

Rocker Arm Removal & Installation on 2011-2017 Ford 6.7L Diesel Engines

The AERA Technical Committee offers the following information regarding the removal and replacement/installation of rocker arms for 2011-2017 6.7L Ford diesel engines. This information should be considered anytime the cylinder head is being worked on. **NOTE:** Do not disassemble the rocker arm assembly. They are serviced as an assembly only.

Follow the steps listed below to prevent damage on components that may be re-used during assembly. **NOTICE:** Failure to remove the oil spray bar in steps may result in damage to the oil spray bar. The nuts for the oil spray bar are captured nuts and remain on the oil spray bar.

Remove the oil spray bar. Loosen the nuts 2 revolutions at a time in the sequence shown in Figure 1. until the LH oil spray bar can be removed.

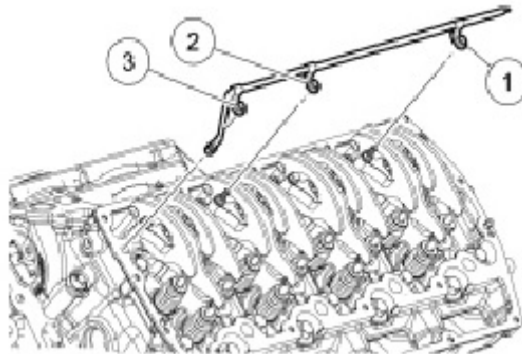


Figure 1. Oil Spray Bar Nut Removal & Installation Sequence

- Inspect the O-ring seal, replace if necessary.
- Mark the location of the rocker arm assemblies prior to removing. Remove the rocker arm assemblies as needed.
- To prevent engine damage, keep the push rods in the order in which they were removed. Install all push rods back in their original positions. Mark the location and remove the push rods.
- Clean and inspect the rocker arm assemblies, replace as needed.
- Apply clean engine oil to each rocker arm pivot ball prior to installing the rocker arm assembly.
- Apply clean engine oil to each push rod socket on the hydraulic lash adjuster prior to installing the rocker arm assembly. Verify that the push rod socket is on the hydraulic lash adjuster prior to installing the rocker arm assembly.
- Install the RH rocker arm assemblies for the right-hand bank, do not tighten.

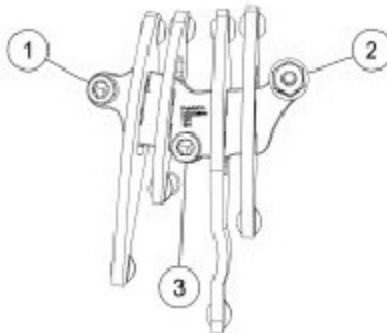


Figure 2. Rocker Arm Assembly Bolt Torque Sequence (Left Shown, Right Similar)

1. Position the crankshaft with the cylinder number No. 1 approximately 155 degrees after Top Dead Center (TDC) by observing the crankshaft pulley dowel pin and clocking it to the 3:40 position (as viewed from the front of the engine).
2. Determine which cylinder is actually in the firing position by observing the push rods for the No. 1 exhaust push rods should be raised .0394" (1.00 MM) and No. 4 exhaust push rods should be raised .0591" (1.50 MM). If the push rods are not in the correct position, rotate the engine one revolution clockwise (360 degrees).
3. Install the rocker arm assemblies as needed for the right-hand cylinder head (cylinder numbers 1, 2, 3 and 4). Tighten in 5 stages, in the sequence shown.
 - Stage 1: Verify that the top of the push rod engages the socket on each rocker arm.
 - Stage 2: Tighten to 35 IN/LBS (4 Nm).
 - Stage 3: Tighten to 71 IN/LBS (8 Nm).
 - Stage 4: Tighten to 115 IN/LBS (13 Nm).
 - Stage 5: Tighten a second time to 115 IN/LBS (13 Nm).
 - Repeat Stage 5, if any fastener moves more than 5 degrees in Stage 5.

NOTICE: Failure to install the oil spray bar in steps may result in damage to the oil spray bar.

Install the right-hand oil spray bar, turn the nuts 2 revolutions at a time in the sequence shown in Figure 1 until the oil spray bar nuts can be tightened. Tighten the nuts in sequence to 89 IN/LBS (11 Nm).

The removal and installation procedure for the left bank is similar but note the following:



1. Rotate the crankshaft with the one revolution clockwise (360 degrees) to 155 degrees after TDC by observing the crankshaft pulley dowel pin and clocking it to the 3:40 position (as viewed from the front of the engine).
2. If installing the LH rocker arm assemblies only, determine which cylinder is actually in the firing position by observing the push rods for the No. 6 exhaust push rods should be raised .0394" (1.00 MM) and No. 7 exhaust push rods should be raised .0591" (1.50 MM). If the push rods are not in the correct position, rotate the engine one revolution clockwise (360 degrees).