

## USIMLT

### Long range coaching update #4

2012

Up to this point I have been preaching and teaching accuracy and not much else, because I was convinced that even the best among us had not learned how to get the ultimate in accuracy from their rifles. I have heard a few comments about me taking accuracy too seriously, or trying to take the fun out of shooting, but personally I find an accurate rifle to be more enjoyable than one that doesn't hit where you point it. I have spent this year as coach attempting to re-educate the shooters as to what is really possible as far as accuracy is concerned.

It has worked in large part. Some of the people that have truly taken part in this coaching exercise have gone from shooting groups of 4 to 6 MOA are now near or at 1 MOA. As a group we have worked together, and learned together this year, and many of the shooters that have taken part in the training this year are shooting better groups, have more confidence, and have a greater understanding of what it takes to make their rifles shoot accurately.

That will be an ongoing issue to deal with, but we now have several competitors that have proven the accuracy of their rifles, got the kinks worked out of their loading techniques, and fixed the bedding of their rifles so the barrels are pointed in the same general direction all the time. I've been promising to write something on shooting from the sling for some time, and had hoped to get it in the last update, but it was just too long and I had people calling wanting to know when the next one was going to arrive in the email boxes, so I decided to finish it without the sling tips. This update is going to be primarily just sling shooting, so I hope it is worth the wait.

I feel as though I must apologize for the delay since the last coaching update, it has been a very busy year for me. Most of you know that my wife Andrea had cancer this year. I did most of my writing of coaching updates while setting and watching her receive her chemo treatments. It was better than spending the day staring at the tv in a cancer clinic.

About the time she finished her treatments we took off and went to Raton, NM with several of the LR team members to shoot the NRA long range and mid range national championships against the breech loaders. We all stayed in a cabin together, and once again we had a great week. We learned, we shared, we talked and discussed shooting for a whole week. We shot all day, and talked well into the night in some instances. The amount of learning and sharing that took place that week can simply not be appreciated unless you were taking part. That week may have done the LR team more good as a whole than any one thing we have done

in the past. I might be over stating that, but I don't think so. I think we need to consider having an intensive learning time like that every year. A week was not too long, but it would be very difficult to get many together for a week, but the nice thing about it is those that take part then go home and share what they learned with others. So training together like that is a good start, even if everyone can not attend.

The first two days of the NRA matches was the mid range position match, and I made arrangements with the NRA for the muzzle loaders to shoot along side the NRA matches, but not for score. We spent those two days learning to communicate, with me coaching and the others shooting. I don't think we perfected the coach/shooter relationship in those two days, but we certainly have a better idea of how to communicate with one another during a team match.

After that trip to Raton it seemed as if my life got real busy. Worse than normal even. A building came up for sale which I purchased to move my business into a larger building. Then began the long slow process of remodeling the newer building and preparing to make a move. That is now coming along nicely, and maybe we will be moved before Christmas if all goes well. On top of that, I started talks that ended in me purchasing "The Single Shot Exchange" magazine. So I am now a magazine publisher as well. The last two months have been taken up in large part with getting that new venture moved to my location and getting is running.

In the mean time I have been helping the oldest home study gunsmithing school in the country, to re-write their curriculum. It had not been updated since the mid 1980's, and needed a working gunsmith to bring them up to date. Fortunately I just have to provide the expertise, and they do the writing.

So here I set on thanksgiving day thinking about the things I am thankful for, and watching Andrea put together a thanksgiving feast while I try to get some writing done. Hopefully I will get this done today, and I can get it off to you soon. If I do, then I want to wish you all the warmest and safest of holiday seasons.

Now, enough about me and back to the subject at hand.

I never used a sling till 1998, when I decided to try out for my first world championships. It was a historical rifle championship, so I learned how to use a sling while shooting with a Sharps rifle. I never shot smallbore, or highpower rifle competitions where they shoot with a sling all the time. Which means I had no experience to build upon, but on the other hand I was not ingrained with the habits that go with those games either. I just learned what worked best with my black powder rifles.

In those early days I just bought my first sling from Creedmoor sports based upon what the high power shooters were using, put it on my rifle, read a book about smallbore shooting with a sling, and went to work. It did not go all that well. Actually at the time I thought it went very well, but like most.... I set my expectation level low enough that I surprised myself how good I was.

Over the years since that time I have taken my sling out every couple of years to get tuned up for another world championship, and would spend a month or two remembering how I did it, and trying to get the groups down to an acceptable level. Most years it worked..... some it did not.

Along the way I have learned a few things that work for me, and some of them are contrary to what the smallbore and highpower shooters are taught to do. For a long time I could not figure out, or rather did not realize why something that worked for them did not always seem to work for me consistently. Finally one day I realized that the major difference was the heavy and long drawn out recoil of our rifles in comparison to the sharp quick recoil of the highpower rifles or the very slight recoil of the smallbore rifles. That turned out to be the key.

Our rifles with their low pressures and heavy bullets take a long time to get the bullet out of the bore in comparisons to most rifles. So much so that the rifle will move rearward over an 1/8" rearward before the bullet leaves the muzzle. Anything that effects where the muzzle is pointed, right up to the moment the bullet leaves the barrel, will effect where the bullet impacts the target. If that muzzle moves up, down, left or right as little as three thicknesses of a piece of paper while we are waiting for the bullet to leave the bore, the bullet will miss the bull of the target. It is easy enough to move the muzzle ten times that much before the bullet is gone if your position is not what it should be.

There are of course the obvious things like flinching, slow or faulty ignition, and etc, etc. that will make huge errors, but that is not the aim of this update. Many of us have worked long and hard to prove the accuracy of our rifles, we have the kinks out of them and they are shooting good, but once we leave the bench or wrist rest where we have been testing, now we must turn our bodies into a delivery system that will not hinder the ability of our rifle to put the shots on target. If you have done all the previous work you have a rifle that is capable of putting all the shots into a very small part of the bull. There should be no doubt in your mind that the rifle will hit the bull. By now you should know that the rifle has X or V ring accuracy, and in some cases less than V ring accuracy. You must go into the sling training knowing that any shot that does not land in the V or X ring is your fault. If you do not trust your rifle that much, then you should have been doing your homework better up to this point, and frankly should go back and start over again before going on to sling training.

Here is a little five shot group I shot just for the purpose of sharing it with this update. I shot it at 100 yards with a sling only, in a slightly variable wind. The group is just under an inch wide and about 1.3" tall.

You can see that there appears to be four holes, but it was a five shot group. Let me tell you what happened while I was shooting this group.



Shot #1 is the one on the right. it was a good shot in nearly no wind.

Shots 2 and 3 were both good shots, but in a stronger wind from the right. As you can see they both went in one hole very neatly.

For shot 4, I got in position and ended up waiting a while for a blustery wind to blow through, and I relaxed into the sling too much in the couple of minutes I had to wait, and that shot went low. By the time I fired that shot, the wind had moderated to the point it was less than shots 2-3 were fired in, but more than the first shot.

Shot 5 was fired in the same wind as 4, but I called it a bit high. As you can see it is directly above shot 4, and slightly higher than the other shots that were called good.

I'll get more into what caused the low shot later, but for now, the important thing to know is that every shot went within a fraction of an inch of where it should have gone, and that was from a sling at 100 yards. The rest of this update is about how I learned to do that, and hopefully how you too can learn to do it.

### It is all about consistency!

Please do not get the idea that I shoot every shot in the same hole from the sling all the time, although it is theoretically possible with a lot of hard work. I shot a group this summer where three out of the first five shots were scattered high and low to make a group that was about five inches at 100 yards. I was shooting, while discussing what I was doing with Brice, and it seemed the more I talked about what I was doing the worse it got, so I finally just quit talking about it and went to work shooting as I normally would, I just made sure my position felt right and I went through my normal routine of getting into position, and finally the shots started going where they were supposed to go. By the time I was done with the 13 shot group I had five wild shots to make the 5" group, but the eight shots I fired when I quit discussing what I was doing went into a cluster about an inch high and just over an inch wide, with the best four shots going under 1/4".

I guess this just goes to show that even when you know how to do it, one little loss of concentration, and the next thing you know you have forgotten a key step in your routine and shots go all over the place. It also reminds us that your sling position must be done by feel more than anything else. Learn the mechanics, yes by all means, but when the time comes to shoot a world championship you will be best served if you have shot the position enough that it will just feel right or wrong to you before you fire the shot. Like in all shooting, you need to develop a routine that makes sure all the bases are covered, but in the end you will shoot best if it is all done subconsciously.

Over the years I have read about every book I could get my hands on about sling shooting, I've tried different slings, different connection points, tight slings, loose slings, and etc etc., but a real eye opener for me was a little book given to me by a friend in New Zealand that was written by James Sweets. Sweets was a true world class shooter long before most of us were born.

I took that book with me to South Africa in 2007 and read it on the plane. I won the long range agg and grand agg that year in the world championships, and I give that little book a fair amount of credit for that win.

I won't go into all of what I learned from that little book, as I have shared some of it with you in previous updates, but I will share a thought that touches on what we are trying to learn to do now. Sweets wrote that if you want to learn how to use a sling properly, then learn to shoot without it. He basically was saying that the sling should be an aid, but never a crutch.

I have developed a theory that I use to explain what happens to the rifle during the recoil phase as the bullet is traveling up the bore. Mon Yee likes to call it my "rubber band" theory, but I prefer to think of it as my "coil spring" theory. The basic premise of the theory is that every muscle in our bodies are like coil springs, and if we have any extra tension in one of those muscles compared to the last shot, that extra tension is released when the recoil starts, and that loaded up spring will push the rifle away from where we want the shot to go. The use of a sling does not eliminate this unloading, but it can minimize it. Mostly it just masks it so we do not realize what is causing the shots to go off center. By practicing without a sling we eliminate the masking effect of the sling and can then learn to eliminate the underlying problems.

Since I came to understand that basic rule, I began to work on my prone position from a different angle. What I am trying to do is develop my sling position to the point where I can be most consistent from shot to shot with the greatest of ease so the rifle will remain neutral, and will not be pushed off target under recoil. Once I started to do that, I began to learn why much of what the books teach for highpower and smallbore did not work for me with these rifles.

I won't go into great detail as to what I tried over the years that did not work, I would rather skip straight to what I found to work well. Since it has proven to be best to learn to shoot without the sling before learning the sling, let's start there.

## Learning to shoot without the sling;

This is what I have developed as a personal training regimen;

1. Dry firing my rifle with and without a sling of an evening indoors.
2. 50 ft indoor range practice shooting a .22 with no sling.
2. Actual range practice with my muzzle loader at 100 yards or less, but with my sights set for 300, 500, and 600 yards with the sling.
3. Finally it includes actual firing at the full mid range distances using the sling.

I put them in this order because that is the order of importance as far as I am concerned. Most competitors use only the final and least important step in training.

With the thought in mind that Sweets gave me about learning to shoot without a sling as the best way to learn to shoot with one, I decided to do just that. The first time I tried it, I thought it was a pretty wild idea, but I learned quickly that without the sling, any error in hold or trigger pull was magnified many times over, as compared to using a sling. All it takes is a little twitch on the trigger, and you might actually miss the target.

To begin your training regimen for sling shooting, just lay down in the floor and practice your shots without a sling on your rifle. What we normally call dry firing. It is better if you have a heavy .22 rifle and an indoor range to practice on so you can actually see on a target the results of your errors without dealing with the recoil of the big guns, but the main idea is to use a rifle that is as heavy as your match rifle and shoot it a lot without a sling. It does not matter so much if you are dry firing the rifle or shooting it, although actual firing it will give you instant feedback on what you are doing wrong. In most cases if you are dry firing and see a slight wobble in the sights during the trigger pull you might assume the shot might go just out of the bull, but if you do that while actually shooting the rifle you may find that the shot lands nearly off the target.

The other and more important thing you will learn when actually firing a rifle is that even when the sights look perfect and the trigger breaks cleanly, the shots will not go where you expect them too. This will be true if you are shooting your muzzle loader or a .22. The cause is differing muscle tensions from shot to shot, or the basic premise of my coil spring theory I mentioned earlier. Remember this will also happen when you shoot with a sling, but the sling tends to mask the cause and make it more difficult to locate and eliminate the cause.

There are good reasons and many things to learn from just dry firing though, so I would not recommend that you completely ignore it to work with a loaded rifle.

When dry firing I lay in the floor and aim my rifle at a dot on the wall (without a sling) to build up the muscles, and work on my position to develop the most stress free position I possibly can, using the guidelines I will share with you in the remainder of this update.

I shoot my rifle, or dry fire in the floor for a large number of shots at a time, because if you do it for a longer period of time, your arms will begin to get tired and sore. When that happens, you can feel the tension in your sore muscles so much better than you can when the muscles are fresh and rested. You can feel the variations in the sore muscle tensions much better too. Those variations are what make the shots go to different spots on the target, so eliminating the variables in the tension allows all the shots to land in the same place.

When I get the chance, I take my 12 pound sharps rifle with a .22 adapter in it and shoot it in Mon's basement rifle range... and do it all evening with no sling. Typically we will shoot on a scaled target at 50 feet, and shoot 20 shots for score plus sighting shots too. We then change our targets and do it again. By that time we have fired about 50 shots, and it starts feeling like your arms are going to fall off. After that we typically take a break or go to diner and come back for another two targets worth of shooting. After the break I can feel the tension changes in my position much better than before, because my arm muscles are sore and tired. I also shoot my highest scores after the break with these sore muscles. Typically I will start the evening shooting scores of about 36 to 38 on the scaled down 5V targets. After the break I have shot scores as high as 48 with a bunch of V's.

In this way I have learned how to get into a position that requires the least amount of effort to maintain, and the least amount of effort is the easiest to be consistent. The more tension in a position, the more room for error.

I remember one evening in particular, we had gone to diner and come back to the range for another couple of rounds, and I was really feeling the previous efforts in my arm muscles. When I lay down to shoot I noticed that one of the muscles on the outside of my upper arm was feeling kind of sore as I got into position. I moved my elbow about a 1/2", and then there was no more tension in that little muscle and the pain went away, and as long as I continued to watch for those sore spots that were telling me where I had tension in my position, I was able to continue to shoot center hits. By center hits I mean hitting a spot the size of a BB at 50 ft.

I will caution you that one thing you do not want to do is to practice so long that you begin to make greater mistakes, because this just reinforces errors in your subconscious. I like to practice long enough to get my muscles tired and achy a little, then take a break for an hour or two then do it again as described above, but then quit before I have reached a point physically where I can no longer perform properly, or I can no longer mentally force myself to do things correctly. Each of you will find that you will reach that point at a different time or after a different amount of effort, so you need to pay attention to what your body is telling you as you practice.

When dry firing I have several goals. I often get up and down between shots as we do when shooting a match to build up my muscles, but also so I get into the habit of getting into the exact same position each time I lay down which is exceptionally important with a muzzle loader. I also work heavily on trigger control on a day to day basis, but one of the most important things

I have done while dry firing is paying attention to the position and fixing what is wrong with it. I look for anything, no matter how small or large that might effect how the rifle moves under recoil. I'm not talking about just muscle tensions here, but little things like a wrinkle in the shooting coat that is bothersome, a different way of placing the butt on my shoulder and etc, etc. Look for the little things that might be just mildly noticeable when you are shooting a match, but can cause a change in impact when shooting.

One of the first things I noticed some years ago was that there was a wrinkle formed in the shoulder pad of my coat when I got into position. This wrinkle made it a little challenging to get the rifle placed perfectly on the shoulder for each shot. Once I started noticing the wrinkle, I started realizing that the wrinkle was causing shots to go astray when actually firing the rifle. If I did not have the butt of the rifle in the wrinkle exactly the same, it was enough to throw a shot noticeably.

I decided the wrinkle had to go away. It took a while to get it figured out, but it did. The first thing I did was install an adjustable strap on the back of the shoulder of my coat to pull the extra coat out of the pocket and up over the back. I noticed that many long range high power rifle shooters use this adjustable strap as well, so I tried it, and it helped. It did not cure it, but it helped.

I then started wearing a shoulder pad under the coat as a filler, and that finished off the problem. I now have a nice smooth wrinkle free shoulder on which to place the rifle, and no longer get stray shots from that reason. I spent about a year dealing with this before I was satisfied that I had eliminated the wrinkle problem satisfactorily.

Here are a series of photo's that show the progression from a wrinkle, to the strap, to the smooth shoulder.



The picture on the left gives you an idea how far the shoulder pad of the coat will slip own when I am in position. If I put my rifle on that, the rifle is nearly above the pad entirely when I use a high position, and if I used a low position for the butt, the rifle would try to slip off the pad and through shots all over the place.

The picture on the right is a more frontal view of the pad, and you can see a higher spot to the left where the pad bulged or wrinkled up just about where the butt of the rifle would set.



These pictures show the strap I had added to the coat to pull the pad up higher on my shoulder and remove some of the excess coat that bunches up in that area. This helped quite a bit, but it really caused me to start looking for anything that might make it better. I finally decided that with my boney shoulders, the rifle was being twisted by the bulge in the pad nearest my neck, and I wanted to try putting a filler behind the coat to even things out.



In these pictures you can see the typical Buffalo Arms shoulder pad that I started wearing under my coat. That finally filled out the coats pad so the rifle would set smoothly on my shoulder without any twist or wrinkle trying to displace the rifle in any way. The pictures do not really do it justice, but the difference on the target was quite amazing for me.

Another little thing I figured out that was bothering me is that the elbow pad of my trigger arm was not setting still. Or rather the pad was setting still, but my elbow tended to roll and slip off the side of the elbow pad on the coat sleeve. Once again I learned that if my elbow rolled off that elbow pad while I was shooting the shot did not go where I wanted it to go. The

answer in this instance turned out to be a simple little bit of tape. All I had to do was pull up some extra sleeve, pull it over the top of my elbow, and wrap tape around it. Now I never have to worry about the elbow pad and my elbow placement inside of it.

Once again here are some photo's to show you what I mean.



The left picture shows my elbow slid off the side of the pad on my coat. The right picture shows my elbow in the center of the pad, and me pulling the excess coat up and over the inside of my elbow. I just taped it there by putting a wrap of tape all the way round my coat sleeve at that point. This is my other arm for demonstration purposes, but in the next picture below you will see a band of duct tape on my left arm that holds my elbow pad in place.

Other things I have worked with while dry firing are different sling mount positions to eliminate the tendency for the rifle to torque or twist as the sling pulls tight when I get into position, and etc, etc. Basically I just analyze every aspect of my position, and try to fix every little thing I can no matter how trivial it may seem. I highly recommend that you do the same. You never know what little thing you might discover that is affecting your scores.



When I was working with the sling trying to work out the best technique for me, I tried the South African full bore sling technique and it worked great. Here is a picture that shows how the sling wraps around the arm.

Some people may believe that the sling wraps around the arm when using this technique to allow the sling to be used like a single point sling, but in reality it does not. The loop around your arm helps keep the sling from sliding up or down on your arm, but you must still be careful to have equal tension on both ends of the sling or the shots will not land where you expect.

I always had problems with the rifle twisting in my hands when the sling pulled up tight. I could get in position and get the gun settled in right, but then if I leaned into the sling a bit harder the rifle would twist because of the way the back end of the sling would pull the rifle towards my arm. I fixed that by moving my rear sling mount forward and to the right on my rifle. The idea is that if you draw an imaginary line from the point where the rifle touches your shoulder to the point where the rifle touches your forward hand, and then move the front sling mount so the sling is pulling directly from that imaginary line, the rifle will not torque when the sling gets tighter.

I first experimented with mounting the sling with a leather lace around the breech of my rifle, but once I was convinced it worked properly, then I installed a permanent sling mount on my rifle.

Here are a couple of tips that I have learned over the years. I have shared them many times with others, but they bear repeating again.

Carry the butt of the rifle as high as you can get it in your shoulder so it sets squarely on your shoulder, and not have the tendency to slip off your shoulder under recoil. I have been blessed with long arms, a long neck, and a long face. I can keep the butt of my rifle high on my shoulder at all distances. Many are not able to do that because of the way their body is built. They will need to learn how to deal with the problem of recoils slippage in their own way.



You can see here that the rifle butt plate actually protrudes slightly above my shoulder. Once I started shooting with a higher rifle position, sling shooting got a lot easier, and my shooting from a wrist rest got much better as well. To get the rifle that high I had to shoot a

higher position overall. I had to pull my forward hand back a ways to raise the rifle, but it was well worth it.

Another trick I learned is that keeping the forward elbow placed so it is nearly a straight line from shoulder to wrist is a good place to start when looking for a stress free position. I used to try to push the elbow in under the rifle a bit like you see many high power and small bore shooters do, but it never worked for me. It always caused me to string my shots left to right.

If you pay attention you will learn things like this about your position shooting also.

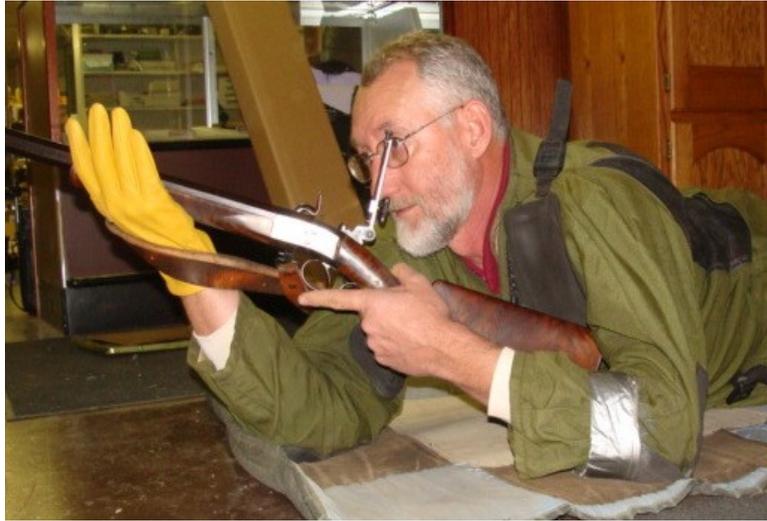


Here are a couple of pictures that show a very slight difference in the placement of my elbow. The picture on the left is my position that works so well for me with my elbow placed directly between my shoulder and my wrist. The photo on the right shows that I moved my elbow in towards the rifle about a 1/2 inch. I know from experience that if I shoot a group with the elbow placed further in like that, the group will be at least 2 to 3 inches wide at 100 yards. Where I can easily shoot under a 1/2 inch wide with my elbow placed as in the left picture. Just goes to show you that little things mean a lot in this game, so pay attention to the little things.



Here is a series of pictures showing how I mount my rifle to make sure I get it the same each time, how I make sure it is high in the shoulder, where my elbows are placed and etc. Etc.

This first picture was taken when I first approach the shooting mat. I get down on my knees, double check my sights to make sure they are in position. I get wrapped up in my sling, and make sure it is in exactly the right place on my upper arm, shove my hand in the sling and get hold of the forearm up front. Then before dropping down onto the mat I cock the hammer and take off my old percussion cap, because I leave it on while cleaning.



Once all the prep work is done I lay down on the mat, double check the sling tension, and always have to pull a little sling to the rear to make sure I am going to have equal tension on both ends of the sling.

Now comes one of the most important steps for me. I grab the butt of the rifle and push it up till it touches the side of my face at a spot I have worked out. I do this while my head is up and looking squarely at the target. This makes sure that the rifle is plenty high on my shoulder and placed properly, and more importantly it is placed exactly the same each time. I then hold the rifle in place with my forward hand while I grasp the stock with my rear hand and pull it into my shoulder as I put my head down on the stock and push the rifle down into position.



This does not seem like so much, and to some it might appear that I am over doing it with this, but if I do this once, and then the next time I just grab it with both hands and stick it on my shoulder the shot will go high or low. If I even let the stock slip from my shoulder a little, or roll out of position to look through the scope I do this all over again, or the shot will go low or high for me. It happens every time without fail, so I have just decided that this little bit of effort is worth the trouble.



When in position I get a good grip on the rifle with the trigger hand and pull rearward enough to compress the coat, pad, and shoulder muscles underneath. I do this to limit the amount the rifle travels to the rear during recoil. The idea being to limit the amount the rifle can move before the bullet leaves the barrel.

I do not pull to the rear with the forward arm, nor do I push forward. I find that if I push forward with that arm my shots go low. If I pull to the rear the shots will go higher. It all has to do with muscle tension and sling tension pushing on the rifle during recoil. I have learned to do it in such a way that I make sure the skin in the palm of my hand is not pushed nor pulled. If the tension in the palm of my hand is neutral then it will be a good shot vertically. If you recall the picture of the target I started off with. It had one low shot because I waited out a blustery wind for a couple of minutes, then lined up and fired the shot. During that couple of minutes I had inadvertently relaxed into the position and allowed the forward hand to push into the sling more than normal. I realized it as soon as I fired the shot, but you can never get them back, so I got that low shot out of the deal. The final shot on that target, I was wanting so much to not go low again that I touched the trigger off a bit soon as I brought the sights down onto the center of the target. Which gave me that high shot.

Once you have your position perfected or nearly so in the floor, then we can begin learning how to make that position work for us in the real world. I found that I could get my position just right in the floor at home or in the basement range at Mon's, but in the real world the ground is not so level, or it is soft, or lumpy, or etc, etc. Before you lay your mat down, you

need to locate the best spot possible to place it so your elbows will be in a good level location. You also want to look for holes, rocks, humps and low spots, and make sure you have a good platform to lay on. Even going so far as to make sure you do not have a hump or bump where your upper chest is also or you will end up with a big knot in your diaphragm, and etc. If the firing point is not suitable for a perfect position, then fix it. If your position is less than perfect, your score will also be less than perfect. Your position can not be any better than the foundation it is set on. Your score will be no better than your position.

The first thing I do when I approach my firing point is to check it for level and bumps as mentioned above. If possible I will fix it. At places like Raton, or Cape Town where the firing points are sand or rock, I will move it around and build myself the flattest and levellest place I can to shoot from. Once that is done, I lay my mat out on the ground, and lay on it to make sure it feels as good as I hoped it would. There are other ranges where the firing points are mown grass, with clods of grass root and etc. all around. Butner is like that at the longer ranges where the mounds are not too old. Sometimes the surface of the firing point is soft and muddy, or sloping to the front, and none of these situations can be tolerated if you want to shoot well. Basically we are trying to build a perfect platform to shoot from just as we have when we lay in the floor to practice.

If the surface is sloping towards the target, you find yourself with your elbows lower than they should be in relation to the rest of your body, which in turn will lower the butt of your rifle on your shoulder, and you will be out of your best position. If the firing point is soft and sandy, or wet and muddy, you may find that your elbow will sink into the ground a little more each time you get into position, and in that case the rifle will not be the same on your shoulder for any two shots, and the shots will not be the same on the target.

In these instances I will slip a clip board or score book under the mat where my elbow lands, and that will keep me from sinking into the ground, and help lift the elbow to where it should be, on a badly sloping firing point. It is even possible to put a thicker filler pad there if the firing line is sloping badly. Another reason for occasionally using a score book or other filler under your arm is if you have a heavy chest and relatively short arms.

What I mean by relatively short arms is someone like Mon Yee. We laugh all the time about the differences in our body types. I have monkey arms and can scratch my knees without bending over, while Mon has to bend over to reach the lint in the bottom of his pockets. He also has a heavier chest than I do, so he ends up in a situation where his elbows will barely reach the ground while I have to splay my arms out a long ways to keep from having to shoot setting up.

For instance, when we shoot from a wrist rest my hand is out near the end of the forearm on my rifle, and his is next to the trigger guard. If you have problems like that you can use an extra filler under your mat or built into your mat to raise your elbows up, and move your hand further from your body.

Years ago I used to shoot with Ernie Stallman ( Badger Barrels ) a lot. He had a friend that

was rather rotund with short arms. Ernie would often ask him if he wanted bricks for his elbows or an entrenching tool to make room for his belly.

I thought it was funny at the time, but in reality we need to think about things like this when we are developing our positions. Your goal should always be to develop a position that will allow your rifle to perform to its ability. Anything that gets in the way of that goal needs to be dealt with creatively.

Now that I have my foundation built to suit me, I then lay out all the remainder of my gear. My scope, score book, pencil, capper, and etc. I have worked out exactly where each needs to be for my position to be correct and everything to be where I need it, when I need it. I actually have a page in my notebook that has a drawing of exactly where it all goes. I did that back when I was just getting it all worked out, and it served as a reminder to do it just that way each time. I found that picture in my book the other day, and had forgotten it was there, so obviously I do not still need to look at it to get everything positioned, but it is all part of the routine I use to make sure everything is in place when I need it. It helps eliminate times when you have to suddenly jump up to go look for something that you don't have, when you should be shooting your shot instead of up running around.

An extension of this idea is to set your loading table up exactly the same way every time you use it. Work out the placement of items so it is natural, so you do not have to think about it. When you do everything the same each time it becomes automatic, and you will not need to remind yourself to do something, and be less likely to make an error if you get sidetracked for some reason.

All of this stuff can be worked out during the winter at home on the floor, or outside during a weekend practice session.

Here is a picture of how I set my mat up with all my important stuff.



I have my scope to the left even though I shoot left handed. I set the scope up high to get it above the ground mirage at the firing line, then rotate it towards me so all I have to do is turn my head a little to look in the scope while in position with the sling or wrist rest. If I want to check the mirage or wind I just turn my head a little and it is just right there to look through.

I do use my shooting eye to look through the scope. Some prefer to use the other eye, but I use the one eye open shooting technique, and if I try to use the other eye for the scope it delays me while my eyes have to refocus. It also makes my eyes more tired if I switch back from one eye to the other. If you shoot with both eyes open you may not have that problem.

I have my capper to the left under the scope so I can cap my rifle after I am in position.

I have my timer set so I can keep track of how much time I am using per shot. You don't want to run out of time, plus they now are going to be using a rule that allows you no more than 90 seconds on the firing point before you have to shoot or let someone else shoot. Having the timer right in front of you makes that easy to keep track of.

You can see the clip board peeking out from under the front of my mat where I put it when the ground is soft.

My plot sheet and etc with pen are to the right so I can make notes of each shot after it is fired, while waiting on the target to come back up.



Here is another shot of my scope setup showing my wind ribbon set up on my scope. I also have a separate flag pole that I use most of the time, but once in a while it is nice to have it set up on the scope so I can have it mounted right in front of me to see easily. The picture on the right is a thicker filler that I use when the ground is uneven. I place it under the mat to raise an elbow as needed.

The next type of training that I do is training with the sling at short range. Not just 100 yards, ( which I do) but also even shorter range, like 30 to 50 yards. The idea is the same as I shared in previous coaching updates. Just eliminating variables by shooting at closer range so the wind does not blow your shots around and mess with your results.

I want to prove that what I think is my ideal position is indeed ideal by firing the rifle with full recoil. If it does not work out as is oftent eh case then I have to make changes in my position. It does not matter what distance this is done at, as long as there are no outside forces like wind that keep you from working the kinks out of your position.

Once I have my position working nicely at short range, I then raise my sights up to the 300 and later the 600 yard sight settings, and continue to shoot at short range. I just aim at a low target and let the shots land in a higher target or cardboard above the target I am aiming at.

The reason I do it with all the various sight settings is because as the muzzle moves upward for the longer distances, the butt of the rifle tends to go down at the other end a similar amount, and you must prove that your position works as well at the longest distance as it does up close.

The idea is that when you have your position working good with the sights low, the butt of the rifle is as high on your shoulder as it is going to get. Once you raise the sights, your forward hand stays the same, so that means the butt of the rifle will move lower on the shoulder. At some point that means the rifle will no longer be on your shoulder far enough to stay put, and it will start slipping under recoil. At that point your shots will start going wild. It is much better to learn this at 25 yards while practicing than to eventually figure it out at a match. This was a little bit of a problem for me, but the short armed barrel chested guys may find they have a lot more problem with the postion not working at the longer distances.

The final level of training that I do with the sling is to shoot full distances. You really can not easily perfect your sling technique at longer distances. That needs to be done at the shorter distances. What I am doing by practicing the longer distances out to 600 yards is to verify that my position really works in real life at all distances, and to practice reading the wind while shooting. I also work on the idea that I am not just shooting groups at a match like I have done so much of in practice, I am trying to get used to the idea that group needs to be on the center of the target.

I have found this training regimen to work wonders for me. If you notice that I put a lot of effort into telling you about dry firing, learning and checking the position, and then only one little paragraph about shooting full distance. That is because I put the most effort into what I consider the most important parts of my training regimen. In short, you will gain far more by spending a few evenings in the floor at night paying attention to what you are doing, and not thinking about a score, then you will ever learn at a range shooting at 600 yards in the wind. Some of the most productive nights I have had, never had a trigger pull in them, just analyzing my position, thinking and fixing little problems.

Now that I have discussed my training regimen I want to discuss one other very important aspect of sling shooting. That being "natural point of aim".

Natural point of aim is simply placing you in your ideal position in such a place that the sights of your rifle are aligned with the target "naturally" with no effort on your part. If you get into your ideal position and your sights are not aligned with the target the way you want them, then you must move your body, and alter your position or the firing point you are laying on, till the sights do line up on the target properly.

Here is one of those times that I have found what is in most books will not work for me. Most books will tell you that if your sights are a little right or left of the bull, then you just need to move the elbow of your trigger arm, forward or rearward to move the rifle left or right. What I have found is that I am just loading up the muscles and the shot will not go where the sights are. Generally speaking the shot ends up going where the natural point of aim was before I moved the arm. I see the same thing if I just muscle the sights a little to move it to center. It will go right back where the sights were before I pushed them to center.

If the sights are left or right of center I move my body so it pivots around the elbows on the ground. If they are low I will either block up under my mat or move my forward hand to the rear to raise the rifle. I will not ever lower the butt of the rifle on my shoulder to raise the muzzle because that is just asking for poor shots in my experience.

If the sights are excessively high I will move my forward hand further out under the rifle, or dig out under the mat so my elbow will set lower.

My goal is to end with my sights naturally pointing just above the black of the target. Once I have that worked out, then I simply inhale slowly to bring the sights directly down onto the target. When the sights come to center I pull the trigger I do not inhale rapidly, because that tends to make me snatch at the trigger, because I feel like I am rushing the shot. I inhale slowly so I can see the sights come slowly to center, stay relaxed, and then I can just squeeze the shot off and expect a center hit.

I then make notes of my sight settings, the wind, my hold, the break on the shot and etc. When the target comes back up from the pit I mark the hit and score, then get up and start all over again.

This is how I shoot with a sling, and it works well for me. It is all about paying attention to your body, your position, the muscle tensions in your position, and etc, etc. A whole pile of details that will become second nature to you once you practice it enough, then you can shoot subconsciously and everything just happens on autopilot.

How well does it work? I showed you a target that had all the shots going where they should have gone. Before I went to a world match in the past I have practiced till I expect at least 7 out of 10 shots to go in one hole at 100 yards.



Here is a typical 100 yard sling practice target from just before the most recent world match. Five shots in one hole about 1/2" x 3/4" center to center, one called high, two called right, and two called low right. This type group shows that I know how to do it right, but do not practice enough long term prior to the match.

If anyone has any further tips they have learned, or questions they would like to ask, please feel free to share. That is how we as a team will get better.

I might point out here as a goal for the long range shooters, that the South African shooters are required to shoot scores that average a 40 out of 50 for all the distances. That means they have to shoot good solid scores at least once at every distance to qualify to shoot in the world championships. If they do not shoot so well at the longer distances they must have shot better than a 40 at the shorter sling distances to make up for the weaker performances at the longer distances.

At the SA nationals this year 50% of the competitors shot 40 or better at 300 meter. 40% shot 40 or better at 500 meter. 15% did so at 600 meters. All shot from a sling of course. Similarly at their interprovincial matches later in the year 70% scored over 40 at 500 meters, and 40% did so at 600 meters.

This is what we are up against in world competition. Everyone shoots slings more than we do, so if we are going to be serious contenders we need to work doubly hard over the next eight months to catch up.

Now it is up to you to work on your position, listen to your body to find what works for you and what does not, then practice.

Well enough for now, you guys all have a very Merry Christmas, and go lay in the floor and practice!

Lee Shaver

Long Range coach