

LESSON 5: AIMING AND FIRING

PURPOSE

This lesson introduces you to the basic techniques for firing an aimed shot, at a target.



*aim
load
shoot
unload*

INTRODUCTION

After you have learned how to assume the standing position and have dry fired several times at a blank target you are ready to prepare for live firing at actual targets. **Aiming** and firing actual shots at a target involves learning about some additional elements of target **shooting** that are covered in this chapter. These include targets, aiming and sight picture, proper breathing and the coordinated technique of firing the shot. Developing a good shot technique is a critical factor for target shooters because it involves combining and coordinating the complex and simultaneous actions of aiming, breathing, holding and trigger control.

TARGETS FOR AIR RIFLE SHOOTING

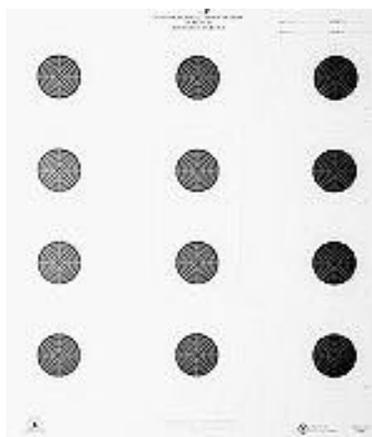
Two different targets are used in JROTC three-position air rifle shooting. The first target that is used is designed for marksmanship instruction. It is called the BMC (Basic Marksmanship Course) target. The BMC target has large scoring rings that are appropriate for new shooters who have not yet developed the ability to hold the rifle steady

enough to fire all shots within the scoring rings of the official competition target.



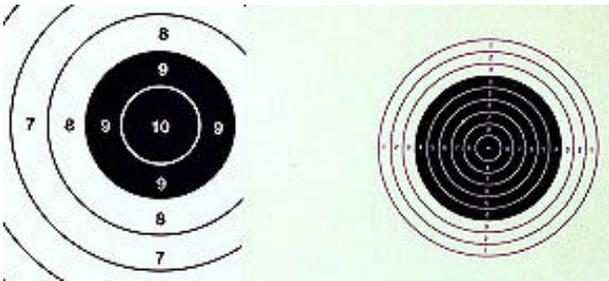
The BMC target is printed on a 6 1/2”x7” card, has a 15.25mm 10-ring and nine additional scoring rings that are each 15.25 mm larger.

The second target that will be introduced at the end of basic marksmanship instruction is the official competition target. The International Shooting Sports Federation and target shooting organizations all over the world accept the scoring ring dimensions on this target as official for their competitions. In the U. S. these targets are often printed so that ten competition or record targets and two practice targets appear on one target card. These targets are called “ten-bull targets.”



The official 10-meter air rifle “ten-bull target” is printed on an 8 1/2” x 12” card. Each of its ten record and two practice targets have 0.5mm 10-rings (dots).

The much larger scoring rings on the BMC target are designed so that the shots fired by beginner shooters will still hit the target. After a few weeks of practice, all shooters will develop the ability to hold their rifles steadier and fire more accurately so that they can graduate to the official target. The official ten-bull target is the target that is most often used by JROTC and high school rifle teams for three-position air rifle competitions.



A comparison of the relative sizes of the scoring rings on the BMC and official air rifle targets. The size of the black area or aiming bull is the same on both targets.

BREATH CONTROL

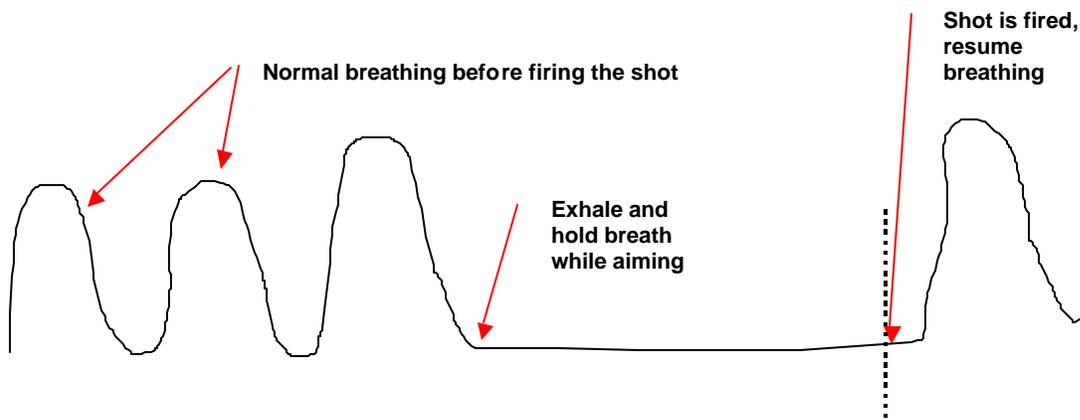
When you practiced holding an air rifle in the standing position on a blank target, you may have noticed that if you stop breathing while aiming you can hold the rifle steadier. To shoot rifles accurately, it is in fact, absolutely necessary to stop breathing while aiming and releasing the trigger. This is the only way to make it possible to hold the body still enough to consistently shoot tens on the official air rifle target.

Exhaling the breath is also a good way to help the body relax to calmly prepare to fire an accurate shot. To control the breath while firing a shot, simply breathe normally and then exhale naturally. Stop breathing after the breath is exhaled and hold the breath until the shot is fired. The breathing cycle for shooting should look like the illustration at the bottom of this page.

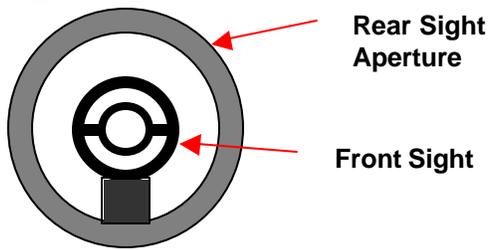
AIMING AND SIGHT PICTURE

To develop the ability to shoot high scores on targets, it is necessary to learn how to aim with great precision. Your first practice in the standing position involved dry firing at blank targets where it is not possible to aim accurately because there was no bull's-eye to aim at. With a bull's-eye to aim at, it is possible to attain a complete sight picture and to aim very accurately by following two simple steps:

- **Step 1—Sight Alignment.** You have already learned to align the sights by looking through the rear sight to see the front sight centered in the rear sight opening. The first step in attaining a complete sight picture is to align the sights.

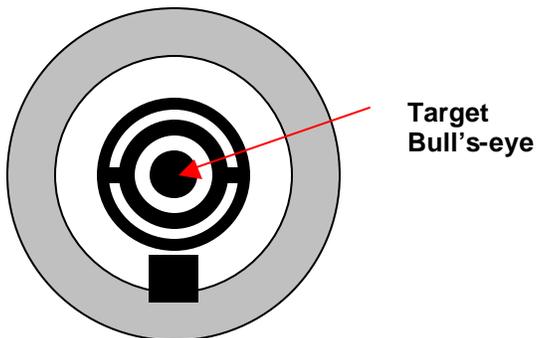


Sight Alignment



- **Step 2—Sight Picture.** After aligning the sights, all that is needed to complete the sight picture is to point the aligned sights at the target so that the bull's-eye appears in the center of the front sight aperture.

Sight Picture



HOLDING STEADY

When you first held the rifle in the standing position it probably felt awkward and unnatural, but even after a few dry fire repetitions the position began to feel better. When new shooters first try to aim at a target, it is normal for the front sight to move around over a large area. In the beginning, it is impossible to hold the front sight steady enough to keep the bull's-eye centered in the front sight ring. The only way to get the position to feel comfortable and natural and to develop the ability to hold the bull's-eye steady in the center of the front sight ring is to practice. Target shooting is a motor control skill where steadiness with the rifle can only be developed by practice.

It is natural to have some movement of the front sight aperture around the bull's-eye while aiming. The area or magnitude of this movement is called a shooter's "hold." As a beginner shooter, your hold may be quite large, covering much of the target. With practice, you will see that your hold gradually becomes much smaller and smaller. Champion shooters, in fact, develop hold movements that are no larger than three or four millimeters when measured on the 10-meter target.



If a laser pointer were attached to the barrel, the "hold" movement trace of a beginner shooter might look like this.

Practice will make the hold movement trace of every shooter much smaller. Champion shooters are able to hold within the area of the ten ring on the official air rifle target.

The steadier you learn to hold your rifle, the higher your scores will be. Here are a few tips to practice that will help you hold your rifle as steady as possible.

- Be sure your standing position is correct. Keeping the left arm on your side, directly under the rifle will do a lot to steady the rifle.
- Relax the muscles in your left arm and legs. Don't try to muscle the rifle to try to make it hold steadier.
- Accept your hold movement as natural. Just be sure to center the entire hold movement over the bull's-eye.

- Concentrate on your sight picture. Think about letting the hold movements become smaller and keeping the bull's-eye movements inside the front sight ring.

FIRING THE SHOT

Firing the shot involves putting all these separate elements or techniques together. This is called the shot technique. The shot technique includes:

1. **Loading** the rifle.
2. Lifting the rifle into position.
3. Aiming by first seeing the front sight in the center of the rear sight (sight alignment) and then by bringing the front sight aperture onto the bull's-eye (sight picture).
4. Taking one or two more breaths, exhaling and then holding the breath until the shot is fired.
5. Centering the hold movements of the front sight over the bull's-eye.
6. Smoothly pressing the trigger while the hold movements are centered.

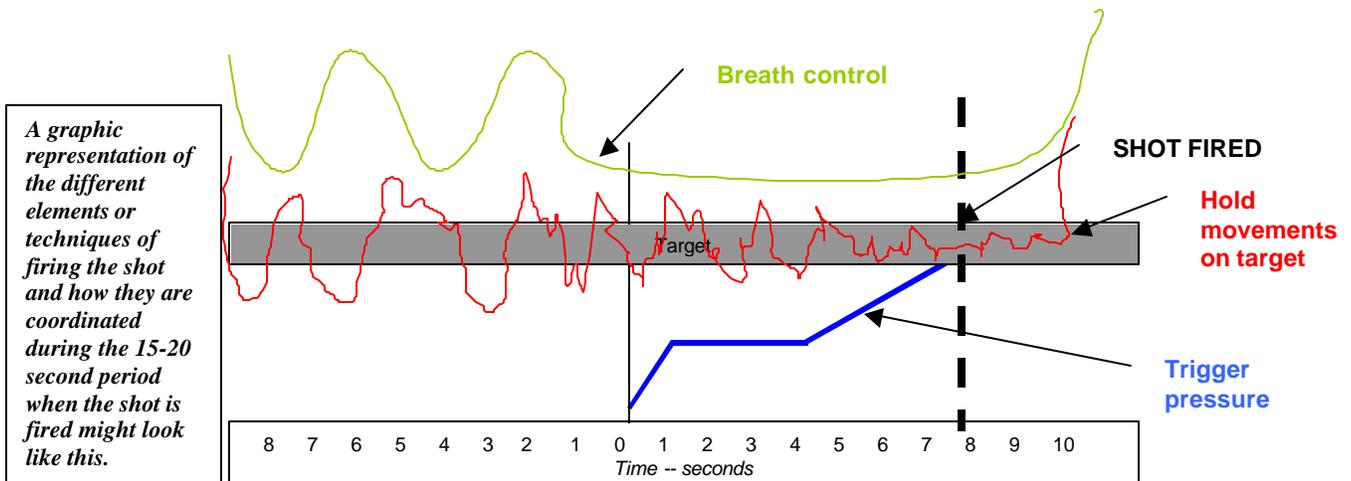


Proper shot technique begins with loading and placing the rifle in position. Shot technique also includes aiming, breath control, hold control and trigger control.

Visualize how you will combine aiming, breathing, relaxing, keeping your rifle's hold movements centered over the target and smoothly pressing the trigger into a coordinated series of actions. And remember again, developing the skills to hold a rifle steady and execute good shot technique comes from practice.

SHOOTING GROUPS ON THE TARGET

The range firing exercises that are done as part of this basic marksmanship lesson are very important because they are the first live firing that you will do at actual targets. Here are some things to remember as the instructor or range officer guides you through your first experience in shooting at bull's-eye targets from the standing position.



- **Range Commands/Instructions.** Be sure to follow the instructions of the instructor or range officer. Move to the firing line and pick up the rifle when told to do so. Do not load or begin to fire until the commands **LOAD** and **START** are given.
 - **Standing Position** Use the same standing position that was taught and practiced in the previous lesson.
 - Turn your body 90 degrees away from the target and stand with your feet shoulder width apart.
 - Be sure your left arm rests on your side or hip so that it is directly under the rifle.
 - Be sure you are using a support hand position that allows the rifle to be placed high enough in the shoulder that your head is erect.
 - When you begin to aim, take one or two more breaths, exhale, and stop breathing.
 - Relax your left arm and legs and let the rifle's hold movements settle down.
 - Center the front sight movements over the bull's-eye and smoothly press the trigger.
 - The instructor will probably first have you get into position and practice holding the rifle in the standing position while you concentrate on holding steady and keeping your hold movements centered.
- Next the instructor will have you simulate firing the shot by making several dry fire repetitions.
 - When you are instructed to load and fire the rifle, the instructor will have you shoot a series of shots (usually five shots).
 - When you have finished firing, be sure to follow the instructor's commands to **STOP, UNLOAD, and GROUND YOUR RIFLES.** Open the bolt on your air rifle so the instructor can check to be sure your rifle is safe.
 - The objective of this first firing exercise is to shoot a "group" of shots. At this point it does not matter whether your shots are in the center of the target. The smaller your group of shots is the better you have done. You will be taught how to adjust the sights on your rifle so that your shot groups will hit the middle of the target in the next lesson.



When firing the shot, a key is to concentrate your attention on the sight picture to let it become steady. When the front sight is centered over the bull's-eye, smoothly press the trigger to fire the shot.



One of the keys to having a steady hold in standing is making sure the left arm is relaxed so that it rests on the side directly under the rifle.

CONCLUSION

This lesson taught you the basics of firing a shot. It described the two kinds of targets used for air rifle shooting, and how to take aim and fire.



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