

6. BREATHING AND TRIGGER CONTROL

MARKSMANSHIP PRINCIPLE 4

BREATHING

Introduction

The firer so far has

1. Adopted a comfortable position
2. Checked alignment

(S)he is now ready to aim and fire the shot. However, as we breathe, the rifle moves up and down. This must be controlled long enough for a steady shot to be released.

Breathing Process

Breathing is essential for life, so we cannot hold the breath for long. The eyes are amongst the first organs to notice a lack of oxygen. Also, as the carbon dioxide builds up in the lungs, it triggers a breathing response. Therefore the longer we stop breathing, the more strain builds up in the system. The mind is now focussed on the need to breathe and is no longer entirely on the aiming process or on trigger control.

Breathing is a natural function so we do not normally need to think how we breathe: however, if we consider what happens we see that there are three points to consider:

1. At rest, we neither breathe fully in, nor do we completely empty the lungs.
2. After breathing out, there is a natural pause of about a second.
3. The whole breathing cycle lasts about 6 seconds.

Since the body is used to a pause at the end of the normal cycle, this would seem to be the best place to fire the shot with the least strain. The pause needs to be lengthened to 4-6 seconds to allow for proper trigger release, but should not be any longer. After this time, concentration drops off as the natural impulse to breathe asserts itself. If the shot has not been fired in this time, the breathing and aiming process must be started again. (Some instructors have been heard to instruct cadets to release the shot when they 'breathe half out'. What they really mean is to release at the end of a normal 'out' breath at which the lungs are half empty but confused cadets try to stop half way to the end of a normal breath. It is better therefore to refer to a 'normal out breath'.

Sequence Of Events

1. Take a few deeper breaths while settling down and placing the finger on the trigger.
2. Return breathing to normal.
3. Breathe out to the end of a normal 'out' breath.
4. Pause, check the aim and press the trigger.

N.B. Take care not to breathe out more than normal. Also, if, for some reason, the shot is not released within the time, the breathing cycle should be started again. Avoid the temptation to get rid of the shot.

Staring At The Target

Avoid staring at the target for a long time. The image can become imprinted on the retina, just as the image of a light can still be seen if you stare at it and then close your eyes. If this happens, you can move off aim but not notice.

Eventually, co-ordinated control of breathing and release of shot will become a reflex action, but you need to ensure that the reflex happens correctly.

TRIGGER CONTROL

Target rifle, Classic Rifle, Sporting Rifle

Introduction

Fullbore target rifles have a lower limit on the trigger weight of 1.5kg. Many Classic rifles are heavier. The trigger must therefore be operated carefully so as not to disturb the aim. When a beginner starts shooting, (s)he has to consciously direct the finger to press the trigger, but, with training, this becomes a conditioned reflex action. (S)he also has to suppress some unconditioned reflexes. Errors in trigger control can lose a firer many points, especially at short range. Slight errors in trigger control cause more misplaced shots than slight errors in any of the other skills.

Types Of Trigger

There are two basic types of trigger in use on target rifles:

1. Two Stage Trigger

This is the normal type of trigger found on most military rifles and still on many target rifles. It is essential that there are two distinct pressures and that they are operated separately i.e not pressing through both pressures at once.

The release of the trigger at the end of the second pressure should be crisp and with no creep. A two-stage trigger can have an advantage. It can be set up to have maximum weight on the first stage and only a light pull on the second stage, thus minimising the movement of the rifle when the trigger is pressed,

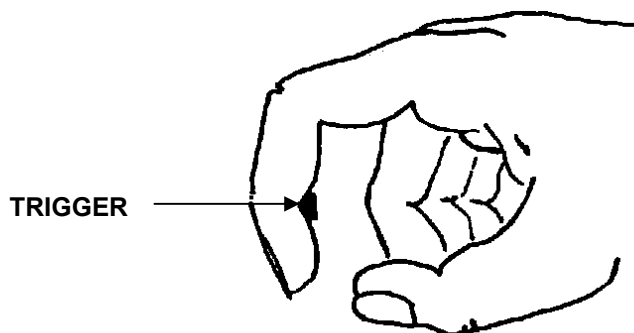
2. Single Stage Trigger

This is the usual type of trigger on newer smallbore rifles and is now being fitted to fullbore rifles. The L81A2 has a single stage trigger. Theoretically this type should be more easily controlled as there is no travel and no alteration of plane when the second pressure is taken up.

Trigger Finger

It is important that the grip of the right hand (or left hand for left-handed firers) does not interfere with the trigger operation. The only part of the trigger finger that should be in contact with the rifle is the part which is on the trigger.

Placement of the trigger finger is important. The pad of the first joint is favoured, so that the bend of the first joint is just touching the right side of the trigger (or left side for a left handed firer). This gives the most efficient use of the finger flexing muscles. However, it may depend on the length of the finger. Those with very long fingers may need to use the second joint.

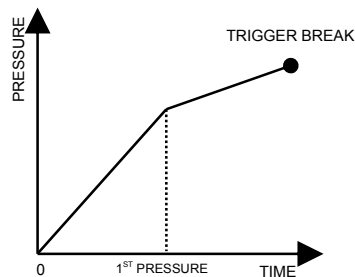


Trigger Operation

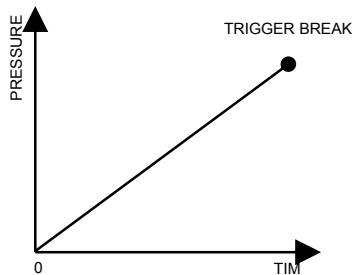
Consistency is very important to trigger operation. The trigger should operate in the same way each time and go at the same pressure. Ideally each of the firer's rifles should have the same type of trigger but this is seldom the case.

The trigger is operated by application of enough force to disengage the sear. Muscles must be trained to apply the force in the correct direction and manner each time.

1. With the two-stage trigger, the first pressure is taken up while settling into position. There are then two ways of continuing:
 - a. When ready, the second pressure is gradually increased while alignment is seen to be correct, until the shot is fired. Theoretically, if alignment is disturbed, the process can be halted until alignment is correct again and then continued. In practice, this requires very sensitive fingers and very great control.
 - b. Alternatively, as soon as a clear sight picture is seen, the second pressure is operated smoothly in one movement.



2. With a single stage trigger, the operation is the same as for the second stage of a two-stage trigger.



Follow Through

It is possible for the firer to respond to trigger action while the bullet is still in the barrel and this can cause the shot to be misplaced. It is essential that the shot be followed through i.e. there must be no movement until the recoil movement comes to rest. The rifle should come to rest back on the point of aim.

Responses to the noise of the shot, such as flinching or blinking, are natural reflexes. These must be controlled. Both of these require a lot of concentration on the part of the firer.

Trigger Control - F Class

Most F Class rifles have much lighter triggers than are allowed on Target Rifles or Classic Rifles and are on rests so trigger operation is less likely to disturb the aim. The finger tip can therefore be used on the trigger if the firer wishes. It can also be operated much more quickly. It must still, however, be moved straight to the rear so as not to displace the shot.

Calling The Shot

A firer needs to be able to 'call the shot'. i.e. (s)he must be able to say if a shot has been misplaced and predict where it may go. On the follow through, above, if the rifle does not come to rest on the point of aim, the position where it does come to rest may give some indication of the direction in which the shot is misplaced. The smaller the firer, the more likely it is that the rifle will not come to rest on the point of aim. The next best thing is that it should always come to rest in the same place each time. If it comes to rest at a different point each time, the group is likely to be large and other factors need to be examined e.g. position, sling or hold.