ADVANCED THEORETICAL ELEMENTS IN THE TECHNIQUE OF CLAY TARGET SHOOTING

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THE CALL

• Why it is so important

• Differences between Trap and Skeet

• Which elements can affect the call

• How it is performed:
  • Importance of diaphragmatic breathing in the call
THE CALL
ACOUSTIC RELEASE

• It is the connection between the throwing machine and the shooter;
• Electro-mechanical release;
• Sound filter preventing unintentional target release due to the wind or other external sounds;
• It is set at a minimum level beyond which the target is not released.
THE CALL
WHY IT IS SO IMPORTANT

• It completes the preparatory phase
• It gives the start to the shooting action
• In the trap it is closely related to the shooting timing
• It affects the technical gesture
• It can cause a late exit of the target
• It is connected to the shooter’s readiness
• It allows the shooter to hold a stable waiting position
In the Trap the voice must be short:
- With open mouth: vowel A
- With mouth closed: vowel O

In the Skeet, the call is generally longer to reduce the waiting time of the target's exit delay, which varies from 0 to 3 seconds

In both disciplines it must be determined in order to both motivate the shooter and allow the microphone to pick up the sound in a clear and immediate way
A good breathing can be divided into 3 sections, from the bottom to the top:

• Diaphragmatic Breathing: this is the lowest section and it is the one where most air is taken in. The diaphragm is located in this area, which is the most important organ in the respiratory act;
• Thoracic Breathing: this is the intermediate section in terms of position and function, in which a little less air is taken in compared to the lower section;
• Clavicular breathing: this is the highest section and it is the one with rather less space, where the 'details' of the breath are managed. It is filled last and emptied first.
In order to perform a complete respiration, which brings the greatest benefits, one cannot do without diaphragmatic breathing, which every person can use to fill the various sections described.

In a proper diaphragmatic breathing, the stomach must be partially inflated so that the diaphragm is pushed down and a large amount of air can be taken in.

The shooter can channel the amount of air needed to emit the call sound through the correct use of the diaphragm.
The benefits you get with diaphragmatic breathing are:

- Voice output control;
- Increased posture stability when calling the target;
- Increased ability to stay still until the target is perceived;
- Improved management of stressful situations;
- Improved oxygenation of blood and brain.
The initial movement of the barrels towards the target is the key moment for the success of the whole shooting technique.

Fundamental elements for a proper initial movement:
- Right barrels position
- Visual Stability and Sport Readiness
- Timing on the target
INITIAL MOVEMENT
FUNDAMENTAL ASPECTS

• When the target is released, the barrels must be totally still until the end of the call;
• It must take place after having correctly read the initial trajectory of the target;
• You must be ready to break the target even before calling (readiness);
• Always separate actions: call, read, copy.
INITIAL MOVEMENT READINESS

- Sport readiness refers to the body’s ability to match the requirements necessary for a particular sport or activity.

- It is trainable and it is fundamental in the competition to have the clarity to decide the exact moment when to start the technical gesture.

- It is related to:
  - Perceptive ability;
  - Emotional state;
  - Functional state of the athlete.
Sight is an innate sense, it is the ability to recognise a light stimulus and receive information from it.

Vision is a set of skills that, through a synergic and coordinated interaction of the two eyes, allow us to learn information from the surrounding environment.
• The technical gesture must be carried out with the optimal execution, organised in the shortest possible time and with the minimum mental and physical effort;

• The visual system, therefore, delivers the first message to the structures responsible for balance and posture and closely operates with the vestibular system and the somatosensory system.
TARGET PERCEPTION
THE VISUAL SYSTEM

Active Vision:

• State of activation of the sensorial system characterized by a high visual and proprioceptive attention;

• Every perceptive detail of the person, the environment and the main target is processed and stored generating a high awareness of the gesture and reduced automation times.
The most performing eye in the management of the fixation is the dominant eye, which today is defined as the technical eye.

Its features include:

- Prevalent management of central vision
- Speed in taking fixation on moving objects
- Higher quality of the perception of colours
TARGET PERCEPTION
THE VISUAL SYSTEM – TACTICAL EYE

Features of the contralateral eye, or tactical eye, are:

• Prevalent management of vision, perception and peripheral awareness
• High kinetic discrimination power (where the object is positioned and how much it moves in the visual field)
• Main sensory and directional centre of the kinesthesia
How should it be done?

- Use of peripheral attention in the Trap and Skeet;
- Synchronous shotgun-body movement;
- Trajectory reading: central or peripheral vision
**INITIAL MOVEMENT**

**TRAP**

- It must be separated from the call action of the target.

- The shooter must only start the movement once he/she has received the information regarding trajectory, speed, angle and depth of the target.

- The target must have passed the point where the shotgun barrels are positioned - not outside the shooter's field of vision.
• Hold an active state of vision until the time of the call.
• Reading of the correct information regarding:
  • distance
  • speed
  • angle
  • position of the target
• It is necessary the use of the peripheral awareness of the tactical eye so as to avoid going into fixation on the target.
INITIAL MOVEMENT TRAP

- Central view in the direction of the area of intersection of the trajectories of the targets
- Extended peripheral vision while keeping the eye muscles relaxed
INITIAL MOVEMENT
TRAP – READING THE TRAJECTORY

• Holding point near the crossing point;
• Barrels locked till the target shows its trajectory
• Eyes muscles stay relaxed avoiding to fix the target while calling with a wide peripheral attention;
• Movement begin with the target and the barrels both within the peripheral attention area;
• Smooth movement required;
• Barrels follow from the very first moment the clay target path;
• Soft focus;
• Divide the action: CALL, READ, COPY!!!!
• It must allow the shooter to achieve and keep a good cheek contact on the stock of the gun and a correct eye-gun alignment.

• It must ensure the pelvis-shoulders-head alignment and avoid excessive activation of the oculocephalograph reflex;

• A number of different mounting techniques exist:
  • Mounting on the vertical axis;
  • Mounting with end at the firing point;
  • Mounting with rotation.
• Central vision, depending on the techniques and platforms, in the direction of the target exit;

• Use of peripheral awareness to hold the eye holding point area and the tip of the barrels within the field of view;

• The focus stays close to the tip of the barrels in a panoramic mode without going deep.
INITIAL MOVEMENT
SKEET – READING THE TRAJECTORY

- Consciously keep the tip of the barrels within the picture while calling;
- Be sure to perceive the tip of the barrels starting the movement;
- Left hand supports the gun to begin the initial movement toward the leading point of the target;
- Head holds the same position; eyes begin to align with the sight line of the shotgun;
- Right hand begins to lift up the stock in the vertical axis while the body is still rotating.
TRANSITION PHASE OF MOVEMENT

It’s the phase taking place right after the initial movement until the moment the shooter decides to pull the trigger.

Why is it so important?

• It allows the correct alignment on the trajectory/anticipation of the target;
• It allows to keep the barrels-target visual contact during the whole movement phase and mounting phase in the Skeet;
• It allows corrections in case of inaccurate start.
TRANSITION PHASE OF MOVEMENT TRAP

• Accelerating movement to bring the barrels back to the centre of the visual field;
• The body makes the rotation keeping the projection of the centre of mass on the ground in unchanged position;
• The muscle chains on the opposite side of the mounting immediately direct the barrels on the trajectory of the target;
• Eyes and barrels move together, active vision not focused on the background, focus near to the barrels;
• Microsaccades retrace the trajectory of the target.
TRANSITION PHASE OF MOVEMENT

SKEET

• Short and rapid mounting in the direction of the anticipation on the target, to then move at the same speed until the moment the shot is fired;

• The body rotates in sync with the barrels, constant alignment of head, shoulders and torso;

• Dorsal muscles activated during the rotation phase;

• The shotgun always stays close to the body;

• Left hand keeps the tip of the barrels on the trajectory of the target, the right hand quickly completes the mounting;
SIGHT PICTURE
WHAT IT IS

• It’s the image produced in our mind at the very moment we decide to pull the trigger;

• It is fundamental to keep the eye-barrels alignment;

• The more the shooter uses a proper sight picture, the higher the chances of achieving a correct performance will be.
TRAP: target slightly above the barrels at the moment of shooting

The anticipation also changes depending on the alignment of the eye on the rib

SKEET: different depending on the platforms, shooting time, speed of the cartridges, shooting technique.
After firing the first shot you must keep your vision always aligned in the direction of the tip of the barrels and with a close focus.

Through peripheral attention the eyes will perceive:

- The residual trajectory of the target allowing the immediate adjustment of the second shot in the Trap;
- The position of the second target in the doubles in the Skeet, with immediate realignment of the tip of the barrels on the trajectory of the target.
ANTICIPATION SKEET

2 pull

2 mark
ANTICIPATION SKEET
ANTICIPATION SKEET

4 pull

4 mark
ANTICIPATION SKEET

5 pull

5 mark
ANTICIPATION
SKEET

6 pull

6 mark
ANTICIPATION SKEET
ANTICIPATION
SKEET

8 pull

8 mark
TRIGGERING

• How it should be done
• When to start triggering?
• Triggering in the second shot
• Click sensitivity in the Trap and Skeet
It is the firing action, the moment when the shooter pulls the trigger.

A proper triggering is based on:

- Correct reading of the trajectory
- Correct timing of when to start the shooting action
- Correct research of the anticipation
- Knowledge of the battery pack and shotgun used (helical or «V» shaped)
• It must be short and firm;
• Only the muscles of the finger are activated by holding the hand on the pistol - solid but relaxed - making a short and firm traction;
• 0.2 tenths of a second from the brain impulse to the moment you start pulling the trigger;
• The finger always stays in contact with the trigger during traction;
• It is connected to the sight picture.
TRIGGERING TRAP

• It begins when you can see the tip of the barrels of the shotgun completely reducing the distance from the target image;

• It ends with the barrels accelerating the movement to reach, once the click is completed, the exact point where the saccade of the eye has stopped.
• It starts and ends the moment you have the perception of the proper anticipation, with the barrels keeping the same speed as the target
• At the end of traction on the first shot you always keep contact with the trigger to be instantly ready for traction on the second shot.

• The traction is always short and firm, you should never pull the trigger and release it completely or pull it and keep it under pressure for a long time.
• Trap: 1.2 kg for the first shot and 1.5 kg for the second;
• Skeet: 1 kg for the first shot and 1.2 kg for the second;
• Depending on the shooter's skills, it is possible to opt for slightly heavier or slightly lighter clicks
• Widespread tendency to avoid any unnecessary slightest movement in the clicks in order to have a more decisive and immediate trigger response;
• Each shotgun comes with different types of clicks.
TRIGGERING SPRINGS

• “V” shaped spring:
  • Immediate traction, with a prompt return to the initial position;
  • Best choice for a first and quick second shot;
  • Tendency to break frequently and are exclusively used in removable batteries

• Helical springs:
  • Tend to last very long over time;
  • As time goes by their performance decreases and traction becomes less rapid and softer.
At the end of the first shot, the shotgun will hold a synchronous movement with the eyes and body for a short period of time

• Trap:
  • Allows you to correct mistakes in the trajectory of the shotgun or wrong anticipation after the first shot

• Skeet
  • Allows you to realign towards the second target by correcting trajectory or anticipation mistakes
POST SHOT ACTION TRAP

- The eyes stay in a state of active vision, with the tip of the barrels always within the field of vision;
- You must slow down the movement of the shotgun without stopping it (swing);
- One must perceive, through peripheral awareness, whether the target has been hit or not and its position;
- Keep the visual focus close to the barrels;
- By accelerating the movement, you should make the correction in order to find the new correct anticipation;
- Perform the triggering action of the second shot.
POST SHOT ACTION
SKEET – AFTER THE FIRST SHOT

• It is essential to automate the movement after triggering on singles too;
• The eyes stay in a state of active vision, with the tip of the barrels always within the field of vision and a close focus;
• Peripheral awareness must be used to identify the second target;
• The movement of the shotgun slows down due to the support of the dorsal and abdominal muscles;
• The shooter realigns the tip of the barrels to the trajectory of the second target, looking for the correct anticipation from the beginning.
SHOOTING STYLES

Trap
• Follow Through
• Spot Shooting
• Constant Leading

Skeet
• Constant Leading
• Spot Shooting
• Follow through
**Follow Through**
- High control of the barrels during the movement to the target;
- Easy correction for the second shot;
- Required ability to start the movement only after the target has passed over the holding point.

**Spot Shooting**
- Short and rapid movement with high gun hold position;
- Difficult to make corrections for the second target;
- Shooting in a zone where the target going not always the same.

**Constant Leading**
- Good control of the first shot;
- Difficult to maintain the leading for sharp angled targets;
- Difficult to recover the target by the second barrel.
TRAP WORLD CUP FINAL 2015
NICOSIA (CYP)

• https://www.youtube.com/watch?v=0uszOwl1gkc
<table>
<thead>
<tr>
<th>SHOOTING STYLES SKEET</th>
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</thead>
<tbody>
<tr>
<td><strong>Constant Leading</strong></td>
</tr>
<tr>
<td>- Reduced range of movement to accomplish the mounting action and more balance</td>
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<tr>
<td>- More time for the second target</td>
</tr>
<tr>
<td>- The shooter must have a good reaction time and time to learn to quickly accomplish the mounting front-facing the target</td>
</tr>
<tr>
<td><strong>Spot Shooting</strong></td>
</tr>
<tr>
<td>- A lot of time to learn the technique and to preserve the skills</td>
</tr>
<tr>
<td>- Great visibility and control of the first target</td>
</tr>
<tr>
<td>- Higher results with normal weather condition</td>
</tr>
<tr>
<td>- In difficult environment conditions it is very difficult to make corrections for the first target</td>
</tr>
<tr>
<td><strong>Follow Through</strong></td>
</tr>
<tr>
<td>- Possible to make corrections in case of wrong mounting action;</td>
</tr>
<tr>
<td>- Wide range of movement either for the first and the second target</td>
</tr>
<tr>
<td>- Difficult to reach the second target</td>
</tr>
<tr>
<td>- A lot of effort to return on the second target</td>
</tr>
</tbody>
</table>
SKEET WORLD CHAMPIONSHIP FINAL 2015 LONATO

• https://www.youtube.com/watch?v=Xu8eWlSfN7c
HOW TO DETERMINE WHEN TO MOVE TO THE TARGET

Essential for the shooter:

• Determine any factor that may positively or negatively influence the moment when to start the action

• Which factors?

• What to do to always have an appropriate initial movement timing?
HOW TO DETERMINE WHEN TO MOVE TO THE TARGET TRAP

The shooter always keeps the eye-barrels angle constant.

The movement starts only after the target has passed the waiting point of the barrels and the trajectory has been read correctly.

When the movement starts, the target and the barrels must be within the peripheral vision area.

Be ready to start the movement in any situation without changing your shooting technique.
FACTORS THAT MAY INFLUENCE THE SHOOTER'S CHOICE OF WHEN TO START THE TECHNICAL ACTION TRAP

- Call
- Functional state of the athlete
- Position of the barrels
- Weather conditions

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The call may affect the reaction time based on delays caused by:

**Throwing machines:**
- Slightly raise the eye-barrels system in order to avoid the 'out of time';

**Microphones:**
- Keep the active vision with relaxed shoulders and abdominal muscles;
- Vary the length and intensity of the voice.
The position of the barrels can change according to:

- **Crossing point**: It can vary depending on the pattern chosen by the shooter;
- **Initial speed of the target**: if this is too low, the eye-barrels system should be slightly lowered; if it is too high, the eye-barrels system should be slightly raised.
The position of the barrels can change according to:

**Throwing patterns**
- Low: the eye-barrels system must be lowered
- High: the eye-barrels system must be raised

**Type of bunker**
- Low: the eye-barrels system must be slightly lowered
- High: the eye-barrels system must be slightly raised
WEATHER CONDITIONS

Weather

• Shade near the exit area of the target or in case of snow
  • The eye-barrels system needs to be slightly raised
• Fog or poor visibility
  • The eye-barrels system needs to be slightly lowered
Weather

- Wind blowing forward lifting the targets
  - The eye-barrels system needs to be slightly raised
- Wind blowing from behind pressing the targets
  - The eye-barrels system needs to be slightly lowered
FUNCTIONAL STATE

Functional state:

In case of excessive reactivity:
The eye-barrels system needs to be slightly lowered.
Lengthen the stock of the shotgun by a few millimetres.

In case of poor reactivity:
The eye-barrels system needs to be slightly raised.
Shorten the stock of the shotgun by a few millimeters.
HOW TO DETERMINE WHEN TO MOVE TO THE TARGET TOOLS FOR TRAP

- Reference points in the background;
- Elements defining an area within which movement must begin:
  - fingers
  - base of the cartridge
  - transparent graph paper
- Change the length of the call until the target has passed the barrels waiting point;
- Record your timing between call and firing;
- Video of the initial movement;
- Pre-shot routines (identifying and activating starting keys).
The shooter always keeps the visual angle between the barrels and the waiting point of the target constant.

Initial movement with the tip of the barrels always in front of the target.

The movement starts with the target and the barrels within the peripheral view.

You have to be ready to start the movement in any situation without changing the shooting technique and most of all the natural reaction time.

HOW TO DETERMINE WHEN TO MOVE TO THE TARGET SKEET

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FACTORS THAT MAY INFLUENCE THE INITIAL MOVEMENT SKEET

- Call
- Functional state of the athlete
- Position of the barrels
- Weather conditions

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The call may affect the timing based on delays caused by:

- **Throwing machines**
  - Keep active vision until the target is perceived
- **Microphones**
  - Active vision with shoulder and abdominal muscles relaxed
  - Vary length and intensity of the voice
The position of the barrels can change depending on:

- Type of cabin and proximity of the fields
  - Slightly open the barrel position
- Position of the throwing machines
  - Change the height of the eye-barrels system to determine the exact initial trajectory
- Initial speed of the target
  - When too low: the barrels should be slightly closer to the cabin
  - When too high: the barrels must be moved slightly away from the cabin
The position of the barrels can change depending on:

- Launching trajectories
  - Low: the barrels must be slightly lowered
  - High: the barrels must be slightly raised
  - Internal: the barrels must be slightly widened
  - External: the barrels must be slightly brought closer together
## WEATHER CONDITIONS

<table>
<thead>
<tr>
<th>Weather</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shade near the exit area</td>
<td>The eye-barrels system must be moved slightly away from the cabin</td>
</tr>
<tr>
<td>Fog or poor visibility of the background</td>
<td>The eye-barrels system must be brought slightly closer to the cabin</td>
</tr>
</tbody>
</table>
Functional state:

In case of excessive reactivity
The barrels must be brought slightly closer to the cabin

In case of poor reactivity
The barrels must be brought slightly away from the cabin

In case of a change in the muscular mass
Check the pitch angle, height and eye-rib alignment
- Reference points in the background;
- Speed radar;
- Elements determining an area within which movement must begin:
  - Fingers
  - Trees, stones
  - Meter
  - Video of the initial movement;
- Pre-shot routines (identify and activate the starting keys).
GOOD AND BAD COMPONENTS OF THE DIFFERENT STYLES

- Spot Shooting
- Follow Through
- Constant Leading

TRAP & SKEET
GOOD AND BAD COMPONENTS OF THE DIFFERENT STYLES

TRAP

Follow Trough

• High control of the barrels during the movement towards the target plate;
• Easy to make adjustments in the case of a second shot;
• Different points on the trajectory where you can decide to close the shooting action;
• Long movement to reach the high and 45° targets;
• Body always aligned with the shotgun;
• Poor recoil;
• Optimal use of peripheral vision to keep both barrels and the target under control during movement.
Spot Shooting

- Short and immediate movement with a high barrels position;
- Problems in making corrections with the second shot;
- Firing at the point of impact without following the trajectory of the target;
- Minimum rotation angle;
- Potential loss of the eye-barrels connection;
- The sight picture is not always the same;
- Increased recoil when the movement is wrong.
GOOD AND BAD COMPONENTS OF THE DIFFERENT STYLES TRAP

Constant Leading

- Good control on the first shot;
- Difficulty in keeping the anticipation for very angled plates;
- Difficulty in catching the target with the second shot;
- Potential loss of balance during rotation;
- Chance of losing the low plates with a low angle;
- Not always a good eye-barrels alignment during the action.

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OLYMPIC GAMES RIO 2016
MEN’S TRAP FINAL

Olympic Games Rio 2016 Men’s Trap Final

GOOD AND BAD COMPONENTS OF THE DIFFERENTStyles SKEET

Follow Through

- It is possible to make corrections in case of wrong mounting;
- Wide range of movement for both the first and second target;
- Difficulty in reaching the second target;
- Ease at keeping the same rhythm between the targets;
- Poor recoil;
- Body always aligned with the shotgun.
Spot Shooting

- Long time to learn the technique and to preserve it;
- Excellent visibility and control of the first target;
- Easy to achieve high results in good environmental conditions;
- Difficult to make corrections during the action in bad environmental conditions (weather, wrong setting of the targets...);
- It is very important to use peripheral attention;
- Higher chance of mistake in the mounting;
- Increased recoil when the mounting is wrong;
- Risk of injury of finger on the trigger when triggering is performed before the end of the mounting.

GOOD AND BAD COMPONENTS OF THE DIFFERENT STYLES SKEET

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### Constant Leading

- Reduced range of movement to complete the mounting;
- Better balance;
- Good reaction time required;
- Need to learn how to complete the mounting always front-facing the target;
- It is essential to activate the peripheral attention;
- Excellent control of both targets;
- More time available to correctly locate and catch the second plate;
- Minimal range of movement for both targets;
- Easy to keep the rhythm throughout the series.
SKEET WORLD CHAMPIONSHIP FINALS 2015 LONATO

- https://www.youtube.com/watch?v=Xu8eWISfN7c
The shooter shall be able to adapt himself to all kind of weather conditions:

- Sunny;
- Partly cloudy;
- Rainy;
- Windy;
- Snowy;
- Foggy;
- Hot towed.
SHOOTING IN DIFFERENT WEATHER CONDITION
SUNNY

Be careful when:
• Sun is in front of the bunker in Trap;
• Early in the morning in Skeet in front station 1 all targets, and station 8 low house.

Use proper sunglasses to prevent brightness
SHOOTING IN DIFFERENT WEATHER CONDITION
PARTLY CLOUDY

Be careful when:
• Light suddenly changes just before to call for the target, with a not uniform background

Choose the right set of lenses which highlight the orange of the clay target and enhance the contrast in low light condition
SHOOTING IN DIFFERENT WEATHER CONDITION
RAINY

✓ Be careful when:
  • It’s not easy to perceive the initial trajectory
  • Raindrops fall on the gun or on the lenses

✓ Use the same technique, full focus only on the performance

✓ Get ready to wear rain clothes

✓ Take with you all the necessary equipment

✓ If given the chance, avoid wearing glasses because drops can fall on the lenses leading to poor visibility
SHOOTING IN DIFFERENT WEATHER CONDITION

WINDY

- Be careful when:
  - The wind may change the target’s flight path or push it from different sides

- Be ready to understand direction of the wind and if needed make corrections to the holding point to compensate changes in the target speed or trajectory

- Be focused at keeping the barrels within the peripheral attention with no hard focus to keep them locked
SHOOTING IN DIFFERENT WEATHER CONDITION: SNOWY

- Be careful when:
  - The glow of the snow distracts you
  - Not easy to perceive the initial trajectory of the target
  - Very low temperature

- Wear different layers of warm clothes

- Wear sunglasses, using dark lenses to enhance the contrast in high light condition

- If it is not possible to perceive the initial trajectory of the target, it is recommended to move the holding point a bit further away from the bunker in Trap and from the houses in Skeet.

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SHOOTING IN DIFFERENT WEATHER CONDITION

FOGGY

- Be careful when:
  - It may be difficult to see the whole flight trajectory of the target
  - Try to focus harder to get a BETTER VIEW
  - Change the holding gun position to perceive earlier the trajectory

- Be ready to react with your usual timing

- Choose the right lenses which highlight the orange of the target and enhance the contrast in low light condition

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SHOOTING IN DIFFERENT WEATHER
HOT TOWED

• Be careful when:
• You are travelling to a very hot place
• Start hydrating more at least 10 days earlier
• Wear light clothing
• Increase hydration at the end of each series (water is adequate)
• Attention to air-conditioned areas
CORRECTIONS OF THE MOST COMMON MISTAKES

- Anticipating the reading time of the trajectory when you call the target
  - Correct angular distance with aiming line
  - Correct holding point

- Moving towards the known direction on the call
  - Activate peripheral attention
  - Start slightly late by lengthening the voice

- Contracting muscles on the call
  - Use diaphragmatic breathing
  - Short call
  - Lower the volume of the call
CORRECTIONS OF THE MOST COMMON MISTAKES

Contracted muscles of the shoulders and arms or neck during movement
- Keep the neck muscles relaxed
- Loosen the hand grip on the pistol
- Activate peripheral attention and soft focus

Fixation on the target while it is running the first meters after release
- Keep the peripheral active vision state on the tip of the barrels up to the exit of the target

Carrying out barrels or body movements during the call
- Use diaphragmatic breathing
- Keep back and arm muscles relaxed
- Soft focus
CORRECTIONS OF THE MOST COMMON MISTAKES

Problems in starting the movement or in controlling the barrels during the initial movement

• Check the balance of the shotgun
• Skeet: back balance of 15-20 grams
• Trap: variable balance depending on the type of shooter - fast or slow. Start with neutral balancing

Very late or very early start

• Voice modulation
• Position of the barrels

Narrow hand on the pistol of the stock when pulling the trigger

• Keep the finger pressure on the trigger up to the transition phase
• Perform the mounting action by guiding it with the arm opposite the arm on the mounting side
## CORRECTIONS OF THE MOST COMMON MISTAKES

<table>
<thead>
<tr>
<th>Mistake Description</th>
<th>Corrections</th>
</tr>
</thead>
<tbody>
<tr>
<td>Triggering not firm and too soft</td>
<td>• Put the fingertip under pressure on the trigger before the call</td>
</tr>
<tr>
<td></td>
<td>• Keep the fingertip under pressure on the trigger during transition phase</td>
</tr>
<tr>
<td>Finger held too detached or too much pressure on the trigger after the shot</td>
<td>• Adjust the distance of the trigger to allow the correct positioning of the third phalanx</td>
</tr>
<tr>
<td></td>
<td>• Check for the correct position of the hand on the pistol</td>
</tr>
<tr>
<td>Early or delayed triggering</td>
<td>• Adjust the angular distance between the eyes and the line of sight</td>
</tr>
<tr>
<td></td>
<td>• Keep active state of vision on the call</td>
</tr>
</tbody>
</table>
TACTICS IN SHOOTING

During preparation for the competition:
• Coach must think how the different situations can affect the shooting competition;
• Define tasks to be undertaken before and during the competition;
• Technical, physical and mental aspects need to be trained.
TACTICS IN SHOOTING
TECHNICAL TASKS TO IMPROVE

Before the competition:

• Training with increased or decreased speed of the targets
• Training in hard environmental conditions (strong wind, heavy rain, lack of sunlight, dust...)
• Training with similar conditions as the next competition (same machines, same targets, similar background, similar weather condition)
TACTICS IN SHOOTING
TECHNICAL TASKS TO IMPROVE

Before the competition:
• Training with different cartridges
• Training for finals’ strategy
• Training for shoot-off
• Training for different targets

Special preparation for special needs:
• Training for some angled targets in Trap or specific stations in Skeet
• Issues with microphones or painting on mark or issues with light of the Skeet cabins

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Concentration

- Improving mental control by mental training:
  - Imagery
  - Thought control
  - Breath taking
  - Relaxation
  - Balance techniques
- Arousal
- Improving self confidence
- Positive self talking
- Developing copying strategies
Depending on the competition schedule and the season, it is necessary to increase the physical abilities:

- Endurance
- Strength
- Coordination
- Reactivity
Choosing a suitable shotgun
- Shotgun’s barrel architecture
- Preparing a better shotgun by using different chokes
- Gun fitting of the gun:
  - After losing or gaining weight
  - After injuries
  - After changing shooting styles
- Choosing best cartridges
During the competition, mental strategies and mental strength are the key for achieving the set goals.
TACTICS IN SHOOTING
MENTAL STRATEGIES DURING THE COMPETITION

Factors which may interfere:

• Pieces of targets coming from other ranges
• Voice of the audience
• Range system failure
• Referral by the referee
• More time no-bird
• Noise from other shooters
• Out of order gun
• Different weather conditions
Coach must set different “troubled” training sessions:

- Throwing cartridges or pieces of targets while the shooter is shooting
- Switch on the mobile phone alarm clock
- Close the microphone while the shooter calls for the target
- Training on targets with known trajectories
TACTICS IN SHOOTING
MENTAL STRATEGIES DURING THE COMPETITION

Coach must set different “troubled” training sessions:

• Different number of shooters in the same squad
• Training in different shooting ranges
• Training with different cartridges
• Simulate failure of either gun or cartridges (first or second barrel)
• Simulate interruptions during the round
# SHOOTING DIARY

## Shooting Training Diary

<table>
<thead>
<tr>
<th>ROUND</th>
<th>1st BARREL</th>
<th>1st BARREL MISSED</th>
<th>DUAL</th>
<th>DOUBLE</th>
<th>TOTAL HITS</th>
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### Goals:

<table>
<thead>
<tr>
<th>Follow Up:</th>
</tr>
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<tbody>
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</table>

### Weather:

<table>
<thead>
<tr>
<th>Sunny</th>
<th>Rainy</th>
<th>Cloudy</th>
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<tbody>
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COACH DIARY

- Planning and analyzing athletes’ performance and coaching work
- Need to write down notes or observations, not only by heart
- Planning training sessions or competition and assess them becomes easier
The coach diary is a training session planner, which allows the coach to make a plan of the activities to be carried out on the field.

It helps to remember the different stages of the training plan.

It includes the specific training activities (duration, intensity…) the coach recommends to the athletes.

The diary tracks the progress of the training plan and analyses whether it is effective.

It includes every athlete involved in the sessions and their individual progress.
# TRAINING DIARY

## GENERAL TRAINING PLAN

### Training Plan Overview

<table>
<thead>
<tr>
<th>Month</th>
<th>Period</th>
<th>Goal</th>
<th>Training Focus</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jan</td>
<td>Preparation</td>
<td>-</td>
<td><strong>Basic Mounting Technique</strong></td>
</tr>
<tr>
<td>Feb</td>
<td>-</td>
<td>-</td>
<td><strong>Mounting Technique</strong></td>
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<tr>
<td>Mar</td>
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<td><strong>Mounting Technique</strong></td>
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<td>Apr</td>
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<tr>
<td>May</td>
<td>-</td>
<td>-</td>
<td><strong>Mounting Technique</strong></td>
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</table>

**Notes:**
- **Basic Mounting Technique:** Focus on mastering the basic movements.
- **Mounting Technique:** Enhance skills in performing mounting actions.

### Specific Training Modules

- **A2:**
  - Basic Mounting Technique
  - Mounting Technique

- **A3:**
  - Technical Movements
  - Training to improve starting action

- **A4:**
  - Small competitions
  - Focus on actions tailored to enhance level of concentration

- **A5:**
  - Target routine
  - Improved technique
  - Competition routine
  - Boost off
### TRAINING SCHEDULE BY HOUR AND ROUND JANUARY

<table>
<thead>
<tr>
<th>1st WEEK</th>
<th>2nd WEEK</th>
<th>3rd WEEK</th>
<th>4th WEEK</th>
<th>5th WEEK</th>
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<tbody>
<tr>
<td>Cycle 1</td>
<td>Cycle 2</td>
<td>Cycle 3</td>
<td>Cycle 4</td>
<td>Cycle 5</td>
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**Total Month:** 0 0 24

### SPECIFIC TRAINING SCHEDULE

<table>
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<tr>
<th>1st WEEK</th>
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</table>

**Practice module Identification:** A1 A2

- NR: normal round
- 15M: only 15 meter
- SCP: shoot and pass
- TARGET: target
- S1: S1 target
- S: Shoot
- C: Central
- L: Left
- R: Right
- PR: normal round with "pause"
**OBJECTIVE OF TRAINING SESSION:**

**OFFICIAL TRAINING**

**EVALUATION:**

**Savvides:**
First round 23 missed targets because of too long voice and late start. Second zero he performed a wrong gun mounting. He noticed it but refused to open the gun and restart the routine.

**Milonas:**
First round 25 2 second shots because of unproper contact between cheek and stock before calling. Second round 23. Missed last 2 targets (known targets)

**TRAINING METHOD AND ACTIVITY**

**NORMAL ROUNDS**

**OUTCOMING METHOD:**

**Savvides:**
Instead of focusing to find the right feelings and read the proper trajectories, he kept on searching for a better gun mounting position. Competition will start tomorrow and he does not seem very sure. This is his very first international competition and he is starting to feel pressured.

**Milonas:**
He is shooting with incredible self-confidence. Just remind him to lengthen his voice before the target call.

---

**Weather** | **Targets:** | **rounds:** | **Follow up:**
---|---|---|---
Sunny | Cloudy | Rainy | N:2 | Competition 1 day

**Performance rate** | **training mode:**
---|---
Shooter: 7 | Coach: 7 | Competition mode
This part includes the volume and intensity of the training sessions and the areas of performance the coach needs to improve.

- Maintainig performance
- Correction of technical issues
- Improvement of mental routines
- Stress and competition mode
- Improvement of technical routines
- Team building
This is the part describing the type of exercise for each area of performance the coach assigns to the athletes.
This part is divided by:
- Weekly training areas
- Daily training volume
- Specific type of exercise for each training session

### TRAINING SCHEDULE BY HOUR AND ROUND JANUARY

<table>
<thead>
<tr>
<th>Cycle</th>
<th>1st WEEK</th>
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### SPECIFIC TRAINING SCHEDULE

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<td>17</td>
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</tbody>
</table>

Practice module identification: A1 A2

- NR: normal round
- DFM: dry fire mode
- SCP: single cartridge with "pause"

- 3XT: 3 time X TARGET
- SCR: single cartridge right target
- T: tape 10 m targetway
- PR: normal round with "pause"
This part is designed for the evaluation of the individual training session:

- Have the assignments been carried out?
- Which approaches did not work and why
- Evaluation of mistakes and causes
- Session and technical performance ratings

### TRAINING DIARY

#### SECTION 4 - SESSION EVALUATION

<table>
<thead>
<tr>
<th>SHOOTER:</th>
<th>LOCATION:</th>
<th>LAYOUT:</th>
<th>DATE:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Savvides, Milonas</td>
<td>Al ain wc</td>
<td>a,b,c</td>
<td>16/04/13</td>
</tr>
</tbody>
</table>

#### OBJECTIVE OF TRAINING SESSION:

#### TRAINING METHOD AND ACTIVITY

<table>
<thead>
<tr>
<th>OFFICIAL TRAINING</th>
<th>NORMAL ROUNDS</th>
<th>OUTCOMING METHOD:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SAVVIDES:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>First round 23 missed targets because of too long voice and late start. Second zero he performed a wrong gun mounting. He noticed it but refused to open the gun and restart the routine.</td>
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<td>Instead of focusing to find the right feelings and read the proper trajectories, he kept on searching for a better gun mounting position. Competition will start tomorrow and he does not seem very sure. This is his very first international competition and he is starting to feel pressured</td>
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| **MILONAS:** | |
| First round 25 second shots because of unproper contact between cheek and stock before calling. Second round 23. Missed last 2 targets (known targets) | He is shooting with incredible self-confidence. Just remind him to lengthen his voice before the target call |
TRAINING DIARY
SECTION 5 - RATE THE SESSION

• Considers all the factors that have an impact on the performance of your shooters:
  • Technical, mental, tactical, weather condition
• Helps to quickly identify good and bad sessions through:
  • Diary consultation
  • Resulting method

<table>
<thead>
<tr>
<th>Weather</th>
<th>Targets:</th>
<th>rounds:</th>
</tr>
</thead>
<tbody>
<tr>
<td>sunny:x</td>
<td>Cloudy:</td>
<td>rainy:</td>
</tr>
<tr>
<td>Performance rate:</td>
<td>training mode:</td>
<td></td>
</tr>
<tr>
<td>shooter:7</td>
<td>Coach:7</td>
<td>Competition mode</td>
</tr>
<tr>
<td>N:2</td>
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</table>
This part helps to identify areas to work on in the following sessions.

It highlights the most beneficial activities and what to do to repeat them.

It tracks the planning for additional workout to reinforce a specific aspect.

<table>
<thead>
<tr>
<th>Follow up:</th>
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<tbody>
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</table>
Write both positive and negative things:

- Be honest with yourself
- Take the required time to write
- Be concise but don't forget anything important
- Only enter useful information
- Write every time you go out in the field
It can be used to list the details of each individual competition:

- Write down the patterns or the setting of the targets and the features of the field
- Performance goals and competition goals to assess
THE COACH DIARY
AT THE COMPETITION

Write down the areas of the shooter’s technique you wish to observe during the competition

Observe and write down attitude, approach and consistency of the shooter during all stages of the competition
The coach acquires tactical knowledge during the competition:

- Weather conditions, layout, colour of the lenses...

How all this factors influenced the athletes:

- Shooters attitude/approach
- Scores per round, missed shots, second barrel
- What worked well, what did not
This is a debrief section listing the areas of work the coach has observed and that require further work before the next competition:

• Technical, tactical and mental situations to take into account
• What needs to be changed in the view of the next training session/competition
• Which elements of the plan should be kept
You will benefit from the diary by entering only relevant information

Be honest in your evaluation and analysis

Create a sample diary you can keep

Believe in its worthiness, you will need it

Take your time to think before writing

Always use it

Once completed do not throw it away
• The diary can be used to list the details of the competition plan or training sessions

• The diary is a personal journey of the athlete

• Only useful information must be written down:
  • Take note of the patterns or target settings and the range features
  • Take note of weather infos regarding the training session or the competition day
  • Performance goals and competition goals for a specific training session or event the shooter wants to achieve
The areas the shooters wishes to work on during the competition

The shooters may rate his own attitude, approach, consistency during all phases of the competition or training session

Follow up for the coming training session or competition
The athlete acquires tactical knowledge during the competition or training:

- Weather conditions, layout, colour of the lenses to be used …
- How all this factors influenced the athlete
- Shooters attitude/approach, scores per round, missed shots, second barrel
- What worked well, what did not
This is a debrief section listing the areas of work the shooter has observed and which require further work before the next competition:

• Technical, tactical and mental situations to take into account
• What needs to be changed in the view of the next training session/competition
• Which elements of the plan should be kept
The diary can also be used to help the shooter to remember specific information useful during competition:

Note about food: what and when to eat

Type of music to listen to after waking up, during pre-round routine to get into the right mood, when you are stressed...
Be aware of competition schedule and time schedule for each round.

Be always honest with what you write and you will have a friend you can trust with you.

It can include your pre-shot routine or reinforce your competition goals.
VIDEO EQUIPMENT

It helps to identify the technical mistakes

It helps to compare the technical improvements

It helps to increase and measure performance
VIDEO EQUIPMENT

- Technique
- Environment
- Clay target path

It helps to record visual information about

It helps the athlete to refresh his own technique
USE OF VIDEO EQUIPMENT

• Slow motion and high resolution (or fast) recordings can help to understand more clearly the points to be improved

• Specific software may support the coach to get easier and faster infos and statitstics about shooter’s mistakes
  • Reaction time, percentage of broken targets per each station/pattern
VIDEO EQUIPMENT

• Increase and measure of performances
• Increase and measure of body’s activity (heart rate variability)
• Supports athletes to be more aware about themselves in competition and training
VIDEO ANALYSIS

LIMITS

- No tridimensional movement
- Bidimensional analysis
- Point of view
- Measurement
- Details

ADVANTAGES

- Qualitative analysis
- Timing analysis
- Help for shooters
- Help for coaches
- Details
VIDEO ANALYSIS
VIDEO ANALYSIS
© Diego Gasperini

VIDEO ANALYSIS
AMMO TESTING

Testing the ammo is a personal and customized job according to:

- Type of discipline
- Type of barrels (fix chokes, adjustable chokes)
- At what distance the shooter shots first and second barrel (shooting speed of the shooter or speed of the clays)
- Types of clays (ecological, with prebroken, flash)
- Weather conditions and altitude (humidity and altitude affect the pattern)

It can be carried out at the factory or at the pattern board.
Decide what you want to test in the ammo (shooting the final, velocity of the shooter, found proper pattern at station 1 and 7 coming target in skeet..)

Decide at what distance the shooter will shot

Decide what chokes will be used, if adjustable chokes are available

Choose different brand or type of cartridges (25 or 50 cartridges min required for accurate statistics)
AMMO TESTING

Using pattern board to detect:
• Height of the pellets
• Density of the pellet
• Percentage of the distribution on the board
• Penetration power of the pellets.

Use of software from the manufacturing companies to measure cartridge speed and pressure.
AMMO TESTING STEPS

Open 5/10 cartridges to visually assess its quality and the consistency of the powder/lead dosage

It is important to check:

- Sphericity of the pellets, hardness of the pellets, quantity of antimony, type of powder used (progressive, double base...), type of wadding used
AMMO TESTING STEPS

Penetrating power and energy of the pellets: spruce wood sheets or paraffin sheets are generally used to check the penetrating power of the pellets.

All tests must be repeated at least five times to ensure a reliable result.
AMMO TESTING DISTANCE FROM THE PATTERN BOARD

Trap: first barrel 31-32 meters, second barrel 35-36 meters

Skeet: first barrel 16-17 meters, second barrel 24-25 meters

In the case of testing for the finals, given the existence of inverse double barrels, for the second barrel the distance must be 28-29 metres

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AMMO TESTING IN FACTORY

Use of multiple manometer barrel to calculate:

• Pressure
• Speed
• Cartridge’s barrel time for different calibers of shotgun
Barrel time: it shows the time between the contact of the firing pin with the ignition and the exit of the wadding mass - live flying pellets.

**Speed V1**: (at 1 mt) it shows the energy of the newly fired cartridge.

**Speed at 2.5 mt**: speed officially adopted to measure pellet ammunition.

**Pressure value**: measured in bar,

**PBO**: (pressure at the brake) the amount of pressure of the propulsive gases left at the end of the barrel.

**Complete**: it shows the thrust work carried out by the propulsive gases, therefore the charge of powder.

**Delay**: time calculated from the moment of ignition, therefore from the explosion of the ignition to reaching 10/100 of the maximum pressure. It shows whether combustion takes place in the correct timing, within the standards.