DIY valve seat install - Posted by SteveY

Here's a valve seat install using simple tools

Tools, 2"-3" Micrometer, snap gauge (telescoping gauge,whatever you prefer to call this), brass drift, ball peen hammer, small propane torch.

Pic 1 snap gauge in the hole and set, mic measured regular seat (left in the picture) oversize seat on right in pic.

The reg seat measured 2.140, the snap gauge seat measurement was 2.142 = no interference fit, seat will slide in and out with finger pressure = disaster

Oversize seat mic'd 2.164, I chucked it in the lathe and turned it down to 2.148", a .006 interference fit. I stick all my Intake seats in at .006" interference (in aluminum heads), no matter what type of head
(motorcycle, car, plane) , no matter what type of fuel burned. Exhaust goes in at .008" interference. You might have to find a shop to turn down an oversize seat, but if you bring the measurements, it couldn't cost too much (beer at out joint).

Next pic. always chamfer the leading edge being installed into the head, on a belt sander, grinder, hand file, etc or it will cut metal and won't seat flat.

next pic, I used a brass punch and ball peen hammer.

After double checking all measurements, I clean head and seat and put a little axle grease on the leading edge, just enough to get the seat started. I put the seat in the freezer all night to get some shrinkage, I heat the head with the propane, map gas, etc to get the head to about 250-300 degrees. I take the seat out of the freezer with a set of forceps, never touching it by hand, etc. Flop it on the head and start beating using the brass drift and hammer in a 3,6,9,12 circular pattern and repeat until seat is seated, you can hear it and feel it seat in the head.

Last pic.

Hope this sheds some light on what you can do at home.