

HOW TO HONE OUT A MOULD

Hi ammohead: The kind of project you are undertaking is a toughy if you haven't had any experience doing this sort of thing before. To remove metal from that part of the mould, you can't precisely cut it out free hand with a Cratex rubber abrasive cutter. Keeping the new surface centered, concentric, and aligned using free hand is best done by lapping and honing. You need to remove 0.002 inch off of the surface (0.004 inch off of the diameter). That is bordering on the limits of what can be done accurately with simple tools, but it will be okay if you use care and patience. To make a lapping tool, cast a bullet in the mould then cut off and discard the end that doesn't need to be bigger. Drill a 3/32 inch hole from the back end of the bullet remnant down the center of the axis, then by hand screw in about 1/4 inch of a 2 inch long #6 deck or sheet metal screw with the head ground off so it can be chucked in your electric drill or drill press (don't use a Dremel or other high rpm tool, you need low speed). Insert the lap into the mould cavity and check for closure, it should close and hold the lap so it is not loose.

Using about 1/8 teaspoon medium grit engine valve lapping compound mixed in a teaspoon of motor oil (10w-30, 30w, or whatever) coat the lap, put it in your mould cavity, close and spin with an electric drill motor (variable speed is best) or drill press holding the mould by hand. Don't press the halves of the mould together so hard it screws the screw into the lead deeper. Keep the lap well slathered in grit/oil. In 30 seconds STOP. At this point cast some bullets from the alloy you will be using and measure them. If their diameter is, for example, half way from what it was to where you want it to be, proceed lapping again BUT ONLY 1/2 AS MUCH THIS

TIME! Cast more bullets and measure them, they should now be closer to the size you want. When your lap gets too small and rotates easily, turn the screw deeper into the lead a SMALL amount to expand it. Working slowly this way and never exceeding HALF of what needs to be lapped away every time you re-cast and re-measure you won't overshoot the diameter you want and ruin your mould (this "half-life" technique is s.o.p. used by machinists). If your lapping tool wears out before you are done, make a new one from one of the bullets cast BEFORE starting to enlarge the cavity nose. This will help ensure that the very front of the cavity gets enlarged properly, too, so there is no or minimal taper. Good Luck and safe shooting,-----Richard Allen

Richard, I am not sure I can drill that straight. Could I cut the nose off the bullet, reinsert into mould, heat until melted and insert screw. Casted a screw into a whole bullet for hand lapping once and it worked.
ammohead.

Hi ammohead: Your idea to cast the screw in place is fine. When the time comes for enlarging the lap, re-casting the lead will be more accurate than turning the screw in deeper. Casting the screw in place ensures a more positive grip between it and the lead and in turn you can operate the lap more vigorously. Safe casting and shooting,--
-----Richard Allen