

## Front final drive, servicing

- Transmission installed

### Notes:

- ◆ General repair notes ⇒ [page 00-27](#) .
- ◆ Rules of cleanliness for working on automatic transmissions ⇒ [page 37-148](#) .

#### 1 - Seal

- ◆ Between final drive and transmission housing
- ◆ Always replace ⇒ [page 39-28](#)

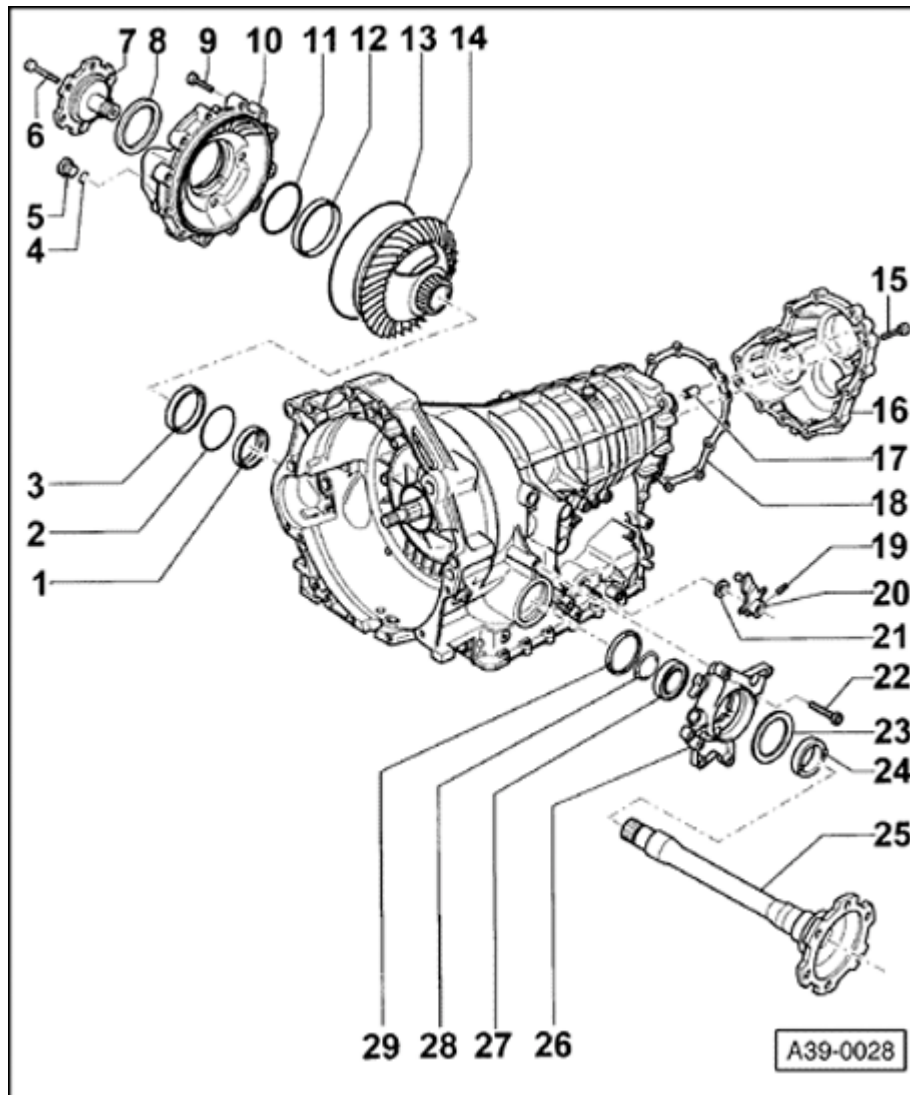
#### 2 - Adjustment shim

- ◆ Behind tapered roller bearing outer race

#### 3 - Tapered roller bearing outer race

#### 4 - O-ring

- ◆ Always replace



**5 - Locking bolt - 30 Nm**

**6 - Bolt - 23 Nm**

**7 - Right drive flange**

**8 - Seal**

◆ For right drive flange

◆ Always replace ⇒ [page 39-9](#)

**9 - Bolt - 23 Nm**

◆ Observe tightening sequence ⇒ [page 39-36](#)

**10 - Cover for final drive**

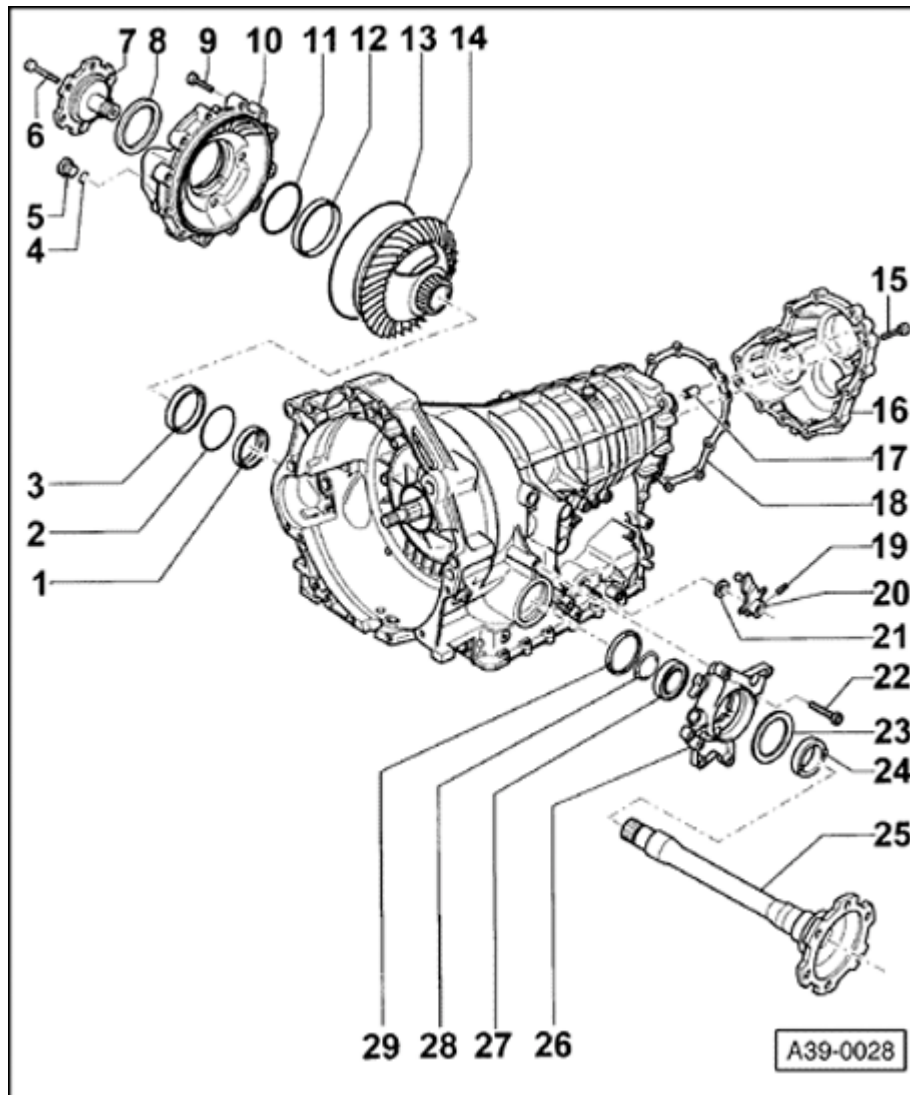
**11 - Adjustment shim**

◆ Behind tapered roller bearing outer race

**12 - Tapered roller bearing outer race**

**13 - O-ring**

◆ Always replace ⇒ [page 39-36](#)



**14 - Differential**

**15 - Bolt - 23 Nm**

- ◆ Observe tightening sequence ⇒ [page 39-27](#)

**16 - Cover for front final drive**

- ◆ Shown here: Front wheel drive version
- ◆ All wheel drive version ⇒ [page 39-52](#), item 31

**17 - Bushing**

**18 - Gasket**

- ◆ Always replace ⇒ [page 39-24](#)

**19 - Spring dowel sleeve**

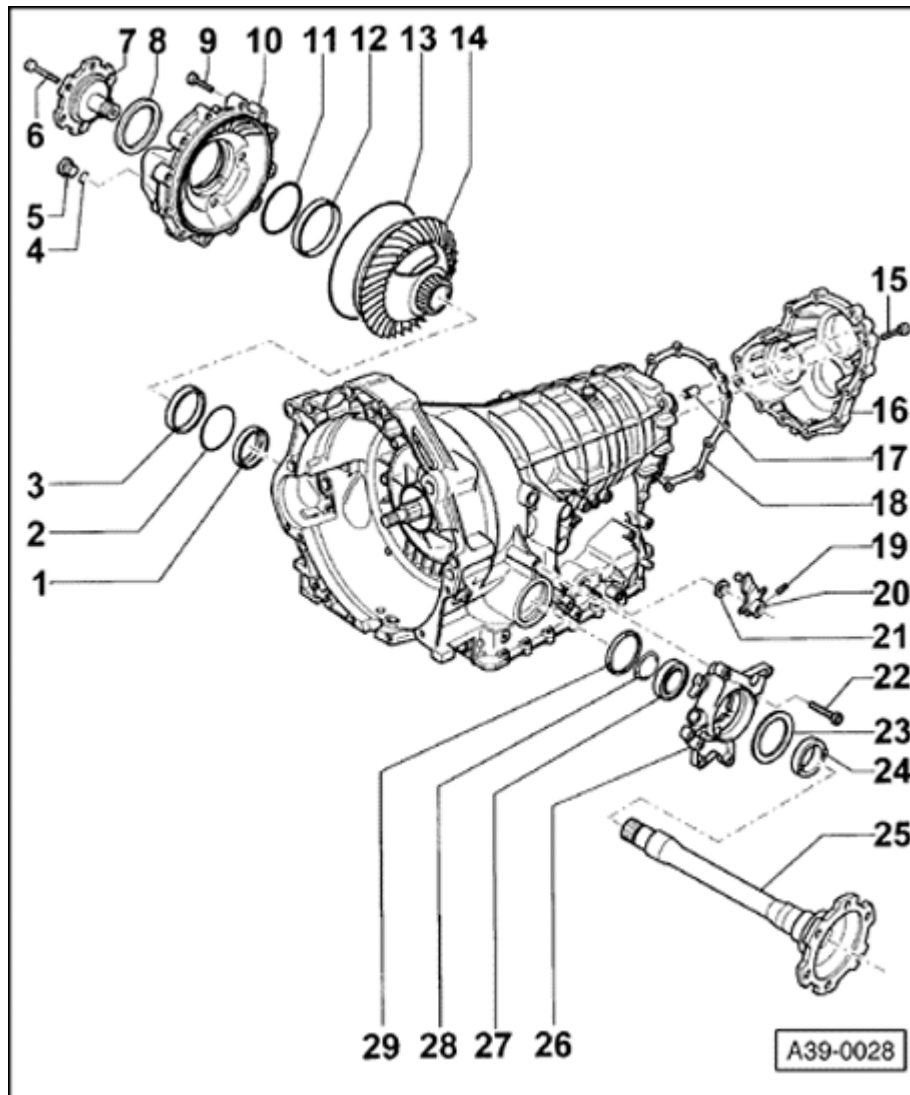
**20 - Lever**

- ◆ For shift rod

**21 - Seal**

- ◆ For shift rod
- ◆ Always replace ⇒ [page 38-31](#)

**22 - Bolt - 23 Nm**

**23 - Seal**

- ◆ For left drive flange
- ◆ Always replace ⇒ [page 39-13](#)

**24 - Drive gear**

- ◆ For Speedometer Vehicle Speed Sensor (VSS) -G22-
- ◆ Installed position ⇒ [page 39-20](#)

**25 - Left drive flange**

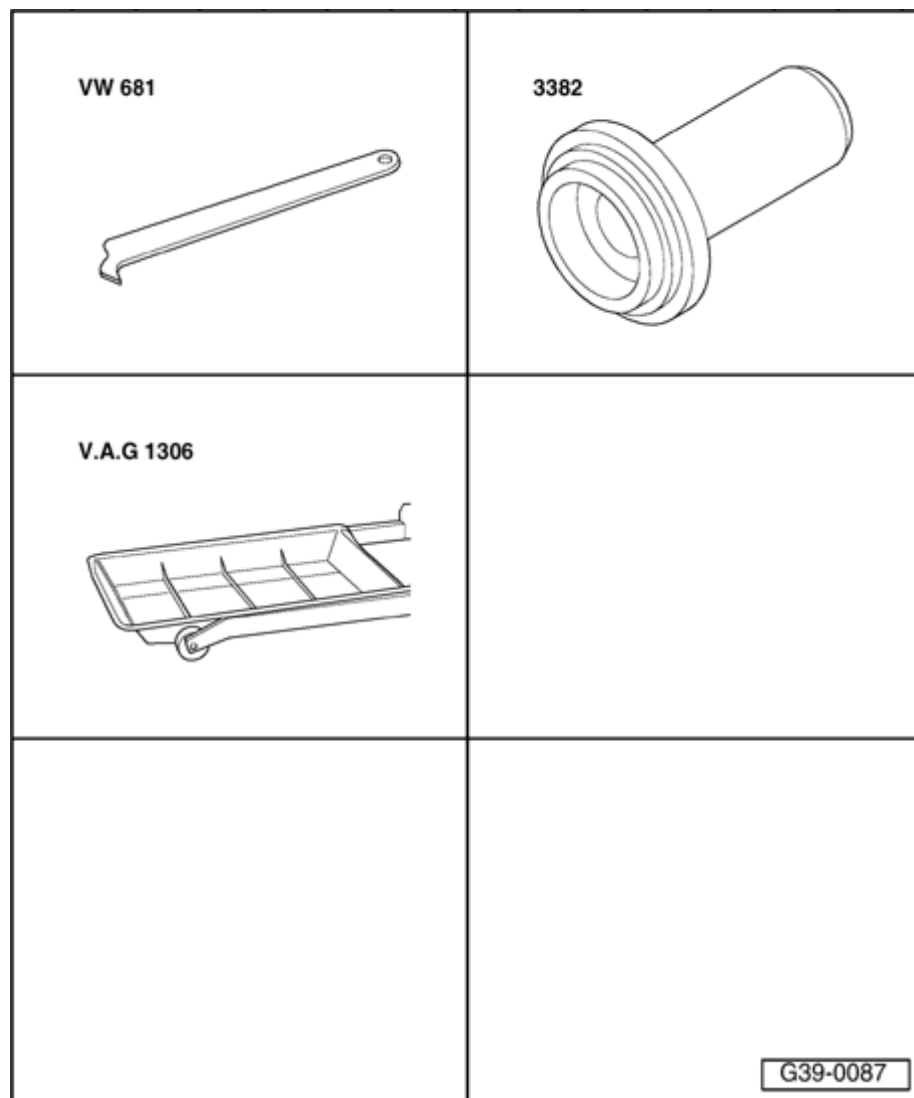
- ◆ Removing and installing ⇒ [page 39-13](#)

**26 - Mounting bracket for drive flange****27 - Grooved ball bearing for drive flange**

- ◆ Always replace ⇒ [page 39-13](#)

**28 - Snap ring****29 - O-ring**

- ◆ Square cross section
- ◆ Remove and install left drive flange to replace ⇒ [page 39-13](#)



## Seal for right drive flange, replacing

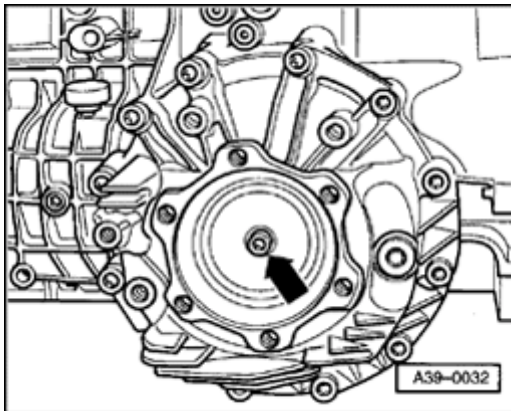
### Special Tools and equipment

- ◆ VW681 extractor lever
- ◆ 3382 right seal installer
- ◆ VAG1306 drip tray

## Removing

- Loosen bolt drive axle/wheel hub while the vehicle is still standing on its wheels.
- Remove wheel.
- Remove heat shield for right drive axle.
- Remove right drive axle:

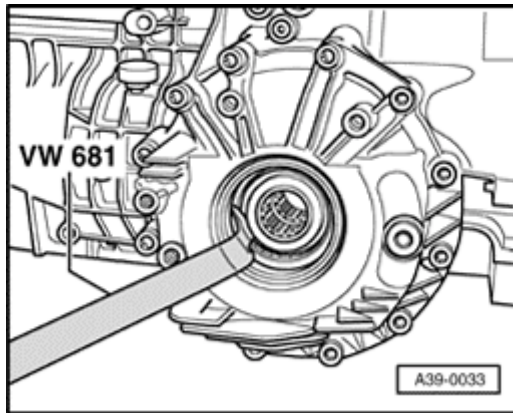
⇒ [Repair Manual, Suspension, Wheels, Steering, Repair Group 40; Drive axle, removing and installing](#)



A

- Remove bolt for flange shaft (arrow) while securing against turning using a drift.
- Place VAG1306 drip tray underneath.

39-11



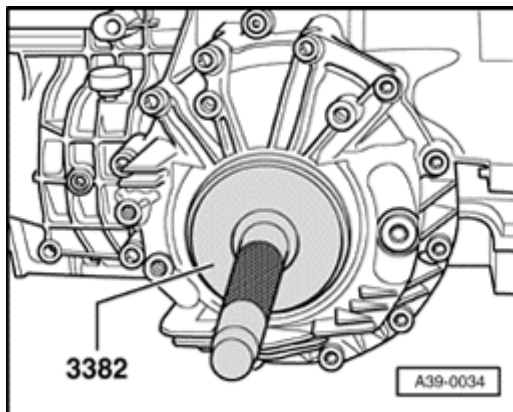
- Remove right drive flange.

A

- Drive flange seal, pulling out.

### Installing

- Coat outer edge of oil seal with gear oil.

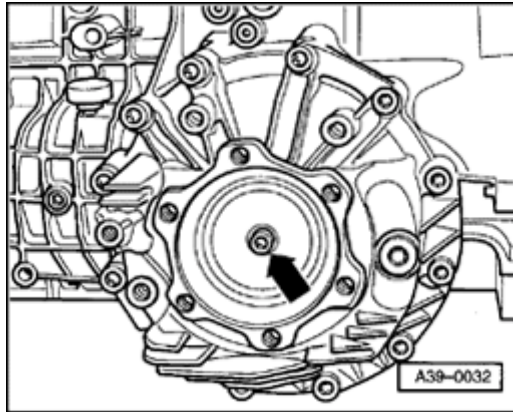


A

- Drive in new seal to stop, without canting.

◆ Installation position: The open side of the seal faces the transmission.

- Install right drive flange.



A

- Install bolt for drive flange (arrow, 23 Nm) while securing drive flange against turning, using a drift.
- Install drive axle.

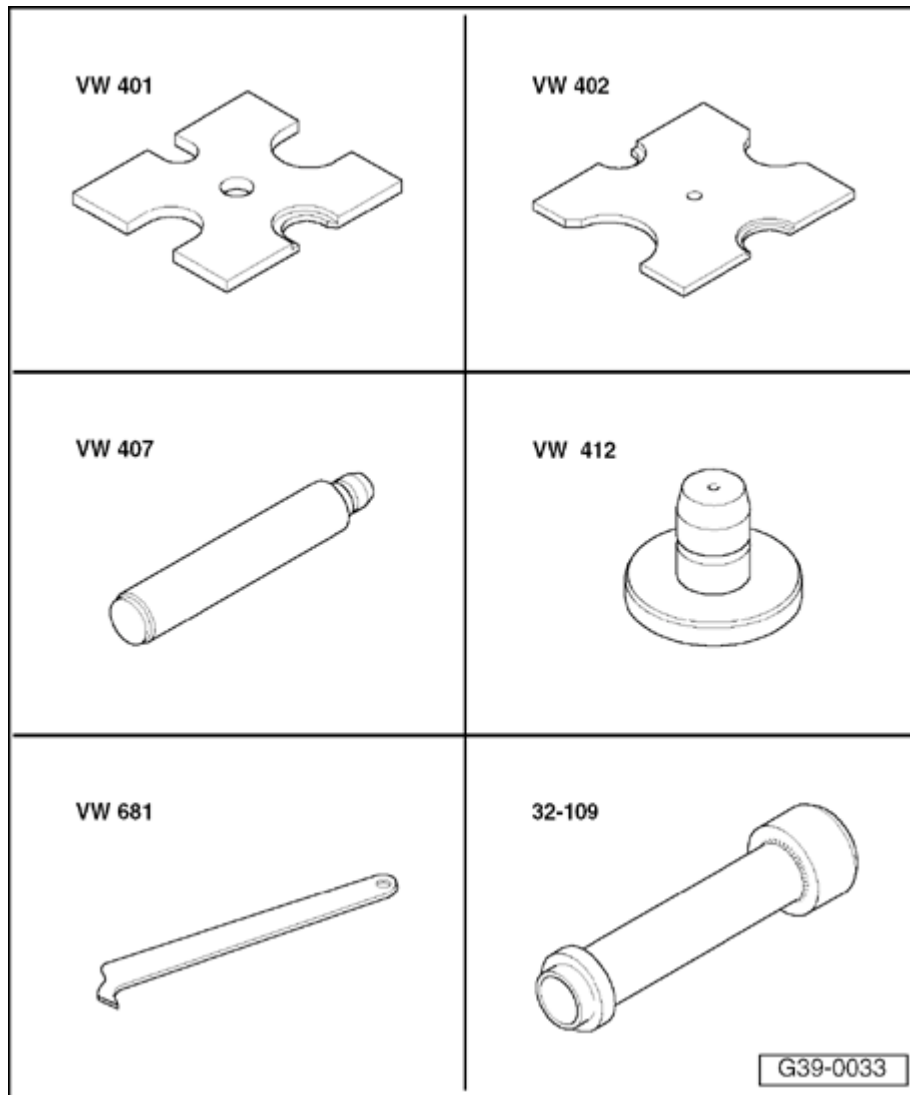
⇒ [Repair Manual, Suspension, Wheels, Steering, Repair Group 40; Drive axle, removing and installing](#)

- Install heat shield for right drive axle.
- Checking oil level in front final drive ⇒ [page 39-1](#) .

### Tightening torques

Component	Nm
Drive flange to transmission	23
Drive axle to drive flange M10	77
Driveshaft to drive flange M8	39
Heat shield for driveshaft to transmission	23



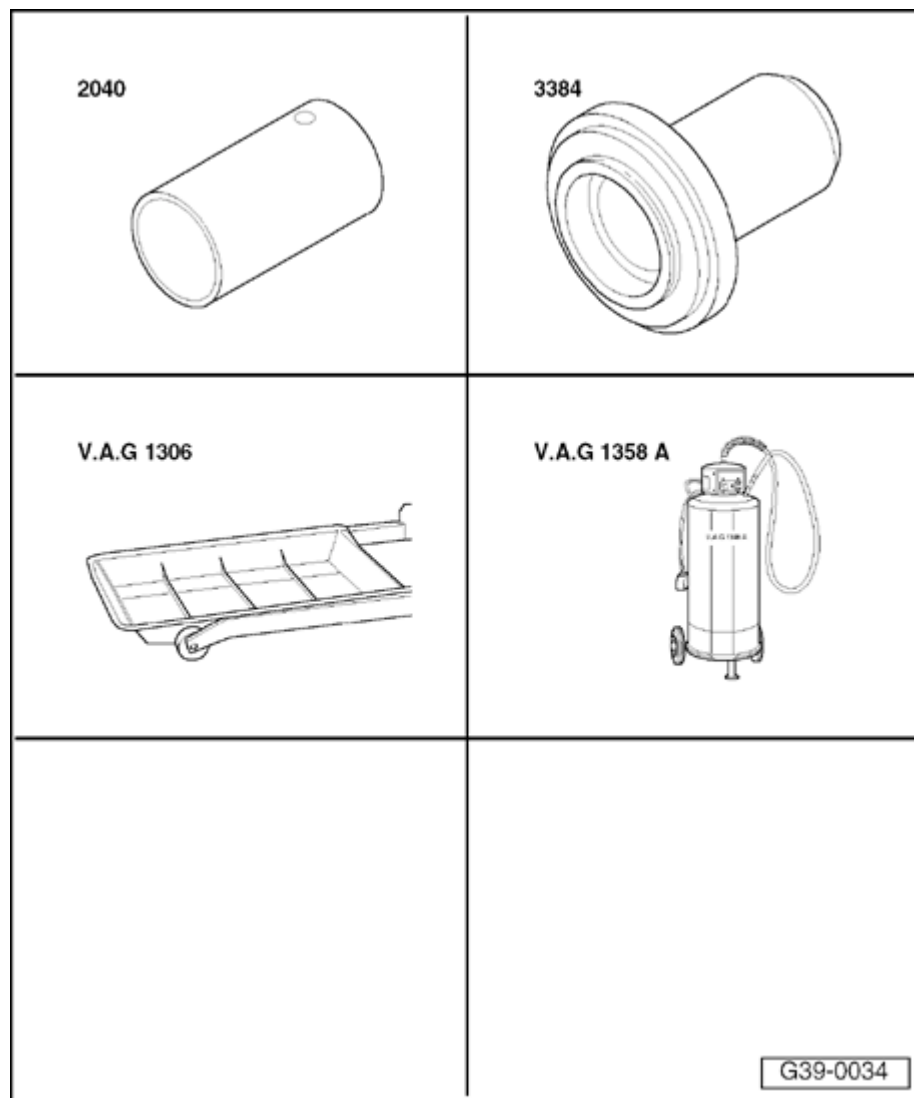


## Seal and grooved ball bearing for left drive flange, replacing

### Special Tools and equipment

- ◆ VW401 thrust plate
- ◆ VW402 thrust plate
- ◆ VW407 punch
- ◆ VW412 punch
- ◆ VW681 extractor lever
- ◆ 32-109 driving sleeve

39-14



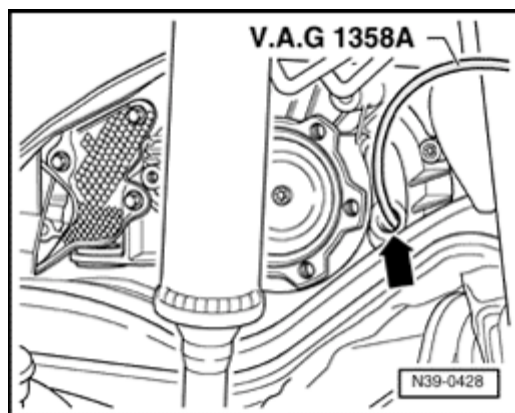
- ◆ 2040 press tube
- ◆ 3384 assembly mandrel
- ◆ VAG1306 drip tray
- ◆ VAG1358A - oil siphoning unit

### Remove left drive flange

- Loosen bolt drive axle/wheel hub while the vehicle is still standing on its wheels.
- Remove wheel.
- Removing left drive axle:

⇒ [Repair Manual, Suspension, Wheels, Steering, Repair Group 40; Drive axle, removing and installing](#)

- Place VAG1306 drip tray underneath.



A

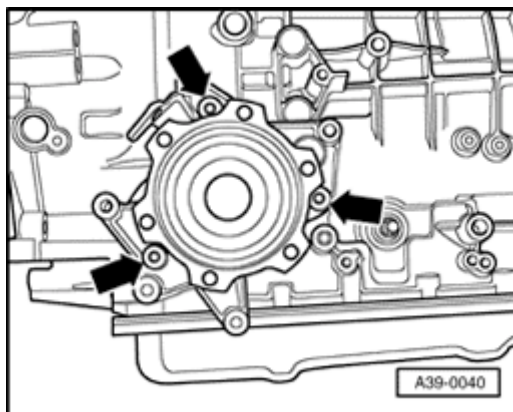
- Remove oil filler plug (arrow) and syphon off at least 0.5 L gear oil from final drive using VAG1358A.

#### Note:

*Oil must be syphoned from final drive, otherwise there is a risk that the gear oil could mix with the ATF.*

- Remove heat shield for left drive axle.
- Remove Speedometer Vehicle Speed Sensor (VSS) ⇒ [page 38-35](#) .
- Remove harness connector bracket from mounting bracket for drive

flange.

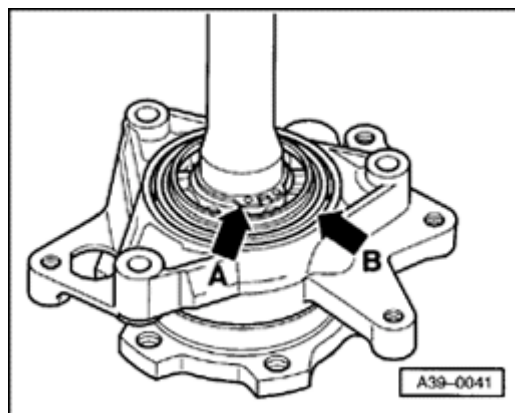
**A**

- Remove drive flange mounting bracket (arrows).
- Pull out drive flange.

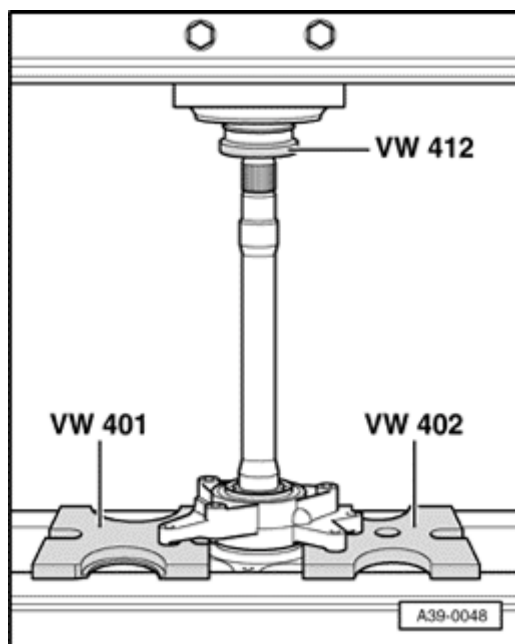
**Note:**

*The left drive flange can be pulled out between body and subframe with the transmission installed if the drive flange mounting bracket is turned approx. 60° to the right against the installed position.*

### Removing seal



- A**
- Remove circlip for grooved ball bearing (arrow A).

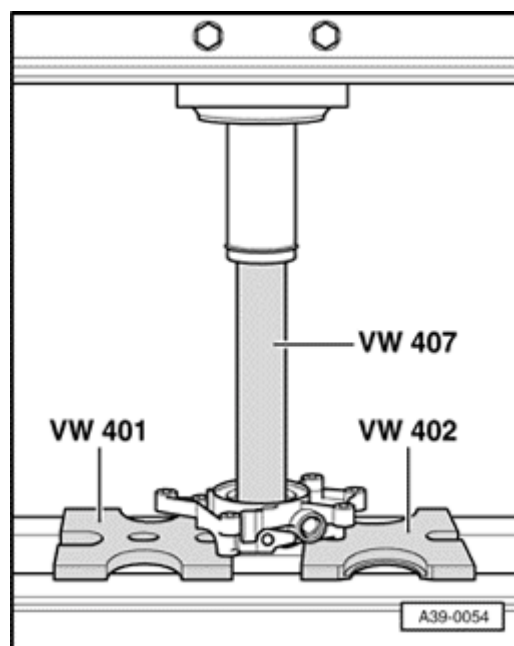


- A**
- Press drive flange out of drive flange mounting bracket.
  - Remove drive flange seal using VW681 extractor lever.

### Removing grooved ball bearing



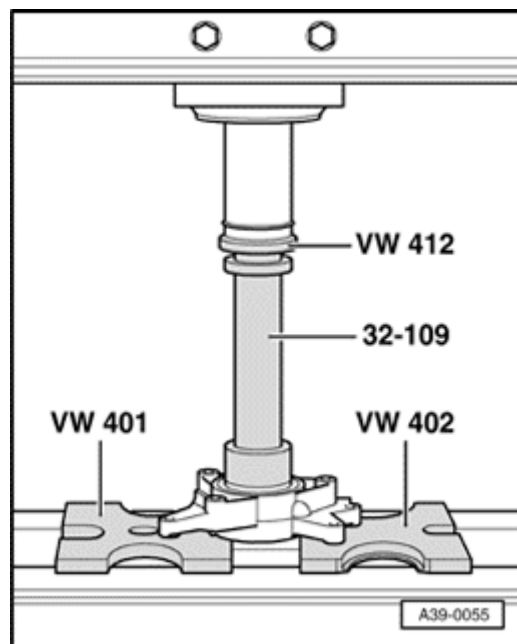
- Press grooved ball bearing out of mounting bracket.



### Installing grooved ball bearing

A

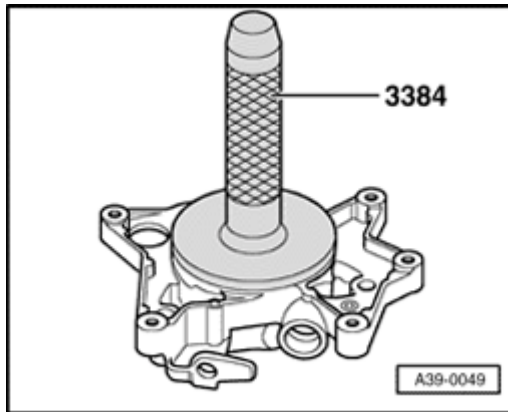
- Press new grooved ball bearing into mounting bracket.





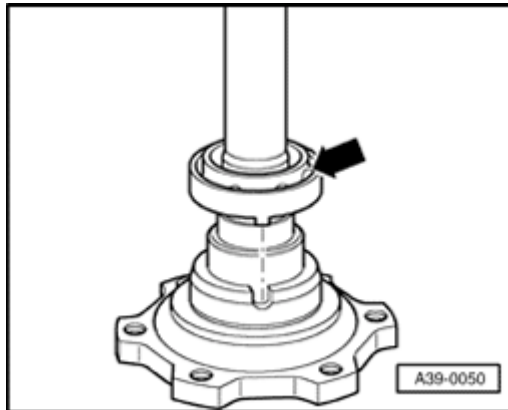
### Installing seal

- Coat outer edge and sealing lip of oil seal with gear oil.



A

- Drive in new seal to stop, without canting.
  - ◆ Installation position: The open side of the seal faces the transmission.



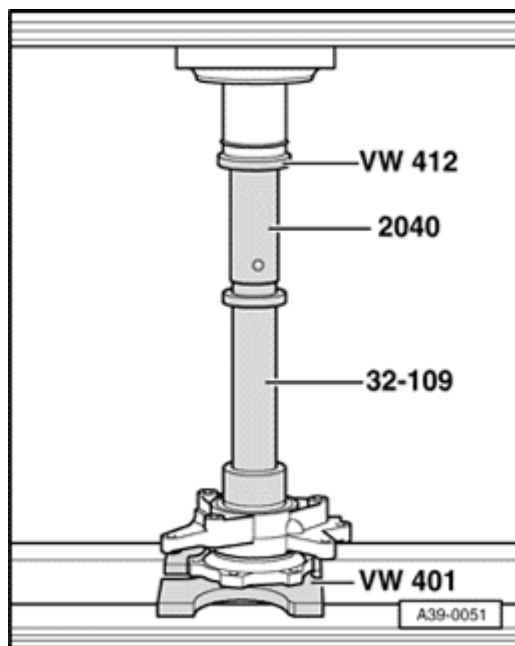
A

- Set Speedometer Vehicle Speed Sensor (VSS) -G22- on drive flange (arrow).
  - ◆ Installation position: The carriers at drive wheel must engage in grooves of drive flange

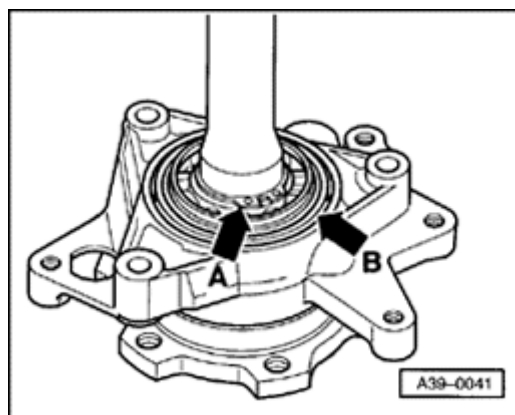
#### **Note:**

*If necessary, coat contact surface with grease to affix drive wheel in installation position.*

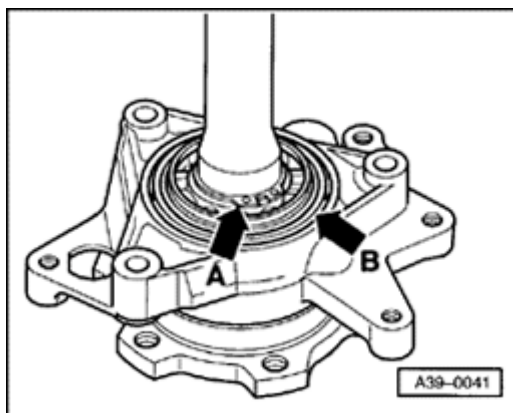
39-21



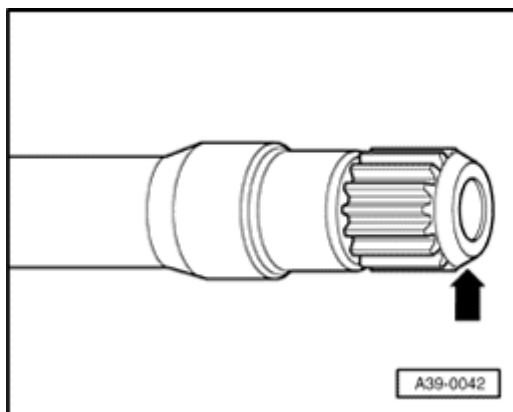
- A** - Press mounting bracket with grooved ball bearing onto drive flange.



- A** - Insert circlip (arrow A).



- A**
- Replace O-ring (arrow B) in drive flange mounting bracket.



- A**
- Check drive flange for sharp edges on transmission side of flange end and if necessary, deburr.
  - Insert left drive flange into transmission.

**Note:**

*When sliding in, left drive flange must be carefully guided by hand to prevent damage to the double seal in transmission.*

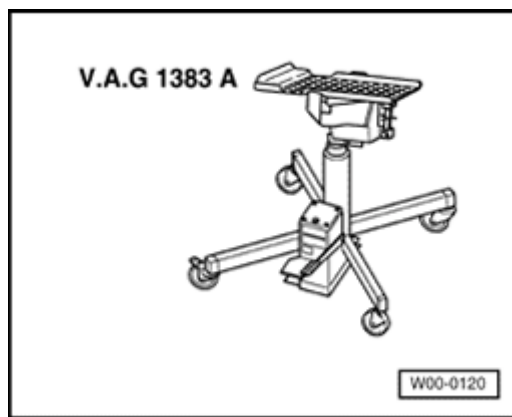
- Install drive axle.

⇒ [Repair Manual, Suspension, Wheels, Steering, Repair Group 40; Drive axle, removing and installing](#)

- Install heat shield for left drive axle.
- Checking oil level in front final drive ⇒ [page 39-1](#) .

**Tightening torques**

<b>Component</b>	<b>Nm</b>
Mounting bracket for left drive flange at transmission	23
Drive axle to drive flange M10	77
Driveshaft to drive flange M8	39
Heat shield for driveshaft to transmission	23



## Seal for front final drive, replacing

### Special tools and equipment

- ▲ ♦ VAG1383A engine/transmission hoist

### Removing

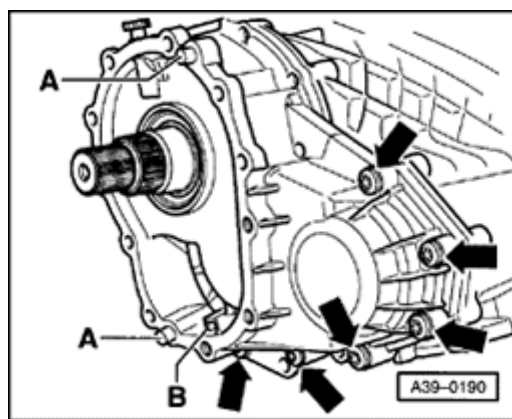
- Remove right front exhaust pipe:

⇒ *Repair Manual, Engine Mechanical, Repair Group 26; removing and installing exhaust system.*

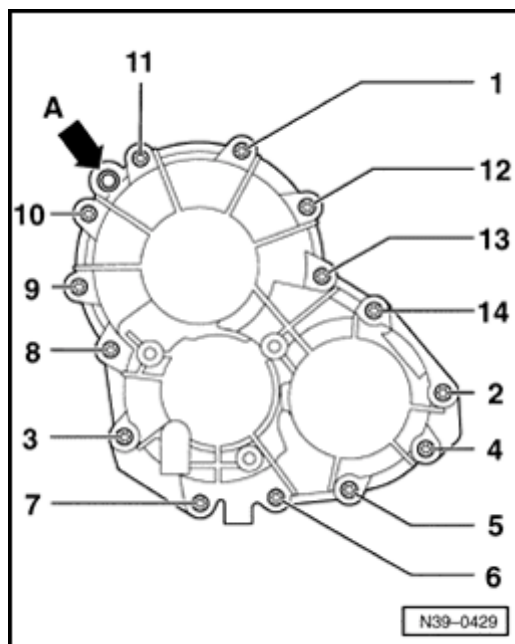
- Remove heat shield for selector lever cable.

### All Wheel Drive (AWD) vehicles:

- Remove center differential ⇒ [page 39-56](#) .



- ▲ - Remove bolts (arrows) at intermediate flange for front final drive.



### Front Wheel Drive (FWD) vehicles:

- Remove bolts at cover for front final drive opposite of shown tightening sequence.
- Place VAG1383A engine/gearbox jack with universal mount underneath.

### **WARNING!**

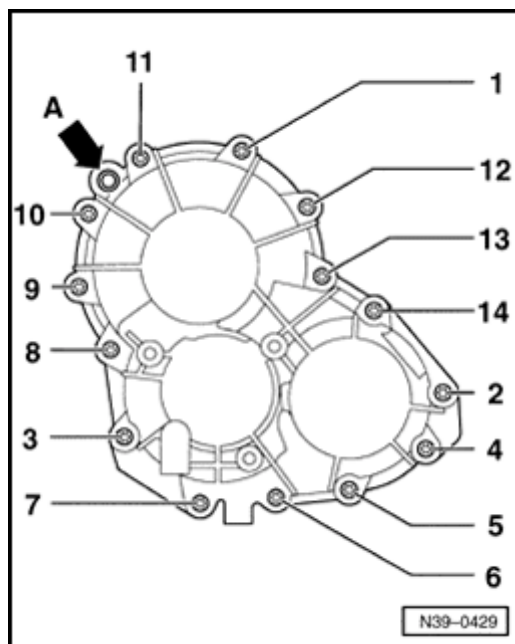
- ◆ **Slowly and carefully remove cover for front final drive from transmission housing. The spur gears can otherwise fall out of the transmission.**
- ◆ **Do not reinstall spur gears that have fallen to the ground. The transmission must be swapped in this case.**

### All:

- Lift off cover i.e. intermediate flange for front final drive.

### Notes:

- ◆ *Do not remove spur gears for front final drive. Secure spur gears so they do not fall out.*
- ◆ *If the spur gears for front final drive were removed, the wheel marking must face outward (away from transmission) for re installation.*



### Installing

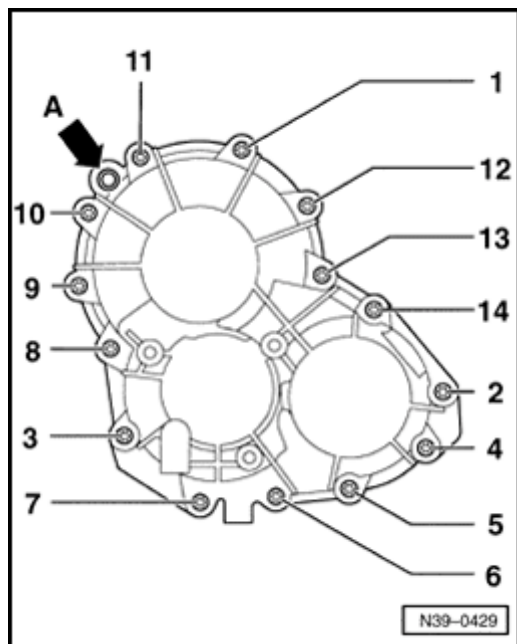
A

- Make sure centering sleeve -A- is correctly seated before installing.
- Install gasket
- Set on cover i.e. intermediate flange for front final drive.

### All Wheel Drive (AWD) vehicles:

#### **Note:**

*If installing the intermediate flange to the output shaft carelessly, the sealing lips of the seal can be damaged.*



**All:**

⚡ Tightening sequence:

- ◆ 1. Stage: Tighten bolts 1 to 3 by hand

**Note:**

*When tightening bolts by hand, make sure the housing gap between cover and transmission housing decreases evenly around circumference.*

- ◆ 2. Stage: Tighten bolts 1 to 14 in mentioned sequence to tightening torque.

- Check ATF level and top off ⇒ [page 37-133](#) .

**All Wheel Drive (AWD) vehicles:**

- Install center differential ⇒ [page 39-58](#) .

**Tightening torques**

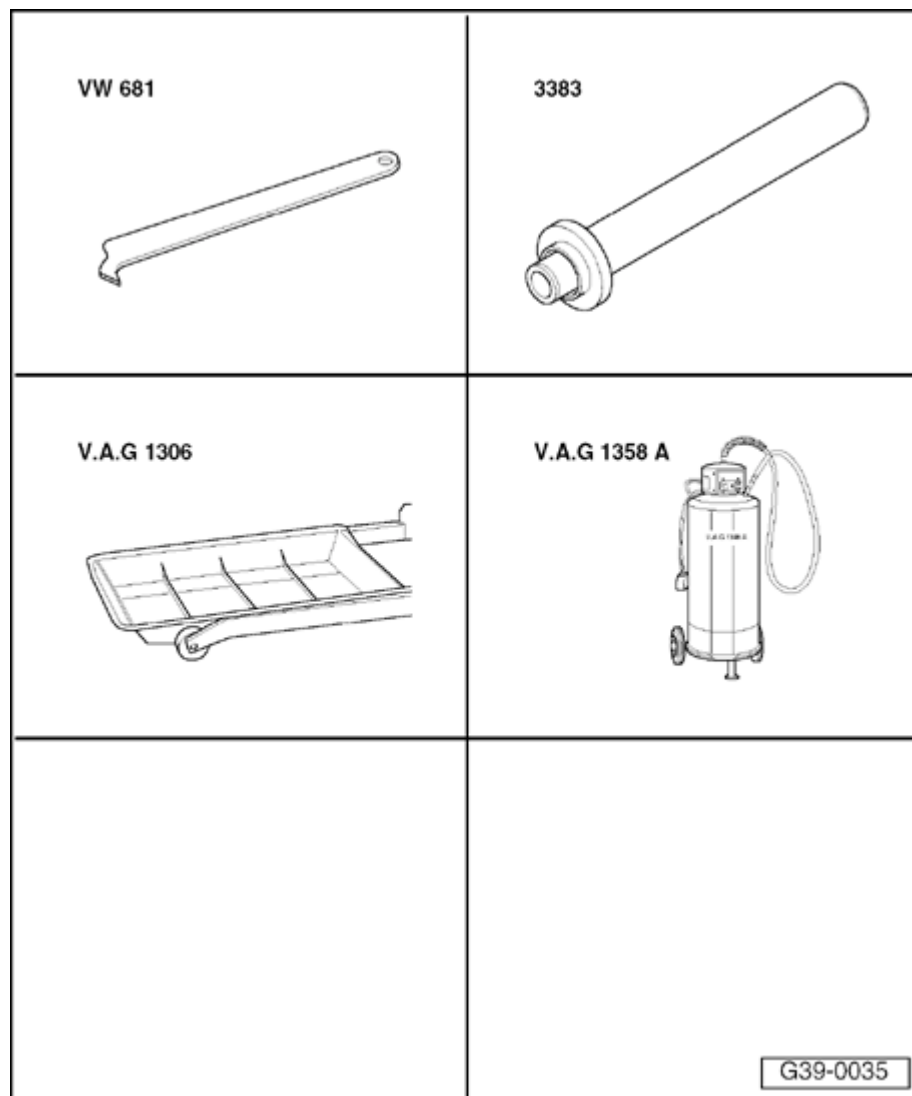
Component	Nm
Cover for front final drive to transmission housing	23
Intermediate flange for front final drive to transmission housing	23



Center differential to transmission housing
---

23
----

39-28



## Final drive to transmission housing seal, replacing

### Special Tools and equipment

- ◆ VW681 extractor lever
- ◆ 3383 double seal installer
- ◆ VAG1306 drip tray
- ◆ VAG1358A - oil siphoning unit

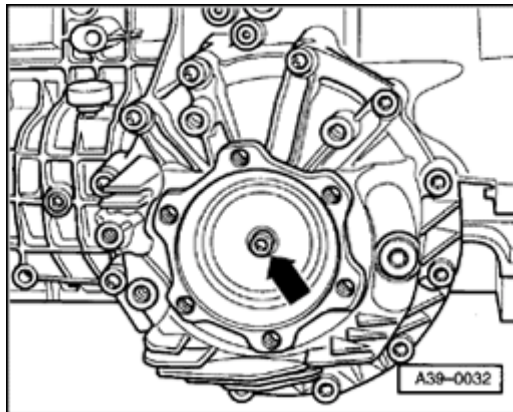
**Notes:**

- ◆ *A faulty seal lets ATF or gear oil escape into the converter housing via the center vent of the shaft seal (between the two sealing lips).*
- ◆ *In addition, a faulty seal can let ATF escape into the center differential. It over-fills and oil escapes at the differential vent.*

**Removing**

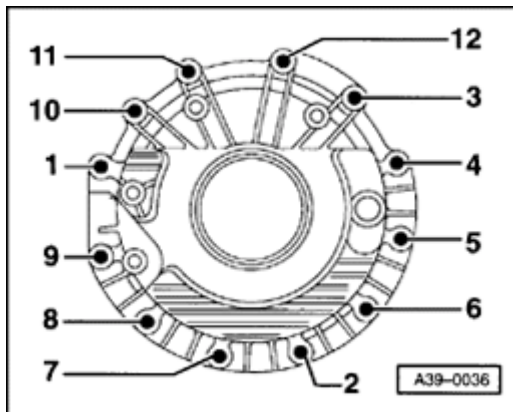
- Loosen bolt drive axle/wheel hub while the vehicle is still standing on its wheels.
- Remove front wheels.
- Remove heat shield for right drive axle.
- Remove drive axles:

⇒ [Repair Manual, Suspension, Wheels, Steering, Repair Group 40; Drive axle, removing and installing](#)



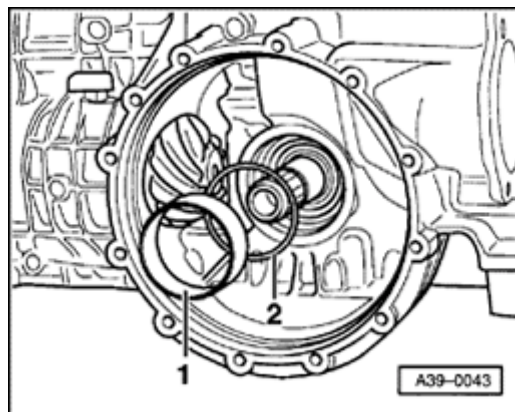
A

- Remove bolt for flange shaft (arrow) while securing against turning using a drift.
- Using VAG1358A oil siphoning unit, siphon gear oil from the final drive.
- Place VAG1306 drip tray underneath.
- Remove right drive flange.
- Remove right transmission support ⇒ [page 37-125](#) .



A

- Remove bolts for final drive cover opposite of shown tightening sequence and remove cover.
- Pull out differential and remove.

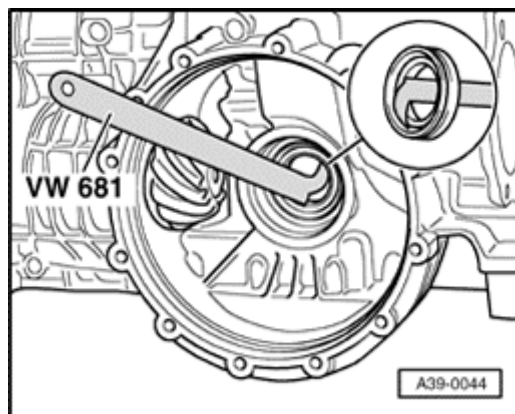


- A**
- Remove tapered roller bearing outer race of differential -1- and shim -2- which is behind it from transmission housing by hand.

**Note:**

*Shim is pre-determined and must not be exchanged for a shim with another thickness.*

- Remove left drive flange ⇒ [page 39-13](#) .



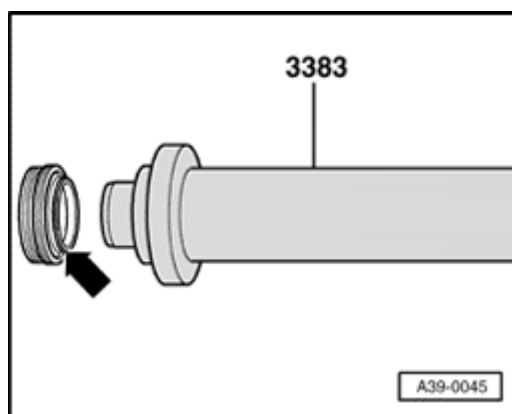
- A**
- Pull out seal.

**Note:**

*Extractor lever must be positioned behind both sealing lips of the seal. Do not position at outer circumference of seal, otherwise the contact surface in transmission housing will be damaged. When levering out, carefully guide extractor lever.*

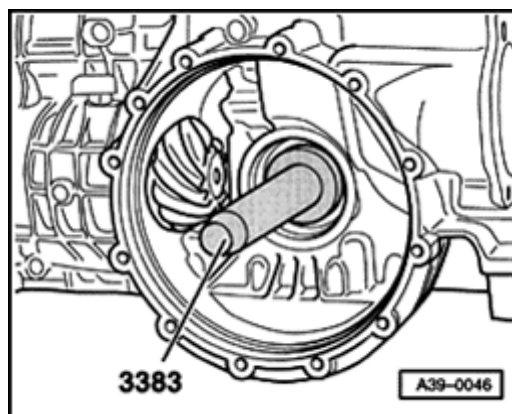
## Installing

- Check seal seat in transmission housing for damage; rework if necessary.
- Coat outer circumference and sealing lip of seal with ATF.



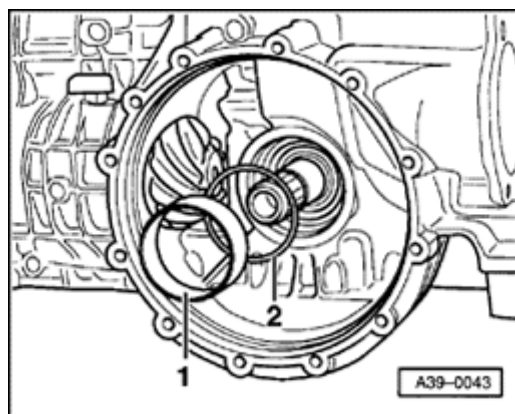
A

- Slide seal onto 3383 double seal installer so that the projecting sealing lip (arrow) of seal faces tool.



A

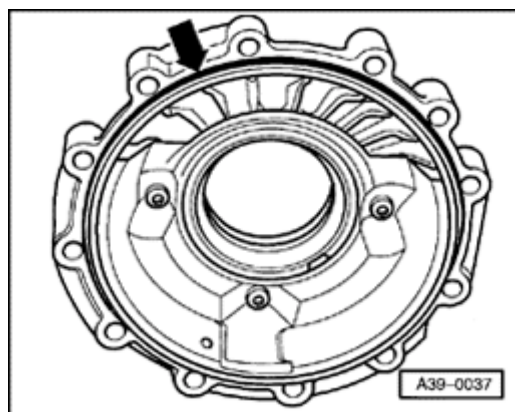
- Drive in new seal to stop.



- Install left drive flange ⇒ [page 39-22](#) .

A

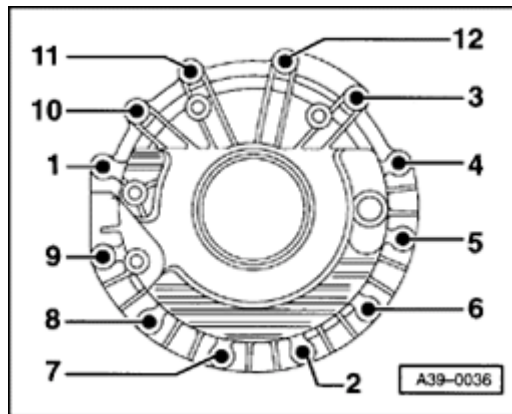
- Insert adjustment shim -2- and tapered roller bearing outer race for differential -1- into transmission housing up to stop by hand.



A

- Replace O-ring (arrow).

- Insert differential into transmission housing.



A

- Install cover for final drive.

Tightening sequence:

- ◆ 1. Stage: Tighten bolts 1 to 3 by hand
- ◆ 2. Stage: Tighten bolts 1 to 12 in mentioned sequence to tightening torque.

- Install right drive flange.

- Install right transmission support ⇒ [page 37-125](#) .

- Installing drive axles:

⇒ [Repair Manual, Suspension, Wheels, Steering, Repair Group 40; Drive axle, removing and installing](#)

- Top-up and check gear oil in front final drive ⇒ [page 39-1](#) .



**Tightening torques**

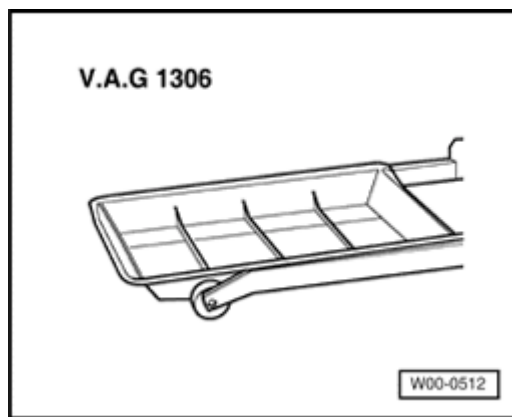
<b>Component</b>	<b>Nm</b>
Cover for front final drive to transmission housing	23
Mounting bracket for left drive flange at transmission	23
Drive flange to transmission	23
Drive axle to drive flange M10	77
Driveshaft to drive flange M8	39
Heat shield for driveshaft to transmission	23

## O-ring at cover for final drive, replacing

### Special tools and equipment



- ◆ VAG1306 drip tray



### Removing

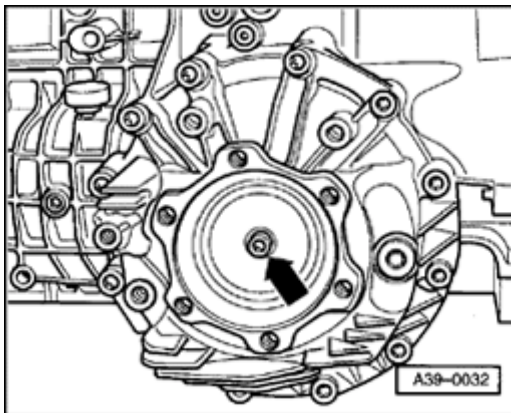
- Loosen bolt drive axle/wheel hub while the vehicle is still standing on its wheels.
- Remove right wheel.
- Remove heat shield for right drive axle.
- Remove right front exhaust pipe:

⇒ *Repair Manual, Engine Mechanical, Repair Group 26; removing and installing exhaust system.*

- Remove right drive axle:

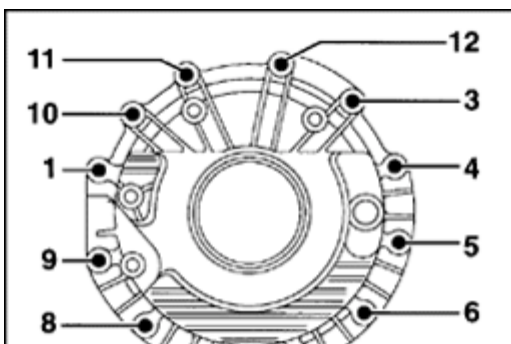
⇒ [Repair Manual, Suspension, Wheels, Steering, Repair Group 40; Drive axle, removing and installing](#)

- Remove right transmission support ⇒ [page 37-125](#).



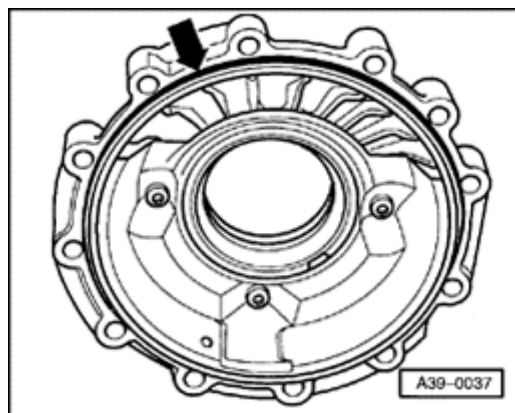
A

- Remove bolt for flange shaft (arrow) while securing against turning using a drift.
- Place VAG1306 drip tray underneath.
- Remove right drive flange.



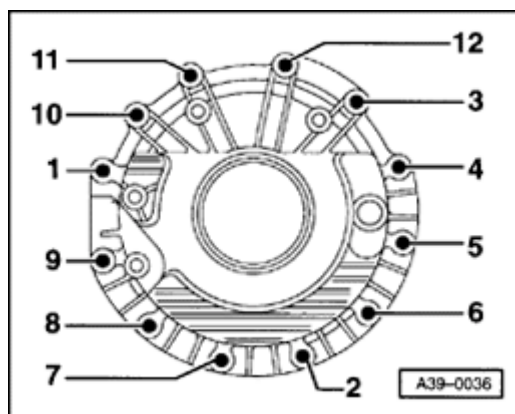
A

- Remove bolts for final drive cover opposite of shown tightening sequence and remove cover.



A

- Replace O-ring (arrow).



A

- Install cover for final drive.

Tightening sequence:

- ◆ 1. Stage: Tighten bolts 1 to 3 by hand
  - ◆ 2. Stage: Tighten bolts 1 to 12 in mentioned sequence to tightening torque.
- Install right drive flange.

- Install right transmission support ⇒ [page 37-125](#) .

- Install drive axle.

⇒ [Repair Manual, Suspension, Wheels, Steering, Repair Group 40; Drive axle, removing and installing](#)

- Top-up and check gear oil in front final drive ⇒ [page 39-1](#) .

### Tightening torques

Component	Nm
Cover for front final drive to transmission housing	23
Drive flange to transmission	23
Heat shield for driveshaft to transmission	23