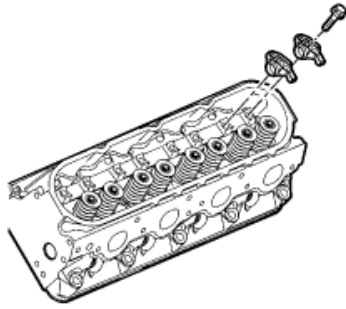
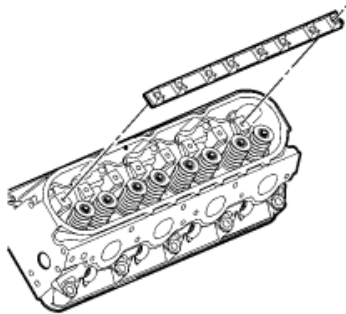


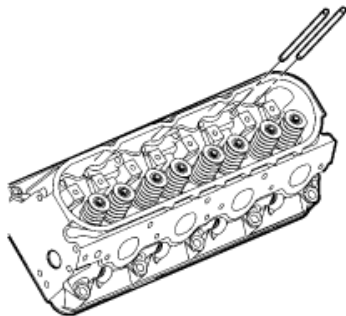
Valve Rocker Arm and **Push Rod** Replacement
Removal Procedure



1. Remove the valve rocker arm covers. **Important:** Place the valve rocker arms, valve pushrods, and pivot support, in a rack so that they can be installed in the same location from which they were removed.
2. Remove the valve rocker arm bolts.
3. Remove the valve rocker arms.



4. Remove the valve rocker arm pivot support.

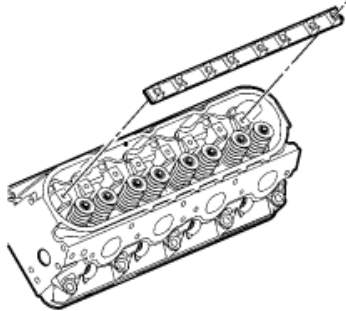


5. Remove the pushrods.
6. Clean and inspect the valve rocker arms and pushrods.

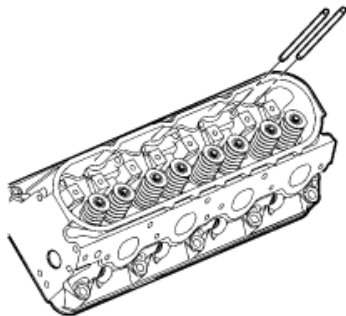
Installation Procedure

Important: When reusing the valvetrain components, always install the components to the original location and position.

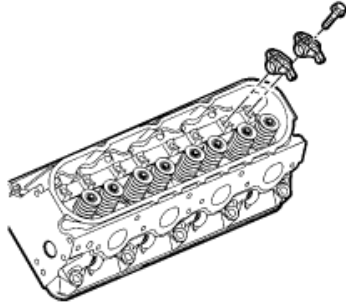
Valve lash is net build, no valve adjustment is required.



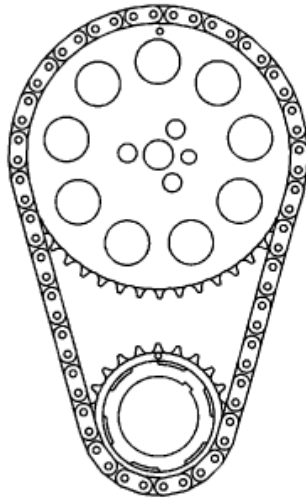
1. Lubricate the valve rocker arms and pushrods with clean engine oil.
2. Lubricate the flange of the valve rocker arm bolts with clean engine oil. Lubricate the flange or washer surface of the bolt that will contact the valve rocker arm.
3. Install the valve rocker arm pivot support.



4. **Important:** Make sure that the pushrods seat properly to the valve lifter sockets. Install the pushrods.



5. **Important:** Make sure that the pushrods seat properly to the ends of the rocker arms. Install the rocker arms and bolts. DO NOT tighten the rocker arm bolts at this time.



6. Rotate the **crankshaft** until the number one **piston** is at top dead center (**TDC**) of the compression stroke. In this position, cylinder number one rocker arms will be off lobe lift, and the crankshaft sprocket key will be at the 1:30 position. The engine **firing order** is 1,8,7,2,6,5,4,3. Cylinders 1,3,5, and 7 are left bank. Cylinders 2,4,6, and 8 are right bank. **Notice:** Refer to Fastener Notice in Service Precautions.
7. With the engine in the number one firing position, tighten the following valve rocker arm bolts:
 - Tighten the exhaust valve rocker arm bolts 1,2,7, and 8 to **30 Nm (22 ft. lbs.)**.
 - Tighten the intake valve rocker arm bolts 1,3,4, and 5 to **30 Nm (22 ft. lbs.)**.
8. Rotate the **crankshaft 360 degrees**.
9. Tighten the following valve rocker arm bolts:
 - Tighten the exhaust valve rocker arm bolts 3,4,5, and 6 to **30 Nm (22 ft. lbs.)**.
 - Tighten the intake valve rocker arm bolts 2,6,7, and 8 to **30 Nm (22 ft. lbs.)**.
10. Install the valve rocker arm covers.

