Repair Manual

Audi A3 2004 ➤
Audi Q3 2012 ➤
Audi TT 2007 ➤

Rear Final Drive 02D, 0AV, 0BR, 0BS, 0BY

Edition 06.2011

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Repair Group

00 - General, Technical Data

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.

Contents

00 – General, Technical Data

1 General Information

1.1 Components

Guided Fault Finding, On Board Diagnostic (OBD) and Test Instruments

- Before servicing the Haldex clutch, determine the cause of the damage as exact as possible using the vehicle diagnosis, testing and information system in “Guided Fault Finding“, “OBD“ and “Test Instruments“.

– Vehicle diagnosis tester, connecting and selecting functions. Refer to ⇒ “4.1 Vehicle Diagnosis Tester , Connecting and Checking“, page 45 .

> **WARNING**
>
> *To prevent possible injury when performing measuring tests or test drives, refer to ⇒ “1.6 Safety Precautions“, page 7 .*

Special Tools and Equipment

For a complete list of special tools used in the Repair Manual refer to ServiceNet under Special Tools and Equipment.

Rear Final Drive

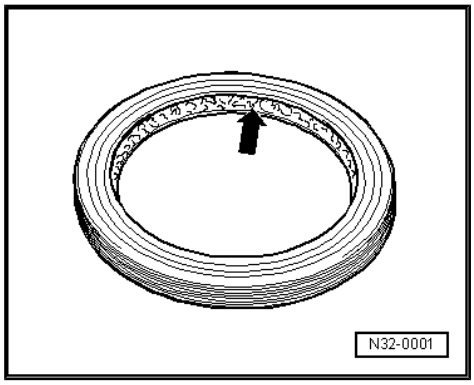
- When replacing rear final drive, axle oil level and Haldex clutch fluid level must be checked and topped off, if necessary, refer to ⇒ “1.1 Rear Final Drive Identification“, page 18 and ⇒ “1.4 Haldex Clutch Oil Level, Checking or Filling“, page 20 .
- For Audi A3 capacities, refer to ⇒ “3.1 Code Letters, Assembly Allocation, Ratios and Capacities“, page 11 .
- For Audi TT capacities, refer to ⇒ “3.2 Code Letters, Assembly Allocation, Ratios and Capacities“, page 13 .
- For the correct transmission fluid specification, refer to the Fluid Capacity Tables Rep. Gr. 03.
- Clean the contact surfaces when installing the brackets as well as any waxed components. Contact surfaces must be free of grease and wax.

O-rings, Gaskets, Seals

- O-rings, gaskets and seals must be replaced.
- Always clean separation surfaces.

Prior to installing:

- Lightly lubricate the shaft seals on the outer circumference and the area between sealing lips -arrow- with a thin layer of grease before installing.
- The open side of the seals point toward the fluid to be sealed in.

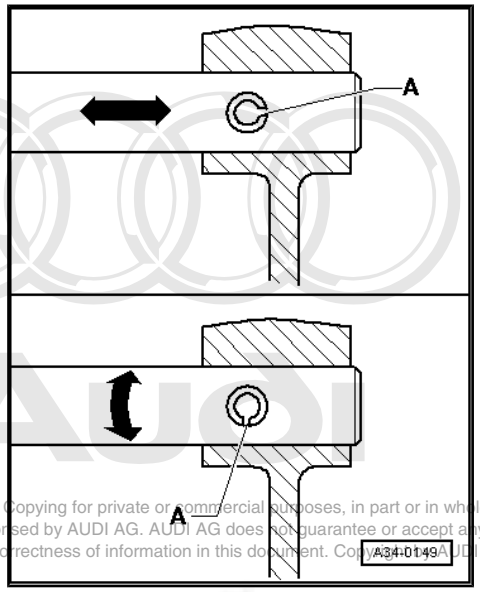


After installing:

- Axle oil level in rear final drive, checking, refer to ⇒ “1.1 Rear Final Drive Identification“, page 18 .
- Oil level in Haldex clutch, checking and filling, refer to ⇒ “1.4 Haldex Clutch Oil Level, Checking or Filling“, page 20 .

Fasteners

- Do not overstretch the circlips.
- Always replace damaged or stretched circlips.
- The circlips must fit completely inside the groove.
- Replace the adapter sleeves. Installed position: Slit -A- should in line with the line of force -arrow-.



Bolts and Nuts

- Loosen and tighten the cover and housing bolts or nuts in a diagonal sequence.
- Parts which are particularly sensitive to distortion must be kept straight when removing and installing; loosen or tighten diagonally in stages.
- The tightening specifications stated apply to non-oiled nuts and bolts.
- Always replace self-locking nuts and bolts.
- Only wax all the contact surfaces on the threaded connection bolts and nuts after installing.

Bearings

- Install needle bearings with lettered side (thicker metal) racing the fitting tool.
- Insert all the bearings in transmission with gear oil.
- Replace all the tapered roller bearings that are on the same shaft. Use tapered roller bearings from the same manufacturer.
- Heat the inner races to approximately 100 °C (212 °F) before installing.
- Do not interchange outer and inner bearing races with those from other bearing of the same size. The bearings are paired.

Adjusting Shims

- Measure the adjusting shims at several locations with a micrometer caliper. Tolerance variations make it possible to find the exact shim thickness required.
- Check for burrs and damage.
- Only install perfect shims.

1.2 Contact Corrosion

Contact corrosion can occur if non-approved fasteners are used such as bolts, nuts, washers, etc.

For this reason, only connecting elements with a special surface coating are installed.

In addition, rubber or plastic parts and adhesive are made of materials that do not conduct electricity.

If you are not sure about the suitability of parts, install new parts. Refer to the Electronic Parts Catalog (ETKA).

Note

- *We recommend using original replacement parts only. They have been inspected and are compatible with aluminum.*
- *It is recommended to use Audi accessories.*
- *Damage resulting from contact corrosion is not covered by the warranty.*

1.3 General Repair Information

Carefulness, cleanliness and the correct tools are required for transmission repairs to be successful. The usual basic safety precautions also, naturally apply when carrying out vehicle repairs.

A number of generally applicable instructions for individual repair procedures, which are otherwise mentioned at various points in the Repair Manual, are summarized here under the topic “Components“. Refer to ⇒ “1.1 Components“, page 1 . They apply to this repair manual.

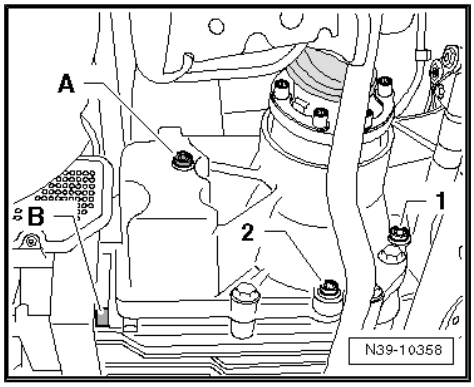
1.4 Haldex Clutch Oil and Axle Oil

Caution

The final drive and Haldex clutch have separate oil circuits.

- *The Haldex clutch is filled with high performance Haldex clutch oil . Refer to the Electronic Parts Catalog (ETKA) for the part number.*
- *The final drive is filled with “gear oil“. Refer to ETKA for the part number.*

Allocation, Oil Fill and Drain Plugs



A - Oil fill plug for high performance oil for Haldex clutch

B - Drain plug for high performance oil for Haldex clutch.

1 - Gear oil oil fill plug

2 - Gear oil drain plug

Caution

Different high performance fluid for the Haldex clutch

- *The rear final drives "02D/0AV" and "0BR/0BY/0BS" have different Haldex clutches with different oils.*
- *Both fluids for the Haldex clutch must not be mixed together or interchanged.*
- *Refer to the Fluid Capacity Tables Rep. Gr. 03 for the Haldex clutch fluid.*
- *Be sure to note the differences in the rear final drives. Refer to ⇒ "1.5 Rear Final Drive Identification", page 4 .*
- *Change intervals: Refer to the Maintenance Intervals Rep. Gr. 03*

- For rear final drive fluid level, checking or filling, refer to ⇒ "1.1 Rear Final Drive Identification", page 18 .
- Haldex clutch oil level, checking or filling, refer to ⇒ "1.4 Haldex Clutch Oil Level, Checking or Filling", page 20 .
- Do not mix additives into the oil.
- Do not refill drained oil.

Disposal Regulations for Oils and Fluids

Dispose of drained oil properly.

- Disposing of used oils and fluids improperly endangers the environment.
- Mixing with solvents, brake fluid and coolant is not permitted.
- Observe information on oil the packaging.

1.5 Rear Final Drive Identification

Note

- *The Haldex clutch is installed in the final drive.*
- *The final drive and Haldex clutch have separate oil circuits.*
- *The final drive "02D" and "0AV" are equipped with the Generation II Haldex-Clutch. For identification, refer to ⇒ page 5 and ⇒ page 6 .*
- *The Haldex-clutch Generation IV is already installed for the "0BR","0BS" and "0BY". Identification, refer to ⇒ page 6*

Rear final drives 02D, 0AV, 0BR and 0BY are installed in Audi A3 and Audi TT in the following transmissions:

- 6-speed manual transmission 02Q, AWD

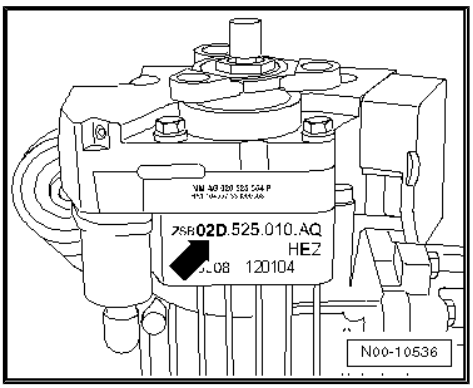
- 6-speed manual transmission 0A6, AWD
- 6-Speed Direct Shift Automatic Transmission 02E AWD
- 7-speed DSG transmission 0BH, S-Tronic

The rear final drive 0BS is only installed in the Audi Q3 transmissions:

Allocation Rear Final Drive:

- Audi A3
  ⇒ “3.1 Code Letters, Assembly Allocation, Ratios and Capacities“, page 11
- Audi TT from MY 2077
  ⇒ “3.2 Code Letters, Assembly Allocation, Ratios and Capacities“, page 13

Rear Final Drive -02D-



Note

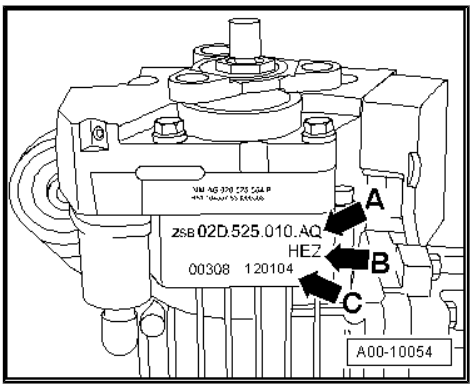
- *The ID -arrow- on the bottom side of the final drive identifies which final drive is installed.*
- *Example: “rear final drive 02D“*

Example of the Identifications on an Rear Final Drive “02D“

-Arrow A- Final drive part number

-Arrow B- Final drive code letters

-Arrow C- Final drive build date



Note

If there are no codes -arrow B- present, then use the part number -arrow A- for the allocation. Refer to the Electronic Parts Catalog (ETKA)

Example:

02D. 525.010.AQ	HEZ	12	01	04
I	I	I	I	I
I	I	I	I	I
Part number	Identification codes	Day	Month	Production year -2004-

Additional data depend on the manufacturing.

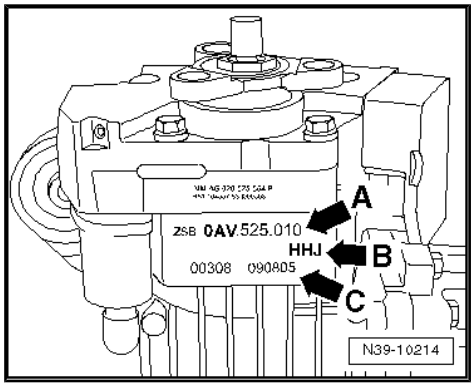
Example of the Identification on an “0AV“ Rear Final Drive

-Arrow A- Final Drive Part Number

-Arrow B- Final Drive Code Letters

- If there are no code letters present, then use the part number for the allocation. Refer to the Electronic Parts Catalog (ET-KA).

-Arrow C- Final Drive Build Date

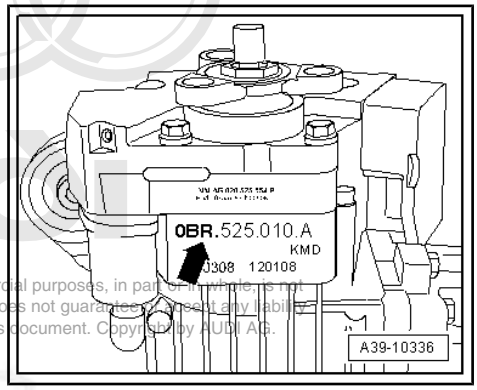


Example:

HHJ	09	08	05
I	I	I	I
I	I	I	I
Identification codes	Day	Month	Production year -2005-

Additional data depend on the manufacturing.

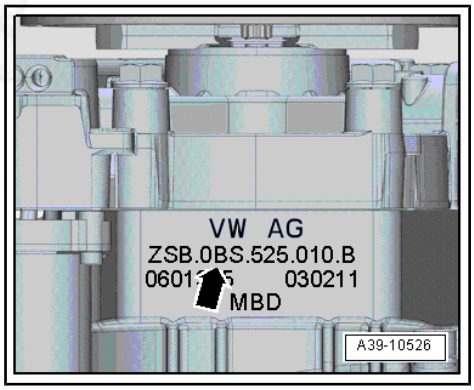
Rear Final Drive“0BR“ or “0BY“



Note

- *The ID -arrow- on the bottom side of the final drive identifies which final drive is installed.*
- *The meaning of all other identifications is on the bottom of the final drive* *⇒ page 6* *.*

Rear Final Drive “0BS“



Note

- *The ID -arrow- on the bottom side of the final drive identifies which final drive is installed.*
- *The meaning of all other identifications is on the bottom of the final drive* *⇒ page 6* *.*

1.6 Safety Precautions

Audi A3 ⇒ "1.6.1 Safety Precautions", page 7

Audi TT ⇒ "1.6.2 Safety Precautions", page 8

1.6.1 Safety Precautions

Observe the following to avoid personal injury and vehicle damage:

WARNING

Vehicles with a S-Tronic transmission - accidentally moving the selector lever when the engine is running can cause an accident and personal injury.

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

Poison!

- *When the engine is running, an exhaust extraction system must always be connected to the exhaust system.*

If testing equipment must be used during a road test, observe the following:

WARNING

Distraction and testing equipment that is not secured properly can cause accidents.

The passenger airbag could pose a risk if it deploys in a collision.

- *Operating testing equipment while driving causes it to shift position.*
- *There is an increased risk of injury due to unsecured testing equipment.*
- *Always secure testing equipment on the rear seat using a strap and have a second person in the rear seat operate it.*

To prevent personal injury and damage or destruction of electrical and electronic components, observe the following:

- Connect and disconnect test equipment only when the ignition is turned off.

Caution

Risk of destroying electronic components when disconnecting the battery.

- *Observe measures for disconnecting battery.*
- *Only disconnect the battery with ignition turned off.*

– Disconnect the battery. Refer to ⇒ Electrical Equipment; Rep. Gr. 27 ; Removal and Installation .

1.6.2 Safety Precautions

If test work must be carried out on a running engine, observe the following:

WARNING

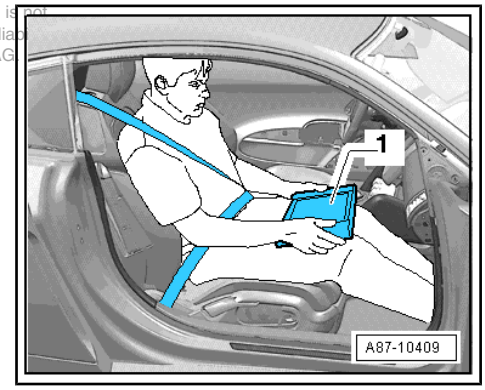
Vehicles with a S-Tronic transmission - accidentally moving the selector lever when the engine is running can cause an accident.

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

Poison!

- *When the engine is running, an exhaust extraction system must always be connected to the exhaust system.*

If testing equipment must be used during a road test, observe the following:



WARNING

There is an accident risk if testing equipment shifts position or is not secured sufficiently during a road test.

Risk of passenger airbag deploying in an accident.

- *Operating testing equipment while driving causes it to shift position.*
- *There is an increased risk of injury due to unsecured testing equipment.*

TT Coupe:

Always secure testing equipment on the rear seat using a strap and have a second person in the rear seat operate it.

TT Roadster:

- *Move the front passenger seat as far back as possible.*
- *Only use the vehicle diagnosis and service system -VAS 5052- or diagnosis system -VAS 5053- .*
- *Testing equipment -1- must lie flat on the passenger's thighs and be operated by that person, as shown in the illustration.*

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

- Connect and disconnect test equipment only when the ignition is turned off.

Caution

Risk of destroying electronic components when disconnecting the battery.

- *Observe measures for disconnecting battery.*
- *Only disconnect the battery with ignition turned off.*

2 Description and Operation

⇒ “2.1 Powertrain Overview“, page 9

2.1 Powertrain Overview

♦ Shown with the 6-Speed manual transmission 02Q AWD.

Designation

Note

Arrows point in direction of travel

1 - Engine

2 - Clutch

3 - Manual or Direct Shift Transmission

4 - Input Shaft

5 - Output Shaft for 5th/6th Gear/Reverse Gear

6 - Output Shaft, 1st to 4th Gears

7 - Differential

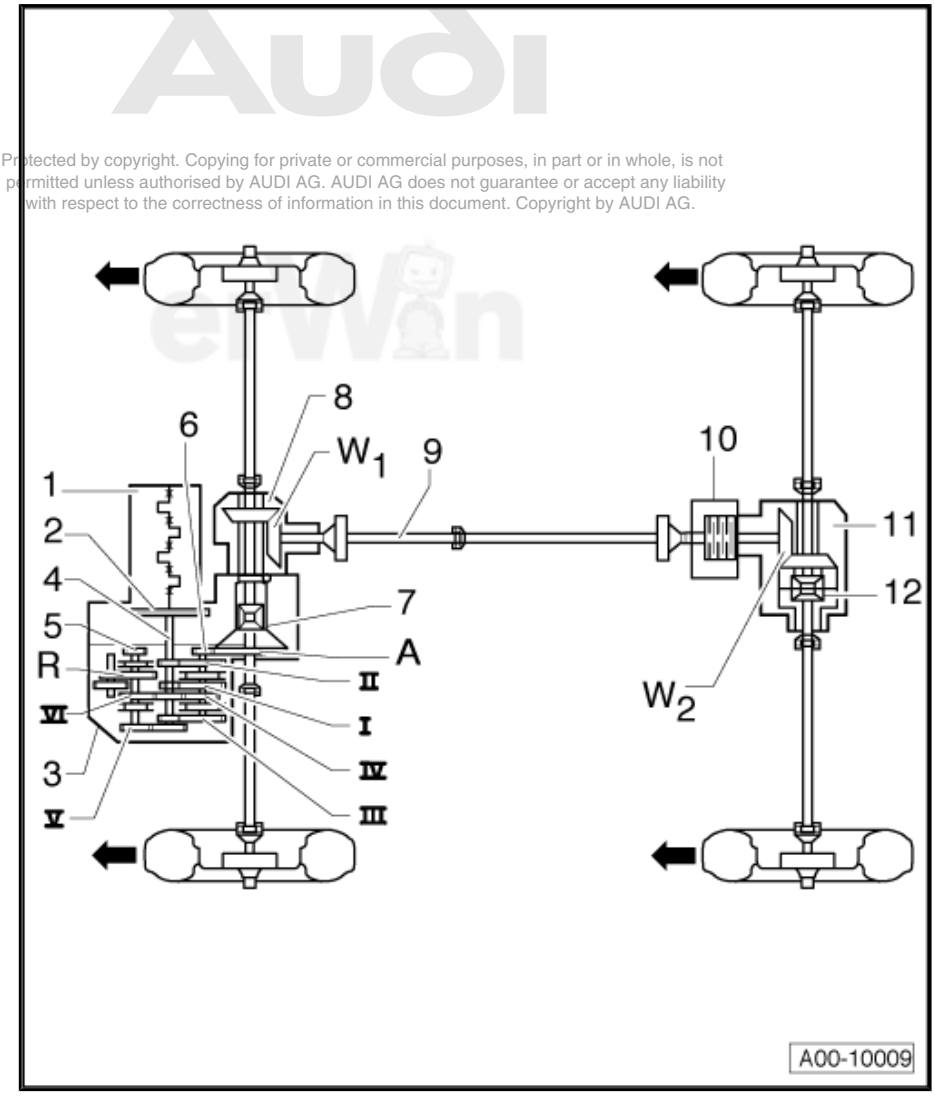
8 - Bevel Box

9 - Driveshaft

10 - Haldex Clutch

11 - Rear Final Drive

12 - Differential

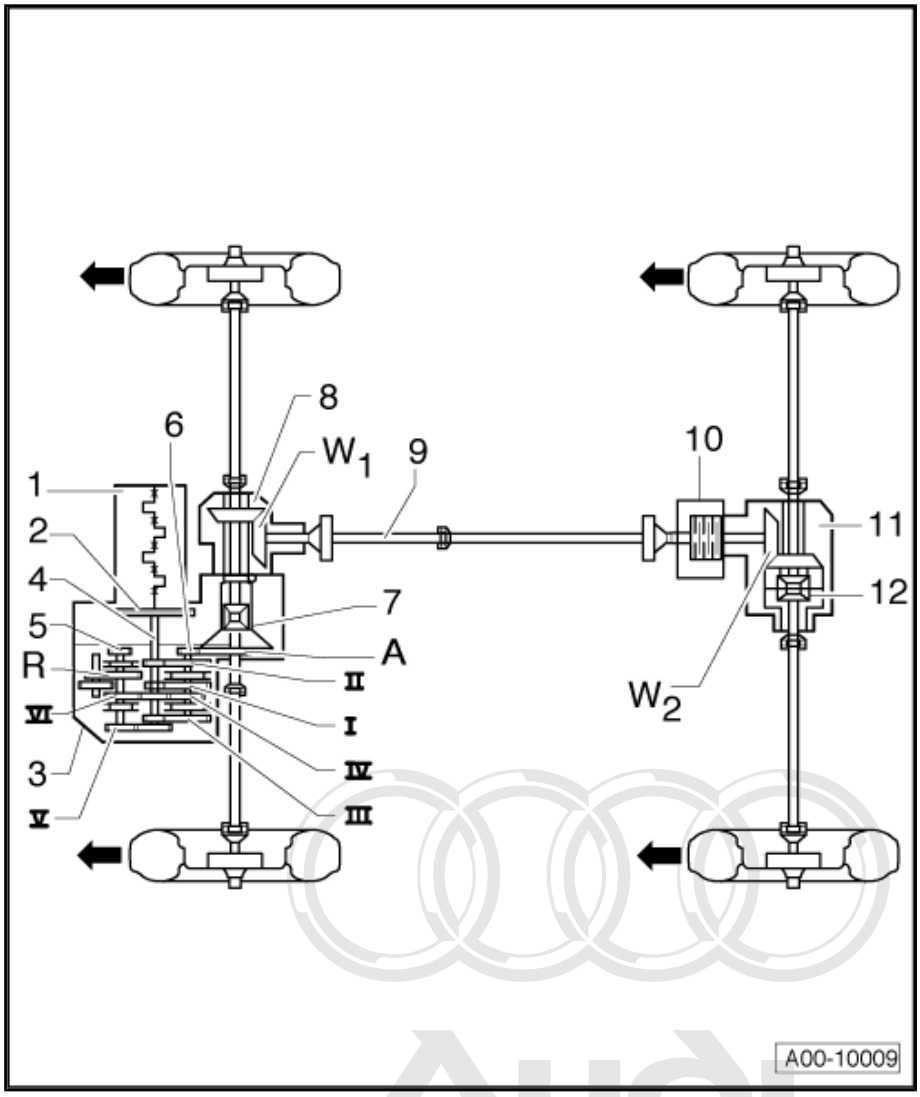


Ratio

Note

Arrows point in direction of travel

I - 1st Gear
II - 2nd Gear
III - 3rd Gear
IV - 4th Gear
V - 5th Gear
VI - 6th Gear
R - Reverse Gear
A - Final Drive
W 1 - Front Bevel Box
W 2 - Rear Bevel Box



3 Specifications

Audi A3
⇒ "3.1 Code Letters, Assembly Allocation, Ratios and Capacities", page 11

Audi TT, from MY 2007
⇒ "3.2 Code Letters, Assembly Allocation, Ratios and Capacities", page 13

3.1 Code Letters, Assembly Allocation, Ratios and Capacities

⇒ "3.1.1 Rear Final Drive 02D and 0AV", page 11

⇒ "3.1.2 Rear Final Drive 0BR", page 12

3.1.1 Rear Final Drive 02D and 0AV

		Rear Final Drive 02D		
		With Haldex-Clutch Generation II		
Part Number		02D.525.010.AA	02D.525.010.AQ	0AV.525.010
Identification Codes		**FWR**	**HEZ**	**HHJ**
Manufactured	from	07.03	01.04	09.05
	through	01.04	08.04	11.05
Allocation	Type	Audi A3 from MY 2004	Audi A3 from MY 2004	Audi A3 from MY 2004
	Engine	2.0L - 147 kW TFSI 3.2L - 184 kW	2.0L - 147 kW TFSI 3.2L - 184 kW	2.0L - 147 kW TFSI 3.2L - 184 kW
Ratio: Z_2: Z_1	Rear final drive	27 : 17 = 1.588	27 : 17 = 1.588	27 : 17 = 1.588
Driveshaft flange diameter		100 mm	100 mm	100 mm
Final drive capacity		0.95 liters		
Haldex clutch capacity		0.85 liters		
Replacement capacity in Haldex clutch • Change intervals: Refer to the Maintenance Intervals Rep. Gr. 03		0.65 liters		
Refer to the Electronic Parts Catalog (ETKA) for the following information: ♦ Rear final drive transmission oil specification ♦ Haldex clutch high performance oil specification ♦ Transmission allocation				

		Rear Final Drive 0AV		
		With Haldex-Clutch Generation II		
Part Number		0AV.525.010.B	0AV.525.010.D	0AV.525.010.K
Identification Codes		**HVY**	**JJN**	**KJS**
Manufactured	from	11.05	11.06	09.07
	through	05.07	01.08	06.08
Allocation	Type	Audi A3 from MY 2004	Audi A3 from MY 2004	Audi A3 from MY 2004
	Engine	2.0L - 147 kW TFSI 3.2 l - 184 kW	2.0 l - 147 kW TFSI 3.2 l - 184 kW	2.0 l - 147 kW TFSI 3.2 l - 184 kW

	Rear Final Drive 0AV		
	With Haldex-Clutch Generation II		
Part Number	0AV.525.010.B	0AV.525.010.D	0AV.525.010.K
Identification Codes	**HVY**	**JJN**	**KJS**
Ratio: Z_2: Z_1 Rear final drive	27 : 17 = 1.588	27 : 17 = 1.588	27 : 17 = 1.588
Driveshaft flange diameter	100 mm	100 mm	100 mm
Final drive capacity	0.95 liters		
Haldex clutch capacity	0.85 liters		
Replacement capacity in Haldex clutch • Change intervals: Refer to the Maintenance Intervals Rep. Gr. 03	0.65 liters		
Refer to the Electronic Parts Catalog (ETKA) for the following information: ◆ Rear final drive transmission oil specification ◆ Haldex clutch high performance oil specification ◆ Transmission allocation			

3.1.2 Rear Final Drive 0BR

		Rear Final Drive 0BR		
		With Haldex-Clutch Generation IV		
Part Number		0BR.525.010	0BR. 525.010.B	
Identification Codes		**KMC**	**MMK**	
Manufactured	from	07.08	06.09	
	through			
Allocation	Type	Audi A3 from MY 2004	Audi A3 from MY 2004	
	Engine	2.0 l - 147 kW TFSI 3.2 l - 184 kWI	2.0 l - 147 kW TFSI 3.2 l - 184 kW	
Ratio: Z_2: Z_1	Rear final drive	27 : 17 = 1.588	27 : 17 = 1.588	
Driveshaft flange diameter		100 mm	100 mm	
Final drive capacity		0.95 liters		
Haldex clutch capacity		0.85 liters		

Rear Final Drive 0BR			
With Haldex-Clutch Generation IV			
Part Number	0BR.525.010	0BR. 525.010.B	
Identification Codes	**KMC**	**MMK**	
Replacement capacity in Haldex clutch • Change intervals: Refer to the Maintenance Intervals Rep. Gr. 03	0.70 liters		
Refer to the Electronic Parts Catalog (ETKA) for the following information: ♦ Rear final drive transmission oil specification ♦ Haldex clutch high performance oil specification ♦ Transmission allocation			

3.2 Code Letters, Assembly Allocation, Ratios and Capacities

Audi TT ⇒ "3.2.1 Rear Final Drive 02D and 0AV", page 13

Audi TT ⇒ "3.2.2 Rear Final Drive 0BR", page 14

Audi TT RS ⇒ "3.2.3 Rear Final Drive 0BY", page 16

3.2.1 Rear Final Drive 02D and 0AV

		Rear Final Drive 0AV		
		With Haldex-Clutch Generation II		
Part Number		0AV.525.010.B	0AV.525.010.D	0AV.525.010.F
Identification Codes		**HVY**	**JJN**	**JUY**
Manufactured	from	11.05	11.06	03.07
	through	05.07	-	-
Allocation	Type	Audi TT from MY 2007	Audi TT from MY 2007	Audi TT from MY 2007
	Engine	3.2L - 184 kW	3.2L - 184 kW	3.2L - 184 kW
Ratio: Z_2: Z_1	Rear final drive	27 : 17 = 1,588	27 : 17 = 1,588	27 : 17 = 1,588
Driveshaft flange diameter		100 mm	100 mm	100 mm
Final drive capacity		0.95 liters		
Haldex clutch capacity		0.85 liters		
Replacement capacity in Haldex clutch • Change intervals: Refer to the Maintenance Intervals Rep. Gr. 03		0.65 liters		

	Rear Final Drive 0AV		
	With Haldex-Clutch Generation II		
Part Number	0AV.525.010.B	0AV.525.010.D	0AV.525.010.F
Identification Codes	**HVY**	**JJN**	**JUY**
Refer to the Electronic Parts Catalog (ETKA) for the following information: ◆ Rear final drive transmission oil specification ◆ Haldex clutch high performance oil specification ◆ Transmission allocation			

		Rear Final Drive 0AV		
		With Haldex-Clutch Generation II		
Part Number		0AV.525.010.H	0AV.525.010.K	0AV.525.010.M
Identification Codes		**JZX**	**KJS**	**KJU**
Manufactured	from	08.06	12.07	12.07
	through	11.06	-	-
Allocation	Type	Audi TT from MY 2007	Audi TT from MY 2007	Audi TT from MY 2007
	Engine	3.2L - 184 kW	3.2L - 184 kW	3.2L - 184 kW
Ratio: Z_2: Z_1	Rear final drive	27 : 17 = 1.588	27 : 17 = 1.588	27 : 17 = 1.588
Driveshaft flange diameter		100 mm	100 mm	100 mm
Final drive capacity		0.95 liters		
Haldex clutch capacity		0.85 liters		
Replacement capacity in Haldex clutch • Change intervals: Refer to the Maintenance Intervals Rep. Gr. 03		0.65 liters		
Refer to the Electronic Parts Catalog (ETKA) for the following information: ◆ Rear final drive transmission oil specification ◆ Haldex clutch high performance oil specification ◆ Transmission allocation				

3.2.2 Rear Final Drive 0BR

		Rear Final Drive 0BR		
		With Haldex-Clutch Generation IV		
Part Number		0BR.525.010	0BR. 525.010.A	0BR. 525.010.B
Identification Codes		**KMC**	**KMD**	**MMK**
Manufactured	from	01.08	01.08	11.09
	through		-	
Allocation	Type	Audi TT from MY 2007	Audi TT from MY 2007	Audi TT from MY 2007

Rear Final Drive 0BR			
With Haldex-Clutch Generation IV			
Part Number	0BR.525.010	0BR. 525.010.A	0BR. 525.010.B
Identification Codes	**KMC**	**KMD**	**MMK**
Engine	2.0 l - 195 kW TFSI 2.0 l - 199 kW TFSI 3.2 l - 184 kW	2.0 l - 195 kW TFSI 2.0 l - 199 kW TFSI 3.2 l - 184 kW	2.0 l - 155 kW TFSI 2.0 l - 195 kW TFSI 2.0 l - 200 kW TFSI
Ratio: Z_2: Z_1 Rear final drive	27 : 17 = 1.588	27 : 17 = 1.588	27 : 17 = 1.588
Driveshaft flange diameter	100 mm	100 mm	100 mm
Final drive capacity	0.95 liters		
Haldex clutch capacity	0.85 liters		
Replacement capacity in Haldex clutch • Change intervals: Refer to the Maintenance Intervals Rep. Gr. 03	0.70 liters		
Refer to the Electronic Parts Catalog (ETKA) for the following information: ♦ Rear final drive transmission oil specification ♦ Haldex clutch high performance oil specification ♦ Transmission allocation			

Rear Final Drive 0BR				
With Haldex-Clutch Generation IV				
Part Number		0BR. 525.010.C		
Identification Codes		**MML**		
Manufactured	from	10.09		
	through			
Allocation	Type	Audi TT from MY 2007		
	Engine	2.0 l - 155 kW TFSI 2.0 l - 195 kW TFSI 2.0 l - 200 kW TFSI		

Rear Final Drive 0BR			
With Haldex-Clutch Generation IV			
Part Number	0BR. 525.010.C		
Identification Codes	**MML**		
Ratio: Z_2: Z_1 Rear final drive	27 : 17 = 1.588		
Driveshaft flange diameter	100 mm		
Final drive capacity	0.95 liters		
Haldex clutch capacity	0.85 liters		
Replacement capacity in Haldex clutch • Change intervals: Refer to the Maintenance Intervals Rep. Gr. 03	0.70 liters		
Refer to the Refer to the Maintenance Intervals Rep. Gr. 03 for the following information: ♦ Rear final drive transmission oil specification ♦ Haldex clutch high performance oil specification ♦ Transmission allocation			

3.2.3 Rear Final Drive 0BY

Rear Final Drive 0BY			
With Haldex-Clutch Generation IV			
Part Number	0BY.525.010	0BY. 525.010.A	
Identification Codes	**LEK**	**MBE**	
Manufactured from through	01.09	09.09	
Allocation Type	Audi TT RS from 2007	Audi TT RS from 2011	
Engine	2.5L - 250 kW TFSI	2.5L - 250 kW TFSI	
Ratio: Z_2: Z_1 Rear final drive	27 : 17 = 1.588	27 : 17 = 1.588	
Driveshaft flange diameter	100 mm	100 mm	

Rear Final Drive 0BY			
With Haldex-Clutch Generation IV			
Part Number	0BY.525.010	0BY. 525.010.A	
Identification Codes	**LEK**	**MBE**	
Final drive capacity	0.95 liters		
Haldex clutch capacity	0.85 liters		
Replacement capacity in Haldex clutch • Change intervals: Refer to the Maintenance Intervals Rep. Gr. 03	0.70 liters		
Refer to the Electronic Parts Catalog (ETKA) for the following information: ♦ Rear final drive transmission oil specification ♦ Haldex clutch high performance oil specification ♦ Transmission allocation			

39 – Final Drive, Differential

1 General Information

⇒ “1.4 Haldex Clutch Oil Level, Checking or Filling“, page 20

⇒ “1.5 High Performance Haldex Clutch Oil , Changing“, page 24

⇒ “1.1 Rear Final Drive Identification“, page 18

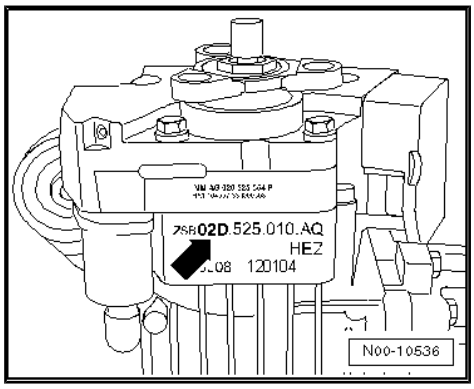
⇒ “1.2 Rear Final Drive 02D and 0AV, Checking Gear Oil Level“, page 18

⇒ “1.3 Rear Final Drive 0BR/0BS/0BY, Gear Oil, Checking“, page 18

1.1 Rear Final Drive Identification

Final Drive Identification. Example: -02D-

The ID -arrow- on the bottom side of the final drive identifies which final drive is installed. Example: -rear final drive 02D-.



1.2 Rear Final Drive 02D and 0AV, Checking Gear Oil Level

Special tools and workshop equipment required

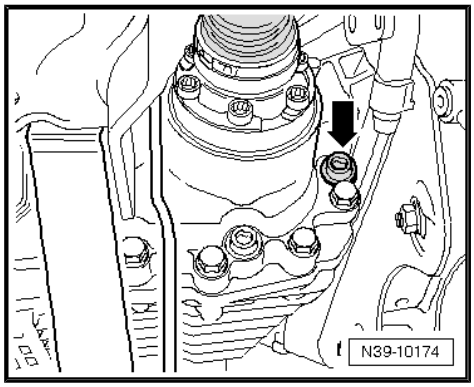
- ♦ Torque Wrench 5-50 Nm -V.A.G 1331-

- To check axle oil level, vehicle must be level.
- For the transmission fluid specification for rear final drive, refer to the Electronic Parts Catalog (ETKA).

– Remove oil filler plug -arrow- to check axle oil.

- ♦ Specified value: The oil level is correct when the rear final drive is filled up to the lower edge of the filler hole. Add axle oil if necessary.

– Screw in the plug -arrow- and tighten.



Tightening Specifications

Component	Nm
M20 x 1 oil fill plug	40
M10 x 1 oil fill plug	15

1.3 Rear Final Drive 0BR/0BS/0BY, Gear Oil, Checking

Special tools and workshop equipment required

- ♦ Torque Wrench 5-50 Nm -V.A.G 1331-
- ♦ Charging Device F/Haldex 2 Coup. -VAS 6291-

♦ Drip Tray for VAS 6100 -VAS 6208-

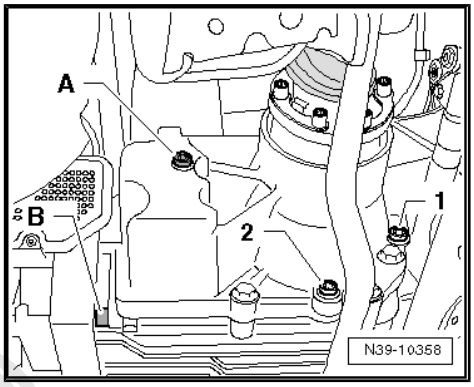
Test Requirement

- The vehicle must be horizontal.
- For the transmission fluid specification for rear final drive, refer to the Electronic Parts Catalog (ETKA).

Oil Level, Checking

– Place -VAS 6208- under final drive.

– Remove the bolt -1-.



The oil level is correct when the rear final drive is filled up to the lower edge of the filler hole.

– Screw in the bolt -1- and tighten.

Tightening Specification: 15 Nm

Oil, Filling:

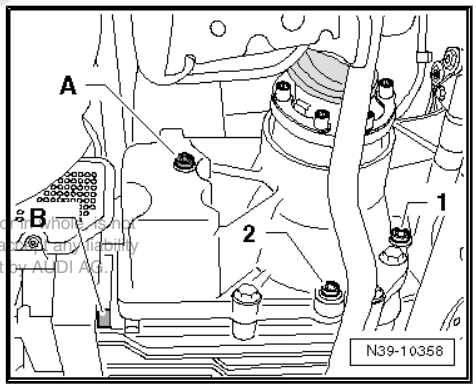
– Add enough oil using the -VAS 6291- until it runs out between the filler tool adapter and the transmission housing.

– Remove the filler tool and adapter; a little oil left over will run out.

The oil level is correct when the rear final drive is filled up to the lower edge of the filler hole.

– Screw in the bolt -1- and tighten.

Tightening Specification: 15 Nm



1.4 Haldex Clutch Oil Level, Checking or Filling

⇒ "1.4.1 Oil Level in the Haldex Clutch, Checking", page 20

⇒ "1.4.2 Haldex Clutch Oil, Filling", page 21

⇒ "1.5 High Performance Haldex Clutch Oil , Changing", page 24

Caution

Different high performance fluid for the Haldex clutch

- *The rear final drives "02D/0AV" and "0BR/0BY/0BS" have different Haldex clutches with different oils.*
- *Both fluids for the Haldex clutch must not be mixed together or interchanged.*
- *Refer to the Fluid Capacity Tables Rep. Gr. 03 for the Haldex clutch fluid*
- *Be sure to note the differences in the rear final drives. Refer to ⇒ "1.5 Rear Final Drive Identification", page 4*

1.4.1 Oil Level in the Haldex Clutch, Checking

Special tools and workshop equipment required

- Vehicle Diagnostic Tester
- Torque Wrench 5-50 Nm -V.A.G 1331-
- Drip Tray for VAS 6100 -VAS 6208-

Test Prerequisites

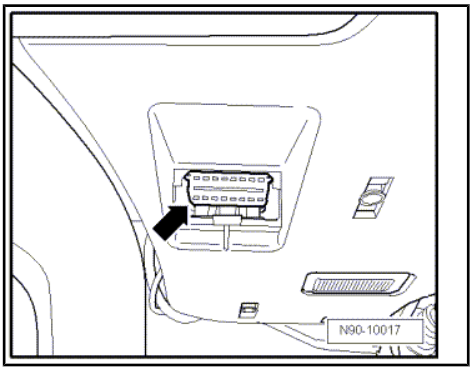
- The oil temperature must be between 20 °C and 40 °C (68 °F and 104 °F).
- The oil temperature can be reached by driving the vehicle for awhile.
- The vehicle must be horizontal.
- Final drive must be in installation position to check oil level.

WARNING

To prevent possible injury when performing measuring tests or test drives, always refer to ⇒ "1.6 Safety Precautions", page 7 .

– Connect the vehicle diagnosis tester with the ignition on the Data Link connector (DLC) turned off.

Installed location: Front left footwell, near hood opener.



Enter “Guided Fault Finding“:

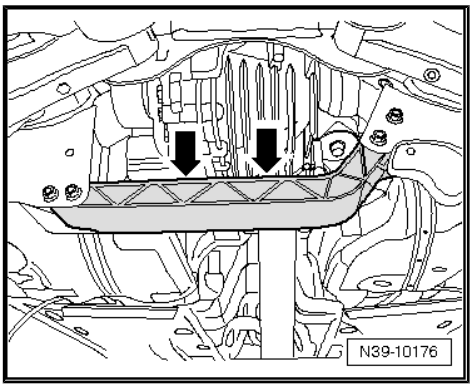
– Turn on the ignition.
– Touch “Guided Fault Finding“ on the screen.
– Select the following in this sequence:

♦ Brand
♦ Type
♦ Model year
♦ Version
♦ Engine code
♦ Confirm the information entered.
♦ 22 - AWD electronics
♦ 22 - Read the measured values block
♦ Oil temperature

– Read the oil temperature.

Vehicles with Crossmembers:

– Cover the crossmember -arrows- with cloths.

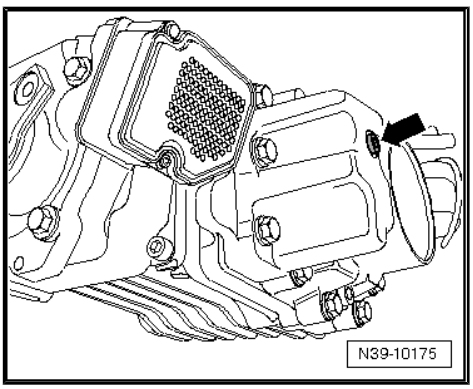


Note

If oil gets on the crossmember or enters the perforations in the crossmember, it must be carefully removed.

Oil Level, Checking

– Place -VAS 6208- under final drive.
– Remove oil level inspection plug -arrow-. (Shown with final drive removed for the sake of clarity).



Oil level is correct if Haldex clutch is filled to lower edge of oil filler hole or up to 3 mm below oil filler hole.

– If necessary, fill high performance Haldex clutch oil, refer to ⇒ “1.4.2 Haldex Clutch Oil, Filling“, page 21

Tightening Specifications

Component	Nm
Oil filler plug -arrow-	15

1.4.2 Haldex Clutch Oil, Filling

Special tools and workshop equipment required

♦ Drip Tray for VAS 6100 -VAS 6208-
♦ Charging Device F/Haldex 2 Coup. -VAS 6291-

Caution

Different high performance fluid for the Haldex clutch.

- *The rear final drives “02D/0AV“ and “0BR/0BY/0BS“ have different Haldex clutches with different oils.*
- *Both fluids for the Haldex clutch must not be mixed together or interchanged.*
- *Refer to the Fluid Capacity Tables Rep. Gr. 03 for the Haldex clutch fluid.*
- *Be sure to note the differences in the rear final drives. Refer to* *⇒ “1.5 Rear Final Drive Identification“, page 4* .

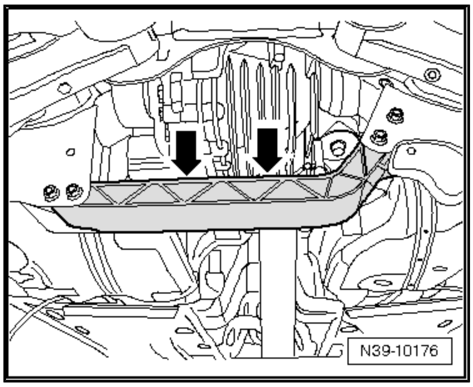
Test Requirement

- The vehicle must be horizontal.

– Place -VAS 6208- under final drive.

Vehicles with Crossmembers:

– Cover the crossmember -arrows- with cloths.



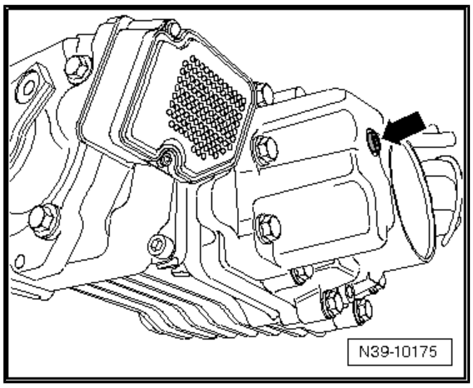
Note

If oil gets on the crossmember or enters the perforations in the crossmember, it must be carefully removed.

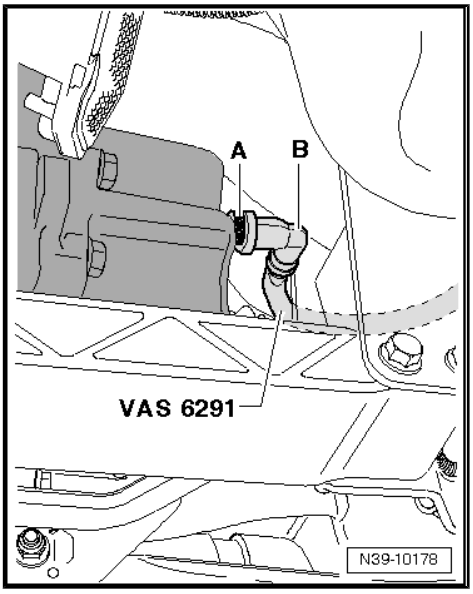
All Vehicles

– Use the -VAS 6291- to add oil.

– Remove the oil filler plug -arrow-. (Shown with final drive removed for the sake of clarity).

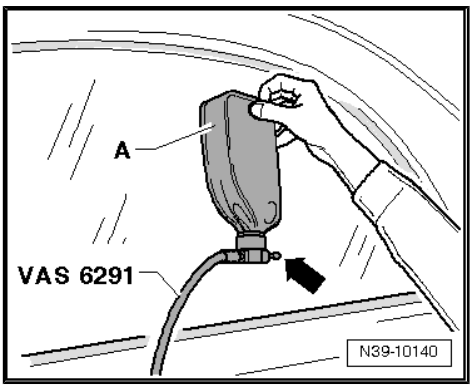


– Disconnect adapter -A- and elbow -B-.
– Screw in the adapter -A- to the stop.
– Attach the elbow -B- to the adapter -A-.
– Route hose over driveshaft.
• The hose must not hang through. It must enter above left rear wheel on vehicle.
– Lower the vehicle.



– Close the valve -arrow-.
– Install the oil container -A- on the -VAS 6291-
– Open the valve -arrow- and hold the fluid container as illustrated.

Haldex clutch is now filled.



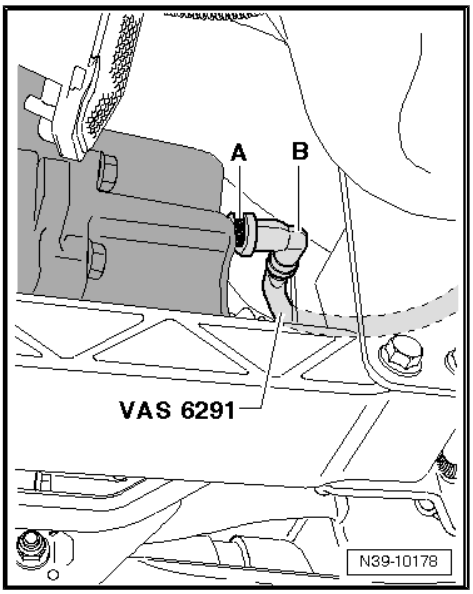
Note

When Haldex clutch is filled properly, oil escapes at adapter -A-.

– Lift the vehicle.
– If oil is escaping, place an oil container under the Haldex clutch (for example on a shop cart).

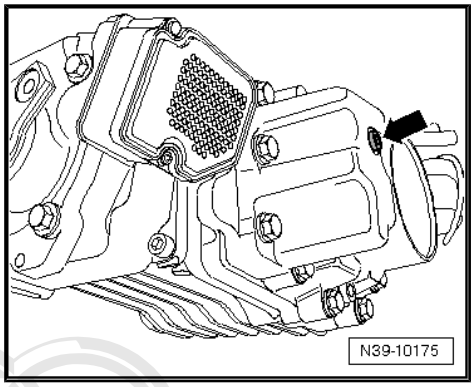
Overflowing oil now runs back into oil container.

– If no more oil runs back, remove the -VAS 6291- .
• The Haldex clutch is not filled up to the lower edge of the oil filler hole.



– Install plug -arrow- with new seal and tighten.

– Finally, check oil level in Haldex clutch. Refer to ⇒ “1.4.1 Oil Level in the Haldex Clutch, Checking“, page 20 .



Tightening Specifications

Component	Nm
Oil filler plug -arrow-	15

1.5 High Performance Haldex Clutch Oil , Changing

Special tools and workshop equipment required

- Torque Wrench 5-50 Nm -V.A.G 1331-
- Drip Tray for VAS 6100 -VAS 6208-
- High performance oil for Haldex clutch , refer to the Electronic Parts Catalog (ETKA)

Caution

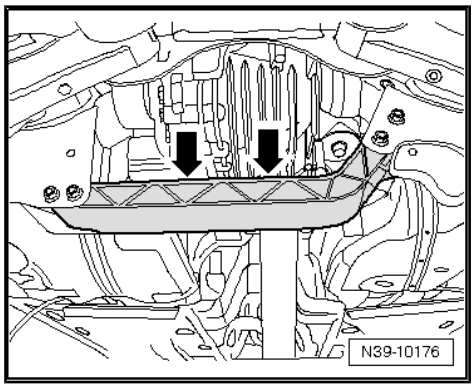
Different high performance fluid for the Haldex clutch.

- *The rear final drives “02D/0AV“ and “0BR/0BY/0BS“ have different Haldex clutches with different oils.*
- *Both fluids for the Haldex clutch must not be mixed together or interchanged.*
- *Refer to the Fluid Capacity Tables Rep. Gr. 03 for the Haldex clutch fluid.*
- *Be sure to note the differences in the rear final drives. Refer to ⇒ “1.5 Rear Final Drive Identification“, page 4 .*

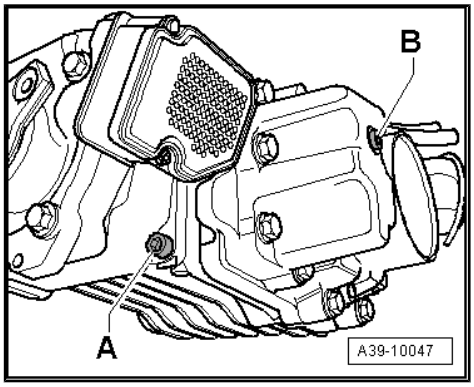
Note

- *You must lay a cloth on the crossmember -arrows-.*
- *If oil gets on the crossmember or enters the perforations in the crossmember, it must be carefully removed.*

– Place a drip tray underneath.



– Remove the drain plug -A- and completely drain the high performance Haldex clutch oil .
– Install the drain plug -A- with a new sealing ring and tighten to 30 Nm.
– Remove plug -B- and fill high performance Haldex clutch oil . Refer to ⇒ “1.4.2 Haldex Clutch Oil, Filling“, page 21 .
– Finally, check oil level in Haldex clutch. Refer to ⇒ “1.4.1 Oil Level in the Haldex Clutch, Checking“, page 20 .



Tightening Specifications

Component	Nm
Drain plug -A-	30
Oil filler plug -B-	15

2 Description and Operation

2.1 All Wheel Drive Control Module -J492- , Rear Final Drive 02D/0AV (Haldex-Clutch Generation II) Overview

1 - All Wheel Drive (AWD) Control Module -J492-

- ❑ Is calibrated with haldex clutch control valve -N373- ⇒ Item 4 (page 27)
- ❑ Always replace together with valve ⇒ Item 4 (page 27)
- ❑ Removing and installing, refer to ⇒ “5.1 All Wheel Drive Control Module J492 , Rear Final Drive 02D/0AV (Haldex-Clutch Generation II)“, page 51

2 - Bolt

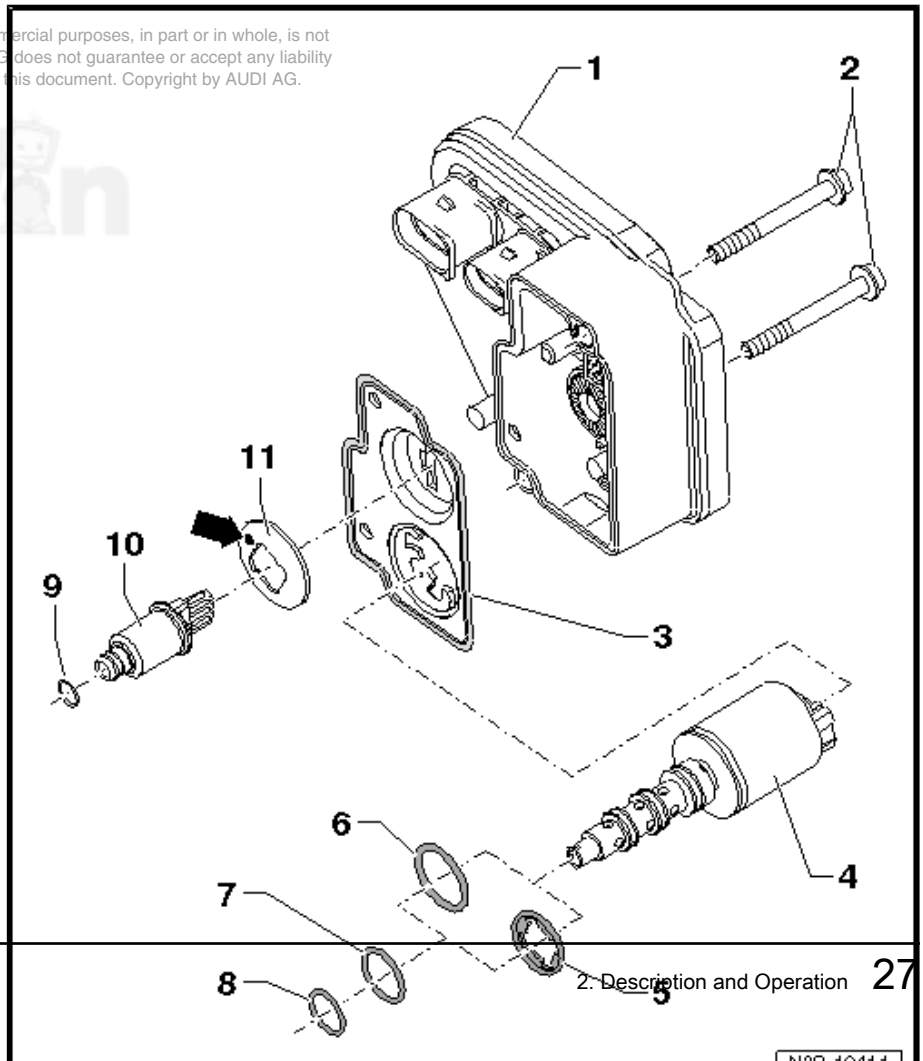
- ❑ 6 Nm

3 - Cover

- ❑ Always replace
- ❑ With vulcanized seal

4 - Haldex Clutch Control Valve -N373-

- ❑ Is calibrated with AWD control module
- ❑ Always replace together with control module



⇒ Item 1 (page 27)

5 - Seal

- ❑ Redesigned version with diagonal centering lips
- ❑ Sealing ring replaced ⇒ Item 6 (page 28)
- ❑ Make sure the centering lip fits correctly in the groove
- ❑ Coat with high performance Haldex clutch oil and insert
- ❑ Always replace

6 - Seal

- ❑ Old version
- ❑ The updated version is contained in the seal set ⇒ Item 5 (page 28)

7 - Seal

- ❑ Diameter 12 mm
- ❑ For Haldex clutch control valve
- ❑ Coat with high performance Haldex clutch oil and insert
- ❑ Always replace

8 - Seal

- ❑ Diameter 11 mm
- ❑ For Haldex clutch control valve
- ❑ Coat with high performance Haldex clutch oil and insert
- ❑ Always replace

9 - Seal

- ❑ For oil pressure/temperature sensor -G437-
- ❑ Coat with high performance Haldex clutch oil and insert
- ❑ Always replace

10 - Oil Pressure/Temperature Sensor -G437-

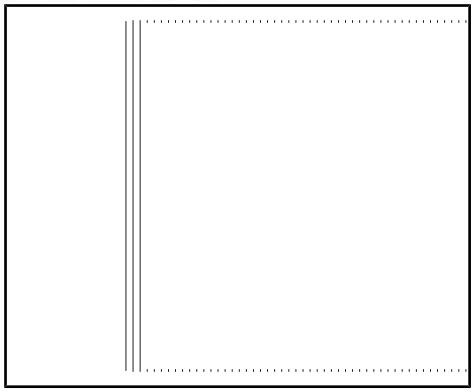
- ❑ Can be reused when replacing control module
- ❑ Removing and installing, refer to ⇒ “5.1 All Wheel Drive Control Module J492 , Rear Final Drive 02D/0AV (Haldex-Clutch Generation II)“, page 51

11 - Plate Spring

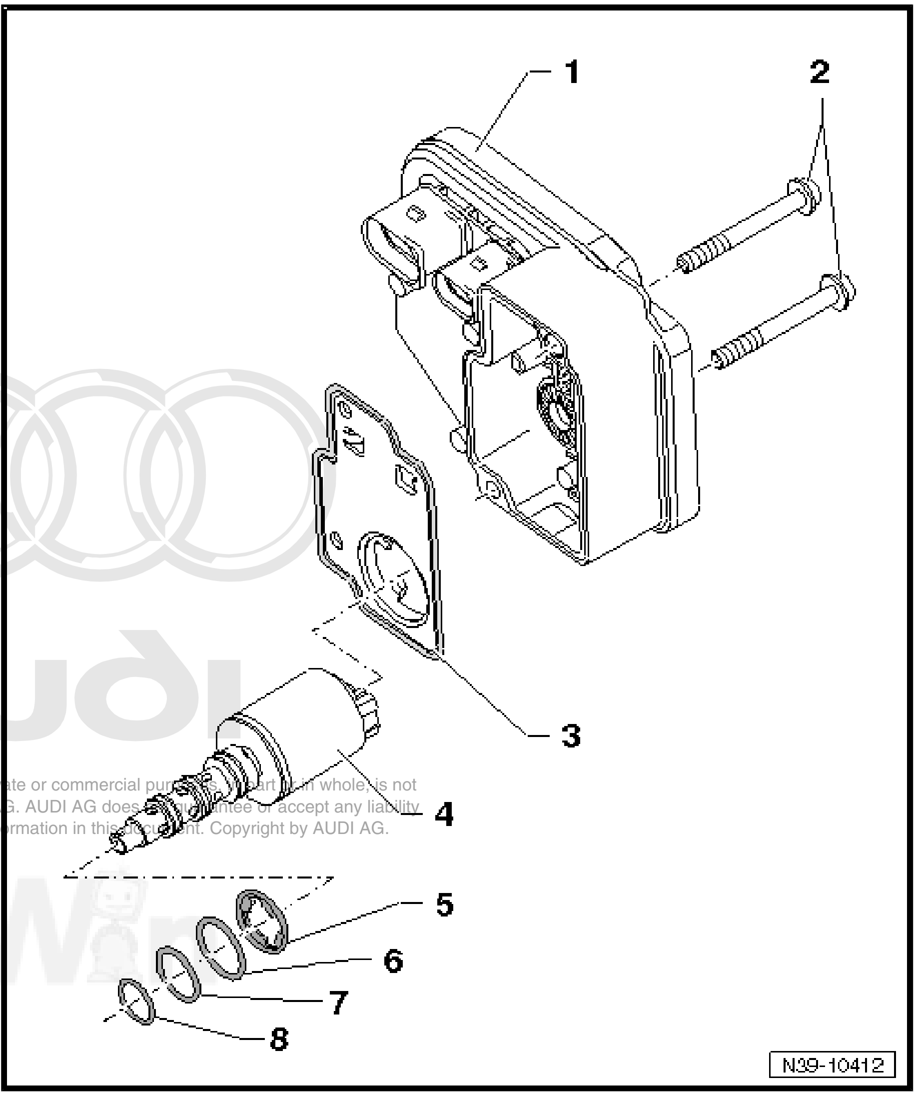
- ❑ In installation position, marking -arrow- must be located at top and face toward pressure sensor, refer to ⇒ Fig. ““Plate Spring Location““ , page 28 .

Plate Spring Location

- Marking -arrow- is located on convex side of plate spring -2-.
- The convex side with the marking -arrow- faces the pressure sensor -1-.
- Marking -arrow- faces upward in installation position.



2.2 All Wheel Drive Control Module -J492- , Rear Final Drive 0BR, 0BS and 0BY (Haldex-Clutch Generation IV) Overview



1 - All Wheel Drive (AWD) Control Module -J492-

- ❑ Is calibrated with Haldex clutch control valve -N373-
- ❑ Always replace together with valve
- ❑ Removing and installing, refer to ⇒ "5.2 AWD Control Module J492 , Rear Final Drive 0BR, 0BS and 0BY (Haldex-Clutch Generation IV) ", page 54

2 - Bolt

- ❑ 6 Nm

3 - Cover

- ❑ Always replace
- ❑ With vulcanized seal
- ❑ Remains on the control module or on the Haldex clutch housing during removal

4 - Haldex Clutch Control Valve -N373-

- ❑ Is calibrated with AWD control module
- ❑ Always replace together with control module
- ❑ Removing and installing, refer to ⇒ "5.2 AWD Control Module J492 , Rear Final Drive 0BR, 0BS and 0BY (Haldex-Clutch Generation IV) ", page 54

5 - Seal

- ❑ Always replace
- ❑ Make sure the centering lip fits correctly in the groove
- ❑ Coat with high performance Haldex clutch oil and insert

6 - Seal

- ❑ Always replace
- ❑ Diameter 12 mm
- ❑ Coat with high performance Haldex clutch oil and insert

7 - Seal

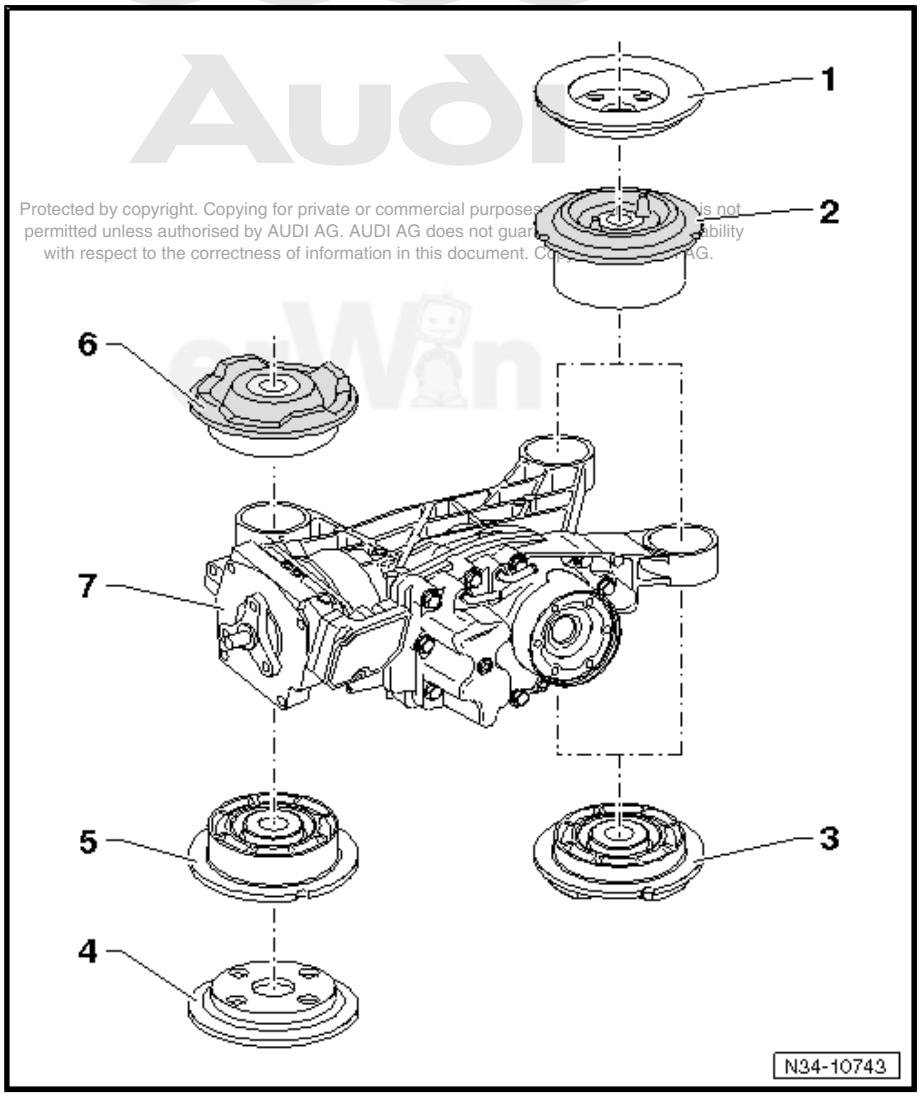
- ❑ Always replace
- ❑ Diameter 11 mm
- ❑ Coat with high performance Haldex clutch oil and insert

8 - Seal

- ❑ Always replace
- ❑ Diameter 10 mm

- ❑ Coat with high performance Haldex clutch oil and insert

2.3 Bonded Rubber Bushing on the Rear Final Drive Overview



1 - Buffer

- ❑ Remove before removing the bonded rubber bushing ⇒ Item 2 (page 30)
- ❑ Install on the bonded rubber bushing, refer to ⇒ Item 2 (page 30) ⇒ Fig. ""Installation Location of the Upper Rear and Lower Front Bonded Rubber Bushing. Installation of the Buffer -B-"" , page 59

2 - "Upper Rear" Bonded Rubber Bushing

- ❑ Removing, refer to ⇒ Fig. ""Removing the Upper Rear Bonded Rubber Bushing"" , page 57
- ❑ Differentiation of "upper rear" and "lower front" bonded rubber bushings, refer to ⇒ Fig. ""Differentiation of the Upper Rear and Lower Front Bonded Rubber Bushings "" , page 58
- ❑ Installed position, refer to ⇒ Fig. ""Installation Location of the Upper Rear and Lower Front Bonded Rubber Bushing. Installation of the Buffer -B-"" , page 59
- ❑ Installing, refer to ⇒ Fig. ""Pulling in the Upper Rear -A- and Lower Rear -B- Bonded Rubber Bushings"" , page 57

3 - "Lower Rear" Bonded Rubber Bushing

- ❑ Removing, refer to ⇒ Fig. ""Driving Out the Lower Rear Bonded Rubber Bushing "" , page 57
- ❑ Installing, refer to ⇒ Fig. ""Pulling in the Upper Rear -A- and Lower Rear -B- Bonded Rubber Bushings"" , page 57

4 - Buffer

- ❑ Remove before removing the bonded rubber bushing ⇒ Item 5 (page 30)
- ❑ Install on the bonded rubber bushing, refer to ⇒ Item 5 (page 30) ⇒ Fig. ""Installation Location of the Upper Rear and Lower Front Bonded Rubber Bushing. Installation of the Buffer -B-"" , page 59

5 - "Lower Front" Bonded Rubber Bushing

- ❑ Removing, refer to ⇒ Fig. ""Removing the Lower Front Bonded Rubber Bushing "" , page 58
- ❑ Differentiation of "upper rear" and "lower front" bonded rubber bushings, refer to ⇒ Fig. ""Differentiation of the Upper Rear and Lower Front Bonded Rubber Bushings "" , page 58

- ❑ Installed position, refer to ⇒ Fig. ““Installation Location of the Upper Rear and Lower Front Bonded Rubber Bushing. Installation of the Buffer -B-““ , page 59
- ❑ Installing, refer to ⇒ Fig. ““Pulling in the Lower Front -A- and Upper Front -B- Bonded Rubber Bushings““ , page 58

6 - “Upper Front“ Bonded Rubber Bushing

- ❑ Removing, refer to ⇒ Fig. ““Driving Out the Upper Front Bonded Rubber Bushing ““ , page 58
- ❑ Installing, refer to ⇒ Fig. ““Pulling in the Lower Front -A- and Upper Front -B- Bonded Rubber Bushings““ , page 58

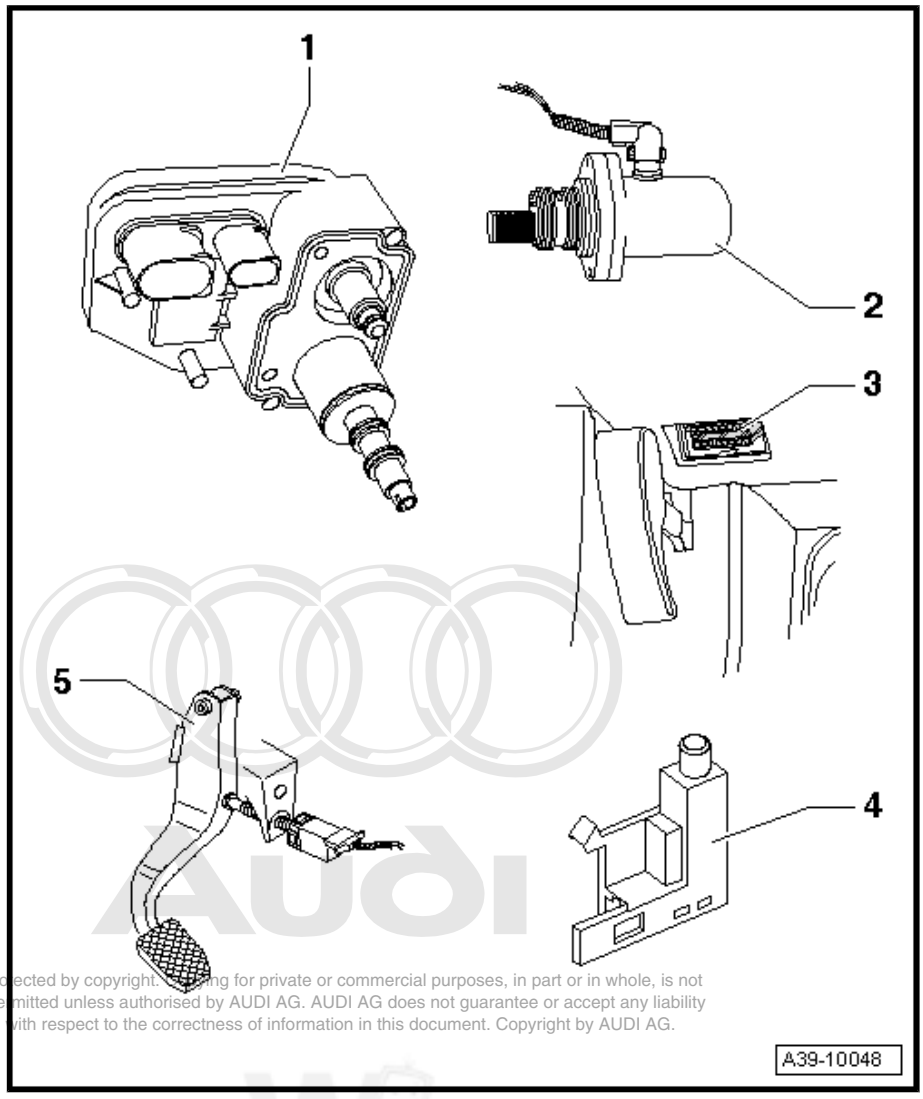
7 - Rear Final Drive

- ❑ Removing and installing, refer to ⇒ “2.11 Rear Final Drive Overview“, page 41
- ❑ TT RS, removing and installing, refer to ⇒ “5.17 Rear Final Drive“, page 99

2.4 Electric and Electronic Components and Installation Locations, Rear Final Drive 02D/0AV (Haldex-Clutch Generation II)

1 - All Wheel Drive (AWD) Control Module -J492-

- ❑ Installed location, refer to ⇒ Fig. ““ All Wheel Drive Control Module -J492- ““ , page 32
- ❑ Comprises a unit together with Haldex clutch control valve - N373-
- ❑ A pressure sensor is also located in the control module
- ❑ Removing and installing, refer to ⇒ “2.1 All Wheel Drive Control Module J492 , Rear Final Drive 02D/ 0AV (Haldex-Clutch Generation II) Overview“, page 27
- ❑ Important signals are transmitted from the engine control module and ABS control module - J104- via data BUS to the AWD control module .



2 - Haldex Clutch Pump -V181-

- ❑ Installed location, refer to ⇒ Fig. ““ Haldex Clutch Pump -V181- ““ , page 32
- ❑ Can be checked in “Guided Fault Finding“ using the vehicle tester
- ❑ Removing and Installing, refer to ⇒ “5.7 Haldex Clutch Pump V181 , Final Drive 02D/0AV“, page 66

3 - Data Link Connector (DLC)

- ❑ Installed location: Front left footwell, near hood opener

4 - Parking Brake Indicator Lamp Switch -F9-

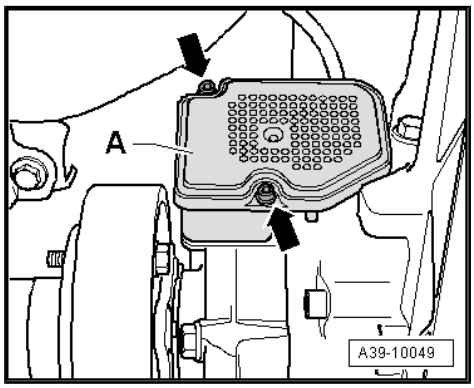
- ❑ Installed location, refer to ⇒ Fig. "" Parking Brake Switch -F9- "" , page 33
- ❑ Can be checked in "Guided Fault Finding" using the vehicle diagnostic tester
- ❑ Removing and installing, refer to ⇒ Brake System; Rep. Gr. 46 ; Removal and Installation

5 - Brake Lamp Switch -F-

- ❑ Installed location, refer to ⇒ Fig. "" Brake Lamp Switch -F- "" , page 32
- ❑ Can be checked in "Guided Fault Finding" using the vehicle diagnostic tester
- ❑ Removing and installing, refer to ⇒ Brake System; Rep. Gr. 46 ; Removal and Installation

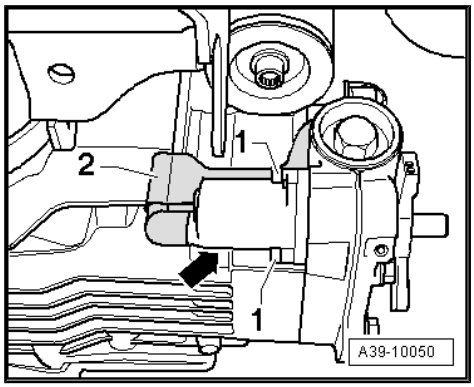
All Wheel Drive Control Module -J492-

Installed location: The control module -A- is located at the rear final drive in the front left area.



Haldex Clutch Pump -V181-

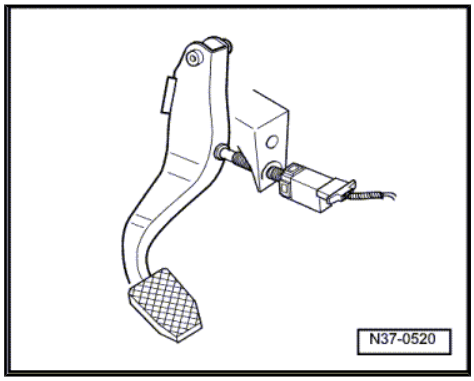
Installed location: The Haldex clutch pump -arrow- is located on the rear final drive in the front right area.



Brake Lamp Switch -F-

Installed location: Brake lamp switch is located on pedal assembly over brake pedal.

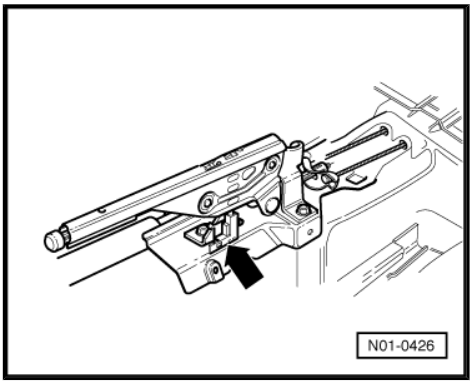
Removing, refer to ⇒ Brake System; Rep. Gr. 46 ; Removal and Installation



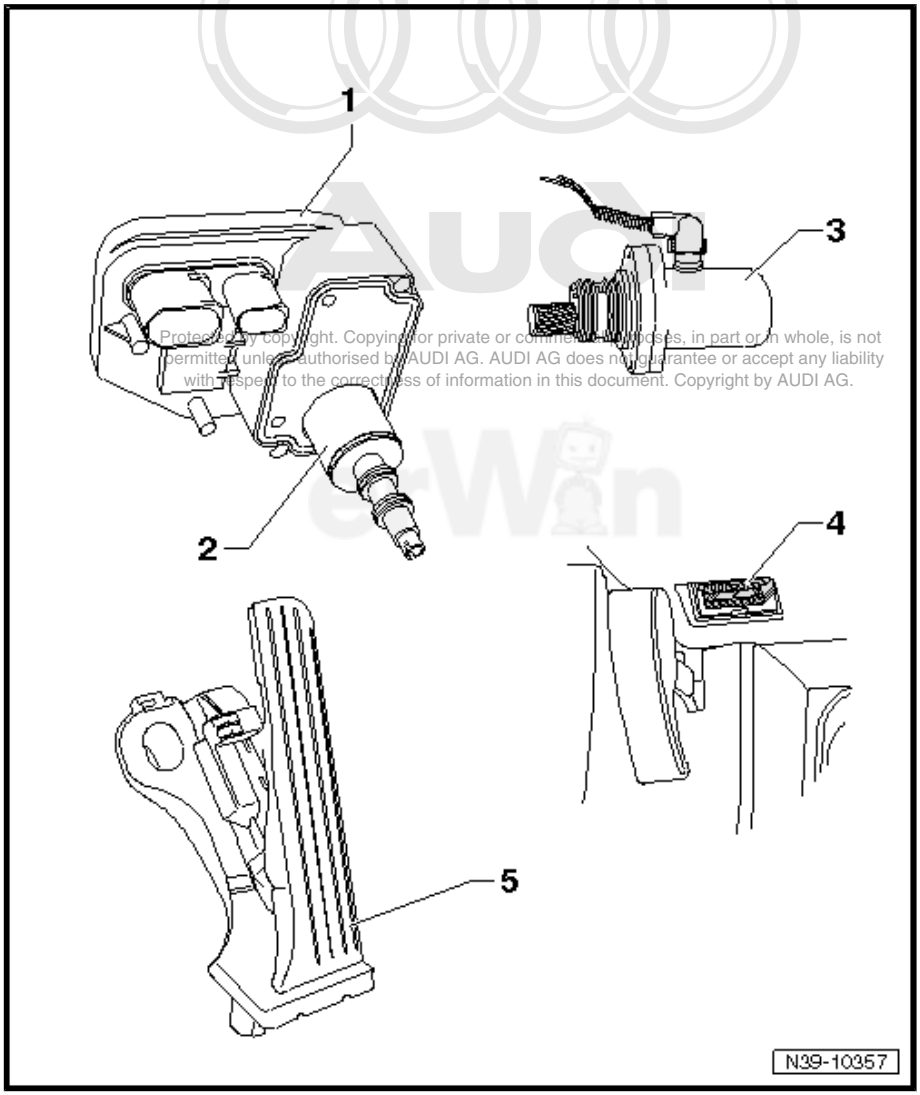
Parking Brake Switch -F9-

Installed location: The switch -arrow- is installed on the parking brake lever.

Removing, refer to ⇒ Brake System; Rep. Gr. 46 ; Removal and Installation



2.5 Electric and Electronic Components and Installation Locations, Rear Final Drive 0BR, 0BS and 0BY (Haldex-Clutch Generation IV)



1 - All Wheel Drive (AWD) Control Module -J492-

- Important signals are transmitted from the Engine Control Module (ECM) and ABS control module -J104- via data BUS to the AWD control module .
- Assembly overview, refer to ⇒ "2.2 All Wheel Drive Control Module J492 , Rear Final Drive 0BR, 0BS and 0BY (Haldex-Clutch Generation IV) Overview", page 29
- Removing and installing, refer to ⇒ "5.2 AWD Control Module J492 , Rear Final Drive 0BR, 0BS and 0BY (Haldex-Clutch Generation IV) ", page 54

2 - Haldex Clutch Control Valve -N373-

3 - Haldex Clutch Pump -V181-

- Can be checked in "Guided Fault Finding" using the vehicle diagnostic tester
- Removing and installing, refer to ⇒ "5.7 Haldex Clutch Pump V181 , Final Drive 02D/0AV", page 66

4 - Data Link Connector (DLC)

- Installed location: Front left footwell

5 - Accelerator Pedal Position Sensor -G79-

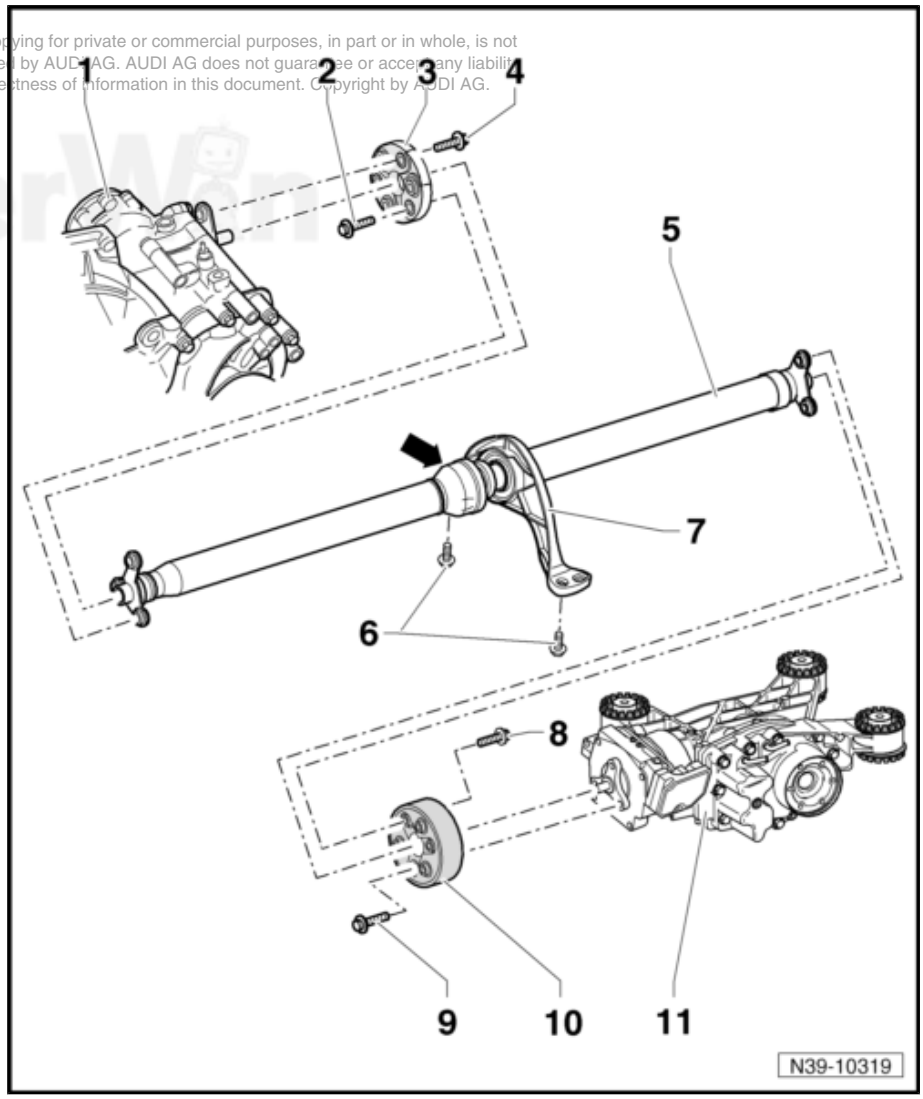
2.6 Driveshaft with Non-Separable Center Support, from 05.07

Introduction of a driveshaft with an non-separable center support

- Audi TT (not TT RS) from VIN 8J-8-011 001
- Audi A3 (not RS3) from MY 2008, from VIN 8P-8-000 001

Note

- *Do not perform any service work on the driveshaft.*
- *The front driveshaft tube cannot be separated from the rear driveshaft tube.*



1 - Transmission with Bevel Gear

2 - Bolt

- ❑ 50 Nm plus an additional 90° turn
- ❑ Always replace
- ❑ For the front flexible disc an the driveshaft

3 - Front Flexible Disc

- ❑ Installed position: The open side of the heat shield faces the transmission.

4 - Bolt

- ❑ 60 Nm
- ❑ For flexible disc to bevel gear

5 - Driveshaft

- ❑ Cannot be separated at the joint -arrow-
- ❑ Removing and installing, refer to ⇒ “5.12 Driveshaft with Inseparable Center Support, from 05.07, Removing“, page 83

6 - Bolt

- ❑ 25 Nm

7 - Intermediate Bearing

- ❑ Align without tension

8 - Bolt

- ❑ 50 Nm plus an additional 90° turn
- ❑ Always replace
- ❑ For the rear flexible disc on the driveshaft

9 - Bolt

- ❑ 60 Nm
- ❑ For flexible disc to final drive

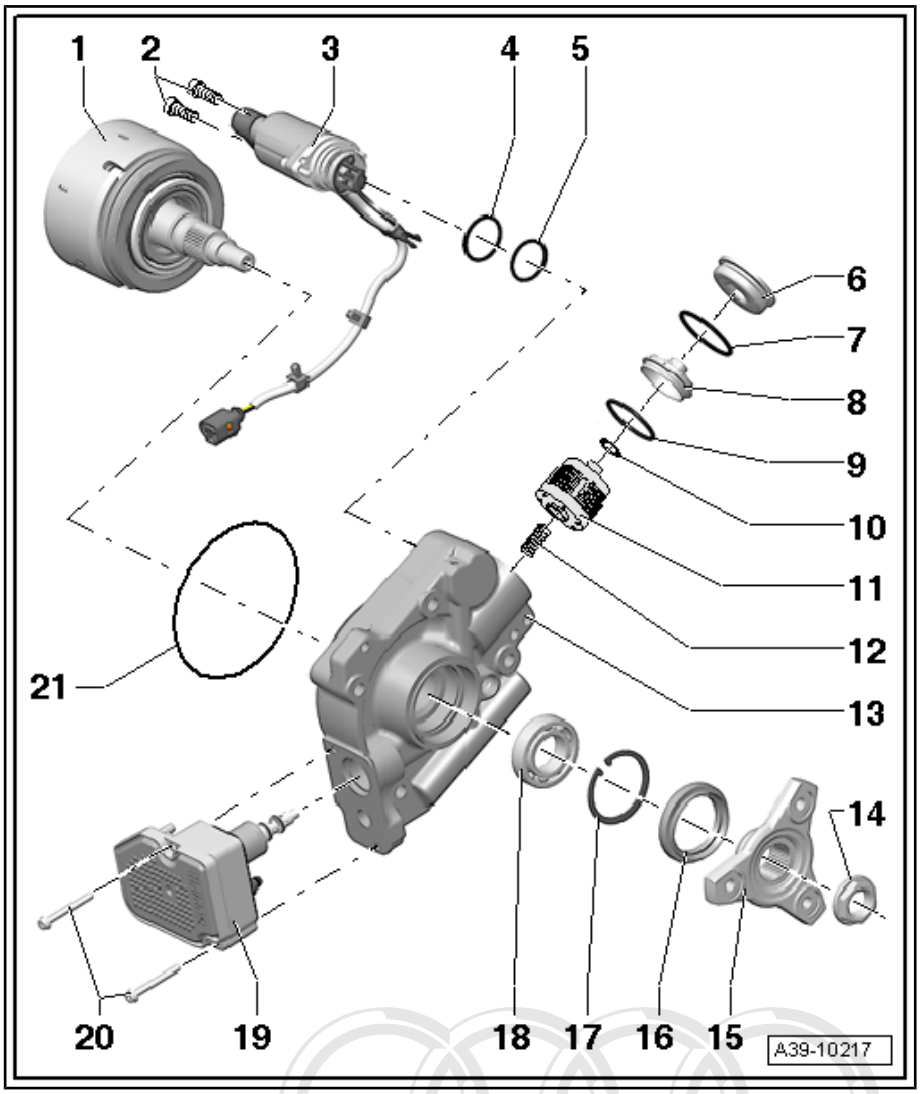
10 - Flexible Disc with Vibration Damper

- ❑ Heat shield faces the driveshaft

11 - Rear Final Drive

- ❑ Removing and installing, refer to ⇒ “2.11 Rear Final Drive Overview“, page 41

2.7 Haldex-Clutch (Generation Haldex II), Rear Final Drive 02D/0AV Overview



1 - Clutch Plate

- ❑ Overview, refer to ⇒ Fig. ““Clutch Plate Assembly““ , page 37
- ❑ Removing and installing, refer to ⇒ “5.4 Final Drive 02D and 0AV, Haldex Clutch Grooved Ball Bearing“, page 59

2 - Bolts

- ❑ 6 Nm

3 - Haldex Clutch Pump -V181-

- ❑ Removing and installing, refer to ⇒ “5.7 Haldex Clutch Pump V181 , Final Drive 02D/0AV“, page 66

4 - O-ring

- ❑ Always replace
- ❑ Diameter 32 mm
- ❑ For Haldex clutch pump
- ❑ Coat with high performance Haldex clutch oil and insert

5 - O-ring

- ❑ Always replace
- ❑ Diameter 30 mm
- ❑ For Haldex clutch pump
- ❑ Coat with high performance Haldex clutch oil and insert

6 - Cover

- ❑ 35 Nm

7 - O-ring

- ❑ Always replace
- ❑ For the sealing cap
- ❑ Coat with high performance Haldex clutch oil and insert

8 - Oil Filter Carrier

9 - O-ring

- ❑ Always replace
- ❑ For oil filter carrier
- ❑ Coat with high performance Haldex clutch oil and insert

10 - O-ring

- ❑ Always replace
- ❑ For oil filter
- ❑ Coat with high performance Haldex clutch oil and insert

11 - Oil Filter

- ❑ For Haldex clutch
- ❑ No replacement interval
- ❑ Removing and installing, refer to ⇒ “5.5 Final Drive 02D and 0AV, Haldex Clutch Oil Filter“, page 63

12 - Spring

13 - Haldex Clutch Housing

- ❑ Haldex clutch, removing and installing, refer to ⇒ “5.6 Haldex Clutch, Final Drive Installed“, page 64
- ❑ Removing from clutch plate, refer to ⇒ “5.4 Final Drive 02D and 0AV, Haldex Clutch Grooved Ball Bearing“, page 59

14 - Nut

- ❑ 210 Nm
- ❑ Secure with locking fluid -D 000 600-

15 - Driveshaft Flange

- ❑ Removing and installing, refer to ⇒ “5.18 Rear Final Drive Flange/Driveshaft Seal, Final Drive Installed“, page 103

16 - Flange/Driveshaft Sealing Ring

Removing and installing, refer to
⇒ “5.18 Rear Final Drive Flange/Driveshaft Seal, Final Drive Installed“, page 103

17 - Locking Ring

18 - Ball bearing

- ❑ Removing and installing, refer to ⇒ “5.4 Final Drive 02D and 0AV, Haldex Clutch Grooved Ball Bearing“, page 59

19 - All Wheel Drive (AWD) Control Module -J492-

- ❑ With Haldex clutch control valve -N373-
- ❑ With oil pressure/temperature sensor -G437-
- ❑ Removing and installing, refer to ⇒ “2.1 All Wheel Drive Control Module J492 , Rear Final Drive 02D/0AV (Haldex-Clutch Generation II) Overview“, page 27

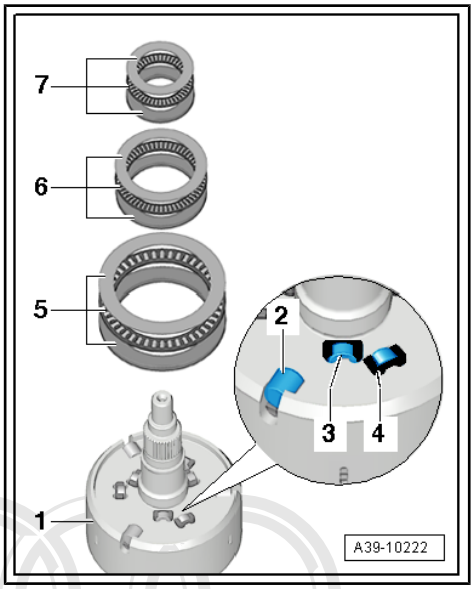
20 - Bolts

- ❑ 6 Nm

21 - O-ring

- ❑ Always replace
- ❑ Coat with high performance Haldex clutch oil and insert

Clutch Plate Assembly



1 - Clutch Plate

Plates cannot be removed.

2 - Outer Rollers

Quantity: 3

3 - Track Rollers

Quantity: 3

Installed position: Roller faces outside

4 - Track Rollers

Quantity: 3

Installed position: Roller faces inside

5 - Axial Needle Bearing

The thick disc faces the multidisc clutch -1-.

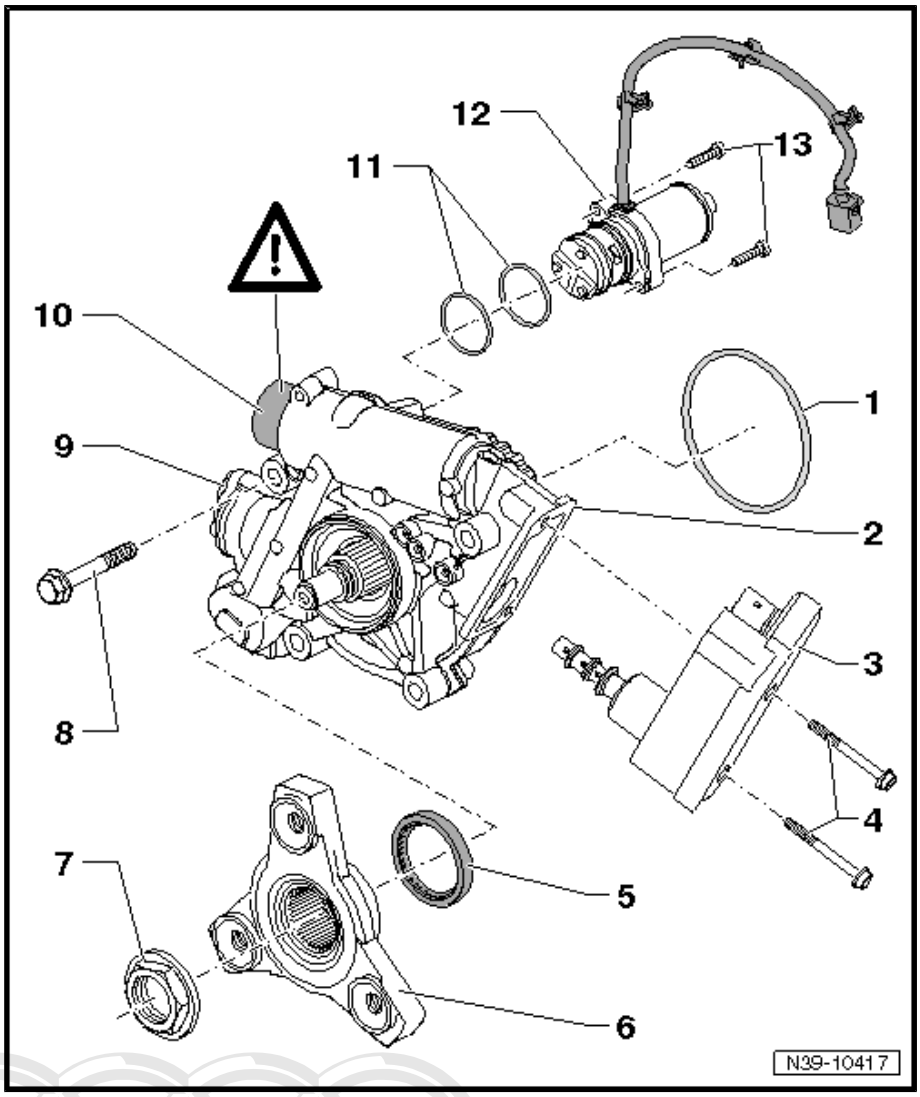
6 - Axial Needle Bearing

The thick disc faces the multidisc clutch -1-.

7 - Axial Needle Bearing

The thick disc faces the multidisc clutch -1-.

2.8 Haldex-Clutch (Generation Haldex IV), Rear Final Drive 0BR, 0BS and 0BY Overview



1 - Seal

- ❑ Always replace
- ❑ Coat with high performance Haldex clutch oil and insert

2 - Haldex Clutch Housing

- ❑ Haldex clutch, removing and installing, refer to ⇒ “2.9 Haldex Clutch Overview“, page 39

3 - All Wheel Drive (AWD) Control Module -J492-

- ❑ With Haldex clutch control valve -N373-
- ❑ Removing and installing, refer to ⇒ “5.2 AWD Control Module J492 , Rear Final Drive 0BR, 0BS and 0BY (Haldex-Clutch Generation IV) “, page 54

4 - Bolts

- ❑ 6 Nm

5 - Flange/Driveshaft Sealing Ring

Removing and installing, refer to ⇒ “5.18 Rear Final Drive Flange/Driveshaft Seal, Final Drive Installed“, page 103

6 - Driveshaft Flange

- ❑ Removing and Installing, refer to ⇒ “5.18 Rear Final Drive Flange/Driveshaft Seal, Final Drive Installed“, page 103

7 - Nut

- ❑ 210 Nm
- ❑ Secure with locking fluid -D 000 600-

8 - Bolts

- ❑ 50 Nm
- ❑ Quantity: 4

9 - Cover

- ❑ For the oil filter housing
- ❑ A filter change is not required

10 - Cover

- ❑ For the pressure reservoir

WARNING

Never open the cover, danger of injury!

11 - Seal

- ❑ Always replace
- ❑ Quantity: 2
- ❑ Diameter 34 mm
- ❑ For Haldex clutch pump -V181-
- ❑ Coat with high performance Haldex clutch oil and insert

12 - Haldex Clutch Pump -V181-

- ❑ Removing and Installing, refer to
⇒ “5.8 Haldex Clutch Pump V181 , Final Drive 0BR/0BS/0BY“, page 69

13 - Bolts

- ❑ 6 Nm

2.9 Haldex Clutch Overview

1 - Hexagon Bolt

- ❑ 50 Nm
- ❑ Quantity: 4

2 - Haldex Clutch

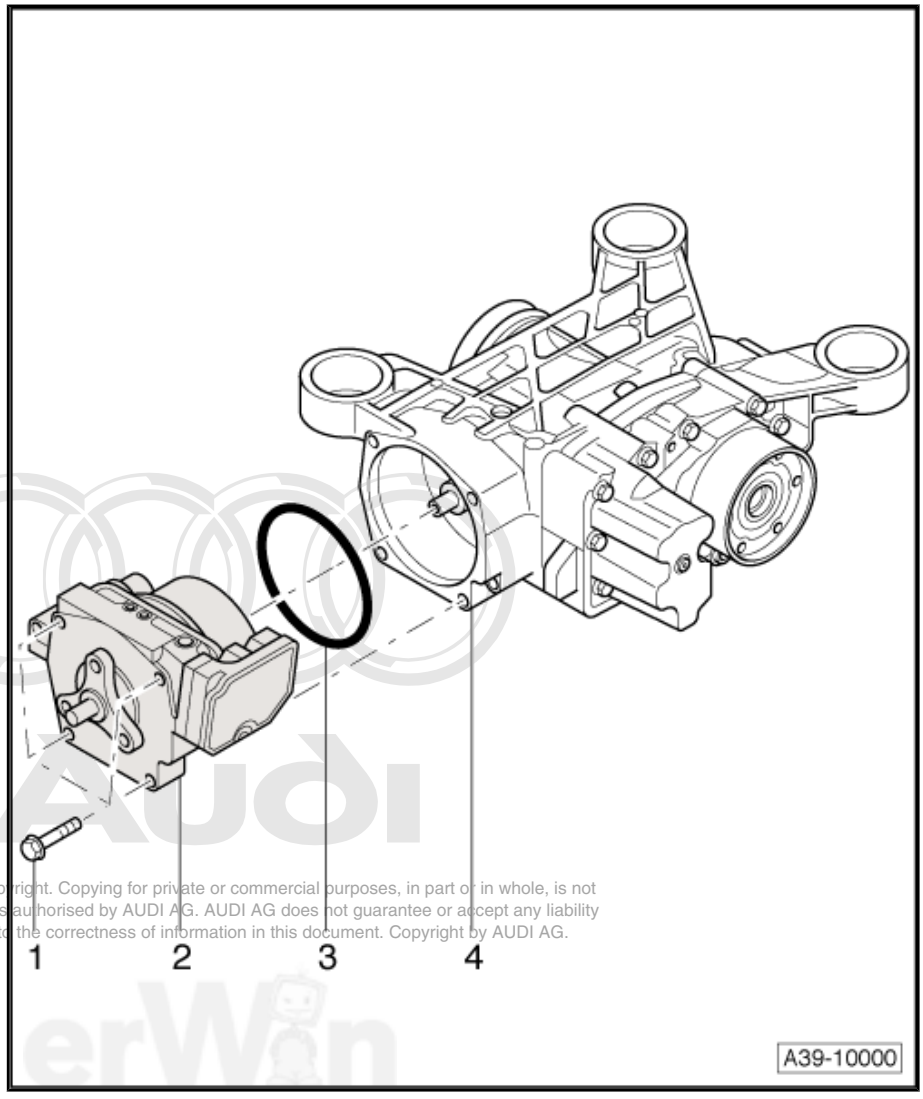
- ❑ Wit control module
- ❑ Removing and installing, refer to
⇒ “5.6 Haldex Clutch, Final Drive Installed“, page 64
- ❑ ⇒ “2.7 Haldex-Clutch (Generation Haldex II), Rear Final Drive 02D/ 0AV Overview“, page 35
- ❑ ⇒ “2.8 Haldex-Clutch (Generation Haldex IV), Rear Final Drive 0BR, 0BS and 0BY Overview“, page 38

3 - O-ring

- ❑ Removing and installing, refer to
⇒ “5.6 Haldex Clutch, Final Drive Installed“, page 64
- ❑ Insert with high performance Haldex clutch oil

4 - Final Drive

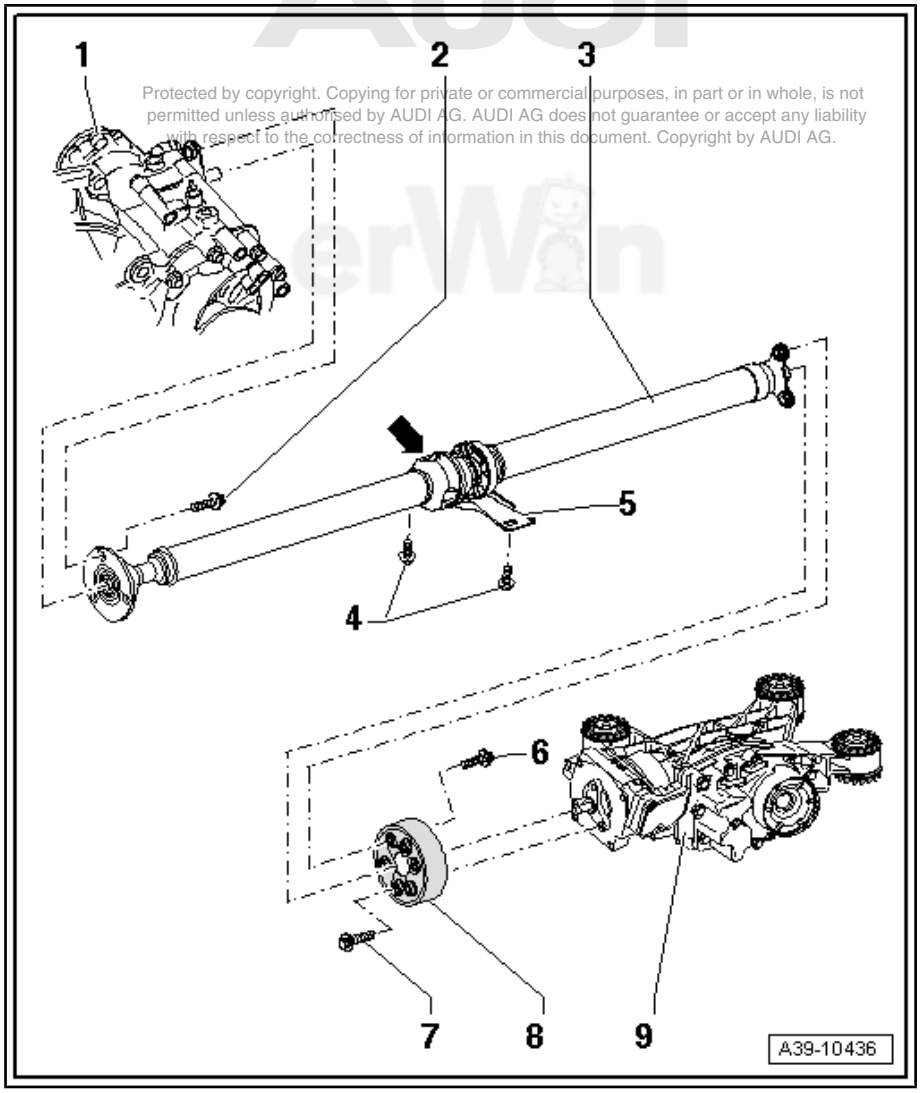
- ❑ Removing and installing, refer to
⇒ “2.11 Rear Final Drive Overview“, page 41



2.10 Driveshaft Overview

Note

Do not perform any service work on the driveshaft.



1 - Transmission with Bevel Gear

2 - Bolt

- ❑ 60 Nm
- ❑ For attaching the driveshaft to the bevel box

3 - Driveshaft

- ❑ Cannot be separated at the joint -arrow-
- ❑ Removing and installing, refer to ⇒ “5.12 Driveshaft with Inseparable Center Support, from 05.07, Removing“, page 83

4 - Bolt

- ❑ 25 Nm

5 - Intermediate Bearing

- ❑ Align without tension

6 - Bolt

- ❑ 50 Nm plus an additional 90° turn
- ❑ Always replace
- ❑ For the rear flexible disc on the driveshaft

7 - Bolt

- ❑ 60 Nm
- ❑ For flexible disc to final drive

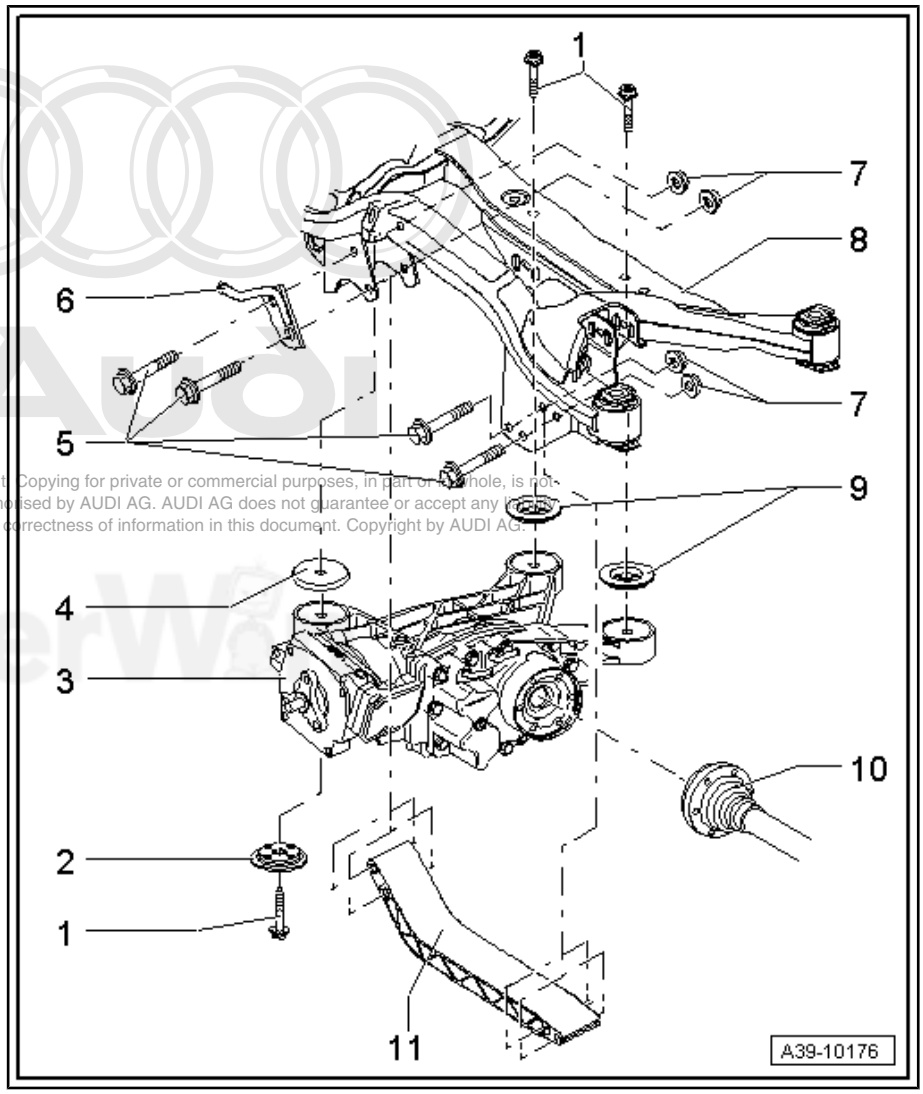
8 - Flexible Disc with Vibration Damper

- ❑ Heat shield faces the driveshaft

9 - Rear Final Drive

- ❑ Removing and installing, refer to ⇒ “5.17 Rear Final Drive“, page 99

2.11 Rear Final Drive Overview



1 - Bolt

- ❑ 60 Nm plus an additional 90° turn
- ❑ Always replace
- ❑ Quantity: 3

2 - Buffer

- ❑ Install on the bonded rubber bushing, refer to ⇒ Fig. ""Installation Location of the Upper Rear and Lower Front Bonded Rubber Bushing. Installation of the Buffer -B-"" , page 59

3 - Rear Final Drive

- ❑ Removing, refer to ⇒ "5.15 Rear Final Drive, Removing", page 92
- ❑ Installing, refer to ⇒ "5.16 Rear Final Drive, Installing", page 96
- ❑ TT RS, removing and installing, refer to ⇒ "5.17 Rear Final Drive", page 99

4 - Washer

- ❑ Installed position: Chamfer (smaller diameter) faces toward subframe

5 - Bolt

- ❑ Always replace
- ❑ For crossmember
- ❑ Present only on vehicles with a crossmember ⇒ Item 11 (page 41)
- ❑ Quantity: 4

6 - Bracket

- ❑ Present only on vehicles with a crossmember ⇒ Item 11 (page 41)

7 - Nut

- ❑ Always replace
- ❑ Present only on vehicles with a crossmember ⇒ Item 11 (page 41)
- ❑ Torque ⇒ Suspension, Wheels, Steering; Rep. Gr. 42 ; Specifications
- ❑ Quantity: 4

8 - Rear Subframe

9 - Buffer

- ❑ Install on the bonded rubber bushing, refer to ⇒ Fig. ""Installation Location of the Upper Rear and Lower Front Bonded Rubber Bushing. Installation of the Buffer -B-"" , page 59

10 - Driveshaft

- ❑ Removing and installing, refer to ⇒ Suspension, Wheels, Steering; Rep. Gr. 42 ; Removal and Installation

11 - Crossmember

- ❑ Not on vehicles with a steel subframe ⇒ Item 8 (page 41)
- ❑ Removing and installing, refer to “All Wheel Drive (AWD)“ in ⇒ Suspension, Wheels, Steering; Rep. Gr. 42 ; Description and Operation

3 Specifications

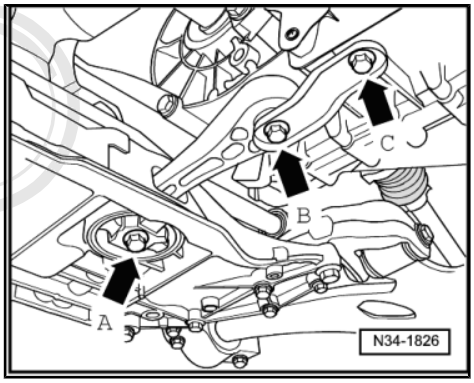
⇒ "3.1 Fastener Tightening Specifications", page 43

3.1 Fastener Tightening Specifications

Components	Fastener Size	Nm
All Wheel Drive Control Module to Rear Final Drive	-	6
Buffer to Rear Final Drive[1]	-	60 + 90°
Cover for Oil Filter	-	35
Crossmember to Underbody	-	23
Drain Plug for Haldex Clutch Pump	-	30
Driveshaft to the Bevel Box	-	60
Flange to Driveshaft, Nut	-	210
Flange to Rear Driveshaft Tube	-	45
Flexible Disc with a Heat Shield to Front Driveshaft Tube[1]	-	50 + 90°
Flexible Disc with a Heat Shield to Manual Transmission with Bevel Box	-	60
Flexible Disc with Vibration Damper to Rear Driveshaft Tube		
-Balance Nut	-	10
-Bolt[1]	-	50 + 90°
Flexible Disc with Vibration Damper to Rear Final Drive	-	60
Front Flexible Disc[1]	-	50 + 90°
Haldex Clutch Housing	-	50
Haldex Clutch Pump to Haldex Clutch Housing	-	6
Haldex Clutch to Rear Final Drive	-	50
Intermediate Bearing Heat Shield	-	25
Lock Plate to CV Joint Protective Boot	-	40
Manual Transmission with Bevel Gear Transfer Case[1]	-	50 + 90°
Oil Filler Plug	M10 x 1	15
Oil Filler Plug	M20 x 1	40
• [1] Always replace		

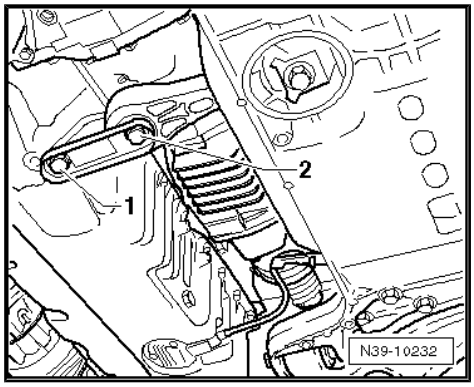
– Tighten pendulum support first to transmission -arrows B and C- and then to subframe -arrow A-.

Component		Nm
On the pendulum support	Transmission -arrows B and C-	40 Nm + 90° [1)]
	Subframe -arrow A-	100 Nm + 90° [1)]
[1)] Replace Bolts		



– Tighten the pendulum support with new bolts. For the correct tightening specifications refer to ⇒ Suspension, Wheels, Steering; Rep. Gr. 40 ; Specifications .

Component		Nm
On the pendulum support	Transmission - 1 -	40 Nm + 90° 1)
	Transmission - 2 -	40 Nm + 90° 1)
1) Replace Bolts		



4 Diagnosis and Testing

⇒ “4.1 Vehicle Diagnosis Tester , Connecting and Checking“, page 45

⇒ “4.2 Haldex-Clutch (Generation Haldex II), Rear Final Drive 02D/0AV, Checking Functions“, page 45

⇒ “4.3 Haldex-Clutch (Generation Haldex IV), Rear Final Drive 0BR, 0BS and 0BY, Checking Functions “, page 49

⇒ “4.1 Vehicle Diagnosis Tester , Connecting and Checking“, page 45

4.1 Vehicle Diagnosis Tester , Connecting and Checking

Special tools and workshop equipment required

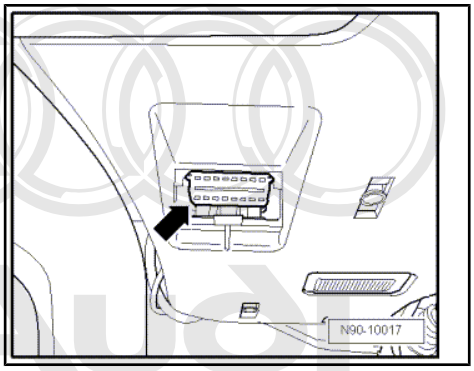
- Vehicle Diagnosis Tester

WARNING

To prevent possible injury when performing measuring tests or test drives, always refer to ⇒ “1.6 Safety Precautions“, page 7 .

– Connect the vehicle diagnosis tester with the ignition on the Data Link connector (DLC) turned off.

Installed location: Front left footwell, near hood opener.



Starting “Guided Fault Finding“:

– Turn on the ignition.

– Touch “Guided Fault Finding“ on the screen.

– Select the following in this sequence:

- Brand
- Type
- Model year
- Version
- Engine code

– Confirm the information entered.

– Wait until the test has checked all control modules in the vehicle and has produced a testing plan.

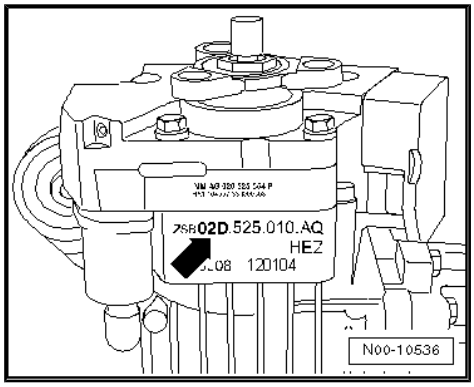
– Follow the test plan.

4.2 Haldex-Clutch (Generation Haldex II), Rear Final Drive 02D/0AV, Checking Functions

Note

The ID -arrow- on the bottom side of the final drive identifies which final drive is installed.

Example of the ID on a Final Drive “02D“



⇒ “4.2.1 Final Drive 02D and 0AV, Function Test for Opened Haldex Clutch, Manual Transmission“, page 46

⇒ “4.2.2 Final Drive 02D and 0AV, Function Test for Closed Haldex Clutch, Manual Transmission“, page 47

⇒ “4.2.3 Final Drive 02D and 0AV, Function Test for Opened Haldex Clutch, S-Tronic Transmission“, page 47

⇒ “4.2.4 Final Drive 02D and 0AV, Function Test for Closed Haldex Clutch, S-Tronic Transmission“, page 48

Before servicing the Haldex clutch, determine the cause of the damage as exact as possible using the vehicle diagnosis, testing and information system in “Guided Fault Finding“, “OBD“ and “Test Instruments“.

Refer to
⇒ “4.1 Vehicle Diagnosis Tester , Connecting and Checking“, page 45

4.2.1 Final Drive 02D and 0AV, Function Test for Opened Haldex Clutch, Manual Transmission

Test Prerequisites

- Haldex clutch fluid level OK
- Check fluid level in Haldex clutch, refer to
⇒ “1.4.1 Oil Level in the Haldex Clutch, Checking“, page 20 .
- Correct Engine Control Module (ECM) and ABS control module installed (check coding and control module identification number).

– Place vehicle on lift.

Caution

For safety reasons, vehicle must be placed on lift so that the wheels do not have any contact with floor.

Be careful when testing to prevent damage.

– Press clutch pedal.

– Start the engine.

– Press clutch pedal, engage 1st gear and accelerate slowly.

All 4 wheels must turn.

– Set the parking brake.

Rear wheels must come to a standstill while front wheels continue to turn.

- Do not turn rear wheels:

Haldex clutch is open, function is OK.

- Turn the rear wheels:

The Haldex clutch is closed. Possible cause of malfunction:

- Main pressure control valve can stick
- Mechanical Haldex clutch malfunction

- All Wheel Drive (AWD) control module -J492- at rear final drive faulty
- Parking brake indicator lamp switch -F9- faulty

4.2.2 Final Drive 02D and 0AV, Function Test for Closed Haldex Clutch, Manual Transmission

Test Prerequisites

- Haldex clutch fluid level OK
- Check fluid level in Haldex clutch, refer to ⇒ “1.4.1 Oil Level in the Haldex Clutch, Checking“, page 20 .
- Correct Engine Control Module (ECM) and ABS control module installed (check coding and control module identification number).

– Place vehicle on lift.

Caution

For safety reasons, vehicle must be placed on lift so that wheels do not have any contact with floor.

Be careful when testing to prevent damage.

– Press clutch pedal.
– Start the engine.
– Depress the clutch pedal and shift into 2nd gear.
– Engage parking brake and allow clutch pedal to slowly return.

Engine Must Run Out.

- If engine runs out:

Haldex clutch is closed, function is OK.

- If engine does not run out:

Haldex clutch is open. Possible cause of malfunction:

- Main pressure regulating valve may be sticking
- Mechanical Haldex clutch malfunction
- All Wheel Drive (AWD) Control Module -J492- at rear final drive faulty

4.2.3 Final Drive 02D and 0AV, Function Test for Opened Haldex Clutch, S-Tronic Transmission

Test Prerequisites

- Haldex clutch fluid level OK
- Check fluid level in Haldex clutch, refer to ⇒ “1.4.1 Oil Level in the Haldex Clutch, Checking“, page 20 .
- Correct Engine Control Module (ECM) and ABS control module installed (check coding and control module identification number).

– Place vehicle on lift.

Caution

For safety reasons, vehicle must be placed on lift so that wheels do not have any contact with floor.

Be careful when testing to prevent damage.

– Start the engine.

– Engage D gear and depress gas pedal slightly.

All 4 Wheels Must Turn.

– Set the parking brake.

Rear Wheels Must Come to a Standstill While Front Wheels Continue to Turn.

• Do not turn rear wheels:

Haldex clutch is open, function is OK.

• Turn the rear wheels:

The Haldex clutch is closed. Possible cause of malfunction:

- Main pressure regulating valve may be sticking
- Mechanical Haldex clutch malfunction
- All Wheel Drive (AWD) control module -J492- at rear final drive faulty
- Parking brake indicator lamp switch -F9- faulty

4.2.4 Final Drive 02D and 0AV, Function Test for Closed Haldex Clutch, S-Tronic Transmission

Test Prerequisites

- Haldex clutch fluid level OK
- Check fluid level in Haldex clutch, refer to ⇒ “1.4.1 Oil Level in the Haldex Clutch, Checking“, page 20 .
- Correct Engine Control Module (ECM) and ABS control module installed (check coding and control module identification number).

– Place vehicle on lift.

Caution

For safety reasons, vehicle must be placed on lift so that wheels do not have any contact with floor.

Be careful when testing to prevent damage.

– Start the engine.

– Engage D gear and move from brake pedal.

All 4 wheels must turn.

– Set the parking brake.

– Press accelerator slightly.

A noticeable acceleration against parking brake must be felt or seen.

- If acceleration is detected:

Haldex clutch is closed, function is OK.

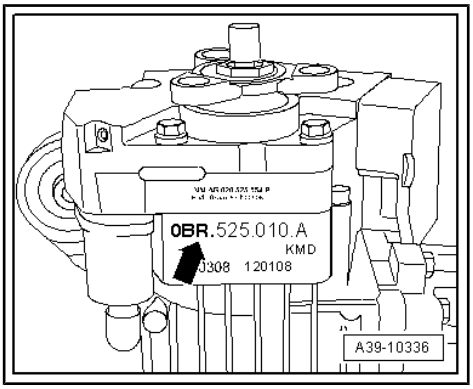
- If acceleration is not detected:

Haldex clutch is open. Possible cause of malfunction:

- Main pressure regulating valve may be sticking
- Mechanical Haldex clutch malfunction
- All Wheel Drive (AWD) control module -J492- at rear final drive faulty

4.3 Haldex-Clutch (Generation Haldex IV), Rear Final Drive 0BR, 0BS and 0BY, Checking Functions

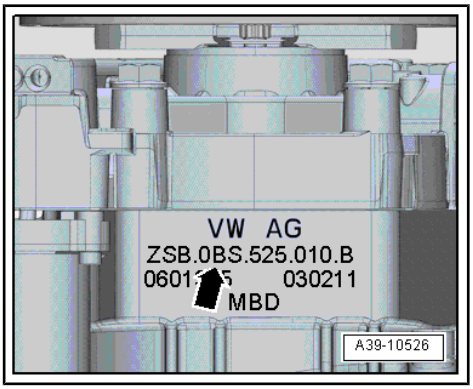
Identification on Rear Final Drives "0BR" and "0BY"



Note

- *The ID -arrow- on the bottom side of the final drive identifies which final drive is installed.*
- *The Haldex clutch test is performed during a road test with the vehicle diagnosis tester .*

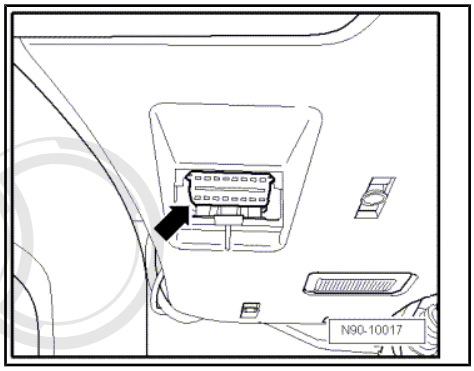
Rear Final Drive Designation "0BS"



WARNING

To prevent possible injury when performing measuring tests or test drives, always refer to ⇒ "1.6 Safety Precautions", page 7 .

– Connect the vehicle diagnosis tester with the ignition on the Data Link Connector (DLC) turned off.



Installed location: Front left footwell, near hood opener.

Enter “Guided Fault Finding“:

– Turn on the ignition.

– Touch “Guided Fault Finding“ on the screen.

– Select the following in this sequence:

♦ Brand

♦ Type

♦ Model year

♦ Version

♦ Engine code

♦ Confirm the information entered.

♦ 22 - AWD electronics

♦ 22 - Output Diagnostic Test Mode

– Start the output diagnostic test mode and follow the instructions on the tester.

5 Removal and Installation

5.1 All Wheel Drive Control Module -J492- , Rear Final Drive 02D/0AV (Haldex-Clutch Generation II)

Special tools and workshop equipment required

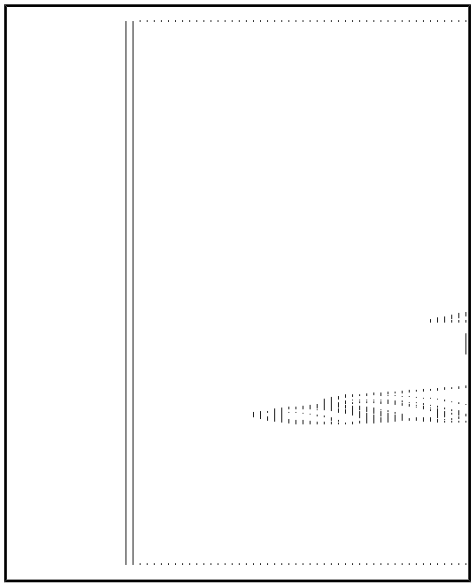
- Torque Wrench 5-50 Nm -V.A.G 1331-
- Drip Tray for VAS 6100 -VAS 6208-

Removing

Note

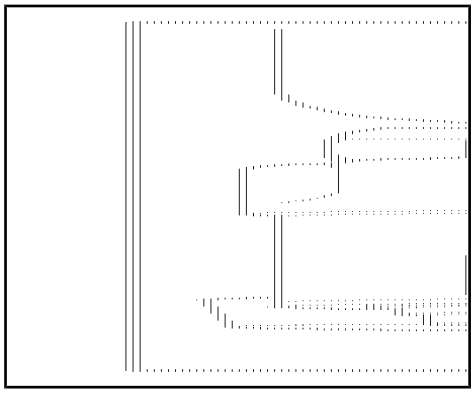
When removing control module -1-, cover -2- and plate spring -5- are removed together. Pressure sensor -4- and valve -3- are removed separately.

– Turn off the ignition.



– Disconnect the harness connectors -1 and 2- at the upper control module.

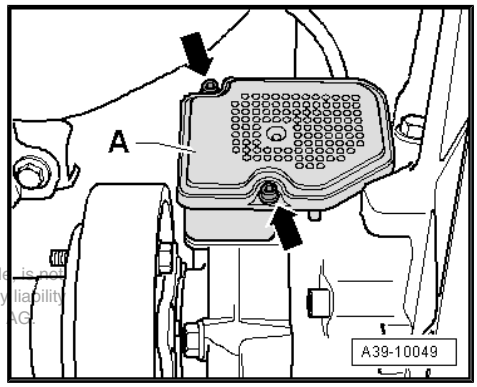
– Place drip tray under final drive.



– Remove the bolts -arrows-.

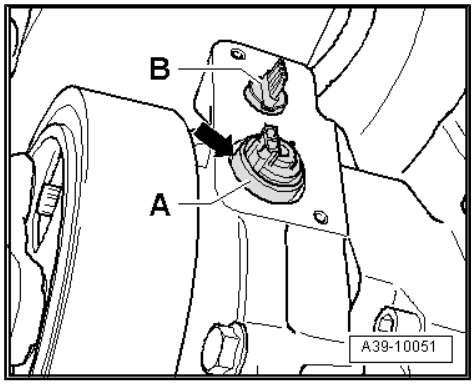
Make sure no parts fall down when removing the control module.

– Carefully remove the control module -A-.

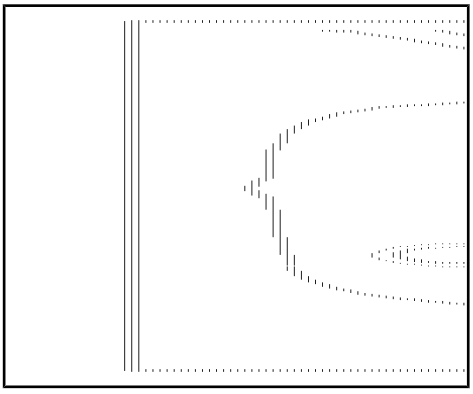


– Carefully grasp the Haldex clutch control valve -N373- - A- with pliers on the metal housing -arrow- and remove.

– Remove the pressure sensor -B-.



– Remove Haldex clutch control valve seal -arrow- from housing.

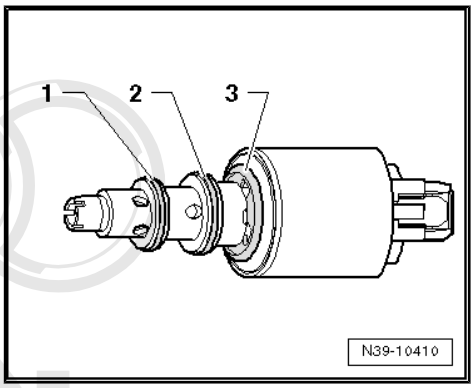


Installing

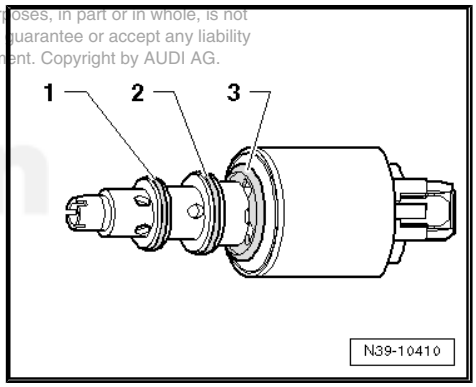
Install in reverse order of removal.

Note

- *Install the seal coated with high performance oil for the Haldex clutch.*
- *The valve sealing rings have different internal diameters.*
- -1- internal - diameter 11 mm
- -2- internal - diameter 12 mm
- -3- sealing ring on the valve body



– First, place the seal -1- onto the Haldex clutch control valve.
– Then sealing ring -2 and 3-.
– Press the centering lips (quantity 4) of the sealing ring -3- into the groove.

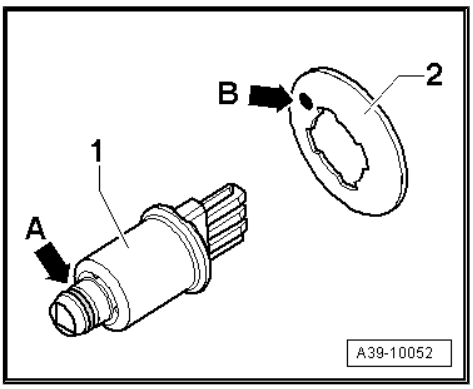


– Replace the O-ring -arrow A- on pressure sensor.

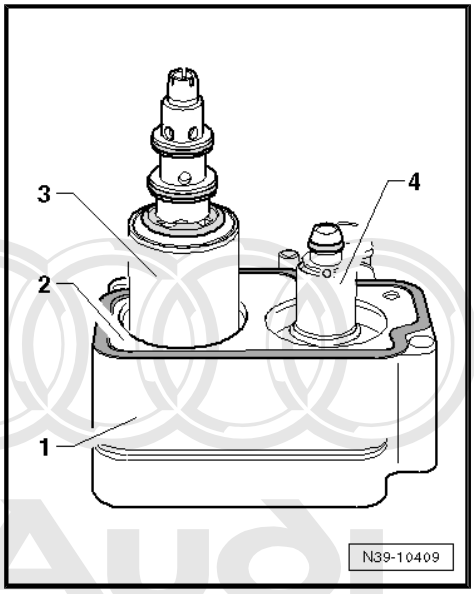
Note

Marking -arrow B- on convex side of plate spring -2- faces upward and toward pressure sensor -1- in installation location.

– Place plate spring -2- with convex side on pressure sensor -1-.



– Place the new cover -2- on the control module -1-.



Note

The cover fits in one position only.

– Insert the Haldex clutch control valve -3- into the control module -1-.

Note

The valve only fits in one position.

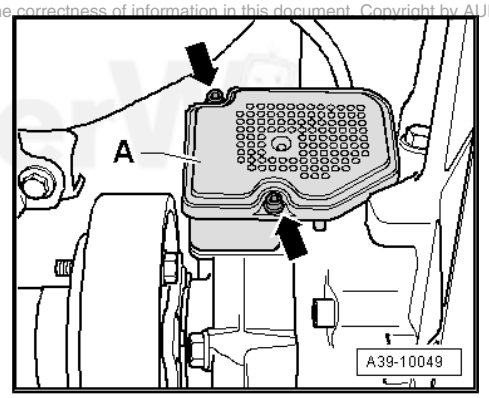
– Insert the oil pressure/temperature sensor -G437- -4- and plate spring into the control module -1-.

Note

The sensor fits in one position only.

– Carefully position the control module -A- and tighten the bolts -arrows- to the tightening specification ⇒ Item 2 (page 27) .

– Check oil level in Haldex clutch. Refer to ⇒ “1.4.1 Oil Level in the Haldex Clutch, Checking“, page 20 .



5.2 AWD Control Module -J492- , Rear Final Drive 0BR, 0BS and 0BY (Haldex-Clutch Generation IV)

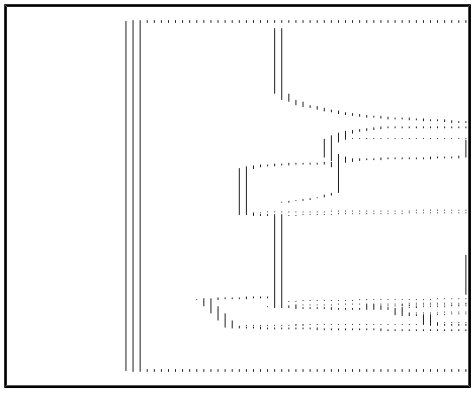
Special tools and workshop equipment required

- 4 mm Allen wrench
- Torque Wrench -V.A.G 1783-
- Drip Tray for VAS 6100 -VAS 6208-

– Turn off the ignition.

– Disconnect the harness connectors -1 and 2- at the upper control module.

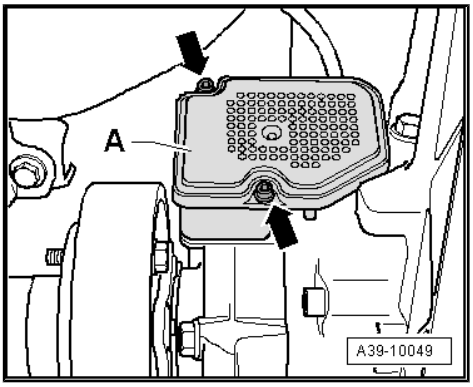
– Place drip tray under final drive.



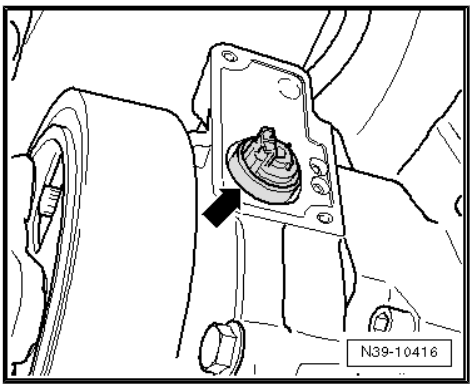
Note

It is useful to have large enough tool trolley and some cloths nearby on which removed parts can be placed.

– Remove the bolts -arrows-.
– Carefully remove the control module -A-.



– Remove the cover ⇒ Item 3 (page 29) from the Haldex clutch housing if necessary. Continue holding the valve -arrow-.
– Cover the Haldex clutch control valve -N373- -arrow- with a cloth; grab the valve body with pliers and remove it.



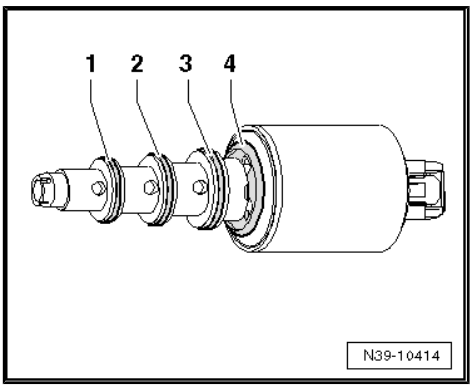
Installing

Installation is performed in the reverse order of removal while observing the following:

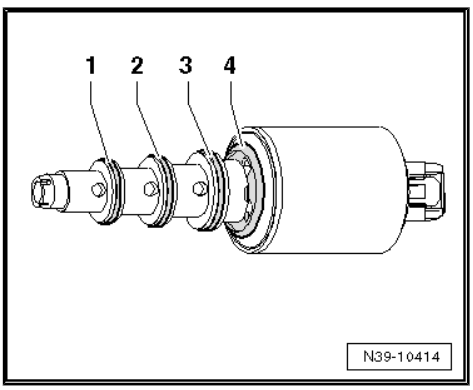
Note

The valve sealing rings have different internal diameters.

- -1- internal - diameter 10 mm
- -2- internal - diameter 11 mm
- -3- internal - diameter 12 mm
- -4- sealing ring on the valve body



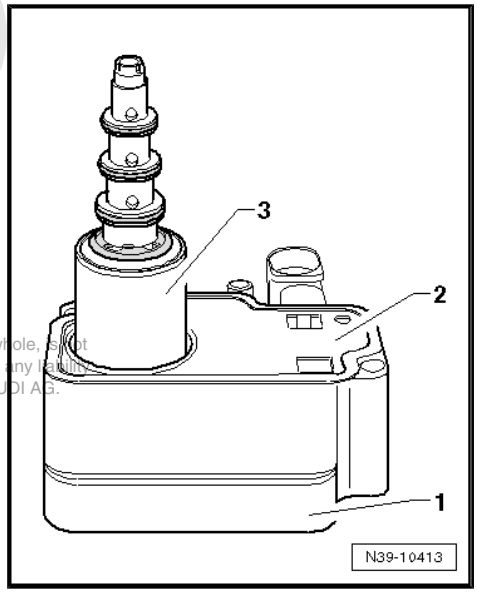
– First coat the sealing ring -1- with Haldex oil and mount it on the Haldex clutch control valve.
– Then sealing ring -2, 3 and 4-.
– Press the centering lips (quantity 4) of the sealing ring -4- into the groove.



– Place the new cover -2- on the control module -1-.

Note

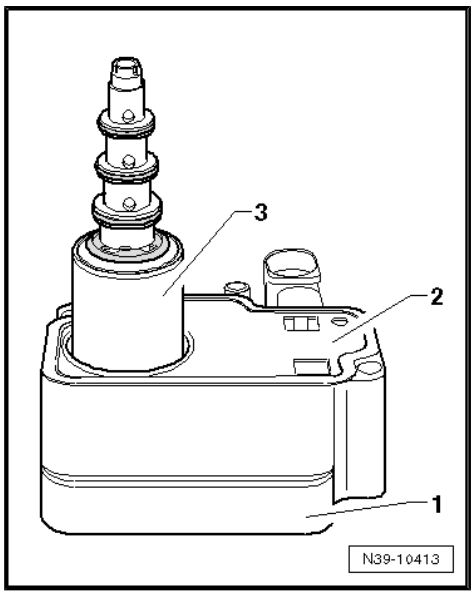
The cover fits in one position only.



– Insert the Haldex clutch control valve -3- into the control module -1-.

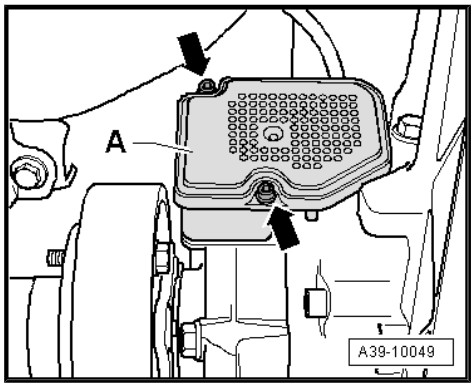
Note

The valve only fits in one position.



– Carefully position the control module -A- and tighten the bolts -arrows- to the tightening specification ⇒ Item 2 (page 29) .

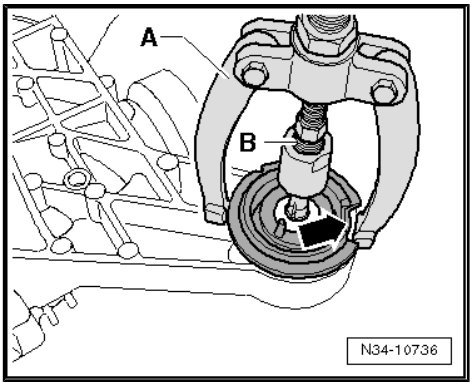
– Check oil level in Haldex clutch, refer to ⇒ “1.4 Haldex Clutch Oil Level, Checking or Filling“, page 20 .



5.3 Bonded Rubber Bushing

Special tools and workshop equipment required

- Locking Pin -30 - 505-
- Arbor Thrust Piece -VW 554-
- Bushing Puller -3128-
- Assembly Tool -T40033/1-
- Traverse -T10030/5-
- Component Part for 3346 Tool -3346/2-
- Nut -3346/3-
- Internal Puller -Kukko 21/1-
- Counter-Support -Kukko 22/1-



Removing the "Upper Rear" Bonded Rubber Bushing

A - Counter-support , for example, -Kukko 22/1-

B - Internal puller 12 to 16 mm , for example, -Kukko 21/1-

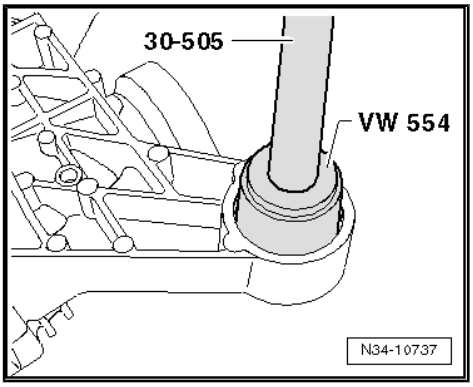
– A piece must be broken out of the bonded rubber bushing collar -arrow- to attach the support .

– Insert the extractor in the separating gap between the upper and lower bonded rubber bushing and brace it.

Driving Out the "Lower Rear" Bonded Rubber Bushing

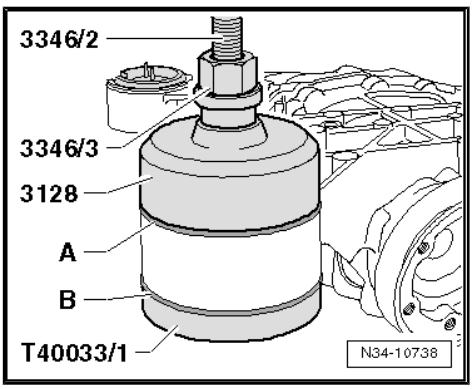
Note

If the bonded rubber bushing should be replaced separately, it can be removed with the support such as the -Kukko 22/1- and the extractor 12 to 16 mm such as the -Kukko 21/1- . Refer to ⇒ Fig. ""Removing the Upper Rear Bonded Rubber Bushing"" , page 57 .



Pulling in the "Upper Rear" -A- and "Lower Rear" -B- Bonded Rubber Bushings

– Lay a washer with an internal diameter of 15 mm and an outer diameter of a minimum of 27 mm on the -3346/2- before it is installed.



Removing the “Lower Front“ Bonded Rubber Bushing

– To prevent oil from leaking out of the final drive in the following step, seal off both vent pipes.

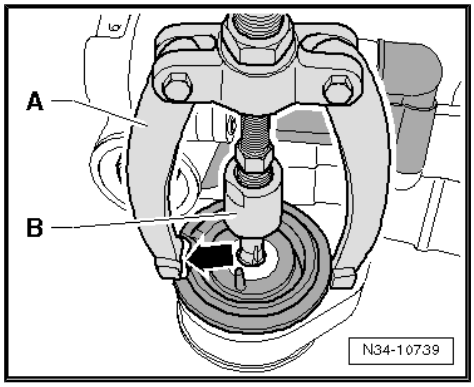
– Place the final drive on the workbench with the upper section down and remove the bonded bushing:

A - Counter-support , for example, -Kukko 22/1-

B - Internal puller 12 to 16 mm , for example, -Kukko 21/1-

– A piece must be broken out of the bonded rubber bushing collar -arrow- to attach the support .

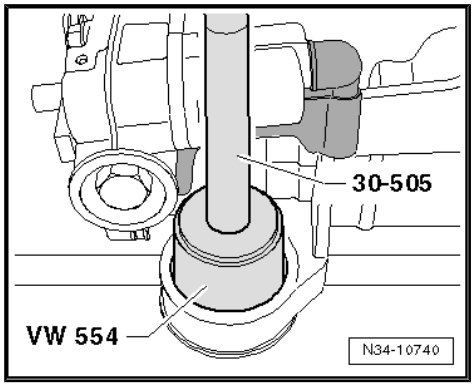
– Insert the extractor in the separating gap between the upper and lower bonded rubber bushing and brace it.



Driving Out the “Upper Front“ Bonded Rubber Bushing

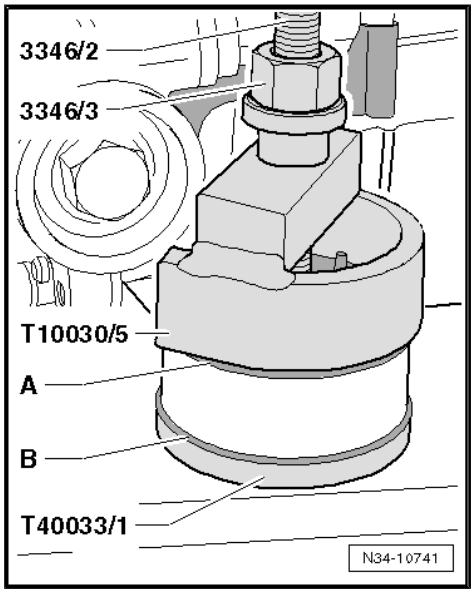
Note

If the bonded rubber bushing should be replaced separately, it can be removed with the support such as the -Kukko 22/1- and the extractor 12 to 16 mm such as the -Kukko 21/1- . Refer to ⇒ Fig. ““Removing the Lower Front Bonded Rubber Bushing “” , page 58 .



Pulling in the “Lower Front“ -A- and “Upper Front“ -B- Bonded Rubber Bushings

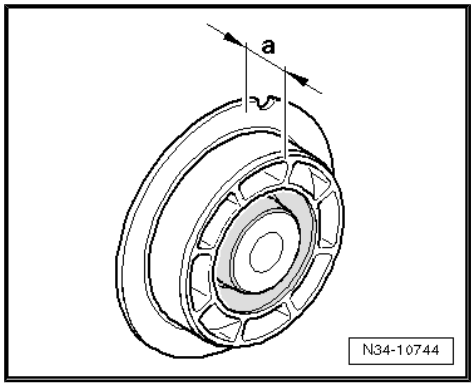
– Lay a washer with an internal diameter of 15 mm and an outer diameter of a minimum of 27 mm on the -3346/2- before it is installed.



Differentiation of the “Upper Rear“ and “Lower Front“ Bonded Rubber Bushings

The “upper rear“ and “lower front“ bonded rubber bushings can be differentiated.

Dimension “a“ mm	Bonded Rubber Bushing
22	“upper rear“
17	“lower front“

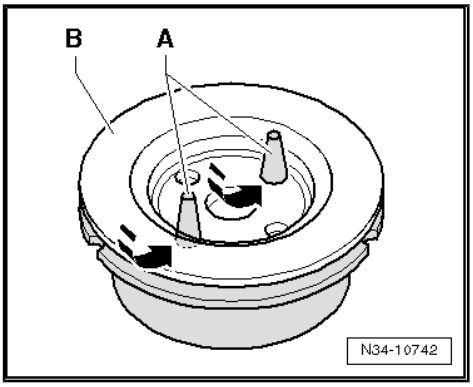


Installation Location of the “Upper Rear“ and “Lower Front“ Bonded Rubber Bushing. Installation of the Buffer -B-

- Final drive in its installed position

Installation Location of the “Upper Rear“ and “Lower Front“ Bonded Rubber Bushing:

- The “upper rear“ bonded rubber bushings ⇒ Item 2 (page 30) are positioned with the pins -A- facing up.
- The “lower front“ bonded rubber bushings ⇒ Item 5 (page 30) are positioned with the pins -A- facing down.



Installation of the buffer -B-

– Pull the pins -A- into the buffer holes -arrows-.

The buffer -B- is then connected to the bonded rubber bushing and cannot be lost.

5.4 Final Drive 02D and 0AV, Haldex Clutch Grooved Ball Bearing

Special tools and workshop equipment required

- Thrust Plate -VW 402-
- Thrust Disc -VW 412-
- Thrust Pad 16.5/28 mm Dia. -VW 431-
- Thrust Tube -VW 454-
- Tube -3296-
- Mounting Universal Joint -41 - 501-
- Wrench -VW 278 B-
- Subframe Support Assembling Device -T10030/6-
- Hot Air Blower -V.A.G 1416-
- Extractor Lever -VW 681-
- Two Arm Puller -Kukko 20-20-
- Thrust Piece -T10019-
- Counter Support -3415-

Caution

Risk of damaging decoupling elements.

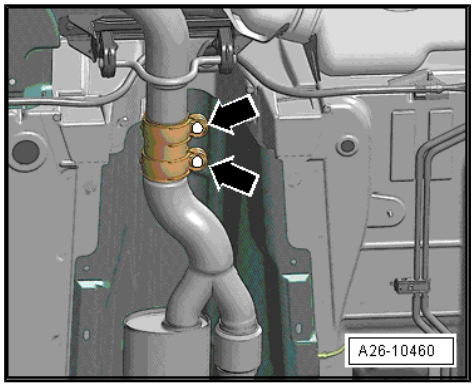
- *Do not bend decoupling elements in front exhaust pipe more than 10°.*

– Separate the exhaust system at the clamping sleeve -arrows-.

– Tie the front exhaust pipe to the underbody.

– Remove the exhaust system rear section. Refer to ⇒ Engine Mechanical; Rep. Gr. 26 ; Description and Operation .

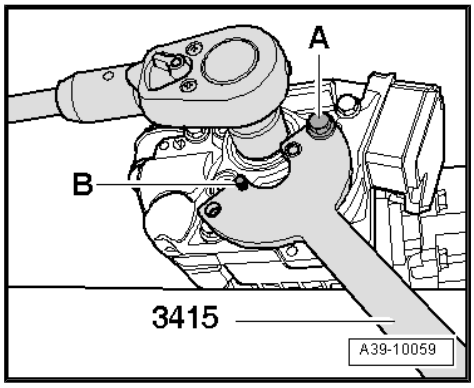
– Remove the rear flexible disc. Refer to ⇒ “5.14 Rear Flexible Disc“, page 88 .



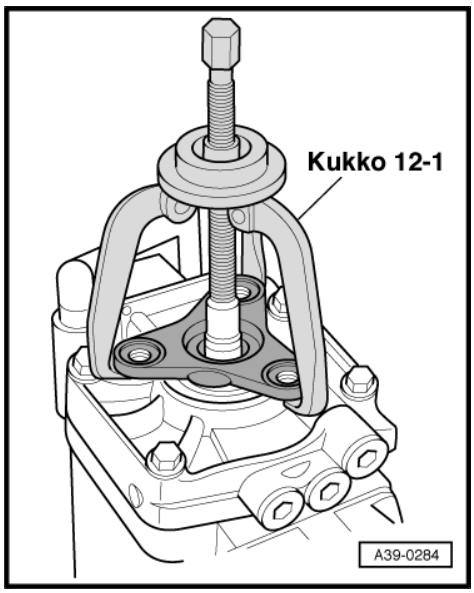
– Remove the flange/driveshaft hex nut.

A - Hex head bolts M10 x 25

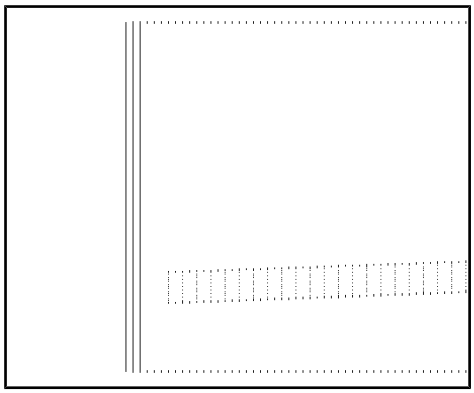
B - Socket hex head bolt M8 x 15 (installed from rear in bracket -3415-)



– Remove the driveshaft flange. Use a three arm puller (for example, Kukko 12-1) if difficult to access.

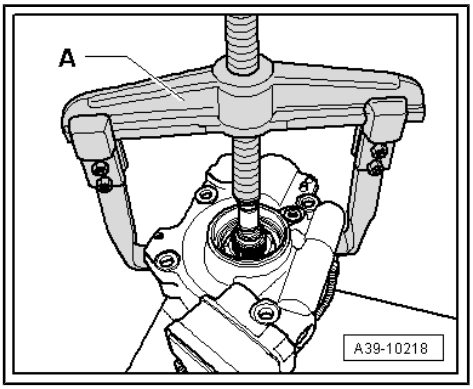


– Remove the seal using a -VW 681- .

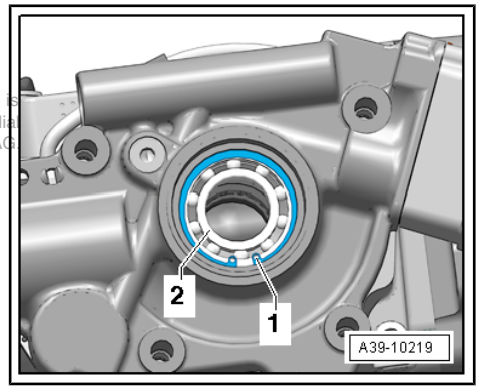


– Remove the Haldex clutch. Refer to
⇒ “5.6 Haldex Clutch, Final Drive Installed“, page 64 .
– Place the Haldex clutch on a clean workbench.
– Remove the Haldex clutch housing.

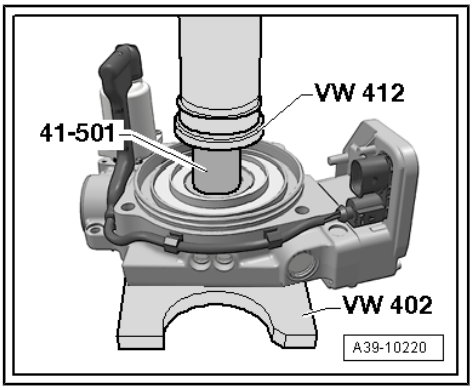
A - -Kukko 20-20-



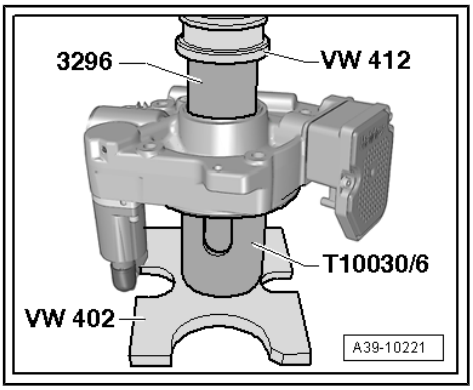
– Remove the circlip -1-.



– Remove the grooved ball bearing.

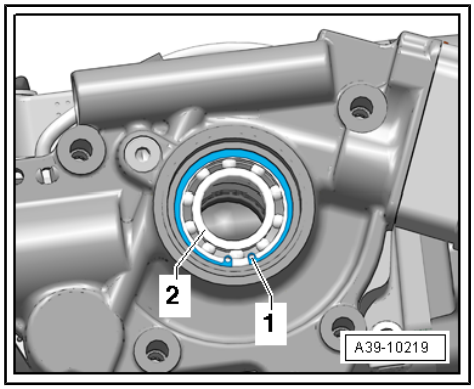


– Install the new grooved ball bearing all the way in.



– Install the locking ring -1-.

– Warm the grooved ball bearing -2- to approximately 80 °C (176 °F) using the -V.A.G 1416- .

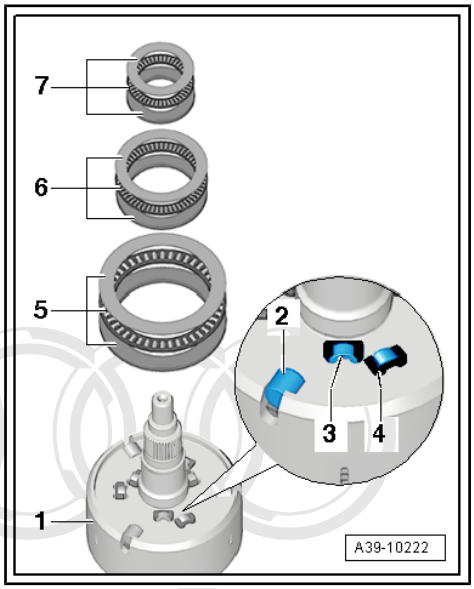


– Center the axial needle bearing -5 through 7- on the multidisc clutch -1-. Refer to
⇒ Fig. ““Clutch Plate Assembly““ , page 37 .

– Position the Haldex clutch housing by hand on the multidisc clutch -1-.

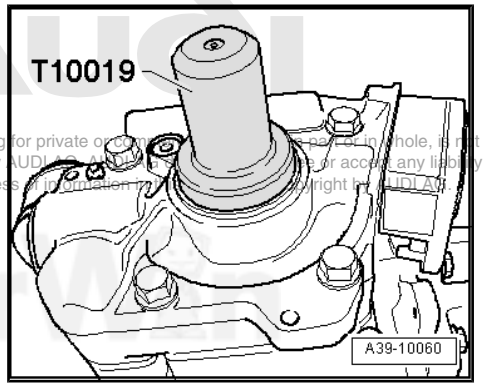
Note

The axial needle bearings -5 through 7- must not change their centered position when installing the housing.

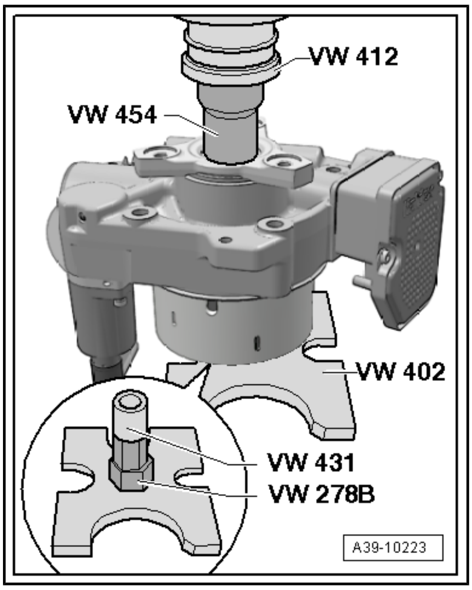


– Before installation, lightly coat the new sealing ring with the Haldex clutch high performance oil on the outside circumference and between the sealing lips.

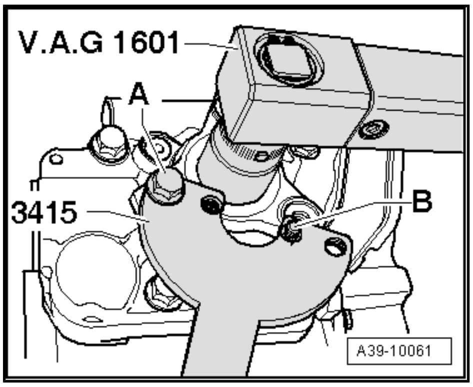
– Install the new sealing ring using -T10019- . Do not tilt the seal.



– Install the flange/driveshaft.



– Insert new hex nut with locking compound -D 000 600- and tighten. Tightening specification ⇒ Item 14 (page 36) .



A - Hex head bolts M10 x 20

B - Socket hex head bolt M8 x 15 (installed from rear in bracket -3415-)

– Haldex clutch, installing ⇒ page 65 .

– Install the rear flexible disc. Refer to ⇒ “5.14 Rear Flexible Disc“, page 88 .

– Install the exhaust system and align it. Refer to ⇒ Engine Mechanical; Rep. Gr. 26 ; Description and Operation .

– Reconnect exhaust system making sure it is not under stress. Refer to ⇒ Engine Mechanical; Rep. Gr. 26 ; Description and Operation .

– Add high performance Haldex clutch oil and check the oil level in the Haldex clutch. Refer to ⇒ “1.4.1 Oil Level in the Haldex Clutch, Checking“, page 20 .

5.5 Final Drive 02D and 0AV, Haldex Clutch Oil Filter

Special tools and workshop equipment required

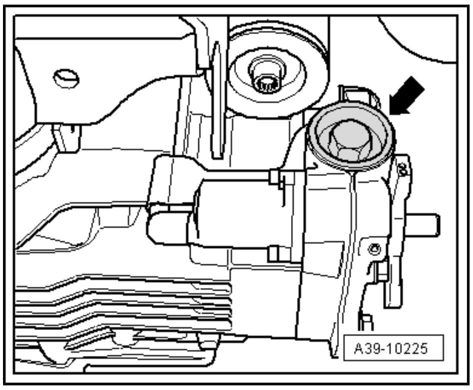
♦ Torque Wrench 5-50 Nm -V.A.G 1331-

♦ Drip Tray for VAS 6100 -VAS 6208-

Removing

– Place -VAS 6208- under final drive.

– Remove the sealing cap -arrow-.



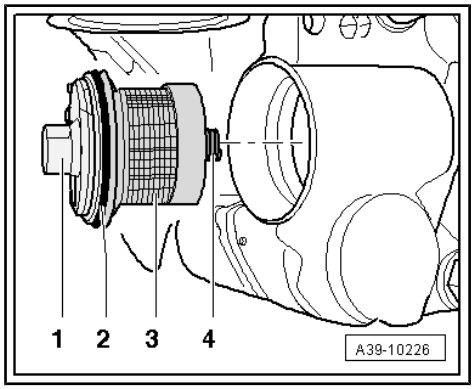
– Remove the oil filter unit.

Installing

Install in reverse order of removal.

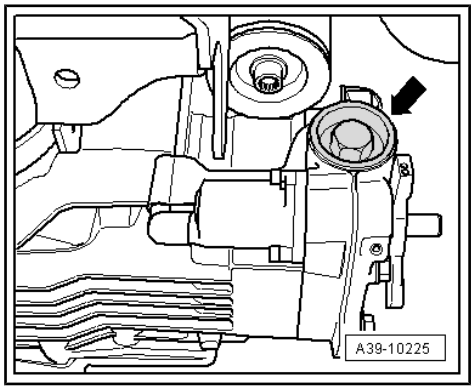
– Tighten the O-ring -2- on the oil filter carrier -1-.

– Insert the spring -4- into the oil filter -3-.



– Install the sealing cap -arrow- with the new O-ring and tighten. Tightening specification ⇒ Item 6 (page 35) .

– Check oil level in Haldex clutch. Refer to ⇒ “1.4.1 Oil Level in the Haldex Clutch, Checking“, page 20 .



5.6 Haldex Clutch, Final Drive Installed

Special tools and workshop equipment required

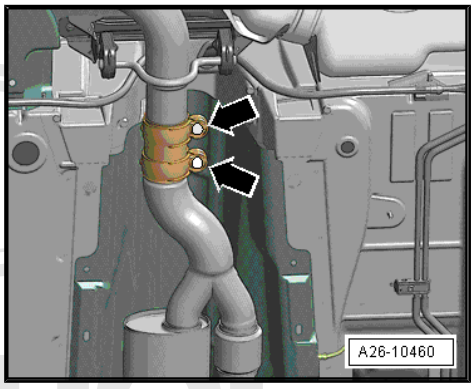
- Torque Wrench 5-50 Nm -V.A.G 1331-
- Drip Tray for VAS 6100 -VAS 6208-
- Engine/Transmission Jack -V.A.G 1383 A- with Universal Support -V.A.G 1359/2-
- Guide Pins -T10093-

Removing

Caution

Risk of damaging decoupling elements.

- *Do not bend decoupling elements in front exhaust pipe more than 10°.*



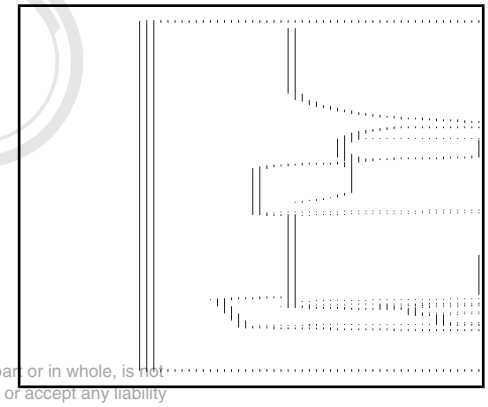
– Separate the exhaust system at the clamping sleeve -arrows-.

– Tie the front exhaust pipe to the underbody.

– Remove the exhaust system rear section. Refer to ⇒ Engine Mechanical; Rep. Gr. 26 ; Description and Operation .

– Remove the rear flexible disc. Refer to ⇒ “5.14 Rear Flexible Disc“, page 88 .

– Disconnect the harness connector -2- on the All Wheel Drive (AWD) control module -J492- .

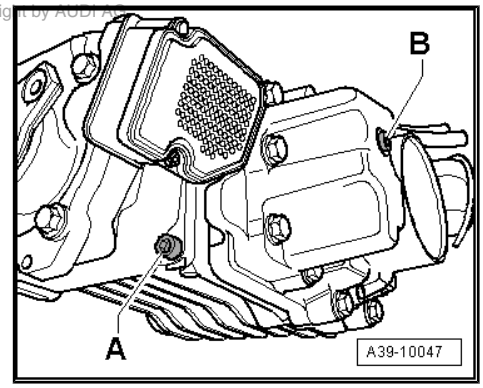


– Place -VAS 6208- under final drive.

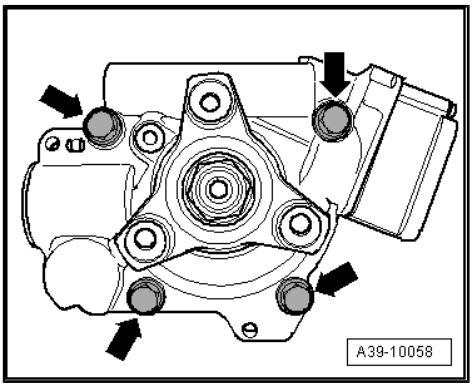
– Remove the drain plug -A- and completely drain the high performance Haldex clutch oil .

– Install the drain plug -A- with new sealing ring.

Bolt -A- tightening specification: 30 Nm



– Remove the fastening bolts -arrows- and remove the Haldex clutch from the rear final drive.

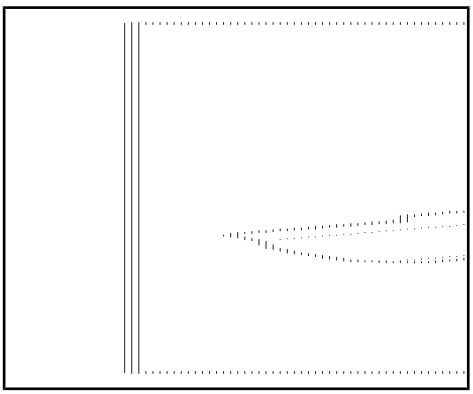


Haldex Clutch, Installing

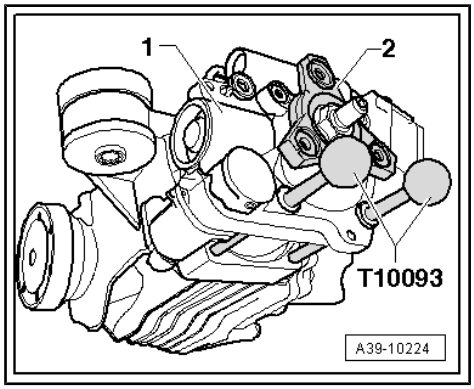
Install in reverse order of removal. Pay attention to the following:

– Remove the previous O-ring -arrow- from the Haldex clutch.

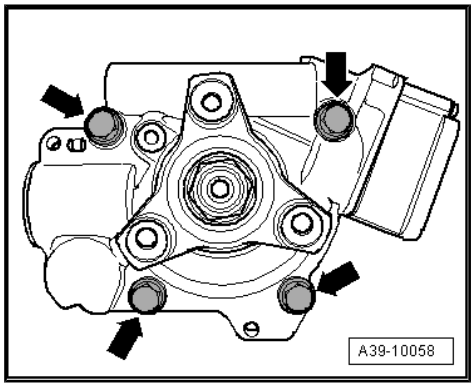
– Insert the new O-ring -arrow- and lightly lubricate with high performance Haldex clutch oil .



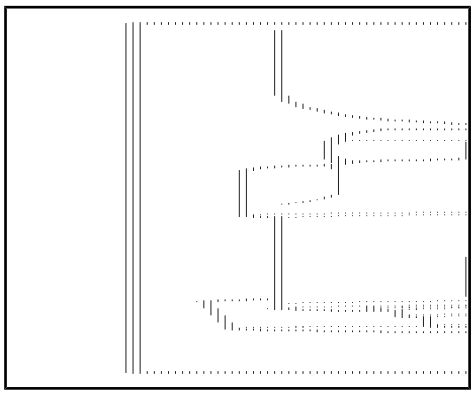
– Insert the Haldex clutch -1- in the rear final drive. Install -T10093- for exact guidance.
– Rotate at flange/driveshaft -2- and insert Haldex clutch all the way in.



– Tighten the bolts -arrows- to the tightening specification, refer to ⇒ Item 1 (page 39) .



– Connect the harness connector -2- to the AWD control module.
– Install the rear flexible disc. Refer to ⇒ “5.14 Rear Flexible Disc“, page 88 .
– Reconnect exhaust system making sure it is not under stress. Refer to ⇒ Engine Mechanical; Rep. Gr. 26 ; Description and Operation .
– Add high performance Haldex clutch oil and check the oil level in the Haldex clutch. Refer to ⇒ “1.4.1 Oil Level in the Haldex Clutch, Checking“, page 20 .



5.7 Haldex Clutch Pump -V181- , Final Drive 02D/0AV

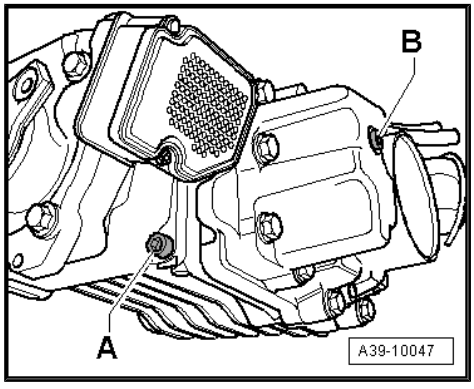
Special tools and workshop equipment required

- Torque Wrench 5-50 Nm -V.A.G 1331-
- Drip Tray for VAS 6100 -VAS 6208-

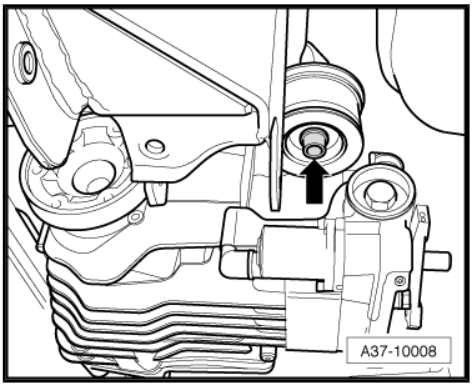
Removing

– Turn off the ignition.
– Place a drip tray underneath.
– Remove the drain plug -A- and completely drain the high performance Haldex clutch oil .
– Install the drain plug -A- with new sealing ring.

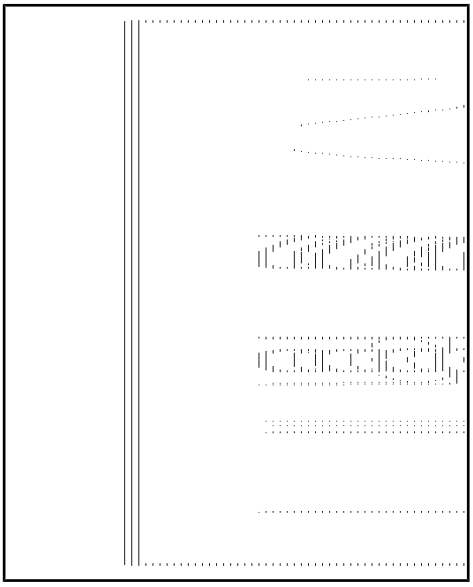
Bolt -A- tightening specification: 30 Nm



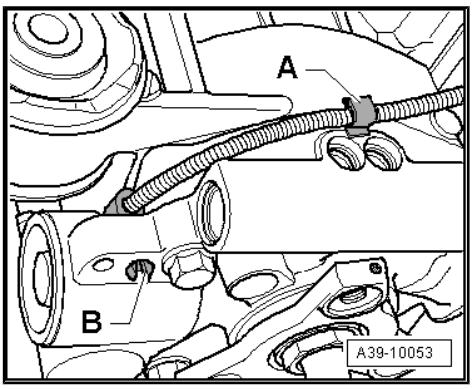
– Lower the final drive slightly. The fastening bolt -arrow- on the front final drive mounting bracket must be unscrewed approximately 7 turns for this purpose.



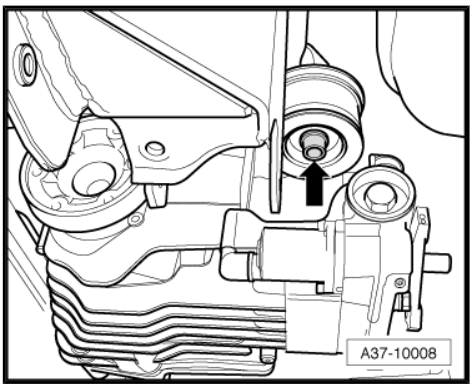
– Remove the pump connector -arrow- from the control module.



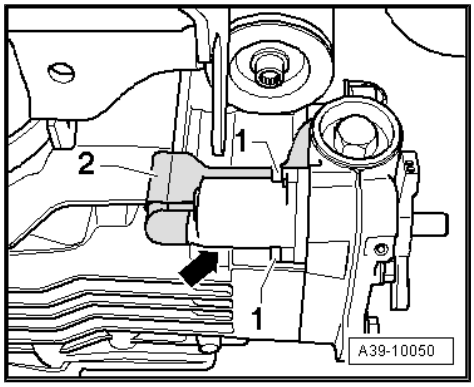
– Remove the wiring harness together with the bracket -A- from the housing and set aside.
– Press the retaining tabs -B- together as far as possible and slide into the housing hole.



– Hand tighten the fastening bolt -arrow- again.
– Place drip tray under final drive.



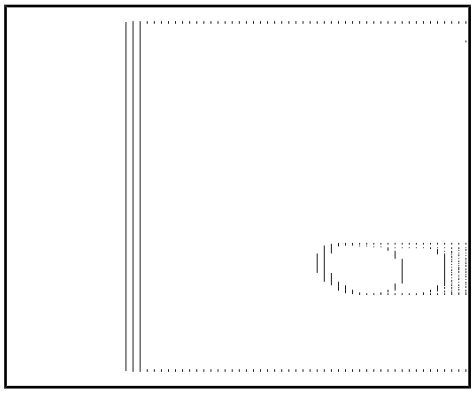
– Remove the fastening bolts of the pump -1-.
– Pull pump -arrow- out of Haldex clutch housing together with cable protection -2-.



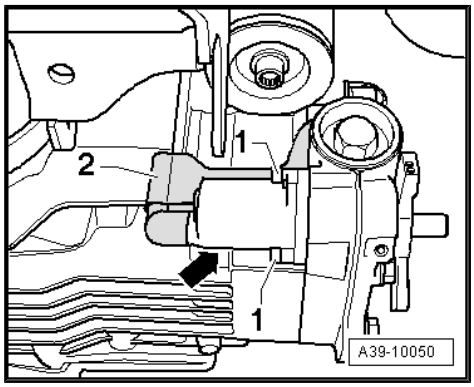
Installing

Install in reverse order of removal.

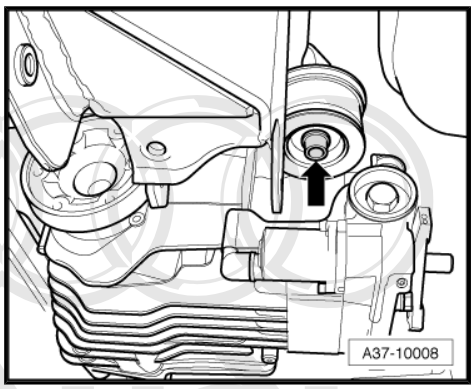
– Replace the O-rings -1 and 2-.
– Lightly coat the O-rings -1 and 2- with high performance Haldex clutch oil .



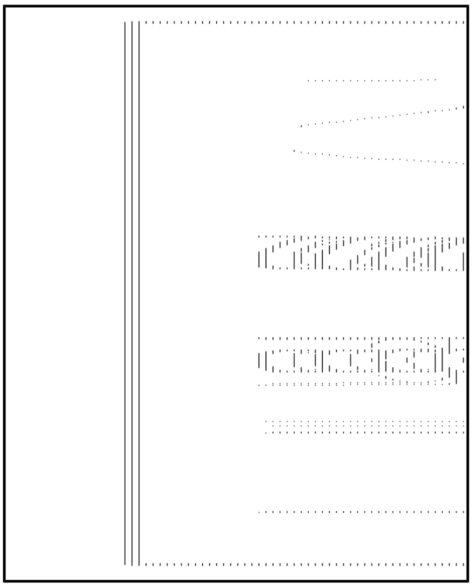
– Press the pump -arrow- in up to the stop. Make sure the cable protector -2- is routed correctly.
– Tighten the bolts -1-. Tightening specification ⇒ Item 2 (page 35) .



– Remove the fastening bolt -arrow- at the front mounting bracket.

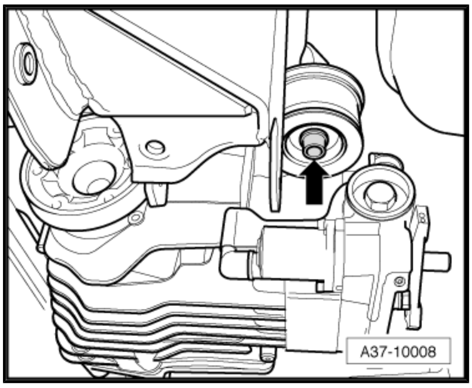


– Clip the wiring harness to the Haldex clutch securely and place the connector -arrow- on the control module.



– Secure rear final drive to subframe with a new bolt -arrow-. Tightening specification ⇒ Item 1 (page 41) .

– Add high performance Haldex clutch oil and check the oil level in the Haldex clutch. Refer to ⇒ “1.4.1 Oil Level in the Haldex Clutch, Checking“, page 20 .



5.8 Haldex Clutch Pump -V181- , Final Drive 0BR/0BS/0BY

Special tools and workshop equipment required

- ♦ Torque Wrench 5-50 Nm -V.A.G 1331-
- ♦ Drip Tray for VAS 6100 -VAS 6208-

Removing

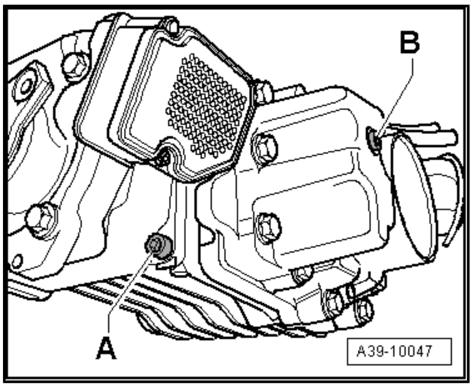
– Turn off the ignition.

– Place a drip tray underneath.

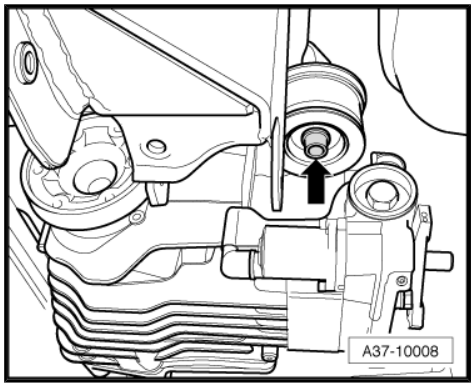
– Remove the drain plug -A- and completely drain the high performance Haldex clutch oil .

– Install the drain plug -A- with new sealing ring.

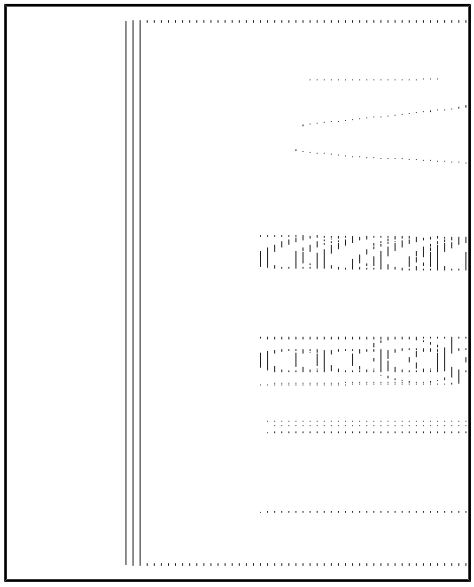
Bolt -A- tightening specification: 30 Nm



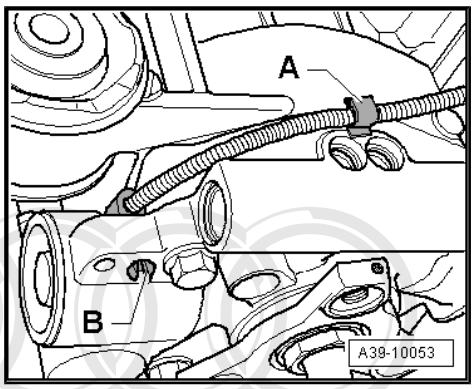
– Lower the final drive slightly. The fastening bolt -arrow- on the front final drive mounting bracket must be unscrewed approximately 7 turns for this purpose.



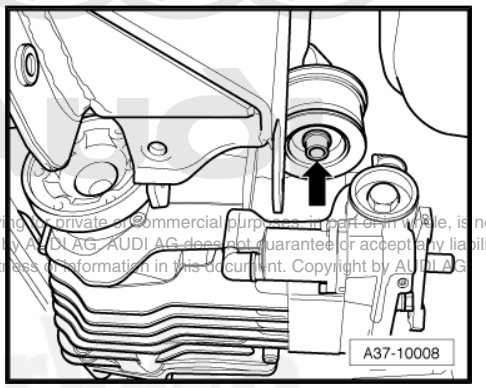
– Remove the pump connector -arrow- from the control module.



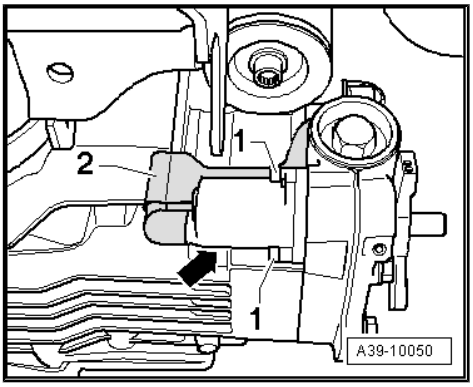
– Remove the wiring harness together with the bracket -A- from the housing and set aside.
– Press the retaining tabs -B- together as far as possible and slide into the housing hole.



– Hand tighten the fastening bolt -arrow- again.
– Place drip tray under final drive.



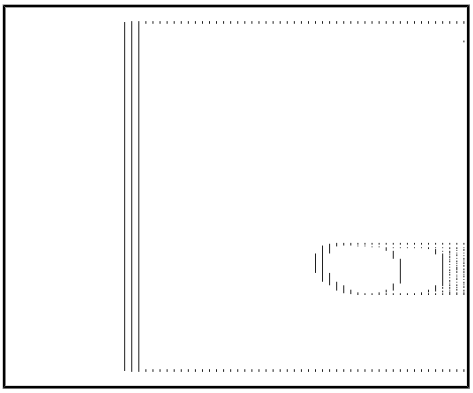
– Remove the fastening bolts of the pump -1-.
– Pull pump -arrow- out of Haldex clutch housing together with cable protection -2-.



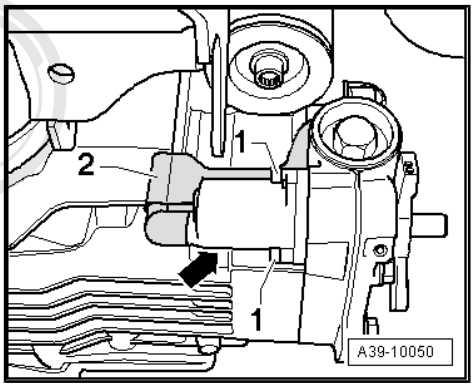
Installing

Install in reverse order of removal.

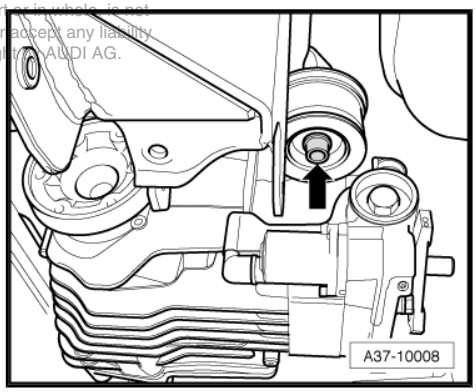
– Replace the O-rings -1 and 2-.
– Lightly coat the O-rings -1 and 2- with high performance Haldex clutch oil .



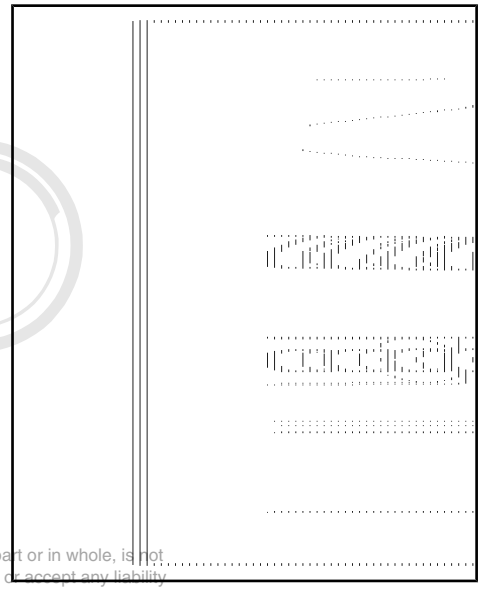
– Press the pump -arrow- in up to the stop. Make sure the cable protector -2- is routed correctly.
– Tighten the bolts -1-. Tightening specification ⇒ Item 13 (page 39) .



– Remove the fastening bolt -arrow- at the front mounting bracket.

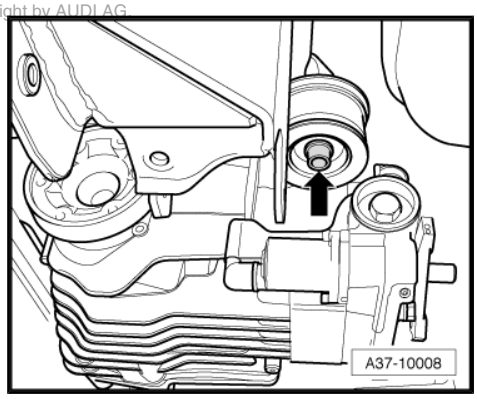


– Clip the wiring harness to the Haldex clutch securely and place the connector -arrow- on the control module.



– Secure rear final drive to subframe with a new bolt -arrow-. Tightening specification ⇒ Item 1 (page 41) .

– Add high performance Haldex clutch oil and check the oil level in the Haldex clutch. Refer to ⇒ “1.4.1 Oil Level in the Haldex Clutch, Checking“, page 20 .



5.9 Driveshafts

Special tools and workshop equipment required

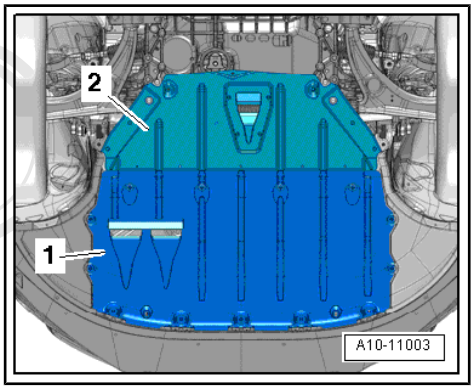
- Engine/Transmission Jack -V.A.G 1383 A-
- Counterhold Tool Touareg V10 -T10172- with Adapter -T10172/5-

Removing

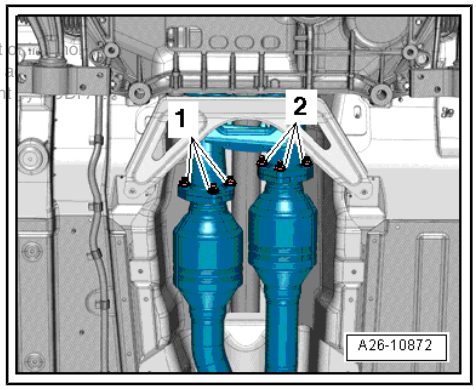
Note

- *Perform work on driveshaft on a two-column lift if possible.*
- *Mark the position of all the parts to each other before removing them. Install in the same position otherwise the imbalance will be excessive and the bearings could get damaged causing rumbling noises.*
- *Do not kink the driveshaft, only store and move when fully extended.*
- *Never let the driveshaft "just hang" during removal. Always support it.*
- *Always remove or install the driveshaft horizontally with respect to the drive flange.*

– Remove the noise insulation -1 and 2-. Refer to ⇒ Body Exterior; Rep. Gr. 50 ; Removal and Installation .



– Remove the catalytic converters. Refer to ⇒ Engine Mechanical; Rep. Gr. 26 ; Removal and Installation .



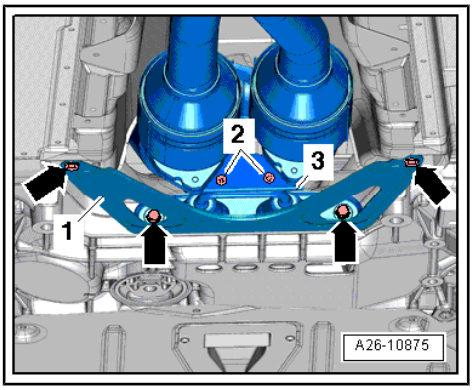
– Remove the bolts -arrows- and remove the crossbrace -1- if present.

– Remove the bolts -2- and remove the bracket -3-.

Caution

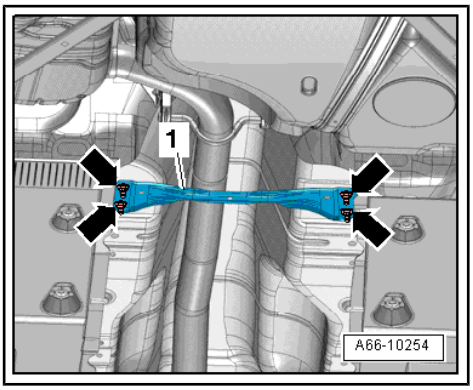
Danger of causing damage to the decoupling element inside the primary catalytic converter.

- ***Do not bend the decoupling element more than 10°.***

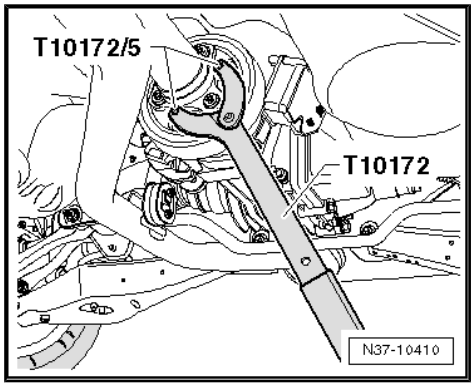


– Remove the crossmember on the underbody -1- if present. To do this, remove the nuts -arrows-.

– Remove the exhaust system rear section. Refer to ⇒ Engine Mechanical; Rep. Gr. 26 ; Description and Operation .



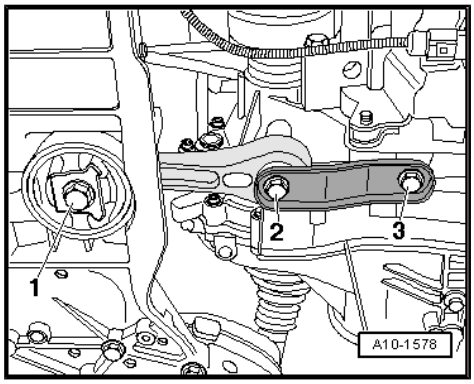
– Counterhold the rear final drive with the -T10172- and -T10172/5- when loosening or tightening the driveshaft.



– Remove the bolts -2 and 3- for the pendulum support.

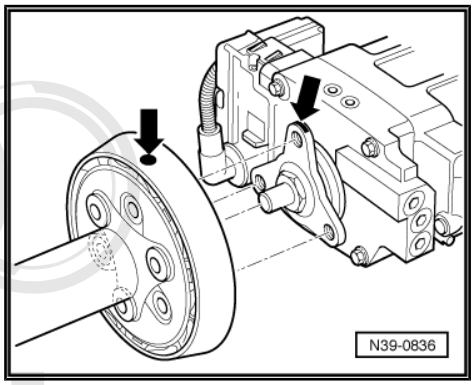
Note

Ignore -1-.

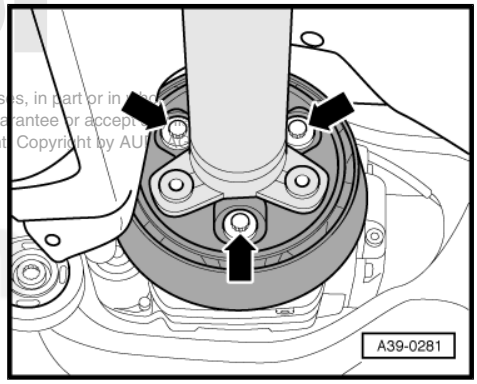


– Make sure there is a marking (a color dot) on the flexible disc and the driveshaft flange on the rear final drive -arrows-.

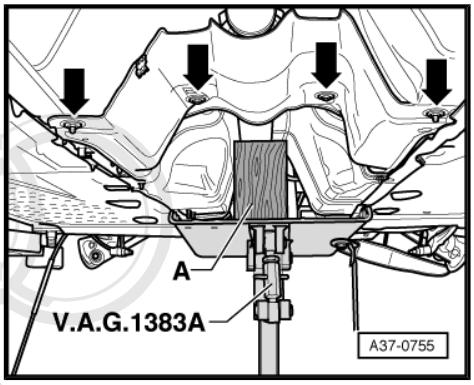
– If the marking is not there, then mark the position of the flexible disc to the driveshaft flange on the rear final drive.



– Counterhold using the -T10172- and remove the driveshaft bolts -arrows- from the rear final drive.



– Remove the bolts -arrows- for the center bearing and the heat shield. Then remove the heat shield.



Note

Ignore -A- and -V.A.G 1383 A- .

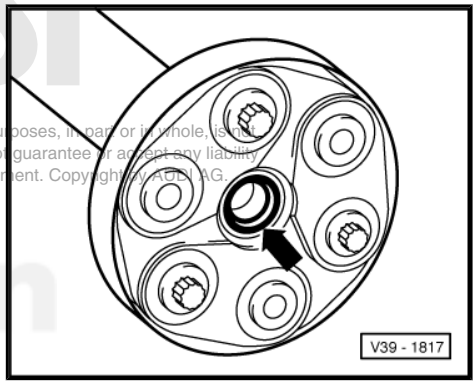
Note

A second technician is needed to help remove the driveshaft.

Caution

Danger of causing damage to the shaft seal -arrow- inside the driveshaft flange.

- ***Remove the driveshaft horizontally from the centering pins.***



Note

If seal is damaged, driveshaft must be replaced.

– Remove the driveshaft first from the centering pin on the rear final drive and then carefully from the centering pin on the bevel box.

Caution

Danger of causing damage to the boot inside the support.

- ***If possible, remove, install and store the driveshaft in its fully extended position.***

Installing

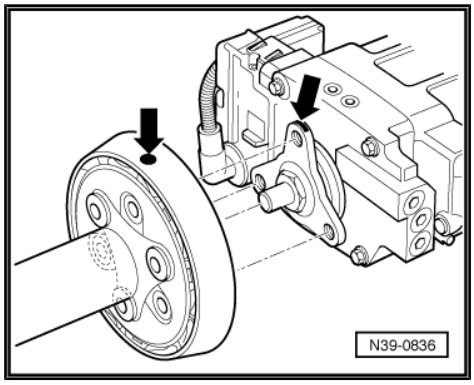
Install in reverse order, paying attention to the following:

- For the correct tightening specifications, refer to ⇒ “2.10 Driveshaft Overview“, page 40 .

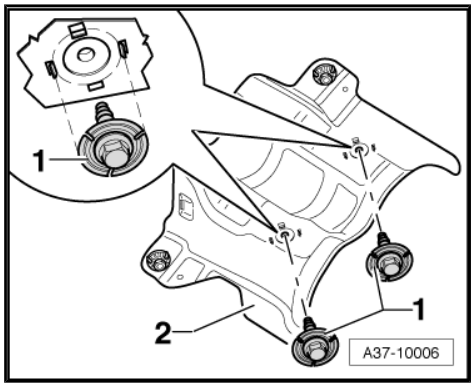
Note

Install all marked parts in their original position.

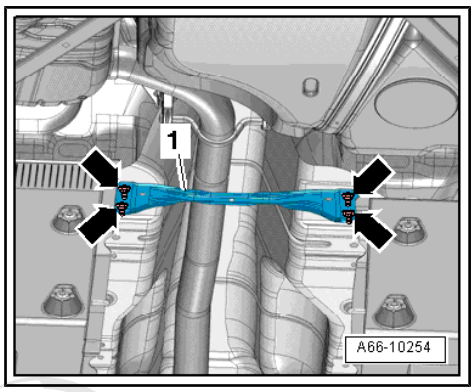
– Attach to the driveshaft to the rear final drive making sure the markings -arrows- are lined up.



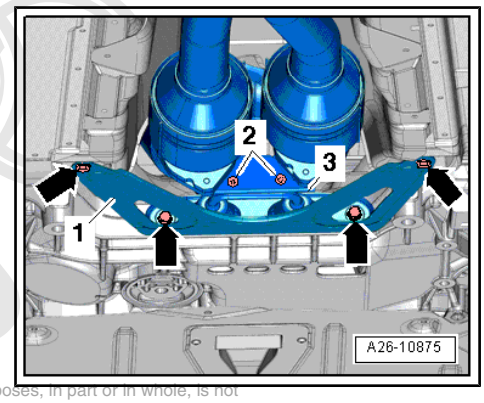
– Install the bolts -1- for the center bearing but do not tighten them.
– Tighten the bolts for attaching the driveshaft flexible disc to the bevel box and to the rear final drive.
– Align the center bearing in the oblong holes so that neither the driveshaft nor the center bearing are under stress.
– Tighten the bolts -1-.
• The bolts must fit inside the tabs on the heat shield.
– Install pendulum support. Refer to ⇒ S-Tronic Transmission; Rep. Gr. 34 ; Removal and Installation .



– Install rear exhaust system. Refer to ⇒ Engine Mechanical; Rep. Gr. 26 ; Description and Operation
– Tighten the crossmember on the underbody -1- if present. Tightening specification: 23 Nm.



– Install the catalytic converters, mount -3- and the crossbrace -1- if equipped. Refer to ⇒ Engine Mechanical; Rep. Gr. 26 ; Removal and Installation .
– Install the noise insulation. Refer to ⇒ Body Exterior; Rep. Gr. 50 ; Removal and Installation .



5.10 Driveshaft with Separable Center Support, through 05.07, Removing

Special tools and workshop equipment required

◆ Engine/Transmission Jack -V.A.G 1383 A- with Universal Support -V.A.G 1359/2-

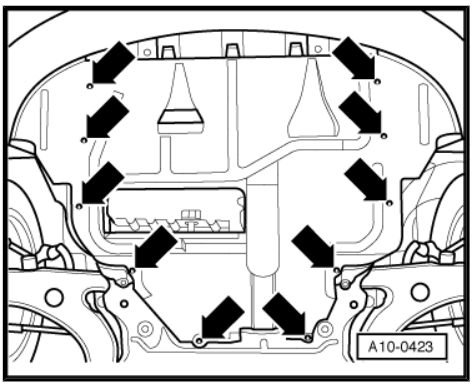
Removing

Note

- *A twin-pillar lifting platform should be used when working on the driveshaft.*
- *Mark the position of all the parts to each other before removing them. Install in the same position otherwise the imbalance will be excessive and the bearings could get damaged causing rumbling noises.*
- *Do not kink the driveshaft, only store and move when fully extended.*

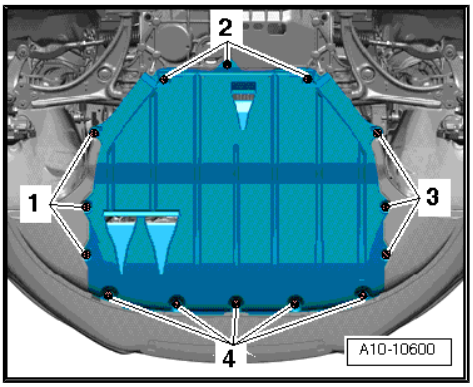
Audi A3

– Remove the noise insulation -arrows-.



Audi TT

– Remove the center noise insulation fasteners -1 to 4-.

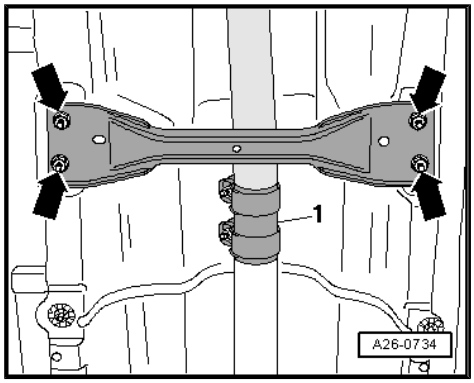


Vehicles with 4-Cylinder Engine:

– Remove the crossmember for the underbody -arrows-, if equipped.

– Disconnect exhaust system at double clamp -1-.

– Tie the front exhaust pipe to the underbody.



Caution

Risk of damaging decoupling elements.

- ***Do not bend decoupling elements in front exhaust pipe more than 10°.***

– Remove the exhaust system rear section. Refer to ⇒ Engine Mechanical; Rep. Gr. 26 ; Description and Operation .

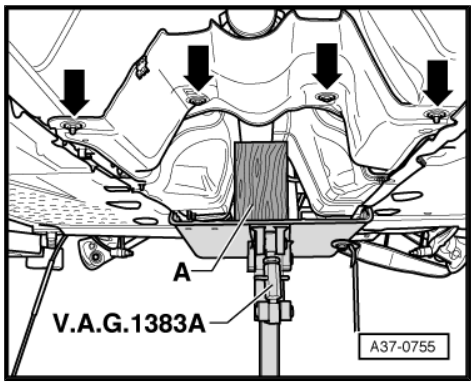
Vehicles with 6-Cylinder Engine:

– Remove the entire exhaust system. Refer to ⇒ Engine Mechanical; Rep. Gr. 26 ; Description and Operation .

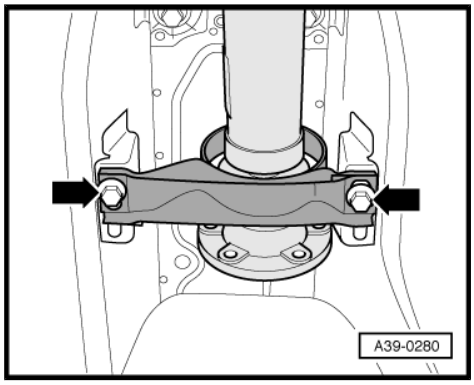
All Vehicles:

– Support the driveshaft using -V.A.G 1383 A- (use a wooden wedge -A-, for example, for help).

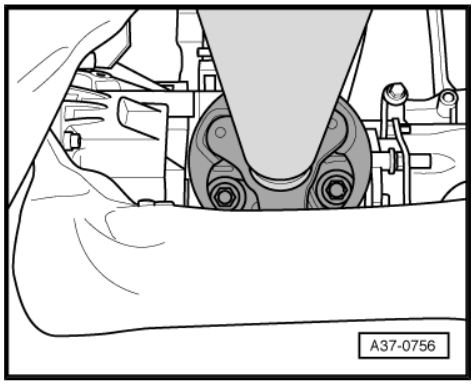
– Remove the heat shield -arrows-.



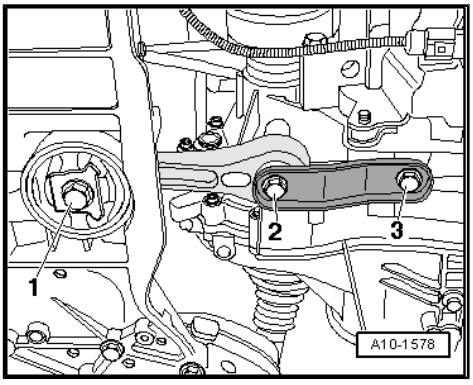
– Install the center bearing -arrows- after removing the heat shield.



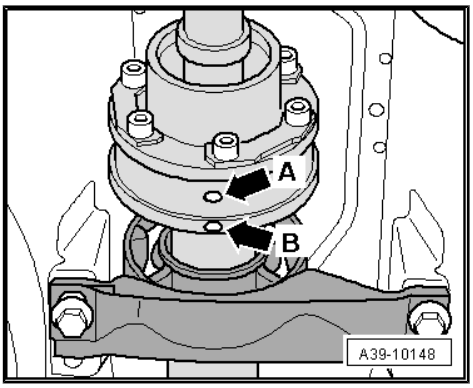
– Remove the driveshaft and the flexible disc from the bevel box.



– Remove the bolts -1 to 3- and remove the pendulum support.

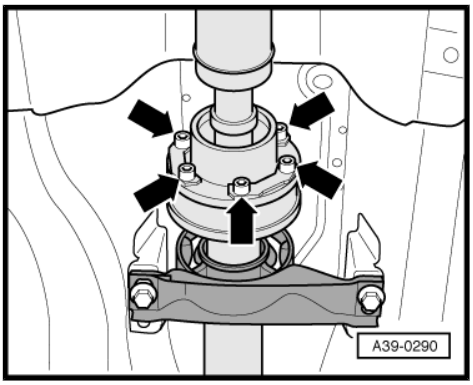


– Check whether CV joint/driveshaft markings -arrow A- and -arrow B- are present. If not, apply these with color.



– Remove the front driveshaft pipe from the rear driveshaft pipe -arrows-.

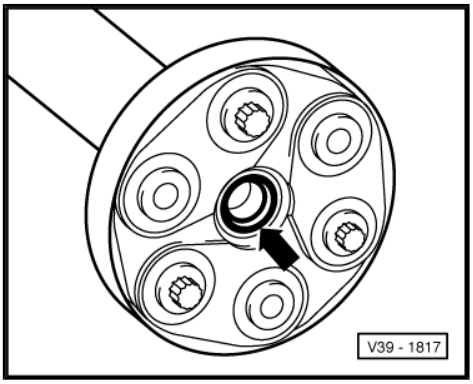
– Press the front driveshaft tube forward and tilt it out of the flange of the rear driveshaft tube.



Note

When swiveling, make sure the front driveshaft pipe is tilted downward as little as possible.

– Carefully remove front driveshaft tube from centering pins on bevel box.

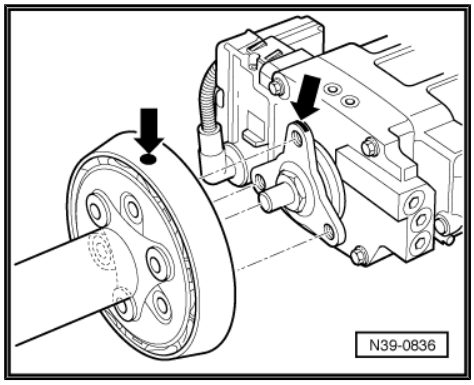


Note

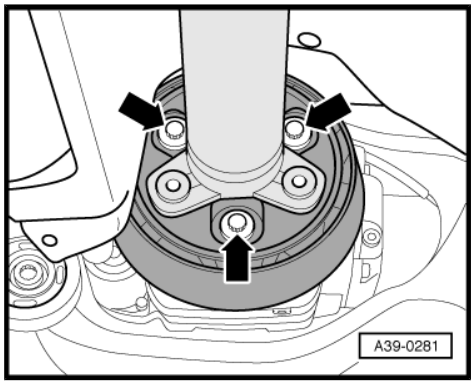
- *The sealing ring -arrow- in the driveshaft flange must not be damaged.*
- *Remove the driveshaft horizontally from the centering pins.*

– Pivot the front driveshaft downward and remove it.

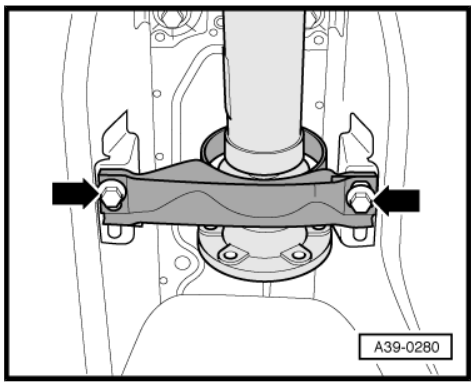
– Check whether there is a marking (colored dot) on driveshaft and rear final drive driveshaft flange -arrows-.
– If not, identify position of flexible disc and flange/driveshaft to rear final drive -arrows-.



– Remove the rear driveshaft tube with the flexible disc and vibration damper from the rear final drive -arrows-.

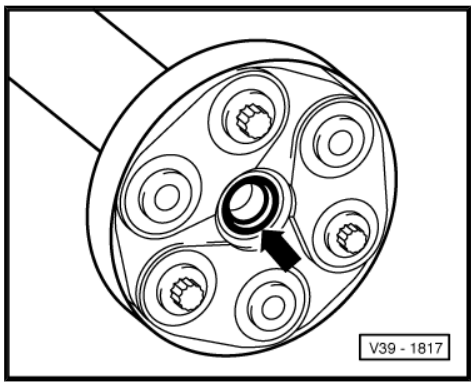


– Remove driveshaft intermediate bearing from vehicle -arrows-.
– Carefully detach rear driveshaft tube from centering pin.



Note

- *Do not cant the driveshaft when removing. Pull off of the centering pin in a horizontal position. The sealing ring in the centering bushing -arrow- must not be damaged.*
- *The flexible disc and the vibration damper cannot be separated from each other.*

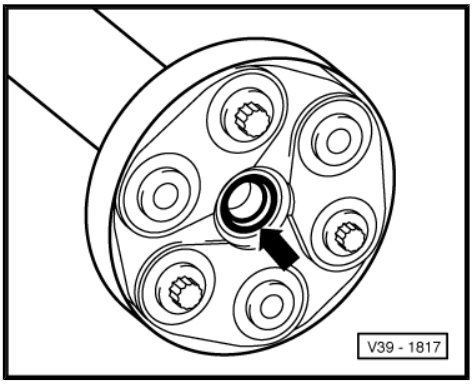


5.11 Driveshaft with Separable Center Support, through 05.2007, Installing

Installation is performed in the reverse order of removal while observing the following:

Note

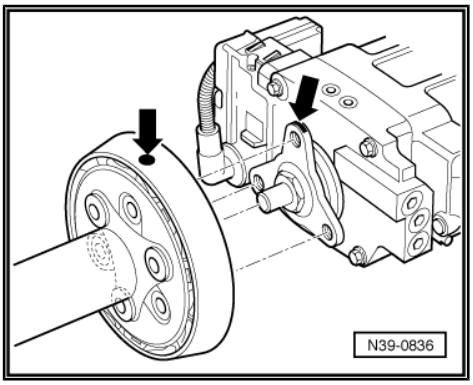
- *Install all driveshaft parts marked in relation to each other in same position when reinstalling.*
- *Sealing rings in driveshaft flanges -arrow- must not be damaged when removing and installing. If seal is damaged, driveshaft must be replaced.*
- *Install the driveshaft horizontally onto each centering pin.*



Installed position:

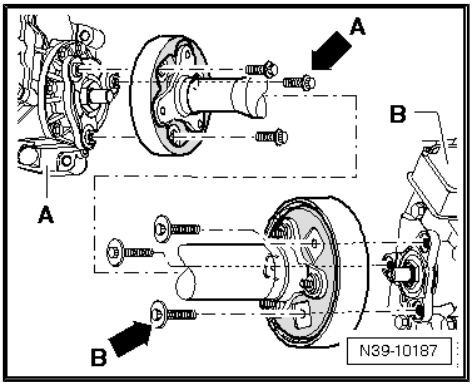
- Three projecting sleeves each on transmission flange or final drive flange and driveshaft flange engage in flexible disc mounting holes.

– Install driveshaft on final drive so that both markings -arrows- align.

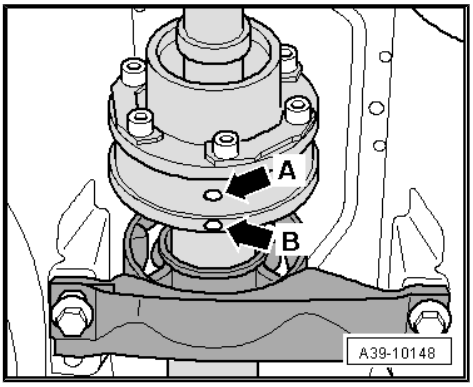


Note Location of Various Collar Bolts

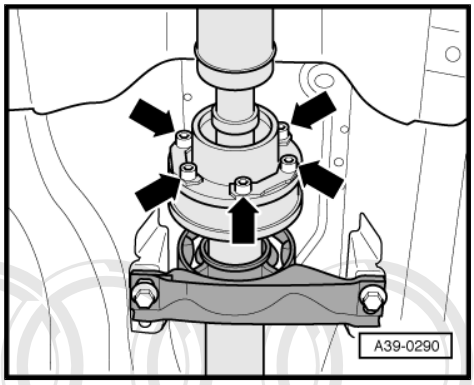
Collar Bolt With	Installation Location
Small collar -arrow A-	Driveshaft to front final drive -A-. Tightening specification ⇒ Item 4 (page 109)
Large collar -arrow B-	Driveshaft to rear final drive -B-. Tightening specification ⇒ Item 22 (page 110)



Make sure the CV joint/driveshaft markings -arrow A- and -arrow B- align.



– Attach the front driveshaft tube to the rear driveshaft tube -arrows-. Tightening specification ⇒ Item 7 (page 109) .

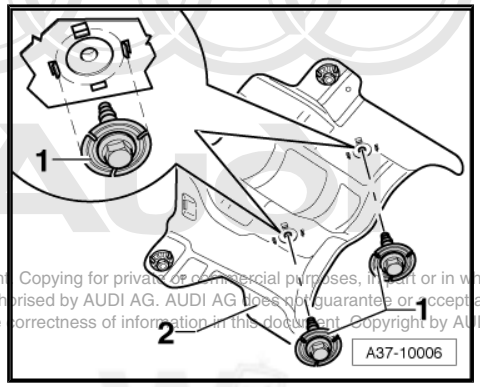


Install the Center Bearing Free of Tension as Follows:

- All driveshaft bolts are tightened.

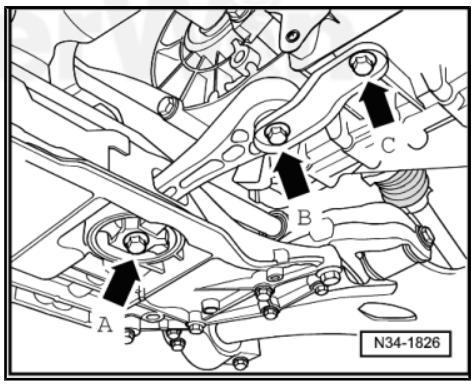
– Align the intermediate bearing in its elongated holes so the driveshaft or bearing is not under stress.

– Tighten the combination bolt -1-. The combination bolts -1- must lie inside the four heat shield centering tabs -2-. Tightening specification ⇒ Item 19 (page 110) .



– Tighten pendulum support first to transmission -arrows B and C- and then to subframe -arrow A-.

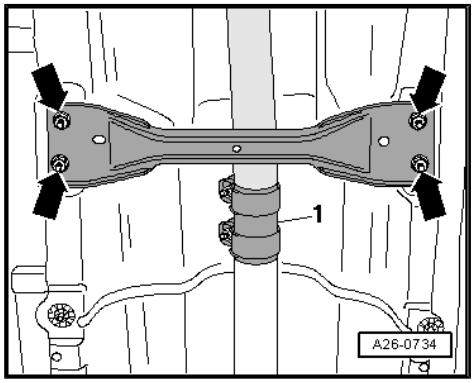
Component		Nm
On the pendulum support	Transmission -arrows B and C-	40 Nm + 90° 1)
	Subframe -arrow A-	100 Nm + 90° 1)
1) Replace Bolts		



– Install the exhaust system making sure it is free of tension. Refer to ⇒ Engine Mechanical; Rep. Gr. 26 ; Description and Operation

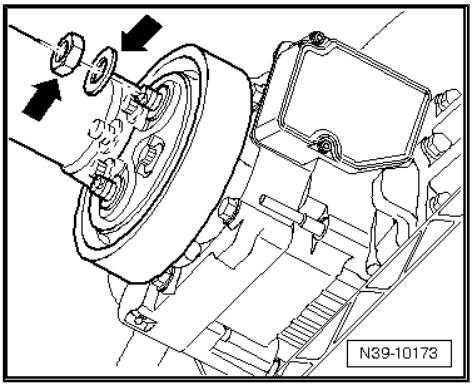
– Install the crossmember for the underbody -arrows-, if equipped. Refer to “Underbody Trim Panels“ in ⇒ Body Exterior; Rep. Gr. 66 ; Removal and Installation .

– Install the noise insulation. Refer to ⇒ Body Exterior; Rep. Gr. 50 ; Removal and Installation .



Note

- *If droning noises are audible while driving, do the following:*
- *Remove the balance nut and balance washer -arrows-.*
- *Then, if necessary, remove driveshaft with flexible disc from flange/driveshaft on rear final drive and rotate one hole and reinstall.*
- *If droning sounds can still be heard, the driveshaft can be rotated back in offset by one hole.*



5.12 Driveshaft with Inseparable Center Support, from 05.07, Removing

Special tools and workshop equipment required

- Torque Wrench 40-200 Nm -V.A.G 1332-
- Engine/Transmission Jack -V.A.G 1383 A-
- Counterhold Tool Touareg V10 -T10172- with Adapter -T10172/5-
- Universal Transmission Support -V.A.G 1359/2-

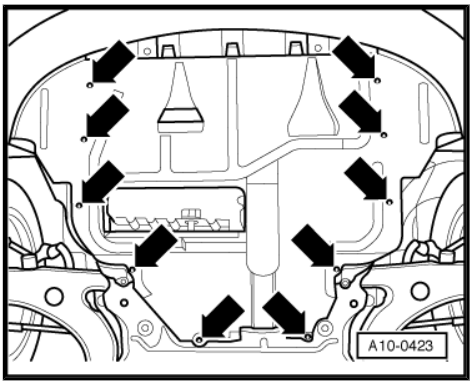
Removing

Note

- *Perform work on driveshaft on a two-column lift if possible.*
- *Mark the position of all the parts to each other before removing them. Install in the same position otherwise the imbalance will be excessive and the bearings could get damaged causing rumbling noises.*
- *Do not kink the driveshaft, only store and move when fully extended.*
- *Do not allow the driveshaft to hang down during removal. Always support it.*
- *Always remove or install the driveshaft horizontally with respect to the drive flange.*

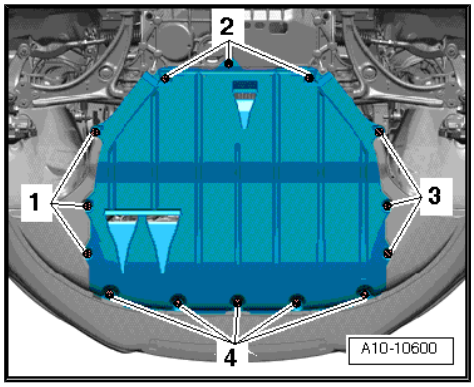
Audi A3

– Remove the noise insulation -arrows-.



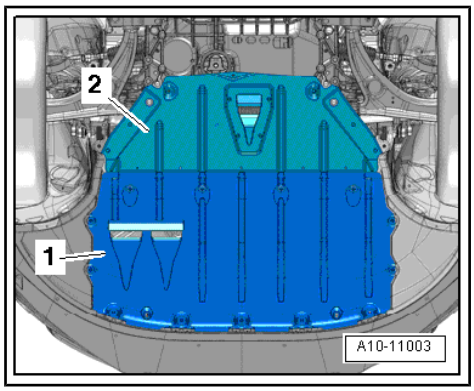
Audi TT

– Remove the center noise insulation fasteners -1 to 4-.



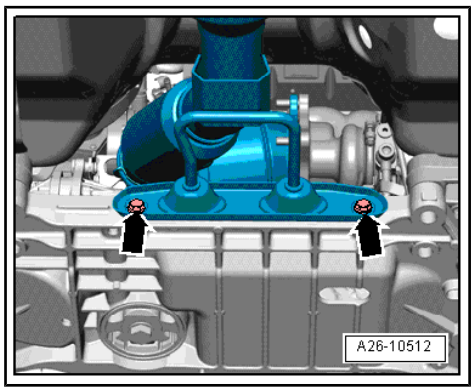
Audi TT S

– Remove the front noise insulation -1 and 2-. Refer to ⇒ Body Exterior; Rep. Gr. 50 ; Removal and Installation .



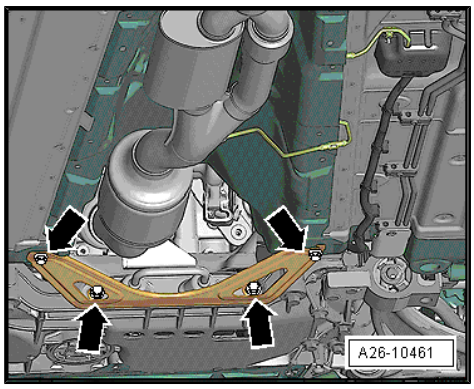
Vehicles with 4-Cylinder Engine:

– Remove the exhaust system bracket -arrows-.



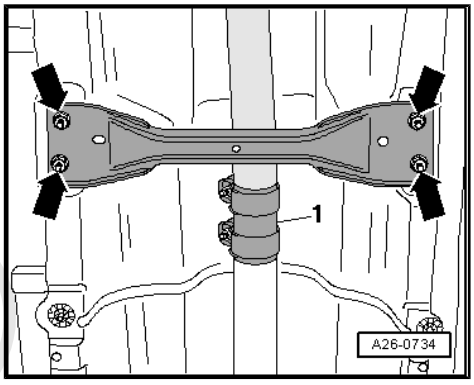
TT Roadster with 4-Cylinder Engine:

– Remove the bolts -arrows- and remove the crossbrace.



All Vehicles with 4-Cylinder Engine:

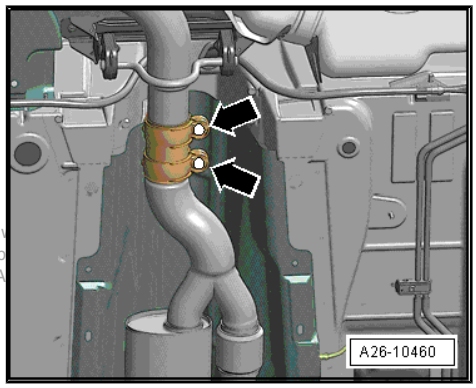
– Remove the crossmember for the underbody -arrows-, if equipped.



Caution

Risk of damaging decoupling elements.

- *Do not bend decoupling elements in front exhaust pipe more than 10°.*



– Separate the exhaust system at the clamping sleeve -arrows-.

– Tie the front exhaust pipe to the underbody.

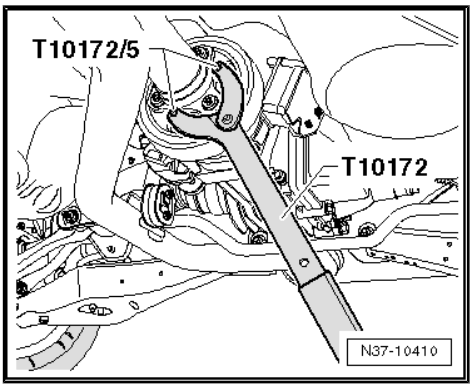
– Remove the exhaust system rear section. Refer to ⇒ Engine Mechanical; Rep. Gr. 26 ; Description and Operation .

Vehicles with 6-Cylinder Engine:

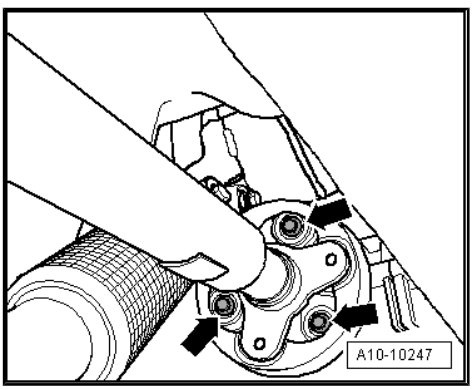
– Remove the entire exhaust system. Refer to ⇒ Engine Mechanical; Rep. Gr. 26 ; Description and Operation .

All Vehicles:

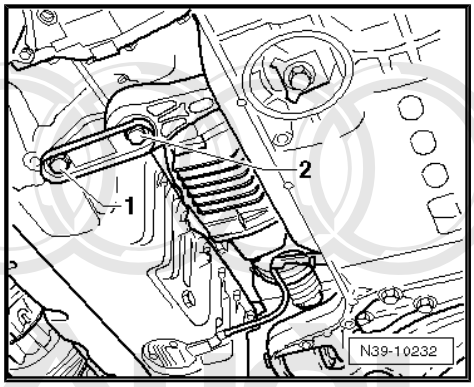
– Counterhold the rear final drive with the -T10172- and when loosening or tightening the driveshaft.



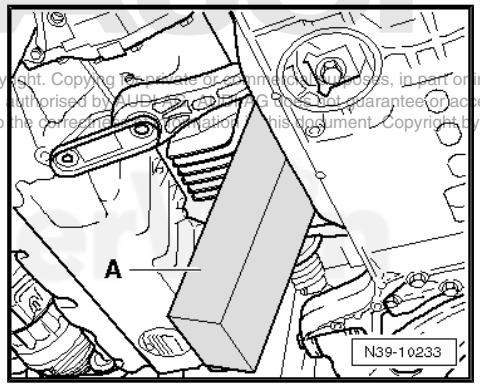
– Remove the driveshaft from the bevel box -arrows-.



– Remove the pendulum support bolts -1 and 2-.



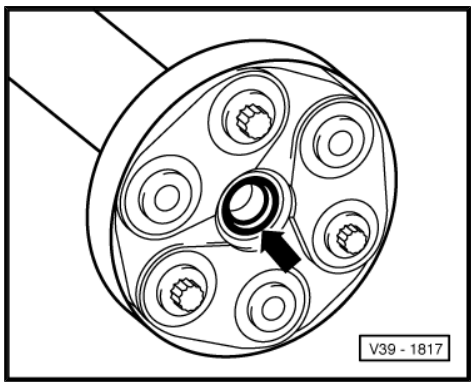
– Press the engine and transmission forward and secure the position with a suitable piece of wood -A-.



– Carefully remove front driveshaft tube from centering pins on bevel box.

Note

- *The sealing ring -arrow- in the driveshaft flange must not be damaged.*
- *Remove the driveshaft horizontally from the centering pins.*



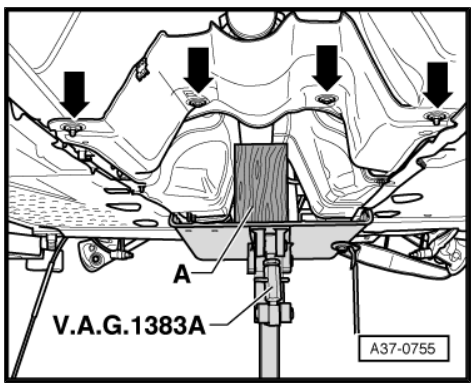
– Support the rear section of the driveshaft with the -V.A.G 1383 A- .

A - Wood support

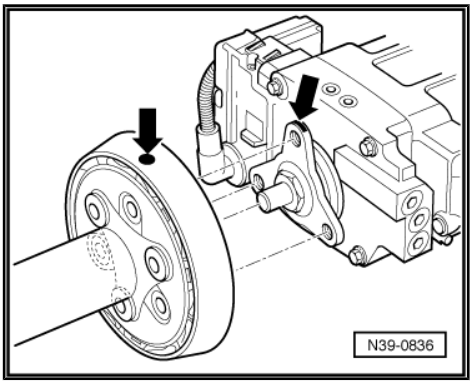
– Secure the driveshaft against falling down using a strap from the -V.A.G 1359/2- .

– Remove the bolts for the center bearing and the heat shield -arrows-.

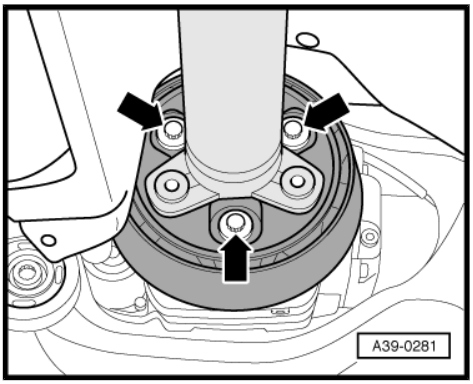
– Remove the heat shield.



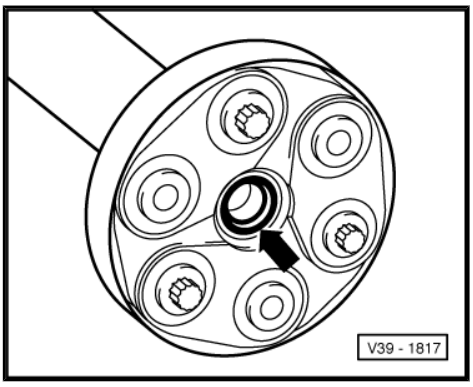
– Check whether there is a marking (colored dot) on driveshaft and rear final drive driveshaft flange -arrows-.
– If not, identify position of flexible disc and flange/driveshaft to rear final drive -arrows-.



– Remove the driveshaft bolts -arrows- on the rear final drive.
– Remove the driveshaft from the rear final drive and lower it onto the -V.A.G 1383 A- .



– When removing and installing the driveshaft, be careful not to damage the bushing -arrow-.



Note

Do not cant the driveshaft when removing. Pull off of the centering pin in a horizontal position. The sealing ring in the centering bushing -arrow- must not be damaged.

WARNING

To prevent damaging the protective boot in the center bearing, remove and install the driveshaft in its fully extended position; likewise, store it in this position.

Note

Two technicians are needed to remove the driveshaft.

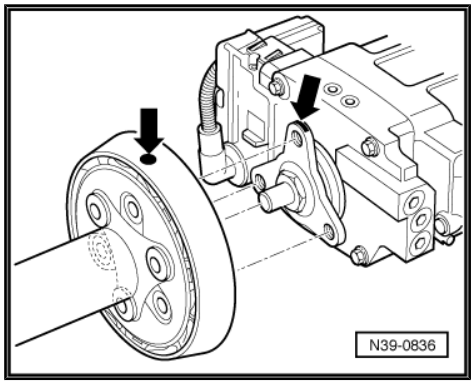
– Remove the driveshaft toward the rear and fully extended, if possible.

5.13 Driveshaft with Non-Separable Center Support, from 05.07, Installing

Installation is performed in the reverse order of removal while observing the following:

– Install all parts marked to each other in original positions.

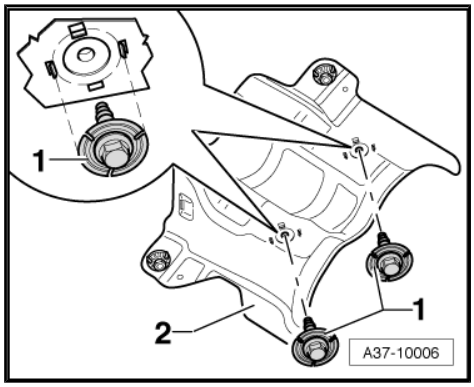
– Install driveshaft on final drive so that both markings -arrows- align.
– Tighten the driveshaft. Tightening specifications ⇒ Item 4 (page 34) and ⇒ Item 9 (page 34) .



Install the Center Bearing Free of Tension as Follows:

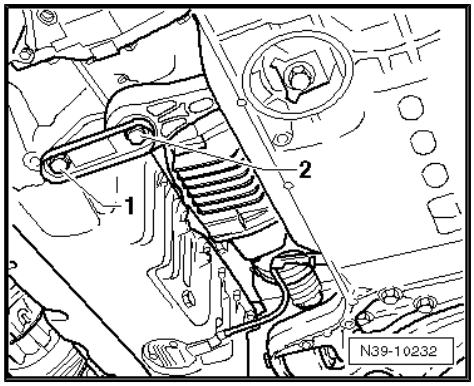
- All driveshaft bolts are tightened.

– Align the intermediate bearing in its elongated holes so the driveshaft or bearing is not under stress.
– Tighten the combination bolts -1-. The combination bolts -1- must lie inside the heat shield centering tabs -2-. Tightening specification ⇒ Item 6 (page 34) .

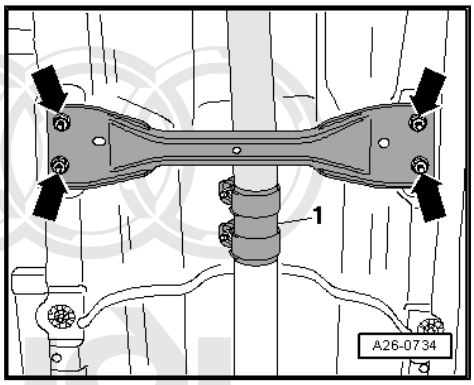


– Tighten the pendulum support with new bolts. For the correct tightening specifications. Refer to ⇒ Suspension, Wheels, Steering; Rep. Gr. 40 ; Specifications .

Component		Nm
On the pendulum support	Transmission - 1 -	40 Nm + 90° 1)
	Transmission - 2 -	40 Nm + 90° 1)
1) Replace Bolts		



– Install the exhaust system. Refer to ⇒ Engine Mechanical; Rep. Gr. 26 ; Description and Operation .
– Install the crossmember for the underbody -arrows-, if equipped. Refer to “Underbody Trim Panels“ in ⇒ Body Exterior; Rep. Gr. 66 ; Removal and Installation .
– Install the noise insulation. Refer to ⇒ Body Exterior; Rep. Gr. 50 ; Removal and Installation .



5.14 Rear Flexible Disc

Special tools and workshop equipment required

- Torque Wrench 5-50 Nm -V.A.G 1331-
- Torque Wrench 40-200 Nm -V.A.G 1332-
- Engine/Transmission Jack -V.A.G 1383 A- with Universal Transmission Adapter -V.A.G 1359/2-

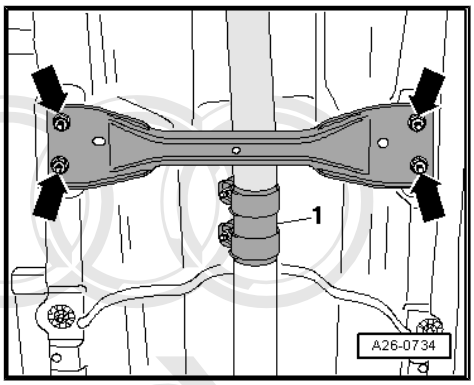
- Counterhold Tool Touareg V10 -T10172- with Adapter - T10172/5-

Removing

Note

- *A twin-pillar lifting platform should be used when working on the driveshaft.*
- *Mark the position of all the parts to each other before removing them. Install in the same position otherwise the imbalance will be excessive and the bearings could get damaged causing rumbling noises.*
- *Do not kink the driveshaft, only store and move when fully extended.*

– Remove the crossmember for the underbody -arrows-, if equipped.



Caution

Risk of damaging decoupling elements.

- ***Do not bend decoupling elements in front exhaust pipe more than 10°.***

– Separate the exhaust system at clamping sleeve -1-.

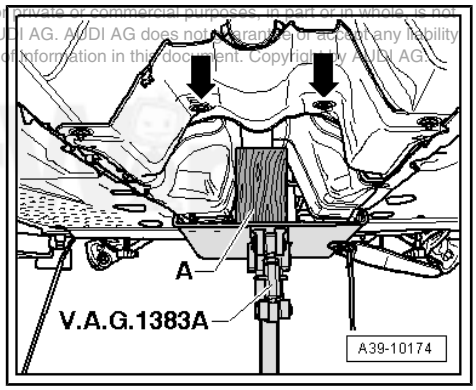
– Tie the front exhaust pipe to the underbody.

– Remove the exhaust system rear section. Refer to ⇒ Engine Mechanical; Rep. Gr. 26 ; Description and Operation .

– Loosen the driveshaft intermediate bearing bolts -arrows- approximately 2 turns.

– Support driveshaft in area of rear driveshaft tube using -V.A.G 1383 A- .

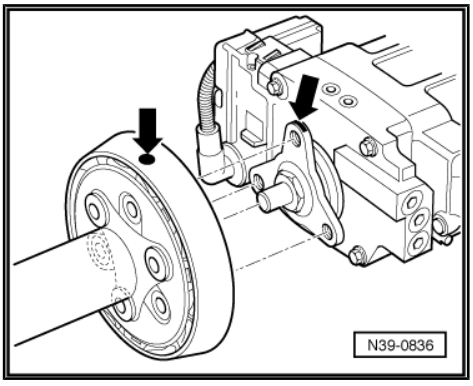
A - Wood support



– Secure the driveshaft against falling down using a strap from the -V.A.G 1359/2- .

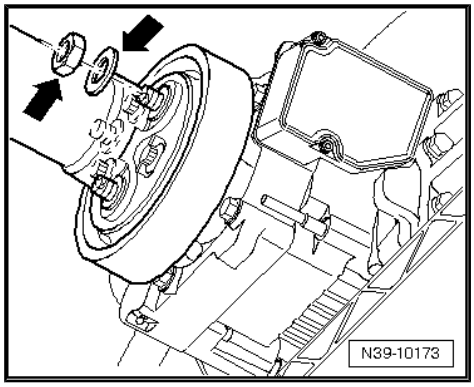
– Check whether there is a marking (colored dot) -arrows- on driveshaft and rear final drive driveshaft flange.

– If not, identify position of flexible disc and flange/driveshaft to rear final drive -arrows-.

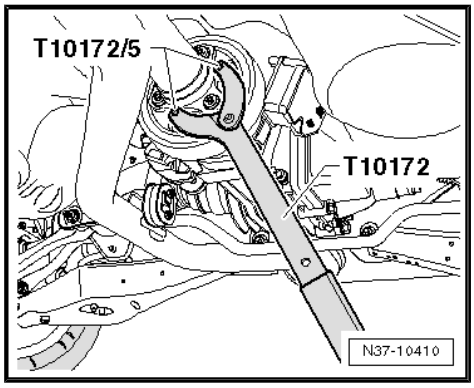


– If equipped, remove the balance nut and balance disc -arrows-

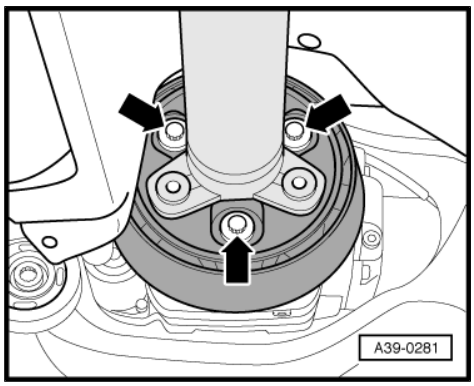
• Do not reinstall the balance nut and balance disc -arrows- after the flexible disc has been removed.



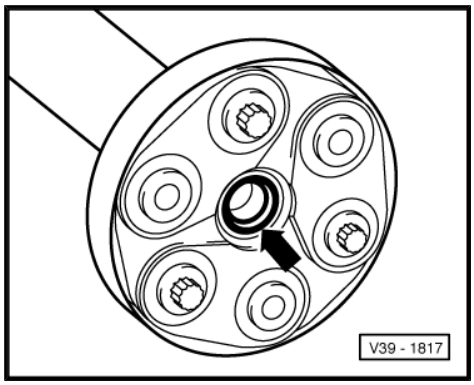
– Counterhold the rear final drive with the -T10172- and -T10172/5- when loosening or tightening the driveshaft.



– Remove the rear driveshaft tube with the flexible disc and vibration damper from the final drive -arrows-.



– Carefully remove the rear driveshaft tube from the flange/driveshaft centering pins on final drive.

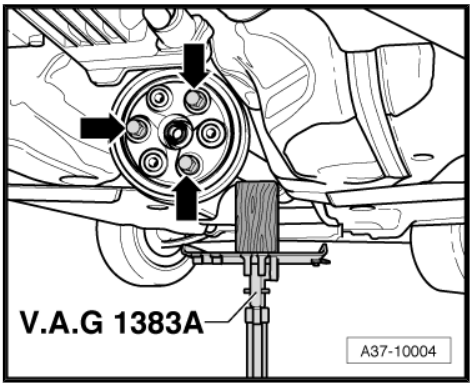


Note

♦ *Do not cant the driveshaft when removing. Pull off of the centering pin in a horizontal position. The sealing ring -arrow- in the centering bushing must not be damaged.*

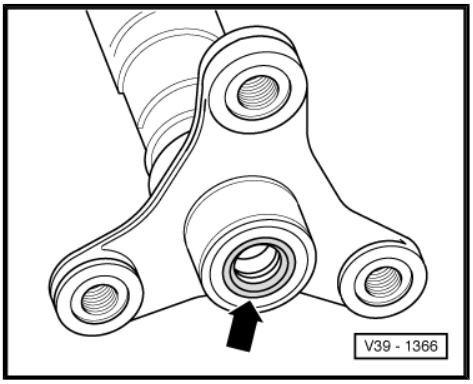
♦ *The flexible disc and the vibration damper cannot be separated from each other.*

– Identify location of rear flexible disc and flange from rear driveshaft to each other.
– Remove the flexible disc from the driveshaft tube -arrows-.



Installing

Installation is performed in the reverse order of removal while observing the following:

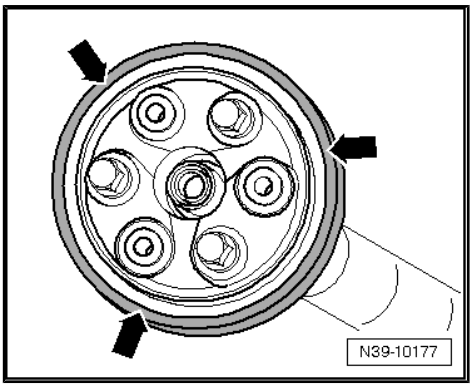


Note

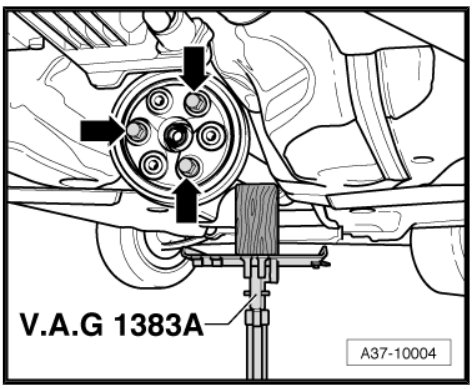
- *Sealing rings -arrow- in driveshaft flanges must not be damaged when removing and installing.*
- *Replace the driveshaft if it is damaged.*
- *Do not tip rear driveshaft tube, push horizontally onto centering pins.*
- *Install all driveshaft parts marked in relation to each other in same position when reinstalling.*

Location of flexible disc with vibration damper:

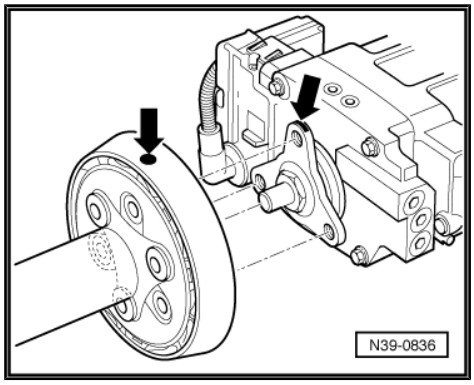
- The brace on the outer diameter -arrows- faces away from the driveshaft tube.
- Three projecting sleeves each on rear final drive flange/driveshaft and driveshaft flange engage in flexible disc mounting holes.



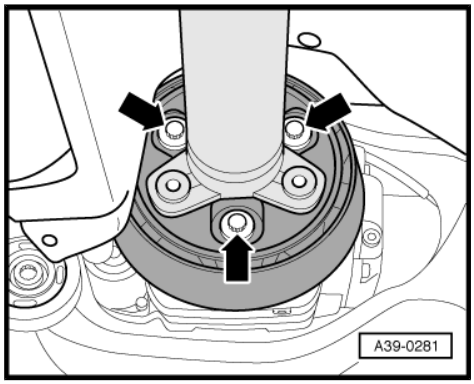
– Attach the flexible disc to the driveshaft tube -arrows-. Tightening specification ⇒ Item 25 (page 110) .



– Install driveshaft on final drive so that both markings -arrows- align.



– Attach the driveshaft with flexible disc to the rear final drive -arrows-. Tightening specification ⇒ Item 22 (page 110)

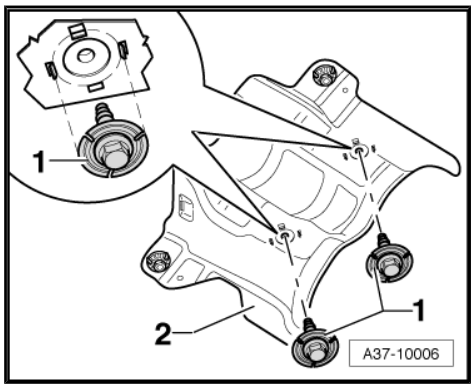


Install the center bearing free of tension as follows:

- All driveshaft bolts are tightened.

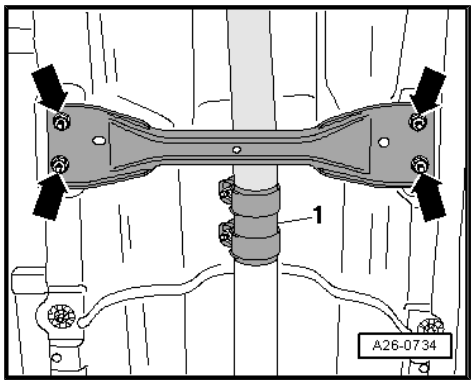
– Align the intermediate bearing in its elongated holes so the driveshaft or bearing is not under stress.

– Tighten the combination bolt -1-. The combination bolts -1- must lie inside the four heat shield centering tabs -2-. Tightening specification ⇒ Item 19 (page 110)



– Reconnect exhaust system making sure it is not under stress. Refer to ⇒ Engine Mechanical; Rep. Gr. 26 ; Description and Operation .

– Install the crossmember for the underbody -arrows-, if equipped. Refer to “Underbody Trim Panels“ in ⇒ Body Exterior; Rep. Gr. 66 ; Removal and Installation .



5.15 Rear Final Drive, Removing

Special tools and workshop equipment required

♦ Engine/Transmission Jack -V.A.G 1383 A- with Universal Transmission Adapter -V.A.G 1359/2-

Removing

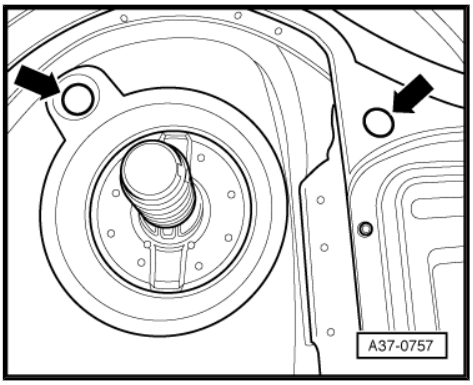
– Remove the spare wheel if present.

– Remove the spare wheel well or foam inserts.

Audi A3

– Remove the rubber plugs or the adhesive strips -arrows- inside the luggage compartment floor.

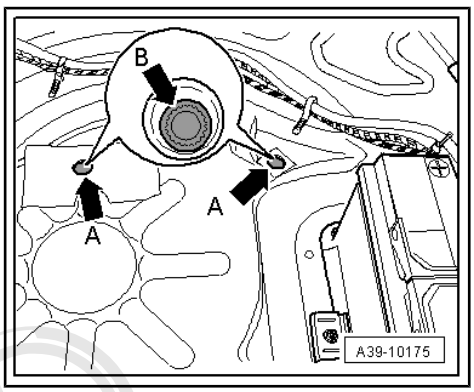
– Remove both transmission mount bolts from above through the holes -arrows-.



Audi TT

– Remove the two rubber plugs or the adhesive strips -arrows A- in the luggage compartment floor.

– Remove both transmission mount bolts -arrow B- from above through the holes -arrows A-.



All Vehicles:

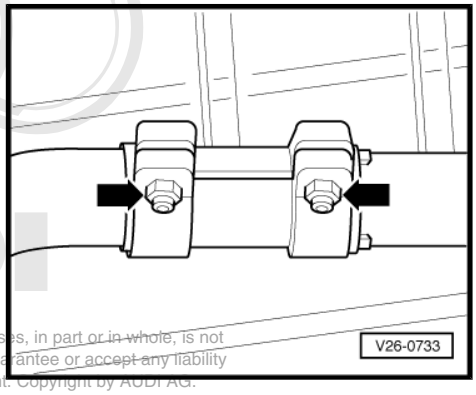
– Separate the exhaust system at the clamping sleeve -arrows-.

– Tie the front exhaust pipe to the underbody.

Caution

Risk of damaging decoupling elements.

- *Do not bend decoupling elements in front exhaust pipe more than 10°.*



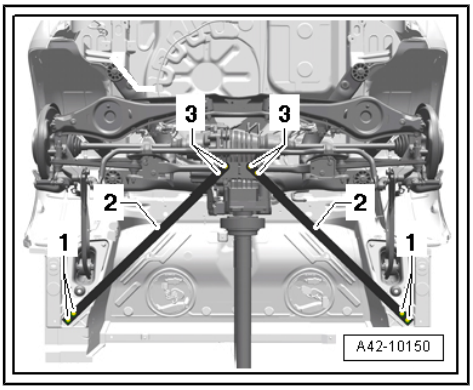
– Remove the exhaust system rear section. Refer to ⇒ Engine Mechanical; Rep. Gr. 26 ; Description and Operation .

– Remove the rear flexible disc. Refer to ⇒ “5.14 Rear Flexible Disc“, page 88 .

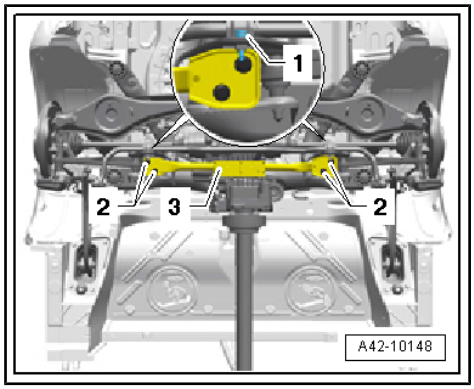
– Tie driveshaft sideways onto underbody.

TT Roadster:

– Remove bolts -1 and 3- and remove diagonal braces -2-.

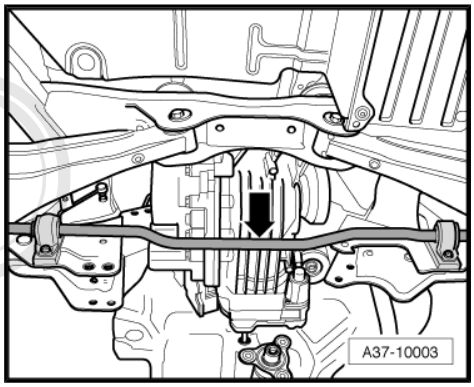


– Remove the lower stabilizer clamp bolts -1-.
– Remove the bolts -2- and remove the crossmember -3-.

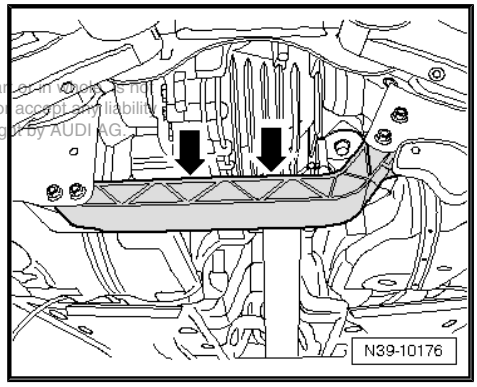


All Vehicles:

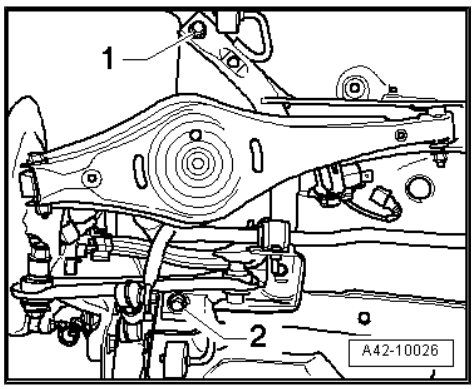
– Remove the stabilizer bar -arrow-. Refer to “All Wheel Drive (AWD)“ ⇒ Suspension, Wheels, Steering; Rep. Gr. 42 ; Removal and Installation .
– Remove the left and right drives axles from the rear final drive. Refer to “All Wheel Drive (AWD)“ ⇒ Suspension, Wheels, Steering; Rep. Gr. 42 ; Removal and Installation



Vehicles with Crossmember -arrows-



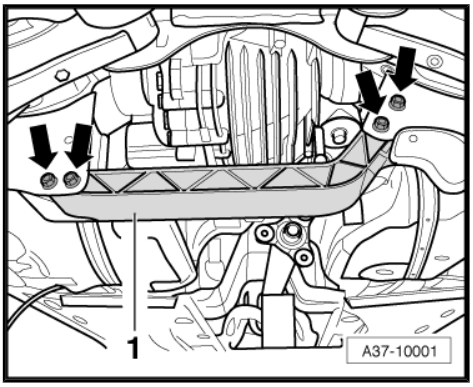
– Remove both front bolts on the subframe -1-.



Note

The rear bolts on subframe -2- remain installed!

– Remove the crossmember -1- -arrows-. Refer to “All Wheel Drive (AWD)“ in ⇒ Suspension, Wheels, Steering; Rep. Gr. 42 ; Description and Operation .

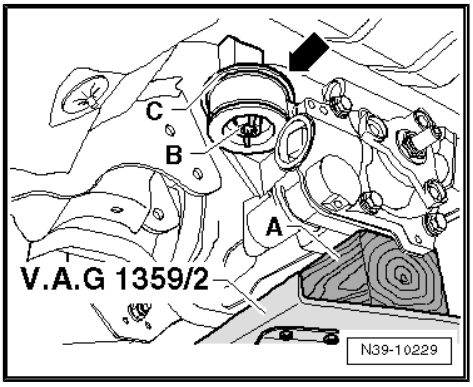


For All Vehicles

– Place the -V.A.G 1383 A- with -V.A.G 1359/2- and a block of wood -A- under rear final drive and secure final drive.

– Remove the front bolt -B-.

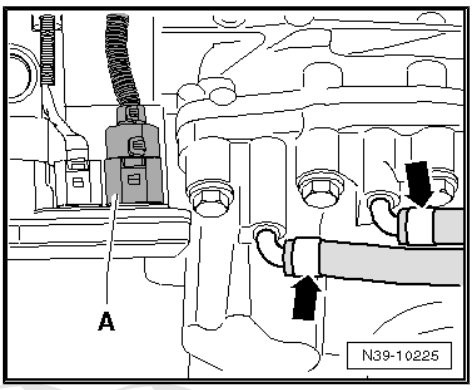
– Remove the washer -C-.



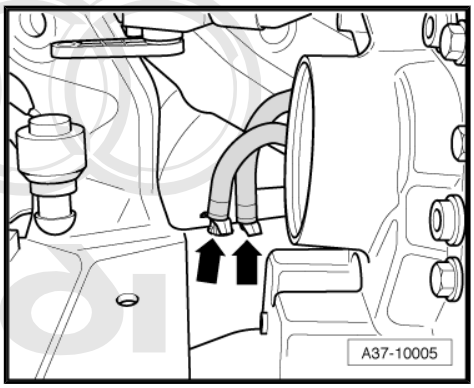
– Disconnect the harness connector -A- on the All Wheel Drive (AWD) control module -J492- .

Note

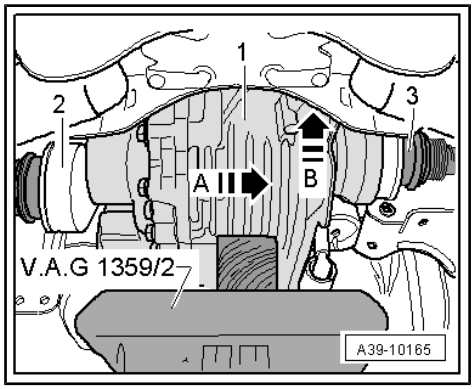
Ignore -arrows-.



– Remove both of the transmission bleeder hoses -arrows- from the subframe.



– Slide final drive -1- right in direction of -arrow A- as far as possible.
– Press final drive up in the direction of the -arrow B- on right side.
– Guide the left drive axle -2- out of the flange shaft.
– Lower the final drive slightly and remove it from the rear subframe carrier using -V.A.G 1383 A- .
– Lower final drive past the drive axle.



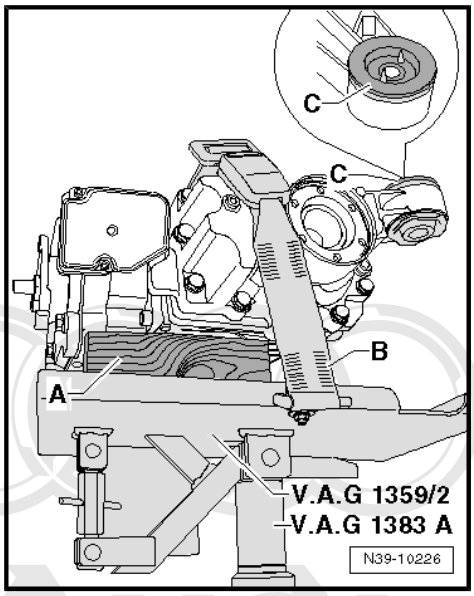
5.16 Rear Final Drive, Installing

Installation is performed in the reverse order of removal while observing the following:

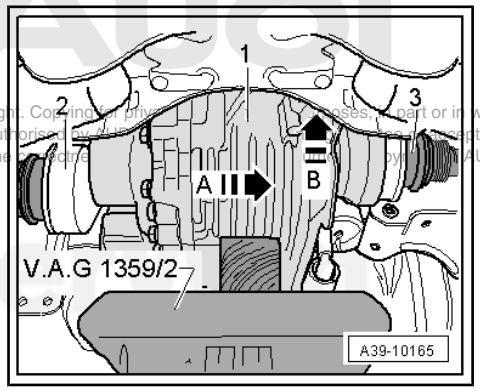
– Mount the rear final drive on Engine/Transmission Jack - V.A.G 1383 A- with Universal Transmission Support - V.A.G 1359/2- .

A - Wood support

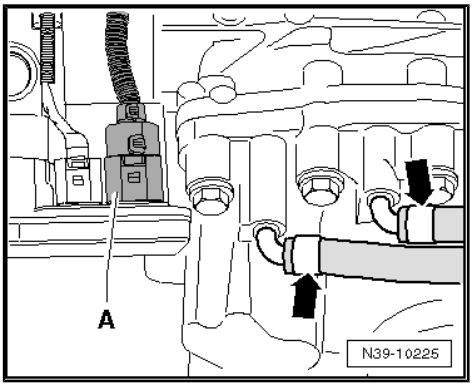
– Secure final drive against falling down with strap -B- from the -V.A.G 1359/2- .
– Before installing the final drive, make sure the washers -C- are placed on the 2 rear bonded rubber bushings.



– Raise rear final drive -1-. Guide the right driveshaft -3- into the flange shaft.
– Slide final drive -1- right in direction of -arrow A- as far as possible.
– Press final drive up in the direction of the -arrow B- on right side.
– Guide the left drive axle -2- into the flange shaft.



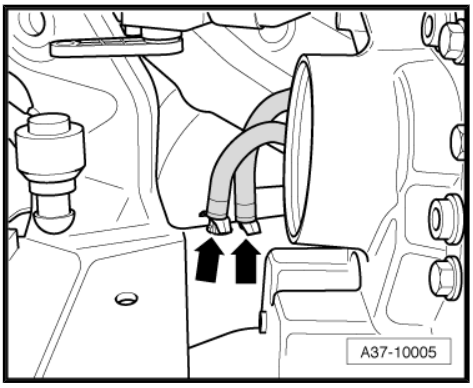
– Connect the connector -A-.



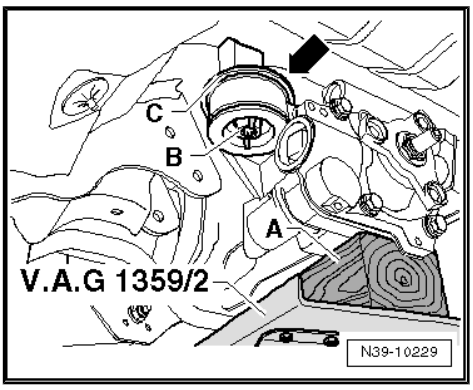
Note

Ignore -arrows-.

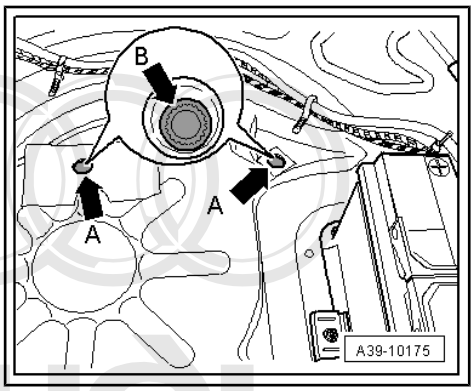
– Install both of the transmission bleeder hoses -arrows- on the subframe.



– Place the washer -C- with the chamfer -arrow- facing up between the bonded rubber bushing and subframe.
– Hand-tighten the bolt -B-.
– Remove the -V.A.G 1383 A- with -V.A.G 1359/2- from the final drive.



– Install and tighten both bolts for the rear final drive -arrow B-. Tightening specification ⇒ Item 1 (page 41) .
– Seal off both holes in the luggage compartment floor panel -arrows A-.

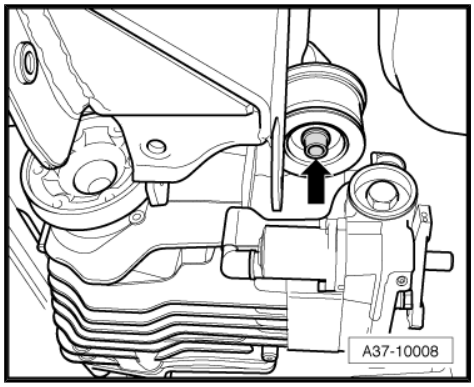


Note

Seal the holes -arrows A- with plugs -7L0 899 182-.

– Install the spare wheel well or foam inserts.
– Install the spare wheel if present.

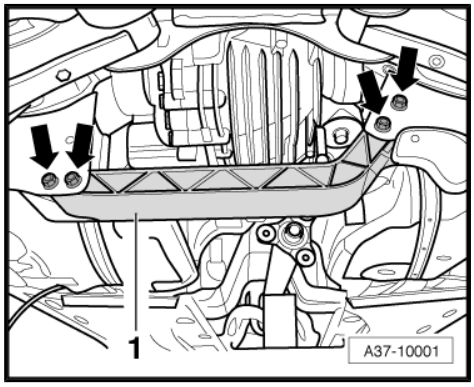
– Tighten the final drive from below -arrow-. Tightening specification ⇒ Item 1 (page 41) .



Vehicles with a Crossmember -1-

– Install the crossmember -1- -arrows-, if equipped. Refer to “All Wheel Drive (AWD)“ in ⇒ Suspension, Wheels, Steering; Rep. Gr. 42 ; Description and Operation .

– Tighten the rear subframe. Refer to “All Wheel Drive (AWD)“ in ⇒ Suspension, Wheels, Steering; Rep. Gr. 42 ; Removal and Installation .



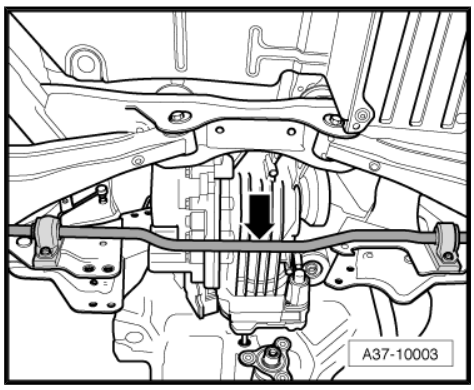
For All Vehicles

– Tighten the stabilizer bar -arrow-. Refer to “All Wheel Drive (AWD)“ in ⇒ Suspension, Wheels, Steering; Rep. Gr. 42 ; Specifications .

– Tighten the drive axles. Refer to “All Wheel Drive (AWD)“ in ⇒ Suspension, Wheels, Steering; Rep. Gr. 42 ; Specifications .

– Install the rear flexible disc. Refer to ⇒ “5.14 Rear Flexible Disc“, page 88 .

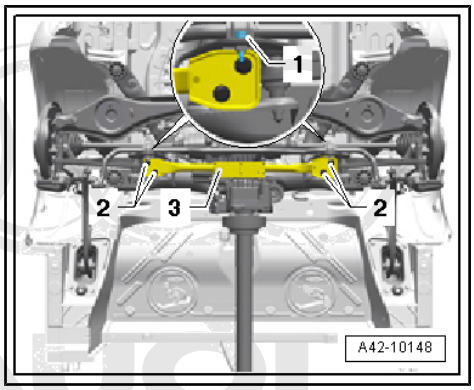
– Install the exhaust system and then align it making sure it is free of tension. Refer to ⇒ Engine Mechanical; Rep. Gr. 26 ; Description and Operation .



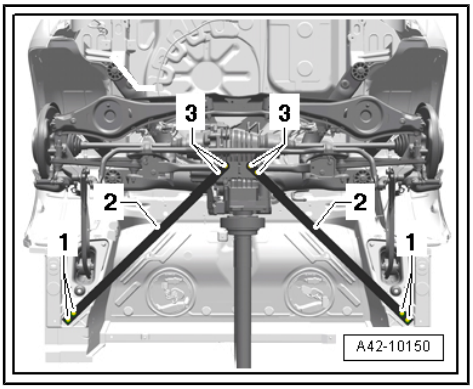
TT Roadster:

– Install crossmember -3- and tighten bolts -2-. Refer to “All Wheel Drive (AWD)“ in ⇒ Suspension, Wheels, Steering; Rep. Gr. 42 ; Specifications .

– Tighten the bolts -1 -. Refer to “All Wheel Drive (AWD)“ in ⇒ Suspension, Wheels, Steering; Rep. Gr. 42 ; Specifications



– Install the diagonal brace -2- and tighten the bolts -1- and -3-. Refer to “All Wheel Drive (AWD)“ in ⇒ Suspension, Wheels, Steering; Rep. Gr. 42 ; Removal and Installation .



All Vehicles:

Note

When replacing rear final drive, check the axle oil and Haldex clutch fluid and add, if necessary. Refer to
⇒ “1.1 Rear Final Drive Identification“, page 18 and
⇒ “1.4.1 Oil Level in the Haldex Clutch, Checking“, page 20 .

5.17 Rear Final Drive

Special tools and workshop equipment required

♦ Engine/Transmission Jack -V.A.G 1383 A-

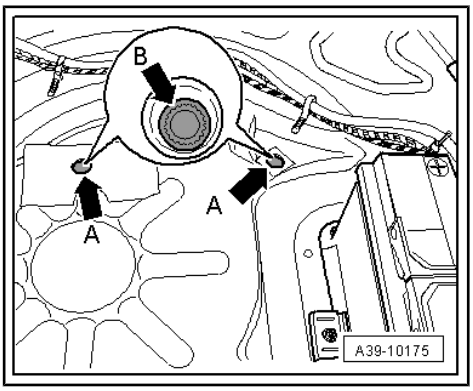
Removing

– Remove the spare wheel, if equipped.

– Remove the spare wheel well or the foam inserts.

– Remove the rubber plugs or the adhesive strips -arrows A- inside the luggage compartment floor.

– Remove the bolts -arrow B-.

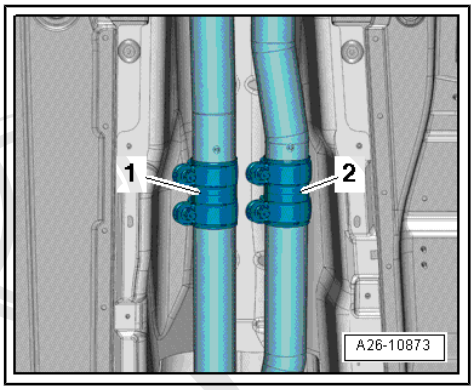


– Disconnect the exhaust system from the clamping sleeves -1 and 2-.

Caution

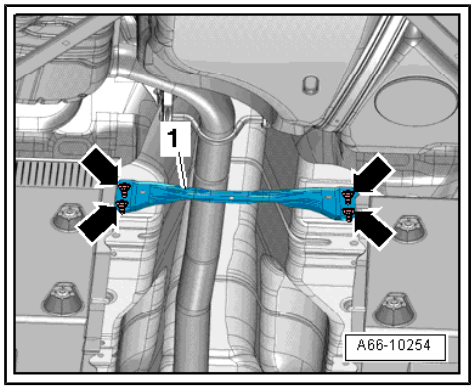
Danger of causing damage to the decoupling element inside the primary catalytic converter.

♦ ***Do not bend the decoupling element more than 10°.***

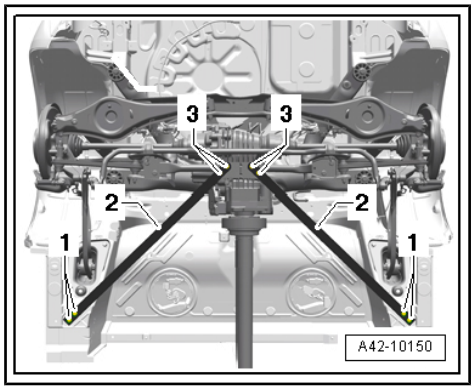


– Tie the catalytic converters to the underbody.

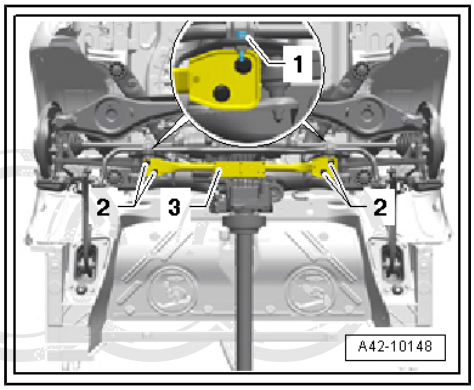
– Remove the crossmember on the underbody -1- if present. To do this, remove the nuts -arrows-.
– Remove the exhaust system rear section. Refer to ⇒ Engine Mechanical; Rep. Gr. 26 ; Description and Operation .
– Remove rear flexible disc. Refer to ⇒ “5.14 Rear Flexible Disc“, page 88 .
– Tie driveshaft sideways onto underbody.



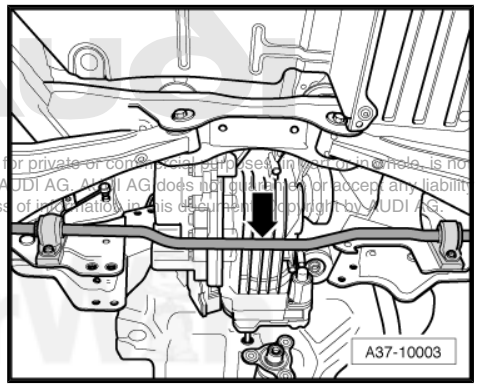
– Remove bolts -1 and 3- and remove diagonal braces -2-.



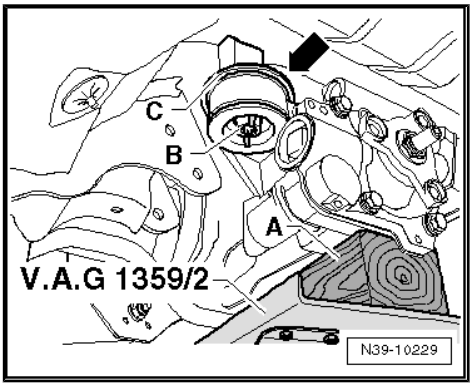
– Remove the lower bolts on the stabilizer bar clamps -1-.
– Remove the bolts -2- and remove the crossmember -3-.



– Remove the stabilizer bar -arrow-. Refer to “All Wheel Drive (AWD)“ in ⇒ Suspension, Wheels, Steering; Rep. Gr. 42 ; Removal and Installation .
– Remove left and right drive axles from rear final drive. Refer to “All Wheel Drive (AWD)“ in ⇒ Suspension, Wheels, Steering; Rep. Gr. 42 ; Removal and Installation



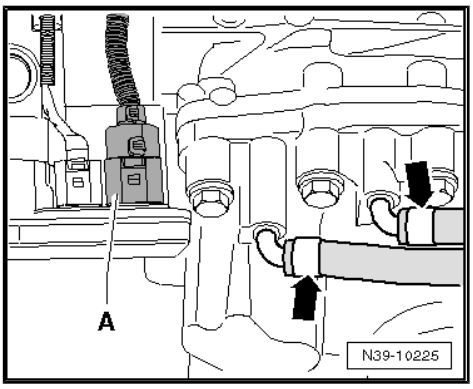
– Position and support the -V.A.G 1383 A- with the -1359/2- and a block of wood -A- under the rear final drive.
– Remove bolt -B-.
– Remove the washer -C-.



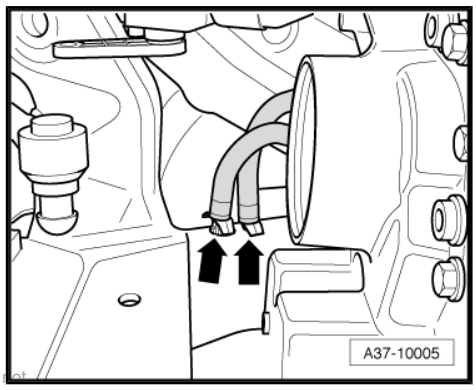
– Disconnect the connector -A- on the All Wheel Drive (AWD) control module -J492- .

Note

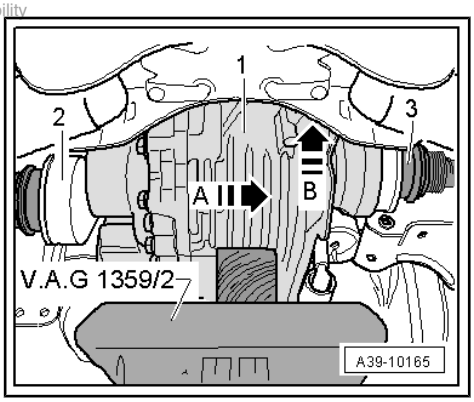
Ignore -arrows-.



– Remove both of the transmission bleeder hoses -arrows- from the subframe.



– Push the rear final drive -1- as far as possible to the right -arrow A- and then upward -arrow B-.
– At the same time guide the left driveshaft -2- out of the flange shaft.
– Lower the rear final drive slightly and remove it from the rear subframe carefully with the -V.A.G 1383 A- .
– Lower rear final drive past the driveshaft.



– Use the strap -B- to keep the rear final drive -1- from falling.

Installing

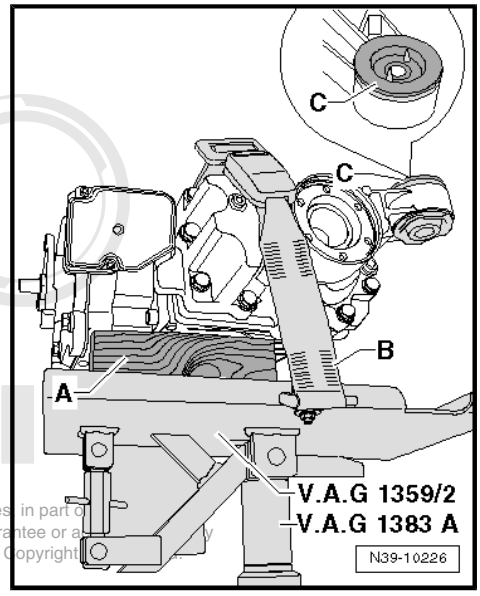
- For the correct tightening specifications, refer to ⇒ “2.11 Rear Final Drive Overview“, page 41 .

Note

Secure all hose connections with hose clamps of the same type as those equipped by the factory, refer to the Electronic Parts Catalog (ETKA).

– Make sure the left and right washers -C- are installed on the bonded rubber bushing.

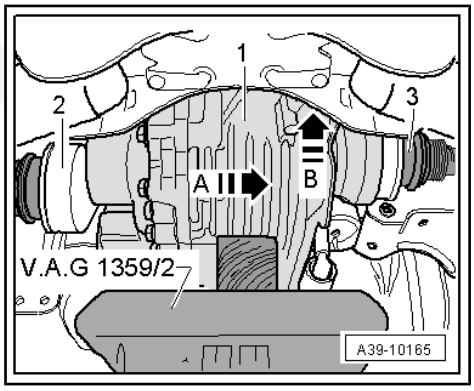
– Position the rear final drive under the vehicle supported by the block of wood -A- and the strap -B-.



– Lift the rear final drive -1- while guiding the right drive axle -3- into the flange shaft.

– Move the rear final drive as far as possible to the right -arrow A- and then push it upward -arrow B-.

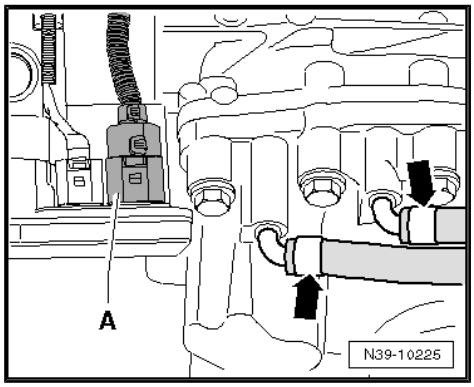
– At the same time guide the left driveshaft -2- into the flange shaft.



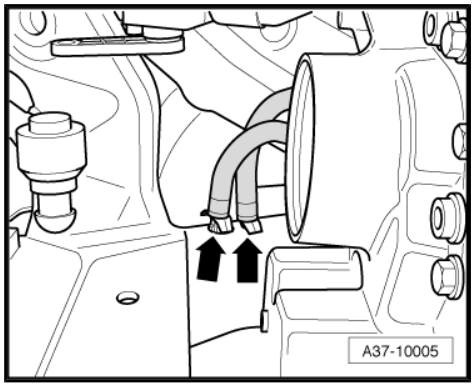
– Connect the connector -A-.

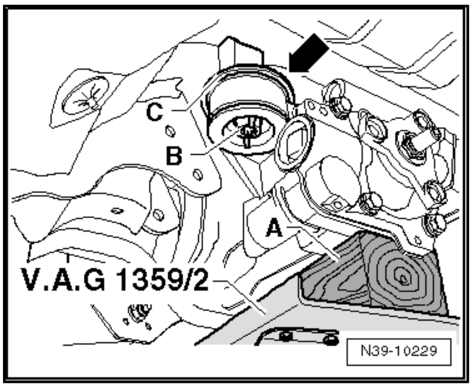
Note

Ignore -arrows-.



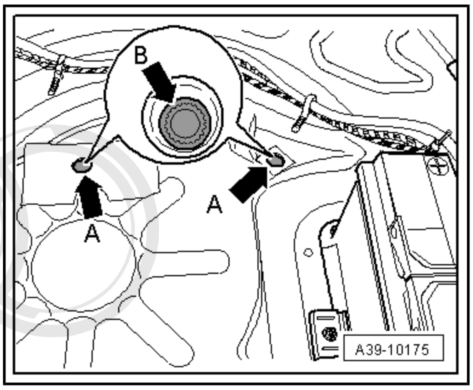
– Install both of the transmission bleeder hoses -arrows- on the subframe.





– Place the washer -C- with the bevel -arrow- facing upward between the bonded rubber bushing and the subframe.

– Tighten the bolt -B- hand-tight.

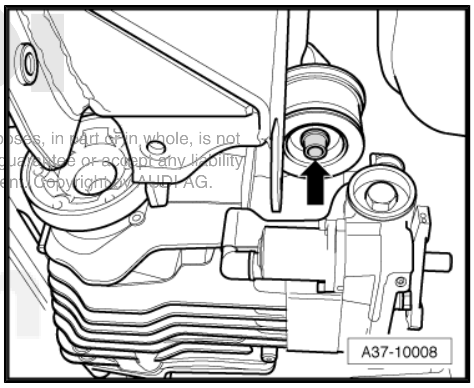


– Tighten the left and right upper bolt -arrow B-.

– Seal off both holes in the luggage compartment floor panel -arrows A-.

Note

Seal the holes -arrows A- with plugs -7L0 899 182- .



– Tighten the bolt -arrow-.

Install in reverse order of removal paying attention to the following:

– Install the exhaust system. Refer to ⇒ Engine Mechanical; Rep. Gr. 26 ; Description and Operation .

– Install the stabilizer bar. Refer to “All Wheel Drive (AWD)“ in ⇒ Suspension, Wheels, Steering; Rep. Gr. 42 ; Removal and Installation .

– TT Roadster: Install the crossmember and diagonal brace. Refer to “All Wheel Drive (AWD)“ in ⇒ Suspension, Wheels, Steering; Rep. Gr. 42 ; Removal and Installation .

Note

When replacing rear final drive, check the axle oil and Haldex clutch fluid and add, if necessary. Refer to *⇒ “1.1 Rear Final Drive Identification“, page 18* *and* *⇒ “1.4.1 Oil Level in the Haldex Clutch, Checking“, page 20* *.*

5.18 Rear Final Drive Flange/Driveshaft Seal, Final Drive Installed

Special tools and workshop equipment required

- Extractor Lever -VW 681-
- Drive Sleeve -30-20-
- Counter Support -3415-
- Thrust Piece -T10019-
- Puller -Kukko 12/1-
- Torque Wrench -V.A.G 1601-

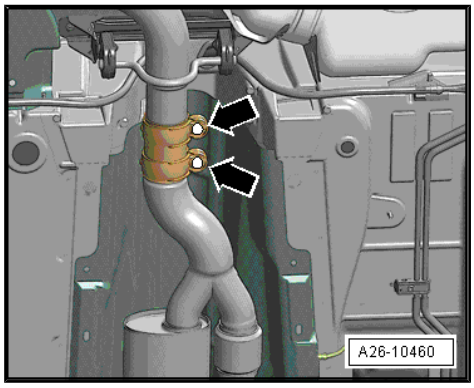
- Engine/Transmission Jack -V.A.G 1383 A- with Universal Support -V.A.G 1359/2-
- Drip tray for VAS 6100 -VAS 6208-
- Locking fluid -D 000 600-
- Bolt M10 x 25
- Socket hex head screw M8 x 15

Removing

Caution

Risk of damaging decoupling elements.

- *Do not bend decoupling elements in front exhaust pipe more than 10°.*



– Separate the exhaust system at the clamping sleeve -arrows-.

– Tie the front exhaust pipe to the underbody.

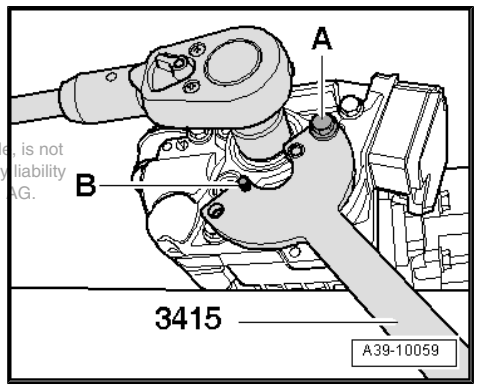
– Remove the exhaust system rear section. Refer to ⇒ Engine Mechanical; Rep. Gr. 26 ; Description and Operation .

– Remove the rear flexible disc. Refer to ⇒ “5.14 Rear Flexible Disc“, page 88 .

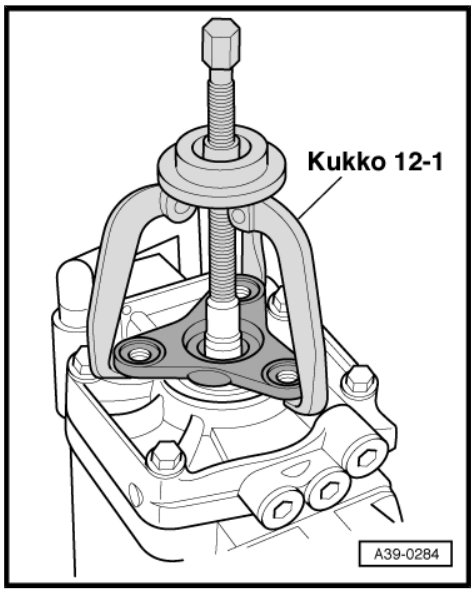
– Remove the flange/driveshaft hex nut.

A - Hex head bolts M10 x 25

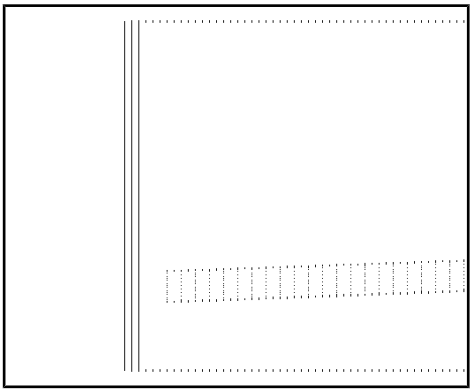
B - Socket hex head bolt M8 x 15 (installed from rear in bracket -3415-)



– Remove the driveshaft flange. Use a three arm puller (for example, Kukko 12-1) if difficult to access.



– Remove the seal using an -VW 681- .

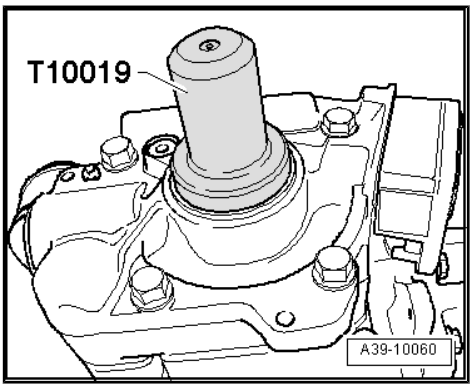


Installing

– Before installation, lightly coat the new sealing ring with the Haldex clutch high performance oil on the outside circumference and between the sealing lips.

– Install the new sealing ring using -T10019- . Do not tilt the seal.

– Remove the flange/driveshaft with -30 - 20- .



– Insert new hex nut with locking compound -D 000 600- and tighten. Tightening specification ⇒ Item 14 (page 36)

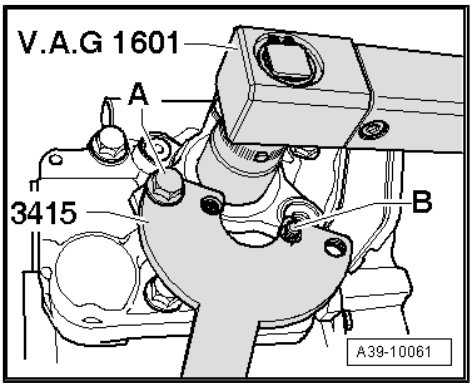
A - Hex head bolts M10 x 20

B - Socket hex head bolt M8 x 15 (installed from rear in bracket -3415-)

– Install the rear flexible disc. Refer to ⇒ “5.14 Rear Flexible Disc“, page 88 .

– Install the exhaust system and then align it making sure it is free of tension. Refer to ⇒ Engine Mechanical; Rep. Gr. 26 ; Description and Operation .

– Check oil level in Haldex clutch. Refer to ⇒ “1.4.1 Oil Level in the Haldex Clutch, Checking“, page 20 .



5.19 Right and Left Flange Shaft Seals, Rear Final Drive Installed

Special tools and workshop equipment required

- Extractor Lever -VW 681-
- Drip Tray for VAS 6100 -VAS 6208-
- Torque Wrench 5-50 Nm -V.A.G 1331-
- Thrust Piece -T10049-
- Puller -T10037-
- Sealing grease -G 052 128 A1-

Removing

Replacement procedure for left and right seals is identical.

– Remove the driveshaft. Refer to “All Wheel Drive (AWD)“ in ⇒ Suspension, Wheels, Steering; Rep. Gr. 42 ; Removal and Installation .

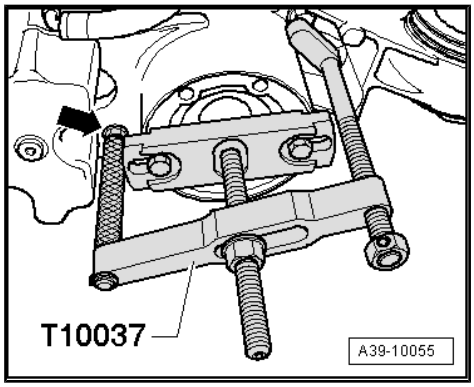
– Place drip tray under rear final drive.

Left Flange Shaft, Removing

– Turn an M8 nut -arrow- onto the thread for the -T10037- .

• The nut -arrow- fits flush with the thread beginning.

– Remove flange shaft with -T10037 - .



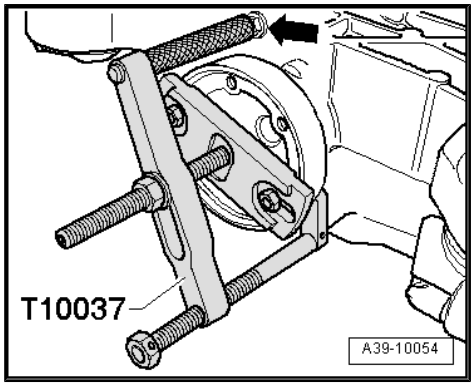
Right Flange Shaft, Removing

– Turn an M8 nut -arrow- onto the thread for the -T10037- .

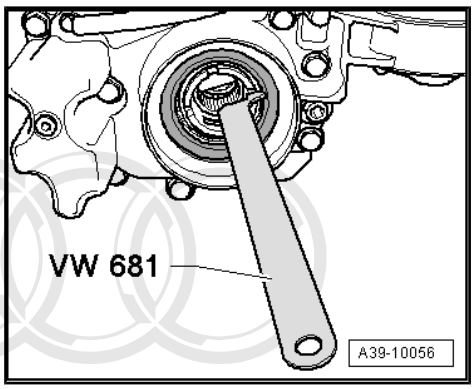
• The nut -arrow- fits flush with the thread beginning.

– Remove flange shaft with -T10037- .

Procedure for Both Sides



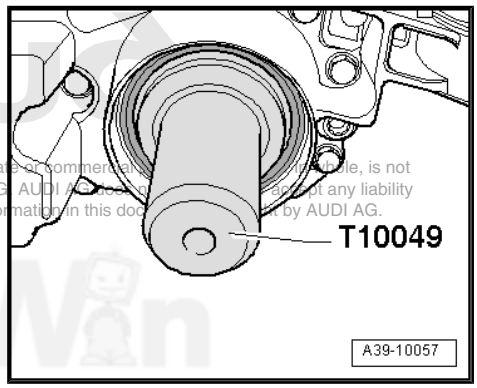
– Pry off flange shaft seal using -VW 681- .



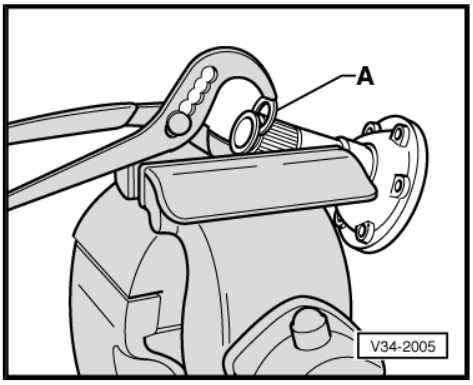
Installing

– Lightly lubricate outer diameter of new seal and install it all the way using the -T10049- . Be careful not to tilt it.

– Fill the space between the sealing- and dust lip half way with sealing grease -G 052 128 A1- .



– Clamp the flange shaft in a vise with jaw protectors.
– Use the new circlip -A- to press the previous circlip out of the flange shaft groove.
– Install the flange shaft using a plastic hammer and a drift.
– Install the drive axle on the flange shaft. Refer to “All Wheel Drive (AWD)“ in ⇒ Suspension, Wheels, Steering; Rep. Gr. 42 ; Removal and Installation .
– Axle oil level in rear final drive, checking. Refer to ⇒ “1.1 Rear Final Drive Identification“, page 18 .



6 Disassembly and Assembly

⇒ "6.1 Driveshaft with Separable Center Support, through 05.07", page 108

6.1 Driveshaft with Separable Center Support, through 05.07

The driveshaft with the separable center support was installed:

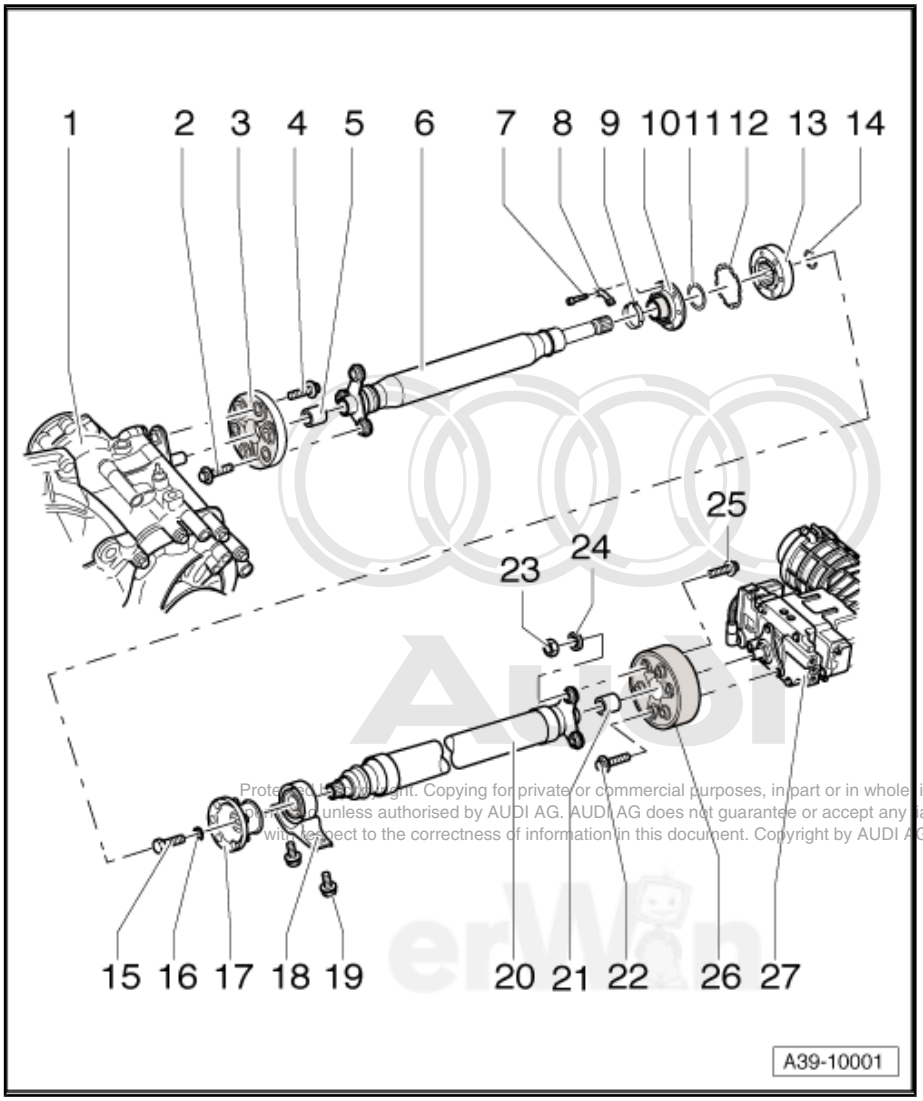
- Audi TT through VIN 8J-8-011 000
- On the Audi A3 through and including MY 2007

Special tools and workshop equipment required

- Puller -VW 391-
- Thrust Plate -VW 401-
- Thrust Plate -VW 402-
- Punch -VW 407-
- Punch -VW 408A-
- Driving Sleeve -VW 244B-
- Sleeve-Press Tool -VW 522-
- Press Block -40-204A-
- Hose Clamp Pliers -V.A.G 1275-
- Torque Wrench 5-50 Nm -V.A.G 1331-
- Circlip Pliers -VW 161A-
- Puller -2 - Kukko 18/0-
- Separating Tool -3 - Kukko 17/1-
- Thrust Piece -40 - 105-
- Two-Arm Puller -1 Kukko 20/10-
- Stop Plate -T10108/1-

Note

- *Only the entire driveshaft was balanced during manufacture In order to achieve quietest running. It is not possible to balance the entire driveshaft or the individual driveshaft tubes with workshop equipment. The entire driveshaft must always be replaced if the front or rear driveshaft tubes are damaged.*
- *Do not kink the driveshaft, only store and move when fully extended.*
- *Mark the position of all the parts to each other before removing them. Install in the same position otherwise the imbalance will be excessive and the bearings could get damaged causing rumbling noises.*
- *Driveshaft, removing and Installing, refer to ⇒ "5.10 Driveshaft with Separable Center Support, through 05.07, Removing", page 76 .*



1 - Manual Transmission with Bevel Box

2 - Bolt

- ❑ 50 Nm plus an additional 90° turn
- ❑ Always replace

3 - Flexible Disc with a Heat Shield

- ❑ Installed position: The open side of the heat shield faces the transmission.
- ❑ Removing and installing, refer to ⇒ “5.10 Driveshaft with Separable Center Support, through 05.07, Removing“, page 76

4 - Bolt

- ❑ 60 Nm
- ❑ Allocation ⇒ Fig. ““Note Location of Various Collar Bolts““ , page 81

5 - Centering Bushing

6 - Front Driveshaft Tube

- ❑ Do not damage centering bushing -5- and seal when removing and installing in center of flange

7 - Bolt

- ❑ 40 Nm

8 - Lock Plate

9 - Clamp

- ❑ Tensioning, refer to ⇒ Fig. ““Tensioning the Clamp““ , page 111

10 - CV Joint Protective Boot

- ❑ Remove with the mandrel before removing the CV joint
- ❑ Check for damage

11 - Plate Spring

- ❑ Splined on the inner diameter
- ❑ Installed position: Larger diameter makes contact on CV joint

12 - Gasket

- ❑ Replace, remove protective foil and adhere in joint

13 - CV Joint

- ❑ Removing, refer to ⇒ Fig. ““Removing the CV Joint““ , page 111
- ❑ Installing; refer to ⇒ Fig. ““Installing the CV Joint““ , page 111
- ❑ Filling with grease: press 25 g G-6.3 grease on each side (total 50 g) into joint. Add grease to the joint if the CV boot was replaced.

14 - Locking Ring

- ❑ Replace
- ❑ Removing and installing using -VW 161A-

15 - Bolt

- ❑ 45 Nm

16 - Washer

- ❑ Always replace

17 - Flange

- ❑ Removing, refer to ⇒ Fig. ""Removing Flange"" , page 112
- ❑ Installing, refer to ⇒ Fig. ""Installing the Flange"" , page 112

18 - Intermediate Bearing

- ❑ Removing, refer to ⇒ Fig. ""Intermediate Bearing, Removing"" , page 112
- ❑ Installed position, refer to ⇒ Fig. ""Intermediate Bearing, Installation Position"" , page 112
- ❑ Installing, refer to ⇒ Fig. ""Intermediate Bearing, Installing"" , page 113

19 - Bolt

- ❑ 25 Nm
- ❑ Also attaches the heat shield

20 - Rear Driveshaft Tube

- ❑ Do not damage centering bushing -5- and seal when removing and installing in center of flange
- ❑ Clamp to loosen and tighten bolted connections, refer to ⇒ Fig. ""Rear Driveshaft Tube, Clamping in Vise with -T10108/1- "" , page 111

21 - Centering Bushing

22 - Bolt

- ❑ 60 Nm
- ❑ Allocation, refer to ⇒ Fig. ""Note Location of Various Collar Bolts"" , page 81

23 - Balance Nut

- ❑ 10 Nm
- ❑ Not present on all driveshafts
- ❑ If the collar bolt ⇒ Item 25 (page 110) was loosened, the balance nut and balance washer ⇒ Item 24 (page 110) may not be reinstalled

24 - Balance Disc

- ❑ Only present in balanced final drive

25 - Bolt

- ❑ 50 Nm plus an additional 90° turn
- ❑ Always replace

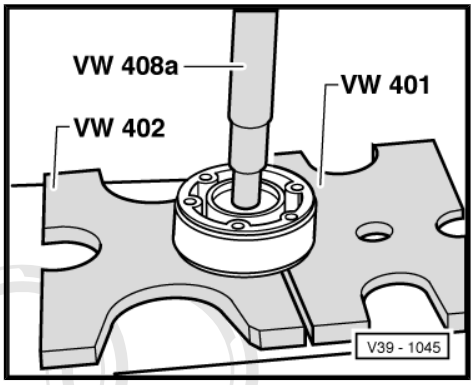
26 - Flexible Disc with Vibration Damper

- ❑ Installed position, refer to ⇒ Fig. ""Flexible Disc with Vibration Damper, Installation Location"" , page 113

27 - Rear Final Drive

- ❑ Removing and installing, refer to ⇒ "2.11 Rear Final Drive Overview", page 41

Removing the CV Joint

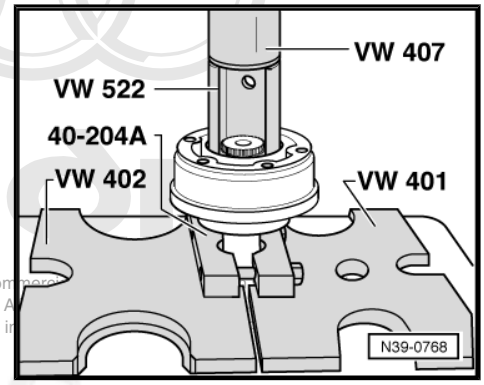


Installing the CV Joint

– Install carefully.

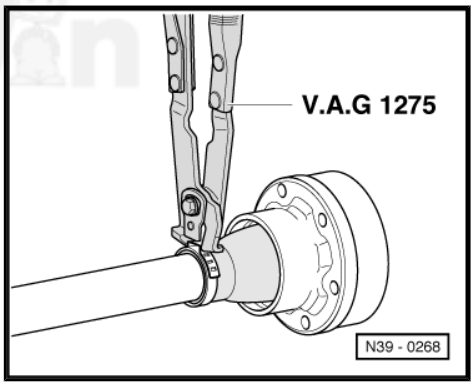
– Tighten the -V.A.G 40-204A- , driveshaft must not slide in press block, otherwise there may be damage to paint.

– Touch up any paint damage as follows: remove grease residue using nitro thinner -L 001 600- . Apply 2-component acrylic paint -ALN 769 041- with hardener -ALZ 009 001- .



Tensioning the Clamp

Refer to the Electronic Parts Catalog (ETKA) for allocating the clamp.



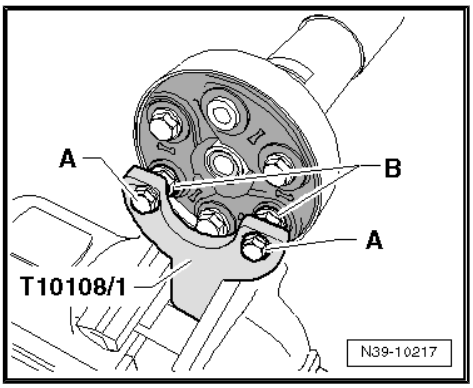
Rear Driveshaft Tube, Clamping in Vise with -T10108/1-

– Secure -T10108/1- to driveshaft tube flexible disc.

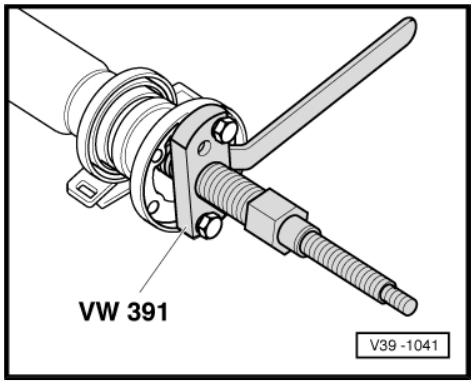
– Place the nuts -B- on the bolts -A- between the -T10108/1- and flexible disc.

A - Bolt M10 x 70 mm with nut

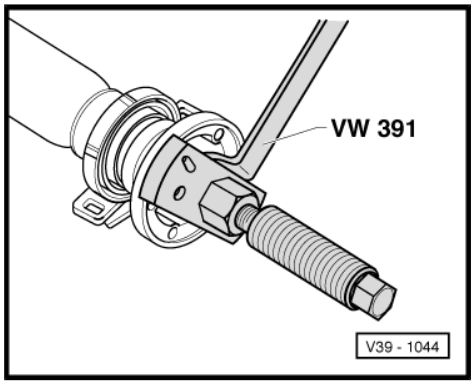
B - M12 nut



Removing Flange



Installing the Flange



Intermediate Bearing, Removing

– Cut through the rubber guide for the center bearing and remove the metal jacket.

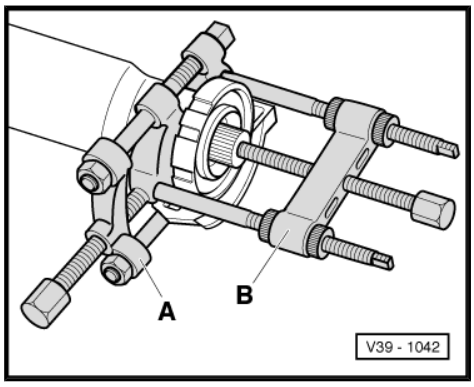
A - Separating device 12 to 75 mm , for example, -Kukko 17/1-

B - Puller , for example, -Kukko 18/0-

– Tension the separating device -A- with the straight side of the cuts behind the intermediate bearing.

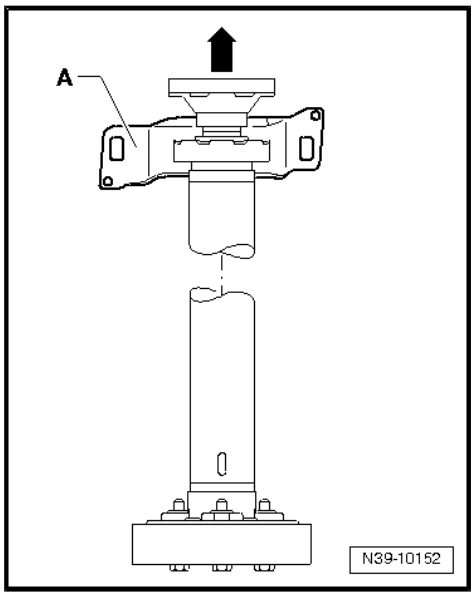
– Then position the 2-arm puller -B- on the separating device .

– Remove the intermediate bearing from the driveshaft.



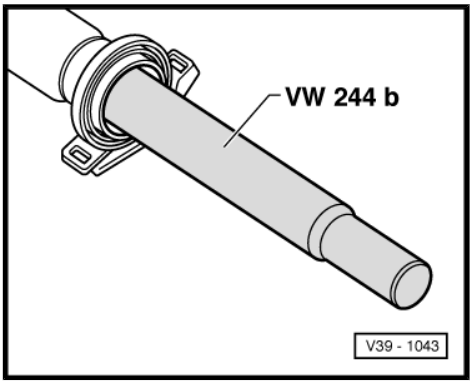
Intermediate Bearing, Installation Position

The longer brace -A- points in the direction of travel -arrow- to the left.



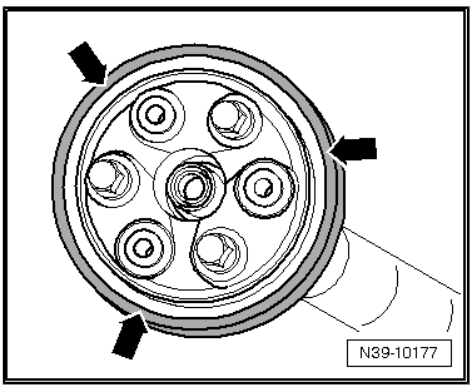
Intermediate Bearing, Installing

– Install the center bearing.



Flexible Disc with Vibration Damper, Installation Location

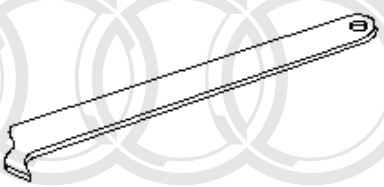
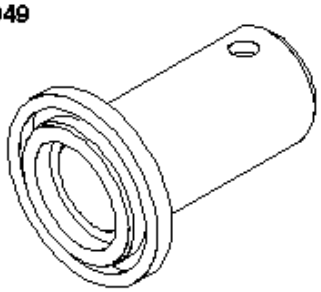
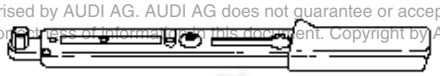
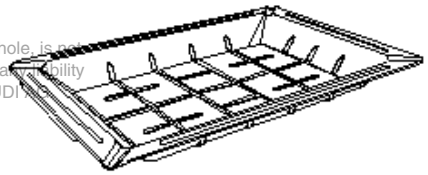
The brace on the outer diameter -arrows- faces away from the driveshaft tube.



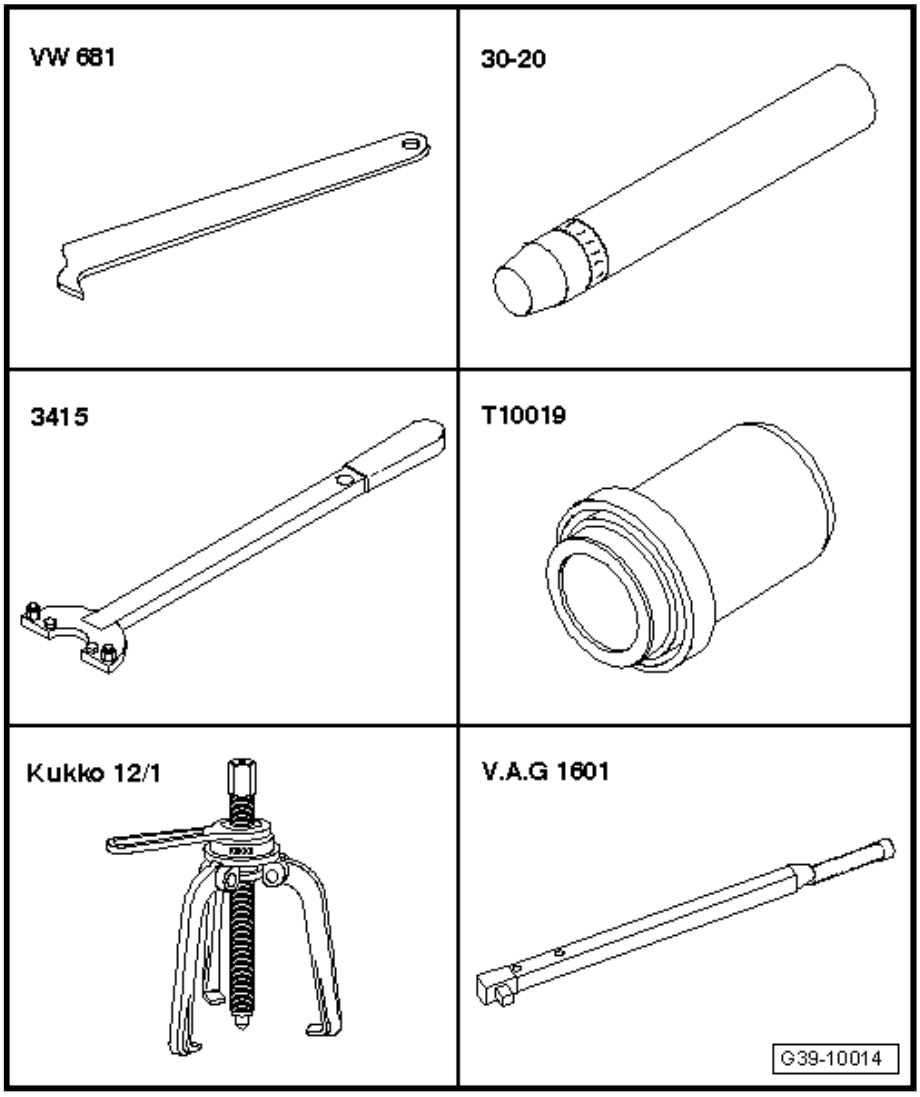
7 Special Tools

Special tools and workshop equipment required

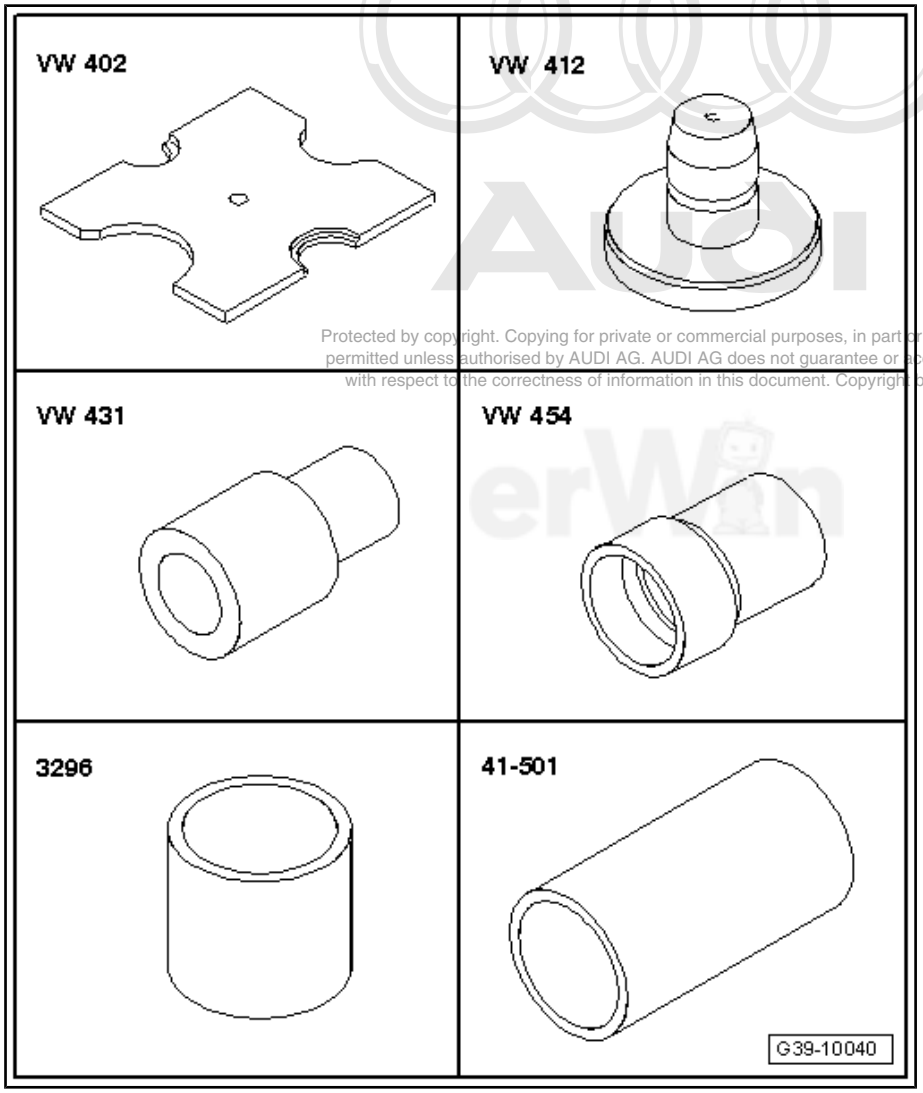
- Extractor Lever -VW 681-
- Drip Tray for VAS 6100 - VAS 6208-
- Torque Wrench 5-50 Nm - V.A.G 1331-
- Thrust Piece -T10049-

VW 681 	T10049 
V.A.G 1331 	VAS 6208 
	G39-10013

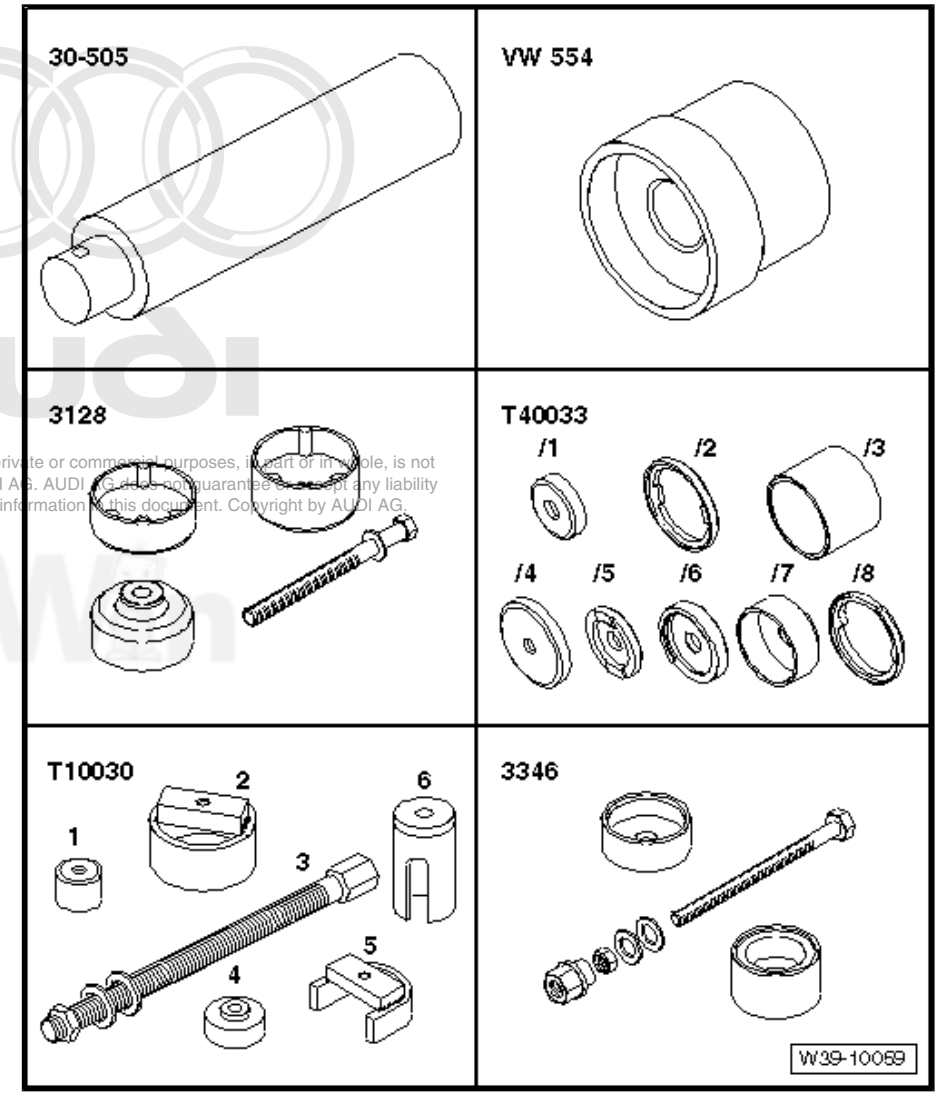
- Extractor Lever -VW 681-
- Drive Sleeve -30-20-
- Counter Support -3415-
- Thrust Piece -T10019-
- Puller -Kukko 12/1-
- Torque Wrench -V.A.G 1601-



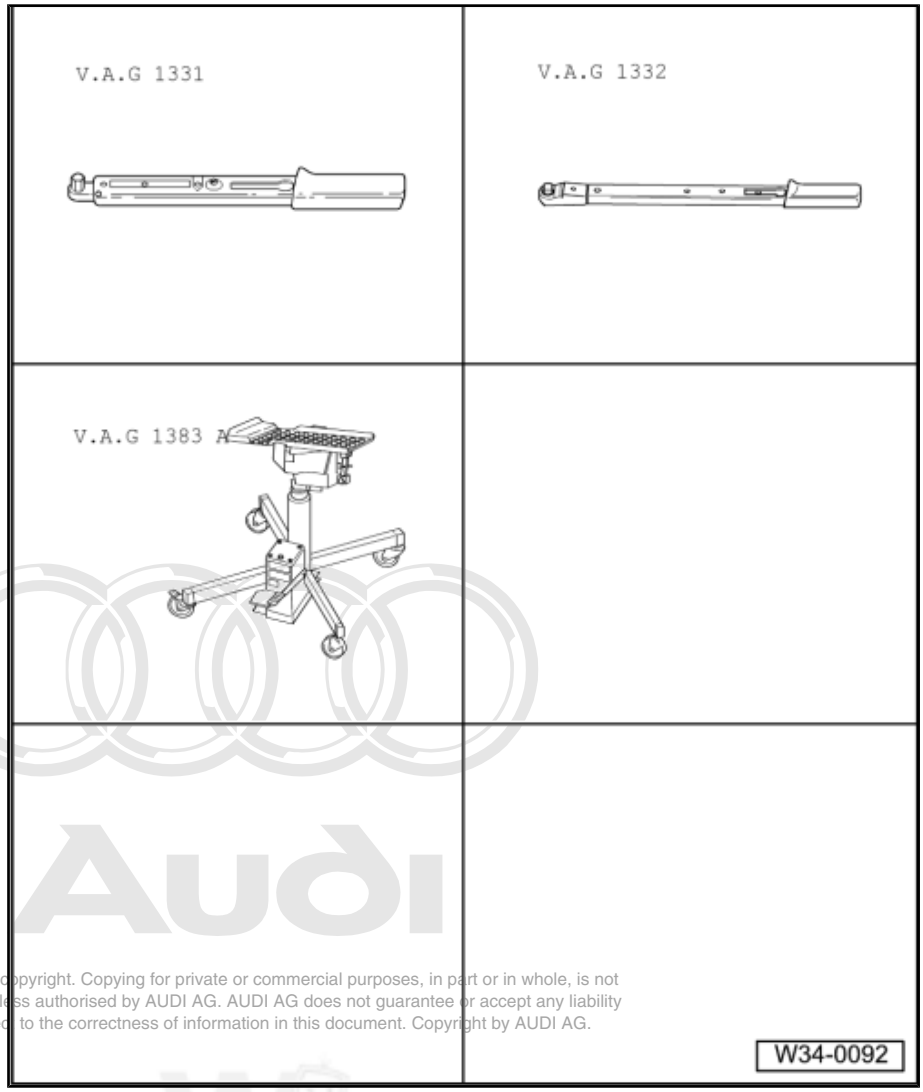
- Thrust Plate -VW 402-
- Thrust Disc -VW 412-
- Thrust Pad 16.5/28 mm Dia. -VW 431-
- Thrust Tube -VW 454-
- Tube -3296-
- Mounting Universal Joint -41 - 501-



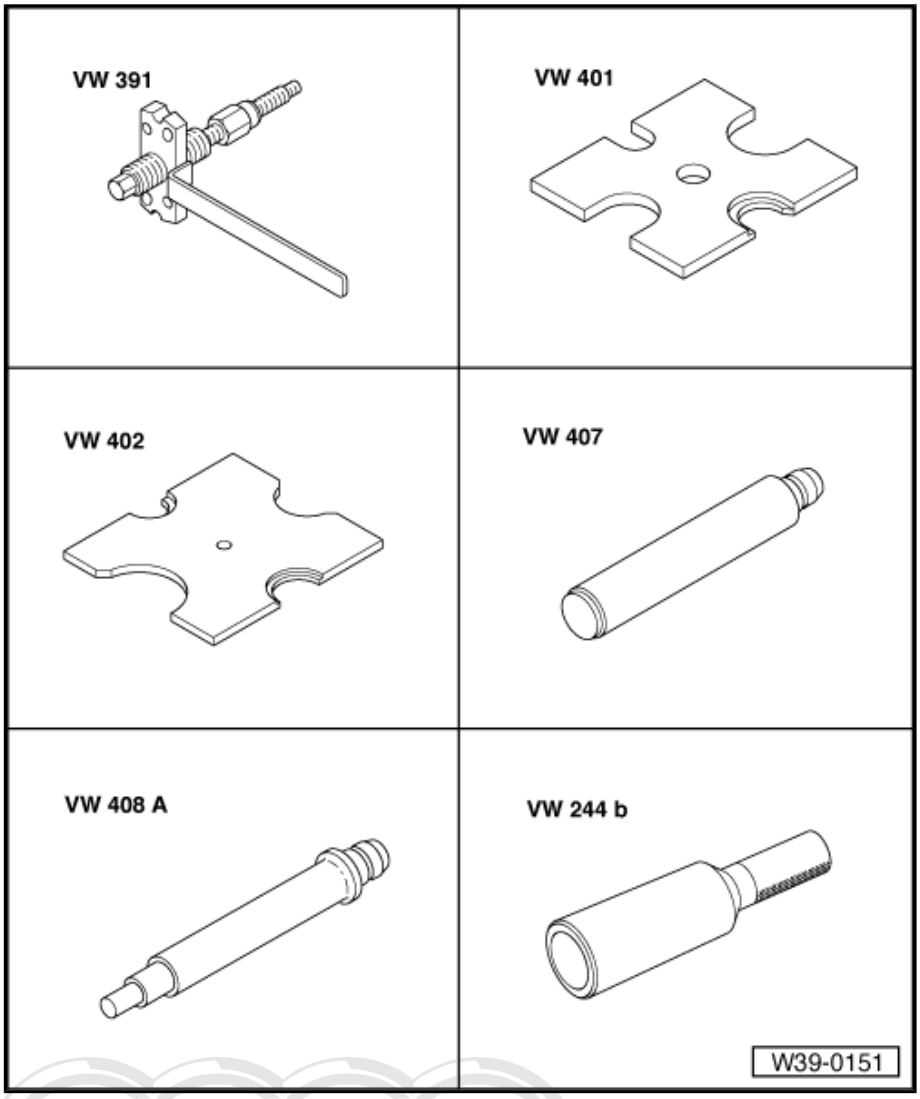
- Locking Pin -30 - 505-
- Arbor Thrust Piece -VW 554-
- Bushing Puller -3128-
- Assembly Tool -T40033/1-
- Traverse -T10030/5-
- Component Part for 3346 Tool -3346/2-
- Nut -3346/3-



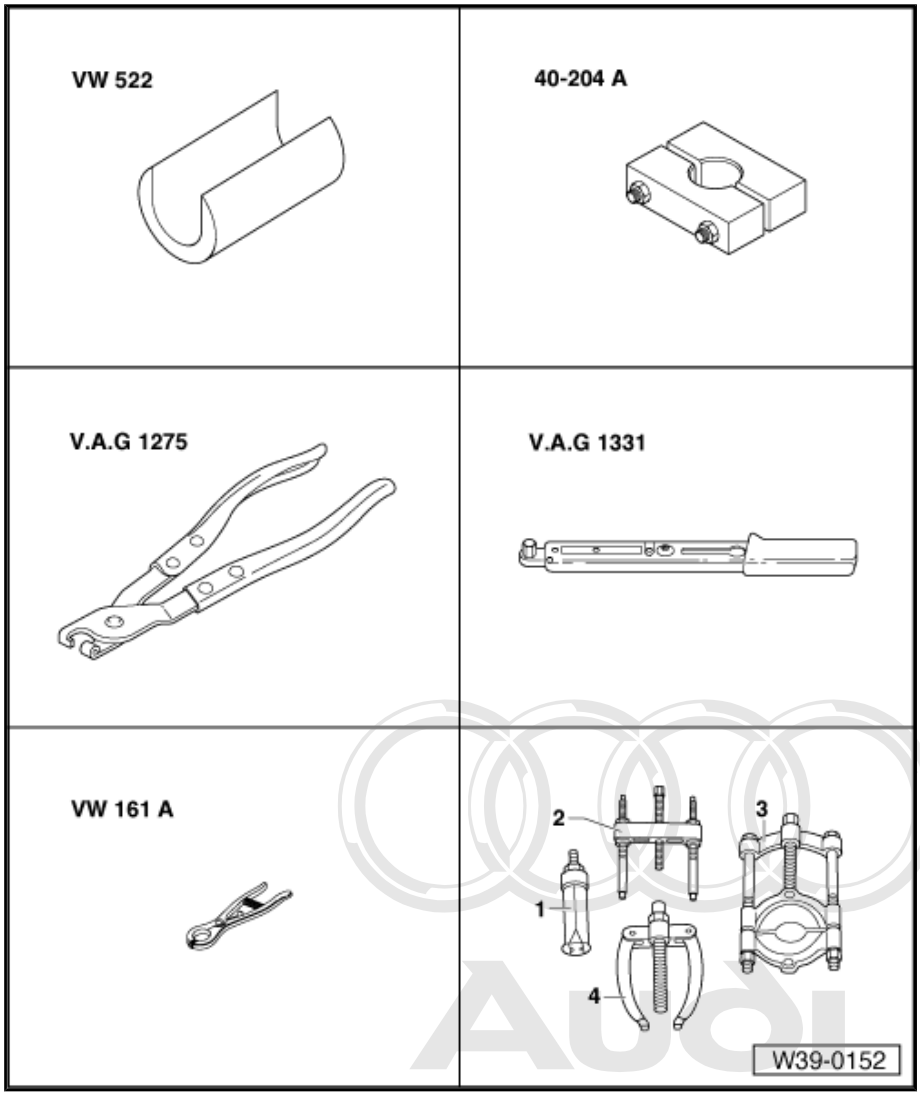
- Torque Wrench 5-50 Nm -V.A.G 1331-
- Torque Wrench 40-200 Nm -V.A.G 1332-
- Engine/Transmission Jack -V.A.G 1383 A- with Universal Transmission Adapter -V.A.G 1359/2-



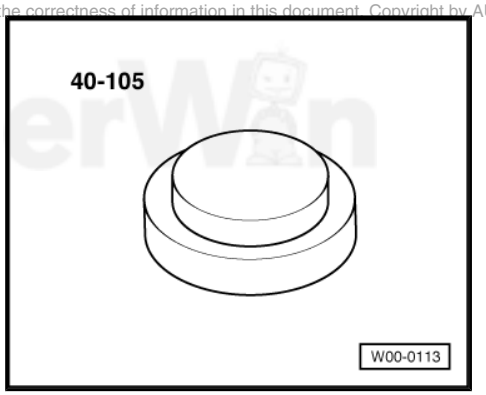
- Puller -VW 391-
- Thrust Plate -VW 401-
- Thrust Plate -VW 402-
- Punch -VW 407-
- Punch -VW 408A-
- Driving Sleeve -VW 244B-



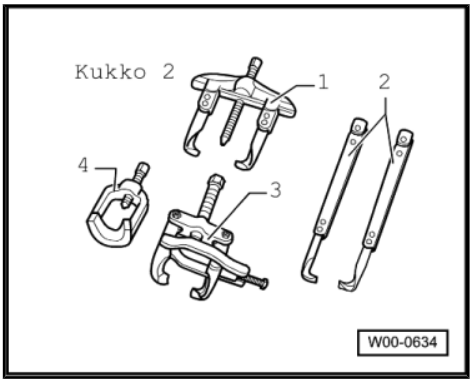
- Sleeve-Press Tool -VW 522-
- Press Block -40-204A-
- Hose Clamp Pliers -V.A.G 1275-
- Torque Wrench 5-50 Nm - V.A.G 1331-
- Circlip Pliers -VW 161A-
- Puller -2 - Kukko 18/0-
- Separating Tool -3 - Kukko 17/1-



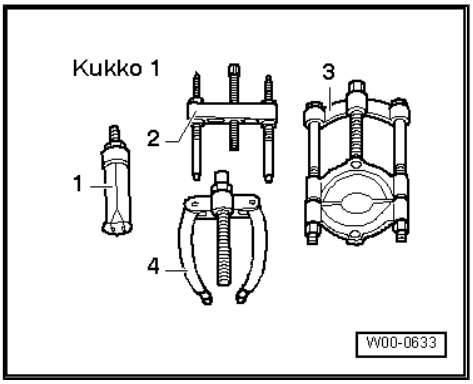
- Thrust Piece -40 - 105-



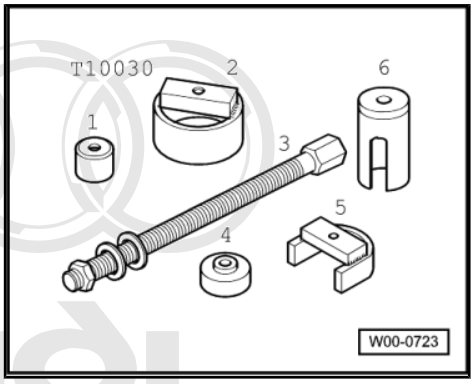
- Two-Arm Puller -1 Kukko 20/10-



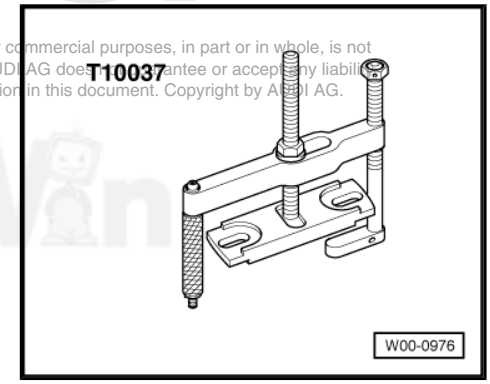
- -1- Internal Puller -Kukko 21/1-



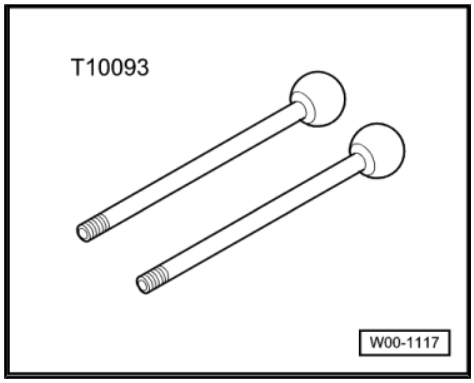
- -4- Counter-Support -Kukko 22/1-
- Subframe Support Assembling Device -T10030/6-



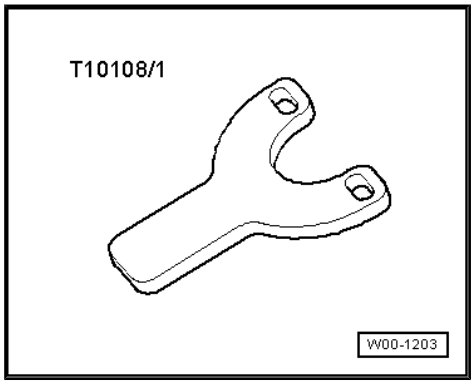
- Puller -T10037-



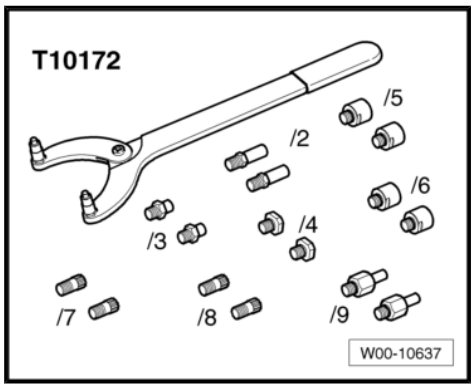
- Guide Pins -T10093-



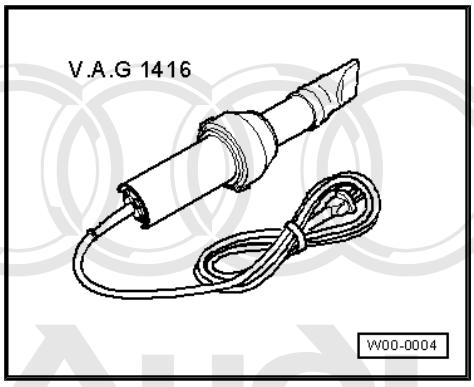
- Stop Plate -T10108/1-



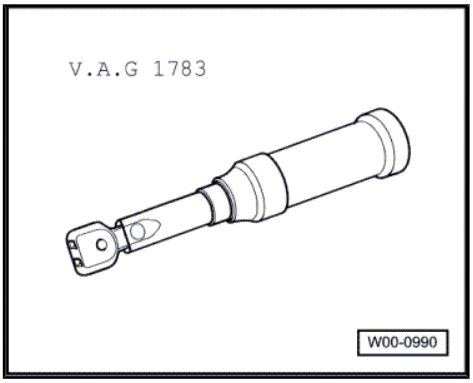
- Counterhold Tool Touareg V10 -T10172- with Adapter -T10172/5-



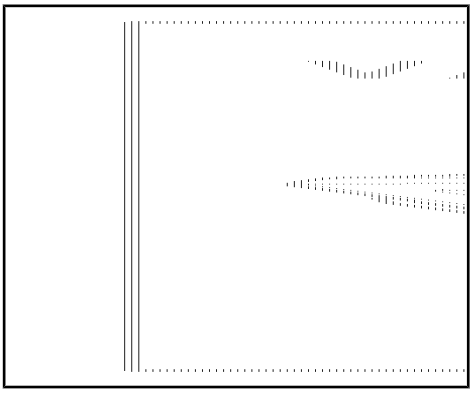
- Hot Air Blower -V.A.G 1416-



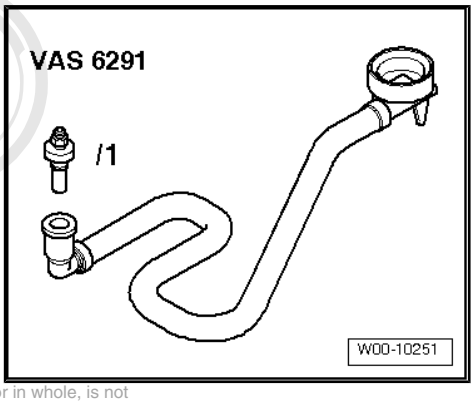
- Torque Wrench -V.A.G 1783-



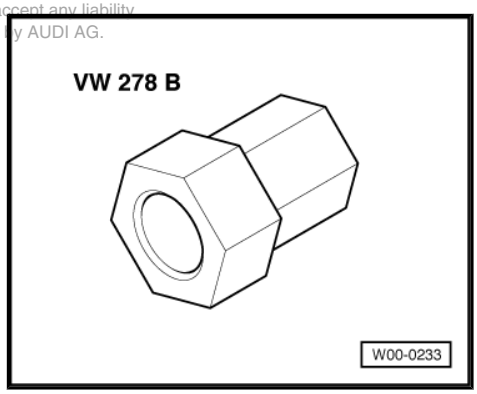
- Drip Tray for VAS 6100 -VAS 6208-



- Charging Device F/Haldex 2 Coup. -VAS 6291-



- Wrench -VW 278 B-



- Not illustrated:
- Two Arm Puller -Kukko 20-20-
- Counter Support -3415-
- Thrust Piece -T10019-
- Stop Plate -T10108/1-

- Universal Transmission Support -V.A.G 1359/2-
- Extractor Lever -VW 681-

Edition 8 26 2011

Cautions & Warnings

Please read these WARNINGS and CAUTIONS before proceeding with maintenance and repair work. You must answer that you have read and you understand these WARNINGS and CAUTIONS before you will be allowed to view this information.

- If you lack the skills, tools and equipment, or a suitable workshop for any procedure described in this manual, we suggest you leave such repairs to an authorized Audi retailer or other qualified shop. We especially urge you to consult an authorized Audi retailer before beginning repairs on any vehicle that may still be covered wholly or in part by any of the extensive warranties issued by Audi.

- Disconnect the battery negative terminal (ground strap)whenever you work on the fuel system or the electrical system. Do not smoke or work near heaters or other fire hazards. Keep an approved fire extinguisher handy.

- Audi is constantly improving its vehicles and sometimes these changes, both in parts and specifications, are made applicable to earlier models. Therefore, part numbers listed in this manual are for reference only. Always check with your authorized Audi retailer parts department for the latest information.

- Any time the battery has been disconnected on an automatic transmission vehicle, it will be necessary to reestablish Transmission Control Module (TCM) basic settings using the VAG 1551 Scan Tool (ST).

- Never work under a lifted vehicle unless it is solidly supported on stands designed for the purpose. Do not support a vehicle on cinder blocks, hollow tiles or other props that may crumble under continuous load. Never work under a vehicle that is supported solely by a jack. Never work under the vehicle while the engine is running.

- For vehicles equipped with an anti-theft radio, be sure of the correct radio activation code before disconnecting the battery or removing the radio. If the wrong code is entered when the power is restored, the radio may lock up and become inoperable, even if the correct code is used in a later attempt.

- If you are going to work under a vehicle on the ground, make sure that the ground is level. Block the wheels to keep the vehicle from rolling. Disconnect the battery negative terminal (ground strap) to prevent others from starting the vehicle while you are under it.

- Do not attempt to work on your vehicle if you do not feel well. You increase the danger of injury to yourself and others if you are tired, upset or have taken medicine or any other substances that may impair you or keep you from being fully alert.

- Never run the engine unless the work area is well ventilated. Carbon monoxide (CO) kills.

- Always observe good workshop practices. Wear goggles when you operate machine tools or work with acid. Wear goggles, gloves and other protective clothing whenever the job requires working with harmful substances.

- Tie long hair behind your head. Do not wear a necktie, a scarf, loose clothing, or a necklace when you work near machine tools or running engines. If your hair, clothing, or jewelry were to get caught in the machinery, severe injury could result.

next

Cautions & Warnings

- Do not re-use any fasteners that are worn or deformed in normal use. Some fasteners are designed to be used only once and are unreliable and may fail if used a second time. This includes, but is not limited to, nuts, bolts, washers, circlips and cotter pins. Always follow the recommendations in this manual - replace these fasteners with new parts where indicated, and any other time it is deemed necessary by inspection.

- Illuminate the work area adequately but safely. Use a portable safety light for working inside or under the vehicle. Make sure the bulb is enclosed by a wire cage. The hot filament of an accidentally broken bulb can ignite spilled fuel or oil.

- Friction materials such as brake pads and clutch discs may contain asbestos fibers. Do not create dust by grinding, sanding, or by cleaning with compressed air. Avoid breathing asbestos fibers and asbestos dust. Breathing asbestos can cause serious diseases such as asbestosis or cancer, and may result in death.

- Finger rings should be removed so that they cannot cause electrical shorts, get caught in running machinery, or be crushed by heavy parts.

- Before starting a job, make certain that you have all the necessary tools and parts on hand. Read all the instructions thoroughly, do not attempt shortcuts. Use tools that are appropriate to the work and use only replacement parts meeting Audi specifications. Makeshift tools, parts and procedures will not make good repairs.

- Catch draining fuel, oil or brake fluid in suitable containers. Do not use empty food or beverage containers that might mislead someone into drinking from them. Store flammable fluids away from fire hazards. Wipe up spills at once, but do not store the oily rags, which can ignite and burn spontaneously.

- Use pneumatic and electric tools only to loosen threaded parts and fasteners. Never use these tools to tighten fasteners, especially on light alloy parts. Always use a torque wrench to tighten fasteners to the tightening torque listed.

- Keep sparks, lighted matches, and open flame away from the top of the battery. If escaping hydrogen gas is ignited, it will ignite gas trapped in the cells and cause the battery to explode.

- Be mindful of the environment and ecology. Before you drain the crankcase, find out the proper way to dispose of the oil. Do not pour oil onto the ground, down a drain, or into a stream, pond, or lake. Consult local ordinances that govern the disposal of wastes.

- The air-conditioning (A/C) system is filled with a chemical refrigerant that is hazardous. The A/C system should be serviced only by trained automotive service technicians using approved refrigerant recovery/recycling equipment, trained in related safety precautions, and familiar with regulations governing the discharging and disposal of automotive chemical refrigerants.

- Before doing any electrical welding on vehicles equipped with anti-lock brakes (ABS), disconnect the battery negative terminal (ground strap) and the ABS control module connector.

- Do not expose any part of the A/C system to high temperatures such as open flame. Excessive heat will increase system pressure and may cause the system to burst.

back next

Cautions & Warnings

- When boost-charging the battery, first remove the fuses for the Engine Control Module (ECM), the Transmission Control Module (TCM), the ABS control module, and the trip computer. In cases where one or more of these components is not separately fused, disconnect the control module connector(s).

- Some of the vehicles covered by this manual are equipped with a supplemental restraint system (SRS), that automatically deploys an airbag in the event of a frontal impact. The airbag is operated by an explosive device. Handled improperly or without adequate safeguards, it can be accidentally activated and cause serious personal injury. To guard against personal injury or airbag system failure, only trained Audi Service technicians should test, disassemble or service the airbag system.

- Do not quick-charge the battery (for boost starting) for longer than one minute, and do not exceed 16.5 volts at the battery with the boosting cables attached. Wait at least one minute before boosting the battery a second time.

- Never use a test light to conduct electrical tests of the airbag system. The system must only be tested by trained Audi Service technicians using the VAG 1551 Scan Tool (ST) or an approved equivalent. The airbag unit must never be electrically tested while it is not installed in the vehicle.

- Some aerosol tire inflators are highly flammable. Be extremely cautious when repairing a tire that may have been inflated using an aerosol tire inflator. Keep sparks, open flame or other sources of ignition away from the tire repair area. Inflate and deflate the tire at least four times before breaking the bead from the rim. Completely remove the tire from the rim before attempting any repair.

- When driving or riding in an airbag-equipped vehicle, never hold test equipment in your hands or lap while the vehicle is in motion. Objects between you and the airbag can increase the risk of injury in an accident.

I have read and I understand these Cautions and Warnings.

back OK