



Air Rifle Target Shooting

For the Master at Arms



Legislation

Section 21 of the Firearms Act 1968 (As Amended) explained.

- It is an offence for someone who is prohibited by Section 21 to have a firearm or ammunition in his possession at any time. Section 21 applies to anybody who has been sentenced to imprisonment or to youth custody or detention in a young offender institution for three months or more.
- The period for which they are prohibited depends on the length of their sentence - if the sentence was for longer than three years, the prohibition is for life. If the sentence was three months or more but less than three years, the prohibition lasts for five years from the date of their release.
- It is an offence for a person to transfer, let on hire, give or lend a firearm or ammunition to someone they know or have reasonable grounds for believing to be prohibited by Section 21.

Airguns and you.

- **It is an offence to sell or make a gift of an airgun to a person under eighteen years of age.**
- **It is an offence for anyone under eighteen to carry an airgun unless -
they are under the supervision of a person aged twenty one or more or
they are on private land and have permission from the occupier or
they are shooting as a member of an approved club or
they are shooting at a shooting gallery for miniature rifles.**
- **It is an offence for a person shooting on private land to allow any pellets to cross the boundaries of the property.**
- **It is an offence for any person, regardless of age, to be in possession of an airgun in a public place without a reasonable excuse. A reasonable excuse might be carrying a gun to and from a target shooting club or to and from land on which you have permission to shoot. It would also include taking a gun to and from a gunsmith for repair or service or taking a new gun home from the dealer.**
- **It is an offence to trespass with an airgun, be that in a building or on land.**

Airguns and you continued...

- **It is an offence to fire your gun within fifty feet (fifteen metres) of the centre of a public road in such a way as to endanger or impede any road user.**
- **It is an offence to shoot protected wild birds or animals. When live quarry shooting, it is your responsibility to make sure that you only shoot legal quarry. A game licence is required and this activity is not permitted in Scouting.**
- **It is an offence to shoot pet animals. Besides being abhorrent to most people, this is, above all others, the offence that gives all airgun shooters a bad name.**
- **It is an offence to have an airgun with intent to damage property.**
- **It is an offence to have an airgun with intent to endanger life.**

RIFLE TARGET SHOOTING

GENERAL NOTES AND SAFETY INFORMATION

**The use of Airguns in the Scout
Association is governed by Policy,
Organisation and Rules (P.O.R.)**

SAFETY FIRST

- **NEVER POINT A RIFLE AT ANYONE, WHETHER IT IS LOADED OR NOT.**
- **KEEP ALL RIFLES POINTED DOWN THE RANGE AT ALL TIMES.**
- **ENSURE ALL RIFLES ARE UNLOADED AND UNCOCKED BEFORE PUTTING THEM DOWN OR AWAY. LEAVE THE BREECH OPEN TO ALLOW THE RANGEMASTER TO VERIFY.**
- **SAFETY GLASSES MUST BE WORN AT ALL TIMES IN THE RANGE.**
- **STAND CLEAR OF RIFLES UNTIL ORDERED TO PICK THEM UP.**
- **DO NOT USE PELLETS WHICH HAVE BEEN DROPPED.**
- **FAILURE TO OBEY ANY OF THE RULES WILL RESULT IN THE WITHDRAWAL OF PERMISSION TO SHOOT.**

What is an Air Rifle?

As the name suggests, an Air Rifle is a Rifle that uses air to propel its projectile from the barrel, instead of an explosive charge. Although not as powerful as a conventional rifle, they are still highly dangerous and capable of causing serious injury or death in the wrong hands or through accidental misuse.

There are two basic kinds of Air Rifle – Gas Powered and Spring / Gas ram powered.

Gas powered rifles are fitted with a reservoir, which is either filled from a compressor or filled using a pump built into the gun.

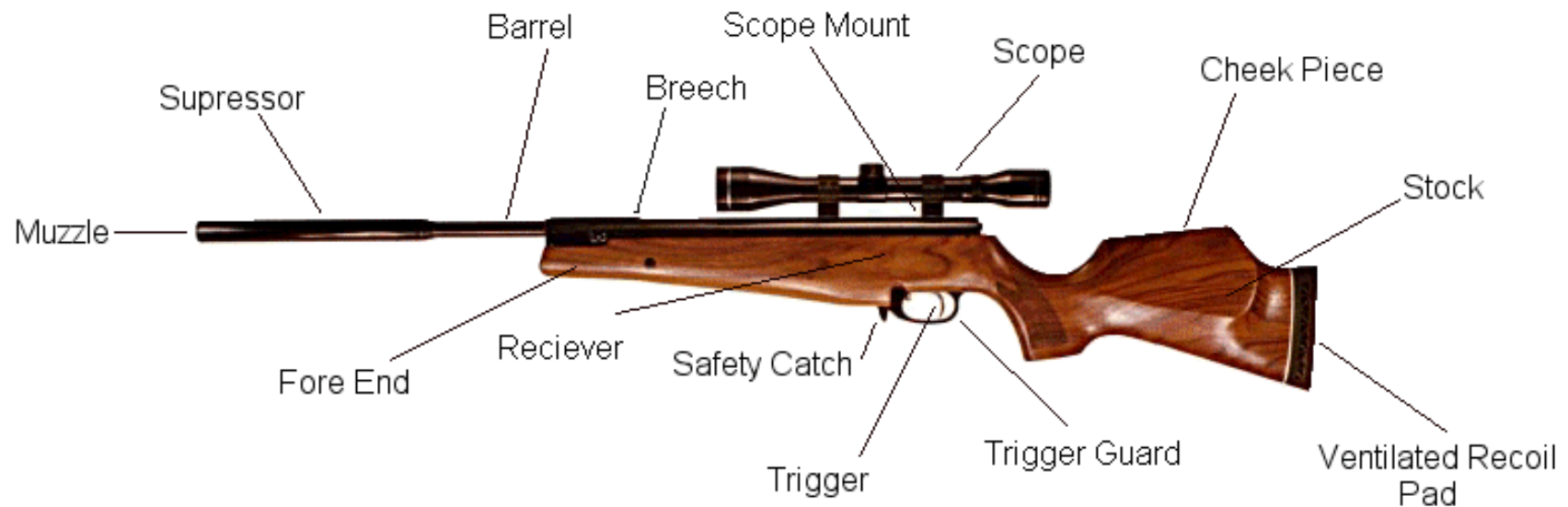
Spring / Gas ram powered rifles work by compressing a sprung piston or gas ram that latches back. When the trigger is pressed, the spring or gas ram is released, moving forward to compress the air in the cylinder and force it through an ejection port and down the barrel.

The projectiles used in Air Rifles are known as PELLETS. They are usually made from lead and come in a variety of Calibres. The most common calibres are .22 and .177. Of these, the .177 calibre is the one used for target shooting.

The Rifles you will be using are of the Spring powered type and .177 calibre.

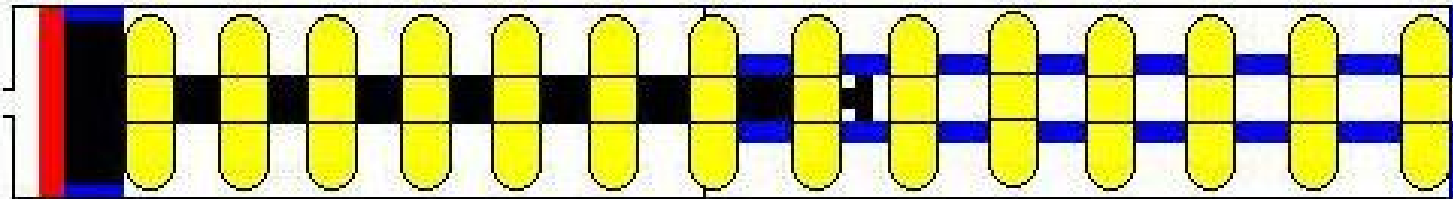
Parts of an Air Rifle

The Diagram below is of a high quality hunting rifle. .177 Calibre competition rifles will not have a scope, or a suppressor usually.

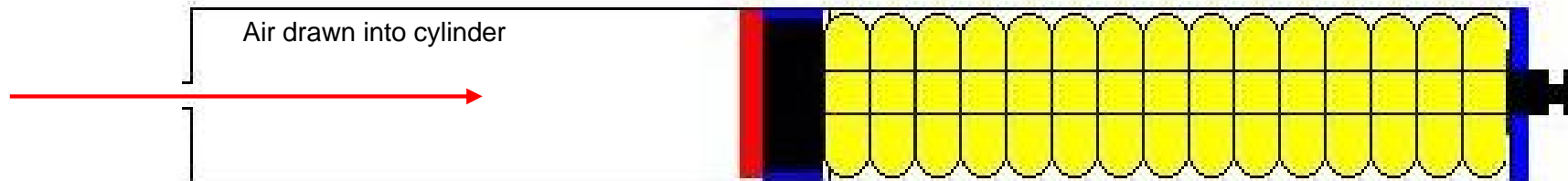


Cocking / Firing Cycle

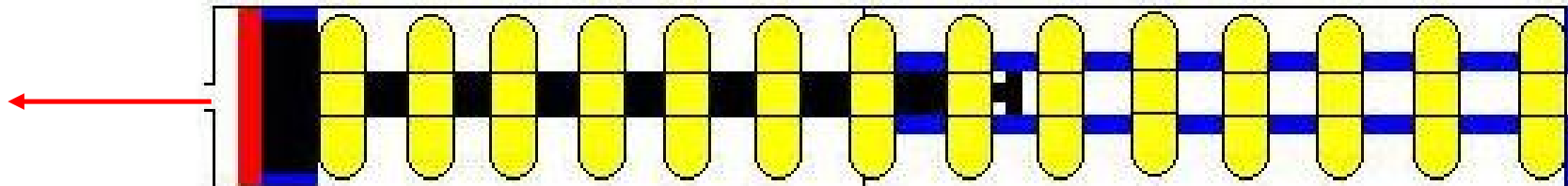
Start Position.



The spring is compressed and the piston latches back, air is drawn into the cylinder as it moves into its seated position

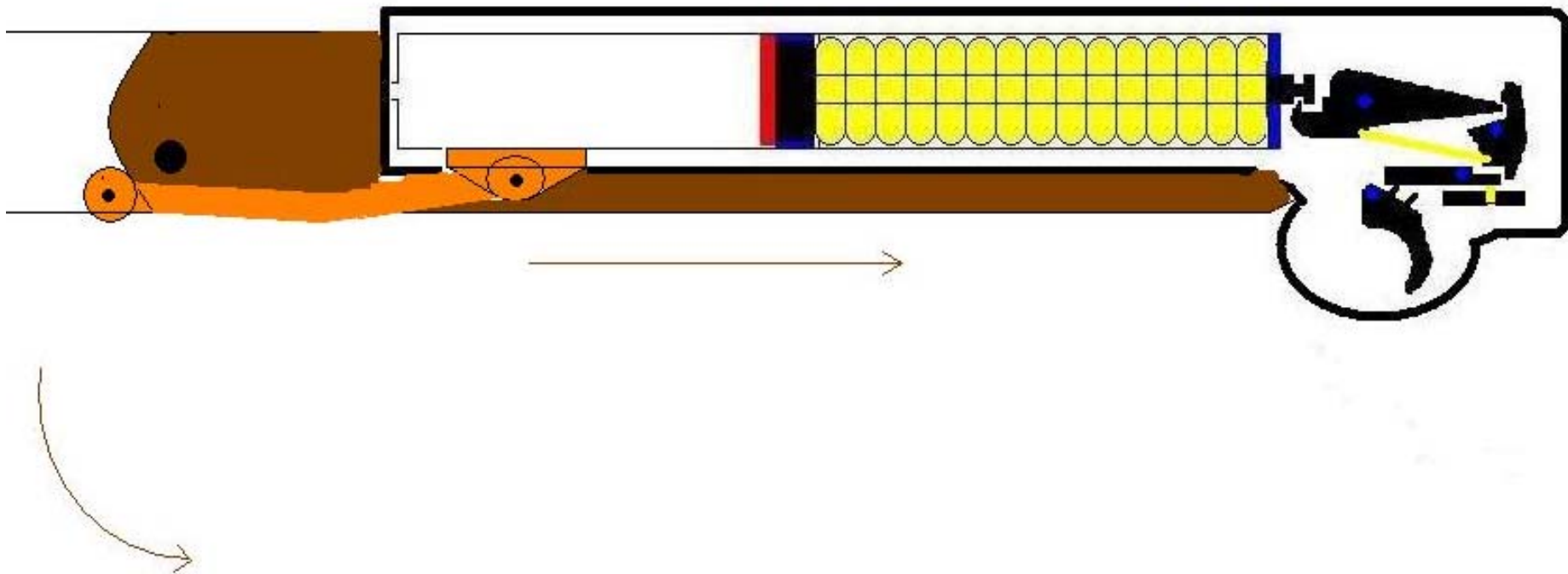


On trigger press, the spring forces the piston up the cylinder, expelling the gas under compression

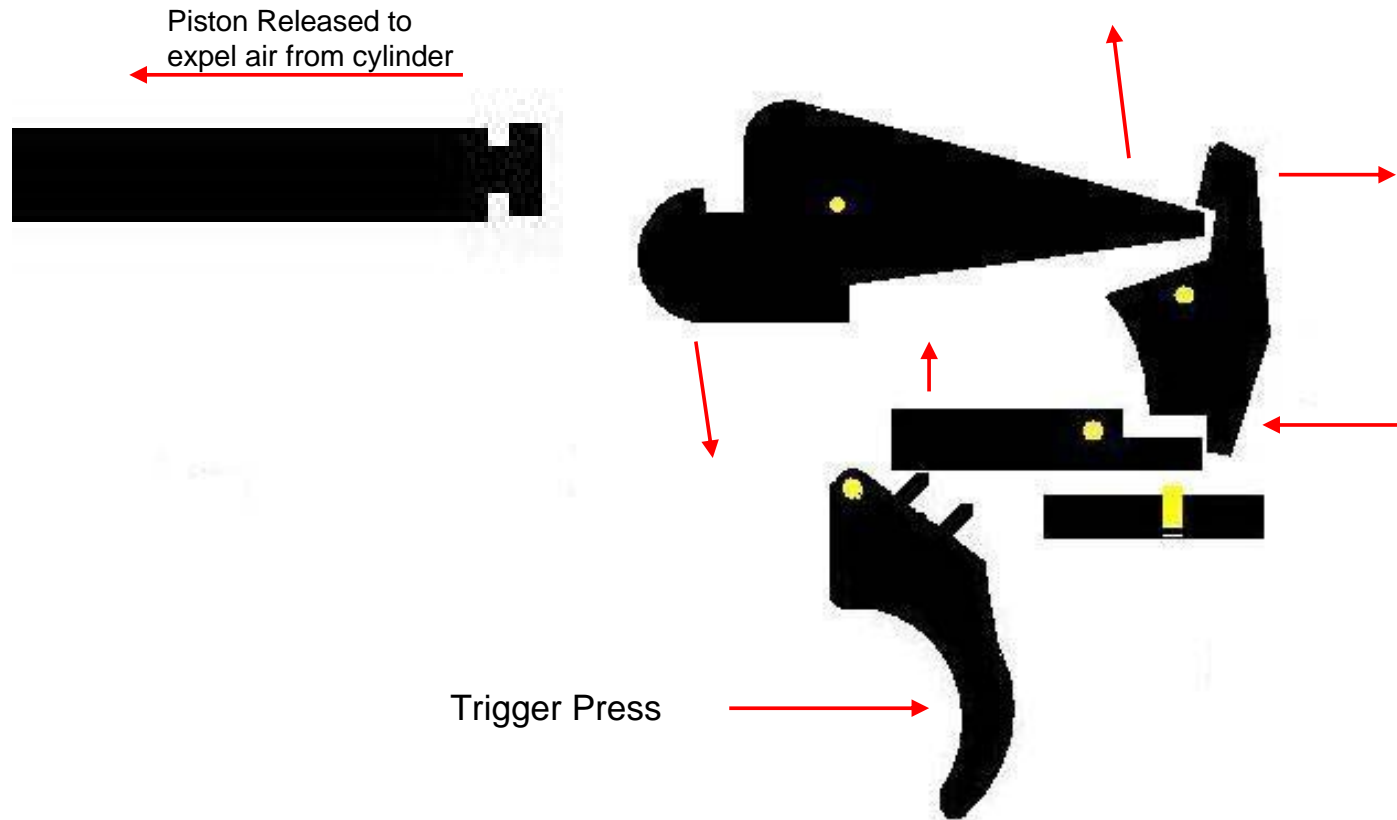


What happens as the rifle is cocked?

- As the barrel is broken and levered back, the main linkage compresses the cylinder and piston back towards the trigger mechanism.
- The piston latches onto the trigger mechanism and is retained.
- As the barrel is returned to the locked position, with the pellet fitted in the breech, the linkage moves the cylinder forward and fills with air.



How Does It Actually Work?



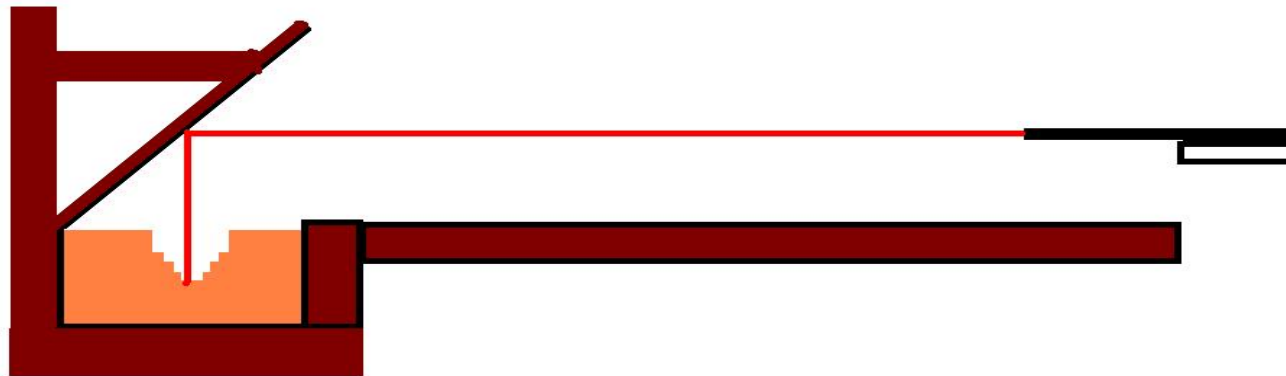
What happens when the trigger is pressed?

- Primary adjustment screw moves the sear to disengagement.
- The mechanism unlatches and releases the piston
- The piston compresses the air in the cylinder to be ejected through the end port.
- This compressed air forces the pellet down the barrel and projects it from the end.
- Back pressure from the pellet expulsion cushions the piston to prevent it from striking the end of the cylinder too hard.

The Range

For Air Rifles, the length of range used is up to 25 yards. The top end target rifles are capable of producing good accuracy at this range, and it is towards the limit of sighting, before Scopes become necessary. The length of range used for competition target shooting is 10 metres.

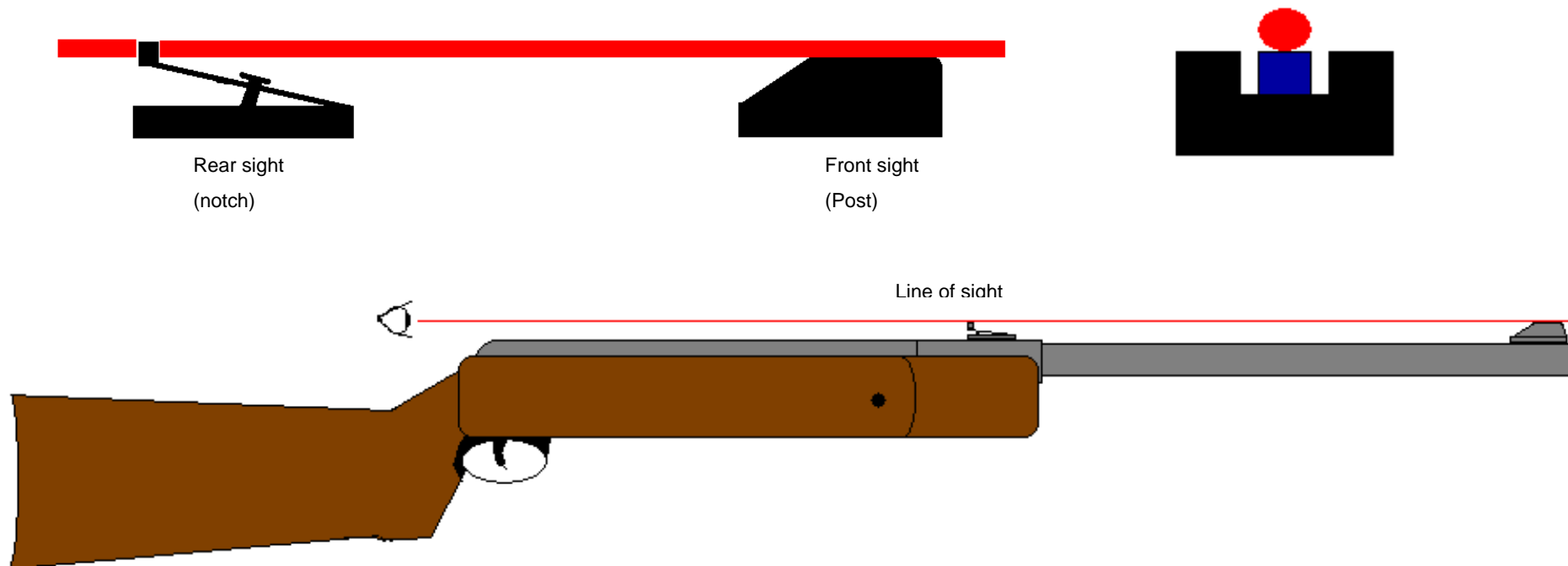
The range should be enclosed and have a substantial backstop. This is to stop the pellets from exiting the range, or rebounding towards the shooter. The backstop is normally manufactured from Steel plate and is angled to deflect the spent pellets downwards into a trap.



Notch and Post sights

Notch and post sights are the most commonly found sights on rifles and pistols. Whilst simple to use in theory, it takes more practice to become really accurate due to the lack of definition found in the Diopter sights.

On break-barrel Air rifles, both the rear sight (notch) and front sight (post) are mounted on the barrel assembly. This allows as great accuracy as possible with the low power (hence range of shot) available. Sighting is done by looking through the rear sight notch and sighting on the front sight post. The top of the post is aligned with the top of the rear sight, so that the post is centralised.

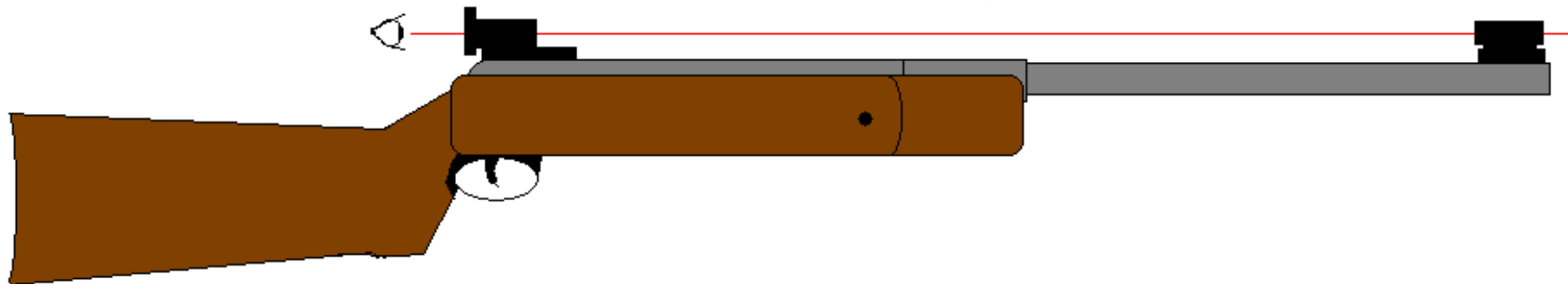
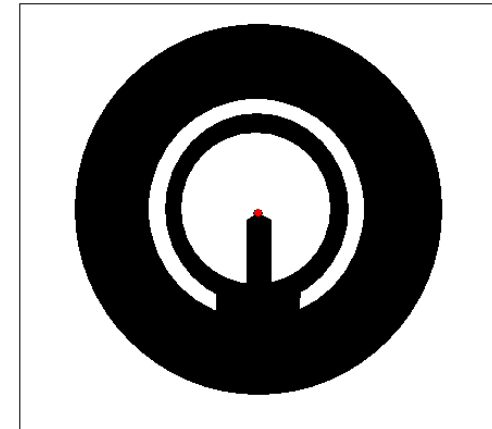
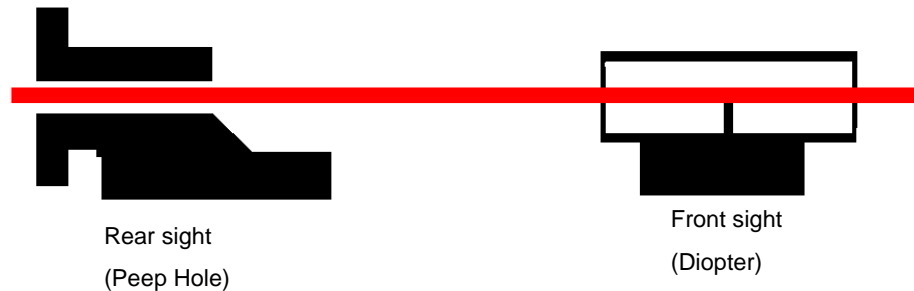


The same sighting principle is used in Pistol shooting.

Peephole and Diopter sights

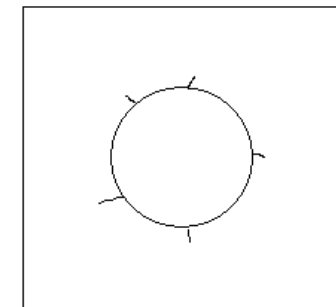
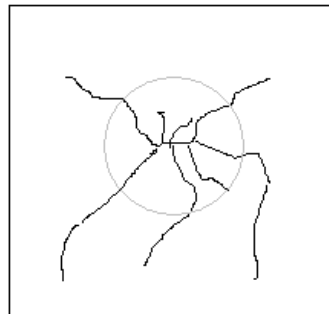
Often used for Biathlon rifles, the peephole and diopter sights are one of the easiest to master. As the name suggests, the rear sight consists of a small hole through which the shooter peeps and views the front sight. The front sight is a tube, with a small stick inside which acts as the sighting post. The sight picture is shown below.

Some sights have the top of the sighting post highlighted with a red dot.



Pellet Types

For target shooting, we use “Wadcutter” or Match pellets. These have a flat contact face which cuts a perfect hole as it passes through the target. Domed or pointed pellets tend to push through the paper, leaving a ragged hole – which makes identifying scores more difficult.



Range Procedure.

It is most important that you obey the commands of the Range Officer at all times. Even if you are in the middle of shooting, when you hear “**Cease Fire!**” you must **immediately** cease firing and make your weapon safe before stepping away from the Firing line.

Basic Range Commands.

- **“First Detail”** – Shooters will be allocated a detail number or other identifier.
- **“Get Ready”** – Guns are placed on the firing points and equipment readied for firing.
- **“Is everyone ready?”** – Shooters respond verbally, or raise arm if not ready. When RO has attended to those who aren't ready, the question is repeated.
- **“Commence Firing”** - This instruction is only given when the RO is satisfied the range is clear and safe.
- **“Cease Fire”** – Instruction given when time period has elapsed or shooters have ceased firing and laid down their guns.
- **“Make all guns safe”** – RO will check visually to ensure guns are unloaded. Loaded guns will be discharged into the backstop.
- **“Change Targets”** – Shooters may recover their targets. RO will place new targets for next detail of shooters.

Rifle shooting positions.

There are four basic positions for shooting rifles or carbines.

- Standing or offhand: Erect on both feet with the rifle supported by the shooting hand and the support hand. This is the fastest position to assume but is the least steady.
- Kneeling: Generally with one knee on the ground and the support elbow resting atop (improperly) or (preferably) slightly forward of the elevated knee. Steadier than offhand and faster than sitting or prone.
- Sitting: Two variants include "open legged" or "cross legged" (ankles apart or overlapping) with both elbows supported on the knees or thighs. The best all-round supported position, as it permits a fast, steady platform suitable to rough terrain.
- Prone: Lying on one's stomach with the support hand beneath the rifle. Feet may be splayed or closer together but most shooters find it helpful to bring the support-side knee forward. The steadiest position, but requires more time to assume than any other and may be unsuitable for some terrain or where ground cover obscures the target.

Accuracy and scoring.

- In target shooting, we are more interested in the grouping of target strikes than in the actual scoring. If a shooter can achieve tight groupings, then his sighting can be adjusted to centre on the target.
- A shooter who has a large spread, needs to correct his technique. That is one of the key aims of this training.
- Scoring on a target is calculated from the pellet strike, not the hole left by it. If the pellet strike cuts the line of the scoring bands, the higher figure is used. Maximum score is 10 per shot.
- For this badge, we will use 10 shots per target during training.

Competition

For the final competition, we will use four targets, with five shots to each. The totals from these targets will identify your rating. You may choose whether to attempt pistol marksmanship after gaining more than 100 with a rifle.

- 100 >124 – Skilled Shot.
- 125 >149 – Marksman.
 - 150 >174 – Expert
- 175 and above – Master Shot.

TARGET PISTOL SHOOTING

GENERAL NOTES AND SAFETY INFORMATION

SAFETY FIRST.

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- **KEEP ALL PISTOLS POINTED DOWN THE RANGE AT ALL TIMES.**
- **ENSURE ALL PISTOLS ARE UNLOADED AND UNCOCKED BEFORE PUTTING THEM DOWN OR AWAY.**
- **SAFETY GLASSES MUST BE WORN AT ALL TIMES WHEN IN THE RANGE.**

Pistol Shooting.

Usually carried out on a 6 yard range, Air pistol Target Shooting has gained popularity since the ban on handguns in the UK.

You will have opportunity to handle and shoot an air pistol and you may find that you prefer one more than the other, or are more naturally suited to one.

Sight Alignment and Trigger Control

For this starting procedure, you will use the bench rest position with support.

Holding the Pistol

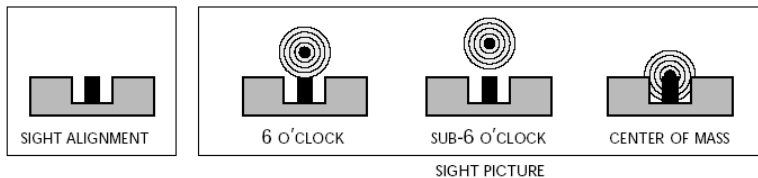
You will begin using a two-hand hold with the air pistol. Keeping the gun pointed in a safe direction, grip the pistol with your shooting hand, and support that hand with the other. Your instructor will demonstrate and coach you in this hold.

Breath Control

A very important part of good shooting is controlling your breathing as you fire. As you align the sights on the target, breathe normally. As you apply pressure to the trigger in a controlled squeeze, hold your breath for 6 to 10 seconds while moving the trigger to the rear until the gun fires. Then breathe normally again. If you cannot fire before you run out of breath, stop the trigger movement to breathe again, then hold your breath again to complete the shot. If you have lost your sight alignment, lower the pistol and start the sequence over again. Practice breath control while dry firing.

Align Sights on Target

Sight alignment is the relationship of the front and rear sights. The eye must be lined up with the front and rear sights and sights positioned so that their alignment is in the proper relationship with the target. Examples of variations of a correct sight picture are included below.



Trigger Control

Using the first joint of your index finger, gently but firmly apply pressure to the trigger. Move the trigger to the rear with a controlled squeeze until the pistol fires without disturbing the sight alignment. Proper sight alignment is when the rear sight is aligned with the front sight and target as shown.

Follow Through

In shooting, "follow through" means to hold your shooting position and sight alignment for a count of two after you fire the gun. Your instructor will demonstrate and coach you on this.

Shooting for Groups: Two-Hand Hold

A series of shots that appear together on a target is known as a group. Shooting for groups requires aiming at the same spot on the target for all shots. Hitting the center of the target is not important when shooting for groups. When group size is consistently small, the shooter will adjust the sights to move the group onto the center of the target.

Stance

Use the "video-game" stance. Face the target straight away, with your weight balanced evenly on both feet. Extend your arms full length.

Breath Control

A very important part of good shooting is controlling your breathing as you fire. As you align the sights on the target, breathe normally. As you apply pressure to the trigger in a controlled squeeze, hold your breath for 6 to 10 seconds while moving the trigger to the rear until the gun fires. Then breathe normally again. If you cannot fire before you run out of breath, stop the trigger movement to breathe again, then hold your breath again to complete the shot. If you have lost your sight alignment, lower the pistol and start the sequence over again. Practice breath control while dry firing.

Sight Alignment

Raise your gun to the target to align the sights.

Trigger Control

Using the first joint of your index finger, gently but firmly apply pressure to the trigger. Move the trigger to the rear with a controlled squeeze until the pistol fires without disturbing the sight alignment. Proper sight alignment is when the rear sight is aligned with the front sight and target as shown.

Follow Through

In shooting, "follow through" means to hold your shooting position and sight alignment for a count of two after you fire the gun. Your instructor will demonstrate and coach you on this.



Pistol Shooting

Firing Sequence

1. Charge and load your pistol
2. Align the gun sights
3. Raise gun to target and align sights on target
4. Move trigger to rear in a controlled squeeze until gun fires
5. Follow through
6. Lower the gun to bench with action open

Sight Adjustment

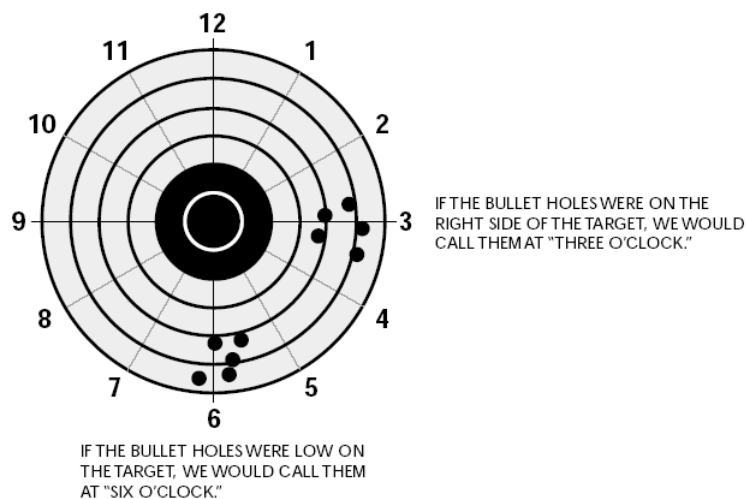
Once you are shooting a small group, you have developed precision in your shooting technique. Now we can adjust the sights to make the pellet hit the center of the target, and you will then develop accuracy.

Good marksmanship is the combination of precision in shooting groups and accuracy in placing the group in the center of the target. You must learn to shoot groups precisely before you can shoot accurately.

If you are shooting a group, and the group is not in the center of the target, **simply move the rear sight in the direction you want the group to move on the target.** If a group is hitting the target high, move the rear sight down; if the group is hitting the target to the left, move the sight to the right.

Calling the Shot

If you use good shooting techniques in the firing sequence, the shot will surprise you when it goes off. As you develop your shooting skills, you will soon recognize where your sights were aligned on the target at the instant it fired. This is known as "calling the shot." This is done by referring to the target as a clock face as shown in the illustration.



You will be surprised at how soon you will be able to call your shots.

Shooting with the One-Hand Hold

After you have developed some skill and proficiency using the two-hand hold for firing, you can begin to develop the ability to shoot accurately using only one hand to hold the pistol.

Stance

When you use the two-hand hold, you face the target squarely. When you use the one-hand hold, you stand facing 60 to 90 degrees to the left of the target if you are a right-handed shooter, or to the right of the target if you are a left-handed shooter. Extend your shooting hand straight out toward the target. (Your instructor will demonstrate this and help you get into the proper position.) You should now be looking at the target over the "V" formed by the thumb and first finger of your shooting hand. If you are not aligned with the target without tension in your arm, shift your rear foot until your arm is aligned with the target. Put your nonshooting hand in your pocket or on your belt.

To establish your "natural point of aim," close your eyes for a few seconds with your arm extended. When you open your eyes, your arm should be pointing at the target. If it is not, shift your feet. Repeat this exercise until you have learned to correctly position your feet so you automatically look at the target.

One-Hand Grip

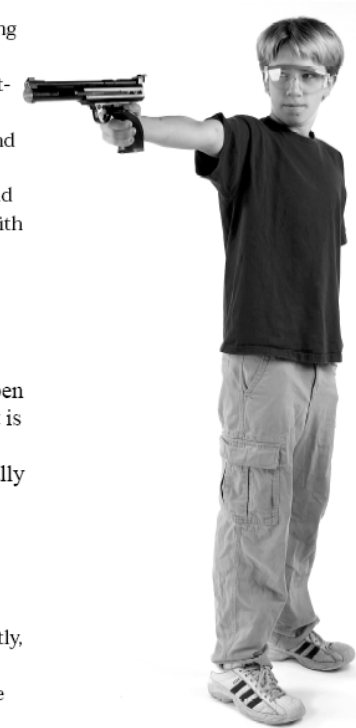
Now that you have your proper stance, place the pistol in your shooting hand and grip it firmly with the thumb and middle fingers of the hand. Do not grip the pistol too tightly, because this will cause your arm to get tired and start to shake. Do not place your finger on the trigger until you are ready to shoot.

Firing

The firing sequence is the same as with the two-hand hold: align the sights on the target, then move the trigger to the rear with a controlled squeeze. After the gun fires, follow through and lower the pistol to the table with the action open.

Practice dry firing until you feel comfortable with the one-hand hold.

You will notice immediately that the one-hand hold is not as steady as shooting with two hands, but with proper practice you will soon develop more skill.



True or False?

1. You may own an Airgun at the age of 14.
2. An Airgun may be carried loaded in a public place.
3. If you are left handed, you must still shoot with your right eye.
4. Air Pistol shooting is an Olympic event.
5. It is illegal to have an airgun above a certain power without a licence.
6. Breath control and trigger squeeze are very important for getting good scores.
7. As soon as you get the right sight picture, pull the trigger as fast as you can.
8. The Range Officer is only in charge of the people actually shooting.
9. You may only go forward of the firing point when the RO tells you to do so.
10. Airgun pellets are shaped the way they are so they won't hurt if they hit you.

Date	Target No.	Rifle	Pistol	Score	Spread	Position	Checked
	1						
	2						
	3						
	4						
	5						
	6						
	7						
	8						
	9						
	10						
	11						
	12						
	13						
	14						
	15						

Date	Target No.	Rifle	Pistol	Score	Spread	Position	Checked
	16						
	17						
	18						
	19						
	20						
	21						
	22						
	23						
	24						
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