



Relative Strengths and Weaknesses

.44 Magnum DA Revolvers

The **Smith & Wessons** which started it all have unquestionably the best triggers and are aesthetically the best-looking .44 Magnum revolvers on the market. The vast majority of shooters consider them to balance and "point" far better than all other makes. The correctly-dimensioned chambers, throats, and barrels of S&Ws make them all very accurate. S&W also offers by far the greatest number of variations in this caliber (barrel lengths/weights, finishes, etc.) S&W customer service is second to none.

However, the Models 29 and 629, despite ongoing engineering and metallurgical improvements, are based on a frame design that is nearly a century old and was originally built to handle a cartridge producing less than 15,000 PSI pressure. With the advent of widespread high-volume shooting made possible by low-cost progressive reloading equipment, and the common desire to push extra-heavy bullets at magnum velocities, the S&Ws do not hold up as well under this type of treatment as the Rugers, Dan Wessons, or Taurus guns. (The 26.5-ounce Ti/Scan 329, a tremendous engineering achievement, has no track record yet but is unlikely to be stronger in this regard than its dimensionally identical all-steel cousins.)

Smith & Wesson has been here before, with the tremendously popular .357 Models 19 and 66. These guns did not stand up as well to high-volume magnum use as the company's own heavier Model 27. In this case, S&W does not (yet) make a more-durable gun in .44 Magnum than the 629.

Ruger's Redhawk and Super Redhawk are capable of digesting large quantities of 320-grain magnum loads without ill effect. That's the good news. The bad news is that from the factory they have poor quality triggers, and their design is such that even the most talented gunsmith can't make them as good as an out-of-the-box S&W trigger. Further, Ruger's interrelated dimensional tolerances for chambers, throats, and barrels are not nearly as precise as Smith & Wesson's, and Redhawks tend to be oversize in at least two and usually all three of these areas, with resultant mediocre accuracy. The problem is so pervasive that Hamilton Bowen has built a business out of taking Redhawks in .357 or .41 Magnum caliber and reboring, rerifling, and rechambering them to .44 Magnum so as to get the proper (tighter) dimensions. This more than doubles the cost of the gun but some are willing to pay that to get a bull-strong .44 that is accurate and points almost as well as a S&W.

Dan Wesson's .44 was designed by a firm that knows a lot about making a gun that is strong and accurate but considerably less about making a gun that feels lively in the hand. They are a small piece of the .44 Magnum market and many of their customers are competitive silhouette shooters.

Taurus makes a strong .44 that will take heavy loads and is usually quite accurate. Their rubber grips are very good at absorbing recoil. On the debit side, their triggers are mediocre, the guns are ugly, and if you dislike a muzzle-heavy feel you won't like the way they balance. All of them are "ported," which means

increased noise, lead blowback, and concussion. Quality control is spotty and customer service is sometimes nonexistent.

Colt's Anaconda is available again, from their custom shop. They have a fairly smooth action but are expensive and MUCH worse than a S&W at tolerating high-volume shooting. Their ideal customers are people who don't fire their guns and think the Python has great looks.

Hamilton Bowen, the custom pistolsmith mentioned above, takes a Redhawk in a smaller caliber and remachines it to a properly dimensioned .44 Magnum. He is doing what Ruger should be doing in the first place. Using his best efforts, his Redhawks feel almost as good as stock S&Ws, and are definitely more durable when using the heaviest loads.

.445 SuperMag DA Revolvers

The small **Dan Wesson** firm is the only DA revolver maker to chamber this long round. Thus, this little-known cartridge is only used by a fairly small group of silhouette shooters, handgun hunters, and experimenters who like to plink at long range.

.45 Colt (Heavy Load Capable) DA Revolvers

Ruger's Redhawk possesses all the strengths and drawbacks of the .44 Magnum version of that gun.

Bowen's custom Redhawk starts life as a .44 Magnum and gets rebored, rerifled, and rechambered to .45 Colt with proper (tighter and more precise) dimensions. This costs \$600 plus the cost of a .44 Redhawk.

Smith & Wesson makes the N-framed 625 in .45 Colt but this gun **IS NOT** suitable for loads anywhere near as heavy as what a

Ruger will accept because the N-frame's smaller cylinder gets VERY thin at the bolt stop notches when bored to accept .45 Colt cases. Loads must be kept to levels similar to factory ammo designed for 19th century revolvers.

.454 Casull DA Revolvers

Taurus' Raging Bull was the first DA .454. The gun is well made and accurate. Their rubber grips are very good at absorbing recoil. Like the .44, Taurus .454 triggers are mediocre, the guns are ugly, and if you dislike a muzzle-heavy feel you won't like the way they balance. All of them are "ported", which means increased noise, lead blowback, and concussion with the high-pressure .454. Quality control on the .454 seems to be better than the .44 and customer service has generally been pretty good with the .454.

Ruger's ugly Super Redhawk is available in .454. It required the use of a special alloy steel (Carpenter 465) and heat-treat because Ruger insisted on making their .454 a 6-shot gun. Other previous Ruger comments apply here.

Bowen's custom 5-shot Redhawk costs \$1400 plus your .44 Redhawk.

.480 Ruger DA Revolvers

Ruger's 6-shot Super Redhawk is also available in .480 Ruger, which can be thought of as a lower-pressure, shorter "little brother" to the .475 Linebaugh, a high-pressure cartridge Ruger DOES NOT chamber. The .480 is for people who want more power and bullet diameter than the .44 Magnum but do not want the intensity or concussion of the .454 Casull. The 480 gives 1325 FPS with a 325 grain bullet.

Taurus' Raging Bull is available in a 5-shot .480 Ruger. The gun is well made and accurate. Their rubber grips are very good at

absorbing recoil. Like the .44 and 454, Taurus .480 triggers are mediocre, the guns are ugly, and if you dislike a muzzle-heavy feel you won't like the way they balance. All of them are "ported", which means increased noise, lead blowback, and concussion. Quality control and customer service on the .480 seems to be on a par with the .454.

Bowen custom 5-shot Redhawks in .475 Linebaugh (see below) can also chamber and shoot .480 Ruger ammo in the same way that .357 Magnum revolvers can fire .38 Special ammo. The conversion costs \$1400 plus your .44 Redhawk.

.475 Linebaugh DA Revolvers

Bowen's custom 5-shot Redhawk costs \$1400 plus your .44 Redhawk. This high-pressure caliber will push a 400 grain bullet to 1400 FPS. The .475 Linebaugh is one of the best revolver rounds in the world for hunting big game.

.50 AE DA Revolvers

Bowen's custom 5-shot Redhawk costs \$1500 plus your .44 Redhawk, and includes four full-moon clips for this rimless round. The .50 AE fires a 325 grain bullet at about 1300 FPS in a revolver.

.500 Linebaugh DA Revolvers

Bowen's custom 5-shot Redhawk costs \$1400 plus your .44 Redhawk. This caliber will throw a 450 grain bullet at 1250 to 1300 FPS. Note that the .500 Linebaugh is actually a .510" bore and thus slightly larger diameter than the S&W round listed below. Linebaugh rounds cannot be used as "lower power alternatives" in the .500 S&W revolver.

.500 S&W Magnum DA Revolvers

Smith & Wesson's Model 500 was the first DA revolver chambered for this cartridge. The S&W .500 has a number of strengths that no other gun possesses.

First of all, with its .500" bore, 1.615" long case, 2.300" long cylinder, and maximum working pressure of 60,000 PSI, the S&W .500 can be loaded to MUCH greater power levels than any other cartridge listed here. Bullets for this long-cylindereed gun can be designed with noses .700" long in front of the crimp groove; this makes even more powder space available and truly impressive ballistics result, to the point that the gun really is suitable and not merely marginal for the largest African game. Semi-pointed cast slugs of 400 grains with .700" noses and .200" long shanks can achieve over 1900 FPS out of 8 3/8" barrels. 510 grain flatpoints can be sent out at over 1700 FPS, which is nearing the power level of the factory .458 rifle ammo that is being downloaded to be safe in double rifles. Longer 640 grain slugs for the .500 can get 1300 FPS, and a huge 725 grain bullet 1.4" long with a .460" diameter flat nose can be launched at 1175 FPS. Naturally, any of these bullets can be loaded to whatever lower velocity the shooter prefers.

Second, S&W has designed a recoil-absorbing grip that makes top loads tolerable in this gun.

Third, the .500 has S&W's expected excellent trigger, better than any other make discussed, and S&W's correct chamber/throat/bore dimensioning and tolerances for best accuracy. The .500 is one of, if not *the*, most accurate magnum DA revolvers made. The 500 also has S&W's traditional build quality and carries a lifetime warranty.

The drawbacks to the S&W 500 are in the "too much" category. The gun as now offered weighs 72 ounces empty and is extremely muzzle heavy with its full-underlug 8 3/8" barrel. It balances nothing like a traditional 6" or 8 3/8".44 Magnum with a half-

length underlug. The 500s come with non-removable muzzle compensators that greatly increase blast and lead blowback. Some shooters firing lots of cast bullets are seeing the comps fill up with lead and eventually they shoot them off their guns. Finally, many shooters do not need or want a gun with three times the energy of a .44 Magnum. The handloader can of course always load down his .500 S&W to whatever power level he prefers, but he is still stuck with a muzzle-heavy gun that weighs 5 pounds loaded. For many shooters, that's too much weight to carry on a belt and the balance is wrong.

Taurus, many believe, has a spy at the S&W factory. If this is true, he's not a very good one.

At the 2004 SHOT show, Taurus had a DA 500 on display. Delivery is supposed to be yearend 2004. The gun was priced \$100 lower than the S&W, but had two serious shortcomings compared to the Springfield offering: First, the trigger was much worse. Second, Taurus made the cylinder of their gun about .200" *shorter* than the one on the S&W. This won't mean much to those people who shoot only factory ammo, or who don't shoot. For the handloader, the shorter cylinder means a .200" shorter powder column with bullets designed to use the entire length of the cylinder, and this reduced case capacity means 500 foot-pounds LESS energy in top loads, and higher pressures for milder loads. Think of it like turning your .30-06 into a .308.

Some people (and I am completely serious here) enjoy owning guns without ever shooting them. They like to look at them, and show their friends. These people are good candidates for the Taurus 500.

Analysis

S&W's product line addresses three segments of the heavy magnum DA revolver market:

A. Shooters who want the highest-quality .44 Magnum revolver in a variety of styles and weights, in which they will primarily fire ammo no heavier than 240gr.-250gr. bullets at 1200-1400 FPS.

B. Shooters who want a featherweight .44 Magnum revolver that is safe with full-power loads, to be carried a lot and shot much less than a typical .44 Magnum range gun, or shot mostly with lighter loads.

C. Anyone who wants the most powerful DA revolver made, whatever it is (and perhaps disregarding practicality considerations) if accuracy, safety, and build quality are there.

S&W has thus far ceded the following eighteen segments of the heavy magnum DA revolver market to other manufacturers, who are currently filling the first twelve of these needs:

1. Shooters who want to fire full-pressure, heavy-bullet .44 Magnum loads (250 grain bullets at 1500 FPS or 320 grain bullets at 1300 FPS) out of their guns on a steady basis, want an affordable gun with fairly normal weight and balance, and want these things enough that they are willing to put up with lousy triggers and mediocre accuracy. (Ruger Redhawk buyers)

2. Shooters who want to fire heavy-bullet .44 loads (250 grain bullets at 1500 FPS or 320 grain bullets at 1300 FPS) out of their guns on a steady basis, want an affordable gun with a good trigger and excellent accuracy, and want these things enough that they are willing to put up with a heavy gun with mediocre balance. (Dan Wesson .44 Magnum buyers)

3. Shooters who want to fire heavy-bullet .44 loads (250 grain bullets at *more* than 1500 FPS or 320 grain bullets at *more* than 1300 FPS) out of their guns on a steady basis, want an affordable gun with a good trigger and excellent accuracy, and want to do it enough that they are willing to put up with a heavy gun with mediocre balance that uses non-standard brass. (Dan Wesson .445 SuperMag buyers)

4. Shooters who want an affordable gun in .45 Colt to shoot loads similar to the heaviest 44 Magnum ammo, such as 335 grain cast bullets at 1300 FPS, and want to do it enough that they are willing to put up with lousy triggers and mediocre accuracy. (.45 Colt Redhawk buyers)

5. and 6. Those people who want the things mentioned in 1 and 4 above in an accurate, better-quality gun and are willing to pay more than \$1300 to get it (Bowen rebored Redhawk in .44 Magnum or .45 Colt buyers)

7. People who want a reasonably priced .454 Casull to fire either full loads or .45 Colts, and are willing to put up with either muzzle-heavy balance and lots of blast, or muzzle-heavy balance, weird looks, and indifferent accuracy. (.454 Taurus and Ruger .454 Super Redhawk buyers)

8. People who want a .454 and care enough about balance, accuracy, and build quality that they are willing to pay \$2000 to get them all in one gun (Bowen 5-shot .454 Redhawk buyers)

9. People who want a reasonably priced .475 caliber revolver to fire bullets heavier than the .454 at user-friendly pressures, and are willing to put up with either muzzle-heavy balance and lots of blast, or muzzle-heavy balance, weird looks, and indifferent accuracy. (.480 Taurus and .480 Ruger Super Redhawk buyers)

10. People who want a high-intensity factory-loaded .475 that can also shoot milder factory .480 Ruger ammo, and care enough about balance, accuracy, and build quality that they are willing to pay \$2000 to get them all in one gun. (Bowen 5-shot .475 Linebaugh Redhawk buyers)

11. People who want a well-made, well-balanced, accurate .50 caliber revolver of relatively standard size and weight that fires factory-loaded ammo, and are willing to pay \$2000 for it (Bowen 5-shot Redhawk in .50 AE buyers)

12. People who want a well-made, well-balanced, accurate .50 caliber revolver of relatively standard size and weight that fires a 450 grain bullet at 1350 FPS, and are willing to pay almost \$2000 for it. (Bowen 5-shot Redhawk in .500 Linebaugh buyers)

and

13, 14, 15, 16, 17, and 18. People who would buy something similar (or superior) in quality, balance, strength, and accuracy to the Bowen-modified Redhawks (described in numbers 5, 6, 8, 10, 11, and 12 above) if those guns were available with a lifetime warranty, shot factory ammo, and sold for a suggested retail price of under \$1000.

Recommendations

Current Models

Just as Smith & Wesson continues to produce their excellent Model 66 despite the fact that it will not tolerate constant use of heavy .357 loads as well as other, stronger .357 revolvers, so should the Company continue to produce their 629 and 329 in the

various standard and Performance Center versions. These existing arms are the best choices available for a large (probably the largest) segment of the .44 Magnum-buying public: those people who want an affordable .44 Magnum with the best possible trigger, best feel, best balance, best workmanship, best warranty, best quality control, and best customer service and who don't need or want to shoot bullets heavier than 250 grains at magnum velocities on a regular basis.

For those who want the most powerful handgun possible, S&W should expand the appeal of their .500 with more choices of barrel lengths such as 5" or 6" (as they are already doing with the coming 3 1/8" version.) All barrel lengths should be available without full underlugs or comps to improve balance, reduce blast, and allow the use of sabot subcaliber bullets. (A 6" no-comp .500 with a faster twist is capable of launching .308 bullets in sabots at .30-06 rifle velocities.) Here are pictures of two remachined 500s I did in no-comp, half-underlug configurations with [8 3/8"](#) and [6"](#) barrel lengths. Reaction to them has all been positive. S&W should rotate runs of these different-barreled variants, with different versions going in and out of production, as they do with other models such as the Mountain Guns. See which versions of the .500 sell best.

Although Smith & Wesson could easily offer the .445 SuperMag in the X-frame that houses the .500, there may not be a big market for this long-cased .44. Production time should be focused where it will bring the most benefit.

Suggested New Models

In 1981, S&W addressed the issue of .357 shooters who wanted to fire large volumes of Magnum loads through their medium-frame guns by introducing the L-frame series of revolvers, with frames slightly bigger than the K-frame series. Similarly, to

address the needs of shooters who want guns described in paragraphs 1 through 18, **S&W needs a new frame size with design features not found on the existing N-frame.**

The good news is that S&W *already has* this frame size—almost. The X-frame is immensely strong and solid, with its large-diameter cylinder and its crane lockup. It would take one engineering change to the X-frame, easily performed on modern NC equipment, to make it perfect for cartridges such as the .454: Make the frame and cylinder exactly .400" shorter. The sideplate, internals, hammer, barrel, shroud, etc. would all be the same. All S&W revolver frames are forged, so S&W would have to get a new forging die made to forge the .400" shorter frame blanks. I don't know how expensive forging dies are, but I can't believe it would cost more than \$25,000 (\$3,000 in raw materials and 400 man/hours labor costs from the supplier that makes the forging dies seems VERY generous. For all I know it could be a fifth of that.)

A shortened X-frame with a non-counterbored cylinder 1.900" long would give Smith & Wesson the perfect platform on which to build a variety of guns that would be superior in every way to anything currently on the market from Ruger, Taurus, Dan Wesson, or even Hamilton Bowen. Let's look at what these new models built on a shorter X-frame (I'll call it the "XS" for "X-Short") would be like:

First New Model: The Heavy-Load .44 Magnum

A .44 Magnum built on the XS frame with the same steels and heat-treat as the existing .500 could, if you used rifle primers, tolerate over 60,000 PSI loads on a regular basis, since that's the working pressure of the .500. This means that an XS-frame .44 Magnum would last *forever* shooting the 45,000 PSI loads with 320 grain bullets that Redhawk and Dan Wesson shooters like to run through their guns. With a cylinder slightly longer than the Redhawk or other .44 Magnum revolvers, companies like Garrett

Cartridges could develop their heaviest .44 Magnum loads with an OAL of 1.900" to prevent them from being fired in any other revolver (particularly N-frames.) I believe an XS-framed .44 could be built with a 7-shot cylinder, keeping the bolt cuts between the chambers.

The wonderful weight and balance of the original 48 ounce 6 1/2" Model 29 could likely be duplicated by fitting a Mountain-Gun-style light contour barrel of 5"-6" to the heavier XS frame. This would result in a 46-50 ounce gun, just as the heavier-framed 686+ .357 Mountain Guns produced in 1998 weigh no more than smaller-framed Model 66s with the same length barrels. (Do the math: A 629 Mountain Gun with 4" tapered barrel weighs 39 ounces. The heavier frame, fatter cylinder, and 1-2 inch longer barrel of the XS-framed .44 would add no more than 8-9 ounces to that.)

A .44 Magnum that could live forever on heavy loads and that came out of the box with S&W's typical balance, feel, trigger, tolerances, accuracy, build quality, and customer service would, I believe, dominate the market currently addressed by Ruger, Dan Wesson, and Taurus .44s, as well as Bowen custom .44 Redhawks. Every serious .44 shooter would want to upgrade, especially since they wouldn't need to buy new brass, molds, dies, etc. A new holster would be the only possible new expenditure.

Second New Model: The .454 Casull

The XS frame would be the perfect platform for this high-energy hunting caliber, and all the comments mentioned above for the heavy-load .44 Magnum would apply, except the 7-shot capability. The gun could be built in any weight from 48 ounces up, the K-frame Sorbothane grip would soak up recoil, and shooters with girlfriends, or who didn't always want to shoot the heaviest loads, could fire .45 Colt factory ammo or appropriate handloads.

Finally, DA .454 shooters would not have to endure the shortcomings of the Taurus or Ruger Super Redhawk.

Third New Model: The .475 Linebaugh

If S&W elects to develop the XS frame, they should definitely offer it in the high-intensity .475 Linebaugh. This cartridge operates at 55,000 PSI and fires 400 grain bullets at 1400 FPS for GREAT penetration. In a DA revolver, the .475 is currently available only in a \$2000 Bowen custom 5-shot Redhawk. Factory .475 Linebaugh ammo is now available from Hornady and other makers will certainly follow suit if S&W starts building guns. For the shooter who wants a milder load, .480 Ruger ammo is a shorter, lower-pressure round that will work fine in this gun, just like a .38 Special in a .357 Magnum. No shooter in his right mind would buy a Ruger Super Redhawk or Taurus in .480 if a more powerful .475 Linebaugh (which could also fire the .480 round) were available with S&W accuracy, balance, feel, and build quality, at a price under \$1000. A 48 to 50-ounce XS-framed .475 Linebaugh with a 5"-6" Mountain Gun contour barrel and Sorbothane grip would be the world's finest sidearm for a guide to carry.

Fourth New Model: The .500 Special/.50 Magnum

The XS frame would be the perfect platform for a true big-bore revolver less intense than the huge .500 S&W Magnum. The .500 Special (already developed by Cor-Bon) has a case length of 1.285", the same as the .44 Magnum or .45 Colt. With a frame and cylinder .400" shorter than the .500 Magnum, bullets with .620" long noses would give excellent ballistics. Ballistics would exceed the .500 Linebaugh by firing 450 grain bullets at 1350-1400 FPS. Starline and others are making this shorter brass right now, and we'll have factories other than Cor-Bon loading it as soon as S&W announces it.

As with the other iterations of the XS, the .500 Special/.50 Magnum could be built with a 5"-6" barrel and a weight of 48-50 ounces, and recoil with the Special loads would be a bit less than a 6" .44 Magnum 629. Recoil (and concussion) with the long-nose .50 Magnum loads would be less than the just-released 3 1/8" .500 S&W Magnum that weighs 56 ounces.

Ammo for the .500 Special/.50 Magnum could of course be fired in all .500 S&W Magnum guns.

Conclusion

S&W should build on the tremendous enthusiasm for the .500 S&W Magnum by offering more barrel lengths in lighter contours with no compensators. These would cost no more (probably less) to produce and would broaden the gun's versatility and appeal.

S&W should capitalize on the development work already done on the X-frame by bringing out a shorter variant made of the same materials and having the same heat-treat. The Company is now in a position where they are poised to produce versatile 48 to 52 ounce DA revolvers only slightly bulkier than the svelte 29/629 N-frame Mountain Guns which sell so well. These new guns would tolerate extended shooting at high pressures in .44 Magnum, .454 Casull, 475 Linebaugh, and .500 Special/.50 Magnum (this last pair uses the same length case with different loads.)

Final note: I spoke with a number of serious heavy magnum DA revolver shooters who each currently own at least a half dozen 29/629 revolvers, as well as other, heavier makes. I laid out the case for the XS frame as described above in the four suggested calibers, and asked what they thought of the idea. Responses were fairly uniform, along the lines of:

"I would sell every damned Ruger, Taurus, Dan Wesson, and Freedom Arms revolver I own and order [several, the numbers varied] of each of the four XS-framed models you've listed."

Food for thought.

If you're a DA revolver guy, and agree I've got a good point, send a brief email both to S&W and to me. Put XS FRAME GUNS in the Subject line. Tell us which of the four proposed new guns would interest you. Herb Belin is chief of product development at S&W. Herb's email address is hbelin@smith-wesson.com. Carbon copy me at jrinvest@earthlink.net in the same letter. Maybe Herb and I will both have a bunch of emails in our inboxes when we get back from SHOT. And maybe this time next year we'll be shooting some new guns.

John

Ross 2/6/04

3/9/05 Update: S&W is paying attention to the emails this page is generating. Keep them coming. They're listening. And they're considering making both stainless and Ti/Scan variants...

3/30/06 Update: Rumor has it we'll see 7-shot XS frame .44 Magnums in SS and Ti/Scan at the NRA Show in May in Milwaukee.

I've been pushing for 5-shot .500 Specials in both SS & Ti/Scan. Peter Pi at Cor-Bon says the .500 Special will have SAAMI specs by the end of June, with max. pressure of 38,500 PSI, same as the .44 Mag and .480 Ruger. That would mean S&W could EASILY build a Ti/Scan XS frame .500 Special, as the chamber walls would be MUCH thicker than those of the 329.

Using the excellent Suggest-A-Load program, a 400 grain bullet .900" long with a .610" nose length loaded to an OAL of 1.900" in the .500 Special could be sent out at 1400 FPS from a 5" barrel with pressure of 38,500 PSI. I predict a Ti/Scan .500 Special on the XS frame would weigh 36 ounces. If they build it, I'll buy and shoot it...