

Title honing
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Subj: RE: Cylinder advise
Date: 99-03-17 09:33:09 EST
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On this one I have to give my two cents (or pence, if that makes more sense).

Please do NOT use a ball hone to do anything but give your cylinders a FINAL, QUICK surface preparation for the seating of your rings! I think what you are referring to as "your standard auto cylinder hone" is one of those spring loaded jobs that are also ONLY for doing final surface preparation. When a cylinder is properly honed by someone with the correct equipment, it is straight and true, but the size (over or under) is controlled by the operator and how they have set the hone, not the fact that the cylinder has been honed. The correct equipment for honing uses a honing fixture that is precisely (at least as precise as the stones are straight and the operator sets it) set to the bore you want, very similar to the way a boring bar is set to a specific size. Honing (as above) is important in the process of getting an EXACT and TRUE cylinder as the liner does not deflect as much as from a boring bar. GSX's and EVO's take note!

ALSO, if your cylinders have been bored and honed (you hone them to final shape and size to be perfect, has to do with the area of surface contact), you may still have to chamfer the edges of the ports which a ball hone CAN NOT do if the chamfer has been bored away or reduced too much by boring or porting. If you do not understand this, please use a professional who knows his/her stuff. Without the correct chamfer you will break rings and destroy cylinders. To para-phrase someone, "I raced, I broke, I learned".

What a ball hone can do is prepare the surface of a "straight and true" cylinder for new rings when you are able to re-use the original piston or can use a piston of the same size. When I raced RD's, you bought a whole lot of pistons and rings in the same size BUT YAMAHA used to mark the box of each piston with a "+", "-", or "0" to indicate the exact (miked) size to the standard/standard oversize. So you bought some "-"'s, "0"'s, and "+"'s, and the miked You would prep you cylinders to accept the "-" pistons, and then constantly replace rings until that piston was just a little too loose, and then use a ball hone at the track (LIGHTLY, and the correct SIZE ball hone) to prep the surface, take the sharp edge off the ports, and then install the "0" pistons and rings. This would then be repeated with the "+" pistons when required.

As I have said before, I do not want to start a lot of mail arguing this as we would just be arguing semantics and someone's knowledge or lack there of. If you do not build (good) motors for a living, there is a lot of knowledge which you will not have or may not understand the entire operation or situation.

A good way to remember this is:

Bore to the exact dimension of the piston and hone the clearance. Get the honing done by someone with a Sunnen honing machine if possible (or

similar). Do it by hand as a last resort.

If you are destroying the hone in one use (four cylinders?), then you are not getting the correct size flex hone, you are using a ball hone that is too big and is getting caught in the ports. They will NOT last long in a stroker no matter what, but should last for longer than one or four uses. Replace once the edge of the balls becomes flattened and shinny. Otherwise it will be polishing rather than leaving the surface the way you want it to seat the rings.

,so buying the right size is important. As far as the hone wearing out and polishing the bores goes, i make sure to use some kind of a honing oil to prevent the balls from loading up.