Dear Colleagues

**A lesson for a shooter who immediately scored 50.10**

**The Problem:**a shooter who had been selected in a team to represent his club, was found to produce groups with:

* shots on one side of the bullseye and V-bull which did not answer the rear-sight [due to change of the natural point of aim]
* bullseyes above and below the V-bull [due to insufficient sling tension]
* bullseyes and inners on either side of the V-bull [due to varying tension of the loading hand on the pistol grip]
* bullseyes and inners that seemed to follow the 2 MOA bullseye-inner line [insufficient control of the trigger-release technique].

The next day the shooter travelled with his coach to another rifle range, where he had an opportunity to privately repair the above techniques. This article describes the lesson which led the shooter to score 50.10 in his next shoot. It also enabled him to identify his technique which was most likely to result in the loss of points.

**Discussion:**   the coach taught the shooter how to manage the following techniques.

Change of the natural point of aim   most shooters change their natural point of aim upon moving a foot, leg, the forward elbow or pelvic girdle to become more comfortable. There also occur many movements of a leg or the buttocks, of which a shooter can be completely unaware. These movements change the position of a group, from the V-bull to anywhere else on the target. For most TR shooters it results in expansion of the group as wide as the bullseye ring and sometimes a little wider. In F Class the group includes a bullseye or two.

The shooter had decided that he would not allow even the slightest movement of a leg to occur. His coach sat behind him and plotted his group. It was found at 700m that he had a group the size of the V-bull, centred at 9 o’clock in the bullseye ring. It began at 9 o’clock in the X-ring, moving left to the V-bullring and finally, the bullseye. The shooter wound the sight to centralise the group but it did not respond to the helm. The problem was that one of his feet was experiencing spasmodic movements, of which he was completely unaware.

It was only necessary to remind the shooter when raising the rifle for every shot, that he must follow the foresight with a half-closed eye, to confirm that it was on the natural point of aim. If not, then he must move the left leg a little to adjust where the foresight was pointing.

Insufficient sling tension   at least 90 percent of TR shooters commence without testing the tension of their sling setting. It is common to believe that the tension when the rifle was last used would continue. In fact, the shooter’s body can change considerably between early morning and the last shoot of the day. During that time, the shooter may have fired the first shoot at 0800 hrs, eaten sparingly, drunk little, walked from a short-distance range to a long range, to begin the last shoot at 1700 hrs. In that time, the shooter’s body may change. When getting into the sling at the last range, previously unused arm muscles may be utilised to support the weight of the arm and rifle. Since muscle tissues have a changing ability to sustain tension, then when used to supplement the tension of the sling used to support the weight, arm muscles may vary from excellent to a lower level of effectiveness. This will result in changing support of the rifle and as a result, vertical movement will occur randomly throughout the shoot. The diagnostic shot pattern that results is often a group as wide as the V-bull, with unwanted shots above and below. The stray shots can be as far out as the bullseye, inner or even the magpie rings.

Before starting every shoot, the shooter must confirm the effectiveness of the sling setting. When on aim, the shooter suddenly allows all muscles of the supporting arm to become limp. If the foresight is seen to drop even the slightest, then there is a need to tighten the sling by one notch. The test should be repeated until no drop occurs. When correctly set, sling tension alone will support the weight of both rifle and arm. There is then no need to complement this with tension from arm muscles, which are not inert material and hence, tension varies.

Varying tension of the loading hand on the pistol grip   the shooter has a need for every shot, to ensure the loading hand is replaced on the pistol grip with the same tension. A coach cannot see whether the shooter is doing this. To be effective, the shooter should practise releasing a shot with the right hand feeling tight, then note how far the shot strikes the bullseye on the right. This is so sensitive, that the shot can easily go as far out as the magpie ring. The same effect can occur with light tension, which sends shots out toward 9 o’clock. As a result it is common in a shoot to find 3 or 4 shots on each side of the V-bull, for which the shooter blames minute wind changes. It is just as common for shooters to believe that it is necessary to watch mirage, which is the cause of such sideways shots. Most clubs have their mirage expert, who still complains that it continues sending his shots sideways.

Insufficient control of trigger-release   the most common experience of more than 90 percent of shooters, is to bring a wandering foresight back onto the target. The shot is then released when the aiming mark returns to the centre of the ring or scope element. However this is not enough. The rifle needs to be supported really dead still, so that it does not wander away from the target at all. When held dead still, the aiming mark should be in the middle of the ring for several seconds before starting to increase trigger tension for the release. When a shooter starts to learn, it is common to manage the breath control cycle. However, when holding the rifle dead still becomes routinely possible, for as long as 5 seconds, then the shooter should learn to hold it for no longer than 3 seconds while waiting for release to occur. For this short time interval, the writer found no need to use the breathing cycle. It became a matter of simply holding the breath for such a short time. On the other hand, many highly skilled shooters utilise the breathing cycle as a means of dividing shot release into definite stages..

**Practical:**  holding the rifle dead still relies upon the elbow positioned exactly under the stock, with the forearm vertical and the wrist not bent, i.e. the hand straight out from the wrist.  To do this it is necessary to start by imagining a dotted line from the eye to the target, then place the forward elbow under the dotted line. Without moving it or any part of the forward limbs, the rifle should be aimed at the sky to the upper left (for a RH shooter). Moving the left foot out a cm or so will bring the rifle to the right and above the target. The natural point of aim should then be brought down to the target, by sliding the navel forward a cm or so. The rifle will then be found to be supported higher than usual, with the left elbow and biceps comfortable and under no tension whatsoever. This cannot be achieved while aiming, through forcing the elbow in under the rifle. Pain in the upper arm will prevent this and leaves the shooter no choice, but to position the elbow to the left of the rifle. Note that if the elbow is not directly underneath, then muscles are used to achieve this. This muscle tension contributes to the tendency of the foresight to wander away from the aiming mark.

**Conclusion:**  although each of the above may have been thoroughly practised, a shooter’s greatest handicap is his/her risk of forgetting to perform these key tasks: for every shoot or every shot. That is, the mind is the shooter’s greatest handicap. This is a mind sport!

Under the eye of his coach, at 700m, with the line of flags blowing off the ocean straight out at the 9 o’clock position (with 7 MOA on the sight), the shooter released a shot, which hit the V-bull. He kept releasing shots, with his mind concentrating solely upon the rifle remaining dead still during trigger-release technique. His score was 50.10.

The shooter then decided to speed up the imagined second stage of trigger release. This resulted in four shots across the lower part of the bullseye, while the other six were within the 0.5 MOA group of the X-ring; score 50.6. This shooter’s greatest risk factor was concluded to be speed of trigger release.

Best regards

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