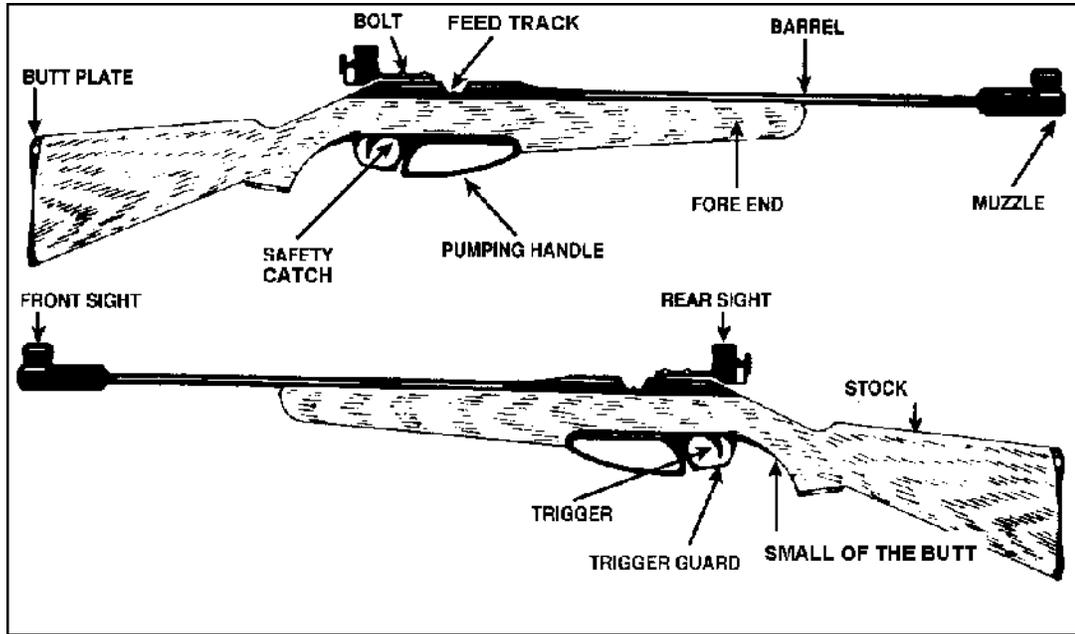


THE CADET AIR RIFLE

Cadets must have a basic knowledge of the cadet air rifle in order to understand how the rifle works and to safely follow directions given on the range.

PARTS AND THE CHARACTERISTICS OF THE DAISY 853C AIR RIFLE



PARTS

- a. **Butt Plate (End of the butt).** It is part of the rifle directly in contact with the marksman's shoulder. It is adjustable in length with the addition of butt spacers. When fitted properly, the butt plate aids in achieving a snug fit and a consistent placement of the rifle into the shoulder;
- b. **Spacers.** Plastic inserts that can be added or removed from the butt plate to vary its length. To add or take away butt spacers, simply use a Phillips screwdriver to loosen the butt plate and slide in/out the amount of spacers desired;
- c. **Small of the Butt (Pistol Grip).** Curved area directly behind the trigger guard where the hand controlling the trigger grips the rifle;
- d. **Stock.** Complete wooden portion of the rifle (from the butt plate end forward);
- e. **Fore End (of the Stock).** Wooden portion of the stock from the trigger guard forward, in which the barrel and the rifle mechanism are encased;
- f. **Sling.** Links the rifle to the marksman's arm and supports most of the weight of the rifle. It is a web sling made of nylon. One end attaches to the sling bracket and the other to the upper arm;
- g. **Sling Bracket (Handstop).** Adjustable metal clasp attached to the forestock and where the sling is fixed to the rifle. It also acts as a handstop (device used to rest the left hand to prevent it from moving);
- h. **Trigger.** Movable device that releases a spring and sets off the rifle mechanism. This rifle has a single stage trigger that cannot be adjusted for weight;

- i. **Trigger Guard.** Metal area that surrounds and protects the trigger;
- j. **Safety Catch.** This is a mechanism that, once engaged, prevents the rifle from firing by locking the trigger in place. It is a cross bolt type device located on the trigger guard. The black side indicates that the rifle is unable to fire; the red side indicates the rifle is ready to fire. It should be ON (no red) at all times, except when firing;
- k. **Bolt.** Metal lever used for opening or closing the rifle mechanism. It must be in the closed position in order to fire. For maximum safety when not firing, the bolt should be kept open;

NOTE

When a rifle is stored the bolt should be forward and the action must not be cocked.

- l. **Pump Lever.** Metal lever used to compress the air required to fire the pellet. Whenever the rifle is in a "safe rifle status", the pump lever should be left partially open;
- m. **Sight System**
 - (1) **Front Sight.** Global front sight that uses aperture inserts; and
 - (2) **Rear Sight.** Micrometer sight adjustable for windage and elevation. It is easily attached to the metal rail located above the action. This rail allows you to slide the sight forward or backward in order to maintain proper eye relief. The sight is tightened using a small flat-blade screwdriver;
- n. **Muzzle.** Front end of the barrel equipped with attachable barrel weight;
- o. **Barrel with Barrel Weight.** Steel tube extending from the muzzle to the chamber, through which the pellet travels. The barrel weight ensures that the rifle's weight is evenly distributed and that the rifle's balance is maintained;
- p. **Bore.** Interior of the barrel which has spiral grooves cut into it. The lands are the ridges of metal between the grooves. Together, the grooves and lands are called rifling;
- q. **Feed Track.** Delicate area where the pellet is inserted manually onto the single pellet adapter or with a five (5) pellet clip;
- r. **Single Pellet Adapter.** Plastic clip that aids in placing a pellet in the chamber;
- s. **Five (5) Pellet Clip.** Plastic clip that holds a maximum of five (5) pellets and used to place the pellets in the chamber; and
- t. **Chamber.** Place where the pellet is held before firing.

CHARACTERISTICS

- a. **Action:** Single pump pneumatic, straight pull-bolt;
- b. **Total length:** 97.8 cm;
- c. **Total weight:** 2.5 kg;
- d. **Calibre:** 0.177 calibre (4.5 mm);
- e. **Front sight:** Global type with interchangeable aperture inserts;

- f. **Rear sight:** Fully adjustable peep rear sight with micrometer click adjustment;
- g. **Barrel:** Lothar Walther rifled high-grade steel barrel with weight: crowned 12 lands and grooves, right hand twist. Precision bore sized for match pellets. Approximate length 53.1 cm;
- h. **Muzzle velocity:** 150.8 metres per second;
- i. **Maximum range:** 235.4 metres;
- j. **Loading:** Single or auto indexing five (5) pellet clip;
- k. **Stock:** Full-length, sporter-styled hardwood with adjustable length;
- l. **Sling:** Adjustable competition web;
- m. **Trigger weight:** Minimum 3.5 pounds;
- n. **Chamber:** Open loading and made of steel;
- o. **Safety:** Manual crossbolt trigger block with red indicator; and
- p. **Pumping force:** 20 lb

SAFETY PRECAUTIONS ON THE CADET AIR RIFLE

Safety precautions are essential to ensure everyone's safety on the range. Every time a cadet picks up a rifle or steps on a range, they must have safety in mind and check to ensure the rifle is safe (an individual safety precaution check when receiving, handing over, or returning to a rifle). Even when a rifle is presumably safe, it is to be checked again.

Removing a Rifle from the Case

The rifle case should be clearly marked on the outside with an arrow, indicating in what direction the rifle inside is pointing. This will ensure that when the case is opened, the rifle is pointing in a safe direction. The following steps must be followed in removing a rifle from its case:

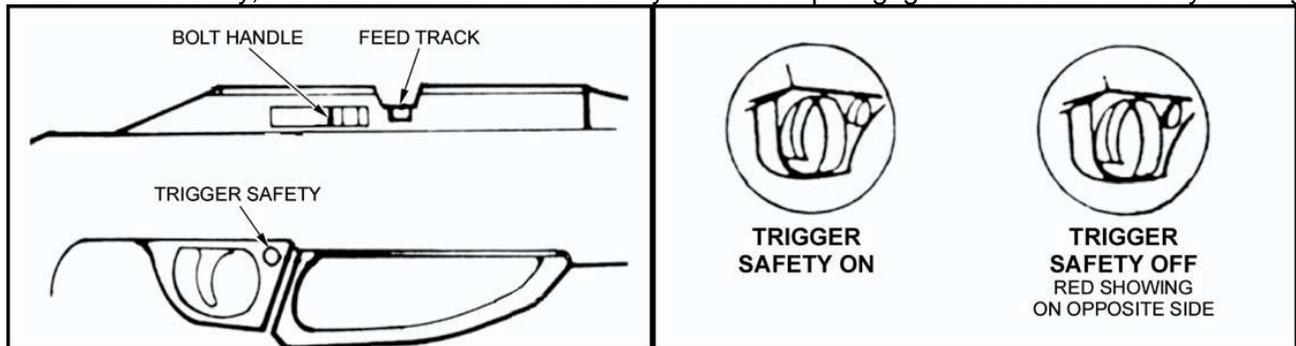
- a. Place the rifle case on a flat surface and ensure the arrow is pointing in a safe direction;
- b. Open the case;
- c. Cock the action (leave the bolt to the rear);
- d. Confirm that the safety catch is ON;
- e. Confirm that the pumping lever is partially open;
- f. Slide the safety rod in the barrel towards the bolt until it can be seen in the feed track;
- g. Remove the rifle from the case; and
- h. Remove the safety rod if you are on the firing line.

SAFETY CATCH AND SECURITY MEASURES

The safety catch is a mechanism that, once engaged, prevents a rifle from firing by locking its trigger

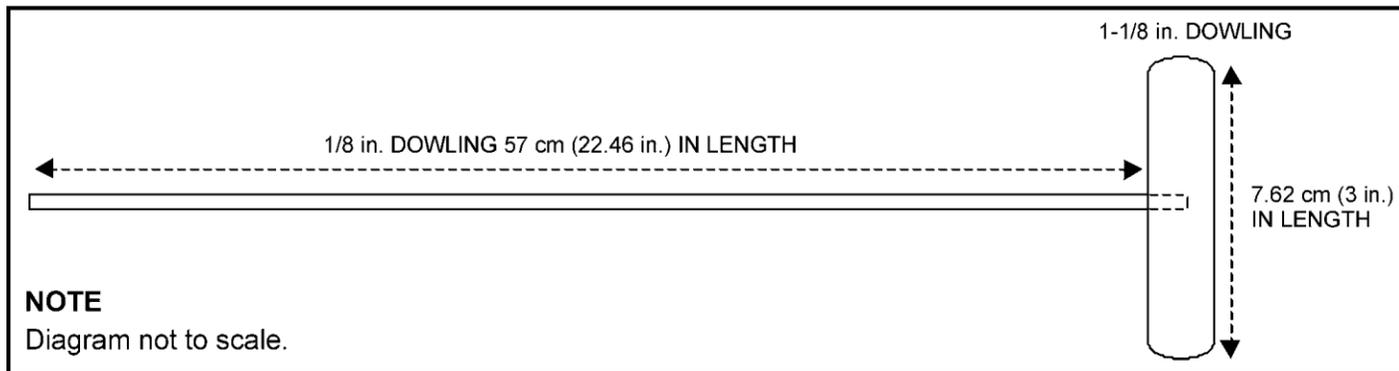
into place. It is located just in front of the trigger, on the trigger guard.

To engage the safety catch (ON) it must be pushed towards the right so no red can be seen. To fire, the safety catch must be pushed towards the left in the OFF position and a red mark must be seen on it. For maximum security, it is recommended that the safety catch be kept engaged until the rifle is ready for firing.



SAFETY ROD

To ensure that air rifles are not removed from the firing point or stored with a pellet in the chamber or barrel, a safety rod is to be inserted in the barrel from the muzzle end. It consists of two sections of doweling joined together in a “T” shape, and may be made of varying materials. The tip of the safety rod is to be coloured red so that it is visible in the feed track with the bolt fully to the rear.



SAFE RIFLE STATUS

When not being handled on the range or in a training environment, the air rifle must be in a safe status. The following options denote various “safe rifle status”:

Option One: In the rifle case

- a. Safety catch is ON;
- b. Bolt is forward;
- c. Action is not cocked;
- d. Safety rod is in the case but not in the barrel; and
- e. Pump lever is partially open (5-8 cm).

Option Two: On the firing line

- a. Safety catch is ON;
- b. Bolt is to the rear; and

- c. Pump lever is partially open.

Option Three: Not on the firing line

- a. Safety catch is ON;
- b. Bolt is to the rear;
- c. Safety rod is in barrel (visible in the feed track); and
- d. Pump lever is partially open.

INDIVIDUAL SAFETY PRECAUTIONS

Upon receiving a rifle or when the “safe rifle status” is uncertain, individual safety precautions should be done to confirm that the rifle is safe. An individual must ensure that:

- a. The bolt is open fully to the rear;
- b. The safety catch is in the ON position;
- c. The pump lever is partially open; and
- d. A safety rod is inserted in the barrel.

NOTES

1. If an individual is taking a position on the firing line and an instructor has pre-positioned a rifle, a safety rod is not required.
2. Instructors/coaches must ensure that they complete individual safety precautions on all rifles to be used for instruction or firing on the range, before allowing cadets to handle the rifles as well as before removing rifles from the firing line.

SAFETY REGULATIONS

Safety regulations are all common sense and are easy to apply when people understand why they are necessary to help prevent accidents. The following is a list of essential safety regulations:

- a. A rifle should always be treated as if it is loaded and be considered dangerous unless proven otherwise;
- b. A rifle should never be pointed at anyone;
- c. A rifle should always point in a safe direction. In the firing position, it should always point down range toward the targets;
- d. A rifle should be held in the vertical position with the muzzle pointing up when transporting it to and from the firing point and/or range;
- e. Fingers should be kept off the trigger unless the marksman is ready to fire;
- f. Hearing protectors may be worn when firing an air rifle; and
- g. The wearing of safety glasses or shatterproof eyeglasses is mandatory when firing. The wearing of specialized glasses is permitted **only** if the lens completely covers the aiming eye and a blinder which provides appropriate protection is installed to cover the non-aiming eye. All

range staff must also wear safety glasses.

THE PRONE SHOOTING POSITION

General

Obtaining a good prone position is one of the most, if not the most important principle of marksmanship. A good prone position helps to maintain comfort and stability during the firing session. Although an excellent position will not guarantee an excellent performance, a poor position can almost assure a substantially negative effect on results.

Rifle Rests

An excellent way to practice the marksmanship skills required by a cadet is to use a rifle rest such as a sandbag, a scope stand or a pile of books. This allows the cadet to perfect and to understand their marksmanship skills while the rifle is held steady. Once these skills are learned, the rifle rest should be removed and replaced by the sling.



OBTAINING A GOOD POSITION

The objective of a good position is to obtain a stable, uniform platform in the most efficient way possible allowing holding and aiming to be achieved with as little movement and muscular tension as possible.

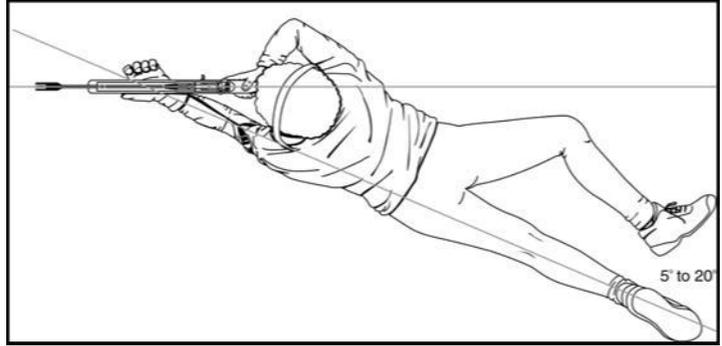
The position should be:

- a. Natural;
- b. Without strain;
- c. Comfortable;
- d. Stable;
- e. As such that body weight is equally distributed; and
- f. Consistent throughout the relay.

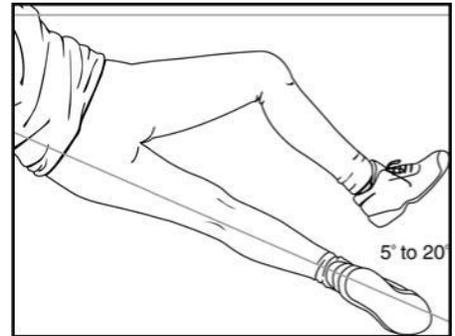
Characteristics of a Good Position

The characteristics of a good prone position are as follows:

- a. The body should form a 5-20° angle to the line of sight;
- b. The body should not be twisted and the spine should be straight;
- c. The left leg should be parallel with the spine;



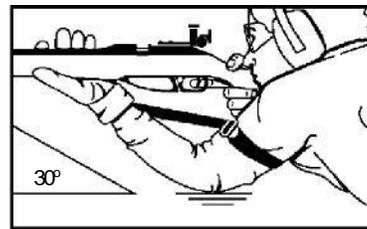
- d. The right foot should turn out and point to the right; the left foot should be straight behind on the toe or pointed to the right according to the comfort of the individual;
- e. The right knee should be brought up so that the thigh forms an angle between 30-45° with the left leg. The right knee should be bent in order to improve stability. This causes the body to roll slightly to the left, raising the diaphragm off the ground, thus enhancing breathing. As the chest is also raised off the ground, body movements caused by normal heartbeat are minimized;



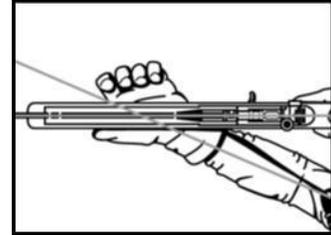
- f. The left elbow should be positioned slightly to the left of the rifle. It should not be positioned directly under it or stability will be affected. In order to maintain consistency throughout the relay, the left elbow should not be moved, even while pumping the rifle;



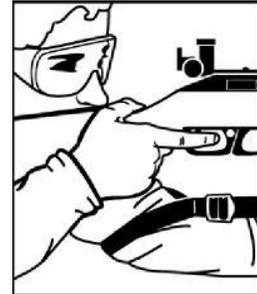
- g. In accordance with the CCM Marksmanship Championship Series Rules, the left forearm must form at least an angle of 30° with the ground;



- h. The left hand should rest in the sling and firmly against the sling swivel and the fingers should not grip the fore end of the stock. The hand should be relaxed and the rifle should rest in the palm of the hand;



- i. Once a good position is established, the right hand should grip the small of the butt with constant pressure. The force applied by the right hand should never have to support the rifle. If a distinct pressure is necessary in order to keep the rifle in place, some aspect of the position will have to be changed;



- j. The right thumb should be placed on the stock directly behind the rear sight or around the small of the butt;
- k. The position of the right elbow is established after the rest of the body is in place. After placing the right hand on the small of the butt, the right elbow should rest naturally where it falls and feels comfortable. However, the elbow should not be too close or too far from the rifle and it should only bear a small amount of pressure;

- l. The shoulders should be straight and form right angles with the spine;

- m. The butt plate is kept firmly in the hollow of the right shoulder. In order to ensure that the butt plate is always placed in the same spot, cadets should grasp it with their thumb and forefinger and place it in their shoulder for each and every shot. The right elbow will naturally fall in the same spot throughout the relay; and



- n. The head rests comfortably on the butt and remains straight. There should be a minimal distance of approximately five (5) cm between the right eye and the rear sight (known as eye relief). This distance should remain constant throughout the relay. When the face is placed on the butt, the cadet should be looking directly through the sights. If this is not the case, their position should be modified.

To ensure positive results, the aforementioned points should be repeated for each shot. The elbows should always be in the same place, the head should exert the same amount of pressure on the rifle, the eye relief should remain constant and the right knee should always be in the same position. If any of these points does not feel right or if cadets find their position uncomfortable, they should readjust it until it is perfect.

Adopting the Prone Position Using a Rifle Rest

The following steps should be adhered to when adopting the prone position using a rifle rest:

- a. Lay down to the left of their rifle;

- b. Place the left elbow on the ground;
- c. Pick up the rifle;
- c. Lay the rifle on the rest;
- d. Get into a comfortable position while keeping the rifle on the rest;
- e. Place the butt plate into the right shoulder;
- f. Rest their cheek on the butt;
- g. Place the right elbow on the ground;
- h. Adjust the height of the rest; and
- i. Adjust the length of the butt using spacers.

AIMING THE CADET AIR RIFLE

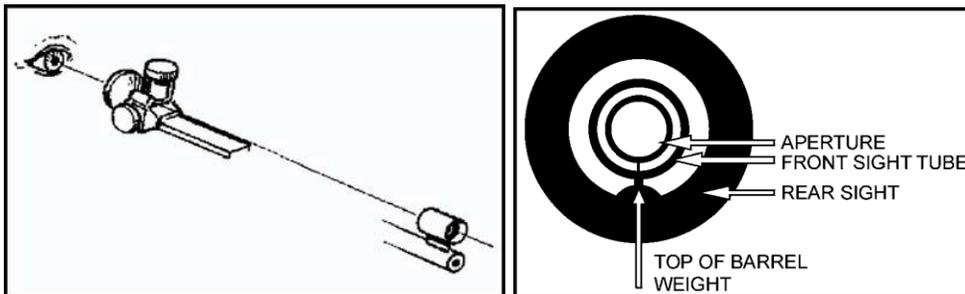
Cadets must constantly strive to maintain proper sight alignment, while obtaining a sight picture. It is the most critical element of the aiming process.

The **aiming process** consists of:

- adopting a comfortable position; and
- ensuring proper body alignment with the target.

Sight Alignment.

It is the alignment of the eye, the rear sight, and the front sight. When cadets bring their eye 5 to 15 cm from the rear sight, they will find that the small hole is large enough to look through and see all of the front sight. Proper sight alignment is a matter of centering the front sight tube in the rear sight. The tube will not quite fill the rear sight and cadets will be able to see light around the outside of the tube; we call this a "line of white".



Sight Picture.

To obtain a proper sight picture, a bull's-eye is simply added to the innermost ring. The goal during the aiming process is to maintain proper sight alignment while keeping the bull centered in the front sight.

LOADING, UNLOADING, AND FIRING THE AIR RIFLE

LOADING

Loading procedure:

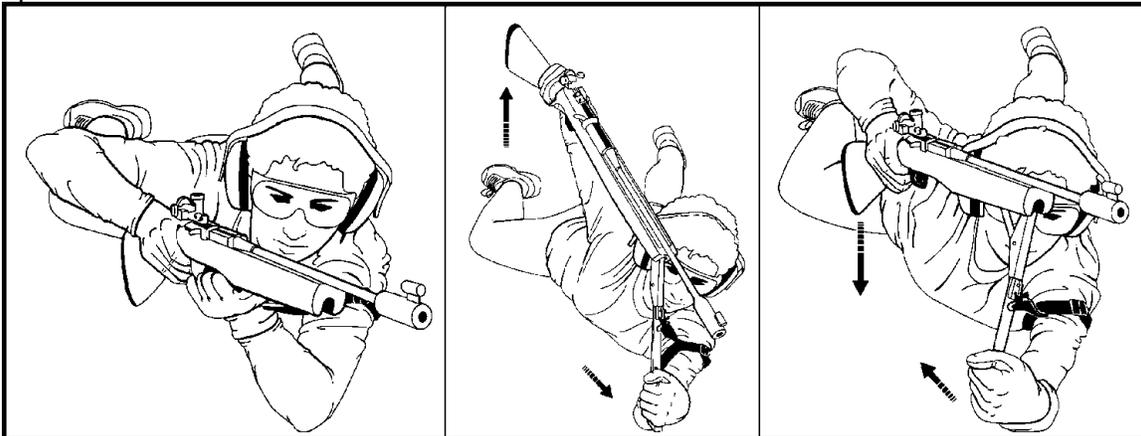
1. Pick up the rifle with the left hand.
2. Ensure the safety catch is in the ON position.
3. Pump the air rifle, pausing for 3 seconds.
4. Bring the pump handle back to closed position.
5. Simulate loading a pellet, or load an auto indexing five-pellet clip into the feed track.
6. Close the bolt.

The following methods may be used when pumping the air rifle:

Option 1. Grasp the pistol grip with the right hand. Grasp the pump handle with the left hand. Push downward with the left hand until the pump handle is fully extended. Wait for a few seconds. Using the left hand, bring the pump handle back to the stock of the rifle. The rifle should remain stationary during the pumping process and always point towards the targets.

Option 2. Grasp the pistol grip with the right hand. Grasp the pump handle with the left hand. Place the butt of the rifle under the right arm or shoulder for support. Push downward with the left hand until the pump handle is fully extended. Wait for a few seconds. Using the left hand, bring the pump handle back to the stock of the rifle allowing the underarm and shoulder to help hold the rifle steady when closing the pump handle. Remember that the rifle must always point towards the targets.

Option 3 – Coach Assistance. Point the rifle in a safe direction and request the assistance from a coach. The coach should move in and pump the rifle using both hands. This should be used as last resorts as any cadet can easily do the above two options.



Do not pump the rifle more than once per shot. This air rifle is designed to withstand the pressure based on a single pump stroke.

UNLOADING

Follow the unloading sequence of the cadet air rifle, to include:

UNLOAD

1. Pick up the air rifle.
2. Remove five-pellet clip (if used).
3. Open the bolt (do not insert a pellet).
4. Pump the air rifle, pausing for 3 seconds.
5. Close the bolt (do not insert a pellet).

6. Place the safety catch in the OFF position.
7. Aim the rifle at the target.
8. Squeeze the trigger.
9. Place the safety catch in the ON position.

PREPARE FOR INSPECTION

1. Open the bolt.
2. Open the pump handle slightly.
3. Place the rifle on shoulder, muzzle pointed down range.
4. Wait to be cleared by the RSO.
5. Lay the rifle down.

FIRING

Follow the sequence required to fire the cadet air rifle, to include:

1. When the RSO gives the command, place safety catch in the OFF position.
2. Aim the air rifle at the target.
3. Squeeze the trigger.
4. Open the bolt, pump the rifle, reload, aim and fire.
5. Repeat the last step until firing is complete.
6. Upon completion, place the safety catch in the ON position and partially opening the pump lever.
7. Lay the air rifle down.

RULES AND COMMANDS ON AN AIR RIFLE RANGE

Firearms safety is the number one priority on and off the range so everyone must do their part to prevent accidents. In marksmanship, the majority of incidents are caused by ignorance of proper rifle operating procedures or by mishandling.

RULES

Range Standing Orders are locally produced for each range. They detail rules to be followed on that range. General rules observed on all ranges include:

1. Rifles will be proved safe when picked up, handed to or received from another person.
2. Rifles are never pointed at any person.
3. Safety rods shall be inserted into the barrels of rifles when not in use on the range.
4. Horseplay is forbidden on the range.
5. Rifles, whether loaded or not, will always be pointed down range.
6. Eating is not permitted on or near the range or around the pellets.
7. All personnel shall read or be briefed on the contents of the Range Standing Orders.
8. The RSO's directions and orders are to be obeyed at all times.

Range Commands

1. Cover off your firing point.
 - Move to a position behind your assigned firing point.
2. Place your equipment down and stand back.
 - As directed.
3. Adopt the prone position.
 - Lay down in prone position
4. "G.R.I.T." in that GRIT is the acronym for:

- Group (relay)
- Range
- Indication
- Type
- 5. Relay load, commence firing.
 - Load
 - fire.
- 6. Relay, cease fire.
 - Stop
 - engage the safety catch of the air rifle
 - wait for directions.
- 7. Relay, resume fire.
 - As directed.
- 8. Relay, unload.
 - Unload
- 9. Relay, prepare for inspection.
 - Prepare for inspection
- 10. Relay, stand up.
 - As directed.
- 11. Change targets; and change relay.
 - Move forward under direction of RSO,
 - retrieve target and replace with new one,
 - move back off of range.

CLEANING AND STORING THE CADET AIR RIFLE

CLEANING

No one should attempt to clean a rifle until individual safety precautions have been performed on the rifle, and it is certain that the barrel is clear of any obstructions. It is important to keep the air rifle clean because a dirty bore will eventually cause accuracy problems. Although air rifles do not suffer from powder deposits as do small bore and large bore rifles, they do experience a build-up of residue in the barrel.

WHEN TO CLEAN

There are four main times to clean the cadet air rifle:

1. Before firing.
2. After firing.
3. Periodically.
4. Before storage.

CLEANING PROCEDURES

- Before firing- Fire two to three felt cleaning pellets.
- After firing- Fire two to three felt cleaning pellets.
- Periodically
 - Fire a felt cleaning pellet soaked in SAE 30 motor oil.
 - Wait five minutes.
 - Fire three felt cleaning pellets.
- Before storage of three months or more.
 - Fire two to three felt cleaning pellets.

- Fire one felt cleaning pellet soaked in SAE 30 motor oil.
- Fire three felt cleaning pellets when taking rifle out of storage.

STORING

The sequence for storing the cadet air rifle is the reverse order of the procedure for removing the air rifle from the case:

1. Ensure the open case is pointed in a safe direction.
2. Close the action (bolt forward and closed).
3. Slide safety rod out of the barrel.
4. Place the rifle in the case in the direction of the arrow on the case.
5. Confirm pumping lever is partially open.
6. Confirm the safety catch is ON.
7. Close the case.