



# NAUTICAL TRAINING CORPS CORPS CADET TRAINING



## Marksman Badges



MARKSMAN



MARKSMAN SECOND CLASS



MARKSMAN FIRST CLASS

Cadets Name: \_\_\_\_\_

## INTRODUCTION

### Target Shooting

Target rifle shooting is a sport in which, as in many other sports, a projectile is directed and delivered by the participant to a target some distance away. It is an intensely competitive sport, and indeed it is one of the oldest sports in the world, whose first National governing body in Great Britain was formed in 1860.

A feature of the sport is that safety in one's own actions and vigilance and a sense of responsibility towards others are most important. To this extent, target shooting can be compared with, for instance, rock climbing, as a sport in which participants are responsible for not only their own safety, but the safety of others as well. As such, taking part in the sport is unquestionably a character-forming experience, and the safety record of target rifle shooting (there are many times fewer examples of either serious or minor injuries resulting from taking part than in any other Olympic sport) proves that the lessons of safe conduct and responsibility are learned by everyone.

The National Small-bore Rifle Association is the Governing Body for the Olympic sport of rifle and pistol shooting in Great Britain including air rifle. The Marksman Instructor Manual is based on the NSRA (National Small-bore Rifle Association) Youth Proficiency Scheme) consists of a series of teaching sessions giving simple practical experience of the various factors essential to safe enjoyment of the sport, finishing with a simple academic test and a test of shooting ability. There is a graded system of award for all who take part successfully.

## THE LAW

It is most important that you are fully acquainted with the law in relation to the possession and ownership of air rifles. This Scheme aims at promoting safety and responsibility and therefore respect for the law. N.B. The following applies to rifles powered by compressed air only which have a muzzle energy not exceeding 12 foot/pounds. More powerful air guns or those powered by CO2 gas may require licensing.

### 1. Applicable to all ages.

- a) Air rifles must not be carried or used in the commission of any offence.
- b) Air rifles must not be loaded in public places; this includes having any pellets in any magazine near the rifle.
- c) You must have the permission of the owner or occupier to have an air rifle in any building or on any land.
- d) Nobody who has been sentenced to any form of detention or corrective training by a court of law may have possession of an air rifle unless clearly permitted by the Firearms Act; so be careful to whom you lend an air rifle.
- e) It is an offence to assist anyone under the age of 17 to break the laws which apply to them, see below.

### 2. Applicable to persons under 17 and over 14 years of age.

- a) You may not purchase or hire any air rifle but may receive one as a gift or loan.
- b) You may have an air rifle with you in a public place provided the rifle is covered by a securely fastened cover which prevents it being loaded as in (b) above.

### 3. Applicable to persons under 14 years of age.

- a) You may not hire, purchase, own or otherwise be given an air rifle.
- b) You may have an air rifle with you in a public place provided you are under the supervision of a person over 21, and provided that the rifle is securely covered and fastened as in (b) above.
- c) You may use an air rifle under supervision from a person over 21 but you must not fire it so that the pellet goes beyond the premises on which it is being used.

### 4. Generally.

- a) An air rifle may be used by a person of any age either when taking part in target shooting as a member of a Home Office approved club affiliated to the National Small-bore Rifle Association; or at any club range or shooting gallery where the only gun in use are either air guns not exceeding .232 in calibre, or rim fire cartridge rifle not exceeding .23" in calibre.
- b) You may not shoot game with an air rifle unless you hold a Game licence.

## THE LAW

### Penalties

Penalties for breaking the law are severe and young people thinking of taking up this sport should be under no illusion of the consequences of deliberately breaking it. The message to instructors must be that those displaying signs of irresponsibility should firstly be given a firm talking-to, and if that does no good, they should be told to go away and return when they have grown up. The maximum penalties are:

1. Possession of an air Rifle with intent to injure or damage property.  
14 years in prison/fine or both
2. Using an air rifle to resist arrest.  
14 years in prison/fine or both
3. Carrying an air rifle with intent to commit a crime.  
10 years in prison/fine or both
4. Carrying a loaded air rifle without authority or reasonable excuse.  
5 years in prison/fine or both
5. Trespassing with an air rifle without reasonable excuse.
  - a) In a building 5 years in prison/fine or both
  - b) On land 3 months or £200 fine or both
6. Acquiring, possessing or using any air rifle or ammunition within 5 years of release from any detention or imprisonment of 3 months plus 3 years in prison / fine or both.

## RANGE BUILDING

Before you can proceed to run a series of lessons, it is essential that the space you plan to use is suitable. The requirements are not great, but because shooting is involved it is necessary to be sure that exits are in the right place in relation to the flow of people, and that the area where people are allowed to be in possession of loaded rifle (the firing point) is quite distinct from any assembly or ready area where people are waiting for their turn. (See diagram).

If the premises of an existing target shooting club are to be used, then the layout of the range will already have been passed. But air rifle shooting, being basically, can be conducted in many rooms' other than purpose-built rifle ranges, and this feature is one of the main attractions of the sport. If you are planning to run lessons in other than a purpose-built range, the following is a guide to range layout:

It is recommended that the space being used should be split into two main areas, a 'Waiting' area and a 'shooting' area.

The exit/entrance must of course be at the opposite end to the wall on which the targets are mounted.

### Protection of walls, windows, etc

These can be easily protected by hardboard, but ideally you will want to prevent pellets from bounding back even a short distance. In this case, a curtain of canvas or similar material which is just allowed to hang loosely rather than being stretched will absorb all of the energy of the pellet without allowing it to penetrate.

Diagram ref 1 Pellet catchers

Diagram ref 2 Firing Point

Diagram ref 3 Barrier

To prevent other approaching shooting area while shooting is in progress, this barrier is set 4 feet behind the firing point.

It can be seen that any sufficiently-sized room or classroom can quickly be turned into a tailor-made range, by repositioning tables and chairs, covering windows etcetera, and using desks or even string as a barrier. Always make sure a sign is displayed outside the room saying "Caution-Shooting in Progress" and of course, that any other entrances to the room can only be opened from the inside.

# SUGGESTED RANGE LAYOUT

WAITING AREA

'READY' AREA

RANGE  
OFFICER

4 FT

FIRING LINE

2

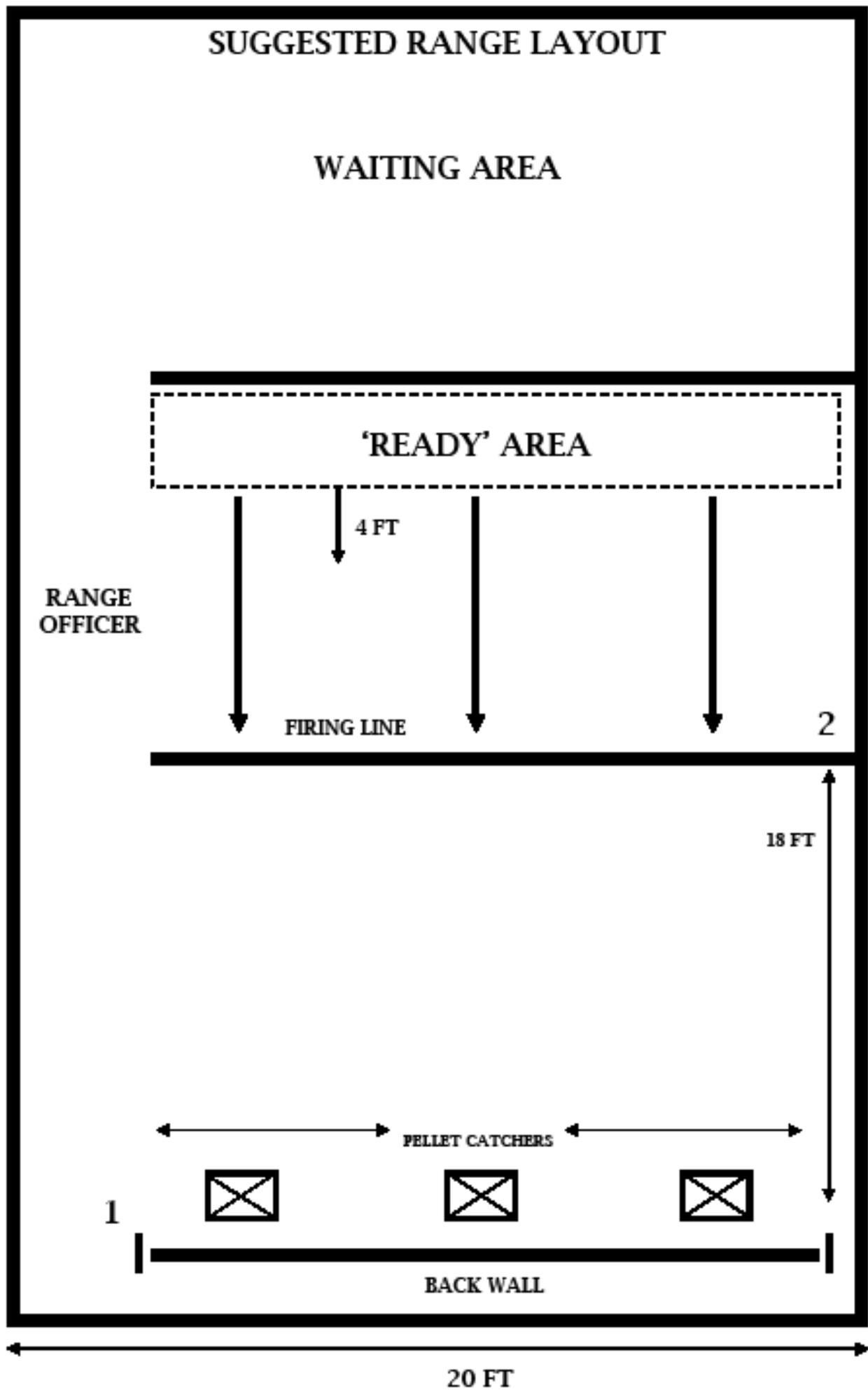
18 FT

PELLET CATCHERS

1

BACK WALL

20 FT



## CLEANING AND CARE OF AIR GUNS

Air guns must be regularly cleaned and protected to ensure that their accuracy, and therefore their value, is maintained for long periods.

What happens each time you fire is that the air gas pressure forces the thin rear edge of each slug against the wall of the barrel, forcing the "sealing" lip onto the rifling grooves. This causes heavy friction between the lead of the slug and the steel of the barrel. Even mirror finish barrels have microscopic pores, and these become smeared with lead. Once lead has been deposited it builds up to form a fine coating, which gradually starts to affect the accuracy of the gun.

As a further danger, although barrel steels are generally good, they are not completely corrosion resistant. Temperature changes can cause condensation to form in the barrel, and this can lead to rusting. This also applies, of course, to the other metal parts of the gun.

What can be done about this? Firstly, keep the barrel clean, and then protect the inside of the barrel and all the other metal components with a thin film of light oil. Wipe metal work after use as fingerprints are corrosive.

Because of the small calibre, it is quite difficult to clean the barrels with push rods, brushes or cotton waste, and these methods can also damage the mouth of the barrel. It may even be impossible on guns with barrels, as a push rod should never be inserted through the mouth of the barrel.

It is recommended that VFG QUICK CLEANING FELT PELLETS are an efficient way of cleaning barrels quickly, cleanly, reliably and safely. These pellets are simply inserted in the barrel and fired in the same way as normal pellets. When they are fired, the pressure builds up rapidly in the barrel, compressing the felt. This effectively forces the felt pellet to try to increase its diameter, forcing it hard against the wall of the barrel produce the large amount of friction required. The felt pellets are therefore forced into the grooves and follow the rifling, thus cleaning and polishing the whole of the barrel.

NOTE: When shooting VFG QUICK CLEANING PELLETS, the rifle must be pointed down the range when they are fired, "Felt pellets" like these can cause injury at short ranges.

## RANGE SAFETY

1. It is most important that at all times you must obey the command of the Range Officer.
  - a) No one may enter or leave the range without permission.
  - b) Never point a gun in any direction other than down the range whether loaded or not.
  - c) Never pass on a gun that is loaded.
  
2. When told to forward into position no one will handle the rifle until authorized to do so.
  - a) Check down the range to make sure that you are on the correct firing point and your target is in position.
  - b) After you are sure that you are on the correct firing point and your target is in position and check that the rifle is un-cocked and the SAFETY CATCH is ON.
  
3. The RANGE OFFICER will then ask "IS EVERYONE READY" if you are not ready for whatever reason. Raise your arm and call "NOT READY" and your TARGET NUMBER.
  - a) The range officer will investigate to find out what the difficulty is, when corrected, the range officer will say "EVERYONE READY".
  - b) The rifle will be cocked and loaded by a loader appointed by the range officer.
  
4. Take the loaded rifle and commence firing when range officer gives the order.
  - a) Always listen to the range officer at all times.
  - b) When everyone has completed shooting the range officer gives the command "CEASE FIRE" the command is then given "MAKE SAFE ALL RIFLE" the range officer or assistant will ensure that all rifle are safe.
  - c) At the end of firing, the rifle is placed on the floor by the side of the cadet with its SAFETY CATCH ON.
  - d) The range officer will order the cadet to move away from the firing line having ensured that the rifle has been made safe i.e. Discharged and unloaded.
  
5. After having ensured that all rifles are safe the command "CHANGE TARGETS" is given.
  - a) After the targets have been changed the command "NEXT DETAIL" is given and the commands repeated for the next detail.

## LESSON 1

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### RULES FOR THE SAFE HANDLING OF AIR GUNS

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1. NEVER point the barrel of the gun at any living thing, make sure that it is ALWAYS pointing in a safe direction.
2. Treat every gun as though it were loaded, never accept anyone's word for it, and ALWAYS check it for yourself.
3. NEVER point a loaded gun anywhere but down the range toward the target.
4. NEVER carry a loaded gun around with you.
5. NEVER touch the trigger until you can see the target in your sights.
6. If you are on the range and something goes wrong with your gun, put it down with the barrel pointing down the range and raise your hand to call the Range Officer.
7. ALWAYS obey the instructions of the Range Officer IMMEDIATELY.
8. NEVER load more than one pellet at one time in your air rifle.
9. When loading make sure that your gun always points down the range.
10. Know your gun and ammunition. You must know how your gun works before you use it.

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### THE AIR RIFLE WITH ITS AMMUNITION

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- Air rifles are spring operated air guns. By squeezing the trigger a spring is released which forces an air tight valve forward to create a rise in air pressure to propel the pellet from the rifle, much in the same way as air is expelled from a bicycle pump.
- Remember to treat the gun with respect and always keep the barrel pointing in a safe direction.
- The ammunition used for target shooting is .177 of an inch diameter lead pellets. These flatten on impact with a metal object. They are perfectly safe for paper target shooting but should never be fired deliberately at any surface that they may rebound, i.e. water, tin cans etc. When not in use always keep the pellets in the container in which they are supplied.

The sequence of firing is as follows:-

1. Keep the barrel pointed down the range; cock the gun by pulling the lever until it clicks or "breaking" the barrel (depending upon the type of rifle).
2. Place the air pellet into the chamber, "head" first.
3. Return the lever to its original position or straighten the barrel. (Points (b) and (c) may be reversed depending on the type of rifle used.)
4. Sight up on to the target.
5. Squeeze the trigger when you are ready.

REMEMBER NEVER PASS ON A GUN THAT IS LOADED

NEVER POINT A GUN IN ANY DIRECTION OTHER THEN DOWN THE RANGE WHETHER  
LOADED OR NOT.

## LESSON 2

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### LESSON OUTLINE

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- Finding the dominant eye.
- Sighting and aiming.
- Range procedures.

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### DOMINANT

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The dominant eye or master eye theory is based upon the fact that one eye focuses indirectly on a given object.

Each person has a master eye, which looks directly at objects. It is important that you shoot from the same shoulder as your master eye, if you have a right master eye you should shoot from your right shoulder. If your master eye is the left eye you should shoot from the left shoulder.

What we need to do now is to find out which of your eyes is the master eye.

With your arm extended and both eyes open point one finger at an object 6' to 8' in front of you.

Now close your right eye. Now close your left eye. Did you see the object move?

If when you closed your right eye the object appeared to move, then you should shoot from the right shoulder. If, on the other hand, the object moved when you closed the left eye you should shoot from the left shoulder.

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### SIGHTINGS

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Now that we know which our master eye is, the next thing to learn is to sight the gun. We must learn correct sighting in order to shoot safely to enable you to hit the target you are shooting at. There are three types of sights available to use. See sighting chart.

It is important that as far as possible the sight picture you see before squeezing the trigger is similar to the one that is in column 4 of the chart.

# SIGHTING CHART



Peep Rear Sight



Aperture Front Sight



Post Front Sight



Proper Alignment



Proper Sight Picture



Open Rear Sight



## LESSON 2

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### RANGE PROCEDURE

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It is most important that at all times you must obey the commands of the Range Officer. Even if you are in the middle of shooting, if you are instructed to cease fire you must do so immediately and make your gun safe before standing back from the firing line.

Your tutor will divide you up into groups depending upon how many firing points are available for use.

On the command "First detail to the firing line" the first shooters will move forward into position. No one will handle the gun until authorised to do so.

The Range Officer or Tutor who is in command will say "Get ready".

Check down the range to make sure that you are on the correct firing point and your target is in position. After you are sure that you are on the correct firing point and target is in position you may handle the un-cocked gun while getting into position.

At the end of the preparation time the Range Officer will then ask "Is ever one ready?" If you are not ready for whatever reason raise your arm and call "not ready on target number..." If a shooter is not ready the Range Officer will investigate to find out what the difficulty is and when the situation has been corrected the Range Officer will say "Everyone is ready".

After a short pause the Range Officer will give the command "Commence firing".

Firing begins and continues until the number of shots indicated has been fired.

At the end of firing, the guns are placed on the ground at the side of the cadet, who may retire from the firing line having ensured that the gun has been made safe, i.e. discharged and unloaded.

When everyone has completed shooting the Range Officer gives the command "Cease fire". The command is then given "Make safe all guns". The Range Officer or his assistant will ensure that all guns are safe.

After having ensured that all guns are safe the command "Change targets" is given.

After the targets have been changed the command "Next detail" is given and the commands repeated for this detail.

## LESSON 3

### LESSON OUTLINE

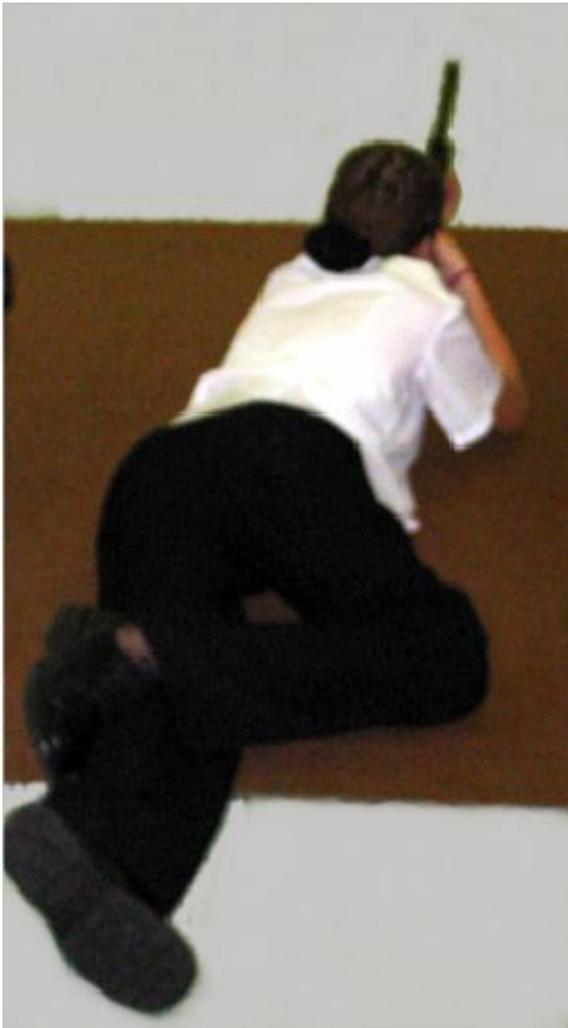
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1. The Prone Position
2. Breathing techniques and Trigger Squeeze

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#### 1. THE PRONE POSITION

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#### 2. BREATHING AND TRIGGER SQUEEZE CONTROL

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The breathing routine is very important.

Watch the foresight move up and down across the aiming mark as you breathe in and out. When you hold your breath the movement stops.

Take a deep breath in and let out half, settle and feel relaxed. If the sight picture is right, gently squeeze the trigger. After the pellet has left the rifle count to three (follow through) and start breathing normally again. Do not hang on—if it is not right, don't fire the shot. Rest, and start the routine again.

Just as important as breath control is trigger control. The trigger should be squeezed using the first joint of the first finger. This trigger squeeze is a steady pull on the trigger straight back towards the eye of the shooter. If the trigger is jerked or squeezed quickly the shot will be pulled to the right of the 10 ring.

## LESSON 4

For the next three lessons you will be paired up with each other, one person shooting the other assisting.

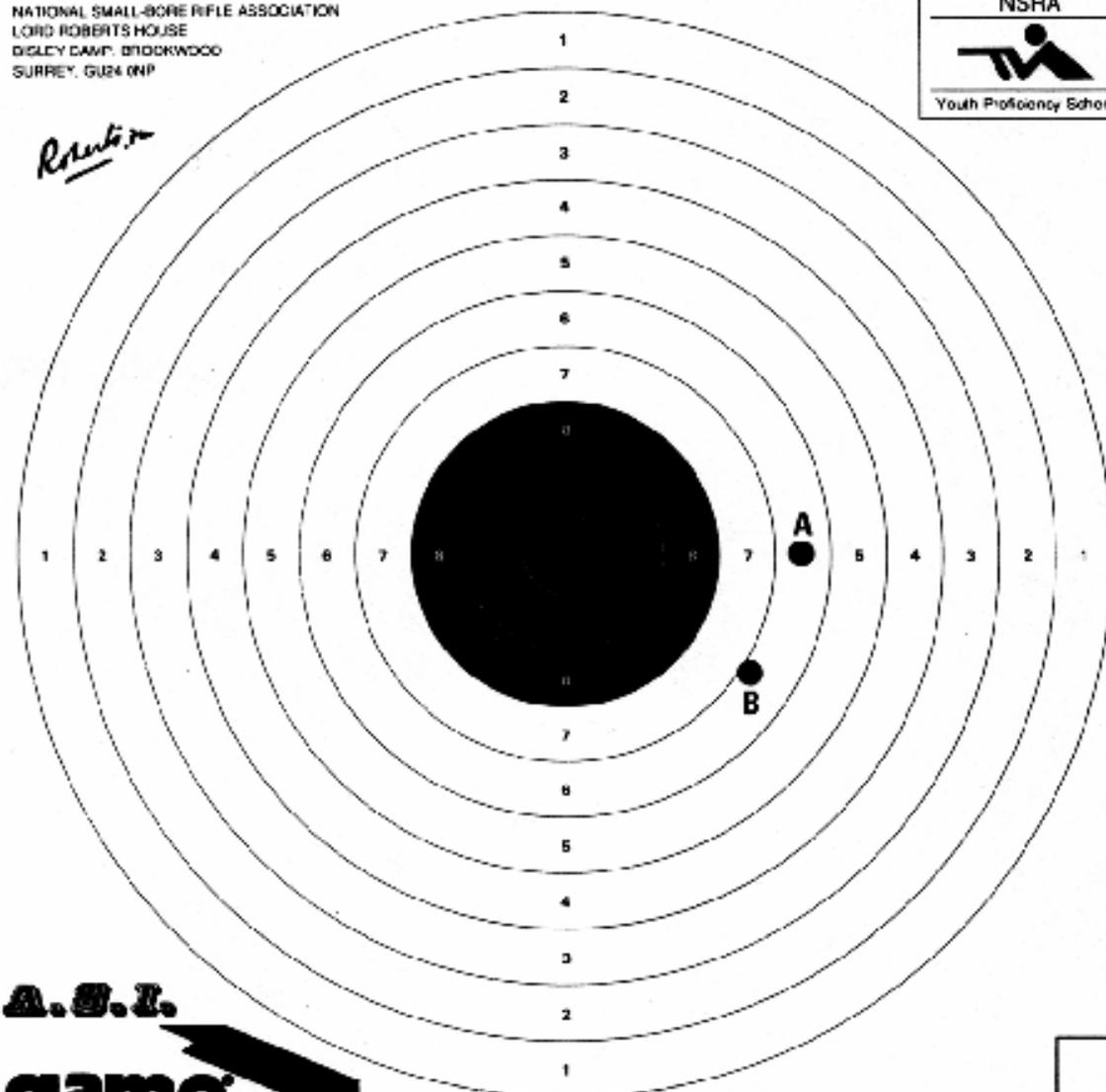
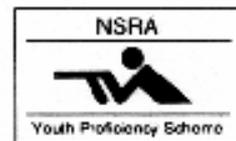
The first person is the shooter. His job is to shoot at the target. Do not forget what you have been told in Lessons 1 to 3.

The second person is the spotter, standing facing the shooter. The spotter's job is to spot whether the target has been hit, the spotter will call out the hit using the number of a clock, for example target (see below). You will call 3 o'clock for a hit here (shot "A"). The spotter will also count the number of shots that have been fired.

When person number 1 is finished shooting you change position with person number 2, but only when given permission by the Range Officer.

NATIONAL SMALL-BORE RIFLE ASSOCIATION  
LORD ROBERTS HOUSE  
DISLEY CAMP, BROOKWOOD  
SURREY, GU24 0NP

*Robertson*



**A.S.I.**  
**gamo** 

SCORE

## LESSON 5

### LESSON OUTLINE

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1. Adjusting the rear sight to obtain better scores.
2. How to score targets.

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#### 1. ADJUSTING THE REAR SIGHT TO OBTAIN BETTER SCORES

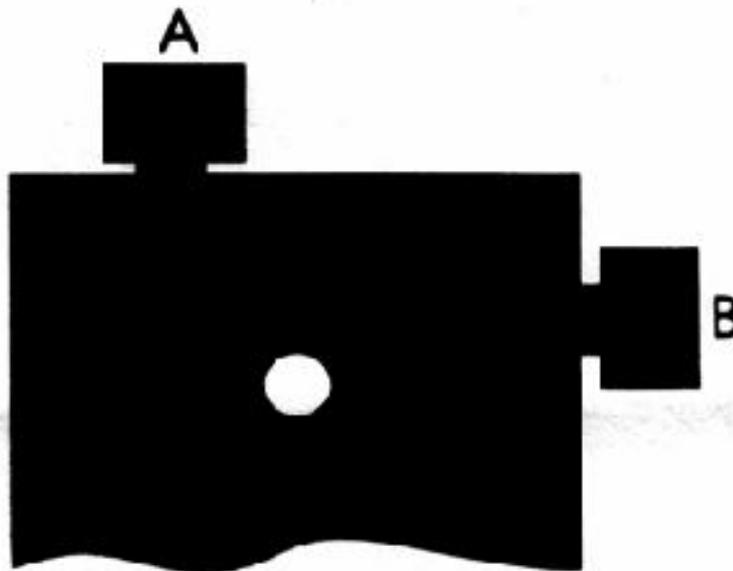
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Before adjusting sights check "body aim" first.

If your rifle has an adjustable rear sight it is possible to move the point of impact on the target by turning the knob provided on the side.

If your pellets are consistently to the right of the 10 ring turn knob B clockwise (or anti-clockwise) and if to the left turn anti clockwise (or clockwise). Similarly, if your shots are high turn knob anti clockwise (or clockwise) and if they are low turn the clockwise (or anti clockwise). After having made an adjustment fire some more pellets to see if your adjustment is sufficient. Continue until you have a central group.

If your sights are not adjustable you will have to aim off to compensate. Only practice will determine how much.



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## 2. SCORING OF TARGETS

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You should know how to score the target correctly.

Each ring of the target has a value. Naturally we all want to score 10 each time we shoot but many times we do not get that 10.

You will note that each ring is worth so many points as marked on the target.

The ring in which your pellet strikes tells you what your score is for that shot. If the pellet strikes in the 6 ring you get 6 points. Scoring shots that fall completely inside a ring give you no problem, but for shots that touch a ring, you will be awarded the score for the higher ring that the shot hole touches, e.g. in the diagram on page nine you will score a 7 (shot "B").

Another problem arises when the shot is close to the next highest ring but you are not certain that it actually touches it. What must be done in this instance is to use a scoring gauge or use a pellet. When this gauge or a pellet is placed in the hole on the target it can be seen whether or not the target it can be seen whether or not the hole clearly touches the scoring ring.

Practice scoring targets fired by you and your friends.

## LESSON 6

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### LESSON OUTLINE

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1. How to set up a SAFE range.
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#### HOW TO SET UP A SAFE RANGE

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It is important when you are taught how to set up a range that you are not trying to beat a time. The purpose of the exercise is accuracy and safety.

Ensure that the target holders are properly secured to the wall. Make sure that any doors or windows are properly secured and covered.

Ensure that there is a barrier behind the firing line to keep back spectators and persons waiting to shoot.

Lay out the air rifles on the firing line ensuring that they are in a "safe" condition.

Having set up the range check with a colleague to make sure that nothing has been overlooked.

You will, under the direction of your Tutor, be given the opportunity of issuing range commands as in Lesson 3.

## LESSON 7

### PROFICIENCY TEST

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A simple questionnaire test covering a few of the items of information covered in the course. Answers are in the form of TRUE or FALSE, against each statement, and you are asked to select ten statements from this list. Cadets must get at least seven answers correct to pass, and they must pass this in order to get a proficiency badge. They may repeat it in Lesson 8 if they fail it this time.

#### ANSWER SEVEN STATEMENTS OUT OF TEN

1. A person under the 14 may not be given or own an air gun?
2. An airgun cannot be loaded, or carried about in a loaded state, in any public place?
3. There is nothing wrong with carrying an unloaded airgun without a cover, as long as people can see that it is not loaded?
4. A person over 14 and under 17 may buy an airgun?
5. If you had a loaded airgun in your possession without being legally allowed to and with no reasonable excuse, you would be liable to 5 years in prison or a fine or both?
6. You need to obey the range officer whenever you are actually shooting?
7. Most people have a master eye?
8. If you are left handed your left eye will be your master eye?
9. To adjust your sight or aim, simply look at where your last shot went and move your sights or your aim in the opposite direction?
10. The target has ten scoring rings worth 1 to 10 points and the maximum score for ten shots is ten tens?
11. Breathe control and trigger squeeze are very important for getting good scores?
12. You should breathe in and hold your breath while aiming and firing?
13. Air guns are not so dangerous as other guns and do not need the same care when using them?
14. It is safe to shoot at water?
15. The most dangerous part of the gun is the trigger?
16. Air rifle shooting is an Olympic sport for which Great Britain has won a medal?
17. You must never point a gun at anybody if it is loaded?
18. You may go forward of the firing line while shooting is in progress if you tell the range officer beforehand?
19. You may only go forward of the firing line when the range officer tells you to do so?
20. The governing body for airgun shooting in Great Britain is called the N.S.R.A?
21. As soon as you see the right sight picture, pull the trigger as fast as you possibly can?
22. It is illegal to have any airgun with more than a certain amount of power, unless you have a licence for it?

23. It is illegal to shoot wild game with any airgun unless you have a licence for it?
24. Airgun pellets are shaped the way they are so that they cannot harm anybody if they are hit by accident?
25. Never shoot an airgun at water because the pellet may bounce off it?
26. You must fire more than two shots before rear sight or aiming adjustments are made?
27. If you think someone is acting in an unsafe way on the shooting range, don't say anything but wait for the range officer to spot it?
28. It is against the law for you to supervise someone under 14 shooting an airgun unless you are over 21?

After completion of the test, continue with shooting procedure described in Lesson 4.

## LESSON 8

In this lesson you will shoot 20 shots, 5 each at four targets. After your shot score your targets and have the score recorded on your score sheet, add in the number of points obtained from your written paper that you completed in the last lesson to arrive at the grand total. The proficiency badge that you have won is in accordance with the score you have obtained and is listed below.

Score 125 to 149 - Marksman.

Score 150 to 174 - Marksman Second Class.

Score 175 and above - Marksman First Class.

If you are not successful in obtaining a score of at least 125 you may have a second try at shooting a further 20 pellets provided that you have at least 7 out of the 10 questions correct on your written paper.

If you did not obtain 7 marks out of 10 on your written paper or wish to try for a higher standard badge qualification you may take your written and practical test again.