The Return of Colt’s New Frontier SAA!

Revised Nitro 100 from Accurate!

Loads for Oddball Rifles and Carbines

Ultralight 20-Gauge Loads

August 2012 | No. 279

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Colt fans will be happy to know that the New Frontier Single Action Army is back in production. Photo by Brian Pearce.

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Handloader 279
August 2012
Q: I am relatively new to handloading but have been reading Handloader magazine for about three years and have learned a great deal. Thanks for all the great information.

I have been reloading for my .44 Magnum and .38 Special revolvers and have been happy with the performance and thrilled with the savings. More recently I started reloading the .243 Winchester and have just purchased dies, primers and bullets for my 7mm Remington Magnum. I am not sure which powder to use. Some say that I can only duplicate factory load velocities with stick-type powders. I have used these (IMR-4350 and H-4350) in my .243, but they don’t meter well, and I end up weighing every charge. Is there a powder that does not need every charge weighed, while giving factory load velocities and good accuracy?

– F.M., Cody WY

A: Traditionally, many of the magnum rifle cartridges have been factory and handloaded with “stick” or extruded powders. These are accurate and help the large-capacity magnums reach advertised velocities. From a mass production standpoint, ammunition factories have also had difficulties in getting these powders to meter precisely. In some instances they have had the “sticks” shortened to improve metering. Ball or spherical powders have improved steadily over the past several decades and are now commonly factory loaded in many magnum rifle cartridges. They meter with precision, are accurate, reach desired velocities and are fast to load.

In the 7mm Remington Magnum, consider Ramshot Magnum, Accurate MAGPRO or Alliant Power Pro 4000, any of which will reach desired velocities and allow you to throw charges with almost perfectly consistent weights. You don’t specify the type of bullet you plan to use, so I cannot suggest data; however, both Western Powders (www.accuratepowder.com) and Alliant (www.alliantpowder.com) offer data.

.357 Magnum and 2400

Q: First off, let me thank you and your publications Handloader and Rifle for all the great information and articles. I just finished reading your article in Handloader No. 275, “From the Hip” on primers, and a red flag came up. I have shot thousands of .357 Magnum rounds loaded with 12.0 grains of Alliant 2400 ignited with CCI 550 Magnum Pistol primers. My worry is that I have about 3,000 still loaded and now have thoughts if I should pull the bullets and reprim and cast with standard primers. The bullets are all 158 grains, both jacketed and cast with gas checks. I started loading these many years ago, using the Speer Reloading Manual No. 7. The chart shows a 160-grain cast bullet with 12.0 grains as the bottom load at 1,150 fps and a 160-grain jacketed bullet with 13.0 grains as the bottom load, both with 2400 powder. The jacketed bullet shows a muzzle velocity of 1,170 fps.
Several years ago I purchased the two-volume set of the *Sierra Reloading Manual* (50th Anniversary Edition) and found that loads have changed. The chart shows the 158-grain JSP (.357 Magnum) loaded with 14.0 grains of 2400 powder as the starting load, reaching 1,200 fps. At the bottom of the page it states, “Loads less than minimum charges shown are not recommended.”

Back to my handloads, the cases don’t show signs of excess pressure. What do I do? Do I start pulling bullets? I greatly appreciate your help.

– D.R., Sidney MT

A: Even with the CCI 550 Small Pistol Magnum primer, your .357 Magnum handloads are safe due to the modest charge of Alliant 2400. I would not go to the time-consuming job of pulling bullets. Rather, after you have shot those loads, reload and prime your cases with a standard primer. This will reduce pressure and probably velocities, and I would suggest increasing the powder charge to at least 13.0 to 13.5 grains as minimums. You should see an increase in accuracy with lower extreme spreads.

With most standard primers you can use up to 14.8 to 15.0 grains of 2400 with 158-grain jacketed or cast bullets and stay within industry pressure limits of 35,000 psi.

.22-250 Twist Rates

Q: I have a Mauser 98 that was rebarreled and chambered to .22-250 Remington during the early 1970s by my late uncle. The chamber seems to be within SAAMI specifications, and it seems reasonably...
accurate with Federal factory loads using Classic 55-grain softpoint bullets. However, my handloads are problematic. I have been using Hornady 50-grain SPSX bullets with 35.5 grains of H-4895. Cases are Federal and primers are CCI 200 Large Rifle. Some bullets completely miss the target, and I see a vapor-like trail that goes out as far as 50 yards. Bullets that do hit the target don’t hold anything resembling a group. The rifle will stay under one inch all day long with factory loads, with some groups going into just over .5 inch.

Are my handloads too hot? I’m not seeing any of the usual signs of excess pressure with sticky bolt lift, excessively flattened primers or excess case head expansion. My loads are within published data. Any help would be appreciated.

– T.F., Midland TX

A: It is always difficult to accurately assess a problem without being there and seeing first-hand all the components and symptoms. That said, I suspect that the SPSX bullet is coming apart during flight, possibly due to a fast-twist barrel of perhaps one turn in 10 or 12 inches, rather than the one-in-14 inch twist normally encountered with this cartridge. This high bullet rotation speed, combined with the 22-250’s high velocity, may possibly be taking the Hornady SPSX bullet apart in flight. A rough lead will likewise play havoc to super “thin-skinned” bullets. The SPSX is a great varmint bullet, but its fragile nature is better suited to slower-twist barrels and a smooth lead.

I suggest measuring your barrel twist rate. If it is a 10- or 12-inch twist, you can get the SPSX to stay together by reducing loads and velocities or switch to Hornady’s V-MAX of the same weight.

.30-06 CASE CAPACITY

Q: I have been reloading a batch of Winchester Super-X .30-06 brass cases for many years, but after more than a dozen reloadings decided to discard them and purchase 200 new Winchester nickel-plated cases at a local gun show. I thought this would be a good idea to prevent excessive corrosion when in the field.

I am having two problems with the new cases. First, the nickel plating is either scratching or is flaking off around the case mouth. Second, my standard charge of Hodgdon H-4831 fills the case to a higher level. Should I use the same powder charge, or should it be reduced? Is there a way to prevent the nickel plating from flaking off?

– W.W., Chilliwack BC

A: It sounds like your new cases have less capacity than your “old” batch of Super-X. You don’t mention your load, however; unless your charges are pushed to the maximum, the slightly reduced case capacity probably won’t increase pressure enough to be problematic, but a chronograph is the best way to duplicate your old loads.

By the nature of nickel plating, as cases are fired and expanded then sized again, the plating often starts flaking off. Keeping your sizing die clean will minimize scratching, but little can be done to prevent the flaking.

* * *

BRASS RESOURCES

In Handloader No. 276, the .401 Herter’s Power Magnum was discussed in this column. It has come to my attention that there are two sources for brass: Bob Hayley (PO Box 889, Seymour TX 76380) and Buffalo Arms (660 Vermere Court, Ponderay ID 83852, www.buffaloarms.com). Both outfits create .401 cases from .41 Magnum brass and sell them by the piece.

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Zero Bullet Company, Inc.
P.O. Box 1188 • Cullman, AL 35056
Tel: 256-739-1606 • Fax: 256-739-4683
Toll Free: 800-545-9376
www.zerobullets.com

Herter’s .401 Power Magnum brass is available from new sources.
In 1961 Colt announced a new target version of the Colt Single Action Army revolver, the New Frontier SAA. It featured a fully adjustable rear sight in a flattop frame, ramp front sight, walnut stocks, high polish royal blue and case-colored finish. The revolver was intended to compete with the successful, adjustable-sighted Ruger Blackhawk introduced six years before. The lockwork remained the same as the original 1873 Peacemaker. Regular production began in 1962 with serial number 3001NF.

In an early brochure, Colt referred to the New Frontier as a “fourth Generation Colt,” but collectors and shooters generally refer to guns produced from 1961 through 1975 as “second generation” series. Standard calibers included .45 Colt, .44 Special, .357 Magnum and a limited number of .38 Specials. Barrel lengths included 4¾, 5½, 7½ and 12 inches. Production continued through 1975, totaling around 4,177 revolvers (or 4,265, depending on source).

In 1976 Colt retooled for the Single Action Army and in that process changed the cylinder bushing, ratchet, hand and the barrel thread from 20 tpi to 24 tpi. Production processes changed, but externally the gun appeared the same. These guns are generally known as “third generation” series. The New Frontier reappeared in 1978 in .45 Colt, .44 Special, .44-40 Winchester and .357 Magnum. Production ceased again in 1982, while the Single Action Army remained in continuous production.

Beginning in 2011, Colt announced the return of the New Frontier initially available in .44 Special and .45 Colt with 7¼-, 5½- and 4¾-inch barrels, but the latter length would not become available until 2012.

In the meantime, I met with Colt engineers to discuss the New Frontier and SAA revolvers. Some of the points
Colt’s New Frontier revolver is back!

The head engineer had concerns that doing so would increase chamber pressures, and with the thin chamber support where the bolt notch is cut, would be something of a liability. In response, I suggested that cutting chambers to industry minimum specifications would increase the chamber wall thickness under the locking notch cut. (Prior to around 1915 to 1920, Peacemakers featured chamber throats of around .451 to .453 inch.) Besides, most industry specification .45 Colt loads actually reach peak pressures before the bullet leaves the case.
New Frontier SAA .45 Colt

My suggestions for improving the New Frontier may sound a bit demanding, but I am something of a Colt Single Action connoisseur, with a great appreciation for the superb quality and workmanship of 1873- through 1920-era guns. If Colt would assemble and finish these new guns with that same degree of quality, it would sell every gun that could be made – and would be in a continual back-order mode.

When the New Frontier .45 Colt with 4¾-inch barrel arrived, it most certainly had a different look than previous versions. The case-colored frame is bright, with a clear coat style finish; Turnbull Manufacturing confirmed it is case coloring the New Frontier frames for Colt. The bluing is brightly polished and deep, almost black in color, which is a departure from the high polish royal blue finish on early New Frontiers. Thankfully, the backstrap and trigger guard are polished as one unit with the frame, producing a notably better fit than has been seen from Colt on occasion. Unfortunately, the butt is ground with sharp corners, which dug a pretty good chunk of flesh out of the palm of my hand during long shooting sessions. The rather plain walnut stocks with gold medallion are oil finished. Overall the gun is improved.

The cylinder has the first- and second-generation style removable bushing, but the ratchet and hand are of the third-generation type. Timing is reasonable, with the bolt dropping within the bolt approach lead; however, when the hammer is at half-cock, the chambers do not align with the loading trough. The shooter is then required to manually move the cylinder to align the chamber for loading and unloading. Cylinder end-shake is minimal at .001 inch, and lockup is good, while the barrel-cylinder gap measures .004 inch. The forcing cone is cut at 11 degrees and is smooth and uniform. Trigger pull breaks at 5 8 ounces (3 pounds, 10 ounces), and the mainspring pull is moderate.

The front sight is of the same configuration as previous New Frontier revolvers, is reasonably straight and is without the severe overpolishing. The rear sight is the Elliaison version that is fully screw-adjustable for windage and elevation. The rear face of the sight is serrated and flat black, which offers minimal glare and is excellent for precision target work or field use.

Measurements that are critical to revolvers, and important for handloaders to be aware of, include throat...
size and groove diameter. The throats of Colt's latest New Frontier .45 Colt measure .456 inch, while the barrel slugged at .4515 inch.

Most commercial cast and jacketed bullets available as components measure .451, .4515 or .452 inch, although some cast bullet companies offer .454-inch versions. At industry .45 Colt pressures, 14,000 psi, jacketed bullets will not slug up or obturate, and neither will any commercial cast bullets with a BHN greater than 10. Pure lead swaged bullets with a BHN of 5 to 6 will usually obturate but can offer problematic leading, especially if velocities exceed 900 to 1,000 fps. Winchester and Remington traditional (non-cowboy) factory loads containing 255- and 250-grain lead bullets are of hollowbase design and readily obturate at these pressures. This prevents bullets from tilting in the throat before they reach the forcing cone and barrel. If a bullet tilts excessively in the throat, it remains that way down the barrel and downrange, so accuracy almost always suffers, sometimes drastically.

Ten factory loads were tried from a sandbag rest at a 25-yard target. These included cowboy-type lead, hollowbase lead, flatbase swaged lead measuring from .452 to .456 inch and jacketed bullets from .451 to .455 inch. As can be seen in Table II, accuracy varied considerably with some loads grouping 5-plus inches, while others clustered under 1.75 inches. Notable accuracy came from hollowbase lead bullets measuring .455 and .456 from Remington and Winchester, respectively. Overall, so-called cowboy loads with .452-inch hard cast, bevel-based bullets generally did not fare well. Plainbase lead bullets, such as the Hornady cowboy load with a .454-inch bullet, shot respectably with groups hovering around 2 inches. Winchester's PDX1 225-grain bonded load containing .455-inch bullets grouped consistently around 1.75 inches. This gun clearly favored

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Table I  **Colt New Frontier .45 Colt Handloads**

<table>
<thead>
<tr>
<th>bullet</th>
<th>powder</th>
<th>charge (grains)</th>
<th>velocity (fps)</th>
</tr>
</thead>
<tbody>
<tr>
<td>200 Speer JHP</td>
<td>Titegroup</td>
<td>7.1</td>
<td>853</td>
</tr>
<tr>
<td>225 Speer JHP</td>
<td>AA-5</td>
<td>12.0</td>
<td>935</td>
</tr>
<tr>
<td>225 Barnes XPB</td>
<td>Power Pistol</td>
<td>9.7</td>
<td>1,001</td>
</tr>
<tr>
<td>230 Hornady HP/XTP*</td>
<td>Power Pistol</td>
<td>10.0</td>
<td>967</td>
</tr>
<tr>
<td>240 Sierra JHC</td>
<td>AA-5</td>
<td>11.5</td>
<td>900</td>
</tr>
<tr>
<td>250 Speer Gold Dot HP</td>
<td>Power Pistol</td>
<td>9.0</td>
<td>888</td>
</tr>
<tr>
<td></td>
<td>AA-5</td>
<td>11.0</td>
<td>904</td>
</tr>
<tr>
<td>250 Nosler JHP</td>
<td>W-3N37</td>
<td>11.0</td>
<td>885</td>
</tr>
<tr>
<td>250 Hornady HP/XTP</td>
<td>AA-5</td>
<td>11.0</td>
<td>916</td>
</tr>
<tr>
<td>225 RCBS 45-225-CAV cast</td>
<td>AA-2</td>
<td>7.0</td>
<td>854</td>
</tr>
<tr>
<td>225 Rim Rock DE wadcutter</td>
<td>Power Pistol</td>
<td>8.5</td>
<td>998</td>
</tr>
<tr>
<td>250 Oregon Trail RNFP .454 inch</td>
<td>Red Dot</td>
<td>6.0</td>
<td>809</td>
</tr>
<tr>
<td></td>
<td>Bullseye</td>
<td>6.5</td>
<td>861</td>
</tr>
<tr>
<td>250 Oregon Trail FNFP .452 inch</td>
<td>I</td>
<td>6.5</td>
<td>855</td>
</tr>
<tr>
<td>250 Remington lead hollowbase</td>
<td>Red Dot</td>
<td>6.0</td>
<td>822</td>
</tr>
<tr>
<td></td>
<td>Bullseye</td>
<td>6.5</td>
<td>865</td>
</tr>
<tr>
<td>250 Speer lead SWC</td>
<td>Titegroup</td>
<td>6.2</td>
<td>755</td>
</tr>
<tr>
<td>255 Hornady lead FP</td>
<td>AA-2</td>
<td>6.8</td>
<td>806</td>
</tr>
<tr>
<td></td>
<td>Titegroup</td>
<td>6.0</td>
<td>809</td>
</tr>
<tr>
<td></td>
<td>Trail Boss</td>
<td>6.5</td>
<td>780</td>
</tr>
<tr>
<td>255 Rim Rock cast SWC GC</td>
<td>Power Pistol</td>
<td>9.0</td>
<td>951</td>
</tr>
<tr>
<td>255 Lyman 454190 cast .452 inch</td>
<td></td>
<td>8.2</td>
<td>922</td>
</tr>
<tr>
<td>255 Lyman 454190 cast .454 inch</td>
<td></td>
<td>8.2</td>
<td>915</td>
</tr>
<tr>
<td>280 RCBS 45-270-SAA cast</td>
<td>AA-5</td>
<td>10.0</td>
<td>903</td>
</tr>
</tbody>
</table>

* Use .45 ACP taper crimp.

Notes: All loads fired from a 4¾-inch barreled Colt New Frontier. Starline cases and CCI 300 primers used throughout.

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Table II  **Colt New Frontier Factory Loads**

<table>
<thead>
<tr>
<th>load (grains)</th>
<th>advertised velocity (fps)</th>
<th>actual velocity (fps)</th>
<th>25-yard group (inches)</th>
</tr>
</thead>
<tbody>
<tr>
<td>225 Buffalo Bore Barnes XBP</td>
<td>1,000</td>
<td>1,044</td>
<td>3.50</td>
</tr>
<tr>
<td>225 Winchester JHP Bonded</td>
<td>850</td>
<td>836</td>
<td>1.70</td>
</tr>
<tr>
<td>225 Buffalo Bore cast wadcutter</td>
<td>1,050</td>
<td>1,065</td>
<td>2.40</td>
</tr>
<tr>
<td>225 Remington SWC</td>
<td>960</td>
<td>938</td>
<td>1.85</td>
</tr>
<tr>
<td>250 Speer GDHP</td>
<td>750</td>
<td>816</td>
<td>3.25</td>
</tr>
<tr>
<td>250 Remington lead</td>
<td>860</td>
<td>845</td>
<td>1.80</td>
</tr>
<tr>
<td>250 Winchester Cowboy LFN</td>
<td>750</td>
<td>758</td>
<td>4.80</td>
</tr>
<tr>
<td>255 Buffalo Bore SWC GC</td>
<td>1,000</td>
<td>956</td>
<td>2.60</td>
</tr>
<tr>
<td>255 Hornady cowboy lead FP</td>
<td>725</td>
<td>704</td>
<td>1.90</td>
</tr>
<tr>
<td>255 Winchester lead RN</td>
<td>860</td>
<td>785</td>
<td>1.65</td>
</tr>
</tbody>
</table>

Notes: Colt barrel: 4¾ inches. Temperature during testing was 65 degrees Fahrenheit.
Handloads with noteworthy accuracy, grouping under 2 inches, included the 250-grain Remington lead roundnose hollowbase with 6.5 grains of Alliant Bullseye (865 fps), Hornady's swaged lead 255-grain bullet with 6.0 grains of Hodgdon Titegroup (809 fps) and Rim Rock 255-grain cast SWC-GC with 9.0 grains of Alliant Power Pistol (951 fps). Lyman mould 454190 with 255-grain bullets sized to .454 inch, pushed with 8.2 grains of Power Pistol yielded 915 fps and produced improved accuracy over the same bullet sized to .452 inch with the same powder charge. A notable accuracy improvement was likewise seen with Oregon Trail's 250-grain RNFP sized .452 versus the same bullet sized to .454 inch, both with the same powder charge.

An excellent field load included the 280-grain cast bullet from RCBS mould 45-270-SAA sized to .453 inch and pushed with 8.0 grains of Power Pistol (887 fps). This bullet was cast too hard (BH N 15, the only ones I had on hand) to obturate at such low pressures, but it seems that its long length helps prevent it from tilting excessively in the throat. I suspect that if the same bullet were cast with a 10 BH N and pressure bumped to 18,000 or 20,000 psi, accuracy would likely increase. Regardless, it proved accurate enough for hunting, with groups regularly hovering around 2 inches. The only problem was that the front sight was too short for bullets to hit larger diameter jacketed, lead bullets and hollowbase bullets.

In developing more than two dozen handloads for the New Frontier, similar accuracy patterns were observed. Nonetheless, I set out to see if accuracy could be improved and developed loads that would be useful for a variety of field purposes.
center at 25 yards, striking about 3 inches high, even when the rear sight was screwed all the way down.

Several 250-grain jacketed bullets were tried, including the Speer Gold Dot HP, Hornady HP/XTP and Nosler JHP, as well as the 240-grain Sierra JHC, with groups typically hovering from 2 to 4 inches. Having tried these bullets in other .45 Colt revolvers with throats measuring from .451 to .453 inch, they each have the potential to produce sub-one-inch groups at 25 yards, and in exceptional revolvers (usually custom guns with line bore chambers and match barrels), similar group sizes can be obtained at 50 yards.

Top-performing, clean-burning powders that gave low extreme spreads included Power Pistol, Bullseye, Red Dot, Titegroup, Accurate No. 5, No. 2 and Vihtavuori 3N37. CCI’s 300 Large Pistol standard primer was used exclusively, which gave proper ignition with all powders. All data in the accompanying table is within industry pressure guidelines for the .45 Colt at 14,000 psi.

Starline cases were used, which are of high quality and have proven to reduce chamber pressure when compared with other cases. They are available factory direct at 1-800-280-6660.

The Colt Single Action Army, Bisley, Flattop Target and New Frontier revolvers are a part of history and are useful working guns for the outdoorsman and hunter. The New Frontier was a favorite of Elmer Keith and Skeeter Skelton and has served me for taking deer, elk, black bear and smaller game. Its fully adjustable sights accommodate a variety of loads and provide an excellent sight picture for hunting and field work. After being dormant for three decades, it is good to have the New Frontier back.