

Workshop Manual

Audi A4 2008 ➤ ,
Audi A5 Cabriolet 2009 ➤ ,
Audi A5 Coupé 2008 ➤ ,
Audi Q5 2008 ➤ , Audi Q5 China 2010 ➤

Rear final drive OBD

Edition 02.2013



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List of Workshop Manual Repair GroupsList of Workshop Manual Repair GroupsList of Workshop Manual Repair Groups

Repair Group

00 - Technical data

39 - Final drive - rear differential



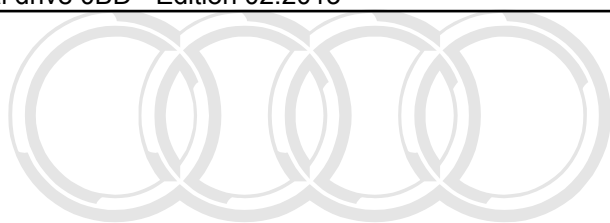
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Technical information should always be available to the foremen and mechanics, because their careful and constant adherence to the instructions is essential to ensure vehicle road-worthiness and safety. In addition, the normal basic safety precautions for working on motor vehicles must, as a matter of course, be observed.

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00 – Technical data

1 Rear final drive identification

(ARL003261; Edition 02.2013)

The rear final drive OBD is installed in conjunction with the following gearbox types:

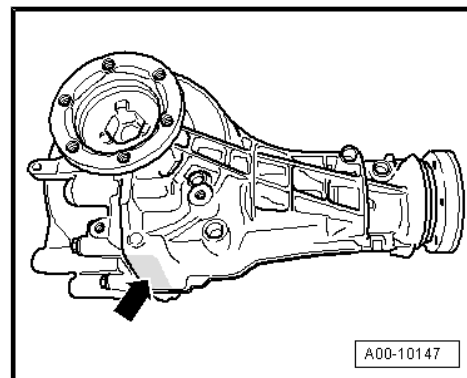
- ◆ 6-speed manual gearbox 0B2, four-wheel drive
- ◆ 6-speed manual gearbox 0B4, four-wheel drive
- ◆ 7-speed dual clutch gearbox 0B5, four-wheel drive
- ◆ Automatic gearbox 0B6, four-wheel drive
- ◆ 8-speed automatic gearbox 0BK, four-wheel drive

Rear final drive allocation

- ◆ ⇒ [“2.1 Audi A4 2008 ► - Code letters, allocation, transmission ratios, capacities”, page 3](#)
- ◆ ⇒ [“2.2 Audi A5 Coupé 2008 ► - Code letters, allocation, transmission ratios, capacities”, page 3](#)
- ◆ ⇒ [“2.3 Audi A5 Cabriolet 2009 ► - Code letters, allocation, transmission ratios, capacities”, page 3](#)
- ◆ ⇒ [“2.4 Audi Q5 2008 ► - Code letters, allocation, transmission ratios, capacities”, page 4](#)

Location on rear final drive

Final drive OBD, code letters and date of manufacture -arrow-



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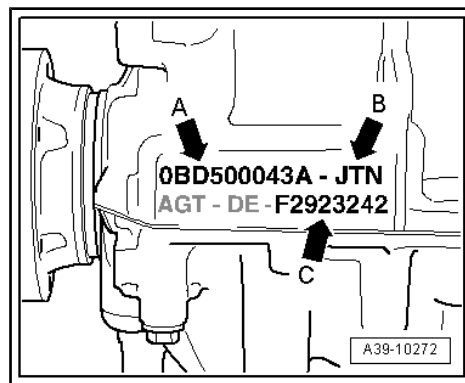


-Arrow A- Final drive OBD with Part No. (in this example OBD 500 043A)

-Arrow B- Code letters "JTN"

-Arrow C- Manufacturing data of rear final drive

Example:	F	292	3242
Year of manufacture -2006-		Day of manufacture	Serial number on day of manufacture
F = 2006,		-292nd day of year-	
G = 2007,		(always specified	
H = 2008 ...		in three digits)	



Other information can be disregarded.



Note

When installing a new rear final drive unit, it is important to verify not only the code letters of the rear final drive but also the PR No. and the engine code of the vehicle in the ⇒ Electronic parts catalogue . This is necessary to ensure that the correct version is installed.



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2 Code letters, allocation, transmission ratios, capacities

2.1 Audi A4 2008 ► - Code letters, allocation, transmission ratios, capacities

The following data can be found in the ⇒ **Electronic parts catalogue** .

- ◆ Date of manufacture
- ◆ Gear oil specification
- ◆ Allocation to engine and manual or automatic gearbox according to code letters and PR numbers

Rear final drive		OBD	
Code letters		JTN	KBU
Ratio	Final drive $Z_2 : Z_1$	35 : 8 = 4.375	43 : 13 = 3.308
Drive shaft flange Ø		70.7 mm	70.7 mm
Capacity		1.0 ltr.	

2.2 Audi A5 Coupé 2008 ► - Code letters, allocation, transmission ratios, capacities

The following data can be found in the ⇒ **Electronic parts catalogue** .

- ◆ Date of manufacture
- ◆ Gear oil specification
- ◆ Allocation to engine and manual or automatic gearbox according to code letters and PR numbers

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Rear final drive		OBD	
Code letters		JTN	KBU
Ratio	Final drive $Z_2 : Z_1$	35 : 8 = 4.375	43 : 13 = 3.308
Drive shaft flange Ø		70.7 mm	70.7 mm
Capacity		1.0 ltr.	

2.3 Audi A5 Cabriolet 2009 ► - Code letters, allocation, transmission ratios, capacities

The following data can be found in the ⇒ **Electronic parts catalogue** .

- ◆ Date of manufacture
- ◆ Gear oil specification
- ◆ Allocation to engine and manual or automatic gearbox according to code letters and PR numbers



Rear final drive		0BD		
Code letters		KBU		
Ratio	Final drive $Z_2 : Z_1$	$43 : 13 = 3.308$		
Drive shaft flange Ø		70.7 mm		
Capacity		1.0 ltr.		

2.4 Audi Q5 2008 ► - Code letters, allocation, transmission ratios, capacities

The following data can be found in the ⇒ Electronic parts catalogue .

- ◆ Date of manufacture
- ◆ Gear oil specification
- ◆ Allocation to engine and manual or automatic gearbox according to code letters and PR numbers

Rear final drive		0BD		
Code letters		KBB	KHR	KQF
Ratio	Final drive $Z_2 : Z_1$	$35 : 8 = 4.375$	$43 : 13 = 3.308$	$37 : 8 = 4.625$
Drive shaft flange Ø		75.5 mm	75.5 mm	75.5 mm
Capacity		1.0 ltr.		

Rear final drive		0BD		
Code letters		LLU		
Ratio	Final drive $Z_2 : Z_1$	$42 : 9 = 4.667$		
Drive shaft flange Ø		75.5 mm		
Capacity		1.0 ltr.		

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3 Transmission layout

- Illustrated with 6-speed manual gearbox 0B2, four-wheel drive



Note

-Arrows- point in direction of travel.

1 - Engine

2 - Drive plate

- ☐ With needle bearing for gearbox input shaft

3 - Clutch module

- ☐ Consists of pressure plate, clutch plate and dual-mass flywheel with flange for drive plate

4 - Front differential

5 - Input shaft (main shaft)

6 - Front pinion shaft (side shaft)

7 - Output shaft

8 - Manual gearbox

9 - Centre differential

10 - Propshaft

11 - Rear pinion shaft

12 - Rear differential

I - 1st gear

II - 2nd gear

III - 3rd gear

IV - 4th gear

V - 5th gear

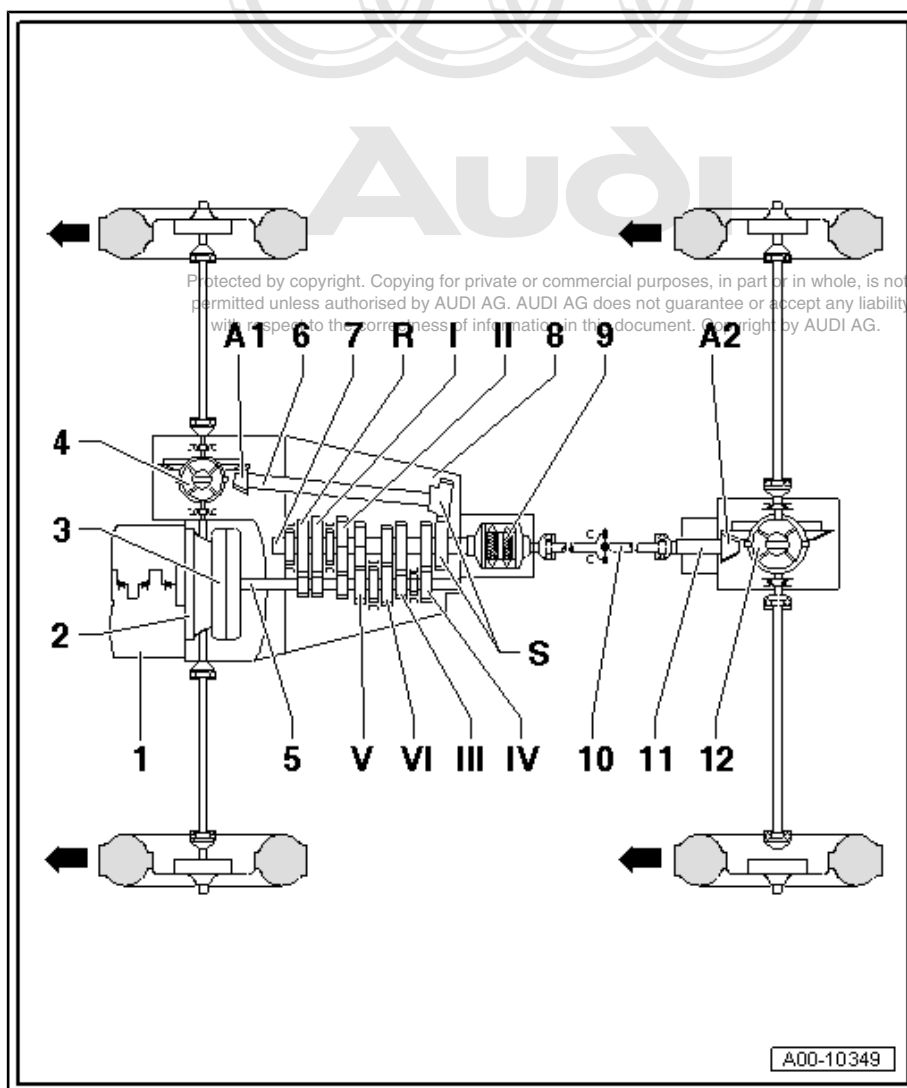
VI - 6th gear

R - Reverse gear

S - Spur gears (intermediate drive)

A1 - Front final drive

A2 - Rear final drive



4 General repair instructions

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

A number of generally applicable instructions for the various repair procedures are summarised here under the designation "Components" ➔ [page 6](#) . They apply to the work described in this Manual.

4.1 Jacking mode (vehicles with air suspension)

Before raising the vehicle on a 2-column lifting platform (wheels off the ground) you must first activate the jacking mode ➔ Rep. gr. 43 .

4.2 Special tools

For a complete list of special tools used in this Workshop Manual ➔ Workshop equipment and special tools catalogue .

4.3 Components

Rear final drive

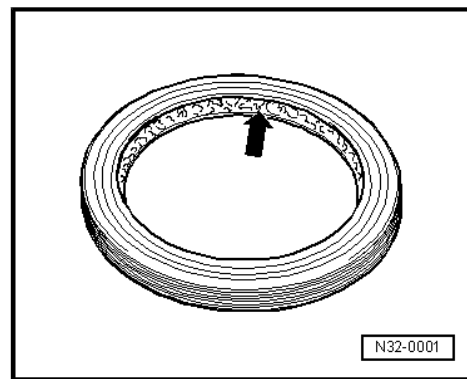
- ◆ Allocate bolts and other components according to final drive code letters, refer to ➔ Electronic parts catalogue .
- ◆ When installing a new rear final drive unit, check the oil level in the final drive and top up if necessary ➔ [page 32](#) .
- ◆ Capacities and specifications ➔ [page 3](#) .
- ◆ When installing mounting brackets as well as other waxed components, the contact surfaces must be cleaned. The contact surfaces must be free of wax and grease.
- ◆ Thoroughly clean all joints and connections and the surrounding areas before dismantling.

Environmental and waste disposal regulations for oil

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

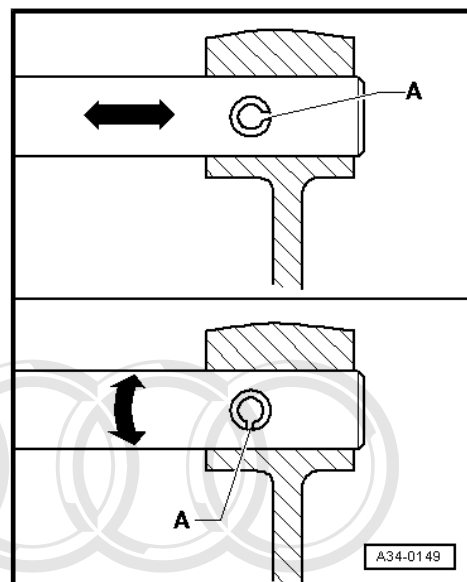
O-rings, oil seals and gaskets

- ◆ Always renew O-rings, oil seals and gaskets.
- ◆ After removing gaskets and seals, always inspect the contact surface on the housing or shaft for burrs resulting from removal or for other signs of damage.
- ◆ Thoroughly clean housing joint surfaces before assembling.
- ◆ Before installing oil seals, lightly oil the outer circumference of the seal and fill the space between the sealing lips -arrow- about half full with grease -G 052 128 A1- .
- ◆ The open side of the oil seal should face the side containing the fluid.
- ◆ Lightly lubricate O-rings before installation to prevent them from being trapped and damaged during assembly.
- ◆ After renewing gaskets and oil seals, check the oil level in the final drive and top up if necessary ➔ [page 32](#) .



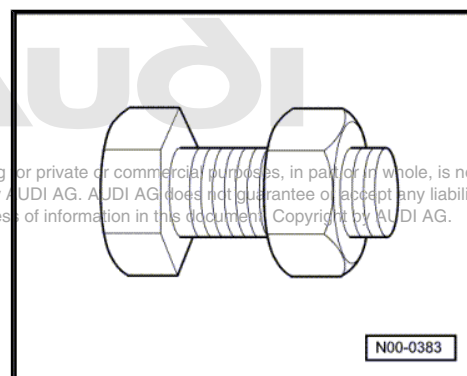
Locking elements

- ◆ Do not over-stretch circlips.
- ◆ Always renew circlips which have been damaged or over-stretched.
- ◆ Circlips must be properly seated in the base of the groove.
- ◆ Renew spring pins. Position: the slit -A- should be in line with the line of force -arrow-.



Nuts, bolts

- ◆ Nuts and bolts for securing covers and housings must be slackened and tightened in diagonal sequence.
- ◆ Loosen and tighten particularly sensitive parts in diagonal sequence and in stages, taking care to keep them straight.
- ◆ The tightening torques stated apply to non-oiled nuts and bolts.
- ◆ Always renew self-locking bolts and nuts.
- ◆ Clean the threads of bolts which are secured with locking fluid using a wire brush (does not apply to propshaft bolts: these must be renewed). Then apply locking fluid -AMV 185 101 A1- to bolt threads before installing.
- ◆ Threaded holes which take self-locking bolts or bolts coated with locking fluid must be cleaned (using a tap or similar). Otherwise there is a danger of the bolts shearing off the next time they are removed.



39 – Final drive - rear differential

1 Exploded view - propshaft with bolted connection at gearbox end



Note

- ◆ Refer to general repair instructions ⇒ [page 6](#).
- ◆ No repair work can be carried out on the propshaft with the exception of removing, installing and adjusting.
- ◆ The propshaft should normally be kept straight when it is stored or transported.
- ◆ The propshaft can be bent as far as the stop at the centre joint, but must not be subjected to any kind of force. The centre joint or the protective boot can be damaged if the joint is forced against its stop.
- ◆ The propshaft must be tied up or supported at one end if it is detached only at the gearbox or at the rear final drive. If necessary, the propshaft can be bent as far as the stop at the centre joint, but it must not be subjected to force.
- ◆ Before removing, mark the positions of all parts in relation to each other. Reinstall in the same position to avoid excessive imbalance, resulting in bearing damage and rumbling noise.
- ◆ Use counterhold tool -T10172- with adapters -T10172/5- to slacken and tighten the propshaft bolts.
- ◆ After detaching the propshaft from the rear final drive, an additional balancing washer (thicker washer) that may be fitted between the lock plate and the bolt head (multi-point socket head bolt) must not be reinstalled.
- ◆ If problems are reported concerning noise and/or vibration, check that the centre bearing is stress-free before renewing the propshaft.

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1 - Rear final drive

- ☐ Removing and installing
⇒ [page 33](#)

2 - Gasket

- ☐ Renew gasket if damaged (buckled or kinked)
- ☐ Renew gasket if rubber coating has become detached
- ☐ Degrease flange shaft and fit gasket
- ☐ Different coloured sides can be disregarded for installation

3 - Propshaft

- ☐ Removing and installing
⇒ [page 10](#)
- ☐ Detaching and attaching propshaft at gearbox
⇒ [page 15](#)
- ☐ Detaching and attaching propshaft at rear final drive
⇒ [page 17](#)

4 - Balancing washer

- ☐ Not fitted on all vehicles
- ☐ May be fitted between a multi-point socket head bolt
⇒ [Item 5 \(page 9\)](#)
and a lock plate
⇒ [Item 6 \(page 9\)](#) on the rear final drive
- ☐ If fitted, this balancing washer must not be re-installed after the propshaft has been detached from the rear final drive.

5 - Bolt

- ☐ Always renew
- ☐ Self-locking
- ☐ Always clean threaded holes for bolts in flange shaft (e.g. with a thread tap)

• On rear final drive

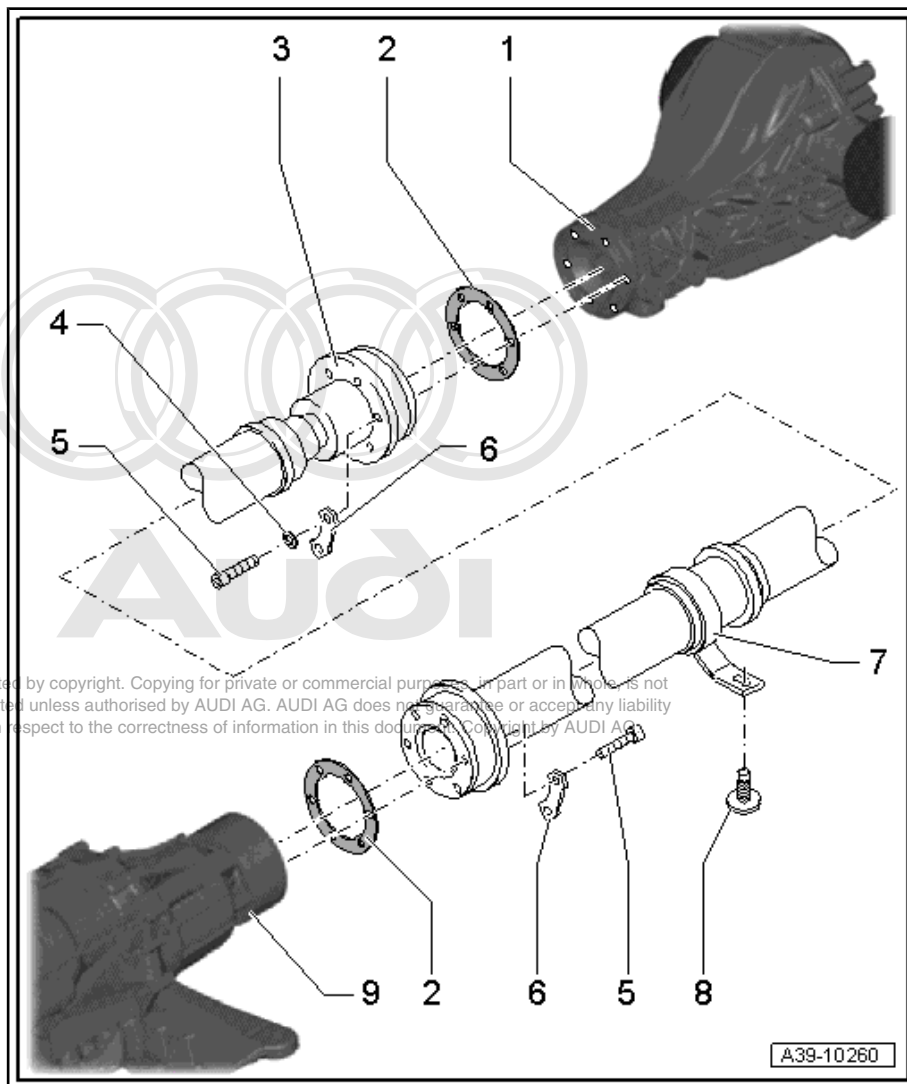
- ☐ Tightening torque and sequence ⇒ [page 10](#)

• On gearbox

- ☐ 30 Nm + 90°

6 - Lock plate**7 - Centre bearing****8 - Bolt**

- ☐ 20 Nm

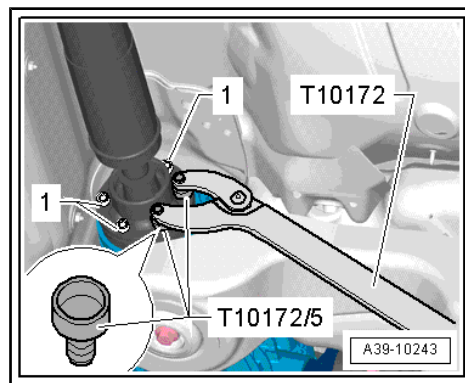
9 - Gearbox

Securing propshaft to rear final drive - tightening torque and sequence

- Always renew propshaft bolts -1-.
- Counterhold using counterhold tool -T10172- and adapters -T10172/5-.
- Tighten bolts -1- in 3 stages as follows:

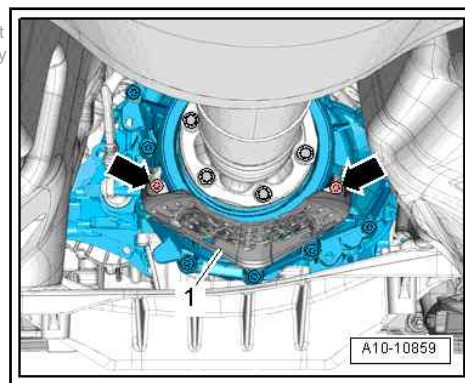
Stage	Bolts	Tightening torque/tightening angle
1.	-1-	Bolt nearest to coloured dots: 30 Nm ¹⁾
2.	-1-	All remaining bolts: 30 Nm
3.	-1-	All bolts: turn 90° further

• ¹⁾ This pushes the CV joint slightly towards the opposite side and reduces the imbalance.



Heat shield for propshaft - tightening torque

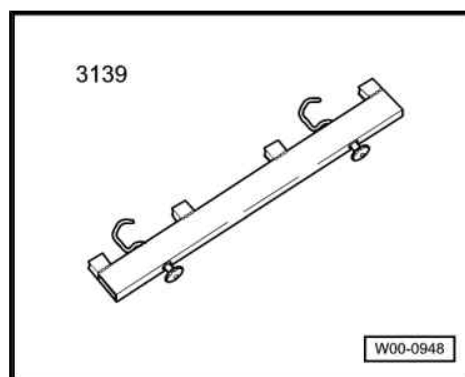
- Tighten bolts -arrows- to 24 Nm.



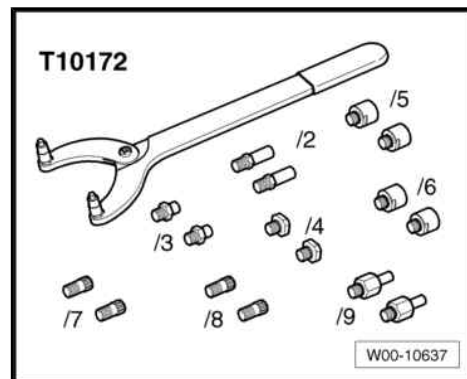
1.1 Removing and installing propshaft with bolted connection at gearbox end

Special tools and workshop equipment required

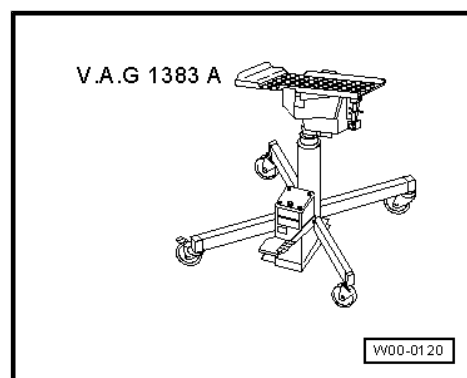
- ◆ Assembly tool -3139-



- ◆ Counterhold tool -T10172- with adapters -T10172/5-



- ◆ Engine and gearbox jack -V.A.G 1383 A- with universal support -V.A.G 1359/2-



- ◆ High-temperature grease -G 052 133 A3-

Removing propshaft

- ◆ Observe notes ➔ [page 8](#) .

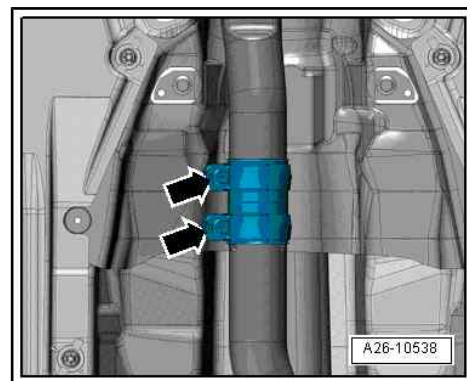
- ◆ Repairs on the propshaft should be carried out on a two pillar hoist.



Note

The flexible pipe connection (de-coupling element) in the front exhaust pipe must not be bent more than 10° - otherwise it can be damaged.

- Unfasten clamp(s) -arrows- and disconnect exhaust system.
- Tie front exhaust pipe(s) up to side of underbody.



- Remove rear section of exhaust system -2- ➔ Rep. gr. 26 .

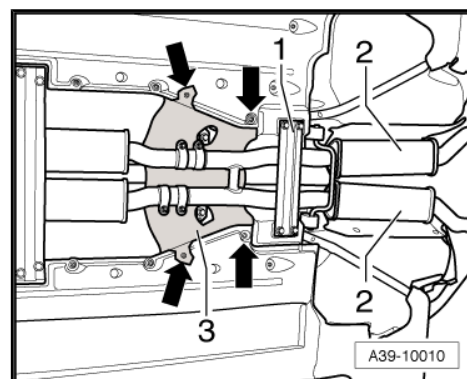


Note

A second mechanic is required for removing the rear section of the exhaust system.

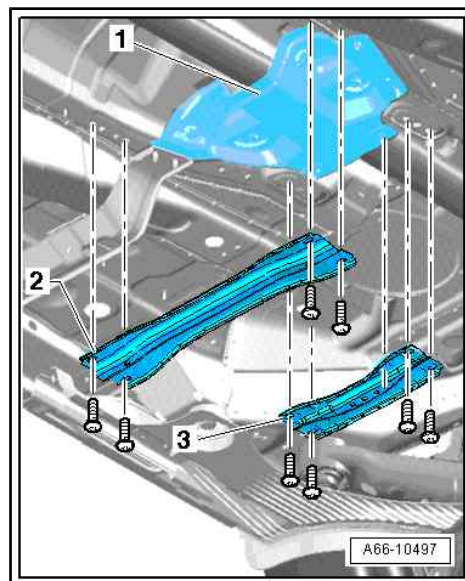
Audi A4, Audi A5

- Remove cross member -1-.
- Detach heat shield -3- from body -arrows-.



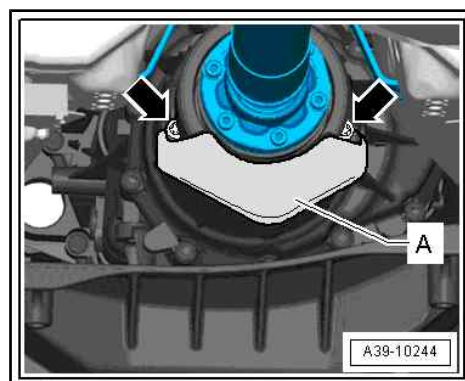
Audi Q5

- Remove front cross member -2- and rear cross member -3-.
- Detach heat shield -1- from body.

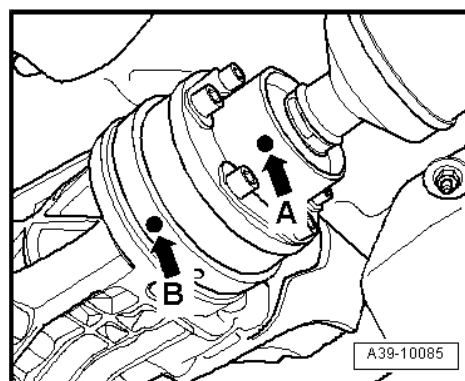


Continued for all vehicles

- If fitted, detach heat shield -A- from gearbox -arrows-.



- Check whether there is a factory marking (coloured dot) -arrow A- and -arrow B- on the propshaft and on the propshaft flange on the rear final drive.
- If one of these markings is no longer visible (for example -arrow A- on the propshaft), make a new coloured marking accordingly.
- The markings on the propshaft -arrow A- and on the rear final drive -arrow B- should be aligned.

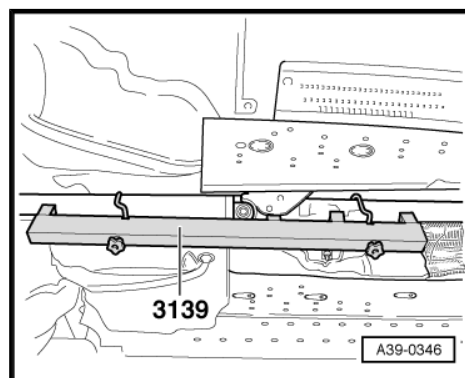


- Attach assembly tool -3139- and tighten plastic nuts.

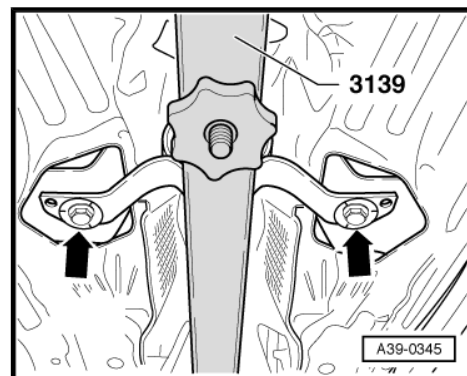


Note

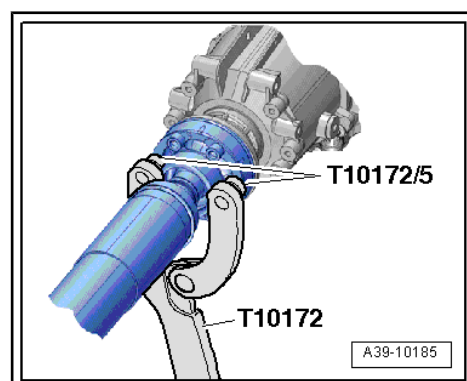
Do not fit assembly tool onto balance plates.



- Remove bolts -arrows- securing centre bearing.



- Remove securing bolts from connection between propshaft and gearbox (counterhold using counterhold tool -T10172- and -T10172/5-).
- Remove propshaft from gearbox and support propshaft with engine and gearbox jack -V.A.G 1383 A-.



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- Remove bolts -1- (6x) on rear CV joint.
- Use counterhold tool -T10172- with adapters -T10172/5-.
- Remove the propshaft.



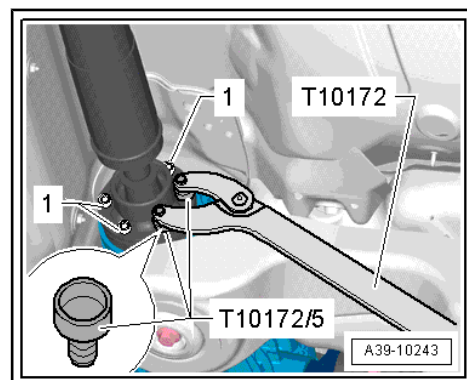
Note

The propshaft must be kept straight when it is stored or transported.

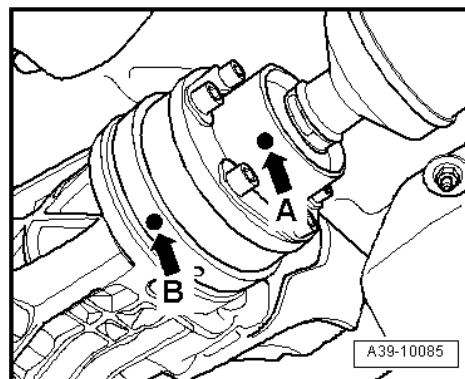
Installing propshaft

Perform installation in reverse sequence of removal. Note the following:

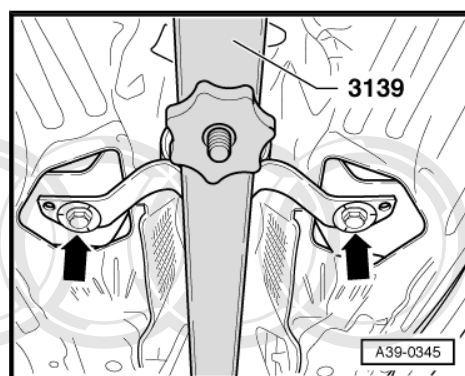
- ◆ Remove old, dried-out high-temperature grease from CV joints and flanges for propshaft. Put in exactly the same quantity of fresh high-temperature grease -G 052 133 A3-.
- ◆ Clean all remaining locking fluid out of the tapped holes in the propshaft flange shafts on the gearbox and rear final drive. The threads can be cleaned with a thread tap. Otherwise the securing bolts can shear off when they are screwed in.
- ◆ After detaching the propshaft from the rear final drive, the additional balancing washer (thicker washer) that may be fitted between the lock plate and one of the securing bolts must not be reinstalled.
- ◆ Always install new securing bolts for propshaft (self-locking bolts).
- ◆ Note correct position of propshaft: the central CV joint is located behind the centre bearing and towards the rear final drive.
- ◆ Check for damage to gasket for propshaft on rear final drive flange (kinked gasket or partially detached rubber coating). A damaged gasket must be renewed.



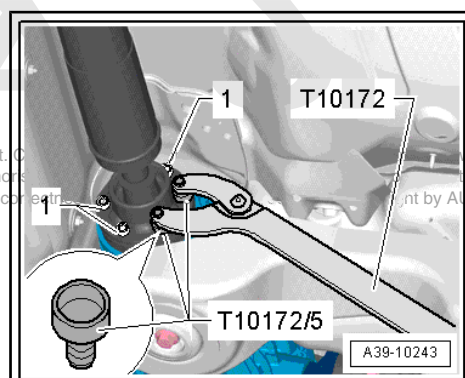
- Fit propshaft, paying attention to installation position at rear final drive:
- The markings on the propshaft -arrow A- and on the rear final drive -arrow B- should be aligned.
- Maximum misalignment of markings: 30°.
- Screw in new bolts by hand until they make contact, but do not tighten.



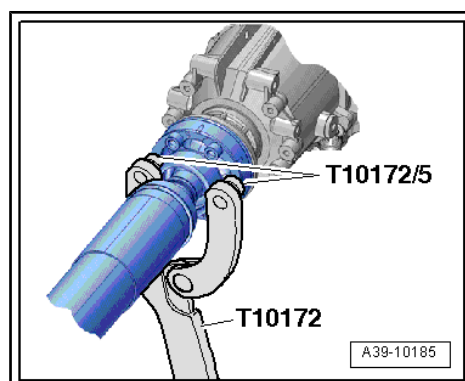
- Screw in securing bolts -arrows- so that centre bearing can still be moved.



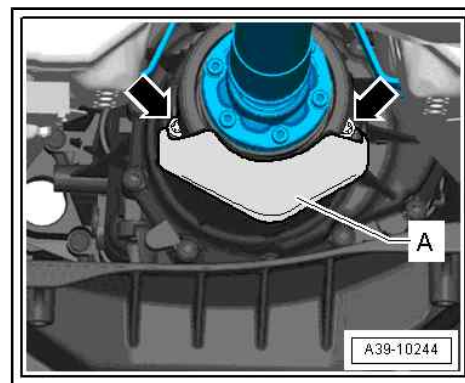
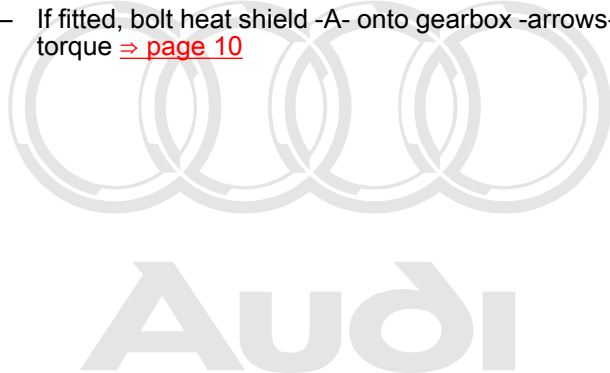
- Tighten bolts -1- at rear of propshaft. Follow correct tightening sequence ➔ [page 10](#) .



- Tighten bolts securing propshaft (front end). Tightening torque ➔ [Item 5 \(page 9\)](#)
- Remove assembly tool -3139- .
- Secure centre propshaft bearing to body so it is free of stress and tighten to specified torque ➔ [Item 8 \(page 9\)](#) .

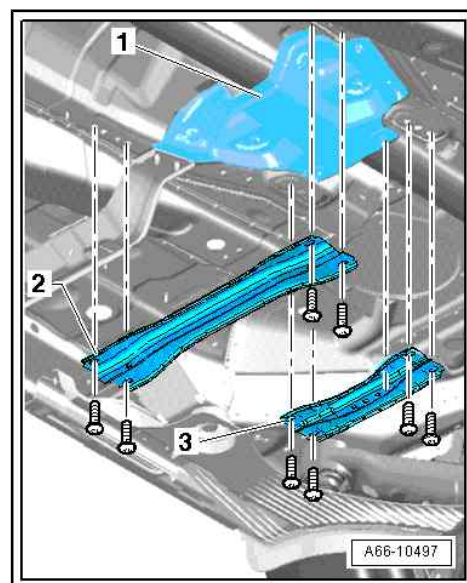


- If fitted, bolt heat shield -A- onto gearbox -arrows-. Tightening torque ➔ [page 10](#)



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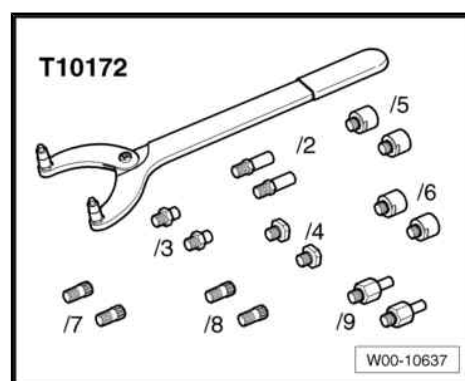
- **Install heat shield 1.**
- If fitted, install front cross member -2- and rear cross member -3- ➔ Rep. gr. 66 .
- Install exhaust system and perform stress-free alignment ➔ Rep. gr. 26 .



1.2 Detaching and attaching propshaft at gearbox

Special tools and workshop equipment required

- ◆ Counterhold tool -T10172- with adapters -T10172/5-



- ◆ High-temperature grease -G 052 133 A3-

Detaching propshaft

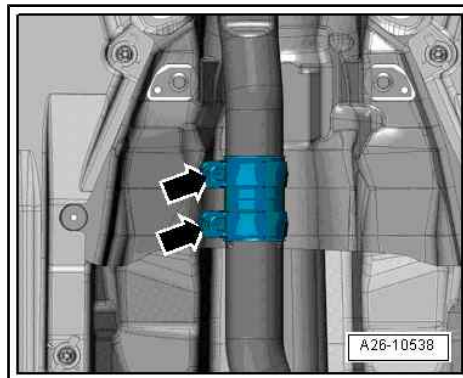
- ◆ Observe notes ➔ [page 8](#) .
- ◆ Repairs on the propshaft should be carried out on a two pillar hoist.



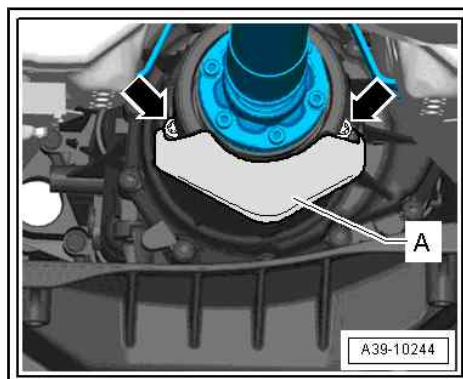
Note

The flexible pipe connection (de-coupling element) in the front exhaust pipe must not be bent more than 10° - otherwise it can be damaged.

- Unfasten clamp(s) -arrows- and disconnect exhaust system.
- Tie front exhaust pipe(s) up to side of underbody.



- If fitted, detach heat shield -A- from gearbox -arrows-.

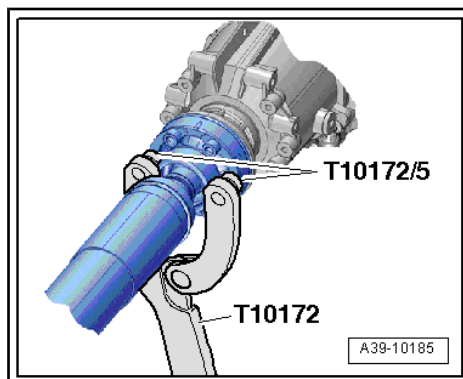


- Remove securing bolts from connection between propshaft and gearbox (counterhold using counterhold tool -T10172- and -T10172/5-).
- Secure propshaft to side of underbody.

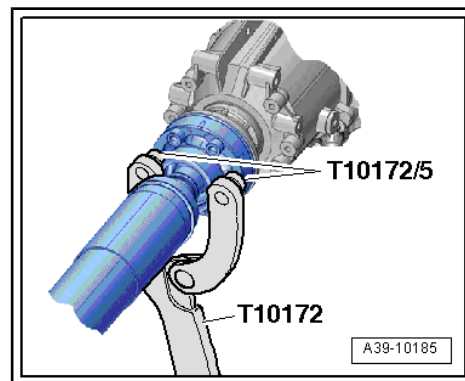
Attaching propshaft

Perform installation in reverse sequence of removal. Note the following:

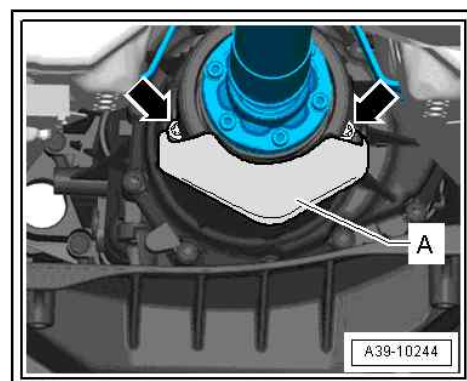
- ◆ Remove old, dried-out high-temperature grease from CV joint and flange for propshaft. Put in exactly the same quantity of fresh high-temperature grease -G 052 133 A3- .
- ◆ Clean remaining locking fluid out of tapped holes in flange shaft on gearbox. The threads can be cleaned with a thread tap. Otherwise the securing bolts can shear off when they are screwed in.
- ◆ Always install new securing bolts for propshaft (self-locking bolts).
- Check gasket for propshaft on gearbox flange for damage (a damaged gasket must be renewed).
- Bring propshaft into position and fit bolts on CV joint.



- Tighten bolts securing propshaft (front end). Tightening torque ⇒ [Item 5 \(page 9\)](#)
- Use counterhold tool -T10172- with adapters -T10172/5- .



- If fitted, bolt heat shield -A- onto gearbox -arrows-. Tightening torque ⇒ [page 10](#)
- Assemble exhaust system and align free of stress ⇒ Rep. gr. 26 .



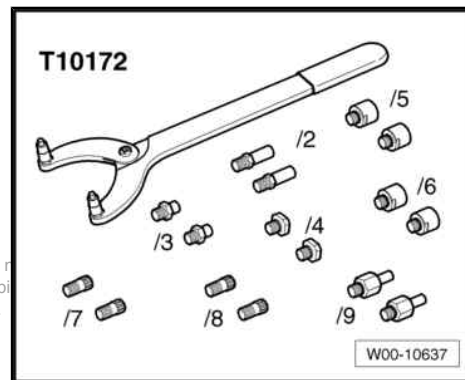
1.3 Detaching and attaching propshaft at rear final drive

Special tools and workshop equipment required

- ◆ Counterhold tool -T10172- with adapters -T10172/5-



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- ◆ High-temperature grease -G 052 133 A3-
- ◆ Please refer to notes ⇒ [page 8](#) .
- ◆ Repairs on the propshaft should be carried out on a two pillar hoist.

Detaching propshaft from rear final drive



Note

The flexible pipe connection (de-coupling element) in the front exhaust pipe must not be bent more than 10° - otherwise it can be damaged.

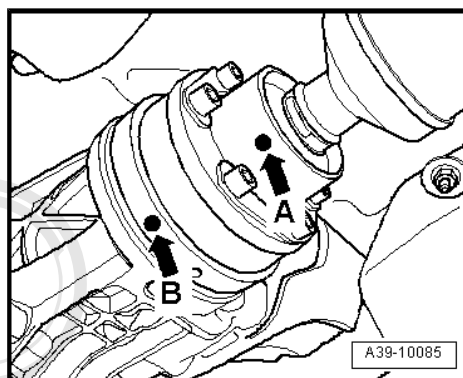
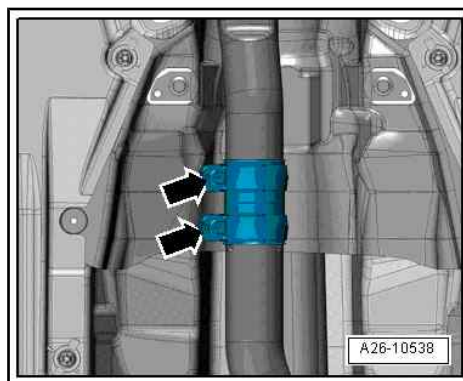
- Unfasten clamp(s) -arrows- and disconnect exhaust system.
- Tie front exhaust pipe(s) up to side of underbody.



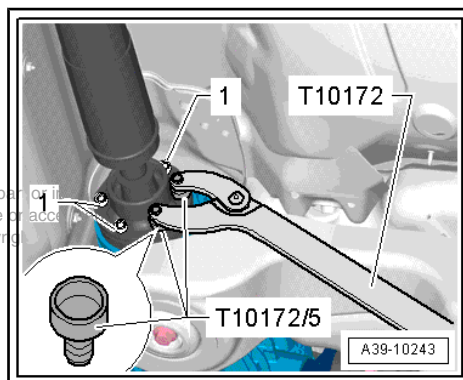
Note

A second mechanic is required for removing the rear section of the exhaust system.

- Remove rear section of exhaust system ⇒ Rep. gr. 26 .
- Check whether there is a factory marking (coloured dot) -arrow A- and -arrow B- on the propshaft and on the propshaft flange on the rear final drive.
- If one of these markings is no longer visible (for example -arrow A- on the propshaft), make a new coloured marking accordingly.
- The markings on the propshaft -arrow A- and on the rear final drive -arrow B- should be aligned.



- Remove bolts -1- (6x) on rear CV joint.
- Use counterhold tool -T10172- with adapters -T10172/5- .
- Separate propshaft from rear final drive and tie up to one side on subframe.

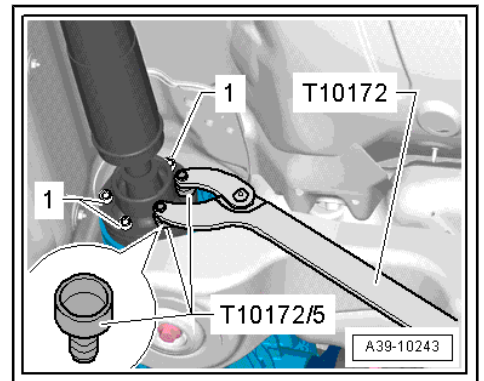
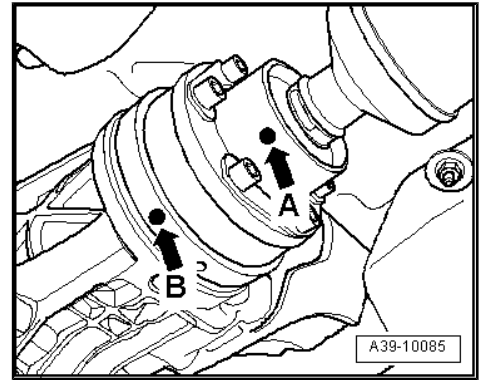


Attaching propshaft to rear final drive

Perform installation in reverse sequence of removal. Note the following:

- ◆ Remove old, dried-out high-temperature grease from CV joint and flange for propshaft. Put in exactly the same quantity of fresh high-temperature grease -G 052 133 A3- .
- ◆ Clean remaining locking fluid out of tapped holes in flange shaft on rear final drive. The threads can be cleaned with a thread tap. Otherwise the securing bolts can shear off when they are screwed in.
- ◆ After detaching the propshaft from the rear final drive, the additional balancing washer (thicker washer) that may be fitted between the lock plate and one of the securing bolts must not be reinstalled.
- ◆ Always install new securing bolts for propshaft (self-locking bolts).
- ◆ Check for damage to gasket for propshaft on rear final drive flange (kinked gasket or partially detached rubber coating). A damaged gasket must be renewed.

- Fit propshaft on rear final drive, paying attention to installation position:
 - The markings on the propshaft -arrow A- and on the rear final drive -arrow B- should be aligned.
 - Maximum misalignment of markings: 30°.
-
- Install and tighten new securing bolts -1- for propshaft. Follow correct tightening sequence ➔ [page 10](#) .
 - Install rear section of exhaust system ➔ Rep. gr. 26 .



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2 Exploded view - propshaft with splines on gearbox end



Note

- ◆ Refer to general repair instructions ➔ [page 6](#) .
- ◆ The propshaft of the type with splines on the gearbox end can only be separated from the gearbox by removing it completely.
- ◆ No repair work can be carried out on the propshaft with the exception of removing, installing and adjusting.
- ◆ The propshaft should normally be kept straight when it is stored or transported.
- ◆ The propshaft can be bent as far as the stop at the centre joint, but must not be subjected to any kind of force. The centre joint or the protective boot can be damaged if the joint is forced against its stop.
- ◆ The propshaft must be tied up or supported at one end if it is detached only at the rear final drive. If necessary, the propshaft can be bent as far as the stop at the centre joint, but it must not be subjected to force.
- ◆ Use counterhold tool -T10172- with adapters -T10172/5- to slacken and tighten the propshaft bolts.
- ◆ Always keep the propshaft horizontal while pulling it off or fitting it on the rear splined shaft of the gearbox.
- ◆ Observe correct tightening sequence for bolts securing propshaft to rear final drive ➔ [page 22](#) .

Note the following before renewing the propshaft due to complaints concerning noise and/or vibrations.

- ◆ Check that centre bearing is free of stress or tension.
- ◆ Remove bolts securing propshaft to rear final drive. Re-tighten propshaft bolts in specified sequence ➔ [page 22](#) .

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1 - Gearbox**2 - Hose clip**

- ☐ Renew

3 - Propshaft

- ☐ Removing and installing
⇒ [page 22](#)
- ☐ Detaching and attaching
propshaft at rear fi-
nal drive ⇒ [page 17](#)
- ☐ Renewing protective
boot ⇒ [page 28](#)

4 - Lock plate**5 - Bolt**

- ☐ Self-locking
- ☐ Always renew
- ☐ Clean remaining locking
fluid out of tapped holes
in flange shaft on rear fi-
nal drive. The threads
can be cleaned with a
thread tap
- ☐ Tightening torque and
sequence ⇒ [page 22](#)

6 - Gasket

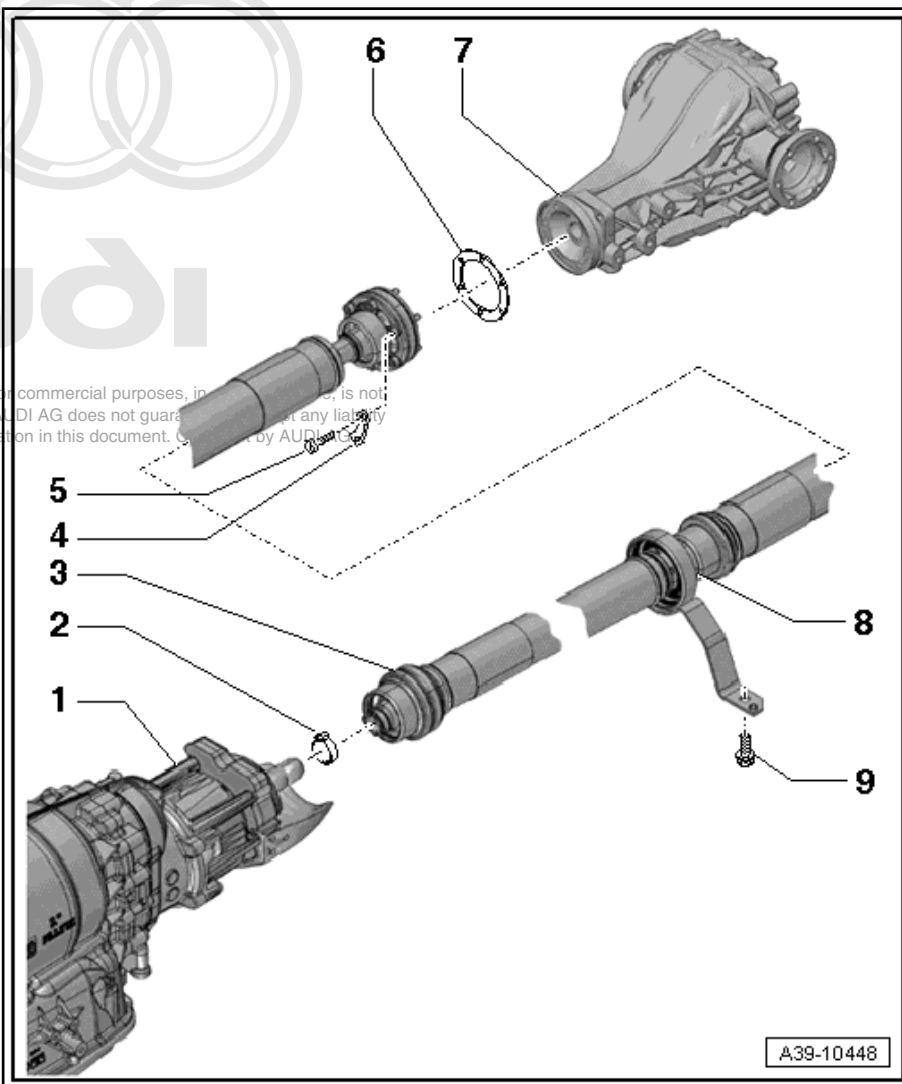
- ☐ Renew gasket if dam-
aged (buckled or
kinked)
- ☐ Renew gasket if rubber
coating has become de-
tached
- ☐ Degrease flange shaft
and fit gasket
- ☐ Different coloured sides
can be disregarded for installation

7 - Rear final drive

Removing and installing ⇒ [page 33](#)

8 - Centre bearing**9 - Bolt**

- ☐ 20 Nm

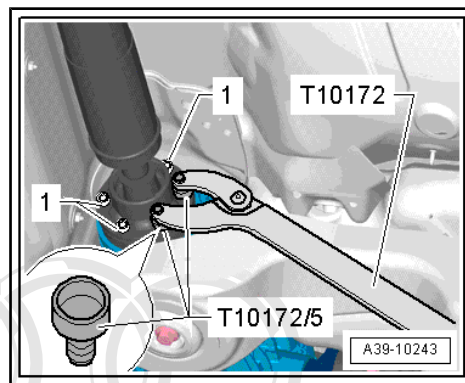


Securing propshaft to rear final drive - tightening torque and sequence

- Always renew propshaft bolts -1-.
- Counterhold using counterhold tool -T10172- and adapters -T10172/5-.
- Tighten bolts -1- in 3 stages as follows:

Stage	Bolts	Tightening torque/tightening angle
1.	-1-	Bolt nearest to coloured dots: 30 Nm ¹⁾
2.	-1-	All remaining bolts: 30 Nm
3.	-1-	All bolts: turn 90° further

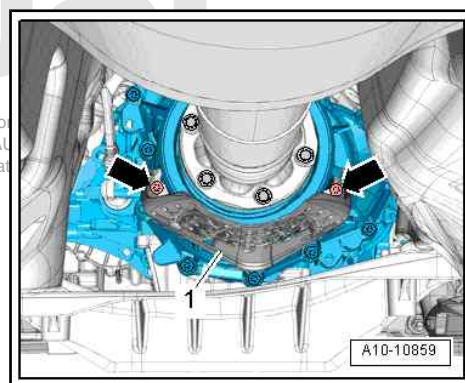
• ¹⁾ This pushes the CV joint slightly towards the opposite side and reduces the imbalance.



Heat shield for propshaft - tightening torque

- Tighten bolts -arrows- to 24 Nm.

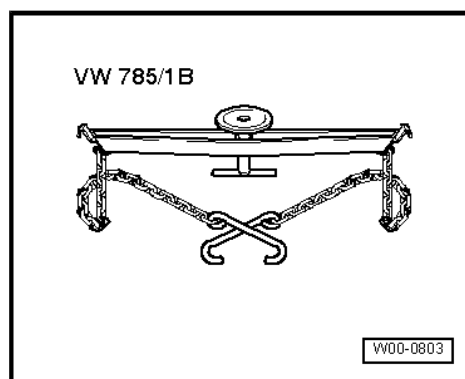
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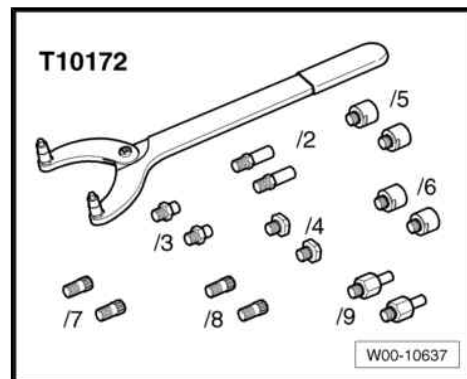
2.1 Removing and installing propshaft with splines on gearbox end

Special tools and workshop equipment required

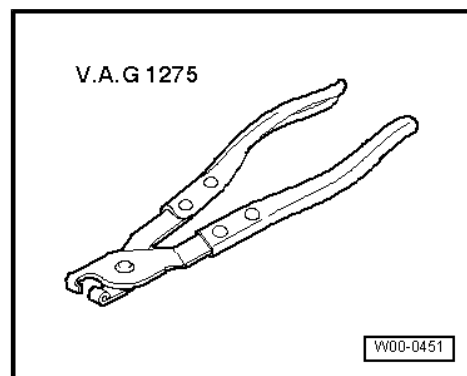
- ◆ Retaining tool -VW 785/1 B-



- ◆ Counterhold tool -T10172-



- ◆ Adapter -T10172/5-
- ◆ Hose clip pliers -V.A.G 1275-



- ◆ High-temperature grease -G 052 133 A3-

Removing



Note

- ◆ *The propshaft of the type with splines on the gearbox end can only be separated from the gearbox by removing it completely.*
- ◆ *Repairs on the propshaft should preferably be carried out on a two-pillar hoist.*
- ◆ *The propshaft can be bent as far as the stop at the centre joint, but must not be subjected to any kind of force. The centre joint or the protective boot can be damaged if the joint is forced against its stop.*
- ◆ *You should always tie up or support the end of the propshaft.*
- ◆ *Always keep the propshaft horizontal while pulling it off or fitting it on the rear splined shaft of the gearbox.*

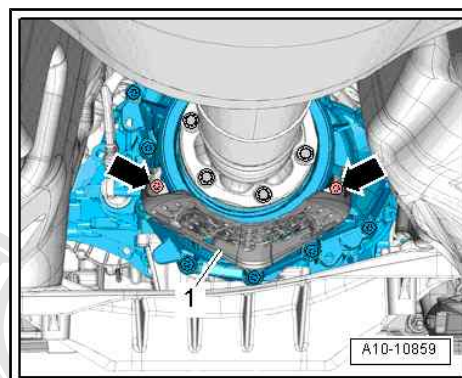
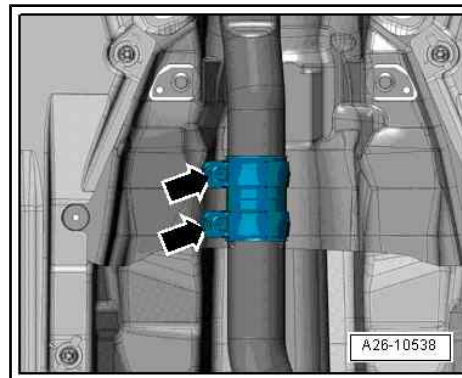


Caution

The flexible joints in the exhaust system can be damaged.

- ◆ *The flexible joint must not be bent further than 10°.*
- ◆ *Do not subject flexible joint to tensile load.*
- ◆ *Take care not to damage wire mesh on flexible joint.*

- Unfasten clamp(s) -arrows- and disconnect exhaust system.
- Tie front exhaust pipe(s) up to side of underbody.
- If fitted, remove bolts -arrows- and detach heat shield -1- for propshaft.



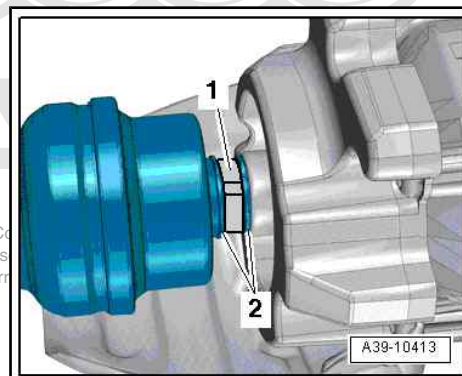
- Cut open hose clip -1- for protective boot on propshaft and remove hose clip.



Note

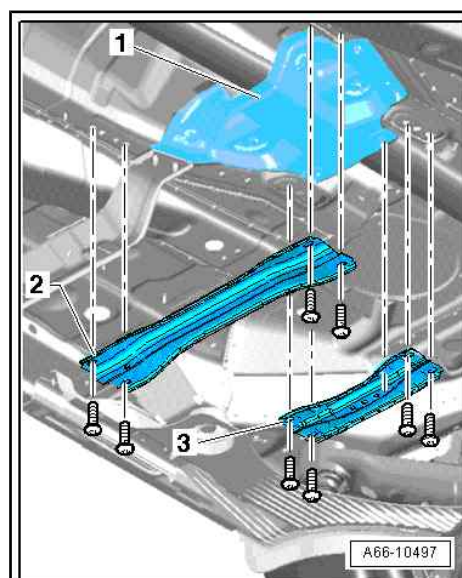
-Item 2- can be disregarded.

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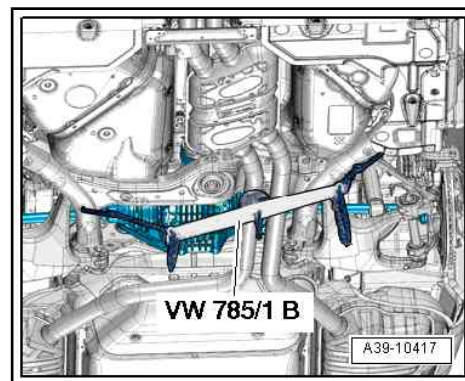


is not liability AG.

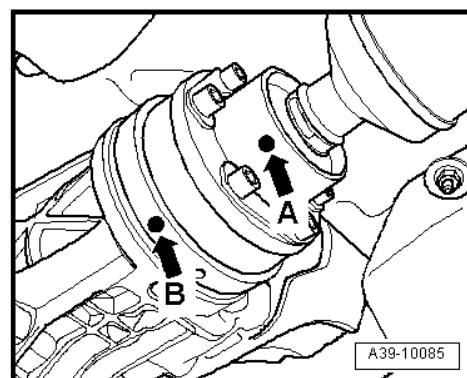
- If fitted, remove front cross member -2- and rear cross member -3-.
- Remove heat shield -1-.



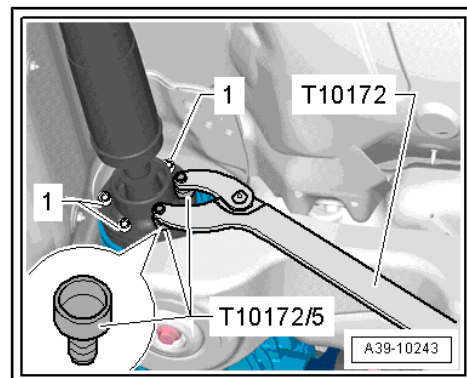
- Lower rear section of exhaust system at the front and support using retaining tool -VW 785/1 B- as shown in illustration.



- Check whether there is a factory marking (coloured dot) -arrow A- and -arrow B- on the propshaft and on the rear final drive flange.
- If one of these markings is no longer visible, make a new paint marking accordingly.
- The markings on the propshaft -arrow A- and on the rear final drive -arrow B- should be aligned.



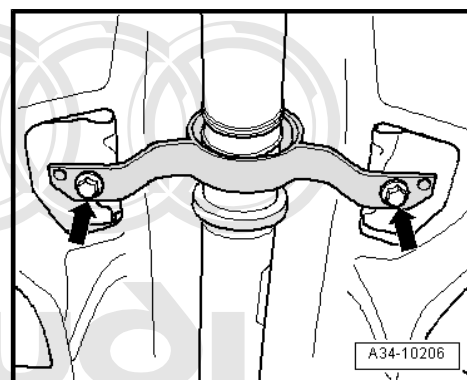
- Remove bolts -1- securing propshaft to rear final drive.
- To do so, use counterhold tool -T10172- and adapters -T10172/5-.



- Remove bolts -arrows- securing centre propshaft bearing.
- Guide propshaft downwards at rear, past fuel tank and rear subframe, and detach from gearbox.

Installing

- Tightening torques
 ⇒ ["2 Exploded view - propshaft with splines on gearbox end", page 20](#) and
 ⇒ [Fig. "Heat shield for propshaft - tightening torque", page 22](#).

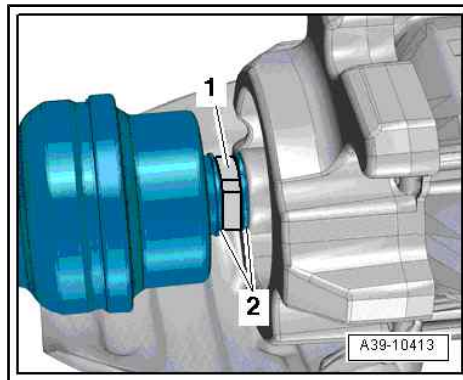


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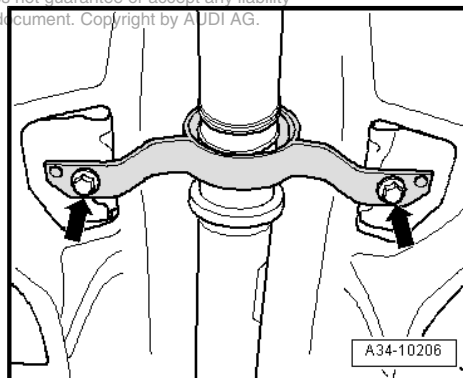


Note

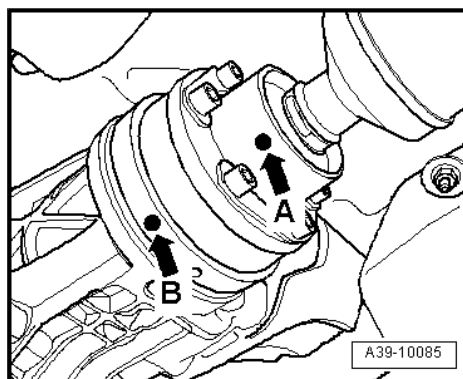
- ◆ Remove old, dried-out high-temperature grease from CV joint and flange for propshaft. Put in exactly the same quantity of fresh high-temperature grease -G 052 133 A3- .
- ◆ Clean remaining locking fluid out of tapped holes in flange shaft on rear final drive. The threads can be cleaned with a thread tap. Otherwise the securing bolts can shear off when they are screwed in.
- ◆ Renew self-locking bolts for propshaft.
- ◆ Renew hose clip -1- for protective boot -2- on propshaft.
- ◆ Check for damage to gasket for propshaft on rear final drive flange (kinked gasket or partially detached rubber coating). A damaged gasket must be renewed.
- ◆ Wipe off splines of rear splined shaft on gearbox with a cloth before sliding on propshaft. Do not apply grease to splines.



- Fit propshaft onto gearbox first.
- Do not bend further than 10° when fitting propshaft on splines.
- After sliding the propshaft approx. 50 mm onto the rear splined shaft of the gearbox, turn it slightly to ensure that the splines on the shaft engage in the internal splines of the propshaft.
- Push propshaft onto splines of rear splined shaft as far as stop.
- Screw in securing bolts -arrows- so that centre bearing can still be moved.



- Fit propshaft on rear final drive, paying attention to installation position:
- The markings on the propshaft -arrow A- and on the rear final drive -arrow B- should be aligned.
- Maximum misalignment of markings: 30°.
- Screw in bolts onto stop by hand, but do not tighten.

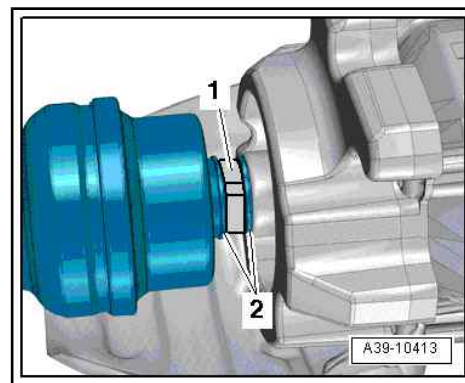


- Align hose clip -1- for protective boot on propshaft with shaped sections -2- and tighten using hose clip pliers -V.A.G 1275- or similar.

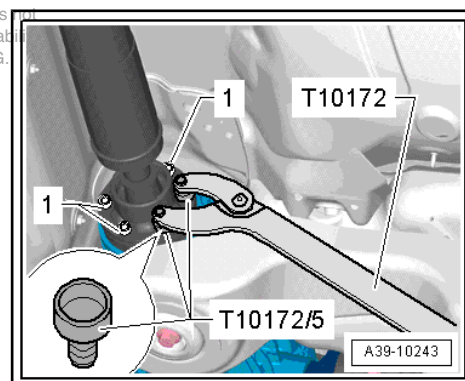


Note

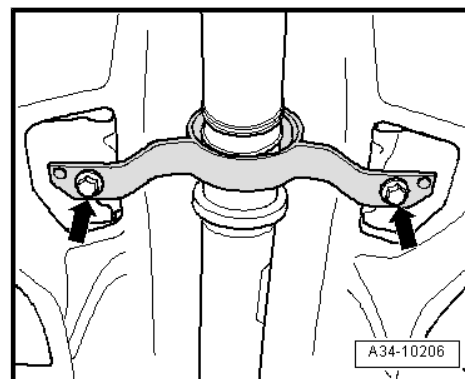
Push the propshaft slightly towards the rear in order to be able to apply the hose clip pliers -V.A.G 1275- properly.



- Tighten bolts for propshaft -1-. Follow correct tightening sequence ➔ [page 22](#).

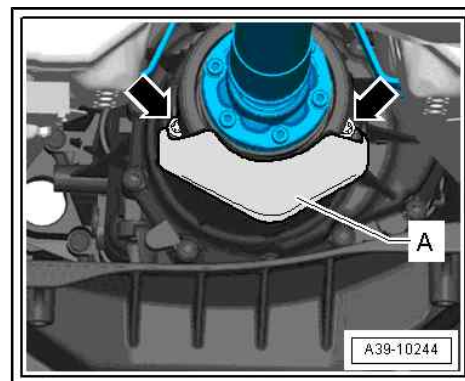


- Secure centre propshaft bearing to body so it is free of stress and tighten. Tightening torque ➔ [Item 9 \(page 21\)](#)

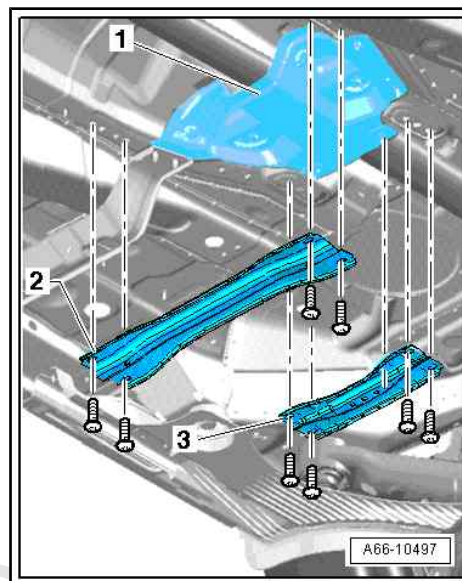


The remaining installation steps are carried out in reverse sequence; note the following:

- Secure heat shield -A- on gearbox -arrows-. Tightening torque ➔ [page 22](#)



- Install heat shield -1- ⇒ General body repairs, exterior; Rep. gr. 66 .
- If fitted, install front cross member -2- and rear cross member -3- ⇒ Rep. gr. 66 .
- Install exhaust system so it is free of stress ⇒ Engine, mechanics; Rep. gr. 26 .



2.2 Renewing protective boot for propshaft with splines on gearbox end

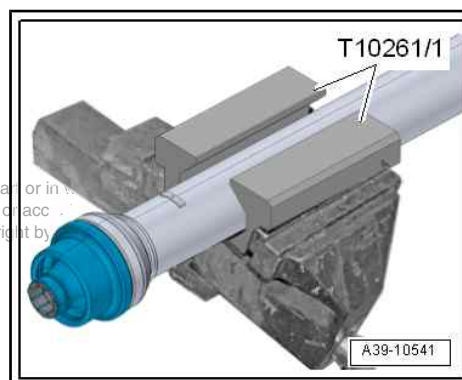
Special tools and workshop equipment required

- ◆ Flanging tool -T40261-

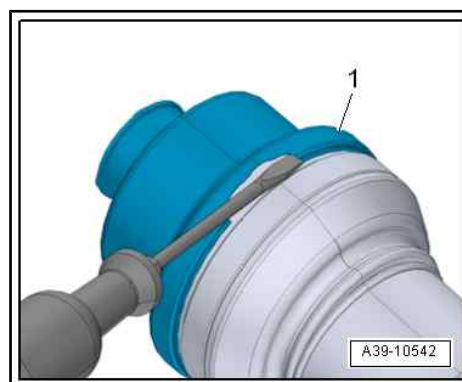
Procedure

- Remove propshaft ⇒ [page 22](#) .
- Clamp propshaft in vice using protective jaw covers - T40261/1- as shown in illustration.

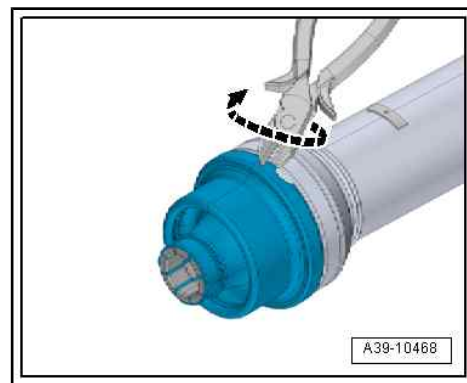
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- Using a screwdriver, carefully open an initial section of seam between metal sleeve -1- and propshaft joint.
- Take care not to damage surface of propshaft joint.



- Open rest of seam on metal sleeve -arrow- using side-cutting pliers.
- Detach old protective boot with metal sleeve from propshaft joint.



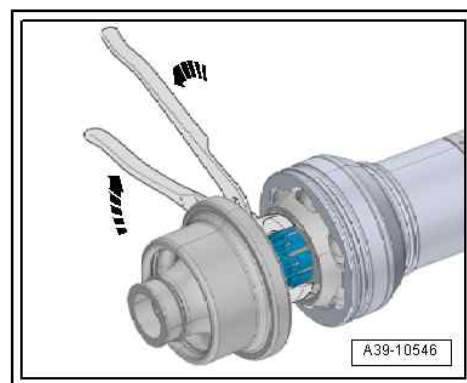
- Destroy support ring using water pump pliers -arrows- and remove protective boot with metal sleeve.



Note

Inner part of joint and balls remain in propshaft joint.

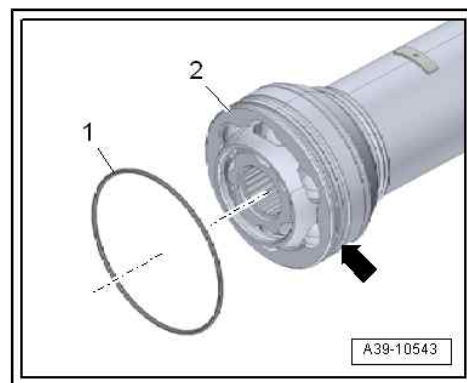
- Wipe off old excess grease.
- Regrease propshaft joint with grease from installation kit.



Note

Use the same amount of grease as you wiped off plus the amount that remained in the old protective boot.

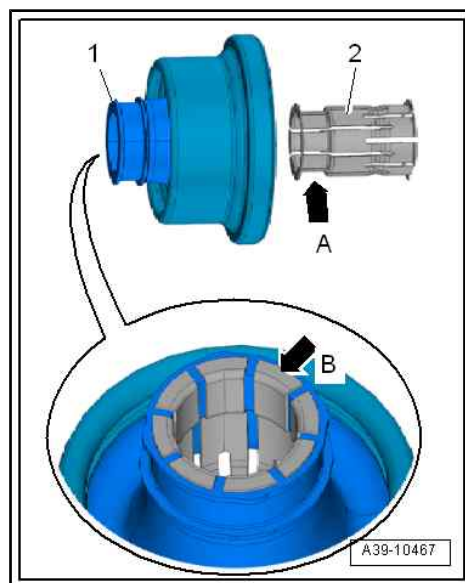
- Clean sealing surface -arrow- on propshaft joint -2-.
- Smooth down any scoring caused by removal of old protective boot.
- Insert new O-ring -1- in groove.



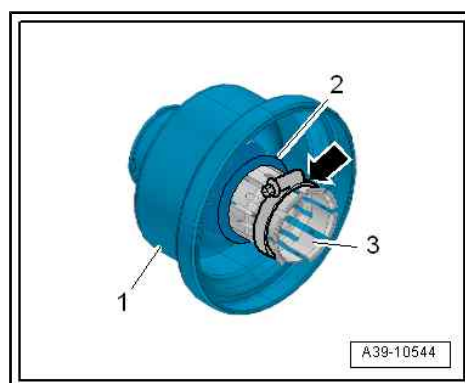
- Slide support ring -2- into opening of protective boot -1-.
- Installation direction: Recess -arrow A- is inserted into protective boot.
- Teeth -arrow B- on support ring should be visible at edge of opening on protective boot.

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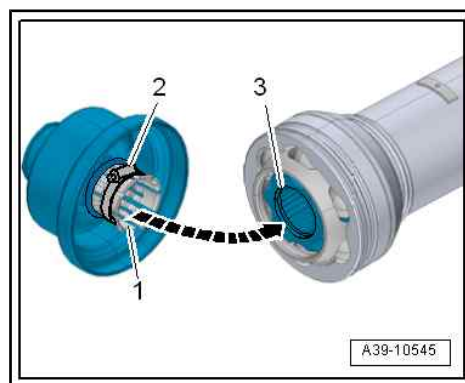
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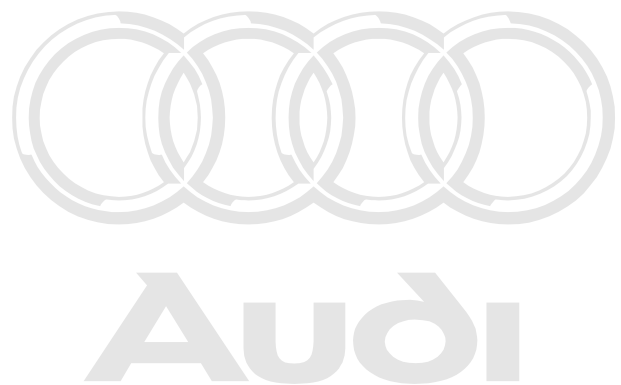
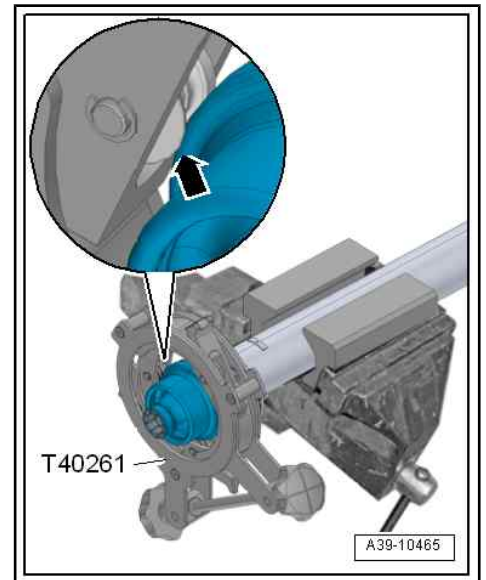
- Roll back protective boot -2- inside metal sleeve -1-.
- Slide hose clip -arrow- onto exposed teeth of support ring -3-, as shown in illustration.
- Do not cover ends of support ring.



- Tighten hose clip -2- until teeth -1- of support ring can be inserted into groove -3- on inner part of joint.
- Release and detach hose clip.
- Teeth of support ring must mate with groove on inner part of joint -arrow-.
- Push metal sleeve of protective boot onto joint as far as stop.



- Apply flanging tool -T40261- to metal sleeve so that stops of guide rollers -arrow- are resting on edge of metal sleeve.
- Turn flanging tool -T40261- back and forth to close seam of metal sleeve.
- Angle of rotation must be at least 90° when moving tool back and forth.
- Tighten adjusting wheel on flanging tool -T40261- as you move tool back and forth.
- Seam is finished when adjusting wheel of -T40261- can no longer be turned without difficulty.



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3 Checking gear oil in rear final drive

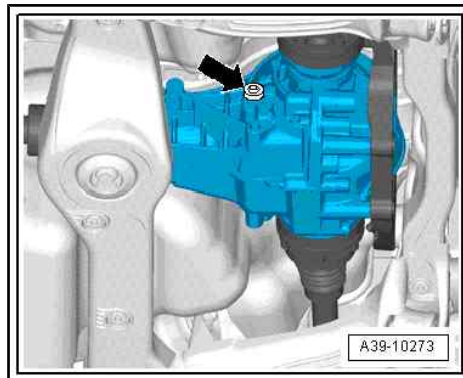
Special tools and workshop equipment required

- ◆ Drip tray
- Remove screw plug -arrow- to check gear oil.

The oil level is correct when the rear final drive is filled to the bottom lip of the filler hole.

- Gear oil specification ⇒ [page 3](#)
- Screw in plug -arrow- and tighten.

Tightening torque: 45 Nm



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4 Removing and installing rear final drive

◆ ⇒ ["4.1 Exploded view - rear final drive", page 33](#) .

◆ ⇒ ["4.2 Removing and installing rear final drive", page 34](#) .

4.1 Exploded view - rear final drive

1 - Subframe

- ☐ Removing and installing
⇒ Rep. gr. 42

2 - Bolt

- ☐ 95 Nm

3 - Bolt

- ☐ 55 Nm

4 - Bolt

- ☐ 55 Nm
- ☐ Used to secure a damper weight on some versions ⇒ [page 33](#)

5 - Heat shield

6 - Bolt

- ☐ 20 Nm

7 - Drive shaft

- ☐ Removing and installing
⇒ Rep. gr. 42

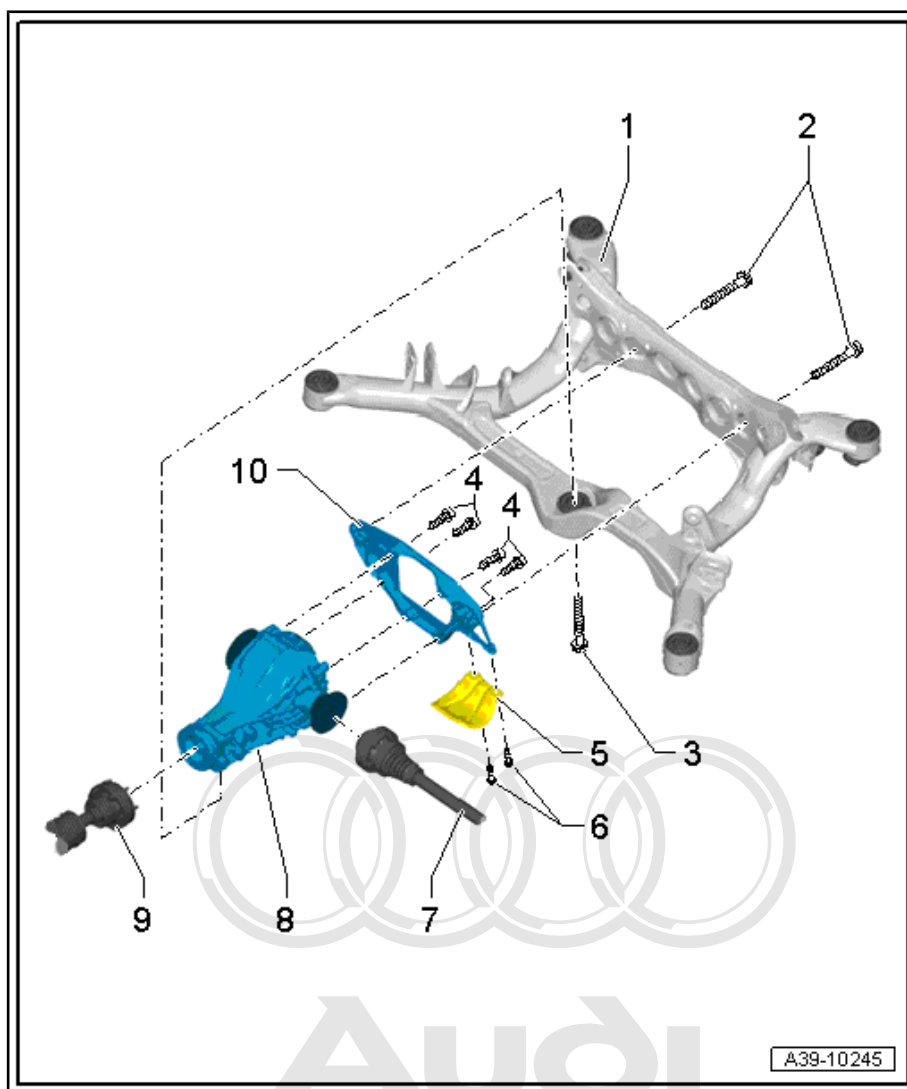
8 - Rear final drive

- ☐ With damper weight (depending on version)
⇒ [page 33](#)
- ☐ Removing and installing
⇒ [page 34](#)
- ☐ Mounting on assembly stand ⇒ [page 34](#)

9 - Propshaft

- ☐ Removing and installing
⇒ [page 10](#) and
⇒ [page 22](#)
- ☐ Detaching and attaching propshaft at rear final drive ⇒ [page 17](#)

10 - Cross member



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Damper weight on rear final drive

1 - Bolt

- 22 Nm

2 - Damper weight

- Depends on version; refer to ⇒ Electronic parts catalogue

3 - Rear final drive

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

4 - Cross member

5 - Damper weight

- Depends on vehicle version; refer to ⇒ Electronic parts catalogue

6 - Bolt

- Tightening torque
⇒ [Item 4 \(page 33\)](#)

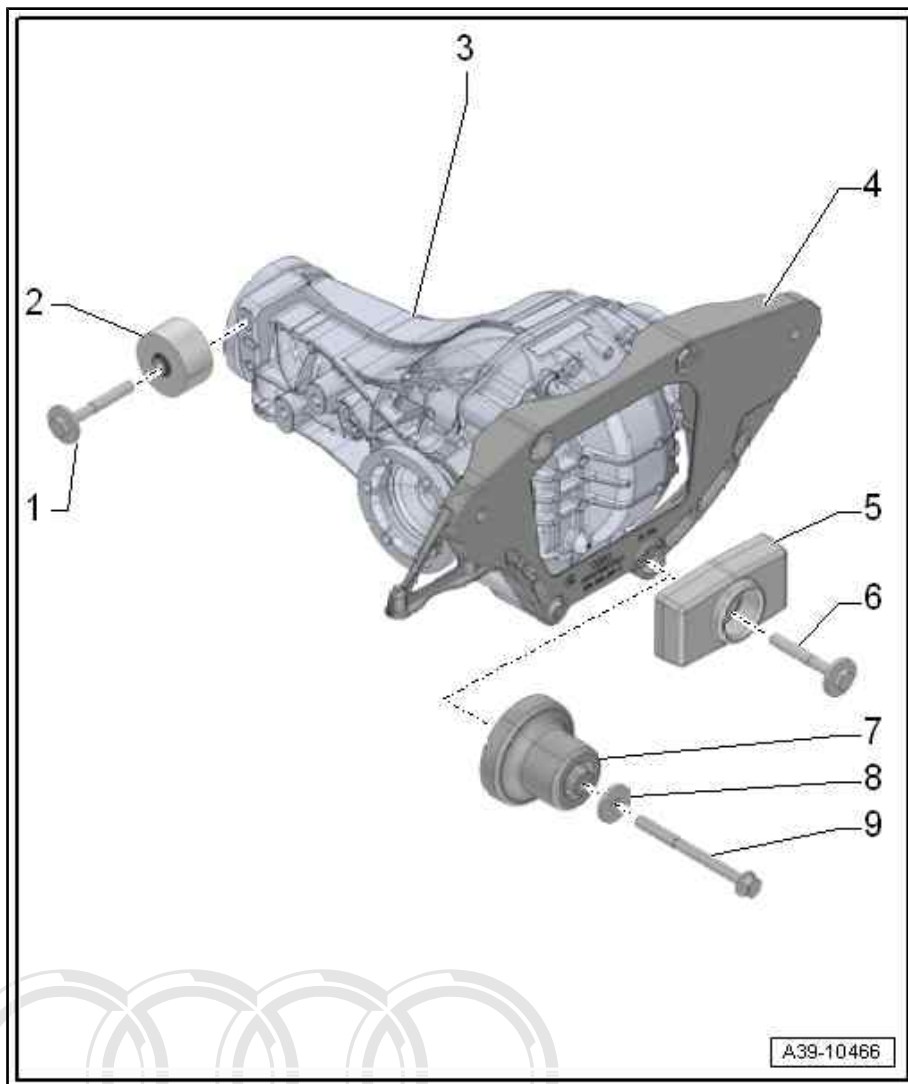
7 - Damper weight

- Depends on version; refer to ⇒ Electronic parts catalogue

8 - Washer

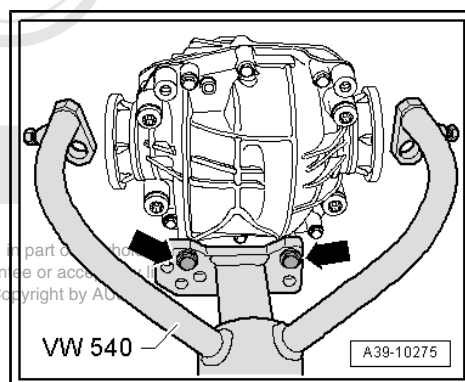
9 - Bolt

- Tightening torque
⇒ [Item 4 \(page 33\)](#)



Securing rear final drive to assembly stand

- Secure rear final drive to engine and gearbox support -VW 540- with bolts (M10 × 40) -arrows-.

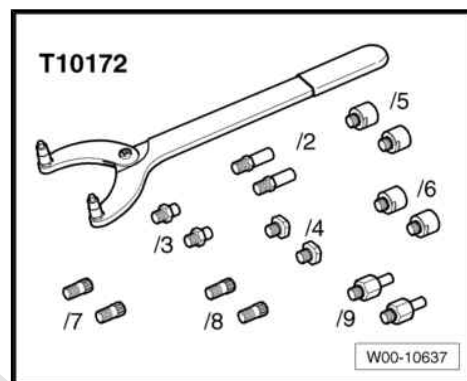


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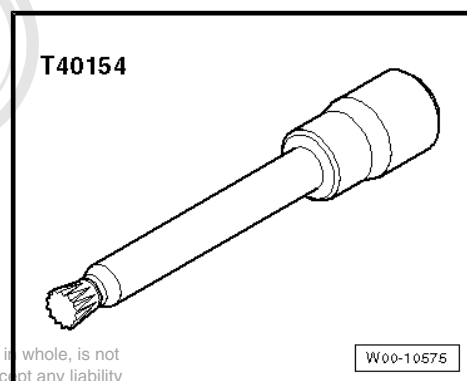
4.2 Removing and installing rear final drive

Special tools and workshop equipment required

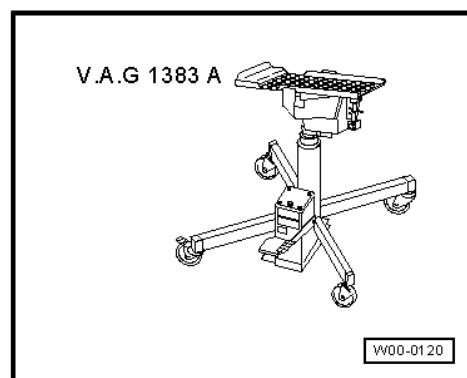
- ◆ Counterhold tool -T10172- with adapters -T10172/5-



- ◆ Socket -T40154-



- ◆ Engine and gearbox jack -V.A.G 1383 A- with universal gearbox support -V.A.G 1359/2-



Removing rear final drive

Refer to general repair instructions ➔ [page 6](#) .

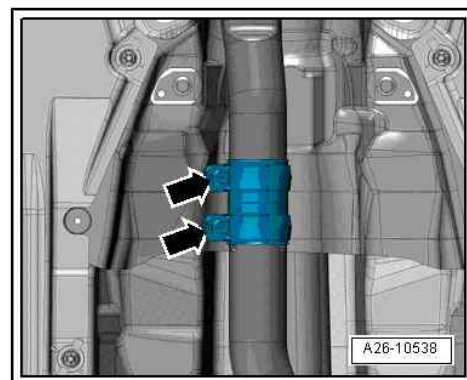
- Place vehicle on lifting platform.



Note

The flexible pipe connection (de-coupling element) in the front exhaust pipe must not be bent more than 10° - otherwise it can be damaged.

- Unfasten clamp(s) -arrows- and disconnect exhaust system.
- Tie front exhaust pipe(s) up to side of underbody.



- If fitted, remove rear cross member -1-.
- Remove rear section of exhaust system -2- ➔ Rep. gr. 26 .

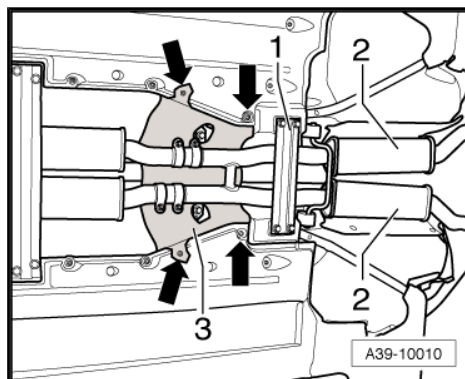


Note

A second mechanic is required for removing the rear section of the exhaust system.

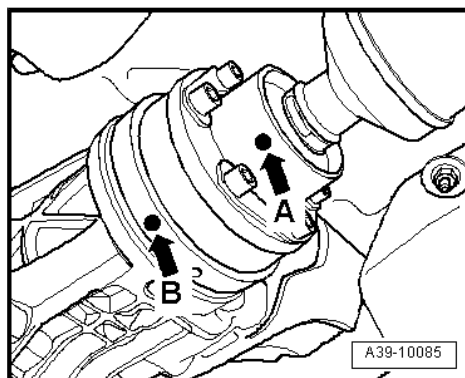
Audi A4, Audi A5

- Detach heat shield -3- from body -arrows-.

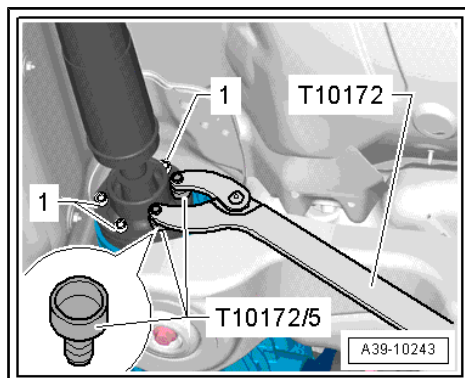


Continued for all vehicles

- Check whether there is a factory marking (coloured dot) -arrow A- and -arrow B- on the propshaft and on the propshaft flange on the rear final drive.
- If one of these markings is no longer visible (for example -arrow A- on the propshaft), make a new coloured marking accordingly.
- The markings on the propshaft -arrow A- and on the rear final drive -arrow B- should be aligned.



- Remove bolts -1- (6x) on rear CV joint.
- Use counterhold tool -T10172- with adapters -T10172/5- .



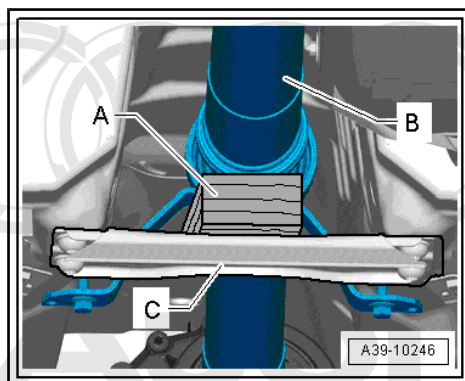
Audi A4, Audi A5

- If removed, re-attach rear cross member -C- to body.
- Place a block of wood -A- (approx. 40 mm high) on rear cross member -C- to support propshaft -B-.



Note

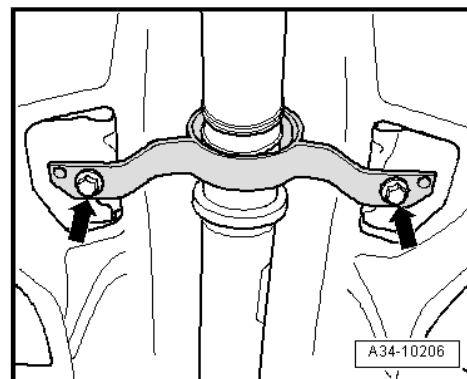
- ◆ *On the Audi Q5, the propshaft -B- is supported by the heat shield below the centre bearing.*
- ◆ *The propshaft can be bent as far as the stop at the centre joint, but must not be subjected to any kind of force. The centre joint or the protective boot can be damaged if the joint is forced against its stop.*



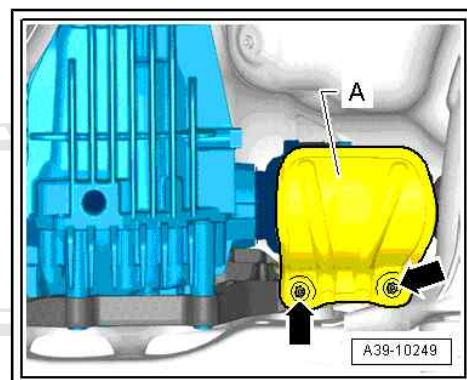
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Continued for all vehicles

- Remove bolts -arrows- securing centre propshaft bearing.
- Push propshaft forwards and at the same time pull it off rear final drive.
- Tie propshaft up to one side on subframe.

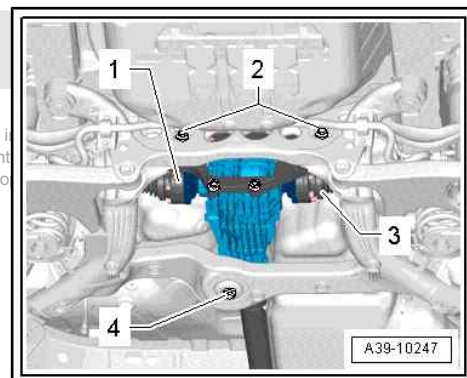


- Detach heat shield -A- for drive shaft (left-side) from cross member/rear final drive -arrows-.



- Unbolt drive shafts on both sides -1- and -3-.
- Slacken off bolts -2- approx. 3 turns.
- Remove bolt -4-.

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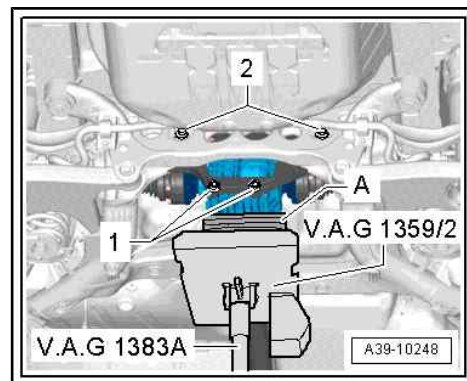
- Place engine and gearbox jack -V.A.G 1383 A- with universal gearbox support -V.A.G 1359/2- and a suitable block of wood -A- (approx. 80 mm high) below rear final drive.



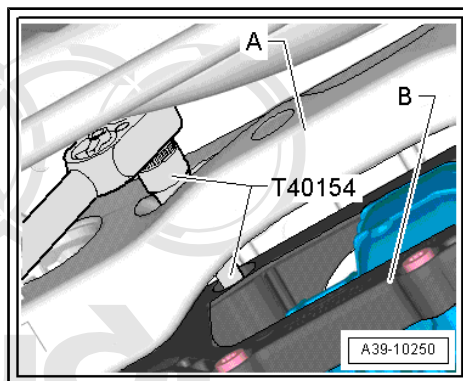
Note

Make sure that universal gearbox support -V.A.G 1359/2- does not make contact with fuel tank.

- Remove bolts -1- (bottom bolts securing cross member to rear final drive) and -2-.



- Remove 2 top bolts securing cross member -B- to rear final drive.
- For this step, guide socket -T40154- through holes in sub-frame -A-. If necessary, move final drive slightly to either side.

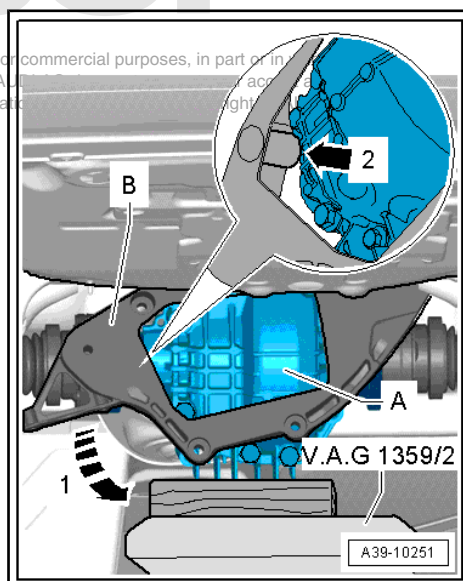


- Then push final drive -A- slightly forwards.
- Turn cross member -B- towards the bottom left -arrow 1- guide past final drive -arrow 2- and remove.



Note

A 2nd mechanic is required for the next steps when removing the rear final drive.



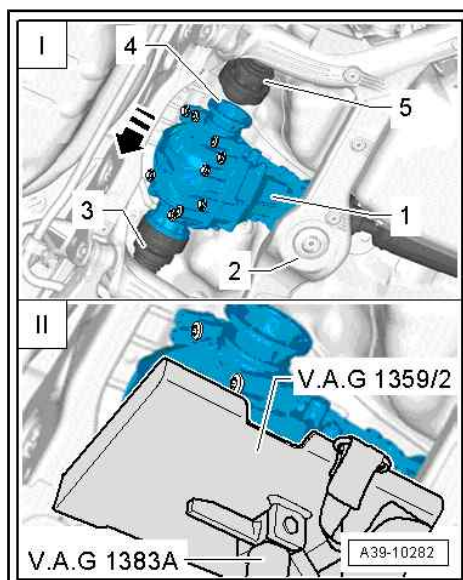
- 2nd mechanic must now lift right side of rear final drive -1- slightly and push it towards left side of vehicle in direction of -arrow-.



Note

The top part of the illustration "I" shows the rear final drive without engine and gearbox jack -V.A.G 1383 A- and universal gearbox support -V.A.G 1359/2-.

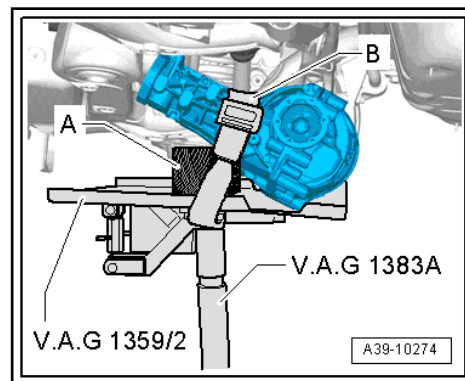
- Guide drive shaft (right-side) -5- upwards out of flange shaft (right-side) -4- of rear final drive.
- Then guide out drive shaft (left-side) -3-.



- Secure rear final drive with strap -B-.

A - Block of wood

- Lower rear final drive completely.



Installing rear final drive

Perform installation in reverse sequence of removal. Note the following:

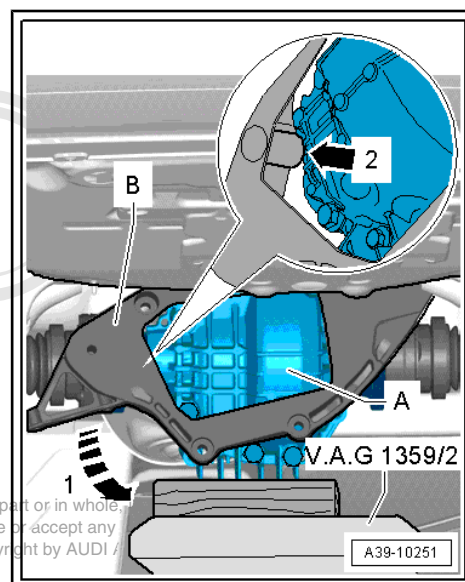
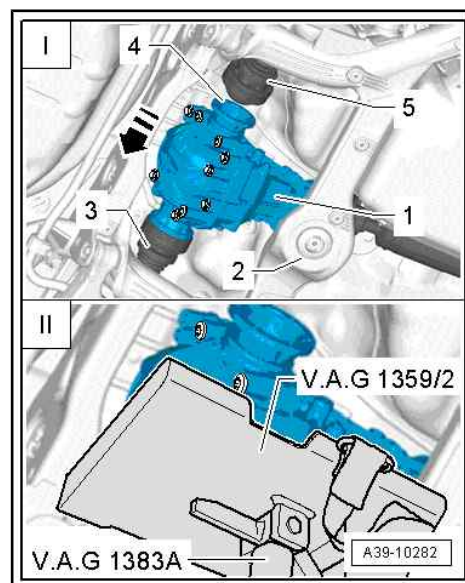
- Using engine and gearbox jack -V.A.G 1383 A- with universal gearbox support -V.A.G 1359/2- , bring rear final drive -1- into position on subframe -2-.



Note

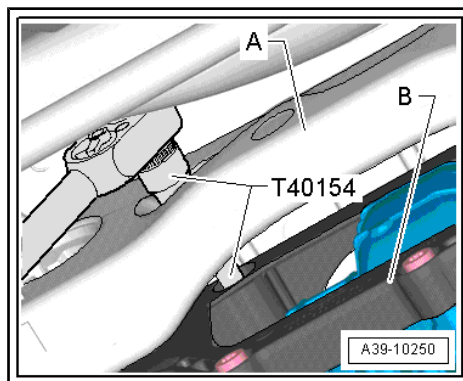
The top part of the illustration "I" shows the rear final drive without engine and gearbox jack -V.A.G 1383 A- and universal gearbox support -V.A.G 1359/2- .

- Fit drive shaft (left-side) -arrow 3- into flange shaft of final drive.
- 2nd mechanic must now lift right side of rear final drive -1- slightly and push it towards left side of vehicle in direction of -arrow-.
- Then fit drive shaft (right-side) -5- into flange shaft (right-side) -4- of final drive.
- Then push final drive -A- slightly forwards.
- Turn cross member -B- towards top left in opposite direction to -arrow 1- and bring into position, guiding past final drive -arrow 2-.



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- Tighten 4 bolts securing cross member -B- to rear final drive in diagonal sequence to specified torque ➔ [Item 4 \(page 33\)](#) .
- For this step, guide socket -T40154- through holes in sub-frame -A-. If necessary, move final drive slightly to either side.



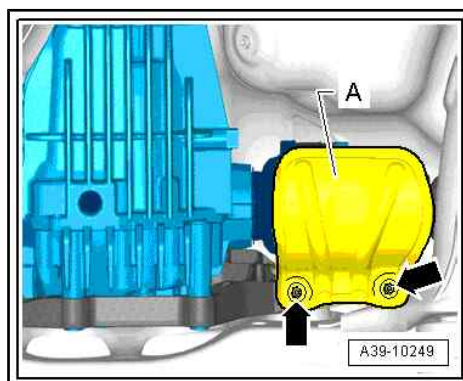
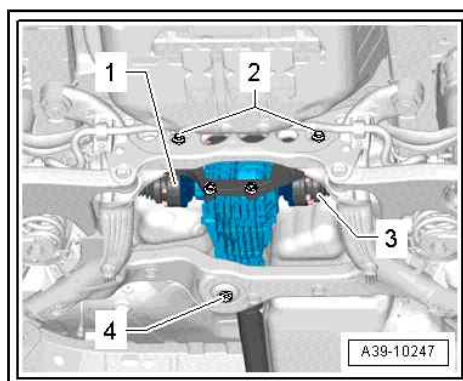
- Screw in bolts -2- and -4- and tighten hand-tight initially.



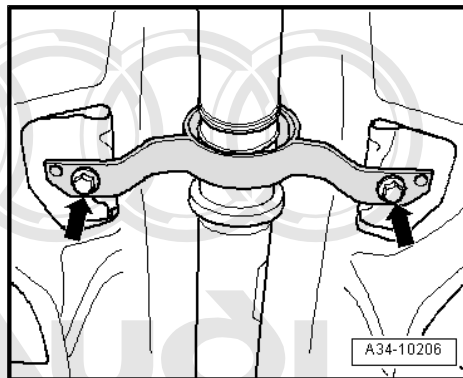
Note

For illustration purposes the final drive is shown without engine and gearbox jack -V.A.G 1383 A- and universal gearbox support -V.A.G 1359/2- .

- Tighten bolt -4- to specified torque ➔ [Item 3 \(page 33\)](#) .
- Then tighten bolts -2- to specified torque ➔ [Item 2 \(page 33\)](#) .
- Take out engine and gearbox jack -V.A.G 1383 A- from below final drive.
- Attach drive shafts on both sides -1- and -3- ➔ Rep. gr. 42 .
- Install heat shield -A- for drive shaft (left-side) on cross member/rear final drive -arrows- ➔ [Item 6 \(page 33\)](#) .



- Bolt propshaft onto rear final drive. Align markings as described and observe tightening sequence ➔ [page 18](#) .
- Secure centre propshaft bearing to body so it is free of stress and tighten -arrows-. Tightening torque ➔ [Item 8 \(page 9\)](#)
- Check gear oil level in rear final drive ➔ [page 32](#) .

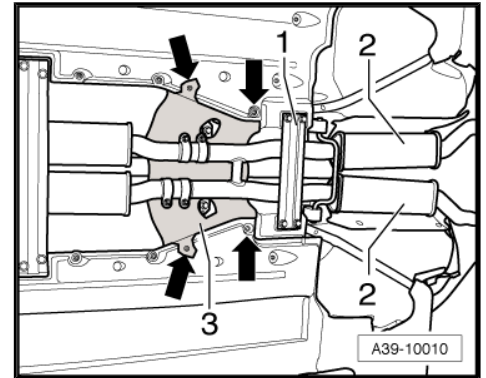


Audi A4, Audi A5

- Secure heat shield -3- to body -arrows-.

Continued for all vehicles

- Install rear section of exhaust system and perform stress-free alignment ⇒ Rep. gr. 26 .
- If fitted, secure cross member -1- to body ⇒ Rep. gr. 66 .



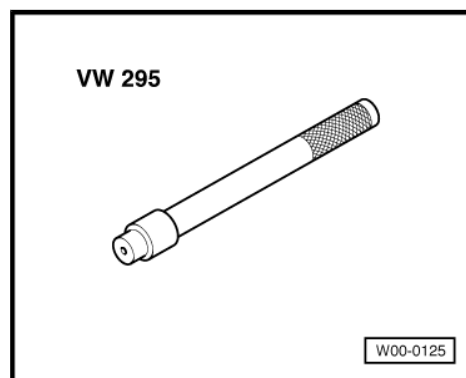
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5 Renewing oil seals for flange shafts (rear final drive removed)

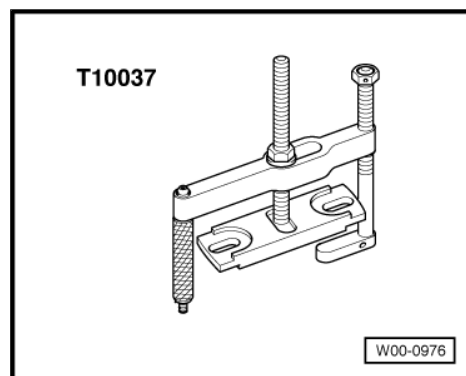
- The oil seals can be only be renewed with the rear final drive removed.
- ◆ ⇒ [“5.1 Renewing oil seal for flange shaft \(right-side\)”, page 43](#)
- ◆ ⇒ [“5.2 Renewing oil seal for flange shaft \(left-side\)”, page 44](#)
- ◆ ⇒ [“5.3 Renewing protective ring on flange shaft”, page 46](#)

Special tools and workshop equipment required

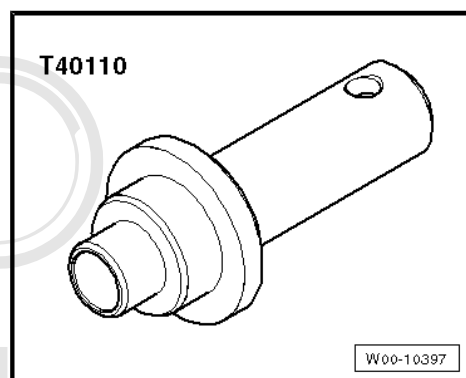
- ◆ Drift -VW 295-



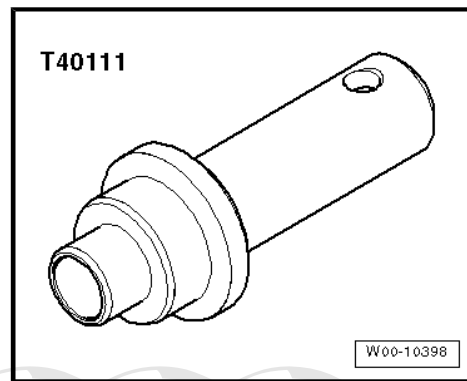
- ◆ Puller -T10037-



- ◆ Thrust piece -T40110-



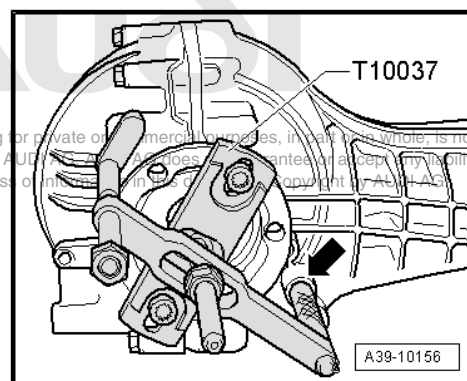
- ◆ Thrust piece -T40111-



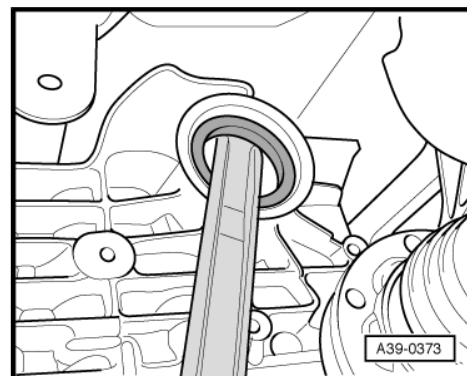
- ◆ Sealing grease -G 052 128 A1-

5.1 Renewing oil seal for flange shaft (right-side)

- Observe the general repair instructions ➔ [page 6](#) .
- Remove rear final drive ➔ [page 34](#) .
- Secure puller -T10037- to housing -arrow- and pull out flange shaft.

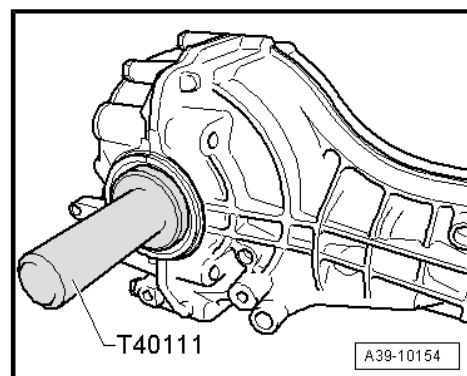


- Pry out oil seal with a suitable assembly lever.

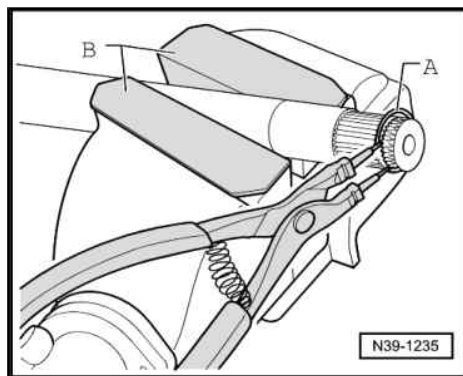


- Lightly lubricate outer circumference of oil seal with gear oil.
- Pack space between sealing lip and dust lip half-full with sealing grease -G 052 128 A1- .
- Drive in new oil seal onto stop (take care to keep oil seal straight).

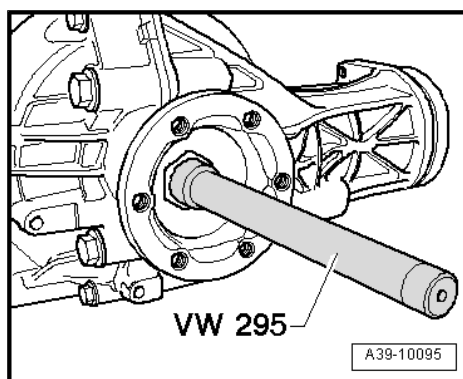
Before installing flange shaft, check protective ring for damage. Renew protective ring if necessary ➔ [page 46](#) .



- Remove old circlip -A- from groove in flange shaft using pliers .
- B - Protective jaw covers
- Insert new circlip in groove in flange shaft, taking care not to overstretch circlip.

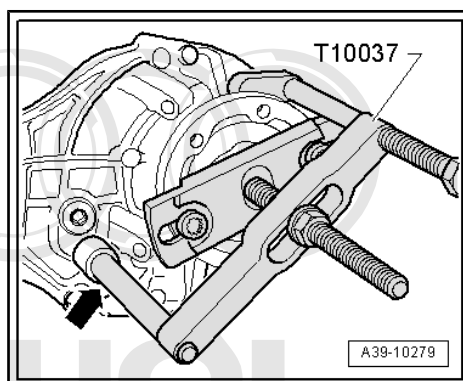


- Drive in flange shaft with drift -VW 295- .
- Install rear final drive ➔ [page 34](#) .
- Check oil level in rear final drive ➔ [page 32](#) .

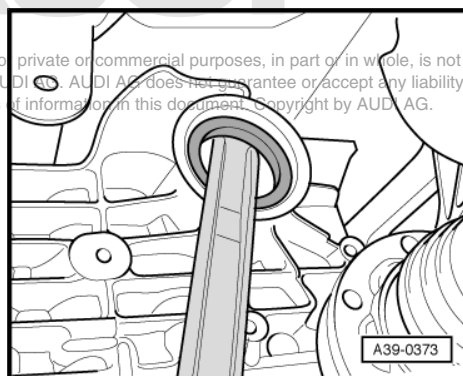


5.2 Renewing oil seal for flange shaft (left-side)

- Observe the general repair instructions ➔ [page 6](#) .
- Remove rear final drive ➔ [page 34](#) .
- Secure puller -T10037- to housing -arrow- and pull out flange shaft.



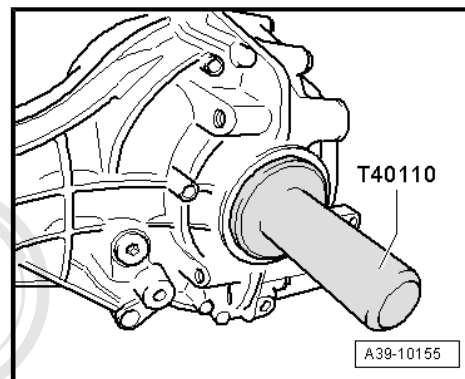
- Pry out oil seal with a suitable assembly lever.



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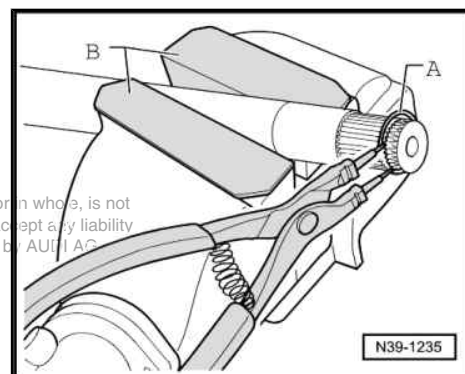
- Lightly lubricate outer circumference of oil seal with gear oil.
- Pack space between sealing lip and dust lip half-full with sealing grease -G 052 128 A1- .
- Drive in new oil seal onto stop (take care to keep oil seal straight).

**Before installing flange shaft, check protective ring for damage.
Renew protective ring if necessary ⇒ [page 46](#) .**

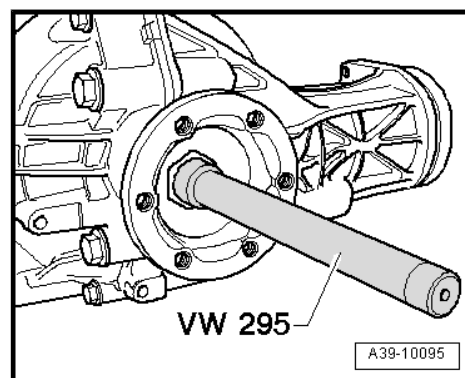


- Remove old circlip -A- from groove in flange shaft using pliers .
- B - Protective jaw covers
- Insert new circlip in groove in flange shaft, taking care not to overstretch circlip.

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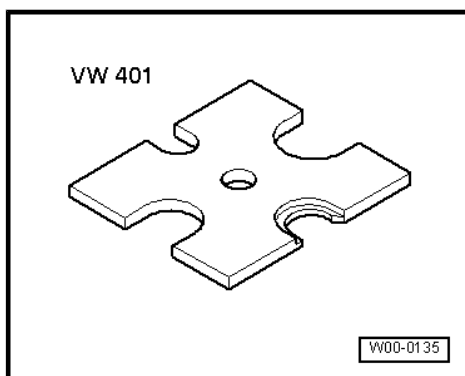
- Drive in flange shaft with drift -VW 295- .
- Install rear final drive ⇒ [page 34](#) .
- Check oil level in rear final drive ⇒ [page 32](#) .



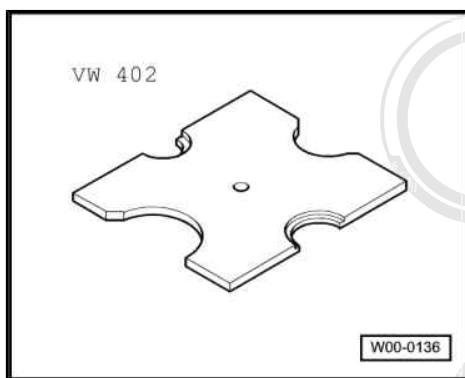
5.3 Renewing protective ring on flange shaft

Special tools and work-shop equipment required

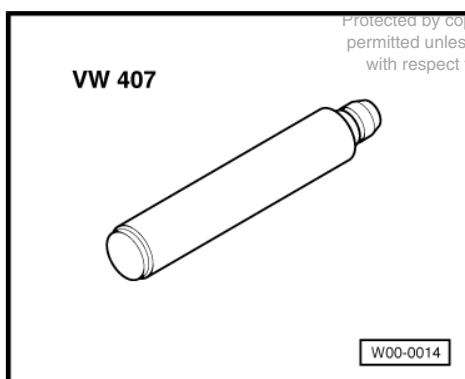
- ◆ Thrust plate -VW 401-



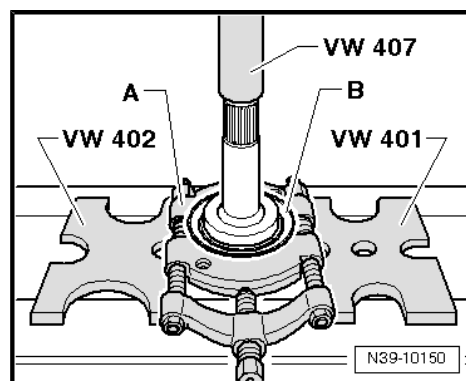
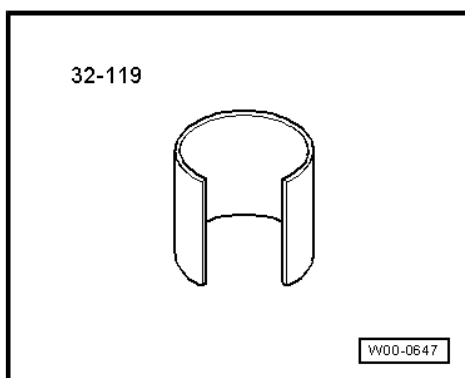
- ◆ Thrust plate -VW 402-



- ◆ Press tool -VW 407-

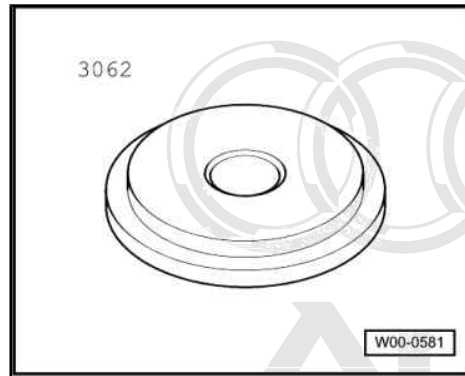


- ◆ Tube -32 - 119-

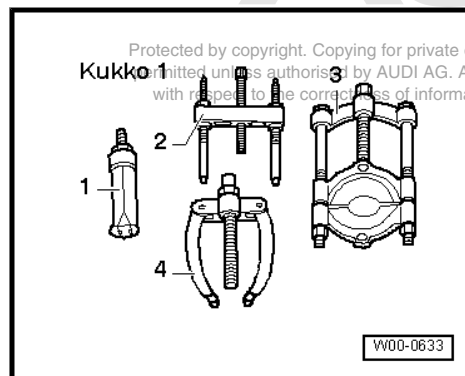


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◆ Thrust pad -3062-



◆ -3- Splitter 22...115 mm , e.g. -Kukko 17/2-

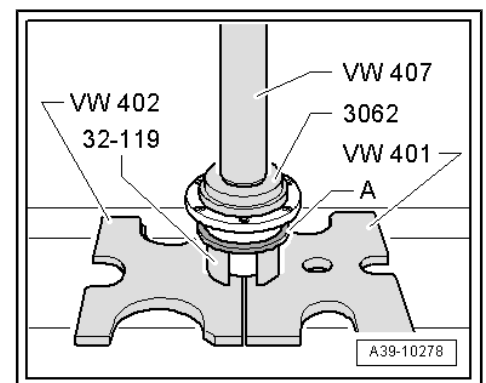


**Pressing protective ring
-B- off flange shaft**

A - Splitter 22...115 mm ,
e.g. -Kukko 17/2-

Pressing protective ring -A- onto flange shaft

- Installation position of protective ring -A-: recess in protective ring faces towards tube -32 - 119- .

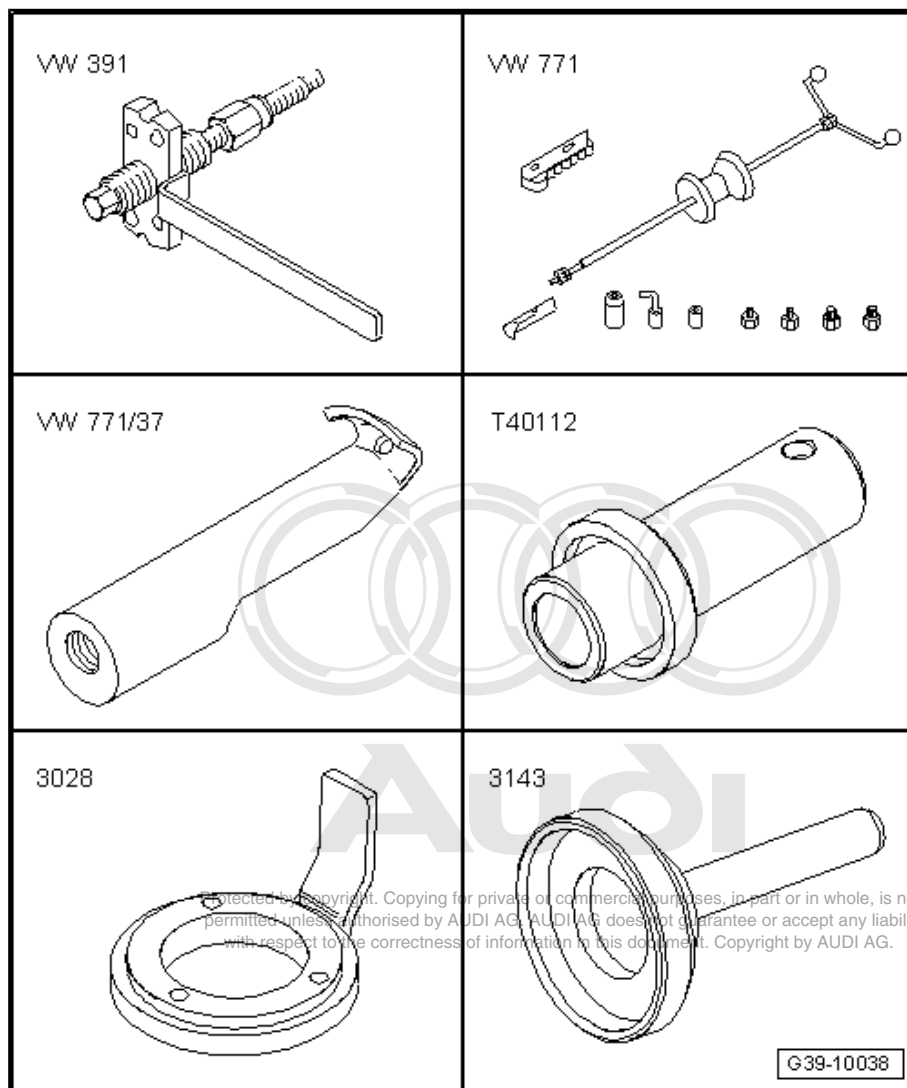


6 Renewing oil seal for flange for propshaft (rear final drive removed)

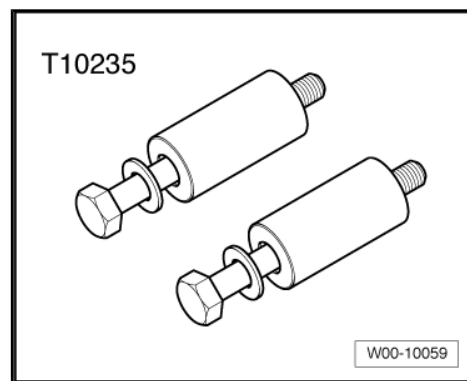
- Original flange for propshaft must be re-installed.
- If flange for propshaft also has to be renewed, please use the following description:
⇒ ["6.1 Renewing oil seal and flange for propshaft \(rear final drive removed\)", page 53](#) .

Special tools and workshop equipment required

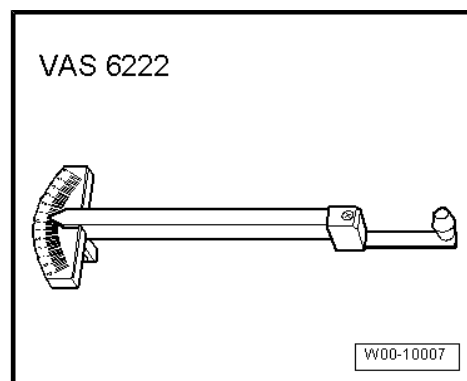
- ◆ Drive flange installing tool - VW 391-
- ◆ Multi-purpose tool -VW 771-
- ◆ Puller hook -VW 771/37-
- ◆ Thrust piece -T40112-
- ◆ Counterhold tool -3028-
- ◆ Drift sleeve -3143-



◆ Adapters -T10235-



◆ Friction gauge -VAS 6222-



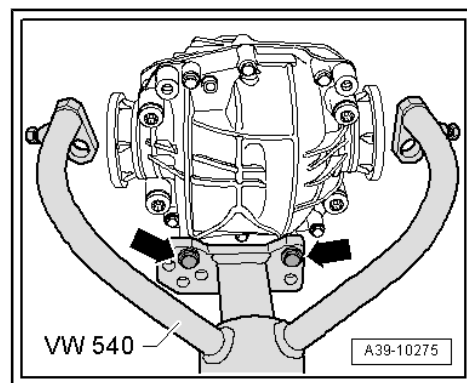
- ◆ Inductive heater -VAS 6414-
- ◆ Sealing grease -G 052 128 A1-
- ◆ Locking fluid -AMV 185 101 A1-
- ◆ 3 bolts M8 x 25
- ◆ 2 bolts (M10 x 40)

Removing

- The oil seal for the propshaft flange can be only be renewed with the rear final drive removed.

Refer to general repair instructions ⇒ [page 6](#) .

- Remove rear final drive ⇒ [page 34](#) .
- Secure rear final drive to engine and gearbox support -VW 540- with bolts (M10 × 40) -arrows-.



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- Measure friction torque before slackening pinion shaft nut.
- Make a note of the measurement.

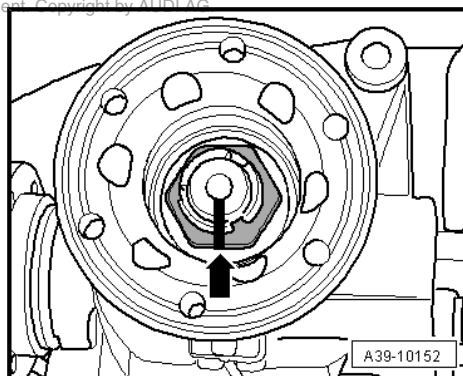
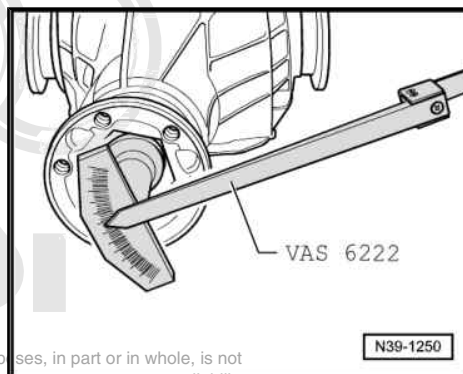


Caution

*This value must be reproduced on assembly if you find that the flange for the propshaft has to be renewed as part of the repair
⇒ "6.1 Renewing oil seal and flange for propshaft (rear final drive removed)", page 53.*

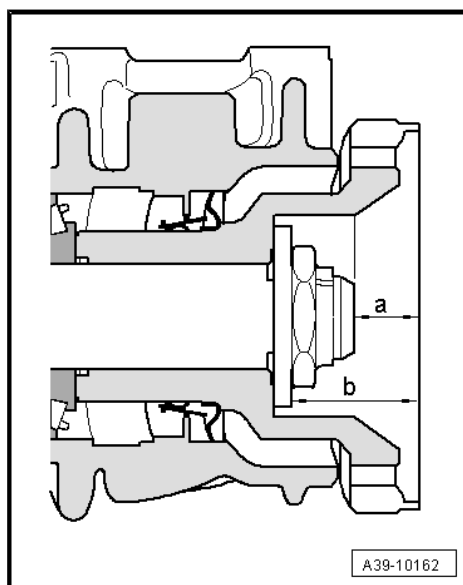
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- Mark position of pinion shaft nut relative to pinion shaft
-arrow-.



Calculate dimension "a" and dimension "b"

- ◆ Distance from flange to pinion shaft = dimension -a-
- ◆ Distance from flange to pinion shaft nut = dimension -b-
- Note measurements.

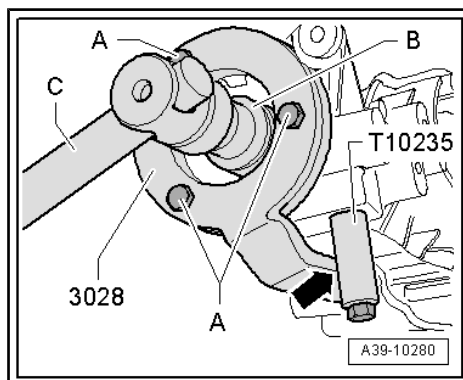


- Fit counterhold tool -3028- to flange for propshaft with bolts -A-.
- Secure adapter -T10235- in tapped hole below flange for propshaft.
- Slacken pinion shaft nut, allowing counterhold tool -3028- to rest against adapter -T10235- -arrow-.
- Count the turns when screwing off the pinion shaft nut and make a note of the number.

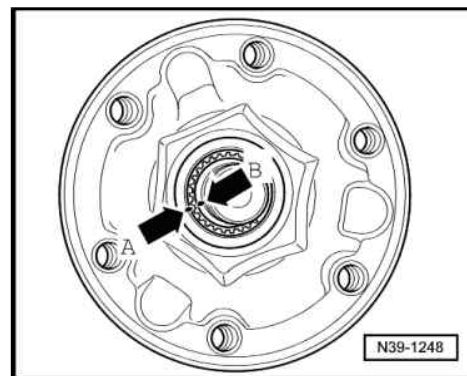
-A- 3 bolts M 8 x 25

-B- Socket (32 mm)

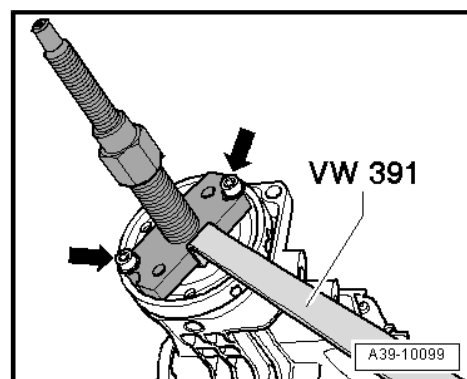
-C- Handle



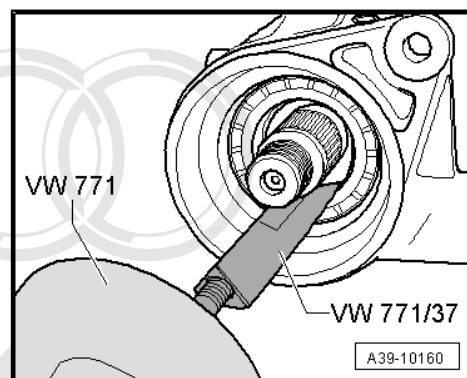
- Mark position of flange for propshaft -arrow A- in relation to pinion shaft -arrow B-.



- Place drip tray underneath.
- Secure installing tool -VW 391- with 2 bolts M 8 x 25 -arrows-.
- Pull off flange for propshaft.



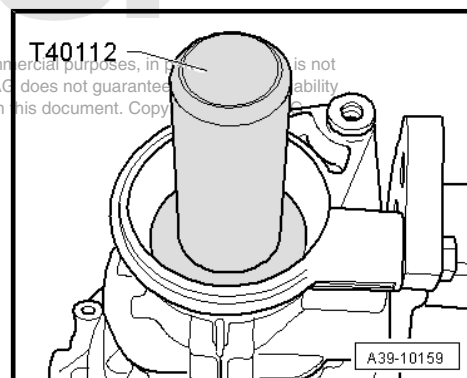
- Pull out the oil seal.
- Clean thread of pinion shaft.



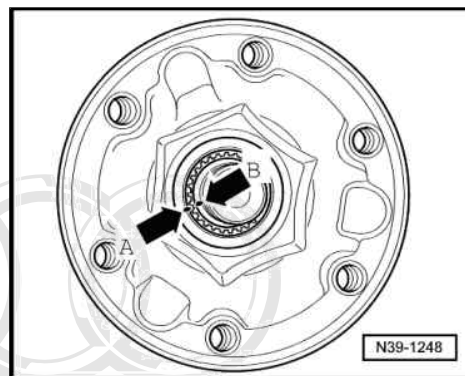
Installing

Perform installation in reverse sequence of removal. Note the following:

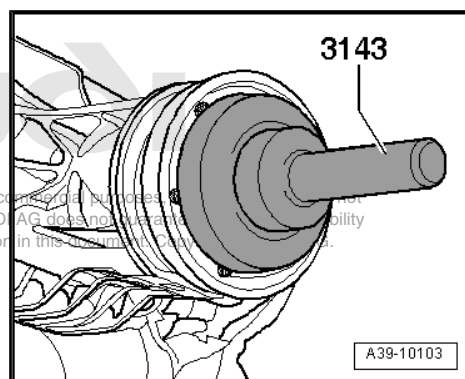
- Lightly lubricate outer circumference of oil seal with gear oil.
- Pack space between sealing lip and dust lip half-full with sealing grease -G 052 128 A1- .
- Drive in new oil seal onto stop (take care to keep oil seal straight).



- Using inductive heater -VAS 6414- , heat flange for propshaft to approx. 80 °C.
- Align mark on flange for propshaft -arrow A- with mark on pinion shaft -arrow B-.



- Drive flange for propshaft onto pinion shaft.
- Install originally fitted pinion shaft nut with locking fluid -AMV 185 101 A1- .

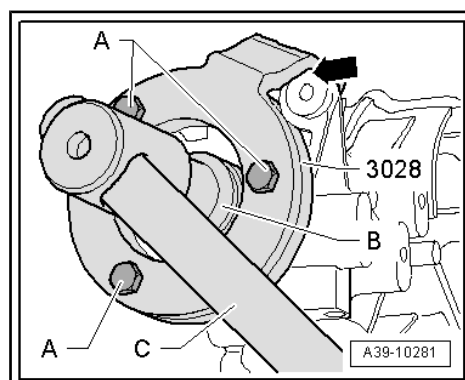


- Fit counterhold tool -3028- to flange for propshaft with bolts -A-.
- Counterhold tool -3028- must rest against lug -arrow- on housing when tightening pinion shaft nut.

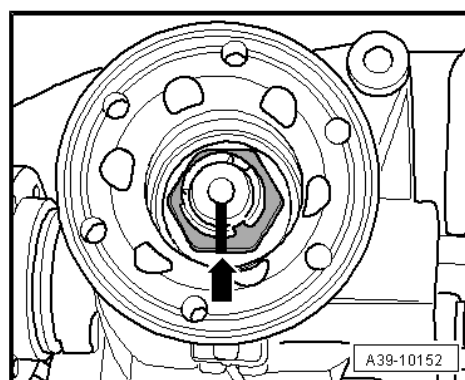
-A- 3 bolts M 8 x 25

-B- Socket (32 mm)

-C- Handle

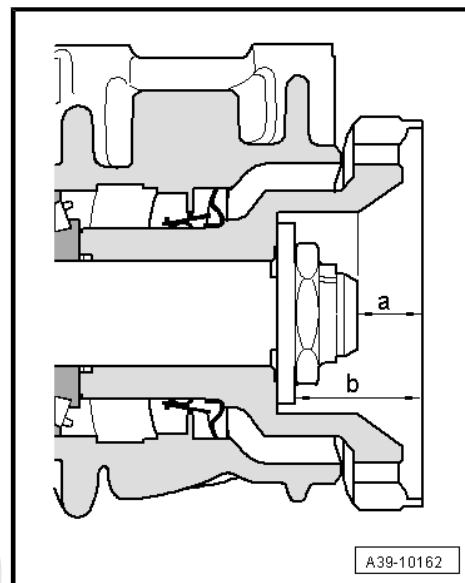


- Tighten pinion shaft nut to the previously marked position -arrow- by turning the same number of turns as noted on removal.



Checking dimension "a" and dimension "b"

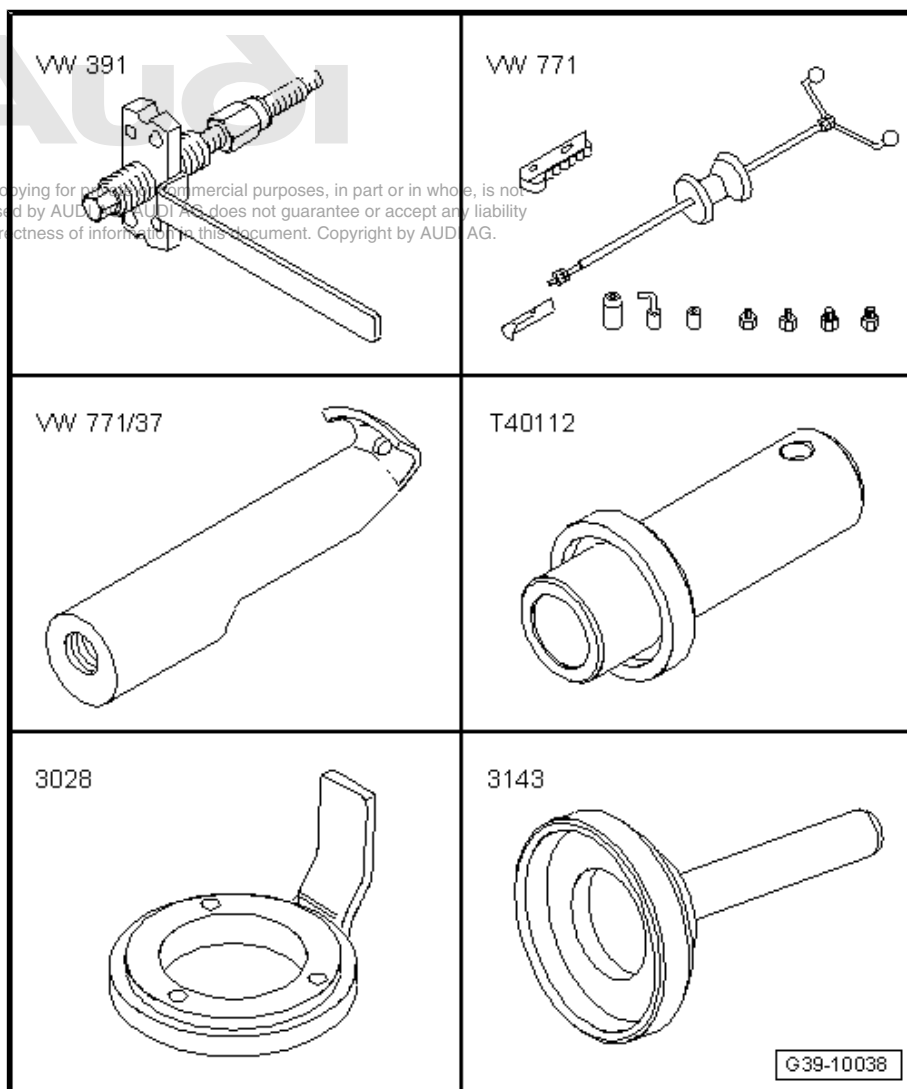
- The measurements must be the same as noted previously within a tolerance of ± 0.2 mm.
- Install rear final drive ➤ [page 34](#) .
- Check oil level in rear final drive ➤ [page 32](#) .



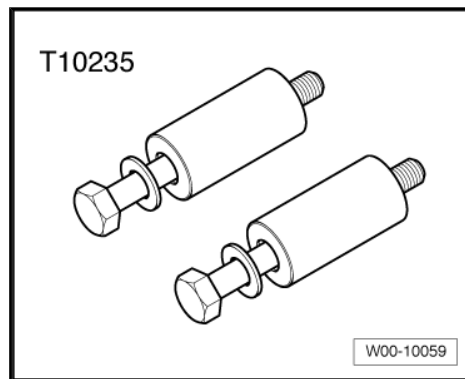
6.1 Renewing oil seal and flange for propshaft (rear final drive removed)

Special tools and workshop equipment required

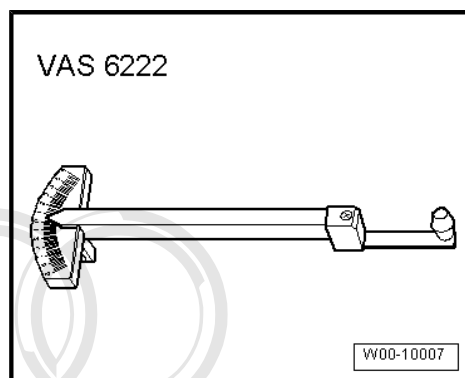
- ◆ Drive flange installing tool - VW 391-
- ◆ Multi-purpose tool -VW 771-
- ◆ Puller hook -VW 771/37-
- ◆ Thrust piece -T40112-
- ◆ Counterhold tool -3028-
- ◆ Drift sleeve -3143-



◆ Adapters -T10235-



◆ Friction gauge -VAS 6222-



◆ Inductive heater -VAS 6414-

◆ Sealing grease -G 052 128 A1-

◆ Locking fluid -AMV 185 101 A1-

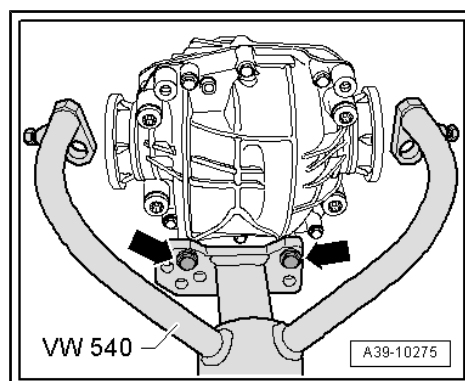
◆ 3 bolts M8 x 25

◆ 2 bolts (M10 x 40)

– Observe the general repair instructions ➔ [page 6](#).

– Remove rear final drive ➔ [page 34](#) .

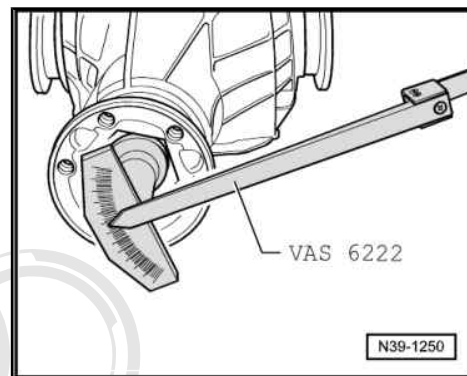
– Secure rear final drive to engine and gearbox support -VW 540- with bolts (M10 × 40) -arrows-.



- Measure friction torque before slackening pinion shaft nut.
- Make a note of the measurement.

**Caution**

The friction torque must be set to this measured value after renewing the oil seal.



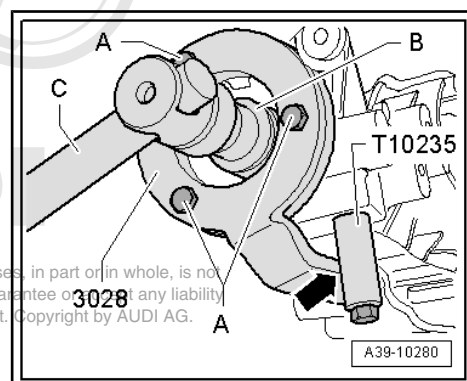
- Fit counterhold tool -3028- to flange for propshaft with bolts -A-.
- Secure adapter -T10235- in tapped hole below flange for propshaft.
- Slacken pinion shaft nut, allowing counterhold tool -3028- to rest against adapter -T10235- -arrow-.

-A- 3 bolts M 8 x 25

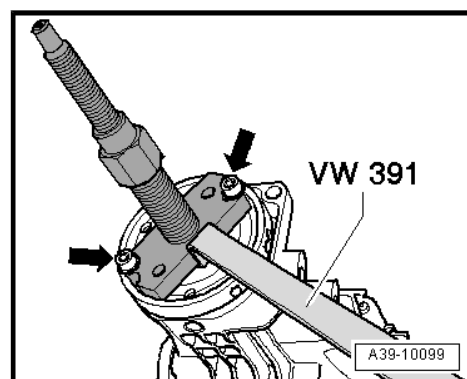
-B- Socket (32 mm)

-C- Handle

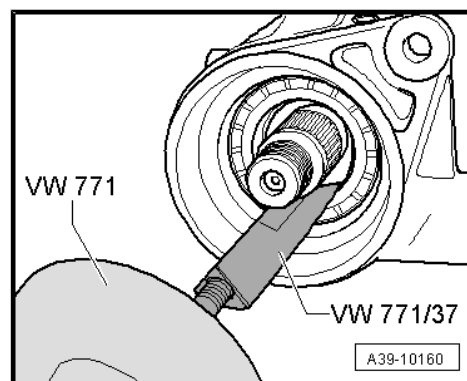
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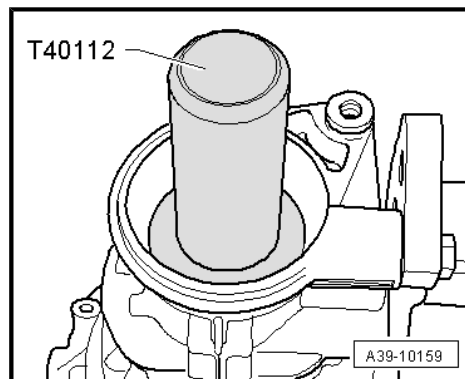
- Secure installing tool -VW 391- with 2 bolts M 8 x 25 -arrows-.
- Pull off flange for propshaft.



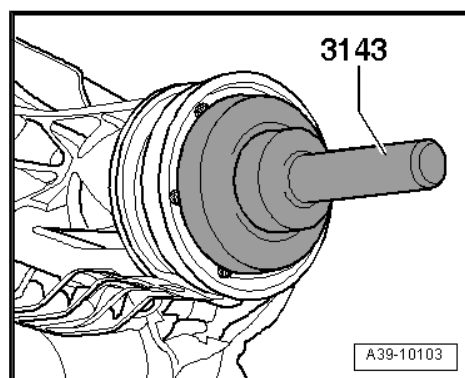
- Pull out the oil seal.
- Clean thread of pinion shaft.



- Lightly lubricate outer circumference of oil seal with gear oil.
- Pack space between sealing lip and dust lip half-full with sealing grease -G 052 128 A1- .
- Drive in new oil seal onto stop (take care to keep oil seal straight).



- Using inductive heater -VAS 6414- , heat flange for propshaft to approx. 80 °C.
- Drive new flange for propshaft onto pinion shaft.
- Apply locking fluid -AMV 185 101 A1- to thread of new nut.

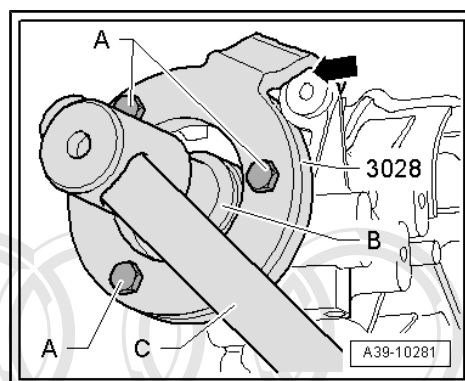


- Fit counterhold tool -3028- to flange for propshaft with bolts -A-.
- Counterhold tool -3028- must rest against lug -arrow- on housing when tightening pinion shaft nut.

-A- 3 bolts M 8 x 25

-B- Socket (32 mm)

-C- Handle

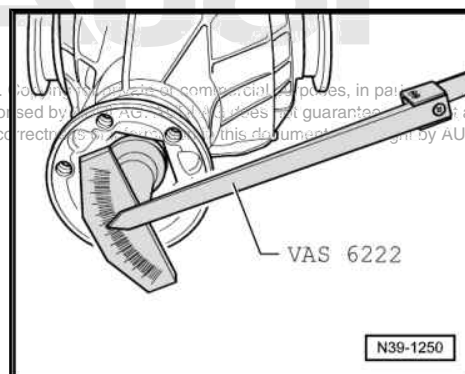


Caution

Only increase tightening torque slowly. Stop and check friction torque several times. Friction torque measured prior to removal must not be exceeded otherwise rear final drive will have to be renewed!

- Tighten new pinion shaft nut until torque friction measured before removal is attained.
- Install rear final drive ➔ [page 34](#) .
- Check oil level in rear final drive ➔ [page 32](#) .

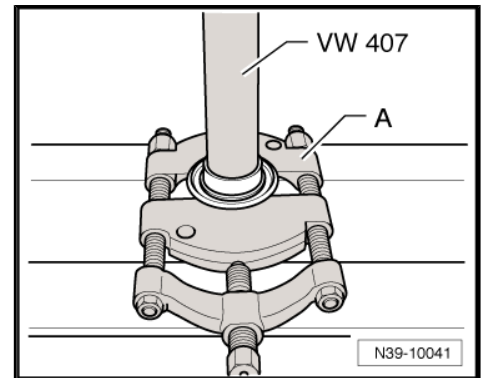
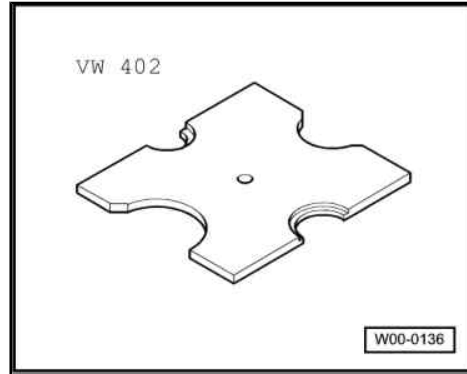
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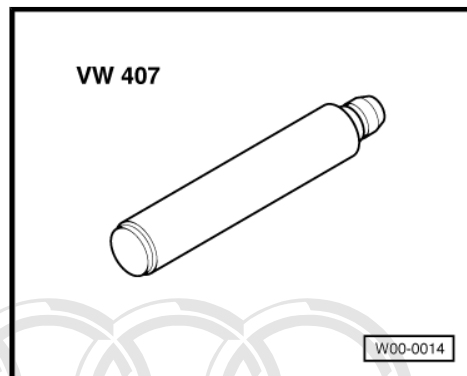
6.2 Renewing protective ring on propshaft flange

Special tools and workshop equipment required

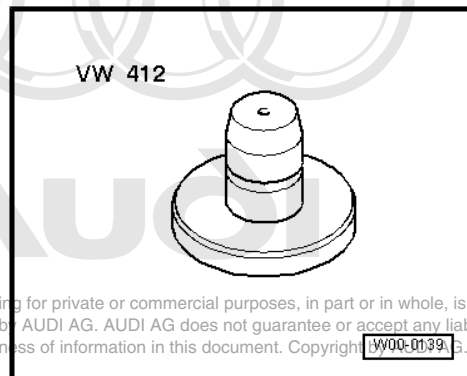
- ◆ Thrust plate -VW 402-



- ◆ Press tool -VW 407-

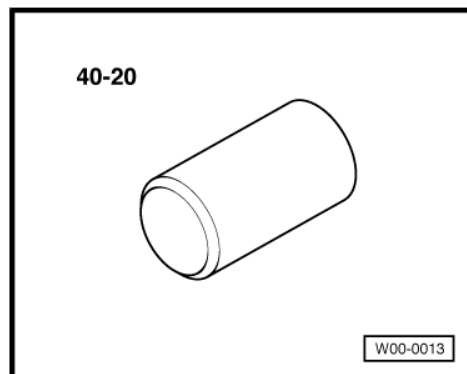


- ◆ Press tool -VW 412-

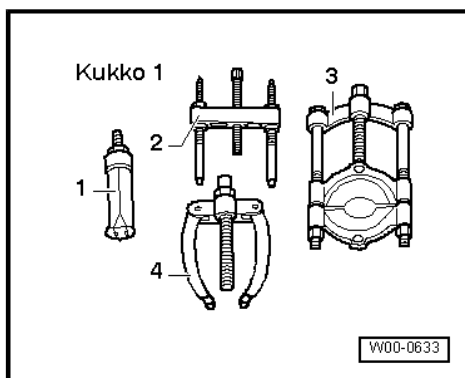


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- ◆ Drift sleeve -40 - 20-



- ◆ -3- Splitter 22...75 mm , e.g. -Kukko 17/1-

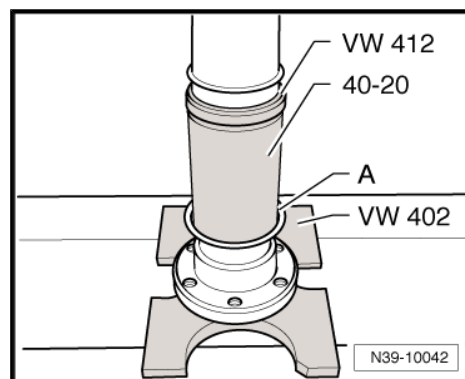


Pressing protective ring off flange for propshaft

A - Splitter 22...115 mm ,
e.g. -Kukko 17/2-

Pressing protective ring -A- onto propshaft flange

- Installation position of protective ring -A-: recess in protective ring faces upwards towards drift sleeve -40 - 20- .



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