

the barrel studs. Next undo the four barrel nuts that are down the holes in the barrel with a slim 12mm socket or "T Bar", and the three Allen bolts on the cam chain side of the barrel. Again, put a piece of softwood on the cam chain side of the barrel and give it a whack to break the seal. Lift the barrel off the case studs.

The barrel is an automatic candidate for a piston kit/re-bore job because you are doing this rebuild properly. Bores can be oval, even if the piston looks fine. What about the quality of the hone and piston to bore clearance? Sorry, it's all new for this project. Have a shop measure what size the bore is and if it's not badly marked, seized etc, order the next size up. Either get the shop to remove the barrel studs or remove them yourself, then look around for some one who does Drag race or racetrack engine machining. Research this as there is a big difference in quality when it comes to re-bores, names of machinery like "Sunnen" need to be in the shop that does your bore, it will cost a little more but believe me, it is worth it. Half an inch up from the bottom of your new quality forged piston, (JE, Wiseco, Wossner, Arias etc - 10.25 or a maximum of 11 to 1 comp piston kit), draw a texta line around the skirt and write on the top of the piston, "3 thou clearance at line please". They know what that means.

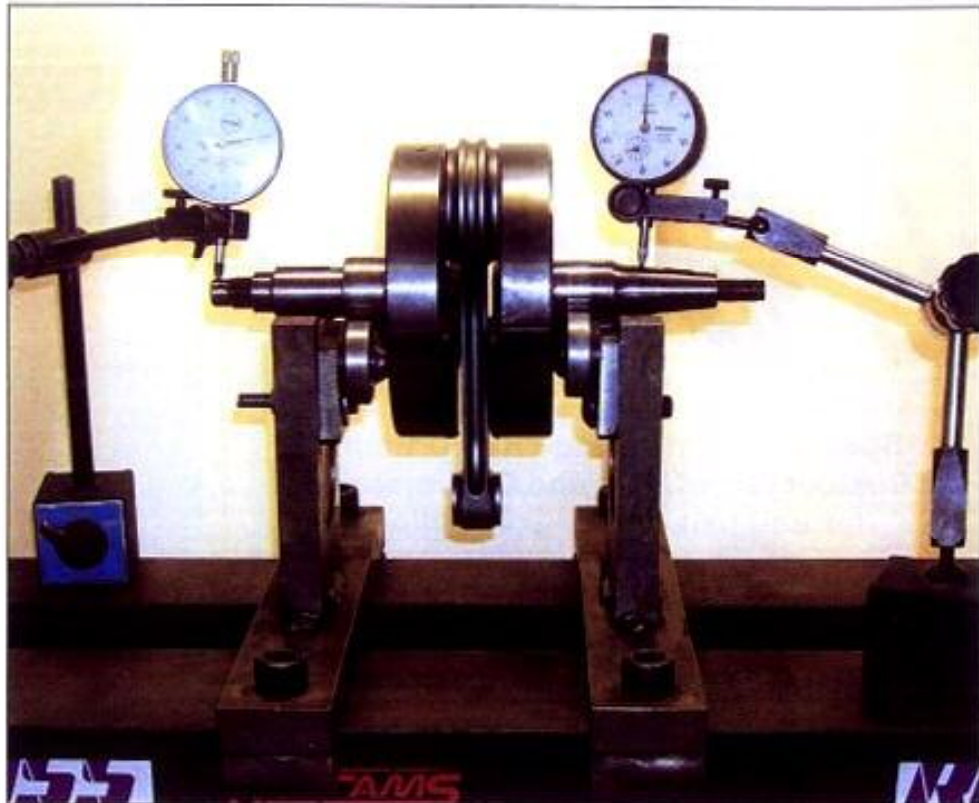
A quality engine reconditioner will probably have "Neway" valve seat cutters as well (I do). ALL motorcycle heads need to have the seats cut by hand (check any genuine workshop manual!!). NO "synchro seating", spinning grinding stones or powered seat cutters are to be used - NEVER EVER! The reason being that the valve must sit on the seat, not in it! This is most important, otherwise you will "kill it".

The same people, (if they have Neway, Sunnen, etc) can check the valve to guide clearances (your manual has the clearances) and have the guides replaced if needs be - do not have them "sleeved". These valve trains work too hard for "K lining" guides, and clearances in this area are critical and should read "New". Nothing but!

SR heads need a decent port job, and now is a great time to have the intake matched in size to your new, big 40 or 41mm carb. You will need to do this to obtain better flow through the head, as these heads in standard trim are small in the ports. As for flow bench porting, we do our own, but if you have found guys with the above talents, ask them, they may do flow bench porting as well.

The rocker arms are throw-away items in this project, as the originals were only plated, and the oil hole is in the wrong place as well. Check for wear on the shafts that hold the rockers, usually they are fine, but check! Notice the difference in the rockers, the hardened pad on the improved type and the re-positioned oil hole - both are critical for the longevity of your rebuild. Again, this is a must do as the cam gets hosed with oil when using the improved rockers. The oil feed line needs to go to the exhaust rocker shaft direct, not the original inlet near the intake tappet cover. This is so the oil goes direct to the hot exhaust valve where it's needed most.

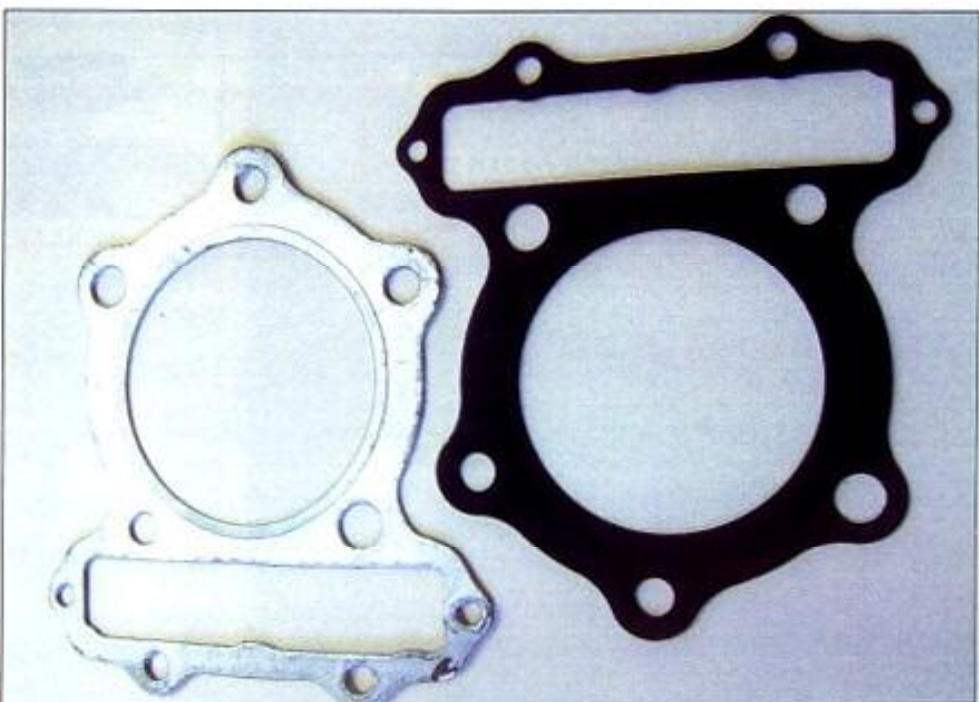
The cam chain, again, is an automatic replacement. I use DID brand 219FTSS, 106 link (note double S grade), as we find it far



*Balancing is important, as any engine is only as good as the engineering quality behind it.*



*Don't new pistons look nice - these ones represent sizes for 510cc, 553cc and 587cc and there's even more!*



*Cardboard vs Metal - no prizes for guessing which one can hold in big power.*