The Los Angeles Silhouette Club

Headlong into the Hornet's Nest

Custom Ruger 25 Hornet Old Model Blackhawk

By: Glen E. Fryxell

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Like the acorn that eventually gives rise to the mighty oak, even the best ideas take a little while to take root and grow to their full potential. They need the right season, the right amount of rainfall, the right amount of warmth, the right amount of *time*. Such was certainly the case with the ideas that spawned this project.

Years ago, Gil Sengel wrote up an article about a couple of rifles he built that were chambered for one of the oldest wildcat cartridges, the .25 Hornet. I first encountered Gil's write-up in the compilation "Wildcats" put out by Wolfe Press. Right after that article is a piece by Al Miller on a similar wildcat he called the .257 Magnum, that was shortened slightly so as to fit in a S&W K-frame cylinder. Well-thought out wildcat cartridges fascinate me. These .25 caliber rounds took advantage of the selection of .25-20 bullets (both cast and jacketed) that were of appropriate weight for the case capacity, the very nearly straight-case design is ideally suited for use in revolvers, brass is easy to come by, and it occupies a ballistic niche for which there are no commercially available revolvers. Varmint hunting with revolvers is one of my favorite summer pastimes. I wanted to put something like this into a revolver, but the thought of cutting all those cases back tarnished the project's appeal. The seed was planted, but was as yet dormant.

It didn't sprout and take root for a while. Several years ago, Rob and Marilyn Applegate were about to come up for a visit. Rob and I were talking on the phone, discussing his K-frame 22 K-Hornet project and I mentioned that I'd had a few thoughts about doing something similar in .25 caliber. "Oh yeah? You need a barrel?" It turned out that he had a take-off barrel from a Ruger .25-06 that had been sitting in his shop for years that he wanted to see get cut up (someone had drilled and tapped it much too deep and it was unsafe to use in its current condition). It even had the 1 in 10" twist that Gil Sengel had found worked best in his guns. Spring rains were falling, the days were getting longer and warmer, and the seed was about to sprout.

Rob delivered the barrel a few weeks later during their visit. Some quick dimensions were taken and a chunk of barrel was extracted from the Ruger take-off and turned to rough diameter. At this point the project sat idle for several months. One day I walked into a pawn shop and stumbled across an OM .357 Blackhawk that was in pretty nice shape (but not quite collector grade). It had a very friendly price-tag on it, and followed me home. Originally, I was going to keep this .357 intact, as a shooter, but I soon found that even with the rear sight bottomed out it

wouldn't shoot anything but the 125's anywhere near point of aim, and all the heavier bullets (that I favor) printed much higher. I measured the OM Blackhawk's cylinder, it was just exactly the right length to house the full length .25 Hornet, with just enough room to spare. The Old Model's fate was sealed.

Now that I had a revolver and a barrel, it was time to get the ball rolling. I called Hamilton Bowen (Bowen Classic Arms, Box 67 Louisville, TN 37777, (865) 984-3583, www.bowenclassicarms.com, bcacorp@nxs.net) and ordered one of his OM Ruger Blackhawk cylinders with .218" pilot holes where the chambers should be (oh yeah, and since this conversation was taking place about a month after his book "Custom Handguns" came out, I ordered a copy). During our pleasant conversation I learned that the cylinders were out of stock, but the next shipment was due in shortly (that's OK, that gave me plenty of time to ogle the spectacular photography in his book until the cylinder arrived).

Next I called RCBS (800-533-5000, www.rcbs.com, 605 Oro Dam Blvd., Oroville, CA 95965) to ask about dies. Eventually, my call was routed back to the custom shop where I learned that they do indeed make dies for the .25 Hornet, but they have two different versions and they wanted to know who was making the reamer and wanted to see the spec sheet to make sure that they made the right set for me. OK, put the dies on hold for the moment…

There are several possible sources of reamers for the .25 Hornet (JGS, Clymer, Pacific Precision, etc.). To make my choice a little easier, I figured Rob Applegate, a man who has made his living turning cherries and cutting moulds would know a thing or two about reamers and reamer-makers, and so I sought his opinion. His response was simple and to the point, "Dave Manson is a good man and he makes perfect tools." Anybody who knows Rob (aka "Persnickety") and the exceptional of his quality of work, knows that "perfect" is not a concept that he takes lightly. A phone call to Dave Manson (Dave Manson Precision Reamers, 8200 Embury Road, Grand Blanc, MI 48439, USA, Phone: 810-953-0732, Fax: 810-953-0735, web address www.mansonreamers.com, david@mansonreamers.com and I knew the choice was the right one. He was very helpful in lining things out and telling me what he needed to give me exactly the reamer that I wanted. He would even handle the arrangements with RCBS to expedite production of the dies. Ever notice how so many people in the shooting sports are just flat *nice folks*?

In the meantime, I bought 500 R-P .22 Hornet cases, and ran 3 of them over a .256" expander ball. These cases miked .2935" at the case head, and .2725" at the neck (no bullet seated), and .274" with a Lyman 257420 (sized .2575") seated in place. These dimensions were e-mailed to Manson for reference in cutting the reamer, along with the request for .003"-.0035" clearances on all chamber dimensions and a .2575" throat. The reamer arrived a couple of months later. There were no surprises, it was simply exactly what I had ordered in every detail. A few of the pertinent dimensions include .297" at the case head, a .277" diameter neck that is .400" long and a .2575" throat. Chambers were hand-cut in the Bowen cylinder, and the Manson reamer cut smoothly and cleanly. The dummy rounds fit the freshly cut chambers like a hand slips into a custom-tailored buckskin glove. Perfect indeed.

The Bowen cylinder was fit to the frame without any problems. The barrel was then threaded and cut to fit the frame and cylinder. The fitting of the ejector rod housing and Bowen front sight was performed (as a birthday present) by my good friend (and expert pistol smith) Dave Ewer. The ejector rod was slimmed down until it would slide into the skinny throats of the .25 Hornet cylinder and eject empties. The gun was now ready to shoot.

The dies showed up a couple of weeks after the reamer, or rather I should say 2 of them did. There had been a mix up back at RCBS and the flaring die had somehow gotten overlooked. A phone call and a follow-up e-mail corrected the situation and a month or so later the flaring die showed up. After I started loading ammo for this project, I discovered a minor problem with the sizer die. A phone call to RCBS got me forwarded back to Stan in the custom shop. He told me to send in the die in question with 5 fire-formed cases. A month later I had a new sizer die, made to exactly match my chambers, and it works to perfection. Mistakes do occasionally happen (we're all human), but the mark of a good business is borne by how they make right on their mistakes. Thanks RCBS! That's good customer service.

Fire-form loads were assembled using the 85 grain cast FP from Western Bullet Co. (the Ideal 257283) , loaded over 3.0 grains of Red Dot, sparked with a CCI 500 primer. Accuracy was good with these light loads, and with formed cases in hand the loading project was underway. Test loads were assembled using the Lyman 257420 GC-SWC over 10.0 grains of H110, a CCI 450 (small rifle magnum) primer, Hornady crimp-on gas-checks and homemade moly lube (equal parts by weight beeswax and moly grease). Initial tests with this ammo resulted in poor accuracy, with groups running about 4" at 25 yards. Velocities averaged about 1530 fps, and varied considerably. Point of impact was about 14-16" below point of aim, indicating that the Bowen front sight needed to be cut down significantly. Further testing revealed the groups were getting progressively smaller, finally settling in at around an inch, so apparently the first groups were just a case of the gun getting broken in, de-burring itself and conditioning the bore. It was unsettling to note that the firing pin indents were off-center. The barrel and firing pin appear to be lined up, suggesting that perhaps the cylinder might be slightly out of alignment. However, a .250" range rod will go through the barrel and into the throats without contacting the throats, so alignment is within .0035". What's more there were no asymmetric lead deposits in the forcing cone to indicate off-center entry of the bullet into the bore. The bottom line is that the gun groups very well, and mechanically everything seems to be in order, so I chose to ignore the off-center indents.

The gun was stripped down, the front sight ground down to proper height and the face of the front sight serrated. The metal was next prepared for bluing.

All surface prep work and polishing was done by hand. Working up through the grits, it was taken to a high polish with 600 grit SiC and then "softened" with #00 steel wool to produce a satin finish. The gun was hot blued using a concentrated solution of sodium hydroxide and potassium nitrate at 300°F to produce a very satisfying deep satin black finish, similar in color to that used by Ruger *(don't try this at home unless you thoroughly understand the hazards associated with handling these chemicals under*

these conditions, I'm a chemist by trade and took the appropriate precautions -- boiling lye is not something to take lightly).

A little reference data is appropriate at this point. P. O. Ackley reported load data for the .25 Hornet in his *Handbook for Shooters and Reloaders*. His test arm was a rifle, so his velocities are higher than can be expected from a 7 1/2" revolver. Ackley reported the use of 11 grains of 2400 with a 60 grain bullet for 2035 fps, or 10 grains of 2400 with an 86 grain bullet for 1675 fps. In his piece on the .25 Hornet, Gil Sengel reported that 9.0 grains of 2400 with 75 grain bullets generated 2000 fps (once again, in a rifle), while 10.0 grains of 296 produced 2180 fps. A mild load of 4.0 grains of Unique with a 72 grain cast bullet delivered very nice accuracy and 1475 fps. I was guessing that revolver loads were going to run about 400 fps slower than these numbers. Time to start working up loads.

Bullets were cast of WW alloy, sweetened with 1-2% added tin, sized .2575" (to exactly match this revolver's throats) and were lubed with my homemade moly lube (equal parts by weight beeswax and moly grease). Bullets used included the Lyman 257420 GC-SWC (70 grains), the 257420 GC-HP (also 70 grains, interestingly), the Lyman 25727 HP (83 grains), the Lyman 25720 (86 grains), the similar Winchester .25-20 Single-Shot bullet (86 grains), and the H&G #54 (88 grain GC-FP) and the H&G #32 (67 grain GC-FP). Since the primary reason for this revolver is for varmint hunting, I was especially interested in finding good working loads for the cast HP's (the 257420 HP and the 25727 HP). Initially, bullets were sized .2575" in a worn (read “scratchy“) .257” sizer. Acceptable accuracy was obtained, but nothing that really lived up to the capabilities of a hand-fitted revolver. Using a new RCBS .258" sizer produced much better accuracy and was used for all subsequent loading.

In general the GC bullets seemed to shoot better than the plain-based bullets, which is not surprising at these velocities and pressures. No leading with either GC or PB bullets at these speeds, but the GC bullets did tend to produce smaller groups. Most of the loads tried would put 5 shots into 1 1/2" to 2" at 25 yards. A load was considered accurate if it would put 5 shots into less than 1 1/2", and very accurate if they went into 1" or less.

While the slower magnum pistol powders commonly turned in the higher velocities (no surprise there), the best accuracy was generally turned in by HS-6 and HS-7. The slower powders generally produced better accuracy with the heavier bullets (80 grains). As an interesting aside, this revolver tends to shoot different weight bullets to the same point of impact. Presumably, this is due to the combination of light recoil and high velocity.

As this is going to be a revolver that I hunt with a lot in hot, sweaty weather, I decided to put some Hogue imitation ivory (polymer) grips on it. I was pleasantly surprised with how good these grips look on the gun. I took this revolver to our annual Pacific Northwest Sixgunner Rendezvous and it was a big hit with the other shooters. They really liked the combination of high velocity and low recoil.

Some preliminary field results with cast bullets on rodents: the 257420 at 1550

fps proved itself to be a flat-shooting ground squirrel load that smacked the little rodents with authority on well-centered hits, but left a little to be desired with hits "around the edges". The HP version of this little GC-ed bullet was likewise tested and found to be just as flat-shooting, but notably more effective at anchoring rodents upon impact, with any kind of hit. This dainty little HP is not as explosive as the Keith HP (the Lyman 358439), but it expands readily and does a fine job in the field. The .25 Hornet should be adequate for critters up to about coyotes in size. When I'm handling this gun, I just can't seem to keep thoughts of Javelina out of my brain!

This has been a fun, and educational, project. While I don't expect that there's a huge market demand for revolvers chambered for the .25 Hornet cartridge, it does occupy a unique, and useful niche, and one that some handgun hunters will likely appreciate. It's easy to load, easy to shoot and exceptionally accurate. It should also be right at home in the Contender. Excuse me while I go load some more ammo...

- Glen E. Fryxell

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.**

Loading data for the .25 Hornet OM Blackhawk

Fire formed R-P cases
CCI small pistol magnum primers (unless otherwise noted)
Velocities are from a 7 1/2" Ruger Blackhawk

Lyman 257420 GC-FP (70 grains)				Lyman 257420 GC-HP (70 grains)			
Powder	Charge	Velocity	Comments	Powder	Charge	Velocity	Comments
HS-6	6.0 gr.	1524 fps	Accurate	HS-6	6.0 gr.	1546 fps	**Most accurate load tested**
HS-7	7.0 gr.	1503 fps	**Very accurate**	HS-7	7.0 gr.	1568 fps	**Excellent!**
AA # 9	8.2 gr.	1569 fps	Accurate	AA # 7	7.0 gr.	about 1600	Shows promise
H110	10.0 gr.	1530 fps	**Reduce 1/2 gr.**	AA # 9	8.5 gr.	1732 fps	Poor-vertical string
				2400	8.5 gr.	1754 fps	Poor-vertical string
				H110	9.5 gr.	1822 fps	Poor-vertical string

Loading data for the .25 Hornet OMBH (Cont.)

Lyman 25727 PB-HP (83 grains)

Powder	Charge	Velocity	Comments
HS-7	6.5 gr.	1511 fps	**reduce 1/2 grain**
AA # 7	6.4 gr.	1519 fps	
AA # 9	8.1 gr.	1412 fps	
2400	8.0 gr.	1420 fps	so-so
H110	9.0 gr.	1525 fps	poor

Lyman 257283 PB-FP (85 grains this bullet is available from Western Bullet Co.)

Powder	Charge	Velocity	Comments
HS-6	5.4 gr.	1586 fps	accurate
HS-7	6.1 gr.	1424 fps	accurate
AA # 7	6.0 gr.	1490 fps	shows promise

Ideal 257464 Loverin GC-HP (87 grains)

Powder	Charge	Velocity	Comments
HS-6	5.1 gr.	1264 fps	shows promise
AA # 7	5.7 gr.	1290 fps	**very accurate**
AA # 9	7.5 gr.	1402 fps	
2400	7.5 gr.	1352 fps	shows promise
H110	8.5 gr.	1355 fps	

Hensley and Gibbs #54 GC (88 grains)

Powder	Charge	Velocity	Comments
HS-6	5.0 gr.	1392 fps	
HS-7	5.9 gr.	1454 fps	
AA # 7	6.0 gr.	1348 fps	vertical stringing
AA # 9	7.7 gr.	1425 fps	accurate
2400	7.0 gr.	1321 fps	accurate
H110	8.5 gr.	1455 fps	poor

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