

KEEPING IT IN THE TEN RING

INTRODUCTION:

The material contained herein is a condensed compilation taken from the Civilian Marksmanship Program Website. This material is the tried and proven techniques used by the USAMU team members. These techniques are for the use of the experienced as well as the inexperienced shooters. This should only be used as a guide to the advantage of the shooter for the development of good shooting habits and as a reminder of the basic principles of competitive rifle shooting.

This guidance is by no means the end all when it comes to the final say of rifle shooting techniques. We as competitors should constantly strive for better and more consistent execution of the fundamentals' when it comes to competitive rifle shooting.

I. Standing and Trigger Control

By SGT Brandon Green, USAMU

We've all been there—on the two hundred yard line and in our three-minute prep period. As you stand there looking through your sights, you just can't seem to make them stay in the center of your target or even close for that matter. You know that your three minutes are running out quickly, so what are you going to do? This is the time when a lot of shooters start to come unraveled. We all know that nothing I tell you here will make you stand up there and shoot center shots all day, but maybe I can bring a few things to light that will help you control the movement and work through times like this. On days when your standing just doesn't seem to settle, we need to be able to quickly evaluate and, if necessary, rebuild our position to help control the movement. We all know how to stand up, but it's the standing still part that gives us trouble most of the time.

Feet -We will start our position rebuild at the feet. You normally want your feet about shoulder width apart and perpendicular to the target. Some shooters like to keep their weight evenly distributed between the heels and balls of their feet, but this may not be the best position for you. I normally try to find a place on the firing line where my toes are just slightly higher than my heels, maybe a 1/4 to 1/2 inch higher. With my toes slightly higher, I feel a little more of the pressure on the



balls of my feet. This usually helps me eliminate some of the back and forth movement in my position by inducing a little tension in my calf muscles.

Legs -At this point I will check for excess tension in other parts of my legs. I notice that excess tension in my upper legs can also cause me to sway back and forth more than usual. By rotating each foot in or out, I can usually find a position that will eliminate this excess tension and help my legs feel more relaxed. I then check the tension in my knees. I don't shoot with my knees locked, but they aren't exactly bent either. I find where they are comfortable and stick with it. Now that my legs are at a good starting point, I move up to my hips and waist.

Hips -I normally shoot with my hips perpendicular to the target and twist at the waist slightly. This is more of an international style rifle position than a traditional high-power position, but it is very comfortable and relaxed for me. With my waist only slightly twisted, I can rest my forward arm almost directly on my hip bone instead of bringing it around and resting it on my ribs

Back -In order to center the weight of the rifle over my body, I shoot with a good bit of back bend in my position. This helps keep my head more upright and keeps me from getting too much of the back and forth movement that I talked about earlier. I have also tried eliminating the backbend and trying to stand more upright the way some of the other shooters on our team stand, but I find that I start to lean forward as soon as I relax.



Place the butt stock into your shoulder where you can achieve an optimum head position. Generally, the butt is placed higher in the shoulder for the standing position than other positions.

head is upright and I'm not bending over to look through the sights. Because the butt of the rifle is so high in my shoulder, I have to position my forward hand in a way that gets the front of the rifle up to the target, instead of doing this by lowering the butt of the rifle in my shoulder.

Non-firing hand -My non-firing hand position includes the sling in its grasp underneath the hand guard of the rifle. This helps me get the front of the rifle up to where I want it. I try to grip the hand

Shoulders & Arms -I try to pay very close attention to my shoulders and arms, because if I have very much tension in them, I am almost always farther outside of my calls than I should be. The rifle is placed high in my shoulder so that my



Your non-firing hand is the platform on which the rifle lies. Your hand position will control the height, or elevation, of your position.

guard only enough to keep my hand from moving under the rifle. I also try to pay close attention to not gripping so hard that I create tension in my forward arm.

Firing hand -I place my firing hand high on the pistol grip and use a firm grip to hold the rifle in place. This firm grip pressure also helps me be aggressive on the trigger without moving the rifle when I break the shot. The position of my firing hand allows my trigger finger to fall naturally on the trigger, which for me, places the trigger in the crease of the first joint of my finger. You want to pay attention to your firing-hand grip to ensure that you are not applying torque to the rifle when you try to move the trigger straight to the rear.



In order to get the head pressure to acquire and keep good sight alignment, place your chin on the top of the stock and drag it down until your eyes are behind the rear sight.

Head -Next I position my head on the stock of the rifle by using a technique we call dragging skin. I start by placing my chin on the top of the stock and dragging it down until my eye is behind the rear sight. Using this technique allows you to pull up all of the excess skin from under your cheek and helps you get the head pressure you need to acquire and keep good sight alignment. Without good head pressure, the rifle will move under your head during recoil. When the rifle does this, you will lose the sight alignment you worked so

hard to achieve and it will be very difficult to call your shots. It is very important to check your head position and sight alignment every single shot! You want to be consistent with your head position and the pressure you put on the stock of the rifle. The best way to work on getting a good head position is by doing lots of standing dry fire practice, either at the range or at home. Find a position that allows you to look directly through the center of your rear sight without having to stretch your neck too much.

When you are dry firing, you should pay close attention to your follow through. You want to be sure you aren't jumping off of the rifle as soon as you break the shot. It is much easier to catch yourself doing this when you are dry firing than when you have the recoil of the rifle to hide it.

This brings us to the subject of **trigger control**. Trigger control is simply the manner in which you move the trigger to the rear to fire the rifle. There are many different ways to move the trigger to the rear, but the key to all of them is being



Being aggressive on the trigger means putting initial pressure on the trigger before you get into your hold and then breaking the shot when you want to.

SMOOTH. Most match grade service rifles use a two-stage trigger set at four and a half pounds. The two-stage trigger allows you to take up around two pounds of this weight with the first stage and will break cleanly as you add the other two and a half pounds of pressure. With these triggers I like to use a fairly aggressive trigger control. Of course, the firm grip pressure I use helps me do that. I take up the first stage of the trigger as soon as I get my head positioned on the stock and I usually take three breaths before I exhale and let the sights settle on the target. With the aggressive trigger control I use, I apply the pressure to break the shot as soon as it starts to settle. If I'm having more movement than usual, I try to break the shot as it starts to come into the nine ring. Breaking the shot on the move is tricky sometimes, and you would much rather break it on the way in than on the way out. If you break a shot on the move as it passes through the black, you will most certainly be outside of call. We call this being "behind on the trigger". When you break a shot as it starts to come onto the target, you are more likely to hit closer to center than you would if you were behind on the trigger. Some people choose to take the first and second stages of the trigger all at once and this will work as long as you are smooth on the trigger. I've personally never been able to use this type of trigger control because I tend to pull the trigger way too fast and hard. Whichever type of trigger control you use, it is usually better to be a little aggressive. Being aggressive will usually help you break the shots as soon as they get close to center.

Now that I have told you how I rebuild my position, it is time for you to go out and work on yours. Remember the key points I have discussed, take good notes and good luck.

II. Crossed-Ankle Sitting Position

By SFC Grant Singley, USAMU

There are two primary variations of the sitting position that are used during High-power competitions. The variations are crossed-ankle and crossed-legged.



This section covers the crossed-ankle sitting position. You may want to try the crossed-ankle position if you have excessive pulse in the crossed-legged position and/or your body type prevents you from getting into the crossed-legged position. I would also like to say that all the cool people to include myself shoot the crossed-ankle position. Note: This article is written from a right-handed shooter's perspective.

First, the crossed-ankle position is not for everyone. Many people find that their legs are too flexible to keep their knees up off the ground. A quick test is to

sit down on the ground, extend your legs and cross your ankles (left over right). Lean forward and place your elbows on your knees as if you were actually holding the rifle. Your knees need to be able to stay up off the ground in order to have enough elevation in your position.

If you find that you are “inflexible” enough to shoot in the crossed-ankle position, I will now walk you through the process.

1. Put on your shooting coat, grab your rifle and sit down on the ground facing the “target”. Try to set up the position so that your feet and body are pointing straight down range. You may pivot your feet and body slightly to the right if desired.
2. Your left elbow may be placed somewhere forward of the left knee so that the lower part of your triceps is resting across the knee.
3. Your right elbow may be placed in the bend of the right knee.
4. Your non-firing hand and butt-stock placement will vary according to your size/height.



5. You are now at the point where you must fine-tune the position. Vary the placement of your non-firing hand, butt-stock, elbows and legs until you are steady and comfortable. This may take some time. You can condition your body by getting into this position for 10-15 minutes at a time while watching TV.
6. To adjust your natural point of aim. Leave your feet in place and slide the seat of your pants left, right, forward or backward as needed.

Once you have dry-fired and feel comfortable in the position, it is time to go to the range and impress your buddies with your new found ability to shoot sitting rapid-fire. You may have to adjust your position to accommodate for the effects of recoil. Your wobble area should be mid-ring 10 or better. Again, this may take some time and experimentation.

A rock solid position will not guarantee a “10X clean” on every string you fire if you do not apply proper sight alignment and trigger control. It is easy during a rapid-fire string to get excited and break shots that are less than perfect. How can I fix that, you ask? My answer may sound simplistic and sarcastic, but here we go..... DON’T BREAK A SHOT UNLESS IT IS SITTING IN THE MIDDLE!!!!

The secret is now out and DeMille’s record will fall soon. Seriously, you have plenty of time during a rapid-fire string to let the rifle settle in the middle before pulling the trigger. Work on becoming highly efficient in your shot process so that you can spend the most time possible actually focusing on the

front sight and moving the trigger smoothly to the rear. If the rifle does not settle back in the center after a shot, there is nothing stopping you from physically moving the rifle back into the center and then breaking a shot. A slight amount of muscle tension with the non-firing hand and arm is acceptable and may be necessary to keep the sights in the middle after recoil.

I have not mentioned the use of a shooting mat yet. The use of a mat is totally decided by personal preference. I usually sit on the mat with my feet on the ground in front of it. If the firing point has thick green grass on it, you may not want to use a mat, but if the point is hard and rocky, the mat may help stabilize the position.

III. Keep it Steady-The Elements of a Good Prone Position

By SPC Matthew Sigrist, USAMU

Imagine the following scenario: You are at the last stage of fire in the National Trophy Individual Match, firing at the 600 yard line in the prone position and every point matters. What should you reflect on as you prepare to shoot this final string? As your eyes cloud from sweat, you realize that all you have to rely on is your experience and knowledge of the fundamentals.

During the National Trophy Individual Match, you will fire 60 percent of your shots from the prone position. This section will address the fundamentals of a good prone position and help you learn the techniques required to be successful in both the slow and rapid-fire stages of National Match competition.

The Fundamentals

The fundamentals are the building blocks of a position. Much like the framework of a house, a correct application of the fundamentals ensures a solid and stable structure. Since each person's position will depend on their particular body build and shape, there is no "perfect position" that applies to everyone. Experience, practice and knowledge of the correct fundamentals will dictate the best position for you. There are six, key elements of any position. The purpose for these six points is to achieve a solid platform that allows for consistent sight alignment using the least amount of muscle tension.

1. Placement of the firing hand (the hand that pulls the trigger). The firing hand needs to be placed high on the pistol grip. This high hand position will give you better control of the rifle. Combined with a firm grip there will be a reduced amount of hand movement when pulling the trigger. Wrap your thumb over the three fingers on the pistol grip (excluding the trigger finger). This will help isolate the movement of the trigger finger.

2. Placement of the non-firing hand (the hand supporting the rifle). The non-firing hand should grip the hand-guard or stock in the flat portion of the

hand between the thumb and forefinger. The fingers should curl naturally around the stock, but they should not grip it tightly. The position of the hand on the stock will depend on the physical size of the shooter. Generally speaking, taller shooters with longer arms will grip the rifle further out, near the sling swivel, while shorter shooters will need to pull their hand rearward. This is sometimes referred to as “short-stocking” the rifle.

3. Stock weld. Stock weld is the contact that the face makes with the stock. It is important because it directly effects your sight alignment. Consistent head placement will help you achieve consistent sight alignment. The human head weighs an average of 8 to 10 pounds. The full weight of the head must rest on the stock. In doing this you achieve two things, a relaxed neck and reduced recoil because of the pressure of the head.

4. Placement of the rifle (the contact that is made in the firing shoulder). The rifle butt placement needs to be consistent. If this changes between shots, it effects your sight alignment and the effect of recoil. In the prone position the rifle will sit lower in the shoulder compared to other shooting positions. This allows for a more forward head and a lower position as a whole.

5. Position of the sling. The sling should be high on the arm, above the bicep. This way the sling will have less leverage on the arm so it doesn't cut off the circulation.

6. Placement of both the firing, and non-firing elbows. A guideline for non-firing elbow placement is that there should be $1\frac{1}{2}$ " to 2" gap between your non-firing arm and the rifle's magazine. (*NOTE: this references the AR-15 service rifle*) Your arm should be almost straight up and down; this will transfer the weight directly down the arm and not to the side (see picture). Think of the firing arm as only a kind of kickstand, it doesn't support weight it only holds the firing hand in position.



Demonstration of the placement of the firing elbow (left) and non-firing elbows.

Variations of the Prone Position

There are two main variations of the prone position; open/spread legged, and bent-legged. The two types will be discussed below.

Open/Spread Leg Position



Demonstration of the Open/Spread Leg Position.

The first position is the open/spread legged position. This is when the shooter spreads their legs shoulder width or more apart. This allows for a more forward pressure on the sling and elbows. This position requires a tighter sling and solid elbow placement. The rifle should sit tight in the shoulder. With this position, your body will be farther behind the rifle compared to the bent leg position, allowing for minimum disturbance from recoil.

Bent Leg Position



Demonstration of the Bent Leg Position.

The bent leg position is when the shooter bends the firing side leg up towards the firing hand making the knee at a rough 90 degree angle to the body. The non-

firing leg will remain straight and inline with the body. This will take pressure off the lungs and heart minimizing the pulse from the chest as well as easing the pressure on the lungs which will allow for easy breathing and control.

Summary You now know the fundamentals of a good prone position, as well as the two types most commonly used. Extensive dry-firing will reveal which is the best position for you. If possible, have a friend take pictures of you in position. This will enable you to better diagnose and correct your errors. Remember, a position must be both fundamentally sound and comfortable. Practice frequently to learn your new position and to develop the conditioning required to endure long days on the range.

IV. What Sight Picture Is Best For You?

By SSG Tobie Tomlinson, USAMU

Which is correct? There are a myriad of sight picture options that shooters have used to great effect over the years. The sight picture that allows you to consistently shoot the smallest group, with a minimal shift in zeros, is the correct one. In the next few paragraphs we will explore a few of the more commonly used sight picture options. Remember, for any shooter to be successful, consistent sight picture must be complemented by front sight focus and sight alignment.



Center Hold

Center Hold – With a center hold the front sight placed directly in the center of the target. A center hold is great in different light conditions. On a bright day the target appears small. On a dark day the target appears large. In these different light conditions the center of the target is always in the center. A shooter who has problems with elevation shots in various light conditions may benefit from a center hold.

6 O'clock – With the 6 O'clock hold the front sight is placed at the bottom of the aiming black. For many shooters, this hold allows precision placement of the front sight. The ability to accurately call your shots will come with time and experience. Light changes, which alter the appearance of the target, may affect shooters who utilize the 6 O'clock hold.



6 O'clock Hold



Sub 6 Hold

Sub 6 – The sub 6 is just like the 6 O'clock hold, only there is a small line of white between the front sight and the aiming black. Many shooters have a problem determining the exact 6 O'clock position with their front sight, but by using a sub 6 or line of white they may be able to better estimate their hold.



Frame Hold

Frame Hold – With the frame hold, just like with the other holds, the front sight is in the center of the rear sight. The front sight can then be placed at the 6 or 12 O'clock position on the frame when there is no visible aiming point. This hold is typically reserved for foul weather and poor light conditions. By placing the front sight at the top or bottom of the frame, a shooter may hold better when there is little target to see. It can be difficult to hold a tight group this way, but it may add more hits in bad conditions. This technique is normally applied when shooting longer ranges such 600 or 1000 yards.

Along with the sight picture options described above, here are some general aiming guidelines for effective shooting.

1. With all holds you must be able to see the front sight, the crisp top-edge of the front sight. The target image is second. Most people want to see the target clearly. If they do see the target clearly they probably cannot see the front sight well. You only need to see down range well enough to see your number board to eliminate the possibility of cross-firing.
2. Sight clarity can be improved with front sight size changes. A wide front sight works well with most shooters. Your vision is drawn to a wider sight and away from the target. Rear sight size changes can add to the clarity by allowing more or less light in.
3. Eye relief is the distance between your eye and the rear sight. Your eye relief is different in each position. Any changes in sight sizes must be tried in all positions. Your eye relief from shot to shot must be consistent to fire small groups.

4. You should not over hold. If you aim too long you will fatigue your eyes. Use your first sight picture. Whenever you stare at a bright object, such as a target on a sunny day, the image is being burnt temporally into your eye. Try staring at a bright object for approximately 10 seconds and then close your eye.



5. To improve sight pictures, you may need corrected vision. The most common vision corrections are glasses, contact lenses, and eye surgery. You may also use corrective lenses in your rear sight. I have had great success with this.

6. A way to increase your concentration on the sight is to use a blinder. By relaxing the non-firing eye and lowering the light from sides, your firing eye will be more relaxed. Besides who wants to see the guy moving around next to them? Also, wear a hat

7. You must be able to accurately call your shots. This skill can be enhanced by focusing on the front sight and paying careful attention to your sight alignment.

Whichever sight picture you use, consistency is the key. Good luck and good shooting!

V. Straight to the Rear

By SPC Tyrel Cooper, USAMU



Trigger control is one of the two main principles of shooting that we teach. You can have the best position in the world with perfect sight alignment, but if you have bad trigger control, you have wasted all that effort that you put into your position and sight alignment.

Good trigger control begins with a good firing hand position. If you are right handed that would be your right hand, and if you are left handed, your left hand. Place your firing hand high on the pistol grip, with a good firm grip. Grip tension should be like giving someone a hand shake or holding a child's hand while walking across a street. The first reason for a good firm grip is to give you control over the rifle and to pull it into your shoulder. The second reason is so you can move your trigger finger without moving your other fingers. Try this, hold out your firing hand with fingers extended; now try moving your trigger finger to the rear as if you were pulling the trigger. Unless you concentrate very hard on moving just your trigger finger, other fingers will move. Now make a fist as if you were grabbing a pistol grip, now you can move your trigger finger freely without introducing movement in the other fingers.



A firm grip is essential for effective trigger control.

Placement of your trigger finger on the trigger is just as important. I'm sure you have heard advice to place the tip or the pad of your finger on the trigger. This is true if you have short stubby fingers and that's where the index finger naturally rests, but if you have long fingers like myself you want more of your finger around the trigger, I place the trigger between my first and second knuckle. By placing your finger where it naturally rests on the trigger you are ensuring that you are pulling the trigger straight to the rear, and this also allows you to get more leverage on the trigger. It is harder to pull the trigger straight to the rear with the tip of your finger because of the loss of leverage. Shooting is all about being as comfortable and smooth as possible.

Speaking of smooth, this brings us to the process of trigger control! At the Army Marksmanship Unit we describe trigger control with the word smooth. You can be smooth fast and you can be smooth slow, but you always want to be smooth.

When you are shooting standing have you noticed that the rifle never really stops moving? Well, this is where you would want fast and smooth trigger control. While shooting standing you want to be aggressive on the trigger, take it when it's there. I have found that when I'm not aggressive, I'm outside of call and behind the trigger. When I am aggressive, I am on or inside of call. What I mean when I say "behind the trigger" is simply this--I see what I want to see in my sight picture, but I hesitate for a split second that is long enough for me to shoot a 9 when I saw a 10. When I come down and start settling on the target, I take up the first stage of the trigger. Once I'm getting to the end of my firing process and the movement has slowed down, I manipulate the trigger fast, but smooth, to the rear when I see

what I want to see in my sight picture. Over time, this will become a subconscious act; when your brain sees the sight picture, it will automatically tell your trigger finger to move instead of you having to tell yourself there it is, take it. Lots and lots of dry firing will help this process.

To repeat, you want to be fast and smooth! This is not to be confused with slap, jerk, pull, snatch, command detonate, yank, squeeze and surprise break. If you are squeezing the trigger waiting for a surprise break, the only surprise you're going to have is that it wasn't in the black when it went off.

Trigger control for the rapid fire stage is different than it is for standing. You can actually take a little bit more time to break your shots in rapid fire because of the steadiness of a supported position. A good rapid fire shot process is:

1. Drop down into position
2. Get your natural point of aim
3. Take up the first stage on your first shot
4. Break that shot smoothly and hold the trigger all the way to the rear through recoil.
5. Once recoil has ceased, let the trigger out only far enough to reset the trigger (you should hear a metallic click of the trigger resetting) and continue by firing your second and succeeding shots.

By doing this, you already have most of the weight of the trigger taken up so the next shot is ready to go without having to take up all the weight of the trigger every single shot. One thing you will see shooters do is pull the trigger and immediately release it all the way out. This means you have to take up the full weight of the trigger again. Another reason you want to hold the trigger to the rear after every shot whether you are shooting standing or rapid fire is because you can still disturb the bullet while it is moving down the barrel. During your firing process, you want to produce little or no additional movement when breaking your shot.

During the slow fire prone stage, you have even more time to break your shots, so you would use the slow--smooth method. You should have little or no hold movement at all, thus allowing you to acquire good sight alignment, a good sight picture and break the shot using slow and smooth trigger control. Again you want to hold that trigger all the way to the rear until recoil has ceased so you do not disturb the rifle, no matter what position you are shooting.

You don't have to shoot matches all the time to practice good trigger control. I recommend dry firing a lot, this way you can see what you are doing, right or



In the standing position, use a fast and smooth trigger control.

wrong, without recoil. Practicing proper trigger control while dry firing enforces good habits that will become muscle memory in time, allowing your trigger control to become natural instead of your having to think about it on every shot.

I will leave you with a good drill to practice shooting standing called live fire-dry fire. You need some dummy rounds to perform this drill. When practicing standing, have someone load your rifle for you, mixing up live rounds with dummy rounds in no specific order. This way the shooter has no clue what they are shooting. This forces them to react the same way every time. I used to react differently with a live round in the chamber, I would dry fire a good shot, but get jumpy with a live round. This drill forces you to create a mental process to practice good trigger control whether it is a live or dummy round. I hope to see you on the range, good luck and good shooting!

VI. Reading the Wind (Part 1, Rapid Fire)

By SSG Emil Praslick, USAMU

The term, “**Reading the Wind**” is misleading. A more apt title might be “*The tactical negotiation of varying wind conditions and the limitation of their negative effects on the flight of your bullet.*” In this section we will discuss some tactics and techniques that will enhance your abilities to negotiate the wind and (hopefully) add a few points to your score. This section is divided into two parts: part one will cover the 200 and 300 yard stages. The second part (forthcoming) will be devoted to the 600 yard stage

There are as many dimensions to “wind Reading” as there are stages to High-power competition. Your *tactical mindset*, or philosophy, must be different for the 200 and 300 yard rapid-fire stages than it would be for the 600 yard slow-fire. In the slow-fire stages you have the ability to adjust windage from shot to shot, utilizing the location of the previous shot as an indicator. Additionally, a change to the existing conditions can be identified and adjusted for prior to shooting the next shot.

During a rapid fire string you will be afforded, in optimum conditions, two chances to make a correction prior to or during firing: one before commencing the string, and one during the magazine change. This requires a different approach to analyzing the wind condition than slow fire shooting. In the following section I will cover some of the basics, and attempt to describe the approach I use, both as a coach and shooter, to centering a rapid fire group.

1. Once you have moved your equipment to the ready line, begin to observe the conditions. Do not wait until the command, “All ready on the firing line!” to make a decision about the wind.
2. Assess the direction, value, and the speed of the wind. There are a myriad of wind charts and formulas available to determine the amount of windage required to offset the wind’s effect on the flight of your bullet. Your best estimate should

be checked against that of your fellow competitors. One of your best tools is the knowledge (and the results on the target) of your peers.

3. An often neglected and misunderstood tool is the use of range/wind flags. Immediately prior to assuming the sitting or prone position (while standing) you will not be able to use your spotting scope to check the mirage; you will, however, be able to see the wind flags. It is important to correlate what you can see in the mirage with the behavior of the flags. Alternate between looking at the mirage of a known condition, and observing the flags. Concentrate on the details. Pay close attention to the very end, or tip of the flag. A subtle increase in the speed of the wind will not change the height and angle of the flag, but it will affect action at the tip.



4. Once you have identified a condition, both in the mirage and flags, observe its duration. Because you must fire the majority of your string without making a wind change, you must know what might result from any variance to the predominant condition. This is what we call determining a bracket.

5. Sighters, when available, should be used to determine the bracket of the wind condition. One technique is to stagger the interval of your sighting shots: fire your first shot as you would normally, and then wait until the conditions change—or just prior to the expiration of time to fire your second sighter. This will aid you in identifying the condition closest to your actual string of fire.

6. If there is the likelihood of a change to the condition, the windage you place on the rifle might need to be a compromise between a perfectly centered group and the damage a change might cause. One technique that experienced shooters employ in a changing condition is to identify the “safe side” of the 10-ring. For example, if the observed condition is one minute of wind from the right, gusting to two minutes, a savvy competitor might center his group on the right side of the X/10 ring. In the event of a pick up, the wind gust would simply move the group to the center of the target or to the other side of the 10-ring. Obviously, the effectiveness of this technique is determined by your ability to shoot a small group. This should be an incentive to train!

7. The width of the 10-ring in High-power rifle is two minutes of angle. Theoretically, a wind estimate within one minute of the correct value should result in a “clean.” In practice, the quality of the estimate must be much higher. An individual’s ability to maintain sight alignment, sight picture, and a steady position (along with the accuracy of the rifle) will determine the amount of error available to you in your wind estimate. Once again, this fact alone should be a powerful incentive to train!

8. The risk of making a windage correction during the magazine change often outweighs the benefits, especially with beginning shooters. A good performance and the ability to shoot a tight group is the origin of the shooter axiom: "A good hold is worth a minute." As a rule, unless you can clearly see your group outside the 10-ring in your spotting scope, do not adjust your sights during the magazine change. There have been many disasters wrought from a shooter mistaking a pasty; tear in the paper, or insect for a bullet hole.

Finally, although wind reading is an important shooter skill, your ability to master the fundamentals is the most important factor in shooting high scores. By trusting in your ability, talking to your fellow shooters, and concentrating on your performance, your scores will improve. In the next installment, we will discuss the different techniques required to read the wind during the slow fire stages of the National Match Course.

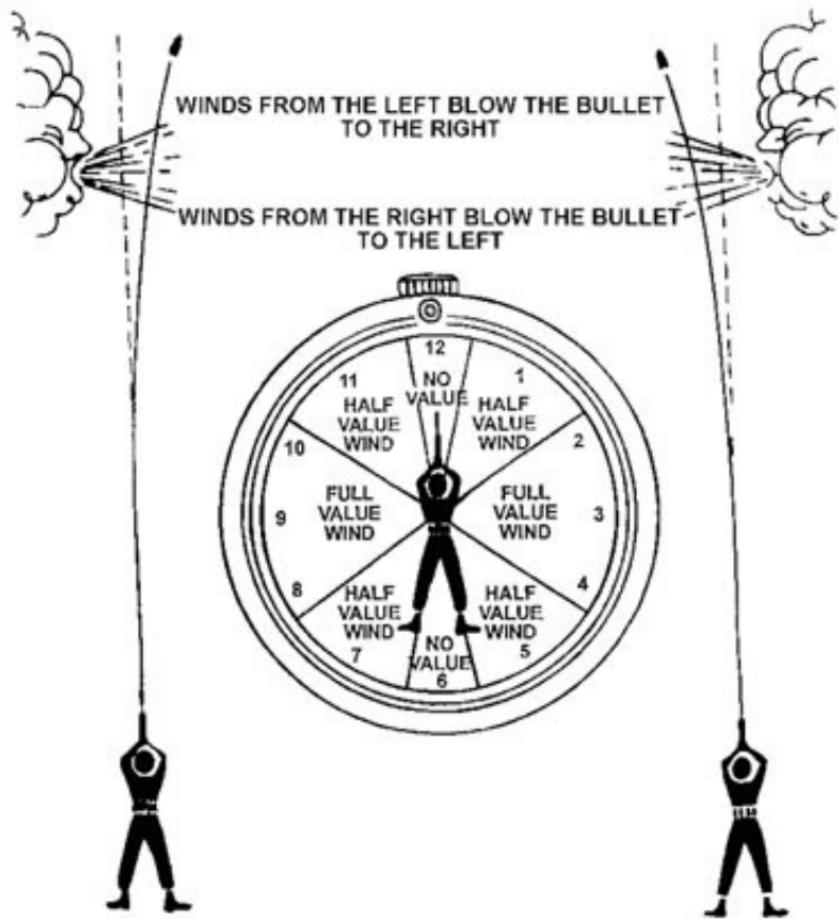
VII. Reading the Wind (Part 2, 600 Yard Firing)

By SSG Emil Praslick, USAMU

In the previous section, "**Reading the Wind (Part 1)**" we discussed the tactics and strategy needed to negotiate the wind during rapid fire (primarily 300 yards). The goal during rapid fire is to center your group in the 10 and X-ring. Your windage setting must therefore be a compromise between what the wind is doing at the beginning of firing time and what you *believe* it will be at the end of firing time. The 600 yard slow fire stage needs a slightly different approach and skill set to maximize one's performance. The ability to "read" the conditions, coupled with feedback from your last shot, will make this stage of competition one of the most intellectually challenging in high-power competition.

The basics of reading the wind still apply at the 600 yard line. Shortly after arriving at the ready line, you should determine the speed, direction and value of the wind. The first task, determining wind speed, has seen competitors arrive at the firing line toting the latest in meteorological marvels. I submit that the human eye and well-trained powers of observation is equal of any overpriced anemometer (a fancy word for a "wind meter"). The following list of the effects of the wind and their corresponding velocity can be found in the 1931 Service Rifle Pamphlet produced by the US Army Infantry Team. The information is as relevant now as it was then

- 0-3 mph, Wind hardly felt, but smoke drifts.
- 3-5 mph, Wind felt lightly on the face.
- 5-8 mph Leaves are kept in constant movement.
- 8-12 mph Raises dust and loose paper.
- 12-15 mph, Causes small trees to sway



CLOCK SYSTEM

The direction must next be determined. Flags are a useful utility in determining wind direction and value. When discussing the wind, we use the "clock system". The direction of fire is always "12 o'clock". The previous picture illustrates the direction of the wind and its *Value* relative to your direction of fire.

The *Value* of the wind is as important as its speed when deciding the proper windage to place on the rifle. A 10 MPH wind from "12 o'clock" has *No Value*; hence it will not affect the flight of the bullet. A 10 MPH wind from "3 o'clock",

however, would be classified as *Full Value*. Failure to correct for a *Full Value* wind will surely result in a less than desirable result.

The first question you must ask yourself is, “how much is the wind worth?” The effect of the wind on your bullet is a result of a combination of factors, such as: the caliber and weight of the bullet, its ballistic efficiency and the time of flight. I recommend the following, simple method. This method relies on knowing how much the wind will move the strike of your round at 600 yards, given a velocity of 1 MPH, at *Full Value*.

For example, a 1 MPH *Full Value* wind will move AMU’s 600 yard ammunition approximately 3 inches at 600 yards. At 600 yards, 3 inches equates to $\frac{1}{2}$ Minute of Angle (MOA). We will refer to this as our 1 MPH Constant. If you know the wind’s speed and *Value*, your initial estimate will be both quick and accurate. Furthermore, if the condition changes while you are shooting, you will be able to formulate a correction without stopping to consult your ballistic program and portable abacus.

Let’s go through this example. As you approach the firing line, the flags are blowing from left to right, indicating a *left wind*. The wind is a *Full Value* wind from “9 o’clock.” You estimate the speed at 8 MPH. Our **1 MPH Constant** is $\frac{1}{2}$ MOA. Multiplying 8 times $\frac{1}{2}$, gives us a wind correction of 4 MOA. If the wind were *Half Value*, our correction would be 2 MOA.

An initial wind correction is only that, what the correction is at the start of firing. During the 20 minutes allotted to firing the 600-yard stage of the National Match Course, conditions can vary greatly. Keep the following factors in mind when analyzing the conditions and formulating your strategy.

1. The Importance of a No-Wind Zero. This is the sight setting required to hit the center of the target in a “no-wind” condition. This zero is best determined at close range, on a calm day.

2. Determination of the predominant condition. Wind will usually manifest a predominant condition with some variations. This condition and its strength (remember, the **1 MPH Constant**) are best observed prior to firing.

3. The value of the strength of the extremes. When wind is switching direction during a string of fire, the strength of the extremes must be known. Again, this is best determined prior to firing.

4. Distinguish the indicators available to you. Identify the upwind and downwind side of the range. The upwind flags are more important during firing, especially when attempting to discover an imminent change.

5. Determine the accuracy of the mirage. Mirage is the reflection of light through layers of air that have different temperatures than the ground. These layers are blown by the wind and can be monitored to detect wind direction and speed.

6. Focus your scope midway between yourself and the target, this will make mirage appear more prominent. I must emphasize the importance of experience when using mirage as a wind-reading tool. The best way to become proficient in the use of mirage is to correlate its appearance to a known condition. Using this as a baseline, changes in mirage can be equated to changes in the *value* of the wind. Above all, you must practice this skill!

7. Always know, with absolute certainty, how much wind adjustment you have on the rifle. If there is a pick-up in the velocity of the wind, attempt to think of its new value in Minutes, not with the mindset "that it's a minute more than the last shot." This will allow you to think of the wind condition in terms of its actual strength in Minutes of Angle. Critical thinking will result in a rapid improvement in your ability to read the wind.

The last piece of advice has more to do with sportsmanship than the technical skills of wind reading. You must maintain your composure and sense of humor at all times. Learn from your mistakes, and those of others. Your attitude on the firing line is directly proportionate to your ability to react positively to adversity.

Good luck and good shooting!

VIII. It's Just a Sling

By SFC Lance Dement, USAMU

I feel there are only two things more important to a rifle shooter than a sling; these are the gun and ammo! The service rifle sling is often underrated or even misused. If you are reading this article you have probably used a service rifle sling in one way or another. The best way to learn how to correctly put a sling on a rifle is to talk to experienced shooters. Then try their various methods to see which one or perhaps a combination of methods will work best for you. There is no one absolute right way, but I will give you some things to consider in helping you use your sling more effectively.

The first and, probably most important, thing is to mark your sling. I prefer my sling to be numbered rather than marking it for each position, numbering your sling will allow for changes in the future. For example as your sling gets older it may stretch or a younger shooter may grow and have to move their sling setting. I have also learned on some ranges the angle to the target or the slope of the firing line will cause me to take up or let out one notch on my sling. I frequently see new shooters using half of their prep time



2006 President's Rifle Match winner SFC Lance Dement says that only the rifle and ammo are more important items of equipment to a rifle shooter than the sling.

relearning their sling settings. However, marking your sling won't do you any good if you don't record the settings you use for each position.



SFC Lance Dement, USA, was the 2006 President's Rifle Match Winner with a score of 296-9X. He is shown here in standing where the sling is kept in the "parade position" with the sling is tight on the right side of the magazine well.

I have seen some shooters use very elaborate methods of rigging their slings for the offhand position. They will inevitably use a lot of their sitting prep time to remove and reset their slings. I like to keep things simple, for standing I use a parade sling (the sling is tight on the right or left side of the magazine well.) As soon as I fire my last shot standing I put in my ECI, and remove my magazine. Before I move off the line I adjust the length of the sling for the sitting position. I unhook the bottom part of my sling and remove it from the rear sling swivel and hook it on to itself. I do this to keep the unused part of the sling out of my way.

Some shooters leave this end attached to the butt of the gun or wrapped around their upper arm. Both methods are fine; they can just take more time or make movement with the rifle more difficult. By making these adjustments after my last shot standing, I do not use up my sitting prep time messing with the sling.

The last thing I would like to cover is maintenance of your sling. Keeping your sling in good working condition is easy and requires only minimum time and effort. I have used the same sling for nine years. It has been rained on and snowed on; it has been in hot and humid conditions and has also seen the high desert. I inspect my sling on a regular basis, usually in the morning when I am prepping my rifle to go down range. I check for cracks in the leather, which are most often found near the front sling swivel. I then check the sling keepers, paying close attention to the stitching, here you need to check for dry rot, or if the stitching itself is coming undone. I use a leather conditioner on my sling every three to four months or after the sling is exposed to rain or snow. When the sling itself is getting thin or showing excessive stretch it is time for a new one. I also carry a back up sling with me. My back up sling is not brand new; it is one I have used before during practice or for dry firing. Brand new slings tend to be hard to adjust and feel very different when in position. They may stretch excessively during the first month or



2006 NTI Winner, SGT Brandon Green, USA, is shown here in the prone position with the sling properly adjusted to support his position.

two of usage. It is good to check your back up sling against your primary sling to ensure the markings are the same or if not, make note of the difference.

Shooters who are familiar with their sling, know how it works and have it properly marked will have greater consistency from day to day whether in training or in matches. The few extra minutes it takes to ensure that your sling is in working order may be the difference between your best day on the range and a wasted trip.

IX. Strapping In

By SPC Calvin Roberts, USAMU

There are countless ways to set up a high-power rifle sling. However, there is no one way to properly assemble this crucial shooting tool. This article is not intended to walk you step by step through the “proper sling assembly process”. I am simply going to provide several tips and tricks to try out and keep in mind for your next trip to the range. The best way to learn the proper sling configuration is to talk with several experienced competitors and have them show you how they attach and use their sling. Then experiment with what you have seen to find out what works best for you.



First things first, to truly understand why you need a rifle sling, you have to understand its purpose. When properly implemented, a sling will improve stability in a shooter’s firing position by increasing support for the sitting or kneeling and prone positions. This will, in return, increase a shooter’s confidence, leading to better and more consistent performances.

I mentioned the slings use for prone and sitting, but what do I do with my sling for the standing position? This is a common question among high-power rifle competitors, new and old alike. What I like to do is keep my sling tight and on the left side of my rifle. This keeps the sling from bunching up between the rifle and my shooting coat, which would force me to cant the rifle outward. It’s fairly common to see competitors on the firing line who have their sling hanging loose or set up for



In the standing position, it is best to keep the sling tight and on the outside of the rifle.

sitting with a lot of slack in it. I highly recommend you do not do this because when the wind begins to blow it will catch the sling, causing more movement than you will already have.

A very good habit to get into is recording your sling settings in your data book. Most slings have numbered notches, which makes remembering your settings easier. However, it's a good idea to mark them with a paint pen or marker. There are several reasons for this, the first one being that as you use your sling, it is naturally going to stretch. This strategy will help you to keep your positions consistent as your sling breaks in. Another reason is because it is common to use a different setting from sitting to prone. I loosen my sling up one notch from the sitting to prone, depending on what range I'm at. Remember, every range is different, don't be afraid to take up a notch or loosen one if the targets at a particular range are higher or lower than you are used to.

I can't think of a single rifle match I have competed in where I didn't hear another competitor complaining about how their pulse beat affected one of their rapid fire groups. There are several ways to reduce pulse. However, you must learn to shoot through some degree of pulse. One of my favorite tricks for sitting and prone is to tuck the end of my sweatshirt sleeve into my shooting glove. If you take notice

while in one of these positions, the sling crosses your wrist tightly, which is one of the two places it touches your body. Much of the pulse you see while shooting comes from here, this will also be more comfortable due to the extra padding between the sling and your body. Another thing to try if you still experience a large amount of pulse is to adjust the slings position on your non firing arm (the second place the sling comes in contact with the body). In order to figure out what is most comfortable for you; spend some time experimenting. You don't necessarily have to go to the range to work on this. It's not uncommon for me to put all my gear on in my living room and try a few things, or have someone else take a look at my position if I'm having problems. Keep in mind that your sling should be up high on your non firing arm above your triceps, and rotated outward away from your body.

Maintaining your rifle sling is very important. If something happens to your sling in the middle of a match, your day is over. That's why it's a good idea to keep an extra sling that you are familiar with in your shooting stool in case you have some kind of sling drama. A good habit to get into is inspecting your sling before you even walk down range. A few things you want to look for are cracks in the leather, usually near the area where the sling attaches to the swivels on the rifle. You also should check the stitching on the keepers for dry rot. Your sling WILL be exposed to rain, snow, heat, humidity, and sunlight. Every few months I apply a



leather conditioner to help my sling survive these elements and last for several seasons. If you find any problems with your sling it's time to go shopping.

Whether you are planning on being a die-hard high-power rifle competitor, or just a weekend warrior looking for a hobby to get you outdoors, knowing how to properly utilize a rifle sling will improve your scores and consistency. Also, don't be afraid to ask other shooters for help or tips. The shooting community is a friendly group and most competitors are more than happy to share their knowledge and get new shooters heading in the right direction.

IX. Thinking Your Way to Success

By SSG Emil Praslick, USAMU Service Rifle Team Coach

Why does it seem that the same small group of shooters wins the majority of the matches? Within the Army Marksmanship Unit's Service Rifle Team, the same effect applies. On a team filled with uncommonly talented shooters, the same two or three are consistently at the top of the final results bulletin. What is the difference among shooters who are technically equal? Confidence! A confident shooter is free to execute his shots without the fear of failure, i.e. shooting a poor shot. Negative thoughts (can't, won't be able to, etc.) will destroy a skilled performance. The mind's focus will not be on executing the task, but on projecting fear and self-doubt. Fear is the enemy, confidence is the cure.

How does a shooter on the eve of an important match (the President's or NTI, for example) attain the confidence needed to perform up to his potential? A pre-competition mental plan can assist in acquiring that positive mental state. The plan can be broken down into a few phases.

- 1. Build a feeling of preparedness.** Developing and executing a plan to organize your equipment and pre-match routine will aid you in feeling prepared on match day.
- 2. Avoid negative and stressful thoughts.** Focusing on "winning" the match or shooting for a specific score (like making the "cut" or making the President's 100) can cause undue stress. Good shooters focus on aspects that are within their control: their sight picture, their sight alignment, their position. Each shot should be treated as an individual event.
- 3. Train stage-specific tasks during your practice sessions.** Instead of shooting matches or practice matches only, include some drills that focus on your problem areas. Training in this manner will assist your level of confidence.
- 4. As part of your pre-match routine, imagine yourself shooting perfect shots.** Visualize getting into the perfect position, acquiring a perfect sight picture, and perfect trigger control.
- 5. Let a feeling of calm and well-being wash over you.** Spend a few minutes alone thinking positive thoughts. Many shooters use their favorite music to help build the mood.

Once you develop your **pre-competition mental plan**, stick with it. Through your training you will develop the physical skills to shoot higher scores. The confidence you will need to apply them in match conditions will grow as you develop into a complete shooter; both physically and mentally.