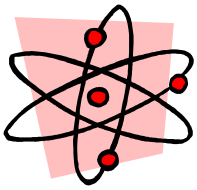
.375 ATOMIC



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Every once and a while, the gun community turns a blind eye to a great idea. I've always considered the .307/.356 Winchesters to fall into this class as does the 10mm Auto, .22 Jet, .225 Winchester, etc. Arguments can be made though for why all of these should've failed regardless of their performance and level of accuracy. One idea that was born, stalled, was reborn again, and is now lingering is the Supermag/Maximum revolver. Ruger tried it, produced about 10,000 .357 Maxs and then abandoned the stretch-frame concept. Dan Wesson has stuck with the Supermag platform for some time now, but production has been sporadic and the guns are often hard to acquire. In this time, they have championed many great pistol cartridges to include the .357 Maximum, .375, .414, and .445 Supermags. The former and latter have been used by hunters and silhouette shooters while the .414 is a more recent development. Of these, the .375 just never caught on in spite of being an excellent round. Much of this can be attributed to the fact that .375" isn't a standard pistol caliber. Whereas the .357, .414, and .445 were just lengthened versions of their magnum counterparts, the .375 Supermag isn't based on any other pistol round. I can't say that this strongly contributed to its demise, but it certainly didn't help it survive.

The only guns that I know of which commercially offered the .375 Supermag were the Seville single-action and Dan Wesson double. Many custom gunsmiths have chambered the TC Contender using this offbeat cartridge, but its use has not been widespread. Its viability in a revolver is further limited by the case length of 1.610", which necessitates an elongated frame. The Seville and Ruger Maximums could easily accommodate the .375, but standard length Blackhawks were short by 0.20". Secondary to the logistics of the .375 Supermag was the performance that it returned. It unquestionably exceeds the .357 Magnum, but doesn't provide that much over the .41 Remington. Recoil is less,

the round is flat shooting, and it may be better suited for 200 grain bullets when compared to the .357 Max. In spite of these advantages, the .41 Magnum accomplishes all of these in a smaller frame. Comparison of the two in Appendix #1 illustrates this point. What the .375 did offer was improved trajectory and less felt recoil when compared to the .41 Magnum. I'd say that this is a minor difference and when strictly limiting the comparison to overall performance, the two are neck-and-neck. Unquestionably, when the discussion turns to bullets in excess of 220 grains the .41 Magnum wins hands down; and it's likely that these arguments were made when the .375 Supermag was introduced in the mid-1980's. We had the .357 Maximum, the .41 Magnum had been around for twenty-plus years, and the single-shot guys had the .35 Remington. Why then a .375 offering?

Wildcatting and the question "why".....to many a cartridge isn't worth pursuing unless it's light-years ahead of the factory competition. Elgin Gates certainly answered the "why" with many of his wildcats. The .445 Supermag is easily 150-200 fps faster than the .44 Magnum and the .414 and .357 Maximum exceed their parent rounds by a similar margin. With respect to the .375 Supermag, there really isn't a .375 pistol that can be used for comparative purposes (certainly not the .375 JDJ). But does it really need to be compared to an existing handgun offering? All too often we try to justify the existence of a round by measuring it against an established cartridge. If this logic is extended to current production rounds, there's really no need for a .44 Special and a .44-40 Winchester, is there? With this in mind, let's get beyond comparing the .375 to the .357 Maxs and .41 Magnums of the world. Instead I'd like to focus on what the round offers and why we chose to duplicate it in a standard Ruger Blackhawk.

Everything that I've ever read about the .375 Supermag is that it's inherently accurate with mild recoil. Couple this with 200-grain bullets at 1,500+ fps and it becomes a very desirable round, especially when considering trajectory. Really, only two handgun types are suited for the .375 Supermag: 1) Thompson Center single-shots, or 2) Long-framed revolvers. Though my dad has been working with home-built Contender barrels for twenty-plus years, we were set on doing a .375" revolver. Sevilles in .357 Max and .375 Supermag can be found on occasion, but the price is usually high and most were fitted with silhouette length barrels (the Dan Wessons are equally as rare in .375). The Ruger Maxs can be had for $500 - $600, but I've never had the heart to tear one apart. Secondary to this, most of my custom Rugers are in stainless steel, so we looked to the standard Blackhawk as the starting point. Immediately, this rules out the possibility of doing a Supermag length .375 due to the frame size. With the Blackhawk, the frame window will accommodate a cylinder for case lengths

of ~1.40". Granted, this is a full 0.2" shorter than the Supermag, but if case pressure was increased…….well, you get the idea.

The name "Atomic" is not a phrase that we coined, but instead dates back to the 1950's. Around that time, Great Western Firearms was producing Colt Peacekeeper-type singles that were chambered for an assortment of calibers. One such offering was the .357 Magnum which was temporarily marketed under the guise of the ".357 Atomic". The designation is only representative of a using 16.0 grains of 2400 and a 158 grain bullet in the .357 Magnum. It does catch your attention though; I know when I first read Sixguns by Keith, the mention of a .357 Atomic made me think of a wildcatted round (something that easily outperforms the Remington Magnum). As far as I know, only a few Great Westerns were ever inscribed as Atomics, which accounts for their collectibility. The name is neat though and should be given to a round all its own.

We opted to use .30-30 brass as the parent case. It is easier to shorten .375 Winchesters to 1.40", but the brass isn't always available and the component cost is higher. Moreover, case preparation is similar to many of our other wildcats in that the first step involves cutting a .30-30 slightly oversized. The necks are then expanded and full length sized without the need to inside case ream (when using 250 grain bullets, some reaming may be required). The result is a wildcat that is very close to it's workable dimensions, so fire-forming is minimal.

The donor gun was a new stainless Blackhawk in .357 Magnum. Upon receipt, the barrel and cylinder were discarded and retired to our stockpile of unused Ruger parts (I wish that Ruger would re-purchase Blackhawk components because our collection of cylinders & barrels is staggering). The first step was to machine a new cylinder out of 416 stainless steel while holding tolerances to a minimum. Bolt stops were cut to tighter specs than the factory job and the entire cylinder was fit to the frame to eliminate any sort of end-play. The other benefit of using a custom cylinder is the chamber dimensions. Whereas many standard single-actions have over-sized chambers, ours are cut to only 0.001" above outside case dimensions. As a result, we can more safely increase case pressure and also reduce the degree to which the brass is worked. Throats were cut to the appropriate measure of 0.3755". As with all of our conversions, the cylinder was line-bored to the frame.

Line-boring has become the buzz-phrase of custom single-action revolvers, and rightfully so. Whereas major manufacturers fit the finished cylinder to the gun's frame, line-boring allows the pilot holes to be cut in precise alignment with the barrel. Multiple techniques can be used to accomplish this and to that end I'll discuss the two that we've used. Regardless of what method

is employed, the cylinder has to initially be fit and timed to the gun. Specifically, the bolt stops and ratchet are machined first and lock-up must be nothing short of rigid (bolt bearing blocks can help accomplish this). On our early conversions, we would then mate the barrel to the frame and set the cylinder gap to a few thousandths. Next we used a brass rod that exactly fit the barrel to mark the dead center position of each chamber (accomplished by cocking the gun through a full rotation). The rod itself was pointed and when fit through the barrel, could be tapped to leave a small indentation on the cylinder face. From there the marks were located in an indexing head and the pilot holes were drilled through the front of the cylinder. Now I've never had any reason to believe that this wasn't/isn't a sound way to do a cylinder. The few that we manufactured in this manner were extremely accurate with outstanding barrel-to-bore alignment. What can be a limiting factor though is a barrel that isn't perfectly concentric. All of our conversions take steps to ensure that barrel concentricity is true, and when using those from the likes of Douglas, Shilen, and Pac Nor, this never seems to be an issue. Regardless, we later went to a frame mounted shank that allows the front of the cylinder to be marked. This not only reduces the need to have marking tools that exactly fit the bore, but eliminates the prefitting of the barrel prior to chambering. As before, these marks are located in an indexing head (set-up on a Bridgeport vertical mill) and the holes are drilled from the front. Lastly, the chambers are reamed using the same Hartford Super-Spacer as the indexing guide. I realize that many custom pistolsmiths actually line-bore while the cylinder is locked into the frame. There's no reason why this wouldn't be a sound way to cut cylinders; in my experience though, our technique works just as well without compromising alignment and/or accuracy. In essence, whether the pilot holes are drilled while locked in frame or not, the cylinder still has to be aligned in a milling machine to fully cut the bores. Twelve years and dozens of conversions later have proved it to be a viable way to make cylinders. To date, all have produced the sort of accuracy that one would expect from a custom single-action.

Pac Nor provided the barrel and we elected to go with a 6-grove variety using a 1-14" twist. Over the years, our custom rifles have primarily been done with Shilen, Douglas, and Hart barrels. It wasn't until I needed 10mm tubing in stainless for a pistol that I discovered Pac Nor. After multiple conversions using their barrel, I've developed a very high opinion of their product. Price is reasonable, the material is easy to machine, and accuracy has been outstanding. We decided to make the barrel length 7.5" using a cylinder gap of <0.002" and an 11 degree forcing cone. One reason that I prefer to fit the barrel to the gun after chambering is gap dimension. When cylinders are heat-treated and oil quenched, they require a fair amount of buffing and polishing,

especially prior to blueing (stainless requires the same amount of effort). In doing so, the front of the cylinder is polished in a lathe and this process certainly removes some degree of surface (be it small). Once this is finalized, the barrel can be installed and the gap can be set knowing that the cylinder face requires no further modification. As minor as it may seem, this is worthwhile when attempting to hold the gap at less than 0.002".

Velocities with the .375 Atomic are in line with those of the .375 Supermag. As an example, 200 grain bullets max out around 1,555 fps and the 220 grain variety peak at 1,505 fps. Now ballistically, this gives you .44 Magnum type energy with a trajectory that is slightly flatter than the .41 Remington Mag; felt recoil is also less. I would not recommend trying to "hyper-velocity" the Atomic by using slugs lighter than 200 grains (not that they even exist in .375"). Ideally, the 200 to 220 weight range works best, though a 250 grain could be used. Commercially available bullets that are suited for the Atomic include:

Barnes Original – 255 grain flat point
Hornady – 220 grain flat point
Sierra Pro-Hunter – 200 grain flat nose

We've used the Hornady 220 and the Sierra Pro-Hunter with excellent results. I will say that all of our work has been on silhouettes, so I cannot speak to how these perform on game. In some instances, these bullets are intended for the .375/.38-55 Winchesters so expansion is questionable in the 1,500 fps range. We have also worked with a gas-checked 200 grain slug that we've cast ourselves. Whether used in conjunction with reduced or maximum reloads, it performs well. Lastly, all Atomic loads make use of large rifle primers.

Not a lot of reloading data exists for the .375 Supermag, and that which does seems somewhat conservative. Specifically, the Hornady manual shows a maximum charge of 22.9 grains of H110 with a 220 grain bullet. Ironically, I can shoot 20.0 grains in the shorter Atomic, so I suspect that Hornady has kept pressure on the low side. In strong guns like the Seville though, there's no reason why the round can't be hot-rodded. Elgin Gates had noted that the Supermag works with 26.5 grains of H110 under a 220 grain bullet; a full 3.5 grains more than what Hornady specifies as max. It does appear that most of the published Supermag loads operate in the 40,000 CUP range, whereas we've pushed the Atomic to around 50,000 CUP. I can't speak to what's safe in other guns, but I do know the strength and lock-up of our conversions. With minimum chamber dimensions and extremely tight cylinder fit, I've never hesitated to open our 6-shot Rugers to the higher pressure. It wasn't until a couple of years into shooting this wildcat that I considered comparing its

performance to that of the 353 Freedom Arms. Nevertheless, I've been able to shoot a 200 grain bullet some 50-70 fps faster than the FA .357 Magnum and can do so at lower pressure (most high-end 353 loads approach 60,000 psi; comparison made using a 7.5" barrel). Secondly, Atomic brass life has been excellent with many cases sustaining 7-8 maximum reloadings…..the same cannot be said of .357 Magnum brass at the pressures used in the Model 353.

Now the gun that I just described is my personal .375 and was built in January of 2003. The first Atomic was actually completed by my dad in October of 1997 and it's taken that long to do a follow-up gun (not because it isn't an excellent round but instead because some other project always took precedence). All of the chambering reamers and reloading dies required for an Atomic conversion were home-built.

A photo of a 375 Atomic can be found in the gallery section.

If you have any questions or comments, I can be reached at sc429@yahoo.com

NOTE: These loads work in my guns and have not proved unsafe. I am however not responsible for these loadings in any other firearm. As always, maximum loads should be approached with care.

APPENDIX 1:

CARTRIDGE	BULLET (gr)	POWDER	CHARGE (gr)	VELOCITY*
.41 Magnum (1)	210	H110	21.0	1,503
.375 Supermag(2)	220	H110	23.0	1,382
.375 Supermag (3)	220	H110	26.5	1,715
.375 Atomic	200	H110	21.0	1,555
.375 Atomic	220	H110	20.0	1,505
.357 Magnum (4)	200	H110	19.0	1,500

(FA Model 353 Only)

(1) - S&W 657, 8.75"
(2) - Dan Wesson Supermag, 8.75"
(3) - Seville, 10.5" barrel
(4) - Freedom Arms Model 353, 7.5" barrel; UNSAFE in any other .357 Magnum

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