

*Automotive Engines 10th*

**Chapter 25 Cylinder Head and Valve Guide Service**

**SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.**

1. What is a Siamese port?
2. How is valve stem-to-guide clearance measured?
3. What is the recommended cylinder head reconditioning sequence?
4. What is meant by the term crossflow head?
5. What are the advantages of using four valves per cylinder?

## Answer Key

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1. A Siamese port is one port with two shared passages.  
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2. The valve guide is measured in the middle with a small-hole gauge. The gauge size is checked with a micrometer. The guide is then checked at each end. The dimension of the valve stem diameter is subtracted from the dimension of the valve guide diameter. Valve stem-to-guide clearance can also be checked using a dial indicator (gauge) to measure the amount of movement of the valve when lifted off the valve seat.  
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3. The recommended sequence is: 1) Disassemble and clean; 2) Check for cracks; 3) Check the machines surfaces and remachine if needed; 4) Check and service valve guides as needed; 5) Grind valves and assemble cylinder head.  
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4. A cross-flow head is a design that uses the intake manifold on one side of the engine and the exhaust manifold on the opposite side of the cylinder head.  
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5. Adding more than two valves per cylinder permits more air to flow into and out of the engine with greater velocity without excessive valve duration.  
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