

CHAPTER 6: CYLINDER HEADS AND VALVES

Posted on the Wildguzzi forum by Pete Roper: December 11, 2005:

Contents: Overhaul cylinder heads and valves

Pic 6-1:

Never trust a bloke with a ponytail, especially if he rides a Harley! They're all bastards! The strange G-Clampy thing he's holding is an air driven valve spring compressor. Press the button and Voila!!!!



Pic 6-2:

The spring is compressed.



Pic 6-3:

The collets come off the valve stem and the springs can be removed like so!



Pic 6-4:

Once the springs are off the valves can be removed. Note that these are obviously a pair of heads that have been given 'The treatment'. I didn't get in in time for you to get to see the grungy ones being taken apart before blasting! When an *old* valve is being checked in the guide poke it out like thus and try and waggle it about in the guide. Anything other than the very minutest of lateral movement and you will need to either replace the guide or K-Line it. Most of the heat that the valve experiences is dumped through the guide. That's why exhaust guides tend to wear more than inlets.



Pic 6-5A

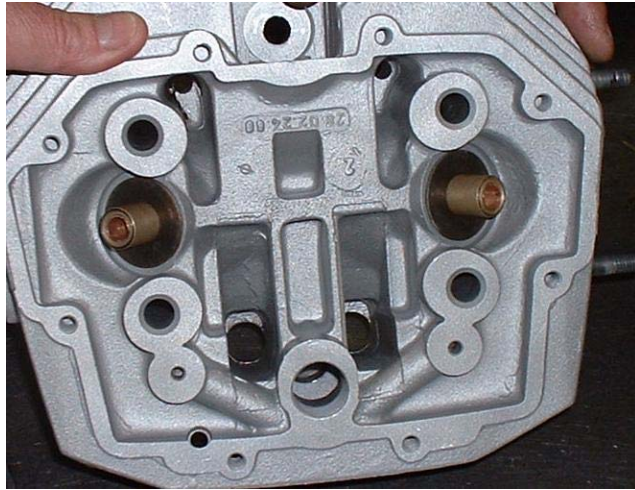
Pic 6-5B:

Valve stems should be checked in two places at least. One above where it runs in the guide and once in the area where it is running in the guide and checked for wear both in terms of comparison to original specified size and to each other.



Pic 6-6:

Sitting around the guides are the shims used to set the valve spring stack height. Rather than specifying a poundage for the springs at rest Guzzi specify a stack height on the springs. This means that when they are installed you measure the distance between the shim at the bottom and the cap at the top. The length is in the manual, buggedger if I can remember what it is offhand. Alternatively you can simply stack 'em to 85-90 lbs. (for your average road motor.)



Pic 6-7:

The dirty one isn't a Guzzi valve but you can see the difference in the one that has been serviced and the *old* one. Note that the *old* one has not only a hammered top but also there is a lighter coloured ridge around the edge of the head, this is because the valve has been seating too deep in the seat and hanging on the edge. When seating properly the band of contact should be right in the middle of the *flat* machined part at the edge of the valve. If you look closely at the machined valve you can see a faint trace in the middle of the face left over from the process of mating the valve to the seat.



Pic 6-8:

Shims used to adjust the stack height of the springs. Note also the circlip flush with the head to help retain the valve guide. Although hard to see these guides have been K-Lined. The slightly raised tube in the centre of the guide is a scrolled insert.



Pic 6-9:

The springs, inner spring seat and retainer cap. Make sure they measure up within spec.



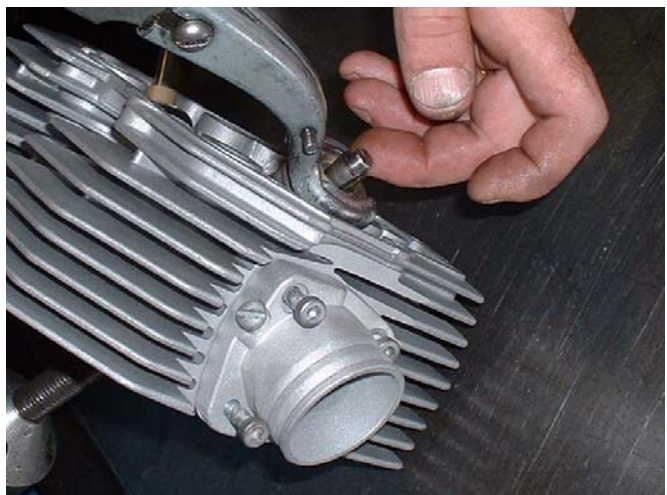
Pic 6-10:

Freshly cut seats! as you can see they have a set of three faces Inner, middle and outer. The valve actually seats on the middle part of the seat.



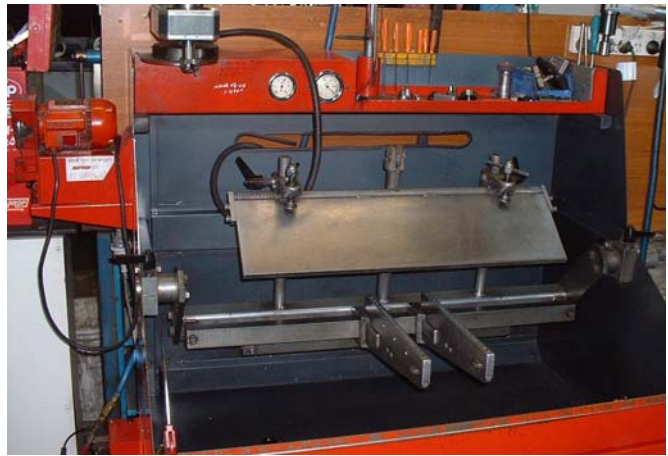
Pic 6-11:

Re installing the collets. The spring is compressed and the collets locked into their groove in the valve stem. The valve spring is then released and the taper of the collets corresponds to the taper in the retainer cap and the springs ensure the collets stay in place in their groove.



Pic 6-12:

This is the reason I farm out headwork! I ain't got a SERDI bench



Pic 6-13:

This last one just to show you what I have to put up with Dick and Jim from Queanbeyan Engine Service who do all my headwork. What a pair of 'Gloids!

