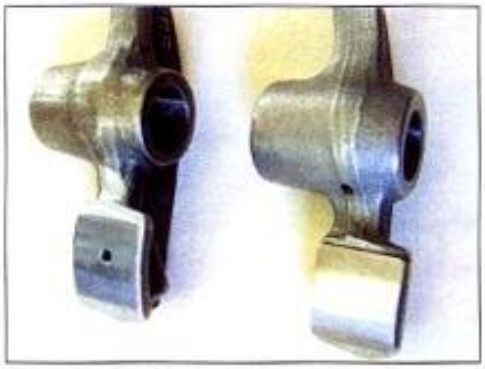
Yamaha 500 XT/TT/SR Rebuild

superior to genuine cam chain. Fit it without "splitting it". Check the cam chain tensioner blade and guide, remember the material is over twenty years old. I always replace at least the tensioner blade. Look for wear on the top and bottom sprockets as well.



Note the oil hole as well - at least the oil can now shower the cam!!

The valve springs on these engines go very soft quickly, and the retainer is heavy (the head re-conditioner guy will most probably be able to tell you the seated pressure of your old genuine springs, that will shock him too!). Again, a quality spring and retainer set - we use either R&D titanium or Kibblewhite only - is a pre-requisite. The stronger springs and the lighter retainers work a treat and will follow your new cam correctly. The larger intake valve has '2J2' on the bottom. Replace the exhaust valve, regardless of wear, as the standard one can part company from the stem with the higher temperatures associated with increased performance and the hi octane unleaded fuel you will be using. These engines do not need "special valve seat(s) for unleaded". I use a Special Yamaha improved item that drops straight in, not the original part number.

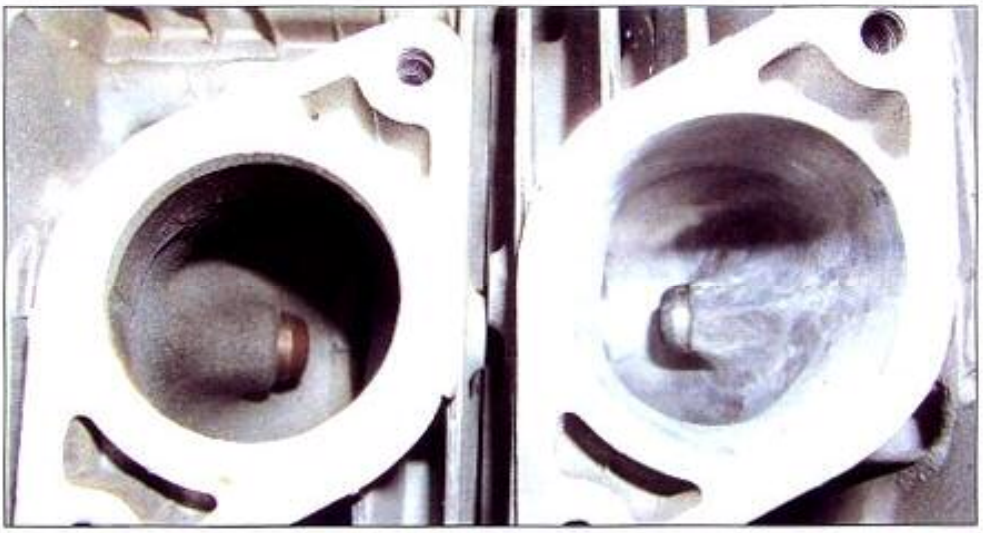
Now, to the camshaft. The ONLY cam types you should consider are either a "Hard weld" or a "Billet" cam, as both types still have their "base circle" intact. Regrinds have the base circle ground down to 30mm [or smaller] to achieve lift and duration, this dramatically increases valve speed and allows a bad "harmonic wave" to occur (and then they don't rev out). Pay a little more and enjoy the big result. Just to repeat that - do not use a regrind in these engines! Stock base circle (bottom diameter of the cam) is around 32mm. This is critical, one part missing will result in a motor that definitely won't set your pants on fire, and it will probably all end in tears...

Cam grind selection is critical in these engines for broad pulling power, stable idle and 'maintaining tune regardless of temperatures' etc. I design my own grinds, made by Australia's only Aviation certified cam grinders! All cams are not created equal!

Notice the pictures of the head and base gaskets. It is critical that the cardboard head gasket and the paper base gasket are NOT used!! They will fail with this much power and RPM. The alloy base gasket and the Multi Layer Steel head gasket (Trade name "MLS"), or even a copper head gasket, must be used. This thing will see 8000rpm in the blink of an eye, not like twenty-five years ago. Next issue we will check and build the bottom end and fit the new "powered up" top end and get into the chassis. Happy spannering.

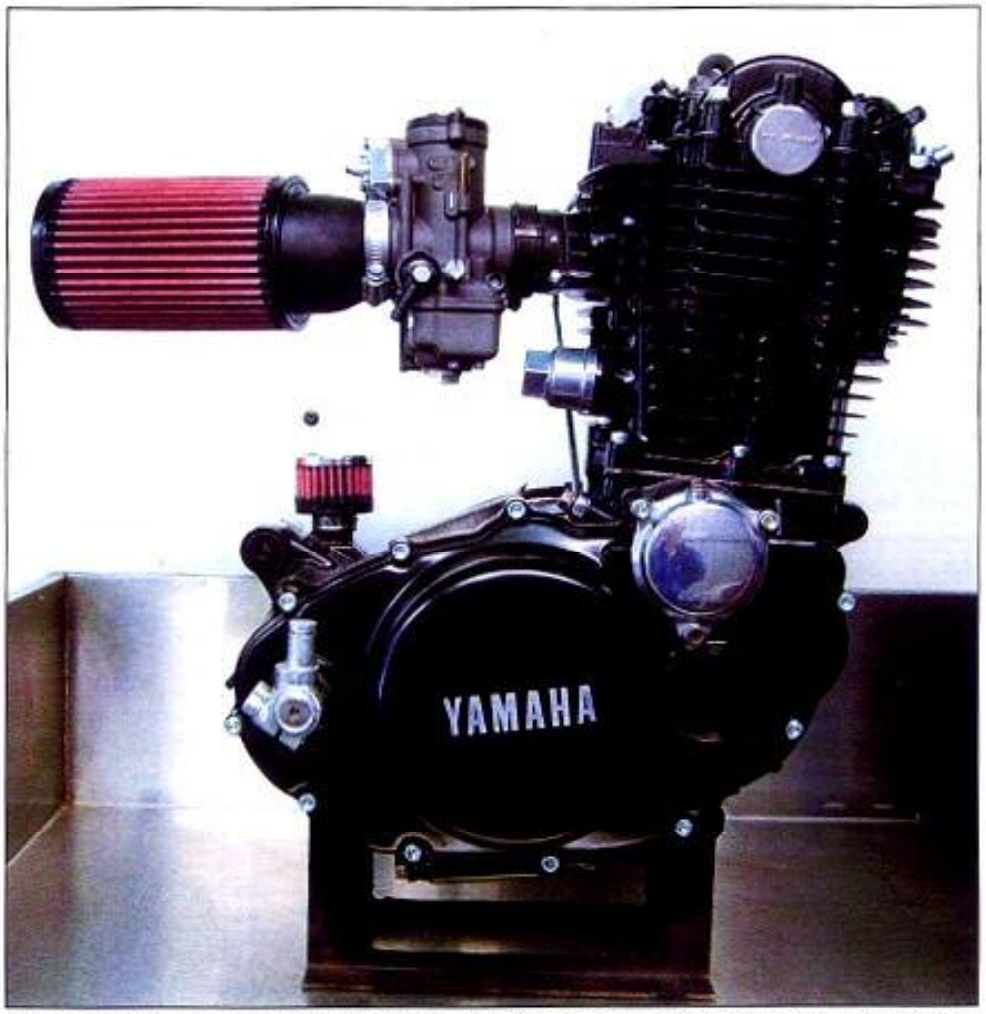
Carl can be contacted at his shop near Bathurst, NSW on 02 6337 7599 if you require further information or if you aren't a whiz with the spanners and want him to take over your rebuild!

Words and photos by Carl Batey



Porting is mandatory: stock on left, Stage 1 on right, it is as you can see, a 'must do'.

Stage3 bling: Titanium valve, nice rod, extended lift valve train set, spark enhancer etc.



Motor Complete - put this in your bike and smoke it, or something along those line... or nail it, or go roost your mates, whatever – you know what we mean!