

Rocker Arm

Removal

Both sides

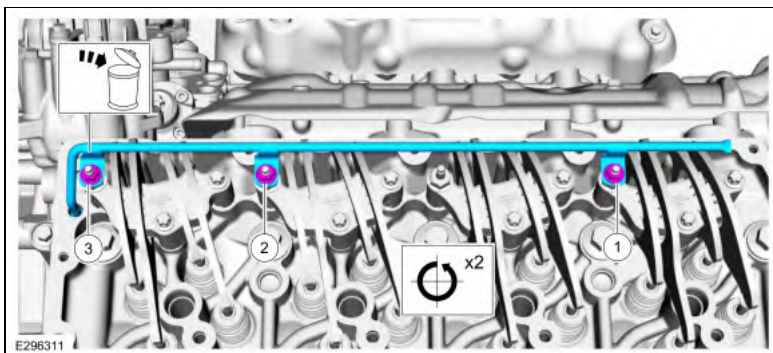
1. Remove the RH valve cover or LH valve cover.
Refer to: Valve Cover LH (303-01B Engine - 6.7L Power Stroke Diesel, Removal and Installation).
Refer to: Valve Cover RH (303-01B Engine - 6.7L Power Stroke Diesel, Removal and Installation).

LH rocker arm

2. **NOTICE:** Failure to remove the oil spray bar in steps may result in damage to the studs.

NOTE: The nuts for the oil spray bar are captured nuts and remain on the oil spray bar.

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

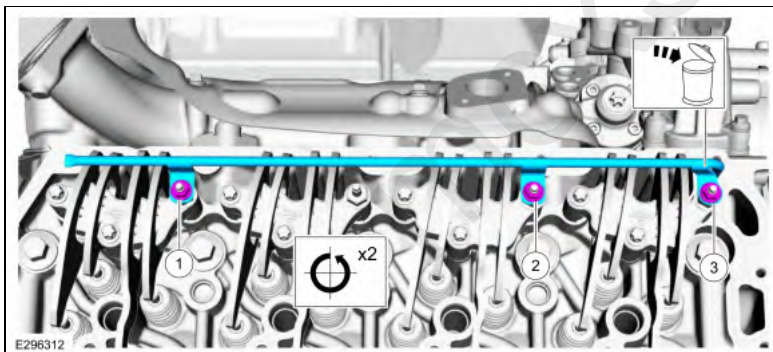


RH rocker arm

3. **NOTICE:** Failure to remove the oil spray bar in steps may result in damage to the studs.

NOTE: The nuts for the oil spray bar are captured nuts and remain on the oil spray bar.

Remove and discard the RH oil spray bar. Loosen the nuts 2 revolutions at a time in the sequence shown until the RH oil spray bar can be removed.



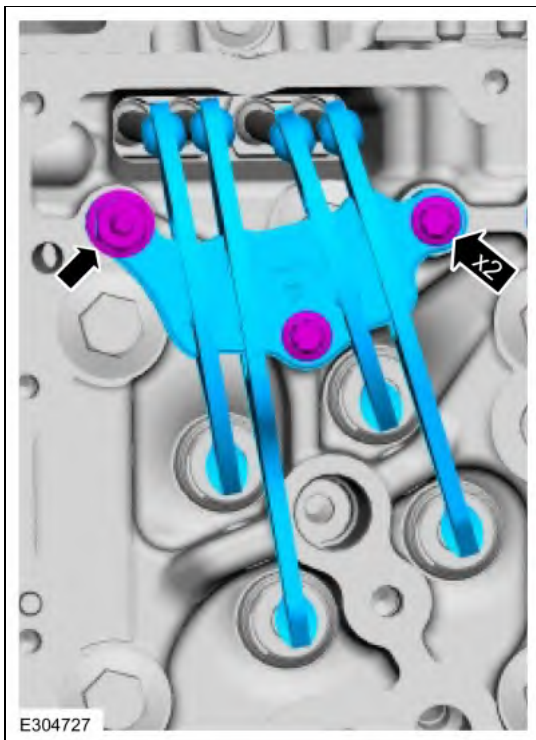
Both sides

4. **NOTE:** Mark the location of the rocker arm assemblies prior to removing.

NOTE: LH side shown, RH similar.

NOTE: Only one cylinder shown.

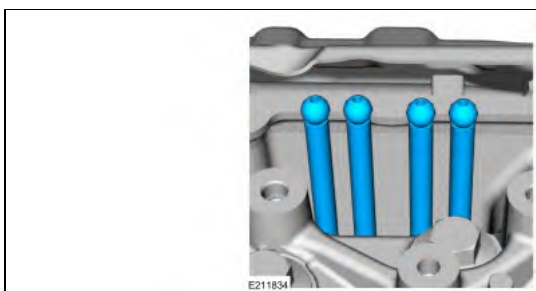
Remove the rocker arm assemblies as needed.



5. **NOTICE:** 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.

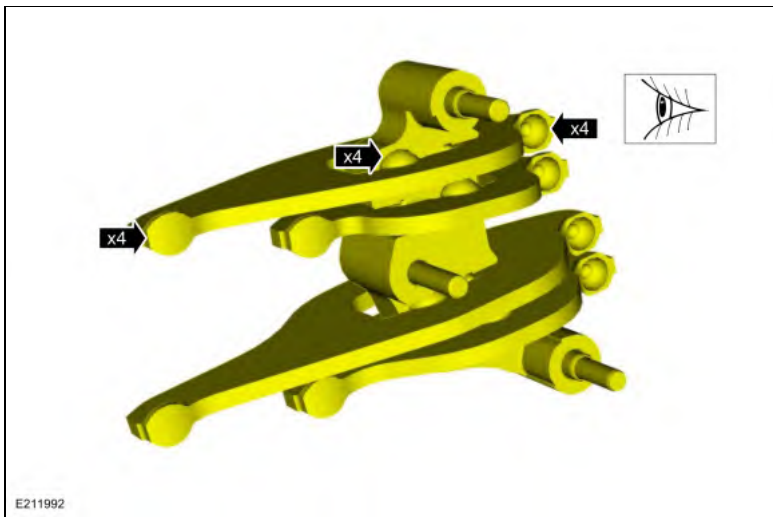
NOTE: Only one cylinder shown.

Mark the location and remove the push rods.

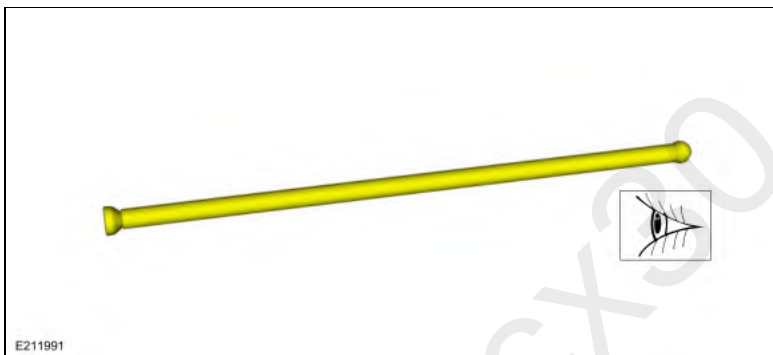


6. **NOTE:** Do not disassemble the rocker arm assembly. They are serviced as an assembly only.

- Looking from the side of the rocker arm assembly, inspect each rocker arm ball for scuffing. Install new rocker arm assemblies as required.
- Inspect each rocker arm pivot foot and cup for pitting and scuffing. Install new rocker arm assemblies as required.



- 7.
- Inspect each push rod for wear and deposits which may restrict the flow of oil into the rocker arm assembly. Install a new push rod as needed.
 - Inspect the ball end of the push rod, if the end does not have a polished look, replace the push rod.



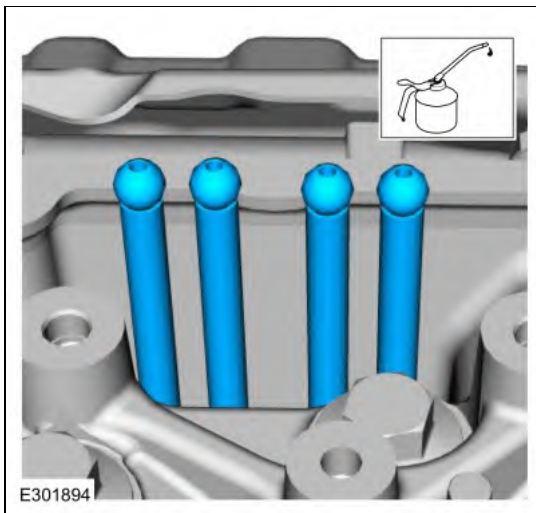
Installation

Both sides

1. **NOTICE:** 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.

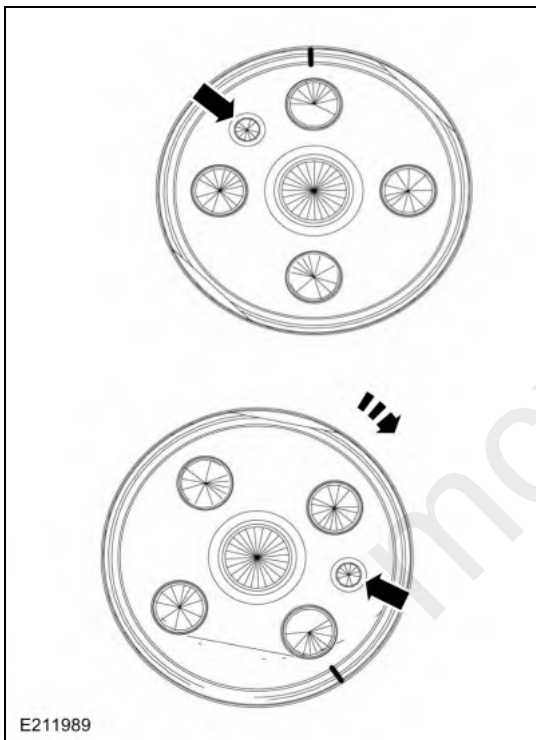
NOTE: Only one cylinder shown.

Apply clean engine oil to the ball end of the push rod. Install the push rods and verify the push rod socket is engaged on the hydraulic lash adjuster.
Refer to: Specifications (303-01B Engine - 6.7L Power Stroke Diesel, Specifications).



RH rocker arm, single assembly

2. Rotate the crankshaft clockwise and position cylinder number No. 1 approximately 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).



3.

- **NOTE:** Verify that the push rod socket is on the hydraulic lash adjuster prior to installing the rocker arm assembly.

Determine which cylinder is actually in the firing position by observing the push rods. No. 1 cylinder exhaust push rods should be raised 1.0 mm (0.039 in) and No. 4 cylinder exhaust push rods should be raised 1.5 mm (0.059 in). If the push rods are not in the correct position, rotate the engine one full revolution clockwise (360 degrees).

- Apply clean engine oil to each rocker arm pivot ball and install the rocker arm assemblies for the RH cylinder head (cylinder numbers 1, 2, 3 and 4). Refer to: Specifications (303-01B Engine - 6.7L Power Stroke Diesel, Specifications).
- Verify that the top of the push rod engages the socket on each rocker arm

Torque:

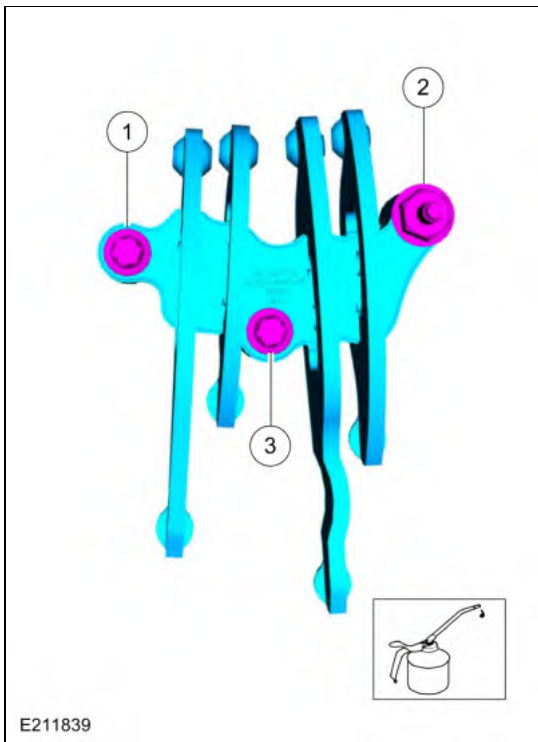
Stage 1: 35 lb.in (4 Nm)

Stage 2: 71 lb.in (8 Nm)

Stage 3: 115 lb.in (13 Nm)

Stage 4: Tighten a second time to : 115 lb.in (13 Nm)

Stage 5: Tighten an additional : 80 Å°



4. Apply clean engine oil on the O-ring seal on the RH oil spray bar.
Refer to: Specifications (303-01B Engine - 6.7L Power Stroke Diesel, Specifications).



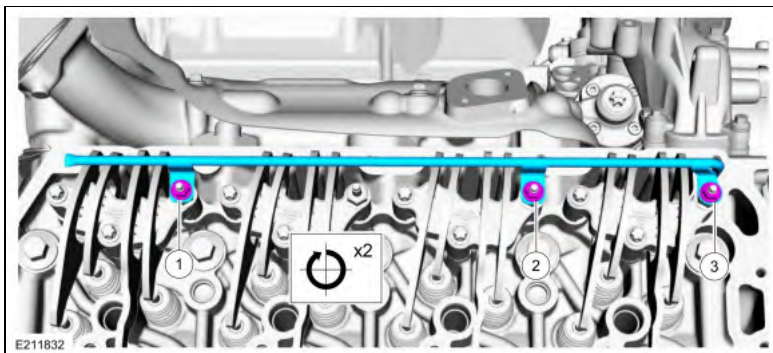
5. **NOTICE:** Failure to install the oil spray bar in steps may result in damage to the oil spray bar.

Install the RH oil spray bar. Turn the nuts 2 revolutions at a time in the sequence shown until the RH oil spray bar nuts can be tightened.

Torque:

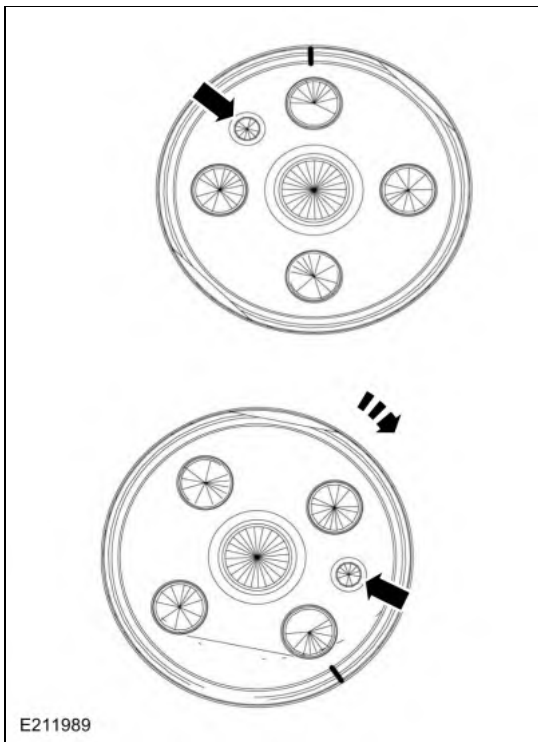
Stage 1: : 106 lb.in (12 Nm)

Stage 2: Tighten a second time to : 106 lb.in (12 Nm)



RH rocker arm, all assemblies

6. Rotate the crankshaft clockwise and position cylinder number No. 1 approximately 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).



7.

- **NOTE:** Verify that the push rod socket is on the hydraulic lash adjuster prior to installing the rocker arm assembly.

Determine which cylinder is actually in the firing position by observing the push rods. No. 1 cylinder exhaust push rods should be raised 1.0 mm (0.039 in) and No. 4 cylinder exhaust push rods should be raised 1.5 mm (0.059 in). If the push rods are not in the correct position, rotate the engine one full revolution clockwise (360 degrees).

- Apply clean engine oil to each rocker arm pivot ball and install the rocker arm assemblies for the RH cylinder head (cylinder numbers 1, 2, 3 and 4). Refer to: Specifications (303-01B Engine - 6.7L Power Stroke Diesel, Specifications).
- Verify that the top of the push rod engages the socket on each rocker arm.

Torque:

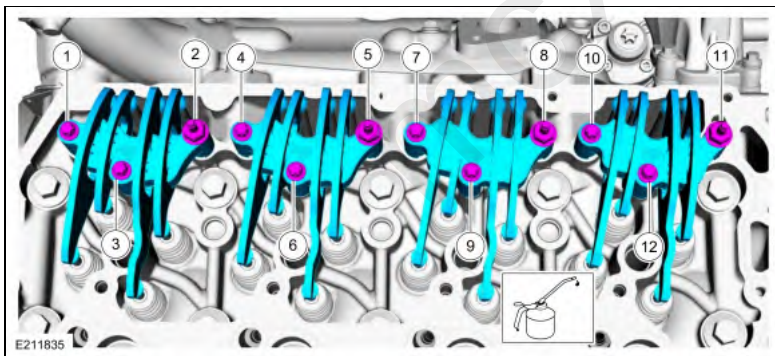
Stage 1: 35 lb.in (4 Nm)

Stage 2: 71 lb.in (8 Nm)

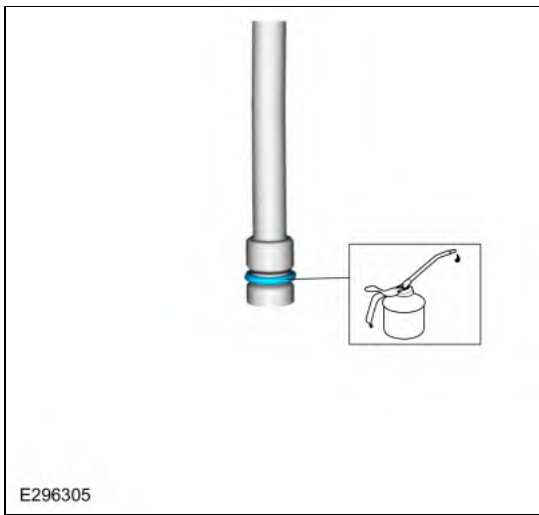
Stage 3: 115 lb.in (13 Nm)

Stage 4: Tighten a second time to : 115 lb.in (13 Nm)

Stage 5: Tighten an additional : 80 Å°



8. Apply clean engine oil on the O-ring seal on the RH oil spray bar.
Refer to: Specifications (303-01B Engine - 6.7L Power Stroke Diesel, Specifications).



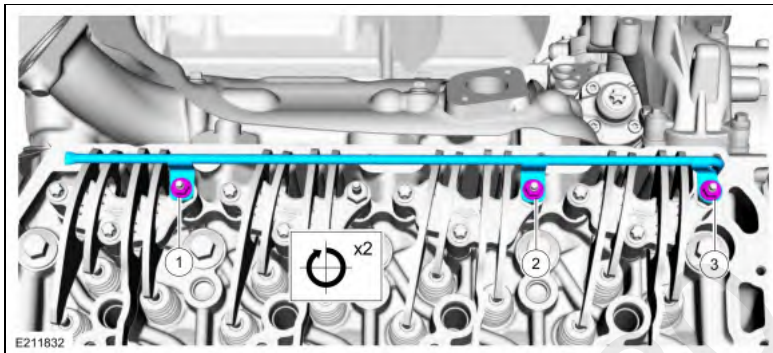
9. **NOTICE:** Failure to install the oil spray bar in steps may result in damage to the oil spray bar.

Install the RH oil spray bar. Turn the nuts 2 revolutions at a time in the sequence shown until the RH oil spray bar nuts can be tightened.

Torque:

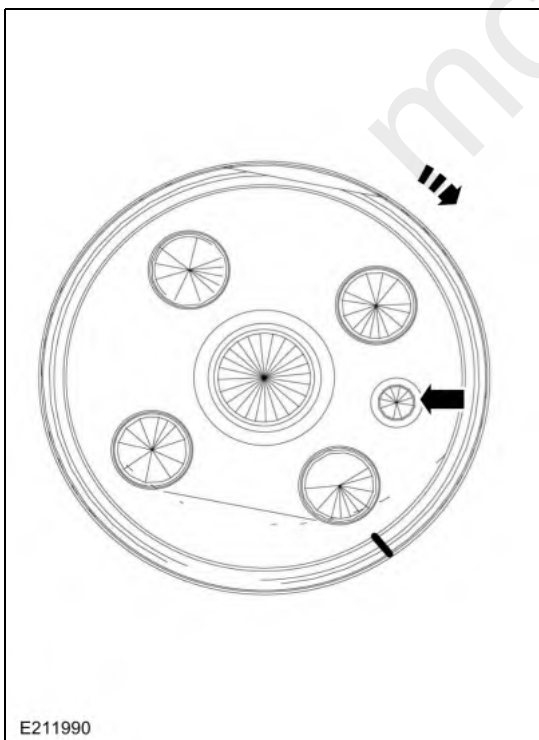
Stage 1: : 106 lb.in (12 Nm)

Stage 2: Tighten a second time to : 106 lb.in (12 Nm)



LH rocker arm, single assembly

10. Rotate the crankshaft clockwise one full revolution (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).



11.

- **NOTE:** Verify that the push rod socket is on the hydraulic lash adjuster prior to installing the rocker arm assembly.

If installing the LH rocker arm assemblies only, determine which cylinder is actually in the firing position by observing the push rods. No. 6 cylinder exhaust push rods should be raised 1.0 mm (0.039 in) and No. 7 cylinder exhaust push rods should be raised 1.5 mm (0.059 in). If the push rods are not in the correct position, rotate the engine one full revolution clockwise (360 degrees).

- Apply clean engine oil to each rocker arm pivot ball and install the rocker arm assemblies for the LH cylinder head (cylinder numbers 5, 6, 7 and 8).
Refer to: Specifications (303-01B Engine - 6.7L Power Stroke Diesel, Specifications).
- Verify that the top of the push rod engages the socket on each rocker arm.

Torque:

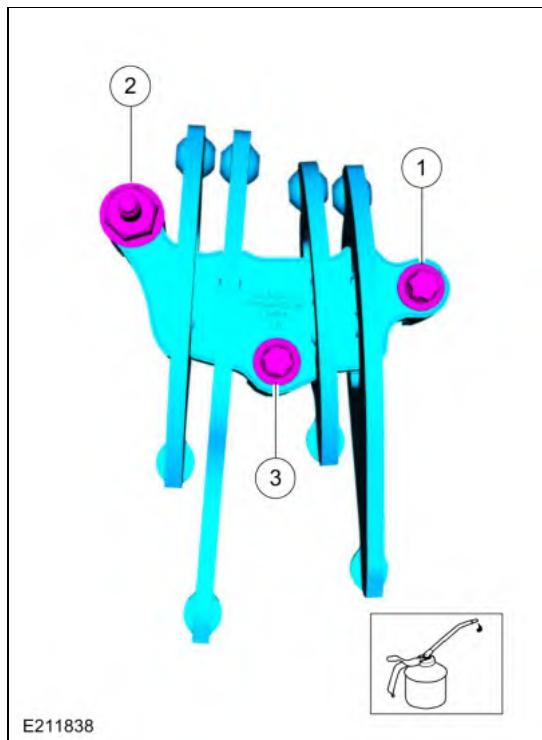
Stage 1: 35 lb.in (4 Nm)

Stage 2: 71 lb.in (8 Nm)

Stage 3: 115 lb.in (13 Nm)

Stage 4: Tighten a second time to : 115 lb.in (13 Nm)

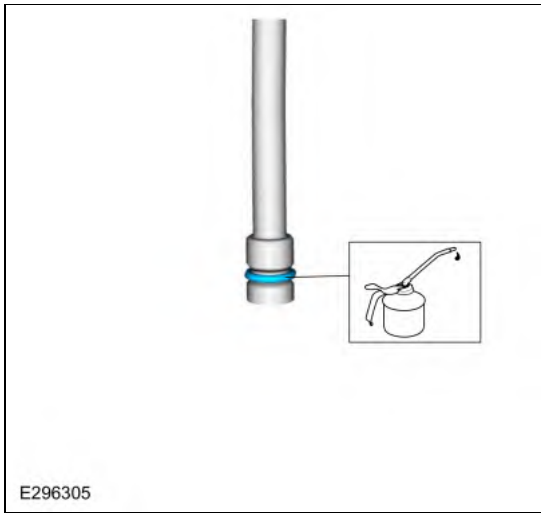
Stage 5: Tighten an additional : 80 Å°



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12. Apply clean engine oil on the O-ring seal on the LH oil spray bar.
Refer to: Specifications (303-01B Engine - 6.7L Power Stroke Diesel, Specifications).



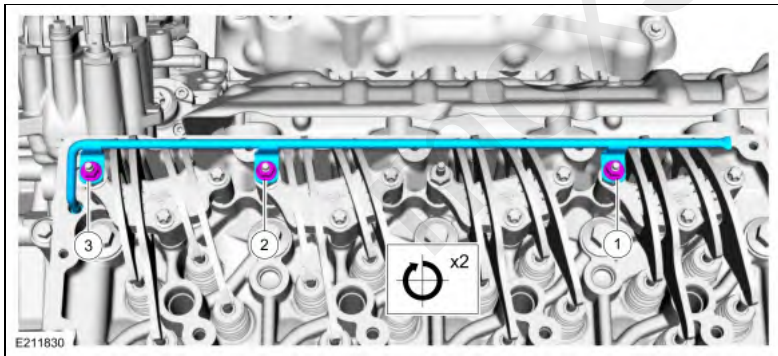
13. **NOTICE:** Failure to install the oil spray bar in steps may result in damage to the oil spray bar.

Install the LH oil spray bar. Turn the nuts 2 revolutions at a time in the sequence shown until the LH oil spray bar nuts can be tightened.

Torque:

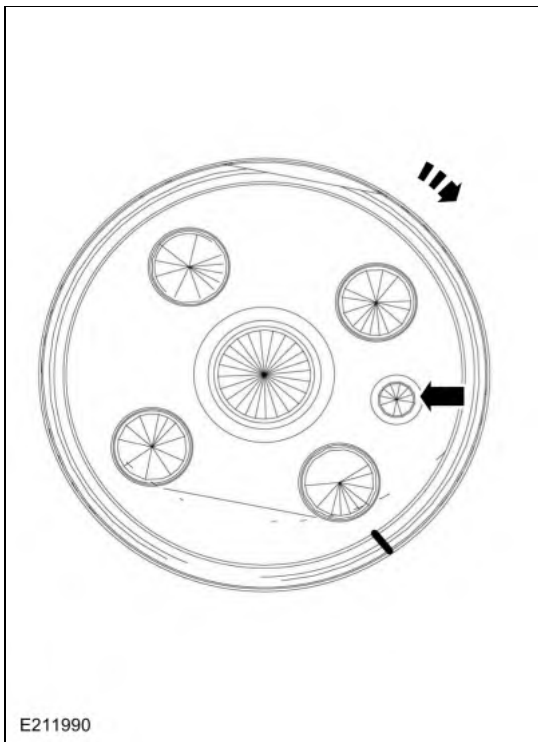
Stage 1:: 106 lb.in (12 Nm)

Stage 2: Tighten a second time to : 106 lb.in (12 Nm)



LH rocker arm, all assemblies

14. Rotate the crankshaft clockwise one full revolution (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).



15.

- **NOTE:** Verify that the push rod socket is on the hydraulic lash adjuster prior to installing the rocker arm assembly.

If installing the LH rocker arm assemblies only, determine which cylinder is actually in the firing position by observing the push rods. No. 6 cylinder exhaust push rods should be raised 1.0 mm (0.039 in) and No. 7 cylinder exhaust push rods should be raised 1.5 mm (0.059 in). If the push rods are not in the correct position, rotate the engine one full revolution clockwise (360 degrees).

- Apply clean engine oil to each rocker arm pivot ball and install the rocker arm assemblies for the LH cylinder head (cylinder numbers 5, 6, 7 and 8). Refer to: Specifications (303-01B Engine - 6.7L Power Stroke Diesel, Specifications).
- Verify that the top of the push rod engages the socket on each rocker arm.

Torque:

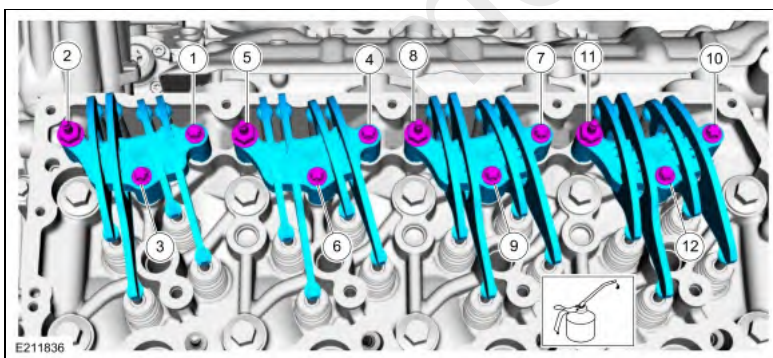
Stage 1: 35 lb.in (4 Nm)

Stage 2: 71 lb.in (8 Nm)

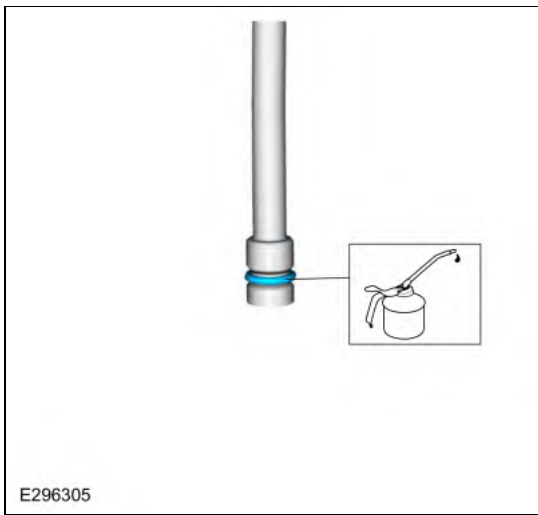
Stage 3: 115 lb.in (13 Nm)

Stage 4: Tighten a second time to : 115 lb.in (13 Nm)

Stage 5: Tighten an additional : 80 Å°



16. Apply clean engine oil on the O-ring seal on the LH oil spray bar.
Refer to: Specifications (303-01B Engine - 6.7L Power Stroke Diesel, Specifications).



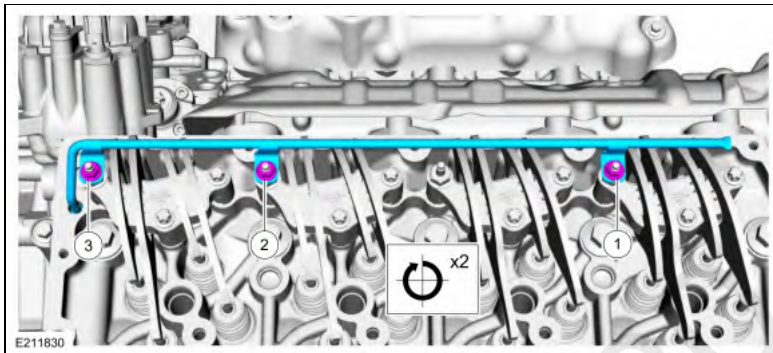
17. NOTICE: Failure to install the oil spray bar in steps may result in damage to the oil spray bar.

Install the LH oil spray bar. Turn the nuts 2 revolutions at a time in the sequence shown until the LH oil spray bar nuts can be tightened.

Torque:

Stage 1: : 106 lb.in (12 Nm)

Stage 2: Tighten a second time to : 106 lb.in (12 Nm)



Both sides

18. Install the RH valve cover or LH valve cover.

Refer to: Valve Cover LH (303-01B Engine - 6.7L Power Stroke Diesel, Removal and Installation).

Refer to: Valve Cover RH (303-01B Engine - 6.7L Power Stroke Diesel, Removal and Installation).