



Yamaha RD400 Cylinder Head User Instructions

Thank you for your purchase of Vintage Performance Yamaha RD400 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 Verification.

VP RD400 Street heads have two sets of dowel pin holes machined in. The Inner set along with the supplied 5mm dowel pins are designed to be used with the factory Yamaha holes machined into your cylinders originally used for locating the head gasket.

1. Ensure the factory locating holes are clean and free from debris. If necessary use a 5mm or #8 drill bit to clean out the existing holes. Holes do not need to be any deeper than the factory 5mm depth.
2. Test fit the supplied dowel pins into the cylinder holes and verify they are able to fully seat into the holes.
3. Test fit the heads onto the cylinders and ensure they are able to fully seat.

The outer set of holes are only to be used if your cylinders have damaged locating holes or if a re-bore was performed and is no longer concentric. If your cylinders require an additional locating method, then additional dowel pin holes can be machined into your cylinders and ordered through the web site.

2nd- Check squish band clearance.

Re assemble the motor for a dry-fit-up. You must use a base gasket 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 without O-ring at this point & torque it to factory specification.
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 outer edge which is the thinnest section.
8. Squish clearance must be .035”-.040” at the outmost edge.
9. If you measure a squish clearance outside of this range, then please contact us. A number of variables (after market base gaskets, decked cylinders, and pistons from aftermarket manufacturers) can all add up and cause incorrect squish clearance. VP will re-cut the domes if necessary to ensure you have proper squish clearance for YOUR motor at NO CHARGE.
10. Once squish gap is within spec, then install the supplied -039 Viton O-ring and perform final assembly.

3rd Spark Plugs.

Vintage Performance heads require a ¾” reach spark plug. For reference, NGK uses the letter ‘E’ for ¾” reach spark plugs. (i.e. BR9ES)

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.