The Los Angeles Silhouette Club

Cast Hollow Points

By: Glen E. Fryxell

Cast bullets are widely recognized as being more economical than their jacketed counterparts, equally accurate, faster at lower pressures and gentler to rifled bores. In articles about reloading handgun ammunition intended for the hunting fields, there is an interesting trend to be noted: the value of cast bullets for hunting is widely espoused, but they are almost always promoted as non-expanding, deeply penetrating solids.

To be sure, this is a role they fill in superb fashion; whether you're talking about the SSK truncated cone designs, the LBT wide flat-nosed slugs, or Elmer Keith's time-honored semi-wadcutters, they all drive deep and cut a big leaky hole. This is especially true given the current popularity of casting bullets extremely hard, using alloys of high antimony content (6-15%). Occasionally, one will read about some intrepid caster who has thrown some Keith SWC's out of 30:1 (lead: tin) alloy so as to make them soft enough to expand on whitetail when fired from a .44 Magnum, but that's unusual anymore. The bottom line for handgun hunters these days seems to be, "If you want bullet expansion, use a jacketed hollow-point, if you want a deeply penetrating solid, use a heavy hard-cast flat point."

There is unquestionably a great deal of truth to this line of thinking, but it also overlooks some very fertile territory. One area that is virtually ignored today is the casting of hollow-pointed bullets and hunting with same. Elmer Keith was a major proponent of cast hollow-points, but interest in this area has waned in recent years. This is really unfortunate because some really fine hunting bullets can be made, and in fact, the hunter can tailor the final expansion characteristics to his (or her) specific desires and needs.

I feel that cast HP's are better bullets than their commercial jacketed counterparts. Undoubtedly, the personal pride of creating the cast HP's factors into this bias, but I feel that there is a solid, structural basis for this conclusion as well. Commercial JHP's, as good as some of them are, have a significant structural "flaw" stemming from the fact that they are made from dissimilar materials -- a hard (sometimes brittle) jacket and a soft, malleable core. Once the jacket opens up and exposes the soft core, the unsupported core can erode away, the jacket can fragment and the two distinct pieces can separate. The core must have the support from the jacket to withstand all the forces crushing it during the expansion and stoppage of a bullet. Therefore, the basic composition of a strong jacket/weak core requires a careful balancing act on the part of the manufacturer to get the jacket thickness and ductility to properly offset the core hardness, as well as cavity size, shape and depth. Obviously, these decisions require a certain amount of

compromise, and the manufacturer's final choices may or may not suit your particular needs.

The cast HP, on the other hand, is made of a homogenous alloy of moderate strength, that undergoes uniform and predictable deformation. The caster can easily dictate the degree of expansion to suit a particular application by varying the alloy composition and hardness.

Concerning the casting of hollow-pointed bullets, there are a few key points to keep in mind. On the choice of alloys, make sure to keep the antimony content low (around 3% or less) to keep the alloy soft enough (and not brittle) to expand smoothly at typical revolver velocities, and a small amount of tin is a must (1-2%). I like to use 9 lbs. of wheel-weights, with 1 lb. of lead and a couple of ounces of tin. This gives an alloy which is roughly 95% lead, 3% antimony and 2% tin, and makes excellent bullet metal.

Elmer Keith's favorite alloy for casting HP's was 16:1 lead to tin, with no antimony (roughly 94% lead, 6% tin). The tin serves to lower the surface tension and viscosity of the molten alloy, allowing it to fill out the convoluted shape of the HP mould more readily. Without the added tin, it can be very difficult to get fully filled out cast HP's. When casting HP's, make sure to keep the alloy hot and cast as fast as possible. This is important because the spud cools quickly once removed from the mould blocks and you only have one cavity's worth of molten alloy going into the mould blocks per cast. Casting quickly with a hotter than normal alloy helps keep the mould blocks and HP spud up to temperature.

Some HP moulds are readily available (for example, Midway carries an assortment), others are old designs that haven't been made in years, and others yet may exist only in your imagination. Is this a problem? Not if you know (or are) a good machinist. A single-cavity base-pour mould in good shape can be converted to cast HP bullets by any machinist worth his cutting oil (index off of the internal faces and cavity, the external faces of the mould blocks may or may not be square to the internal faces). With the 4- and 6-hole gang moulds that are all the rage these days, single cavity moulds can often be found at gun shows for very reasonable prices, making experimentation affordable.

Where does the cast HP fit in, in terms of hunting? Obviously, these expanding bullets are not well-suited for dangerous game, or other situations requiring extremely deep penetration. However, they handle vermin, small game and medium game beautifully, and after all, these are what many handgun hunters spend most of their time in pursuit of. The smaller cast HP's are typically heavier than the light JHP's chosen for varmint hunting, so the cast HP has better long-range stability, accuracy and thump, as well as a flatter trajectory. And trust me, expansion is every bit as dramatic as with their jacketed counterparts! For the larger calibers, the combination of weight and controlled expansion makes them ideally suited for the taking of deer-sized game. In Sixguns, Elmer Keith recounted tale after tale of favorable results, obtained over many years, with cast HP's on chucks, jack rabbits,

coyotes, bobcats, mule deer and black bear. That qualifies as a solid endorsement in my book.

The following are some of my favorite hunting loads that take advantage of home-grown cast HP's. In .32 caliber, an old Ideal 3118 single cavity mould was modified to reproduce the original factory hollow-pointed version (which I've spent years searching in vain for). Bullets drop from the blocks at 112 grains, when cast with my pet alloy.

Sized .312" and loaded into .32 H&R cases over 6.5 grains of Acc. Arms # 7, these bullets leave my 6" S&W Model 16 at 1100 fps and group into delightfully small clusters (this gun just loves cast bullets!).

This makes a flat-shooting, hard-hitting varmint load, delivering dramatic expansion on rodents. Even after a busy day of varmint shooting, this sweet little load leaves the bore spotless.

The .38 Special is one of my favorite varmint/small game calibers, and a cherished 5-screw K-38 Masterpiece is one of my favorite .38 Specials. The Lyman factory used to offer, as an example of old-world customer service, hollow-pointed versions of any of their standard line of moulds (sadly, this is no longer true). These moulds are identified by the standard mould number, followed by the "HP" designation. An example of this is found in my Lyman 358480 HP mould, which drops a 128 grain SWC-HP, and makes a delightful varmint bullet when loaded in the above mentioned K-38 Masterpiece. Stoked with 4.6 grains of Bullseye, this little pill gets motivated to 1030 fps and delivers exquisite accuracy.

Searching for accurate .38 +P loads can be a little more challenging. HS-7 is a powder that has provided consistent and repeated success in this area. There are two very similar cast HP's that I prefer for .38 +P loads: the Lyman 358429 HP (a customer ordered hollow-pointed mould, as described above) and an old Ideal 358439 (an unusual example where the HP mould was numbered as a separate design, distinct from the "parent" SWC), both of which are based on the classic Keith 173 grain SWC. These two moulds have very similar external profiles, but differ in terms of their cavity depth and diameter. The Ideal 358439 drops bullets that weigh in a 154 grains, while the Lyman 358429 HP makes a product weighing 162 grains. In my tests to date, the lighter version seems to be slightly more accurate.

Interestingly, in spite of the difference in weight, velocities of the two bullets are identical when launched with the same powder charge. 8.5 grains of HS-7 sparked with a magnum primer, gives about 1060 fps and very good accuracy. Expansion with both bullets is positive on rodents and other vermin. This is as good as it gets with the timeless .38 Special.

When the Ideal 358439 is stuffed into a .357 Magnum case over 14.0 grains of H110, a new realm of handgun varminting is experienced. This combination delivers 1350+ fps out of most .357 revolvers, and its impact behavior puts it into the .22-250 class out to well past 50-60 yards.

"Explosive" is an over-used cliché in the shooting industry, but it's really the only word that fits here. Envision a suicide-bomber prairie dog, with an M80 strapped to his chest, and you'll get the idea. Again, accuracy is good and leading is not a problem.

The Lyman 429421 HP (the 235 grain HP version of the classic SWC, and a "standard" mould for many years) was one of Elmer Keith's favorite hunting bullets. In Sixguns, he included some beautiful pictures of cast HP's, one of which was of a perfectly mushroomed 429421 HP, recovered from a mule deer that he shot with his famous .44 Special load. This picture was the genesis of my fascination with casting hollow-pointed bullets. In my experience, this bullet only expands modestly at an impact velocity of about 1000 fps, unless cast quite soft. The reason for this minimal expansion is that the spud is the same diameter as in its .357 little brother (the Ideal 358439), leaving much thicker walls in the .44 HP than in the .357 HP. Elmer Keith designed this bullet for 1200+ fps, and it shines indeed when launched with his .44 Special load using 17.0 grains of 2400. For hunting deer-sized game, this load delivers all that a handgun hunter really needs.

When the 429421 HP is loaded into a .44 Magnum case over 23.5 grains of Winchester 296, velocities jump up to the 1350-1400 fps range. Expansion of the 429421 HP is smooth and positive at this velocity. This combination makes a great jack rabbit load, unless, of course, you're trying to make hasenpfeffer (it's just too destructive for edible small game). For larger game in the deer/antelope class, this flat-shooting, hard-hitting load delivers the goods, and is hunter-friendly on all counts. The Lyman 429244 HP provides more of the same for those who prefer gas-checked bullets.

After searching for years, I was finally able to track down and purchase a Lyman 454424 HP, the 245 grain HP version of the traditional Keith SWC for the .45 Colt. This particular mould is one of the finest HP moulds I've ever run across. The cavity is so round, and the spud so concentric with the cavity, the spud must be "popped" before the sprue is struck. If the sprue is struck first, the bullet simply spins in the cavity as there is insufficient resistance to "pop" the spud free at that point. The cavity on the 454424 HP is somewhat larger than for the .429" family, but the resulting wall thickness is quite similar. The 454424 HP was found to quite accurate with several favorite "recipes" for the .45 Colt (e.g. 8.0 grains of Winchester 231, 9.0 grains of Universal Clays, or 14.0 grains of HS-7), but once again expansion was found to be marginal in the 950-1050 fps ballpark (but I'm sure they'd expand just fine if cast of a softer alloy). Now keep in mind when I say that expansion is marginal for the .44 and .45 HP's at 1000 fps, that means they perform just like their SWC brethren, which to say the least, is none too shabby. Not surprisingly, when driven to 1200 fps (from a 7 1/2" barrel) with 20.0 grains of 2400 (this accurate load is for Ruger Blackhawk's and other strong, modern revolvers only) expansion is smooth and positive. The most accurate load with this bullet (from my 7 1/2" Ruger Blackhawk, anyway) was found to be 23.0 grains of Winchester 296 (again, Blackhawk's only) which delivers just over 1300 fps and prints ragged, one-hole groups at 25 yards.

I haven't shot any critters with this load yet, but that's only because one particular 200 lb. whitetail doe got very lucky last month. I was hiding in some waist-deep bunchgrass when she stepped out, broadside, 45 yards away. The front sight blade nestled in tight behind her shoulder, the hold was solid and the trigger broke cleanly ... unfortunately, the bullet encountered some of that bunchgrass that I was hiding in and was deflected off into parts unknown. She was untouched. Sigh, maybe next time...

Expansion is not solely the realm of the commercial jacketed bullet. You can make your own, and you can make them perform however you want a handgun bullet to perform. The cast hollow point can be one of the handgun hunter's deadliest allies.

- Glen E. Fryxell

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