

Dixie Slugs

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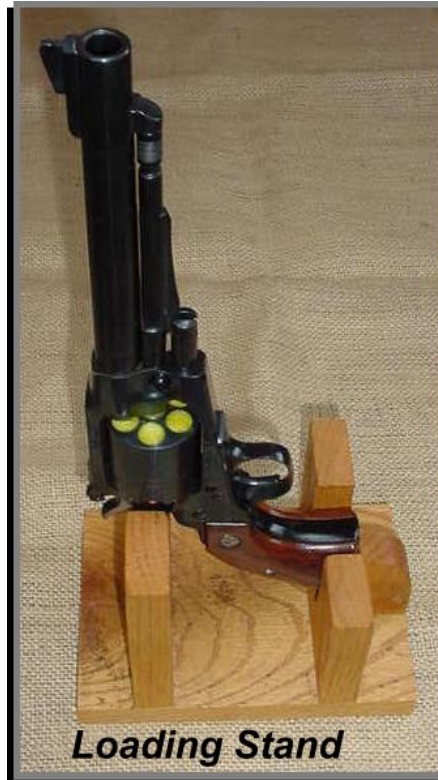
The Ruger Old Army-Part One



This is not a write up about Cowboy Shooting, Civil War guns, or a data sheet on how to load the Ruger Old Army. It is a write-up on how to set up the ROA as a hunting gun, or as a backup when hunting with muzzleloaders. The above shows the ROA guns that have been used in all our testing. The one with the 7 ½" barrel is an early pre-warning gun (1978) that had been in storage. The 5 ½" barrel ROA is one of ten handpicked guns that had special fitting and polishing. As all should know by now, the ROA is designed to use .457" pure lead balls. What is not well understood is they also can use conical bullets. The ROA's chambers will hold up 37.5 grs. of FFFg or an equal volume of the substitute powders under a pure lead ball. That is a powerful load for most use and would be very close to the original .44-40 or .45 Colt black powder loads. We found the Lee .456"-230 gr. conical shot best 35 grs. of FFFg (2.2cc). Lee advertises that bullet for the ROA. We have found two substitute powders that work very good in the ROA. They are Black Mag 3 and Triple Seven. Both were tested with 35 grs (2.2cc) by volume. In our tests, we selected Black Mag 3 as the best all around powder for both balls and conicals.

Hunting Loads with .457” Round Balls

The procedure for loading pure lead balls is very straight forth and can be seen in the Ruger Manual or on the Internet. For round balls, we suggest the use of an Ox-Yoke wad between the ball and powder and Ox-Yoke Grease Seals over the balls.



In this picture, we see the Ox-Yoke Grease Seals in a loaded cylinder with round balls. These Grease Seals protect against chain fire and lubes the balls. The Grease Seal also protects against moisture around the balls.



Here we see the CVA Cap Guards on the nipples. The Cap Guards protect against moisture and flying cap fragments. Both the Grease Seals and Cap Guards should be used on all hunting guns with round balls. The Cap Guards should also be used when loading conicals.

Ideal Nipples for the ROA Hunting Guns

While the standard Ruger nipples are good, the bronze Tresco-Ampco nipples are much better for both round balls and conicals. The Tresco-Ampco nipples have a smaller flash hole. This smaller flash directs a much higher temperature flame to the powder. This is very important when using a substitute powder. We did find in our testing, that Triple Seven caused some fouling buildup on the inside face of the nipples. If you use FFFg or Black Mag 3, The Tresco-Ampco nipples will give the smallest shot to shot velocity variation. If you use Triple Seven, or some other substitute powder, the regular ROA nipples are best. The Tresco-Ampco nipples can be bought from Track of the Wolf.

Hunting Loads with Conicals in the Percussion Cylinder

The very best conical we tested for the percussion cylinder is the Lee .456"-220 gr. Lee Conical designed for the ROA. These conicals have a rebated base that fits the ROA's cylinder throats and aid in keeping the conicals inline as the loading lever seats the bullet into the chambers. The conicals should be cast from pure lead. We then apply a thin coat of Alox over the conicals in the cylinder. When using the Lee conicals, a charge of 35 grs. (by volume) of Black Mag 3 or Triple Seven, gave ideal results. In most cases the conical will hit higher than the round ball load. This is no problem with adjustable sights, but could be with fixed sight guns like our 5 1/2" ROA.



Here is the hand picked ROA with a 5 1/2" barrel (note the fixed sights)

Let's Talk About Hunting Loads

Since most shooters will use round balls, I will discuss them first. The Speer and Hornady swaged round balls weigh 147 grs. All velocity tests were done with the 5 ½" barrel ROA. The loads were with 35 grs (by volume) of Black Mag 3. Velocity will increase about 50'/" from the 7 ½" barrel ROA.

The Speer/Hornady balls had an average velocity of 860.7'/" when loaded with Black Mag 3 and at 868.7'/" with Triple Seven. There was a little less variation shot to shot with Triple Seven. The ball groups were centered at 30 yards with the 5 ½" fixed sight ROA. Using Triple Seven, there was a fouling build up on the inside face of the nipples. Due to this, all further tests were done with Black Mag 3. Using a simple sand bag rest, all 6 shots were grouping well within 3" at a measured 30 yards with the fixed sights. I have no doubt this would be a killing load on thin-skin game out to at least 50 yards. Later tests showed the 7 ½" barrel ROA was consistently more accurate than the 5 ½" ROA due to the longer sight radius and adjustable sights. Next were the tests with the Lee .456"- 220 gr. conical cast from pure lead using 35 grs. (by volume) of Black Mag 3. This load gave an average of 830.7'/" , and impacted about 3" higher than the round balls in both revolvers. This conical load is very similar to the 1876 load set up for the Colt and Smith & Wesson guns by the military using the cartridge case. If the ROA is to be used as a close-in backup when muzzle loading hunting, I would prefer the Lee Conical to the round ball. I might add that there was no fouling build up at all when using Black Mag 3. There was a little gray build-up behind the nipples and was easy to clean off with a solvent.

The Kirst Konverter for the Ruger Old Army



An interesting addition to the Dixie set of Ruger Old Army revolvers was the purchase of a Kirst Konverter. The replacement cylinder is chambered for the famous 45 Colt. There are two conversion cylinders on the market. After talking to shooters, we chose the Kirst as being the best all-around. While some shooters will try smokeless powder loads in the Kirst, we suggest only black powder or one of the substitute powders. We also have found the very best substitute for black powder is Black Mag 3.



Here is a picture from the Kirst web page

It should be noted that the Kirst Konverter replaceable cylinder is 1.595" long. The Colt single action cylinder is 1.610" and the Remington 1875 cylinder was 1.540". We chose the Lee 452"-200 gr. Flat Nose as the bullet we were to load in the 45 Colt hulls. When using 35 grs. of Black Mag 3 or Triple Seven, the crimp groove was right. What I found interesting is the velocity of this load matched the conical load in the percussion cylinder in both the 7 1/2" and 5 1/2" barrels. We also cast some bullets from this mold using 94%-3%-3% certified bullet alloy and they weigh 205 grs. They were sized at .452" and loaded the same as the pure lead ones. This load gives deeper penetration and is the hunting load we selected for our .45 Colt/Kirst Konverter. These bullets can be lubed on the bullet sizer or tumbled in Alox. The overall all length with the Lee Flat Nose .452"-200 gr. is 1.565". After looking at the Lee .452"-230 gr., I think that bullet would be also be ideal. We will acquire a mold for that bullet and do further testing. When using Black Mag 3, the fired case should be dropped in water with a small amount of dish washing liquid. Letting them sit for a while and then rinsing them in hot clear water will clean them. Let them air dry and run them through your tumbler. It should also be noted that the Kirst Konverter is top-notch quality and is a precision fit in the ROA revolvers!

Other Loads

There is no doubt that the ROA is a strong built revolver! There is some smokeless loads advertised for the cartridge cylinders, but we prefer to use Black Mag 3 in the Kirst Konverter. Since all of the loading data above is based on 35 grs. (2.2cc by volume), other powders can be used. Those using black powder have told us that Swiss FFFg is by far the best.

Thoughts on Percussion Caps

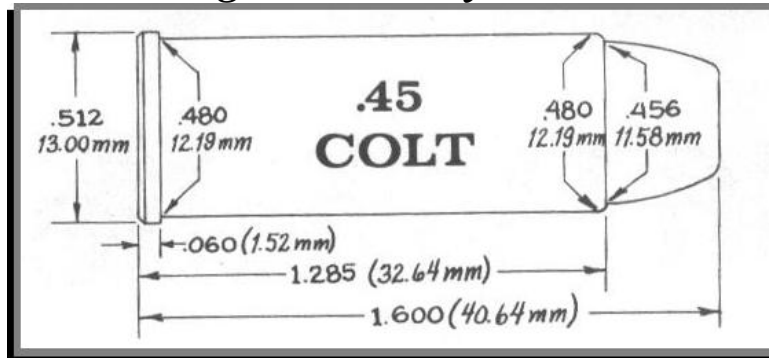
Over the years we have tried many brands of percussion caps. We have settled on the C.C.I. Mag. or the new Winchester Mag. BP caps, both being #11. As mentioned above, we use C.V.A. Cap Guards on the percussion nipples. After firing these, including the fired cap, can be flipped off with your fingernail. The shooter should be sure the unfired cap is snug down on the nipple. Some foreign caps have a thin silver metal disk inside over the priming mix. Stay away from them, as they tend to clog the nipples. The only two nipples we use in the ROA are the standard Ruger and the Tresco-Ampco nipples.

Backup Guns

When we started this write up, we said these ROA revolvers would be used as backup guns when hunting wild hogs or deer during muzzle loading season. Many of our readers will say we have gone into more detail than they need for general plinking, cowboy shooting, or whatever. All I can say, is when hunting with a single shot muzzleloader rifle, there will be times you do not have time to reload! That is when the proper loaded ROA comes into play! We have been there before indeed! I also think that the advanced handgun shooter can kill deer and hogs, within reasonable distance, with a proper loaded ROA. Of all things that will cause cap & ball revolver to fail, moisture creeping under the caps or getting in from the front of the cylinder is the worse! If the Cap Guards and some Alox around the conicals or balls in the percussion cylinder are used, the load will be a moisture proof as a loaded metallic round.

There are certain assumptions I have made in this write-up. The main one is that I have assumed the reader knows and understands the very basics in loading, cleaning, and maintenance of cap and ball revolvers. All of that can be seen in the manual for the ROA. That should be read in detail and understood before going into specialized data that is written here. What Dixie has ended up with is a versatile set of Ruger Old Army revolvers indeed! I assure you one, or both, will go with us when we hit the swamps.

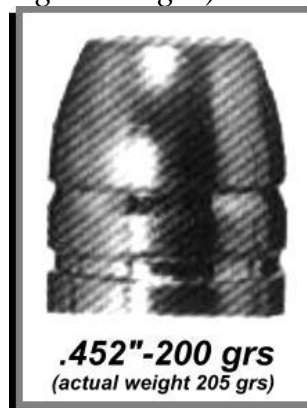
The Ruger Old Army – Part Two



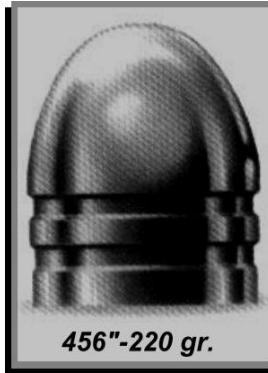
In part one, we discussed much general data for the Ruger Old Army revolver. In part two, we will discuss some specifics about ammunition for the ROA.

Having spent my entire adult life working for the gun and ammunition companies, I am greatly amused as to how shooters perceive things. A fine example is a percussion revolver shooting a Lee .456"–220 gr. conical load.

In 1876, the military had issued both the Colt and S&W Schofield revolvers to the western troops. The S&W's cylinder was shorter than the Colt. To make supply simpler, the military issued only the shorter S&W round for use in both the Colt and S&W revolvers. It is quite possible that the fame the 45 Colt round had really was from the shorter .45 S&W round. The .45 S&W hull was 1.10". So, let's look at the .45 S&W round. The .45 S&W round had a 230 gr. bullet with a velocity of 730'/" from both the Colt and S&W with 7 1/2" barrels. If we refer back to Part One, we find that the Lee .456"–220 gr. conical load in the ROA percussion cylinder has a velocity of right at 830.7'/" and that was from a 5 1/2" barrel. I see that the percussion load as being 100'/" faster than the .45 S&W load and that was from a 5 1/2" barrel! Makes for some realistic thinking! We can expect similar results using the Lee .452"–200 gr. (actual weight 205 grs) Flat Nose loaded in the Colt hull.



This .452"-200 gr. Flat Nose bullet from the Kirst Konverter impacts very close to the .456"-220 gr. conical from the percussion cylinder at 30 yards. It should be very obvious at this point is the ROA compares well with the other handguns cartridges like the .45 ACP, .45 Auto Rim, .44 Special, .44-40, etc. This puts the ROA right into a very respected class of revolvers.



Here we have the bullets mentioned so far. The first is the 456"-220 gr. conical (left) for the ROA percussion cylinder. The center bullet is the .452"-230 gr. conical also for loading in the .45 Colt hulls. Both of these bullets impact very close at 30 yards with 35 grs.(by volume) of Black Mag 3. We also have cast the .452"-200 gr. Flat Nose from bullet alloy (94%-3%-3%) and sized them at .452" in the Star. Using the hard alloy and sized/lubed, the .452"-200 gr. bullet (205 grs.) makes what we consider an excellent load.

At this point, we need to discuss cartridge cases. The original .45 Colt hulls were what is called balloon-head, while those made today are solid-base. The solid-base hulls hold quite a bit less volume. In fact today's .45 Colt case holds 2.2cc of volume to the base of the .452"-200 gr. and .452"-230 gr. bullets crimped into their crimp grooves. This fact will limit your choice of bullets. The .452"-255 gr. bullet (far right) could be loaded, but with less powder.

We consider the .452"-200 gr. (205 gr.) the ideal bullet, pure lead or hard cast, for the Kirst Konverter cylinder with 35 grs. (2.2cc) of Black Mag 3.

Some Random Thoughts

There are many brands of black powder and substitute powders on the present marketplace. Some are good, but some are not worth the time to discuss them. It appears that Swiss is the best of the true black powders. Of the substitutes, only Black Mag 3 and Triple Seven can be relied upon. Some others claim to be non-corrosive, but in fact have ruined many guns. Both Black Mag 3 and Triple Seven produce more velocity, per grain of powder, with less pressure than even black powder. Of the two, Black Mag 3 is truly rated as non-corrosive. The loading data listed here can be use with

both Black Mag 3 and Triple Seven. Some care should be noted with the possibility that Triple Seven may cause a crud ring of fowling in both cylinders.

There has also been some testing with smokeless powder Cow Boy loads. Most of these tests have been in production cartridge guns. While the Kirst Konverter is a strong cylinder and made with modern steels, we really do not know how it would stand up to heavy smokeless powder loads.

There also have been some round ball loads that have as high as 40 grains of black powder. However, there is little gained with more the 35 grains (2.2cc) of powder in either the percussion cylinder or the Kirst Konverter.



Here's a picture of Dixie's ROA...Loaded and Ready to go to the swamps!

Ruger Old Army – Part Three – Conical Loads

In Part one and Part two, we discussed a general coverage of the Ruger Old Army. In his final Part three, we will discuss the final selected general hunting load with a conical.



This is the Lee #452-200. This bullet drops heavier than 200 grs. Using pure lead it drops at 210 grains. When using 94%-3%-3% bullet alloy it drops at

205 grs. and has a .140 ballistic coefficient. We settled on this bullet alloy conical. The conical was sized at .452" and lubed with LBT Blue. We used R-P .45 Colt brass and WW large pistol primers. OAL loaded length is 1.555". Since most shooters will be using the ROA with the 7 1/2" barrel, that is the final length we chose to use. The powder charge is 35 grs. (2.2cc by volume) of Triple Seven. The Chrono was set at 10' from the shooting position.

The average velocity was 955.7'/", with only 12'/" extreme variation.

0 yards-- 956'/" – 416 ft. lbs. – minus 0.5" (sight height)
5 yards – 950'/" – 411 ft. lbs. – minus 0.2"
15 yards – 944'/" – 406 ft. lbs. – 0.0"
20 yards – 933'/" – 396 ft. lbs. – plus 0.1"
25 yards – 928'/" – 392 ft. lbs. – 0.00" (sight in)
30 yards - 923'/" – 387 ft. lbs. – minus 0.2"
35 yards – 917'/" – 387 ft. lbs. – minus 0.5"
40 yards -- 912'/" – 379 ft. lbs. – minus 0.5"
45 yards – 907'/" – 375 ft. lbs. – minus 1.4"
50 yards – 902'/" – 371 ft. lbs. – minus 2.0"

Note - The Lee 452"-200 gr. (205 grs) using 35 grs (2.2cc) of Black Mag 3 had an average muzzle velocity at 920.6'/" from the ROA 7 1/2" barrel.

Here is a picture of a final 5 shot group, fired while sitting and with a two-hand hold, at a measured 40 yards. The iron gong is 10" across. There are two shots touching each other!



Any of these shots would have been in a kill circle!
From all the tests we have run, we are satisfied that the ROA does qualify as a fine hunting gun indeed!



Dixie's ROA 5 1/2" barrel.

Ruger Old Army – Part Four

*About time we think we are finished, another test comes in! In part three we were discussing the Lee 452-200-RF. We noted that this mold dropped a bullet that weighed 205 grs** with the 94%-3%-3% alloy.*



We have now loaded this bullet with 37.5 grs (2.5cc) of our favorite powder. Black Mag 3. As discussed in the previous parts, a bullet must not be over long to fit the KIRST Konverter Cylinder with a loaded 45 Colt. There may be other bullets that are short enough from the crimp groove foreword, but this bullet has proven itself to be a good balance of weight and velocity. It far exceeds the later military round that fit both the Schofield and Colt.



Note the fit of the Lee 452-200-RF to the front of the cylinder.

I would like to remind my readers that our work with the ROA has been aimed at the ROA being a hunting gun and backup while hog hunting with single shot muzzleloaders. This required a hard cast bullet for penetration. Also note that the Lee 452-200-RF has plenty of Meplat Area for general tissue damage. This bullet cast from a softer alloy would be fine for Cowboy shooting, if that's your game.

*The Lee 452-200-RF will drop 205 grs** from the mold, using the 94%-3%-3% at close to .4530" and will size to .452" with no problem in the Lyman 450. Both of my ROA's are .453" in the grooves with .454" chamber throats. The bullets bump up to fill the chamber throats with Black Mag 3. The lube is a mix of beeswax and Lee Alox. Black Mag 3 does not like a heavy lube. **The following figures are for a weight of 205 grs Here's the numbers for 37.5 grs (2.5cc volume) of Black Mag 3 from the ROA with the 7 1/2" barrel and the Kirst cylinder in 45 Colt.*

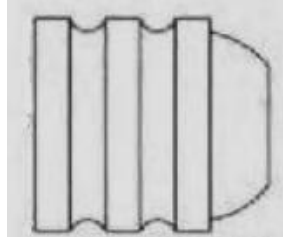
The Lee 452-200-RF has a BC @ .140

**0 yards-1030'/" -483ft lbs- -0.50"(sight height)
 10 yards-1015'/" -469 ft lbs-+0.80"(chrono read 1018'/")
 20 yards-1000'/" -455 ft lbs-+1.80"
 30 yards-986'/" -443 ft lbs-+2.50"(alternate sight in)
 40 yards-974'/" -431 ft lbs-+2.80"
 50 yards-961'/" -421 ft lbs-+2.70"
 60 yards-949'/" -410 ft lbs-+2.20"
 70 yards-938'/" -401 ft lbs-+1,30"
 80 yards-927'/" -391 ft lbs-0.00" (sight in)*

**Adjusted velocity for chrono at 10 yards - muzzle velocity at 1030'/"*

What was excellent about this load is there was only 11'/" variation shot to shot from high to low velocity and the 5 shot group went into a hair over 2" at 30 measured yards with a two-hand grip and not resting on shooting bags!

It should be noted that this load impacts at +2.50" at 30 yards with the rear sight all the way down, which is no real problem for hunting purposes. When we compare these ballistics with original cartridges like the 45 Schofield and others, we see this load stands up fine. I have not tested penetration, but feel it would be fine on a big hog when used as a backup. Another interesting bullet we have not tested is the NEI 454-220-C&B #523



This bullet appears to have been designed for original cap & ball handguns. The NEI 454-220-C&B may not have the needed diameter for the ROA percussion cylinders that call for a .457" round ball. Some tests with it cast from pure lead for the ROA percussion cylinder would tell.

However, It may be a fine hard cast bullet to load in 45 hulls for the Kirst Konverter cylinder. Its shape leads me to think it would be a good game bullet. The 37.5 grs (2.5cc volume) of Black Mag 3 may be too much volume using this bullet. The 35 grs (2.2cc volume) would work though.



*Loaded rounds with the Lee 452-200-RF (205 grs**) and 37.5 grs (2.5cc volume) of Black Mag 3 in the 45 Colt hulls for the Kirst cylinder.*

To sum up, we start to see just how versatile the Ruger Old Army handguns can be. There well may be other cast bullets that would work, but we must remember the space for the crimp and the overall length of the loaded 45 Colt round.

I can't close down this part without warnings again about hunting large true wild hogs! Pound for pound, these true wild boar hogs are the most dangerous animals in the Lower 48 states.



Think About It Indeed!

Ruger Old Army – Part Five



In the first four parts we covered many aspects on the Ruger Old Army. Most of what was important has been covered. However, there will be questions about smokeless powder used in the Ruger Old Army. First of all, never use smokeless powder in the percussion cylinder....period! The Ruger Old Army's frame appears to be the same as the original Ruger Flat-Top and the barrels seemed to be the same as used on present models. This still does no mean the use of smokeless powder would be safe in the percussion cylinders.!

Since the KIRST conversion cylinder's strength is not known, therefore it is wise to use only smokeless loads designed for the early blackpowder Colts.

The following smokeless loads apply and are all medium hard cast bullets in a 5 ½" barrel at 10 feet.

- (1) 240 grain cast – Bullseye – 5.0 grains – 775'/"*
- (2) 200 grain cast – Bullseye – 6.5 grains – 950'/"*
- (3) 200 grain cast – Unique – 9.0 grains -- 950'/"*
- (4) 240 grain cast – Bullseye – 5.0 grains – 780'/"*
- (5) 240 grain cast – Bullseye – 5.5 grains – 848'/"*

These loads produce less than 10,000 psi chamber pressure. One quickly notices that there are loads with Triple 7 and Black Mag 3 that exceeds these smokeless loads in velocity with a given weight bullet. This fact should be taken into consideration when loading hunting loads.

The next question is whether jacketed handgun bullets can be used with the Kirst conversion 45 Colt cylinder. The Ruger Old Army barrels we have measured run at .453". Cylinder throats run a very uniform .454". There may be some handgun jacketed bullet that would be safe with the listed loads, both smokeless, Triple 7, and Black Mag 3 when used in the Kirst Conversion cylinder. The question is why? Expansion can be an iffy proposition with jacketed handgun bullets indeed. The fact remains that there are 205 gr./45 Colt cast bullet loads with either Triple 7 or Black Mag 3 that deliver much more knockdown power. Both of the mentioned substitute powders, Triple 7 and Black Mag 3, clean up with regular solvents used with smokeless powders!

Some Known Cartridges for Comparison

- (1) 45 Auto Rim – 230 grs Lead – 805'/"*
- (2) 45 ACP – 230 grs. FMJ – 835'/"*
- (3) 45 (Long) Colt – 225 grs JHP – 920'/"*
- (4) 45 Smith & Wesson – 230 grs. Lead – 730'/"*

As you can see none of these out perform the 205 gr. hard cast 452-200 FP when loaded in the 45 Colt hull with 37.5 grs (volume) in the Kirst cylinder in the Ruger Old Army.

I stated at the beginning of these write-ups that I use the Ruger Old Army handgun as working/hunting firearms! If you want to play with a period piece, by all means do. However, do not fool yourself into thinking any of them will perform as well as the Ruger Old Army! None will!

On the other hand, if you simply enjoy shooting/hunting with percussion revolvers, none will perform as well as the Ruger Old Army. If you need a backup handgun when hunting game that might bite back, you can trust the Ruger Old Army to perform indeed!

Last But, Not Least...Trail Boss Powder

At present, there is still little known about this new powder. The Cowboy loading data published for a 200 gr. lead bullet is 6.5 grs. – Velocity of 855’/” – 11,000 psi. Our tests with the 205 gr. – 7.0 grs of Trail Boss – 825’/” to 850’/”. Quite a variation in velocity indeed. It appears that the accepted factory pressure for .45 Colt. is 12,000 psi. This includes the older black powder models. No one really seems to state how strong the modern Kirst Converter cylinder is. Surely it is as strong as the original black powder Colt cylinders!

One thing to consider is our bullet is hard cast vs. pure lead and this fact may have caused the variation in our test velocity. There also seems to be a great deal of residue with the 7.0 gr. load. Whatever the reason, we did not get the consistent velocity with Trail Boss as we did with Black Mag 3 and 777!

For your information, the following is the weight of Trail Boss in the Lee dippers:

1.6cc @ 7.0 grs

1.9cc @ 8.0 grs

2.2cc @ 10.0 grs

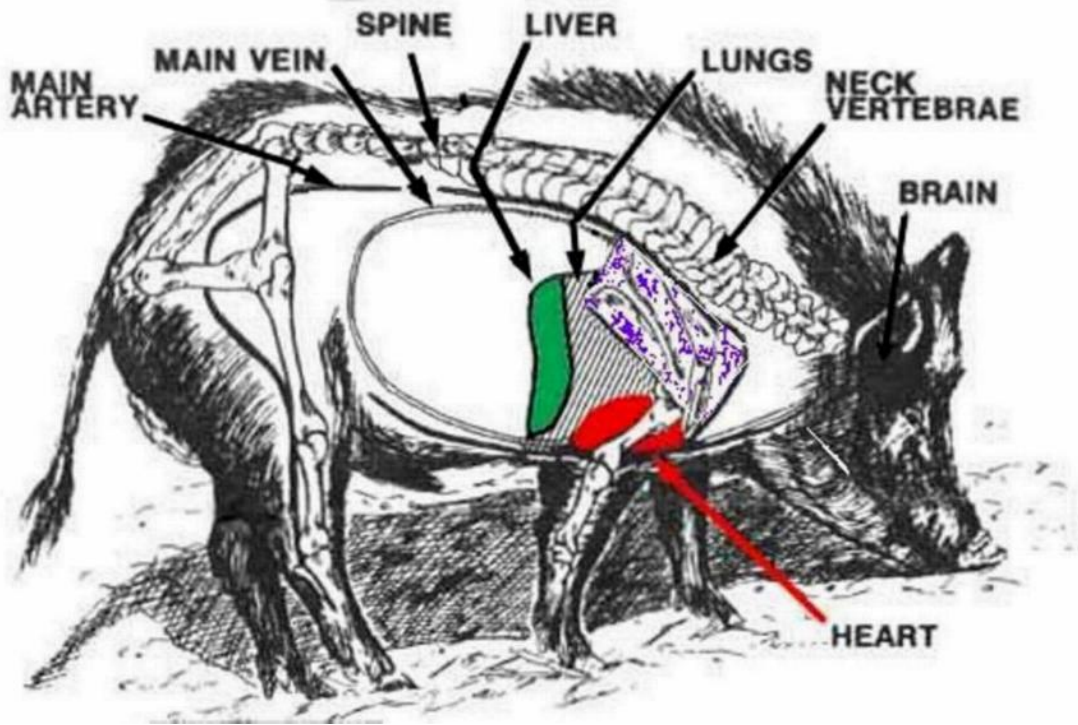
2.5cc @ 10.7 grs

Looking at all these velocities with Trail Boss, we plan to stay with Black Mag 3. or Triple 7 until more data comes forth with Trail Boss.

Conclusion (I think!)

There’s quite a bit of fantasy out there today about percussion revolvers indeed! I have even heard the uninformed say the Ruger Old Army produced only .38 Special ballistics. My answer to that is they should compare the ballistics listed herein.

Again, understand that all of tests were aimed at a backup load while ML hunting, or a general hunting load, for close in work! The Ruger Old Army revolvers are getting scarce on the market and there is some speculation as to the price. It is quite possible that the smokeless loads for the black powder models will apply to the Kirst cylinder for those that want a heavier bullet. What we need right now is tested/pressure smokeless load data for the Kirst cylinder to be published, or a statement as to the strength of the Kirst vs. Colt cylinders (old and new). Until then it is wise to stay very conservative with our smokeless loads in the Kirst cylinders.



This picture is a reminder of the difference on the anatomy of a wild hog and other animals, especially a deer. Note how far forward the vitals are! Study this picture and learn where to place your shots.

James C. Gates – Dixie Slugs