The Los Angeles Silhouette Club

Something Old, Something New, Something Borrowed...

By: Glen E. Fryxell

A while back I had an idea that sounded pretty clever to me, so I went to work on it, had success with it and was pretty proud of myself. I figured that something like this had probably been done before, but couldn't remember seeing anything in print about it. Then, as the project was winding down, the prior art re-surfaced. My only consolation (aside from the fact that I had developed some pretty useful loading data) was that the man that beat me to the punch was none other than Elmer Keith. Perhaps my inspiration for this concept came from some dim, dark recollection of his writings (I'm certainly not going to rule that out), maybe it was indeed original. Who cares? Anyway, I thought I'd share some of the results that will be of interest to the handgun hunting community.

I've had some rather androgynous concepts for putting together a 40+ bore wildcat in an iron-sighted 10" Contender for the lazy "stroll through the park" kind of hunting where you just kinda kick the bushes and see what comes out, and the shooting tends to be close, quick and not necessarily from the best angle. Penetration was to be the key performance parameter. Not surprisingly, the concept generally revolved around a .416 diameter bullet weighing 400 grains, usually just above the speed of sound for up close and personal thumping.

If this scenario sounds familiar to members of Handgun Hunters International, it should -- the inspiration for it came from a hybridization of J.D. Jones' "Woodswalker" and "Whisper" concepts -- a useful union of portable hunting power and heavy bullets (particularly cast bullets) at modest velocity. Penetration par excellence, sans belligerent recoil and bloodshot steaks.

You're probably thinking "Why not go with a .44 Magnum?". Well, basically 'cause I wanted to go with heavier bullets than were then available for the .44. The idea of 400 grains of bullet metal had real appeal (and besides, I was looking for something different to experiment with).

In any event, various case designs for this .416 came and went. Unfortunately, each had its own problems and was thus difficult to get enthused about, so the idea coasted for a while. As a brief philosophical aside, an excellent way to design a hunting cartridge is find an outstanding hunting bullet, identify its optimal velocity, and then construct a case capable of launching that bullet at that speed in such a way as to stay within the design limitations of the firearm in question (for example, the 120 grains Speer SP in the 6.5 JDJ, or the 200 grain Hornady FP in the .338 GEF). I'd really love to say that I followed this logical,

systematic approach with this project, but I'd be lyin' through my teeth. In reality, I just stumbled across some truly excellent hunting bullets with a long history of killing game, and the rest just kinda fell into place. Definitely a case of this blind hog stumbling onto this particular acorn.

Many years ago, John H. Barlow designed three different cast hollow point bullets for hunting deer-sized game with the .45-70. The middleweight slug was a beautiful 330 grainer that was chosen by A.C. Gould and cataloged by Ideal/Lyman as their mould number 456122 (now listed as 457122). This mould design has henceforth been known as "The Gould Bullet". Paul Matthews details many of his experiences with this bullet (and several others) in his fun little book "40 Years With the .45-70". These bullets were commonly cast using a 16-to-1 lead-tin alloy so that they would be soft enough to expand positively at modest velocity. They were, and still are, deadly. Reo Rake, a friend of mine who is a certifiable cast bullet and .45-70 nut, was casting some Gould bullets awhile back in my garage. I picked one up and started muttering about the "walkin' around gun" concept. What about the Gould in a .45 Colt? The bullets dropped from the mould at .457", sizing them down to .454" didn't distort them significantly and left them .002" oversized (sizing them all the way down to .452" in one fell swoop proved disastrous in terms of distortion). The hunt was on for a 10" .45 Colt barrel. Eventually one was secured, and yours truly was getting all wet and wild-eyed, and yet another hunting handgun project was underway.

Good idea? Yes. Original? No. It turns out that Elmer Keith had the very same idea about 75 years ago. He took .45-90 flat-pointed bullets, sized them .454" and loaded them over a heap of black powder for use in his Colt SAA. He killed a fair number of critters with these loads before he decided that they were just a bit too much for the thin-cylindered Colts. So this idea is hardly new, but the combination of smokeless powders, .45-70 bullets sized .454" and seated long for use in a Contender does put a bit of a fresh shine on an old gem.

As I was writing this project up, I bought a copy of the Handloaders Digest 1996, in which I found a somewhat similar project dealing with heavy cast bullets in a .454 Casull revolver, written up by P. A. Widegren. The Freedom Arms revolver allows loads to be pushed to much higher pressures than the Contender can handle, but the revolver's cylinder also requires deeper seating of the bullets than is allowed by the throating of the single-shot. Similar in concept, but very different in terms of pragmatic load development.

Before we get into the meat of the loading data, there are a few points that must be borne in mind. The loads discussed below require that the bullets be seated long. To the best of my knowledge, my .45 Colt barrel (note: this is not a .45/.410) has the T/C factory standard throating and will allow seating these cast bullets to an OAL of about 1.9" (a .45 LONG Colt indeed!). Seating the bullets more deeply to more typical .45 Colt OAL's will reduce case capacity and increase peak chamber pressure to the point of being dangerous. Traditional .45 Colt loads commonly use some of the faster burning pistol powders. Do not use the faster pistol powders to try to duplicate these velocities. These are big, heavy

bullets and slow powders are absolutely necessary to keep pressures reasonable. Don't use any .45-70 jacketed bullets (.457" to .458" in diameter) in a .45 Colt Contender (.452" groove diameter). A cast bullet that is .002" oversized is OK, but a jacketed bullet that's .006" oversized is going to jack pressures up to Contender wrecking levels. Likewise, don't use any .458" cast bullets in a .45 Colt T/C, size them .454" and both you and your gun will be much happier.

Anyway, with a fresh supply of .454" Gould HP's on hand, I started load development with Accurate Arms 1680 since it had performed very well in other loading projects involving straight-walled pistol cartridges launching heavyweight cast bullets from a Contender. Eventually, I tried powders ranging all the way from HS-7 on the fast side to BL-C(2) on the slow side. Three powders were found to give the best combination of velocity, pressure and accuracy -- they were AA 1680, IMR 4198 and Re 7.

Velocities of 1200+ fps were easily reached with all three and 5-shot groups generally ran about 1.5" at 25 yards with iron sights, with the best loads running right at an inch. There was no advantage to crimping or not crimping the loads, so I settled on no crimp so the brass might live longer.

Expansion testing was performed with a 12" water bath, backed up by a "bale" of dry newspapers. Expansion of the Gould HP (I prefer to cast these with about 7 lbs WW, cut with 2 lbs of lead, with a couple of ounces of tin added) going 1200 fps was positive, to say the least. For those of you concerned with downrange performance, the Gould HP will still be traveling at about 1030 fps at 150 yards, when launched with a muzzle velocity of 1200 fps. This is fast enough to induce modest expansion, if the alloy is reasonably soft (e.g. 20-to-1). With a 100 yard zero, they strike 2.7" high at 50 yards and 10" low at 150; ideally suited to iron-sighted handgun hunting ranges.

To keep this loading data distinct from my other .45 Colt data, I have been referring to the combination of a .45 Colt case with a .45-70 cast bullet sized .454" and seated to an OAL of about 1.9" for use in my Contender as the ".45 KGF" (for Keith-Gould-Fryxell, to recognize the contributors in the order of their contributions). Reo likes to call this my "Backdoor Springfield" in reference to the fact that these loads are ballistically reminiscent of the original trapdoor Springfield black powder loads. Not bad company to be found in, by the way. The Lyman Manual claims a 1 in 24" twist is used by T/C, but my barrel has exactly one half twist in the rifled portion of the barrel (which amounts to a shade over 8"), so I'm thinking 1 in 16" (or thereabouts) may be a little closer to reality. Either way, the twist is fast enough to stabilize heavier bullets and the original concept was a supersonic 400 grainer. So (sigh...), I was forced to explore the use of heavier .45-70 cast bullets (sized .454") in the .45 KGF. There are such sacrifices for the Grail of Ballistic Experimentation.

Grier's Hardcast of LaGrande, Oregon (phone number (503) 963-8796) recently added a few rifle bullets to their line, one of which is a beautiful 350

grain flat point for the .45-70. I got my hands on some of these and sized them down to .454". In the .45 KGF, it's no problem to run these FP's at 1200 fps. This is a very accurate bullet, and with its man-sized meplat it should make a truly outstanding hunting load.

A traditional favorite for the .45-70 is the Lyman 457193. This mould is listed as a 405 grain flat point, but bullets drop from my mould weighing 415 grains when cast of wheel-weights spiced with a pinch of added tin. The .45 KGF can comfortably launch this heavyweight at 1100 fps. This combination just might be the most pleasant, comfortable to shoot deep-penetrator available to the handgun hunter. The recoil is there, to be sure, but it's more of a slow shove than a sharp, wrist-wrenching jab.

The 457193 is a remarkably efficient projectile -- according to the Lyman Manual, launching this bullet at 1100 fps will have it flying at 1000 fps at 150 yards, and still chuggin' along at 900 fps at 400 yards! A 100 yard zero has it 3.5" high at 50 yards and 12" low at 150. Accuracy with this bullet was fair, with groups running 1 1/2" to 2" at 25 yards with iron sights (a significant portion of these group sizes could have easily been due to the shooter as it was cold and windy during the test session -- a stable sight picture and effective trigger technique are indeed difficult when shivering!). From my particular barrel, these loads shot to point of aim with the rear sight bottomed out.

OK, OK, I just had to play with the 500+ gainers, just to see what could be done with them without getting into trouble. The Lyman 457125 round nose drops out of my mould blocks at 520 grains when cast of the same alloy as mentioned above. 750 fps is pretty much maximum for the 520s, based on reasonable pressures. Yes, they do stabilize at this twist rate and velocity. No, they won't shoot to the sights (these slow heavy bullets still shoot high with the rear sight bottomed out). Accuracy was uninspiring at about 2.5" for 5-shot groups at 25 yards. However, these loads are probably useless for any real world applications (unless you happen to have some really fearsome saber-toothed bunnies ransacking your rutabagas, in which case these just might make the perfect "stopping loads"). If you insist on lobbing these spinning Winnebago's, you might as well shoot light loads at 500-600 fps, which are just too much fun! They are quiet, have modest recoil, leave a big hole and land with a big thump!

I freely admit that this is nothing more than a very crude bastardization of J.D. Jones' "Whisper" concept, but I'm not selling anything, or making any money off of this project, and the .45 Colt chambering and .45-70 cast bullets have been around even longer than J.D. has, so I don't think I'm "stepping on any toes" here. The main difference is that J.D.'s Whisper cartridges achieve this level of ballistic frivolity with sleek, shapely, aerodynamic match bullets (and tracers!) for serious (?) long-range plinking fun, as opposed to garden-variety, blunt-nosed bricks, suitable for spittin' distance bludgeoning.

Sheriff Jim Wilson coined the phrase "professional plinking" to describe the die-hard, get-brass-up-to-your ears, burnt-powder-in-the-gravel-pit-good-times.

The .45 KGF with 520s just might qualify as a professional plinker's load. And while it's not a silhouette load by any stretch of the imagination due to it's mortar-like trajectory, even the most stone-faced crotchety ol' curmudgeon (Wes, is that you?) will crack a smile when that low-flying lead mine smacks the steel. Momentum it lacks not.

You can shoot these loads in the popular .45/.410 barrels (with the choke tube removed!), but I wouldn't expect very satisfactory results due to the excessively long bullet jump and the stone-age sights. One of these days I'll have to try a few of these and see...

The hunting loads for the .45 KGF are the 330 grain Gould HP and the Grier 350 FP at 1200 fps, and the 415 grain FP at 1100 fps. The 520s are just for fun. AA 1680 consistently gave the highest velocities with the various cast bullets, but with only so-so accuracy. The best accuracy across the board was provided by IMR 4198, followed closely by Re 7. Calculations suggest that the maximum loads reported here develop chamber pressures on the order of 26,000-28,000 psi, which is acceptable for this cartridge in the T/C Contender.

I really like this "walkin' around gun". It's rather different than the original .416 concept, but it lives up to that vision quite nicely. Sometimes these neat "new" ideas that come along have solutions that are generations old. Ah, the joys of re-discovery!

- Glen E. Fryxell

The LASC Front Page Index to all LASC Articles

Glen E. Fryxell Article Index

Load Data On Page 6

Loading data for the .45 KGF

This cartridge is a simple .45 Colt case with a .45-70 cast bullet sized .454" and seated to an overall length of approximately 1.9" for use in the T/C Contender.

Barrel -- 10" T/C Contender .45 Colt
Primers -- CCI 350
Brass -- W-W

*(designates the most accurate load for that bullet)

	Powder	Load	Velocity
Lyman 457122 (the Gould HP) 330 grains - OAL = 1.94"	AA 1680	27.0 gr.	1251 fps.
	IMR 4198	27.5 gr.	1200* fps.
	Re 7	28.0 gr.	1225 fps.
	H322	33.0 gr.	1215 fps.
Grier Hardcast 350 grain FP OAL = 1.87"	AA 1680	26.0 gr.	1200 fps.
	IMR 4198	27.0 gr.	1185* fps.
	Re 7	27.0 gr.	1175 fps.
Lyman 457193 -- 415 grain FP OAL = 1.96"	AA 1680	23.5 gr.	1120 fps.
	IMR 4198	24.5 gr.	1090* fps.
	Re 7	24.0 gr.	1085 fps.
Lyman 457125 -- 520 grain RN OAL = 1.98"	AA 1680	16.0 gr.	750 fps.
	IMR 4198	12.0 gr. / 16.0 gr.	550* fps. 755 fps.
	Re 7	15.0 gr.	740 fps.
	H322	18.0 gr.	733 fps.

The LASC Front Page Index to all LASC Articles

Glen E. Fryxell Article Index