

Ball Tube and O-Ring Installation

To install new Ball Tubes and O-rings, it is necessary to remove the high-pressure oil rail. Please refer to the vehicle service manual for detailed safety requirements, necessary tools, and the current step-by-step instructions for this procedure.

Installation

1. Remove the high-pressure oil rail following service manual procedures.
2. Using the Ball Tube Removal Tool (available separately), remove the Ball Tube retaining nut, and then remove the Ball Tube and O-ring. Clean the pocket and O-ring seat. The seat must be completely free of debris or imperfections to ensure the full expected service life of the O-ring.
3. Lubricate the new Ball Tube and supplied O-ring with clean engine oil.
4. Install the O-ring onto the O-ring seat in the oil rail.
5. Install new Ball Tube and retaining nut. Using a torque wrench, tighten the retaining nut to 100 ft. lbs.
6. Using the tool as a centering guide, center the Ball Tubes to prepare the rail for re-installation onto the engine.
7. Repeat steps 2 through 5 for the remaining Ball Tubes and O-rings.
8. Inspect the injector upper O-ring. If the Ball Tube O-ring has failed, there is a good chance that the upper seal in the injector is damaged. Inspect the upper seal for erosion or distortion and replace as necessary.
9. Install the oil rail back on the engine as per the O.E. manufacturer procedure.

Complete the installation and testing following the vehicle service manual and any supplied supplemental instructions.