

To make lap, center hexagonal brass not over mold cavity and cast as one unit



Prior to application of abrasive, spin mold so it will not bind after abrasive is

Lap that mole

By C. A. Bunker

LET us suppose you have a bullet until that is rusty or rough inside, or that casts bullets a few thousauddis of an inch smaller than you would like them. The remedy in each case is lapping, and a first-class job can be done without claborate equipment.

without claborate equipment.

The only special items required are emery flour (abrasive grain if the clerk looks puzzled) in 220 grit or finer, and a few hexagonal brass nuts of the type used on compression and flare fittings. Such fittings are commonly made to fit 14-meh, 5/16-meh, and 3s-inch tubing. The size of the nut is unimportant so long as you select one with a hole somewhat smaller than the diameter of the mold cavity, thus insuring against unintentional lapping of the top of the mold.

Casting the lap

Lapping a mold consists in spinning an abrasive coated bullet in the mold cavity. In order to rotate the bullet, some sort of stem or spindle must be attached at its base, and this is where the hexagonal nuts are put to use. By centering one of these over the mold cavity, both lap and stem can be east at the same time.

Good laps are east in the same manner as are good bullets—the mold must be oil-free and pre-heated, and the lead must be at a proper heat. A casting which does not fill the mold perfectly will not serve well as a lap, as it cannot cut where it does not bear. Since emery will not embed itself properly in a hard bullet alloy, soft lead only should be used to east laps.

In casting, remove the sprue cutter, center one of the brass nuts small-hole-down over the mold cavity with a pair of phers, and pour both mold and nut full. Examine the lap carefully when you take it from the mold. If the lap is imperfectly formed or poorly centered on the nut, toss it back in the pot and try again. One lap should be sufficient

for a mold that is only a trifle rusty if the purpose in lapping is to enthe mold, considerable time as a hy-making up four or five laps at time.

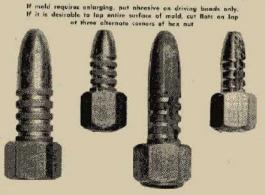
Be sure you measure one of the if you do not already know the pridiameter of the bullets east by the rin question. By checking this measurent against one made on a bullet in the mold after one or two laps I been worn out in it, a fairly accugange of the rare of cutting may be tained.

To prevent binding

Prior to application of the abracach lap should be placed back in mold and spin a few times with a end wrench. This will discourage lap's tendency to bind after the abrahas been applied. The lap will tenbind in any case, and very little abrashould be used at first. Always spin lap counter-clockwise to keep the bnut from tightening against the mo-

Either of two methods of apply the enery to the lap may be employ depending on the fault in the mold it corrected. If the mold requires ening, the abrasives should be embed (Continued on page 84)

Here is the way to embed abrosive in driving bands of lap





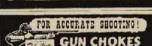


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Lap that mold

continued from page 40

in the driving bands only. This is accomplished by mixing a little emery in light oil, spreading this mixture along the edge of a small board, and then rolling the lan back and forth over the abrasive, using a file with a fine cut to do the rolling. Take care not to use enough pressure to malform the lan-When this method is used, all excess grit must be wiped away and the lap lightly oiled before it is ready to use.

For rusty molds

In the case of rough or rusty molds. where it is desirable to lap the entire surface of the cavity, the lap is simply coated with a mixture of emery and oil, and the abrasive is left to embed itself as the lap turns in the mold. The first lap will tend to bind badly when this method of applying emery is employed unless a good portion of its surface has been cut away. This is best done by cutting three longitudinal flats along the sides of the lap, using alternate corners of the hex nut as guides. Use very little abrasive and a lot of oil when you begin lapping. As the lap wears, a thicker mixture can be applied to it.

With either method of applying the abrasive, none must be allowed to get on the gas-check heel in the case of gascheck molds. Enlargement of the beel would spoil the fit of the gas-check on it.

When the lap is placed in the mold eavity, and throughout the actual lapuing, it is essential that no abrasive be allowed to creep in between the two halves of the mold. It it does, your mold will cast bullets that are cliptical in cross-section, and the only remedy for that is to hammer the corners of the mold blocks slightly so as to keep the mold from closing completely. This can be done successfully, but it probably will involve a great deal of easting. measuring the diameter of bullets, and checking of the gap between the blocks with a feeler gauge before the mold will again east a true bullet. It is much better just to see to it that the two halves of the mold meet when the lap is inserted, and then to clamp the mold lightly in a vise to insure their staying that way.

Slow and steady

With the mold, or mold blocks only if the mold has detachable handles, secured in the vise, take the box-end wrench and begin a steady countereleckwise rotation of the lap. As the lap wears, remove it and apply more abrasive. When it becomes too wom to cut, replace it with a new one. If the new one offers little resistance when turned, it is time to east more. Do not neglect casting a bullet for measurement from time to time as the lapping proceeds-you may be cutting faster than you think.