

POWROLL TECH

GENERAL ENGINE ASSEMBLY TIPS

SHOP MANUAL Purchase an OEM shop manual or an aftermarket manual (Clymer, Haynes) for your specific model before you begin.

Assembly starts at the end of disassembly ... clean and check all parts for defects. You don't want to find a 'bad' part when you're putting it back together.

Be sure you have all necessary parts (gaskets, etc.) before you start assembly.

LOCK THE DOOR. Get rid of all distractions. It's easy to get interrupted and forget a circlip or transmission shim.

PRE-LUBE EVERYTHING THAT MOVES. A few drops of oil on all bearings, shafts, gears, piston, cam, etc. will help ensure your engine lives a long time. Be sure all 'mock up' parts are clean and lubricated.

TRIAL FIT any new or re-machined parts prior to final assembly. If possible 'mock up' the crank, cylinder, piston, head and cam to be absolutely sure nothing interferes with anything else.

GASKETS must be prepped. Be absolutely certain that the sealing surface is clean and free of any oil or fingerprints. Typically, metal gaskets do not require any sealant in order to work (except copper gaskets - see special instructions), we do not recommend using sealant on this type of gasket. Fiber gaskets can be treated with Hylomar™ (available online at www.hylomar-usa.com). We recommend Hylomar™ because of its easy application properties. A very light coating of Yamabond 4™ or equivalent can be used on any metal to metal joins which do not have a gasket or seal. DO NOT use common silicone sealers on four stroke engines!

LOCTITE® all critical fasteners (crank nuts, clutch nuts, etc.) Do not Loctite® case or head bolts and nuts.

LUBRICATE all fasteners that don't get Loctite.

USE A TORQUE WRENCH and have a chart (service manual) of the proper values for all critical engine fasteners.

TAKE YOUR TIME. Do the work properly the first time. Be sure to check all clearances multiple times during assembly.

ADD OIL and re-check the drain plug. If the engine won't be installed soon and you are not adding oil, put a big NO OIL tag on the engine.

JETTING should be richened, refer to the Powroll jetting information received with your kit.

BEFORE STARTING THE ENGINE Check that fresh oil flows freely to the top end.

BREAK IN THE ENGINE SLOWLY Add fresh gas, then start bike and hold engine at a fast idle. Never allow a newly built engine to sit at idle, use cooling fans pointed directly at the engine to control heat buildup.

RIDE THE BIKE Run through the gears, accelerating slowly. Do not over-rev or lug the engine. Ride for about 20 minutes, then shut down and allow engine to cool completely. Do this heat cycle 2 more times.

After the final heat cycle, stop and allow the engine to cool. Check valve lash, re-torque head bolts and check all other fasteners.

At this point, you can re-jet the carburetor for power if current jetting is rich.

RE-GEARING is recommended for highly modified engines. Any engine with more than a 20% increase in power will benefit from re-gearing.



This information is designed as a helpful outline, it does not replace your OEM Shop Manual. Powroll strongly recommends using the OEM Shop Manual when doing any engine work.

(541) 923-1290 www.powroll.com
PO Box 920 • Redmond OR 97756