

Assembling Loads for the Stoner SR-25 Match

I still have the Hornady reloading manual I carried around while I attended Jr. High School in Indiana, Pa. Accuracy and ballistics always interested me, even the ballistics of my Daisy BB gun and CO2 200 pistol. My Dad and Uncle Ralph processed deer at the Streamline Supermarket in Indiana, and I used to help. I collected spent, expanded bullets from those deer and learned about terminal ballistics. I could tell, to a certain extent, whether the deer was hit with a rifle like a .243 verses a 30-30 Win or a .35 Rem. That was in the mid 1960's. By 1972, and in my early 20's, Dad bought a farm and I had a .264 Win Mag to shoot at the Punxsutawney Phil's that dug holes in the fields. I like long range shooting and the farther the better. I burned up two barrels in the .264 then went to the 7mm Rem Mag. The .264 was fussy, but after numerous tries it would shoot one and half inch groups at 300 yards with Hornady 140 gr. Spire points. I burnt up a barrel in the 7mm, which shot as well, but was less finicky. The groundhog population was shattered and the freezer was full of venison.

Fast forward: Las Vegas Shot Show 1995. I came across a small booth featuring Knight's Manufacturing products, one being the Stoner SR-25 Match. I had seen an article in the "American Rifleman" calling this rifle a "one hole autoloader" It seemed to be the cream of the crop when it came to match grade autoloaders and in certain cases, at least, a snipers dream. And, I had to have one. Not just the rifle, but also a Leupold Mark 4 M3 10X scope to go with it!

I acquired my Stoner and Leupold in November of 1995 from Bullseye Gunworks in Overland Park, KS. now Middle of Nowhere Hunting and Shooting Supply in Harris, MO. The owner, Col. Dennis Goldsmith, and myself went to college together in the 1970's and both of us were in law enforcement. (I'm a retired roofgunner with the CA. Dept. of Corrections.)

My Stoner came with a test target group of .650 inches fired with Remington 168gr. Match ammo @ 100 yards. I bought about four boxes of the Remington ammo to do some preliminary shooting, but I was eager to work out a load for it. I had saved all my American Rifleman magazines and I found an article by C.E. Harris in the May 1983 issue that was quite detailed regarding .308 match loads for hi-power shooting. I didn't think getting a load to shoot well would be hard because for one, the .308 is inherently accurate and two, the barrel is designed to shoot the Sierra 168 gr. Matchking. I selected one of the loads Harris listed: 43.0 grains of WW748 and the Matchking. The load listed was using Lake City brass. I remember calling Knight Manufacturing and asking why they used Remington match .308 rounds to test their guns verses the Federal .308 match and they said something about the fact they preferred it because of the brass being softer. Maybe this was for functioning of the rifle, so I started out with Remington brass. All that was left was primer choice and pay close attention to this: **The author of the article on the Stoner Rifle made a specific point on primer choice. Do not use Federal primers! The reason is that they are too soft. When the bolt slams forward the inertia of the firing pin will slightly dent the primer. He was concerned that, esp. if a primer was a little high, or a little too sensitive that the gun could fire going into battery.** Therefore I chose the Winchester large rifle primers because I figured they were designed for the WW748. I've never had a problem with these primers in my Stoner.

Case preparation involved trimming to 2.005", deburring the flash holes, and full length resizing with Redding Dies. I weighed each charge after measuring them through a Belding & Mull powder measure. This was time consuming but I wanted to go the extra distance, in more than one way! I seated the Matchkings, using the Redding die, to achieve the OAL of the Remington rounds the gun was tested with: 71.15mm. This way, they fit and functioned in the magazines.

The barrel had, at least partially, be broken in with the first boxes of factory Remington ammo. I followed a shoot and clean procedure while zeroing the Leupold. Since this scope has a ballistic drop compensator dial I was more interested in getting a load to group then I would set up the scope. I was lucky. These loads ran, generally, 2550 fps. through my Competition Electronics chronograph. If I remember correctly there was a deviation of 20 fps, depending on temperature. I never experimented with wide temperature variations only that one, the rounds not be kept in sunlight, and that during any kind of shooting that they all be kept in the same place such as in the magazines. In general these loads would shoot half inch, five shot groups at 100 yards off of the Harris bipod. They functioned and what was so pleasant was that the gun had hardly any recoil. Unlike being banged around by the .264 and 7mm, the Stoner seemed like it's perceived recoil was like an AR-15 that weighed nine pounds or so.

The next thing that needed to be done was to set the BDC dial on the scope from 100 to 1000 yards. I didn't have a rangefinder, but I did know distances on Dad's farm from my groundhog hunting days and there was a rangefinder in the 6X18 Redfield scope that sat atop the good old 7mm 700 Remington. (Special note: This rifle has a Douglas 26 inch magnum sporter barrel that is fully glass bedded. It has effectively dispatched deer, turkey, crow, groundhogs, coon, wild dogs, water filled milk jugs, and a variety of other targets. Many of these targets were engaged by sticking this cannon out the six windows of Dad's house that faced the hillside directly south. 550 yards on a deer was not uncommon, as my Dad likes canned venison. During deer season, due to the excitement the barrel almost went out the window BEFORE it was opened. Beware of long barrels.) The entire load testing and zeroing to 200 yards was done in California. I had to get a blank dial for the BDC from Leupold, as the pre-marked dial for the .308 that came with the scope wasn't going to work, probably due to scope mount height. The people at Leupold told me their dial was set up for the scope to be mounted on the Rem 700 Police Sniper Rifle. So, while at home, on the farm I set up the dial as best I could when weather conditions were right. When getting data for 1000 yards my brother Ray assisted and we used Motorola radios. About a year later I purchased a Wild artillery rangefinder and I verified the distances. About three years ago I purchased a Leica 1200 laser rangefinder that works extremely well.

What is interesting to me while doing all this is seeing the results of rifle, shooter and loads. Shooting half-inch groups at 100 yards is fine but as I said before, I like pushing the limits and observing practical accuracy at ranges. This develops confidence so that the shooter and rifle become one. Once this is established you can be an effective shooter. I have faith in the Stoner. Just while playing around I have shot three shot three-inch groups at 700 yards, inch and a half groups at 300 yards. A variety of other targets have been hit such as groundhogs at 550, crows at 350, deer at 600 and 300 yards. Here in Missouri I have a 1050-yard range and my favorite targets are 5 gallon white jugs full of water. It gives much satisfaction to watch a bullet hit a jug at that

distance. I was told that the 168 gr. Matchkings may keyhole at that distance. My jugs appear to be hit with stabilized bullets.

About three years ago while discussing shooting with a fellow officer the subject of molly bullets came up. Another officer was a hi-power shooter and seemed to think this a good idea and that I might try them in the Stoner. Being a pistol shooter, I don't read a lot concerning rifle shooting or reloading for that matter so to a certain extent I'm not up on some of the latest technology. Never the less, I bought the system from Midway to molly the Sierras via my tumbler. I had also purchased 1000 IMI match brass for the Stoner. A few months before I began to try all this I was given a couple "Varmint Hunter" magazines and was delighted with the technical information, esp. articles written by the shooters that hunted prairie dogs. There was an article on using and loading molly bullets and after reading it I wasn't really sure whether or not I wanted to fuss with this. In short, it seemed that shooting molly bullets wasn't going to automatically make the gun shoot better. There was the neck tension factor, which I understood because now there is a lubricated bullet, burn rate change, pressure change, etc. Did I really want to go through all this when I had a gun shooting half inches at 100 yards? In the back of my mind I kept thinking of the copper fouling and that I cleaned the gun after every twenty rounds. I wanted to take care of that expensive barrel.

A phone call to Sierra confirmed what I thought. I was told that molly bullets change one of the ballistic perimeters i.e. lubed bullets that change other perimeters, etc. I would have to experiment with neck tension. I was also concerned that with the lubed bullet would the bolt slamming forward alter the bullet seating depth. I had to consider neck tension, and the new IMI cases (which are heavier than the Remington's), etc. What was it going to do to velocity, let alone accuracy? I figured I might as well try these bullets as I already had a load that would shoot. I prepped the cases as usual, just like the Remington's, with one exception! I had no way of measuring neck tension so I called RCBS in Oroville, CA. and asked them if they had seen the article in Varmint Hunter magazine regarding neck tension, different sized expander balls, etc. I don't remember the response but my decision was to just grind off the expander ball. That meant full neck tension and I prayed.

I went through exactly the same loading procedure as before with the exception of the mollified bullets and neck tension. Before I tested the molly rounds I made sure the barrel was clean, very clean. I had found, from past experience and reading that you may THINK you have all the copper out of the barrel but you don't! I remember key holed bullets at 300 yards with the 7mm that were not due to a worn barrel but a build up of copper. My thinking was that using molly bullets would make the cleaning procedure easier and hopefully protect the barrel some. I've always been very careful with the Stoner on cleaning procedure. I reconfirmed the velocity of 2550 fps for the original reloads. I did not test many rounds for standard deviation but they stayed within 20 fps or so on either side of 2550 and most were within 15 or so. I prefer to be nice to this barrel, as I have had a history of burning up barrels. I ran a swab through the barrel after firing the non-molly bullets and made sure it was dry and fired at 100 yards. With the BDC set for 100 yards, and me not changing my position (prone), the rounds kept packing in. After the first three shots I couldn't detect a difference in the hole and wondered where they were going. After a total of five shots I checked the target and the

group was a hair under 3/8 in. center to center. I waited about 2 minutes or so between shots, let the gun cool after this string and wanted to see if I could duplicate or better the group and confirm it. Prior experience has taught me a few things. You get tired shooting like this, the Stoner is easy to shoot, don't change position while testing, and test in the same light conditions. I don't believe in testing a whole lot of groups to confirm a load either. Confirmation will come from shooting at extended ranges. So I loaded another 5 rounds and they grouped the same. So considering all the tests I had seen with the Stoner that included the groups fired in the American Rifleman article, the test groups fired by KMC, and my previous groups with the non-molly bullets I had produced the tightest groups.

The last thing I was anxious to find out was velocity. My guess was that it would be a little higher than the standard 2550 fps. (Due to the IMI cases having less volume verses the Remington's'. The lubricated bullet verses the non-lubricated bullet may be negated by full neck tension verses standard neck tension.) I had loaded some molly bullets just the same as the non-molly bullets meaning the cases had the necks expanded to the standard amount. This meant I had three types of rounds to test for velocity. *As expected, the full neck tension molly rounds ran 2590 fps, the standard rounds ran 2550 fps, and the standard neck tension molly rounds ran 2520 fps.* The 2520 fps rounds were in the IMI cases. This means, all things being equal in my case just adding molly to the bullets resulted in a *velocity decrease*. The 2550 fps rounds were in the Remington cases. The full neck tension molly rounds had a maximum std. deviation of 14 fps. and most were lower than that. In this case velocity and accuracy worked together. I loaded the rest of the IMI cases I had in this fashion and sealed the primers. *The lesson for me was: To increase neck tension on the molly rounds. There is probably more neck tension with the IMI cases verses the Remington's due to the brass being a little heavier.*

Since I have a quantity of the non-molly rounds left, I've decided to use those up first then shoot nothing but the molly rounds. I also realize that the cleaning procedure will change and that a certain amount of molly remover will be needed but overall this endeavor was worth it and gave me much satisfaction. I also realize that part of it is due to a great rifle, some research, and an easy caliber to load for.

Special note: During the time all the above took place the State of California saw fit that the Stoner SR-25 Match was a bad, ugly gun and they banned it. At least here in Missouri I can enjoy it, and the Stoner is one reason I left California. They banned my gun therefore they banned me. At the same time California banned my rifle, corrections officers were taking parolees to the bus station in handcuffs, releasing them onto an unsuspecting public. The reason they were in handcuffs is because they were a danger to the officers.

I find it necessary to comment on the Sierra 168 matchking and the Leupold scope. Sierra does not recommend using the matchking for hunting. I have used it to take deer, groundhog, crow, and coyote. I tend to favor good shot placement on deer. Both deer, one at 300 and one at a little over 600 yards, both shot through the lungs went less than 50 ft. The one at 600 went about 25 feet. While they don't expand, they tend to tumble or yaw. While in California I never hunted deer there but I still loaded the 7mm mag. rounds for the family at home and hunted on the farm. My Dad always complained that when using soft point bullets (Sierra and Hornady), anything but a

headshot resulted in a mess and meat loss. Therefore the 7mm was set up with 168gr. Matchkings. We have not lost a deer to one of these bullets. The coyote ran 250 yards after being hit. The crows fell out of the trees intact. The groundhogs? A few made it to the hole most did not. Would I use them on game larger than deer unless I could make a head shot? No. That's why I have the 7mm Rem. Mag. with the option of working out a load with a heavy, expanding bullet.

The Leupold Mark 4 M3 is superb. It has been zeroed, the BDC moved up and down, been hauled on aircraft, ATV's, pickups and cars and has never changed. The windage changed right and left numerous times and it always comes back to zero. To me, it's worth every dollar it cost, and no wonder the Marine Corps uses it.

There are probably many loads that will perform well in the Stoner but I think I have two good ones that perform well, and I intend to continue using them. The URL's posted below have some info on the Stoner. The first has some loads and a review of the gun. The second, Delphi forums, is about the SR25 and I've made numerous posts on my experience with the rifle. My posting name is Roofgunner.

<http://www.biggerhammer.net/stoner/www.tacticalshooter.com/dec98.html>

<http://forums.delphiforums.com/sr25/start>

The following, in review, are some important points:

1. It's advisable to heed the warning about the Federal Primers in the Stoner. I see no reason to take chances.
2. Make sure the cases are clean and totally de-lubed before you load them.
3. No matter what you load in the Stoner, make sure the bullets are seated with enough tension so that they aren't altered during rifle function.
4. Of the loading data I have for the .308, 43.0 grains of WW748 is a mild load.
5. Keep the bolt face of the Stoner clean. During chambering (due to tight tolerances) brass can come off the cartridge head and build up around the ejector causing it to stick. This happened during the break-in. I returned the bolt to KMC and they had it back to me in a couple of days and I've never had a problem since.
6. After doing some research about molly bullets, and speaking with my friend that shoots competitive hi-power (.223), I've learned that cleaning is easier but it's a good idea to use molly remover occasionally so you don't get a build-up. Just like copper fouling, but not as bad.
7. God Bless Mr. Stoner and Mr. Knight and the NRA.