

TRANSMISSION**Rear Final Drive OBD (Sedan)****39 FINAL DRIVE, DIFFERENTIAL****GENERAL INFORMATION****REAR FINAL DRIVE GEAR OIL, CHECKING****Special tools and workshop equipment required**

- Catch tray

-- Remove the sealing plug -arrow- for checking transmission fluid.

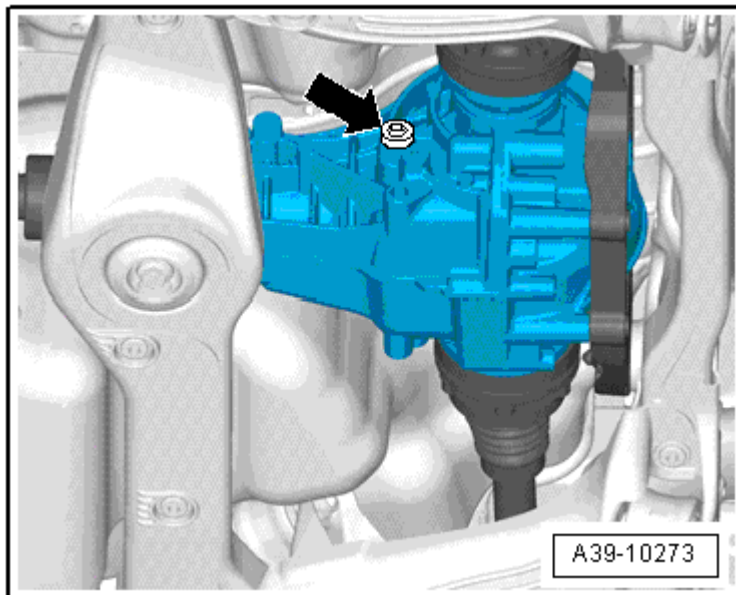


Fig. 1: Identifying Sealing Plug

Courtesy of AUDI OF AMERICA, LLC

The fluid level is correct when the rear final drive is filled up the lower edge of the fluid fill hole.

- Transmission fluid specification, refer to **ENGINE CODE, TRANSMISSION ALLOCATION, RATIOS AND CAPACITIES**.

-- Install the screw plug -arrow- and tighten.

Tightening Specifications: 45 Nm

DESCRIPTION AND OPERATION

REAR FINAL DRIVE ASSEMBLY OVERVIEW

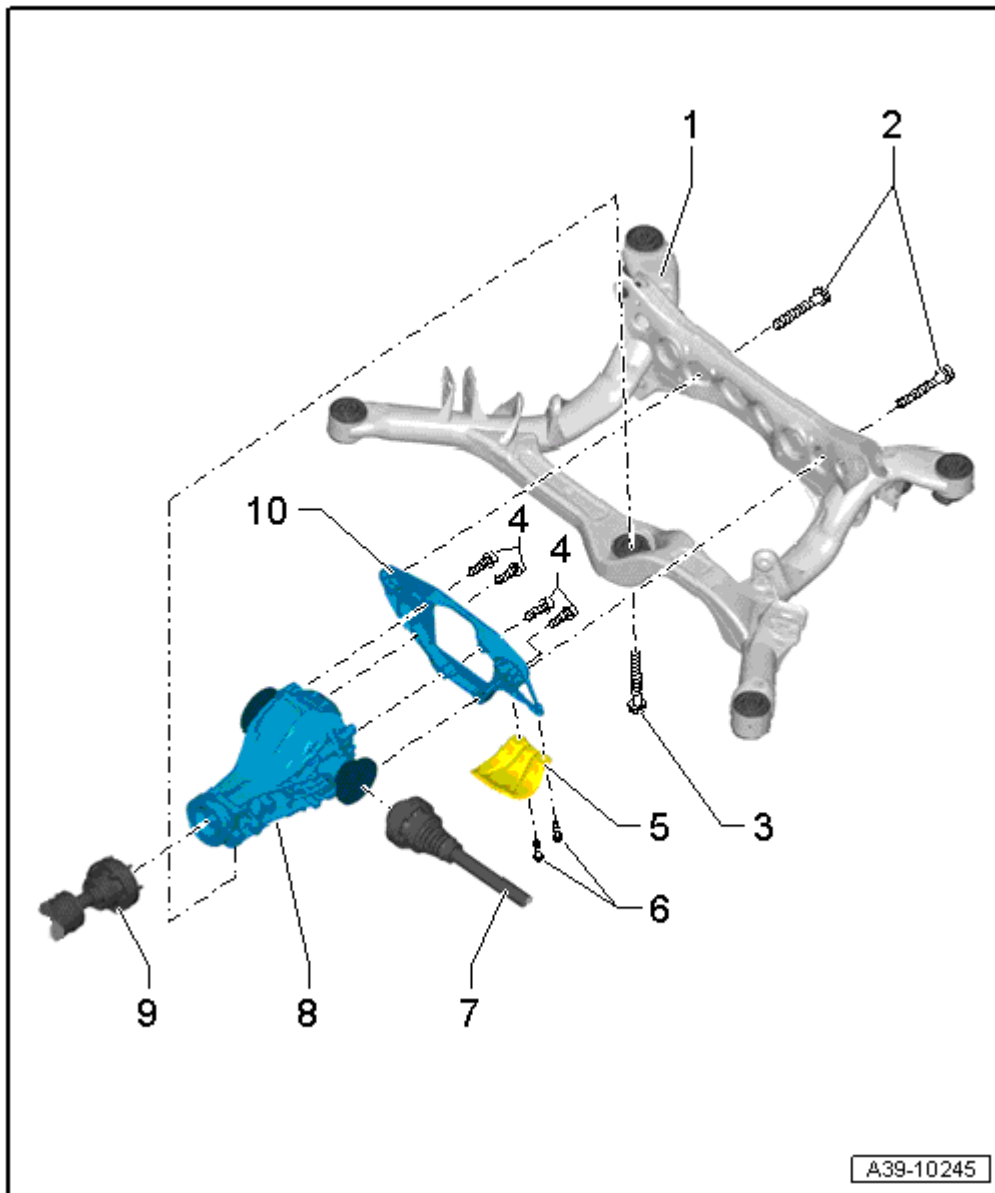


Fig. 2: Rear Final Drive Assembly Overview
Courtesy of AUDI OF AMERICA, LLC

1. Subframe
 - Removing and installing, refer to **[For engine(s) CAEB, CALA, CCBA] Removal and Installation**
2. Bolt
 - 95 Nm
3. Bolt
 - 55 Nm

4. Bolt
 - 55 Nm
5. Heat Shield
6. Bolt
 - 20 Nm
7. Drive Axle
 - Removing and installing, refer to **[For engine(s) CAEB, CALA, CCBA] Removal and Installation**
8. Rear Final Drive
 - Removing and installing, refer to **REAR FINAL DRIVE**
 - Attaching to the assembly stand **REAR FINAL DRIVE ASSEMBLY OVERVIEW**
9. Driveshaft
 - Removing and installing, refer to **DRIVESHAFT BOLTED ON TRANSMISSION SIDE** and **DRIVESHAFT ATTACHED ON TRANSMISSION SIDE**
 - Removing from the rear final drive and installing, refer to **DRIVESHAFT FROM REAR FINAL DRIVE**
10. Crossmember

Attaching the Rear Final Drive to the Assembly Stand

-- Attach the rear final drive to the holding fixture VW 540 using M10 x 40 bolts -arrows-.

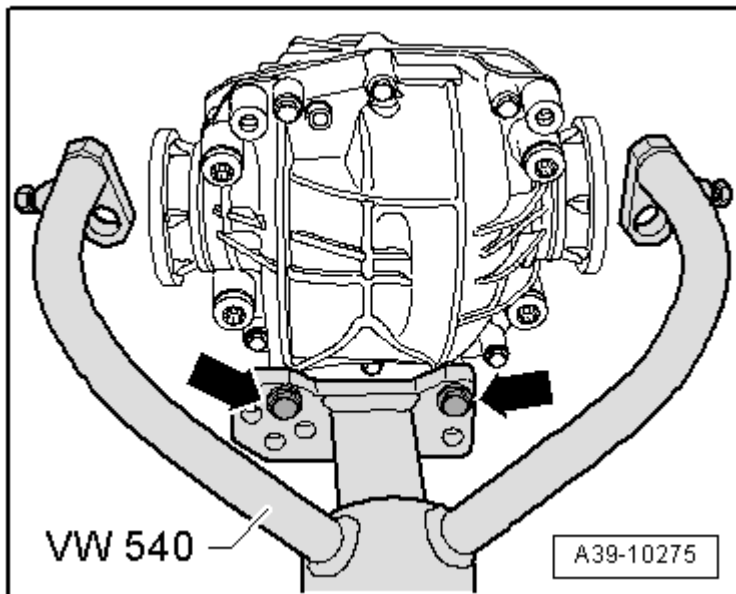


Fig. 3: Attach Rear Final Drive To Holding Fixture
Courtesy of AUDI OF AMERICA, LLC

DRIVESHAFT BOLTED ON TRANSMISSION-SIDE ASSEMBLY OVERVIEW

NOTE: Observe general repair notes COMPONENT DESCRIPTION => To perform a problem-free and successful transmission repair, extreme caution and cleanliness, as well as properly functioning tools are an important requirement. Understandably, general safety guidelines apply when performing repairs. .

The driveshaft cannot be repaired. They can only be removed, installed and adjusted.

Always store and transport driveshaft fully extended only.

The driveshaft can be bent at the center joint without using force. A hard bending to the stop may cause damage to the center joint or dust boot.

If the driveshaft is only detached at the transmission or from rear final drive, it should be tied up or supported at the shaft end. If necessary, it is permitted to bend the driveshaft at the center joint without using force.

Mark the position of all the parts before removing them. Install the parts in the same position, otherwise the imbalance can damage the bearing causing a humming noise.

Use the counterhold tool Touareg V10T10172 and adapters T10172/5 to loosen or tighten the driveshaft bolts.

After disconnecting driveshaft from rear final drive, an installed balance washer (thick washer between backing plate and internal multi-point bolt) may not be reinstalled.

If there are complaints about noise or vibration, make sure there is no tension on the intermediate bearing before replacing the driveshaft.

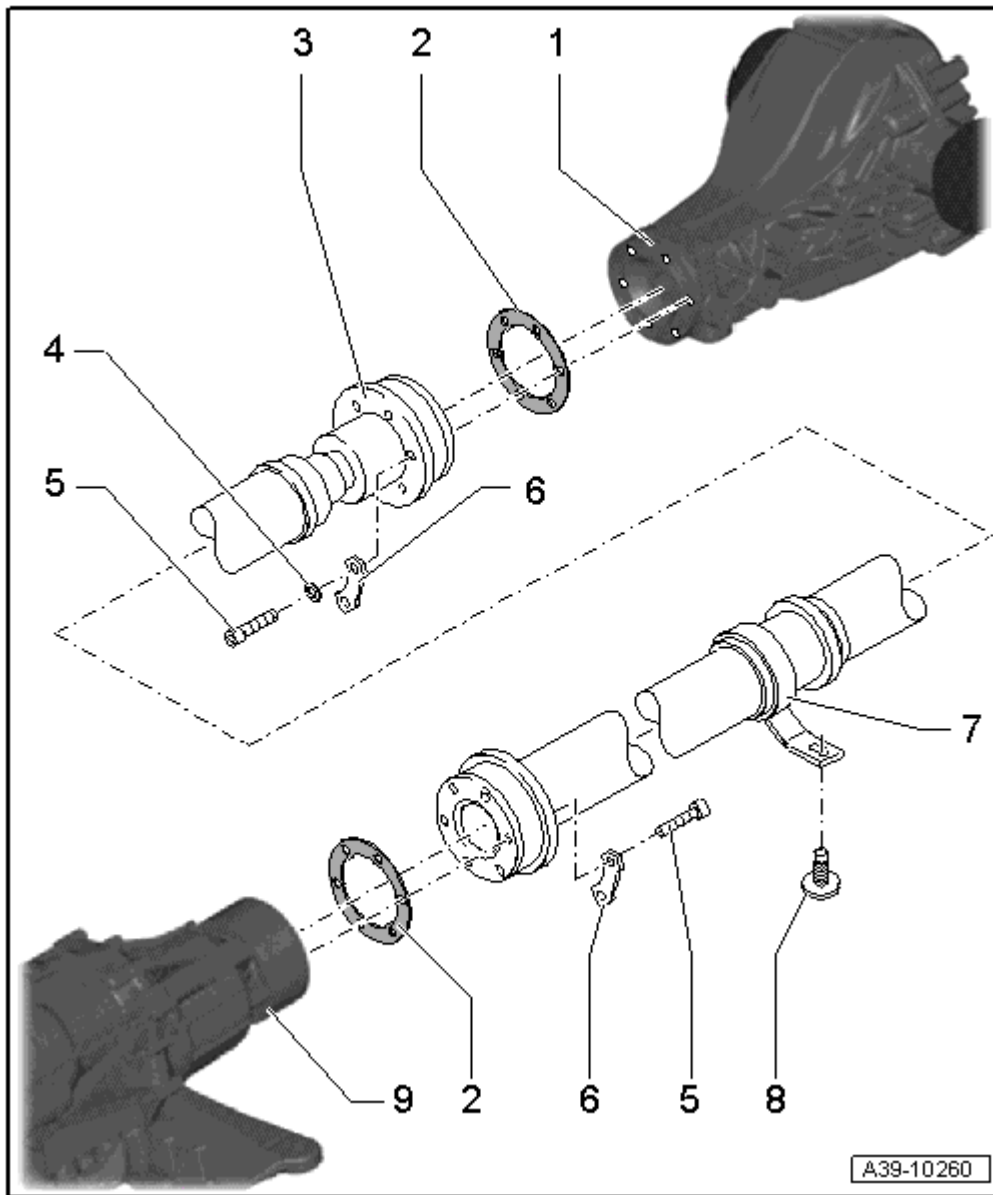


Fig. 4: Driveshaft Bolted On Transmission-Side Assembly Overview
 Courtesy of AUDI OF AMERICA, LLC

1. Rear Final Drive

- Removing and installing, refer to **REAR FINAL DRIVE**

2. Gasket

- Replace a damaged (bent) gasket.
- Replace the gasket if the rubber has started to peel.
- Remove any grease still on the flange and install the gasket.
- Sides having different color does not influence the installation.

3. Driveshaft

- Removing and installing, refer to **DRIVESHAFT BOLTED ON TRANSMISSION SIDE**

- Removing from the transmission and installing, refer to **DRIVESHAFT TO TRANSMISSION**
 - Removing from the rear final drive and installing, refer to **DRIVESHAFT FROM REAR FINAL DRIVE**
4. Balancing Washer
 - Not present on every vehicle
 - Possibly located between an internal multi-point bolt -5- and a backing plate -6- on the rear final drive
 - If present, this balancing washer must no longer be installed after disconnecting driveshaft from rear final drive.
 5. Bolt
 - Always replace
 - 30 Nm plus an additional 90° turn
 - Self-locking
 - Always clean the threaded holes in the flange shafts (for example, use a thread cutter)
 - On the rear final drive
 - Tightening specification and sequence **DRIVESHAFT BOLTED ON TRANSMISSION-SIDE ASSEMBLY OVERVIEW**
 - On the transmission
 6. Backing Plate
 7. Intermediate Bearing
 8. Bolt
 - 20 Nm
 9. Drive

Driveshaft to Rear Final Drive - Tightening Specification and Sequence

- Always replace the driveshaft bolts -1-.

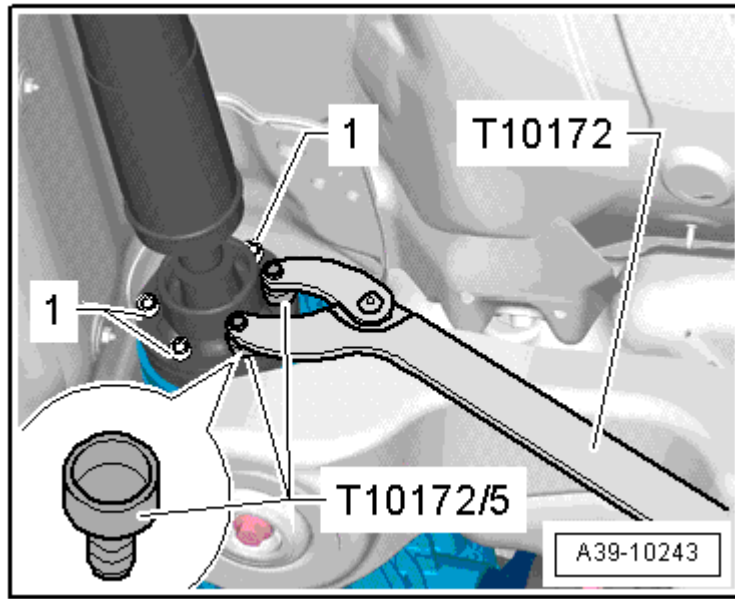


Fig. 5: Counterhold Using T10172 And T10172/5
 Courtesy of AUDI OF AMERICA, LLC

- Counterhold using the T10172 and T10172/5.

-- Tighten the bolts -1- in 3 steps as follows:

Step	Bolts	Tightening Specification/Additional Turn
1.	-1-	Next to the color dots 30 Nm ¹⁾
2.	-1-	The remaining all around 30 Nm
3.	-1-	90° additional turn all around
• ¹⁾ The CV joint will be pushed toward the opposite side reducing the imbalance.		

Driveshaft Heat Shield - Tightening Specification

-- Tighten the bolts -arrows- to 24 Nm.

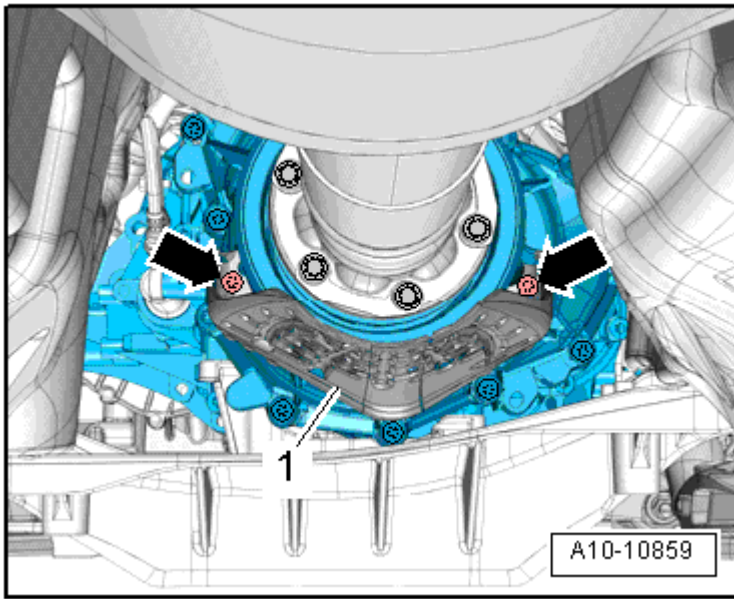


Fig. 6: Identifying Bolts -Arrows-
Courtesy of AUDI OF AMERICA, LLC

DRIVESHAFT MOUNTED ON TRANSMISSION-SIDE ASSEMBLY OVERVIEW

NOTE: Observe general repair notes COMPONENT DESCRIPTION => To perform a problem-free and successful transmission repair, extreme caution and cleanliness, as well as properly functioning tools are an important requirement. Understandably, general safety guidelines apply when performing repairs. .

The attached driveshaft can only be removed from the transmission if it is removed completely.

The driveshaft cannot be repaired. They can only be removed, installed and adjusted.

Always store and transport driveshaft fully extended only.

The driveshaft can be bent at the center joint without using force. A hard bending to the stop may cause damage to the center joint or dust boot.

If the driveshaft is only detached from rear final drive, it should be tied up or supported at the shaft end. If necessary, it is permitted to bend the driveshaft at the center joint without using force.

Use the counterhold tool Touareg V10T10172 and adapters T10172/5 to loosen or tighten the driveshaft bolts.

Always hold the driveshaft horizontal when installing it or removing it from the transmission output shaft.

Follow the tightening sequence for attaching the driveshaft bolts to the rear final drive DRIVESHAFT MOUNTED ON TRANSMISSION-SIDE ASSEMBLY OVERVIEW.

If there are complaints (noise, vibration), do the following before replacing the driveshaft:

- Make sure the center bearing is free of tension.
- Remove the driveshaft bolts on the rear final drive. Tighten the driveshaft following the tightening sequence **DRIVESHAFT MOUNTED ON TRANSMISSION-SIDE ASSEMBLY OVERVIEW**.

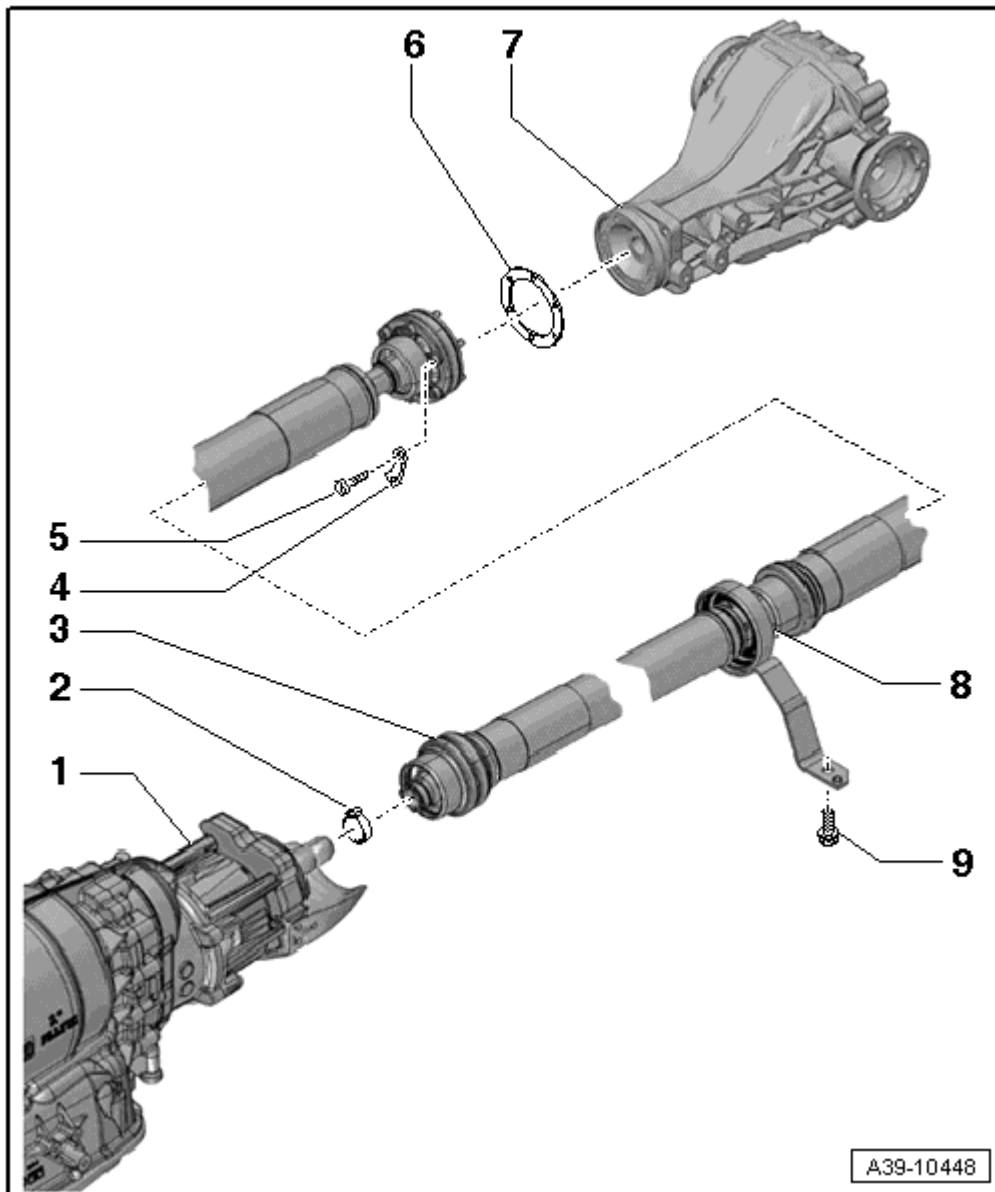


Fig. 7: Removing Driveshaft Bolts On Rear Final Drive
Courtesy of AUDI OF AMERICA, LLC

1. Drive
2. Hose Clamp
 - Replace
3. Driveshaft
 - Removing and installing, refer to **DRIVESHAFT ATTACHED ON TRANSMISSION SIDE**
 - Removing from the rear final drive and installing, refer to **DRIVESHAFT FROM REAR FINAL DRIVE**
4. Backing Plate
5. Bolt
 - Always replace
 - 30 Nm plus an additional 90° turn
 - Self-locking
 - Threaded holes in flange shaft at rear final drive must be cleaned of locking compound residue. Use a thread cutter to clean the holes.
 - On the rear final drive
 - Tightening specification and sequence **DRIVESHAFT MOUNTED ON TRANSMISSION-SIDE ASSEMBLY OVERVIEW**
 - On the transmission
6. Gasket
 - Replace a damaged (bent) gasket.
 - Replace the gasket if the rubber has started to peel.
 - Remove any grease still on the flange and install the gasket.
 - Sides having different color does not influence the installation.
7. Rear Final Drive

Removing and installing, refer to **REAR FINAL DRIVE**
8. Intermediate Bearing
9. Bolt
 - 20 Nm

Driveshaft to Rear Final Drive - Tightening Specification and Sequence

- Always replace the driveshaft bolts -1-.

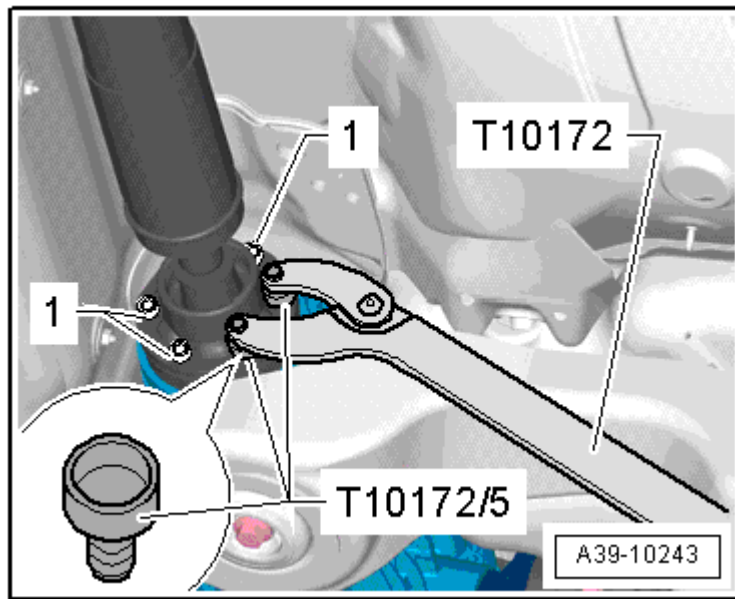


Fig. 8: Counterhold Using T10172 And T10172/5
 Courtesy of AUDI OF AMERICA, LLC

- Counterhold using the T10172 and T10172/5.

-- Tighten the bolts -1- in 3 steps as follows:

Step	Bolts	Tightening Specification/Additional Turn
1.	-1-	Next to the color dots 30 Nm ¹⁾
2.	-1-	The remaining all around 30 Nm
3.	-1-	90° additional turn all around
• ¹⁾ The CV joint will be pushed toward the opposite side reducing the imbalance.		

Driveshaft Heat Shield - Tightening Specification

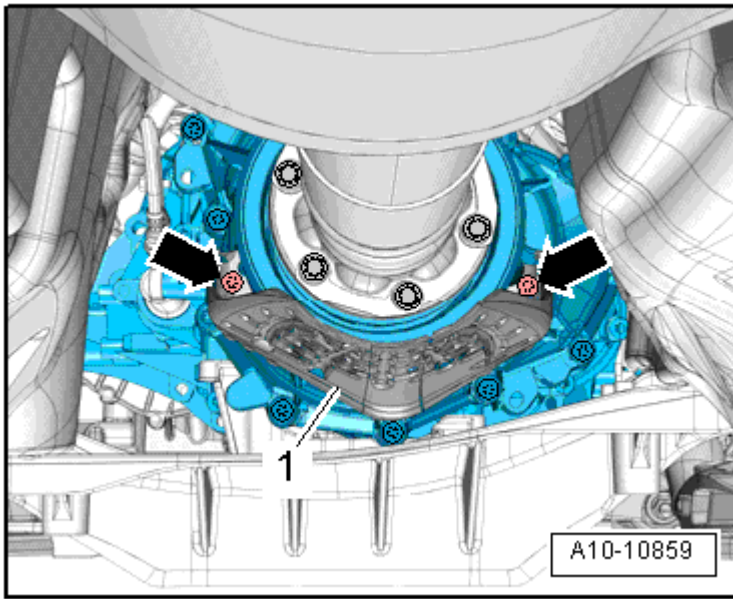


Fig. 9: Identifying Bolts -Arrows-
 Courtesy of AUDI OF AMERICA, LLC

-- Tighten the bolts -arrows- to 24 Nm.

SPECIFICATIONS

FASTENER TIGHTENING SPECIFICATIONS

Component	Bolt Size	Nm
Backing Plate for Driveshaft ²		30 + 90°
Crossmember		55
Heat Shield		20
Intermediate Bearing Bracket		20
Screw Plug		45
Subframe ¹		
		55
		95
¹ For bolt tightening clarification, refer to REAR FINAL DRIVE ASSEMBLY OVERVIEW and see items -2 and 3- ² Always replace		

Driveshaft to Rear Final Drive - Tightening Specification and Sequence

- Always replace the driveshaft bolts -1-.

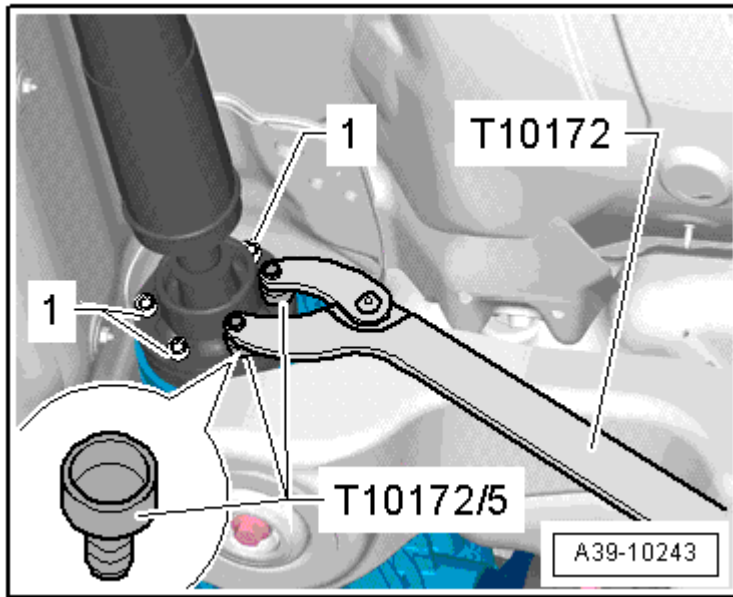


Fig. 10: Counterhold Using T10172 And T10172/5
 Courtesy of AUDI OF AMERICA, LLC

- Counterhold using the counterhold tool Touareg V10T10172 and adapters T10172/5.

-- Tighten the bolts -1- in 3 steps as follows:

Step	Bolts	Tightening Specification/Additional Turn
1.	-1-	Next to the color dots 30 Nm ¹⁾
2.	-1-	The remaining all around 30 Nm
3.	-1-	90° additional turn all around
• ¹⁾ The CV joint will be pushed toward the opposite side reducing the imbalance.		

Driveshaft Heat Shield - Tightening Specification

-- Tighten the bolts -arrows- to 24 Nm.

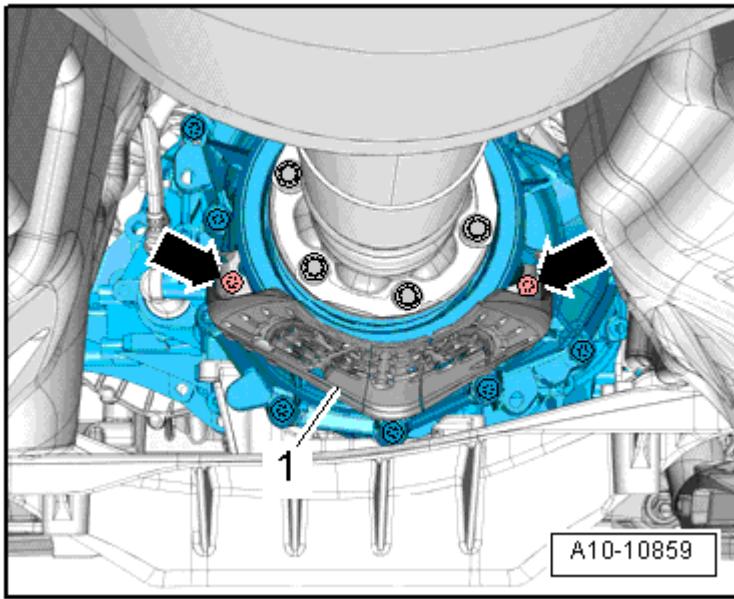


Fig. 11: Identifying Bolts -Arrows-
Courtesy of AUDI OF AMERICA, LLC

REMOVAL AND INSTALLATION

REAR FINAL DRIVE

Special tools and workshop equipment required

- Counterhold tool Touareg V10T10172 and adapters T10172/5
- Socket XZN 12T40154
- Engine/Transmission Jack V.A.G 1383 A with Universal Transmission Support V.A.G 1359/2

Removing

Observe general repair notes **COMPONENT DESCRIPTION** .

-- Place the vehicle on a hoist.

NOTE: Do not bend the decoupling element in the front exhaust pipe more than 10°, otherwise it will get damaged.

-- Loosen the clamping sleeve(s) -arrows- and disconnect the exhaust system.

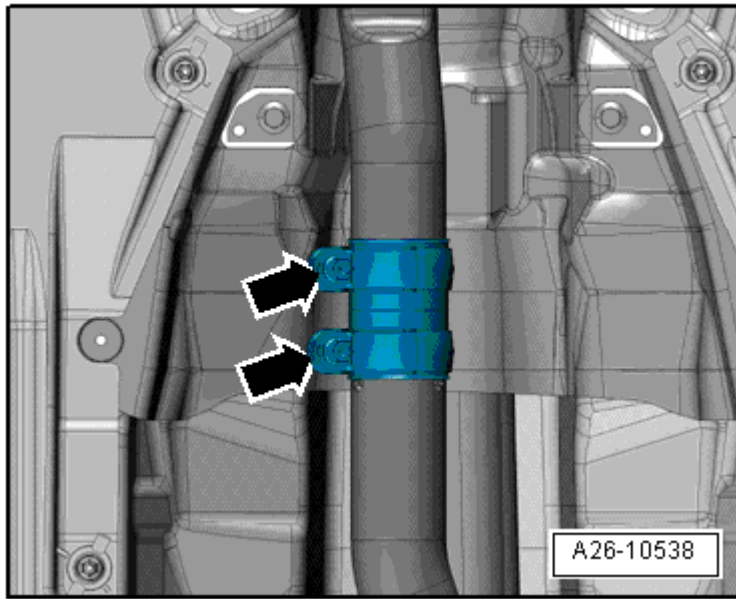


Fig. 12: Clamping Sleeve Threaded Connections
 Courtesy of AUDI OF AMERICA, LLC

- Tie the front exhaust pipe(s) to the underbody.
- Remove the rear crossmember -1-, if equipped.

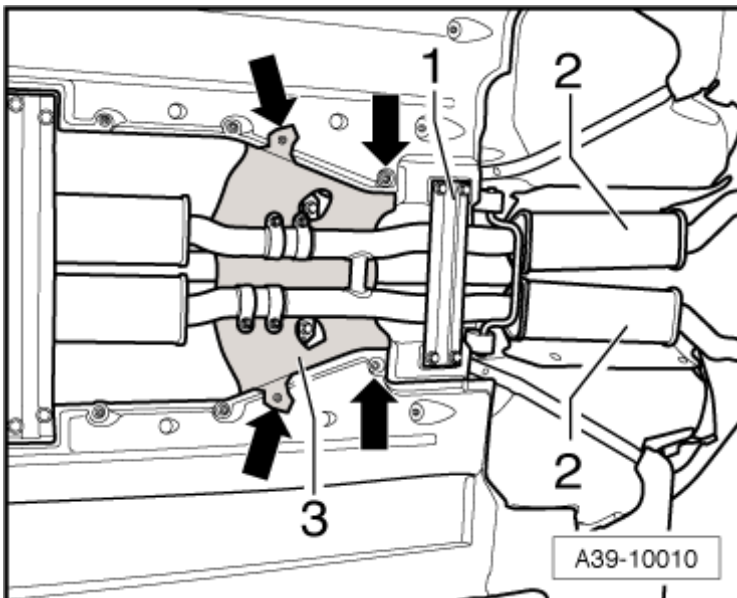


Fig. 13: Removing Rear Transverse Beam & Heat Shield From Vehicle Floor
 Courtesy of AUDI OF AMERICA, LLC

- Install rear section of the exhaust system -2-. Refer to [For transmission(s) 0AW] [For engine(s) CALA] Description and Operation or to [For engine(s) CAEB] Description and Operation or to [For engine(s) CCBA] Description and Operation .

NOTE: A second technician will be needed to help remove the rear section of the exhaust system.

Audi A4 and Audi A5

-- Remove the heat shield -3- from the body -arrows-.

Continuation for All Vehicles

-- Check whether there is a marking (color marking) on driveshaft and at flange/driveshaft at rear final drive - arrow A- and -arrow B-.

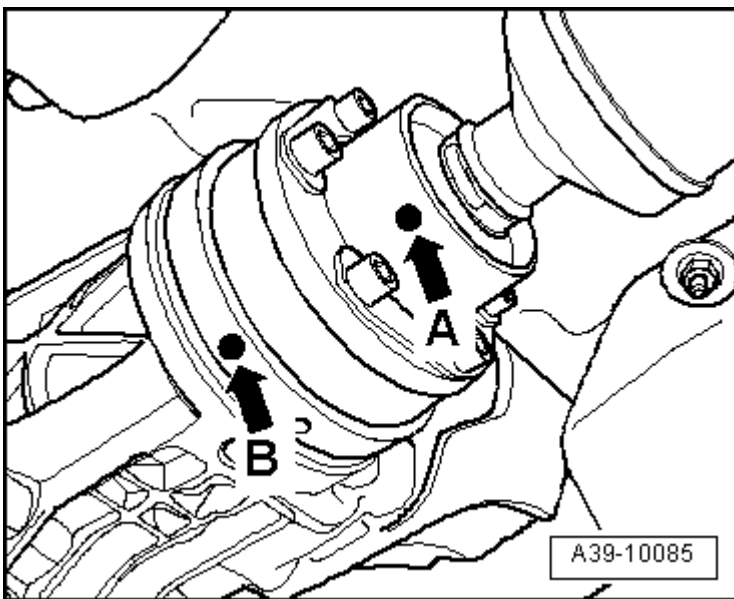


Fig. 14: Identifying Mark Position Of Driveshaft Flange To Rear Final Drive
Courtesy of AUDI OF AMERICA, LLC

-- If one of these markings is no longer visible (for example -arrow A- on the driveshaft), then make a new color marking.

- Die marking on the driveshaft -arrow A- and on the rear final drive -arrow B- must line up.

-- Remove the bolts -1- (quantity: 6) from the rear CV joint.

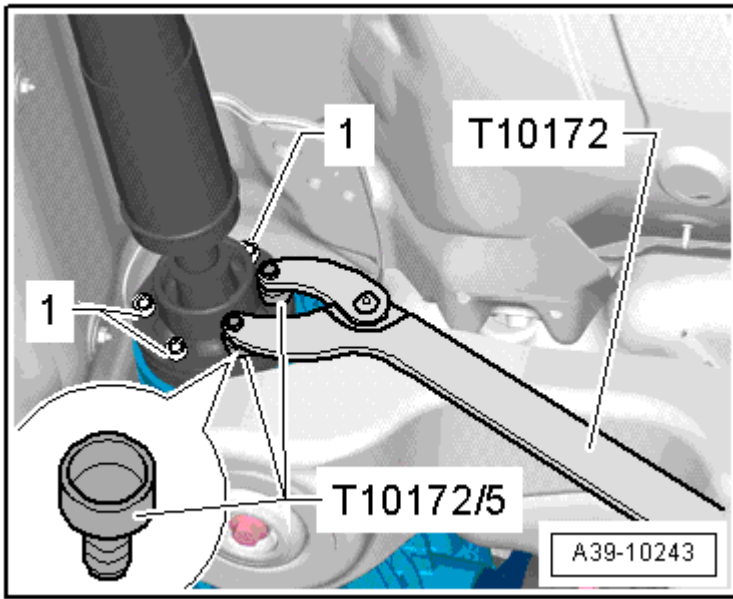


Fig. 15: Counterhold Using T10172 And T10172/5
Courtesy of AUDI OF AMERICA, LLC

-- Use the T10172 with the T10172/5.

Audi A4 and Audi A5

-- Attach the rear crossmember -C- to the body, if removed earlier.

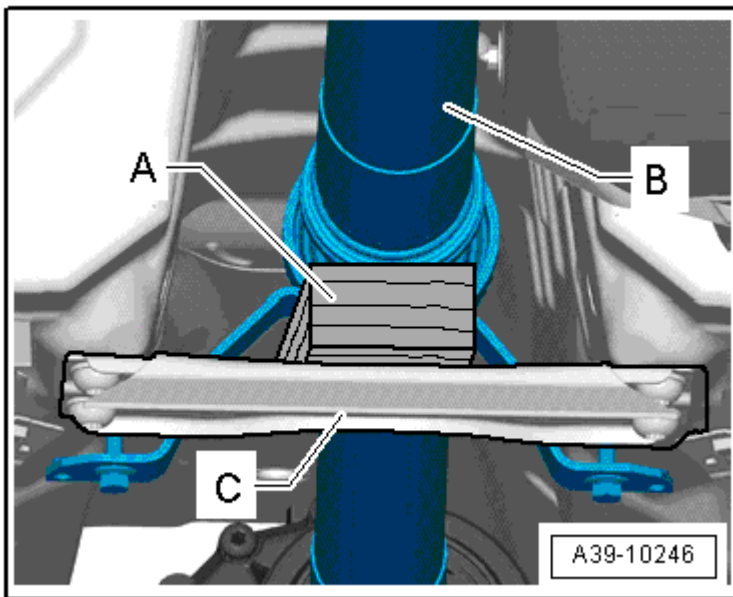


Fig. 16: Identifying Wood On Rear Crossmember
Courtesy of AUDI OF AMERICA, LLC

-- Place a block of wood -A- (approximately 40 mm tall) on the rear crossmember -C- and secure the driveshaft

-B-.

NOTE: The heat shield under the intermediate bearing supports the driveshaft -B- on the Audi Q5.

The driveshaft can be bent at the center joint without using force. A hard bending to the stop may cause damage to the center joint or dust boot.

Continuation for All Vehicles

-- Remove the bolts from the driveshaft center bearing -arrows-.

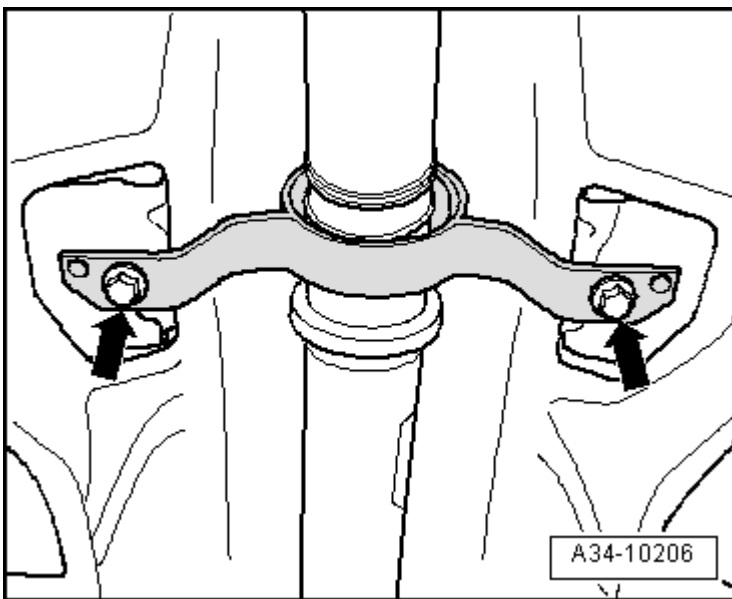


Fig. 17: Removing Mounting Bolts
Courtesy of AUDI OF AMERICA, LLC

-- Push the driveshaft forward while pulling off the rear final drive.

-- Tie the driveshaft to the side of the subframe.

-- Remove the left drive axle heat shield -A- from the crossmember/rear final drive -arrows-.

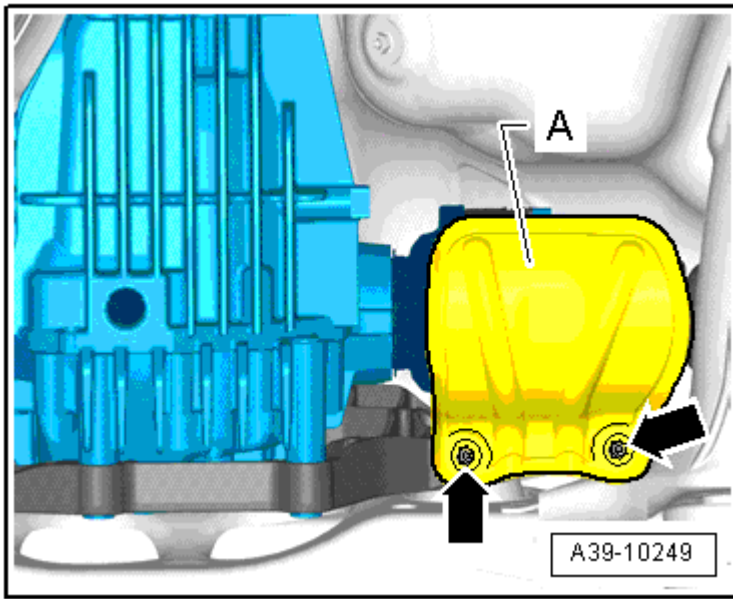


Fig. 18: Removing Left Driveshaft Head Shield
Courtesy of AUDI OF AMERICA, LLC

-- Remove the left -1- and right -3- drive axles.

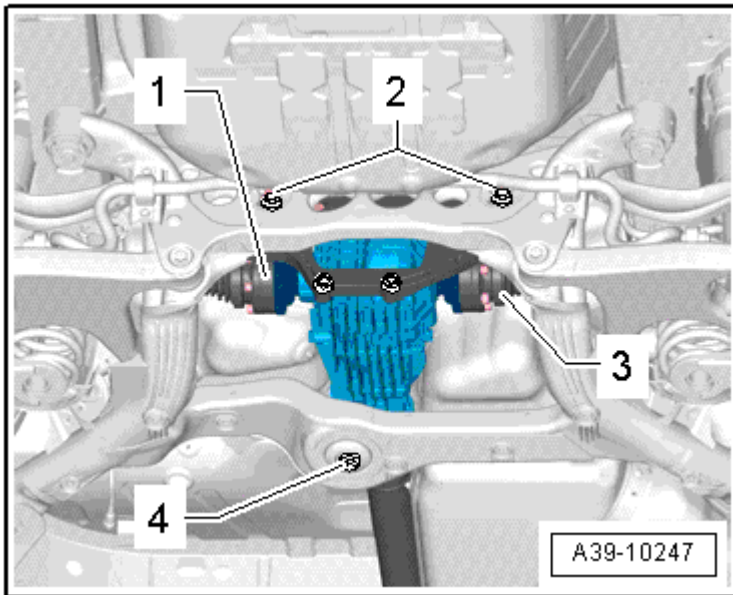


Fig. 19: Removing Left And Right Driveshaft
Courtesy of AUDI OF AMERICA, LLC

-- Loosen the bolts -2- approximately 3 turns.

-- Remove the bolt -4-.

-- Place the V.A.G 1383 A with the V.A.G 1359/2 and a block of wood -A- (approximately 80 mm tall) under

the rear final drive.

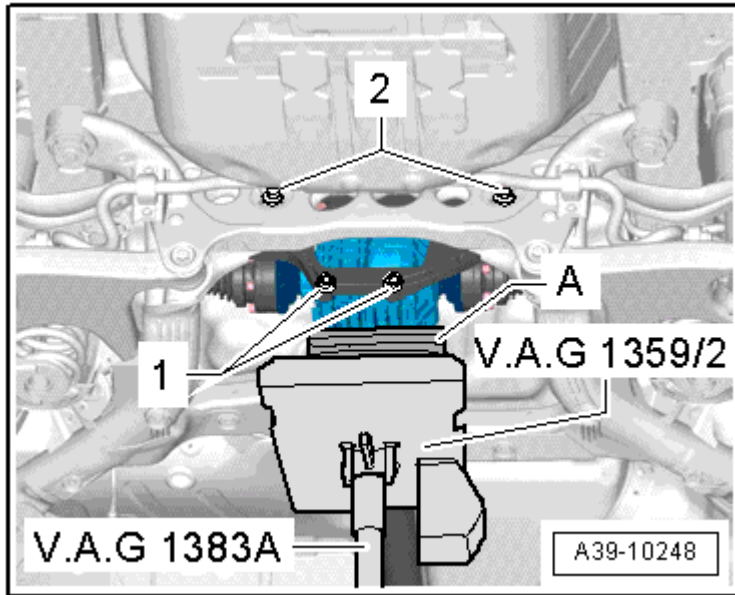


Fig. 20: Placing V.A.G1383A, V.A.G1359/2 And Block Of Wood Under Rear Final Drive
Courtesy of AUDI OF AMERICA, LLC

NOTE: Make sure the V.A.G 1359/2 is not touching the fuel tank.

- Remove the bolts -1- (lower crossmember bolt to the rear final drive) and -2-.
- Remove the two upper crossmember bolts -B- to the rear final drive.

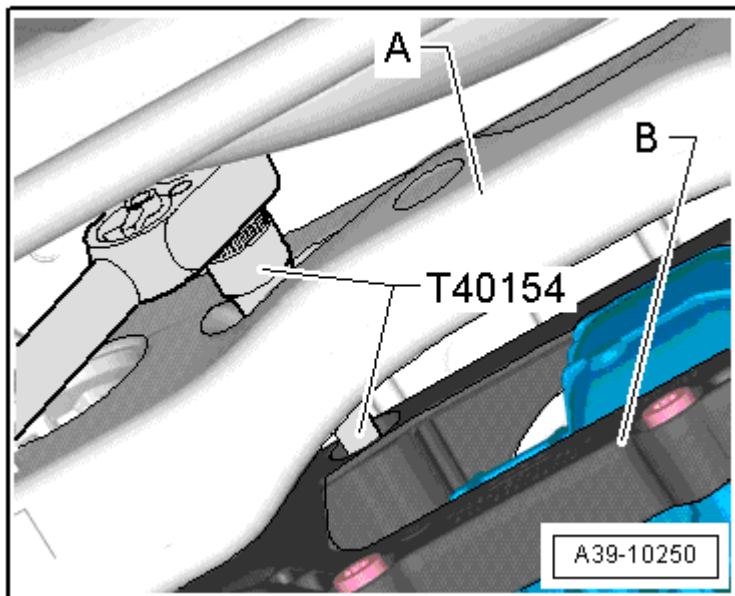


Fig. 21: Removing Two Upper Crossmember Bolts To Rear Final Drive

Courtesy of AUDI OF AMERICA, LLC

-- Guide the T40154 through the holes in the subframe -A-. Move the final drive to the left or to the right if necessary.

-- Push the final drive -A- slightly to the front.

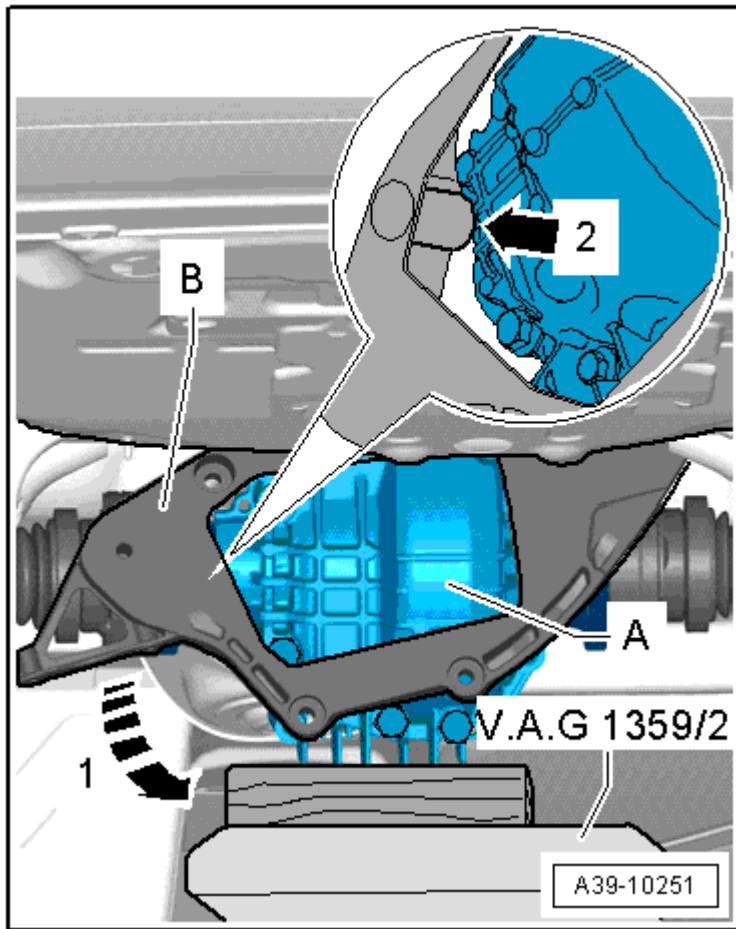


Fig. 22: Placing V.A.G 1383 A With V.A.G 1359/2 And A Block Of Wood
Courtesy of AUDI OF AMERICA, LLC

-- Turn the crossmember -B- to the left in direction of -arrow 1- while guiding it past the final drive -arrow 2- and remove it.

NOTE: A second technician will be needed to continue removing the rear final drive.

-- A second technician must lift the rear final drive -1- on the right side and push it in direction of -arrow- toward the left side of the vehicle.

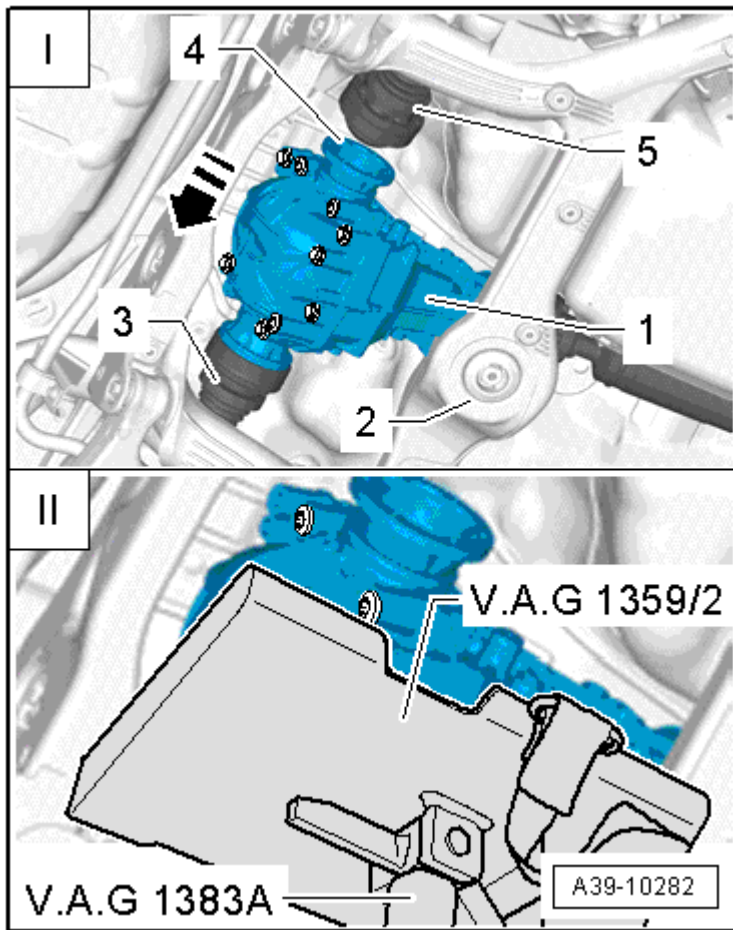


Fig. 23: A Second Technician Must Lift Rear Final Drive -1- On Right Side And Push It In Direction Of -Arrow-

Courtesy of AUDI OF AMERICA, LLC

NOTE: The V.A.G 1383 A and the V.A.G 1359/2 are not shown in the upper area I of the illustration.

- Guide the right drive axle -5- upward and out of the final drive flange shaft -4-.
- Remove the left drive axle -3-.
- Secure the rear final drive with a strap -B-.

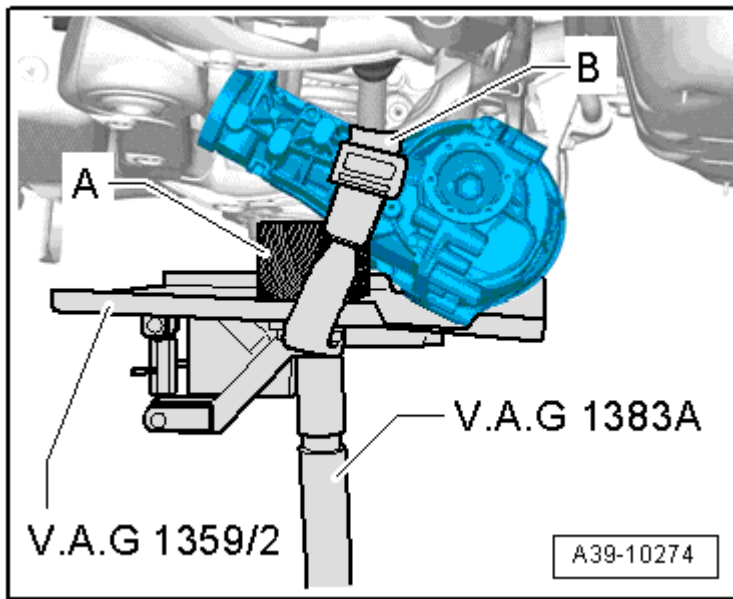


Fig. 24: Secure Rear Final Drive With A Strap -B- & A - Block Of Wood
Courtesy of AUDI OF AMERICA, LLC

A - Block of wood

-- Lower rear final drive completely.

Installing

Installation is in reverse order of removal. Observe the following when doing so:

-- Mount the rear final drive -1- with the V.A.G 1383 A and V.A.G 1359/2 on the subframe -2- in its installed position.

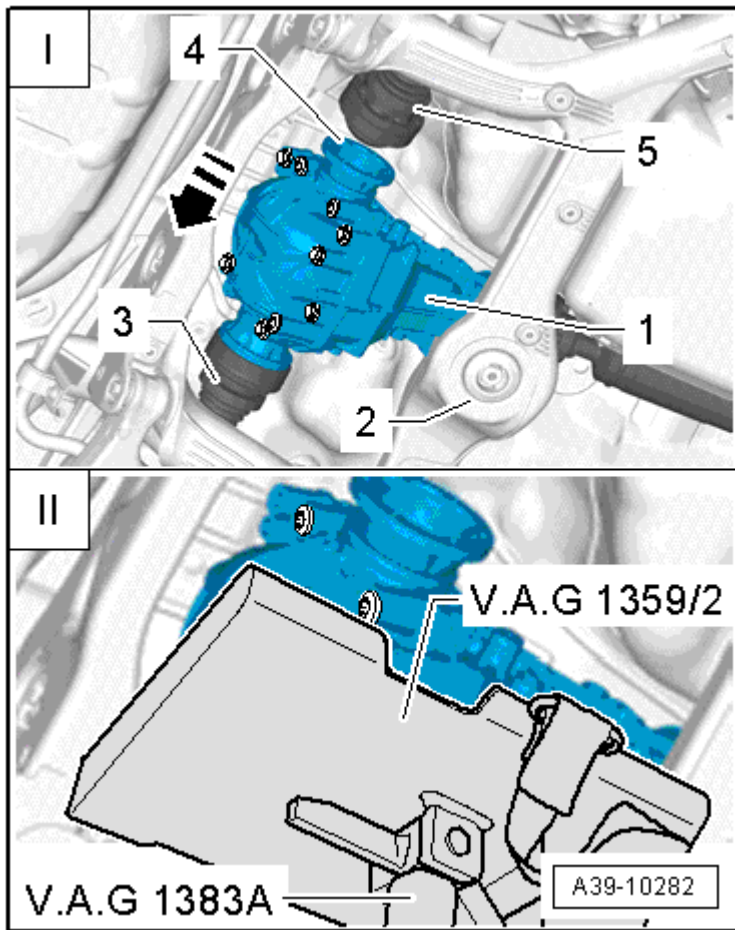


Fig. 25: Mount Rear Final Drive -1- With V.A.G 1383 A And V.A.G 1359/2 On Subframe -2- In Its Installed Position

Courtesy of AUDI OF AMERICA, LLC

NOTE: The V.A.G 1383 A and the V.A.G 1359/2 are not shown in the upper area I of the illustration.

- Install the left drive axle -3- into the final drive flange shaft.
- A second technician must lift the rear final drive -1- on the right side and push it in direction of -arrow- toward the left side of the vehicle.
- Insert the right drive axle -5- into the final drive flange shaft -4-.
- Push the final drive -A- slightly to the front.

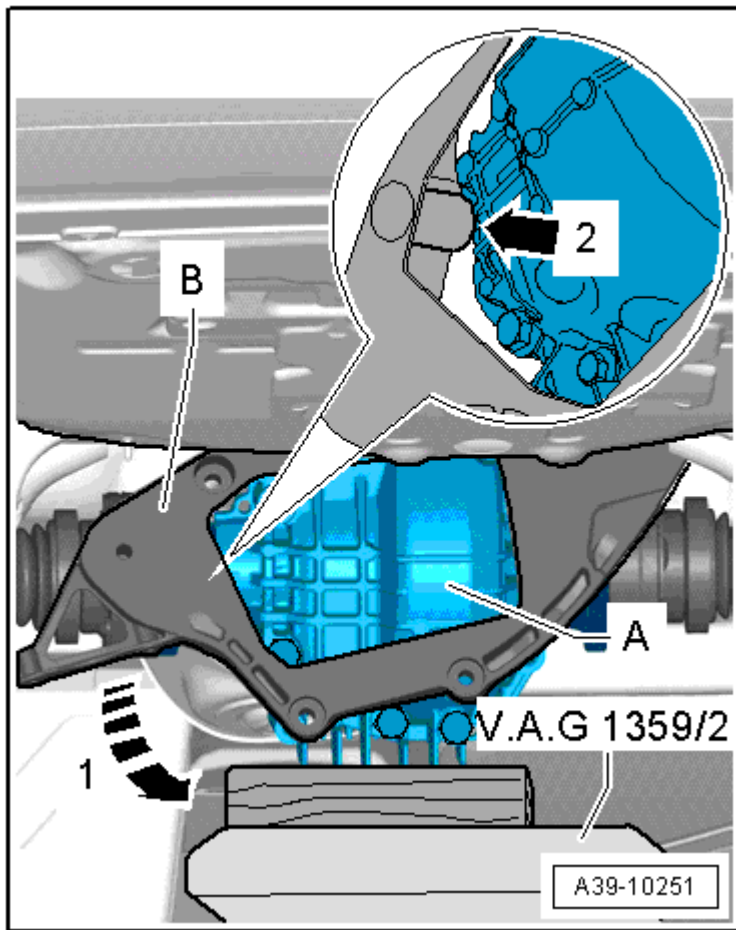


Fig. 26: Placing V.A.G 1383 A With V.A.G 1359/2 And A Block Of Wood
Courtesy of AUDI OF AMERICA, LLC

-- Rotate and install the crossmember -B- in the opposite direction of -arrow 1- while guiding past the final drive -arrow 2-.

-- Tighten the 4 bolts that connect the crossmember -B- to the rear final drive diagonally to the tightening specification -4- **REAR FINAL DRIVE ASSEMBLY OVERVIEW.**

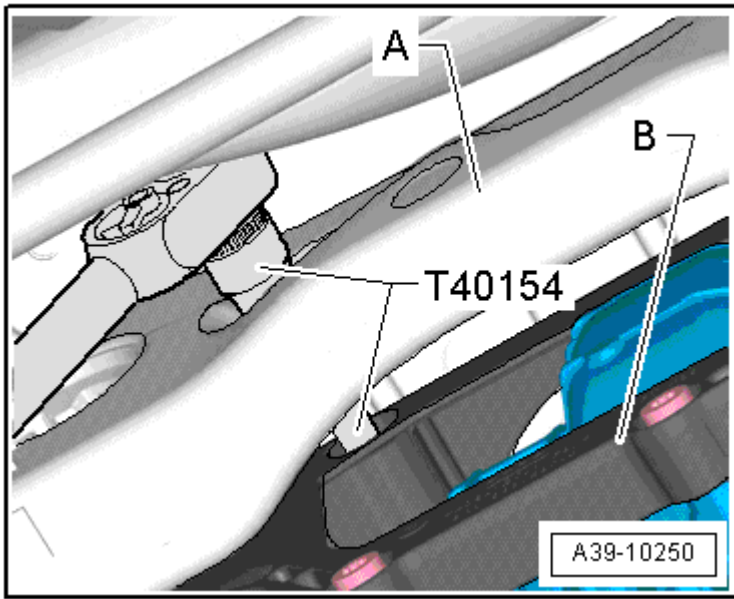


Fig. 27: Removing Two Upper Crossmember Bolts To Rear Final Drive
Courtesy of AUDI OF AMERICA, LLC

-- Guide the T40154 through the holes in the subframe -A-. Move the final drive to the left or to the right if necessary.

-- Install the bolts -2- and -4- hand-tight.

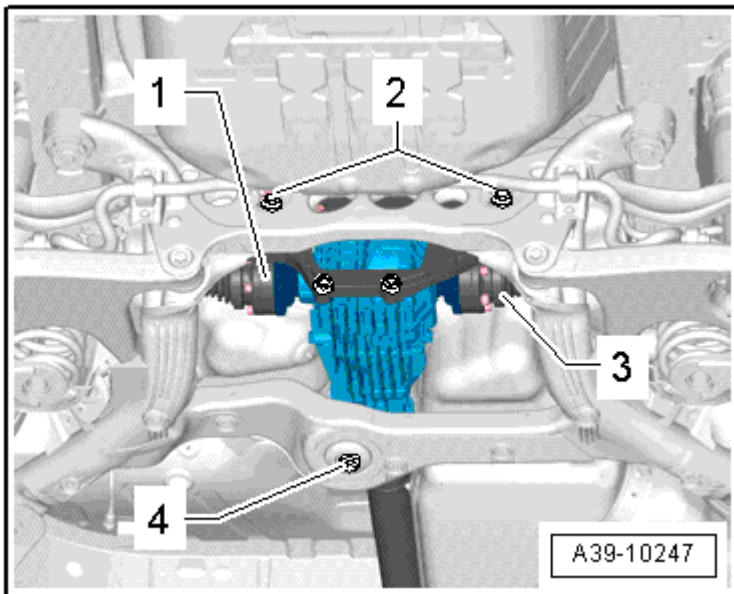


Fig. 28: Removing Left And Right Driveshaft
Courtesy of AUDI OF AMERICA, LLC

NOTE: The V.A.G 1383 A and the V.A.G 1359/2 are not shown in the illustration.

- Tighten the bolt -4- to the tightening specification -3- **REAR FINAL DRIVE ASSEMBLY OVERVIEW**.
- Tighten the bolts -2- to the tightening specification -2- **REAR FINAL DRIVE ASSEMBLY OVERVIEW**.
- Remove the V.A.G 1383 A from under the final drive.
- Install the left -1- and right -3- drive axles. Refer to **[For engine(s) CAEB, CALA, CCBA] Removal and Installation** .
- Attach the left drive axle heat shield -A- to the crossmember/rear final drive -arrows- -6- **REAR FINAL DRIVE ASSEMBLY OVERVIEW**.

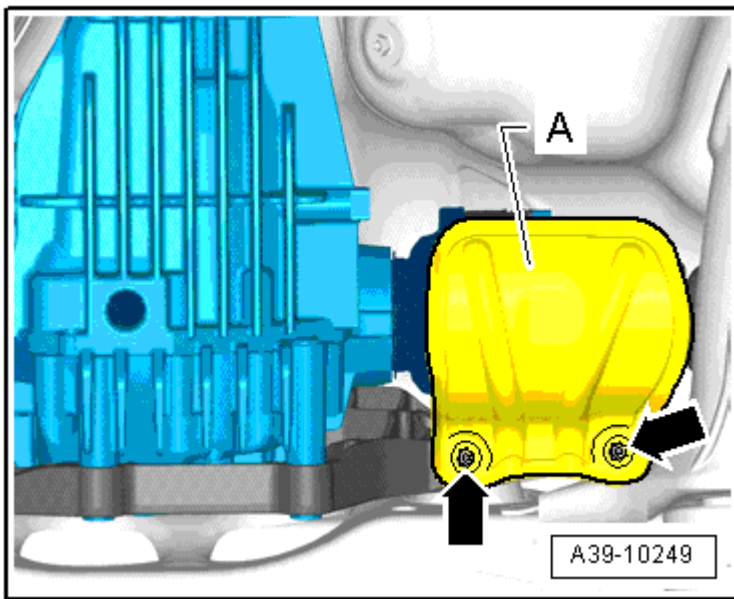


Fig. 29: Removing Left Driveshaft Head Shield
Courtesy of AUDI OF AMERICA, LLC

- Tighten the driveshaft to the rear final drive. Match up the markings and follow the tightening sequence **DRIVESHAFT FROM REAR FINAL DRIVE**.
- Tighten the driveshaft intermediate bearing to the body so that it is free of tension -arrows-. Tightening specification -8- **DRIVESHAFT BOLTED ON TRANSMISSION-SIDE ASSEMBLY OVERVIEW**.

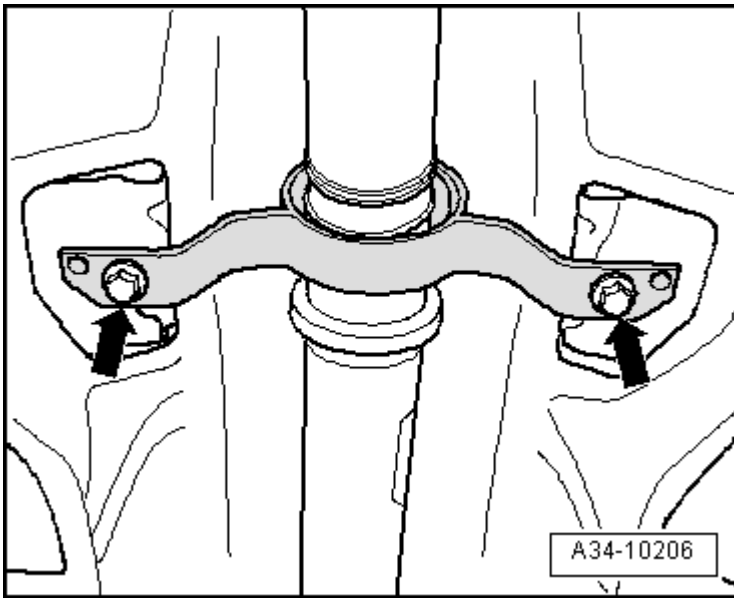


Fig. 30: Removing Mounting Bolts

Courtesy of AUDI OF AMERICA, LLC

-- Check axle oil level in rear final drive. Refer to **REAR FINAL DRIVE GEAR OIL, CHECKING**.

Audi A4 and Audi A5

-- Attach the heat shield -3- to the body -arrows-.

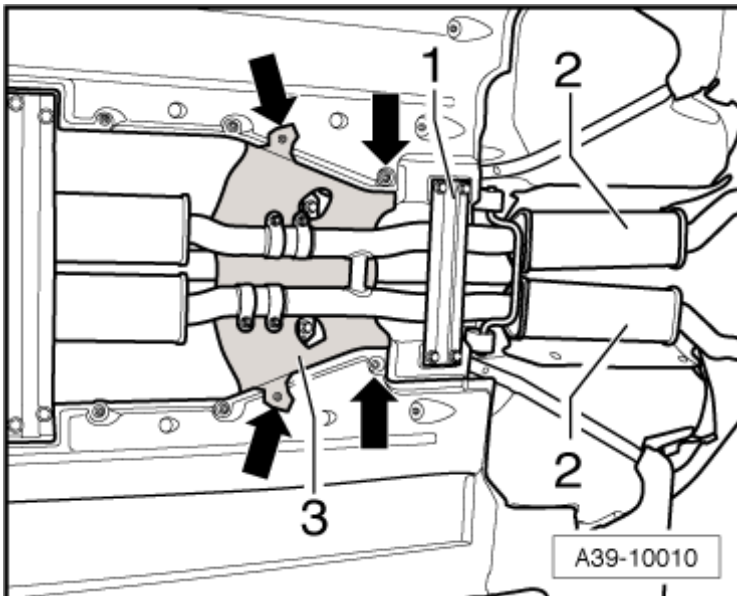


Fig. 31: Removing Rear Transverse Beam & Heat Shield From Vehicle Floor

Courtesy of AUDI OF AMERICA, LLC

Continuation for All Vehicles

-- Install and adjust rear part of exhaust system free of stress. Refer to [For transmission(s) 0AW] [For engine(s) CALA] Description and Operation or to [For engine(s) CAEB] Description and Operation or to [For engine(s) CCBA] Description and Operation .

-- Attach the crossmember -1-, if equipped, to the body. Refer to Removal and Installation .

FLANGE SHAFT SEALS, REAR FINAL DRIVE REMOVED

- The seals can only be replaced when the rear final drive is removed.

Special tools and workshop equipment required

- Needle Bearing Drift VW 295
- Puller T10037
- Thrust Piece T40110
- Thrust Piece T40111
- Sealing Grease G 052 128 A1

RIGHT FLANGE SHAFT SEAL

-- Follow the general repair instructions COMPONENT DESCRIPTION .

-- Remove rear final drive. Refer to REAR FINAL DRIVE.

-- Thread T10037 tightly to housing -arrow- and pull out flange shaft.

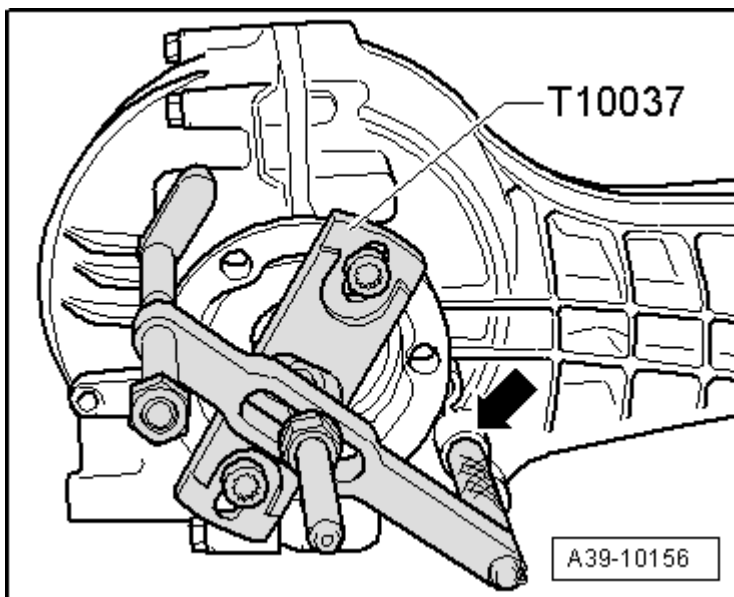


Fig. 32: Thread T10037 Tightly To Housing -Arrow-
Courtesy of AUDI OF AMERICA, LLC

-- Pry out the shaft seal.

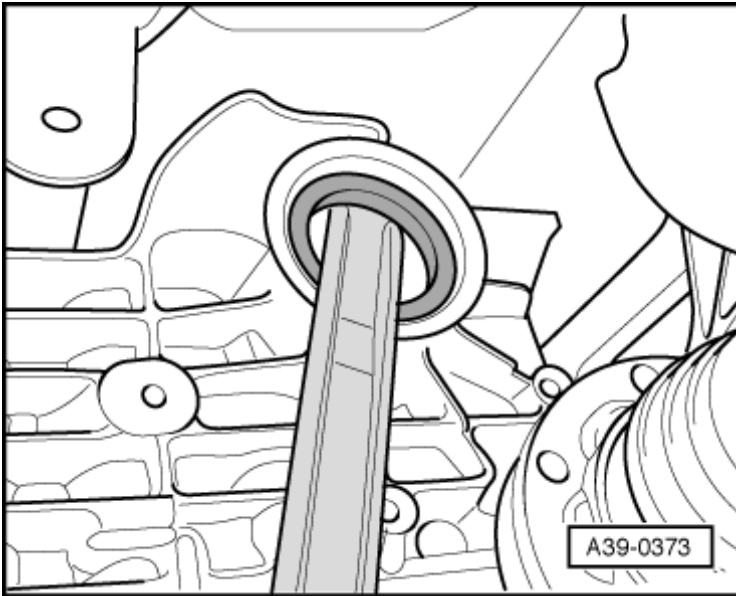


Fig. 33: Prying Out Sealing Ring With Suitable Lever
Courtesy of AUDI OF AMERICA, LLC

-- Coat the outer circumference of the shaft seal with gear oil.

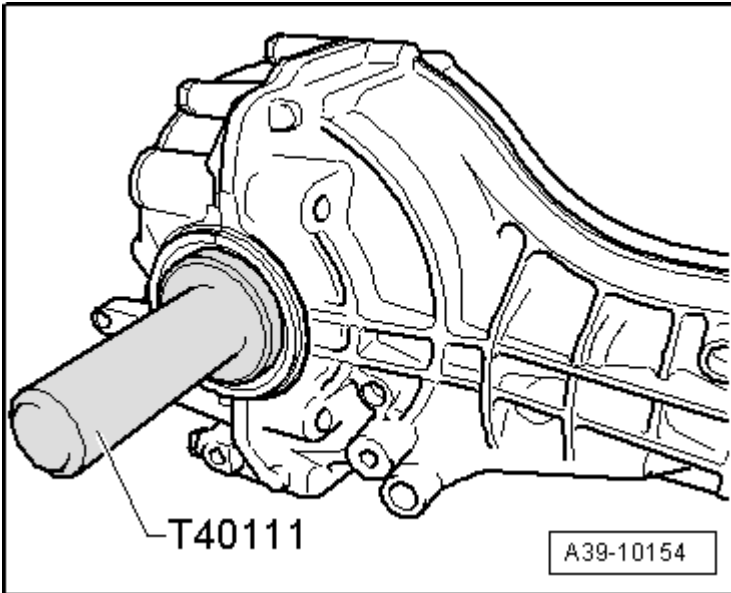


Fig. 34: Identifying T40111
Courtesy of AUDI OF AMERICA, LLC

-- Fill the space between the sealing and dust lips halfway with sealing grease G 052 128 A1.

-- Install the new shaft seal all the way without tilting it.

Check the ring for damage before installing the flange shaft. Replace the ring if necessary. Refer to **FLANGE SHAFT RING**.

-- Remove the old ring -A- from the groove in the flange shaft using pliers.

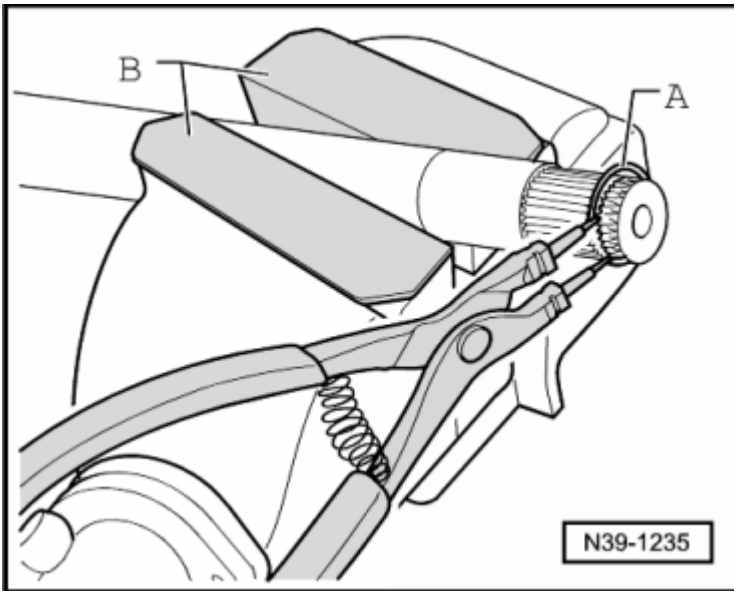


Fig. 35: Identifying Removal Of Old Circlip From Groove In Flange Shaft Using Pliers
Courtesy of AUDI OF AMERICA, LLC

B - Protective covers

-- Install the new ring being careful not to overstretch it.

-- Drive in flange shaft using VW 295.

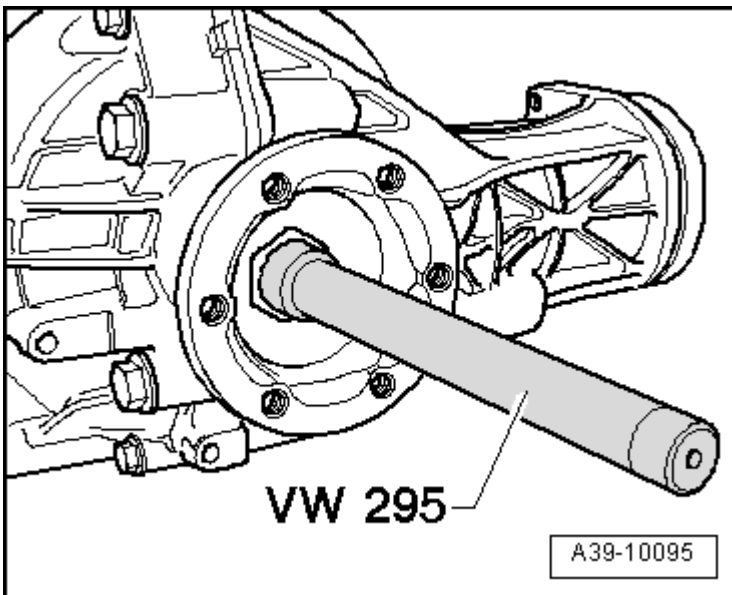


Fig. 36: Installing Right/Left Flange Shafts
Courtesy of AUDI OF AMERICA, LLC

-- Install rear final drive. Refer to **REAR FINAL DRIVE**.

-- Check the gear oil in the rear final drive. Refer to **REAR FINAL DRIVE GEAR OIL, CHECKING**.

LEFT FLANGE SHAFT SEAL

-- Follow the general repair instructions. Refer to **COMPONENT DESCRIPTION => To perform a problem-free and successful transmission repair, extreme caution and cleanliness, as well as properly functioning tools are an important requirement. Understandably, general safety guidelines apply when performing repairs.**

-- Remove rear final drive. Refer to **REAR FINAL DRIVE**.

-- Thread T10037 tightly to housing -arrow- and pull out flange shaft.

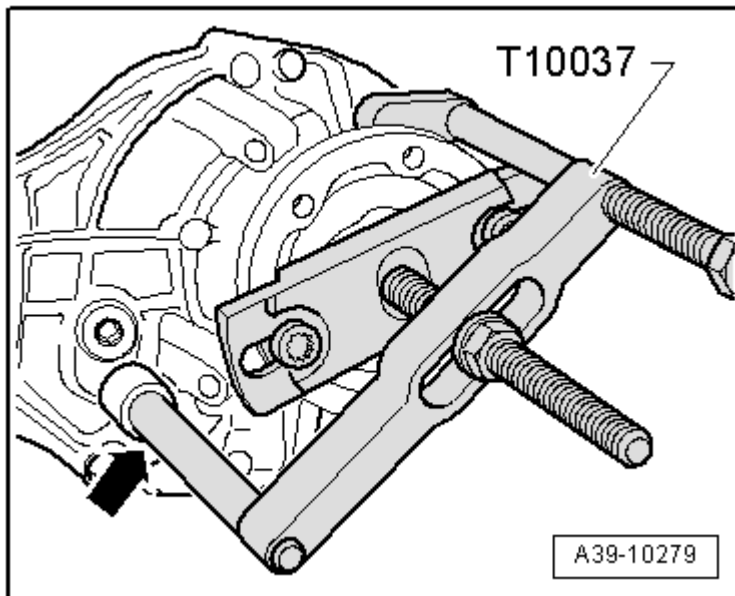


Fig. 37: Thread T10037 Tightly To Housing -Arrow- And Pull Out Flange Shaft
Courtesy of AUDI OF AMERICA, LLC

-- Pry out the shaft seal.

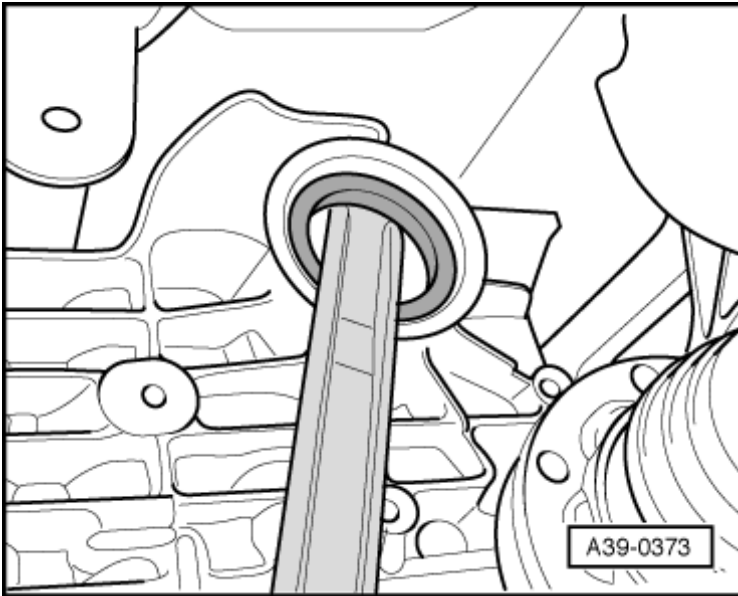


Fig. 38: Prying Out Sealing Ring With Suitable Lever
Courtesy of AUDI OF AMERICA, LLC

- Coat the outer circumference of the shaft seal with gear oil.
- Fill the space between the sealing and dust lips halfway with sealing grease G 052 128 A1.
- Install the new shaft seal all the way without tilting it.

Check the ring for damage before installing the flange shaft. Replace the ring if necessary. Refer to **FLANGE SHAFT RING**.

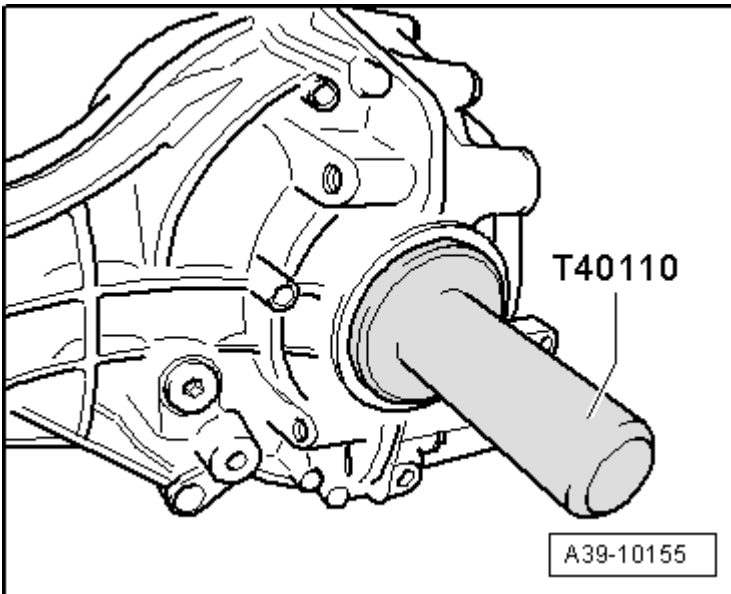


Fig. 39: Identifying T40110
Courtesy of AUDI OF AMERICA, LLC

-- Remove the old ring -A- from the groove in the flange shaft using pliers.

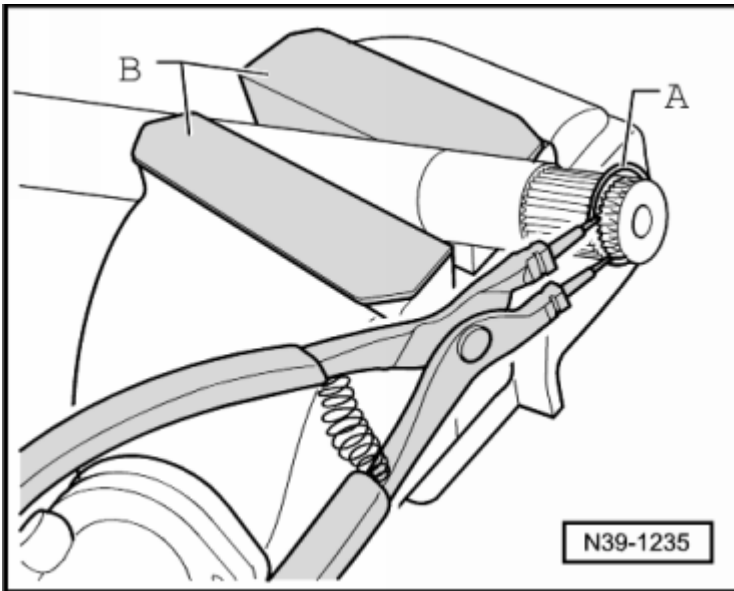


Fig. 40: Identifying Removal Of Old Circlip From Groove In Flange Shaft Using Pliers
Courtesy of AUDI OF AMERICA, LLC

B - Protective covers

-- Install the new ring being careful not to overstretch it.

-- Drive in flange shaft using VW 295.

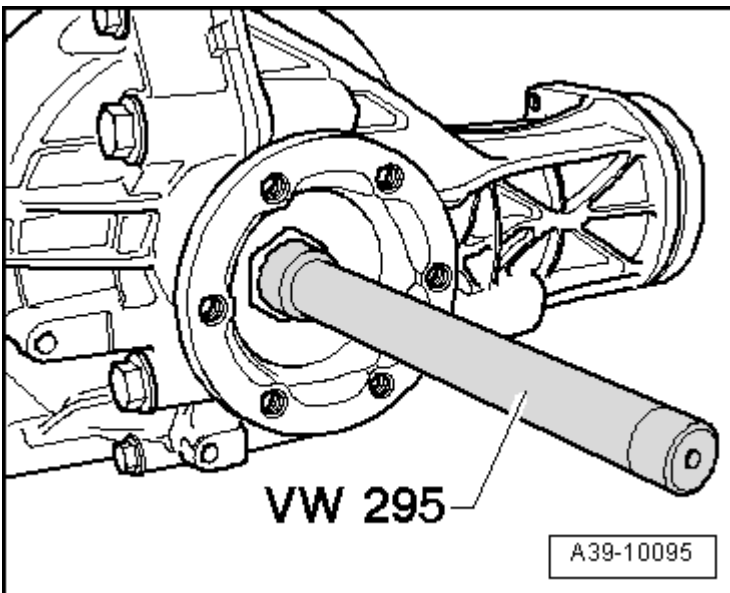


Fig. 41: Installing Right/Left Flange Shafts
Courtesy of AUDI OF AMERICA, LLC

-- Install rear final drive. Refer to **REAR FINAL DRIVE**.

-- Check the gear oil in the rear final drive. Refer to **REAR FINAL DRIVE GEAR OIL, CHECKING**.

FLANGE SHAFT RING

Special tools and workshop equipment required

- Thrust Plate VW 401
- Thrust Plate VW 402
- Punch VW 407
- Sleeve 32 - 119
- Thrust Pad 3062
- -3- Separating Device 22 to 115 mm, for example Kukko 17/2

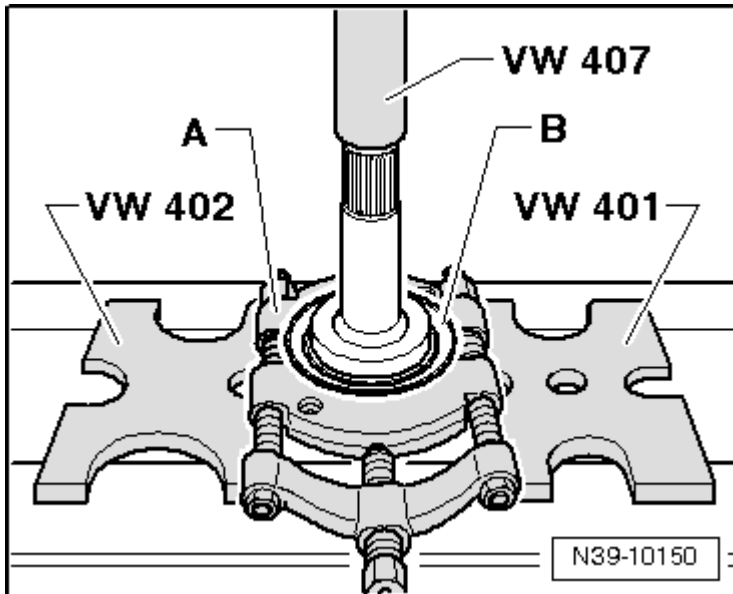


Fig. 42: Pressing Off Dust Cap From Flange Shaft
Courtesy of AUDI OF AMERICA, LLC

A - Separating tool 22 to 115 mm, for example Kukko 17/2

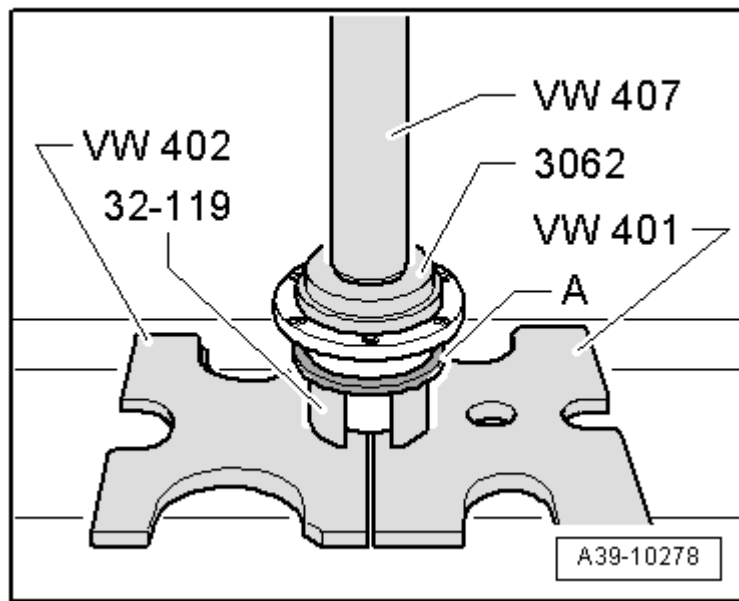


Fig. 43: Installing the Ring -A- on the Flange Shaft
 Courtesy of AUDI OF AMERICA, LLC

- Installed position of the ring -A- : the indentation in the ring faces the 32 - 119.

FLANGE AND DRIVESHAFT SEALS, REAR FINAL DRIVE REMOVED

- It is necessary to install the old flange/driveshaft.
- If the flange/driveshaft is also being removed. Refer to **FLANGE/DRIVESHAFT AND SEAL WITH REAR FINAL DRIVE REMOVED.**

Special tools and workshop equipment required

- Puller VW 391
- Slide Hammer - Complete Set VW 771
- Pulling hook VW 771/37
- Thrust Piece T40112
- Retainer 3028
- Seal Driver-Frt Wheel Bearing 3143
- Adapter T10235
- Friction Meter VAS 6222
- Inductive Heat Unit VAS 6414
- Sealing grease G 052 128 A1
- Locking fluid AMV 185 101 A1
- Three M8 x 25 bolts
- 2 bolts M10 x 40

Removing

- The flange shaft/driveshaft seal can be replaced only when the rear final drive is removed.

Observe general repair notes **COMPONENT DESCRIPTION** .

-- Remove rear final drive. Refer to **REAR FINAL DRIVE**.

-- Attach the rear final drive to the holding fixture VW 540 using M10 x 40 bolts -arrows-.

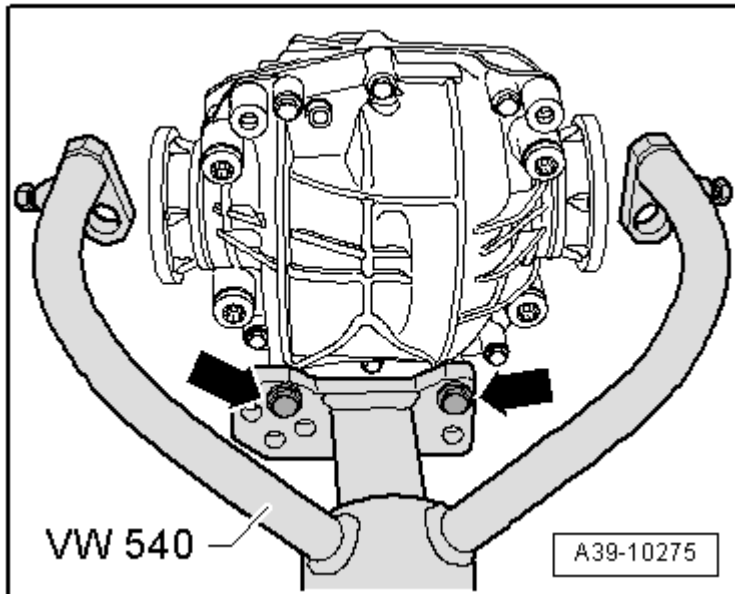


Fig. 44: Attach Rear Final Drive To Holding Fixture
Courtesy of AUDI OF AMERICA, LLC

-- Measure the friction torque before loosening the pinion nuts.

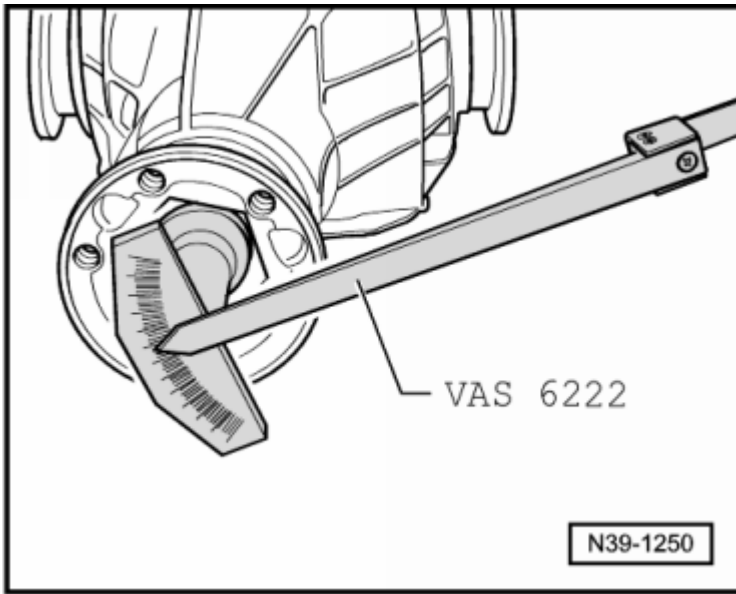


Fig. 45: Measuring Friction Torque
Courtesy of AUDI OF AMERICA, LLC

-- Write down this value.

CAUTION: If, during the repair, the flange/driveshaft must be replaced, then this measured value must be adjusted again. Refer to FLANGE/DRIVESHAFT AND SEAL WITH REAR FINAL DRIVE REMOVED.

-- Mark the location of the pinion nut on the pinion -arrow-.

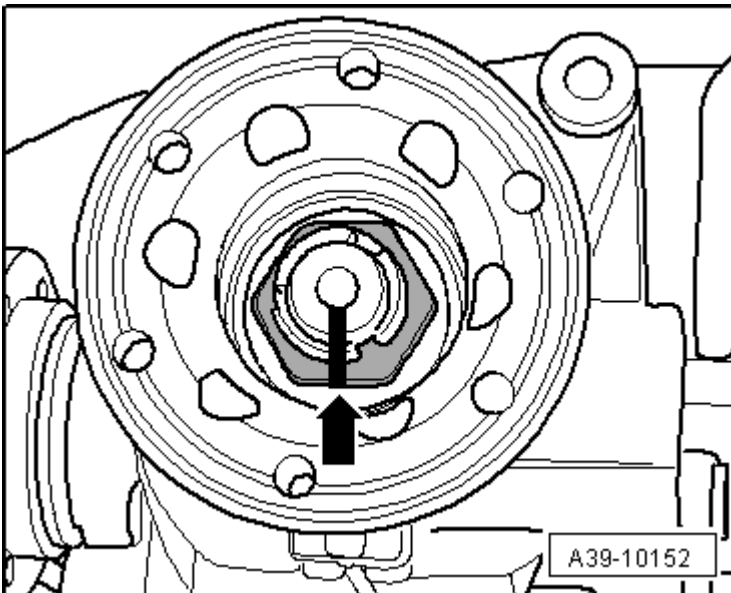


Fig. 46: Mark Location Of Pinion Nut On Pinion -Arrow-
Courtesy of AUDI OF AMERICA, LLC

Determining Dimensions a and b

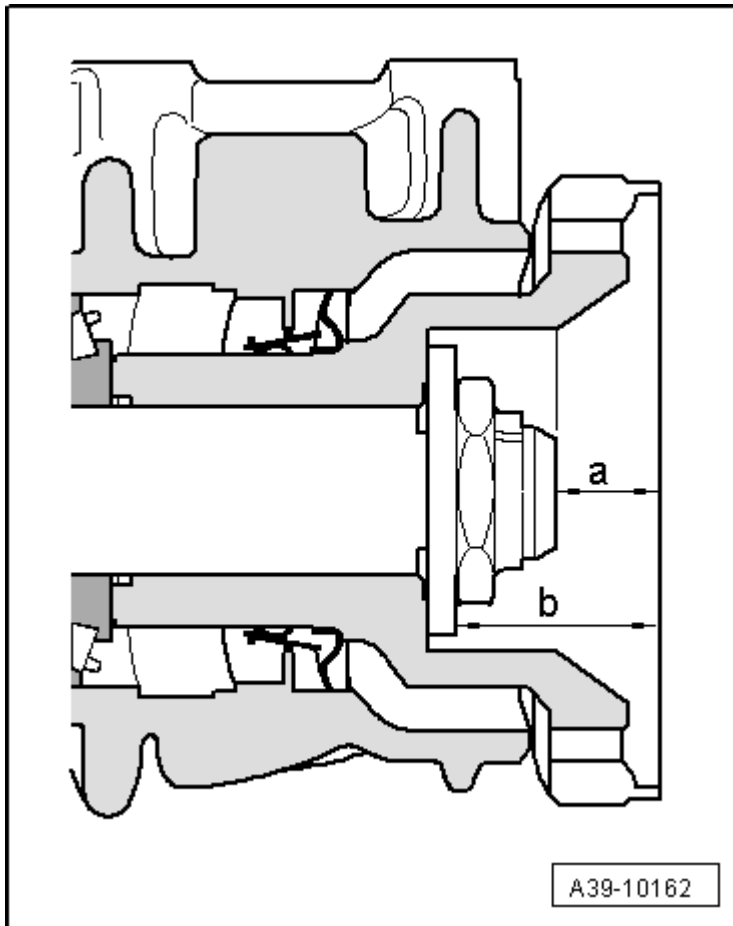


Fig. 47: Dimensions A And B

Courtesy of AUDI OF AMERICA, LLC

- Distance between the flange and the pinon = dimension -a-
- Distance between the flange and the pinon nut = dimension -b-

-- Write down the dimensions.

-- Attach the 3028 to the flange/driveshaft with the bolts -A-.

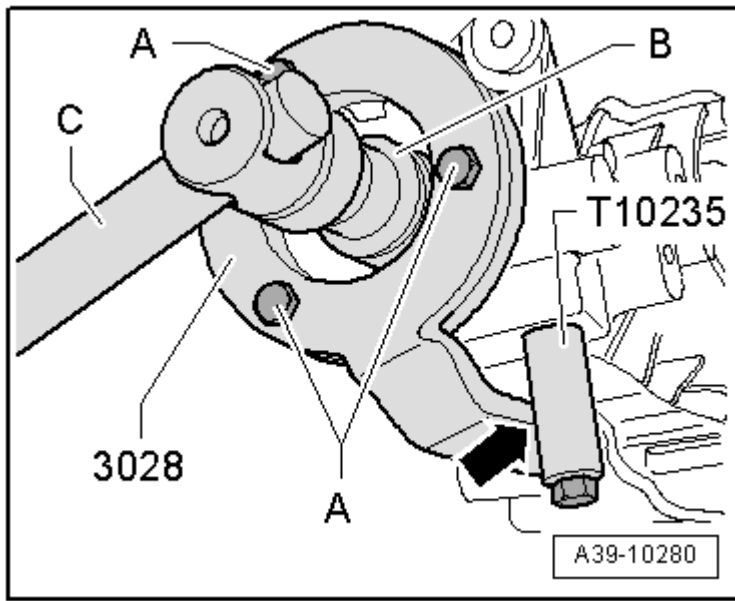


Fig. 48: Attach 3028 To Flange/Driveshaft With Bolts -A-
Courtesy of AUDI OF AMERICA, LLC

- Attach the T10235 in the threaded hole under the flange/driveshaft.
- Loosen the pinion nut. The 3028 will be supported by the T10235 -arrow-.
- Count the number of turns when removing the pinion nut and write this number down.
- A- three M8 x 25 bolts
- B- 32 mm socket
- C- bar
- Mark the location of the flange/driveshaft -arrow A- to the pinion -arrow B-.

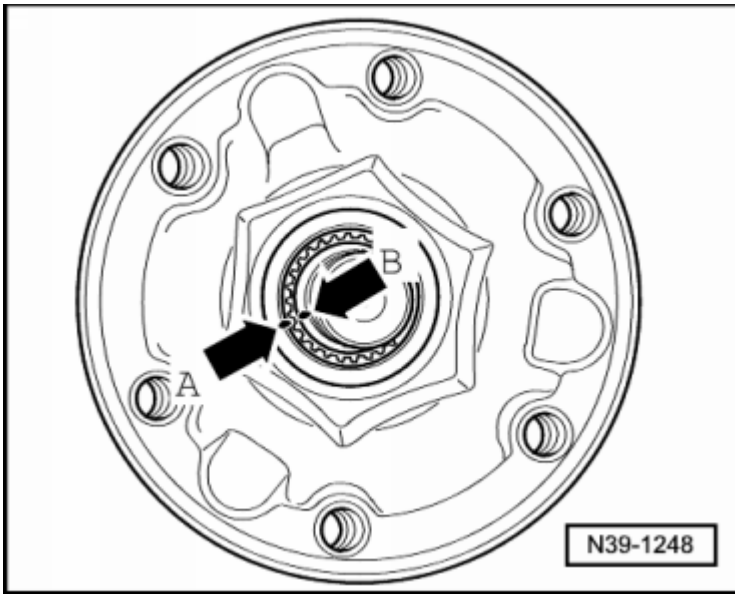


Fig. 49: Marking Installation Position Of Driveshaft Flange Relative To Drive Pinion
 Courtesy of AUDI OF AMERICA, LLC

- Place the drip tray underneath.
- Install the VW 391 with two M8 x 25 bolts -arrows-.

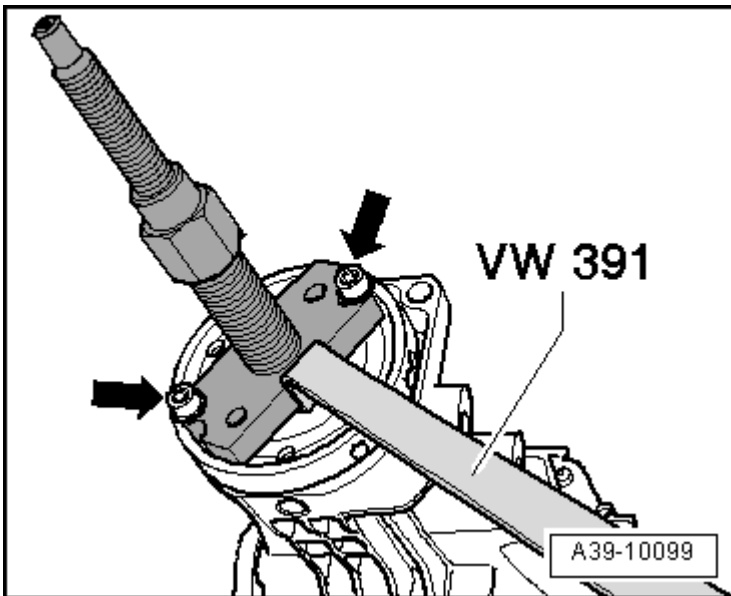


Fig. 50: Pulling Off Drive Shaft Flange Using Puller VW 391
 Courtesy of AUDI OF AMERICA, LLC

- Remove the flange/driveshaft.
- Remove the shaft seal.

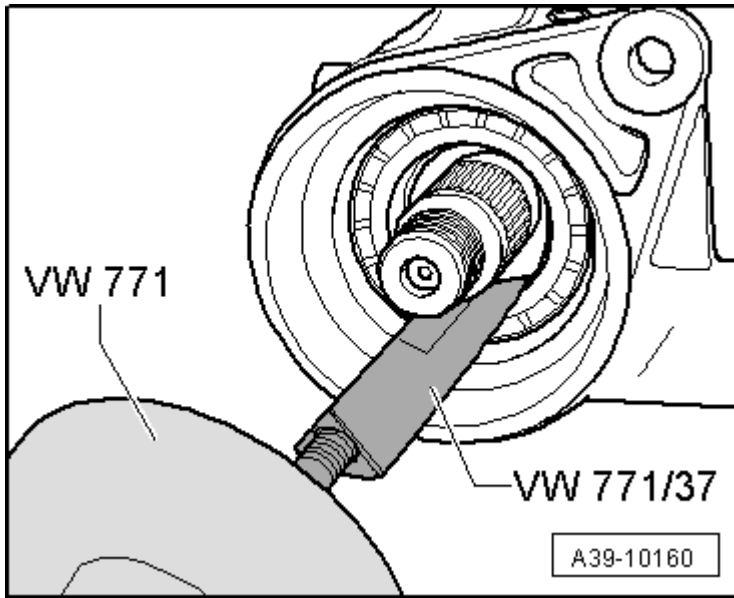


Fig. 51: Removing Shaft Seal

Courtesy of AUDI OF AMERICA, LLC

-- Clean the thread on the pinion.

Installing

Installation is in reverse order of removal. Observe the following when doing so:

- Coat the outer circumference of the shaft seal with gear oil.
- Fill the space between the sealing and dust lips halfway with sealing grease G 052 128 A1.
- Install the new shaft seal all the way without tilting it.

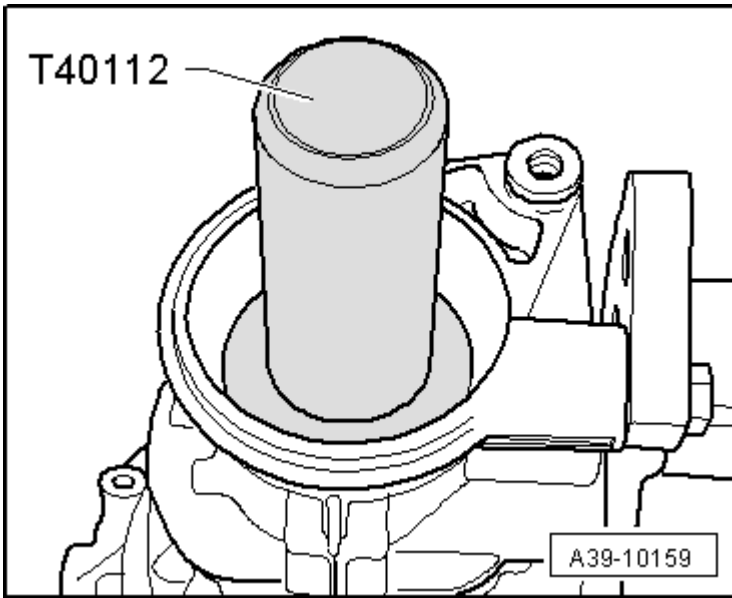


Fig. 52: Installing New Shaft Seal All Way Without Tilting It
 Courtesy of AUDI OF AMERICA, LLC

-- Warm the flange/driveshaft to approximately 80 °C (176 °F) with an VAS 6414.

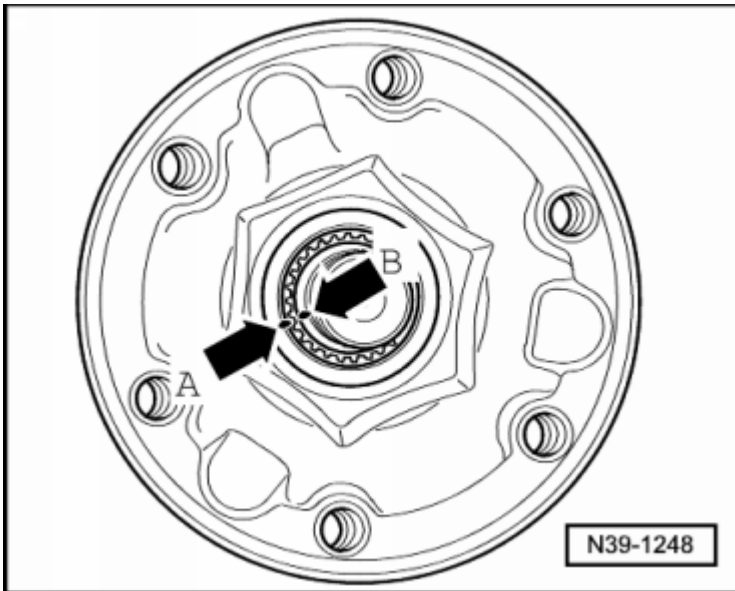


Fig. 53: Marking Installation Position Of Driveshaft Flange Relative To Drive Pinion
 Courtesy of AUDI OF AMERICA, LLC

-- Line up the markings on the flange/driveshaft -arrow A- and pinion -arrow B-.

-- Install the flange/driveshaft.

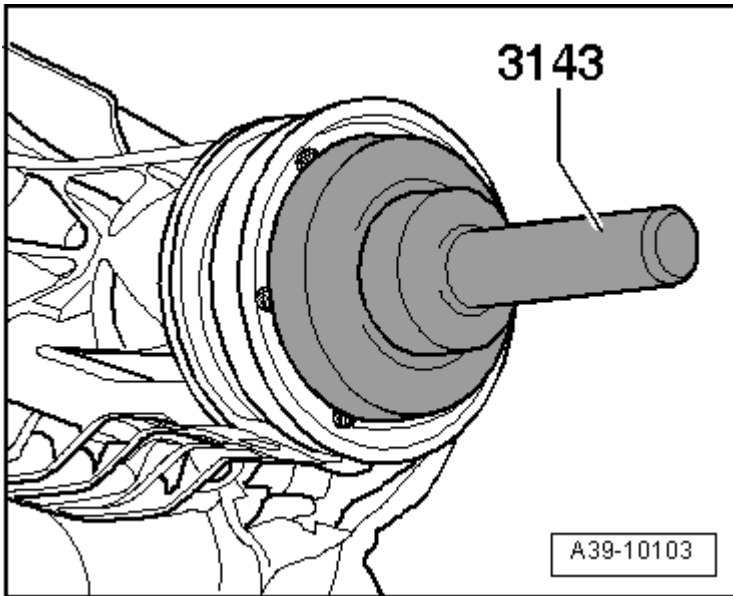


Fig. 54: Driving On Flange/Driveshaft Far Enough Until Circlip Can Be Installed
 Courtesy of AUDI OF AMERICA, LLC

- Install the old pinion nut with locking fluid AMV 185 101 A1.
- Attach the 3028 to the flange/driveshaft with the bolts -A-.

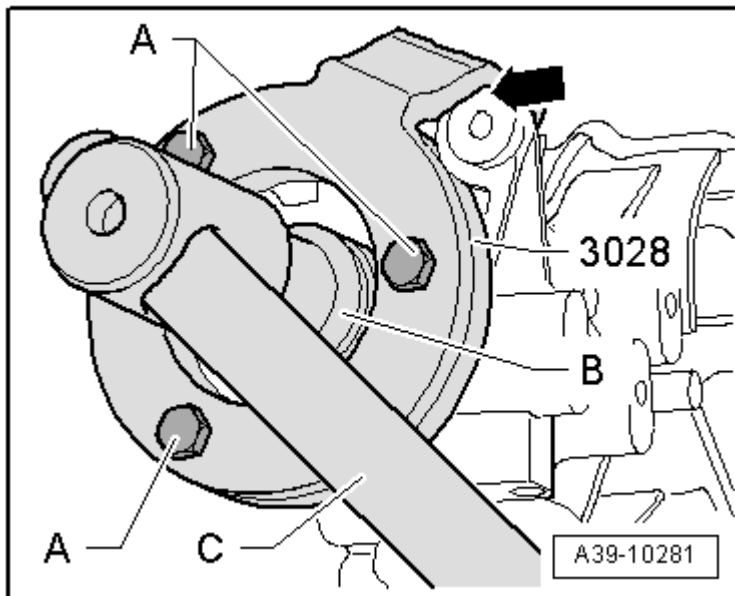


Fig. 55: Attach 3028 To Flange/Driveshaft With Bolts -A-
 Courtesy of AUDI OF AMERICA, LLC

- The 3028 must be supported by the housing brace -arrow- when tightening the pinion nut.
- A- three M8 x 25 bolts

-B- 32 mm socket

-C- bar

-- Tighten the pinion the number of turns noted earlier when it was being removed at the marked location - arrow-.

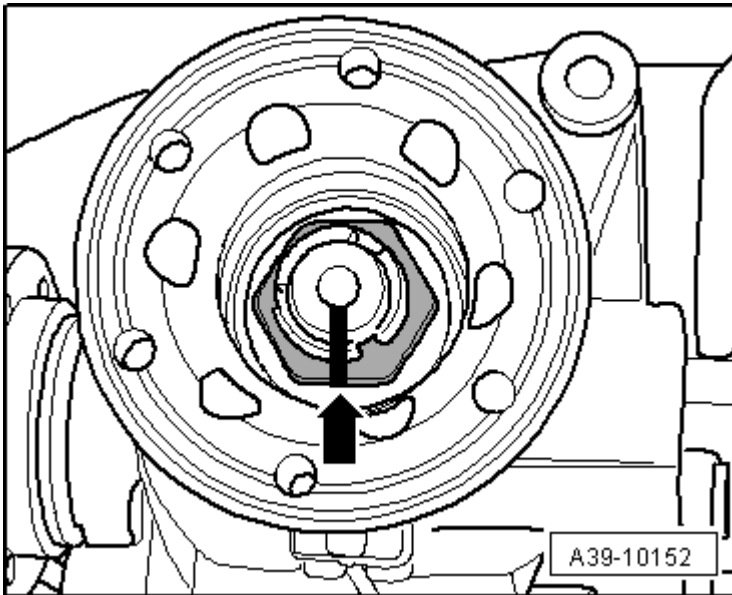


Fig. 56: Mark Location Of Pinion Nut On Pinion -Arrow-
Courtesy of AUDI OF AMERICA, LLC

Checking dimensions a and b

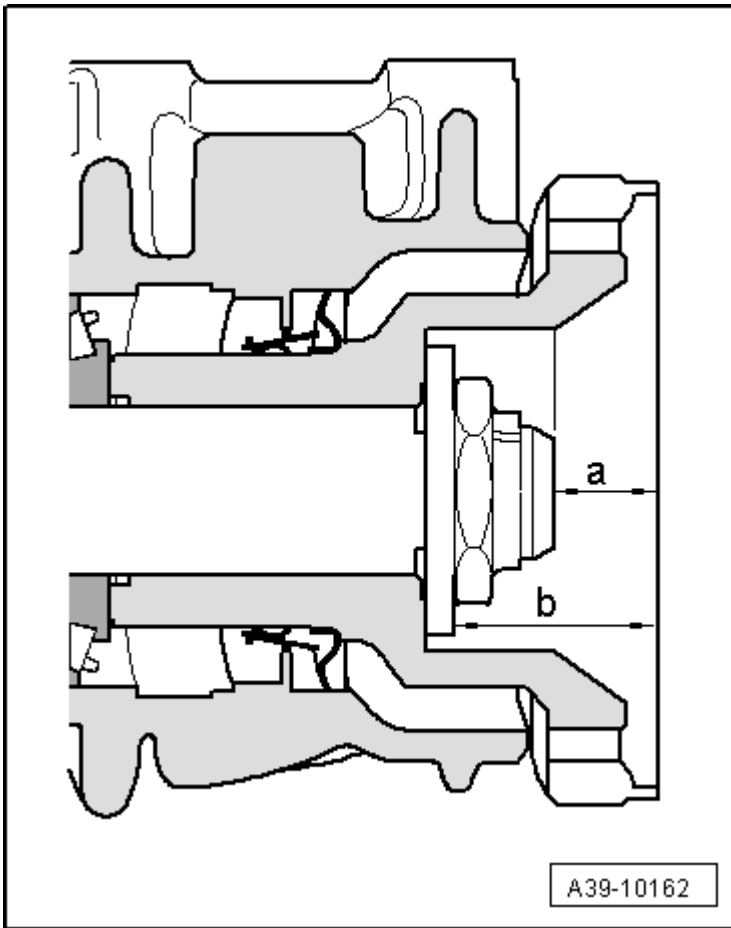


Fig. 57: Dimensions A And B

Courtesy of AUDI OF AMERICA, LLC

- Measurement deviation: ± 0.2 mm

-- Install rear final drive. Refer to **REAR FINAL DRIVE**.

-- Check the gear oil in the rear final drive. Refer to **REAR FINAL DRIVE GEAR OIL, CHECKING**.

FLANGE/DRIVESHAFT AND SEAL WITH REAR FINAL DRIVE REMOVED

Special tools and workshop equipment required

- Puller VW 391
- Slide Hammer - Complete Set VW 771
- Pulling hook VW 771/37
- Thrust Piece T40112
- Retainer 3028
- Seal Driver-Frt Wheel Bearing 3143
- Adapter T10235

- Friction Meter VAS 6222
- Inductive Heat Unit VAS 6414
- Sealing Grease G 052 128 A1
- Locking Fluid AMV 185 101 A1
- Three M8 x 25 bolts
- 2 bolts M10 x 40

-- Follow the General Repair Instructions. Refer to **COMPONENT DESCRIPTION** .

-- Remove rear final drive. Refer to **REAR FINAL DRIVE**.

-- Attach the rear final drive to the holding fixture VW 540 using M10 x 40 bolts -arrows-.

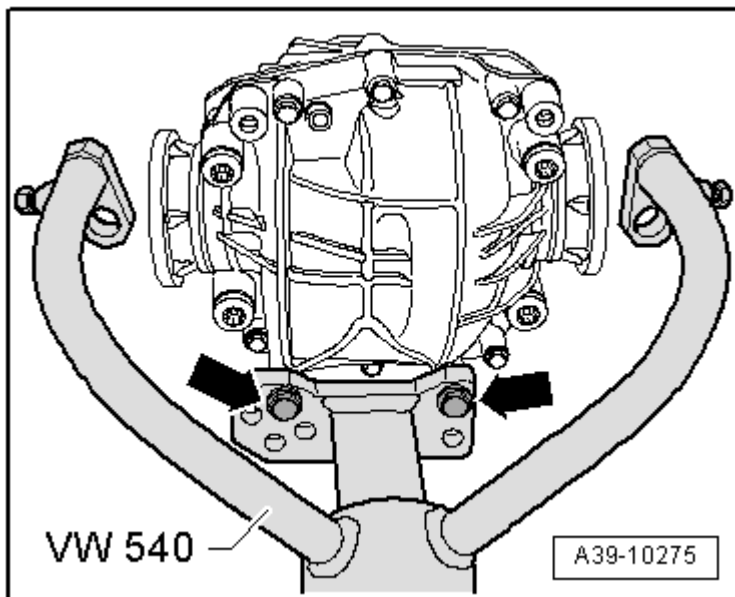


Fig. 58: Attach Rear Final Drive To Holding Fixture
Courtesy of AUDI OF AMERICA, LLC

-- Measure the friction torque before loosening the pinion nuts.

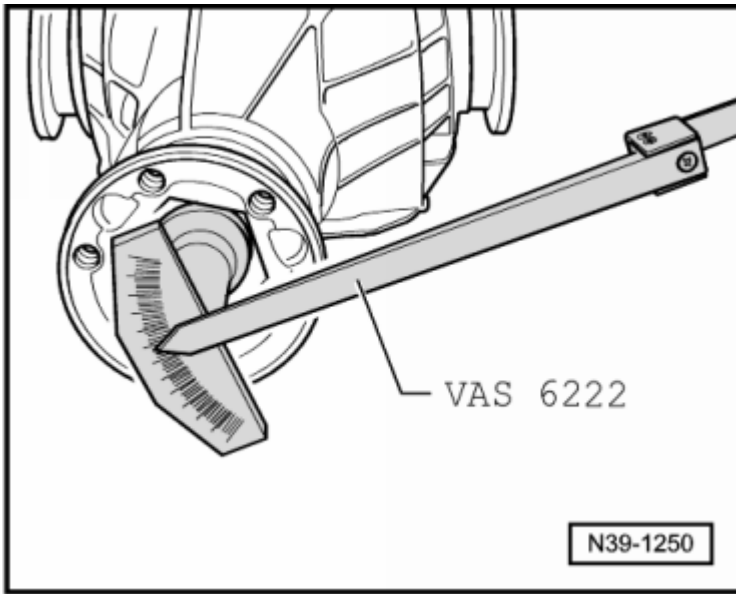


Fig. 59: Measuring Friction Torque
Courtesy of AUDI OF AMERICA, LLC

-- Write down this value.

CAUTION: The measured value must be adjusted again after replacing the shaft seal.

-- Attach the 3028 to the flange/driveshaft with the bolts -A-.

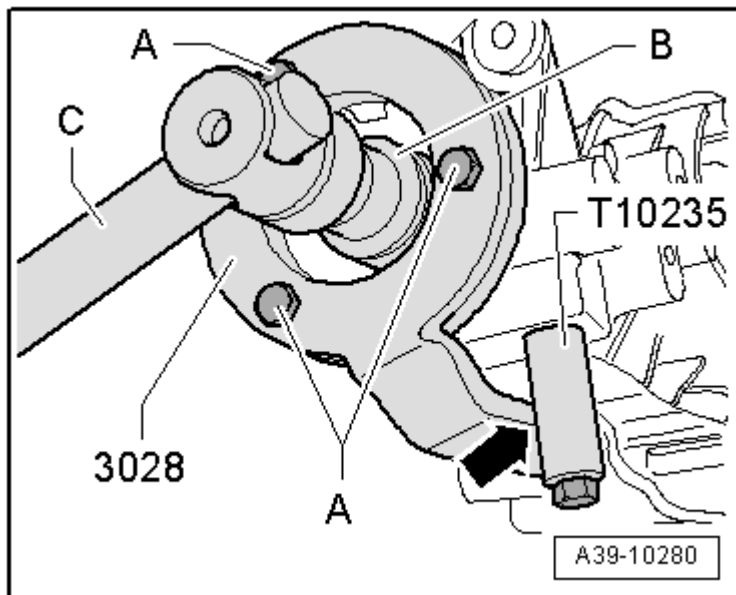


Fig. 60: Attach 3028 To Flange/Driveshaft With Bolts -A-
Courtesy of AUDI OF AMERICA, LLC

- Attach the T10235 in the threaded hole under the flange/driveshaft.
- Loosen the pinion nut. The 3028 will be supported by the T10235 -arrow-.
- A- three M8 x 25 bolts
- B- 32 mm socket
- C- bar
- Install the VW 391 with two M8 x 25 bolts -arrows-.

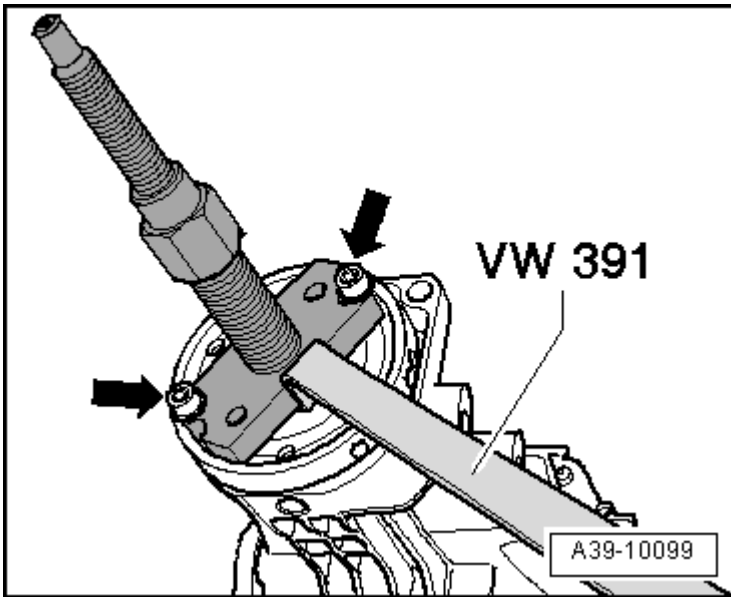


Fig. 61: Pulling Off Drive Shaft Flange Using Puller VW 391
Courtesy of AUDI OF AMERICA, LLC

- Remove the flange/driveshaft.
- Remove the shaft seal.

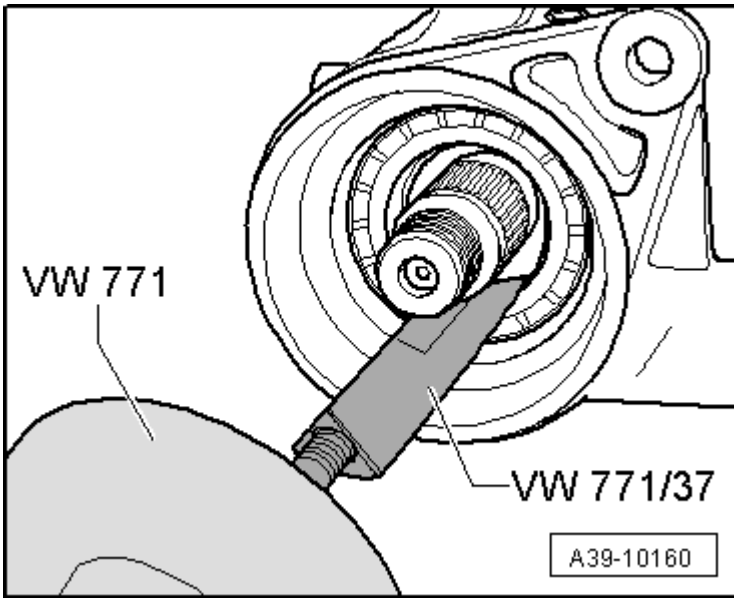


Fig. 62: Removing Shaft Seal

Courtesy of AUDI OF AMERICA, LLC

- Clean the thread on the pinion.
- Coat the outer circumference of the shaft seal with gear oil.

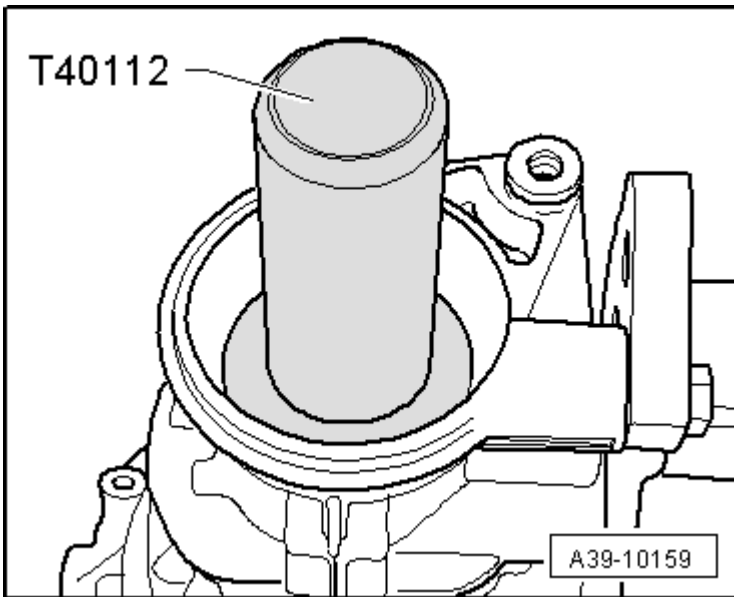


Fig. 63: Installing New Shaft Seal All Way Without Tilting It

Courtesy of AUDI OF AMERICA, LLC

- Fill the space between the sealing and dust lips halfway with sealing grease G 052 128 A1.
- Install the new shaft seal all the way without tilting it.

-- Warm the flange/driveshaft to approximately 80 °C (176 °F) with an VAS 6414.

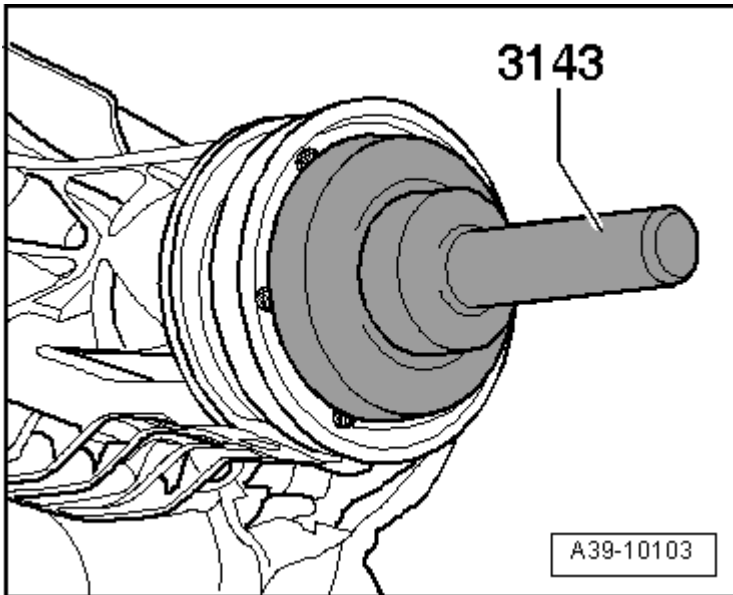


Fig. 64: Driving On Flange/Driveshaft Far Enough Until Circlip Can Be Installed
 Courtesy of AUDI OF AMERICA, LLC

-- Install the new flange/driveshaft.

-- Coat the thread on the new nut with locking fluid AMV 185 101 A1.

-- Attach the 3028 to the flange/driveshaft with the bolts -A-.

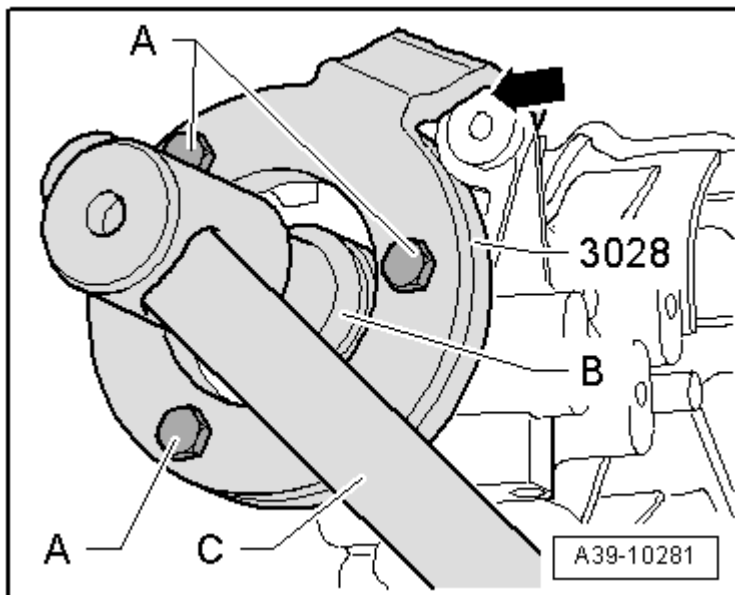


Fig. 65: Attach 3028 To Flange/Driveshaft With Bolts -A-
 Courtesy of AUDI OF AMERICA, LLC

-- The 3028 must be supported by the housing brace -arrow- when tightening the pinion nut.

-A- three M8 x 25 bolts

-B- 32 mm socket

-C- bar

CAUTION: Slowly increase the torque and read the friction torque several times. Do not exceed the friction torque measured before removal otherwise the rear final drive will have to be replaced.

-- Tighten the new pinion nut just far enough until the friction torque, measured prior to removal, is reached.

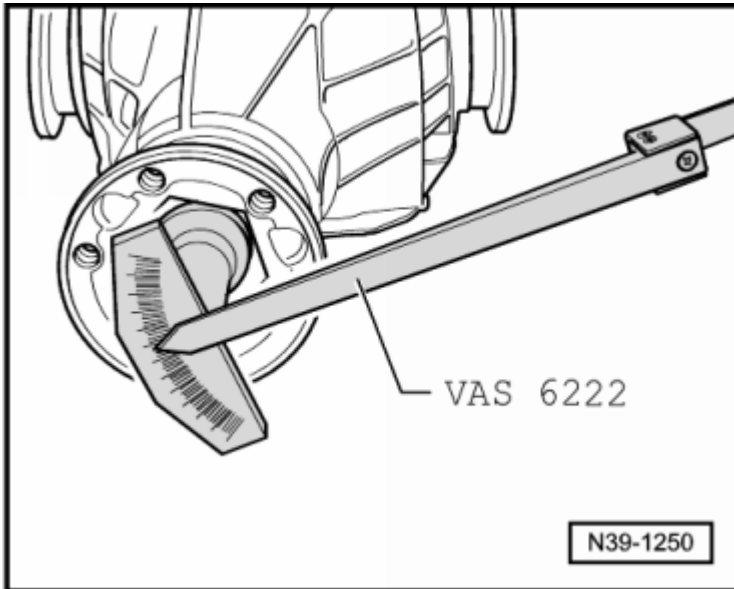


Fig. 66: Measuring Friction Torque
Courtesy of AUDI OF AMERICA, LLC

-- Install rear final drive. Refer to **REAR FINAL DRIVE**.

-- Check the gear oil in the rear final drive. Refer to **REAR FINAL DRIVE GEAR OIL, CHECKING**.

FLANGE/DRIVESHAFT SEAL

Special tools and workshop equipment required

- Thrust Plate VW 402
- Punch VW 407
- Thrust Disc VW 412
- Sleeve 40 - 20

- -3- Separating Device 22 to 75 mm, for example Kukko 17/1

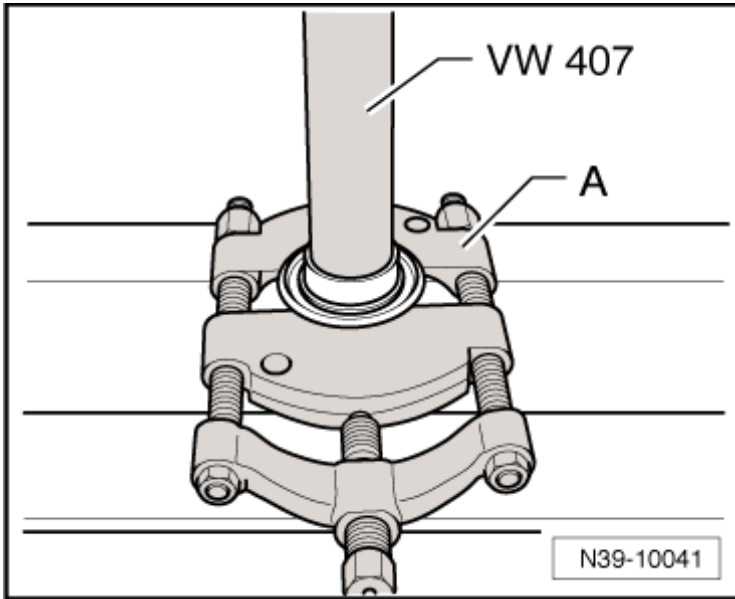


Fig. 67: Pressing Dust Cap Off Of Driveshaft Flange
Courtesy of AUDI OF AMERICA, LLC

A - Separating tool 22 to 115 mm, for example Kukko 17/2

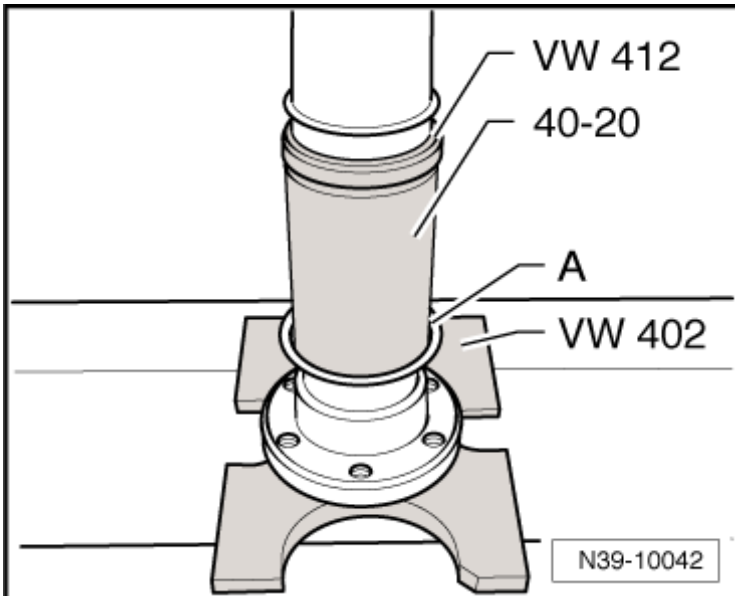


Fig. 68: Pressing Dust Cap Onto Driveshaft Flange
Courtesy of AUDI OF AMERICA, LLC

- Installed position of the ring -A- : the indentation in the ring faces the 40 - 20.

DRIVESHAFT BOLTED ON TRANSMISSION SIDE

Special tools and workshop equipment required

- Alignment Fixture-4W Dr. Shaft 3139
- Counterhold Tool Touareg V10T10172 and Adapters T10172/5
- Engine/Transmission Jack V.A.G 1383 A with Universal Mount V.A.G 1359/2
- High temperature grease G 000 633

Removing

- See notes, refer to **DRIVESHAFT BOLTED ON TRANSMISSION-SIDE ASSEMBLY OVERVIEW**
- Working on the driveshaft should only be performed with the vehicle on a two-column shop hoist.

NOTE: Do not bend the decoupling element in the front exhaust pipe more than 10°, otherwise it will get damaged.

-- Loosen the clamping sleeve(s) -arrows- and disconnect the exhaust system.

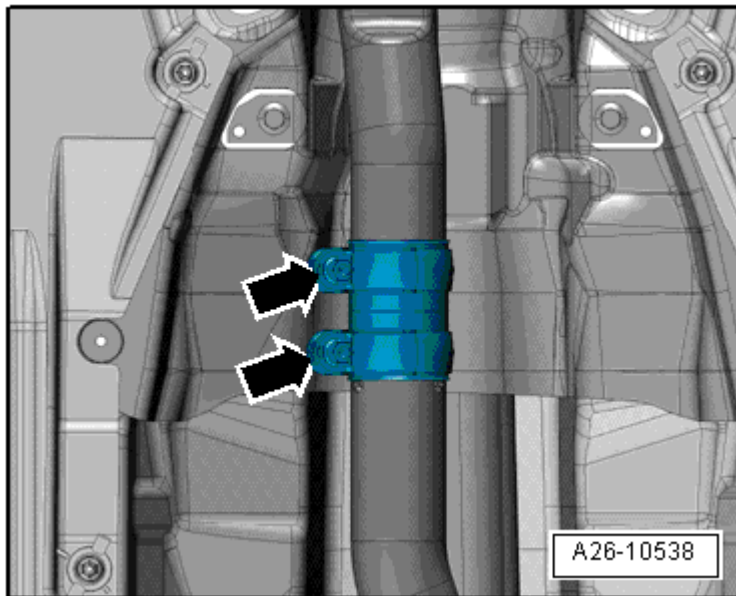


Fig. 69: Clamping Sleeve Threaded Connections

Courtesy of AUDI OF AMERICA, LLC

-- Tie the front exhaust pipe(s) to the underbody.

-- Install rear section of the exhaust system -2-. Refer to **[For transmission(s) 0AW] [For engine(s) CALA] Description and Operation** or to **[For engine(s) CAEB] Description and Operation** or to **[For engine(s) CCBA] Description and Operation** .

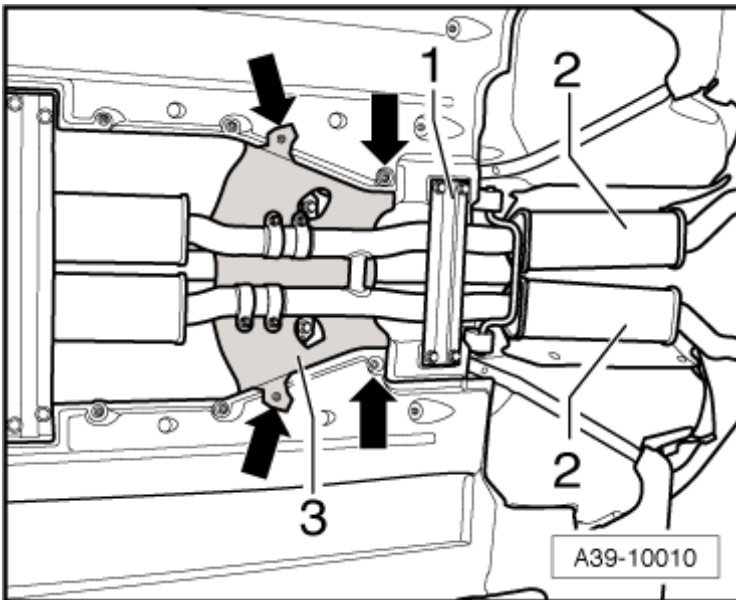


Fig. 70: Removing Rear Transverse Beam & Heat Shield From Vehicle Floor
Courtesy of AUDI OF AMERICA, LLC

NOTE: A second technician will be needed to help remove the rear section of the exhaust system.

Audi A4 and Audi A5

- Remove the crossmember -1-.
- Remove the heat shield -3- -arrows-.

Audi Q5

- Remove the front -2- and rear -3- crossmembers.

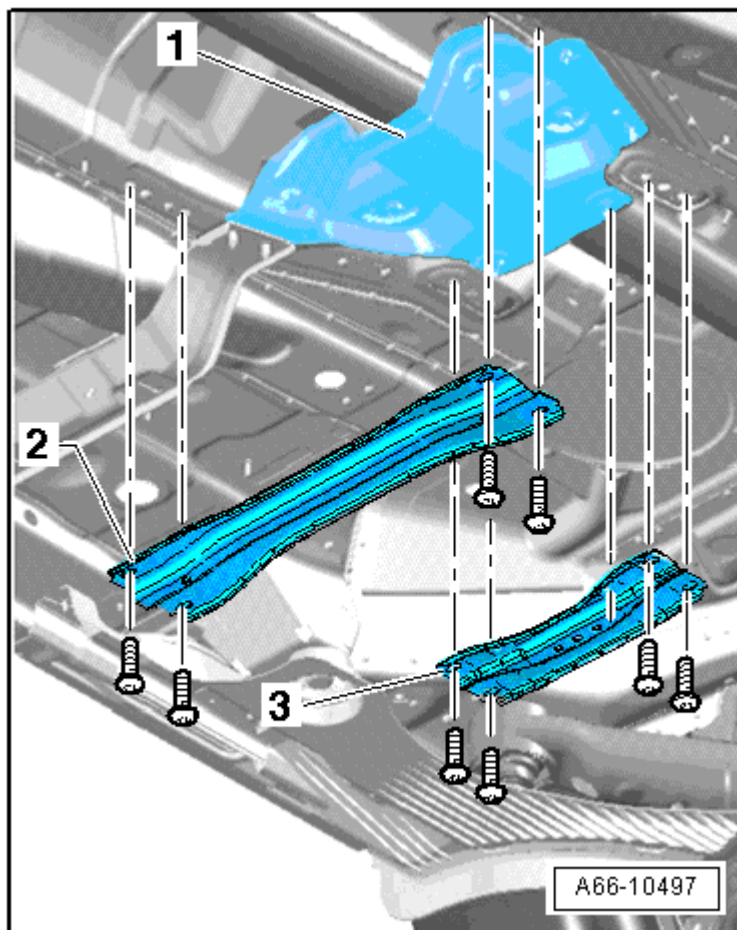


Fig. 71: Identifying Crossmember

Courtesy of AUDI OF AMERICA, LLC

-- Remove the heat shield -1- from the body.

Continuation for All Vehicles

-- Remove the heat shield -A- from the transmission -arrows-, if equipped.

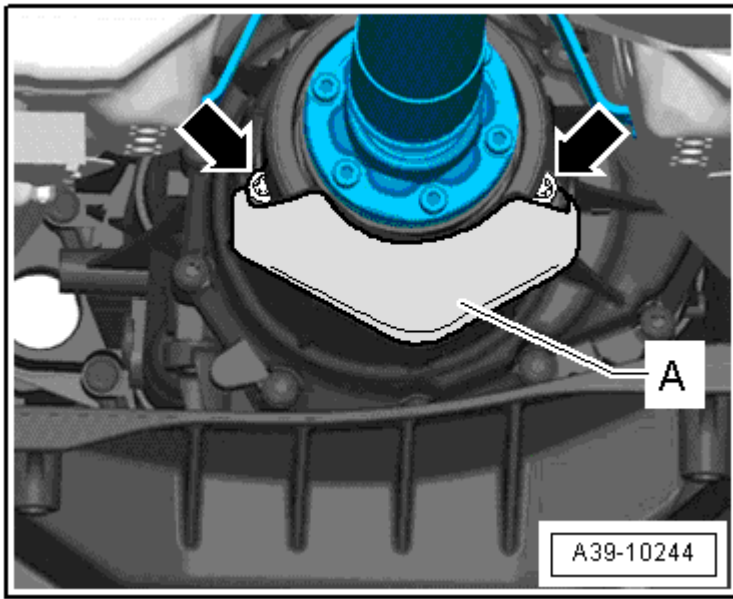


Fig. 72: Transmission Heat Shield

Courtesy of AUDI OF AMERICA, LLC

-- Check whether there is a marking (color marking) on driveshaft and at flange/driveshaft at rear final drive - arrow A- and -arrow B-.

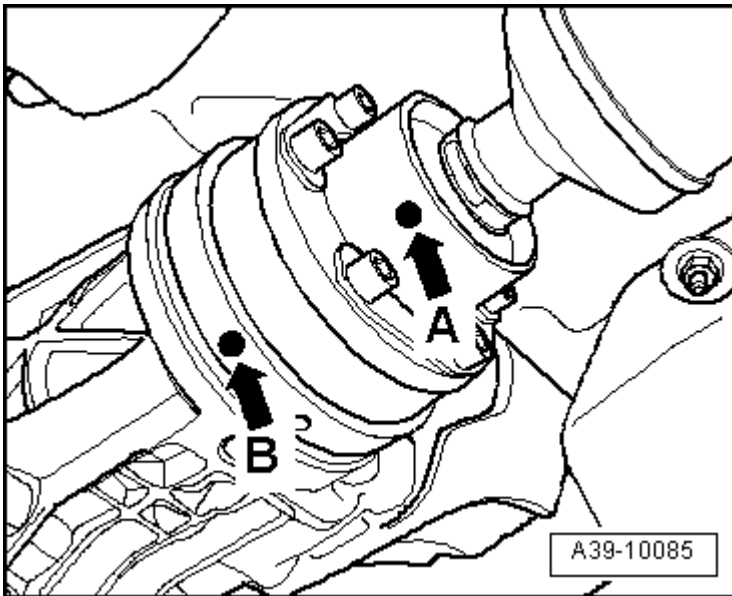


Fig. 73: Identifying Mark Position Of Driveshaft Flange To Rear Final Drive

Courtesy of AUDI OF AMERICA, LLC

-- If one of these markings is no longer visible (for example -arrow A- on the driveshaft), then make a new color marking.

- Die marking on the driveshaft -arrow A- and on the rear final drive -arrow B- must line up.

-- Attach the 3139 and tighten the plastic nuts.

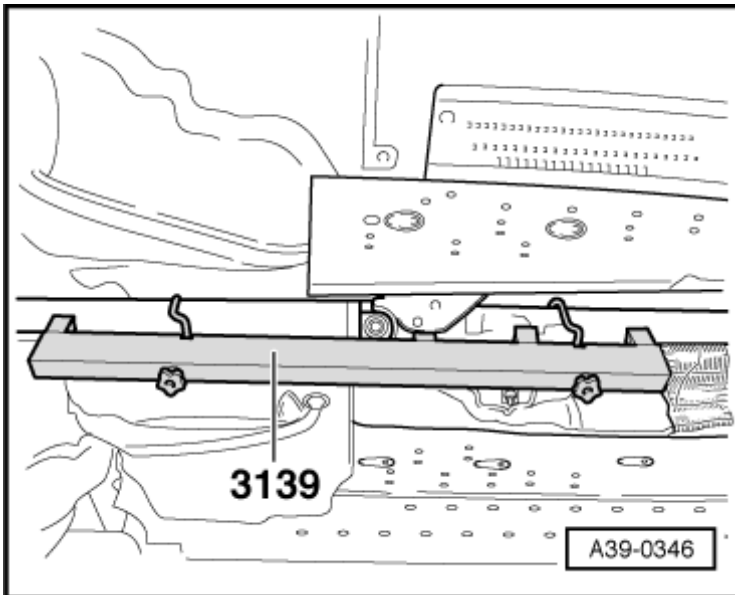


Fig. 74: Attaching Alignment Fixture - 4W Dr. Shaft 3139

Courtesy of AUDI OF AMERICA, LLC

NOTE: Never lay the assembly tool on the balance plates.

-- Remove the bolts -arrows- for intermediate bearing.

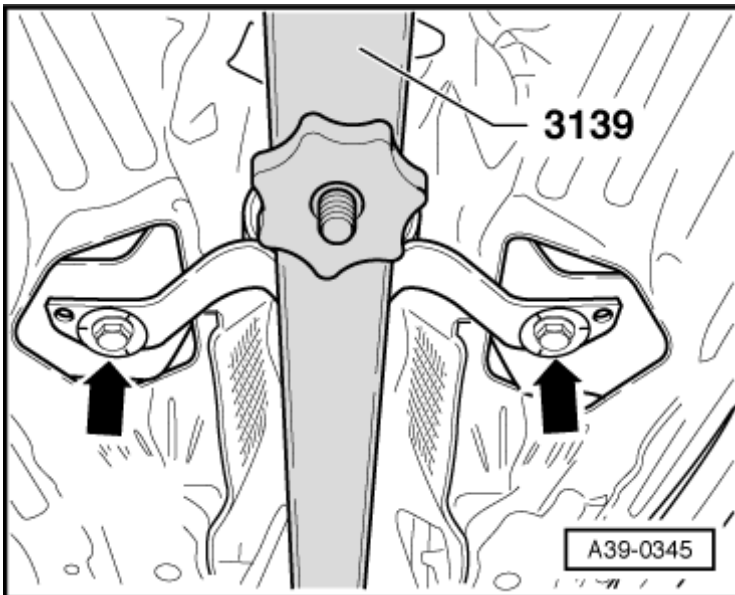


Fig. 75: Removing/Installing Securing Bolts For Center Bearing

Courtesy of AUDI OF AMERICA, LLC

-- Remove the bolts connecting the driveshaft to the transmission using the T10172 and T10172/5.

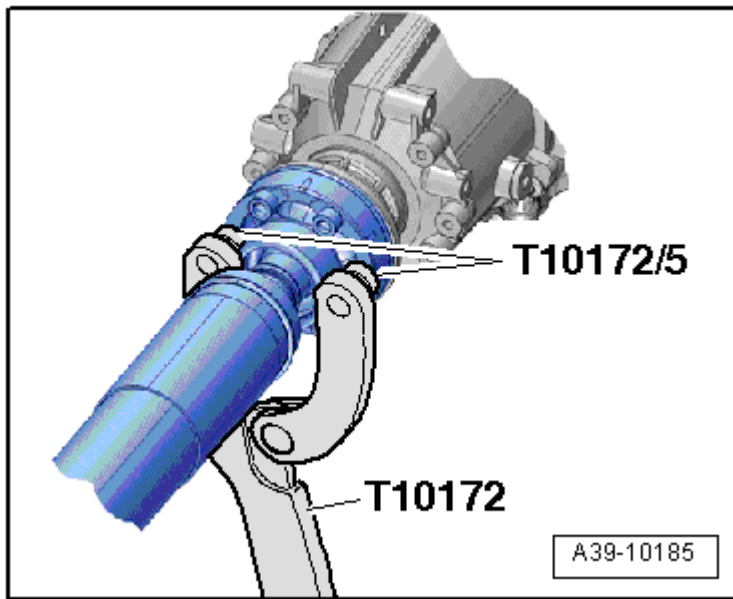


Fig. 76: Using T10172 To Hold Driveshaft
Courtesy of AUDI OF AMERICA, LLC

- Remove driveshaft from transmission and support it using V.A.G 1383 A.
- Remove the bolts -1- (quantity: 6) from the rear CV joint.

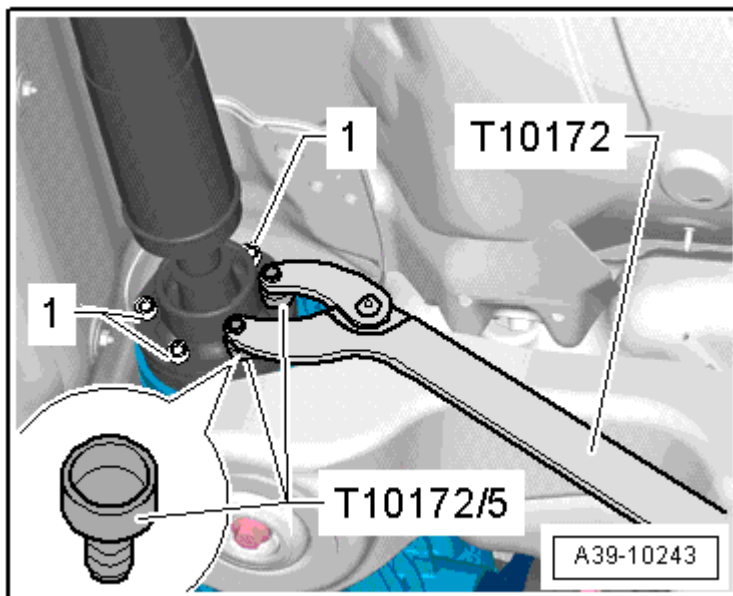


Fig. 77: Counterhold Using T10172 And T10172/5
Courtesy of AUDI OF AMERICA, LLC

- Use the T10172 and T10172/5.
- Remove driveshaft.

NOTE: Always store and transport a driveshaft fully extended only.

Installing

Installation is in reverse order of removal. Observe the following when doing so:

- Remove any old or dried-up high temperature grease from the CV joints and the driveshaft flanges. Fill with the exact same amount of high temperature grease G 000 633.
- Clean any locking fluid still inside the threaded holes in the flange shafts for the transmission driveshaft and rear final drive. Use a thread cutter to clean the holes. Otherwise the bolts could break off when being installed.
- After disconnecting driveshaft from rear final drive, an additional balance washer (thick washer) that may be located between shim and a bolt may not be reinstalled.
- Always replace (self-locking) securing bolts for driveshaft.
- Note installation position of driveshaft: Center CV joint is located behind intermediate bearing in direction facing the rear final drive.
- Check the driveshaft seal on the rear final drive for damage (bent or the rubber has started to peel) Replace a damaged gasket.

-- Install the driveshaft. Pay attention to the installed position on the rear final drive:

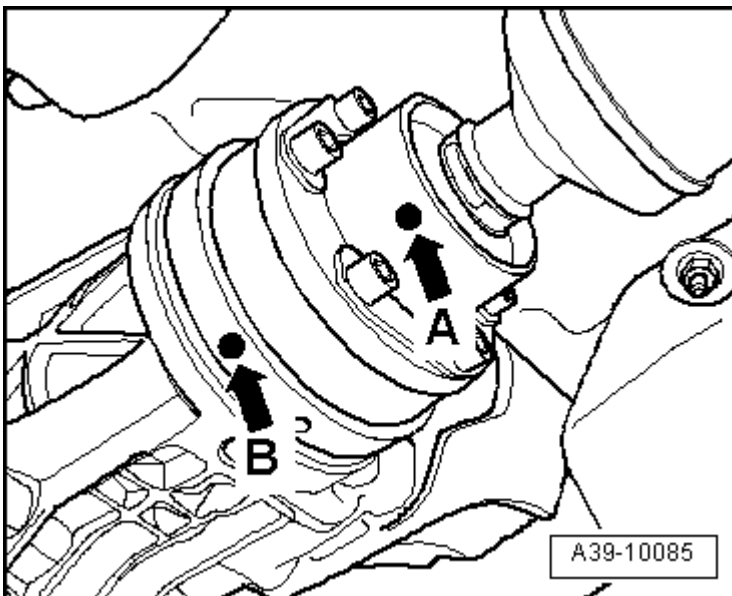


Fig. 78: Identifying Mark Position Of Driveshaft Flange To Rear Final Drive
Courtesy of AUDI OF AMERICA, LLC

- Die markings on the driveshaft -arrow A- and on the rear final drive -arrow B- must line up.
- Maximum difference between the markings: 30°.

-- Install the bolts all the way in by hand but do not tighten them.

-- Install the bolts -arrows- just far enough so that the intermediate bearing can still be moved.

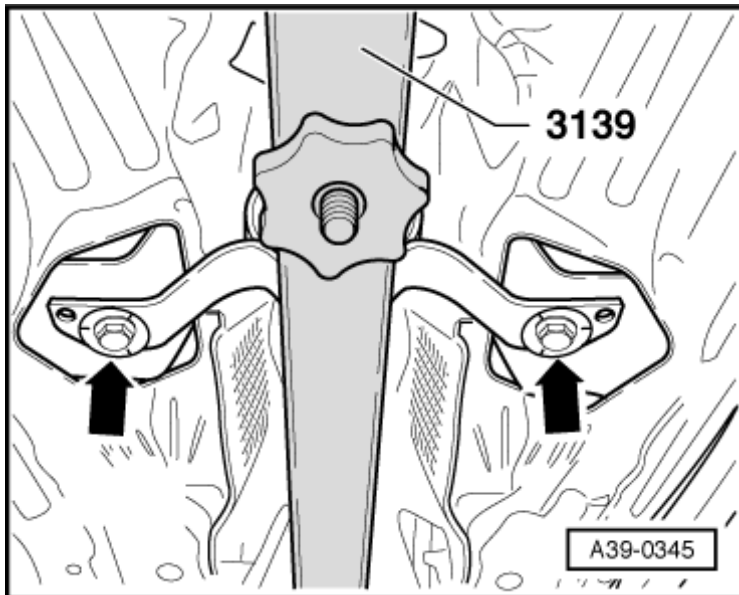


Fig. 79: Removing/Installing Securing Bolts For Center Bearing
Courtesy of AUDI OF AMERICA, LLC

-- Tighten the rear bolts -1- on the driveshaft. Follow the tightening sequence **DRIVESHAFT BOLTED ON TRANSMISSION-SIDE ASSEMBLY OVERVIEW**

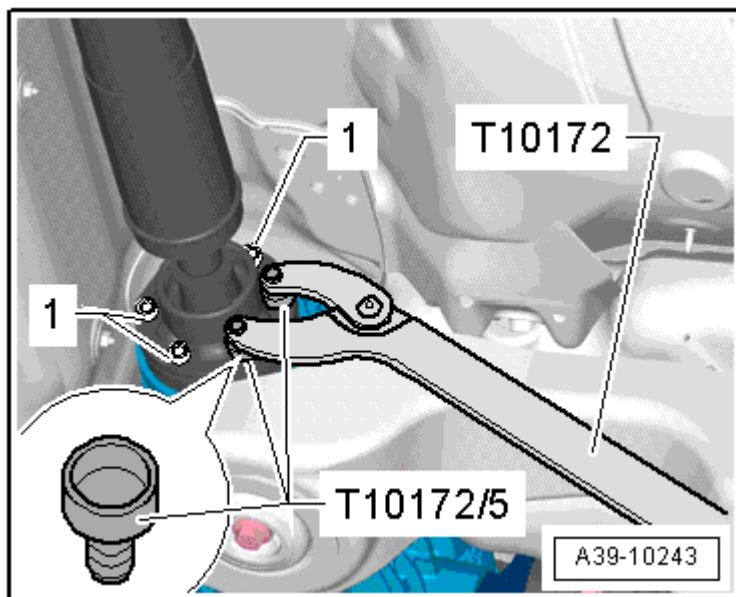


Fig. 80: Counterhold Using T10172 And T10172/5
Courtesy of AUDI OF AMERICA, LLC

-- Tighten the front bolts on the driveshaft. Tightening specification -5- **DRIVESHAFT BOLTED ON TRANSMISSION-SIDE ASSEMBLY OVERVIEW.**

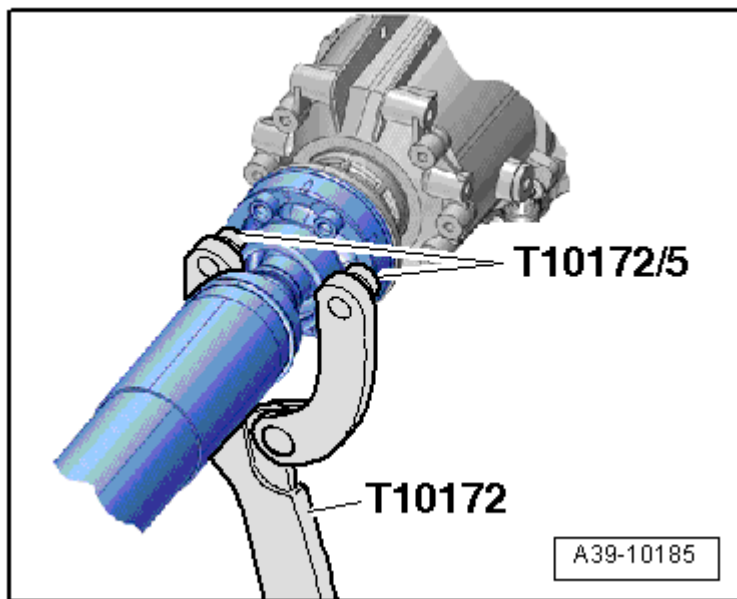


Fig. 81: Using T10172 To Hold Driveshaft
Courtesy of AUDI OF AMERICA, LLC

-- Remove 3139.

-- Tighten bolts of intermediate bearing for driveshaft onto body tightening specification -8- **DRIVESHAFT BOLTED ON TRANSMISSION-SIDE ASSEMBLY OVERVIEW**.

-- Attach the heat shield -A- (if equipped) to the transmission -arrows-. Tightening specification **DRIVESHAFT BOLTED ON TRANSMISSION-SIDE ASSEMBLY OVERVIEW**

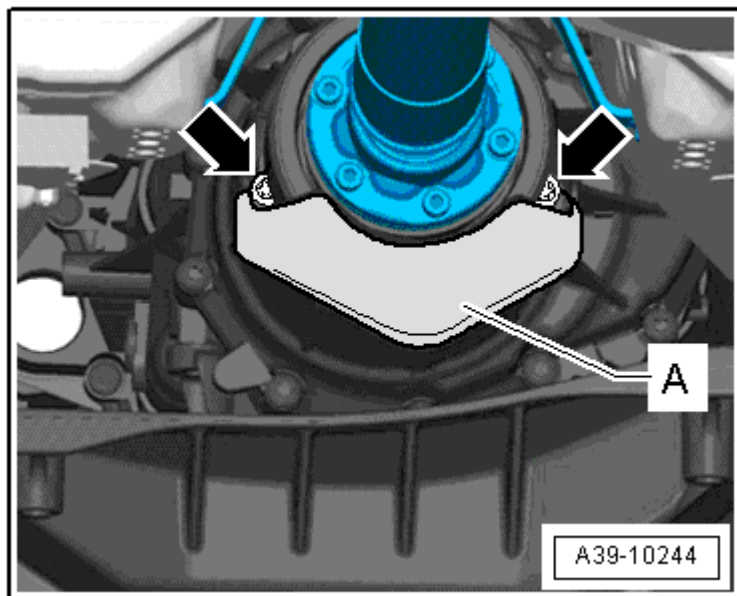


Fig. 82: Transmission Heat Shield
Courtesy of AUDI OF AMERICA, LLC

-- Install the heat shield -1-.

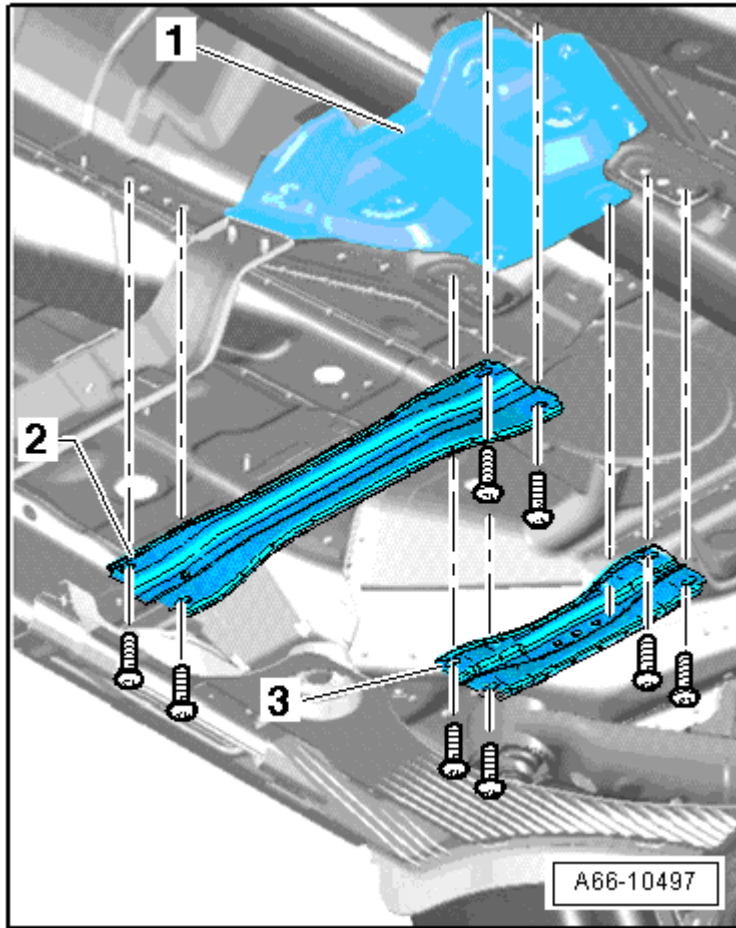


Fig. 83: Identifying Crossmember

Courtesy of AUDI OF AMERICA, LLC

-- Remove the front -2- and rear -3- crossmembers, if equipped. Refer to **Removal and Installation** .

-- Install and adjust exhaust system free of stress. Refer to **[For transmission(s) 0AW] [For engine(s) CALA] Description and Operation** or to **[For engine(s) CAEB] Description and Operation** or to **[For engine(s) CCBA] Description and Operation** .

DRIVESHAFT TO TRANSMISSION

Special tools and workshop equipment required

- Counterhold Tool Touareg V10T10172 and Adapters T10172/5
- High temperature grease G 000 633

Removing

- See notes, refer to **DRIVESHAFT BOLTED ON TRANSMISSION-SIDE ASSEMBLY OVERVIEW**

- Working on the driveshaft should only be performed with the vehicle on a two-column shop hoist.

NOTE: Do not bend the decoupling element in the front exhaust pipe more than 10°, otherwise it will get damaged.

-- Loosen the clamping sleeve(s) -arrows- and disconnect the exhaust system.

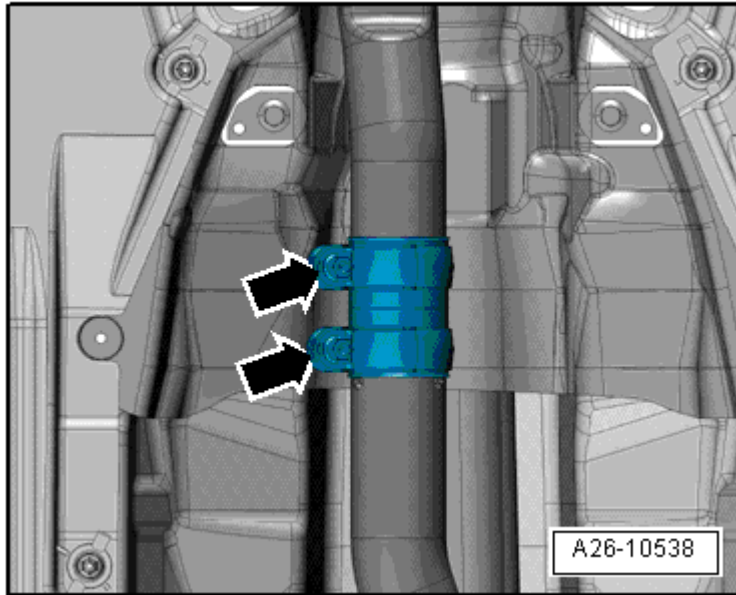


Fig. 84: Clamping Sleeve Threaded Connections
Courtesy of AUDI OF AMERICA, LLC

- Tie the front exhaust pipe(s) to the underbody.
- Remove the heat shield -A- from the transmission -arrows-, if equipped.

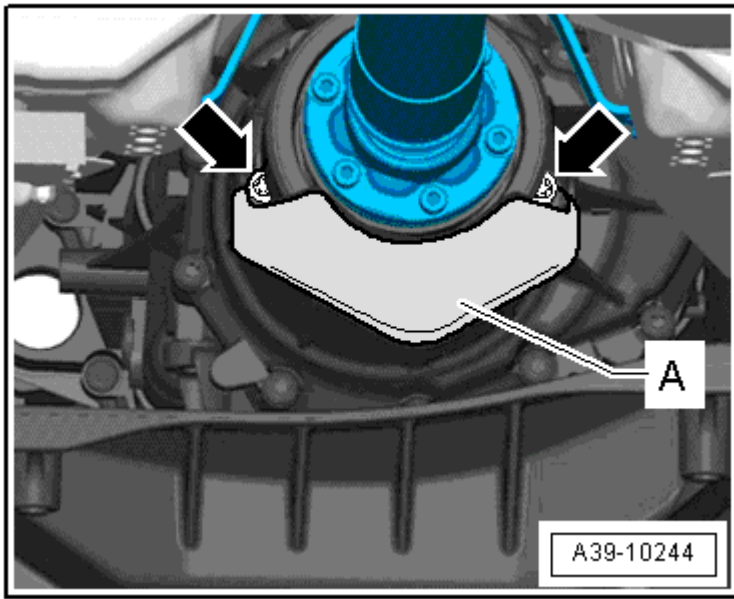


Fig. 85: Transmission Heat Shield

Courtesy of AUDI OF AMERICA, LLC

-- Remove the bolts connecting the driveshaft to the transmission using the T10172 and T10172/5.

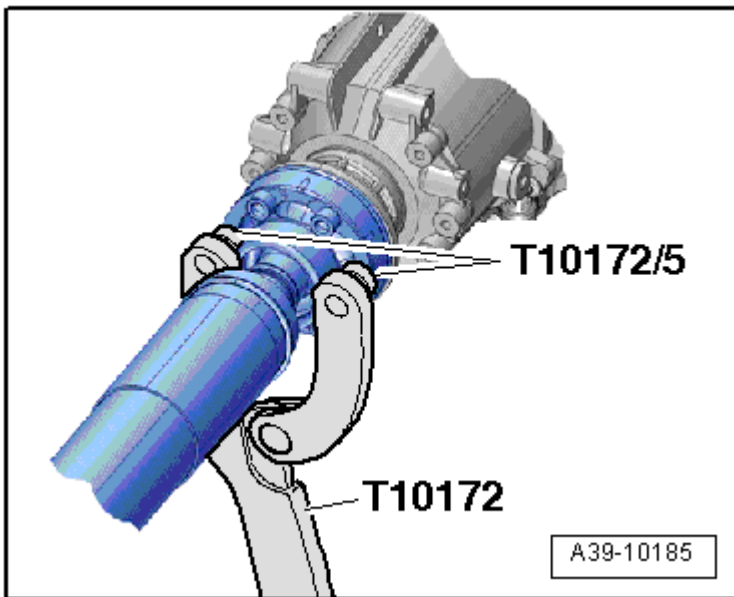


Fig. 86: Using T10172 To Hold Driveshaft

Courtesy of AUDI OF AMERICA, LLC

-- Tie the driveshaft to the underbody.

Installing

Installation is in the reverse order of removal. Observe the following when doing so:

- Remove any old or dried-up high temperature grease from the CV joint and the driveshaft flange. Fill with the exact same amount of high temperature grease G 000 633.
- Threaded holes in flange shaft on the transmission must be cleaned of locking compound residue. Use a thread cutter to clean the holes. Otherwise the bolts could break off when being installed.
- Always replace (self-locking) securing bolts for driveshaft.

-- Check the driveshaft seal on the transmission flange for damage and replace if necessary.

-- Install the driveshaft and install the CV joint bolts.

-- Tighten the front bolts on the driveshaft. Tightening specification -5- **DRIVESHAFT BOLTED ON TRANSMISSION-SIDE ASSEMBLY OVERVIEW.**

- Use the T10172 with the T10172/5.

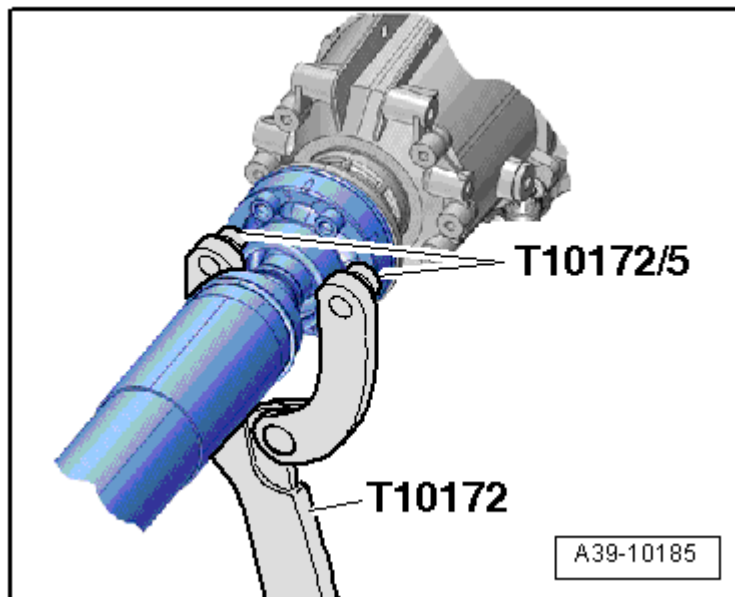


Fig. 87: Using T10172 To Hold Driveshaft
 Courtesy of AUDI OF AMERICA, LLC

-- Attach the heat shield -A- (if equipped) to the transmission -arrows-. Tightening specification **DRIVESHAFT BOLTED ON TRANSMISSION-SIDE ASSEMBLY OVERVIEW.**

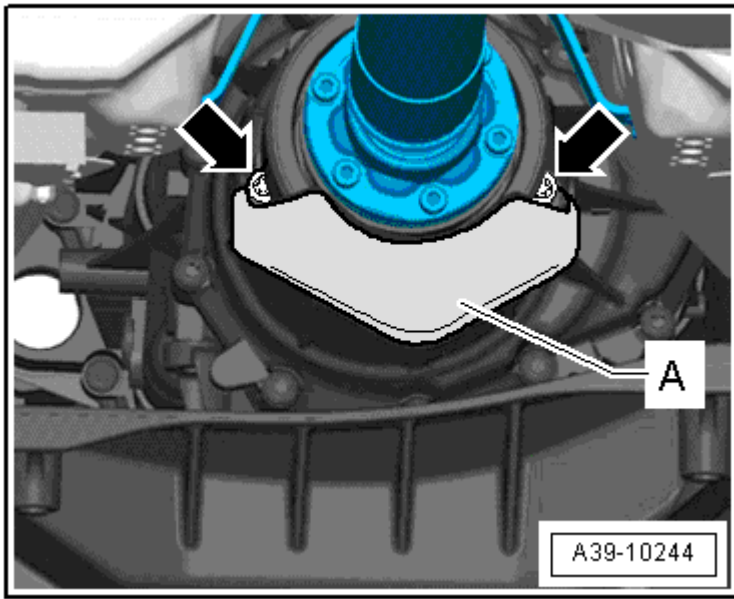


Fig. 88: Transmission Heat Shield

Courtesy of AUDI OF AMERICA, LLC

-- Assemble the exhaust system and then align it free of tension. Refer to [For transmission(s) 0AW] [For engine(s) CALA] Description and Operation or to [For engine(s) CAEB] Description and Operation or to [For engine(s) CCBA] Description and Operation .

DRIVESHAFT FROM REAR FINAL DRIVE

Special tools and workshop equipment required

- Counterhold Tool Touareg V10T10172 and Adapters T10172/5
- High temperature grease G 000 633
- See notes, refer to **DRIVESHAFT BOLTED ON TRANSMISSION-SIDE ASSEMBLY OVERVIEW**
- Working on the driveshaft should only be performed with the vehicle on a two-column workshop hoist.

Removing

NOTE: Do not bend the decoupling element in the front exhaust pipe more than 10°, otherwise it will get damaged.

-- Loosen the clamping sleeve(s) -arrows- and disconnect the exhaust system.

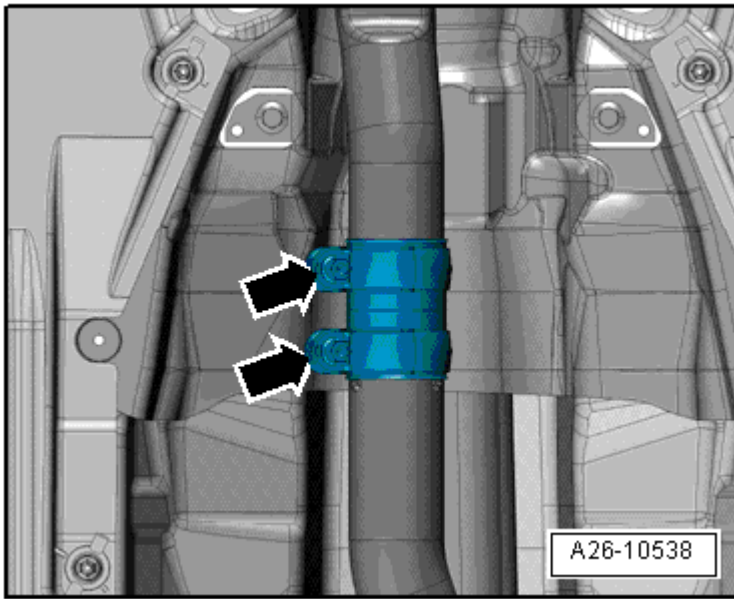


Fig. 89: Clamping Sleeve Threaded Connections
Courtesy of AUDI OF AMERICA, LLC

-- Tie the front exhaust pipe(s) to the underbody.

NOTE: A second technician will be needed to help remove the rear section of the exhaust system.

-- Remove rear portion of exhaust system. Refer to [For transmission(s) 0AW] [For engine(s) CALA] Description and Operation or to [For engine(s) CAEB] Description and Operation or to [For engine(s) CCBA] Description and Operation .

-- Check whether there is a marking (color marking) on driveshaft and at flange/driveshaft at rear final drive - arrow A- and -arrow B-.

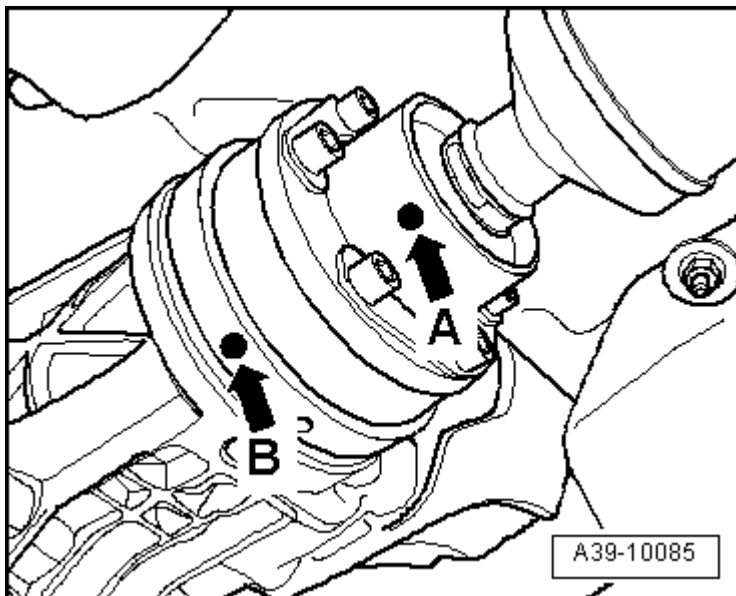


Fig. 90: Identifying Mark Position Of Driveshaft Flange To Rear Final Drive
 Courtesy of AUDI OF AMERICA, LLC

-- If one of these markings is no longer visible (for example -arrow A- on the driveshaft), then make a new color marking.

- Die marking on the driveshaft -arrow A- and on the rear final drive -arrow B- must line up.

-- Remove the bolts -1- (quantity: 6) from the rear CV joint.

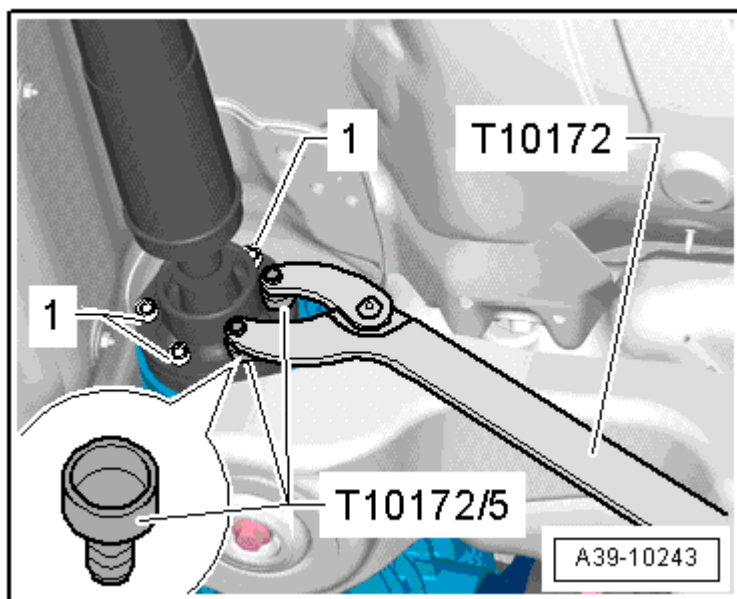


Fig. 91: Counterhold Using T10172 And T10172/5
 Courtesy of AUDI OF AMERICA, LLC

-- Use the T10172 with the T10172/5.

-- Remove the driveshaft from the rear final drive and tie it to the subframe.

Removing

Installation is in the reverse order of removal. Observe the following when doing so:

- Remove any old or dried-up high temperature grease from the CV joint and the driveshaft flange. Fill with the exact same amount of high temperature grease G 000 633.
- Threaded holes in flange shaft at rear final drive must be cleaned of locking compound residue. Use a thread cutter to clean the holes. Otherwise the bolts could break off when being installed.
- After disconnecting driveshaft from rear final drive, an additional balance washer (thick washer) that may be located between shim and a bolt may not be reinstalled.
- Always replace (self-locking) securing bolts for driveshaft.
- Check the driveshaft seal on the rear final drive for damage (bent or the rubber has started to peel) Replace a damaged gasket.

-- Position the driveshaft on the rear final drive paying attention to the installed position:

- Die markings on the driveshaft -arrow A- and on the rear final drive -arrow B- must line up.

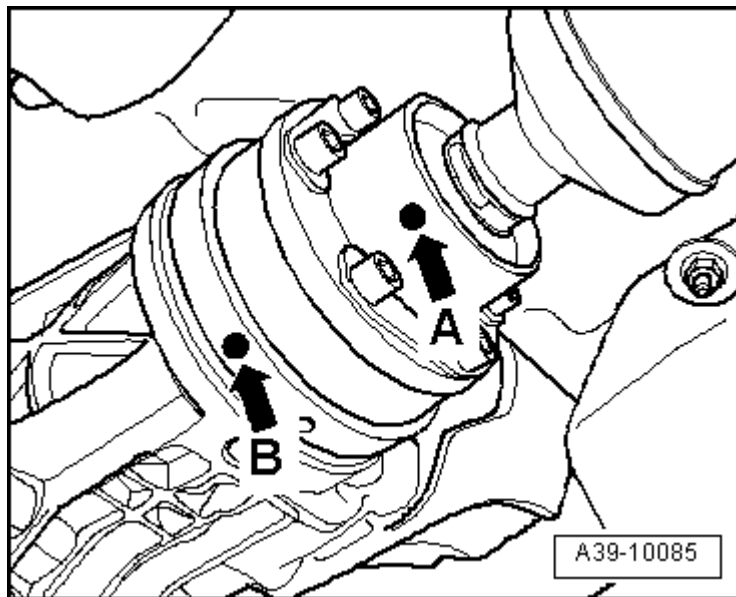


Fig. 92: Identifying Mark Position Of Driveshaft Flange To Rear Final Drive
Courtesy of AUDI OF AMERICA, LLC

- Maximum difference between the markings: 30°.

-- Install and tighten the driveshaft bolts -1-. Follow the tightening sequence **DRIVESHAFT BOLTED ON TRANSMISSION-SIDE ASSEMBLY OVERVIEW**

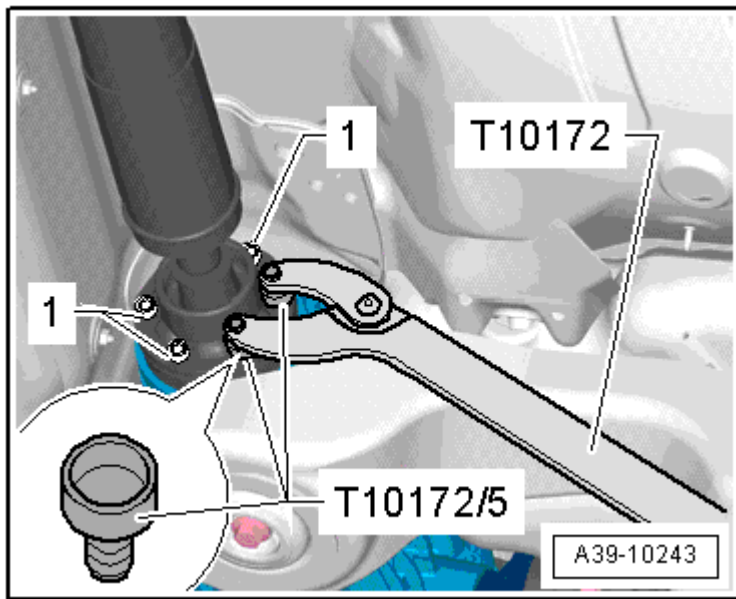


Fig. 93: Counterhold Using T10172 And T10172/5
 Courtesy of AUDI OF AMERICA, LLC

-- Install rear section of the exhaust system. Refer to [For transmission(s) 0AW] [For engine(s) CALA] Description and Operation or to [For engine(s) CAEB] Description and Operation or to [For engine(s) CCBA] Description and Operation .

DRIVESHAFT ATTACHED ON TRANSMISSION SIDE

Special tools and workshop equipment required

- VAS 6199 VW 785/1 B
- Counterhold Tool Touareg V10T10172
- Adapter T10172/5
- Locking Pliers VAS 6199
- High temperature grease G 000 633

Removing

NOTE: The attached driveshaft can only be removed from the transmission if it is removed completely.

Working on the driveshaft should only be performed with the vehicle on a two-column shop hoist.

The driveshaft can be bent at the center joint without using force. A hard bend to the stop may cause damage to the center joint or dust boot.

The driveshaft must always be tied up or supported by the end of the shaft.

Always hold the driveshaft horizontal when installing it or removing it from the transmission output shaft.

CAUTION: Danger of causing damage to the decoupling element.

- Never bend the decoupling element more than 10°.
- Never load the decoupling element.
- Do not damage the wire mesh on the decoupling element.

-- Loosen the clamping sleeve(s) -arrows- and disconnect the exhaust system.

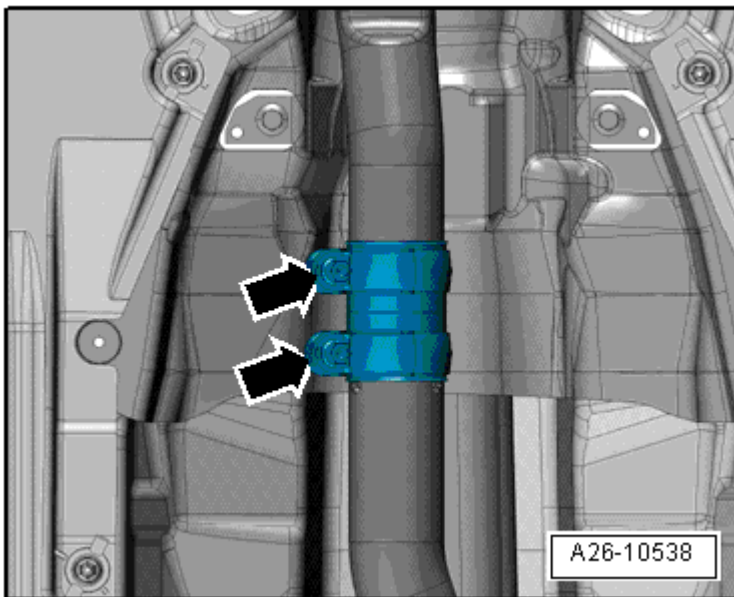


Fig. 94: Clamping Sleeve Threaded Connections
Courtesy of AUDI OF AMERICA, LLC

-- Tie the front exhaust pipe(s) to the underbody.

-- Remove the bolts -arrows- and remove the driveshaft heat shield -1-, if equipped.

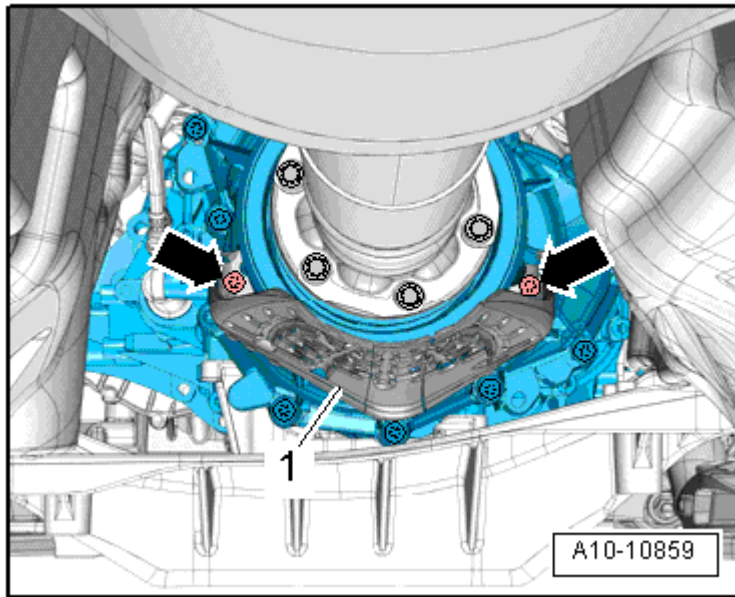


Fig. 95: Identifying Bolts -Arrows-
Courtesy of AUDI OF AMERICA, LLC

-- Cut the hose clamp -1- for the driveshaft boot and remove it.

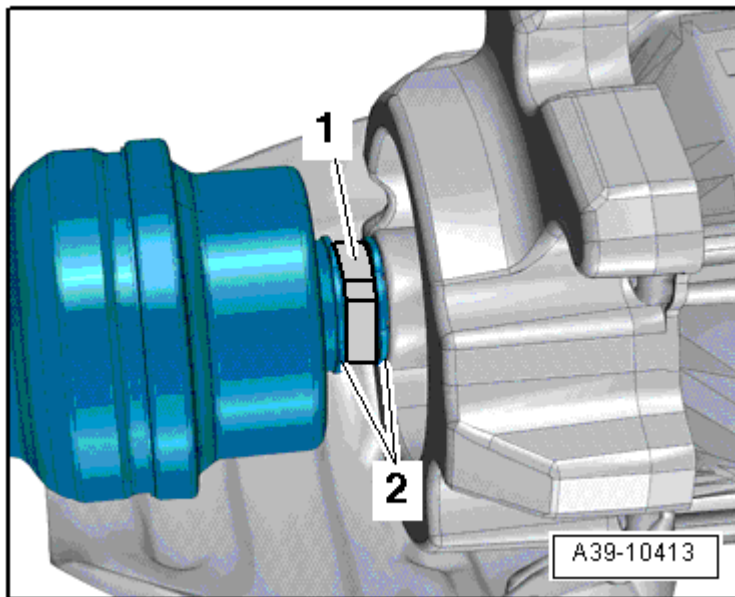


Fig. 96: Identifying Driveshaft Boot Hose Clamp
Courtesy of AUDI OF AMERICA, LLC

NOTE: Ignore -2-.

-- Remove the front -2- and rear -3- crossmembers, if equipped.

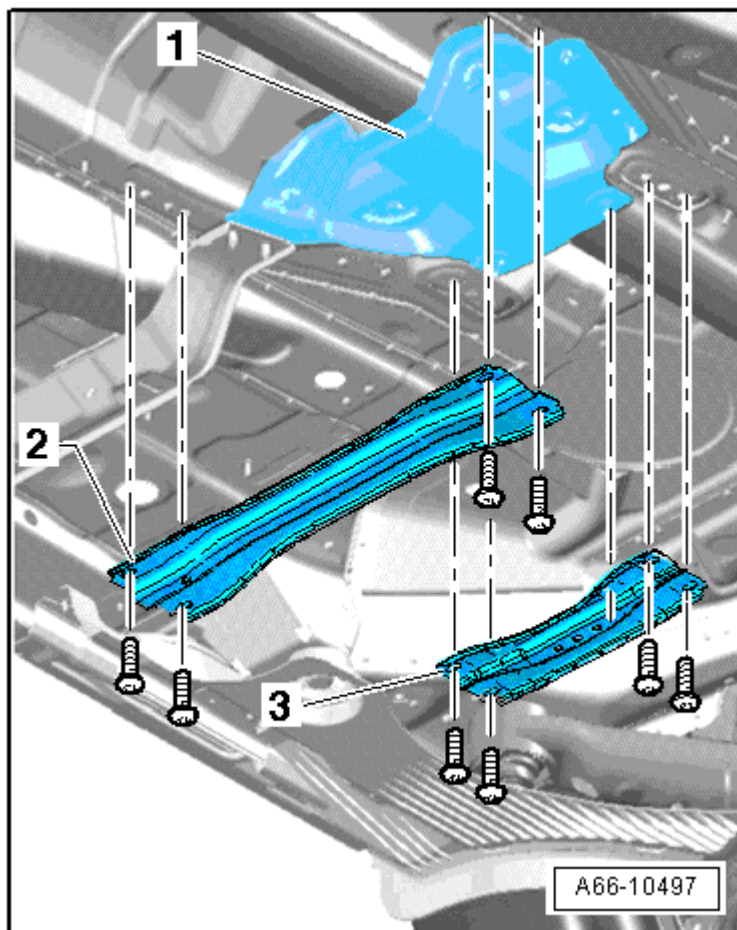


Fig. 97: Identifying Crossmember

Courtesy of AUDI OF AMERICA, LLC

-- Remove the heat shield -1-.

-- Lower the exhaust system rear section near the front and secure it using the VW 785/1 B as illustrated.

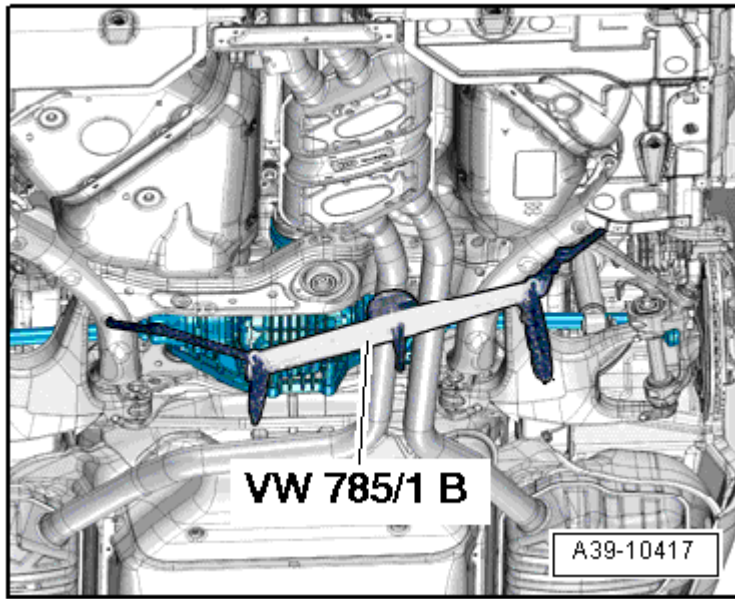


Fig. 98: VW 785/1 B

Courtesy of AUDI OF AMERICA, LLC

-- Check whether there is a marking (color marking) on driveshaft and at flange/driveshaft at rear final drive - arrow A- and -arrow B-.

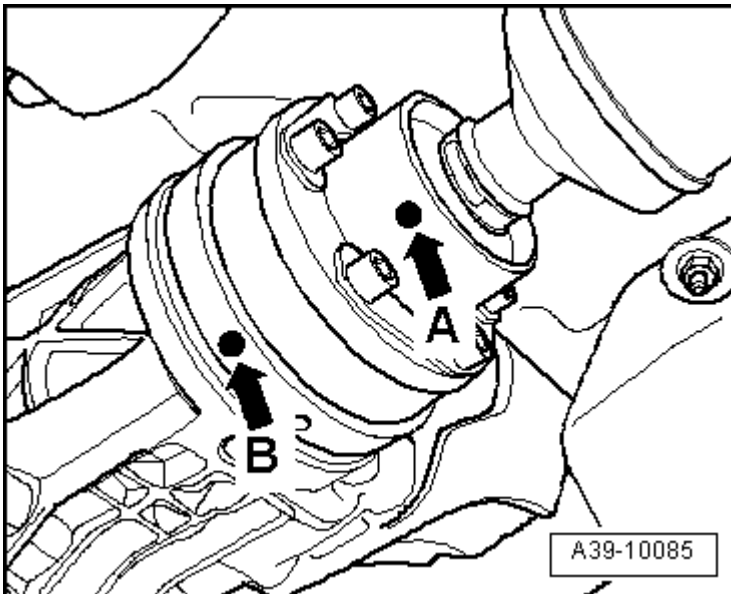


Fig. 99: Identifying Mark Position Of Driveshaft Flange To Rear Final Drive

Courtesy of AUDI OF AMERICA, LLC

-- If one of these markings is no longer visible, then make a new color marking.

- Die markings on the driveshaft -arrow A- and on the rear final drive -arrow B- must line up.

-- Remove the driveshaft bolts -1- on the rear final drive.

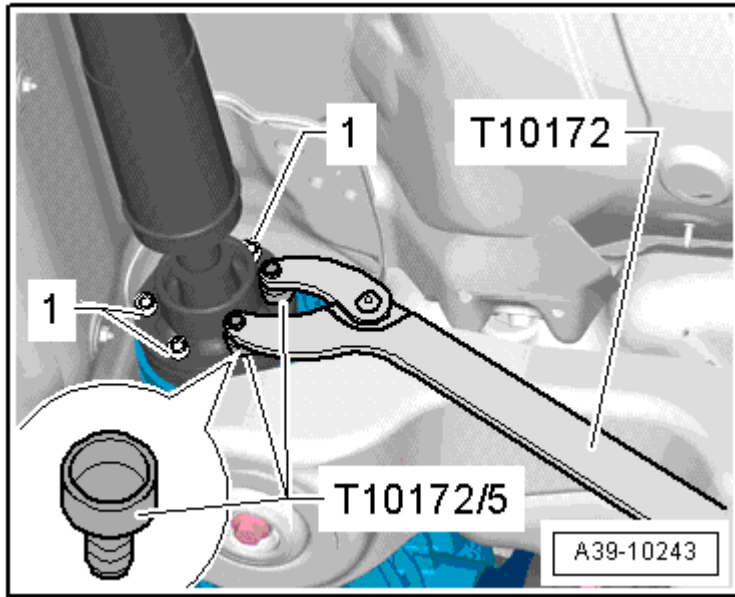


Fig. 100: Counterhold Using T10172 And T10172/5
Courtesy of AUDI OF AMERICA, LLC

-- Counterhold using the T10172 and T10172/5.

-- Remove the bolts -arrows- from the driveshaft center bearing.

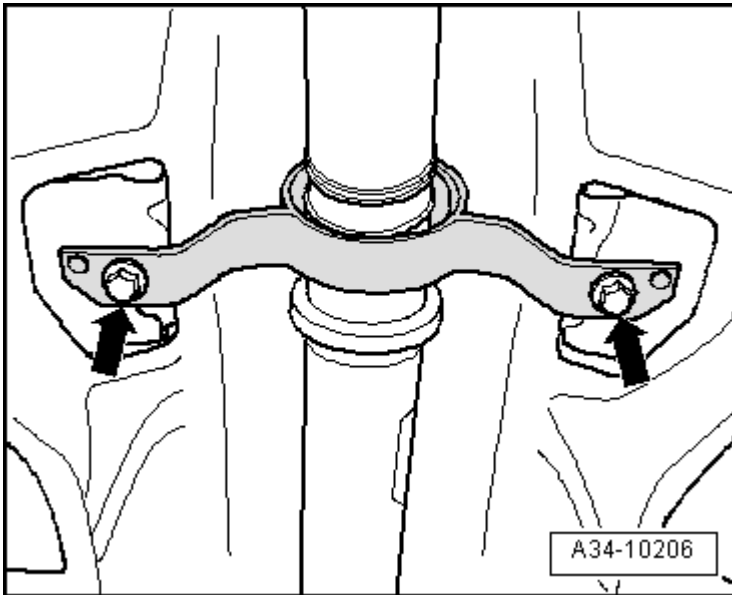


Fig. 101: Removing Mounting Bolts
Courtesy of AUDI OF AMERICA, LLC

-- Lower the rear driveshaft at the fuel tank and at the subframe and remove it from the transmission.

Installing

- Tightening specifications, refer to **DRIVESHAFT MOUNTED ON TRANSMISSION-SIDE ASSEMBLY OVERVIEW** and **DRIVESHAFT MOUNTED ON TRANSMISSION-SIDE ASSEMBLY OVERVIEW**.

NOTE: Remove old and dry high-temperature grease from CV joint and flange for driveshaft. Fill with the exact same amount of high temperature grease G 000 633.

Threaded holes in flange shaft at rear final drive must be cleaned of locking compound residue. Use a thread cutter to clean the holes. Otherwise the bolts could break off when being installed.

Replace the self-locking bolts.

Replace the hose clamp for the driveshaft rubber boot.

Check the driveshaft seal on the rear final drive for damage (bent or the rubber has started to peel) Replace a damaged gasket.

Wipe off the splines on the transmission output shaft with a towel before attaching it to the driveshaft. Do not grease the splines.

-- First attach the driveshaft to the transmission.

- Maximum bend angle: 10°.
- After installing the driveshaft after approximately 50 mm, turn the driveshaft slightly to make sure the splines on the transmission output shaft mesh with the splines on the driveshaft.
- Push the driveshaft all the way onto the splines on the transmission output shaft.

-- Install the bolts -arrows- just far enough so that the intermediate bearing can still be moved.

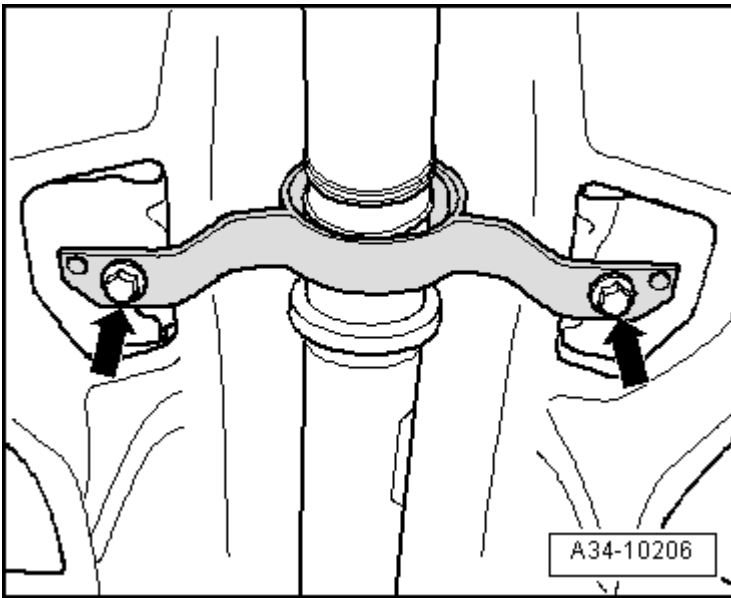


Fig. 102: Removing Mounting Bolts
Courtesy of AUDI OF AMERICA, LLC

-- Position the driveshaft on the rear final drive paying attention to the installed position:

- Die markings on the driveshaft -arrow A- and on the rear final drive -arrow B- must line up.

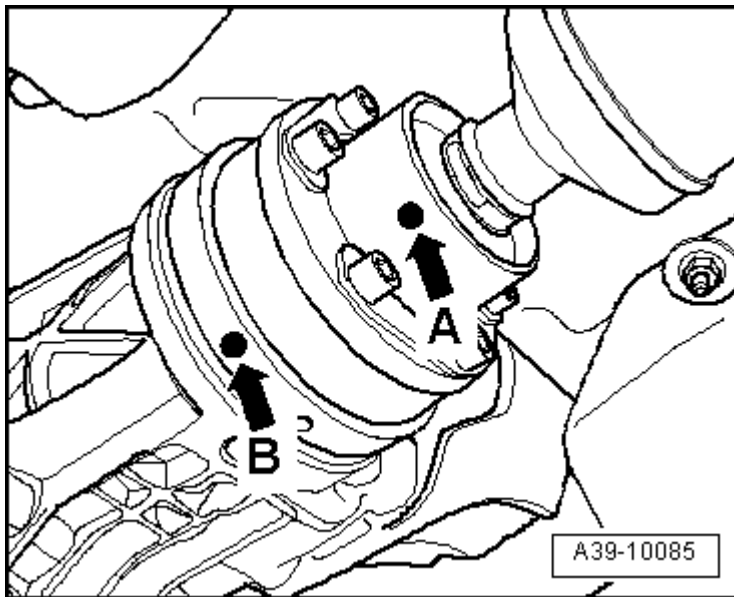


Fig. 103: Identifying Mark Position Of Driveshaft Flange To Rear Final Drive
Courtesy of AUDI OF AMERICA, LLC

- Maximum difference between the markings: 30°.

-- Install all the way in by hand, but do not tighten.

-- Align the clamp -1- for the driveshaft boot with the mounting points -2- and then tighten is using VAS 6199.

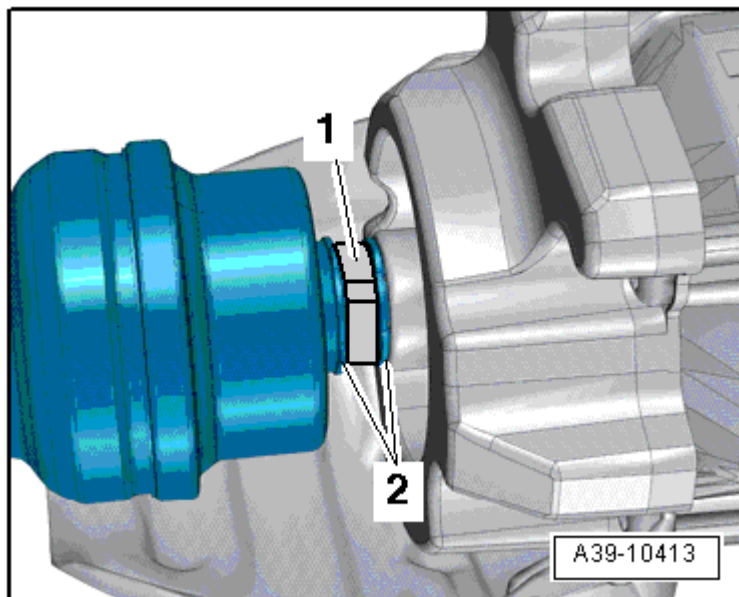


Fig. 104: Identifying Driveshaft Boot Hose Clamp

Courtesy of AUDI OF AMERICA, LLC

NOTE: Pushing the driveshaft back just a little makes it easier to use the locking pliers.

-- Tighten the driveshaft bolts -1-. Follow the tightening sequence **DRIVESHAFT MOUNTED ON TRANSMISSION-SIDE ASSEMBLY OVERVIEW.**

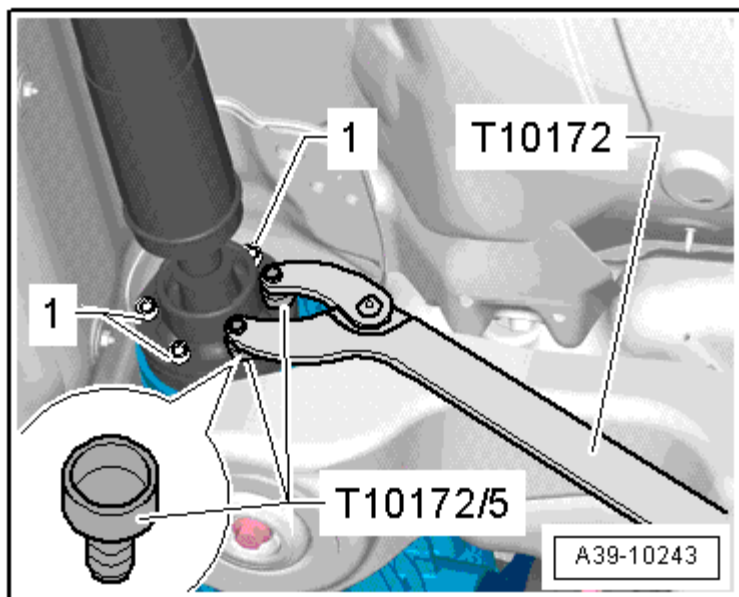


Fig. 105: Counterhold Using T10172 And T10172/5

Courtesy of AUDI OF AMERICA, LLC

-- Attach the driveshaft center bearing to the body making sure it is free of tension. Tightening specification -5-
DRIVESHAFT MOUNTED ON TRANSMISSION-SIDE ASSEMBLY OVERVIEW.

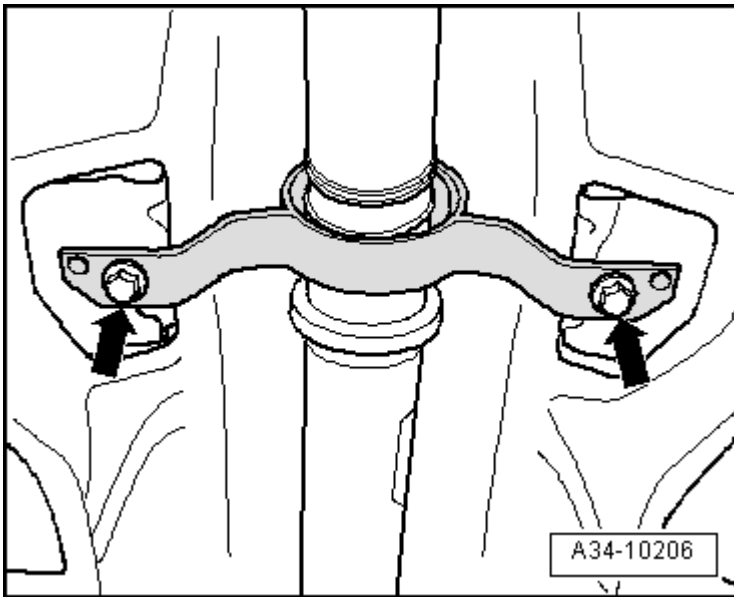


Fig. 106: Removing Mounting Bolts
Courtesy of AUDI OF AMERICA, LLC

Install in reverse order of removal. Be sure to note the following:

-- Attach the heat shield -A- to the transmission -arrows-. Tightening specification **DRIVESHAFT MOUNTED ON TRANSMISSION-SIDE ASSEMBLY OVERVIEW.**

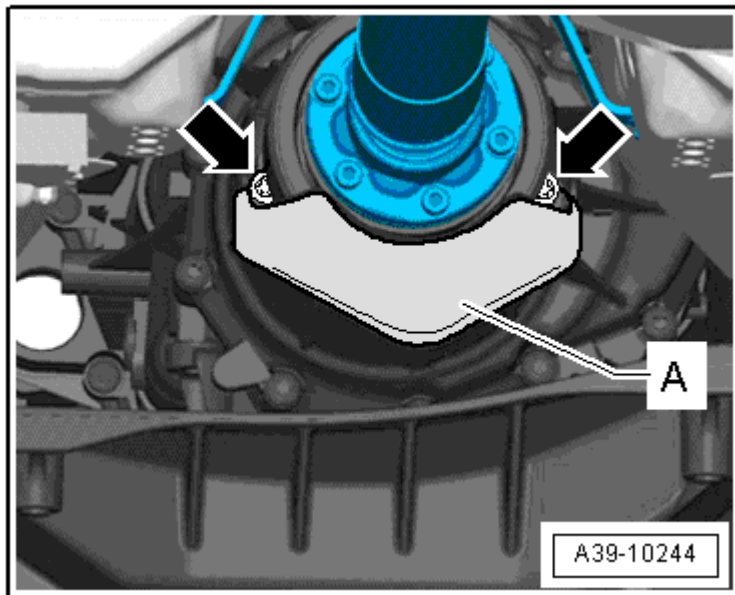


Fig. 107: Transmission Heat Shield
Courtesy of AUDI OF AMERICA, LLC

-- Install the heat shield -1-. Refer to **Removal and Installation** .

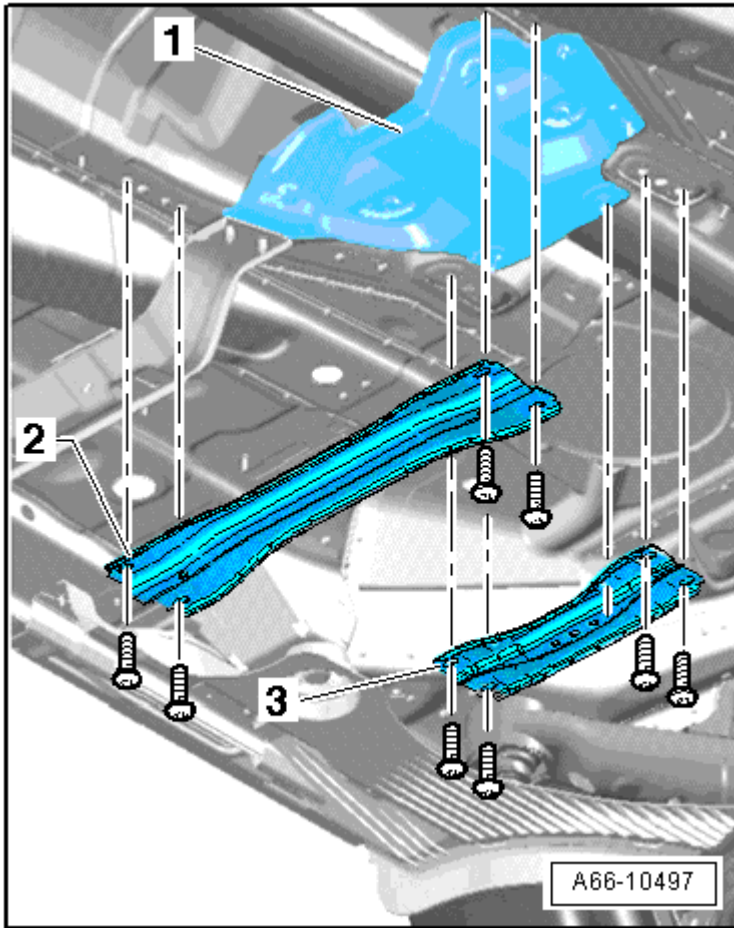


Fig. 108: Identifying Crossmember
Courtesy of AUDI OF AMERICA, LLC

-- Remove the front -2- and rear -3- crossmembers, if equipped. Refer to **Removal and Installation** .

-- Install the exhaust system and adjust it so that it is free of tension. Refer to **[For transmission(s) 0AW] [For engine(s) CALA] Description and Operation** or to **[For engine(s) CAEB] Description and Operation** or to **[For engine(s) CCBA] Description and Operation** .

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SPECIAL TOOLS

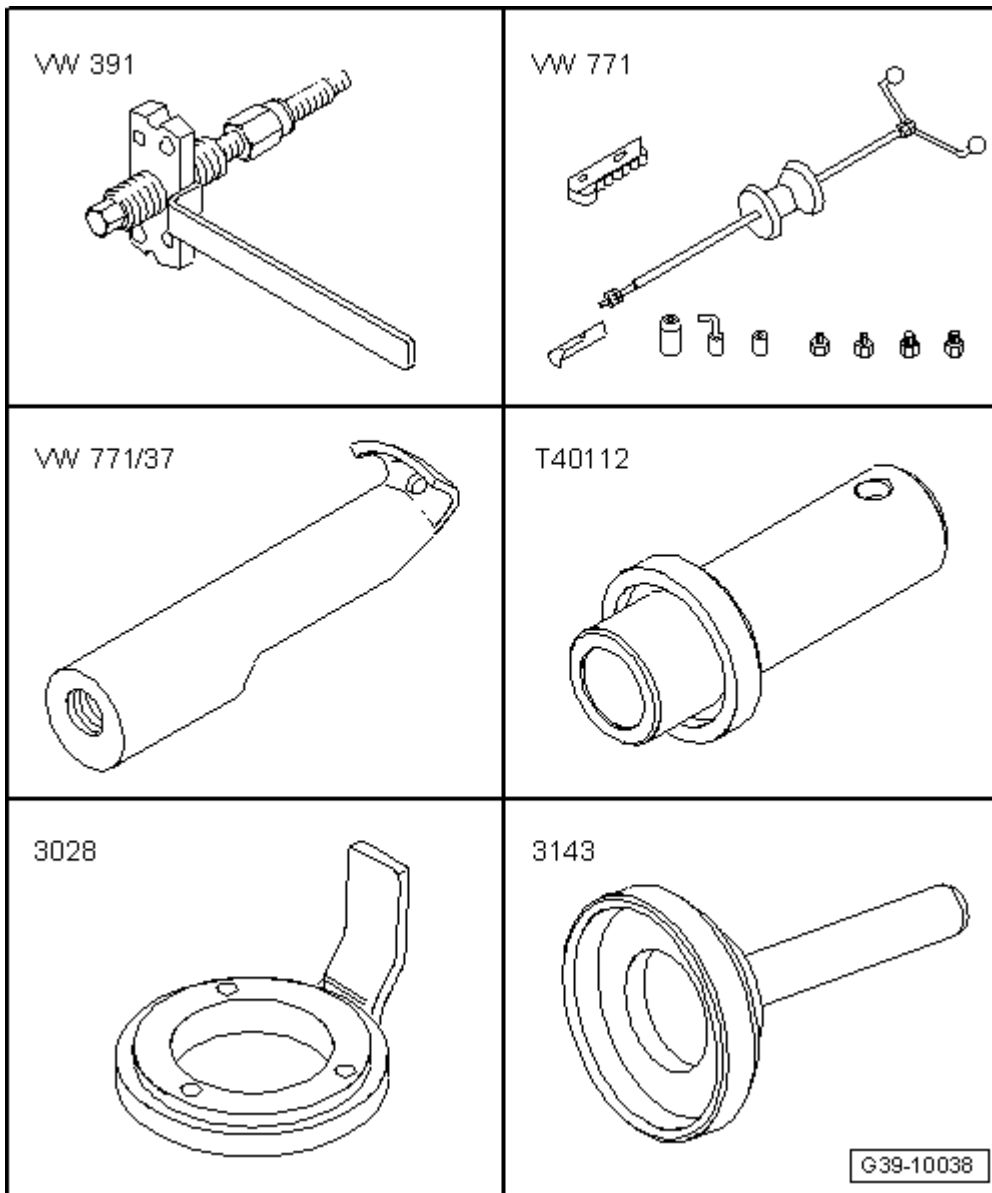


Fig. 109: Identifying Special Tools
Courtesy of AUDI OF AMERICA, LLC

Special tools and workshop equipment required

- Puller VW 391
- Slide Hammer - Complete Set VW 771
- Pulling hook VW 771/37
- Thrust Piece T40112
- Retainer 3028
- Seal Driver-Frt Wheel Bearing 3143

Special tools and workshop equipment required

- Counterhold tool Touareg V10T10172 and adapters T10172/5

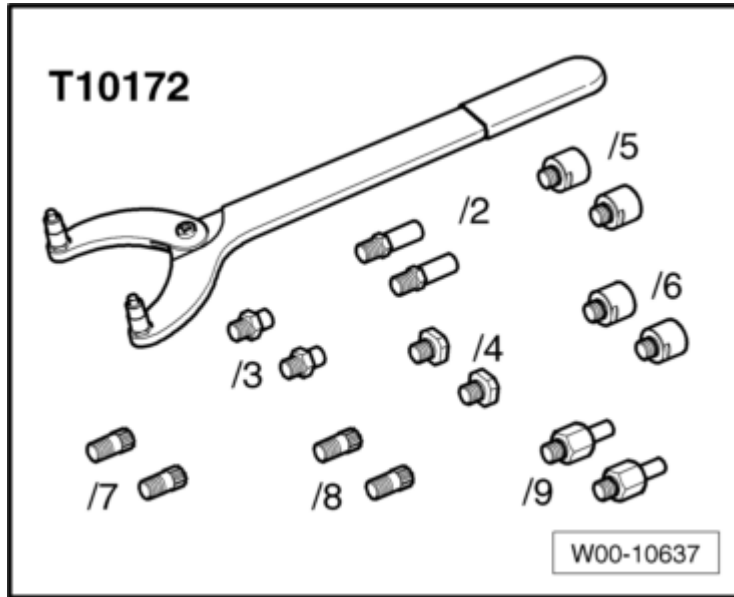


Fig. 110: Counterhold Tool T10172
Courtesy of AUDI OF AMERICA, LLC

- Socket XZN 12 T40154

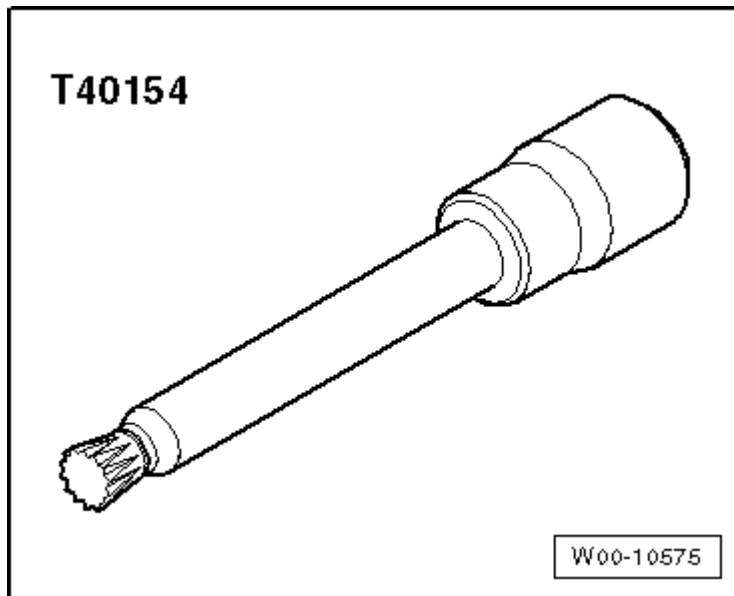


Fig. 111: Socket XZN 12 T40154
Courtesy of AUDI OF AMERICA, LLC

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

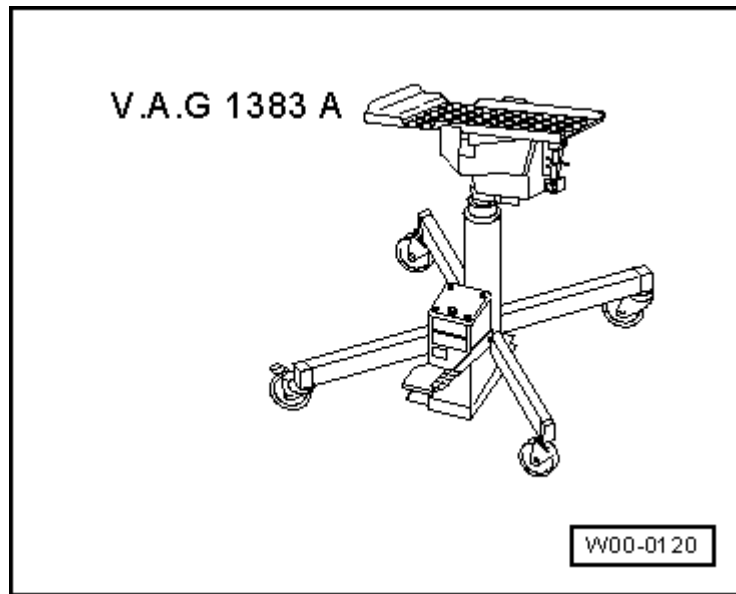


Fig. 112: Engine & Transmission Jack VAG 1383 A
Courtesy of AUDI OF AMERICA, LLC

- Needle Bearing Drift VW 295

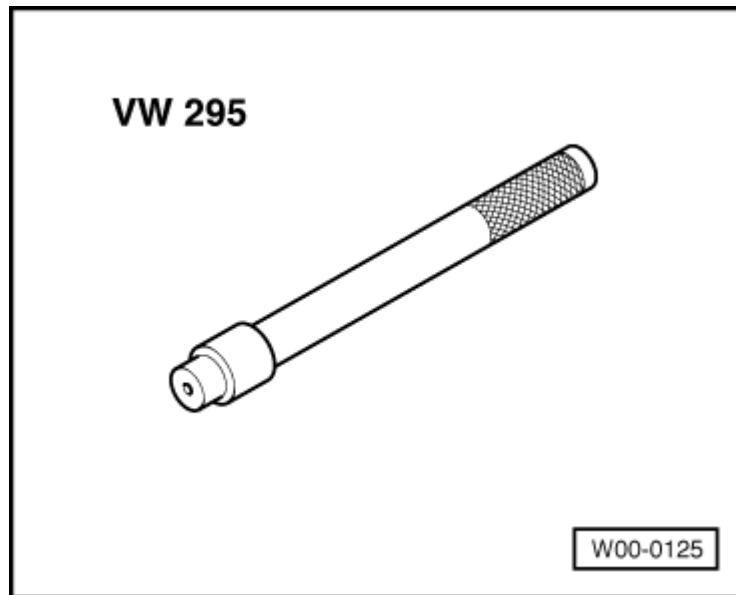


Fig. 113: Drift VW 295
Courtesy of AUDI OF AMERICA, LLC

- Puller T10037

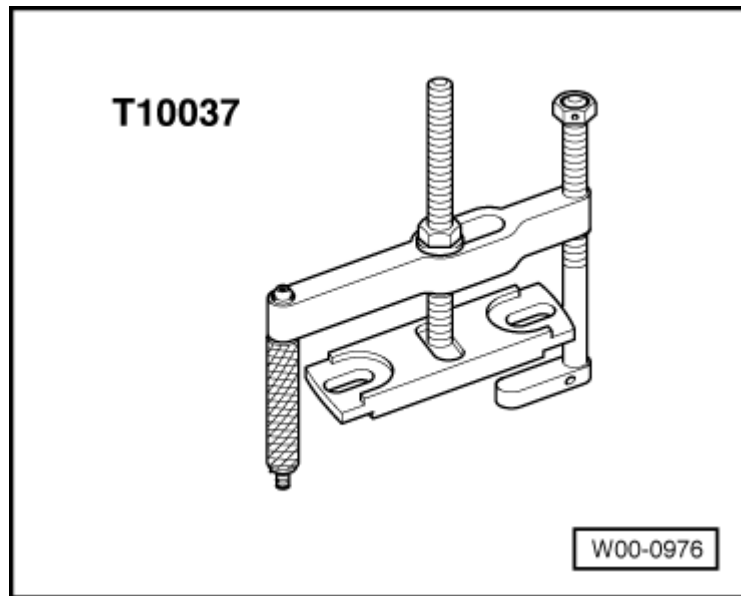


Fig. 114: Puller T10037

Courtesy of AUDI OF AMERICA, LLC

- Thrust Piece T40110

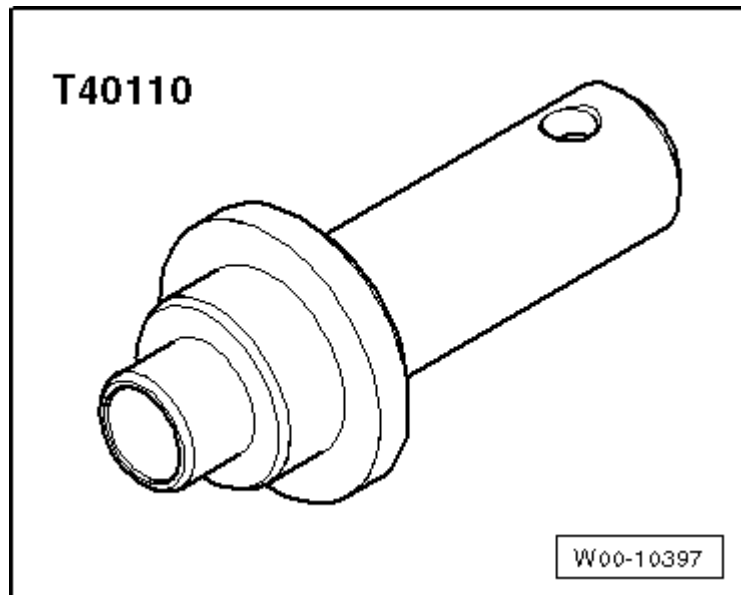


Fig. 115: Thrust Piece T40110

Courtesy of AUDI OF AMERICA, LLC

- Thrust Piece T40111

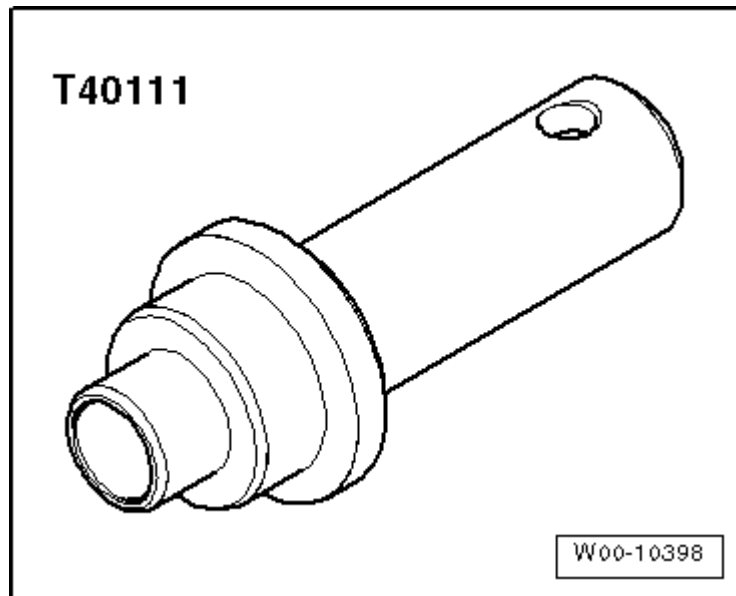


Fig. 116: Thrust Piece T40111
Courtesy of AUDI OF AMERICA, LLC

- Thrust Plate VW 401

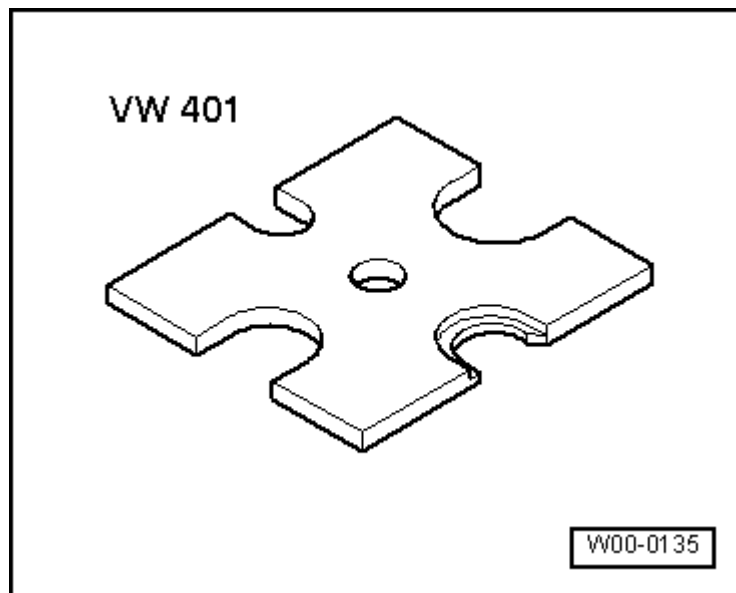


Fig. 117: Thrust Plate VW 401
Courtesy of AUDI OF AMERICA, LLC

- Thrust Plate VW 402

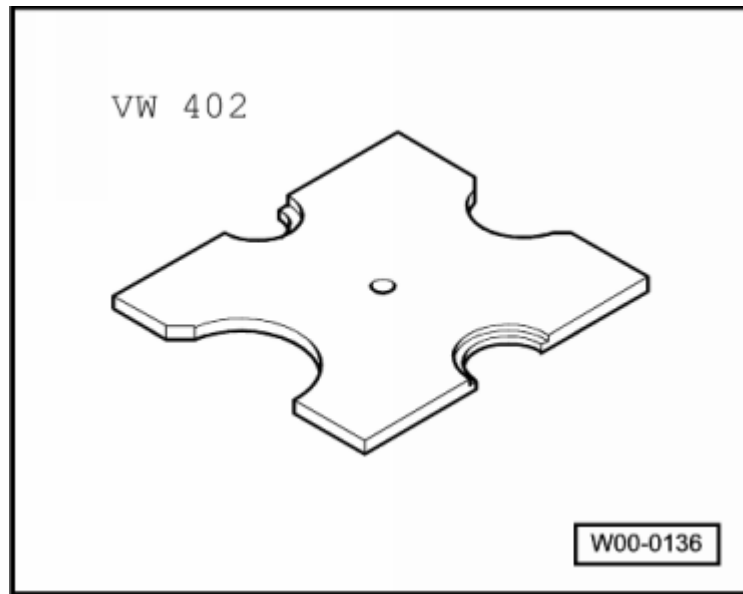


Fig. 118: Thrust Plate VW 402
Courtesy of AUDI OF AMERICA, LLC

- Punch VW 407

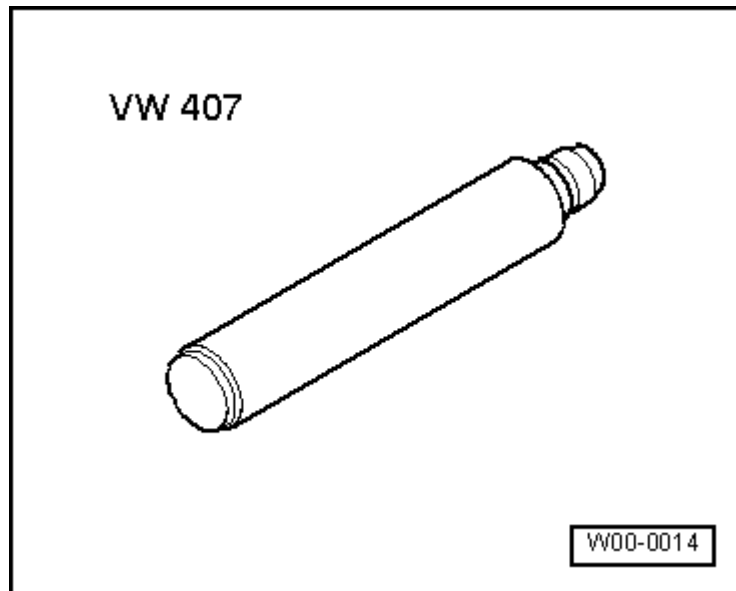


Fig. 119: Punch VW 407
Courtesy of AUDI OF AMERICA, LLC

- Sleeve 32 - 119

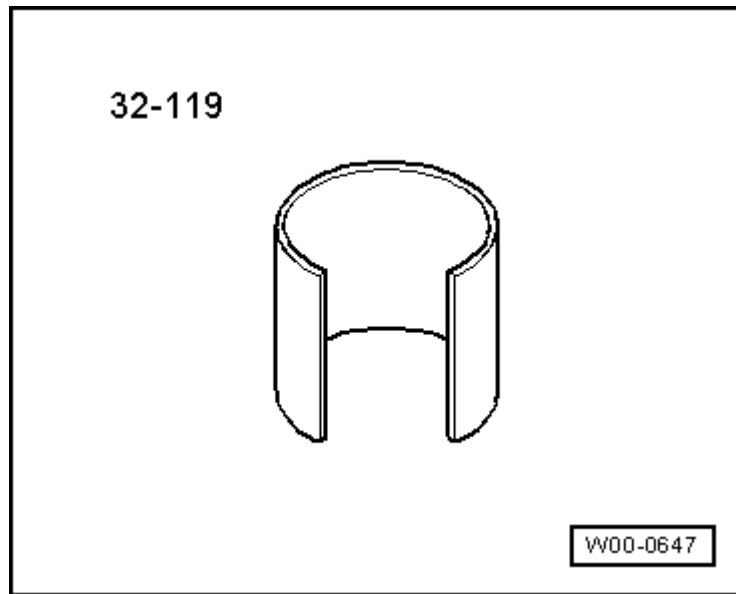


Fig. 120: Identifying Sleeve 32 - 119
Courtesy of AUDI OF AMERICA, LLC

- Thrust Pad 3062

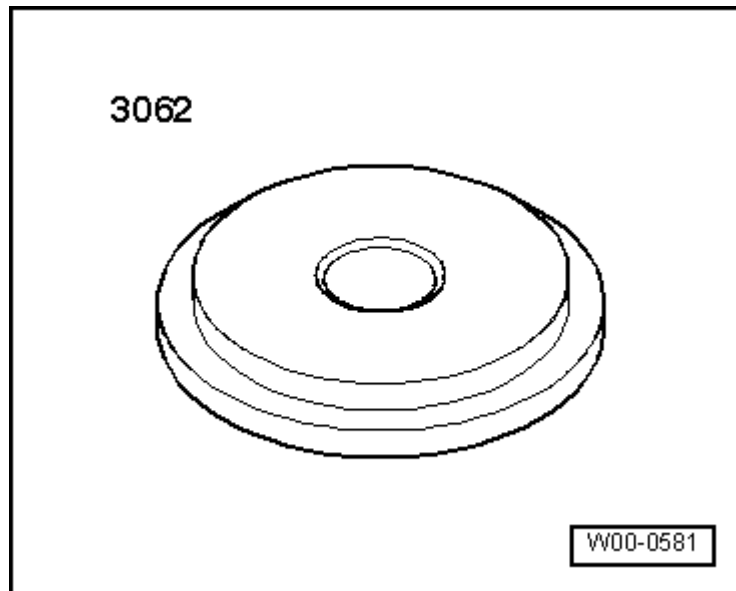


Fig. 121: Identifying Thrust Pad 3062
Courtesy of AUDI OF AMERICA, LLC

- -3- Separating Device 22 to 115 mm, for example Kukko 17/2

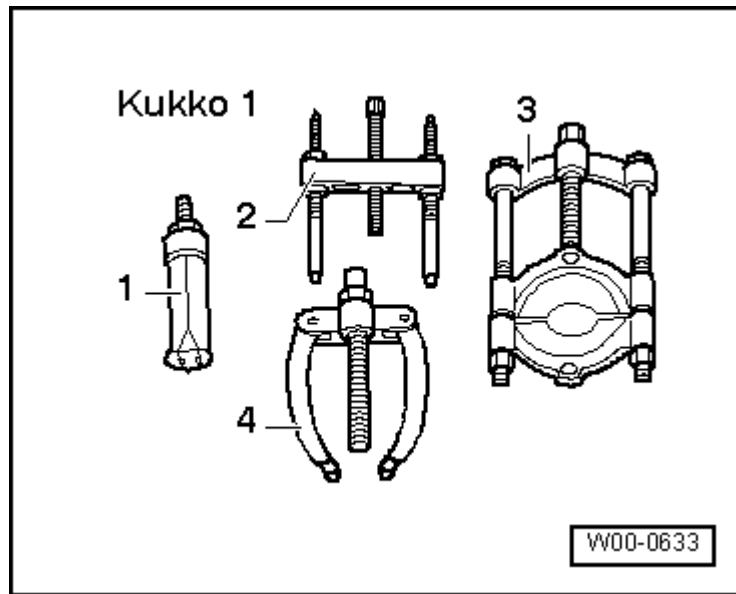


Fig. 122: Identifying Kukko Tools
Courtesy of AUDI OF AMERICA, LLC

- -3- Separating Device 22 to 75 mm, for example Kukko 17/1

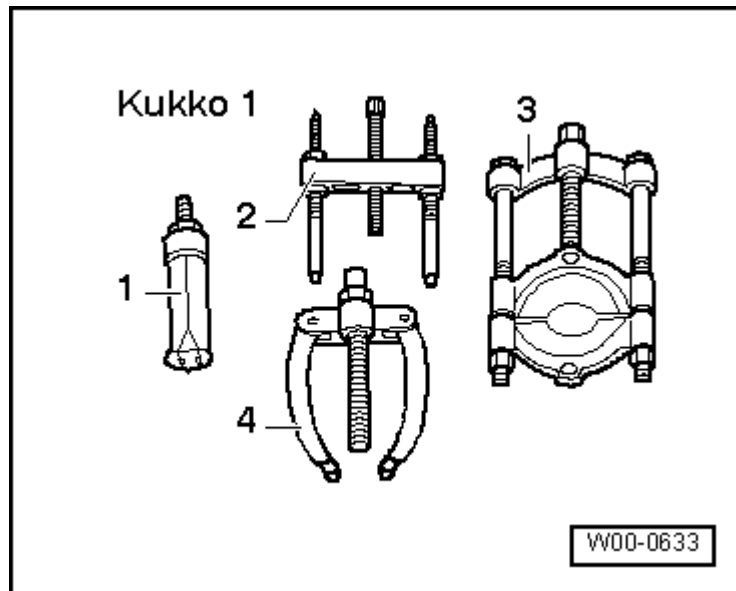


Fig. 123: Identifying Kukko Tools
Courtesy of AUDI OF AMERICA, LLC

- Adapter T10235

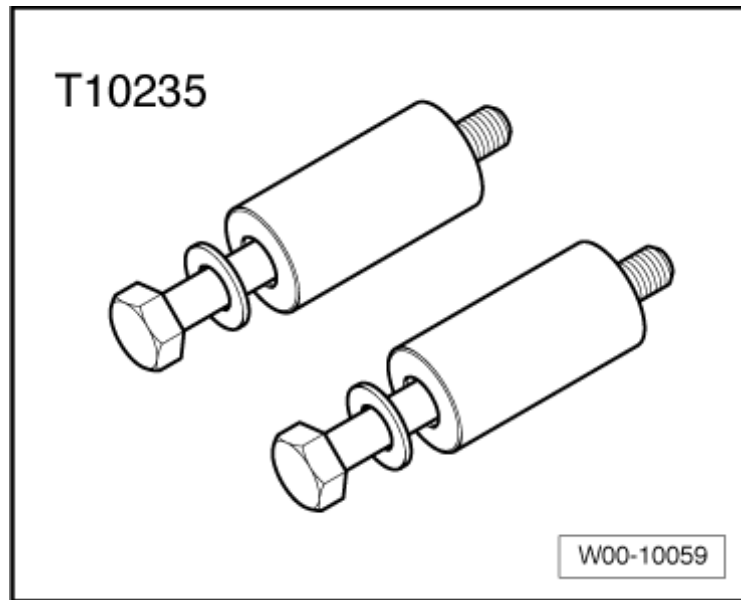


Fig. 124: Identifying Adapter T10235
Courtesy of AUDI OF AMERICA, LLC

- Friction Meter VAS 6222

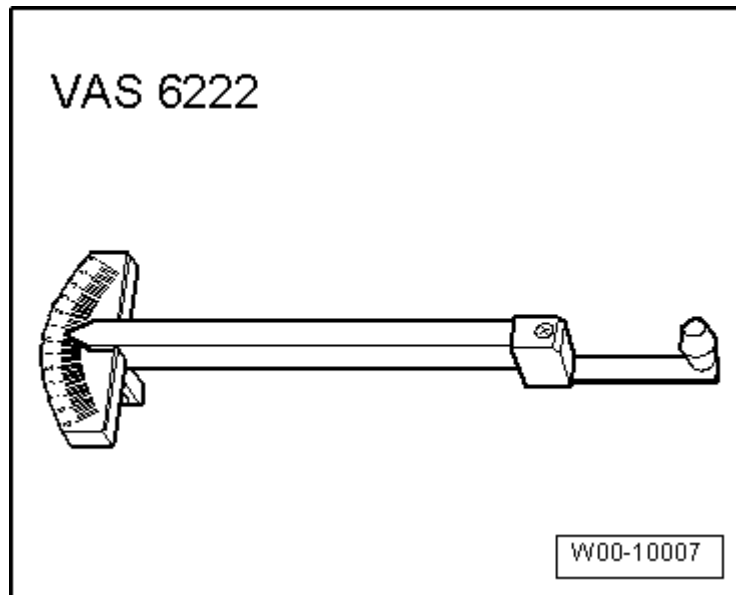


Fig. 125: Friction meter VAS 6222
Courtesy of AUDI OF AMERICA, LLC

- Punch VW 407

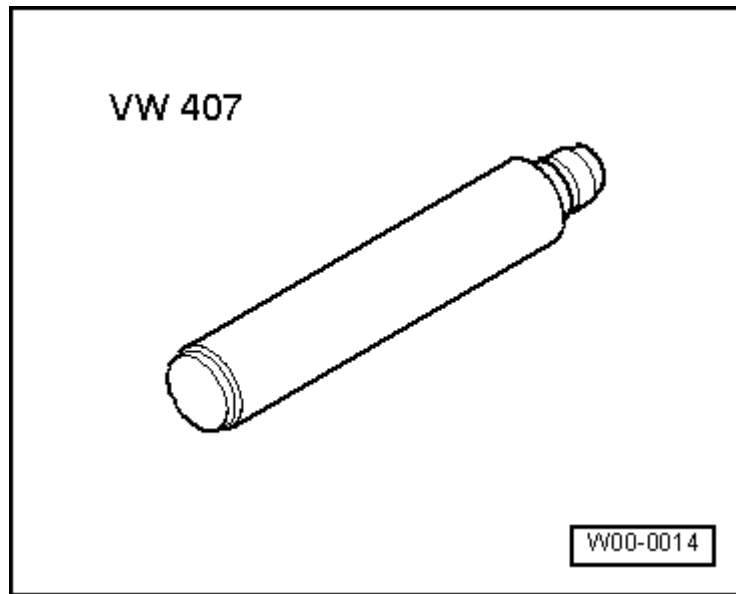


Fig. 126: Punch VW 407
Courtesy of AUDI OF AMERICA, LLC

- Thrust Disc VW 412

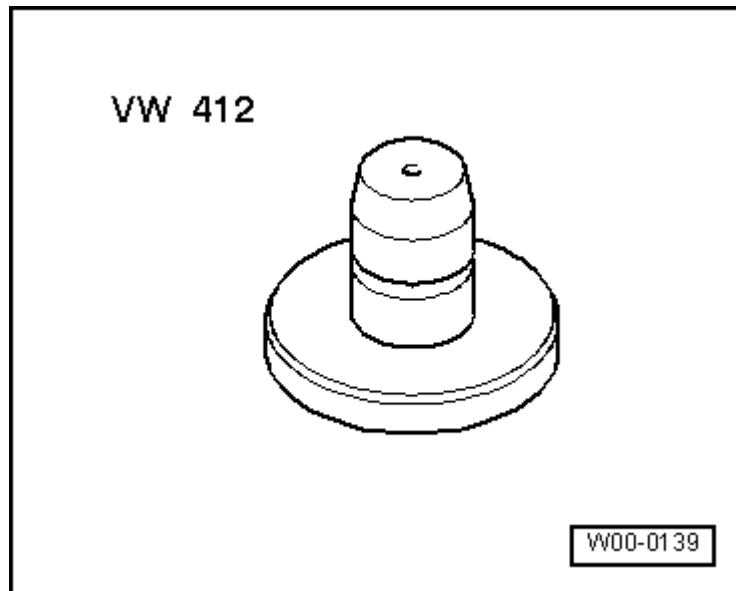


Fig. 127: Punch VW 412
Courtesy of AUDI OF AMERICA, LLC

- Sleeve 40 - 20

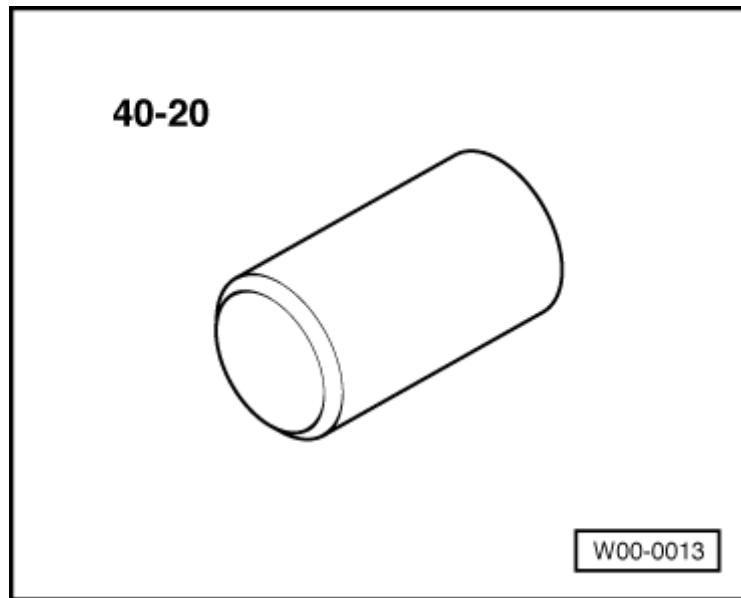


Fig. 128: Press Tube 40-20

Courtesy of AUDI OF AMERICA, LLC

- Alignment Fixture-4W Dr. Shaft 3139

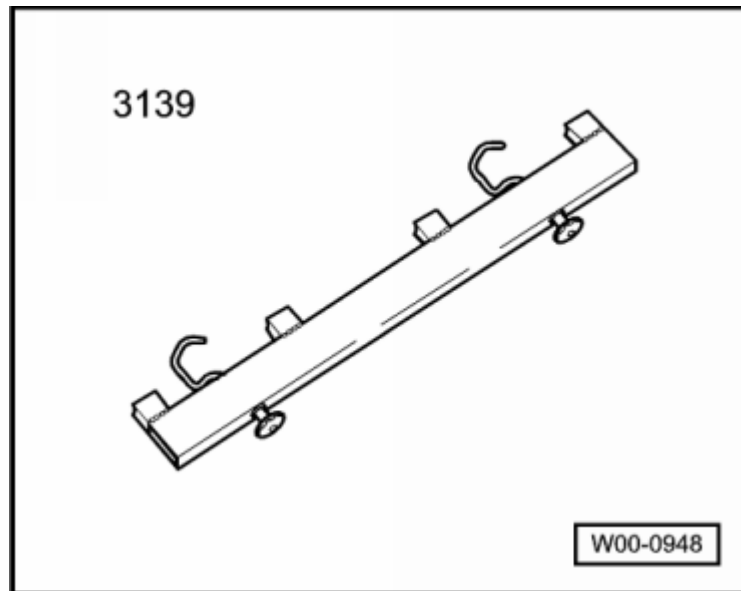


Fig. 129: Alignment Fixture-4W Dr. Shaft 3139

Courtesy of AUDI OF AMERICA, LLC

- Counterhold Tool Touareg V10T10172 and Adapters T10172/5

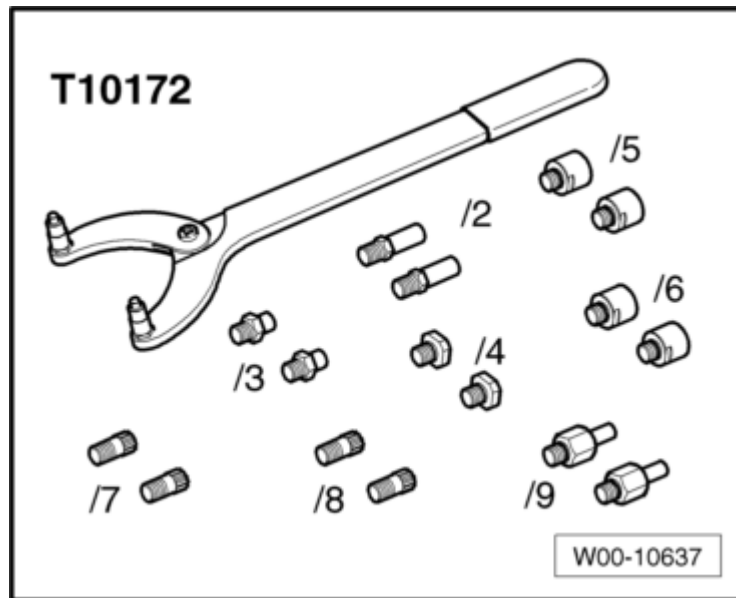


Fig. 130: Counterhold Tool T10172

Courtesy of AUDI OF AMERICA, LLC

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

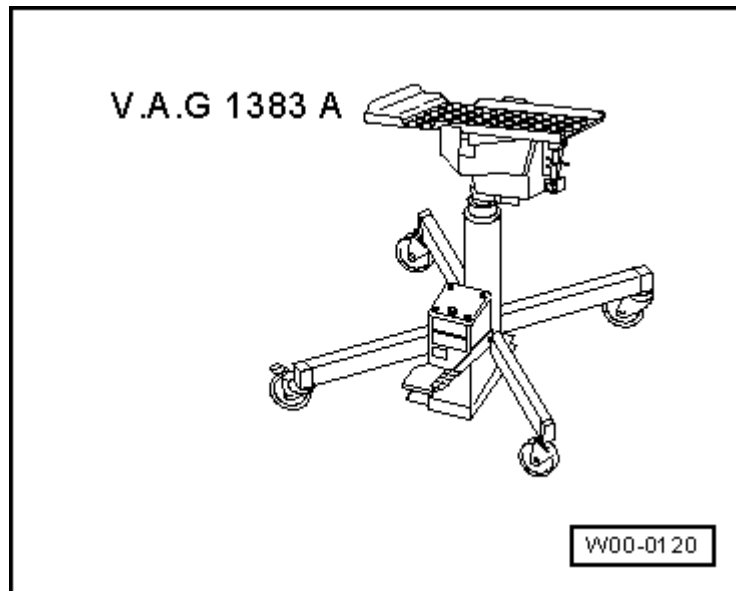


Fig. 131: Engine & Transmission Jack VAG 1383 A

Courtesy of AUDI OF AMERICA, LLC

- VAS 6199 VW 785/1 B

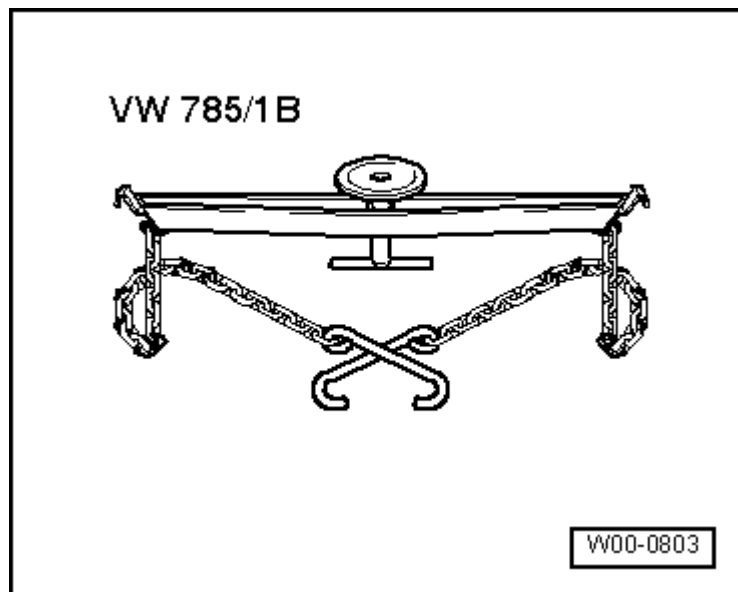


Fig. 132: Transmission support VW 785/1B
Courtesy of AUDI OF AMERICA, LLC

- Locking Pliers VAS 6199

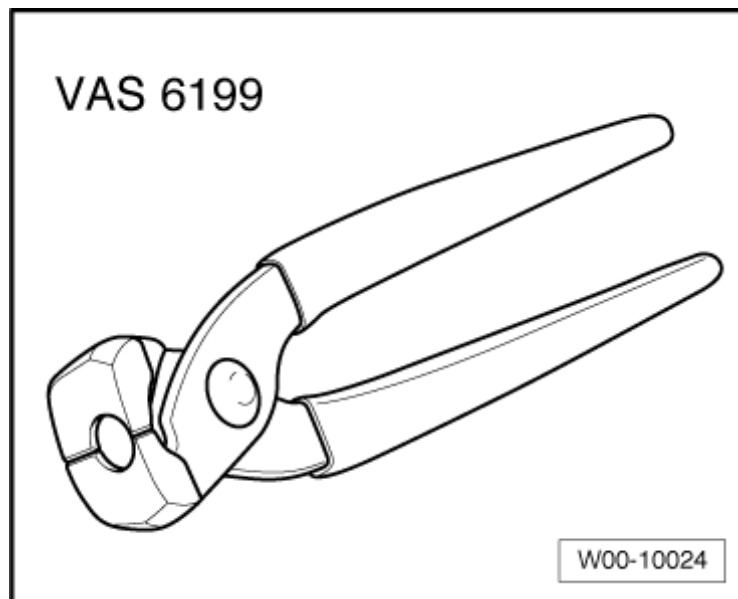


Fig. 133: Locking Pliers VAS 6199
Courtesy of AUDI OF AMERICA, LLC

- Inductive Heat Unit VAS 6414