

Power Steering Pump, 10-Cylinder, Removing and Installing

Power steering pump, assembly overview:

NOTE:

- Always replace seals.
- Do not reuse fluid you have drained.
- Only use *hydraulic oil*.
- When replacing the power steering pump, replace its seal and O-ring --> Power Steering Pump Gasket and O-Ring, 8-Cylinder FSI, Replacing.

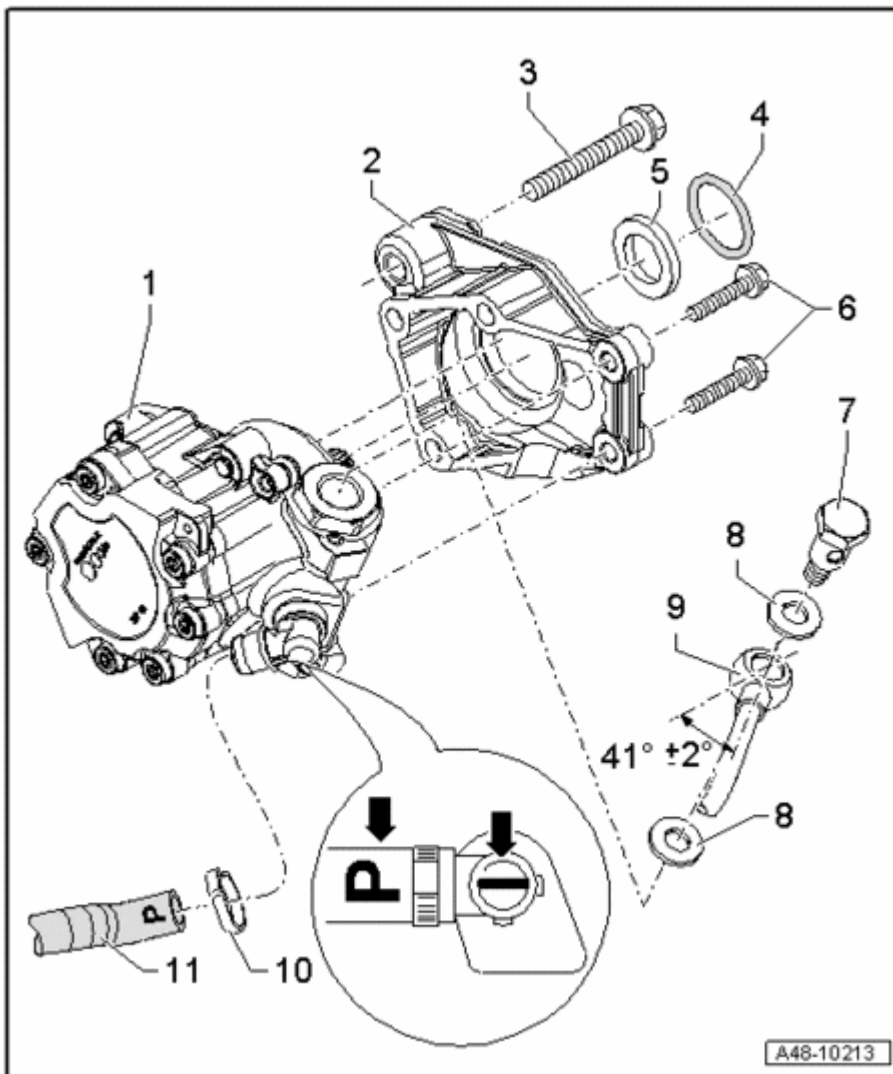


Fig. 768: Power Steering Pump, Assembly Overview
 Courtesy of VOLKSWAGEN UNITED STATES, INC.

1 - Vane Pump

2007 Audi S8 Quattro

SUSPENSION Suspension, Wheels and Steering - A8 & S8

- Fill with *hydraulic oil* before installation
- Checking delivery pressure --> **Power Steering Pump, 10-Cylinder, Checking Delivery Pressure**
- Removing and installing --> **Vane pump, removing and installing:**

2 - Bracket

3 - Bolt, 65 Nm

- Transmission/engine/bracket/power steering pump mounting bolt

4 - O-Ring

- Replace --> **Power Steering Pump Gasket and O-Ring, 10-Cylinder, Replacing**

5 - Radial shaft seal

- Replace --> **Power Steering Pump Gasket and O-Ring, 10-Cylinder, Replacing**

6 - Bolt, 22 Nm

7 - Banjo bolt, 50 Nm

8 - Seal

- Always replace

9 - Pressurized line

- Note installation position: Angle between line connection and pump axle is approximately 41

10 - Clamp

- Tension with hose clamp pliers V.A.G 1275 or locking pliers VAS 6199
- Always replace

11 - Intake hose

- The - **P** - marking on the intake hose must align with the seam on the power steering pump

Vane pump, removing and installing:

Removing

Special tools, testers and auxiliary items required

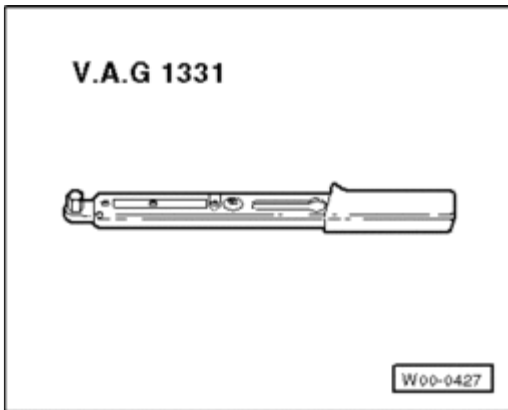


Fig. 769: Torque Wrench V.A.G 1331
Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Torque wrench V.A.G 1331

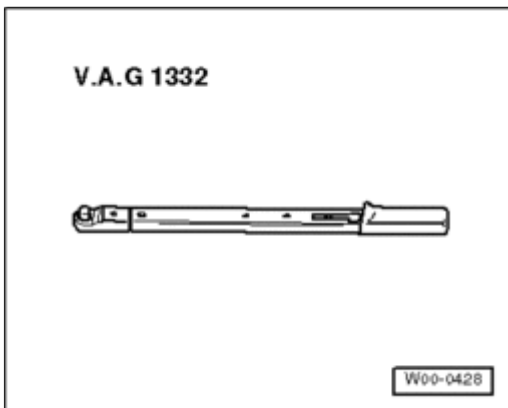


Fig. 770: Torque Wrench V.A.G. 1332
Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Torque wrench V.A.G 1332

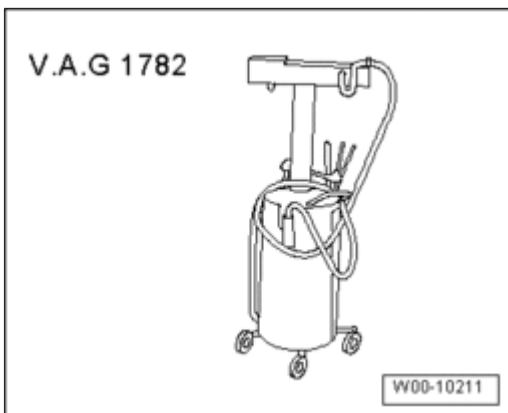


Fig. 771: Identifying Old Oil Collecting And Extracting Device V.A.G 1782
Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Used Oil Collection and Extraction Device V.A.G 1782

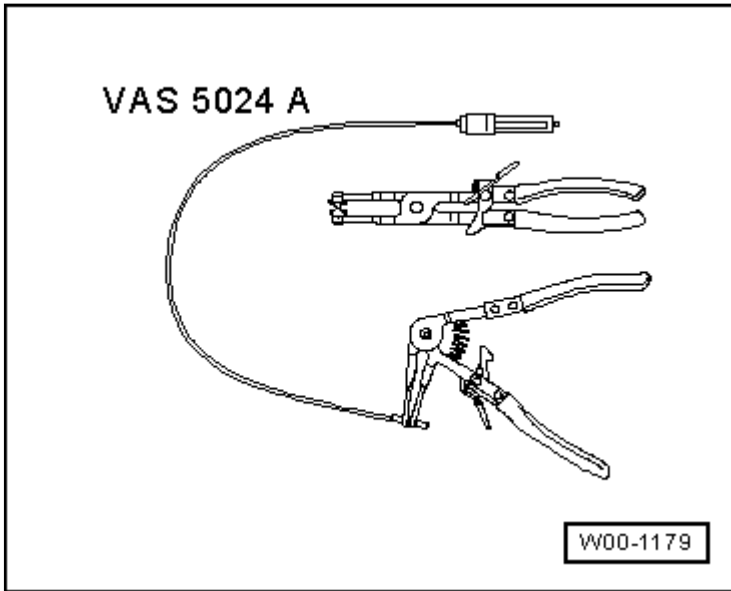


Fig. 772: Spring Type Clip Pliers VAS 5024 A
Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Spring type clip pliers VAS 5024 A

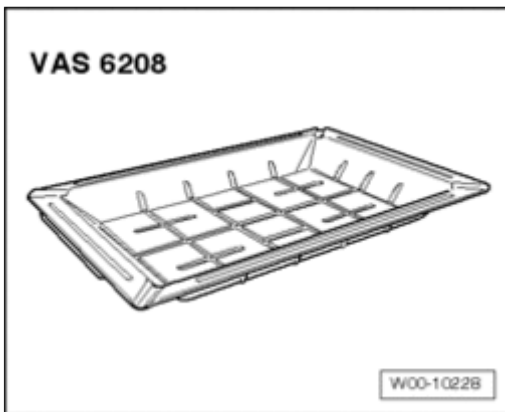


Fig. 773: Shop Crane Drip Tray VAS 6208
Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Shop Crane Drip Tray VAS 6208

General Information

Pump is not designed to be serviced. If a customer has reported a problem, determine cause via pressure test and leak test. If there is a malfunction, replace pump.

- If power steering fluid is low in reservoir, check steering system for leaks.

- In case of leaks near line connections, check lines/line connections for proper seal, if necessary tighten and wipe dry.
- Power steering pump is delivered without oil. Therefore, *hydraulic oil* must be filled before installation and turned by hand. Otherwise, noises when driving or damage to power steering pump may occur.
- Replace power steering pump seal and O-ring before installing.
- Place vehicle on hoist --> **Positioning Vehicle on Hoist and Wheels.**
- Extract hydraulic oil from reservoir using old oil collecting and extracting device V.A.G 1782.
- Remove engine --> BFM --> **10 - ENGINE - ASSEMBLY** , BSB --> **10 - ENGINE - ASSEMBLY** , BSM and BVJ --> **10 - ENGINE - ASSEMBLY** .
- Lower the engine with the transmission attached onto the scissor lift table VAS 6131.
- Remove left catalytic converter -->
 - **26 - EXHAUST SYSTEM, EMISSION CONTROLS** for 4.2 LITER V8 4V ENGINE MECHANICAL, ENGINE CODE(S): BVJ
 - **26 - EXHAUST SYSTEM, EMISSION CONTROLS** for 4.2 LITER V8 5V ENGINE MECHANICAL, ENGINE CODE(S): BFM
 - **26 - EXHAUST SYSTEM, EMISSION CONTROLS** for 5.2 LITER 10-CYL. 4V ENGINE MECHANICAL, ENGINE CODE(S): BSM
 - **26 - EXHAUST SYSTEM, EMISSION CONTROLS** for 6.0 LITER 12-CYL. 4V ENGINE MECHANICAL, ENGINE CODE(S): BSB

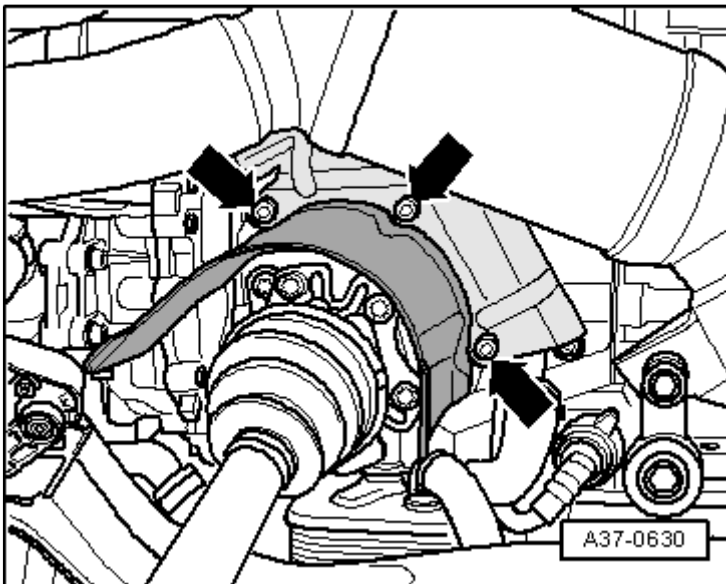


Fig. 774: Removing Heat Shield For Drive Axle
 Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Remove heat shield for left drive axle - **arrows** -.

- Remove left driveshaft from transmission flange.
- Remove left front wheel.
- Place drip tray VAS 6208 underneath to collect the hydraulic oil.

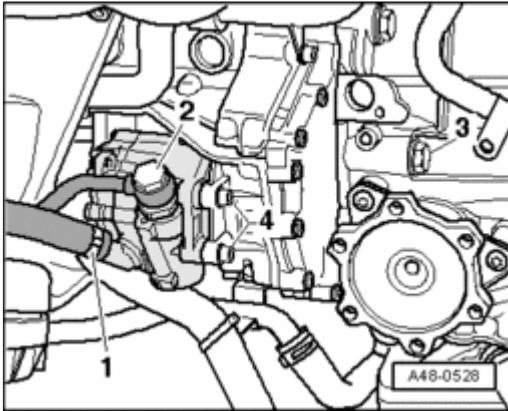


Fig. 775: Clamping Sleeve From Suction Hose & Pressure Line
 Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Remove clamping sleeve from suction hose - **1** -.
- Remove intake hose from pump.
- Unscrew pressure line - **2** - from vane pump.
- Remove bolts - **4** -.
- Remove bolt - **3** -.
- Remove pump.

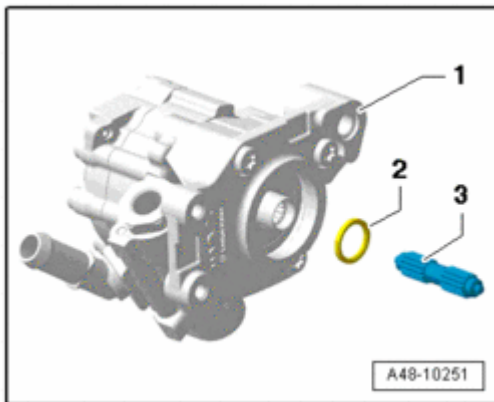


Fig. 776: Power Steering Pump, Seal & Input Shaft
 Courtesy of VOLKSWAGEN UNITED STATES, INC.

- If the power steering pump - **1** - is replaced, the seal - **2** - and input shaft - **3** - must also be replaced.

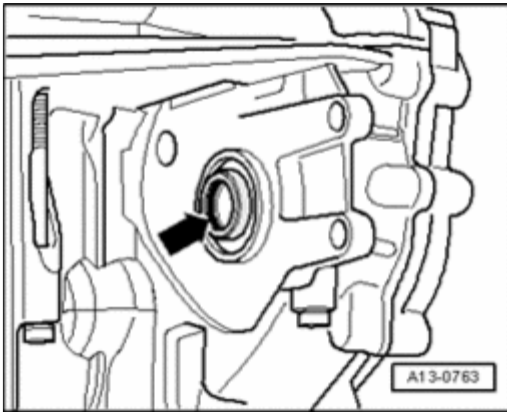


Fig. 777: Power Steering Pump Seal And O-Ring
Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Replace power steering pump seal and O-ring - arrow --> **Power Steering Pump Gasket and O-Ring, 10-Cylinder, Replacing.**

Installing

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

- Replace seals and gaskets.
- Clean oiled places in engine compartment.
- Always replace O-rings on driveshaft of pump and intake line.
- Before installing new power steering pump on intake side, fill hydraulic oil and screw in by hand until oil escapes on pressure side.
- Hose connections and hoses must be free of oil and grease before installing.
- Secure all hose connections with hose clamps appropriate to the model .

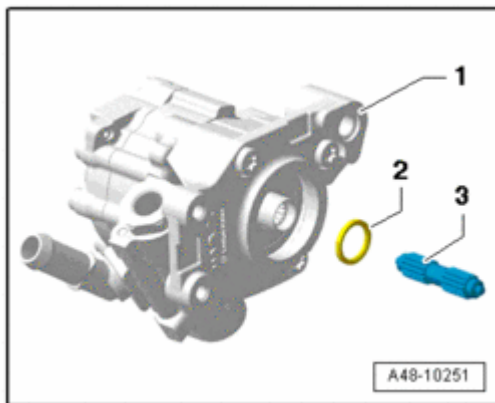


Fig. 778: Power Steering Pump, Seal & Input Shaft
Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Complete pump as shown in illustration and install on engine.

1. Pump
 2. Seal
 3. Input shaft
- Turn hub by hand until oil runs out of the pressure side.

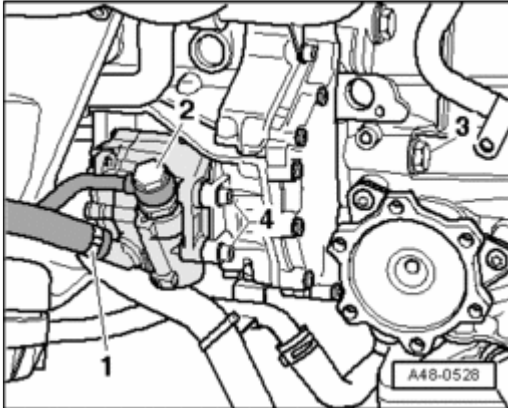


Fig. 779: Clamping Sleeve From Suction Hose & Pressure Line
 Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Install pressure line - 2 - on pump.
- Tighten bolts - 4 -.
- Tighten bolt - 3 -.
- Connect intake hose - 1 - to pump and secure with clamp.
- Top off *hydraulic oil* .

Suction Hose, Location on Power Steering Pump --> **Suction Hoses to Power Steering Pump and Reservoir, 10-Cylinder, Installation Location**

- Clean oily areas on subframe.
- Install drive axle --> **Driveshaft, Removing and Installing.**
- Install left catalytic converter -->
 - **26 - EXHAUST SYSTEM, EMISSION CONTROLS** for 4.2 LITER V8 4V ENGINE MECHANICAL, ENGINE CODE(S): BVJ
 - **26 - EXHAUST SYSTEM, EMISSION CONTROLS** for 4.2 LITER V8 5V ENGINE MECHANICAL, ENGINE CODE(S): BFM
 - **26 - EXHAUST SYSTEM, EMISSION CONTROLS** for 5.2 LITER 10-CYL. 4V ENGINE MECHANICAL, ENGINE CODE(S): BSM
 - **26 - EXHAUST SYSTEM, EMISSION CONTROLS** for 6.0 LITER 12-CYL. 4V ENGINE MECHANICAL, ENGINE CODE(S): BSB
- Install engine --> BFM --> **10 - ENGINE - ASSEMBLY** . BSB --> **10 - ENGINE - ASSEMBLY** . BSM

and BVJ --> **10 - ENGINE - ASSEMBLY** .

- Only tighten subframe bolts to specification, do not tighten them further (only tighten the bolts after an alignment).

CAUTION: If vehicle will be driving on the streets, all screws and nuts must be tightened properly!

- Bleed steering system --> **Steering System, Bleeding after Reconstructing.**
- Check power steering fluid level --> **Power Steering, V8, Checking Oil Level.**
- Check steering system for leaks --> **Steering System, Checking for Leaks.**
- Place vehicle on wheels --> **Positioning Vehicle on Hoist and Wheels.**
- Perform vehicle alignment --> **Wheel Alignment.**
- Calibrate the adaptive cruise control --> **Adjustment Procedure Using ACC Setting Device VAS 6190.**

Power Steering Pump Gasket and O-Ring, 10-Cylinder, Replacing

Power Steering Pump Gasket and O-Ring, 10-Cylinder, Replacing

Special tools, testers and auxiliary items required

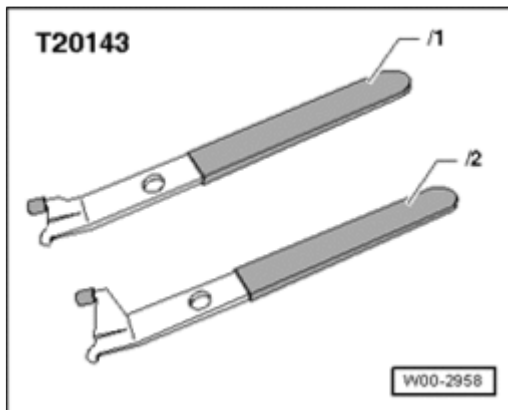


Fig. 780: Pry Lever T20143/1

Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Pry lever T20143/1

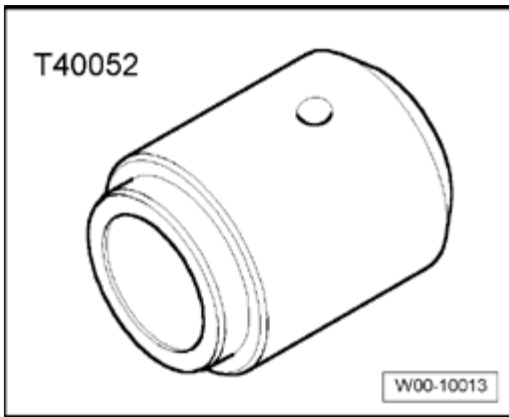


Fig. 781: Assembly Tool T40052
Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Assembly tool T40052

Removing

- Remove power steering pump --> **Power Steering Pump, 10-Cylinder, Removing and Installing.**

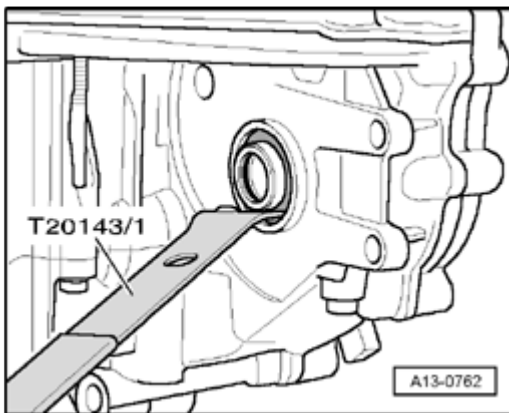


Fig. 782: Prying Seal Out With Pry Lever T20143/1
Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Pry seal out with pry lever T20143/1.

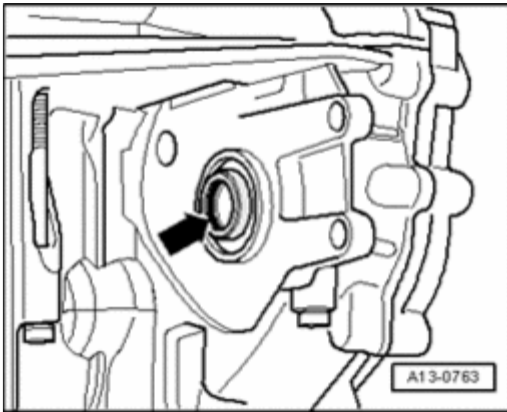


Fig. 783: Power Steering Pump Seal And O-Ring
Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Replace O-ring - 2 - in power steering pump input shaft.

Installing

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

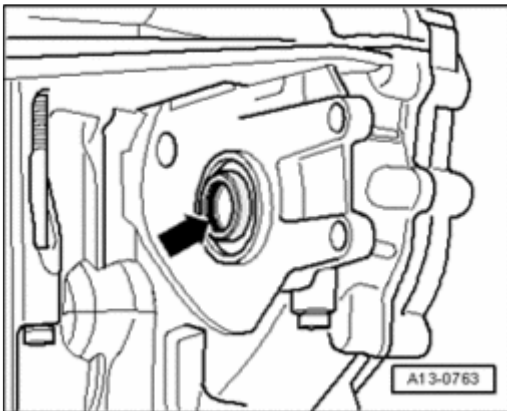


Fig. 784: Power Steering Pump Seal And O-Ring
Courtesy of VOLKSWAGEN UNITED STATES, INC.

- Coat O-ring - **arrow** - lightly with engine oil and insert it in the power steering pump input shaft.