

The Los Angeles Silhouette Club

In search of the perfect bullet...

By: Glen E. Fryxell



RCBS 44 300 Gr. HP GC
Loaded 44 Magnum

Does the perfect handgun hunting bullet exist? No. As soon as somebody declares they've found "the perfect bullet" then somebody else is going to come along and disagree with them, because we all have different tastes, priorities and criteria. Perfectly predictable, and as it should be. As Elmer Keith liked to say, "I'm all for a man killin' his own snakes, his own way."

Part of the fun of handgun hunting is the experimentation -- working with wildcat cartridges, fine-tuning handloads, figuring out which bullets work best for the velocity range of interest, etc. It's a good excuse to do a lot of shooting, learn some interesting (and sometimes useful) things, and fine tune your hunting tools to fit your tastes so you can get more out of your hunting experiences.

Years ago, JD Jones wrote an outstanding article for Handgun Digest (3rd Edition) called "It's the bullet!" where he outlined the thesis that the bullet is what does all the work, and therefore is arguably the most important variable in the overall hunting equation. For the handgun hunter, bullet selection takes on added importance because not all hunting bullets perform well at handgun velocities. Matching the expansion properties of the bullet to the gun and the game animal is key to success for the handgun hunter.

Back in the 1980s, JD Jones ushered the handgun hunting world into the realm of 300+ grain .44 Mag bullets with the introduction of the SSK 320 grain truncated cone. This bullet is designed to be a deeply penetrating solid for large game animals, and has racked up an impressive performance record, including elephant, Cape buffalo, Kodiak bear, and more. The commercial bullet manufacturers followed suit with a variety of 300 grain jacketed bullets for the .44 Mag. Some of these bullets are hard, and behave like solids (e.g. the Sierra JSP), some of them are soft and expand readily (like the Nosler JHP), and some are in between, providing controlled expansion (like the Hornady XTP). The advent of these heavyweights made the .44 Magnum a far more versatile hunting round.

Over the last half century, the .44 Magnum has established itself as the workhorse of the handgun hunter, and it makes a sensible starting point for the design of the "perfect bullet".

I enjoy making my own bullets. I also enjoy hunting with bullets that I've made myself. I've always wanted a 300 grain expanding cast bullet for the .44 Magnum to use on elk, caribou, moose, and such. I'm not talking about dangerous game like Cape Buffalo and grizzly (we've got solids like the SSK bullet, and several others, for that

job), but rather my focus here is on the relatively large, thin-skinned herbivores in the 400-1000 lb range. I have always felt that a large, heavy cast HP should work well on this class of critter. The bottom-line is that I've long wanted a 300 grain cast HP for the .44 Magnum, and nobody makes one.

Standard bullet moulds can be converted to drop HP bullets. On the surface, this is a fairly straightforward conversion -- drill a hole, make a HP pin, and put in some sort of keeper to hold the pin in place while casting. The tough part about all this is getting that hole in exactly the right place so the HP cavity is perfectly centered in the bullet, allowing the bullet to fly balanced and true. If one is a machinist, and has a lathe sitting out in the garage, and the skills to use it properly, then this isn't a problem. However, for most folks this isn't an option. Well, in that case Plan B would be to find a machinist and explain to them exactly what you want, and if they are willing to take on the job (and not all will), then you have to hope that they have a good enough understanding of bullet moulds (and their foibles) to get it right. I have gone this route in the past, and gotten very good results (I have also had a couple of moulds ruined by machinists who didn't understand the problem adequately). There are machinists out there who know bullet moulds and do spectacular work, and there are folks out there who don't.

Recently, a new business has come online called [Hollow Point Bullet Mold Service](http://HollowPointBulletMoldService.com), email - modify@hollowpointmold.com, (541)738-2479) out of Corvallis, Oregon. This business is focused entirely on making and repairing HP moulds. Erik knows bullets moulds, and more importantly he knows HP bullet moulds. I have had him work on over half a dozen bullet moulds for me, and in every case he has made me exactly what I've asked for, the cavities have been perfectly centered, the fitting and workmanship first-rate, and the prices friendly. The focus of this article is one very special HP mould that I had Erik make for me.

In a standard HP mould (i.e. like Lyman/Ideal have been making since the 1880s), the HP cavity is created by a pin that is inserted through a hole in the bottom of the mould blocks. After the bullet is poured and cooled, the sprue is struck, the pin removed and the bullet dropped from the blocks. This type of HP mould is most often seen on single cavity moulds, but this conversion can also be done to one cavity of multiple cavity moulds as well (making for a very versatile bullet mould).

Another type of HP bullet mould that is less well-known is the Cramer-style HP system. In the Cramer system, the HP pin is held in place by two transverse pins that slide through two holes in one of the mould blocks. This system holds the HP pin in place and makes it harder to lose. It also holds the pin close to the blocks and keeps the HP pin warm (very important for casting high quality HP's). It also allows for multiple cavities to be converted so the caster can make a lot of HP bullets fast!

The casting sequence is a little bit different for a Cramer-style HP mould. After striking the sprue, the mould is inverted over the "drop zone". By canting the mould slightly, then rapping the hinge pin of the handles, the mould opens and the weight of the bullets pulls the pins out from the blocks and the bullets drop free from the pins. Then just close the mould and cast again. It's a much faster casting cadence since there are no steps for pin removal and pin replacement. It takes a little getting used to,

but it's a very slick system.

Hollow Point Bullet Mold Service is the only business I know of that offers the Cramer-style HP conversion. For Cramer-style moulds to work smoothly, it is important that the HP pins need to be adequately tapered, polished and oxidized in order to get them to release the bullets readily. Erik understands this, and his pins make beautiful HP bullets that drop free easily. Erik has also upgraded the original Cramer design by replacing the transverse roll pins with precision ground hardened steel pins, which slide in and out of blocks effortlessly. Not only are these pins stronger and smoother than the original Cramer roll pins, they have the added advantage that if there is an overflow spill that goes over the side of the mould and onto the pins, it just slides right off the hardened steel pins and casting continues uninterrupted (for the roll pins, it sticks and you have to stop and pry it off before you can do any more casting).

OK, so I was looking for a 300 grain .44 caliber mould to convert to HP. When I found out that Erik was willing to do a Cramer style of HP conversion, then I knew it had to be a 2-cavity mould, so I could get both cavities converted. Now, it should be emphasized that not all moulds will work for the Cramer style of conversion -- there has to be enough "meat" left at the bottom of the mould for Erik to get both of the transverse pins through the mould blocks. Also, some mould designs have features in the way (mounting screws, handle slots, etc.) that can prevent this conversion as well.

For general purpose revolver work, I am big fan of plain-based bullets, as GCs simply aren't necessary for the pressures and velocities encountered in most revolver loads. However, for this bullet, I wanted to go with a GC because I wanted to be able to use it in my Marlin 1894 .44 Magnum levergun (at 1700 fps or so), as well as my .444 Marlin Contender (at around 1850 fps), and GCs are clearly an advantage in this ballistic regime.

Previously, I had gotten very good results with the RCBS .44-300-GC SWC bullet, and the RCBS mould has plenty of room for the transverse pins for a Cramer-style conversion, so the decision was made to send this mould in for Erik to convert to a 2-cavity Cramer-style HP. I had very specific design criteria in mind for this HP conversion: a HP cavity of .150" diameter at the mouth, a cavity that had a 7 degree taper and extended .250" into the bullet, and a HP pin that had a rounded tip (NOT flat, a flat-bottomed HP cavity can lead to stress risers during the expansion process and promote fragmentation). This cavity is a little shallower than many cast HP's. The thinking behind this design is simple -- use the HP to induce good expansion in the front 1/4 of the bullet, keep the HP cavity narrow to avoid early over-expansion, and keep the back 3/4 intact to maximize weight retention and penetration. Even if the nose is completely blown off during the expansion process in the first foot of penetration (possible at rifle velocities, but not likely at 1350 fps), there will still be a 250+ grain wadcutter left to punch on through the other side. At .44 Magnum revolver velocities, this bullet should turn into pretty little leaden mushrooms.

The RCBS mould was returned promptly, modified exactly as requested. Once I got everything warmed up and happy, the mould was dropping "keepers" every time and I got about 200 bullets cast in less than half an hour (try THAT with a single cavity

HP mould!). These bullets were cast to a BHN of about 11 using a mix of range scrap and linotype, and they weighed 297 grains. The parent RCBS SWC had weighed 303 grains when cast with WW alloy (similar hardness), so we had "removed" about 6 grains of bullet metal to make the HP cavity.



RCBS 44 Caliber 300 gr. SWC GC
Converted to Cramer style hollow point
By Erik Ohlen - Hollow Point Bullet Mold
Service

One of these days I'll get around to doing some systematic load development for this bullet, but I knew from previous experience that the RCBS and Lyman 300 grain SWC's shot very well over 21.0 grains of Winchester 296 (~1375 fps from a 7 1/2" Ruger SBH), so that was my "go-to" load for preliminary evaluation. These 300 grain HP's were sized .430", checked with Hornady crimp-on GCs, and lubed with my homemade Moly lube (equal parts by weight beeswax and Sta-Lube Extreme Pressure Moly-

Graph grease). Loads were assembled using Federal brass and CCI 350 primers. It was snowing at the time, so groups were shot indoors (50 feet). A variety of revolvers were used in this evaluation and what was really remarkable was how uniform the results were -- in virtually every case, 5-shot groups hovered right at 1 1/4" (the only exception being one group I shot with a 4 5/8" Ruger SBH where I flinched and threw a called flyer wide/left, the other 4 shots went into less than 1.3"). During these tests, only 2 of the revolvers were able to shoot these heavyweights to point of aim -- a 7 1/2" stainless Ruger SBH (that had an extra tall front sight installed years ago specifically for heavyweight bullets), and a stock 8 3/8" S&W Model 29-6. The other 3 revolvers employed in this test (6 1/2" S&W 629-1, Ruger 7 1/2" SBH Liberty Model, and stainless 4 5/8" Ruger SBH) still shot high at 50 feet with the rear sight bottomed out (they grouped well, they just shot high).

Chronographing this load gave velocities of 1325-1350 fps from the long-barreled revolvers and just shy of 1300 fps from the shorter guns. Expansion testing revealed that expansion was positive at .44 Magnum revolver velocities. For the most part, this load is going to be used in my 7 1/2" stainless SBH, but I haven't shot anything with this 8 3/8" S&W 29-6 yet, so I've decided to take this combination on a hog hunt I have scheduled for later this spring.

This load feeds and chambers just fine in my Marlin 1894 .44 Mag levergun. I haven't had a chance to do any testing with it yet, but based on how the 300 grain RCBS SWC shot in this gun, I would expect the HP to put 5-shots into 2" or less at 50 yards (iron sights), and it should generate right at 1700 fps with this powder charge. Likewise, later this spring I will also be testing this bullet in my .444 Marlin Contender. I will start with H322 and Fed 215 primers, and expect that I should be able to comfortably reach 1800-1850 fps with this bullet. No matter which gun I'm



S&W M29 8 3/8" 44 Magnum -
RCBS 297 gr. HP - 21.0 gr. Win
296 - CCI 350

shooting it out of (revolver, levergun, or Contender), this bullet should do a fine job on elk (and I have one very special 6x6 bull in mind...).

Is this the perfect handgun hunting bullet? No, probably not. Even if it was, there would still be disagreements about it. Is it one man's vision of the perfect handgun hunting bullet? Maybe, maybe not. But I'll tell you this, it's pretty doggone close! Hollow Point Bullet Mold Service transformed this vision of perfection into cold, hard steel, and made one cast bullet hunter very happy in the process. Perhaps you've been on a quest for your own vision of perfection? If so, good luck and good hunting!

Warning: All technical data mentioned, especially handloading and bullet casting, reflect the limited experience of individuals using specific tools, products, equipment and components under specific conditions and circumstances not necessarily reported in the article or on this web site and over which The Los Angeles Silhouette Club (LASC), this web site or the author has no control. The above has no control over the condition of your firearms or your methods, components, tools, techniques or circumstances and disclaims all and any responsibility for any person using any data mentioned. **Always consult recognized reloading manuals.**

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