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# BASIC THEORETICAL ELEMENTS IN THE TECHNIQUE OF TARGET CLAY SHOOTING

11/25/20



# READY POSITION

- What is it?
  - The ready position is the starting point in the teaching of the shooting technique, it affects the performance of each athlete as it is measured to the stability of the shooter to whom it gives the option to start the movement with ease and greater control.
- Differences between Trap and Skeet:
  - In the Trap discipline, the ready position ends with the shotgun positioned on the shoulder
  - In the Skeet discipline it ends with the shotgun locked and the heel of the stock touching the strip on the shooting vest. The recoil pad should be visible below the elbow line, at hip height.

# READY POSITION

In order to define a correct ready position, it is necessary to divide its structure into different steps.

It is convenient to follow the sequence of construction of the ready position starting from the lowest part of the body and the contact with the ground and then up to the upper part of the body



# SHOOTING STANCE

- The shooting stance on the platform is essential as it is the starting point for the movement towards the clay target; a proper body posture allows the shooter to find the best possible condition to achieve a positive result.

# SHOOTING STANCE: KEY POINT

- Focus on how to perform the technical gesture to hit the target, in order to decide which is the best stance to choose
- A natural posture avoiding any muscular tension makes it possible to perform the technical gesture in a more smooth and controlled way
- Body stance directly affects the athlete's performance; the use of a natural posture, adapted to the morphological characteristics of the athlete and less energy-intensive, makes it possible for the shooter to keep a greater consistency in his/her performance, thus avoiding alternating high level performance with below average performance



# BALANCE AND STABILITY

- The stance chosen can be assessed according to two different perspectives: **balance and stability**
- **Balance** is the act of putting something or putting oneself in balance
- **Stability** is the ability to hold a balance by resisting external forces and stresses.



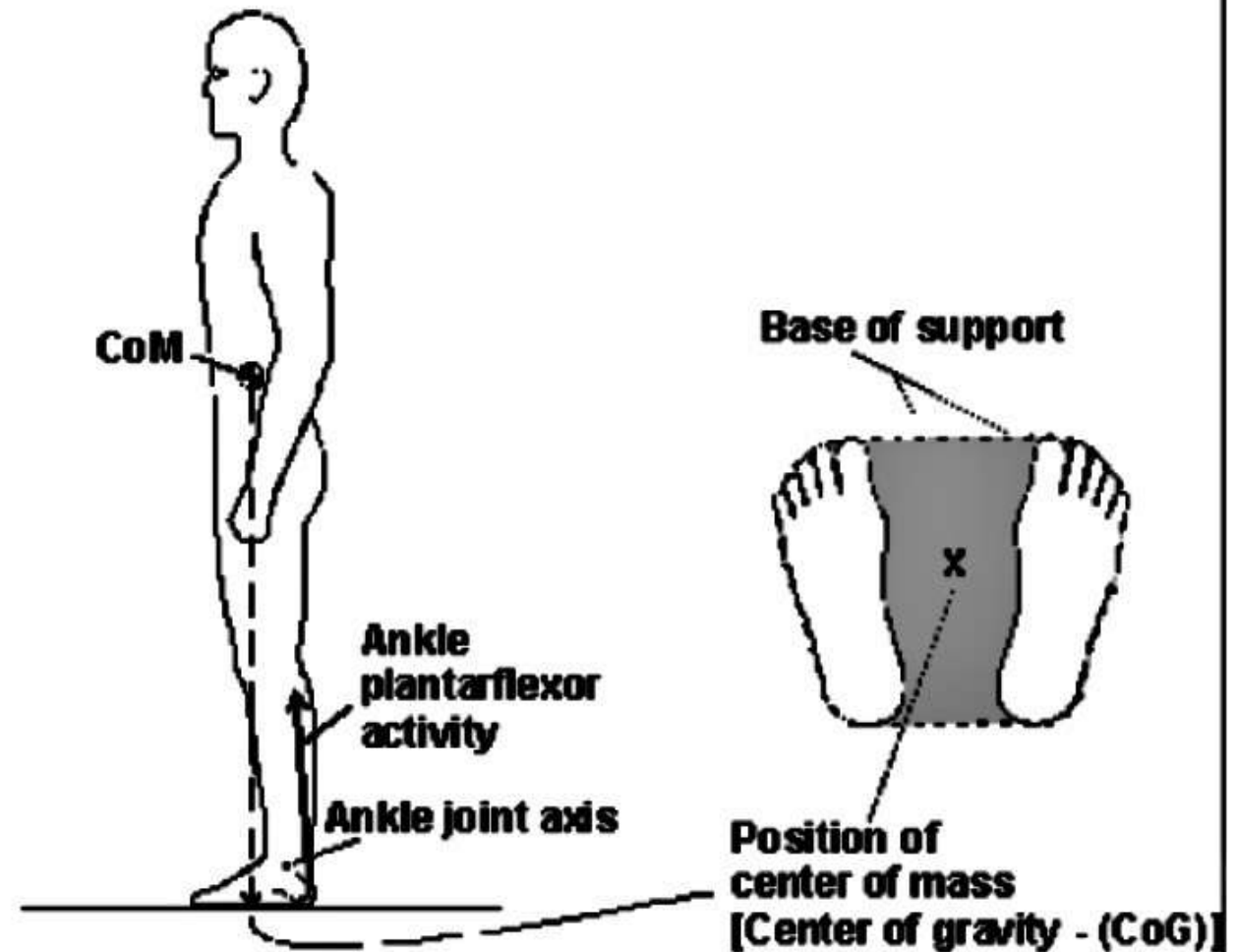
# SHOES

- They must have:
  - flat sole
  - hard rather than soft consistency
  - shape that is neither too narrow nor too wide



# CENTRE OF MASS

- The centre of mass of a system is defined as that point at which the system operates as if its mass were all concentrated at that point. In the human body system, it is the centroid of the elements of mass that make up the body (body segments).





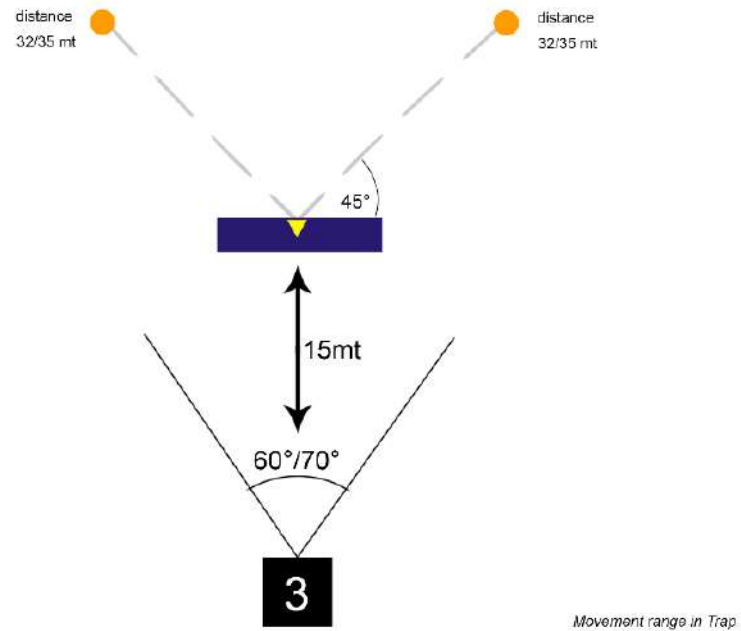
# FEET POSITION AND CENTRE OF MASS

- Center of mass in Trap and Skeet: differences?
- Distance between feet in Trap and Skeet
- Key points : balance , rotation , distance between feet

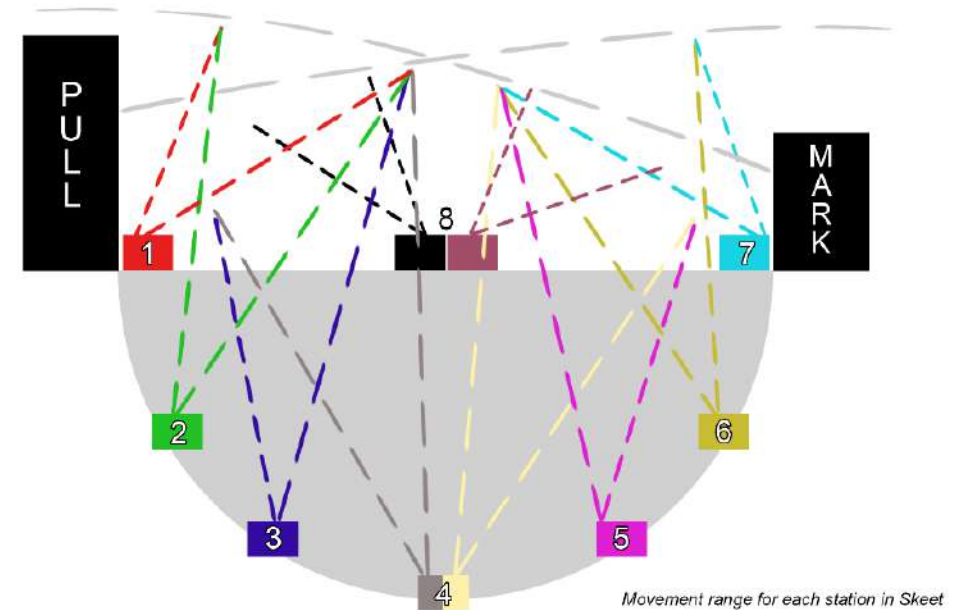
# MOVEMENT RANGE AND POSITIONING ON THE PLATFORM

- Target's flight path in Trap and Skeet is a significant element in the development of the shooting position
- How the firing position on each station should be orientated?
- Range of movement for each discipline:
  - Trap: about  $30^{\circ}/35^{\circ}$  on each side of the shooter depending on the shooting technique and time of execution, making the entire range of movement about  $60^{\circ}/70^{\circ}$  in total
  - Skeet: each station has a different range of movements according to holding point, technique and individual reaction time

# MOVEMENT RANGE



Trap



Skeet

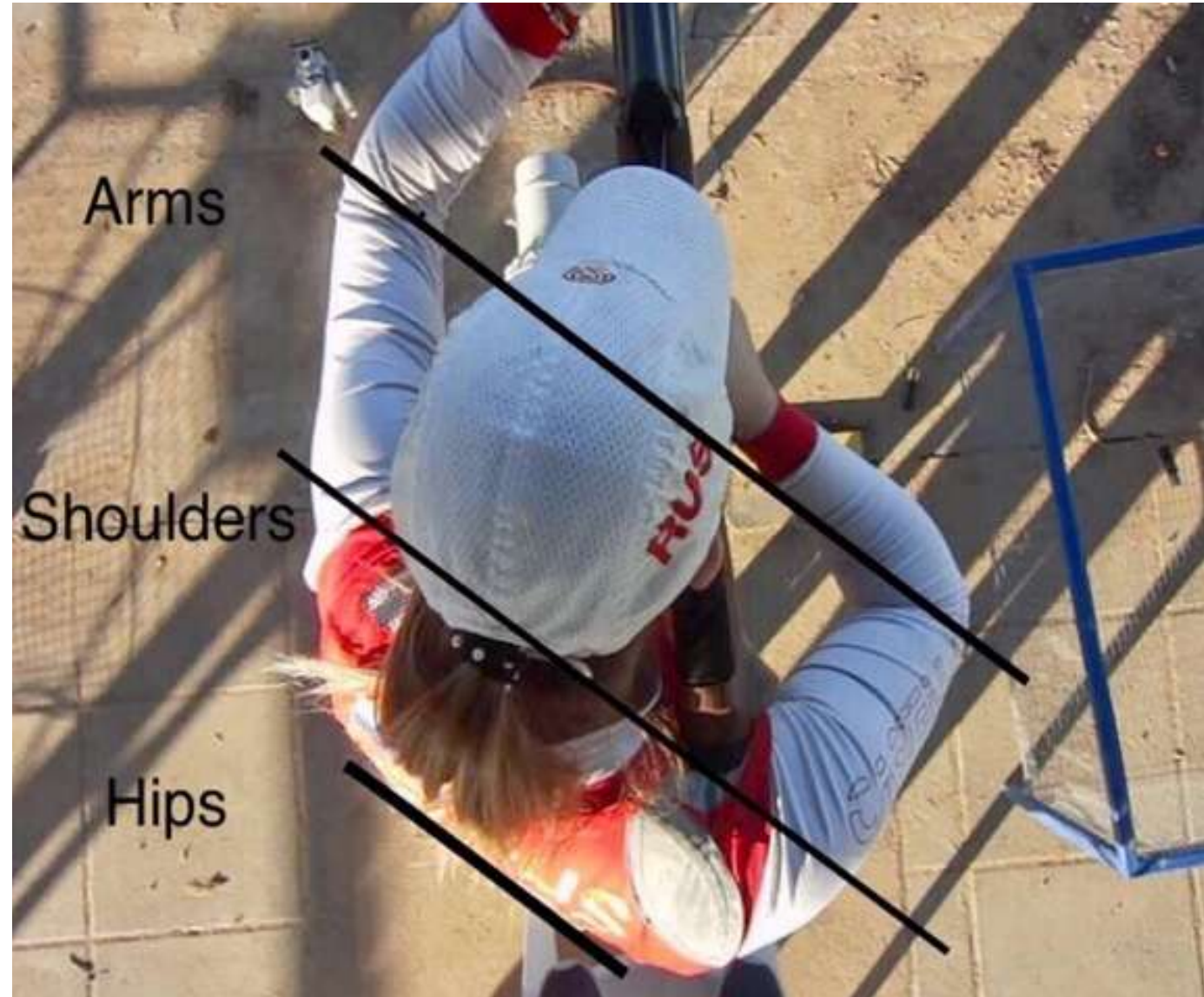
# BODY POSITION

- The position of the body is the main feature that, in addition to the correct setting of the firearm, allows the shooter to handle the recoil in the best possible way and to perform a smooth and controlled movement.
- In order to determine the body position, we will be focusing on the following parts:
  - Knees
  - Pelvis
  - Shoulders



# BODY ALIGNMENT

- The body's muscle chains must be naturally relaxed and aligned so that the technical gesture can begin with ease and with as little effort as possible, giving the shooter the ability to increase control and reduce the execution time





# KNEES

The knees play a fundamental role in order to be able to hold a correct pelvis-shoulder alignment until the end of the movement towards the clay target



# PELVIS

example of misalignment of the pelvis with respect to the shoulders and knees. in this way you will have an incorrect movement and you will feel a greater recoil

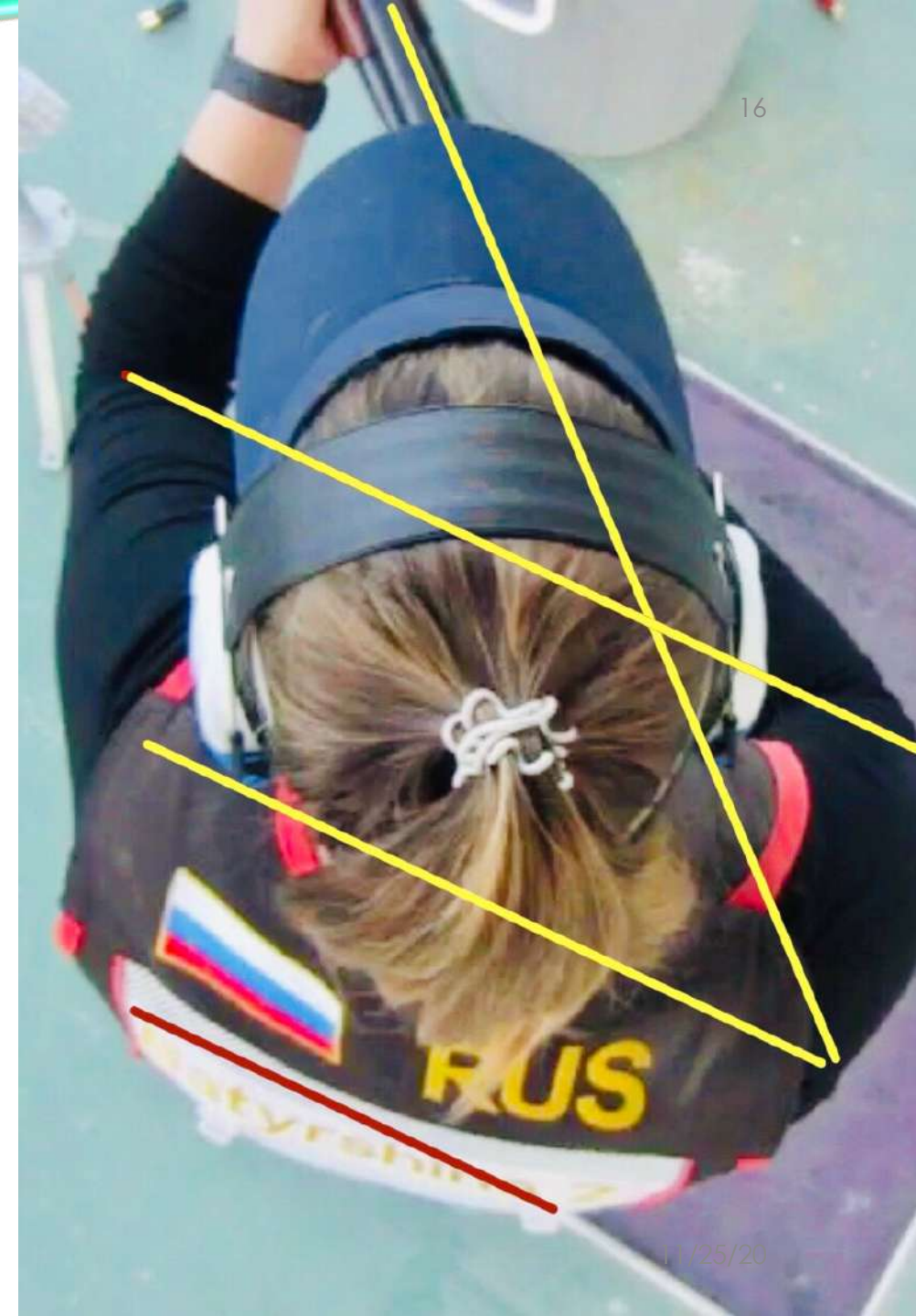


- The pelvis is the connecting link between the lower part of the body and its upper part; managing to keep the pelvis always in the same position allows to preserve the alignment between the lower part and the upper part of the body, both during the mounting and the execution of the technical gesture.
- Always pelvis and shoulder aligned!



# SHOULDERS

- The position of the shoulders must allow the shooter to achieve correct alignment with the pelvis and must also be in such a position that the angle being shaped with the gun is neither too open nor too closed.



# SHOTGUN MOUNTING IN THE TRAP

- The mounting phase in the Trap takes place before the call of the target. A good mount should allow the shooter to flex the thoracic spine and reduce the lumbar curve, as this enables the shooter to keep the alignment between the pelvis and the shoulders even after finishing the mounting phase.

# SHOTGUN MOUNTING IN THE TRAP

- The different mounting techniques can be summarized in the following 3 styles:

- Mounting from above;
- Frontal mount;
- Bottom mount.





# SHOOTING VEST

- Different type of fabric for Trap and Skeet vest (in the second one the gun needs to be locked immediately on the shoulder)
- Neckline of the vest should not be too prominent
- Pockets should be large and low to ease all the shooter's movements and give him/her the opportunity to have more cartridges with him/her



# ARMS AND HANDS POSITIONS

- The arms and hands are the parts of the body linking the shooter to the shotgun and play an important role in both mounting and moving towards the target, as they allow the shooter to hold the gun in contact with the shoulder and face, to keep a correct waiting position and to point the gun during the execution of the technical gesture

# ARMS AND HANDS POSITIONS



- It is important to determine both the position of the arms, taking into account in particular the position of the elbows and the angle that they create, and the position of the two hands, one on the fore-end and the other on the pistol grip of the shotgun.

# ELBOWS AND ARMS POSITION

- The arms should be in a 'neutral' position, with an elbow opening angle which may ease this position.
- A neutral position is a position in which the shooter should make no effort to hold it.
- The height of the elbows is best below the line of the shotgun, possibly keeping them at the same level



# HAND GRIPPING THE FORE-END



- The positioning of the hand on the fore-end should take into account several different elements:
  - the alignment with the other hand
  - the distribution of the weight of the gun as evenly as possible
  - the ability to start the movement with less effort and more control.
  - firm grip on the fore-end with all fingers fully in contact, but at the same time avoiding overly tightening it
  - the length of the stock may affect the position of the hand



# HAND ON THE PISTOL GRIP OF THE SHOTGUN

- The position of the hand on the pistol grip is fixed and is largely determined by how the pistol grip is shaped
- Custom-made pistol grip for each shooter
- The hand on the pistol grip must be in a suitable position to keep it aligned with the shooter's fore-end, avoiding a wrist 'breaking'
- A parallel alignment between the fingers of the hand and the barrels of the gun.
- Natural grip while not tightening too much, with the thumb wrapping around the stock.

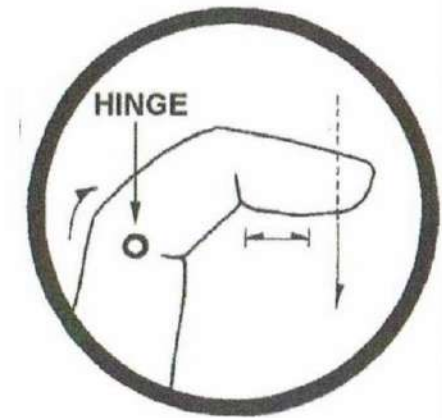


# FINGER POSITION ON THE TRIGGER

- The best position to adopt is certainly the one in which the crease between the third and second phalanx is placed on the trigger blade, with the third phalanx staying under pressure on the trigger, ready for a quick and short traction



Finger Position



# FINGER POSITION ON THE TRIGGER

An inappropriate positioning can cause :

- a delay in traction
- micro movements and/or unwanted small movements of the barrels or troubles during the second shot
- the shooter could get injured on the soft part of the fingertip.

# HEAD POSITION – KEY POINTS



- Head upright on the vertical axis in both disciplines
- Eye's line parallel to the grounds line in Skeet
- Oculocephalic reflex

- View in a direction parallel to the barrels line in Trap
- Alignment eye-rib in Trap



# HEAD POSITION: OCR

- (OCR or oculo-cephalic reflex):
  - we can define OCR as a neurophysiological link connecting eyes, vestibular system and cervical proprioception that aims at keeping the image stable on the retina during eye, head and torso movements when fixating static and/or moving objects



# HEAD POSITION

- In the Trap discipline, particularly when using an appropriate waiting position, the head is straight and the cheek is entirely placed on the stock of the gun
- Position must be reached in a spontaneous way and without forcing
- A correct movement of the head towards the stock during the mounting phase, as well as a proper setting of the shotgun, will help the shooter to achieve it effortless

# CHEEK POSITION

- It is recommended to place the cheek on the stock until it touches the cheekbone and the jaw, in order to keep a correct alignment at all times
- It is necessary to evaluate the morphological features of the shooter in order to establish which position will give him the most benefits



# EYE ALIGNMENT IN TRAP



- The visual system has to be as parallel as possible to the barrel line
- Eye aligned with rib
- Eye dominance test, first of all!!!
- The dominant eye features are:
  - prevailing central vision management
  - speed in catching the fixation on moving objects
  - higher quality perception of colours
  - eye not being aligned with the rib will create a parallax issue which will not allow the shooter to properly hit the firing area



# EYE ALIGNMENT: EXAMPLE





# GUN HOLD POSITION

- In the Trap discipline, for each position, there are 3 different trajectories:
  - identify an area within which the barrels of the gun can be set to be able to detect the path of the 3 targets (left, right and centre) always close to the tip of the barrels
  - the waiting position of the shotgun is closely related to:
    - the area of the sight,
    - type of field
    - machine features
    - crossing points

# GUN HOLD POSITION

In the Skeet discipline:

- The waiting position of the shotgun is closely related to:
  - different positions of the barrels: too high, too low , too close, too open,
  - type of field
  - machine features.

As a general rule, the tip of the barrels must be placed at the same eye level in order to be able to correctly read the flight line of the target.

To positioning on the same line of sight, the barrels must aim in the direction of the flight line of the target

# DIFFERENCES DEPENDING ON THE TYPE OF FIELD: TRAP

in a field where the clay target thrower platform is higher than the ground behind it, it is recommended to adopt a aiming near the upper edge of the platform itself,



whenever the clay target thrower platform is located at the same level or lower than the ground behind it, the shooter could also choose a 'higher barrel' pointing,



# DIFFERENCES DEPENDING ON THE TYPE OF FIELD: SKEET

- machines in a position closer to the exit gate, the target come out more violently, as the initial speed is certainly higher;
- machines in a slightly higher or lower position than the standard one: the flight paths of the targets are subject to variations.





# THE EYE HOLD POSITION: VISUAL AREA AND ACTIVE VISION

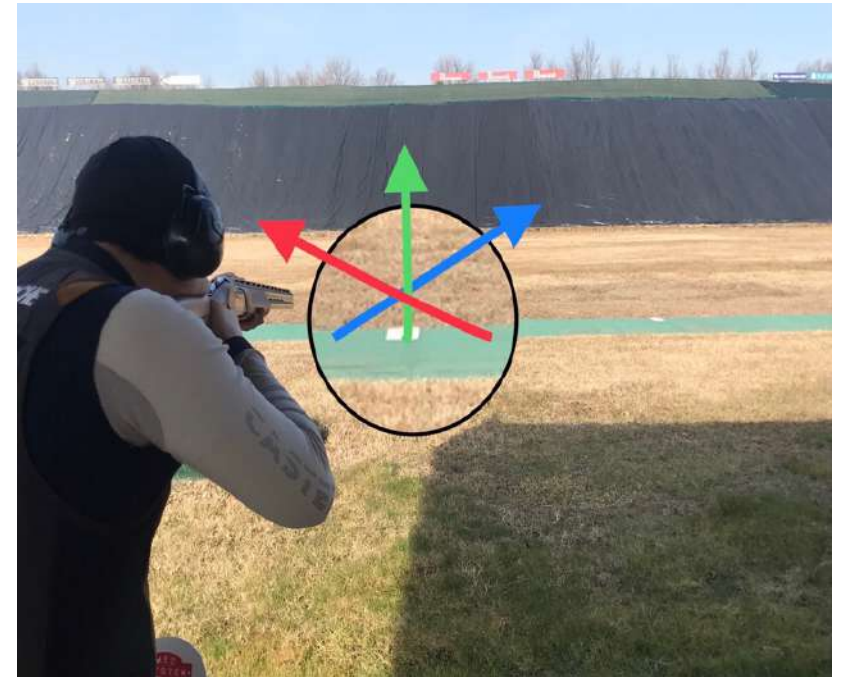
- By visual area we mean an exploration area where the eyes move through a series of short, continuous and unconscious micro-movements called "microsaccades", required for the perception.
- By active vision, instead, we mean the ability to activate the visual system characterized by a high visual attention, in which every perceptive detail of oneself and of the environment relevant to our purpose is captured, processed and memorized.

## THE EYE HOLD POSITION

- The visual area is closely related to the positioning of the barrels, the shooter needs to keep an angular distance between the gun and the eyes to ensure that he/she can have full visual control of both the target release and the tip of the gun barrels through peripheral attention.
- Peripheral attention allows to read the information related to direction, speed, depth and distance of the moving object

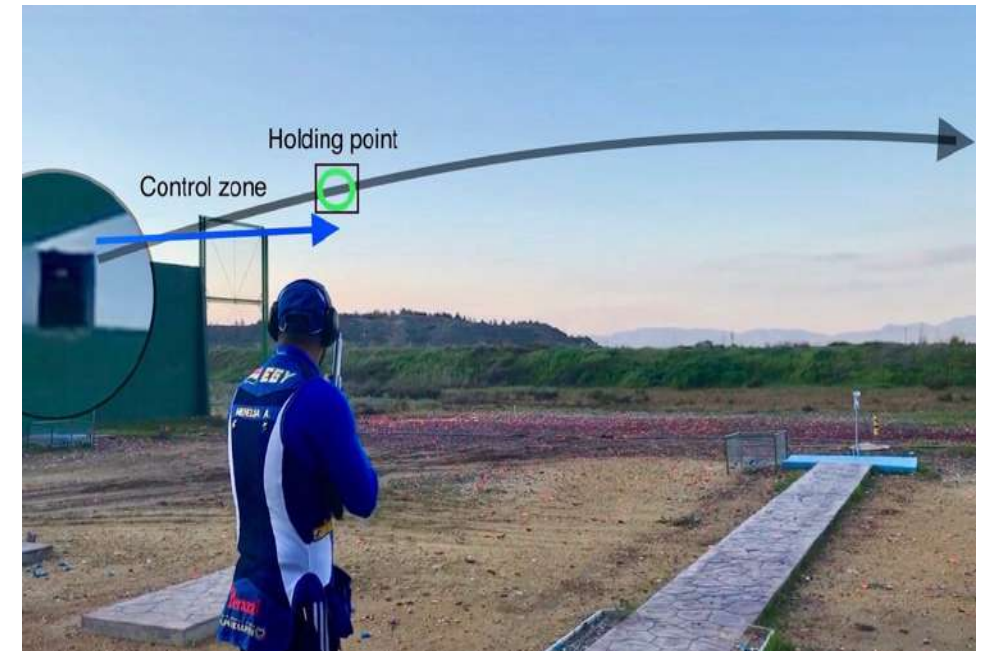
# THE EYE HOLD POSITION

- In the Olympic Trap the best area of view is certainly within the area where the clay targets cross their trajectories, it is also possible to determine an area within which the barrels of the gun can be positioned so as to be able to detect the transition of the 3 clay targets



# THE EYE HOLD POSITION

- In skeet, in order to make a correct initial movement, the shooter needs to be able to read the information coming from the target through the area defined by the cabin and the positioning of the barrels. The shooter must align the line of sight with the ipsilateral eye and hold it until the waiting position.





# METHODOLOGY OF APPROACHING AND TAKING SHOOTING POSITION

It is important to be able to approach each shooter following a well-defined methodology, in order to make the work more organized, effective and constant over time, thanks to the gradual and consistent increase of each skill!

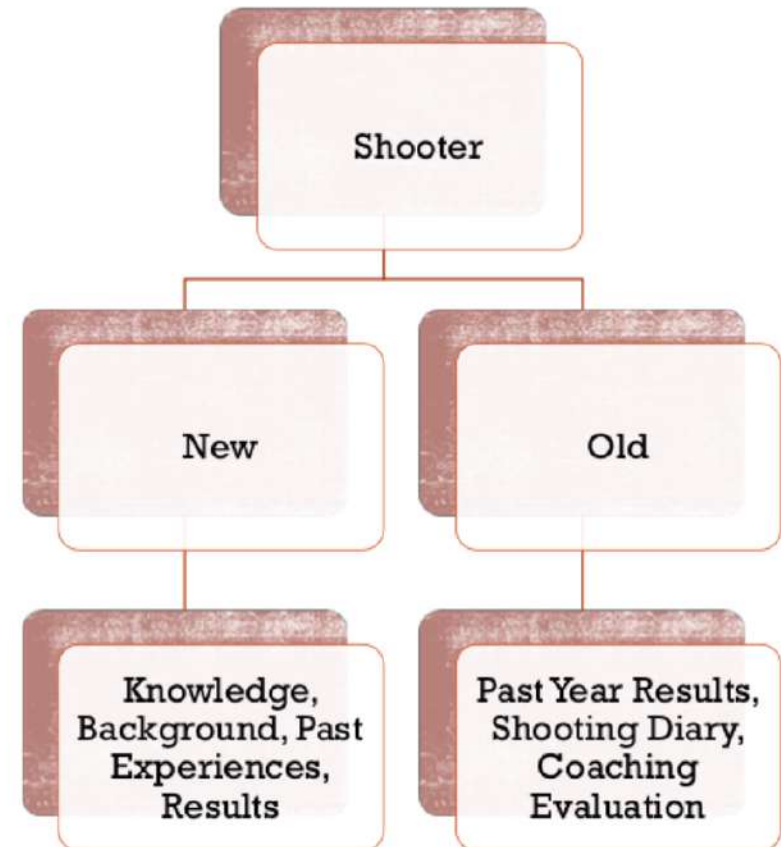
So, how to proceed in order to define the shooters' technique?

We need to follow a few simple steps:



# METHODOLOGY OF APPROACHING AND TAKING SHOOTING POSITION – KNOWING THE SHOOTER

The first step is certainly to get to know the shooter, in fact, it is possible to be dealing with a shooter with whom we have never worked or with a shooter with whom we have already worked.



# METHODOLOGY OF APPROACHING AND TAKING SHOOTING POSITION – EVALUATING THE SHOOTER



After collecting the prior information directly from the shooter, you can proceed with an assessment of his skills as follows:



Let them shoot 1 series or a few targets, a number sufficient to note down the critical points and strengths of the shooter we have observed



Let's explain to the shooter what we have observed



We talk to him about the changes to be made and the aspects to be strengthened, explaining why to make them

# METHODOLOGY OF APPROACHING AND TAKING SHOOTING POSITION – CHECKING THE DOMINANCE

Before moving on, however, a more in-depth check must be carried out in order to gain a better understanding of the shooter's features:

- Ocular dominance
- Hand dominance



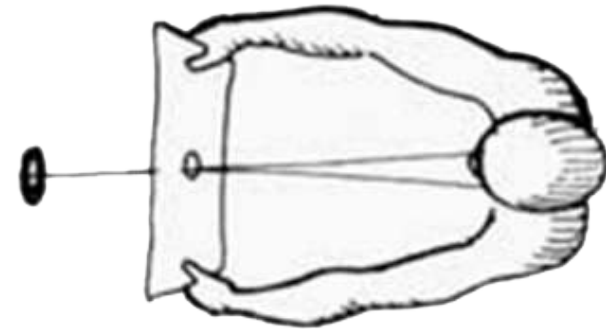
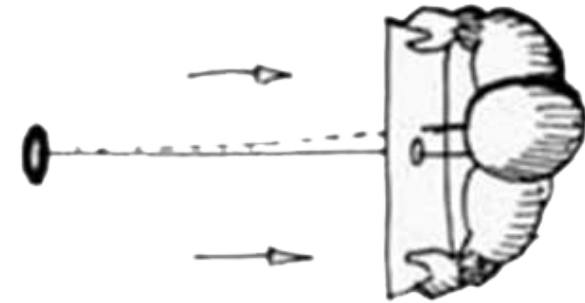


# METHODOLOGY OF APPROACHING AND TAKING SHOOTING POSITION – OCULAR DOMINANCE

Eye dominance indicates which eye the brain prefers to use to fix static and/or moving objects.

It can be studied:

- With monocular vision tests to define the preferred choice
- With binocular vision tests to define the dominant eye
- With tests implying hand involvement (eye-hand coordination)



# METHODOLOGY OF APPROACHING AND TAKING SHOOTING POSITION – HAND DOMINANCE

Testing hand dominance allows you to identify which hand is preferred in most activities.

It is essential in relation to eye dominance in order to better understand if there are any discrepancies between them and consequently to take this aspect into account in the evaluation and construction of the shooting technique.

# METHODOLOGY OF APPROACHING AND TAKING SHOOTING POSITION – CHECKING DOMINANCE

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The determination of all dominance allows the coach to:

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Choose the proper side for the gun mounting

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Choose which dominance to work on in case of crossed dominance: e.g. right eye with left hand and left shoulder

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Detect immediately if the dominance found is the cause of technical and/or coordination errors and make the necessary changes

# METHODOLOGY OF APPROACHING AND TAKING SHOOTING POSITION – CONSTRUCTION PHASES OF SHOOTING POSITION

At this stage you can start making the first technical changes.

But how should we proceed?

Is it better to proceed by choosing a random order or to proceed in a pre-determined order?





# METHODOLOGY OF APPROACHING AND TAKING SHOOTING POSITION – CONSTRUCTION PHASES OF SHOOTING POSITION

A pre-determined order certainly helps us to better define the whole shooting technique. We can outline the building phases of the shooting position:

- Foot position
- Body position: knees, pelvis, shoulders
- Arm and hand positions
- Head position
- Gun hold position
- Eye hold position



## METHODOLOGY OF APPROACHING AND TAKING SHOOTING POSITION – CONSTRUCTION PHASES OF SHOOTING POSITION. FOOT POSITION ANALYSIS (TRAP)



Areas to analyse:

- Pelvis-foot alignment
- Influence in rotations
- Recoil
- Toe-to-toe tips alignment

## METHODOLOGY OF APPROACHING AND TAKING SHOOTING POSITION – CONSTRUCTION PHASES OF SHOOTING POSITION FOOT POSITION ANALYSIS (SKEET)

Areas to analyze:

- Heel alignment
- Tip alignment
- Distance between heels
- Influence on rotations
- Influence on recoil





## METHODOLOGY OF APPROACHING AND TAKING SHOOTING POSITION – CONSTRUCTION PHASES OF SHOOTING POSITION. FOOT POSITION ANALYSIS (TRAP)



Areas to analyze:

- Heel alignment
- Tip alignment
- Distance between heels
- Influence on rotations
- Influence on recoil



## **METHODOLOGY OF APPROACHING AND TAKING SHOOTING POSITION – CONSTRUCTION PHASES OF SHOOTING POSITION. FOOT POSITION ANALYSIS (TRAP)**

Areas to analyze:

- Distance between heels
- Influence on rotations
- Influence on recoil



## METHODOLOGY OF APPROACHING AND TAKING SHOOTING POSITION – CONSTRUCTION PHASES OF SHOOTING POSITION. FOOT POSITION ANALYSIS (TRAP)

Areas to analyze:

- Influence on rotations
- Influence on recoil
- Heels alignment





## METHODOLOGY OF APPROACHING AND TAKING SHOOTING POSITION – CONSTRUCTION PHASES OF SHOOTING POSITION. FOOT POSITION ANALYSIS (TRAP)



Areas to analyze:

- Heel alignment
- Tip Alignment
- Influence on rotations
- Influence on pelvis-shoulder alignment

## METHODOLOGY OF APPROACHING AND TAKING SHOOTING POSITION – CONSTRUCTION PHASES OF SHOOTING POSITION. BODY POSITION ANALYSIS: KNEES, PELVIS, SHOULDERS



Areas to analyze:

- Pelvis-shoulder alignment
- Influence on rotations
- Influence on recoil
- Torso orientation



## METHODOLOGY OF APPROACHING AND TAKING SHOOTING POSITION – CONSTRUCTION PHASES OF SHOOTING POSITION. BODY POSITION ANALYSIS: KNEES, PELVIS, SHOULDERS

Areas to analyze:

- Left knee bent more than right
- Pelvis-shoulder alignment
- Influence on recoil
- Influence on rotations



## METHODOLOGY OF APPROACHING AND TAKING SHOOTING POSITION – CONSTRUCTION PHASES OF SHOOTING POSITION. BODY POSITION ANALYSIS: KNEES, PELVIS, SHOULDERS

Areas to analyze:

- Pelvis-shoulder alignment
- Influence on recoil
- Influence on rotations
- Torso orientation





## **METHODOLOGY OF APPROACHING AND TAKING SHOOTING POSITION – CONSTRUCTION PHASES OF SHOOTING POSITION. BODY POSITION ANALYSIS: KNEES, PELVIS, SHOULDERS**

Areas to analyze:

- Shoulder-pelvis alignment
- Knees position
- Shoulder alignment
- Influence on the gun mounting



## METHODOLOGY OF APPROACHING AND TAKING SHOOTING POSITION – CONSTRUCTION PHASES OF SHOOTING POSITION. BODY POSITION ANALYSIS: KNEES, PELVIS, SHOULDERS



Areas to analyze:

- Pelvis-shoulder alignment
- Relaxed knees
- Relaxed shoulders and on the same line
- Torso slightly bent forward



## METHODOLOGY OF APPROACHING AND TAKING SHOOTING POSITION – CONSTRUCTION PHASES OF SHOOTING POSITION. BODY POSITION ANALYSIS: KNEES, PELVIS, SHOULDERS



Areas to analyze:

- Pelvis-shoulder alignment
- Relaxed knees
- Not aligned shoulders
- Balance

## METHODOLOGY OF APPROACHING AND TAKING SHOOTING POSITION – CONSTRUCTION PHASES OF SHOOTING POSITION. ARMS AND HANDS POSITION ANALYSIS

Areas to analyze:

- Elbows alignment
- Arm height in relation to the rifle
- Position of the hand on the fore-end
- Position of the hand on the pistol
- Wrist-elbow alignment





## METHODOLOGY OF APPROACHING AND TAKING SHOOTING POSITION – CONSTRUCTION PHASES OF SHOOTING POSITION. ARMS AND HANDS POSITION ANALYSIS



Areas to analyze:

- Position of the elbows
- Position of the hand on the pistol

## METHODOLOGY OF APPROACHING AND TAKING SHOOTING POSITION – CONSTRUCTION PHASES OF SHOOTING POSITION. ARMS AND HANDS POSITION ANALYSIS

Areas to analyze:

- Position of the hand on the fore-end
- Grip on the stock pistol





## METHODOLOGY OF APPROACHING AND TAKING SHOOTING POSITION – CONSTRUCTION PHASES OF SHOOTING POSITION. ARMS AND HANDS POSITION ANALYSIS

Areas to analyze:

- Relaxed elbows
- Wrist-elbow alignment
- Finger on the trigger parallel to the barrels
- Balance



## METHODOLOGY OF APPROACHING AND TAKING SHOOTING POSITION – CONSTRUCTION PHASES OF SHOOTING POSITION. HEAD POSITION ANALYSIS



Areas to analyze:

- Head straight on the vertical axis
- Eyes parallel to the ground and right eye aligned with the rib line
- Relaxed neck

## METHODOLOGY OF APPROACHING AND TAKING SHOOTING POSITION – CONSTRUCTION PHASES OF SHOOTING POSITION. HEAD POSITION ANALYSIS



Areas to analyze:

- Head tilted downwards
- Eyes parallel to the ground but not relaxed
- Tensioned neck



## METHODOLOGY OF APPROACHING AND TAKING SHOOTING POSITION – CONSTRUCTION PHASES OF SHOOTING POSITION. HEAD POSITION ANALYSIS

Areas to analyze:

- Head not aligned on the vertical axis
- Eye line not parallel to the ground
- Issues in the eye-rib alignment, possible eye dominance problem
- Neck muscles in tension





## METHODOLOGY OF APPROACHING AND TAKING SHOOTING POSITION – CONSTRUCTION PHASES OF SHOOTING POSITION. HEAD POSITION ANALYSIS



Areas to analyze:

- Head not aligned on the vertical axis
- Eye line not parallel to the ground
- Neck muscles in tension

## METHODOLOGY OF APPROACHING AND TAKING SHOOTING POSITION – CONSTRUCTION PHASES OF SHOOTING POSITION. HEAD POSITION ANALYSIS



Areas to analyze:

- Head straight on the vertical axis
- Eyes parallel to the ground and right eye aligned with the rib line
- Relaxed neck



## METHODOLOGY OF APPROACHING AND TAKING SHOOTING POSITION – CONSTRUCTION PHASES OF SHOOTING POSITION. GUN HOLD POSITION ANALYSIS

Areas to analyze:

- Barrels tip above the eyes



## METHODOLOGY OF APPROACHING AND TAKING SHOOTING POSITION – CONSTRUCTION PHASES OF SHOOTING POSITION. GUN HOLD POSITION ANALYSIS



Areas to analyze:

- Barrels at the same eye level
- Open position in relation to the cabin
- Shotgun not perfectly aligned with eyes



## METHODOLOGY OF APPROACHING AND TAKING SHOOTING POSITION – CONSTRUCTION PHASES OF SHOOTING POSITION. GUN HOLD POSITION ANALYSIS



Areas to analyze:

- Barrels tip slightly below the eye line
- Slightly open position in relation to the cabin
- Eye-rib alignment

## METHODOLOGY OF APPROACHING AND TAKING SHOOTING POSITION – CONSTRUCTION PHASES OF SHOOTING POSITION. GUN HOLD POSITION ANALYSIS



Areas to analyze:

- Open position in relation to the cabin
- Eye-rib alignment
- Barrels tip at the same eye level in the direction of the target's trajectory



## METHODOLOGY OF APPROACHING AND TAKING SHOOTING POSITION – CONSTRUCTION PHASES OF SHOOTING POSITION. GUN HOLD POSITION ANALYSIS

Areas to analyze:

- Barrels tip at eye level
- Positioning the barrels in the direction of the central pole at the same height as the target's flight line
- Eye-rib alignment



## METHODOLOGY OF APPROACHING AND TAKING SHOOTING POSITION – CONSTRUCTION PHASES OF SHOOTING POSITION. GUN HOLD POSITION ANALYSIS

Slightly high barrels pointing

Why??

Areas to analyze:

- Background
- Mounting technique
- Scheme
- Release of the targets
- Weather condition





## METHODOLOGY OF APPROACHING AND TAKING SHOOTING POSITION –CONSTRUCTION PHASES OF SHOOTING POSITION. GUN HOLD POSITION ANALYSIS

Aiming in the direction of the target exit.

Why??

Areas to analyze:

- Field layout
- Scheme
- Release of the targets
- Weather condition



## METHODOLOGY OF APPROACHING AND TAKING SHOOTING POSITION – CONSTRUCTION OF SHOOTING POSITION. GUN HOLD POSITION ANALYSIS

Low aiming with relation to the the targets' exit.

Why??

Areas to analyze:

- Elbow position
- Technique
- Weather condition





## METHODOLOGY OF APPROACHING AND TAKING SHOOTING POSITION – CONSTRUCTION PHASES OF SHOOTING POSITION. EYE HOLD POSITION ANALYSIS

Areas to analyze:

- Look over the barrels' tip
- Use of peripheral attention to keep the barrels' tip within the field of vision and to have a large space above the head to detect the target as soon as possible, thus having the opportunity to choose when to start the mounting movement





## METHODOLOGY OF APPROACHING AND TAKING SHOOTING POSITION – CONSTRUCTION PHASES OF SHOOTING POSITION. EYE HOLD POSITION ANALYSIS

Areas to analyze:

- Look positioned between the cabin and the barrels' waiting point
- Opportunity to have both the cabin and the barrels' tip within the field of vision by using the peripheral attention
- Keeping the focus close to the tip of the shotgun and not in depth





## METHODOLOGY OF APPROACHING AND TAKING SHOOTING POSITION – CONSTRUCTION PHASES OF SHOOTING POSITION. EYE HOLD POSITION ANALYSIS

Areas to analyze:

- Look in the direction of the cabin
- Both cabin and the shotgun within the field of vision
- Use of a wide view, the vision does not go deep but rather stays in the area around the barrels' tip



# METHODOLOGY OF APPROACHING AND TAKING SHOOTING POSITION – CONSTRUCTION PHASES OF SHOOTING POSITION. EYE HOLD POSITION ANALYSIS

Areas to analyze:

- Look slightly positioned on the right side of the barrels and more precisely on the flight path of the target
- Keep the focus near the shotgun tip and not in depth
- Use of the peripheral attention in order to keep the shotgun inside the field of vision





## METHODOLOGY OF APPROACHING AND TAKING SHOOTING POSITION – CONSTRUCTION PHASES OF SHOOTING POSITION. EYE HOLD POSITION ANALYSIS

Areas to analyze:

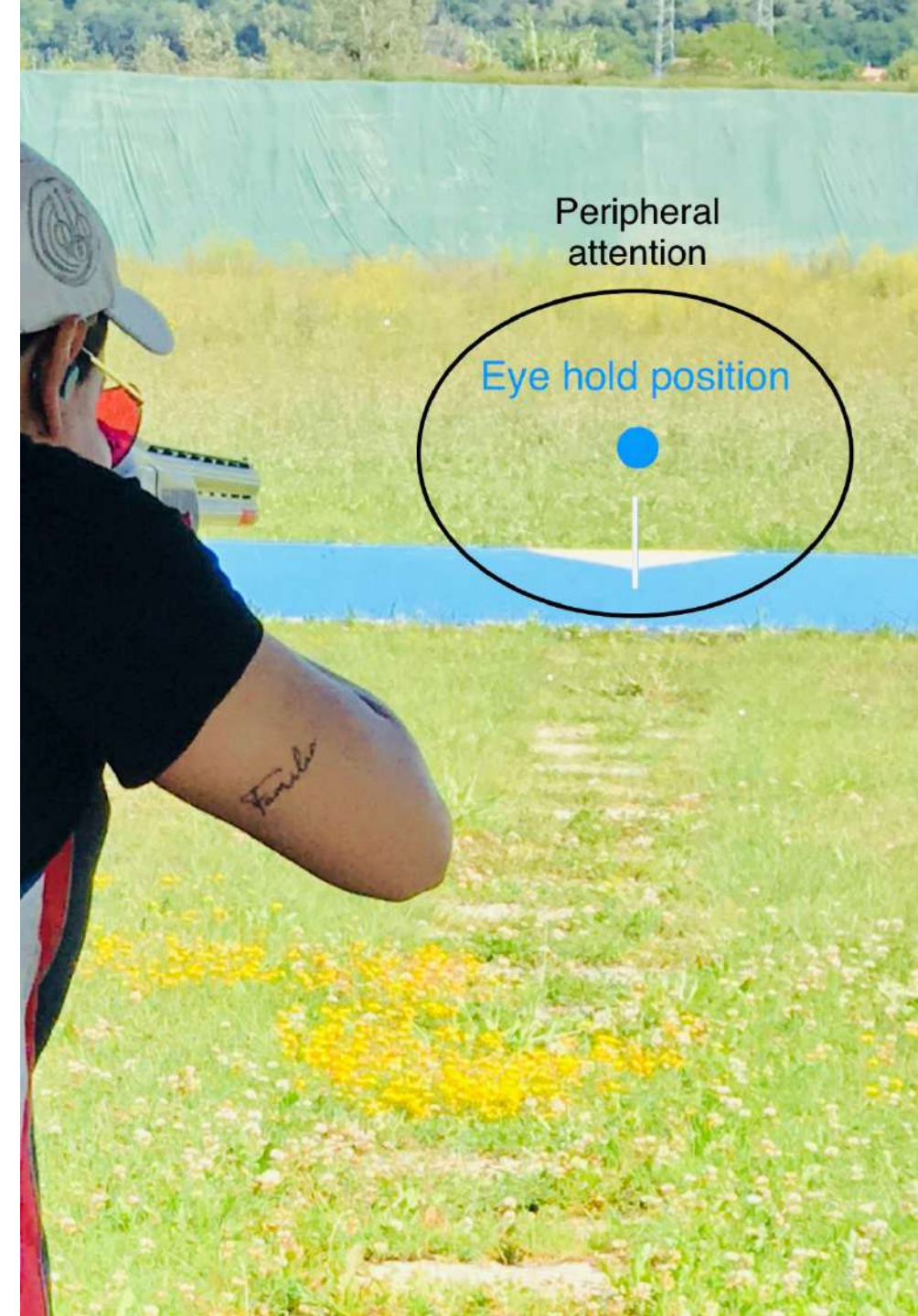
- Look in the direction of the cabin
- Keep the focus near the shotgun tip and not inside the cabin
- Use of the peripheral attention in order to keep the barrels' tip inside the field of vision



## METHODOLOGY OF APPROACHING AND TAKING SHOOTING POSITION – CONSTRUCTION PHASES OF SHOOTING POSITION. EYE HOLD POSITION ANALYSIS

Areas to analyze:

- Look in the direction of the targets' intersection area
- Focus beyond the shotgun sight, about 5/6 m from the targets exit point
- Use of the peripheral attention in order to keep the barrels' tip inside the field of vision and be able to detect the target flight path in the best possible way





## METHODOLOGY OF APPROACHING AND TAKING SHOOTING POSITION – CONSTRUCTION PHASES OF SHOOTING POSITION. EYE HOLD POSITION ANALYSIS

Areas to analyze:

- Look positioned below the barrels waiting point, therefore the view line crosses the rib line
- Use of peripheral attention in order to keep the barrels' tip inside the field of view
- Poor view in addition to a blind area with upright targets





## METHODOLOGY OF APPROACHING AND TAKING SHOOTING POSITION – CONSTRUCTION PHASES OF SHOOTING POSITION. EYE HOLD POSITION ANALYSIS

Areas to analyze:

- Look positioned below the barrels waiting point, therefore the view line crosses the rib line
- Use of peripheral attention in order to keep the barrels' tip inside the field of vision
- Poor view in addition to a blind area with upright targets



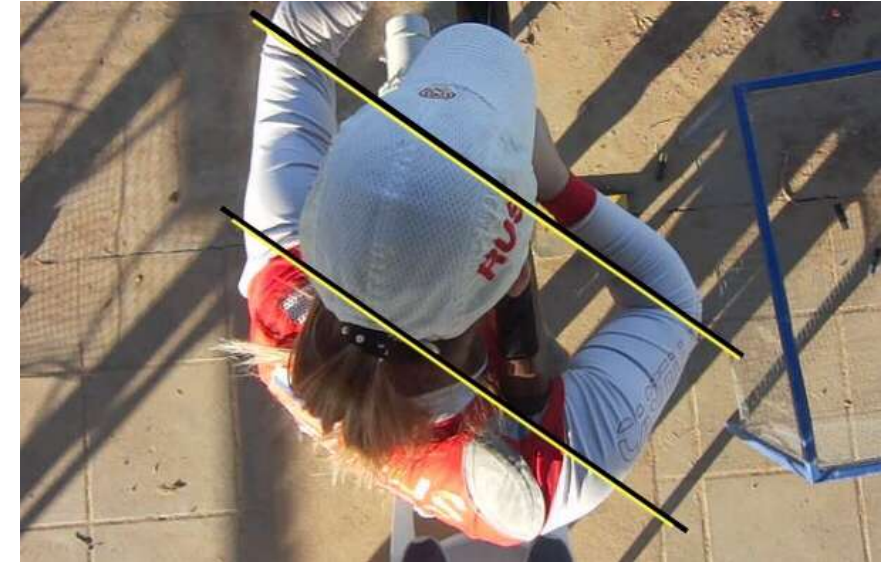


## METHODOLOGY OF APPROACHING AND TAKING SHOOTING POSITION – EXAMPLES OF PROPER POSITION (TRAP)

- Arms-shoulder-pelvis alignment
- Head positioning
- Elbows position
- Torso orientation

Once the technical movement is completed....

Positioning stays unchanged!!!



# METHODOLOGY OF APPROACHING AND TAKING SHOOTING POSITION – EXAMPLES OF PROPER POSITION (SKEET)



- Head straight on the vertical axis
- Eyes parallel to the ground and right eye aligned with the rib line
- Relaxed neck
- Shoulders parallel to the ground
- Arms in relaxed position
- Elbows in neutral position
- Wrist-elbow alignment



## METHODOLOGY OF APPROACHING AND TAKING SHOOTING POSITION – EXAMPLES OF PROPER POSITION (TRAP)



- Head straight on the vertical axis
- Eyes parallel to the ground and right eye aligned with the rib line
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## METHODOLOGY OF APPROACHING AND TAKING SHOOTING POSITION – EXAMPLES OF PROPER POSITION (SKEET)

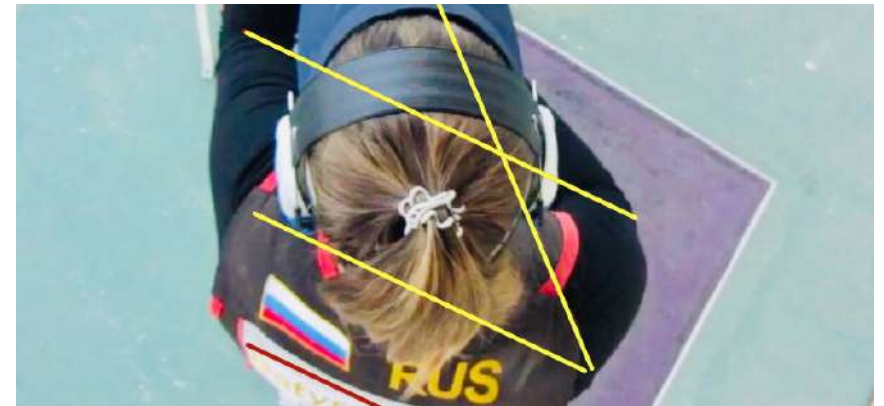


- Head straight on the vertical axis
- Eyes parallel to the ground and right eye aligned with the rib line
- Relaxed neck
- Shoulders parallel to the ground
- Arms in relaxed position
- Elbows in neutral position
- Wrist-elbow alignment
- Barrels tip at eye level

# METHODOLOGY OF APPROACHING AND TAKING SHOOTING POSITION – EXAMPLES OF PROPER POSITION (SKEET)

- Relaxed shoulders and elbows
- Pelvis-shoulder-arms alignment
- Correct angle between torso and shotgun
- Correct head-gun alignment

...once the technical movement is completed...  
The position stays unchanged!!!

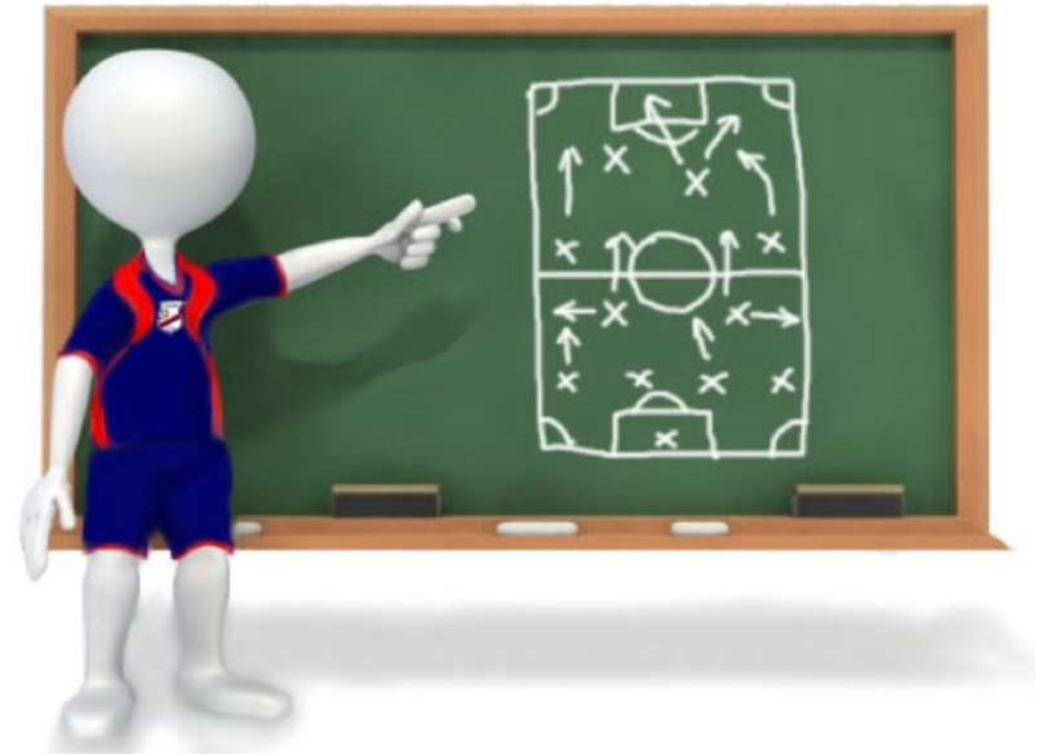




## POSITION CORRECTION, FOR EACH DISCIPLINE

But why should you decide to correct the position?

- For easier movement
- Make less effort and therefore save energy
- Enabling the shooter to keep a constant level of performance



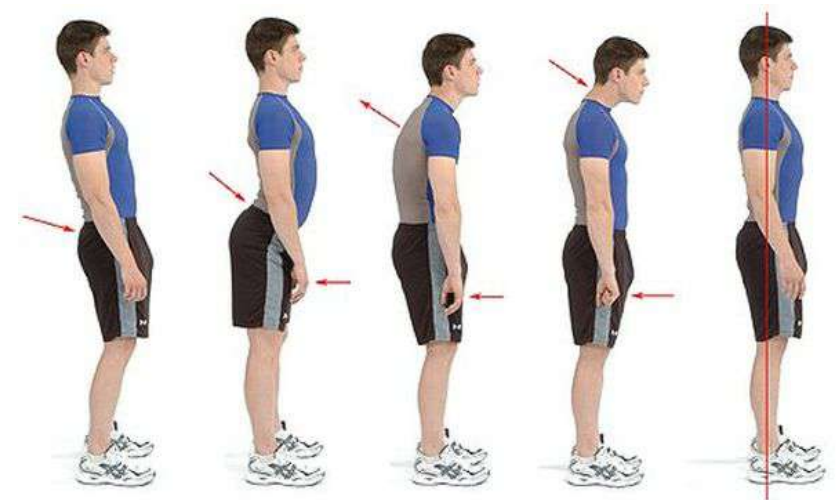
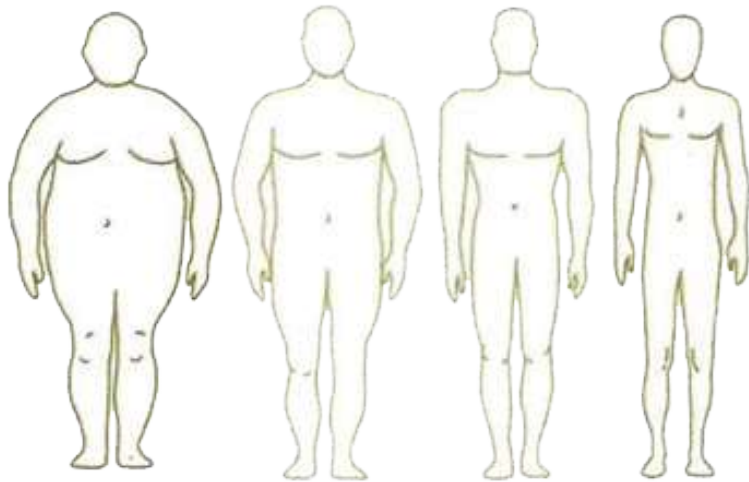
## **POSITION CORRECTION, FOR EACH DISCIPLINE**

Does the shooter's morphology influence us in making our corrections?

The answer is of course YES

As a coach you have to be adaptable and, by following simple biomechanical rules, you have to make the appropriate changes taking into account the morphological features of each shooter.

## POSITION CORRECTION, FOR EACH DISCIPLINE – SHOOTER'S MORPHOLOGY





## **POSITION CORRECTION, FOR EACH DISCIPLINE – HOW MANY CORRECTIONS?**

- In the approach methodology we have looked at a series of approaches for setting the shooting position, so that we know where to start the adjustments.
- However, another important element is the decision on how many corrections to make in a single series, in a training session or in a given period.

## **POSITION CORRECTION, FOR EACH DISCIPLINE – HOW MANY CORRECTIONS?**

- In a single series: definitely only one correction!!! In whatever period you are in
- In a training session: it depends on the period you are in! Away from competitions it is advisable to work on only 1 in-depth correction for each training session, or several training sessions, as required.
- Depending on the period you are in, you also decide how many training sessions you need to work on the same correction or whether to work on several corrections between sessions

## POSITION CORRECTION, FOR EACH DISCIPLINE – EXAMPLES OF POSITION ON TRAP PLATFORM

Issues to be addressed:

- Foot position
- Shoulders position
- Elbows position
- Pelvis-shoulder alignment
- Hand on the pistol
- Hand on the fore-end
- Balance





## POSITION CORRECTION, FOR EACH DISCIPLINE – EXAMPLES OF POSITION ON TRAP PLATFORM

Issues to be addressed:

- Pelvis position
- Elbows position
- Hand on the pistol
- Wrist-elbow alignment
- Hand on the fore-end
- Balance
- Head position





## POSITION CORRECTION, FOR EACH DISCIPLINE – EXAMPLES OF POSITION ON TRAP PLATFORM

Issues to be addressed:

- Foot position
- Knees
- Balance
- Head position





## POSITION CORRECTION, FOR EACH DISCIPLINE – EXAMPLES OF POSITION ON TRAP PLATFORM

Issues to be addressed:

- Foot position
- Knees
- Balance
- Elbows position
- Shoulders position
- Hand on the pistol





## POSITION CORRECTION, FOR EACH DISCIPLINE – EXAMPLES OF POSITION ON SKEET PLATFORM

Issues to be addressed:

- Balance
- Head position
- Eye-shotgun alignment
- Hand on the pistol
- Hand on the fore-end
- Foot position
- Shoulders-pelvis alignment



# CORRECTIONS OF THE SHOTGUN GRIP



In order to achieve a good shooting position only making corrections on the shooter is not enough.



In fact, some elements external to the shooter can influence his shooting position.



The shotgun stock pistol is certainly one of these elements.

# **CORRECTIONS OF THE SHOTGUN GRIP – ADVANTAGES OF USING THE PROPER PISTOL**

An appropriate shotgun grip brings to the shooter the following advantages:

- Comfort
- Rapidity in the mounting movement (Skeet)
- Always same execution of the mounting movement
- No 'vibrations' of the shotgun during the movement



## CORRECTIONS OF THE SHOTGUN GRIP – DIFFERENT TYPES

Trap

Skeet

Open

Closed

External

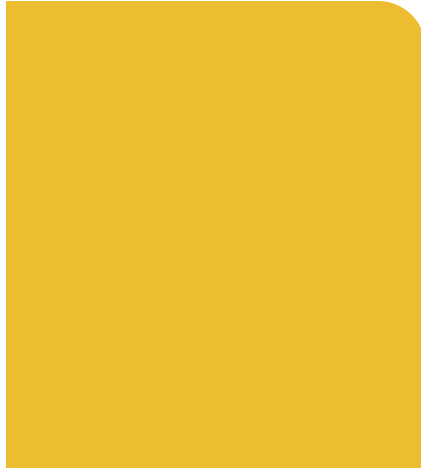
Internal

With Glove or  
with no Glove



# CORRECTIONS OF THE SHOTGUN GRIP – DIFFERENT TYPES. EXAMPLES

Trap



# CORRECTIONS OF THE SHOTGUN GRIP – DIFFERENT TYPES. EXAMPLES

Skeet





# **CORRECTIONS OF THE SHOTGUN GRIP – THINGS TO CHECK**

The following factors must be taken into consideration before proceeding with corrections:

- Shooting technique used
- Finger-wrist-elbow alignment
- Eventual tilting of the barrels on one of the two sides
- Gun mounting
- Hand grip on pistol neck

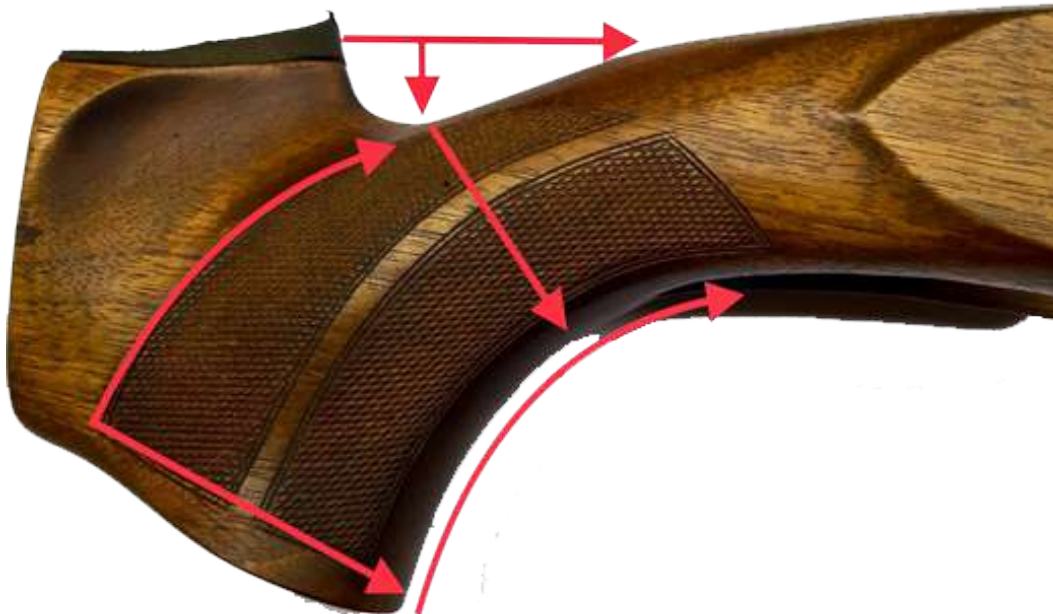
## CORRECTIONS OF THE SHOTGUN GRIP – HOW TO MAKE CORRECTIONS. EXAMPLES

Features:

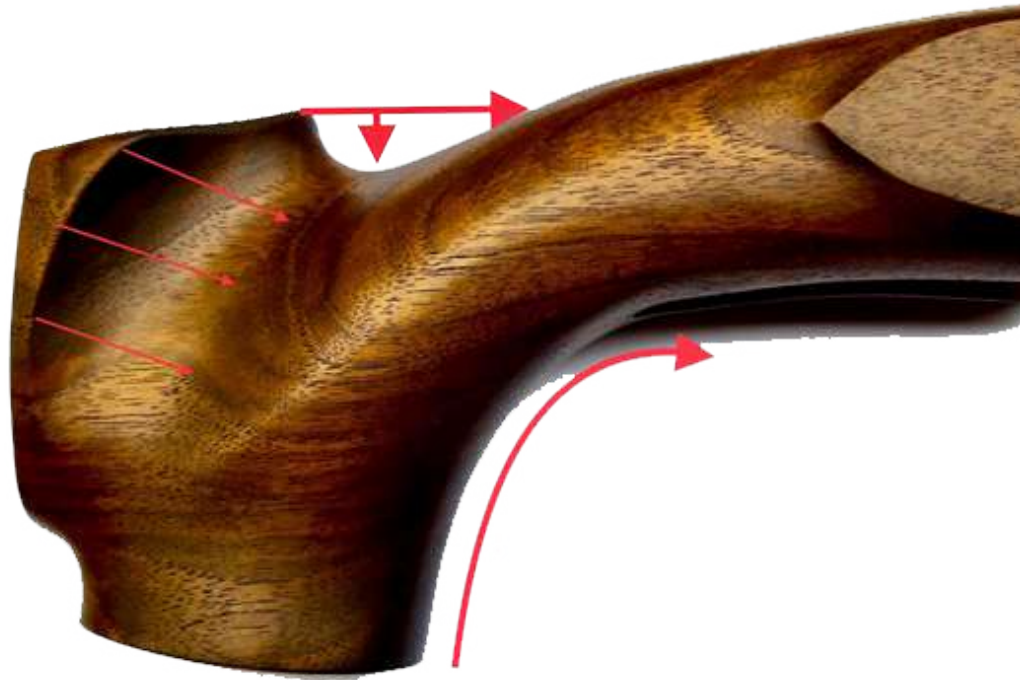
- Large space between neck and the comb
- Average neck height
- Large neck diameter
- Open shotgun
- Large space on the rest area of the palm
- Wide and flat orthopaedic grip

Questions??

- Which type of hand is the most suitable for this pistol?
- Which elements should be considered if I want to modify the pistol in order to make it more closed?



## CORRECTIONS OF THE SHOTGUN GRIP – HOW TO MAKE CORRECTIONS. EXAMPLES



Features:

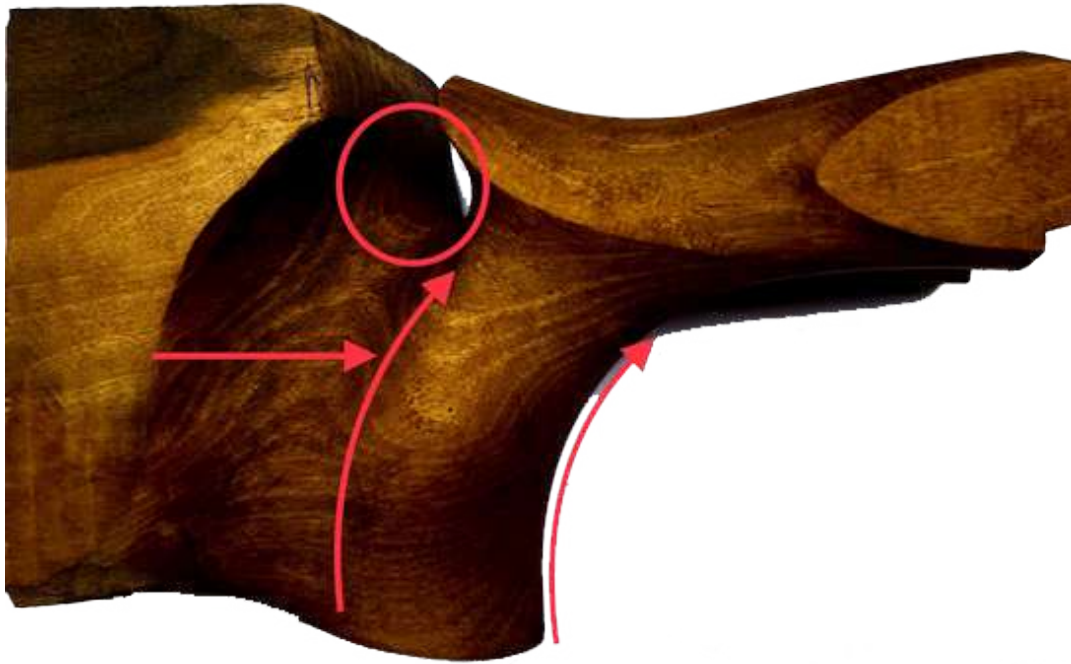
- Limited space between neck and the comb
- High Neck
- Small neck diameter
- Closed pistol
- Deep support area of the palm
- Accentuated orthopaedic grip

Questions??

- Which type of hand is the most suitable for this pistol?
- Which elements should be considered if I want to modify the pistol in order to make it more open?
- What impact does it have on the gun mounting?



## CORRECTIONS OF THE SHOTGUN GRIP – HOW TO MAKE CORRECTIONS. EXAMPLES



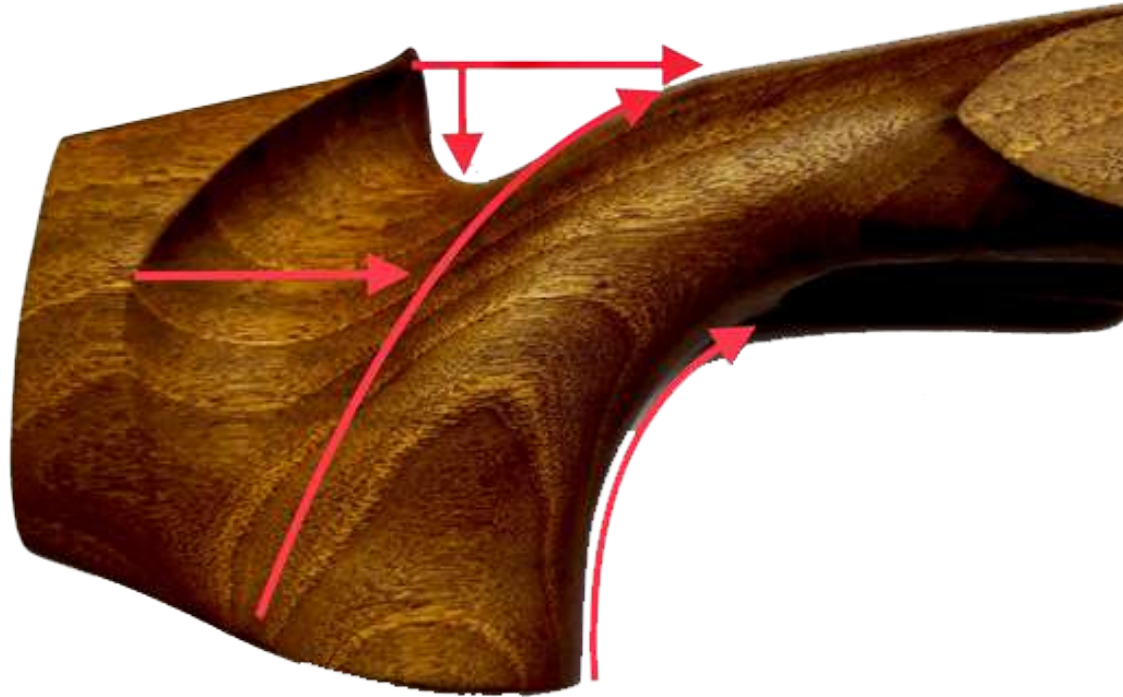
Features:

- Glove grip
- Very low neck
- Small neck diameter
- Closed pistol
- Deep support area of the palm
- Narrow and accentuated orthopaedic grip

Questions??

- Which type of hand is the most suitable for this pistol?
- Which factors should be taken into account if I want to achieve a higher hand position?
- Which type of gun mounting fits best with this pistol?

## CORRECTIONS OF THE SHOTGUN GRIP – HOW TO MAKE CORRECTIONS. EXAMPLES



Features:

- Large space between neck and the comb
- Low neck
- Medium neck diameter
- Closed pistol
- Wide support area of the palm
- Moderate orthopaedic grip

Questions??

- Which type of hand is the most suitable for this pistol?
- Which hand position is the most suitable for this pistol? And why?
- Which impact does it have on the gun mounting with different hand positions?

# PROPER GUN FITTING



In addition to the pistol you must also take care of all other details related to the setting of the shotgun.



Before proceeding to list all the stages of gun fitting it is necessary to draw attention to some important definitions and how to deal with certain problems



## PROPER GUN FITTING – STATIC BALANCE AND DYNAMIC BALANCE OF THE GUN

Static balance: the rifle is placed on a wedge at the height of the central pins. This works on weight distribution as long as the gun stays balanced on the wedge.



Dynamic balance: once the gun has been properly set, work is carried out on the distribution of weight between the two hands, varying the position of the hand on the fore-end, until this distribution is balanced during the execution of the technical gesture.

# PROPER GUN FITTING – FEATURES OF THE BARRELS

It is necessary to quickly identify the type of barrels mounted on the shooter's gun so as to know its features and to be able to act properly on the setting of the entire gun.

Namely:

- Weight and length
- Balance
- Type



# PROPER GUN FITTING – FEATURES OF THE BARRELS: WEIGHT AND LENGTH

The barrels produced by the various companies (and for each individual version) can be very different from each other.

Weight and length are two very important features.

The length must be chosen according to the physical features of the shooter and to the discipline:

- Trap 75/76/81 cm
- Skeet 71/73/74/76 cm (also depending on the brand of gun you are using)





## PROPER GUN FITTING – FEATURES OF THE BARRELS: WEIGHT AND LENGTH

The weight is either increased or decreased.

It differs depending on the brand and model of the gun and must be determined according to the following criteria:

- Features of the shooter ( man/woman; strong/thin)
- Discipline
- Total weight of the weapon



# PROPER GUN FITTING – FEATURES OF THE BARRELS: BALANCE



Which are the main differences?

- A balance closer to the tilting allows you to start the technical gesture with less effort. It is suitable for those shooters who prefer a soft and controlled start.
- A more distant balance favors a better stability of the weapon in the initial phase of the technical action. The shooter must push with greater effort and hold this thrust until he hits the target.

## PROPER GUN FITTING – FEATURES OF THE BARRELS: TYPE

The type of barrels is essential to know how the cartridge runs through them and consequently how they can affect the shot pattern.

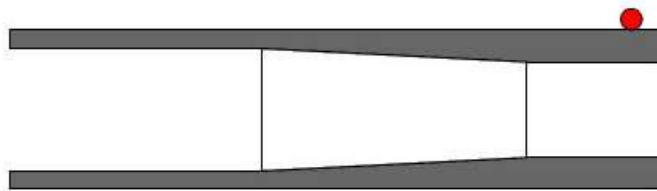
The barrels can be:

- Fixed or with chokes
- Trap or Skeet barrels

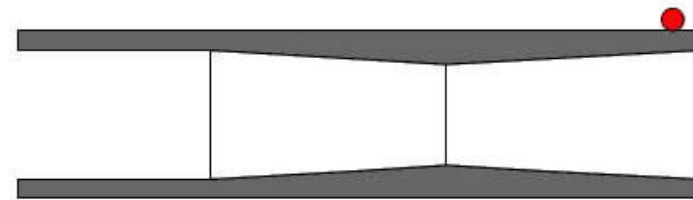
The choke constriction is highly important.



## PROPER GUN FITTING – FEATURES OF THE BARRELS: CHOKE CONSTRUCTION



Trap choke constriction

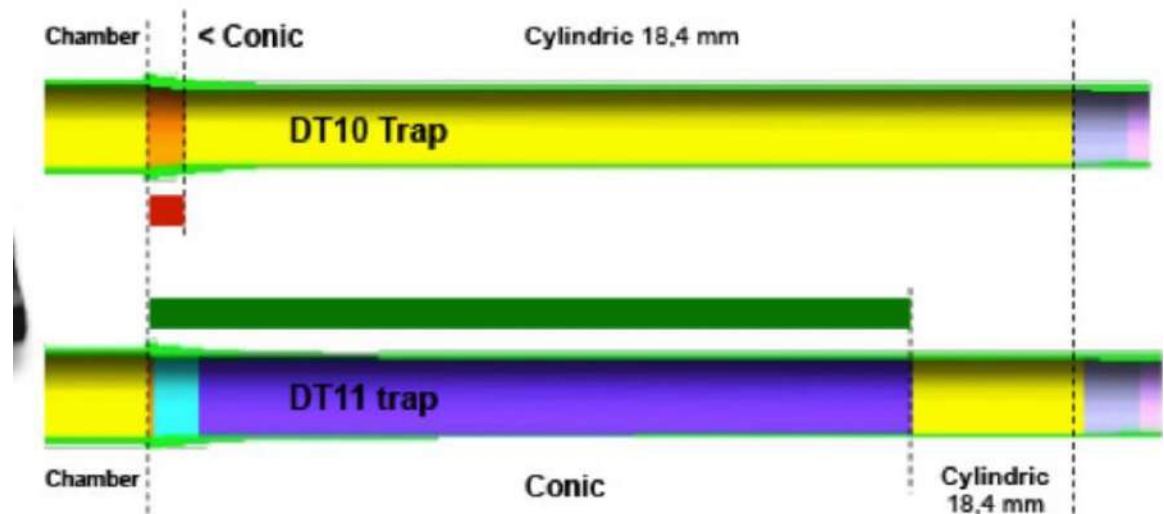


Skeet choke constriction

## PROPER GUN FITTING – FEATURES OF THE BARRELS: REGULAR OR TRAP CHOKE CONstriction

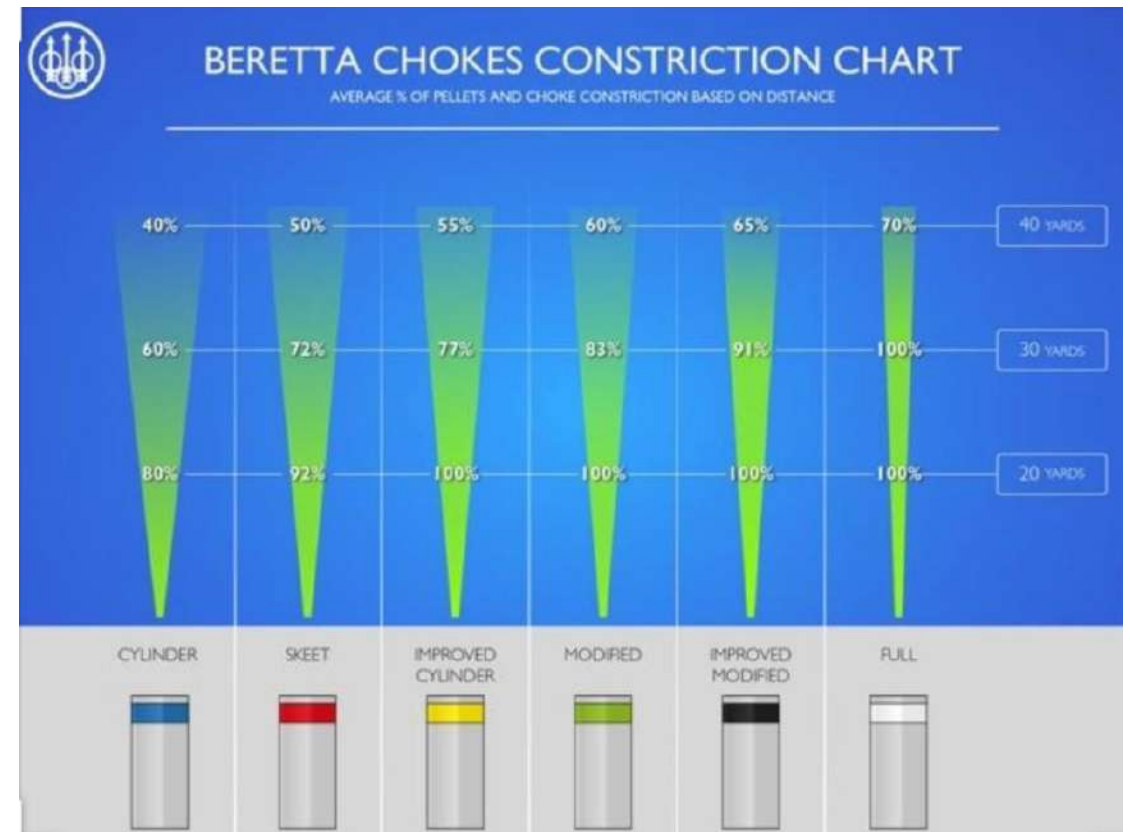
It is worth considering with great care the constriction choke, which varies considerably depending on the discipline involved. In the case, for example, of a 12-gauge shotgun with 18.4 mm barrel core and narrowing up to 17.9 mm, the difference is 0.5 mm so the size is 5/10 (five tenths) or 3 stars (\*\*\*) or half choke (1/2 choke).

DT10 Trap vs DT11 Trap barrel



## PROPER GUN FITTING – FEATURES OF THE BARRELS: SKEET CHOKE CONSTRICTION

The Skeet choke constriction is specially designed to achieve a wider shooting rose at a short distance. Generally, the first barrel has a Skeet or cylindrical choke, allowing you to obtain an ideal shooting rose at close range, whereas the second barrel has a more closed choke, allowing you to obtain an ideal shooting rose at a longer distance. In choosing the choke constriction you have to take into account the speed, the hardness of the targets and the technique used.





## PROPER GUN FITTING –GUN FITTING PHASES

We can therefore describe all the gun fitting phases:

- Checking the features of the barrels
- Checking the shotgun balance
- Checking the head position
- Checking the eye-rib alignment both in waiting position and after firing



## PROPER GUN FITTING – GUN FITTING PHASES

And again...

- Checking the pistol
- Finger position on the trigger
- Incline of the finger on the trigger
- Finger-wrist-elbow alignment





## PROPER GUN FITTING – GUN FITTING PHASES

And again...

- Checking the stock:
  - Deviation
  - Pitch angle
  - Length
  - Recoil pad
  - Cutting of the recoil pad
  - Line of sight





# EXERCISES FOR DEVELOPING BASIC SHOOTING SKILLS

So which are the basic shooting skills?

- Shooting stance
- Eys-hand coordination
- Gun mounting in the Trap

# EXERCISES FOR DEVELOPING BASIC SHOOTING SKILLS

Why should I train them?

- Every single skill needs practice in order to be improved
- Keeping a constant level of performance
- Automation of the technical gesture

# EXERCISES FOR DEVELOPING BASIC SHOOTING SKILLS

When should I train the basic shooting skills during the year?

Depending on:

- General level of the shooter (beginner, intermediate, advanced, champion)
- Shooter's goal setting

In general terms:

- Intense work during the period of preparation before the sport season (Nov/Jan)
- Management and refinement/reinforcement during the competition period



# EXERCISES FOR DEVELOPING BASIC SHOOTING SKILLS

## Shooting stance:

- Preliminary exercise to let the shooter find the best balance with the shotgun in his hands and the best feeling of balance (for beginner shooters): the athlete should be positioned on the platform and, once the shotgun is closed without carrying it on his shoulders, let him know the correct dynamic balance by moving his hand on the fore-end until he becomes familiar with a correct and natural feeling of balance.
- Stability exercises on the discosit: the shooter should stand on the discosit in the waiting position without the shotgun, on two feet for 30 seconds with a rest of 15 seconds. The exercise should be carried out with both eyes open and closed, and then repeated first on one foot and then on the other.

# EXERCISES FOR DEVELOPING BASIC SHOOTING SKILLS

Shooting stance:

- Balancing exercises on fitball: : let the athlete without shotgun in a static position for 5 sec, maintaining this position. Repeat for 25 times, with a rest of 30 seconds between each repetition.
- Exercises on a proprioceptive board: the shooter should get on the board first without and then holding the shotgun, maintaining the waiting position for 5 sec. Repeat 25 times with 30 sec rest between repetitions.

# EXERCISES FOR DEVELOPING BASIC SHOOTING SKILLS

Eye-hand coordination:

- Exercises on a proprioception board: let the shooter climb on the board without the shotgun in a relaxed position. Exercise with tennis balls while maintaining balance on the board.
- BOSU balance exercises: repeat the same exercises done on the proprioceptive board with tennis balls.



# EXERCISES FOR DEVELOPING BASIC SHOOTING SKILLS

Gun mounting in the Trap and closing the gun in the Skeet:

- Exercise to increase the initial phase of mounting in the Trap or closing the shotgun in the Skeet: the shooter must lift the tip of the shotgun by using only the forearm of the mounting side, until the heel of the stock is in contact with the armpit, and then rotate the tip of the barrels up to eye level with the help of the hand on the pistol, bringing the hand on the fore-end at the same time, positioning it upon the fore-end using the same angle as the hand on the pistol and using it to close the shotgun. In this way the shooter is able to make a movement which does not affect his posture and therefore his balance, also allowing him to keep all the muscle chains relaxed and the foot-pelvis-shoulder alignment.

# EXERCISES FOR DEVELOPING BASIC SHOOTING SKILLS

## Gun mounting in the Trap:

- Exercise to increase the final gun mounting phase: the shooter, once the shotgun is closed, should relax his shoulders by slightly widening the elbow of the shoulder on the mounting side to allow both hands, with a semi-circular movement, to bring the shotgun to the shoulder. At this point the face must be placed on the stock keeping the neck muscles relaxed and then move to the waiting point.

# WORK WITH BEGINNERS – DIDACTICAL APPROACH

Working with beginners implies the introduction to some essential concepts that are usually taken for granted.

- Definition of roles
- Shotgun knowledge and safety
- Ballistics
- Safety on the platform
- Technical regulations and shooting field knowledge



# WORK WITH BEGINNERS – DIDACTICAL APPROACH. DEFINITION OF ROLES

The definition of roles, explaining the limits in the coach-athlete relationship within which to work, is necessary from the very beginning.

- Who is the coach? Who is the athlete?
- Who and how should set the goals?
- Who and how should decide the training programme?
- Is the coach a friend you could ask for anything?

# WORK WITH BEGINNERS – DIDACTICAL APPROACH. SHOTGUN KNOWLEDGE AND SAFETY

The new shooter must be introduced to its sports equipment...

- How is a shotgun made up? Which are its main parts?
- How does it work?
- How to assemble it?

...but above all, attention must be paid to the safety measures to be followed in order to use it...

- How to assemble it in total safety?
- How to handle it? When should I close it and/or when should I keep it open?

## WORK WITH BEGINNERS – DIDACTICAL APPROACH. SAFETY ON THE PLATFORM

In addition to the general rules to be adopted every time you handle the shotgun, there are rules to be followed on the platform.

- How to move between the different positions?
- When should I load the gun?
- Where should I turn the gun once I have loaded and closed it?.



# WORK WITH BEGINNERS – DIDACTICAL APPROACH. TECHNICAL REGULATIONS AND KNOWLEDGE OF THE SHOOTING FIELD

Safety rules are included in the technical regulations of each discipline, which are to be shown to the shooter in order to provide him with all the rules to be observed. In particular, a new shooter needs to know:

- The general rules of the chosen discipline: shooting sequence, shooters in the platform, when a target is considered to be good, how many shots for each target, how the scores are determined, how to compete in a competition...
- Knowledge of the shooting field: for each discipline it is necessary to explain to the beginner shooter the field's features, its measurement, if there are limits within which to break the target, how the thrower machines must be placed, how the target's trajectories must be like...

# WORK WITH BEGINNERS – DIDACTICAL APPROACH. BALLISTICS

Before moving on to practice, there is one last element to be described to the new shooter: the ballistic features.

- What happens when the trigger is pulled: how is the shot being fired?
- The shooting rose: how is it created and which impact does it have in the shot?
- What is the anticipation

# WORK WITH BEGINNERS – DIDACTICAL APPROACH. SHOOTING POSITION

Once the basic information has been given, it is possible to proceed with the shooter to the setting of a correct shooting position.

Specifically, we will follow a step-by-step sequence to define:

- Skeet position
- Trap position



# WORK WITH BEGINNERS – DIDACTICAL APPROACH. SKEET POSITION

- Search for the proper foot position for each platform
- Knees kept relaxed at all times
- Checking the proper foot-pelvis-shoulder alignment when closing the shotgun
- Execution of the rotation movement of the upper body up to the waiting point in some platforms
- Checking the proper eye-shotgun alignment
- Positioning the shotgun
- Positioning of the gaze

# WORK WITH BEGINNERS – DIDACTICAL APPROACH. TRAP POSITION

- Search for the proper foot position to be held in each platform
- Knees kept relaxed at all times
- Execution of the gun mounting movement
- Checking the correct foot-pelvis-shoulder alignment at the end of the gun mounting
- Positioning the shotgun
- Positioning the gaze

# DEVELOPING SHOOTING SCHOOL SYSTEM





# DEVELOPING SHOOTING SCHOOL SYSTEM

Athlete-centered approach



Development of the learning programme according to different criteria:

- Age of the shooter
- General level of the shooter
- Goals

# DEVELOPING SHOOTING SCHOOL SYSTEM

It is necessary to decide and organize the fundamental areas of intervention:

- Technical and tactical area
- Mental area
- Physical training area



# DEVELOPING SHOOTING SCHOOL SYSTEM

Why is it necessary to develop a shooting school system?

- Stable and constant setting of the training parameters and the development phase of the athlete
- Search for young talents at an early age
- Optimize resources
- Discipline exchangeability





# DEVELOPING SHOOTING SCHOOL SYSTEM

Why is it necessary to develop a shooting school system?

- Social orientation
- Use of a well-defined training methodology, which leads to :
  - A constant growth in performance and lower average age of athletes who will take part in international competitions



# DEVELOPING SHOOTING SCHOOL SYSTEM

Growth of the athlete and factors you need to take into account:

- Time / hours of training necessary to achieve excellence
- Fun: fundamental in children-boys before teenage years. They must learn through playing
- Development stage: set up training and competition programs based on physical, cognitive and emotional development and not in reference to the age
- Periodization: it is about time management. It is the adaptation to the development phase of the athlete taking into account growth, aging and the principles of trainability.

# DEVELOPING SHOOTING SCHOOL SYSTEM

Growth of the athlete and factors you need to take into account:

- Trainerability: a person's ability to adapt to training loads. It is a parameter subject to change over time depending on training and performances. It can be developed if physical and motor activity in pre-adult age are appropriately stimulated.
- Training planning according to the athlete's development phase
- Improvement: every athlete can always improve his athletic performance
- Multi-skill development: to develop every single skill related to the discipline practiced in a homogeneous way. Development of each single skill in a gradual way compared to the others



# DEVELOPING SHOOTING SCHOOL SYSTEM



How to develop a shooting school system?  
3 phases:



Organisational phase



Relational phase



Operational phase


# DEVELOPING SHOOTING SCHOOL SYSTEM – ORGANISATIONAL PHASE

- Definition of roles, selection of coaches and areas of intervention
- Search and selection criteria of the athletes
- Location and headquarters identification
- Different training scheme (for instance in a country with very strict safety rules )
- Mission

# DEVELOPING SHOOTING SCHOOL SYSTEM – RELATIONAL PHASE

- Creation of an athletes' database
- Relations with institutions (Federations, Olympic Committee, Schools etc..)
- Search for sponsors and stakeholders
- Creation of multimedia channels
- Promotion of the school





# **DEVELOPING SHOOTING SCHOOL SYSTEM – OPERATIONAL PHASE**

- Recruitment of the athletes
- Purchase of suitable sports equipment for training
- Allocation of all the athletes by discipline and skills
- Training programme
- Competition programme
- Data entry in database