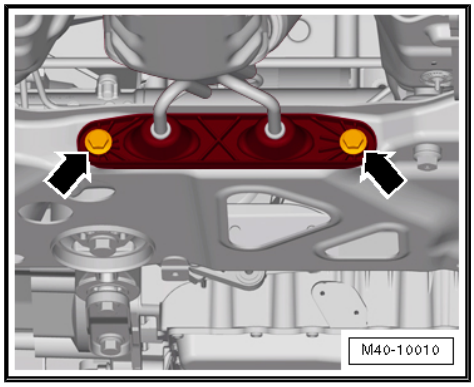
- ***Do not bend the decoupling element more than 10°.***
- ***Do not load the decoupling element.***
- ***Do not damage the wire mesh on the decoupling element.***

– Loosen the nuts on the clamping sleeve -1- and then slide it toward the rear.

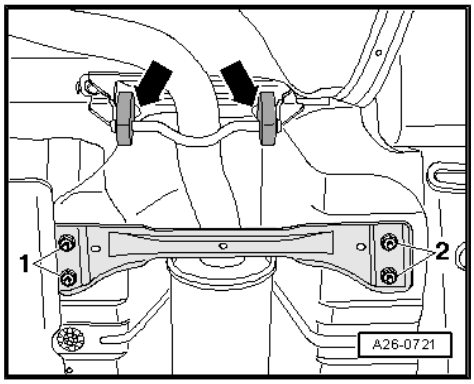
– Remove the front tunnel brace -arrows- from the underbody.



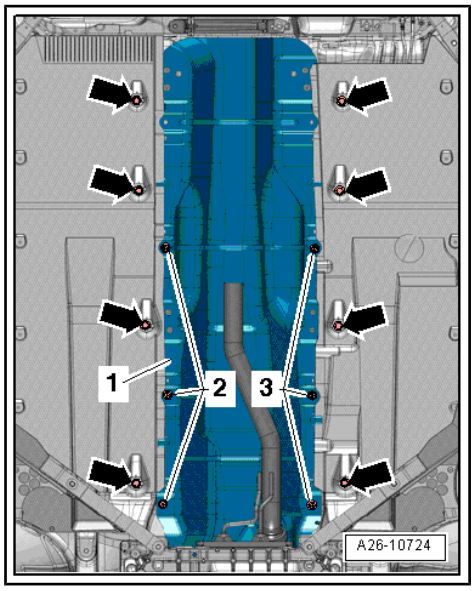
– If necessary remove the exhaust system bracket from the subframe -arrows-.
– Tie up the front exhaust pipe.



– If equipped, remove nuts -1 and 2-, and remove the rear tunnel brace.
– Disengage the center muffler and the rear muffler from the retaining loops -arrows- and tie them to the body for example with a wire. Remove the exhaust system rear section, if necessary.



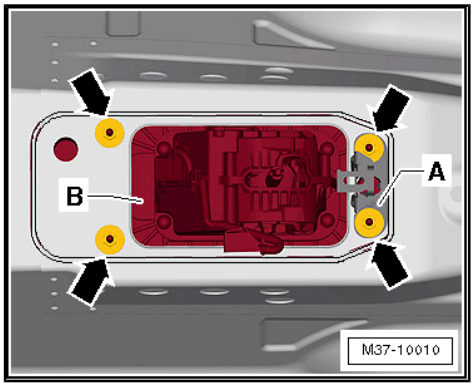
– Remove the underbody trim panel nuts -arrows-.
– Remove the lock washers -2 and 3-.
– Lower the underbody trim panel on the inside just enough until the heat shield -1- for the center tunnel can be removed.



Note

A second technician is required under the vehicle to remove the selector mechanism.

– Remove the nuts -arrows- in the vehicle interior.
– Remove the bracket -A-, if equipped.
– Remove the selector mechanism -B- with the selector lever cable and selector housing downward.



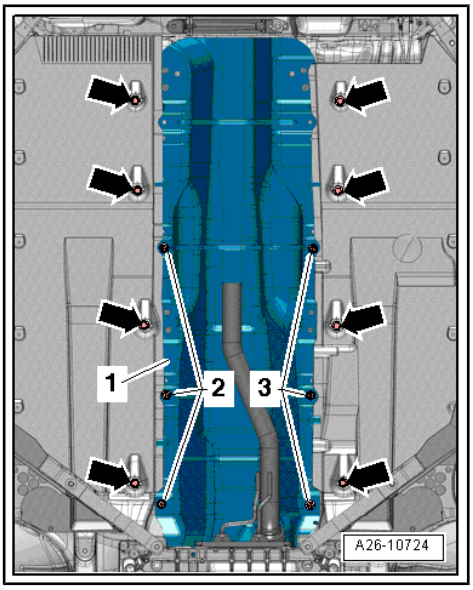
Installing

Install in reverse order of removal.

Note

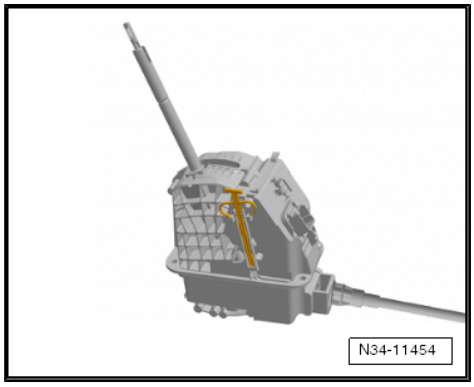
- *Do not bend or kink the selector lever cable.*
- *Do not lubricate the selector lever cable.*
- *Tightening specifications. Refer to ⇒ "2.3 Selector Mechanism Overview, from 03/2009", page 84 .*

– Install the heat shield -1- under the selector mechanism and attach with the lock washers -2 and 3-.
– Attach the underbody trim panel to the body -arrows-. Refer to ⇒ Body Exterior; Rep. Gr. 50 ; Underbody Trim Panels .
– Install the exhaust system and align free of tension. Refer to ⇒ Rep. Gr. 26 ; Exhaust System or ⇒ Rep. Gr. 26 ; Exhaust Pipes/Mufflers .
– Install the tunnel braces under the exhaust system. Refer to ⇒ Body Exterior; Rep. Gr. 50 ; Tunnel Brace .
– Install the center console. Refer to ⇒ Body Interior; Rep. Gr. 68 ; Center Console; Center Console, Removing and Installing, »Basic« .
– Install the selector lever handle. Refer to ⇒ "2.8 Selector Lever Handle, Removing and Installing", page 96 .
– Adjust the selector lever cable. Refer to ⇒ "2.6 Selector Lever Cable, Adjusting", page 94 .
– Check the selector mechanism. Refer to ⇒ "2.10 Selector Mechanism, Checking", page 101 .
– Install the air filter housing:
- Gasoline engine. Refer to ⇒ Rep. Gr. 24 ; Air Filter; Overview - Air Filter Housing .
- TDI engine. Refer to ⇒ Rep. Gr. 23 ; Diesel Direct Injection System; Overview - Air Filter .
– Install the engine cover if removed.



2.4.2 Selector Mechanism without Selector Housing, Removing and Installing

Brief Description



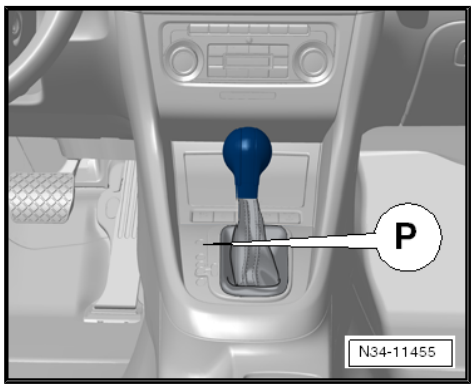
The selector mechanism and the selector lever cable must be separated from each other. Both are removed together.

Remove the center console inside the vehicle interior.

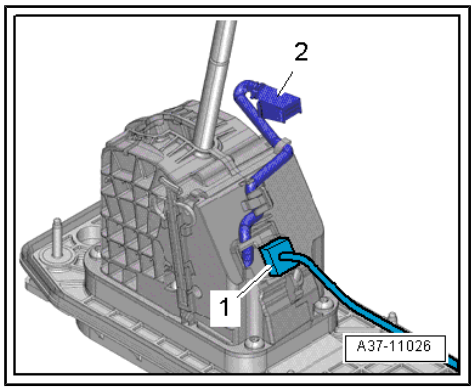
A cord is attached to the selector lever cable prior to removal. The cord is used to remove and install the selector lever cable between the tunnel and the heat shield.

The selector mechanism with selector lever cable can be removed and installed together with the selector housing. Refer to ⇒ “2.4.1 Selector Mechanism with Selector Housing, Removing and Installing”, page 85 .

Removing



– Move the selector lever into “P”.



– Remove the selector lever handle and disconnect the connector -2- from the cover while doing so. Refer to ⇒ “2.8 Selector Lever Handle, Removing and Installing”, page 96 .

– Remove the center console. Refer to ⇒ Body Interior; Rep. Gr. 68 ; Center Console; Center Console, Removing and Installing, »Basic« .

– Disconnect the connector -1- from the selector mechanism to the vehicle wiring harness.

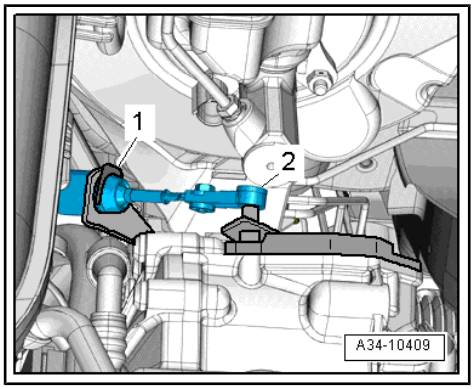
– Remove the engine cover if necessary.

– Remove the air filter housing:

♦ Gasoline engine. Refer to ⇒ Rep. Gr. 24 ; Air Filter; Overview - Air Filter Housing .

♦ Diesel engine. Refer to ⇒ Rep. Gr. 23 ; Diesel Direct Injection System; Overview - Air Filter .

– Remove the lock washer -1- from the selector lever cable.



Always replace the circlip on the selector lever cable.

– Remove the selector lever cable -2- from the ball head on the selector lever using, for example, a Pry Lever - 80-200- .

Note

Use pliers to remove the lock washer -1-. Do not use a sharp-edged lever. Otherwise the selector lever cable could get damaged.

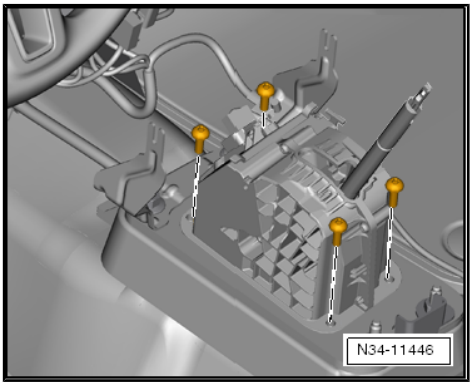
Caution

Risk of damaging the selector lever cable.

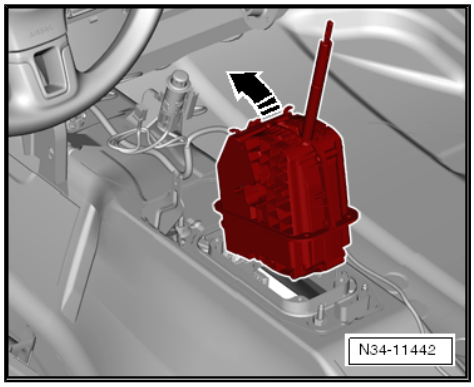
- ***Do not push the selector lever cable out of the cable bracket toward the rear. When removing the selector mechanism, first guide the selector lever cable out of the cable bracket.***

– Attach a longer cord to the end of the selector lever cable. The cord is used to guide the selector lever cable between the tunnel and the heat shield during installation.

– Remove the four bolts attaching the selector mechanism to the selector housing.



– Pull the selector mechanism and selector lever cable out of the center tunnel. Make sure the cord is pull through far enough so that it can reached from inside the engine compartment.
– Remove the selector lever cable cord.



Note

The selector mechanism is available only together with the selector housing and selector lever cable. Refer to the Parts Catalog.

Installing

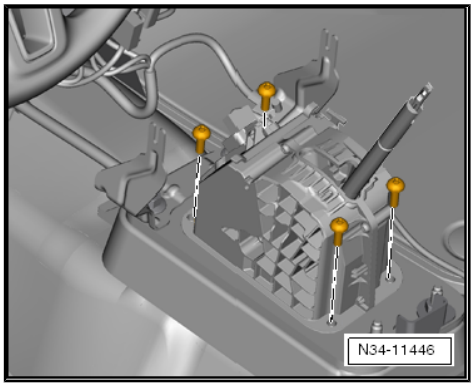
Install in reverse order of removal. Note the following:

A second technician will be needed for inserting the selector lever cable from the passenger compartment into the engine compartment.

Note

- *Do not bend or kink the selector lever cable.*
- *Do not lubricate the selector lever cable.*
- *Tightening specifications. Refer to* *⇒ "2.3 Selector Mechanism Overview, from 03/2009", page 84* .

– Secure the cord that was involved when removing the selector mechanism from the engine compartment on the end of the selector lever cable.
– Guide the selector mechanism and selector lever cable through the opening in the center tunnel.
– Have a second technician pull the cord with the selector lever cable from the engine compartment through the tunnel until the selector lever cable can be attached to the cable bracket.
– Remove the selector lever cable cord.



– Attach the selector mechanism to the selector housing with four bolts.
– Install the center console. Refer to ⇒ Body Interior; Rep. Gr. 68 ; Center Console; Center Console, Removing and Installing, »Basic« .
– Install the selector lever handle. Refer to ⇒ “2.8 Selector Lever Handle, Removing and Installing”, page 96 .
– Adjust the selector lever cable. Refer to ⇒ “2.6 Selector Lever Cable, Adjusting”, page 94 .
– Check the selector mechanism. Refer to ⇒ “2.10 Selector Mechanism, Checking”, page 101 .
– Install the air filter housing:
♦ Gasoline engine. Refer to ⇒ Rep. Gr. 24 ; Air Filter; Overview - Air Filter Housing .
♦ TDI engine. Refer to ⇒ Rep. Gr. 23 ; Diesel Direct Injection System; Overview - Air Filter .
– Install the engine cover if removed.

2.5 Selector Lever Cable, Checking

Brief Description

The selector lever cable must be removed from the transmission in order to check it for ease of movement. Do not let the removed end touch anything.

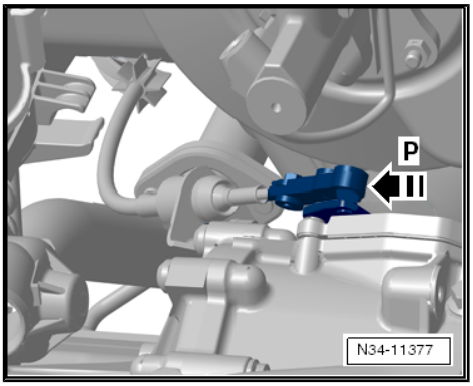
Then selector lever is moved and the selector lever cable installed again on the transmission.

After that, the selector lever cable must be adjusted. Refer to ⇒ “2.6 Selector Lever Cable, Adjusting”, page 94 .

Do not lubricate the selector lever cable connections.

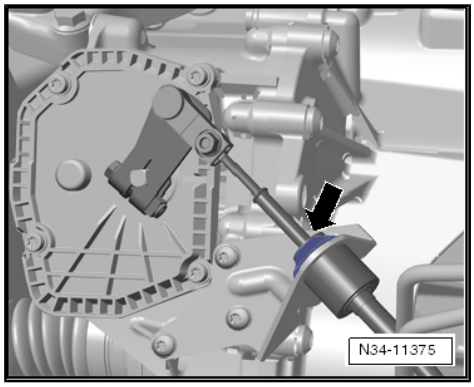
Checking

– Move the selector lever into »P«.
– Remove the selector lever cable from the ball head on the selector lever using, for example, a Pry Lever - 80-200- .
– Move the selector lever from »P« to »S« and back to »P« several times.
• The selector lever must have ease of movement.
– Reinstall the selector level cable with the »loosened« adjusting screw.



If the lock washer is removed, then a »new« lock washer must always be installed.

– Adjust the selector lever cable. Refer to ⇒ “2.6 Selector Lever Cable, Adjusting”, page 94 .



2.6 Selector Lever Cable, Adjusting

Special tools and workshop equipment required

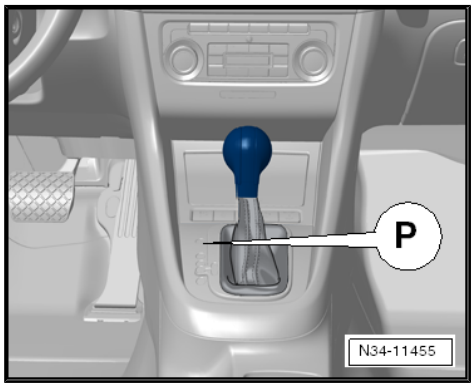
- Torque Wrench 1331 5-50Nm - VAG1331-

Selector Lever Cable Must Always Be Adjusted 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 selector lever cable itself or the selector mechanism was removed and installed.
- The engine/transmission position was changed, for example, were installed without tension.

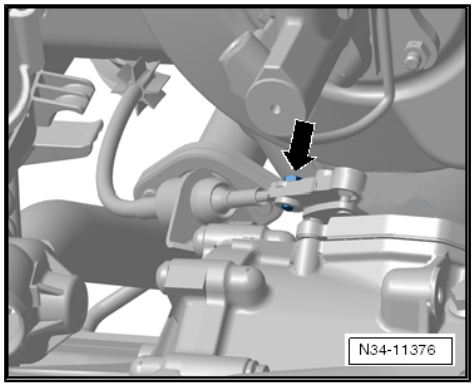
Adjusting

– Move the selector lever into “P”.

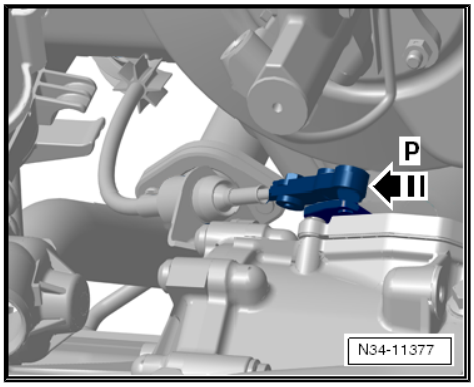


The adjusting screw -arrow- must be »loosened«.

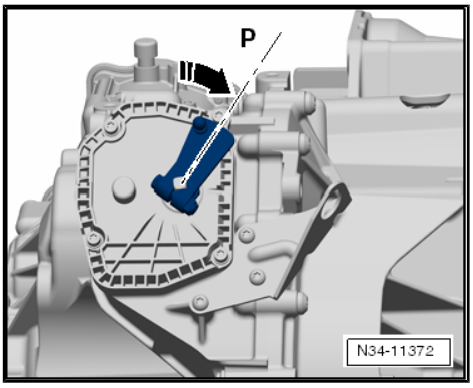
– Move the selector lever on the transmission to “P”.



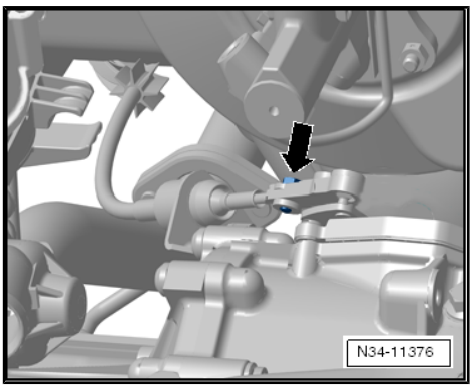
The selector lever on the transmission must pushed »all the way toward the right side of the vehicle«, in the direction of the selector lever cable bracket.



The illustration shows the transmission from the »rear«. -P- is toward the cable bracket.



– Install the selector lever cable with the adjusting screw -arrow- loosened and the new lock washer.



WARNING

Make sure the parking lock is latched.

– From »underneath the vehicle«, rotate both front wheels in the same direction and at the same time until the parking lock audibly engages.

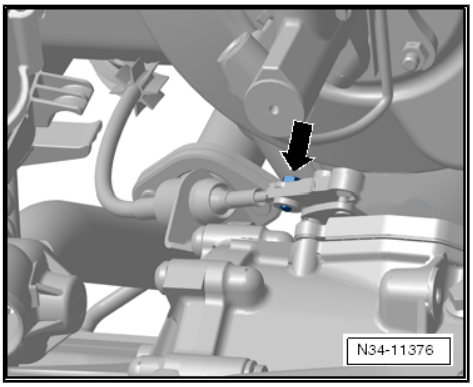
• The parking lock is engaged when it is not possible to rotate both front wheels in the same direction at the same time.

– Tap the handle on the selector lever back and forth gently but do not move it out of “P” under any circumstances.

This places the selector lever cable core in its optimal position.

– Tighten adjustment screw -arrow- to 13 Nm.

This ends the adjustment.



2.7 Selector Lever, Emergency Release

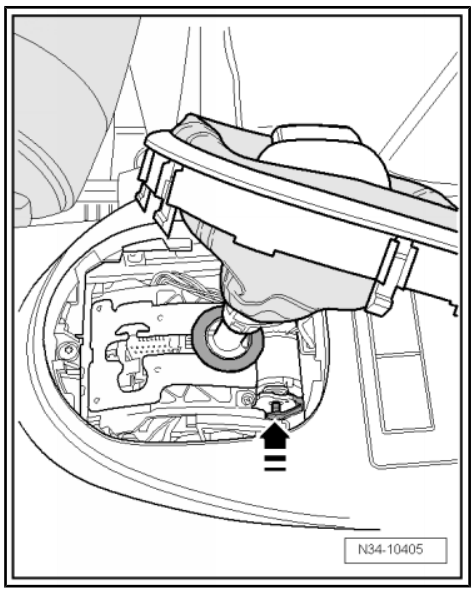
Note

Do not remove the handle.

– Unclip the shift cover and hold it to the side.
– Press the brake or set the parking brake.

Vehicles through 02/2009

– Press on the yellow plastic piece from the right to the left -arrow-.
– Or press it onto the solenoid pins.

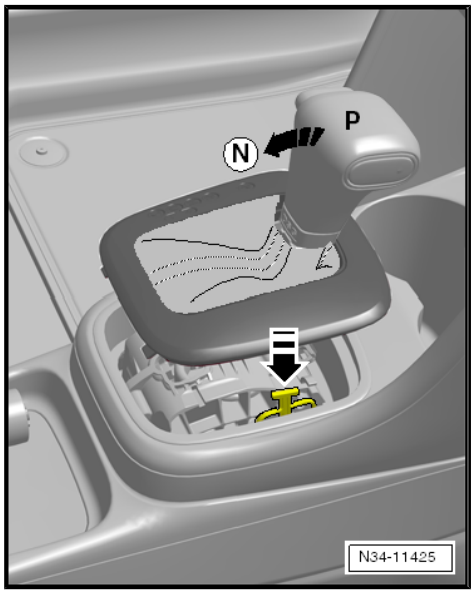


Vehicles from 03/2009

– Push onto the yellow plastic part -arrow-.

All

The selector lever can now be moved out of »P«.



2.8 Selector Lever Handle, Removing and Installing

Brief Description

There are different handles depending on the model.

The handle is removed together with the shift cover.

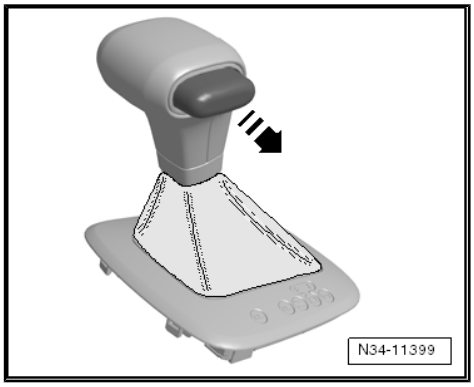
Removing

– Move the selector lever into “D” position.

Handle with the Button on the Side

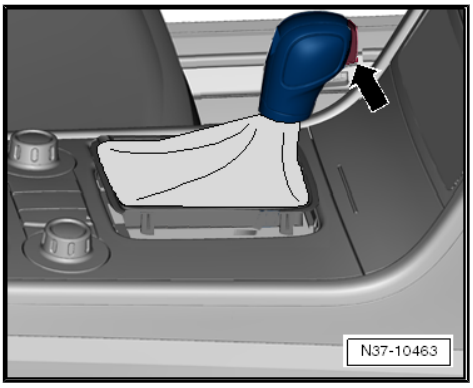
– Pull the button out of the handle just far enough until there is a small gap can is visible between the handle and the button. The button locks when released.

– Secure the button in this position with a cable tie or wire to prevent the button from being pressed in.



Handle with Front Button

– It is not necessary to pull out the button by hand. The button locks in the installation position -arrow- when the handle is removed.

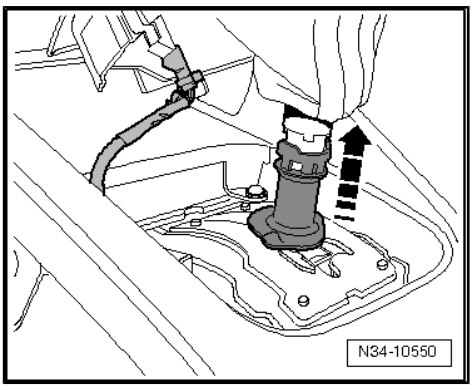


Handle with Sleeve

– Unclip the cover.

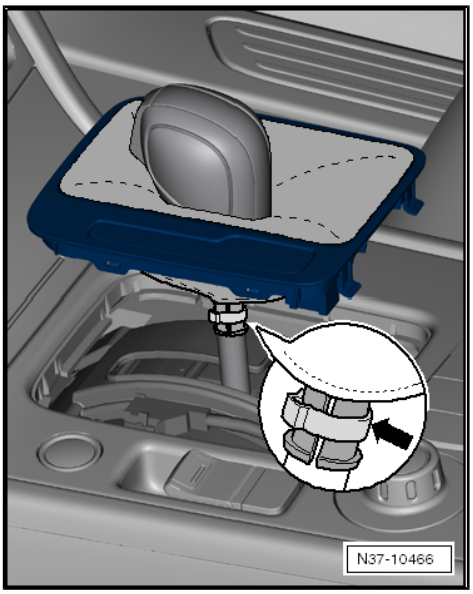
Disconnect the connector from the shift cover.

Push the sleeve upward in direction of -arrow- to unlock the handle.



Handle with Clamp

– Cut the clamp under the boot -arrow- with a side cutter.



Continuation for All Handles

– Remove the handle from the selector lever without pushing the button.

Note

Do not push the button after removal or it will not be possible to install the handle again.

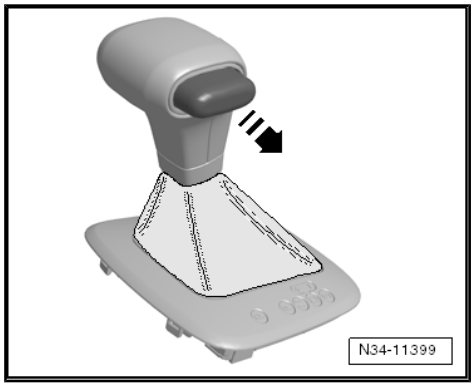
Installing

– Install in reverse order of removal. Note the following:

• The selector lever is in the “D” position.

Handle with the Button on the Side

- The button inside the handle is pulled out and if necessary is protected from getting pushed in again.

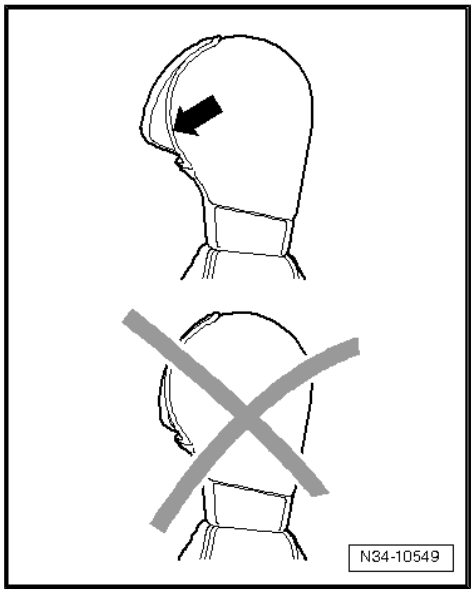


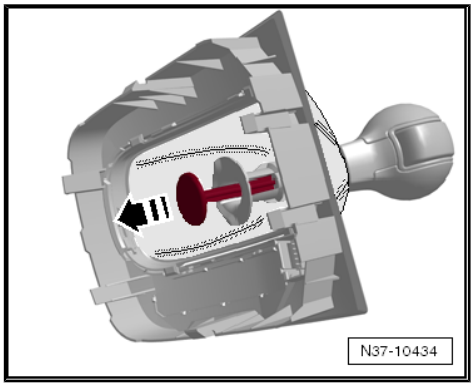
Handle with Front Button

- The button is in the installation position -arrow-.

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

– Move the button into the installation position. Refer to ⇒ “2.9 Button in Handle, Moving into Installation Position”, page 99 .





Note

A new handle is delivered with an assembly fastener. Remove the retainer just before installing.

Handle with Sleeve

– Install the handle all the way onto the selector lever and lock it.

– Push the sleeve downward to lock it.

Only Handles with Clamps

– Install the handle all the way with a new clamp.

– Secure the clamps using Hose Clamp Pliers -VAG1275A- .

– Press the button after installation.

Note

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
⇒ "2.9 Button in Handle, Moving into Installation Position", page 99 . Then install the handle again.

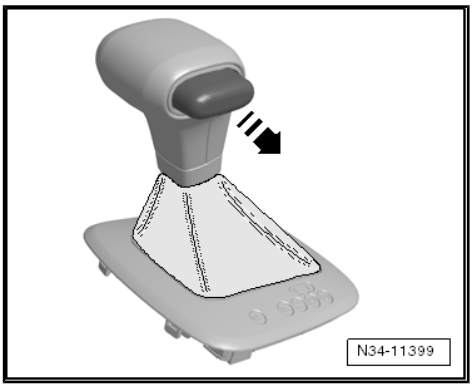
Further installation is performed in the reverse order of the removal.

2.9 Button in Handle, Moving into Installation Position

⇒ "2.9.1 Handle With Side Button", page 99

⇒ "2.9.2 Handle With Front Button", page 99

2.9.1 Handle With Side Button



– Pull the button out of the handle just far enough until there is a small gap between the handle and the button. The button locks when released.

– Secure the button in this position with a cable tie or wire to prevent the button from being pressed in.

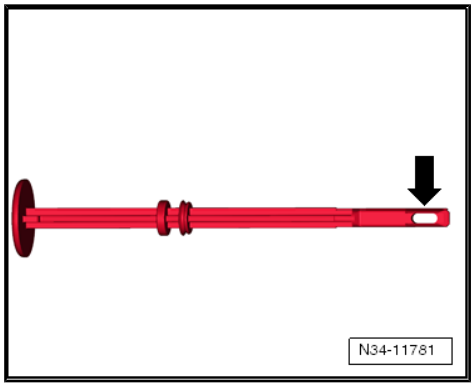
2.9.2 Handle With Front Button

The button cannot be pulled out on these handles.

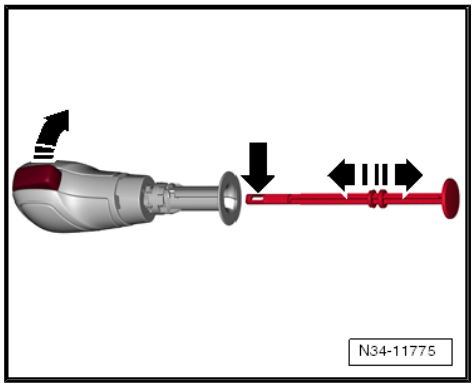
There are two ways to move the button into the installation position, »with« or »without« the assembly fastener. Both possibilities are described here.

Move the Handle »with« an Assembly Fastener into the Installation Position:

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

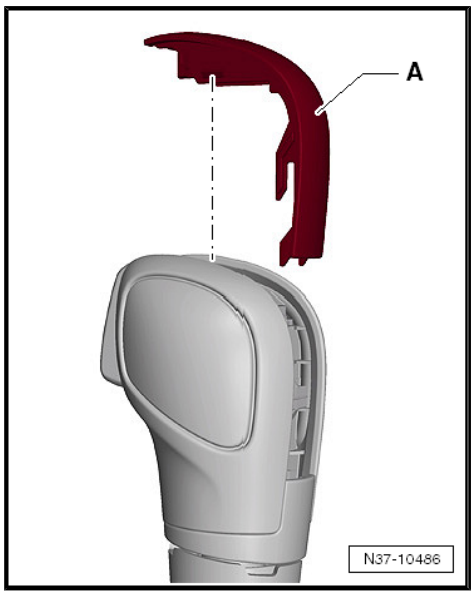


– With the button pressed and push the assembly fastener (with the eye) in direction of -arrow- all the way in until it latches into the assembly fastener. Then release the button. The button locks into the installation position when the assembly fastener is pulled out.



Moving the Handle »without« an Assembly Fastener into the Installation Position

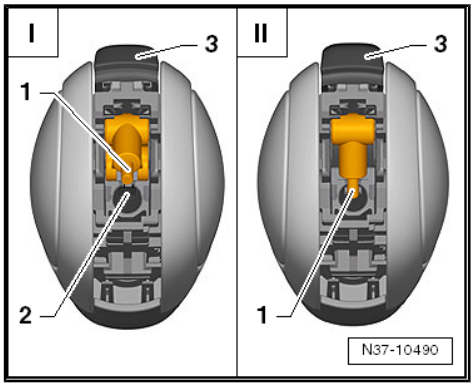
– Carefully unclip the handle trim -A- upward.



– Push the small lever -1- for the pull rod into the groove -2- with a screwdriver. This pushes the button -3- into the installation position.

-I- the button is in the pressed position

-II- the button is in the installation position



Note

- *Push the lever into the groove and no farther.*
- *Clip the handle trim back 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.*

2.10 Selector Mechanism, Checking

Use `Guided Fault Finding` to determine electric faults. A mechanical fault, a faulty system or a faulty »component« must be found and repaired.

It is not possible to start the engine when the selector lever is in “R”, “D” and “S” or in the tiptronic position.

If selector lever position “N” is selected at speeds greater than 5 km/h, the shift lock solenoid must not engage and block the selector lever. The selector lever can be shifted into another gear.

When at speeds below 5 km/h (almost stationary), the shift lock solenoid may engage after approximately 1 second when the selector lever is in the “N” position. The selector lever can only be moved out of “N” when the brake pedal is pressed.

Selector Lever in “P” and the Ignition Turned On:

- If the brake pedal is not depressed:

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 depressed:

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 instrument cluster matches actual selector lever position.

Selector Lever in “N” and Ignition Switched On

- If the brake pedal is not depressed:

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 depressed:

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

Selector Level in the “tiptronic” Position

– Move the selector lever into the tiptronic gate.

“P R N D S” must change to “7 6 5 4 3 2 1”.

The ignition and Lights Must Be Turned On

The respective symbol is being lit up in the selector mechanism cover.

Transmission Range Display

Simultaneous lighting of all segments on the transmission range display indicates the transmission is in emergency mode.

3 DSG Transmission Mechatronic - J743-

⇒ “3.1 DSG Transmission Mechatronic J743 Safety Precautions”, page 103

⇒ “3.2 Overview - Mechatronic”, page 104

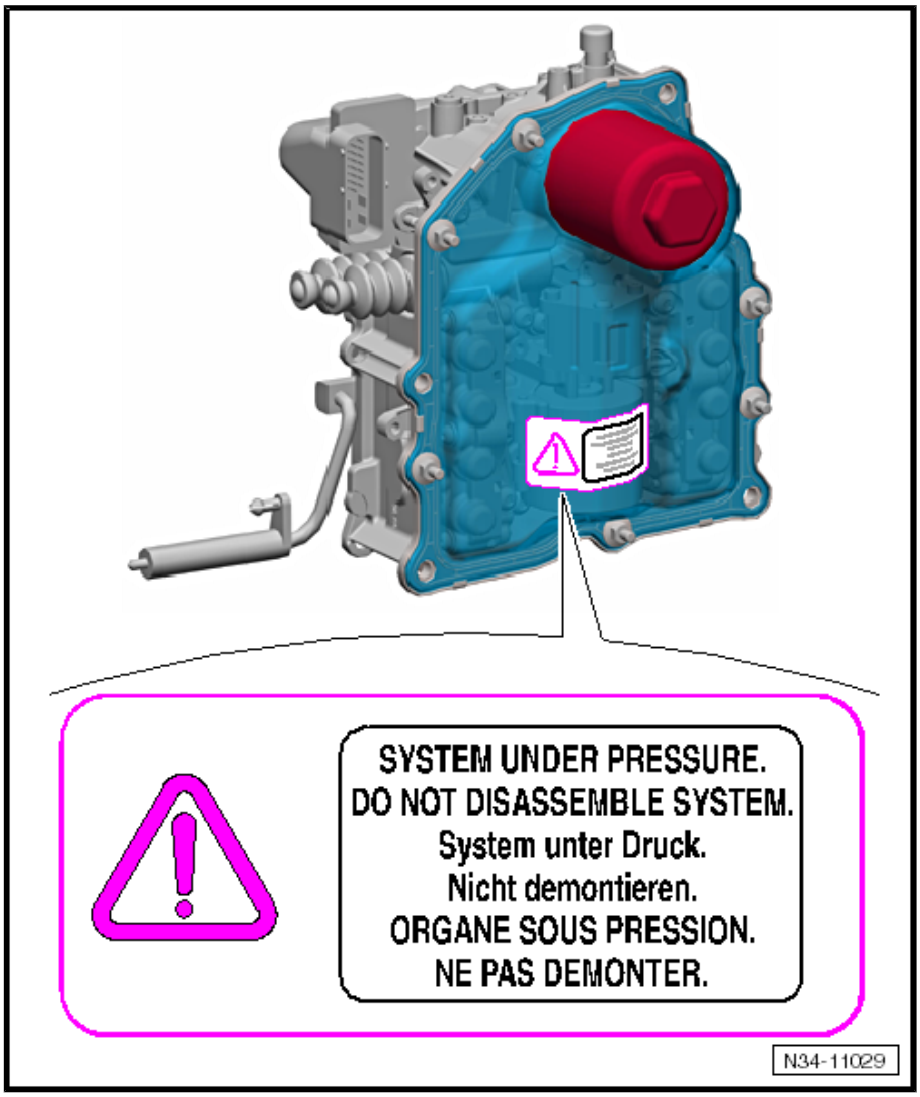
⇒ “3.3 DSG Transmission Mechatronic J743 , Removing with Transmission Installed”, page 105

⇒ “3.4 DSG Transmission Mechatronic J743 , Moving into Removal Position by Hand”, page 115

⇒ “3.5 DSG Transmission Mechatronic J743 , Installing”, page 119

⇒ “3.6 Overview - Shift Forks with Mechatronic Removed”, page 125

3.1 DSG Transmission Mechatronic - J743- Safety Precautions



WARNING

The system is under pressure.

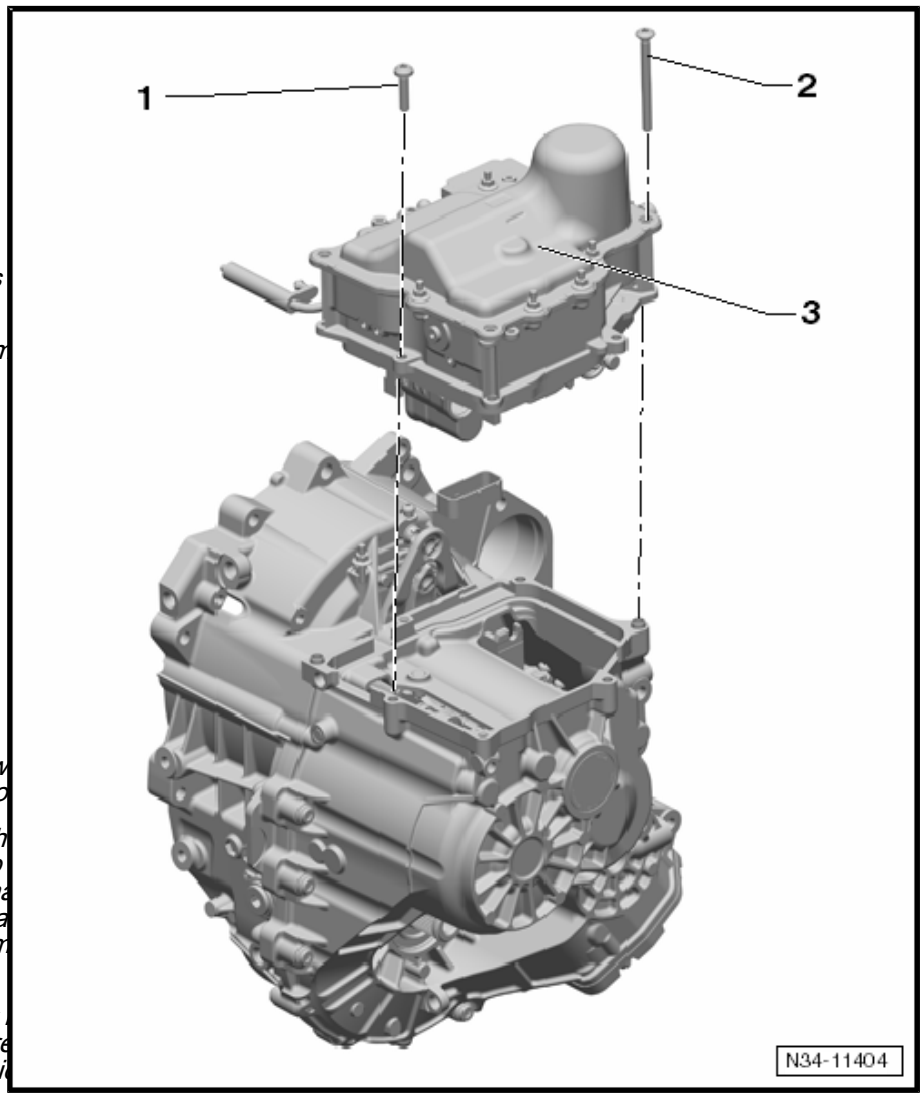
The DSG Transmission Mechatronic - J743- has a pressure reservoir that can hold a system pressure up to 60 bar.

The cover on the DSG Transmission Mechatronic - J743- and the pressure reservoir may not be opened.

Note

The pressure reservoir holds a maximum pressure of 60 bar (870 psi). The pump software adjusts the pressure. The pump shuts off when this pressure is reached. The pump turns back on when the pressure falls below 42 bar (609 psi) caused by shifting. A pressure of up to approximately 75 bar (1088 psi) could be produced if the software is faulty. The pressure relief valve opens automatically when this pressure is reached.

3.2 Overview - Mechatronic



1 - Bolt

- ❑ 10 Nm
- ❑ M8 x 35
- ❑ Always replace after removing

Note

- ♦ *Do not remove bolts sideration.*
- ♦ *Always read the rem scriptions.*

2 - Bolt

- ❑ 10 Nm
- ❑ M8 x 90
- ❑ Always replace after removing

3 - DSG Transmission Mechatronic - J743-

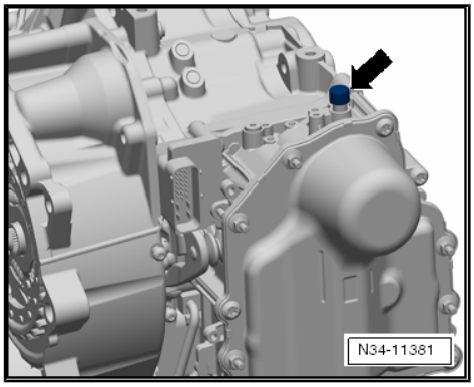
Note

- ♦ *Note the following w ling a new Mechatro*
- ♦ *Do not dispose of th and the closure cap pipe of a new Mecha unpacking it. They a for returning the rem chatronic.*
- ♦ *The fluid in a »new« is already filled corre drain or add any flui*

Pay attention to the vent when handling the Mechatronic.

– When doing assembly work on the Mechatronic, please remove the cap -arrow- from the vent and seal the vent with a suitable plug.

The Protective Cap - 0AM 325 120- is well suited for this.



Caution

On some transmissions, the breather cap on the Mechatronic is destroyed during removal and must be replaced.

Checking the hydraulic fluid level for the Mechatronic is not possible. The Mechatronic vent must be sealed oil-tight before performing any assembly work.

Fluid that has leaked out of the Mechatronic hydraulic area may not be refilled or checked. Replace the Mechatronic if fluid is leaking.

3.3 DSG Transmission Mechatronic - J743- , Removing with Transmission Installed

♦ Bring the DSG Transmission Mechatronic - J743- into the »removal position« by hand. Refer to
⇒ “3.4 DSG Transmission Mechatronic J743 , Moving into Removal Position by Hand”, page 115 .

Special tools and workshop equipment required

♦ Assembly Lever - Mechatronic - T10407-

♦ Used Oil Collection and Extraction Unit - SMN372500-

♦ Engine Bung Set - VAS6122- , or Cap - 0AM 325 120 A-

♦ Vehicle Diagnostic Tester

Brief Description

The must be enough available space in front of the transmission in order to remove the Mechatronic. Depending on the vehicle, it is necessary to remove components that do not have anything to do directly with the transmission. The air filter housing for example, and if equipped, the charge air hoses or coolant hoses.

If there are any brackets on the Mechatronic cover, these must also be removed.

The Mechatronic is brought into the removal position using the Vehicle Diagnostic Tester . All gear positions are »driven into neutral«.

In this position, insert the Assembly Lever - Mechatronic - T10407- between the engaging lever and transmission housing. Now it is possible to relieve the Mechatronic plunger and remove it by hand from the engaging lever sockets.

The Mechatronic can be removed and installed. Make sure the clutch plunger is in the correct position in the engaging lever socket during installation.

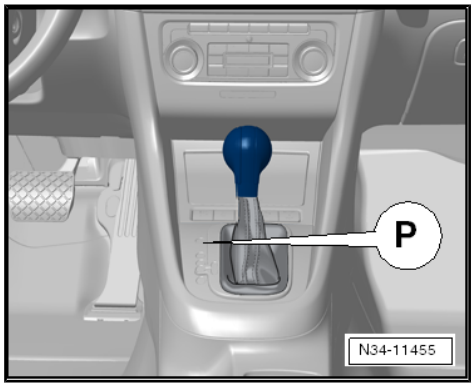
The following description must therefore be followed step by step.

Note

- *The clutch is self-adjusting. Vibrations can affect the adjusting tool. Also when the Mechatronic is removed, the »abrupt pulling away« of the Assembly Lever - Mechatronic - T10407- under the engaging levers will have a negative effect on the adjusting tool.*
- *The must be enough available space in front of the transmission in order to remove the Mechatronic. It is necessary on some vehicles to remove components that do not have anything to do directly with the transmission. If equipped, remove the charge air lines or coolant lines.*
- *Any brackets on the Mechatronic cover are removed.*
- *Do not dispose of the packaging and the closure cap for the vent pipe of a new Mechatronic after unpacking it. They are required for returning the removed Mechatronic.*
- *The fluid in a »new« Mechatronic is already filled correctly. Do not drain or add any fluid.*

Removing

– Move the selector lever into »P«.



– Lift the vehicle, all four take-up points of lifting platform at the same height.

– Remove the noise insulation. Refer to ⇒ Body Exterior; Rep. Gr. 50 ; Noise Insulation .

– Connect the Vehicle Diagnostic Tester and then select “7-Speed DSG® transmission” `Move into -Neutral- gear` under `Guided Functions`.

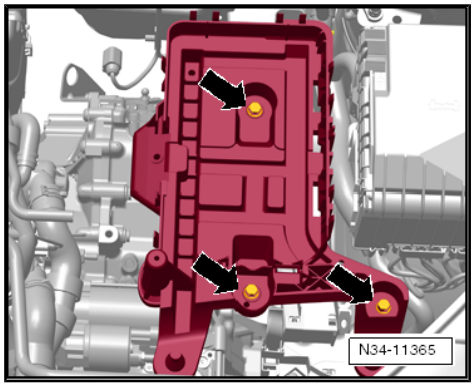
– Switch the ignition off.

– Raise the vehicle.

– Remove the air filter housing:

- Gasoline engine. Refer to ⇒ Rep. Gr. 24 ; Air Filter; Overview - Air Filter Housing .
- TDI engine. Refer to ⇒ Rep. Gr. 23 ; Diesel Direct Injection System; Overview - Air Filter .

– Remove the battery and the battery tray. Refer to ⇒ Electrical Equipment; Rep. Gr. 27 ; Battery; Battery, Removing and Installing .



Some Vehicles have A Cover Over the Engaging Levers.

The cover prevents dirt from getting in.

Tightening specification: 8 Nm.

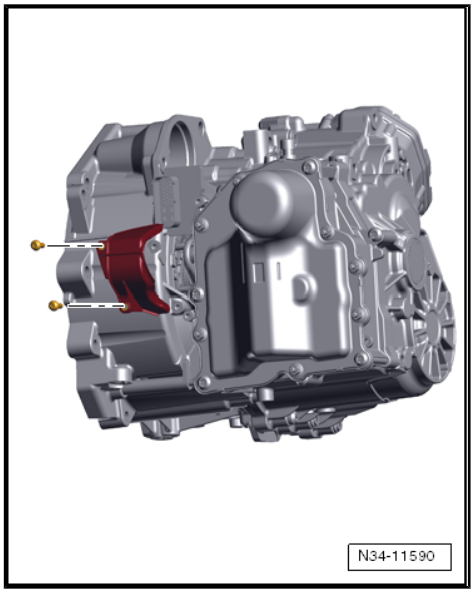
– Remove this cover if equipped.

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

Caution

There is a risk of damaging the DSG Transmission Mechatronic - J743- with static electricity.

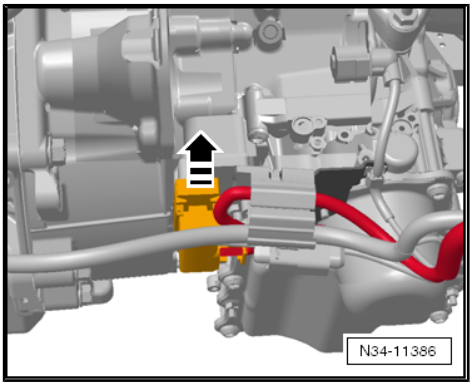
- *Do not touch contacts in DSG Transmission Mechatronic - J743- connector with hands.*



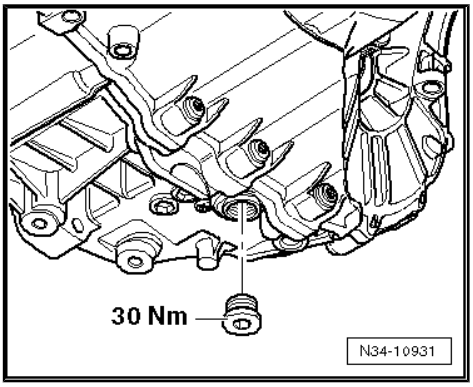
– To discharge any static electricity, touch vehicle ground with hand (without wearing a glove). Refer to ⇒ page 12 .

– Release the connector lock on the Mechatronic by pulling in the direction of the -arrow- and remove the connector.

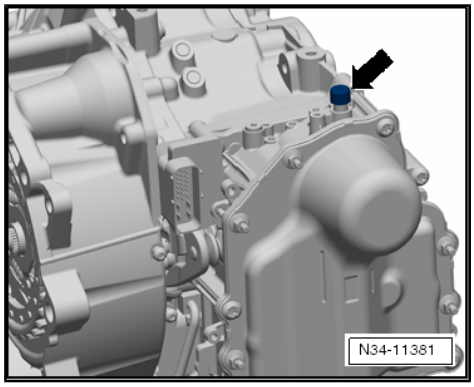
– Place the Used Oil Collection and Extraction Unit - SMN372500- or Drip Tray under the transmission.



– Drain the transmission fluid then reattach the oil drain plug.



– Remove the cap -arrow- from the Mechatronic vent. Seal so that it is oil-tight using a clean plug taken from Engine Bung Set - VAS6122- . Use the Protective Cap - 0AM 325 120 A- if available.



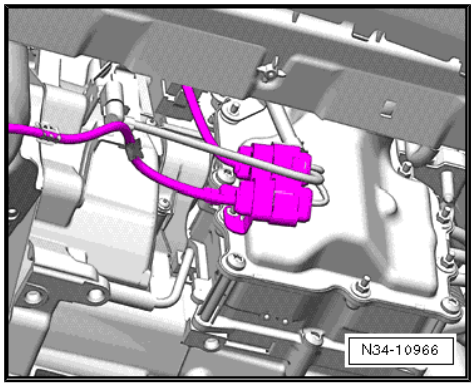
Caution

On some transmissions, the breather cap on the Mechatronic is destroyed during removal and must be replaced.

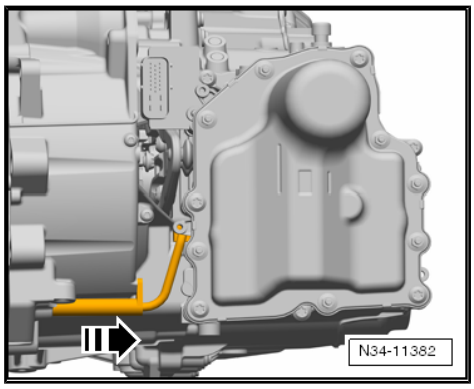
Checking the hydraulic fluid level for the Mechatronic is not possible. The Mechatronic vent must be sealed oil-tight before performing any assembly work.

Fluid that has leaked out of the Mechatronic hydraulic area may not be refilled or checked. Replace the Mechatronic if fluid is leaking.

– Remove all of the front brackets from the transmission.



– Carefully remove the Transmission Input Speed Sensor 3 - G641- from the housing in the direction of the -arrow- using a screwdriver.



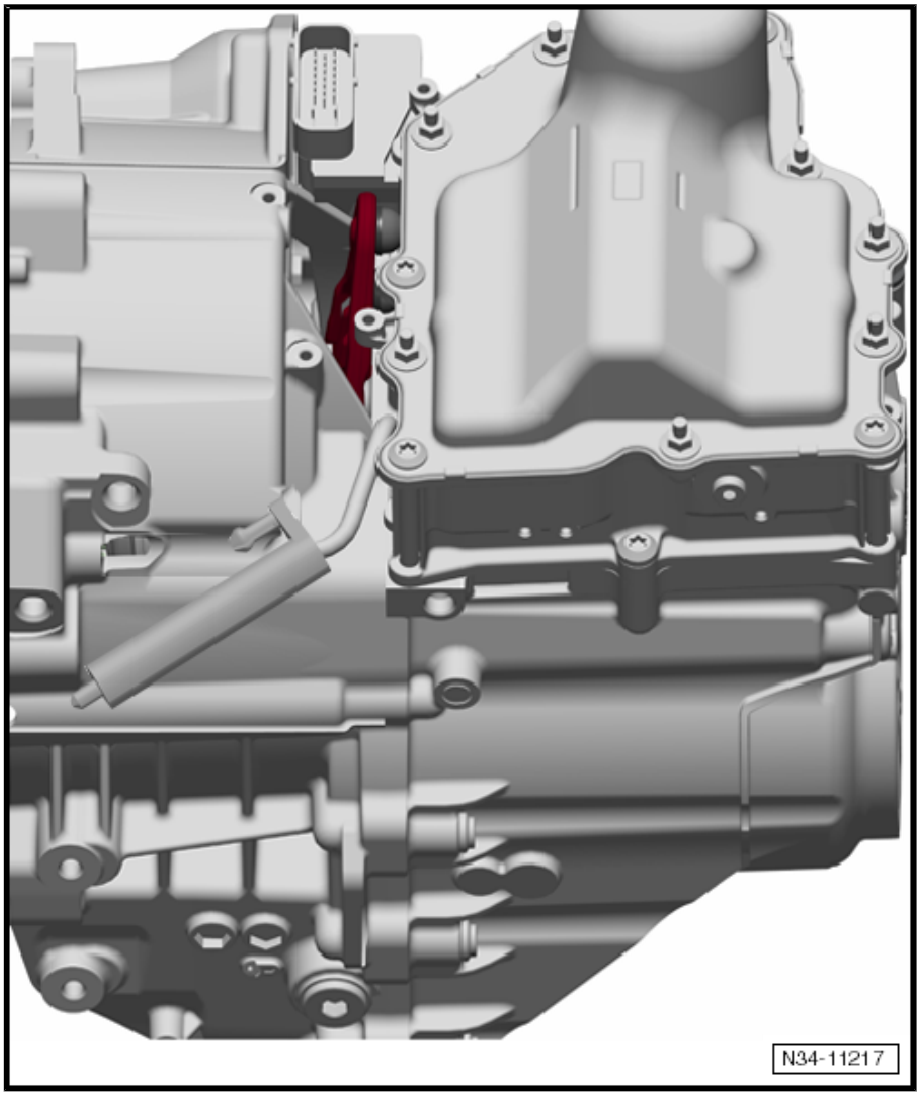
A »Difficult« Procedure Occurs in the Following:

Now both dual clutch engaging levers must be »pushed away« from the Mechatronic plungers. Otherwise the levers will jam the Mechatronic at the plungers and then the Mechatronic cannot be removed.

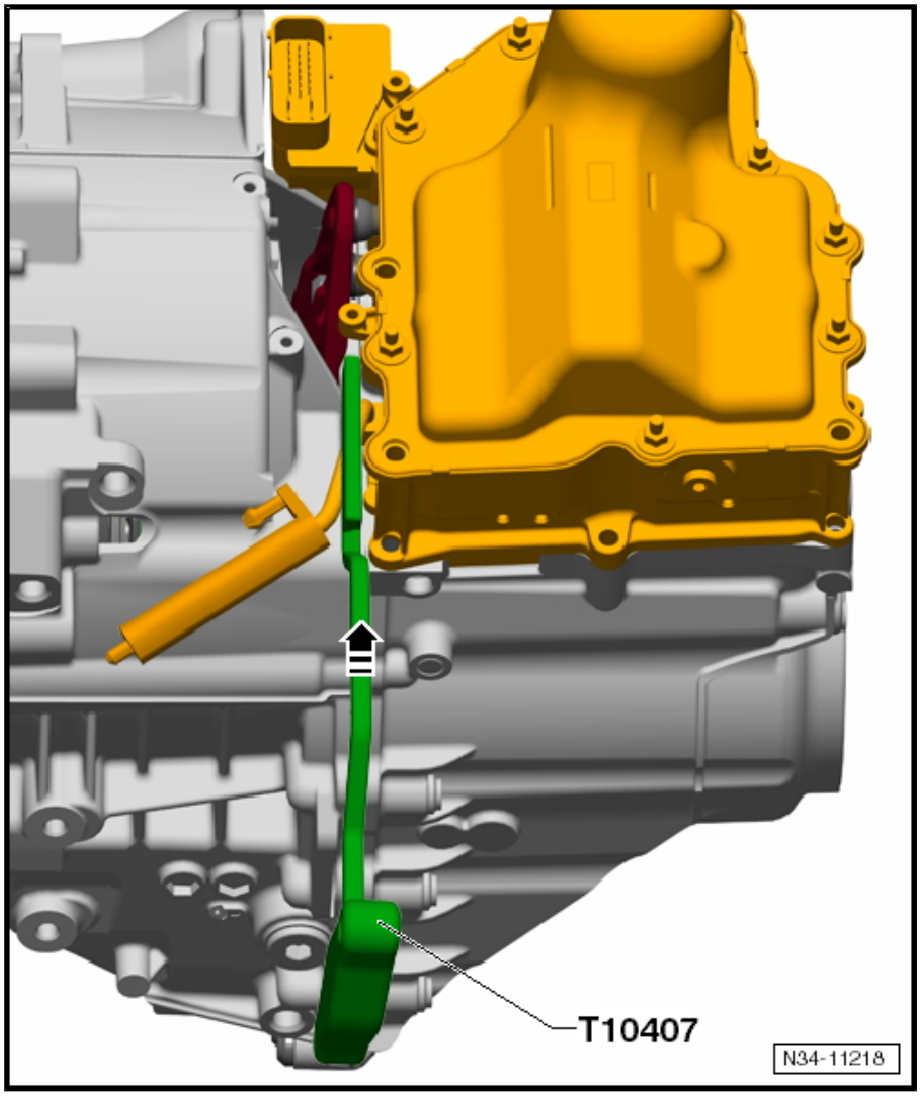
– Please also read this description once through all the way to the end. This will help to do the following steps »correctly«.

Both levers must now be carefully pulled out from the plungers.

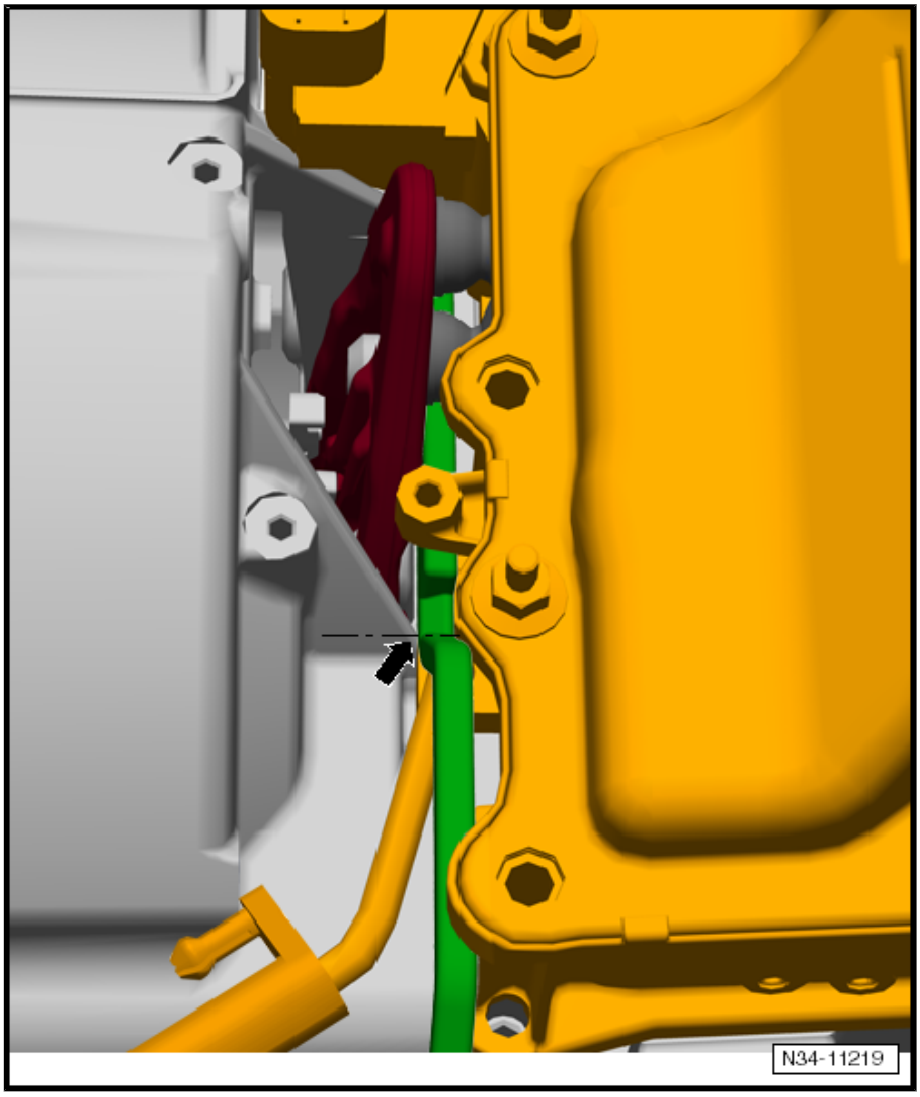
– Please look at the -maroon- engaging lever in this image.



– Insert the Assembly Lever - Mechatronic - T10407- to the right of this.



– Insert until the groove aligns with the housing rib -arrow-.



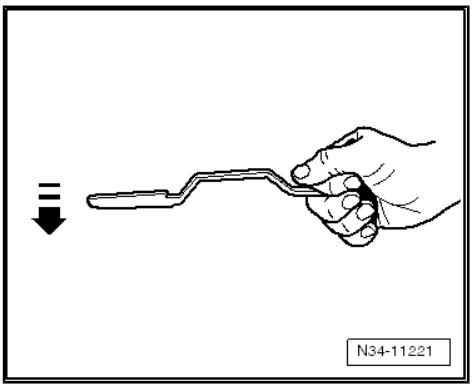
Do not go further.

– The »rear side« of the Assembly Lever - Mechatronic - T10407- should rest completely on the transmission housing.

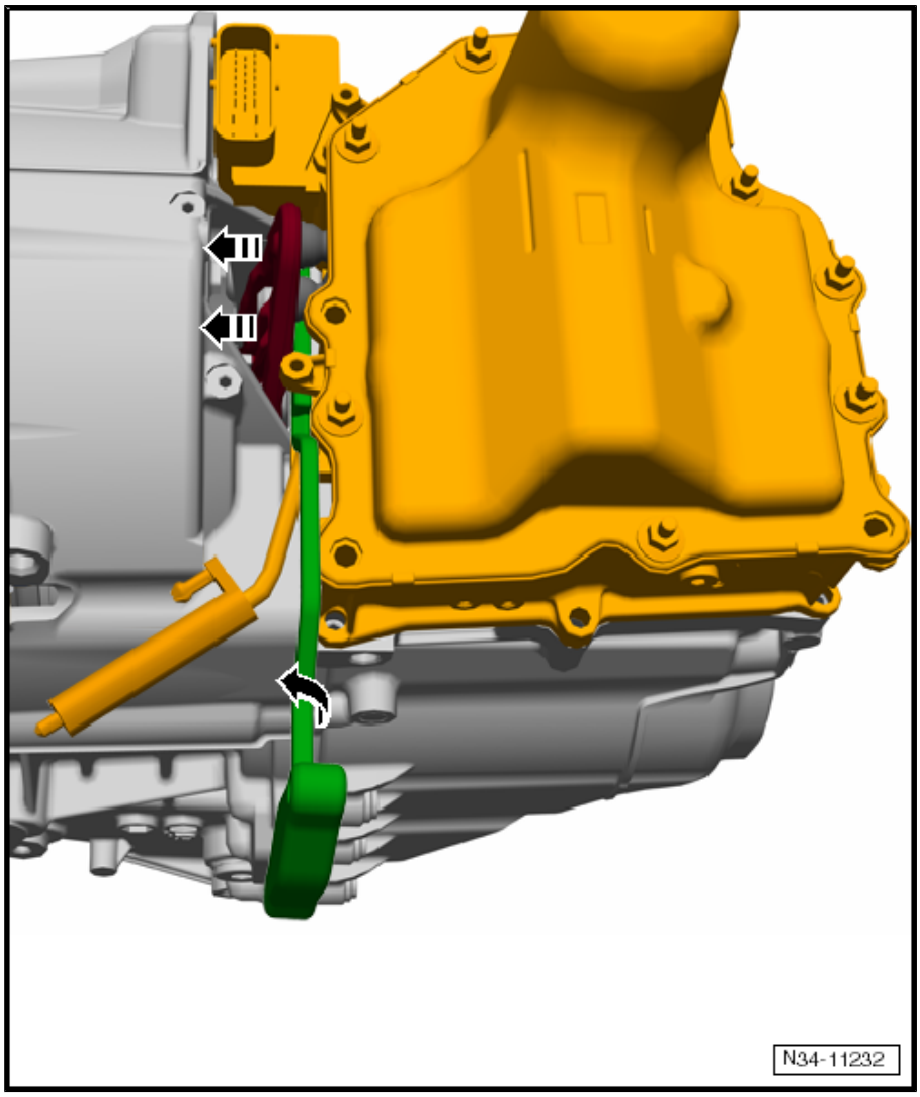
Caution

– Use some force at the top of the handle when turning.

This prevents the handle from sliding out when turning it.

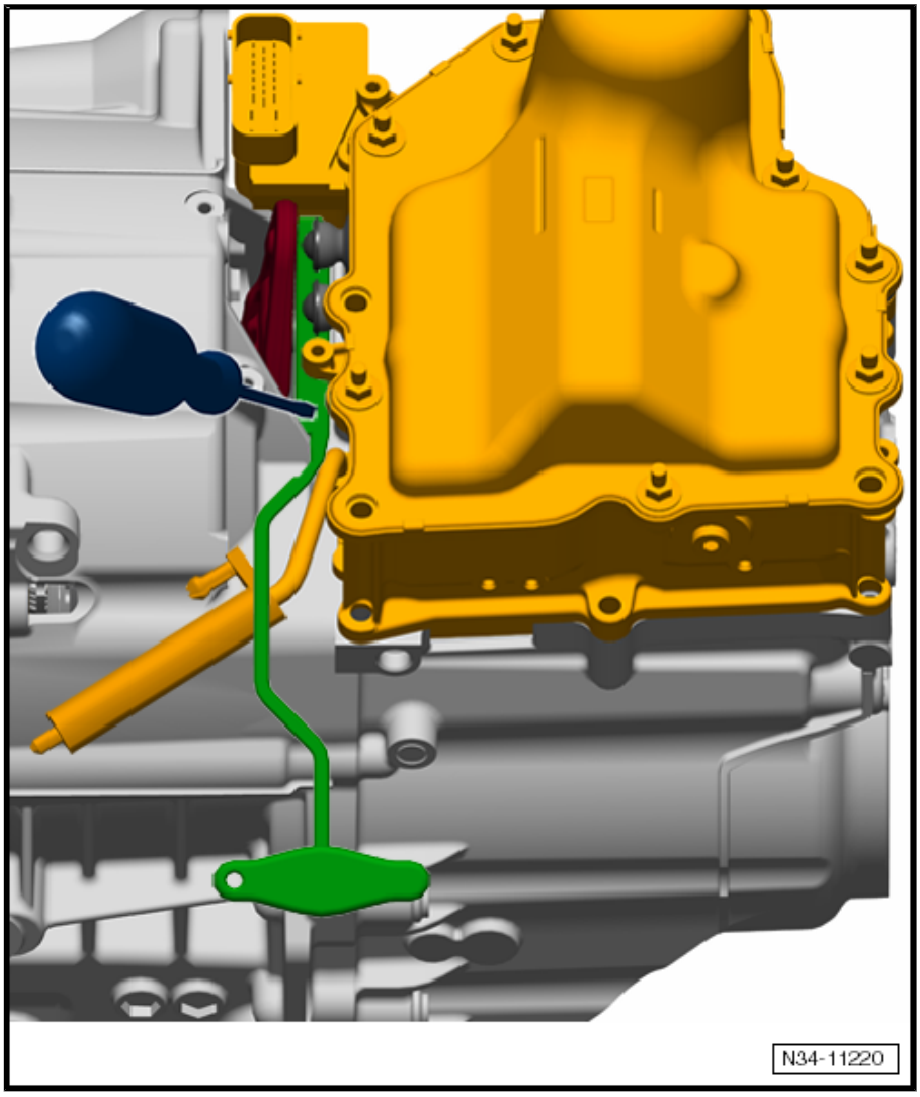


Turn the Assembly Lever - Mechatronic - T10407- counter-clockwise. Then press the engaging lever away from the plungers direction of the -arrow-.



Do not remove the Assembly Lever - Mechatronic - T10407- . It must stay inserted between the engaging lever and the transmission housing for the entire procedure.

– If necessary, push the Assembly Lever - Mechatronic - T10407- against the transmission using a screwdriver.



Note

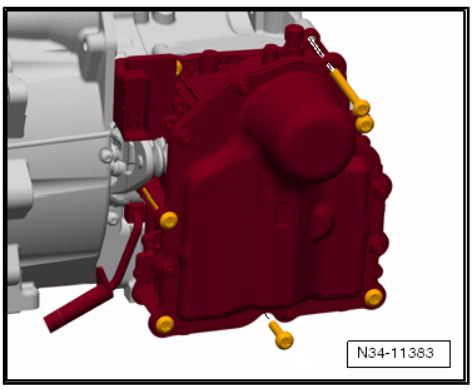
Leave the Assembly Lever - Mechatronic - T10407- inserted between the engaging lever and transmission housing after removing the Mechatronic. Removing the assembly lever could have a negative effect on the clutch adjusting tool.

– Remove the DSG Transmission Mechatronic - J743- bolts »in a diagonal sequence«.

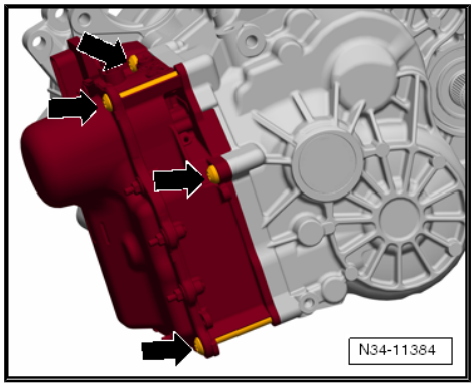
»There are 4 long and three short bolts.«

Do Not Remove More than 7 Bolts.

– Pay attention to exactly which bolts are removed. Do not remove any bolts from the cover.



For clarity, the transmission is shown here again from the side.



The Mechatronic must be removed. The cover should not be removed.

Therefore Do Not Remove More Than 7 Bolts.

Caution

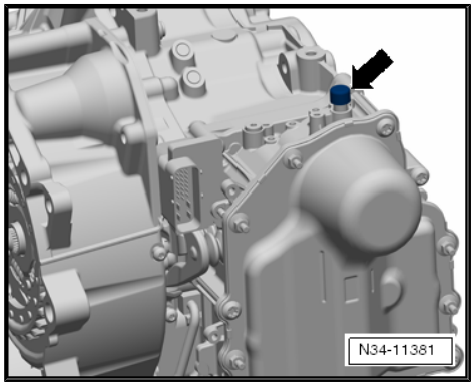
Risk of damaging transmission components.

- *Only touch or remove the DSG Transmission Mechatronic - J743- after having discharged any static electricity by touching a grounded object (for example, contact ground with skin).*
- *Never touch the contacts in the transmission connector. The control module as well as the Mechatronic can become damaged by the static discharge.*

– To discharge any static electricity, touch vehicle ground with hand (without wearing a glove). Refer to ⇒ page 12 .

– Remove the Mechatronic.

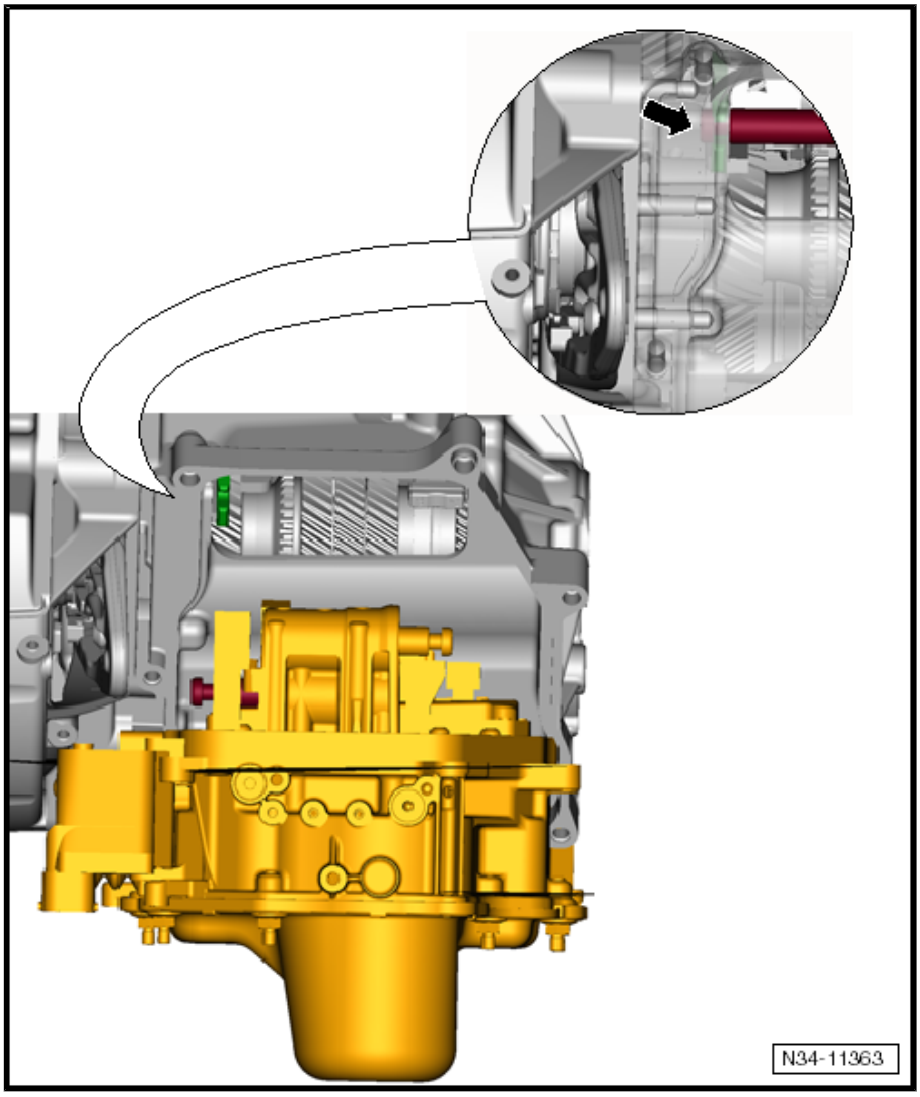
– Make sure that no fluid comes out of the vent.



Caution

Fluid that has leaked out of the Mechatronic hydraulic area may not be refilled or checked. Replace the Mechatronic if fluid is leaking.

If the Mechatronic »gets stuck« and Cannot Be Removed



It may not be possible to remove the Mechatronic. In this case, the gear selector is »caught« at the »upper left side« on the transmission housing.

In this situation, the Mechatronic must not be removed with strong force.

– Place the Mechatronic back on the transmission housing and secure the Mechatronic with a screw.
– Move the Mechatronic by hand into the »Removal position«. Refer to
⇒ “3.4 DSG Transmission Mechatronic J743 , Moving into Removal Position by Hand”, page 115 .

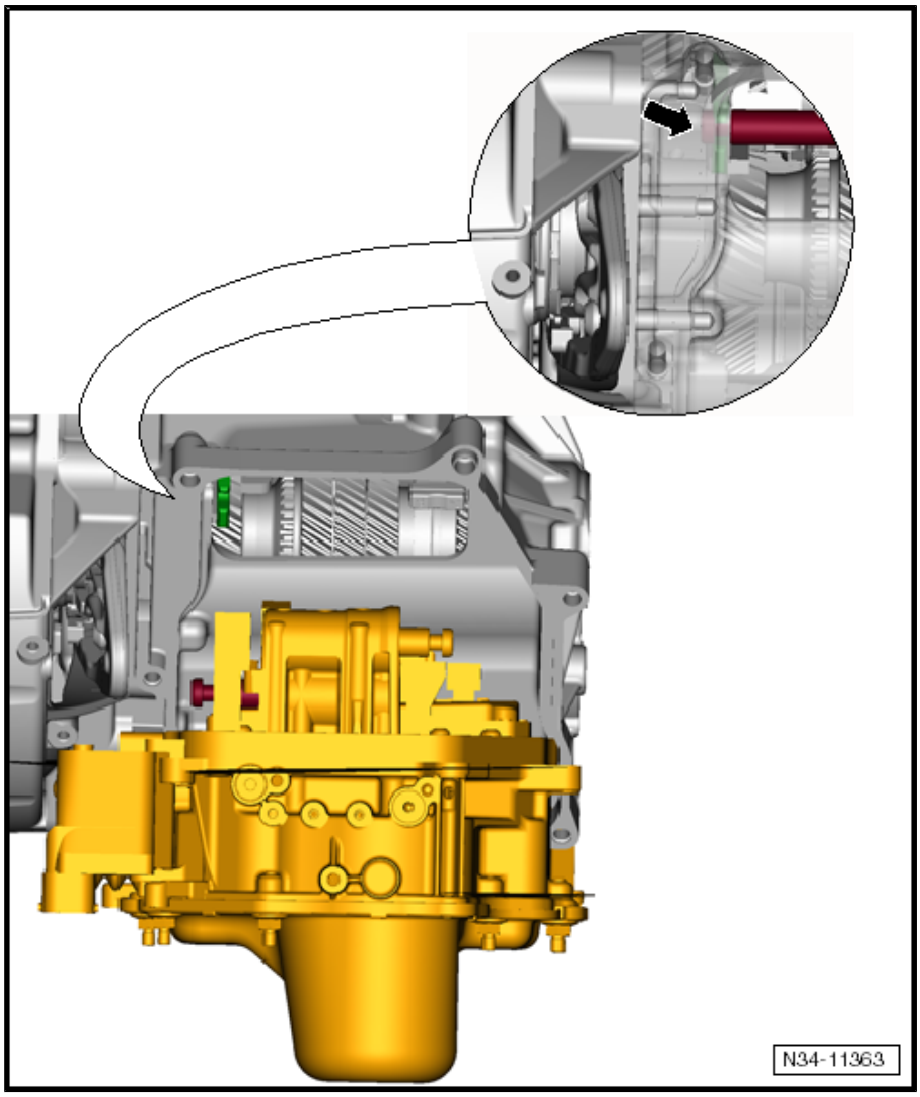
Install the Mechatronic. Refer to
⇒ “3.5 DSG Transmission Mechatronic J743 , Installing”, page 119 .

3.4 DSG Transmission Mechatronic - J743- , Moving into »Removal Position« by Hand

Special tools and workshop equipment required

♦ Pry Lever - 80-200-

Sometimes it may not be possible to remove the Mechatronic. In this case, the gear selector will get »caught« at the »top left side« on the transmission housing -arrow-.

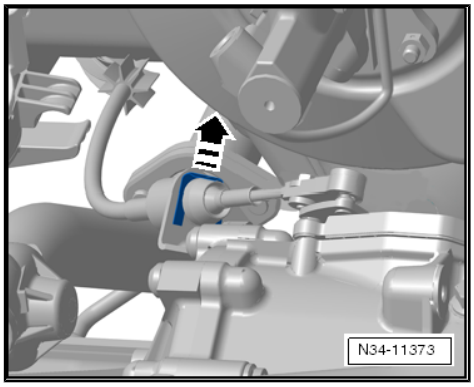


The gear selector that is »caught« -arrow- can be pushed into a »removal position« by hand. Slide a shift fork behind the parking lock cover to do this. Do this according to the following procedure:

– Place the Mechatronic back on the transmission housing and secure the Mechatronic with a screw.
– Move the selector lever into “P”.

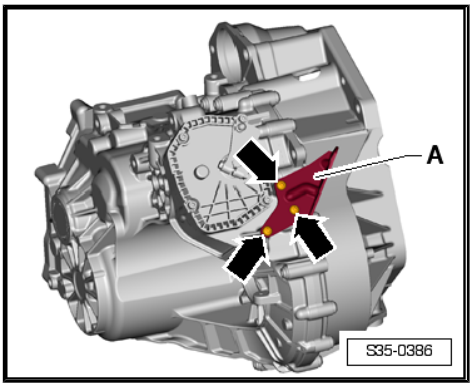
– Remove the lock washer in the direction of the -arrow-.

Always replace the circlip on the selector lever cable.



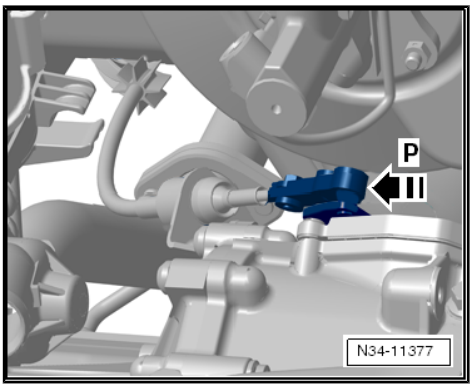
Note

- *Use pliers to remove the lock washer. Do not use a sharp-edged lever. Otherwise the selector lever cable could get damaged.*
- *Remove the cable bracket -A- and selector lever cable from the transmission, if necessary. To do this, remove the bolts -arrows-. These bolts must be replaced.*
- *Bolt tightening specification -arrows-: 8 Nm +90° additional turn.*



– Remove the selector lever cable from the ball head on the selector lever using, for example, a Pry Lever - 80-200- .

– Push the selector lever all the way toward the cable bracket by hand.

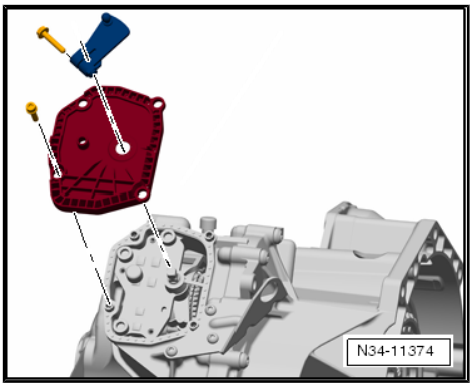


– Remove the selector lever.

– Remove the cover.

Caution

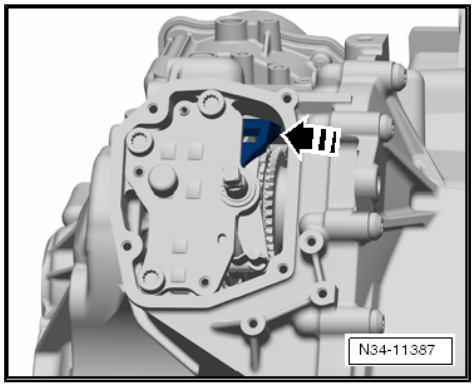
The Mechatronic does not »get caught« after the next step. This means it will fall out under certain circumstances. Secure the Mechatronic to the transmission with a bolt to prevent it from falling down.



– Push the shift fork to the side through the opening in direction of -arrow-.

(Press in the direction of travel to the left).

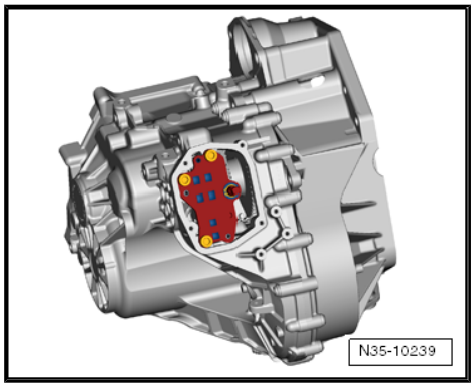
The gear selector that is »caught« will also be pushed back and it will be possible to remove the Mechatronic.



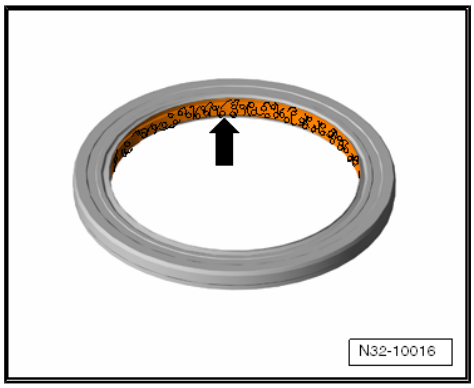
– After completing the work on the Mechatronic and it is installed, fill the transmission fluid via the parking lock.

Note

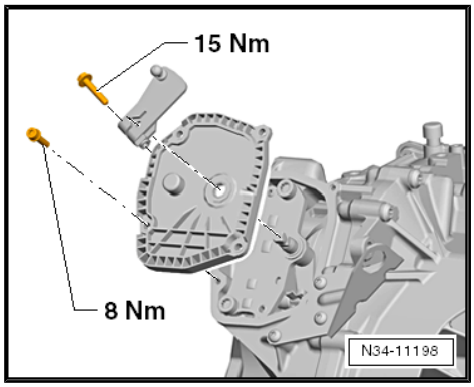
- *When filling the transmission with transmission fluid via the parking lock, it is not necessary to remove the transmission bleed cap on the parking lock cover. It is possible to fill the transmission fluid directly on the parking lock.*
- *Procedure, capacities and transmission fluid specification. Refer to ⇒ "1 Transmission Fluid, Replacing", page 70 .*



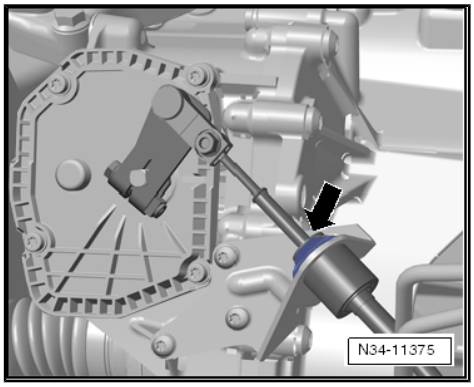
– Lubricate the seal in the parking lock cover with Sealing Grease - G 052 128 A1- .



– Attach the cover and gearshift lever again.



– Press the selector lever cable onto the ball head on the selector lever again and install the new lock washer.
– Always replace the circlip on the selector lever cable.
– Adjust the selector lever cable. Refer to ⇒ “2.6 Selector Lever Cable, Adjusting”, page 94 .



3.5 DSG Transmission Mechatronic - J743- , Installing

Special tools and workshop equipment required

♦ Guide Bolt - Mechatronic - T10406-

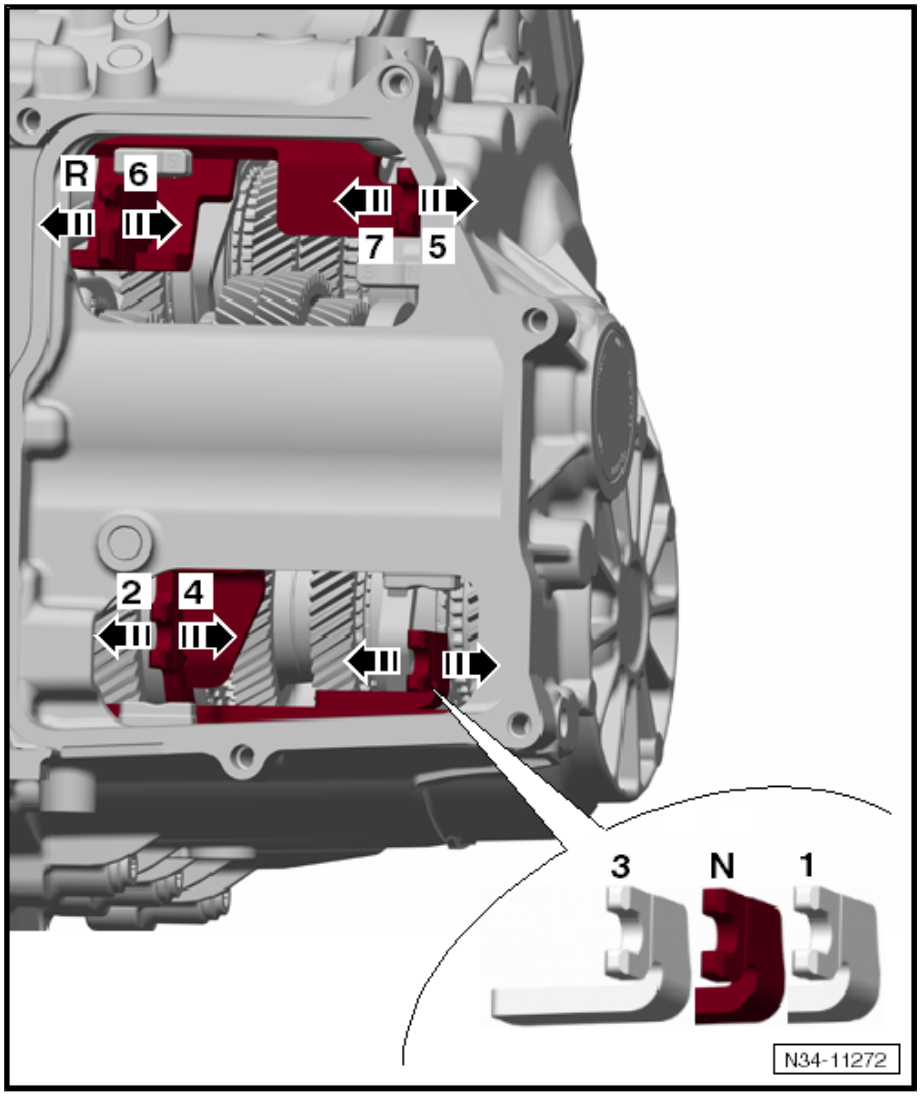
Note

♦ *The fluid in a »new« Mechatronic is already filled correctly.*
♦ *The new Mechatronic is already sealed with the Protective Cap - 0AM 325 120 A- .*
♦ *Do not dispose of the packaging and the closure cap for the vent pipe of a new Mechatronic after unpacking it. They are required for returning the removed Mechatronic.*

Installing

Note

It must be certain that all shift forks are in -N- »in the center« and that the transmission is engaged in the neutral position.



– Check each of the 4 shift forks by hand.

Each Shift Fork has 3 Settings: »gear engaged - neutral - gear engaged«.

– Shift each fork into every setting consecutively. Then remove all gears and set the shift forks back into »center position«.

Note

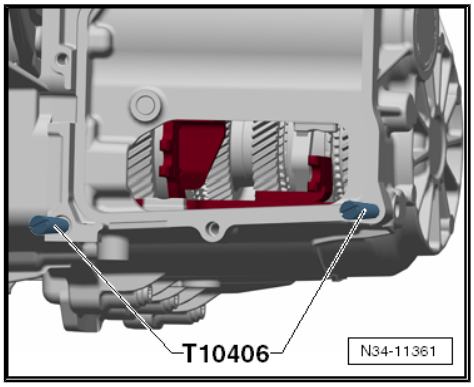
»Center position, neutral, neutral position«, otherwise the transmission will not work.

The front wheel can be turned slightly for support. Then the forks will shift »easier«.

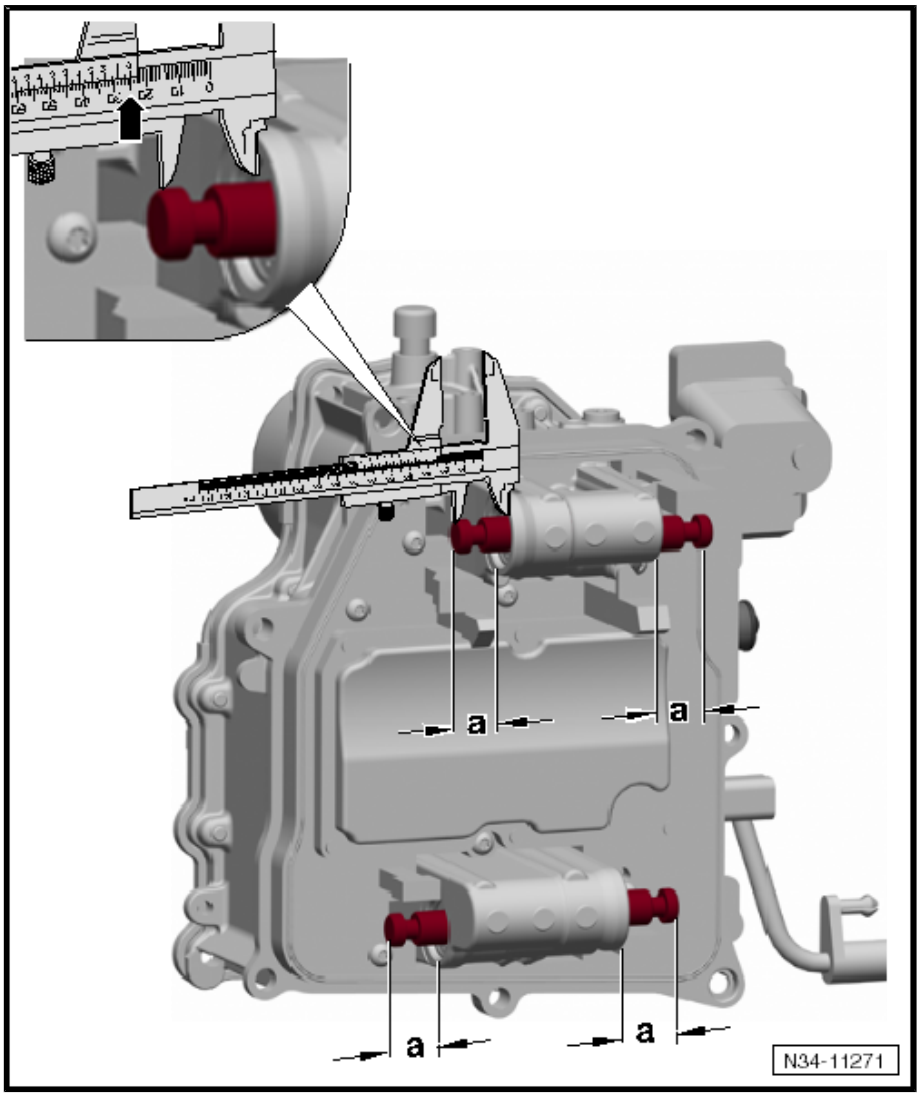
– Clean the sealing surface that the Mechatronic will later rest on.

Oil residue on the sealing surface causes the future error diagnosis to be »leaking«.

– Install the Guide Bolt - Mechatronic - T10406- hand-tight.



Make sure all 4 gear positioners stick out 25 mm -a-.



Caution

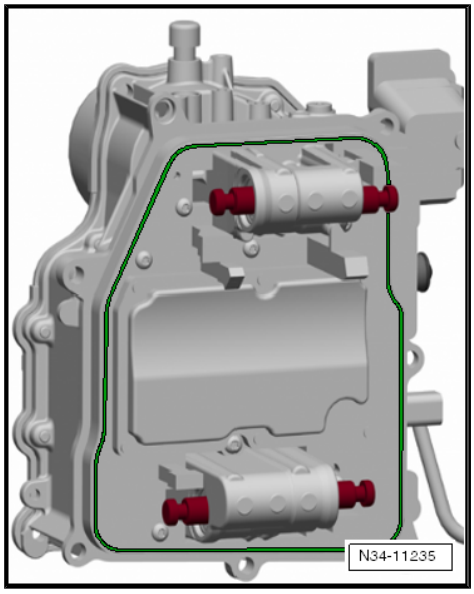
Use caution when handling. Pry the plunger out of the Mechatronic and make sure it is not being supported on the sensors.

– Please clean the Mechatronic sealing surface.

– Check the seal on the Mechatronic.

The seal must be fastened all around.

– Pay attention to the Transmission Input Speed Sensor 3 - G641- . The clip must not be damaged.



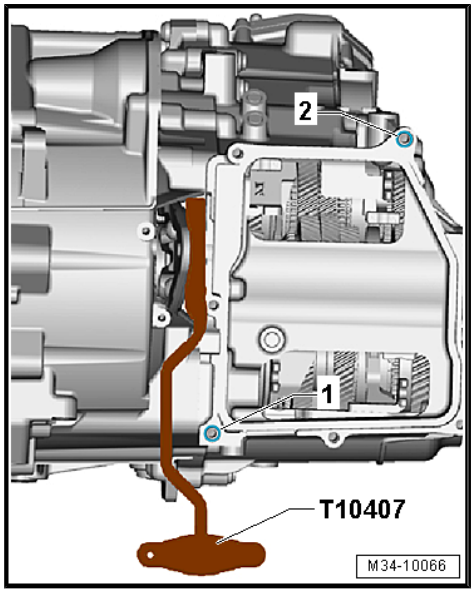
The Assembly Lever - T10407- is inserted between the engaging lever and the transmission housing.

The two alignment sleeves -1 and 2- for centering the Mechatronic on the transmission housing must be installed.

– Mount the Mechatronic.

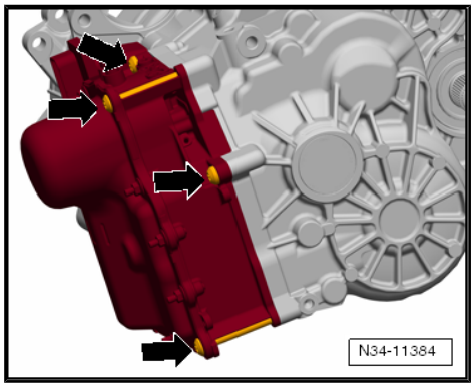
– When handling and mounting, make sure the shift forks are not accidentally pushed out of their position.

– Also pay attention to the engaging lever and plunger at the Mechatronic.



– Install 7 new bolts hand-tight.

– Remove the Guide Bolt - Mechatronic - T10406- again.



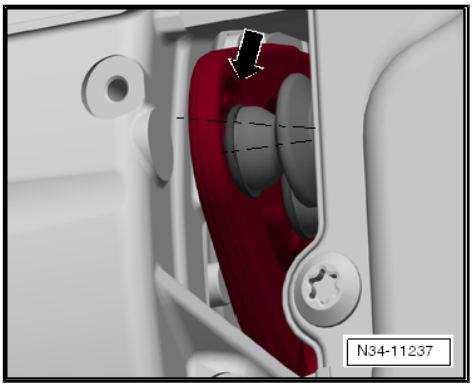
– Make sure the plungers fit correctly in the engaging lever socket when doing so.
– Pull the plungers out far enough until they fit correctly in the sockets.

The plungers can be brought into position using a bent welding wire hook (self-made).

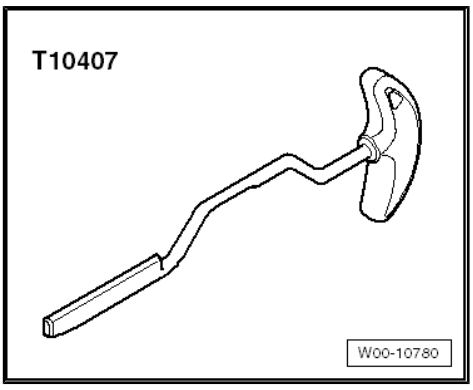
– Now check the plunger positions once again.

Plungers that are positioned incorrectly will damage the Mechatronic.

– Diagonally tighten the Mechatronic to 10 Nm.

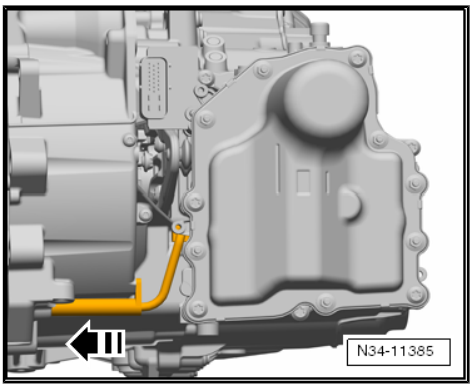


– Turn the Assembly Lever - Mechatronic - T10407- to the right and remove.

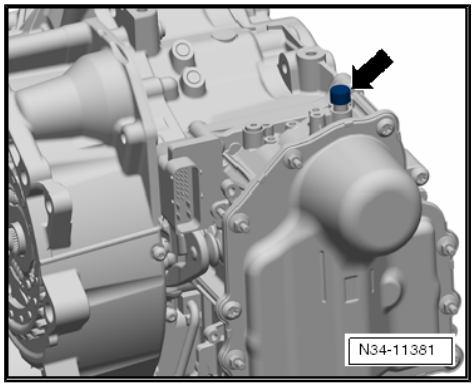


– Install the Transmission Input Speed Sensor 3 - G641- .
– Watch the sensor. The clip must not be damaged.

• The sensor must fit completely in its retainer and must be touching the transmission housing. Replace the Mechatronic if the sensor is »loose« or if the clip is broken.



– Remove the plug and mount the vent cap -arrow-.



Caution

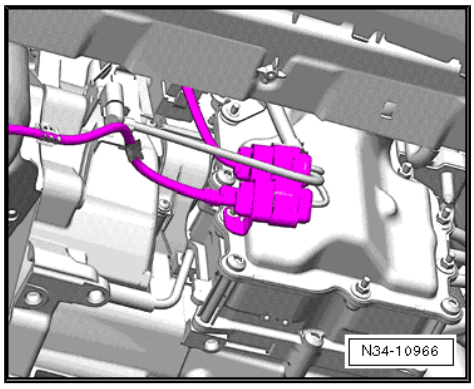
Danger of causing damage to transmission components.

- *Never touch the contacts in the transmission connector. The control module as well as the Mechatronic can become damaged by the static discharge.*

– To discharge any static electricity, touch vehicle ground with hand (without wearing a glove). Refer to ⇒ page 12 .

– Connect and lock the Mechatronic connector.

– Attach all of the front brackets to the transmission.



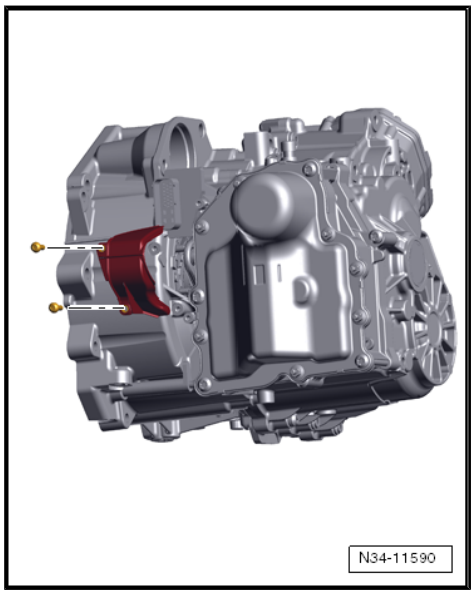
Some Vehicles have A Cover Over the Engaging Levers.

The cover prevents dirt from getting in.

Tightening Specification: 8 Nm.

Now fill the transmission fluid. Refer to
⇒ “1 Transmission Fluid, Replacing”, page 70 .

– Install the starter. Refer to ⇒ Electrical Equipment; Rep. Gr. 27 ; Starter; Starter, Removing and Installing .



– If removed, install the charge air or coolant hoses.

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

– Install the air filter housing:

♦ Gasoline engine. Refer to ⇒ Rep. Gr. 24 ; Air Filter; Overview - Air Filter Housing .

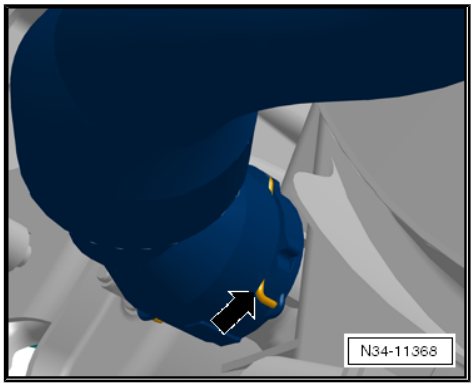
♦ TDI engine. Refer to ⇒ Rep. Gr. 23 ; Diesel Direct Injection System; Overview - Air Filter .

– Fill the coolant if necessary. Refer to ⇒ Rep. Gr. 19 ; Cooling System Components .

– Install the noise insulation. Refer to ⇒ Body Exterior; Rep. Gr. 50 ; Noise Insulation .

– Connect the Vehicle Diagnostic Tester and `Perform basic measurement`. Refer to ⇒ “7.3.3 Basic Measurement, Performing”, page 13 .

– If necessary, place the plug on the »removed« Mechatronic.



Now the Mechatronic can be sealed for shipping.

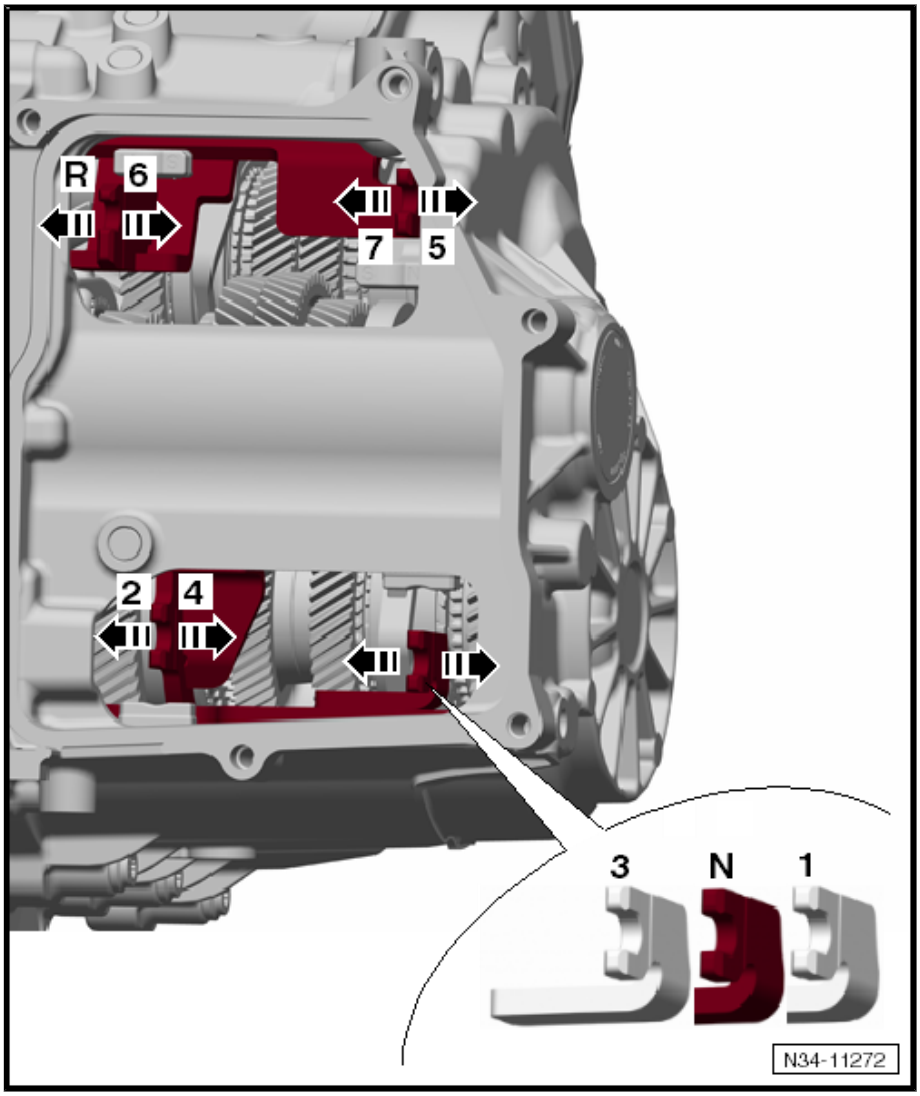
3.6 Overview - Shift Forks with Mechatronic Removed

N - Idle/Neutral Transmission Position »in the Center«

R - Reverse Gear

❑ If reverse gear is engaged then the extended Mechatronic plunger gets caught behind the transmission housing.

– For this reason, move the Mechatronic by hand into the removal position. Refer to ⇒ “3.5 DSG Transmission Mechatronic J743 , Installing”, page 119 .



1 - Gear

2 - Gear

3 - Gear

4 - Gear

5 - Gear

6 - Gear

7 - Gear

4 Transmission, Removing and Installing, Jetta from MY 2005, Golf Wagon from MY 2007 and Golf Wagon from MY 2010

Information for transmissions with different output shafts. Refer to ⇒ “4.1 Transmissions with Different Output Shafts”, page 127 .

Vehicles with Gasoline Engine

⇒ “4.2 Transmission, Removing, Vehicles with 1.4L/90 kW TFSI Engine and 1.4L/118 kW TSI Engine”, page 127

Vehicles with Diesel Engines

⇒ “4.4 Transmission, Removing, Vehicles with 1.9L 77 kW TDI PD Engine”, page 143

4.1 Transmissions with Different Output Shafts

Transmissions with Different Output Shafts

A - Stub Shafts »through 11/2008«

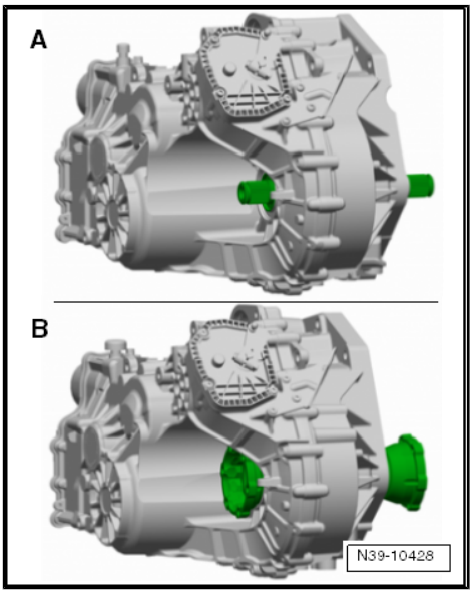
B - Flange Shafts »from 12/2008«

Vehicles with Stub Shafts on the Transmission

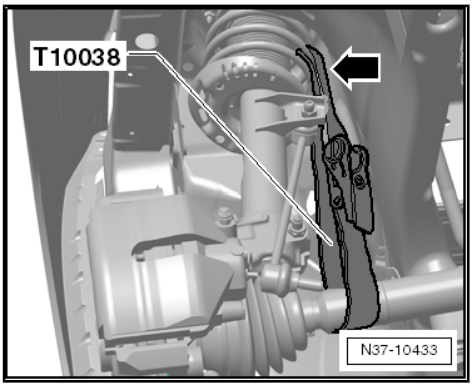
On transmissions with stub shafts, it is necessary to remove the drive axles for the transmission removal. Only shafts whose joints are not bent can be reattached to the output shaft. These drive axles must be removed because of this.

Vehicles with Flange Shafts on the Transmission

The drive axles are removed from transmissions with flange shafts. This allows the transmission to be removed. In some cases it is necessary to remove the right flange shaft from the transmission. This gives enough free space for the transmission removal.



Both drive axles are attached to the suspension strut with the Tensioning Strap - T10038- .



4.2 Transmission, Removing, Vehicles with 1.4L/90 kW TFSI Engine and 1.4L/118 kW TSI Engine

Special tools and workshop equipment required

- Engine Support Bridge - 10-222A-

- Transmission Support - Mounting Plate 59 - 3282/59-
- Engine Support Bridge - Engine Support Feet - 10-222A/8-
- Socket - Xzn 14 - T10061-
- Transmission Support - 3282-
- Insert Tool - 18mm - T10179-
- Tensioning Strap - T10038-
- Engine and Gearbox Jack - VAS6931-
-

Brief Description

The transmission is removed downward by itself without the engine.

The battery, the air filter and the starter are removed »from above«.

The noise insulation under the engine/transmission, the lower cover in the left front wheel housing and the pendulum support are removed »from below«.

Removing

– Lift the vehicle, all four take-up points of lifting platform at the same height.

– Move the selector lever into »P«.

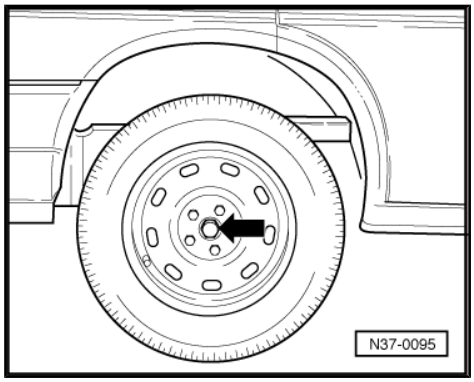
Only On Vehicles with Stub Shafts

Note

Do not set the vehicle on the ground any more after removing the drive axle bolt at the wheel bearing housing.

– Press the brakes and remove both drive axle bolts -arrow- (second technician).

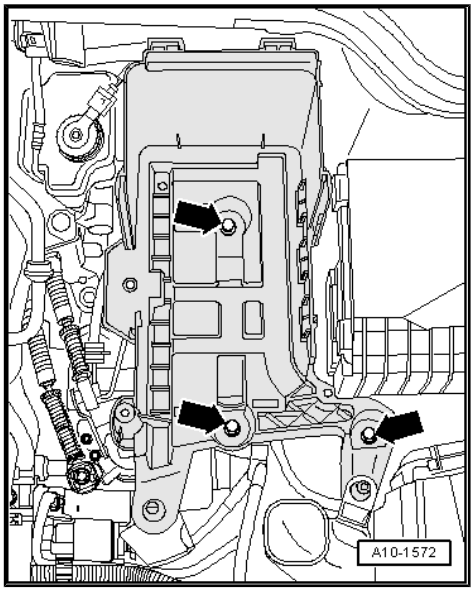
– Remove both front wheels.



Continuation for All Vehicles

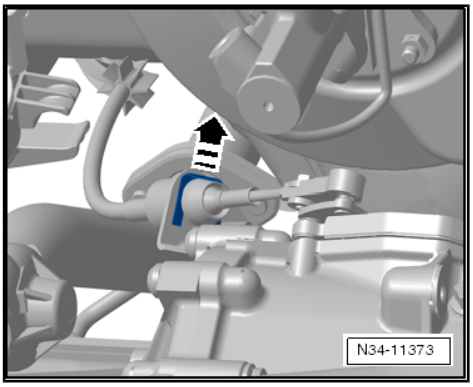
– Remove the air filter housing. Refer to ⇒ Rep. Gr. 24 ; Air Filter; Overview - Air Filter Housing .

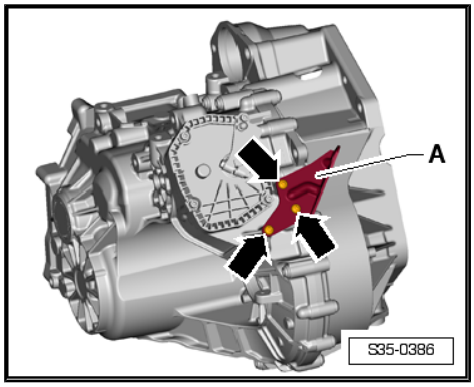
– Remove the battery and the battery tray. Refer to ⇒ Electrical Equipment; Rep. Gr. 27 ; Battery; Battery, Removing and Installing .
– Remove the starter. Refer to ⇒ Electrical Equipment; Rep. Gr. 27 ; Starter; Starter, Removing and Installing .



– Remove the lock washer in the direction of the -arrow-.

Always replace the circlip on the selector lever cable.





Note

- *Use pliers to remove the lock washer. Do not use a sharp-edged lever. Otherwise the selector lever cable could get damaged.*
- *Remove the cable bracket -A- and selector lever cable from the transmission, if necessary. To do this, remove the bolts -arrows-. These bolts must be replaced.*
- *Bolt tightening specification -arrows-: 8 Nm +90° additional turn.*

– Remove the selector lever cable from the ball head on the selector lever using, for example, a Pry Lever - 80-200- .

The selector lever cable can also be slid back slightly from the cable bracket and later removed when lowering transmission. Pay attention to the selector lever cable when lowering the transmission.

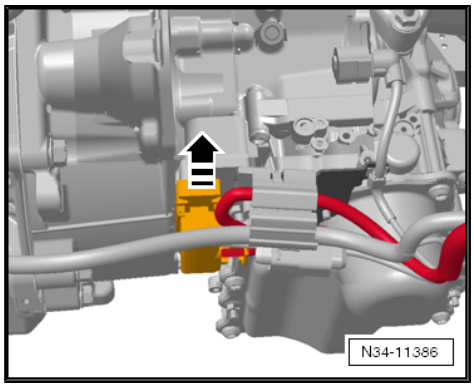
Caution

Risk of damaging transmission components.

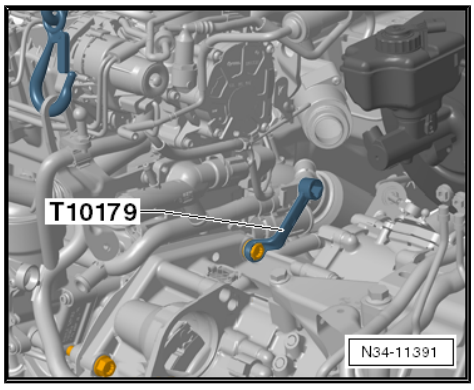
- ***Never touch the contacts in the transmission connector. The control module as well as the Mechatronic can be destroyed by static discharge.***

– To discharge any static electricity, touch vehicle ground with hand (without wearing a glove). Refer to ⇒ page 12 .

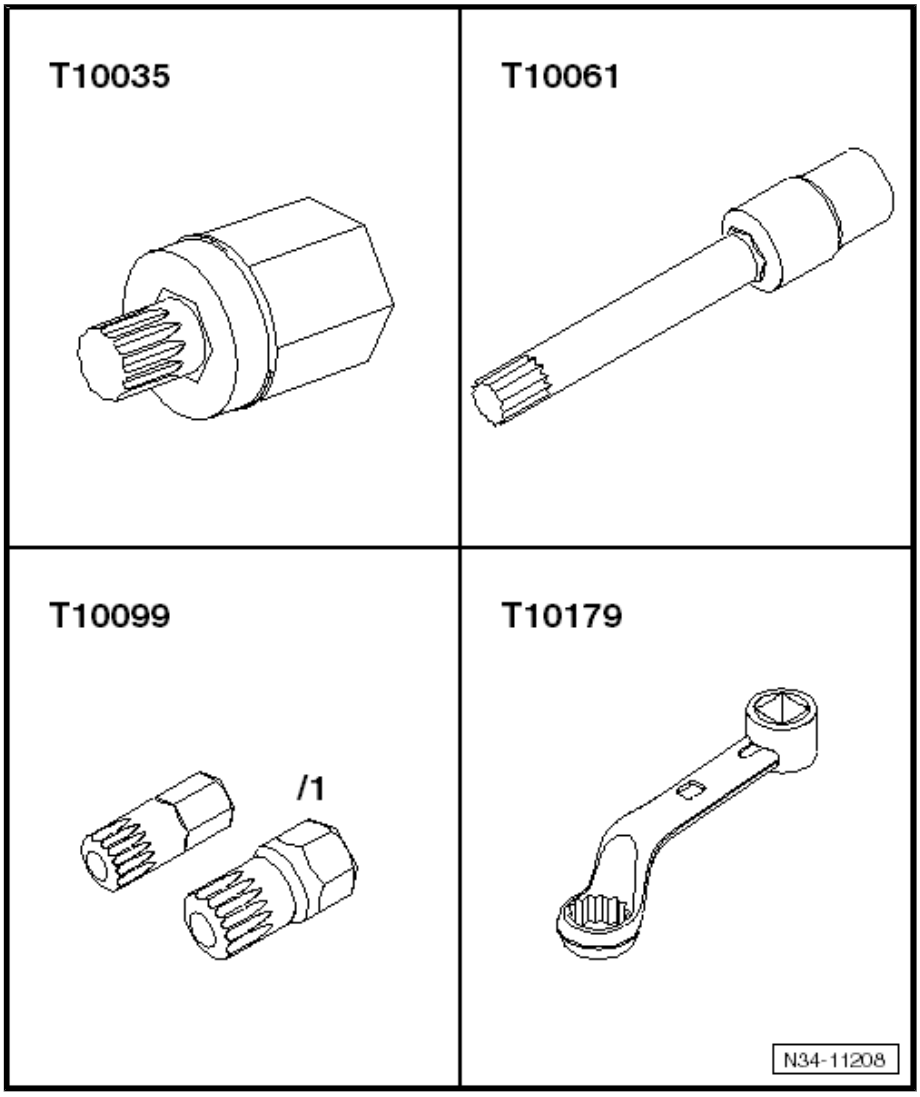
– Release the connector lock on the Mechatronic by pulling in the direction of -arrow- and remove the connector.



– Remove the upper bolts between the engine and the transmission.



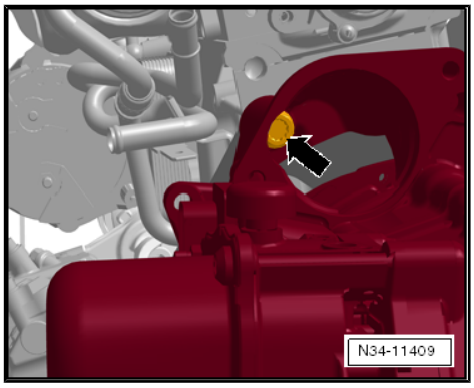
These tools are suitable for this.



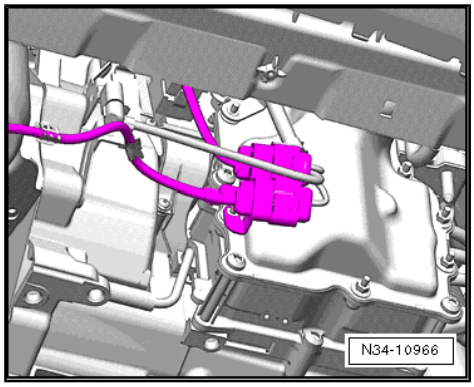
One bolt is located inside the starter opening. In place of an 18 mm nut, the Socket - Xzn 14 - T10061- can also be used.

– Remove the noise insulation. Refer to ⇒ Body Exterior; Rep. Gr. 50 ; Noise Insulation .

– Remove the wheel housing liner front section. Refer to ⇒ Body Exterior; Rep. Gr. 66 ; Wheel Housing Liner; Overview - Front Wheel Housing Liner .



– Remove all of the front brackets from the transmission.

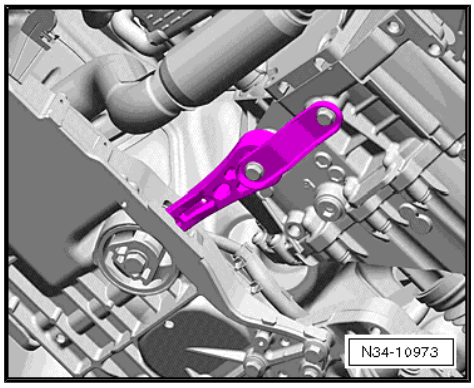


– Remove the pendulum support.

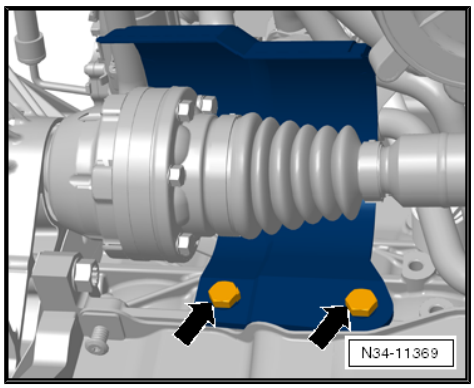
Only on Vehicles with Stub Shafts

– Remove both drive axles. Refer to ⇒ Suspension, Wheels, Steering; Rep. Gr. 40 ; Drive Axles, Removing and Installing .

Only on Vehicles with Flange Shafts



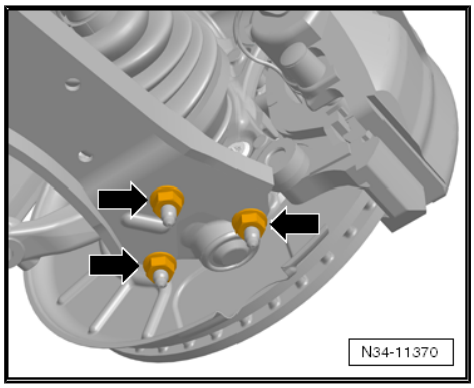
– If equipped, remove the heat shield above the right drive axle. Refer to ⇒ Suspension, Wheels, Steering; Rep. Gr. 40 ; Drive Axles, Removing and Installing for the tightening specification.



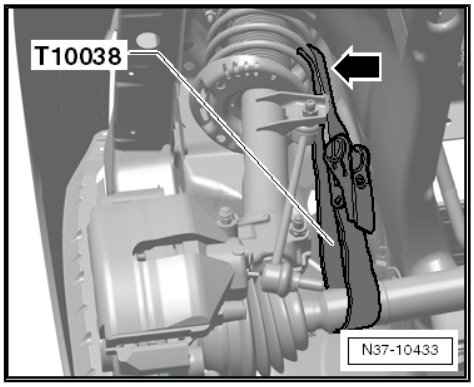
– Remove only the left control arm from the ball joint -arrows-.

– Move the left drive axle into the wheel housing and on the longitudinal member. By doing so, the shaft will not interrupt further work.

Do not damage the surface of the shafts. For this reason, plastic cable ties or Tensioning Straps - T10038- are very suitable.

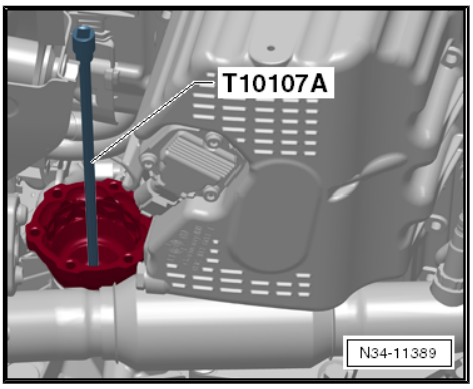


Both drive axles are attached to the suspension strut with the Tensioning Strap - T10038- .



– Remove the right flange shaft bolt at the transmission using the Socket And Extended Bit - T10107A- . Insert two bolts in the flange and counterhold with a tire iron.

The bolt has 6 mm inner hex. The bolt can also be removed and installed using the Long Hex Socket - VAG1669- .

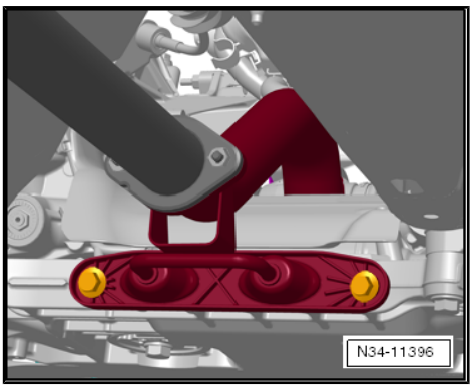


– Remove the flange shaft.

– Seal the flange shaft opening with a suitable plug.

Continuation for All Vehicles

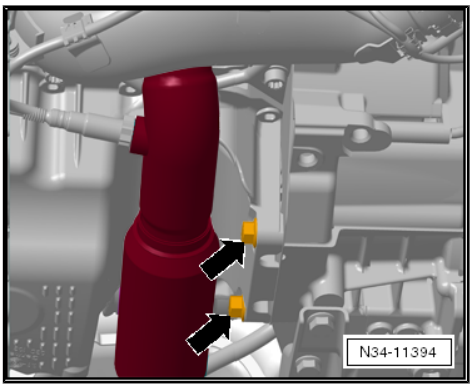
– Remove the exhaust system bracket from the subframe.



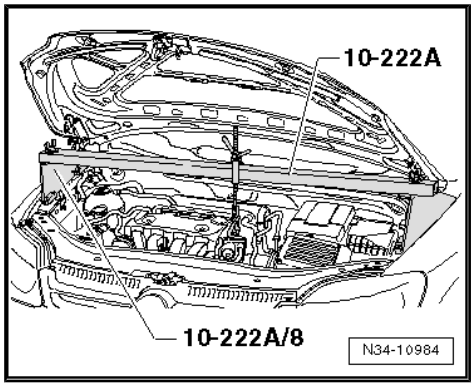
– Remove the front exhaust pipe so that the lower bolts -arrows- can be removed. Refer to ⇒ Rep. Gr. 26 ; Exhaust Pipes/Mufflers .

– Remove the engine cover from the cylinder head.

– If there are hose and cable connections located near the engine lifting eyes for the Engine Support Bridge - 10-222A- , these must now be removed.



– Support the engine and transmission with the Engine Support Bridge - 10-222A- but do not lift.

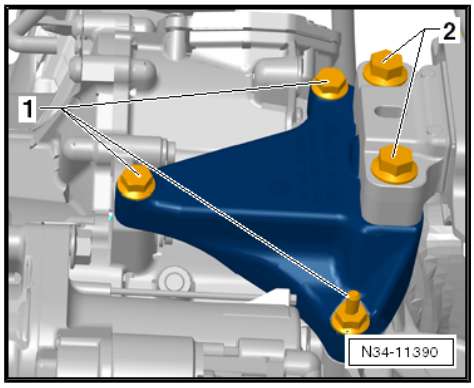


Remove all bolts -1 and 2- from the transmission bracket.

– Then lower the engine/transmission slightly using the Engine Support Bridge - 10-222A- spindle so that the transmission bracket can be removed.

A maximum of 5 turns are enough to remove the transmission bracket.

In many cases it is not necessary to lower the spindles when removing the transmission later.



To remove the transmission 0AM, the Transmission Support - 3282- is equipped with the Transmission Support - Mounting Plate 59 - 3282/59- and positioned on the Engine and Gearbox Jack - VAS6931- .

– Align the arms of the Transmission Support so that they match up with the holes in the Transmission Support - Mounting Plate 59 - 3282/59- .

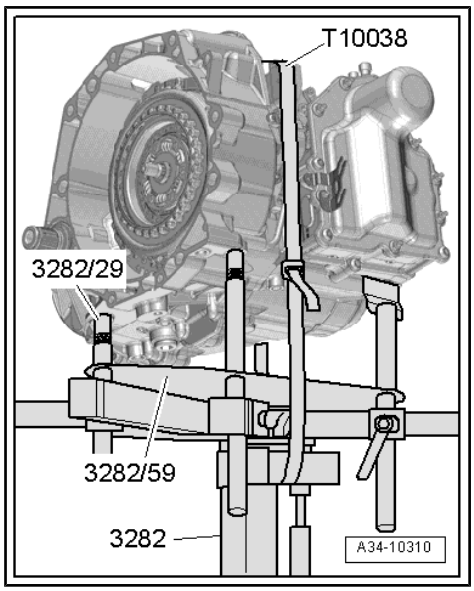
– Install the mounting elements as illustrated on the Transmission Support - Mounting Plate 59 - 3282/59- .

– Place the Engine and Gearbox Jack - VAS6931- under the vehicle.

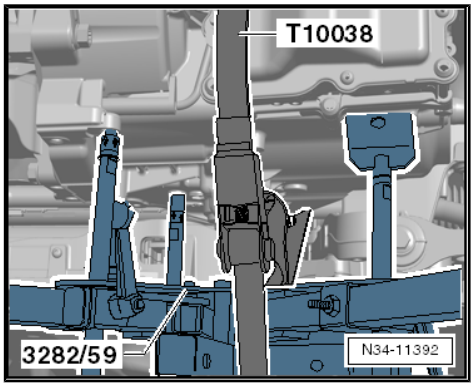
• The arrow symbol on the Transmission Support - Mounting Plate 59 - 3282/59- points in the direction of travel.

– Align the Transmission Support - 3282- so that it is parallel to the transmission.

– Transmission Support - Pins 29 - 3282/29- are inserted in the »rear« hole for the pendulum support.



– Mount both remaining mounting elements on the transmission as shown. While doing this, place the drift plate under the transmission housing and not under the Mechatronic.
– Secure the transmission with a Tensioning Strap - T10038- .
– Support the transmission by lifting it from underneath using the Engine and Gearbox Jack - VAS6931- .



The transmission is disconnected from the engine in this position.

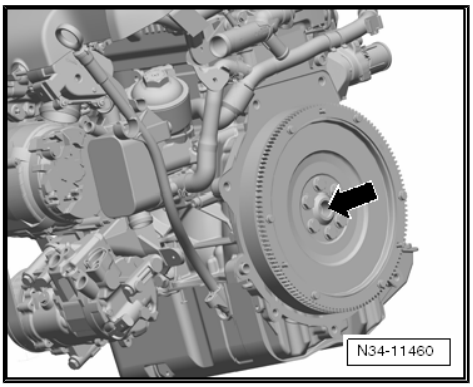
– Remove the remaining engine/transmission connecting bolts.
– Remove transmission from engine »while being careful of selector lever cable« and lower transmission.

Note

- *The distance between the engine flange and transmission flange should be approximately 50 mm before lowering the transmission.*
- *Pay attention to all lines and coolant hoses when lowering the transmission.*

Note

- *Always replace the needle bearing -arrow- after separating the engine and transmission.*
- *If the needle bearing in the crankshaft is damaged, the gears will no longer shift correctly.*



– Replace the needle bearing in the crankshaft. Refer to ⇒ Rep. Gr. 13 ; Crankshaft; Needle Bearing in Crankshaft, Replacing .

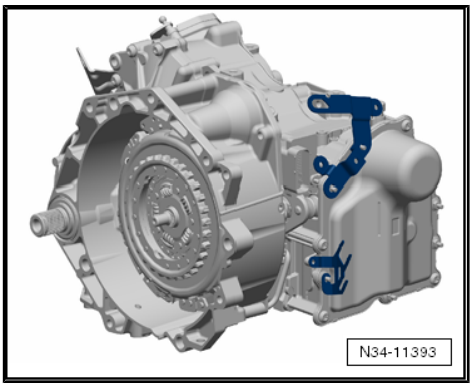
Transport the Transmission and Secure to the Assembly Stand. Refer to
⇒ “6 Transmission, Transporting and Securing To Assembly Stand”, page 191 .

Install the transmission. Refer to
⇒ “4.6 Transmission, Installing, Jetta from MY 2005, Golf Wagon from MY 2007, Golf Wagon from MY 2010”, page 157 .

If the Transmission is Going to be Shipped:

The bracket is located on the front of the transmission in some cases.

– Remove the bracket if a »new« transmission is being installed, because brackets are not equipped on »new« transmissions.
– Install the right flange shaft on a transmission with flange shafts. Refer to
⇒ “1.4 Right Flange Shaft Seal, Replacing”, page 210 .



4.3 Transmission, Removing, Vehicles with 1.6L/75 kW MPI Engine

Special tools and workshop equipment required

- Engine Support Bridge - 10-222A-
- Engine Support Bridge - Engine Support 3 - 10-222A/3-
- Transmission Support - Mounting Plate 59 - 3282/59-
- Engine Support Bridge - Engine Support Feet - 10-222A/8-
- Socket - Xzn 14 - T10061-
- Transmission Support - 3282-
- Insert Tool - 18mm - T10179-
- Tensioning Strap - T10038-
- Engine Support Bridge - Gearbox Bracket - T10346-
- Engine and Gearbox Jack - VAS6931-

Brief Description

The transmission is removed downward by itself without the engine.

The battery, the air filter and the starter are removed »from above«.

The noise insulation under the engine/transmission, the lower cover in the left front wheel housing and the pendulum support are removed »from below«.

Removing

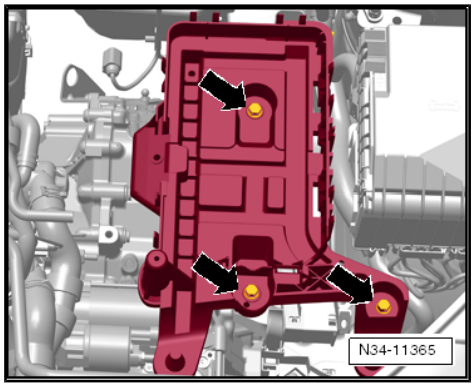
– Lift the vehicle, all four take-up points of lifting platform at the same height.

– Move the selector lever into »P«.

– Remove the air filter housing. Refer to ⇒ Rep. Gr. 24 ; Air Filter; Overview - Air Filter Housing .

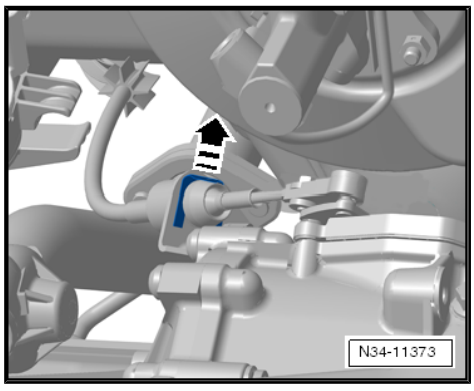
– Remove the battery and the battery tray. Refer to ⇒ Electrical Equipment; Rep. Gr. 27 ; Battery; Battery, Removing and Installing .

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



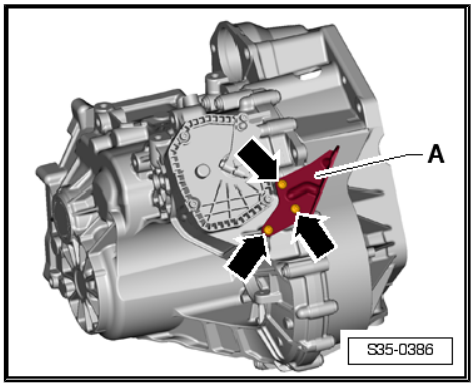
– Remove the lock washer in the direction of the -arrow-.

Always replace the circlip on the selector lever cable.



Note

- *Use pliers to remove the lock washer. Do not use a sharp-edged lever. Otherwise the selector lever cable could get damaged.*
- *Remove the cable bracket -A- and selector lever cable from the transmission, if necessary. To do this, remove the bolts -arrows-. These bolts must be replaced.*
- *Bolt tightening specification -arrows-: 8 Nm +90° additional turn.*



– Remove the selector lever cable from the ball head on the selector lever using, for example, a Pry Lever - 80-200- .

The selector lever cable can also be slid back slightly from the cable bracket and later removed when lowering transmission. Pay attention to the selector lever cable when lowering the transmission.

Caution

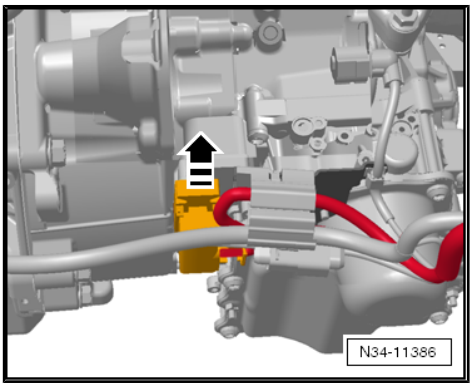
Risk of damaging transmission components.

- ***Never touch the contacts in the transmission connector. The control module as well as the Mechatronic can be destroyed by static discharge.***

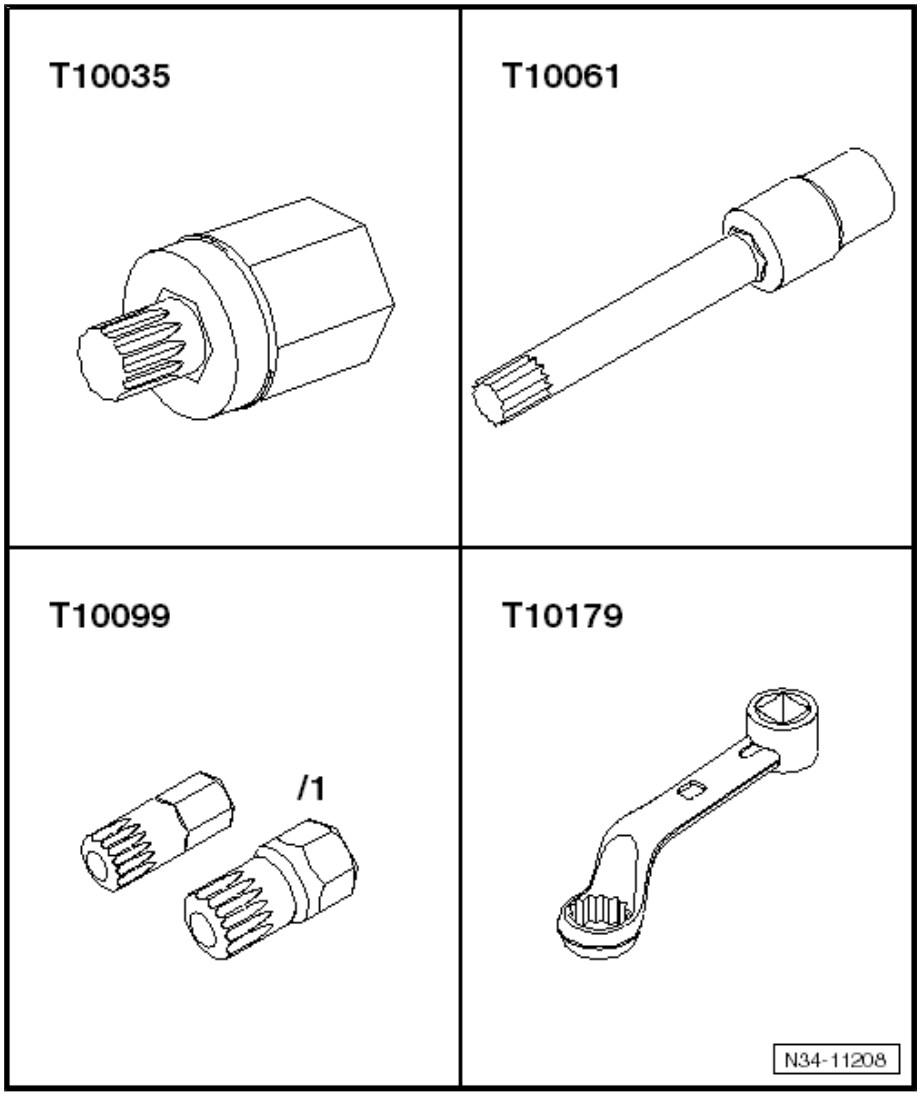
– To discharge any static electricity, touch vehicle ground with hand (without wearing a glove). Refer to ⇒ page 12 .

– Release the connector lock on the Mechatronic by pulling in the direction of the -arrow- and remove the connector.

– Remove the upper bolts between the engine and the transmission.

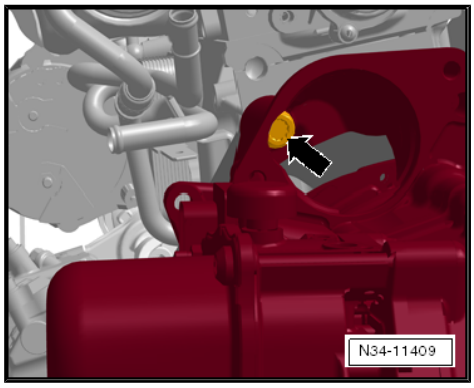


These tools are suitable for this.

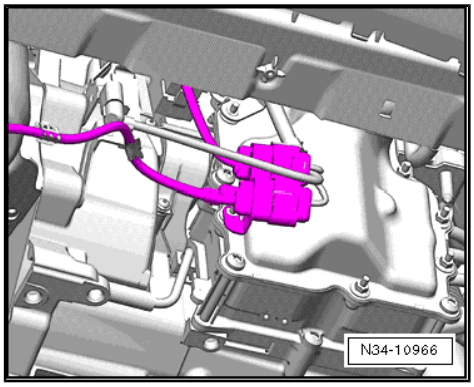


One bolt is located inside the starter opening. In place of an 18 mm nut, the Socket - Xzn 14 - T10061- can also be used.

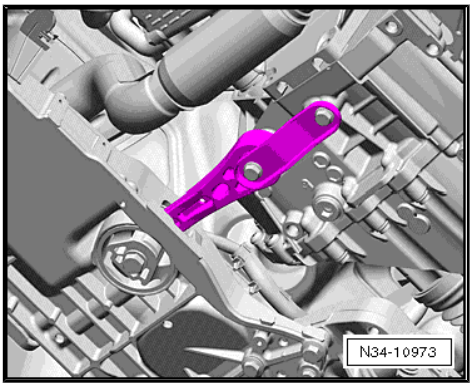
– Remove the noise insulation. Refer to ⇒ Body Exterior; Rep. Gr. 50 ; Noise Insulation .
– Remove the wheel housing liner front section. Refer to ⇒ Body Exterior; Rep. Gr. 66 ; Wheel Housing Liner; Overview - Front Wheel Housing Liner .



– Remove all of the front brackets from the transmission.

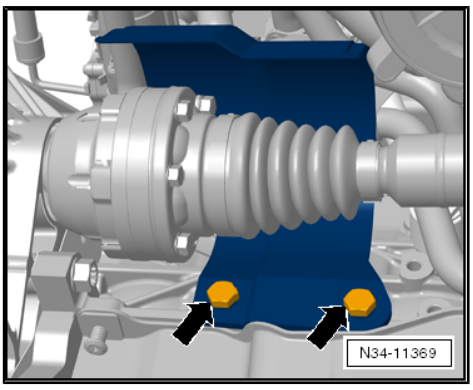


– Remove the pendulum support.



– If equipped, remove the heat shield above the right drive axle. Refer to ⇒ Suspension, Wheels, Steering; Rep. Gr. 40 ; Drive Axles, Removing and Installing for the tightening specification.

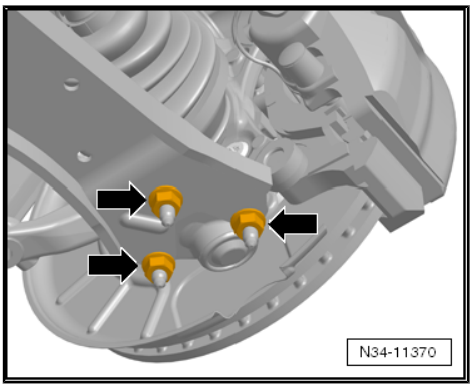
– Remove the right and left drive axle from the flange shaft on the transmission.



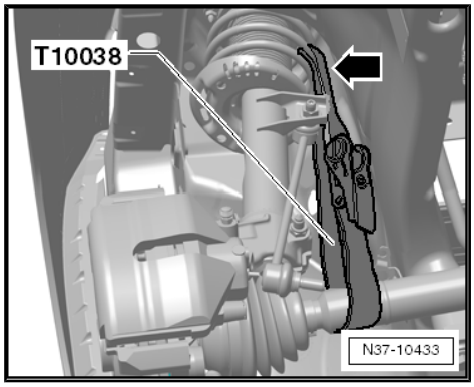
– Remove only the left control arm from the ball joint -arrows-.

– Move the left drive axle into the wheel housing and on the longitudinal member. By doing so, the shaft will not interrupt further work.

Do not damage the surface of the shafts. For this reason, plastic cable ties or Tensioning Straps - T10038- are very suitable.



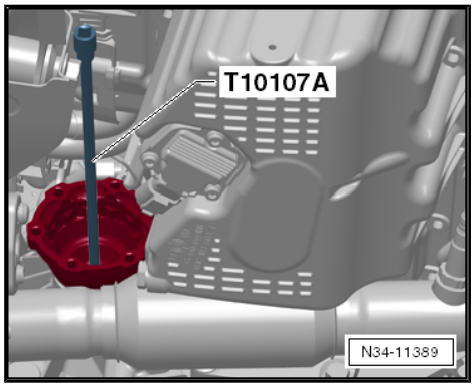
Both drive axles are attached to the suspension strut with the Tensioning Strap - T10038- .



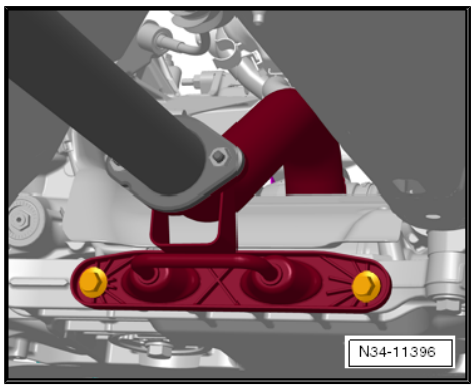
– Remove the right flange shaft bolt at the transmission using the Socket And Extended Bit - T10107A- . Insert two bolts in the flange and counterhold with a tire iron.

The bolt has 6 mm inner hex. The bolt can also be removed and installed using the Long Hex Socket - VAG1669- .

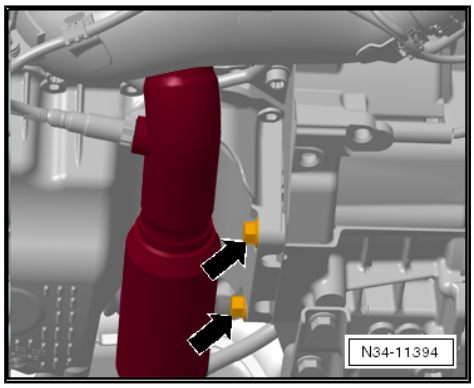
– Remove the flange shaft.
– Seal the flange shaft opening with a suitable plug.



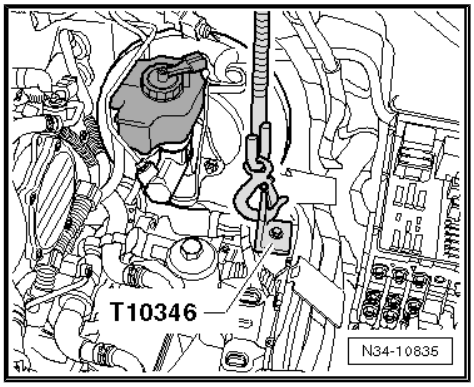
– Remove the exhaust system bracket from the subframe.

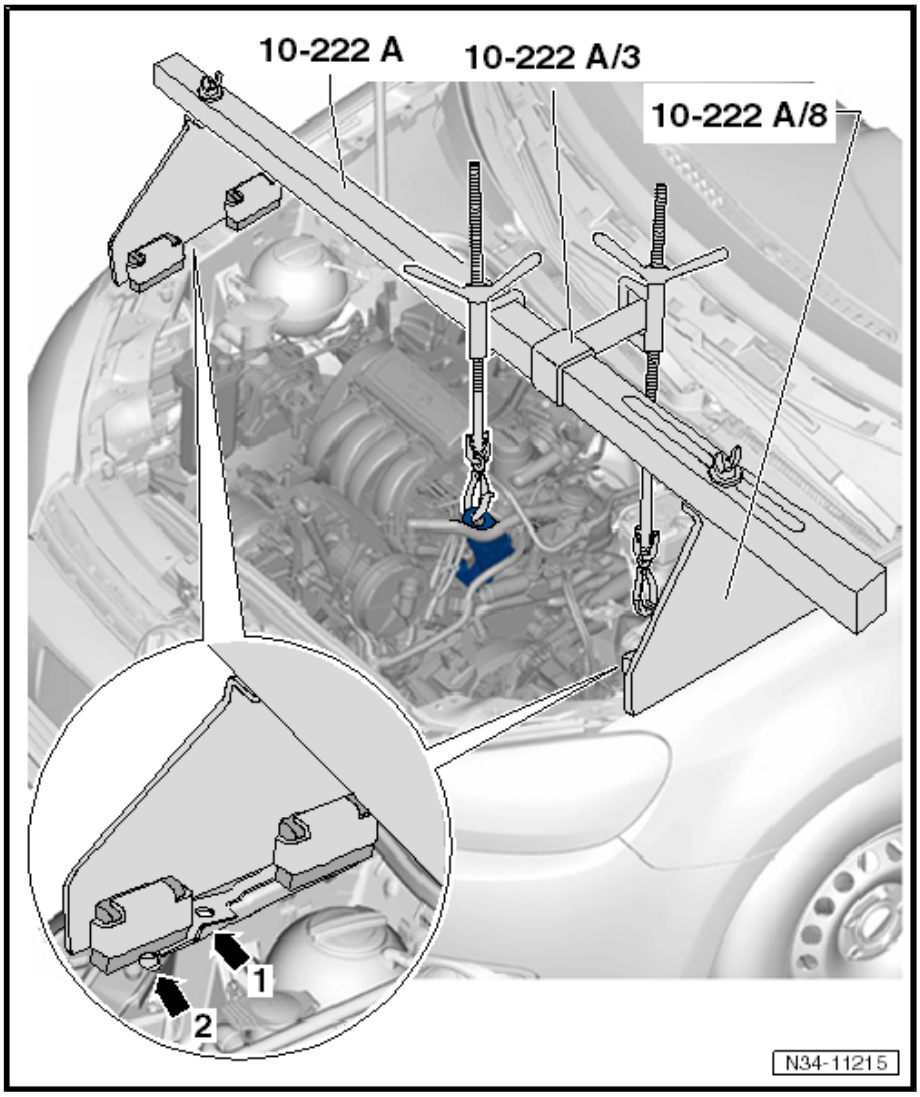


– Remove the front exhaust pipe so the lower bolts -arrows- can be removed. Refer to ⇒ Rep. Gr. 26 ; Exhaust System .
– Remove the engine cover from the cylinder head.



– Attach the Engine Support Bridge - Gearbox Bracket - T10346- to the rear hole of the three locating holes for the battery tray.
– Use a M6 collar bolt or a one of the bolts for the battery tray.
– If there are hose and cable connections located near the engine lifting eyes for the Engine Support Bridge - 10-222A- , these must now be removed.

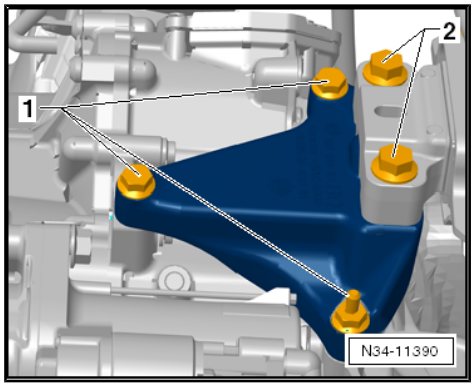




– Position the Engine Support Bridge - 10-222A- in front of the hood support.
– Use:
– Attach the Engine Support Bridge to the left lifting eye on the engine.
– Connect the Engine Support Bridge - Gearbox Bracket - T10346- to the Engine Support Bridge (see previous image).

– Lightly pretension the engine/transmission assembly and Engine Support Bridge using the spindles.

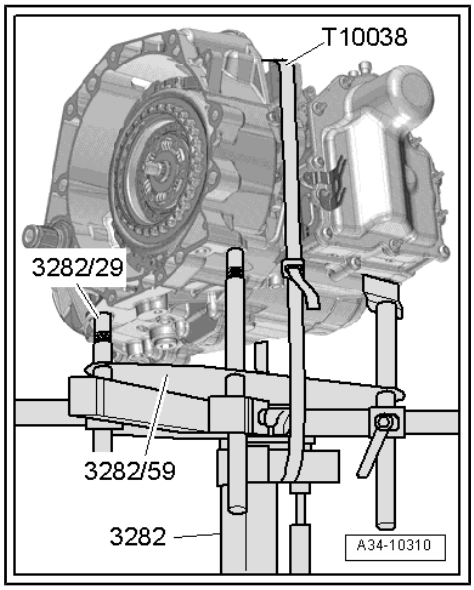
Remove all bolts -1 and 2- from the transmission bracket.



– Then lower the engine/transmission slightly using the Engine Support Bridge - 10-222A- spindle so that the transmission bracket can be removed.

A maximum of 5 turns are enough to remove the transmission bracket.

To remove the transmission 0AM, the Transmission Support - 3282- is equipped with the Transmission Support - Mounting Plate 59 - 3282/59- and positioned on the Engine and Gearbox Jack - VAS6931- .



– Align the arms of the Transmission Support so that they match up with the holes in the Transmission Support - Mounting Plate 59 - 3282/59- .

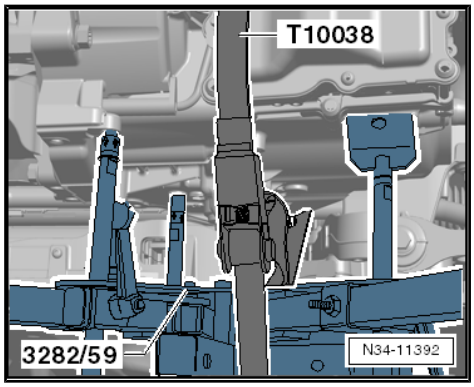
– Install the mounting elements as illustrated on the Transmission Support - Mounting Plate 59 - 3282/59- .

– Place the Engine and Gearbox Jack - VAS6931- under the vehicle.

• The arrow symbol on the Transmission Support - Mounting Plate 59 - 3282/59- points in the direction of travel.

– Align the Transmission Support - 3282- so that it is parallel to the transmission.

– Transmission Support - Pins 29 - 3282/29- are inserted in the »rear« hole for the pendulum support.



– Mount both remaining mounting elements on the transmission as shown. While doing this, place the drift plate under the transmission housing and not under the Mechatronic.

– Secure the transmission with a Tensioning Strap - T10038- .

– Support the transmission by lifting it from underneath using the Engine and Gearbox Jack - VAS6931- .

The transmission is disconnected from the engine in this position.

– Remove the remaining engine/transmission connecting bolts.

– Remove transmission from engine »while being careful of selector lever cable« and lower transmission.

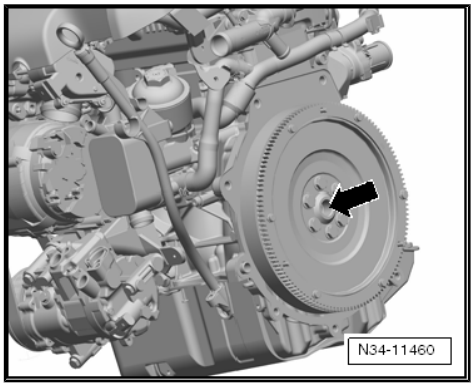
Note

♦ *The distance between the engine flange and transmission flange should be approximately 50 mm before lowering the transmission.*

♦ *Pay attention to all lines and coolant hoses when lowering the transmission.*

Note

- *Always replace the needle bearing -arrow- after separating the engine and transmission.*
- *If the needle bearing in the crankshaft is damaged, the gears will no longer shift correctly.*



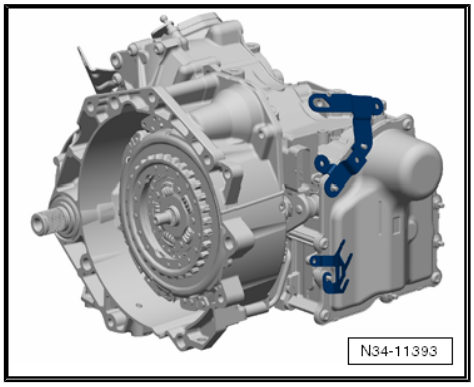
– Replace the needle bearing in the crankshaft. Refer to ⇒ Rep. Gr. 13 ; Crankshaft; Needle Bearing in Crankshaft, Replacing .

Transport the transmission and Secure to the Assembly Stand. Refer to
⇒ "6 Transmission, Transporting and Securing To Assembly Stand", page 191 .

Install the transmission. Refer to
⇒ "4.6 Transmission, Installing, Jetta from MY 2005, Golf Wagon from MY 2007, Golf Wagon from MY 2010", page 157 .

If the Transmission Is Going To Be Shipped

The bracket is located on the front of the transmission in some cases.



– Remove the bracket if a »new« transmission is being installed, because brackets are not equipped on »new« transmissions.
– Install the right flange shaft. Refer to
⇒ "1.4 Right Flange Shaft Seal, Replacing", page 210 .

4.4 Transmission, Removing, Vehicles with 1.9L 77 kW TDI PD Engine

Special tools and workshop equipment required

- Engine Support Bridge - 10-222A-
- Engine Support - Automatic Transmission Adapter - 10-222A/16-
- Engine Support Bridge - Additional Hooks (2 pc.) - 10-222A/2-
- Engine/Gearbox Support Shackle (2 pc.) - 10-222A/12-
- Transmission Support - Mounting Plate 59 - 3282/59-
- Engine Support Bridge - Engine Support Feet - 10-222A/8-
- Socket - Xzn 14 - T10061-
- Transmission Support - 3282-
- Insert Tool - 18mm - T10179-
- Tensioning Strap - T10038-
- Engine and Gearbox Jack - VAS6931-

Brief Description

The transmission is removed downward by itself without the engine.

The battery, the air filter and the starter are removed »from above«.

The noise insulation under the engine/transmission, the lower cover in the left front wheel housing and the pendulum support are removed »from below«.

Removing

– Lift the vehicle, all four take-up points of lifting platform at the same height.

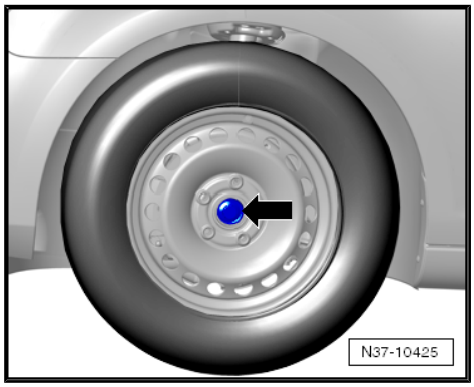
– Move the selector lever into »P«.

Only on Vehicles with Stub Shafts

Note

Do not set the vehicle on the ground any more after removing the drive axle bolt at the wheel bearing housing.

– Press the brakes and remove both drive axle bolts -arrow- (second technician).

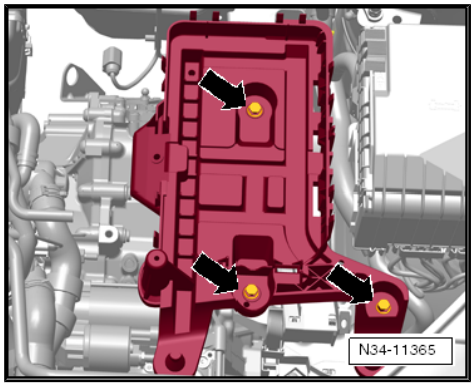


– Remove both front wheels.

Continuation for All Vehicles

– Remove the complete air filter housing. Refer to ⇒ Rep. Gr. 23 ; Diesel Direct Injection System; Overview - Air Filter .

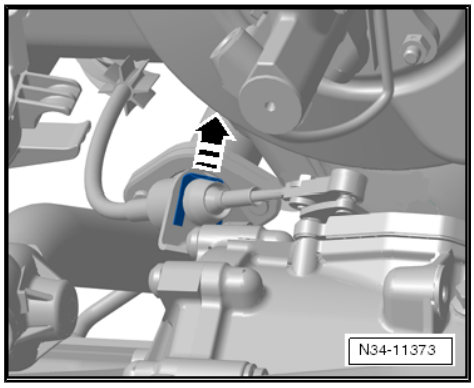
– Remove the battery and the battery tray. Refer to ⇒ Electrical Equipment; Rep. Gr. 27 ; Battery; Battery, Removing and Installing .



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

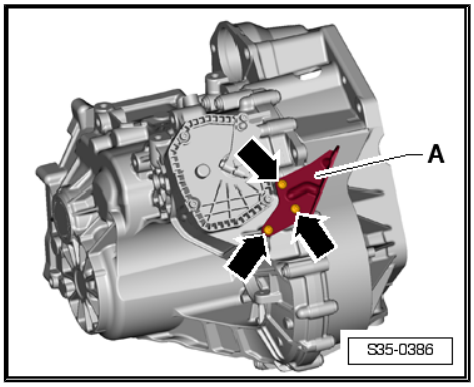
– Remove the lock washer in the direction of -arrow-.

Always replace the circlip on the selector lever cable.



Note

- *Use pliers to remove the lock washer. Do not use a sharp-edged lever. Otherwise the selector lever cable could get damaged.*
- *Remove the cable bracket -A- and selector lever cable from the transmission, if necessary. To do this, remove the bolts -arrows-. These bolts must be replaced.*
- *Bolt tightening specification -arrows-: 8 Nm +90° additional turn.*



– Remove the selector lever cable from the ball head on the selector lever using, for example, a Pry Lever - 80-200- .

The selector lever cable can also be slid back slightly from the cable bracket and later removed when lowering transmission. Pay attention to the selector lever cable when lowering the transmission.

Caution

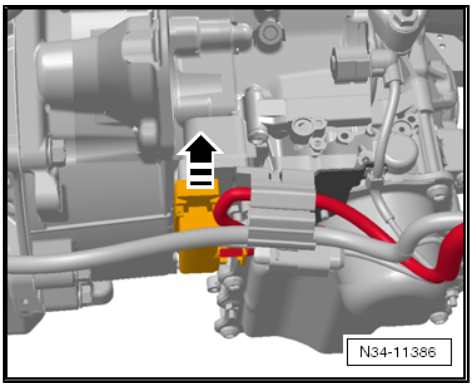
Risk of damaging transmission components.

- ***Never touch the contacts in the transmission connector. The control module as well as the Mechatronic can be destroyed by static discharge.***

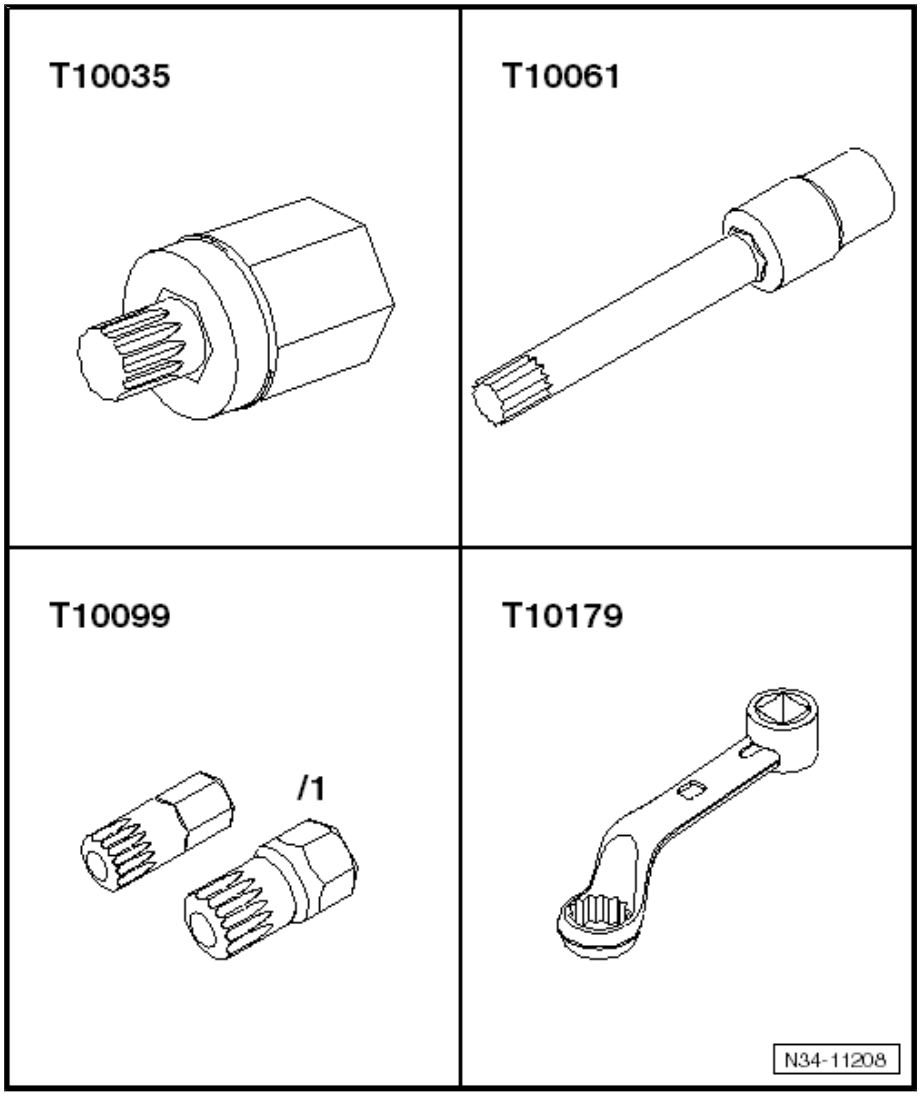
– To discharge any static electricity, touch vehicle ground with hand (without wearing a glove). Refer to ⇒ page 12 .

– Release the connector lock on the Mechatronic by pulling in the direction of the -arrow- and remove the connector.

– Remove the upper bolts between the engine and the transmission.



These tools are suitable for this.



– Remove the noise insulation. Refer to ⇒ Body Exterior; Rep. Gr. 50 ; Noise Insulation .

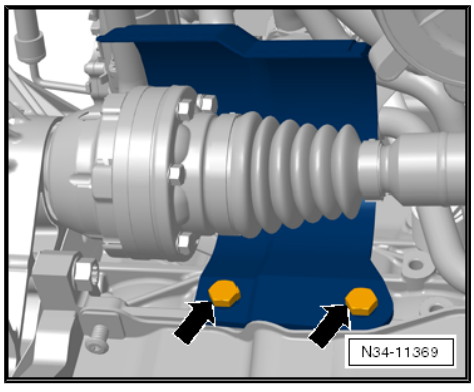
– Remove the wheel housing liner front section. Refer to ⇒ Body Exterior; Rep. Gr. 66 ; Wheel Housing Liner; Overview - Front Wheel Housing Liner .

Only on Vehicles with Stub Shafts

– Remove both drive axles. Refer to ⇒ Suspension, Wheels, Steering; Rep. Gr. 40 ; Drive Axles, Removing and Installing .

Only on Vehicles with Flange Shafts

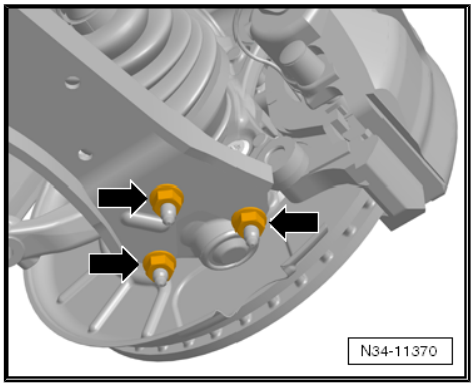
– If equipped, remove the heat shield above the right drive axle. Refer to ⇒ Suspension, Wheels, Steering; Rep. Gr. 40 ; Drive Axles, Removing and Installing for the tightening specification.



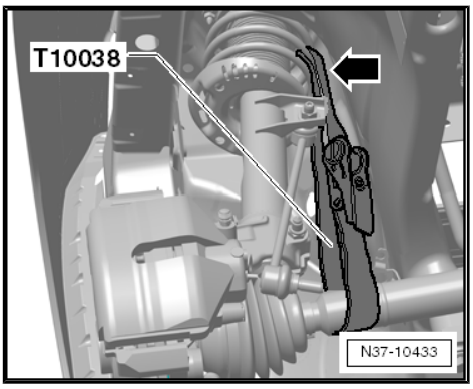
– Remove the left control arm from the ball joint.

– Move the left drive axle into the wheel housing and on the longitudinal member. By doing so, the shaft will not interrupt further work.

Do not damage the surface of the shafts. For this reason, plastic cable ties or Tensioning Straps - T10038- are very suitable.



Both drive axles are attached to the suspension strut with the Tensioning Strap - T10038- .

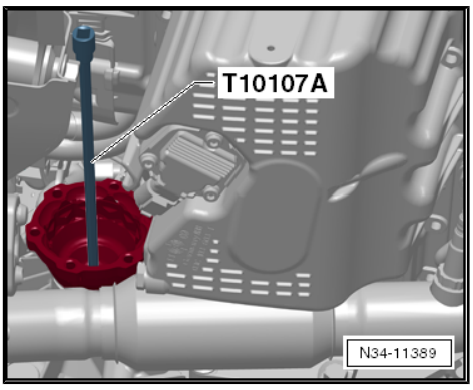


– Remove the right flange shaft bolt at the transmission using the Socket And Extended Bit - T10107A- . Insert two bolts in the flange and counterhold with a tire iron.

The bolt has 6 mm inner hex. The bolt can also be removed and installed using the Long Hex Socket - VAG1669- .

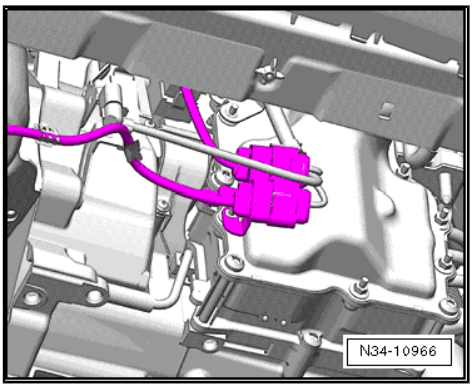
– Remove the flange shaft.

– Seal the flange shaft opening with a suitable plug.

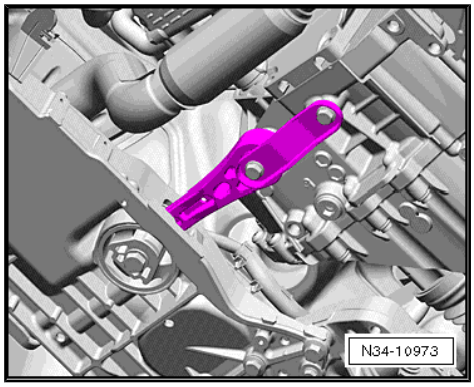


Continuation for All Vehicles

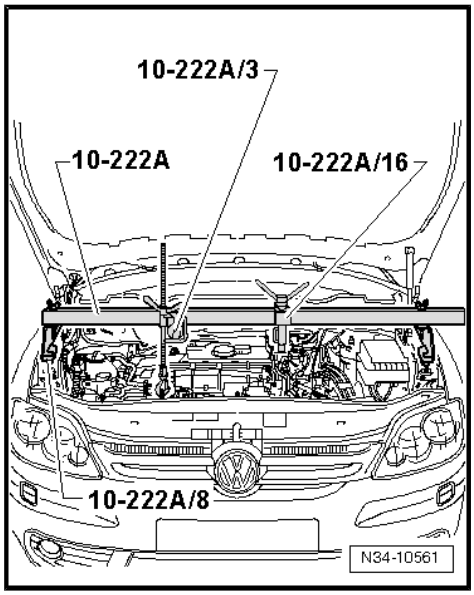
– Remove all of the front brackets from the transmission.



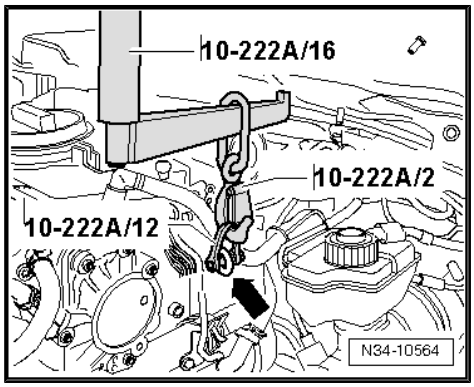
– Remove the pendulum support.
– Remove the engine cover from the cylinder head.
– If there are hose and cable connections located near the engine lifting eyes for the Engine Support Bridge - 10-222A- , these must now be removed.
– Remove filler pieces from both fender upper edges.



– Support the engine and transmission with the Engine Support Bridge - 10-222A- but do not lift.



Secure the Engine Support - Automatic Transmission Adapter - 10-222A/16- , Engine Support Bridge - Additional Hooks (2 pc.) - 10-222A/2- and Engine/Gearbox Support Shackle (2 pc.) - 10-222A/12- .

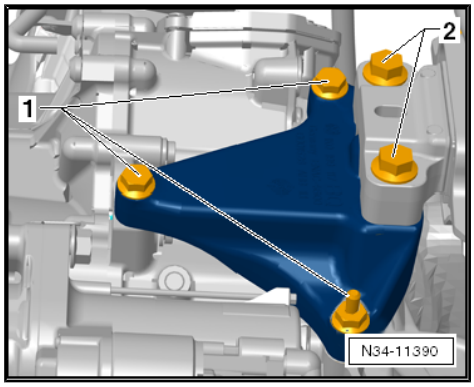


Remove all bolts -1 and 2- from the transmission bracket.

– Then lower the engine/transmission slightly using the Engine Support Bridge - 10-222A- and Engine Support - Automatic Transmission Adapter - 10-222A/16- spindle so that the transmission bracket can be removed.

A maximum of 5 turns are enough to remove the transmission bracket.

In many cases it is not necessary to lower the spindles when removing the transmission later.



To remove the transmission 0AM, the Transmission Support - 3282- is equipped with the Transmission Support - Mounting Plate 59 - 3282/59- and positioned on the Engine and Gearbox Jack - VAS6931- .

– Align the arms of the Transmission Support so that they match up with the holes in the Transmission Support - Mounting Plate 59 - 3282/59- .

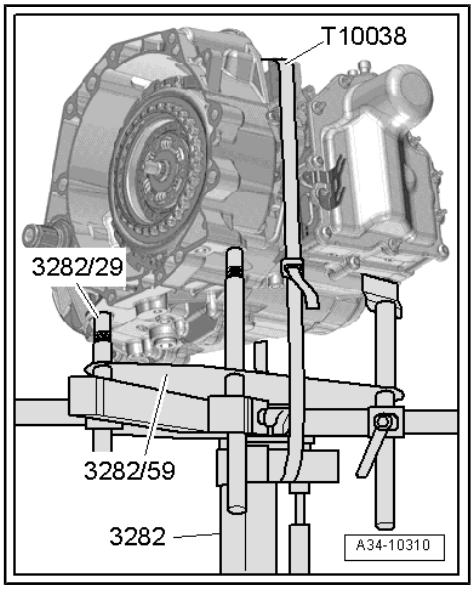
– Install the mounting elements as illustrated on the Transmission Support - Mounting Plate 59 - 3282/59- .

– Place the Engine and Gearbox Jack - VAS6931- under the vehicle.

• The arrow symbol on the Transmission Support - Mounting Plate 59 - 3282/59- points in the direction of travel.

– Align the Transmission Support - 3282- so that it is parallel to the transmission.

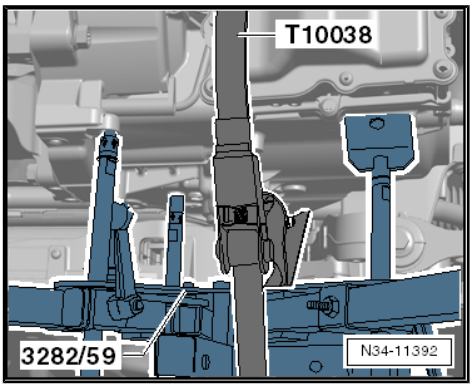
– Transmission Support - Pins 29 - 3282/29- are inserted in the »rear« hole for the pendulum support.



– Mount both remaining mounting elements on the transmission as shown. While doing this, place the drift plate under the transmission housing and not under the Mechatronic.

– Secure the transmission with a Tensioning Strap - T10038- .

– Support the transmission by lifting it from underneath using the Engine and Gearbox Jack - VAS6931- .



The transmission is disconnected from the engine in this position.

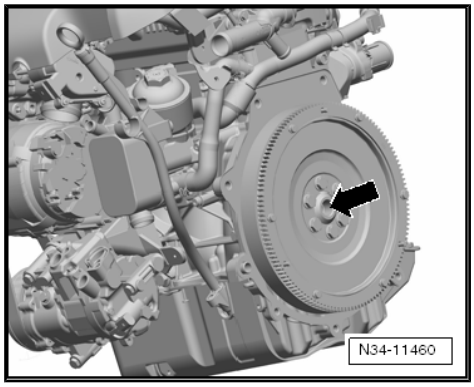
– Remove the remaining engine/transmission connecting bolts.

– Remove transmission from engine »while being careful of selector lever cable« and lower transmission.

Note

♦ *The distance between the engine flange and transmission flange should be approximately 50 mm before lowering the transmission.*

♦ *Pay attention to all lines and coolant hoses when lowering the transmission.*



Note

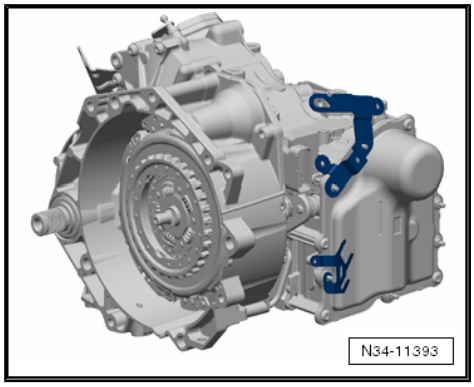
- *Always replace the needle bearing -arrow- after separating the engine and transmission.*
- *If the needle bearing in the crankshaft is damaged, the gears will no longer shift correctly.*

– Replace the needle bearing in the crankshaft. Refer to ⇒ Rep. Gr. 13 ; Crankshaft; Needle Bearing in Crankshaft, Replacing .

Transport the transmission and secure to the assembly stand. Refer to
⇒ "6 Transmission, Transporting and Securing To Assembly Stand", page 191 .

Install the transmission. Refer to
⇒ "4.6 Transmission, Installing, Jetta from MY 2005, Golf Wagon from MY 2007, Golf Wagon from MY 2010", page 157 .

If the transmission is going to be shipped:



The bracket is located on the front of the transmission in some cases.

– Remove the bracket if a »new« transmission is being installed, because brackets are not equipped on »new« transmissions.

– Install the right flange shaft on a transmission with flange shafts. Refer to
⇒ "1.4 Right Flange Shaft Seal, Replacing", page 210 .

4.5 Transmission, Removing, Vehicles with 1.6L/77 kW TDI CR Engine

Special tools and workshop equipment required

- Engine Support Bridge - 10-222A-
- Engine Support Bridge - Engine Support 3 - 10-222A/3-
- Engine Support Bridge - Engine Support 18 - 10-222A/18-
- Transmission Support - Mounting Plate 59 - 3282/59-
- Multipoint Socket - T10035-
- Socket - Xzn 14 - T10061-
- Transmission Support - 3282-
- Insert Tool - 18mm - T10179-
- Tensioning Strap - T10038-
- Engine and Gearbox Jack - VAS6931-

Brief Description

The transmission is removed downward by itself without the engine.

The battery, the air filter and the starter are removed »from above«.

The noise insulation under the engine/transmission, the lower cover in the left front wheel housing and the pendulum support are removed »from below«.

Removing

– Lift the vehicle, all four take-up points of lifting platform at the same height.

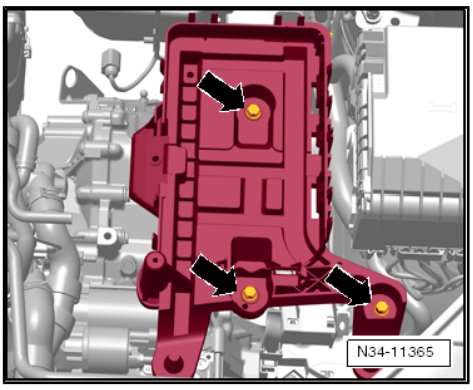
– Move the selector lever into »P«.

– Remove the engine cover from the cylinder head.

– Remove the complete air filter housing. Refer to ⇒ Rep. Gr. 23 ; Diesel Direct Injection System; Overview - Air Filter .

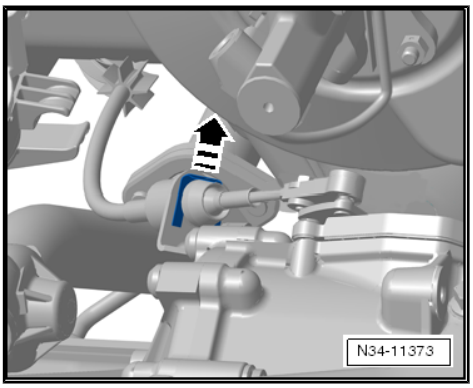
– Remove the battery and the battery tray. Refer to ⇒ Electrical Equipment; Rep. Gr. 27 ; Battery; Battery, Removing and Installing .

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



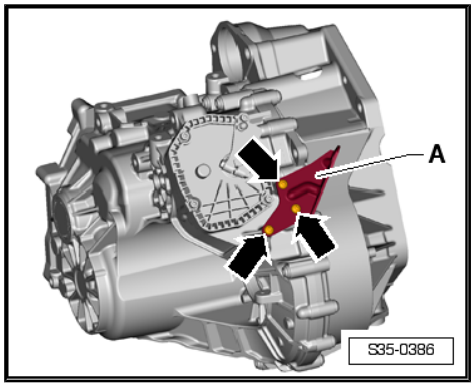
– Remove the lock washer in the direction of the -arrow-.

Always replace the circlip on the selector lever cable.



Note

- *Use pliers to remove the lock washer. Do not use a sharp-edged lever. Otherwise the selector lever cable could get damaged.*
- *Remove the cable bracket -A- and selector lever cable from the transmission, if necessary. To do this, remove the bolts -arrows-. These bolts must be replaced.*
- *Bolt tightening specification -arrows-: 8 Nm +90° additional turn.*



– Remove the selector lever cable from the ball head on the selector lever using, for example, a Pry Lever - 80-200- .

The selector lever cable can also be slid back slightly from the cable bracket and later removed when lowering transmission. Pay attention to the selector lever cable when lowering the transmission.

Caution

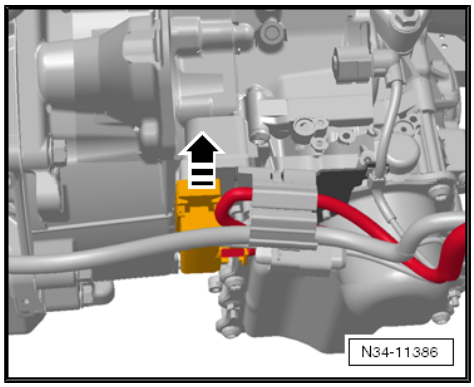
Risk of damaging transmission components.

- ***Never touch the contacts in the transmission connector. The control module as well as the Mechatronic can be destroyed by static discharge.***

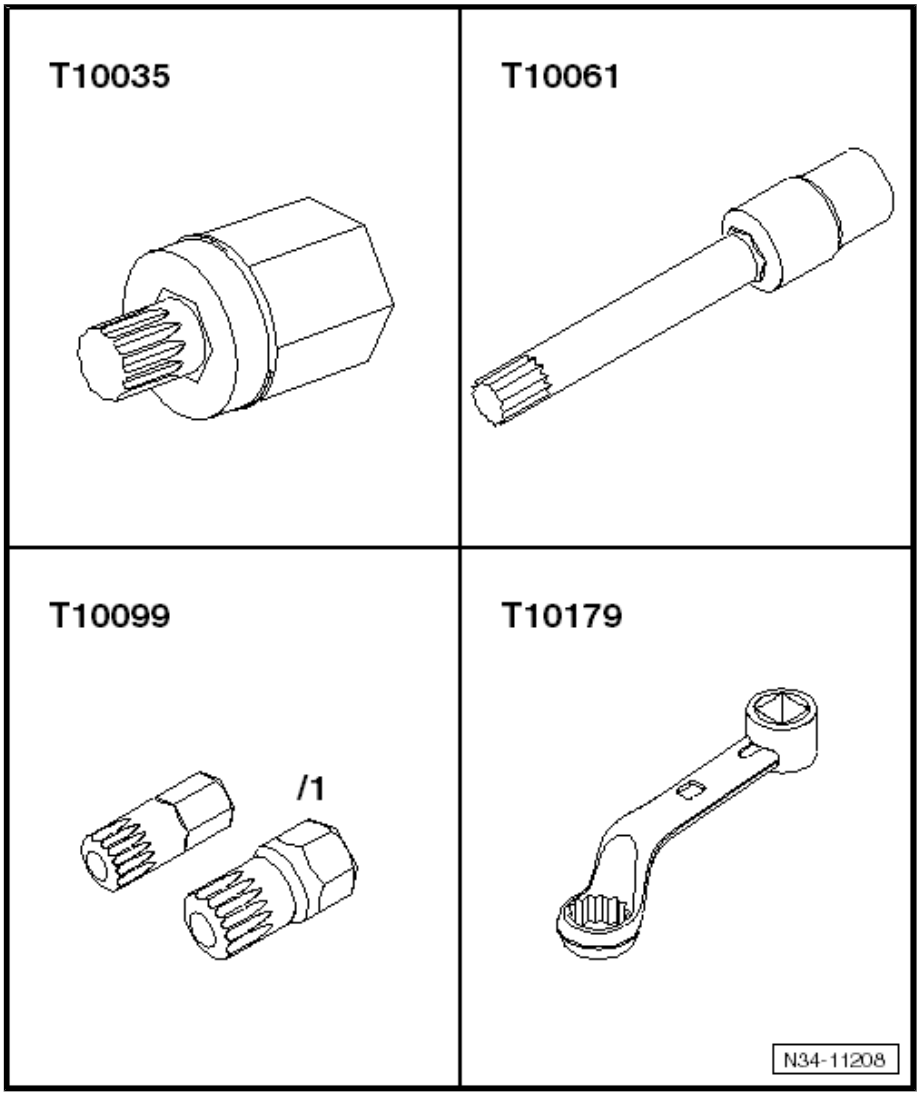
– To discharge any static electricity, touch vehicle ground with hand (without wearing a glove). Refer to ⇒ page 12 .

– Release the connector lock on the Mechatronic by pulling in the direction of the -arrow- and remove the connector.

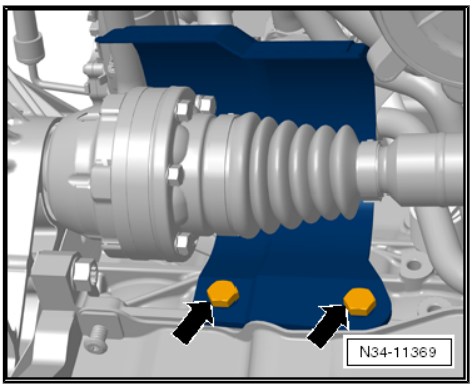
– Remove the upper bolts between the engine and the transmission.



These tools are suitable for this.



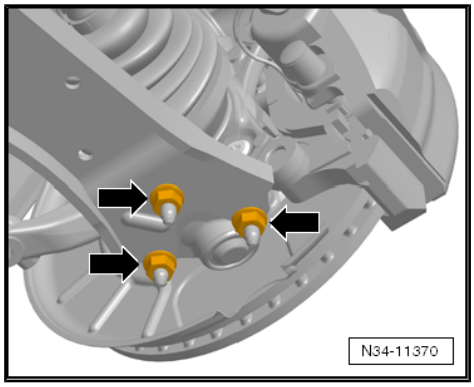
– Remove the noise insulation. Refer to ⇒ Body Exterior; Rep. Gr. 50 ; Noise Insulation .
– Remove the wheel housing liner front section. Refer to ⇒ Body Exterior; Rep. Gr. 66 ; Wheel Housing Liner; Overview - Front Wheel Housing Liner .
– If equipped, remove the heat shield above the right drive axle. Refer to ⇒ Suspension, Wheels, Steering; Rep. Gr. 40 ; Drive Axles, Removing and Installing for the tightening specification.



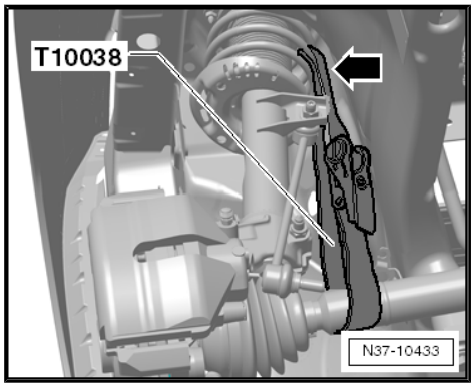
– Remove the left control arm from the ball joint.

– Move the left drive axle into the wheel housing and on the longitudinal member. By doing so, the shaft will not interrupt further work.

Do not damage the surface of the shafts. For this reason, plastic cable ties or Tensioning Straps - T10038- are very suitable.



Both drive axles are attached to the suspension strut with the Tensioning Strap - T10038- .

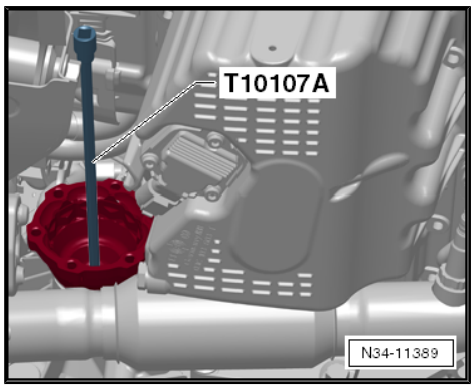


– Remove the right flange shaft bolt at the transmission using the Socket And Extended Bit - T10107A- . Insert two bolts in the flange and counterhold with a tire iron.

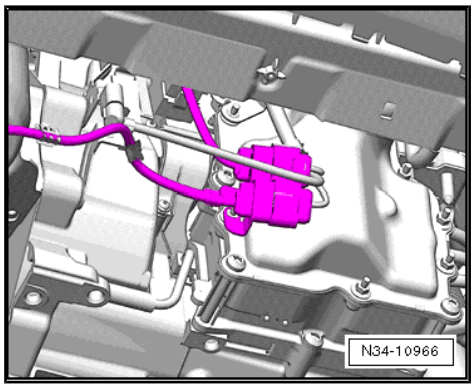
The bolt has 6 mm inner hex. The bolt can also be removed and installed using the Long Hex Socket - VAG1669- .

– Remove the flange shaft.

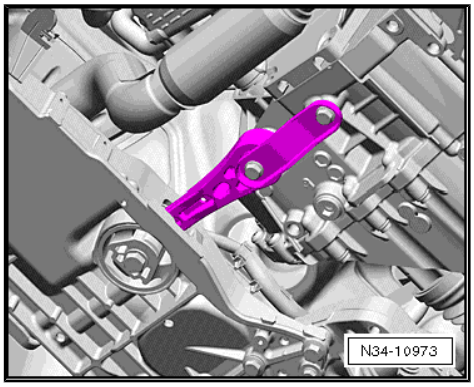
– Seal the flange shaft opening with a suitable plug.



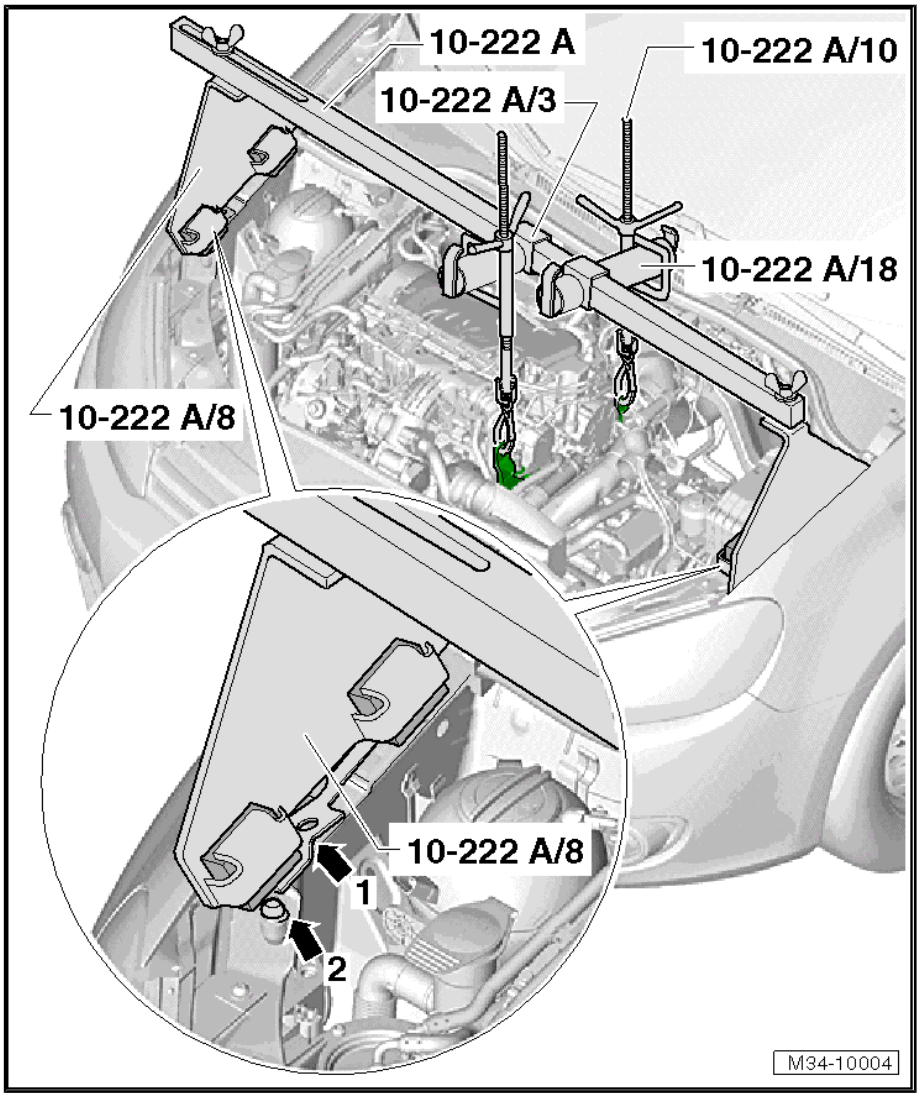
– Remove all of the front brackets from the transmission.



– Remove the pendulum support.
– Disconnect any hoses and cables in the area of the Engine Support Bridge - 10-222A- lifting eyes on the engine.
– Remove filler pieces from both fender upper edges.



– Support the engine and transmission with the Engine Support Bridge - 10-222A- but do not lift.

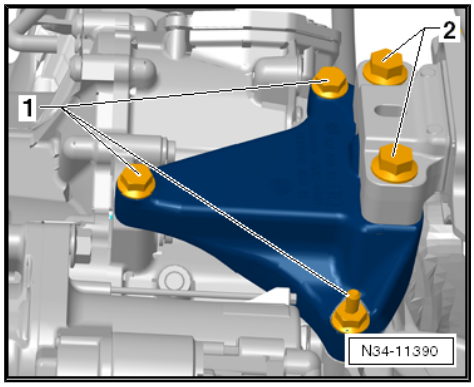


Remove all bolts -1 and 2- from the transmission bracket.

– Then lower the engine/transmission slightly using the Engine Support Bridge - 10-222A- spindle so that the transmission bracket can be removed.

A maximum of 5 turns are enough to remove the transmission bracket.

In many cases it is not necessary to lower the spindles when removing the transmission later.



To remove the transmission 0AM, the Transmission Support - 3282- is equipped with the Transmission Support - Mounting Plate 59 - 3282/59- and positioned on the Engine and Gearbox Jack - VAS6931- .

– Align the arms of the Transmission Support so that they match up with the holes in the Transmission Support - Mounting Plate 59 - 3282/59- .

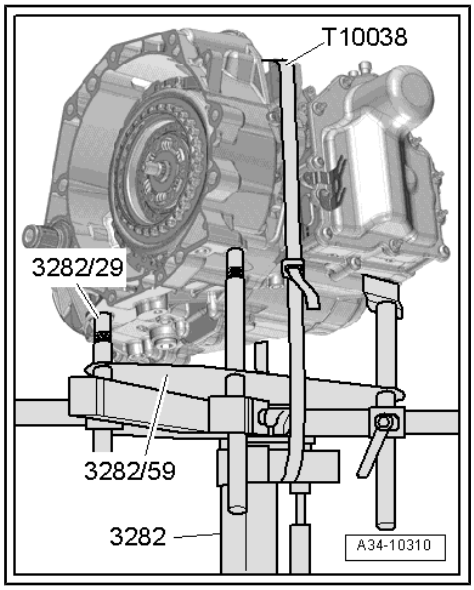
– Install the mounting elements as illustrated on the Transmission Support - Mounting Plate 59 - 3282/59- .

– Place the Engine and Gearbox Jack - VAS6931- under the vehicle.

• The arrow symbol on the Transmission Support - Mounting Plate 59 - 3282/59- points in the direction of travel.

– Align the Transmission Support - 3282- so that it is parallel to the transmission.

– Transmission Support - Pins 29 - 3282/29- are inserted in the »rear« hole for the pendulum support.



– Mount both remaining mounting elements on the transmission as shown. While doing this, place the drift plate under the transmission housing and not under the Mechatronic.

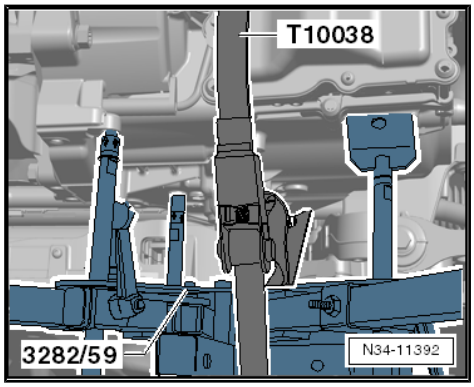
– Secure the transmission with a Tensioning Strap - T10038- .

– Support the transmission by lifting it from underneath using the Engine and Gearbox Jack - VAS6931- .

The transmission is disconnected from the engine in this position.

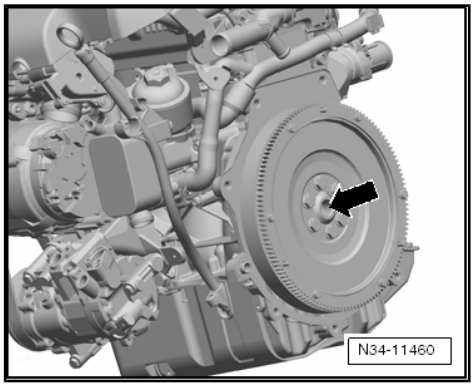
– Remove the remaining engine/transmission connecting bolts.

– Remove transmission from engine »while being careful of selector lever cable« and lower transmission.



Note

- *The distance between the engine flange and transmission flange should be approximately 50 mm before lowering the transmission.*
- *Pay attention to all lines and coolant hoses when lowering the transmission.*



Note

- *Always replace the needle bearing -arrow- after separating the engine and transmission.*
- *If the needle bearing in the crankshaft is damaged, the gears will no longer shift correctly.*

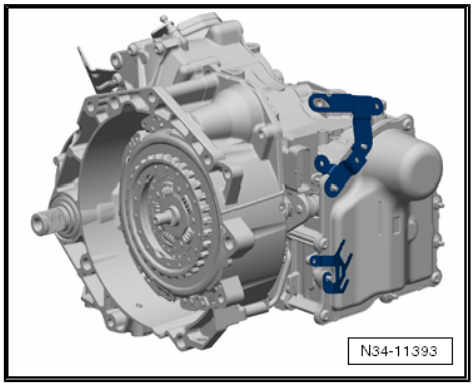
– Replace the needle bearing in the crankshaft. Refer to ⇒ Rep. Gr. 13 ; Crankshaft; Needle Bearing in Crankshaft, Replacing .

Transport the transmission and secure to the assembly stand. Refer to
⇒ "6 Transmission, Transporting and Securing To Assembly Stand", page 191 .

Install the transmission. Refer to
⇒ "4.6 Transmission, Installing, Jetta from MY 2005, Golf Wagon from MY 2007, Golf Wagon from MY 2010", page 157 .

If the transmission is going to be shipped:

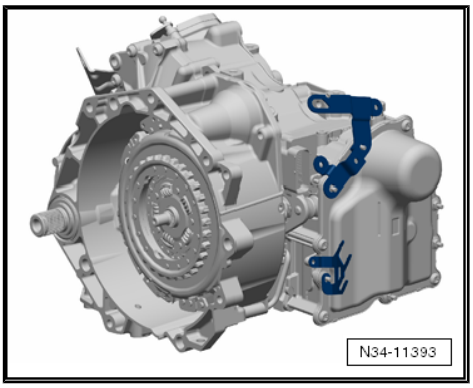
The bracket is located on the front of the transmission in some cases.



– Remove the bracket if a »new« transmission is being installed, because brackets are not equipped on »new« transmissions.
– Install the right flange shaft on a transmission with flange shafts. Refer to
⇒ "1.4 Right Flange Shaft Seal, Replacing", page 210 .

4.6 Transmission, Installing, Jetta from MY 2005, Golf Wagon from MY 2007, Golf Wagon from MY 2010

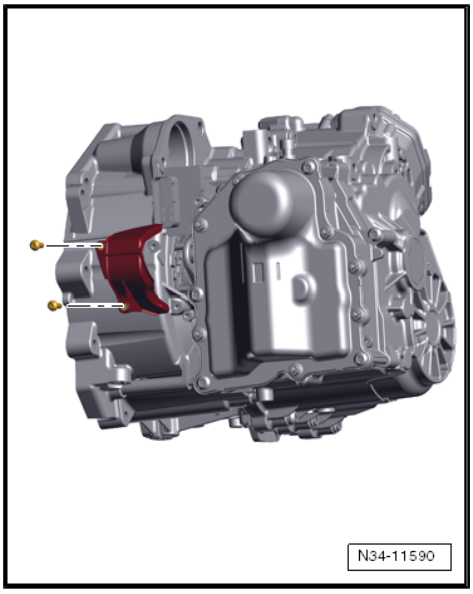
– Please read these important steps before installing the transmission.
– The bracket is located on the front of a removed transmission in some cases. Reattach this bracket to the »new« transmission.



Some Vehicles have A Cover Over the Engaging Levers.

The cover prevents dirt from getting in.

Tightening Specification: 8 Nm.

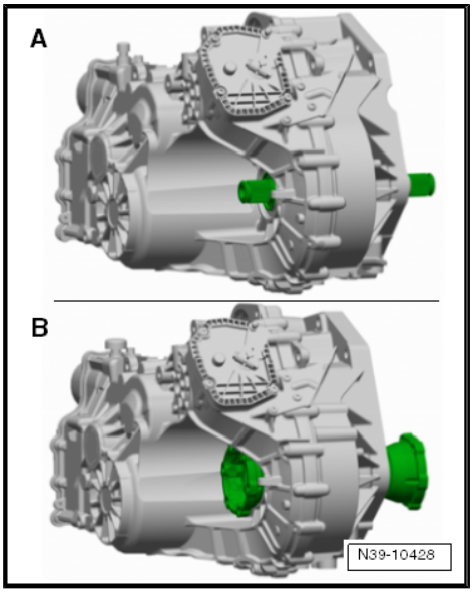


Transmission with Stub Shafts -A-

Transmission with Flange Shafts -B-

– Remove the right transmission flange shaft to install the transmission.

– The flange shaft must be reattached to the transmission after installing it. Refer to
⇒ “1.4 Right Flange Shaft Seal, Replacing”, page 210 .

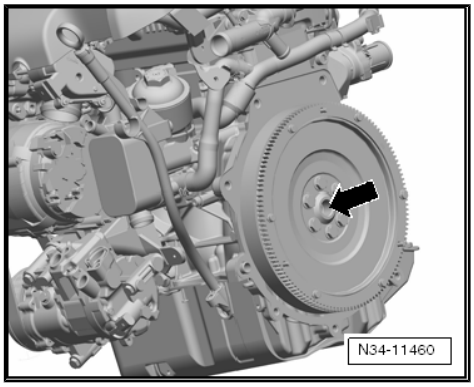


Note

The flange shaft seal does not need to be replaced for this.

The bolt has 6 mm inner hex. The bolt can also be removed and installed using the Long Hex Socket - VAG1669- .

Continuation for All Transmissions



Note

- *Always replace the needle bearing -arrow- after separating the engine and transmission.*
- *If the needle bearing in the crankshaft is damaged, the gears will no longer shift correctly.*

– If not already done, replace the needle bearing in the crankshaft. Refer to ⇒ Rep. Gr. 13 ; Crankshaft; Needle Bearing in Crankshaft, Replacing .

– Make sure both alignment sleeves between the engine and the transmission are correctly seated.

– Make sure the intermediate plate fits correctly.

– Guide the selector lever cable into the cable bracket as soon as possible.

Check the selector lever cable when raising the transmission. Do not forget to insert it »early« into the cable bracket.

Do not grease the selector lever cable.

Guide the engine and transmission together by hand until the entire surface of both flanges come into contact with one another.

If they do not, »something is incorrect«!

– Adjust the transmission mount until the engine and transmission »are aligned«.

– Turn the crankshaft slightly if necessary.

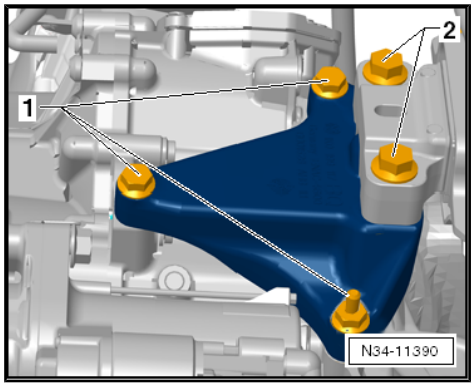
– Insert the transmission without pinching any lines.

– Attach the transmission to the engine.

– Remove the Transmission Support - 3282- from the transmission.

Install the left subframe mount as follows:

– Replace all bolts -1 and 2- for the left subframe mount.
– Insert the transmission bracket between the transmission and transmission mount support arm.
– First attach the transmission bracket to the transmission using the bolts -1-.
– Align the engine/transmission in its installed position. Lift until the transmission bracket is touching the transmission mount completely.



Caution

There is a risk of damaging the threads in transmission bracket by inserting bolts at an angle.

- ***Before installing the bolts -2-, the transmission bracket and transmission mount support arm must be absolutely parallel to each other. If necessary, lift the back of the transmission using the Engine and Gearbox Jack .***

Install the engine/transmission mount without tension. Refer to ⇒ Rep. Gr. 10 .

– Tighten the bolts -2- to the tightening specification.

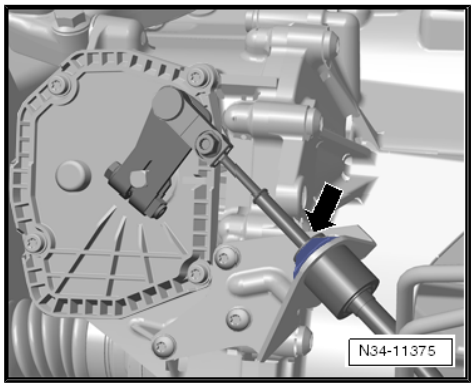
WARNING

Only remove Engine Support Bridge - 10-222A- when all the left and right subframe mount bolts are tightened to the tightening specification.

– Always replace the selector lever cable lock washer -arrow-.

Do not install a used lock washer. The washer can wear if it loses its residual stress.

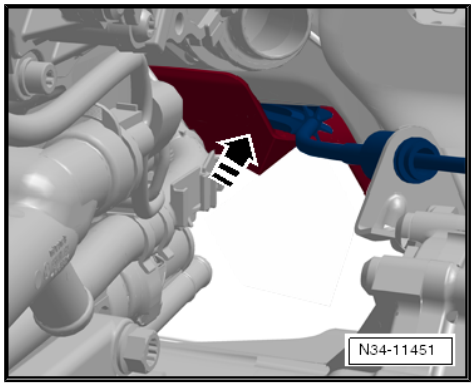
– Always use a »new« lock washer during assembly.

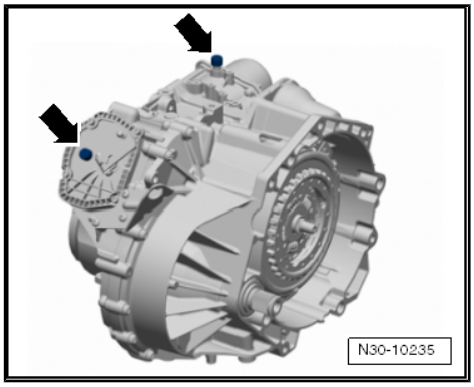


– When installing, make sure the selector lever cable is routed correctly in direction of -arrow-.

If the heat shield underneath is bent, there will be noises. The selector lever cable will then »flap« on the heat shield.

– Pay attention to the heat shield. Push it into the tunnel when installing.
– Install the starter. Refer to ⇒ Electrical Equipment; Rep. Gr. 27 ; Starter; Starter, Removing and Installing .





– Pay special attention to both vent caps -arrows- when installing the starter.
– Always adjust selector lever cable. Refer to ⇒ “2.6 Selector Lever Cable, Adjusting”, page 94 .
– Install the battery tray and the battery. Refer to ⇒ Electrical Equipment; Rep. Gr. 27 ; Battery; Battery, Removing and Installing .
– Install the complete air filter housing:
♦ Gasoline engine. Refer to ⇒ Rep. Gr. 24 ; Air Filter; Overview - Air Filter Housing .
♦ TDI engine. Refer to ⇒ Rep. Gr. 23 ; Diesel Direct Injection System; Overview - Air Filter .
– Install the drive axles or attach them to the transmission. Refer to ⇒ Suspension, Wheels, Steering; Rep. Gr. 40 ; Drive Axles, Removing and Installing .
– If removed, attach the ball joint to the control arm. Refer to ⇒ Suspension, Wheels, Steering; Rep. Gr. 40 ; Front Suspension and Control Arm; Overview - Front Suspension and Control Arm .
– Install the heat shield over the right drive axle, if removed. Refer to ⇒ Suspension, Wheels, Steering; Rep. Gr. 40 ; Drive Axles, Overview and Servicing .

Pendulum support to transmission and subframe. Refer to ⇒ Suspension, Wheels, Steering; Rep. Gr. 40 ; Front Suspension and Control Arm; Overview - Front Suspension and Control Arm .

– Assemble the exhaust system and install the exhaust system bracket to the subframe. Refer to ⇒ Rep. Gr. 26 ; Exhaust System or ⇒ Rep. Gr. 26 ; Exhaust Pipes/Mufflers .
– Install the wheel housing liner front section. 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. 50 ; Noise Insulation .

Tightening specifications for installing the transmission. Refer to ⇒ “4.7 Transmission to Engine Tightening Specifications and Subframe Mount Information”, page 161

4.7 »Transmission to Engine« Tightening Specifications and Subframe Mount Information

⇒ “4.7.1 1.4L/90 kW TFSI, 1.4L/118 kW TSI Engines”, page 162

⇒ “4.7.2 1.9L/77 kW TDI PD Engine”, page 164

Tightening specifications for transmission installation are found in the »following chapters«.

There is also information for the »left« subframe mount.

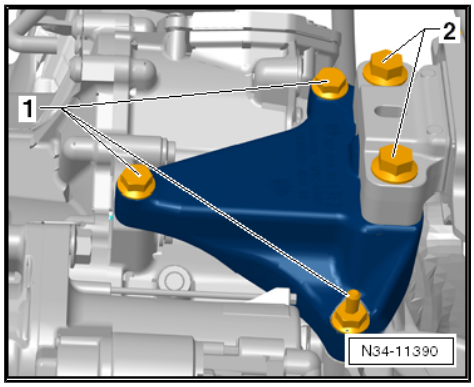
Threaded connections that cannot be allocated directly to the transmission are found in the corresponding assembly groups.

Left Assembly Mounts

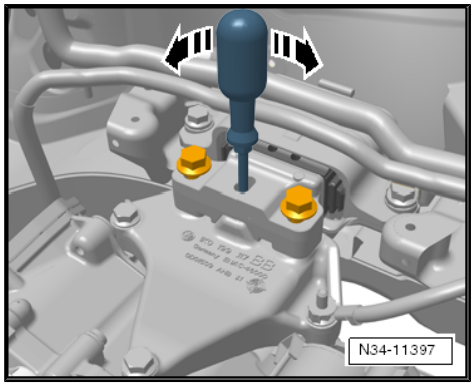
– Replace all bolts -1 and 2- for the left subframe mount.

– Install all new bolts first by hand.

– First attach the transmission bracket to the transmission using the bolts -1- to the tightening specification: 40 Nm +90°.



– The transmission bracket can shift from its position when tightening the bolts -2- with a screwdriver. Tightening specification for bolts -2-: 60 Nm + 90°.



Component	Tightening Specification
Cable bracket on the transmission cover	10 Nm

Transmission to engine:

- Refer to ⇒ “4.7.1 1.4L/90 kW TFSI, 1.4L/118 kW TSI Engines”, page 162
- Refer to ⇒ “4.7.1 1.4L/90 kW TFSI, 1.4L/118 kW TSI Engines”, page 162
- Refer to ⇒ “4.7.2 1.9L/77 kW TDI PD Engine”, page 164

4.7.1 1.4L/90 kW TFSI, 1.4L/118 kW TSI Engines

Note

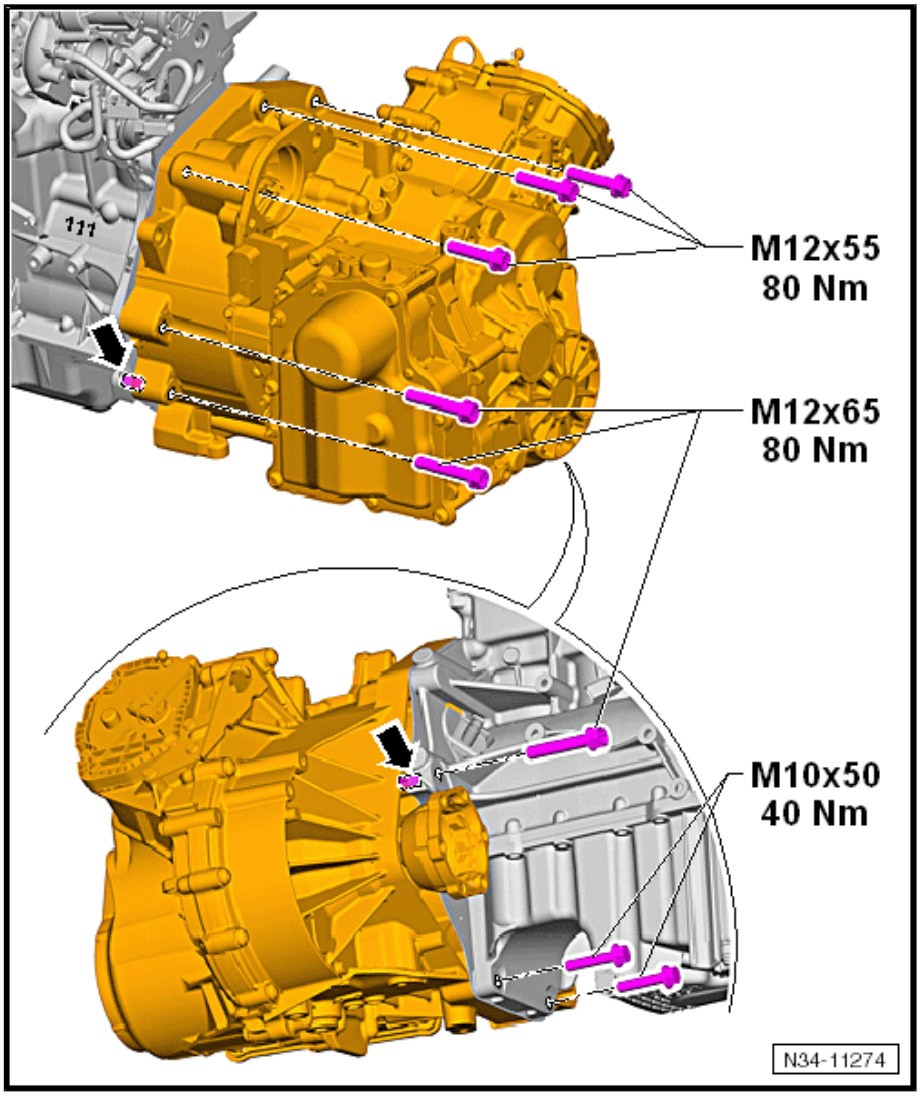
- *The -arrows- point to the alignment sleeves in the engine.*
- *When removing and installing pay attention to the different bolt lengths.*
- *If necessary the bolt length may differ from the illustration.*

M12 - Bolt

- ❑ 80 Nm
- ❑ When using the Insert Tool - 18 mm - T10179- : 65 Nm.

M10 - Bolt

- ❑ 40 Nm



4.7.2 1.9L/77 kW TDI PD Engine

Note

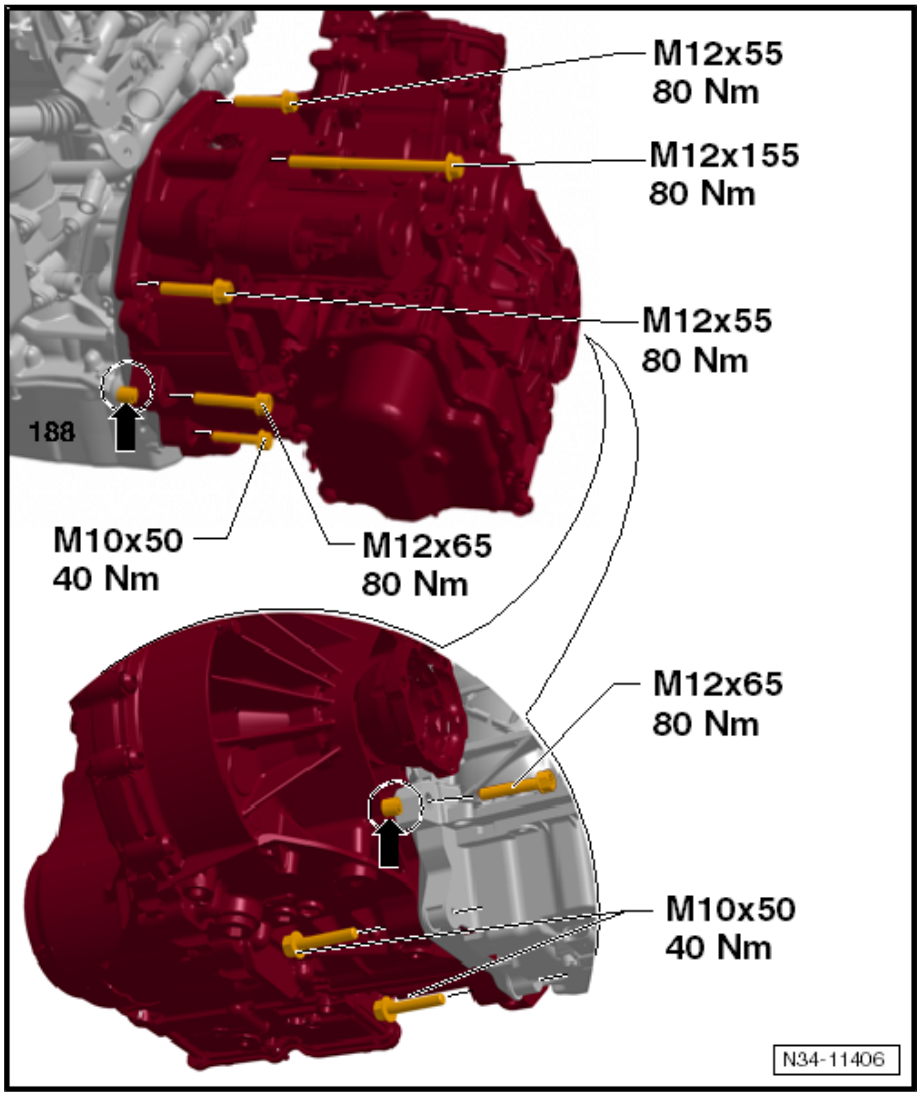
- *The -arrows- point to the alignment sleeves in the engine.*
- *When removing and installing pay attention to the different bolt lengths.*
- *If necessary the bolt length may differ from the illustration.*

M12 - Bolt

- ❑ 80 Nm
- ❑ When using the Insert Tool - 18 mm - T10179- : 65 Nm.

M10 - Bolt

- ❑ 40 Nm



4.7.3 1.6L/77 kW TDI Common Rail Engine

Note

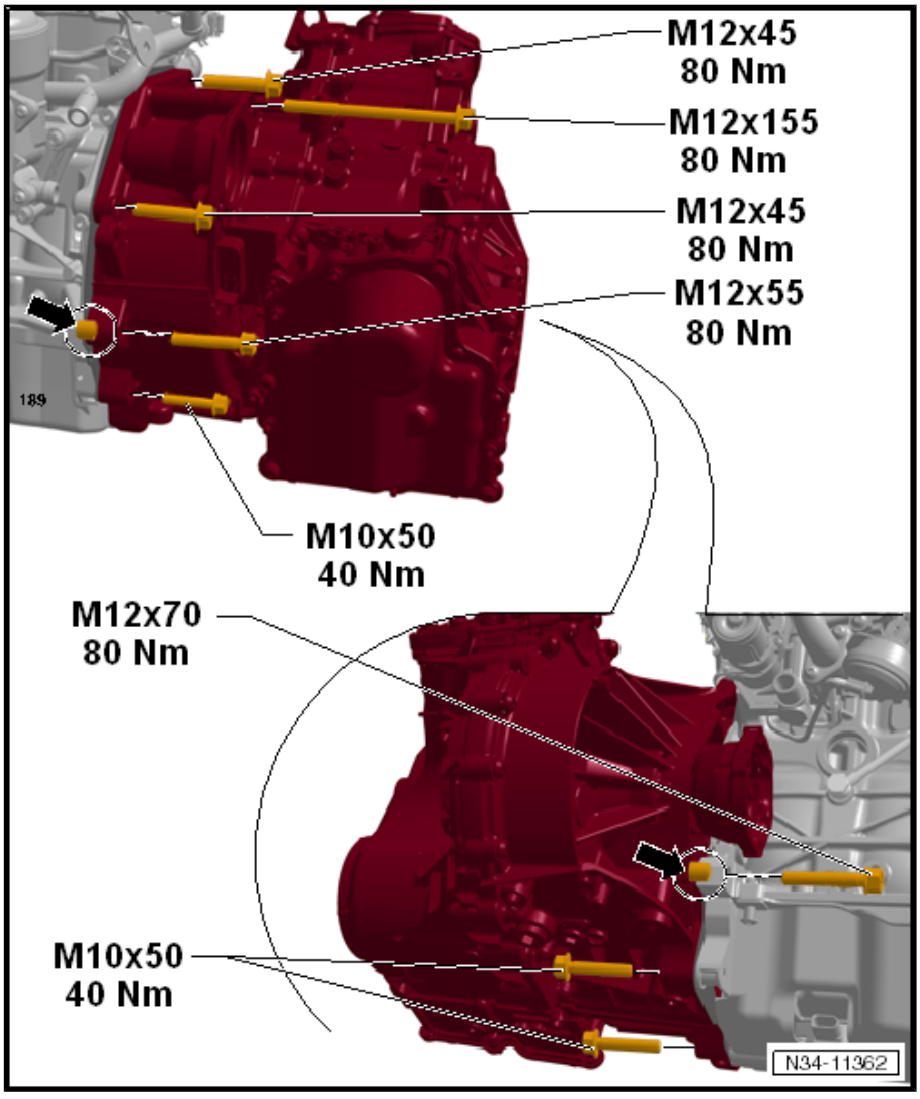
- *The -arrows- point to the alignment sleeves in the engine.*
- *When removing and installing pay attention to the different bolt lengths.*
- *If necessary the bolt length may differ from the illustration.*

M12 - Bolt

- ❑ 80 Nm
- ❑ When using the Insert Tool - 18 mm - T10179- : 65 Nm.

M10 - Bolt

- ❑ 40 Nm



5 Transmission, Removing and Installing, Jetta from MY 2011

⇒ "5.1 Transmission, Removing, Jetta 2011 with 1.4L/90 kW TFSI Engine and 1.4L/118 kW TSI Engine", page 166 .

⇒ "5.3 Transmission, Installing, Jetta MY 2011", page 183 .

⇒ "5.4 Tightening Specifications", page 188 .

5.1 Transmission, Removing, Jetta 2011 with 1.4L/90 kW TFSI Engine and 1.4L/118 kW TSI Engine

Special tools and workshop equipment required

- Engine Support Bridge - 10-222A-
- Transmission Support - 3282-
- Support Elements for transmission (determine when mounting the Mounting Plate on the Transmission Support)
- Engine and Gearbox Jack - VAS6931-
- Tensioning Strap - T10038-
- Engine Support - Basic Set - T40091-
- Engine Support - Supplement Kit - T40093A-
- Transmission Support - Pins 29 - 3282/29-
- Transmission Support - Mounting Plate 59 - 3282/59-
- Socket And Extended Bit - T10107A-
-

Brief Description

The transmission is removed downward by itself without the engine.

The battery, the battery tray, the air filter and the starter are removed »from above«.

The noise insulation under the engine/transmission, the lower cover in the left front wheel housing and the pendulum support are removed »from below«.

Removing

– Move the selector lever into »P«.

– Remove the engine cover from the cylinder head.

Note

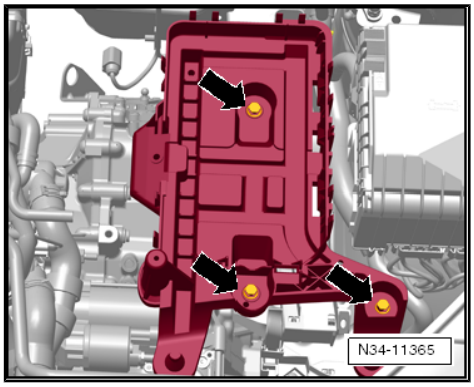
The battery ground cable must be disconnected to perform the following procedure. See if a coded radio is installed. If so, obtain anti-theft coding beforehand.

– Disconnect the battery ground cable. Refer to ⇒ Electrical Equipment; Rep. Gr. 27 ; Battery; Battery, Disconnecting and Connecting .

– Remove the air filter housing. Refer to ⇒ Rep. Gr. 24 ; Air Filter; Overview - Air Filter Housing .

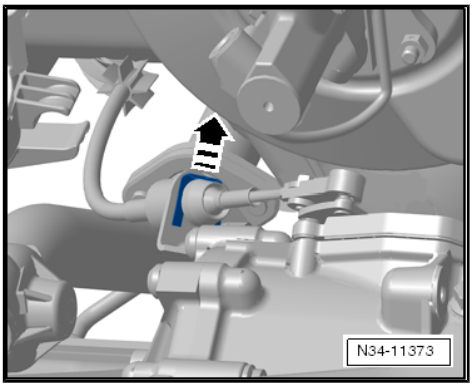
– Remove the battery and the battery tray. Refer to ⇒ Electrical Equipment; Rep. Gr. 27 ; Battery; Battery, Removing and Installing .

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



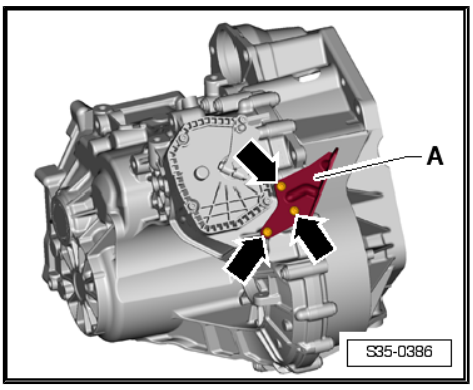
– Remove the lock washer in the direction of the -arrow-.

Always replace the circlip on the selector lever cable.



Note

- *Use pliers to remove the lock washer. Do not use a sharp-edged lever. Otherwise the selector lever cable could get damaged.*
- *Remove the cable bracket -A- and selector lever cable from the transmission, if necessary. To do this, remove the bolts -arrows-. These bolts must be replaced.*
- *Bolt tightening specification -arrows-: 8 Nm +90° additional turn.*



– Remove the selector lever cable from the ball head on the selector lever using, for example, a Pry Lever - 80-200- .

The selector lever cable can also be slid back slightly from the cable bracket and later removed when lowering transmission. Pay attention to the selector lever cable when lowering the transmission.

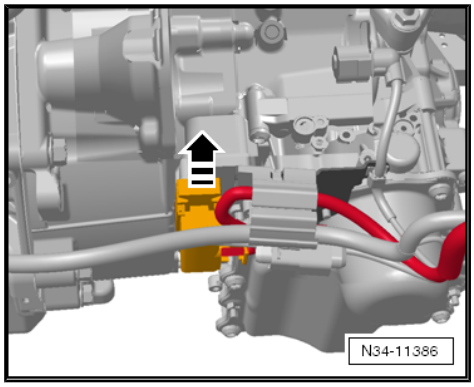
Caution

Risk of damaging transmission components.

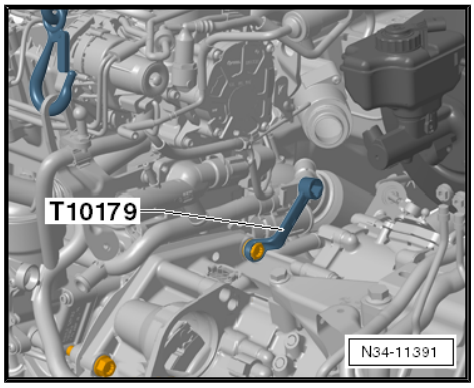
- ***Never touch the contacts in the transmission connector. The control module as well as the Mechatronic can be destroyed by static discharge.***

– To discharge any static electricity, touch vehicle ground with hand (without wearing a glove). Refer to ⇒ page 12 .

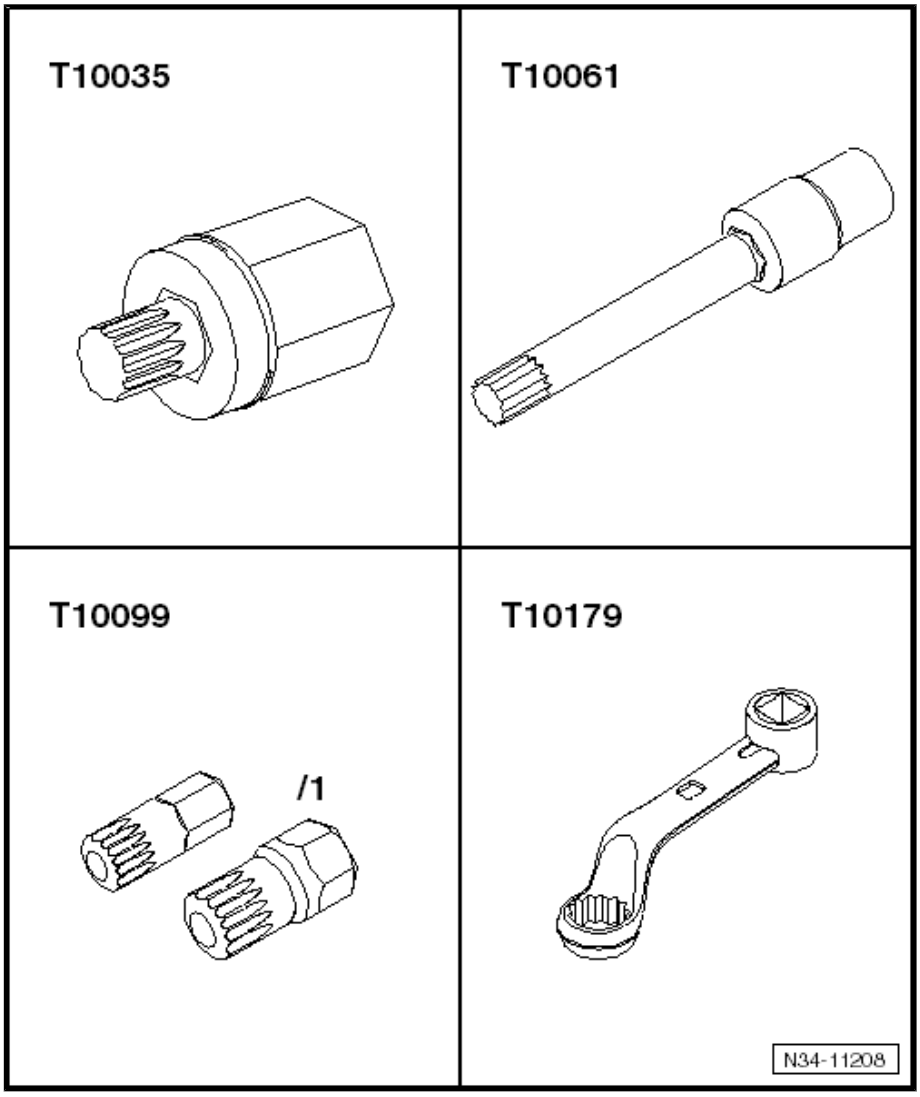
– Release the connector lock on the Mechatronic by pulling in the direction of the -arrow- and remove the connector.



– Remove the upper bolts between the engine and the transmission.

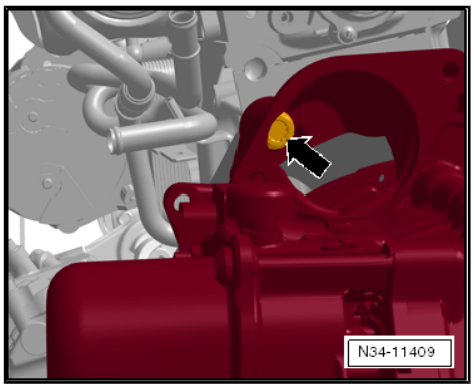


These tools are suitable for this.

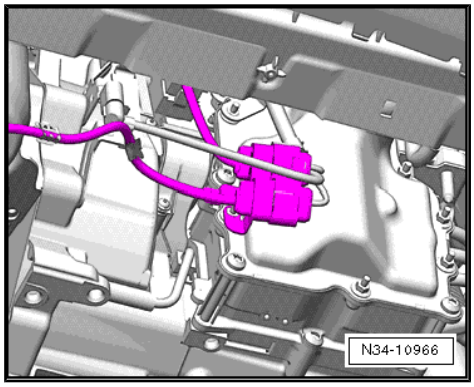


One bolt is located inside the starter opening. In place of an 18 mm nut, the Socket - Xzn 14 - T10061- can also be used.

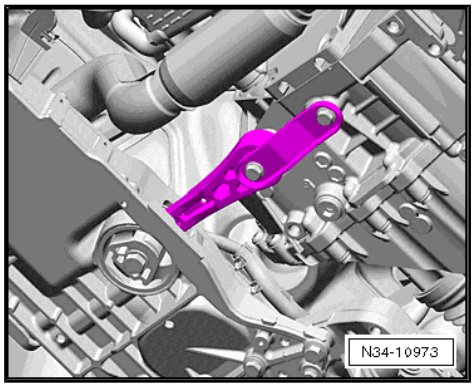
– Loosen the left front wheel bolts.
– Raise the vehicle.
– Remove the left front wheel.
– Remove the noise insulation. Refer to ⇒ Body Exterior; Rep. Gr. 50 ; Noise Insulation .
– Remove the wheel housing liner front section. Refer to ⇒ Body Exterior; Rep. Gr. 66 ; Wheel Housing Liner; Overview - Front Wheel Housing Liner .



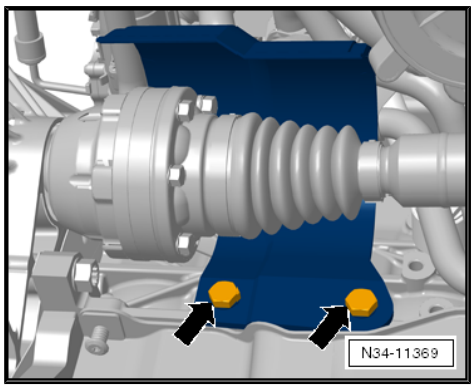
– Remove all of the front brackets from the transmission.



– Remove the pendulum support.



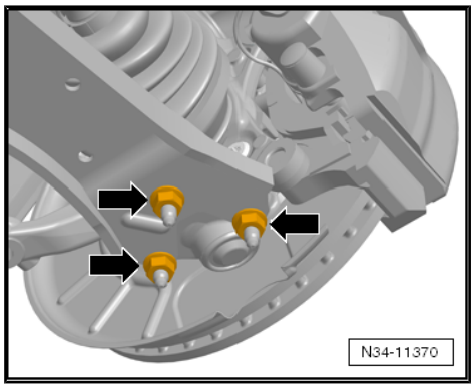
– If equipped, remove the heat shield above the right drive axle -arrows-. Refer to ⇒ Suspension, Wheels, Steering; Rep. Gr. 40 ; Drive Axles, Removing and Installing for the tightening specification.



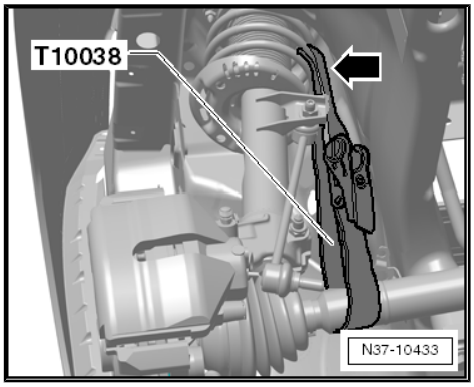
– Remove only the left control arm from the ball joint -arrows-.

– Move the left drive axle into the wheel housing and on the longitudinal member. By doing so, the shaft will not interrupt further work.

Do not damage the surface of the shafts. For this reason, plastic cable ties or Tensioning Straps - T10038- are very suitable.

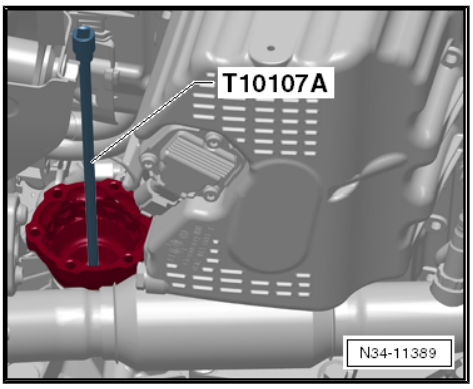


Both drive axles are attached to the suspension strut with the Tensioning Strap - T10038- .



– Remove the right flange shaft bolt at the transmission using the Socket And Extended Bit - T10107A- . Insert two bolts in the flange and counterhold with a tire iron.

The bolt has 6 mm inner hex. The bolt can also be removed and installed using the Long Hex Socket - VAG1669- .



– Remove the flange shaft.

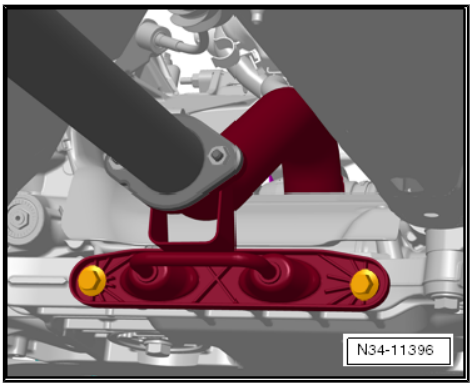
– Seal the flange shaft opening with a suitable plug.

Caution

Risk of damaging the decoupling element.

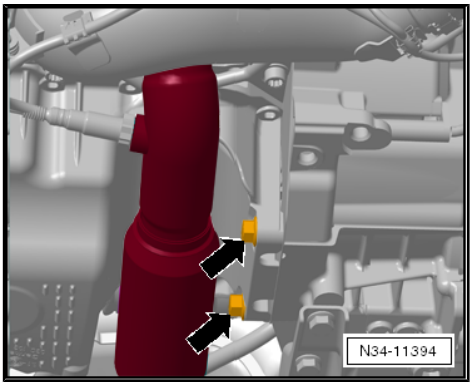
- *Do not bend the decoupling element more than 10°.*
- *Do not load the decoupling element.*
- *Do not damage the wire mesh on the decoupling element.*

– Remove the exhaust system bracket from the subframe.

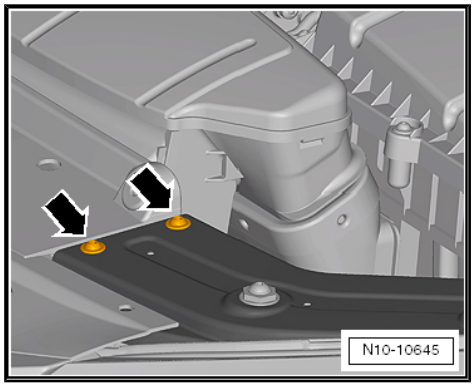


– Remove the front exhaust pipe so the lower engine/transmission connecting bolts -arrows- can be removed. Refer to ⇒ Rep. Gr. 26 ; Exhaust Pipes/Mufflers .

– Remove the plenum chamber cover. Refer to ⇒ Body Exterior; Rep. Gr. 50 ; Plenum Chamber Cover; Plenum Chamber Cover, Removing and Installing .



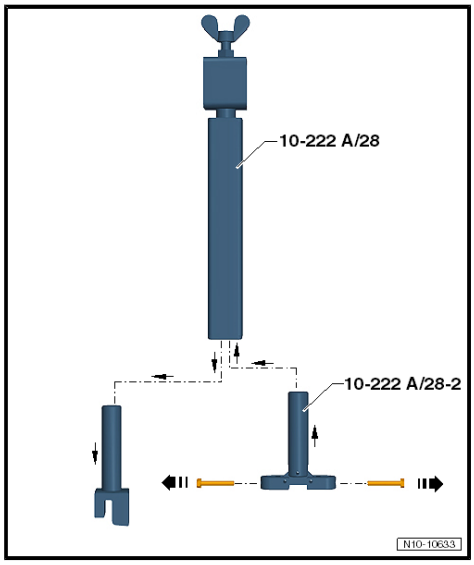
– Remove the bolts -arrows- for the left and right lock carrier retaining brackets.



– Remove the lower mounts on the Engine Support Bridge - Engine Support 28 - 10-222A/28- and replace with the Engine Support Bridge - Engine Support 28-2 - 10-222A/28-2- .

– Remove the bolts in direction of -arrows- for securing the engine support bridge on the lock carrier from the Engine Support Bridge - Engine Support 28-2 - 10-222A/28-2- .

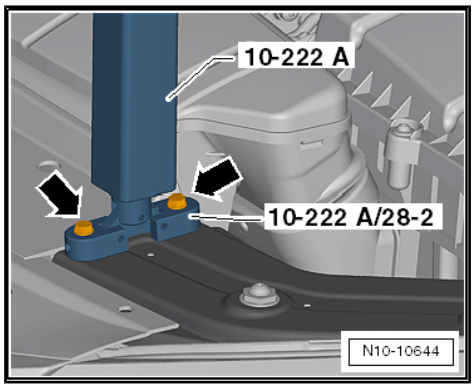
• Use the bolts present in the Engine Support Bridge - Engine Support 28-2 -10-222A/28-2- for attaching the Engine Support Bridge - Engine Support 28 - 10-222A/28- . Not the bolts for the retaining bracket.



– Install the Engine Support Bridge - Engine Support 28 - 10-222A/28- and tighten the bolts to 8 Nm -arrows-.

Caution

A second technician is needed to mount the Engine Support Bridge on the vehicle to prevent the Engine Support Bridge from tipping.



– If there are hose and cable connections located near the engine lifting eyes for the Engine Support Bridge - 10-222A- , these must now be removed.

Vehicles with 1.4L/90 kW TFSI Engine and 1.4L/118 kW TSI Engine

– Install the Engine Support Bridge - 10-222A- as shown.

– First slide the Moveable Joints -2- onto the Square Pipe from the Engine Support Bridge - 10-222A- .

– Mount the Engine Support Bridge - 10-222A- on the suspension strut towers and have a second technician hold it to prevent it from tipping.

– Push the Engine Support - Basic Set - Square Pipe - T40091/1- -5- from the front left and right through the Engine Support Bridge - Engine Support 28 - 10-222A/28- -6- and place on each side of the Engine Support - Supplement Kit - Movable Joint - T40093/4- -4-.

– Push the Engine Support - Basic Set - Rail with Holes - T40091/2- -7- with the Engine Support - Supplement Kit - Mount - T40093/5- -8- in the Engine Support - Supplement Kit - Movable Joint - T40093/4- -4-.

– Install the locking pins into the Engine Support - Basic Set - Rail with Holes - T40091/2- -7- and secure it with the cotter pins.

1 - Engine Support Bridge - Engine Support 31 - Adapter 2 - 10-222A/31-2-

2 - Engine Support - Basic Set - Moveable Joint - T40091/3-

3 - Engine Support Bridge - Engine Support 31 - Adapter 1 - 10-222A/31-1-

4 - Engine Support - Supplement Kit - Movable Joint - T40093/4-

5 - Engine Support - Basic Set - Square Pipe - T40091/1-

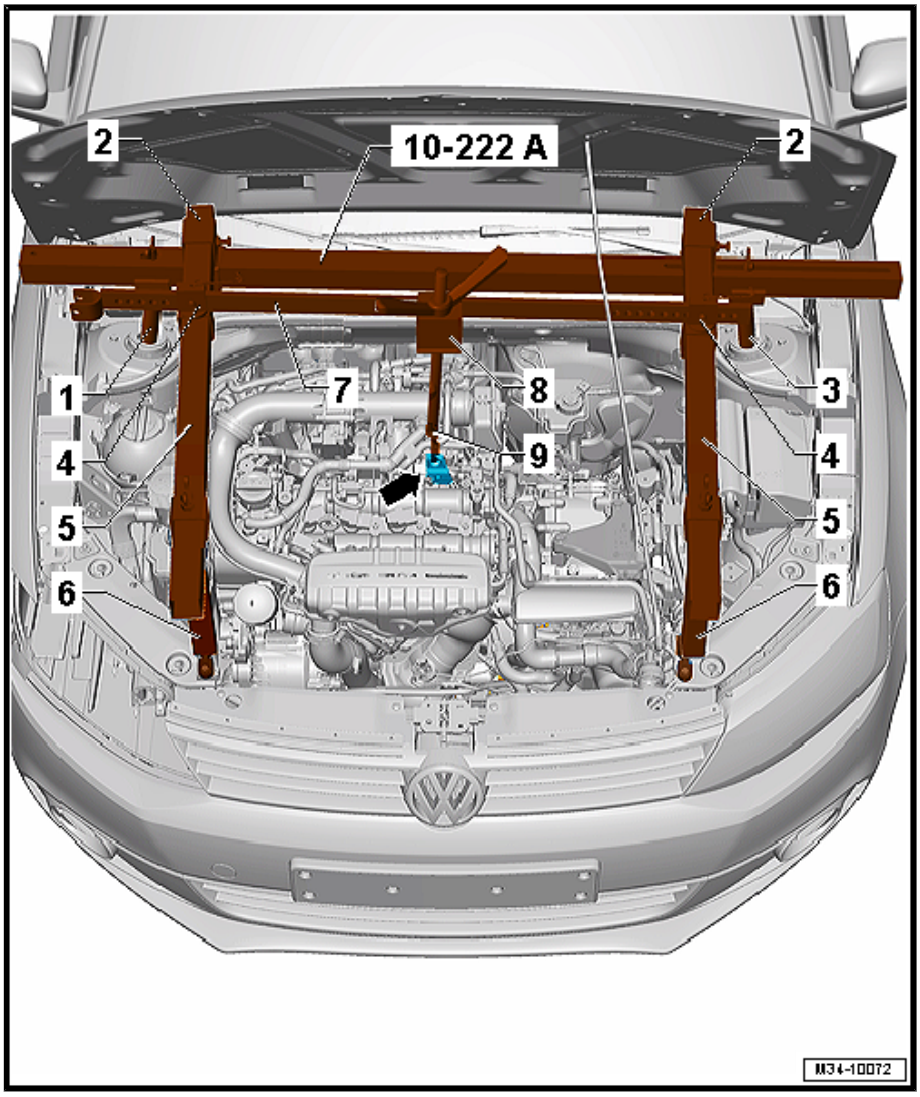
6 - Engine Support Bridge - Engine Support 28 - 10-222A/28- with Engine Support Bridge - Engine Support 28-2 -10-222A/28-2-

7 - Engine Support - Basic Set - Rail with Holes - T40091/2-

8 - Engine Support - Supplement Kit - Mount 5 - T40093/5-

9 - Engine Support Bridge - Spindle - 10-222A/11-

❑ Engaged in the engine lifting eye -arrow-.



Continuation for All Vehicles

– Tighten all the threaded connections on the Engine Support Bridge hand-tight. While doing so, adjust the height of the Engine Support Bridge parallel over the Engine Support Bridge - Engine Support 28 - 10-222A/28- .

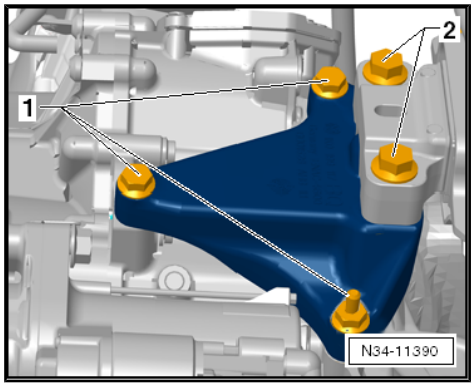
– Lightly tension the engine/transmission assembly via the Engine Support Bridge - 10-222A- spindle, do not lift.

Remove all bolts -1 and 2- from the transmission bracket.

– Slightly lower the engine and transmission using the Engine Support Bridge - 10-222A- spindles so that the transmission bracket can be removed.

A maximum of 5 turns are enough to remove the transmission bracket.

In many cases it is not necessary to lower the spindles when removing the transmission later.



To remove the transmission 0AM, the Transmission Support - 3282- is equipped with the Transmission Support - Mounting Plate 59 - 3282/59- and positioned on the Engine and Gearbox Jack - VAS6931- .

– Align the arms of the Transmission Support so that they match up with the holes in the Transmission Support - Mounting Plate 59 - 3282/59- .

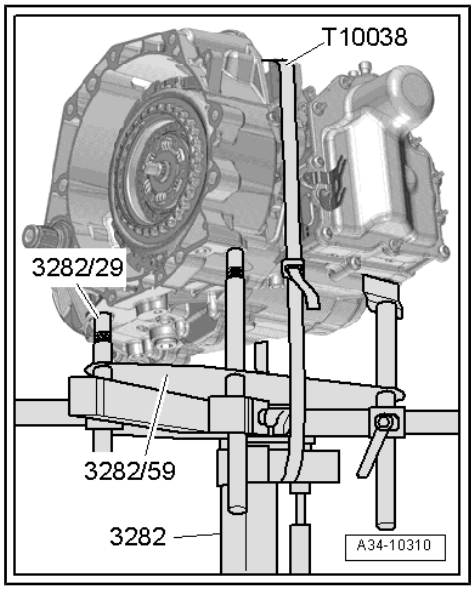
– Install the mounting elements as illustrated on the Transmission Support - Mounting Plate 59 - 3282/59- .

– Place the Engine and Gearbox Jack - VAS6931- under the vehicle.

• The arrow symbol on the Transmission Support - Mounting Plate 59 - 3282/59- points in the direction of travel.

– Align the Transmission Support - 3282- so that it is parallel to the transmission.

– Transmission Support - Pins 29 - 3282/29- are inserted in the »rear« hole for the pendulum support.



– Mount both remaining mounting elements on the transmission as shown. While doing this, place the drift plate under the transmission housing and not under the Mechatronic.

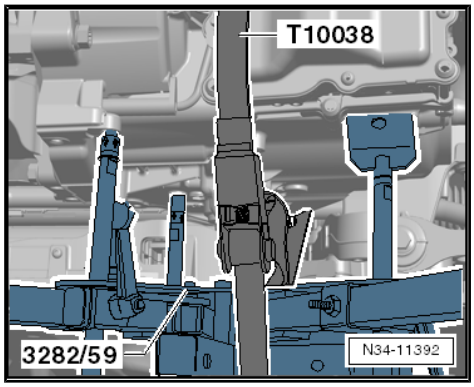
– Secure the transmission with a Tensioning Strap - T10038- .

– Support the transmission by lifting it from underneath using the Engine and Gearbox Jack - VAS6931- .

The transmission is disconnected from the engine in this position.

– Remove the remaining engine/transmission connecting bolts.

– Remove transmission from engine »while being careful of selector lever cable« and lower transmission.



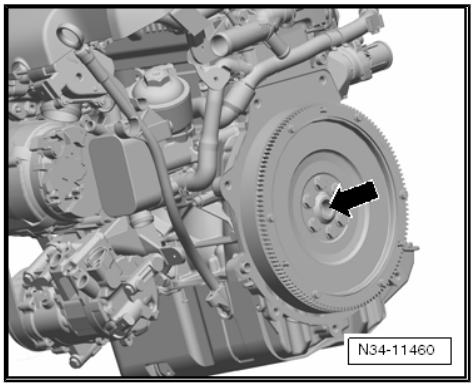
Note

◆ *The distance between the engine flange and transmission flange should be approximately 50 mm before lowering the transmission.*

◆ *Pay attention to all lines and coolant hoses when lowering the transmission.*

Note

- *Always replace the needle bearing -arrow- after separating the engine and transmission.*
- *If the needle bearing in the crankshaft is damaged, the gears will no longer shift correctly.*



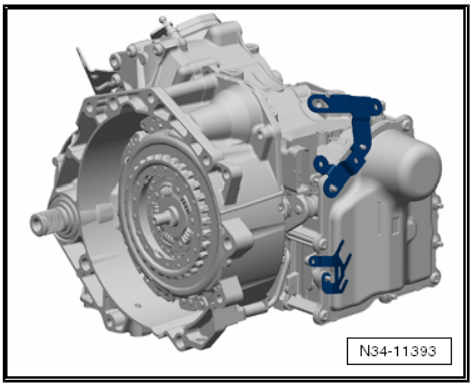
– Replace the needle bearing in the crankshaft. Refer to ⇒ Rep. Gr. 13 ; Crankshaft; Needle Bearing in Crankshaft, Replacing .

Transport the transmission and secure to the assembly stand. Refer to
⇒ "6 Transmission, Transporting and Securing To Assembly Stand", page 191 .

Install the transmission. Refer to
⇒ "5.3 Transmission, Installing, Jetta MY 2011", page 183 .

If the transmission is going to be shipped:

The bracket is located on the front of the transmission in some cases.



– Remove the bracket if a »new« transmission is being installed, because brackets are not equipped on »new« transmissions.
– Install the right flange shaft. Refer to
⇒ "1.4 Right Flange Shaft Seal, Replacing", page 210 .

5.2 Transmission, Removing, Jetta 2011 with 1.6L/77 kW TDI CR Engine

Special tools and workshop equipment required

- Engine Support Bridge - 10-222A-
- Transmission Support - 3282-
- Support Elements for transmission (determine when mounting the Mounting Plate on the Transmission Support)
- Engine and Gearbox Jack - VAS6931-
- Tensioning Strap - T10038-
- Engine Support - Basic Set - T40091-
- Engine Support - Supplement Kit - T40093A-
- Transmission Support - Pins 29 - 3282/29-
- Transmission Support - Mounting Plate 59 - 3282/59-
- Socket And Extended Bit - T10107A-

Brief Description

The transmission is removed downward by itself without the engine.

The battery, the air filter and the starter are removed »from above«.

The noise insulation under the engine/transmission, the lower cover in the left front wheel housing and the pendulum support are removed »from below«.

Removing

– Move the selector lever into »P«.

– Remove the engine cover from the cylinder head.

Note

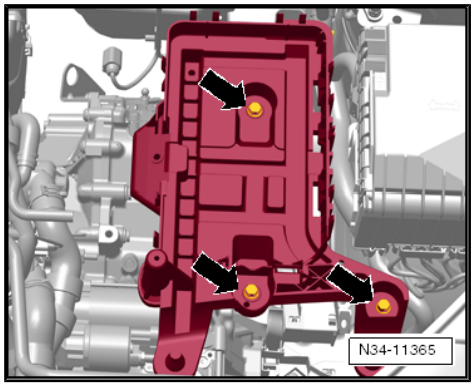
The battery ground cable must be disconnected to perform the following procedure. See if a coded radio is installed. If so, obtain anti-theft coding beforehand.

– Disconnect the battery ground cable. Refer to ⇒ Electrical Equipment; Rep. Gr. 27 ; Battery; Battery, Disconnecting and Connecting .

– Remove the complete air filter housing. Refer to ⇒ Rep. Gr. 23 ; Diesel Direct Injection System; Overview - Air Filter .

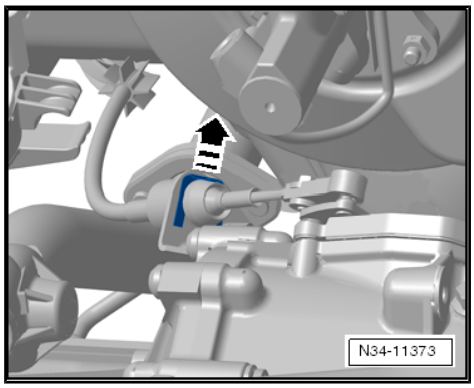
– Remove the battery and the battery tray. Refer to ⇒ Electrical Equipment; Rep. Gr. 27 ; Battery; Battery, Removing and Installing .

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



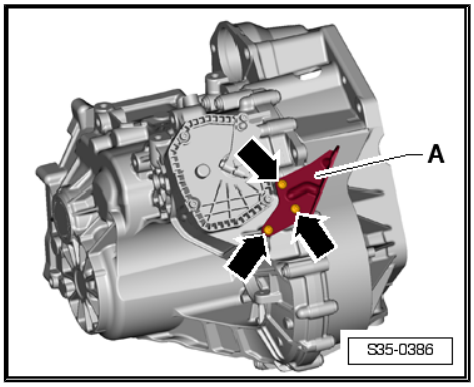
– Remove the lock washer in the direction of -arrow-.

Always replace the circlip on the selector lever cable.



Note

- *Use pliers to remove the lock washer. Do not use a sharp-edged lever. Otherwise the selector lever cable could get damaged.*
- *Remove the cable bracket -A- and selector lever cable from the transmission, if necessary. To do this, remove the bolts -arrows-. These bolts must be replaced.*
- *Bolt tightening specification -arrows-: 8 Nm +90° additional turn.*



– Remove the selector lever cable from the ball head on the selector lever using, for example, a Pry Lever - 80-200- .

The selector lever cable can also be slid back slightly from the cable bracket and later removed when lowering transmission. Pay attention to the selector lever cable when lowering the transmission.

Caution

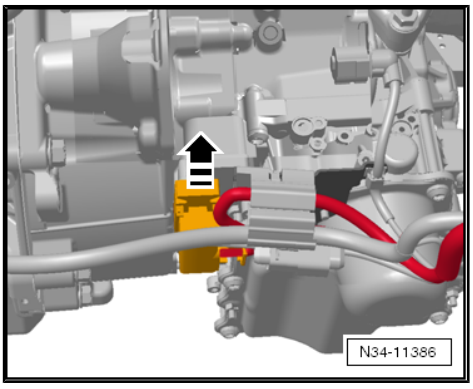
Risk of damaging transmission components.

- ***Never touch the contacts in the transmission connector. The control module as well as the Mechatronic can be destroyed by static discharge.***

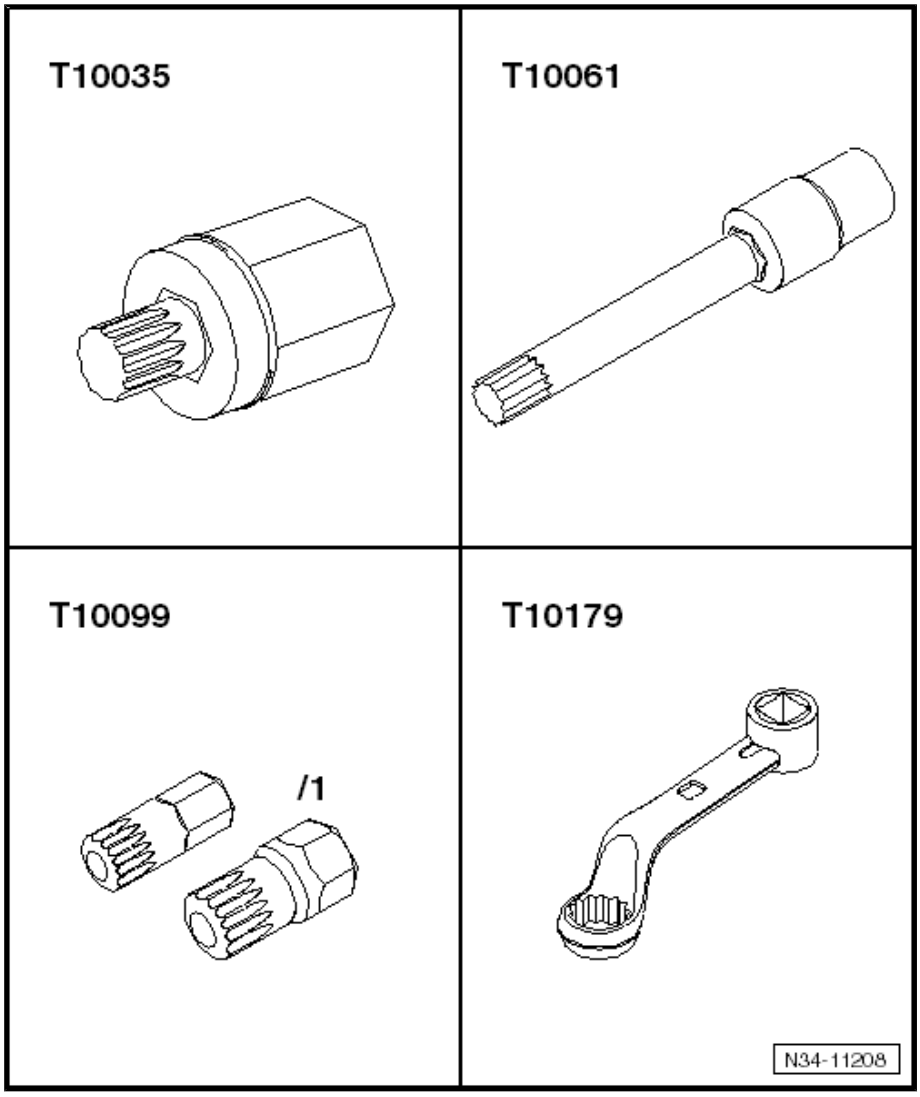
– To discharge any static electricity, touch vehicle ground with hand (without wearing a glove). Refer to ⇒ page 12 .

– Release the connector lock on the Mechatronic by pulling in the direction of the -arrow- and remove the connector.

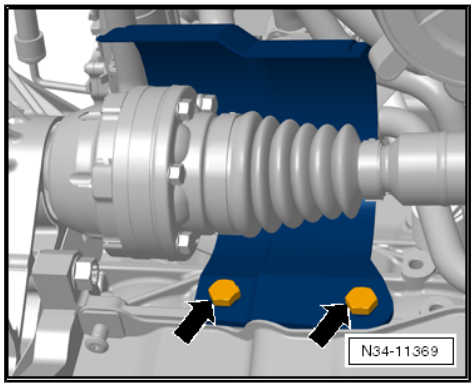
– Remove the upper bolts between the engine and the transmission.



These tools are suitable for this.



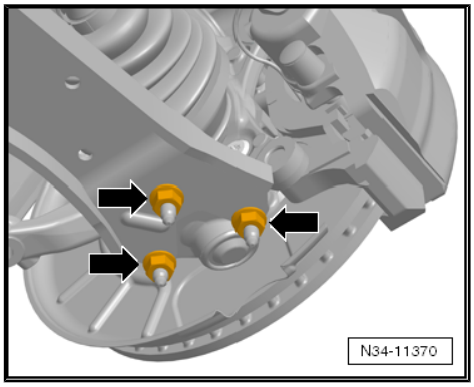
- Loosen the left front wheel bolts.
- Raise the vehicle.
- Remove the left front wheel.
- Remove the noise insulation. Refer to ⇒ Body Exterior; Rep. Gr. 50 ; Noise Insulation .
- Remove the left front housing liner. Refer to ⇒ Body Exterior; Rep. Gr. 66 ; Wheel Housing Liner; Overview - Front Wheel Housing Liner .
- If equipped, remove the heat shield above the right drive axle -arrows-. Refer to ⇒ Suspension, Wheels, Steering; Rep. Gr. 40 ; Drive Axles, Removing and Installing for the tightening specification.



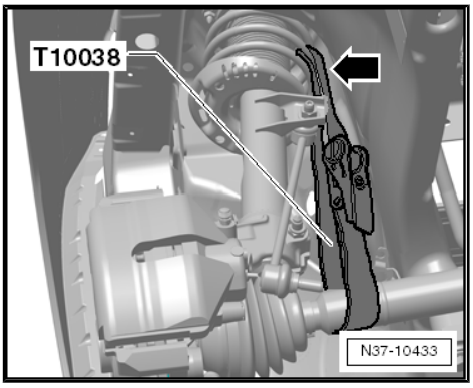
– Remove the left control arm from the ball joint.

– Move the left drive axle into the wheel housing and on the longitudinal member. By doing so, the shaft will not interrupt further work.

Do not damage the surface of the shafts. For this reason, plastic cable ties or Tensioning Straps - T10038- are very suitable.

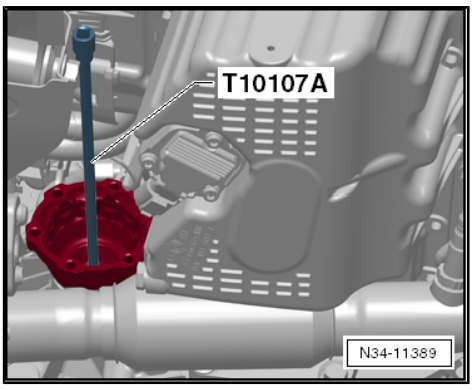


Both drive axles are attached to the suspension strut with the Tensioning Strap - T10038- .



– Remove the right flange shaft bolt at the transmission using the Socket And Extended Bit - T10107A- . Insert two bolts in the flange and counterhold with a tire iron.

The bolt has 6 mm inner hex. The bolt can also be removed and installed using the Long Hex Socket - VAG1669- .



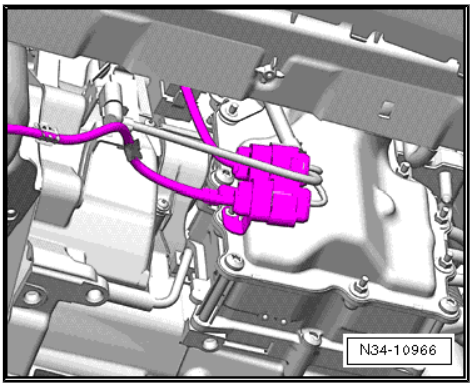
Note

- *Check the seal for leaks before removing the flange shaft. If the seal has leaks, replace it when installing. Refer to ⇒ "1.4 Right Flange Shaft Seal, Replacing", page 210 .*
- *If necessary, tie the drive axle up just far enough so that it is possible to remove the transmission flange shaft.*
- *Remove the right drive axle. Refer to ⇒ Suspension, Wheels, Steering; Rep. Gr. 40 ; Drive Axles, Removing and Installing .*

– Remove the flange shaft.

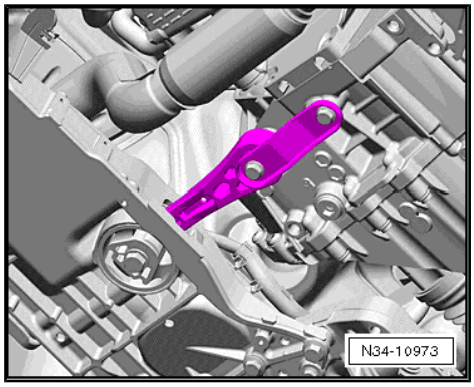
– Seal the flange shaft opening with a suitable plug.

– Remove all of the front brackets from the transmission.

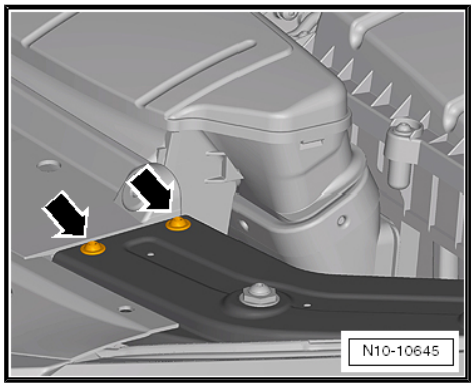


– Remove the pendulum support.

– Remove the plenum chamber cover. Refer to ⇒ Body Exterior; Rep. Gr. 50 ; Plenum Chamber Cover; Plenum Chamber Cover, Removing and Installing .



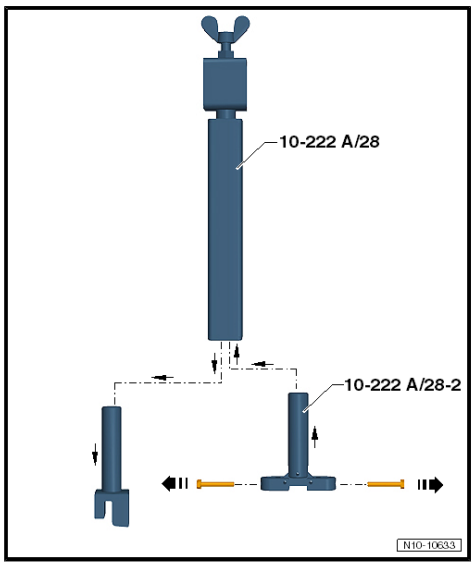
– Remove the bolts -arrows- for the left and right lock carrier retaining brackets.



– Remove the lower mounts on the Engine Support Bridge - Engine Support 28 - 10-222A/28- and replace them with the Engine Support Bridge - Engine Support 28-2 - 10-222A/28-2- .

– Remove the bolts -arrows- for securing the engine support bridge on the lock carrier from the Engine Support Bridge - Engine Support 28-2 - 10-222A/28-2- .

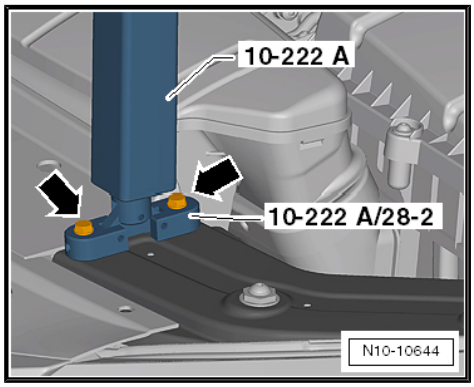
• Use the bolts present in the Engine Support Bridge - Engine Support 28-2 - 10-222A/28-2- for attaching the Engine Support Bridge - Engine Support 28 - 10-222A/28- . Not the bolts for the retaining bracket.



– Install the Engine Support Bridge - Engine Support 28 - 10-222A/28- and tighten the bolts to 8 Nm -arrows-.

Caution

A second technician is needed to mount the Engine Support Bridge on the vehicle to prevent the Engine Support Bridge from tipping.



– If there are hose and cable connections located near the engine lifting eyes for the Engine Support Bridge - 10-222A- , these must now be removed.

Install the Engine Support Bridge - 10-222A- as shown.

– First slide the Moveable Joints -2- onto the Square Pipe from the Engine Support Bridge - 10-222A- .
– Mount the Engine Support Bridge - 10-222A- on the suspension strut towers and have a second technician hold it to prevent it from tipping.
– Push the Engine Support - Basic Set - Square Pipe - T40091/1- -6- from the front left and right through the Engine Support Bridge - Engine Support 28 - 10-222A/28- -7- and place on each side of the Engine Support - Supplement Kit - Movable Joint - T40093/4- -5-.
– Slide the Engine Support - Basic Set - Rail with Holes - T40091/2- -4- with the Engine Support - Supplement Kit Mount - T40093/5- -9- in the Engine Support - Supplement Kit - Moveable Joint - T40093/4- -5-.
– Install the locking pins into the Engine Support - Basic Set - Rail with Holes - T40091/2- -4- and secure it with the cotter pins.

1 - Engine Support Bridge - Engine Support 31 - Adapter 2 - 10-222A/31-2-

2 - Engine Support - Basic Set - Moveable Joint - T40091/3-

3 - Engine Support Bridge - Engine Support 31 - Adapter 1 - 10-222A/31-1-

4 - Engine Support - Basic Set - Rail with Holes - T40091/2-

5 - Engine Support - Supplement Kit - Movable Joint - T40093/4-

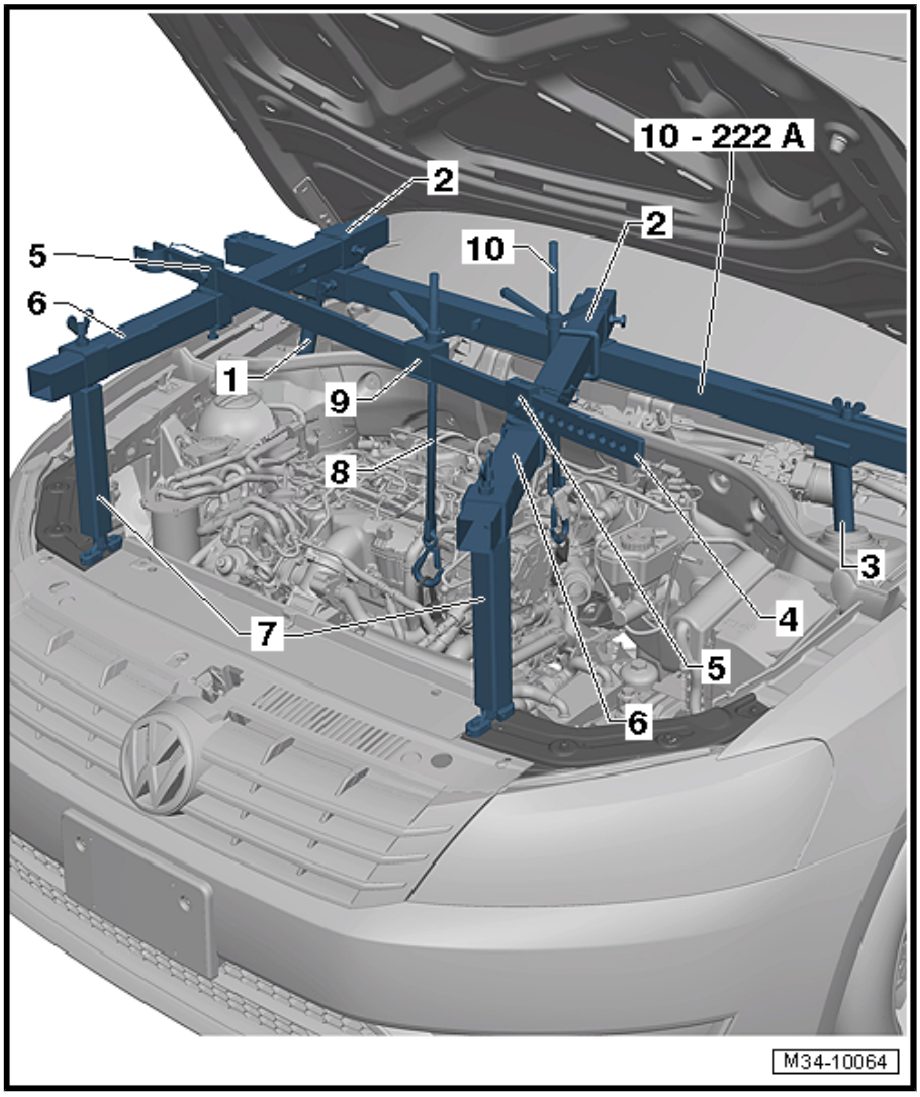
6 - Engine Support - Basic Set - Square Pipe - T40091/1-

7 - Engine Support Bridge - Engine Support 28 - 10-222A/28- with Engine Support Bridge - Engine Support 28-2 -10-222A/28-2-

8 - Engine Support Bridge - Spindle - 10-222A/11-

9 - Engine Support - Supplement Kit - Mount 5 - T40093/5-

10 - Engine Support - Bracket w/Spindle and Hook - 10-222A/10-



– Tighten all the threaded connections on the Engine Support Bridge hand-tight. While doing so, adjust the height of the Engine Support Bridge parallel over the Engine Support Bridge - Engine Support 28 - 10-222A/28- .

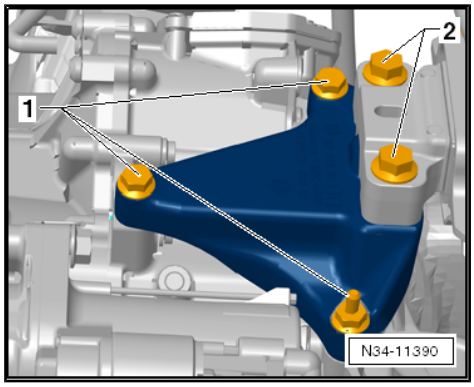
– Pretension the engine/transmission sub-assembly using the spindles, but do not lift it.

Remove all bolts -1 and 2- from the transmission bracket.

– Then lower the engine/transmission slightly using the Engine Support Bridge - 10-222A- spindle so that the transmission bracket can be removed.

A maximum of 5 turns are enough to remove the transmission bracket.

In many cases it is not necessary to lower the spindles when removing the transmission later.



To remove the transmission 0AM, the Transmission Support - 3282- is equipped with the Transmission Support - Mounting Plate 59 - 3282/59- and positioned on the Engine and Gearbox Jack - VAS6931- .

– Align the arms of the Transmission Support so that they match up with the holes in the Transmission Support - Mounting Plate 59 - 3282/59- .

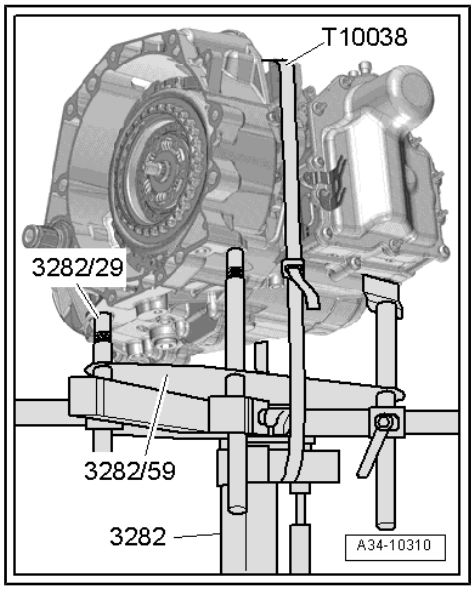
– Install the mounting elements as illustrated on the Transmission Support - Mounting Plate 59 - 3282/59- .

– Place the Engine and Gearbox Jack - VAS6931- under the vehicle.

• The arrow symbol on the Transmission Support - Mounting Plate 59 - 3282/59- points in the direction of travel.

– Align the Transmission Support - 3282- so that it is parallel to the transmission.

– Transmission Support - Pins 29 - 3282/29- are inserted in the »rear« hole for the pendulum support.



– Mount both remaining mounting elements on the transmission as shown. While doing this, place the drift plate under the transmission housing and not under the Mechatronic.

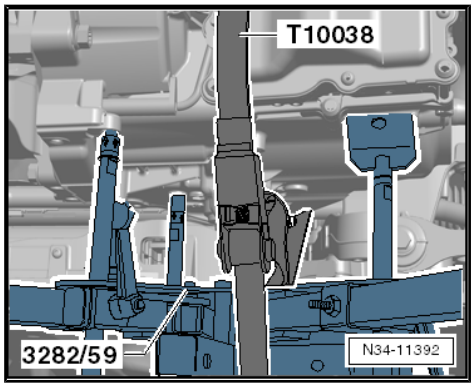
– Secure the transmission with a Tensioning Strap - T10038- .

– Support the transmission by lifting it from underneath using the Engine and Gearbox Jack - VAS6931- .

The transmission is disconnected from the engine in this position.

– Remove the remaining engine/transmission connecting bolts.

– Remove transmission from engine »while being careful of selector lever cable« and lower transmission.



Note

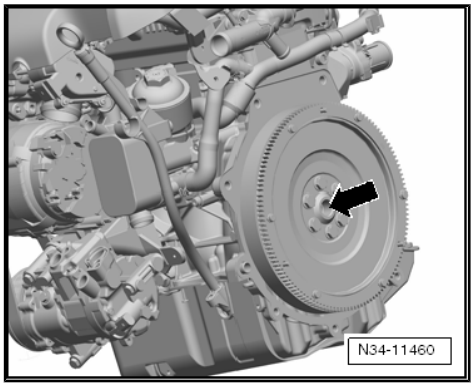
♦ *The distance between the engine flange and transmission flange should be approximately 50 mm before lowering the transmission.*

♦ *Pay attention to all lines and coolant hoses when lowering the transmission.*

Note

- *Always replace the needle bearing -arrow- after separating the engine and transmission.*
- *If the needle bearing in the crankshaft is damaged, the gears will no longer shift correctly.*

– Replace the needle bearing in the crankshaft. Refer to ⇒ Rep. Gr. 13 ; Crankshaft; Needle Bearing in Crankshaft, Replacing .



Transport the transmission and secure to the assembly stand. Refer to
⇒ "6 Transmission, Transporting and Securing To Assembly Stand", page 191 .

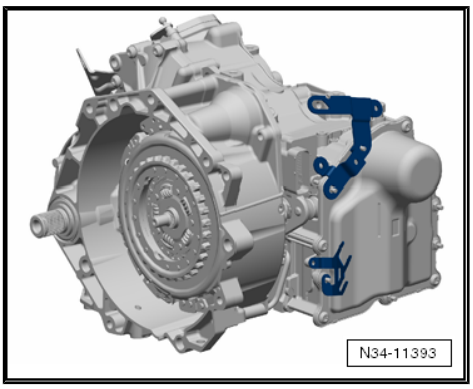
Install the transmission. Refer to
⇒ "5.3 Transmission, Installing, Jetta MY 2011", page 183 .

If the transmission is going to be shipped:

The bracket is located on the front of the transmission in some cases.

– Remove the bracket if a »new« transmission is being installed, because brackets are not equipped on »new« transmissions.

– Install the right flange shaft. Refer to
⇒ "1.4 Right Flange Shaft Seal, Replacing", page 210 .



5.3 Transmission, Installing, Jetta MY 2011

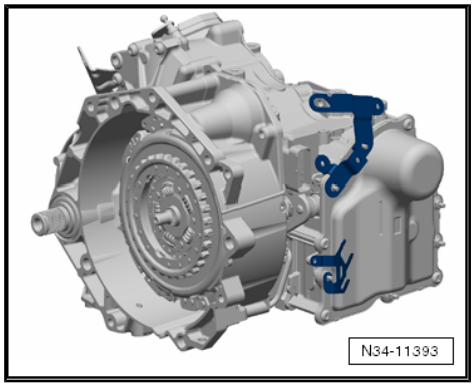
Note

- *The list of required special tools is under the "Transmission, Removing" procedure. Refer to*
⇒ "5.1 Transmission, Removing, Jetta 2011 with 1.4L/90 kW TFSI Engine and 1.4L/118 kW TSI Engine", page 166
- *Install the engine/transmission mount without tension. Refer to ⇒ Engine Mechanical, Fuel Injection and Ignition; Rep. Gr. 10 ; Engine, Removing and Installing .*

Install in reverse order of removal. Nevertheless, important steps should be named here:

Tightening specifications. Refer to
⇒ "5.4 Tightening Specifications", page 188 .

– The bracket is located on the front of a removed transmission in some cases. Reattach this bracket to the »new« transmission.

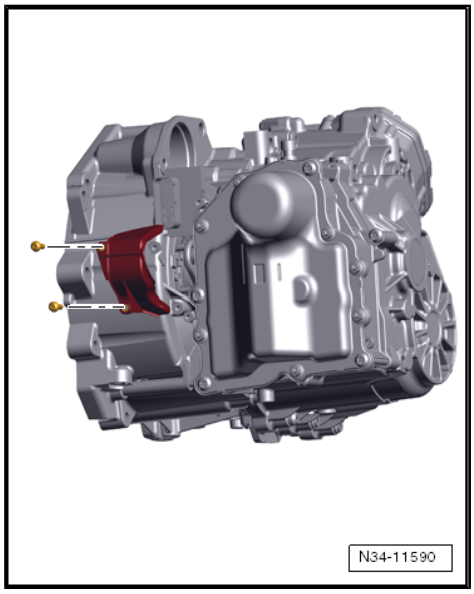


Some vehicles have a cover over the engaging levers.

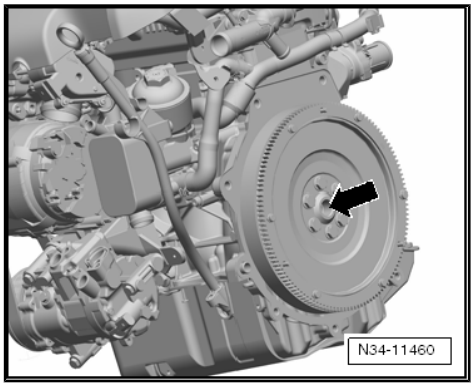
The cover prevents dirt from getting in.

Tightening specification: 8 Nm.

– Remove the right flange shaft to install the transmission.



– If not already done, replace the needle bearing in the crankshaft -arrow-. Refer to ⇒ Rep. Gr. 13 ; Crankshaft; Needle Bearing in Crankshaft, Replacing .



Note

- *Always replace the needle bearing -arrow- after separating the engine and transmission.*
- *If the needle bearing in the crankshaft is damaged, the gears will no longer shift correctly.*

– Make sure both alignment sleeves between the engine and the transmission fit correctly.

– Make sure the intermediate plate fits correctly.

– Guide the selector lever cable into the mounting bracket as soon as possible.

Check the selector lever cable when raising the transmission. Do not forget to insert it »early« into the cable bracket.

Do not grease the selector lever cable.

Guide the engine and transmission together by hand until the entire surface of both flanges come into contact with one another.

If they do not, »something is incorrect«!

– Adjust the transmission mount until the engine and transmission »are aligned«.

– Turn the crankshaft slightly if necessary.

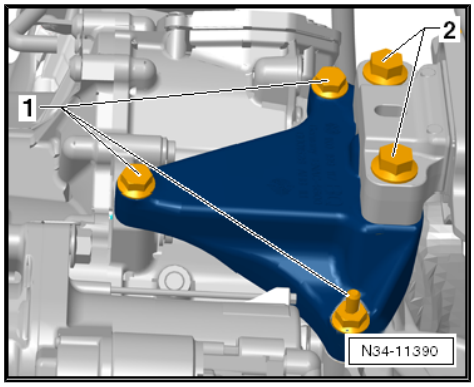
– Insert the transmission without pinching any lines.

– Attach the transmission to the engine.

– Remove the Transmission Support - 3282- from the transmission.

Install the left subframe mount as follows:

– Replace all bolts -1 and 2- for the left subframe mount.
– Insert the transmission bracket between the transmission and transmission mount support arm.
– First attach the transmission bracket to the transmission using the bolts -1-.
– Align the engine/transmission in its installed position. Lift until the transmission bracket is touching the transmission mount completely.



Caution

There is a risk of damaging the threads in transmission bracket by inserting bolts at an angle.

- *Before installing the bolts -2-, the transmission bracket and transmission mount support arm must be absolutely parallel to each other. If necessary, lift the back of the transmission using the Engine and Gearbox Jack .*

Install the engine/transmission mount free of tension. Refer to ⇒ Rep. Gr. 10 ; Engine, Removing and Installing .

– Tighten the bolts -2- to the tightening specification.

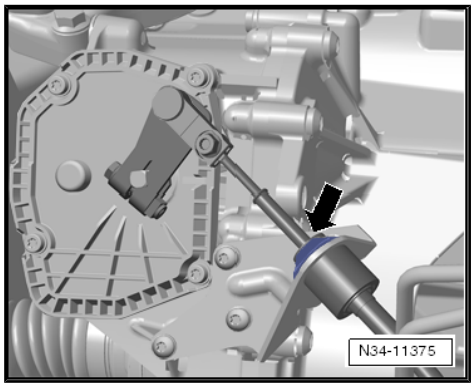
WARNING

Only remove Engine Support Bridge - 10-222A- when all the left and right subframe mount bolts are tightened to the tightening specification.

– Always replace the selector lever cable lock washer -arrow-.

Do not install a used lock washer. The washer can wear if it loses its residual stress.

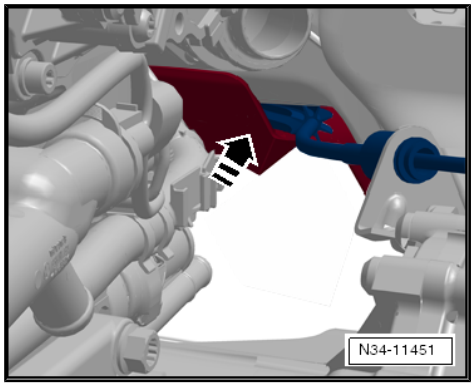
– Always use a »new« lock washer during assembly.



– When installing, make sure the selector lever cable is routed correctly in direction of -arrow-.

If the heat shield underneath is bent, there will be noises. The selector lever cable will then »flap« on the heat shield.

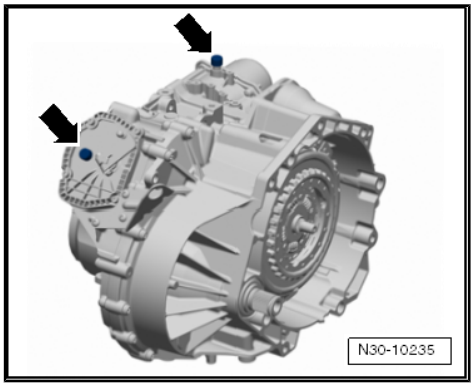
– Pay attention to the heat shield. Push it into the tunnel when installing.
– Install the starter. Refer to ⇒ Electrical Equipment; Rep. Gr. 27 ; Starter; Starter, Removing and Installing .



– Pay special attention to both vent caps -arrows- when installing the starter.

– Always adjust selector lever cable. Refer to ⇒ “2.6 Selector Lever Cable, Adjusting”, page 94 .

– Reattach the right flange shaft to the transmission. Refer to ⇒ “1.4 Right Flange Shaft Seal, Replacing”, page 210 .



Note

The flange shaft seal does not need to be replaced for this.

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

– Install the complete air filter housing:

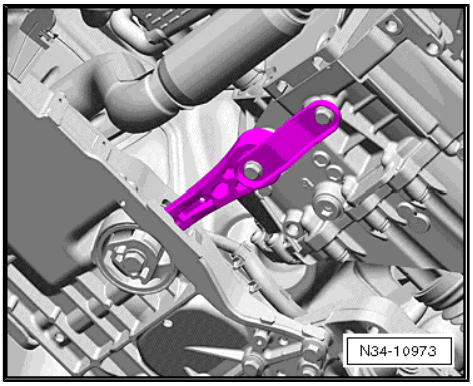
♦ Gasoline engine. Refer to ⇒ Rep. Gr. 24 ; Air Filter; Overview - Air Filter Housing .

♦ TDI engine. Refer to ⇒ Rep. Gr. 23 ; Diesel Direct Injection System; Overview - Air Filter .

– Attach the drive axles to the transmission. Refer to ⇒ Suspension, Wheels, Steering; Rep. Gr. 40 ; Drive Axles, Removing and Installing .

– If removed, attach the ball joint to the control arm. Refer to ⇒ Suspension, Wheels, Steering; Rep. Gr. 40 ; Front Suspension and Control Arm; Overview - Front Suspension and Control Arm .

– Install the heat shield over the right drive axle, if removed. Refer to ⇒ Suspension, Wheels, Steering; Rep. Gr. 40 ; Drive Axles, Overview and Servicing .



– Attach the pendulum support to the transmission and subframe using new bolts. Refer to ⇒ Suspension, Wheels and Steering; Rep. Gr. 40 ; Subframe; Overview - Subframe .

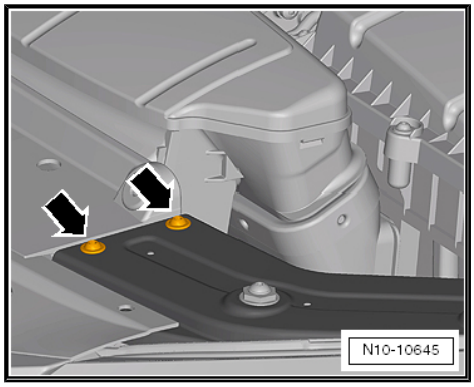
– Assemble the exhaust system and install the exhaust system bracket to the subframe. Refer to ⇒ Rep. Gr. 26 ; Exhaust System or ⇒ Rep. Gr. 26 ; Exhaust Pipes/Mufflers .

– Install the left front 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. 50 ; Noise Insulation .

– Install the plenum chamber cover. Refer to ⇒ Body Exterior; Rep. Gr. 50 ; Plenum Chamber Cover; Plenum Chamber Cover, Removing and Installing .

– Install the bolts -arrows- for the left and right lock carrier retaining brackets to the tightening specification. Refer to ⇒ Body Exterior; Rep. Gr. 50 ; Lock Carrier; Lock Carrier - Attachments .



– Connect the battery and follow the steps after connecting the battery. Refer to ⇒ Electrical Equipment; Rep. Gr. 27 ; Battery; Battery, Disconnecting and Connecting .

– Install the wheel. Refer to ⇒ Suspension, Wheels, Steering; Rep. Gr. 44 ; Wheel Installation Tightening Specifications .

5.4 Tightening Specifications

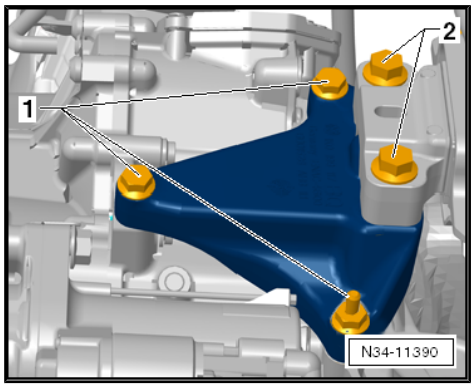
Refer to
⇒ "5.4.1 1.4L/90 kW TFSI and 1.4L/118 kW TSI Engines", page 188

Left Assembly Mounts

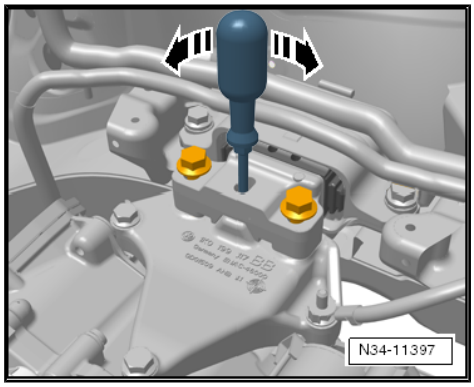
– Replace all bolts -1 and 2- for the left subframe mount.

– Install all new bolts first by hand.

– First attach the transmission bracket to the transmission using bolts -1- to the tightening specification: 40 Nm +90°.



– The transmission bracket can shift from its position when tightening the bolts -2- with a screwdriver. Tightening specification for bolts -2-: 60 Nm + 90°.



5.4.1 1.4L/90 kW TFSI and 1.4L/118 kW TSI Engines

Note

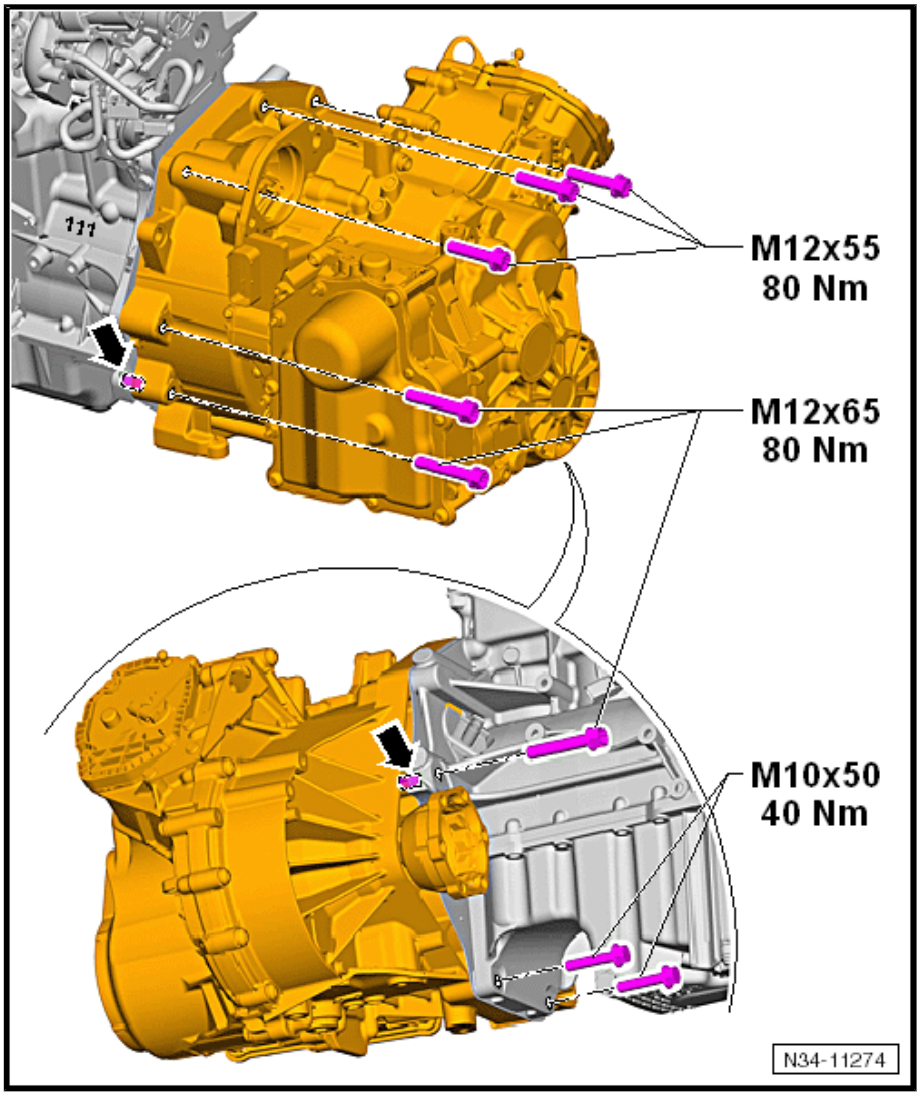
- *The -arrows- point to the alignment sleeves in the engine.*
- *When removing and installing pay attention to the different bolt lengths.*
- *If necessary the bolt length may differ from the illustration.*

M12 - Bolt

- ❑ 80 Nm
- ❑ When using the Insert Tool - 18 mm - T10179- : 65 Nm.

M10 - Bolt

- ❑ 40 Nm



5.4.2 1.6L/77 kW TDI Common Rail Engine

Note

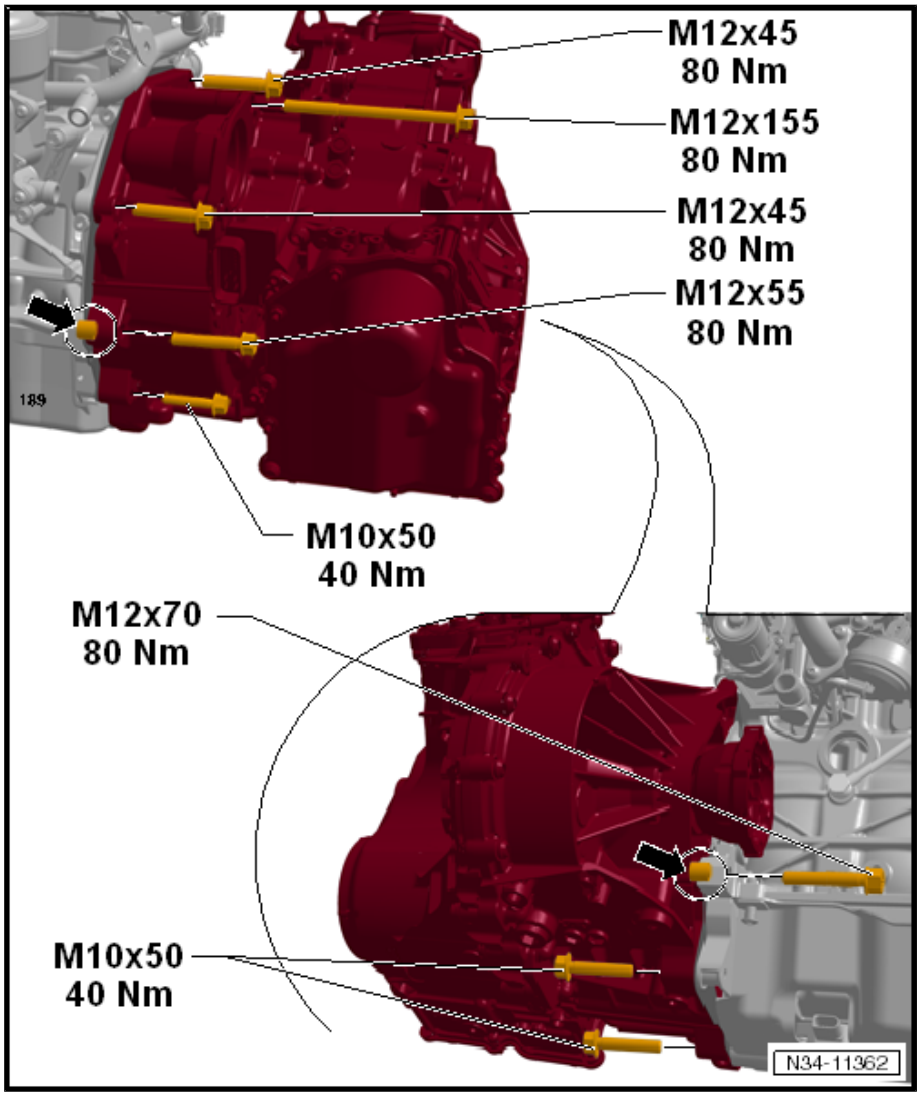
- *The -arrows- point to the alignment sleeves in the engine.*
- *When removing and installing pay attention to the different bolt lengths.*
- *If necessary the bolt length may differ from the illustration.*

M12 - Bolt

- ❑ 80 Nm
- ❑ When using the Insert Tool - 18 mm - T10179- : 65 Nm.

M10 - Bolt

- ❑ 40 Nm

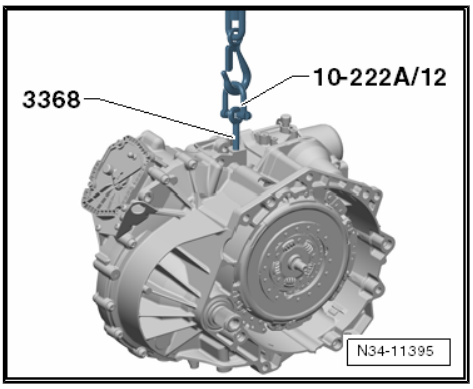


6 Transmission, Transporting and Securing To Assembly Stand

Special tools and workshop equipment required

- Holding Plate - VW309A-
- Transmission Support - VW353-
- Engine Sling - 2024A-
- Lifting Eyebolt - 3368-
- Engine and Gearbox Bracket - VAS6095A-
- Shop Crane - VAS6100-
- Engine/Gearbox Support Shackle (2 pc.) - 10-222A/12-
- Engine Bung Set - VAS6122-
- Protective Cap - 02M 409 120- , alternative for Engine Bung Set - VAS6122-
- Protective Cap - 0AM 325 120 A-

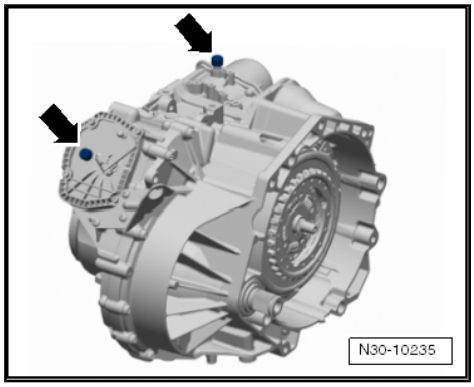
Transmission, Transporting



Note

Seal the transmission oil-tight, if necessary. Refer to *⇒ page 192* *.*

Seal the Transmission So That No Fluid Can Leak Out.



Caution

Risk of damaging the transmission.

The vent on the DSG Transmission Mechatronic - J743- (-rear arrow-) and the transmission ventilation (-left front arrow-) must be sealed tight so that no fluid can leak out during assembly work.

- *Fluid that has leaked out of the DSG Transmission Mechatronic - J743- hydraulic area may not be refilled or checked. Checking the hydraulic fluid level in the DSG Transmission Mechatronic - J743- is not possible.*
- *If transmission fluid has leaked out, then it is necessary to perform a transmission fluid replacement. It is not possible to check the fluid level.*
- *Underfilling or overfilling both fluid systems will impair the function of the transmission.*

– Remove both vent caps -arrows- and seal with clean oil-tight plugs from the Engine Bung Set - VAS6122- .

Note

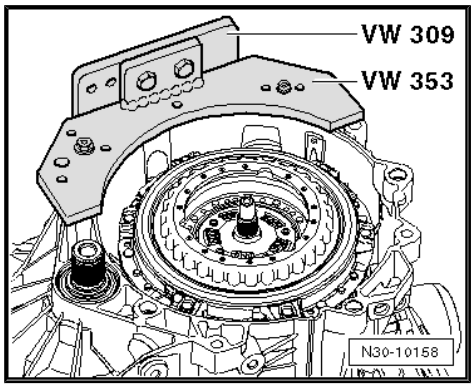
- *On some transmissions, the breather cap on the Mechatronic is destroyed during removal and must be replaced.*
- *As an alternative to the Engine Bung Set - VAS6122- , the Protective Cap - 02M 409 120- can be used to seal the transmission. It is also possible to securely seal the Mechatronic using the Cap - 0AM 325 120 A- . Refer to Parts Catalog.*

– Seal the transmission ventilation and DSG Transmission Mechatronic - J743- vent using clean plugs from the Engine Bung Set - VAS6122- .

– If necessary, order a new vent cap arrow for the DSG Transmission Mechatronic - J743- . It must be replaced after installing the transmission. Refer to the Parts Catalog.

- The seals must be removed after installing the transmission and the vent caps must be reinstalled or replaced.

Secure the Transmission on the Transmission Support - VW353- .



Requirement:

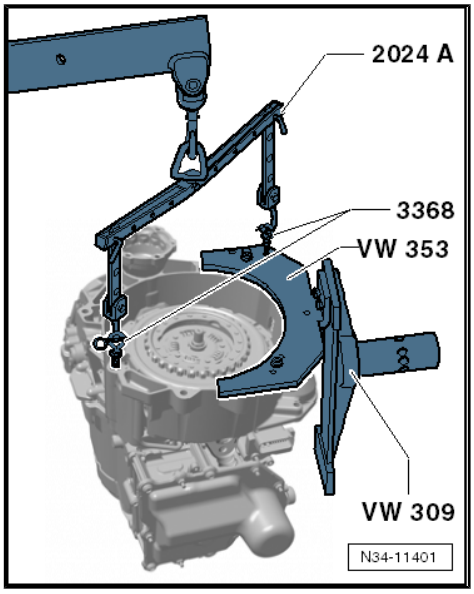
- The transmission is sealed so that no fluid can leak out. Refer to ⇒ page 192 .

Lift the Transmission into the Assembly Stand.

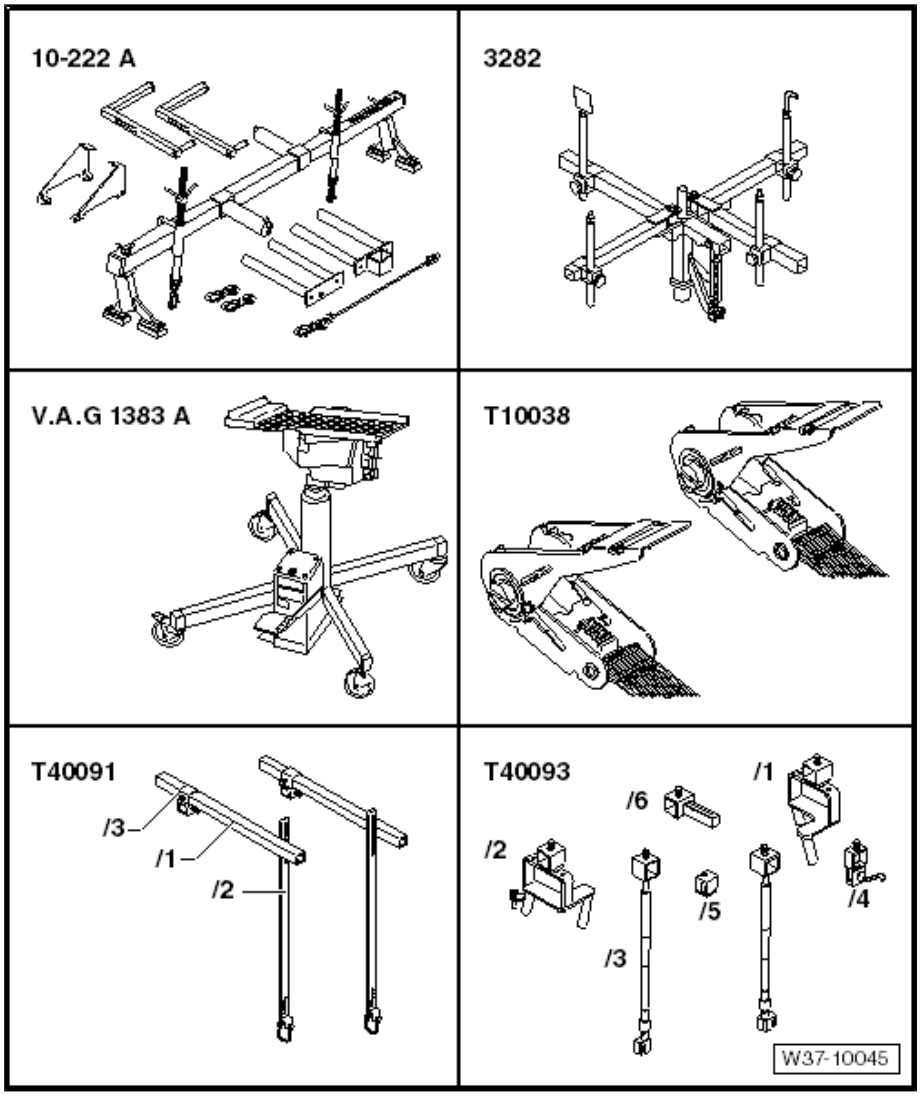
Requirement:

- The transmission is sealed so that no fluid can leak out. Refer to ⇒ page 192 .

The transmission is lifted together with the Transmission Support - VW353- »into the assembly stand«.



7 Special Tools

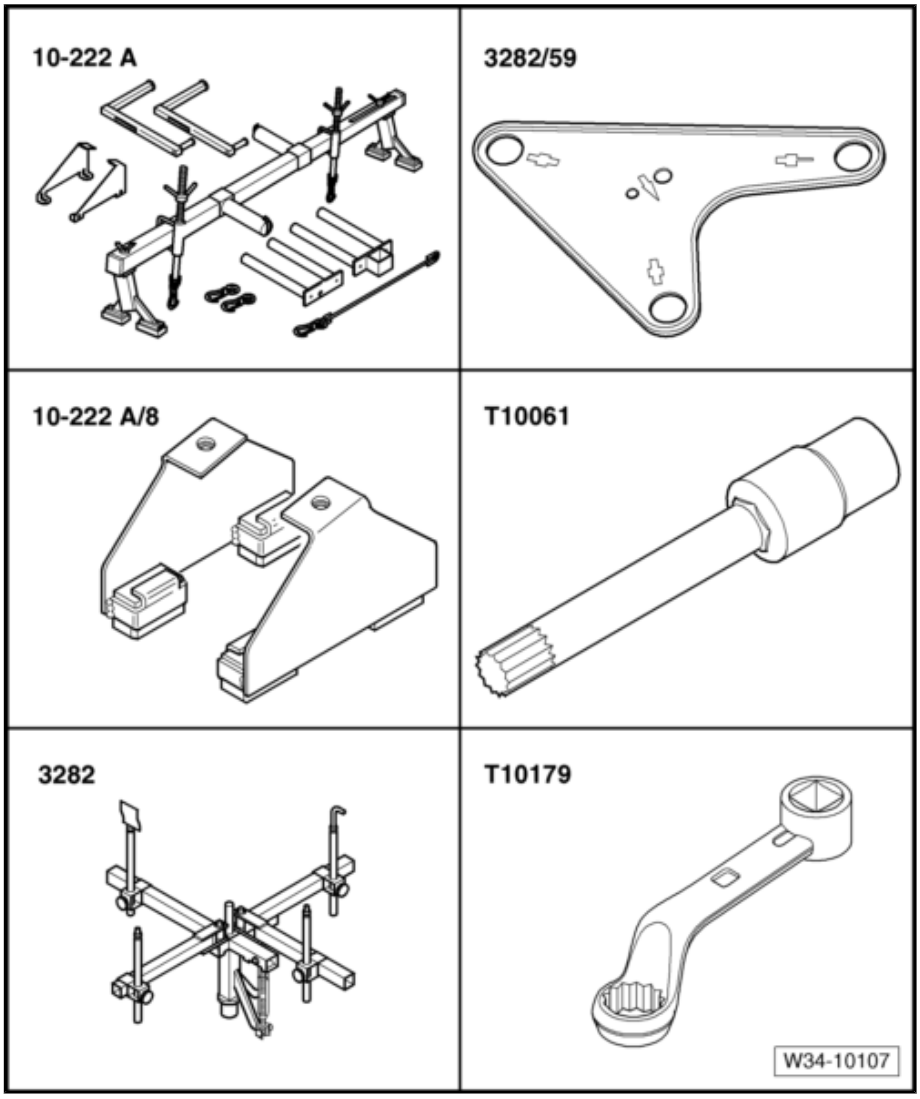


Special tools and workshop equipment required

- Transmission Support - 3282-
- Transmission Support - Pins 29 - 3282/29-
- Support Elements for transmission (determine when mounting the Mounting Plate on the Transmission Support)
- Tensioning Strap - T10038-
- Engine Support - Basic Set - T40091-
- Engine Support - Supplement Kit - T40093A-

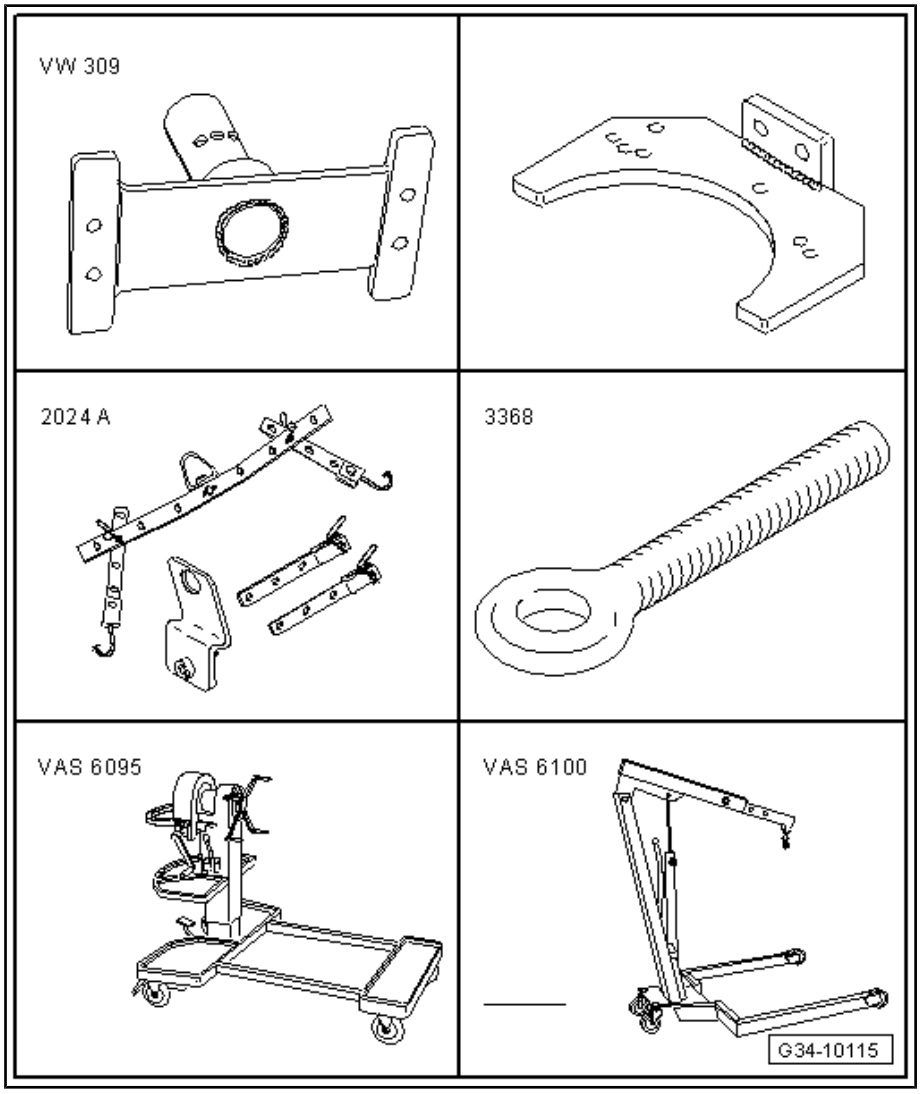
Special tools and workshop equipment required

- Engine Support Bridge - 10-222A-
- Transmission Support - 3282-
- Transmission Support - Mounting Plate 59 - 3282/59- Engine Support Bridge - Engine Support Feet - 10-222A/8-
- Socket - Xzn 14 - T10061-
- Insert Tool - 18mm - T10179-

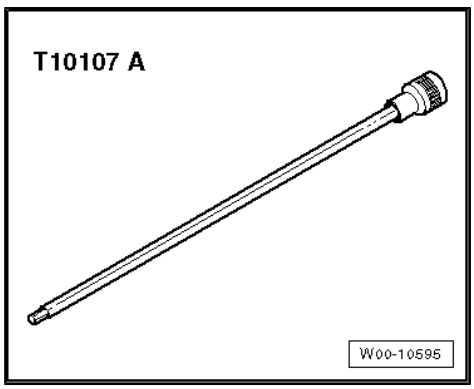


Special tools and workshop equipment required

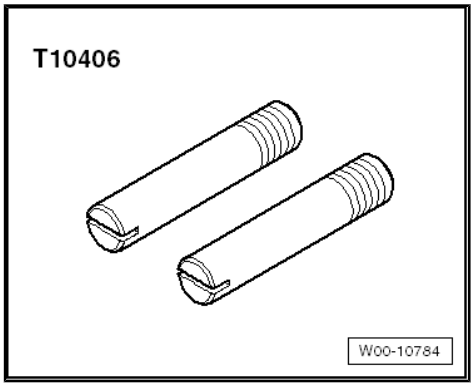
- Holding Plate - VW309A-
- Transmission Support - VW353-
- Engine and Gearbox Bracket - VAS6095A-
- Shop Crane - VAS6100-
- Engine Sling - 2024A-
- Lifting Eyebolt - 3368-



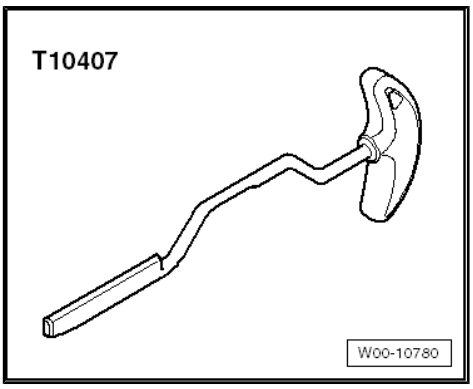
-
- Socket And Extended Bit - T10107A-



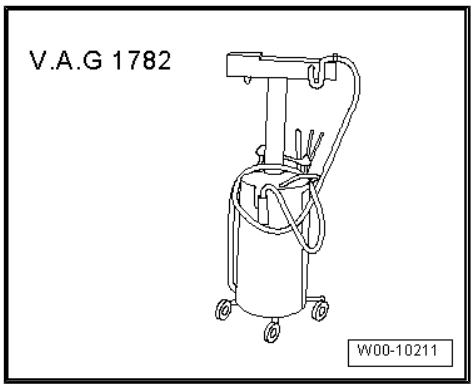
- Guide Bolt - Mechatronic - T10406-



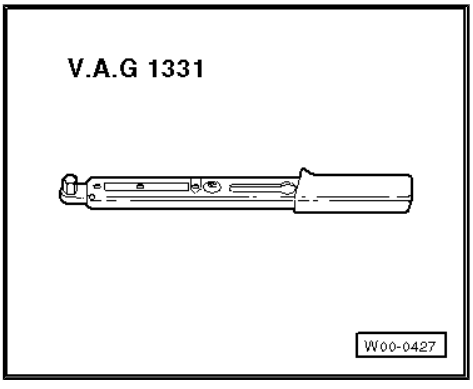
- Assembly Lever - Mechatronic - T10407-



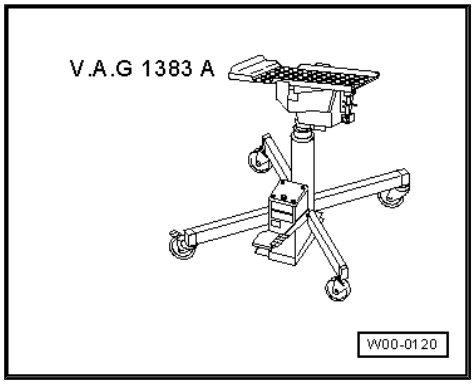
- Used Oil Collection and Extraction Unit - SMN372500-



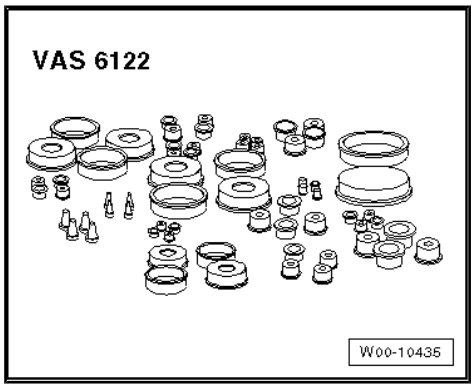
- Torque Wrench 1331 5-50Nm - VAG1331-



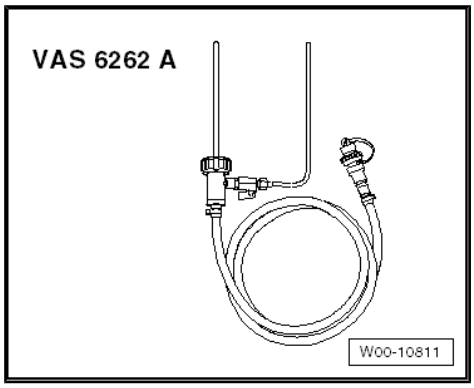
- Engine and Gearbox Jack - VAS6931-



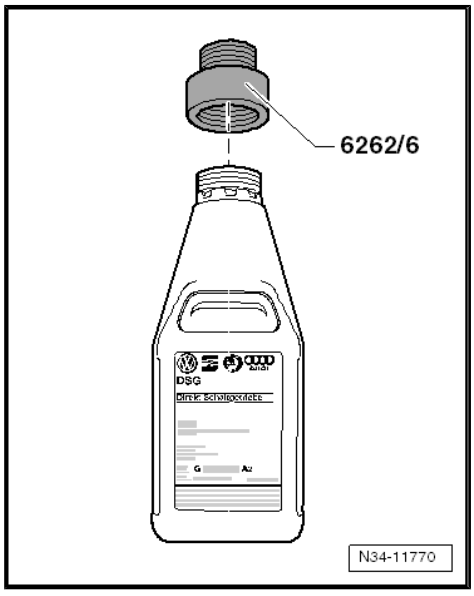
- Engine Bung Set - VAS6122- , or Cap - 0AM 325 120 A-



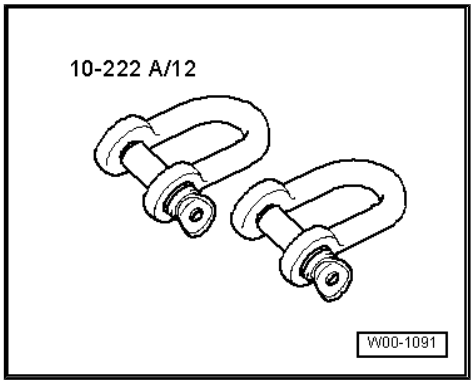
- Oil Filler - VAS6262A- with Adapter For Oil Filling - VAS6262/4-



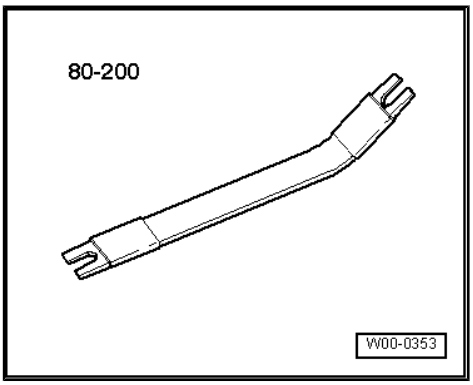
- Oil Filler - Adapter 6 - VAS6262/6-



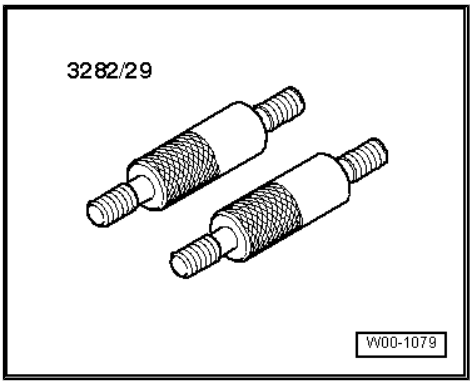
- Engine/Gearbox Support Shackle (2 pc.) - 10-222A/12-



- Pry Lever - 80-200-



- Engine and Gearbox Jack - VAS6931-



- Protective Cap - 02M 409 120- , alternative for Engine Bung Set - VAS6122-
- Protective Cap - 0AM 325 120 A-

35 – Gears, Shafts

1 Gears and Shafts, Disassembling and Assembling

No Gear and Shaft Repairs

2 Parking Lock

⇒ “2.1 Parking Lock Cover, Removing and Installing”, page 201

⇒ “2.2 Parking Lock, Removing and Installing”, page 203

2.1 Parking Lock Cover, Removing and Installing

Special tools and workshop equipment required

- ♦ Pry Lever - 80-200-

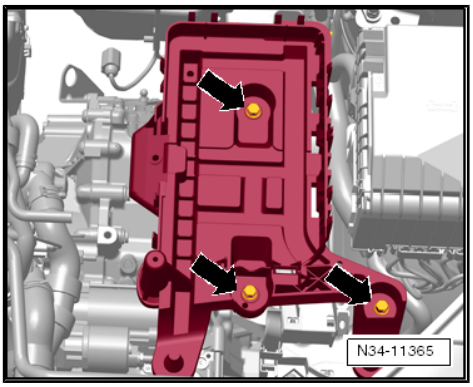
Removing

- The transmission is installed.
- The selector lever is in »P«.

– Remove the air filter housing:

- ♦ Gasoline engine. Refer to ⇒ Rep. Gr. 24 ; Air Filter; Overview - Air Filter Housing .
- ♦ TDI engine. Refer to ⇒ Rep. Gr. 23 ; Diesel Direct Injection System; Overview - Air Filter .

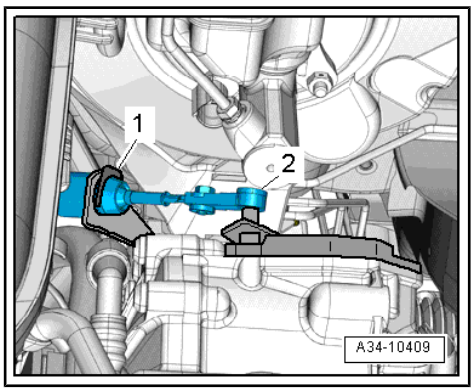
– Remove the battery and the battery tray -arrows-. Refer to ⇒ Electrical Equipment; Rep. Gr. 27 ; Battery; Battery, Removing and Installing .

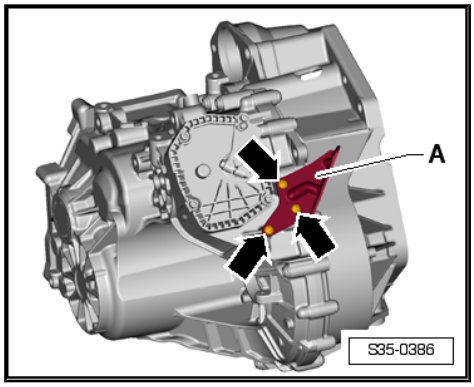


– Remove the lock washer -1- from the selector lever cable.

Always replace the circlip on the selector lever cable.

– Remove the selector lever cable -2- from the ball head on the selector lever using, for example, a Pry Lever - 80-200- .





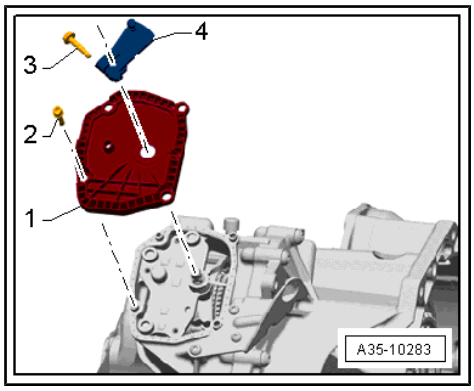
Note

- *Use pliers to remove the lock washer -1-. Do not use a sharp-edged lever. Otherwise the selector lever cable could get damaged.*
- *Remove the cable bracket -A- and selector lever cable from the transmission, if necessary. To do this, remove the bolts -arrows-. These bolts must be replaced.*
- *Bolt tightening specification -arrows-: 8 Nm +90° additional turn.*

Caution

Risk of damaging the selector lever cable.

- ***Do not push the selector lever cable out of the cable bracket toward the rear. When removing the parking lock cover, first guide the selector lever cable out of the cable bracket.***



– Remove the bolt -3- and remove the selector lever -4-.
– Remove the bolts -2- and the parking lock cover -1-.

Installing

The parking lock cover must be replaced if there are leaks on the gearshift shaft seal or on the parking lock cover.

– Clean the sealing surface and the parking lock cover -1-.
– Install the parking lock cover -1- and the bolts -2-.
– Install the selector lever -4- and the bolt -3-.
– Adjust the selector lever cable. Refer to ⇒ “2.6 Selector Lever Cable, Adjusting”, page 94 .

Further installation is performed in the reverse order of the removal.

– Install the battery and the battery tray. Refer to ⇒ Electrical Equipment; Rep. Gr. 27 ; Battery; Battery, Removing and Installing .
– Install the air filter housing:

- Gasoline engine. Refer to ⇒ Rep. Gr. 24 ; Air Filter; Overview - Air Filter Housing .
- TDI engine. Refer to ⇒ Rep. Gr. 23 ; Diesel Direct Injection System; Overview - Air Filter .

Tightening Specifications

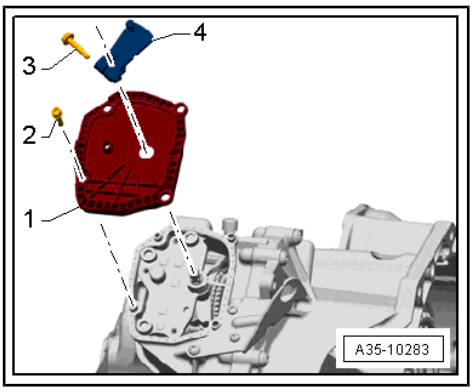
Component	Tightening Specification
Parking lock cover to transmission housing	8 Nm
Transmission selector lever to selector shaft .	15 Nm

2.2 Parking Lock, Removing and Installing

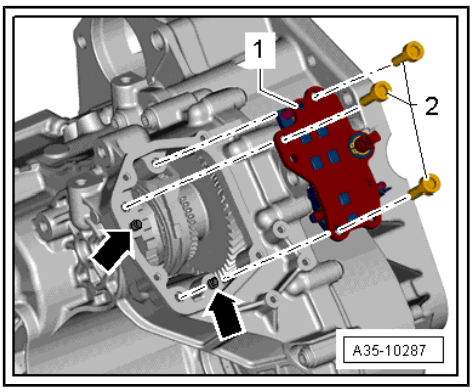
Removing

- The transmission is installed.

– Remove the cover from the parking lock -1-. Refer to ⇒ “2.1 Parking Lock Cover, Removing and Installing”, page 201 .



– Remove the bolts -2- and pull the parking lock -1- off the alignment sleeves -arrows-.



It the parking lock cannot be removed by hand:

– Mount Slide Hammer Set - VW771- with Slide Hammer Set - Hook - VW771/37- behind the parking lock and remove it by pulling alternating from side to side.

– Always replace the bolts -2-.

Installing

– Place the parking lock -1- on the alignment sleeves -arrows-.

– Install new bolts -2-.

– Install the cover for the parking lock -1-. Refer to ⇒ “2.1 Parking Lock Cover, Removing and Installing”, page 201 .

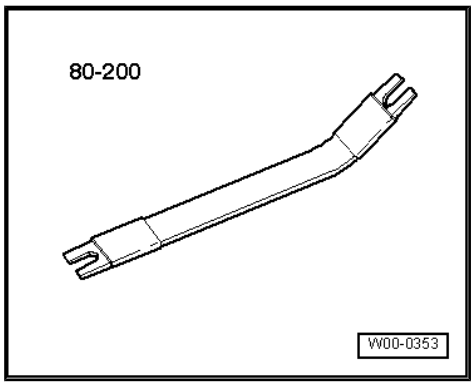
Tightening Specifications

Component	Tightening Specification
Parking lock to the transmission housing • Replace the bolts after removing them.	20 Nm +90°

3 Special Tools

Special tools and workshop equipment required

- Pry Lever - 80-200-



39 – Final Drive, Differential

1 Seals

⇒ “1.1 Component Location Overview - Seals”, page 205
⇒ “1.2 Right Stub Shaft Seal, Replacing”, page 206
⇒ “1.3 Left Stub Shaft Seal, Replacing”, page 208
⇒ “1.4 Right Flange Shaft Seal, Replacing”, page 210
⇒ “1.5 Left Flange Shaft Seal, Replacing”, page 212

Transmission with Stub Shafts -A-

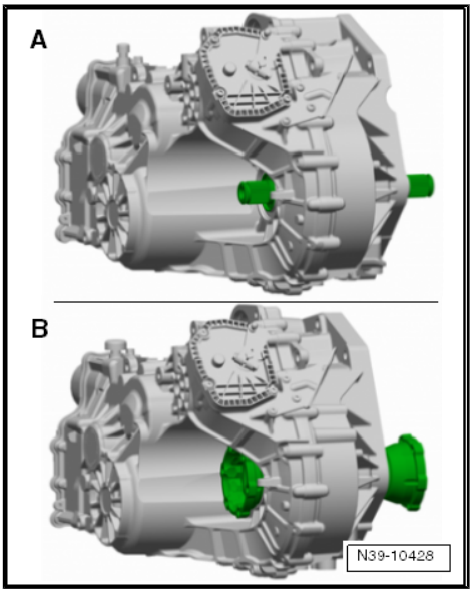
Right. Refer to
⇒ “1.2 Right Stub Shaft Seal, Replacing”, page 206

Left. Refer to ⇒ “1.3 Left Stub Shaft Seal, Replacing”, page 208

Transmission with Flange Shafts -B-

Right. Refer to
⇒ “1.4 Right Flange Shaft Seal, Replacing”, page 210

Left. Refer to
⇒ “1.5 Left Flange Shaft Seal, Replacing”, page 212



1.1 Component Location Overview - Seals

1 - Inner Input Shaft Seal

- ❑ Replacing. Refer to ⇒ “3 Clutch-Side Seals, Removing and Installing”, page 63 .

2 - Input Shaft Seal

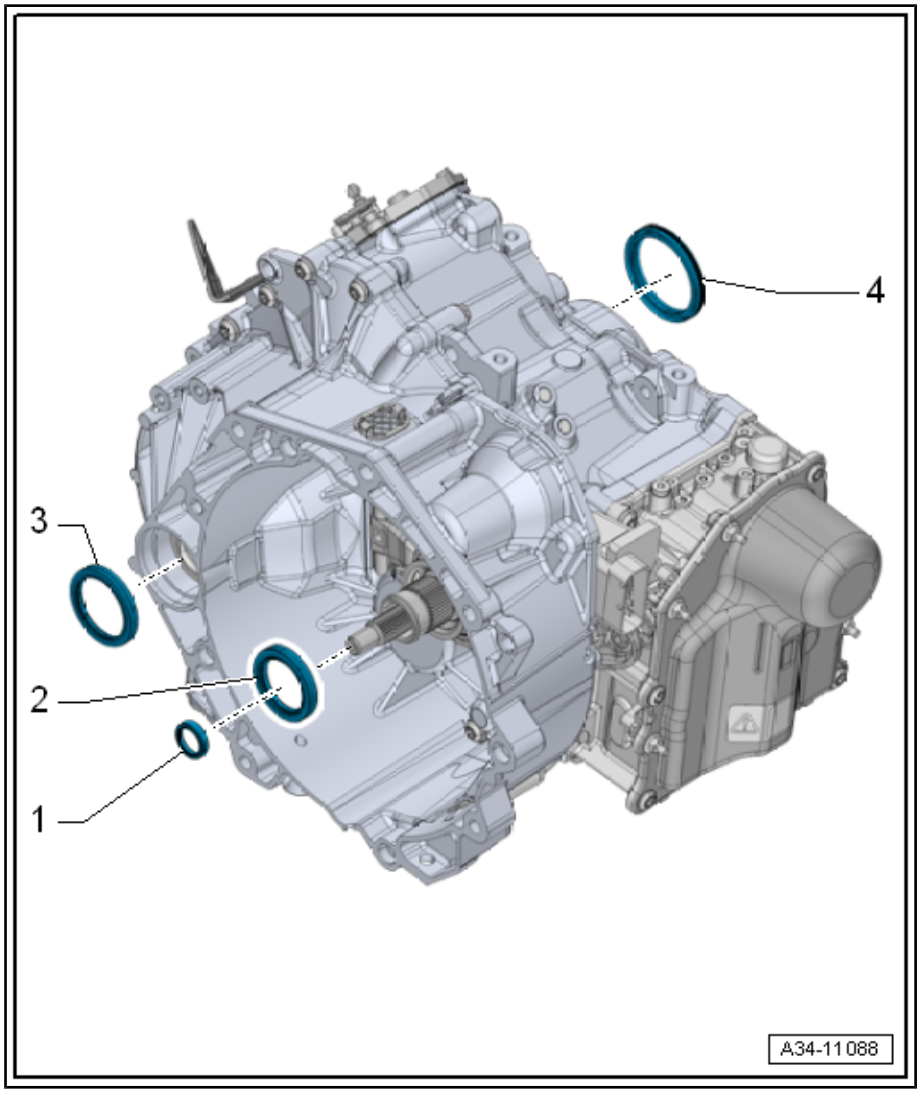
- ❑ Replacing. Refer to ⇒ “3 Clutch-Side Seals, Removing and Installing”, page 63 .

3 - Right Seal

- ❑ For right stub shaft, replacing. Refer to ⇒ “1.2 Right Stub Shaft Seal, Replacing”, page 206
- ❑ For right flange shaft, replacing. Refer to ⇒ “1.4 Right Flange Shaft Seal, Replacing”, page 210

4 - Left Seal

- ❑ For Left Stub Shaft, Replacing. Refer to ⇒ “1.3 Left Stub Shaft Seal, Replacing”, page 208
- ❑ For Left Flange Shaft, Replacing. Refer to ⇒ “1.5 Left Flange Shaft Seal, Replacing”, page 212



1.2 Right Stub Shaft Seal, Replacing

Left side. Refer to ⇒ “1.3 Left Stub Shaft Seal, Replacing”, page 208 .

Special tools and workshop equipment required

- ♦ Seal Installer - Flange Shaft - 3305-
- ♦ Socket And Extended Bit - T10107A- or Long Hex Socket - VAG1669-
- ♦ Used Oil Collection and Extraction Unit - SMN372500-
- ♦ Sealing Grease - G 052 128 A1-

Removing

Note

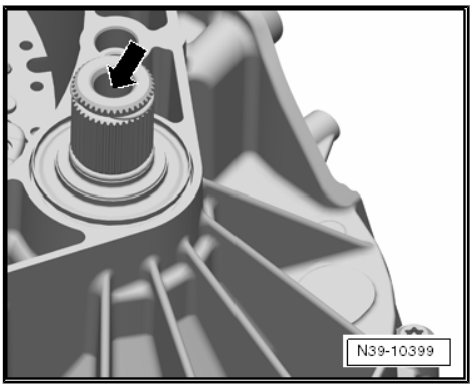
- *Do not remove both drive axles from the transmission at the same time. Then it would not be possible to hold the opposite front wheel in place in order to remove or install the stub shaft bolts.*
- *Do not remove both stub shafts from the transmission at the same time. If the differential bevel gear turns in the differential then the bolts for the stub shafts are very difficult to reinstall.*

– Remove the noise insulation below the engine/transmission. Refer to ⇒ Body Exterior; Rep. Gr. 50 ; Noise Insulation .

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

– Place the Used Oil Collection and Extraction Unit - SMN372500- or Drip Tray under the transmission.

– Remove the bolt -arrow- in the stub shaft using the Socket And Extended Bit - T10107A- or Long Hex Socket - VAG1669- .



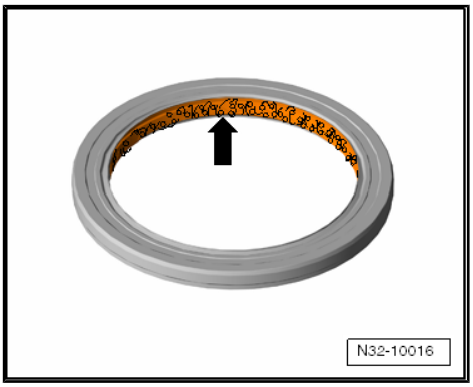
– Remove the stub shaft.

– Pry out the sealing ring.

Installing

– Lightly oil the new gasket on the outer circumference.

– Fill the space between the sealing and dust lip halfway with Sealing Grease - G 052 128- -arrow-.



– Install the seal all the way in without tilting it.

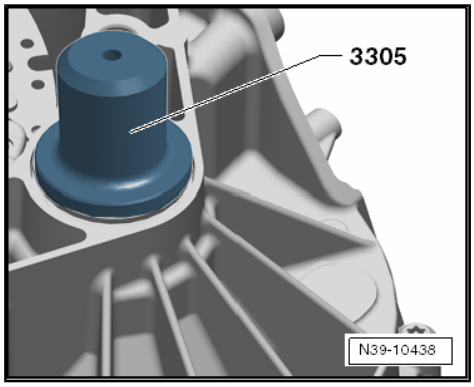
If necessary, install a new dust ring on the stub shaft using Press Piece - Trailing Arm - 2010- . Do not use a hammer.

– Insert the stub shaft.

– Tighten the stub shaft bolt to 30 Nm. Push the stub shaft against the transmission so that the bolt engages in the thread.

– Reinstall the drive axle. Refer to ⇒ Suspension, Wheels, Steering; Rep. Gr. 40 ; Drive Axles, Removing and Installing .

– Refill any transmission fluid that may have leaked out while removing the seal. Refer to
⇒ “1 Transmission Fluid, Replacing”, page 70 .



Note

The transmission fluid must be replaced to assure the transmission fluid level is correct.

– Install the noise insulation. Refer to ⇒ Body Exterior; Rep. Gr. 50 ; Noise Insulation .

1.3 Left Stub Shaft Seal, Replacing

Right side. Refer to
⇒ “1.2 Right Stub Shaft Seal, Replacing”, page 206

Special tools and workshop equipment required

- Slide Hammer Set - VW771-
- Slide Hammer Set - Hook - VW771/37-
- Seal Installer - Flange Shaft - 3305-
- Socket And Extended Bit - T10107A- or Long Hex Socket - VAG1669-
- Used Oil Collection and Extraction Unit - SMN372500-
- Sealing Grease - G 052 128 A1-

Removing

Note

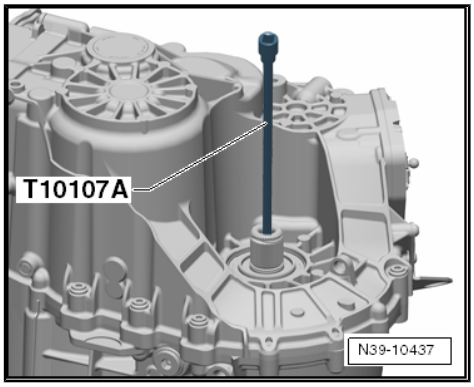
- *Do not remove both drive axles from the transmission at the same time. Then it would not be possible to hold the opposite front wheel in place in order to remove or install the stub shaft bolts.*
- *Do not remove both stub shafts from the transmission at the same time. If the differential bevel gear turns in the differential then the bolts for the stub shafts are very difficult to reinstall.*

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

– Place the Used Oil Collection and Extraction Unit - SMN372500- or Drip Tray under the transmission.

– Remove the bolt in the stub shaft using the Socket And Extended Bit - T10107A- or Long Hex Socket - VAG1669- .

– Remove the stub shaft.

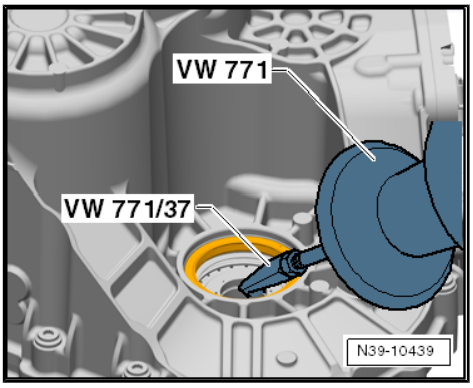


– Remove the stub shaft seal using the Slide Hammer Set - VW771- and Slide Hammer Set - Hook - VW771/37- .

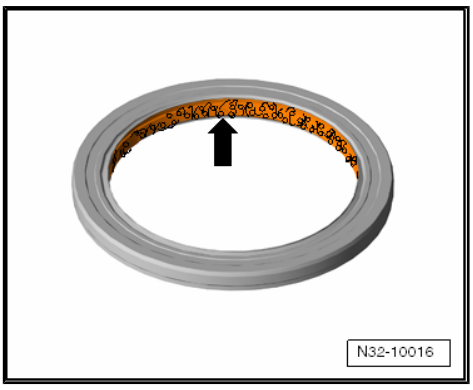
The seal can also be removed using the Puller - Crankshaft/Power Steering Seal - T20143- .

Installing

– Lightly oil the new gasket on the outer circumference.

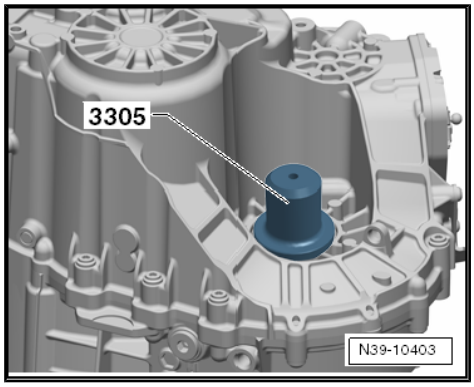


– Fill the space between the sealing and dust lip halfway with Sealing Grease - G 052 128- -arrow-.



– Install the seal all the way in without tilting it.

If necessary, a new dust ring can be pressed on the stub shaft using Bearing Installer - Multiple Use - 40 - 20- . Do not use a hammer.



– Insert the stub shaft.
– Tighten the stub shaft bolt to 30 Nm. Push the stub shaft against the transmission so that the bolt engages in the thread.
– Reinstall the drive axle. Refer to ⇒ Suspension, Wheels, Steering; Rep. Gr. 40 ; Drive Axles, Removing and Installing .
– Refill any transmission fluid that may have leaked out while removing the seal. Refer to
⇒ “1 Transmission Fluid, Replacing”, page 70 .

Note

The transmission fluid must be replaced to assure the transmission fluid level is correct.

– Install the noise insulation. Refer to ⇒ Body Exterior; Rep. Gr. 50 ; Noise Insulation .

1.4 Right Flange Shaft Seal, Replacing

Left side. Refer to
⇒ “1.5 Left Flange Shaft Seal, Replacing”, page 212 .

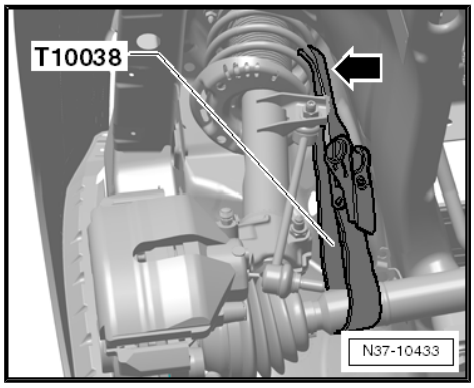
Special tools and workshop equipment required

- Seal Installer - Flange Shaft - 3305-
- Tensioning Strap - T10038-
- Socket And Extended Bit - T10107A- or Long Hex Socket - VAG1669-
- Used Oil Collection and Extraction Unit - SMN372500-
- Sealing Grease - G 052 128 A1-

Removing

Note

- *Do not remove both flange shafts from the transmission at the same time. If the differential bevel gear turns in the differential then the flange shaft bolts are very difficult to reinstall.*
- *The drive axle must be removed from the transmission and set to the side. The drive axle is secured with the Tensioning Strap - T10038- to the suspension strut.*
- *The bolt for the drive axle to wheel bearing housing connection does not need to be loosened.*

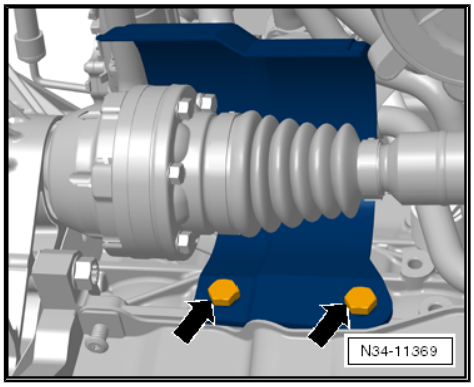


– Remove the noise insulation. Refer to ⇒ Body Exterior; Rep. Gr. 50 ; Noise Insulation .

– If equipped, remove the drive axle heat shield from the engine -arrows-.

– Remove right drive axle from transmission flange shaft.

– Tie up the drive axle as high as possible. Do not damage the paint on the drive axle.

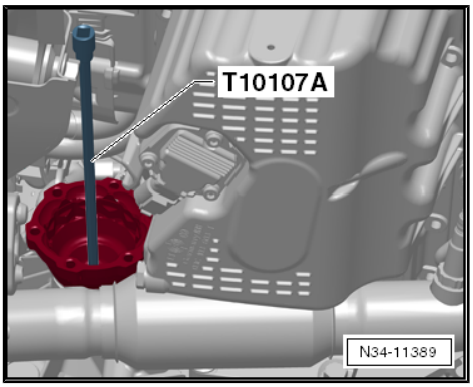


Note

- *On some engines, the drive axle cannot be tied up so that the transmission flange shaft can be removed.*
- *Remove the right drive axle. Refer to ⇒ Suspension, Wheels, Steering; Rep. Gr. 40 ; Drive Axles, Removing and Installing .*

– Place the Used Oil Collection and Extraction Unit - SMN372500- or Drip Tray under the transmission.

– Remove the right flange shaft bolt at the transmission using the Socket And Extended Bit - T10107A- . Insert two bolts in the flange and counterhold with a tire iron.



The bolt has 6 mm inner hex. The bolt can also be removed and installed using the Long Hex Socket - VAG1669- .

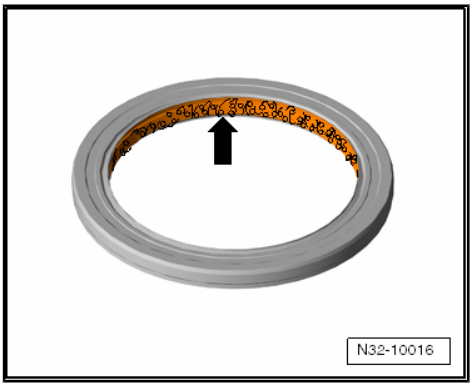
– Remove the flange shaft.

– Pry out the sealing ring.

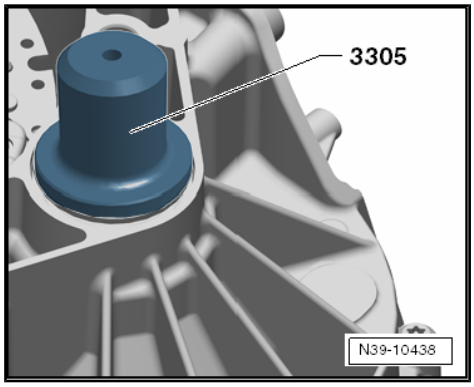
Installing

– Lightly oil the new gasket on the outer circumference.

– Fill the space with the new seal between the sealing and dust lip halfway with Sealing Grease - G 052 128- -arrow-.



– Drive in the new seal all the way using the Seal Installer - Flange Shaft - 3305- . Do not tilt the seal.



– Install the flange shaft.
– Tighten the new screw to 30 Nm. Push the flange shaft against the transmission so that the bolt engages in the thread.
– Attach the right drive axle to the flange shaft or install the right drive axle. Refer to ⇒ Suspension, Wheels, Steering; Rep. Gr. 40 ; Drive Axles, Removing and Installing .
– Refill any transmission fluid that may have leaked out while removing the seal. Refer to
⇒ “1 Transmission Fluid, Replacing”, page 70 .

Note

The transmission fluid must be replaced to assure the transmission fluid level is correct.

– Install the noise insulation. Refer to ⇒ Body Exterior; Rep. Gr. 50 ; Noise Insulation .

1.5 Left Flange Shaft Seal, Replacing

Right side. Refer to
⇒ “1.4 Right Flange Shaft Seal, Replacing”, page 210

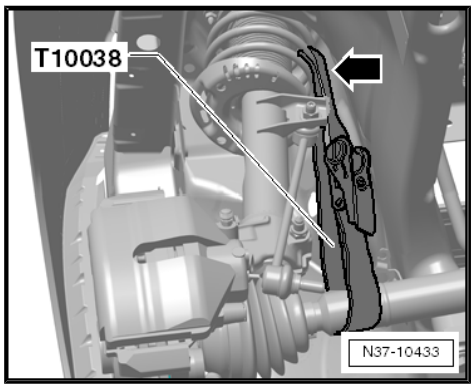
Special tools and workshop equipment required

- Slide Hammer Set - VW771-
- Seal Installer - Flange Shaft - 3305-
- Tensioning Strap - T10038-
- Socket And Extended Bit - T10107A- or Long Hex Socket - VAG1669-
- Used Oil Collection and Extraction Unit - SMN372500-
- Sealing Grease - G 052 128 A1-

Removing

Note

- *Do not remove all the bolts in the left and right flange shafts at the same time. If the differential bevel gears rotate, it will be difficult to install the bolts.*
- *The drive axle must be removed from the transmission and set to the side. The drive axle is secured with the Tensioning Strap - T10038- to the suspension strut.*
- *The bolt for the drive axle to wheel bearing housing connection does not need to be loosened.*

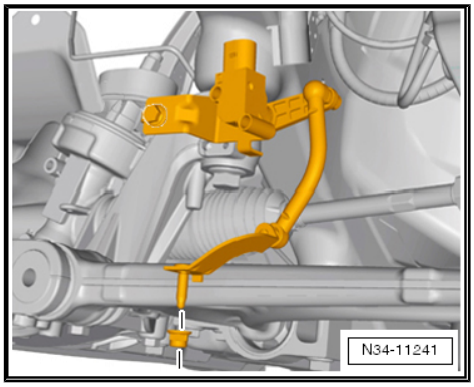


– Remove the noise insulation. Refer to ⇒ Body Exterior; Rep. Gr. 50 ; Noise Insulation .
– Remove the left wheel housing liner. Refer to ⇒ Body Exterior; Rep. Gr. 66 ; Wheel Housing Liner; Overview - Front Wheel Housing Liner .

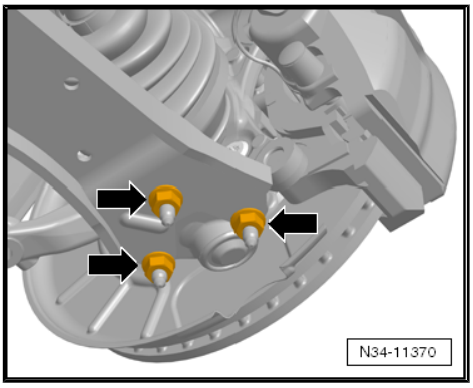
– If equipped, remove the Left Front Level Control System Sensor - G78- from the control arm.

Tightening specification. Refer to ⇒ Suspension, Wheels, Steering; Rep. Gr. 40 ; Front Suspension and Control Arm; Overview - Front Suspension and Control Arm .

– Turn the steering wheel all the way to the left and remove the left drive axle from the flange shaft. Refer to ⇒ Suspension, Wheels, Steering; Rep. Gr. 40 ; Drive Axles, Removing and Installing .



– Remove only the left control arm from the ball joint -arrows-.



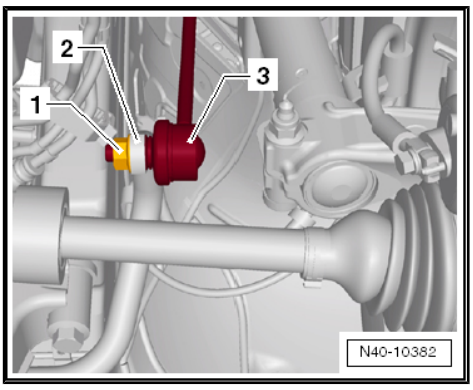
– Remove the nut -1- from the coupling rod -3-. Refer to ⇒ Suspension, Wheels, Steering; Rep. Gr. 40 ; Front Suspension and Control Arm; Overview - Front Suspension and Control Arm or ⇒ Suspension, Wheels, Steering; Rep. Gr. 40 ; Front Suspension and Control Arm; Overview - Front Suspension and Control Arm .

– Remove the coupling rod and turn the stabilizer bar -2- slightly upward.

– Swivel the left drive axle into the wheel housing.

– Tie up the drive axle as high as possible. Do not damage the paint on the drive axle.

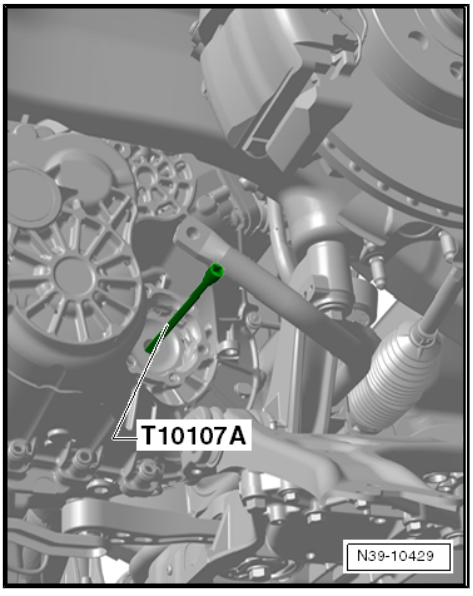
– Place the Used Oil Collection and Extraction Unit - SMN372500- or Drip Tray under the transmission.



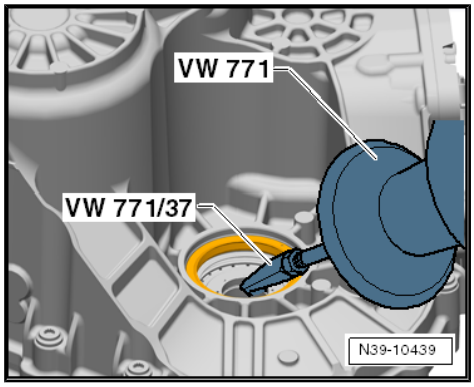
– Remove the left flange shaft bolt at the transmission using the Socket And Extended Bit - T10107A- . Insert two bolts in the flange and counterhold with a tire iron.

The bolt has 6 mm inner hex. The bolt can also be removed and installed using the Long Hex Socket - VAG1669- .

– Remove the flange shaft.



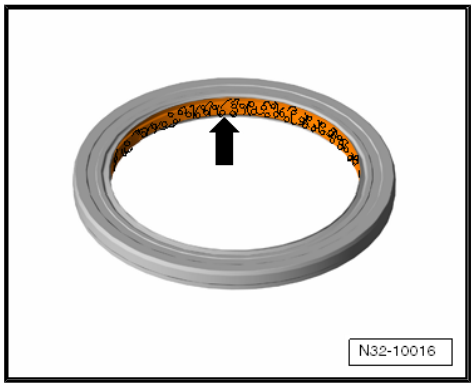
– Remove flange shaft seal.



Installing

– Lightly oil the new gasket on the outer circumference.

– Fill the space with the new seal between the sealing and dust lip halfway with Sealing Grease - G 052 128- -arrow-.

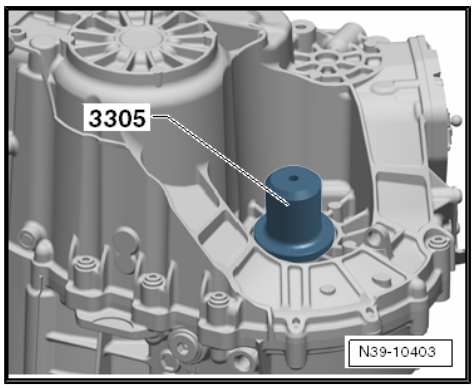


– Drive in the new seal all the way using the Seal Installer - Flange Shaft - 3305- . Do not tilt the seal.

– Install the flange shaft.

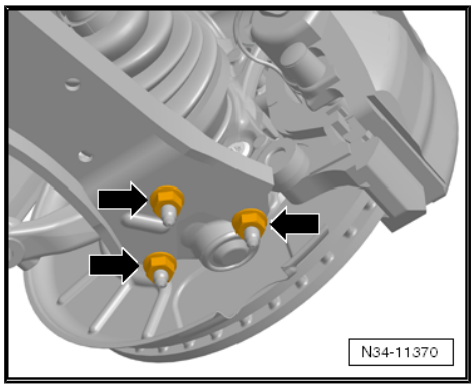
– Tighten the new bolt to 30 Nm. Push the flange shaft against the transmission so that the bolt engages in the thread.

– Reinstall the drive axle. Refer to ⇒ Suspension, Wheels, Steering; Rep. Gr. 40 ; Drive Axles, Removing and Installing .



– Reattach the control arm and coupling rod. Refer to ⇒ Suspension, Wheels, Steering; Rep. Gr. 40 ; Front Suspension and Control Arm; Overview - Front Suspension and Control Arm or ⇒ Suspension, Wheels, Steering; Rep. Gr. 40 ; Front Suspension and Control Arm; Overview - Front Suspension and Control Arm .

– Refill any transmission fluid that may have leaked out while removing the seal. Refer to
⇒ “1 Transmission Fluid, Replacing”, page 70 .



Note

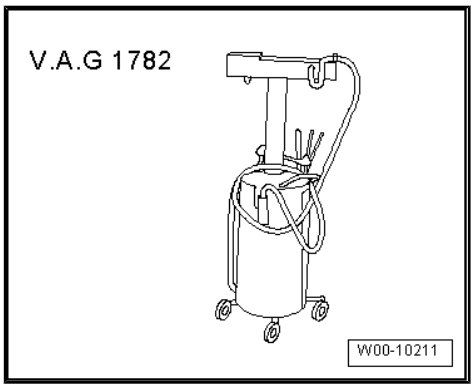
The transmission fluid must be replaced to assure the transmission fluid level is correct.

– Install the noise insulation. Refer to ⇒ Body Exterior; Rep. Gr. 50 ; Noise Insulation .

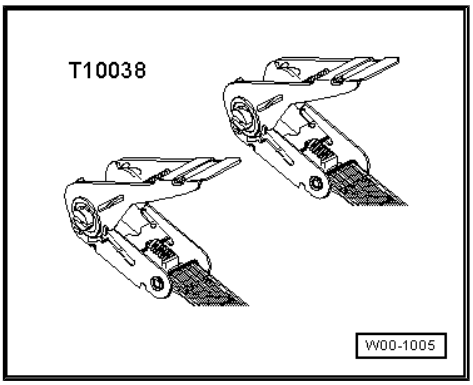
2 Special Tools

Special tools and workshop equipment required

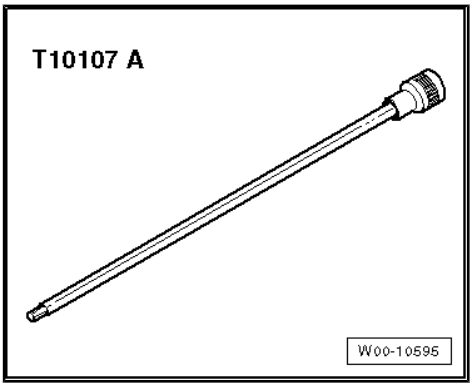
- Used Oil Collection and Extraction Unit - SMN372500-



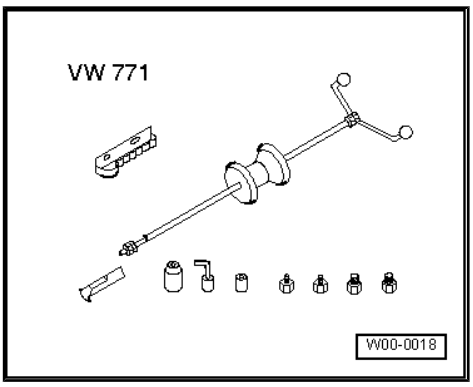
- Tensioning Strap - T10038-



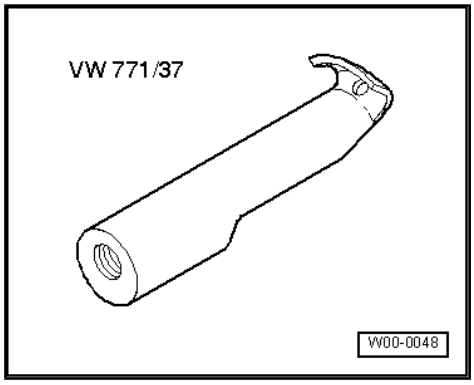
- Socket And Extended Bit - T10107A- or Long Hex Socket - VAG1669-



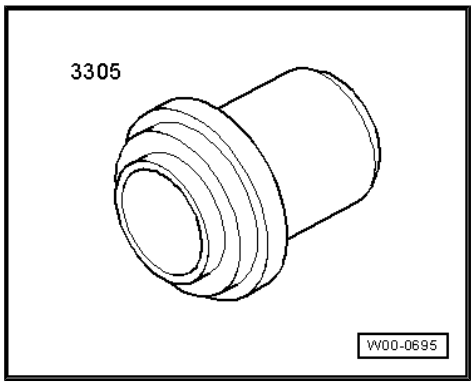
- Slide Hammer Set - VW771-



- Slide Hammer Set - Hook - VW771/37-



- Seal Installer - Flange Shaft - 3305-



3 Revision History

DRUCK NUMBER: MEX5R008521

Factory Edition	Edit Edition	Job Type	Feedback	Notes	Quality Checked By
09.2015	10/15/2015	Factory Update	N/A		Eric P.
05.2013	06/11/2015	Reformat	N/A		Joe Y.