Brock's Performance • 4064 E. Patterson Road • Dayton, OH 45430 • Phone: 937-912-0054 • Fax: 937-912-0062

HAYABUSA (99-26) VALVE CLEARANCE INSPECTION TOOL INSTRUCTIONS

The Brock's Performance Products Valve Tool is designed to quickly and easily determine piston to valve clearance in late model shim-over-bucket style Sportbike engines.

Check Package Contents:

The Package Contents Include:

1. One (1) Valve Tool

If your package contents differ, please contact Brock's Performance at 937-912-0054.

For additional installation support please refer to the OEM service manual.

The Valve Tool is used to measure the piston to valve distance (Intake and Exhaust) by levering the valve down to gently touch the piston at its closest point relevant to crankshaft rotation. A plunger style dial indicator is used to measure the travel of the bucket until the valve touches the piston. This allows the engine builder to measure the exact amount of clearance without the use of clay or repeated disassembly.

Piston to valve clearance is CRITICAL to engine life. The best horsepower producing lobe center numbers make little or no difference if your engine is destroyed due to piston to valve collision while using them. The minimum piston to valve clearance specification is different for each engine/configuration. The combination of variables is huge with most clearance requirements being determined as a result of experience.

Adjustable cam sprockets are required to set clearances. By using this tool it will be realized that minimum clearance will never be found at top dead center (always before or after), this mindset has destroyed many engines. Brock's Performance Products supplies specifications for our components, contact us for details.

The Valve Tool is designed specifically for the Suzuki Hayabusa using stock base circle camshafts, but has also been found to be useful in many other applications/makes/models from 600cc engines to Pro Stock by simply belt sanding the outer radius to allow the tool to move towards the centerline of the camshaft. **Please note:** The tool (and cylinder head) can be damaged if the tool comes into contact with the cylinder head casting instead of pressing down on the bucket/spring.

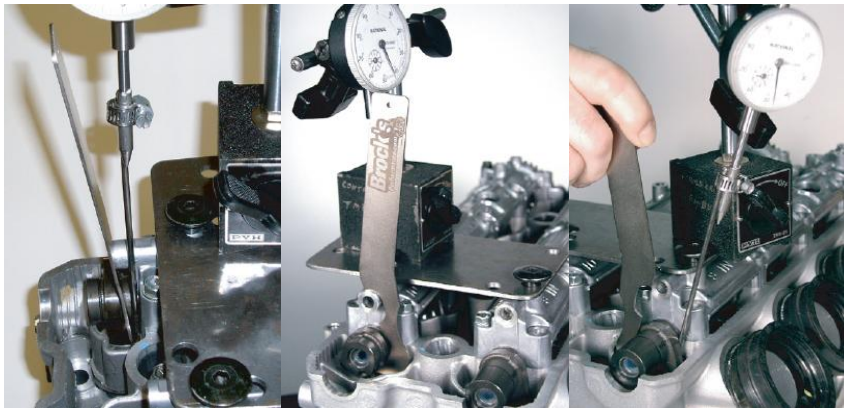
1. Locate Top Dead Center (TDC) using a degree wheel and the positive stop method.
2. Position a plunger style dial indicator to measure the full travel of the most accessible Intake or Exhaust Valve Bucket.

Note: Most late model engines leave very little room for this operation. A small length of welding rod can easily be mounted to the indicator tip.

3. The closest point of contact is usually found **AROUND** 7-10 degrees Before TDC on the Exhaust Side of the engine and 7-10 degrees After TDC on the Intake Side when using Brock's Performance Products Top End kit Components.

Note: We use the term "AROUND" 7-10 degrees because any combination of components can cause this exact number to vary. Some engine builders will check every degree from 2-15 degrees to determine the worst case clearance for a particular engine. Experiment with your engine, it will take a bit more time but it is far better to be safe than sorry.

4. Once the proper combination of clearance and lobe center numbers are obtained, use permanent thread lock to secure the bolts on the slotted cam sprockets.



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