

Polaris RZR 1000 XP/ XP4 1,110cc Big Bore Kit Instructions

We would like to congratulate you on your purchase of your Sparks Racing 1,110cc Big Bore Cylinder Kit. You have officially joined the Sparks Performance Products family which is full of power hungry enthusiasts and racers like yourself! We pride ourselves on providing our customers industry leading performance, durability, and customer service.

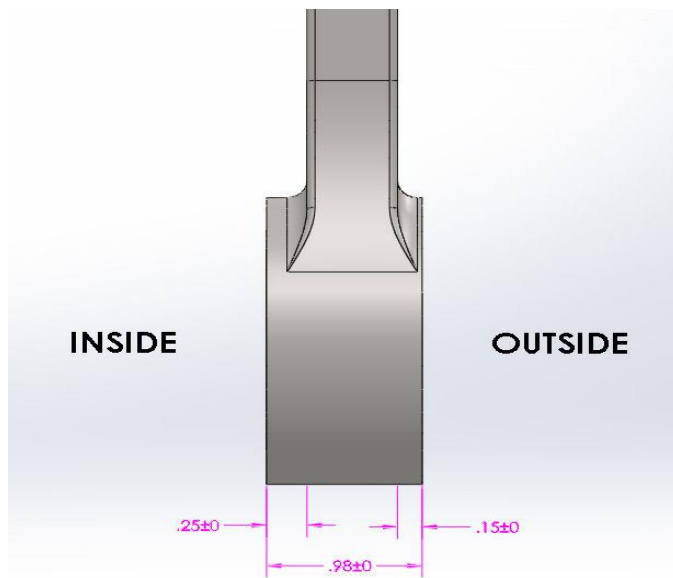
This cylinder kit is intended to be installed by a qualified mechanic/ engine builder. Engine assembly is a complex task and should not be taken lightly. We have supplied these instructions for the sole purpose of explaining the unique features of this cylinder kit. DO NOT use these instructions as the sole source of information regarding the assembly of your engine. It is the builder's responsibility to identify any factory torque specifications or bearing sizes. It is the builder's responsibility to check and ensure all the parts associated with this kit are clean, sized, and ready for assembly. We surface the cylinder and size the pistons to the cylinder prior to shipping. There is a ring end-gap specification sheet supplied with the pistons. A rod specification sheet is attached to the lid of the rod set box and lists the rod bore diameters which will be needed when selecting rod bearings. You MUST use the rod bore size chart in the Polaris service manual to obtain the correct bearing sizes for the rods.

****Read these instructions carefully and completely before attempting installation

Bill of Materials

- 98mm Cylinder
- 98mm piston set, includes 2 pistons, ring sets, wrist pins, and 4 cir-clips
- Offset rod set
- Head & base gasket
- 2 dowel pins

1. With the engine prepared and ready for assembly, remove the rod caps and install the bearings in the rods. ****The rod caps are machine-mated to the rod, so make sure they DO NOT get mixed up****.
2. Install the pistons on the rods keeping in mind the offset of the rod when installing it in the piston.
3. Install the piston/rod assemblies in the cylinder. ***Now is the time to double check your piston/ rod configuration. ***The pistons are marked "L", "R", and "EX" to aid in identification***
4. Install the rods on the crankshaft. Be sure the rods are offset in the correct direction. When installed correctly, the rod beams will be as far apart as possible (offset towards the ends of the crank) the picture below illustrates the offset of Ignition side rod. (Measurements are for reference only and are approximate).



5. Torque the rods as per the bolt specification booklet supplied with the rod. ***You will need a stretch gauge to torque the rod bolts correctly***
6. Use the supplied dowel pins between the cylinder head and cylinder ONLY. The Sparks Racing head gasket is much thicker than stock and requires the longer dowels.
7. When you're installing the head gasket, it is extremely important the figure-eight "combustion ring" is seated in the middle layer of the head gasket (if you spread the layers apart, you can see the relief where it sits). You may use a small amount of liquid gasket or spray adhesive to ensure the rings stay in place throughout the installation of the cylinder head.***Incorrect placement of this ring will result in extreme damage to the cylinder and head***
8. Torque the head bolts to 55 ft/lbs using the factory torque pattern. ****Using this torque spec and stock hardware is only recommended for naturally aspirated engines with moderate compression ratios. We recommend the use of head studs torqued to the stud manufacturer's recommendation on any high compression or boosted applications****
9. Install the water neck from your stock cylinder.
10. The remaining steps of the installation will be to factory specifications or covered elsewhere