

Prioritised Difficulties, Shot Patterns and Cures

Shooting Difficulty (with most common at club level listed first)	Appearance and Diagnosis of Shot Pattern	Cure
Trigger drag	Wider groups, stray shots	Adjust trigger to remove drag so that it is not perceptible
Lack of dry lubricant on locking lugs and sear face	Inability to unload and reload with fingertip control	Apply MoS ₂ or graphite dry powders, smearing on with little finger across lugs, sear and all of bolt body
Ineffective sling tension	Group split into high and low components, i.e. vertically oval group	Increase sling tension
Forward elbow too far out from rifle	Rifle not perfectly still when shots released, so groups are wide	Re-set forward elbow as close as comfortable to point under rifle
Stock rests across palm	Rifle not perfectly still	Re-set rifle stock onto thumb muscle
Forward hand bent at wrist	Pain	Push forward hand as far through sling as possible, so that rifle is supported on thumb muscle with sling under arm (not hand) and wrist not bent
Recoil absorbed by both forward hand and shoulder	High-left and low-right group ranging across bullseye or as far out as the magpie ring	Re-set recoil to occur entirely on shoulder, aided by movement (6 mm) of hand-stop toward front of stock, additional pressure on pistol grip and say 5 mm to length of butt
Focussing on aiming mark instead of foresight ring	Wide group with flyers	Ensure foresight sharp and jet black, with aiming mark a poorly focused blob or dot in centre of ring
Uncontrolled reflex action, either flinching or following stressful experience	Often high right for a right hander, or randomly a long way from bullseye	Check for this with a dry shot or two preceding a shoot and even in the middle of a shoot, concentrating upon calmly firing with foresight remaining upon aiming mark with no movement seen when shot released
Disturbed natural point of aim, randomly, due to readjustments of bodily comfort while shooting	Shots appear out of group, vertically or horizontally	Retain natural point of aim throughout shoot, by precisely setting position at outset and not moving a muscle until shoot finished
Disturbed natural point of aim, vertically	Vertically oval group or group with random elevation shots	Accurately adjust natural point of aim by sliding navel forward or backward by say 2 cm
Disturbed natural point of aim,	Horizontally oval group	Accurately adjust natural point of

horizontally		aim through sideways movement of left leg (for a right-hander in military position)
Minute body movements during shoot	A small group may move around within bullseye or become hollow	Keep every muscle relaxed and still through a shoot
Foreward pressure from shoulder	High-left to low-right group	Re-set sling tension and butt length so that shoulder has no forward tension
Wind poorly managed as a result of aiming off, commonly by F Class, but also by Target Rifle shooters	Shots lost for wind because of inability to alter group using insurance moves (i.e. one quarter degree for shot on edge of V-bull or half degree for shot in bullseye)	Learn to alter the group with insurance moves, instead of the individual shot, which is what occurs when aiming off
Incorrect sling to maintain tension throughout whole shoot	Elevation shots appear and group wanders about bullseye	Double-point sling requires hoisting up arm every two or three shots, so now that a V-bull group is required, change to a single-point sling
Ring-size at short range (300 to 600 m) too small, well within target width	Wide groups, particularly in dull or very bright light	Select ring size and annulus thickness so that aiming mark is in centre of wide circle out to target edge (annulus can be 1 mm thick)
Ring-size at long range (600 m to 1200 yd) too small, with annulus greater than 0.5 mm and within target width	Wide groups with stray shots in all types of light	Select ring size with 0.5 mm annulus, so that aiming mark is a dot in centre of circle out to target edge
Wind unable to be read accurately, e.g. due to inexperience or when flags on right read zero and left flags show say 4 degrees at 600 m	Shots should be across the waterline, but usually also accompanied by elevation changes due to distraction of shooter	Practise reloading at shoulder, centralizing every shot out of supercentre, until shots released every 13 seconds are able to give group within V-bull (this may take several months to achieve and cannot be forced)
Inability to fire smallest groups most of the time, due to a combination of eye-strain, even in easily-managed wind conditions	Wide and hollow groups, difficulty to hold rifle perfectly still, resulting in long aiming times	Learn to hold rifle perfectly still, to fire on first sight and in minimum time for the overall shoot
Wind too changeable to manage	Wide horizontal shots with some points lost for elevation	Fire on first sight, reloading at shoulder, centralizing for each shot and minimizing number of wind changes experienced in a shoot
Inability to read wind when flags on one side of range read zero and on other side read several degrees	Caught by wind repeatedly	Commence firing on a median value, then fire on first sight whenever flags appear to be one degree above or below that median, centralizing group for every shot
Inability to accurately pick large wind changes	Wide horizontal shots with some points lost for elevation	Study wind for several minutes before shoot to estimate median value, then fire only at values

		within a range of 40 percent around the median, i.e. not firing in 30 percent of highest and 30 percent of lowest wind strength values
Refraction of light during sighting	Change of elevation upon adjusting for change in wind strength (in inland Australia shots can occur randomly as high or low magpies, which must be followed by elevation change)	While watching other shooters beforehand or during sighters, try to determine whether a wind increase will raise or lower elevation by half to one minute (a regular feature of Stickle-down range, Bisley); then for every significant wind change alter for elevation as well
Barrel too clean	Wider group at start or in first half of shoot; shots can be as far out as magpie line, but depends upon individual barrel	With handloaded cartridges, limit cleaning to two strokes at end of day with a dry bronze brush, then with nitro solvent on a clean patch, leaving rifle stored overnight and draining with muzzle down, then dry out next day with clean patch
Oil traces on cartridge cases, due to oil-based lubricant or traces of oil or solvent on loading platform	Random wide shots as far out as magpie line	Prevent petroleum hydrocarbon lubricant contaminating cases
Water on cartridge cases	Random wide shots as far out as outer line	Keep rounds dry or ensure all are evenly wet
Attention-seeker very ready with advice on how to shoot	Believes his own advice, suffers some terrible scores himself and for a while sucks in inexperienced shooters	Purchase a better design of ear plugs