



Kawasaki H1 Cylinder Head User Instructions

Thank you for your purchase of Vintage Performance Kawasaki H1 Heads.

To ensure you properly set-up the new heads to your engine please follow the following steps. All steps are critical to proper set-up and operation.

1st- Dowel Pin the Cylinders.

VP offers dowel pinning services. This service is available from our web site. If however, you chose to perform this step yourself or locally, then please follow the instructions below:

Make a fixture plate:

- a. Fixture plate must have 4 threaded holes spaced 70mm apart.
- b. Faced to be flat and parallel to the milling table.
- c. Have a center bore of 3.100" +/- .010" to clear the sleeve.
2. Bolt the cylinder down using the 4 threaded holes and counter flat head screws. The flat head screws will provide concentricity to the oversized thru holes in the cylinders.
3. Use a coaxial centering indicator along the inside of the bore and adjust until the machine is within .0005". Once the center is determined, use that to set the machine 'Zero' **This step must be repeated for each cylinder, do not assume if you remove this cylinder and fixture the next, that it will have the same bore center.**
4. Using a short 1/4" carbide endmill create 2- .3135" +/- .0005" bores into the casting .500" Deep for the 2 dowel pins. Each hole is along the F/R centerline 2.000" +/- .0005" from the bore center. Test fit the supplied dowel pins before removing the cylinder from the machine. Dowel pins should install and remove freely from the holes.
 - a. DO NOT try to drill and ream the holes. Drill bits will walk due to the interrupted cut of the castings and the holes will not be within spec.

2nd- Check squish band clearance.

Re assemble the motor for a dry-fit-up. You must use base and head gaskets but no sealant at this time.

1. Install the cylinders & base gaskets.
2. Bring the piston up to within a ¼” of TDC.
3. Lay in a 1/16” dia. piece of rosin core solder onto the piston. The solder must extend to both sides of the bore over the wrist pin.
4. Install the head .
5. Slowly turn the motor over by hand so the piston goes just past TDC. You should be able to feel the solder getting compressed.
6. Remove the head and remove the solder.
7. Measure each end of the solder. The squish band is slightly tapered, so its important to measure the end which is the thinnest section.
8. Squish must be .9mm-1.1mm at the outmost edge.
9. If you measure a squish outside of this range, then change head gaskets to a thinner or thicker gasket to achieve the proper squish gap. Please contact us If you are still unable to achieve .9mm-1.1mm for a custom dome.
10. Once squish gap is within spec, then perform a final assembly.

3rd Spark Plugs.

Stock Kawasaki H1 NGK spark plugs have a ½” reach (thread length). The ‘H’ in the NGK spark plug # designates the ½” reach.

Vintage Performance heads require a ¾” reach spark plug. NGK uses the letter ‘E’ for ¾” reach spark plugs. For example, if your engine used a B8HS, then you will need to source B8ES spark plugs.

Tuning.

Timing adjustment may be required for optimal performance. An efficient squish band creates turbulence within the combustion chamber which creates a faster burn. Faster burns require less ignition timing advance. Dyno tune your motorcycle if possible, and follow common two cycle tuning methodology. If you are unsure, set timing to 18 degrees advance as a starting point.