

Biathlon BC Rifle Fitting Checklist

Prone

A. First approximate fit of the stock

1. Have athlete get into prone position.
2. Adjust stock length for approximately correct fit. Hand should comfortably reach the pistol grip.
3. Adjust hand stop for approximately correct fit. Angle between the ground and the underside of the forearm should be between 30-45 degrees.
4. Check the resulting body position for:
 - a) left elbow on right handed shooter is placed 3-5cm to the left of the barrel;
 - b) athlete has level shoulders;
 - c) shoulders form a t-line with the spine; and
 - d) the athlete has a comfortable and straight pistol grip

B. Refining the fit of the stock

1. Adjust the length and tension of the sling. The hook should rest just in front of or close to the front of the pistol grip. The tension should provide support without discomfort or compromised stability.
2. Fine tune the length of the stock to ensure pistol grip fit is correct. Hand should reach pistol grip comfortably and be straight.
3. Adjust the height of the top butt hook to ensure good contact with the top of the shoulder.
4. Check shoulder position and repeat steps 1-3 if necessary to ensure shoulders are level and form a t-line with the spine.
5. Check the tightness of the fit by tapping the barrel down, left and right. Barrel should bounce back to original position without effort of the athlete.
6. Review the athletes' body position as a whole to ensure they are comfortable and in a correct position.

C. Adjust the Cheek Piece

1. Adjust the height of the cheek piece so that athletes' head is at or close to vertical.
2. Adjust the cheek piece horizontally so that sights are lined up concentrically.
3. Check with the athlete that the sights are lined up when their head is in a comfortable, vertical position with no neck strain. Athlete must close their eyes then open them when doing this sight alignment check.
4. Adjust the position or aperture of the rear sight to obtain desired white space between front and rear sight.

D. Adjust the Trigger and Pistol Grip

1. Adjust the trigger so that the trigger finger is placed on the trigger straight, in the middle of the finger pad (not joint), and is not touching the stock.
2. Check athletes hand position on the pistol grip, fingers should comfortably but firmly hold the grip, thumb should be placed behind the action.
3. Check that right elbow on right handed shooter is placed so that the angle of both forearms relative to the ground is the same.

E. Adjust the Sights

1. Adjust placement of rear sight to ensure the athlete can see a clean ring of white between the front sight and the inside of the rear sight.
2. On a 50m range, check that athlete can see a clean ring of white between the inside of the front sight and the target.
3. Experiment and do shooting tests with different size front and rear apertures and sight risers, focusing on the impact on group size.

Standing

F. Adjust Left Hand

1. Adjust hand grip and hand/elbow position to optimize stability. Left wrist should be straight, not twisted or strained. Rifle weight should be supported by a line from the wrist, hips, legs to the feet. Centre of mass of the rifle should be close to the body.

G. Adjust Right Hand

1. Check for correct finger placement on trigger.
2. Check for correct hand placement on pistol grip.
3. If trigger or pistol grip is adjusted, re-check prone fit.

H. Adjust Bottom Butt Hook

1. Adjust bottom butt hook so that it provides good, stable contact under the arm when butt is placed between deltoid and bicep.
2. Check that rifle is slightly front heavy.
3. Adjust butt hook up to raise shots, lower it to lower shots.

I. Adjust Rear Sight

1. Check that athlete can see a clean ring of white between the front sight and the inside of the rear sight.
2. If rear sight is adjusted, re-check prone fit.