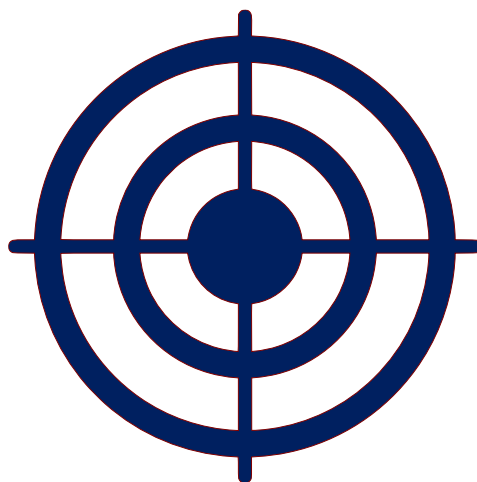




PONY CLUB
QUEENSLAND

Coaching Aid
“Precision Shooting”
(Tetrathlon)



Precision Shooting document written and compiled by Guy Clare

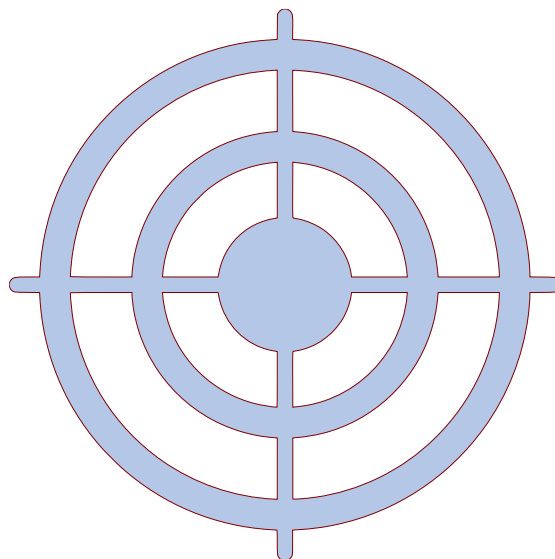
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Pony Club Queensland acknowledges Guy Clare's contribution to the drafting of this document.

PRECISION SHOOTING

Lesson 1:

BACKGROUND – Basic Rules of the Competition

1. There are 3 Age-Groups in Pony Club Tetrathlon Official competitions, relating to 1st January in the Year of the competition: -
 - a. Sub-Junior (SJ): >10 years to <13 years
 - b. Junior (Jnr): 13 years to <17 years
 - c. Senior (Snr): 17 years to 26 years
2. There are effectively 2 styles of shooting: 2-handed or 1-handed
 - a. SJ may use a 1-handed or 2-handed technique
 - b. JNR & SNR MUST use a 1-handed technique
3. There are 2 Official distances, measured from the front face of the target to the back edge of the table at the firing point: 7m or 10m
 - a. SJ shoot from 7m
 - b. JNR & SNR shoot from 10m
4. In the act of raising the pistol and releasing a shot, the shooter may NOT touch the table with any part of their body
5. The Competition is split into 3 stages: Preparation time (up to 5 mins); 1st Competition Series of 5 shots (2 mins), 1-2-minute break and then the 2nd Competition Series of 5 shots (2 mins). Therefore, the two-competition series gives a total of 10 shots, with each shot counting towards an overall score
6. The maximum single shot score is 10.9, the minimum 0. Therefore, the maximum 10 shot score is 109. The score the shooter achieves is then multiplied by 10 to give their tetrathlon shooting phase score e.g. a shooter who scores 75.9/109 receives 759 tetrathlon shooting points
7. Shooting 5 shots in 2 mins gives an average of 1 shot every 24 sec. This is plenty of time. In other words, the tetrathlon shooting discipline is precision shooting where time for a shot is less of a critical aspect compared to the overall accuracy

RANGE SAFETY – ‘The 3 MUSTS’

It is very important to ‘control’ the range. In essence pistols are to be treated as though they fired projectiles. The following points should be borne in mind: -

1. The pistol MUST NOT be touched by a shooter until instructed to do so
2. The barrel MUST ALWAYS be pointing ‘down range’ towards the target. This applies to when the pistol is on the table or under the control of the shooter
3. On the command “STOP” all shooters MUST stop and place their gun on the table and take 1 step back from the table

LESSON 1 – The Importance of Groups and ‘Learning to *FRT*’

1. Organise your shooters into the correct Age-Groups
2. The first thing to understand is that simply trying to hit the target is quite difficult when first starting to learn to shoot. I would therefore recommend that you lower everybody’s shooting expectation in respect to hitting a ‘10.9’ (the maximum achievable score with a single shot) and say that to hit the target and record a score is very good
3. A very important aspect in learning to shoot is consistency in terms of the overall mechanics that go into firing the pistol. REPEAT THE SAME THING OVER AND OVER AGAIN. Better shooters have their shots closer and closer together. Initially it doesn’t matter if this isn’t around the ‘10’ as the sights can be altered to bring the group into the ‘10’ ring. Shooting a ‘group’ is very important. It is far better that Shooter 1, shoots 5 shots, each scoring a 6 as opposed to Shooter 2 who shoots 2x 10 with 2x 4’s and a ‘2’. Both scores achieve 30, but the group is far better with Shooter 1. Shooter 1’s consistency is better, and they are likely to progress far quicker than Shooter 2. Therefore, in this lesson impress upon the shooters that the shots should be closer together as opposed to wide apart
4. I would recommend that the distance to target from the back edge of the table be halved when starting to teach shooting
5. Teaching the ‘**FRT**’ SYSTEM: This is the MOST IMPORTANT aspect in learning to shoot accurately. The human eye is only able to have 1 object in sharp focus at any one time. In shooting there are 3 objects: the target, the front sight and the back sight. Correct shooting sight picture occurs when the **F**ront **S**ight is in the sharpest focus, this should sit at the same height as the **R**ear sight with the same amount of light either side. The object that is the most out of focus and often actually blurred is the **T**arget. For MOST people this is counter intuitive. They want to hit the target and therefore have the target in sharpest focus. This creates a far greater margin of error (reduced accuracy) than having the correct sight picture of front sight, rear sight, target arrangement (**FRT**). The sights can be set so that:
 - a. If the correct sight picture is held at the centre of the target, the shot hits the centre of the target. This is termed ‘point of aim’ shooting
 - b. If the correct sight picture is held below the centre of the target, at the black / white junction, the shot hits the centre of the target. This is termed ‘6 o’clock hold’
 - c. If the correct sight picture is held below the centre of the target, in the white area, the shot hits the centre of the target. This is termed ‘SUB 6’
6. PCAQ laser pistols are mostly set to be ‘point of aim’ shooting as it was felt that this was more intuitive in teaching the basic shooting techniques. The reason why more experienced shooters choose ‘6 o’clock hold’ or ‘SUB 6’ is because it helps when trying to create contrast i.e. the black front sight is contrasted against a white background with these 2 styles as opposed to black sights contrasted against a black background in ‘point of aim’ shooting.

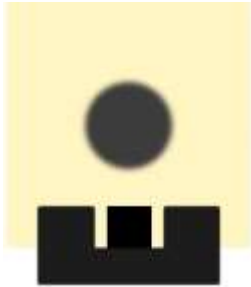
DIFFERENT SIGHT PICTURES: FRONT, REAR, TARGET 'FRT'



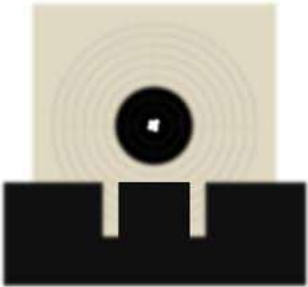
'Point of aim'



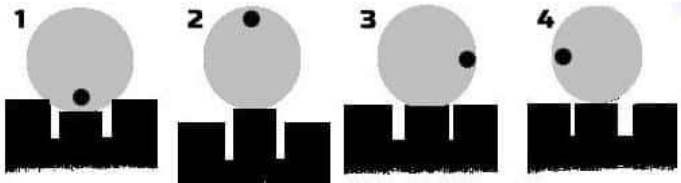
'6 O'clock hold'



'Sub-6'



'Sub 6, FRT, hits the Bull'



COMMON ERRORS WITH SIGHT PICTURE & THE SHOT RESULT

PRECISION SHOOTING

Lesson 2:

RECAP – LESSON 1: Groups & 'Learning to FRT'

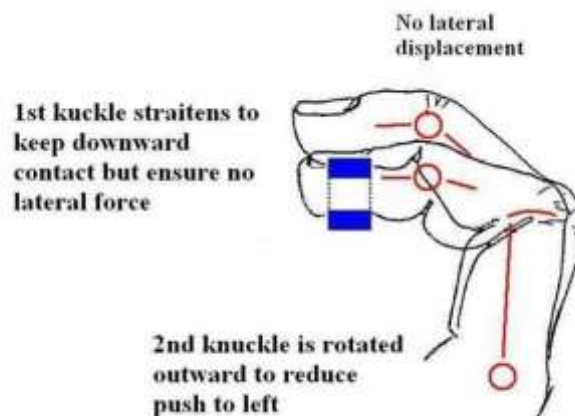
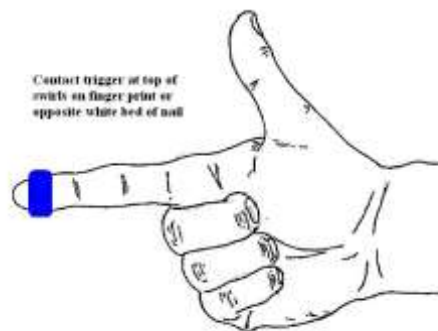
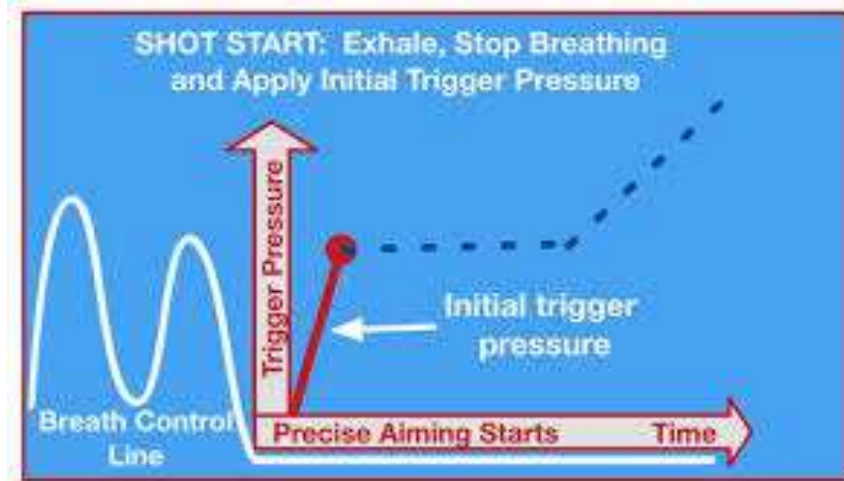
8. If a shooter is consistent in their shooting, then the shots should be close to one another. This is termed forming 'groups'. If a shooter can do this, then the sights can be altered to bring the group closer to the centre of the target and therefore maximise the score
9. 'Learning to FRT': the human eye can only hold 1 object in sharp focus, yet in pistol shooting there is the target, the front sight and the rear sight. The shooter should have the **F**ront sight as sharpest, then the **R**ear sight and then the **T**arget. This is known as the 'Learning to FRT'.

LESSON 2 – BREATHING and TRIGGERING: 'Learning to BaT'

7. The shooter needs to breathe IN as they raise the pistol, OUT as they 'settle' and bring the sight alignment onto the target to form the sight picture. The shooter then needs to HOLD their breath as they release the shot:
 - a. Sight alignment refers to the relationship between the FRONT sight and the REAR SIGHT (remember **F**ront sight in sharpest **F**OCUS).
 - b. Sight picture is when the sight alignment relates to the target i.e. whether the sights have been set for: 'Point of aim'; '6 o'clock' or 'Sub-6'.
8. The above can be practised 'On-Command': -
 - a. On the command 'IN' the shooter raises the pistol and breathes in
 - b. On the command 'OUT' the shooter brings the correct sight alignment onto the target to create the correct sight picture
 - c. On the command 'HOLD' the shooter can release the shot
9. Triggering refers simply to the action of the pointing finger on the trigger that results in the release of a shot. What needs to be borne in mind is that every other aspect of shooting is trying to remain as still as possible, yet the trigger finger needs to move in a controlled and smooth manner.
10. In modern pistols then the trigger can be set towards the individual shooter's preference. Most shooters use a '2-state' trigger. Here the trigger is set so that there are 2 distinct 'feels'. When pressure is applied to the trigger, the trigger moves towards the grip and it comes to a 'stop'. This is known as the 'first stage'. This serves to notify the shooter that they should absolutely concentrate on their sight picture as continued pressure after the 'stop' results in the shot mechanism activating and the shot being released.
11. Understanding the trigger mechanism for a particular pistol allows for accurate timing of the optimal sight picture and the release of the shot. This will maximise the chance of a high scoring shot.
12. The position of the finger on the trigger is very important. The middle of the pad on the last 'joint' – just in front, but opposite to the nail bed is the most sensitive area of the pointing finger and therefore the area that should be in contact with the trigger. The trigger should be drawn towards the grip by the action of flexing (bending) the second joint and NOT THE FIRST JOINT. Flexing the first joint is more likely to result in a 'pulled' and therefore 'spoilt' shot.

13. The trigger should be positioned optimally for each shooter. When the shot is released the pointing finger digit pad in contact with the trigger should be at 90 degrees to the trigger.
14. Every shooter has a 'wobble cycle', the better shooters have a smaller and tighter 'wobble cycle'. Learning to accept your own 'wobble cycle' for the stage of shooter that you are is a very important aspect to accurate shooting.

Breathing And Triggering 'BaT'



PRECISION SHOOTING

Lesson 3:

RECAP – LESSON 1: Groups & ‘Learning to FRT’

10. If a shooter is consistent in their shooting, then the shots should be close to one another. This is termed forming ‘groups’. If a shooter can do this, then the sights can be altered to bring the group closer to the centre of the target and therefore maximise their score
11. ‘Learning to FRT’: the human eye can only hold 1 object in sharp focus, yet in pistol shooting there is the target, the front sight and the rear sight. The shooter should have the FRONT sight as sharpest, then the REAR sight and then the TARGET. This is known as the ‘Learning to FRT’

RECAP – LESSON 2: Breathing & Triggering ‘Learning to BaT’

1. Breathe IN as the pistol is raised and OUT to form the sight picture and then HOLD to then release the shot
2. The pointing finger should contact the trigger at it’s most sensitive part (opposite the nail). The trigger is moved by flexing the 2nd joint of the pointing finger. The shot should be released when the trigger contact area is at 90 degrees to the trigger

LESSON 3 – Shot Release & Follow-Through: ‘Learning to RaFT’

15. Shot Release should happen when: -
 - a. The sight picture has to be optimised (‘FRT’ on the correct area of the target = the sight picture)
 - b. Triggering has moved through to the ‘stop’ between the first and second stages
 - c. ‘Wobble Cycle’ has been ‘accepted’ and minimised
 - d. Breath is being held whilst the triggering moves the trigger to 2nd stage and ‘shot release’
 - e. FULL FOCUS THROUGHOUT a., b., c. & d. should be on the FRONT SIGHT
16. Once the shot has released it is VERY important to ‘FOLLOW-THROUGH’. Follow through is the continuation of correct shooting principles once the shot has been released. This is achieved by: -
 - a. The shooter MUST continue looking ‘through’ the sights
 - b. Continue squeezing the trigger until the ‘rear-stop’ is reached i.e. where it cannot move further backwards
 - c. Exhale
 - d. Bring the arm down and release pressure on the trigger
 - e. Clear the mind and prepare for the next shot
17. This can be practised in the following manner
 - a. Explain to the shooters that it takes time for the light to travel along the barrel. The time that it takes relates to the time an air pellet would take to travel along the barrel. Therefore, movements of the pistol, prior to the light pulse leaving the barrel will ‘spoil’ the shot
 - b. Learning to ‘follow-through’ is HARD due to the intense concentration that has gone on prior to and during release of the shot. On shot release the shooter wants to immediately ‘relax’ and lower the pistol. Helping shooters learn to follow through can be achieved by: -
 - i. Only getting them to lower the pistol on your command “AAAND DOWN”

- ii. Alternatively, a 'One, Two, Follow-Through' mental trigger can be used: -
 - 1. **One** (trigger to 1st stage)
 - 2. **Two** (2nd stage & shot release)
 - 3. **Follow-Through** (maintain concentration on the sights, trigger to the 'rear-stop' & exhale)
- iii. The shooter needs to learn to '**Stay In The Moment**' during the 'Follow-Through'
- iv. Learning to continue looking through the sights, after shot-release, will allow you to '**Call Your Shot**' i.e. to describe where the shot hits the target. Initially this can be as simple as 'high', 'low', 'left' & right. It can then be refined to being able to then say which 'ring' they have hit. IT IS VERY IMPORTANT THAT AS THE SHOOTER STARTS THE JOURNEY TO 'CALLING THEIR SHOT' THEY DON'T LOOK FOR THE RED DOT ON THE TARGET. BY DOING THIS THEY ACTUALLY ARE NOT PERFORMING THE FOLLOW-THROUGH AT ALL AND STAND MORE CHANCE OF SPOILING THEIR SHOT AS THEY SHIFT THEIR EYE FOCUS FROM THE FRONT SIGHT TO THE TARGET
- v. In actual fact, if the shooter is performing their 'Follow-Through' correctly then they shouldn't see the 'red dot' on the target at all

LOTS OF SPORTS USE THE CONCEPT OF 'FOLLOW-THROUGH'



PRECISION SHOOTING

Lesson 4:

Stance, Natural Point of Aim, Pistol-Hold & Raise

RECAP – LESSON 1: Groups & 'Learning to *FRT*'

12. If a shooter is consistent in their shooting, then the shots should be close to one another. This is termed forming 'groups'. If a shooter can do this, then the sights can be altered to bring the group closer to the centre of the target and therefore maximise their score
13. 'Learning to *FRT*': the human eye can only hold 1 object in sharp focus, yet in pistol shooting there is the target, the front sight and the rear sight. The shooter should have the FRONT sight as sharpest, then the REAR sight and then the TARGET. This is known as the 'Learning to *FRT*'

RECAP – LESSON 2: Breathing & Triggering 'Learning to *BaT*'

3. Breathe IN as the pistol is raised and OUT to form the sight picture and then HOLD to then release the shot
4. The pointing finger should contact the trigger at it's most sensitive part (opposite the nail). The trigger is moved by flexing the 2nd joint of the pointing finger. The shot should be released when the trigger contact area is at 90 degrees to the trigger

RECAP – LESSON 3: Shot Release & Follow-Through 'Learning to *RaFT*'

1. Front sight Focus, sight picture optimised, breath held, 'One, Two, Follow-Through'
2. Lower the pistol, mentally prepare for the next shot

LESSON 4 – Stance, Natural Point of Aim, Pistol-Hold & Raise

1. Stance refers to the position of the shooter's body relative to the target: -
 - a. Stand with feet shoulder width apart
 - b. Weight should be equally distributed between the feet (50/50)
 - c. There should be slightly more weight on the (55%) on the ball of the foot, compared to the heel (45%)
 - d. Head is 'up' and the shooter is 'standing tall'
 - e. The non-shooting hand should be anchored to stop it moving. Either by placing it on the hip, in the waistband or in a pocket
2. Natural Point of Aim refers to the natural upwards and downwards path that is individual for every shooter. When the natural point of aim is utilised the minimum amount of muscular effort is involved in the raise. This can be found by: -
 - a. The shooter should take their stance and close their eyes
 - b. With the eyes closed the pointing finger should be raised and the head and neck (still with eyes closed) should be moved turned towards the 'shooting shoulder'
 - c. The shooter can then open their eyes and ideally the pointing finger should be in line with the centre of the target

- d. To correct the natural point of aim, the rear foot should be moved further to the same side of the error (which then rotates the point of aim to the opposite side, bringing the natural point of aim onto the centre of the target)
 - e. Finally, the process is repeated whilst holding the pistol
 - f. ONCE THE NATURAL POINT OF AIM IS FOUND, THE FEET SHOULD NOT BE MOVED. THEREFORE, THE SHOOTER SHOULD REMAIN IN THEIR POSITION FROM THE PREPARATION PHASE OF THE COMPETITION THROUGH TO COMPLETION OF THE 2ND COMPETITION SERIES
3. 'Pistol-hold' (often referred to as grip) refers to how the pistol is held in the hand. Experienced shooters will personalise their stock (grip) so as to ensure consistency with their hand position. Done properly the sights will naturally be aligned minimising the shooter's requirement to 'find' their sights during the shooting process. The key aspects to the action of holding the pistol in conjunction with the stock are: -
- a. The 'triangle of contact': -
 - i. The 'webbed' area between the thumb and the trigger finger
 - ii. The lower part of the hand just before the wrist
 - iii. The pad nearest the knuckle of the middle finger
 - iv. Think about 'holding' the pistol not 'gripping it'. I therefore prefer to talk about the 'grip' as the 'stock' of the pistol
 - b. The trigger finger should NOT touch the stock (pistol grip)
4. Raise refers to the action of raising the pistol: -
- a. The elbow and wrist of the shooting arm should be locked during the lift
 - b. The raise should take the pistol above the final aiming position and then lowered SLOWLY onto the correct sight picture. The shoulder muscles help with the fine muscle control when lowering the pistol into each shooter's ideal shot-release area. If the shooter goes below their ideal shot release area DON'T RAISE THE PISTOL, rather start the whole process again. The reason behind this point of technique is that the muscular control in lowering the pistol is far finer than the muscular control in raising the pistol i.e., muscular control is far more subtle when lowering than raising, therefore lowering is more precise and will lead to tighter groups
 - c. It is important not to lower the head whilst raising the pistol to 'find' the sights. Instead, the shooter should lower their eyes to pick up their sights

ALTERING THE PISTOL STOCK

