**TWO MILE SHOOTING**

by **Gordy Gritters**

*Published in Varmint Hunter Magazine – July, 2008*

"It looks like you just hit another one, Lee, but like the last one you hit, you didn’t kill him and he made it back into his hole!" I was saying this to my friend, Lee Fischer, as I was looking through my spotting scope at a prairie dog Lee had just hit. That statement is one that friends often say when they are spotting for each other when they're out hunting prairie dogs. But the next thing I said was something that I don't know if anyone in the world has ever heard their shooting partner say before: "This one was right about 3650 yards". That's right, this is no typo, I said three thousand six hundred fifty yards - over two miles away. Two miles is 3520 yards.

Lee and I have been out to South Dakota several times around Jamboree time trying to set a new "world record" for the longest varmint kill in history. We read an article several years ago in Precision Shooting magazine about a couple guys in Colorado, Kregg Slack and Bruce Artus, who killed a prairie dog at 3125 yards. I was in the process of building a conventional long range prairie dog rifle for Lee at the time and we got to talking about what those guys had done. We decided if they could do that, I bet we could do it farther - the old spirit of competition coming into play here a little bit, don't you think?

So we talked over all the possible ways to do this - the cartridge and bullet needed, the best scope and mount system to attain that sort of distance precisely, the stock, action, muzzle brake, etc. Once we decided on exactly how we thought best to do this, I built the rifle for Lee and we started to look for a place to shoot prairie dogs at two miles away.

Building the rifle was the easiest part of this endeavor. We decided on a big Nesika model M action, 36” Krieger 1.450" barrel, D@B 1000 yard Heavy Gun benchrest stock, Jewell 2 oz. trigger, and Nightforce 8-32 scope. To attain the amount of elevation adjustment needed to shoot at two miles and beyond, we used Harbor Engineering's SLR scope mount system, which has 800 minutes of elevation and 200 minutes of windage adjustment, both set with micrometers built right into the mount for precise settings. We used a 338 Lapua Magnum case and modified it by blowing out the body taper a ways and changing the shoulder angle, and we decided to have some fun and call it the 340 Gordy Supermag. It would easily shoot the 300 grain Sierra Matchking bullet up to 3100 fps, but to keep pressures down a little and extend brass and barrel life we settled on running it at 3000 fps.

Once we got the barrel broken in we zeroed the scope at 100 yards to get our starting point to figure our scope and mount settings from. We ran a computer printout on Sierra's Infinity ballistic program and figured out the elevation and wind drift figures for yardages out to 4000 yards. We recorded the MOA needed, as well as the scope mount elevation micrometer settings needed at these various yardages. Our range card looks like this:

**340 GORDY SUPERMAG w/ 300 Sierra @ 3000 fps**

(Calculations based on 70 degrees, 3000 ft.elevation, 60% humidity, 28.5” barometric pressure, 5.75” scope height)

One MOA=.00125” on micrometer heads (10 MOA=.0125”, 100 MOA-.125”, 200 MOA=.250”, etc)

NOTE: When far enough out to use SLR micrometer elevations, scope is put back to 18 MOA (almost the middle of it’s elevation range) so it can be fine tuned up or down a little after setting SLR for the basic range

**SLR Scope TOTAL WINDAGE(per 1 mph)**

**YARDS / Elevation Micrometer Setting / Elevation Knob setting / ELEVATION MOA / Inches - MOA**

100 .000” Zero (on bottom turn) 0 .03” - 0

1000 .000” 18 MOA 18 3.75” - 3/8

1500 .000” 37 MOA 37 9.39” - 5/8

2000 .055” 18 MOA 62 18.72” - 1

2500 .101” 18 MOA 99 32.42” - 1 1/4

3000 .162” 18 MOA 148 49.98” - 1 5/8 3500 .241” 18 MOA 211 70.60” - 2

3600.259”18 MOA225 75.00” - 2 1/8

4000 .337” 18 MOA 288 94.03” - 2 3/8

Windage settings are easily set by multiplying the actual wind speed times the MOA at the particular distance. Example: 7 mph @ 3500 yds: The bullet gets blown over about 70.6” (roughly 2 MOA @ 3500 yards) for each mph of wind speed, so 2x7=14 MOA needed to dial into your scope. As you can see, it doesn’t take a lot of wind before you’ll run out of windage adjustment in your scope, then you’ll go to the windage adjustments on the base to add in whatever is needed.

So if you remember the prairie dog that Lee hit at the beginning of this article, it was fairly windy that day with the wind blowing around 21-22 mph. But it was real steady so we were really pounding the mounds quite easily. To get in your mind the trajectory of the bullet at that distance, that particular shot was right at 3650 yards, so after dialing in the scope for the range and wind, the barrel of the rifle was actually aiming 730 feet high (240 MOA) and 135 feet to the right (44 1/2 MOA). Now the bullet isn’t actually going that high or that far to the right due to the arched trajectory, but that is where we had to aim to get it to hit where we wanted. The bullet would start out climbing up until it leveled off about 288 feet high at around 2225 yards before it started back down again to hit our target at 3650 yards.

Now that we had the rifle and our range card ready, we had to find a place to shoot this extreme distance, and found this to not be an easy task at all. We knew from past experience that the ideal setup would be either to be shooting from a hill or elevated position looking down onto a dog town or have the dog town be on an opposing hill. Either way we needed this to be able to see the individual mounds. If it was too flat, we couldn't tell the distance from one mound from another, and we would have to clearly see the mounds and ground between them to be able to see the bullets land and make corrections. We weren't having any luck at our normal dog towns, where it was hard enough even getting much past 1500-1800 yards.

While at the Varmint Hunter Jamboree that summer, I was talking to a local rancher I knew who likes long range prairie dog shooting and just loves a challenge like this. He was very intrigued when I told him what we wanted to do and he told me he was pretty sure he could find a dog town we could shoot two miles on. We talked about the criteria we needed, and he told me he thought he had several places that would probably work for this - he would check them out and get right back to me. Well, several months went by before he finally called me and said he thought he had a place that might work out. He told me it ended up being almost impossible to find a place that would work for this, and then laughed saying "the curvature of the earth even comes into play here" and he meant it. He said he had one place where we would be shooting on his land, the bullets would go over someone else’s land and then they would hit the ground two miles away back on another section of his land again. He also had a place where we would be completely on his land and thought that would work out the best.

So we followed him about 1 1/2 hours NW of Pierre, SD to one of his ranches, turned off the road and took a field road for several miles and followed him way up toward the top of a long sloping butte. He stopped way out in the middle of nowhere and we could see grasslands and hills everywhere - but there were absolutely no prairie dogs or prairie dog towns as far as the eye could see. He pointed north and said there was a fairly big dog town on the other side of a big creek valley and way up the side of one of the hills over there. We could see the valley and the opposing hills and buttes, but could not see any dogs or dog towns. He laughed and had us set up our spotting scopes and showed us which way to look. Finally we found it and sure enough, there were prairie dogs and mounds all over the place, but they sure were not visible to the naked eye.

We spent the next couple hours verifying the distance and setting up our range –it helped since this rancher had recently had the ranch surveyed and there were some fence lines close by to help measure from. We used a couple other forms of measurement to make sure of the exact distance – we wanted to make sure the range was definitely beyond two miles when we started shooting for the record! We used a Swiss WILD military rangefinder, and to be even more exact we also used a Leica Geovid laser rangefinder to range the distance in several increments to get the distance exact. We wanted the closest edge of the prairie dog town to be at least two miles – 3520 yards- so that any prairie dogs we shot at would definitely be at least two miles or a little farther.

Lee brought along a bright red 36” steel gong on a folding tripod that he’d made so we would have a highly visible aiming point to sight in on. We decided to set it up at 3600 yards - 80 or so yards beyond the closest edge of the prairie dog town - so that we could get the scope dialed in for that distance and then any prairie dogs around the gong or farther out would definitely be beyond two miles. So I loaded the gong onto the four-wheeler, grabbed a walkie-talkie and took off for the dog town. This was my first trip to the dog town and the rancher told me to get there I would need to go around the small butte ahead of me, down into the valley, through a crossing over the creek, and then up the other side until I came to the dog town. I made it around the butte, snaked down and through the creek valley, and finally got up high on the other side.

Before I dropped down into the valley I could visually just barely see the dog town way off in the distance, and by the time I made it through the valley and way up the other side I had gone so far that I thought I’d be very close to where the dog town was. When I went through the creek valley what I had seen in the spotting scope and thought were a couple small bushes on the prairie turned out to be the tops of a couple huge trees way down in the valley that were at least 80-100 feet tall. Then when I finally came out of the valley and up high enough to see again, I wondered if I was lost. I thought the dog town would be right in front of me, but it was nowhere in sight as far as I could see in any direction, and for that matter I couldn’t see the trucks either – I was so turned around from winding around getting through the creek valley that I wasn’t even really sure which way I should be looking.

I laughed and finally swallowed my pride enough to call back to the rancher at the trucks to tell him I wasn’t really sure where I needed to go, since I thought I’d be in the dog town but couldn’t see it anywhere. I could hear them all laughing as he asked me if I could see a fence. I told him I saw one way over on my right. He told me to follow it north to the dog town and that I was only a little over half way there. So I took off again and finally after going quite a ways, I went over a small rise and saw the dog town still way off in the distance. I kept driving until I got there. I started laughing when I was just a few hundred yards back - normal prairie dog shooting distance - thinking how crazy this was and that there was no way we were going to be able to do this. I could just barely make out the trucks with the naked eye at that distance.

But I went ahead and set up the gong about 80 yards back from the front edge of the town and drove all the way back to the trucks, still laughing at how absolutely crazy this was.

So once we had measured back 3600 yards back from the gong, we set up our shooting benches and prepared to start shooting. We could see the gong pretty good through the scopes, and could even see the prairie dog mounds quite well, but the individual prairie dogs were so tiny that the only ones we could see were the ones on the mounds. When they walked off the mound into the grass we lost sight of them completely.

We knew what the distance was and we used our wind meter to estimate the wind velocity, then looked at our range card to see where to set the scope to be able to launch a bullet and land it hopefully somewhere in the vicinity of the gong. We set the Harbor Engineering base micrometers to the desired elevation and windage settings and prepared to launch our first 300 grain Sierra at the gong.

Lee touched off the round and we started the countdown, looking at the gong and hoping by some miracle we would see the puff of dust from the bullet touching down somewhere within a ¼ mile or so of it. Right about 8 seconds into the count, there was a large puff of dust so close to the gong we couldn’t believe it. It was about even with the bottom edge of the gong and about 18-20 feet to the right. We had misjudged the wind slightly – it must have been blowing 3 mph harder up high where the bullet was flying than it was on the ground – each 1 mph of wind blows the bullet about 75” – over 6 feet - at that distance. If we had calculated the wind better, we almost could have hit the gong on the first try.

Lee dialed more windage into the scope and the next shot hit about 1 foot low and maybe 4-5 feet right. We then shot several more shots making minor scope adjustments until all the shots were hitting right at the gong, with two of them actually even hitting the gong (see photo). We decided now that we were dialed in, it was time to start in on the dogs.

A side note here: I’ve got some of this on a home video we took while we were dialing in on the gong, which I frequently show to skeptical people in my shop, and which I also use in the long range shooting classes I conduct. You can clearly see the red gong way off in the distance and then see the puffs of dust when the bullets get there. After a couple shots to dial it in, you can clearly see the next four shots in a row hit right at the base of the gong within a few inches of each other, which really turns skeptics into believers quickly.

So we started looking around trying to spot a dog on a mound close to the gong, but the bullets smacking into the ground while we were dialing in had them spooked for a little while. We finally saw them come out again and picked one out to shoot at.

We saw one on a mound about 20 feet to the right and maybe 25 yards farther back, so Lee dialed in a little more elevation and took the shot. A little over 8 seconds later the mound exploded with dust when the bullet hit the front edge of it. Man, did that dog take off running!!

Now we had to find another one to try for. We soon found out that just like shooting up close, the big older dogs wouldn’t stay around once the bullets started to land close to them, but the little young dogs would often let you take quite a few shots before they tired of getting dust in their faces and disappear down their holes. We also found out that we could only shoot for an hour or two early in the morning just when it got light, since once the sun came out it wasn’t long until the mirage got so bad you couldn’t even see the mounds at that distance, much less the individual dogs. So then we had to pack up and just go shoot dogs the rest of the day from 100 yards out to 1000 yards or so like normal people do!

One of the dogs we shot at had to be a young one since he just would not go down. He was on a mound a little to the left of the gong and a little farther out – about 3620 yards. We ended up taking 22 shots at this little guy, hitting the mound with 16 of those 22 shots. When the bullets got there the dust would fly right where the dog was standing, the dog would disappear in the dust, and when the dust would clear, the little feller would still be there. First he would be toward the right side of the mound, then he would be farther to the left side, then he would be dark colored – facing away from us, then he would be very light colored – facing toward us. But he would always be there! Finally after the 22’nd shot, he was gone.

We didn’t think we had hit him, but I told Lee to remove the bolt from the rifle and keep the crosshairs on the mound and I would drive down there to see for sure. When I got there, Lee directed me to the correct mound, and I couldn’t believe what I saw. The front edge of the mound was peppered with pock marks from the bullets hitting and not a single shot hit up on top of the mound. Then I started laughing when I realized that from that distance by the time we could see the dust, it had been thrown up several inches before we could see it, so when we thought we were hitting the mound right where the dog was, we were actually hitting about 6-8” low. If we had aimed at his head instead of his belly we might have got him. As it was, I also could not believe how good the “group” was on the front of that mound. We hit the front of the mound 16 times and the other 6 shots were just off to the sides of the mound. The entire group was a little over 36”, and the 16 shots that hit the mound were clustered in an incredible 18” group.

The conditions were very steady that day, because on other days when we were out there, we a couple times had it where we couldn’t keep them in 20 feet as the winds switched back and forth. But most days we could hit the mounds quite regularly, which I wouldn’t have believed if I hadn’t seen it myself.

Another day we were out there, the ground was damp since it had rained the day before, so we weren’t seeing any dust and couldn’t place our shots. I hopped on the four-wheeler with a friend, Matt Bonnett, along and we drove out there, stopping about 200 yards short of the gong and about 200 yards to the side, so we wouldn’t be in danger of being shot. We then had Lee radio to us when he took the shot and we told him where the bullet hit. After dialing in on the gong that way, we told him which mound had a dog on it and called in the shots that way – it worked great!

One dog was sitting tall on top of the mound when Lee fired a shot at him, but about four seconds into the countdown this lucky dog slowly walked off the mound into the grass. When the bullet finally arrived about four seconds later, the mound exploded exactly where the dog had been standing when Lee fired the shot! Man, we’d have got that one if he had just stayed there!! This had happened one other time when we were spotting from the firing line, but it was really neat seeing it happen so much clearer right in front of us like that.

One other thing we noticed when we were downrange like that, was we could not hear the bullets going by since they went subsonic somewhere around 2200 yards. We could hear the boom of the gun way off in the distance and less than a second later the bullet would smack into the ground in front of us – the sound had passed the bullet and got there before the bullet did.

Another interesting thing was we often found spent bullets laying a few inches away from where they had hit the mounds. Other than rifling marks from going through the barrel and a little dirt in their hollowpoints, these bullets were in perfect condition after their long trip, largely because they were only going about 860 fps when they hit the ground.

Over the course of several outings, we often took people along to watch, including some of the VHA staff – Jeff Rheborg, John Anderson, Janet’s husband David Hansen (Janet is CEO of VHA), - and several others that were there for the VHA Jamboree, including some friends and fellow Jamboree competitors of ours - Frank Halligan, Randy, Matt and Joel Bonnett, Ron and Joy Dykstra, and some well-known guys like Bill Shehane, Leonard Baity, and the two guys who founded the Nesika action company, Glenn Harrison and Michael Allen (Glenn is now the owner of another action making company - Phoenix Machine Technologies).

A little side story is in order here about David Hansen, who is a really great guy and quite a character. He runs a fence building business and flies a plane locally checking remote area fences as part of his job. One day David knew we were out there doing our two mile shooting, and after a couple hours, here comes a Super Cub flying along and all of a sudden it banks and lands on the prairie and rolls right up to our benches. Out hops David, saying he thought he’d stop in for a cup of coffee with us before he got back to work. Sure brightened up our day, I’ll tell you!

One other time, David took me for a ride in his plane after the Jamboree. We were flying along and David says “Let’s stop over at this house down there and see if they have breakfast on yet”. So he lands in the field next to the house, and the whole family came outside to greet us. Sure enough, breakfast was on and it tasted mighty fine, let me tell you. After breakfast and a little conversation with these fine folks, we hopped back in the plane and took off again. That was a day I will never forget!!!

Now to end this story, the difficulty of doing something like this has made it one of the most memorable experiences I’ve ever been involved in. But by careful planning and actually going out and doing it a number of times, we have found that it is a lot more do-able than we previously imagined it would be. But we sure don’t get discouraged by lack of body count – the fun and challenge is in seeing how many times you come so close you have to wait until the dust clears to see if you actually hit him or not!

As of this writing we have frequently come within 1-2 inches of hitting dogs from 3600-3800 yards, and have actually hit and wounded two dogs at over 3600 yards, but have not been able to confirm either one since they both made it down their holes. We did not count them as confirmed kills, so the 3125 yard record still stands. But have no doubt – we will return!!