

Extended Range Accuracy

By Mark Thompson

EDITOR'S REMARKS

We attended Mark Thompson's Long Range Course and found it to be excellent! We all know how complicated and technical long range shooting can be, but Mark has developed a simple system where anyone can shoot long range after attending his course. In my opinion, simplicity is critical in hunting situations where time is of the essence when trying to harvest an animal. There are a few key elements to setting up a rifle correctly that are critical to success, a couple of which Mark touches on in this article. Feel free to call Mark if you have any questions. Keep in mind that we advocate that hunters only shoot out to the distance that they are ethically capable of and practice at.

—Jason



MARK THOMPSON WITH HIS 2006 UTAH ELK

It is pre-hunting season and you are at the range working on your rifle. Twelve guys are lined up dialing in their rifles for the coming season. suddenly one guy jumps up (let's just call him Morty). Morty struts around the rifle range like a banty rooster, high fiving everyone and crowing about his five shot group he just made at 300 yards all under $\frac{3}{4}$!

The best part is he just bought the rifle at Wal-Mart on closeout for \$250, had a medium quality scope mounted, and bought the last two boxes of ammo for it off the shelf. The rest of the guys at the range have high end rifles with top quality scopes and probably some custom work—many of their groups not even close to his.

I think just about everyone has been there or has seen this same thing. The sad part is, Morty's perfect recipe will probably be interrupted when he buys his next box of ammo. If it isn't the exact same load, his groups will more than likely change, and the first thing he will do is blame either the scope or the rifle.

In my opinion every rifle has a personality or appetite. Feed

it what it likes and you will be crowing just like Morty. For Morty it all came together by chance. For others it can take a lot of time and effort.

Experienced reloaders and custom rifle builders look for this very thing: a load the rifle likes. Once the Betty Crocker recipe has been found, years of satisfaction and confidence will follow. Far too often, when searching for that perfect recipe, a guy will get too obsessed with little things that sidetrack him and he will lose focus on the basic recipe.

One time I ran into a guy at the range who was putting together some great groups at 300 yards. He told me that he could hold the 1" group at 300 yards if he cleaned the barrel after every 3rd shot. If he didn't clean it, his pattern was all over the target. I asked him if he was planning on packing his cleaning jag and supplies with him while on his next hunt.

I suggested that he change his load up a bit and find a recipe that would shoot the same group through a fouled barrel. He raised his eyebrows and said, "That would be a lot more convenient as well as take up a lot less time."

He called me about a month later all excited about a load he found that would do just that. Now when he cleans the barrel the opposite is happening. The first 3 or 4 shots are all over the map and shots 5 through 150 hold the 1" group at 300 yards—much more simple!

I have to give this guy credit because he was at least checking his accuracy at 300 yards and not 100 yards. I know the rest of his story. You see, he learned the same thing that I learned years ago, and that was you cannot base your downrange accuracy on your 100 yard group. I have personally experienced rifles that hold a $\frac{1}{4}$ " group at 100 yards, yet spread out to 8" at 500 yards. I have also had rifles that shot 2" groups at 100 yards and hold a 4" group at 500 yards. There are also the rifles that hold tight from zero on out.

I could really complicate this whole explanation, but I will simply tell you that there are some things called conning, yawing, barrel whip, and barrel harmonics that affect the path of a bullet and its stability.

To avoid the time researching and trying to figure all of this out, I suggest that you do more of your load testing at 300, 400, or 500 yards than at 100 yards. If your rifle will hold a

3" group at 400 yards it doesn't really matter what the group is at 100 yards.

Whatever range you plan to use your rifle out to, test your accuracy all the way out to that distance. Accuracy is first in importance, then sufficient energy level at point of impact, and bullet performance. When you know and understand your rifle's capability, accuracy, and bullet performance you have a complete recipe.

Extended range shooting is becoming more and more popular. There are many scopes now available with options that allow for and assist in long distance shooting.

I am not totally comfortable with all of these scopes in the hands of shooters that don't understand the accuracy, energy, and bullet performance at extended range. selling one of these scopes to a consumer who slaps on a .243, uses a low coefficient bullet with a decreased muzzle velocity, then tries to take a Whitetail at 600 yards, is not the right thing to do.

Every rifle and load combination has its limitations. Do your homework, know what these are, and stay well within the lethal zone.

Another part of extending your range is making sure that your scope is perfectly square on your rifle. When using a holdover reticle or turret adjust system, you are following the vertical path of the reticle. If the scope is mounted slightly rotated, or you are canting (tipping or rolling) during the shot, you cannot be accurate. Here is a start on how to check and correct your scope.

This is very simple and can easily be checked from the kitchen table. In a vise or on sandbags, set your rifle up with the action perfectly level using a small bubble level. You do this by locating a flat spot somewhere on the action to place the bubble level. In the photo below the flat spot is located on the very rear of the action with the bolt removed. This is a Weatherby rifle.

Find a location approximately 50 yards away where you can hang a plumb string. This can be visible through a window into the yard. Now with the action level and your scope

lined up and focused on the plumb string, your vertical crosshair should be in perfect alignment with the plumb string. If your scope is mounted on the gun slightly rotated, you should immediately be able to see it.

Properly Mounted scope:



CORRECT THE IMAGINARY TAIL OF THE RETICLE CROSSES THROUGH THE CENTER OF THE BORE.



INCORRECT SCOPE MOUNTED ROTATED.

A 1/2 hour to 40 minutes spent here can change your down range results significantly. In addition I strongly suggest a clamp-on type bubble level that stays on the scope indefinitely. This clamp-on bubble level will assist you in the field and keep you from canting or rolling your rifle during a shot.



By simply looking at the photos below, you should understand the importance of having your scope square on the rifle and not canting or rolling during a shot.



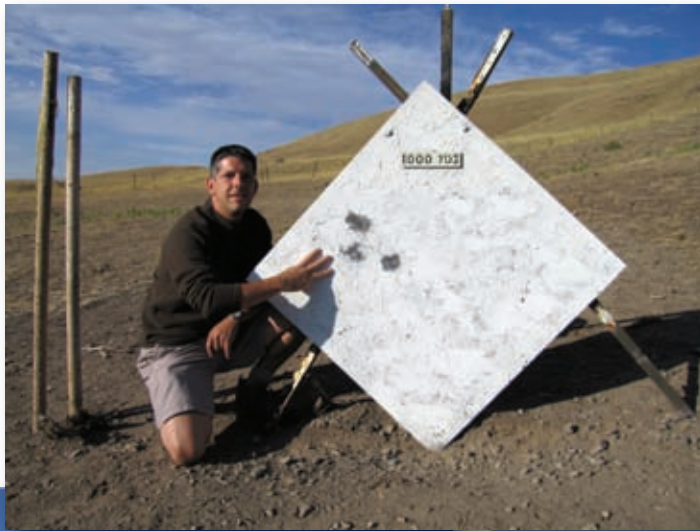
SCOPE MOUNTED CORRECTLY, BUT THE SHOOTER CANTS OR ROLLS THE RIFLE

This can all be achieved with a few tools and some common sense. Improving on your knowledge and equipment will boost your confidence to a new level. Keep it as simple as possible and don't get sidetracked.

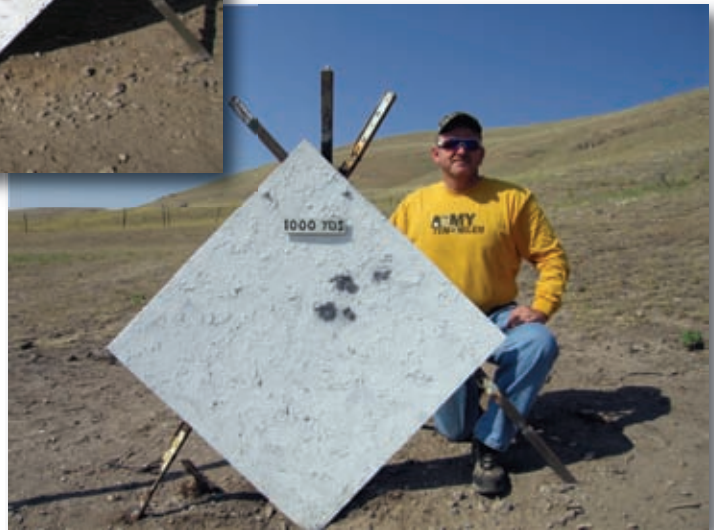
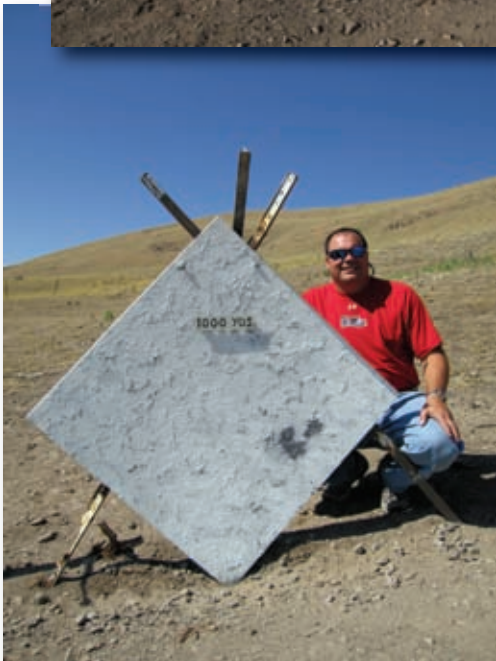
We all work very hard to enjoy our hobbies. A lot of time, money, and energy go into individual hunts. Don't leave home with all of the best equipment and then short yourself by a lack of proper setup, knowledge, and confidence.

Know your weapon, what it can and cannot do, and become better at what you do. Abraham Lincoln once said, "Whatever you are, be a good one."

If you are interested in long range shooting don't hesitate to email contact@thompsonlongrange.com or call and visit with me, at (435) 713-4248, about our philosophy or our long range shooting course. Thompson Long Range takes you through, hands on, start to finish, how to mount a scope, develop a load, and actually make it work all the way to 1,000 yards. Plus, if interested, you have the option of purchasing the rifle that you put together and shot during the course all the way out to 1,000 yards and beyond. There's nothing like building and test driving before you buy.



Mark has also produced a DVD if you are interested in seeing his system in action



Pictured are three of Mark's recent students with their 1,000 yard targets. From top to bottom: Rod Uribe, Scott Chambers, and Russell Love.