Dear Colleagues

**The last technique difficulties that hinder shooting 10 V-bulls or Xs**

***The Problem*:** upon being taught and having mastered the techniques needed to shoot 10 bullseyes, most shooters find that producing a single group within the V-bull (TR) or X-ring (F Class), can be far out of reach. Yet everyone is well aware of a small number of shooters who regularly score 50.10 or 60.10.

A coach may guarantee a shooter that the rifle and ammunition load being used is well capable of grouping within the V-bull or X-ring. To the shooter, this means that he or she is the only impediment to shooting a possible of Vs or Xs.

A shooter who is well capable of producing a 2 MOA group within the bullseye, may as a result, wonder which techniques used are deficient. As well, the shooter may wish to know of any others he/she should be using to reduce the group for all shots to group within the V-bull or X-ring.

***Discussion*:**  an independent observer is able to examine the groups of all shooters and identify the techniques that widen groups. This is a practice utilised in rifle shooting since at least 1860. It enables a shooter’s technique and any peculiarities to be identified solely from the pattern of shots. From diagnosis of the technique used by each shooter, it is possible to prescribe improvements which lead to a much smaller group than 2 MOA.

***Practical*:**an experimental trial was set up to identify techniques that adversely affected 2 shoots by 20 shooters at 400m. In the cohort were 30 percent new shooters and 2 experienced F Class shooters. Some of the new shooters used F Class rifles while the remaining 12 were TR shooters. The results for each shooter are shown in Table 1.

***Conclusions*:**  shooters were found by the observer to have:

* experienced difficulty in the performance of their normal techniques: trigger-release with ~4 seconds allowed for adrenaline in the bloodstream to return to base concentration (to prevent muzzle movement at the moment of release) (TR, F Class); setting up and ensuring no change occurs in the natural point of aim (TR); statistically centering each shot of a group within the V-bull or X-ring (TR, F Class); limp arm muscles with rifle dead still by balancing upon the elbow located under the rifle (let the sling do all the work) (TR); ensuring that loading hand tension is uniform for every shot (TR, F Class); the forward hand (TR) and thumb of the loading hand (F Class) do not impede recoil of the rifle; tiredness and distraction affect concentration (TR, F Class); ensuring sling tension enables the rifle to be supported with no tensing of arm muscles held limp (TR);
* many technique difficulties occurring where the shooter is entirely unaware, e.g. a foot moving, which in turn causes a change in the natural point of aim (TR)
* not believed capable of grouping within the V-bull or X-ring (TR, F Class).

***Recommendations*:**  it is proposed that shooters should practice with a partner seated to the rear (with no communication during shoot), where shots are plotted and notes made of the shooter’s body position (noting any changes that occur), which might later be correlated with the group produced. This should enable the shooter to concentrate upon more than one technique which causes widening of the group as far out as the bullseye ring. This is a recognised method of learning at all levels of skill.

**Table 1.** Techniques which prevented a shoot from grouping within the V-bull or X-ring

**Technique                                                                No. of shooters deficient**

Trigger release includes ~4 sec time delay (TR, F Class)                                   18

Set up rifle at natural point of aim (TR)                                                               4

Centralizing group after every shot, i.e. into middle of V-bull or X-ring             4

Monitoring and adjustment of natural point of aim (TR, F Class)                       3

Mental concentration to render arm muscles limp (TR)                                      3

Uniform tension of loading hand (TR, F Class)                                                   3

Elbow placement and body position for rifle to be dead still (TR)                      2

Loading hand tension uniform (TR, F Class)                                                      2

No impedence of recoil by forward hand at sling swivel (TR)                            2

No impedence of recoil by rear thumb at pistol grip (TR, F Class)                     1

Tiredness, distraction affecting concentration (TR, F Class)                               1

Sling tension avoids use of arm muscle tension (TR)                                          1

Have a good shoot

Geoff