Demonstrate Rifle Marksmanship Skills

OVERVIEW

- The Fundamentals
- Characteristics of the RCO
- Nomenclature of the RCO
- Zero the RCO

LEARNING OBJECTIVES

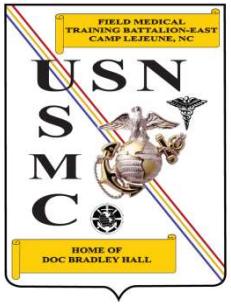
Please Read Your

Terminal Learning Objectives

And

Enabling Learning Objectives

COMPRESSING THE FUNDAMENTALS



MUST BE **QUICK** AND **EFFECTIVE**

NO ROOM FOR ERROR OR HESITATION!!!

COMPRESSING THE FUNDAMENTALS

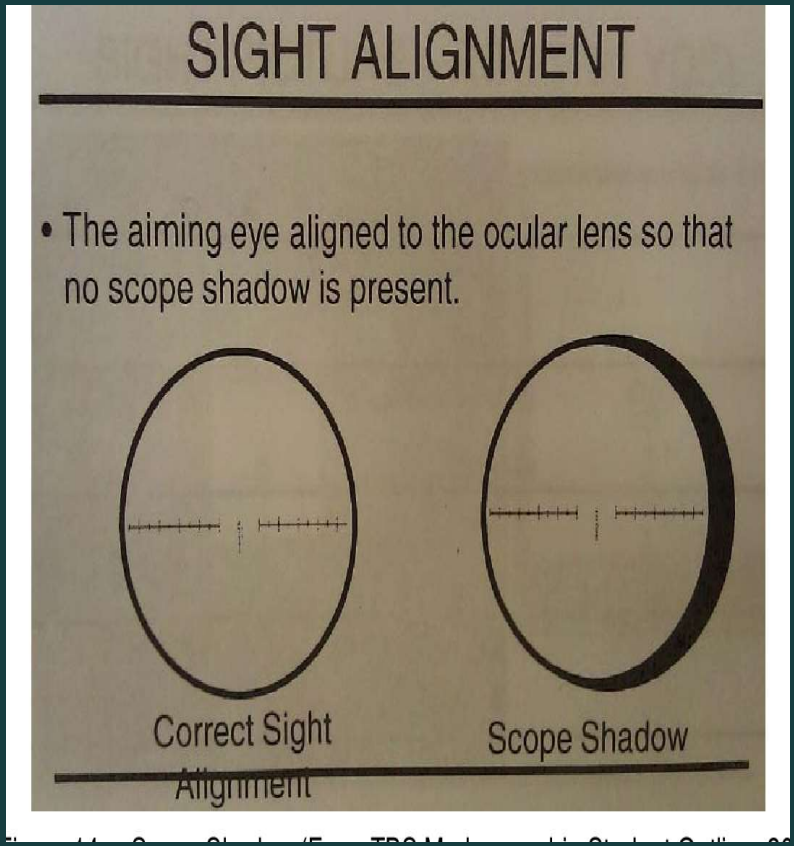
Quick Engagement

- Sight alignment and Sight picture simultaneously
- Shots should be rapid and accurate
- Do not shoot out of own capabilities as shots will be ineffective

APPLYING THE FUNDAMENTALS

AIMING

- SIGHT ALIGNMENT AND SIGHT PICTURE SHOULD BE SIMULTANEOUS
- SIGHT ALIGNMENT AND SIGHT PICTURE FIRST PRIORITY



APPLYING THE FUNDAMENTALS

Long range engagements

- Correct Sight Alignment and Sight Picture essential
- Target comes to sights not sights to target

APPLYING THE FUNDAMENTALS

Short range engagements

- Brief deviation from sight alignment
- Front sight tip, rear sight aperture and target must be aligned
- Dictated by own personal abilities

APPLYING THE FUNDAMENTALS

Presentation

- Stock weld and eye relief should remain consistent
- Initial focus on target then concentrate on sights tip of front sight on target for sight picture

APPLYING THE FUNDAMENTALS

O-2 Sights

- Close engagements under 200 yards/night
- Wider field of view
- Sight alignment more difficult
- Use 300 yard line setting

APPLYING THE FUNDAMENTALS

Breath Control

- Will vary due to increased heart rate
- Hold breath long enough for shots

APPLYING THE FUNDAMENTALS

Trigger Control

- Begins with presentation after Safety off
- Firm grip to maintain stability
- After Sight Picture one continuous movement of trigger to the rear without jeopardizing sight alignment

APPLYING THE FUNDAMENTALS

Follow Through/Recovery

- Starts when round leaves barrel
- Allows for sights to be back on target for next shot

THE CHARACTERISTICS OF A RIFLE COMBAT OPTIC (RCO)

- The Service rifle is defined as a M16A4 rifle or M4 carbine equipped with an RCO. The primary sight for the Service rifle is the RCO.

- The RCO (also known as the ACOG) is a day and night dual source illuminated telescopic sight with a tritium illuminated reticle pattern designed for the M-16 family of weapons

THE CHARACTERISTICS OF A RIFLE COMBAT OPTIC (RCO)

- The RCO system uses fiber optics to provide a low light and night aiming capability and eliminates the need for batteries.

- The RCO incorporates Tritium Lamp lights in order to illuminate the reticle pattern present in the optic.

THE CHARACTERISTICS OF A RIFLE COMBAT OPTIC (RCO)

- It is calibrated to accommodate for bullet drop when a round is fired which eliminates the need for adjustments once the system is zeroed with the weapon.

- It is a four power optic. The USMC fielded the RCO in order to give its Marines the ability identify and accurately engage targets out to 800 meters.

THE CHARACTERISTICS OF A RIFLE COMBAT OPTIC (RCO)

- Rifle mounted aiming system
- Length 5.8 inches
- Weight 15.3 ounces
- Magnification 4 times
- Objective Aperture 32mm
- Eye Relief (Distance from the eye to the eye piece) 1.5 inches for optimal picture
- Exit Pupil (Size in diameter of the eyepiece you look through) 8mm wide

THE CHARACTERISTICS OF A RIFLE COMBAT OPTIC (RCO)

- Allows for rapid target acquisition
- Allows for considerable eye latitude
- Field of View 7.0 degrees at 100m (12.7m across)
- Chevron Width 19 inches at 300m
- 19 inches is the average width across a person's chest.

THE CHARACTERISTICS OF A RIFLE COMBAT OPTIC (RCO)

Benefits of using the RCO

- Allows individual to quickly estimate range of targets.
- Acquire partially camouflaged targets at ranges beyond 300 meters.
- Allows individual to see into and through shadows, windows and foliage.
- Acquire targets in low light conditions.

THE CHARACTERISTICS OF A RIFLE COMBAT OPTIC (RCO)

- ID enemy vs. non-combatant vs. friendly.
- Reduce potential for fratricide.
- Enhance combat exchange ratio in our favor.
- Allows for accurate fire support.
- Reduce ammo expenditure

NOMENCLATURE OF A RIFLE COMBAT OPTIC (RCO)

The TA31RCO (AN/PVQ-31B).

The RCO/ provides the shooter with quick target acquisition at close combat ranges while providing enhanced target identification and hit probability out to 800 meters utilizing the Bullet Drop Compensator (BDC)

NOMENCLATURE OF A RIFLE COMBAT OPTIC (RCO)

- The optic incorporates dual-illumination technology using a combination of fiber optics and self-luminous Tritium. This allows the aiming point to always be illuminated without the use of batteries

- The Tritium illuminates the aiming point in low light conditions, and the fiber-optic self adjusts reticle brightness during daylight according to ambient light conditions

NOMENCLATURE OF A RIFLE COMBAT OPTIC (RCO)

- This allows the operator to keep both eyes open while engaging targets and maintaining maximum situational awareness.

NOMENCLATURE OF A RIFLE COMBAT OPTIC (RCO)

Nomenclature:

- The **elevation adjuster** is located on top of the RCO. It is used for adjusting the elevation.
- The **eye piece** is located at the back of the RCO.
  - It is used for magnification and protection of the RCO.
- The **fiber optic light collector** is located forward of the elevation adjuster on top of the RCO and is used for gathering light for the RCO.

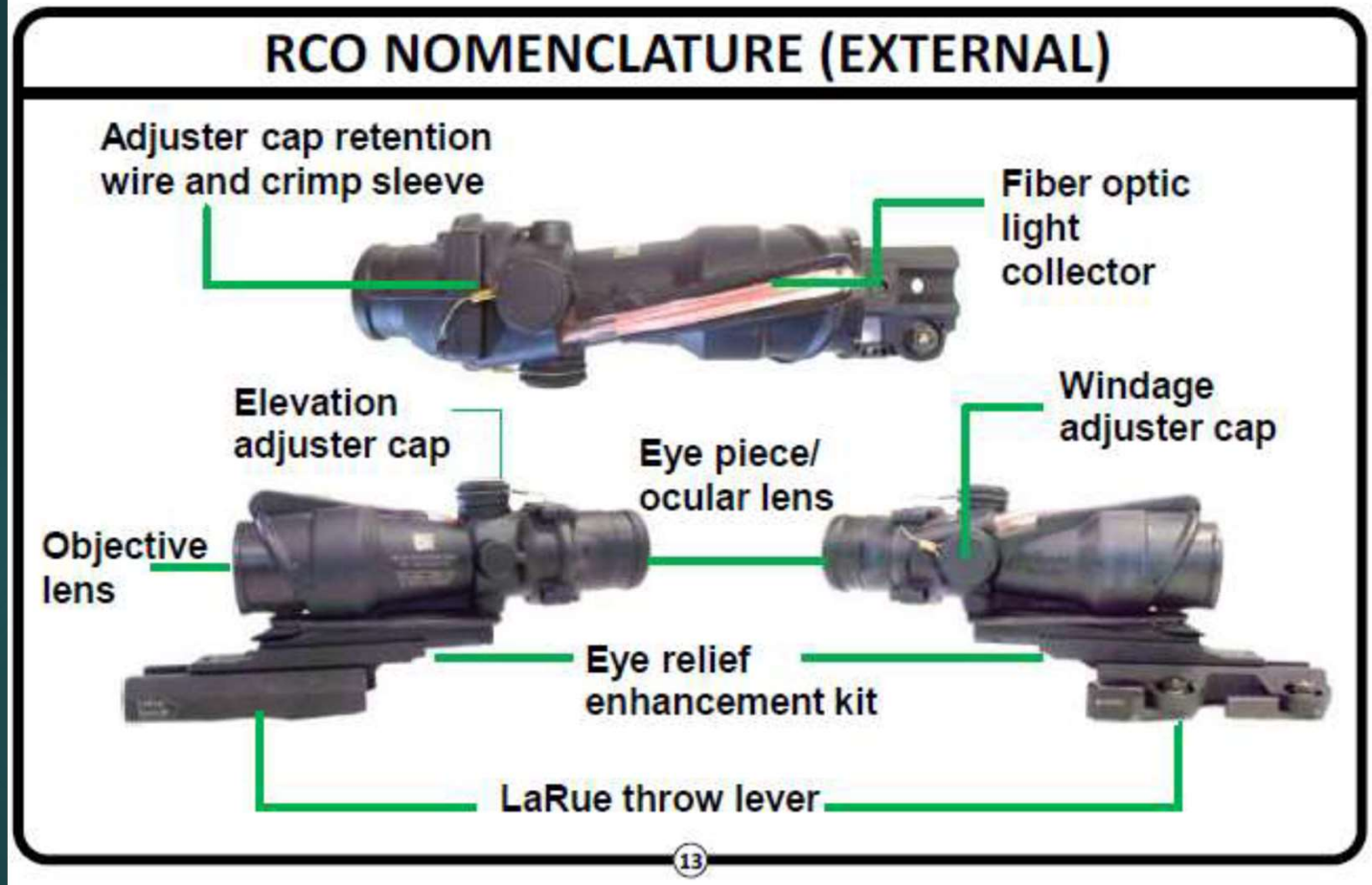
NOMENCLATURE OF A RIFLE COMBAT OPTIC (RCO)

- The **roof prism** is located inside the RCO in between the eye lenses and the elevation adjuster. It is used for reflecting the image off of the objective lens, to the eye lenses, to the human eye.

- The **windage adjuster** is located on the right side of the RCO as you are looking through the eye lenses. It is used for adjusting right and left.

- The **objective lens** is located in the front of the RCO. It is used for magnifying and protection.

NOMENCLATURE OF A RIFLE COMBAT OPTIC (RCO)



MAINTAIN THE RCO SO THAT IT IS CLEAN AND SERVICEABLE

Cleaners should not be used on the RCO.

- Use a paint brush to clean off and dirt or dust on the RCO
- Use a soft lens wipe to clean off the optic

PERFORM ZEROING PROCEDURES TO ACHIEVE POINT OF AIM (POA)/POINT OF IMPACT (POI)

A zero is the elevation and windage settings required to place a single shot,
or
the center of a shot group, in a pre-designated location on a target at 100 yards/meters, from a specific firing position, under ideal weather conditions
(i.e., no wind).

- **PERFORM ZEROING PROCEDURES TO ACHIEVE POINT OF AIM (POA)/POINT OF IMPACT (POI)**

Zeroing the RCO is conducted at 100 meters/yards. A zero is not established by simply getting a pre-zero sight setting. A zero established at 33 meters/36 yards is not nearly as accurate as a zero established at 100 meters.

To zero the RCO:

PERFORM ZEROING PROCEDURES TO ACHIEVE POINT OF AIM (POA)/POINT OF IMPACT (POI)

- Fire five rounds to obtain a shot group.
- Triangulate the shot group to identify the center.
- Determine the vertical and horizontal distance in inches from the center of the shot group to the center of the target.

PERFORM ZEROING PROCEDURES TO ACHIEVE POINT OF AIM (POA)/POINT OF IMPACT (POI)

- Adjust the reticle to move the center of the shot group to the desired point of impact. 3 clicks move the strike of the round 1 inch at 100 meters for both windage and elevation.
- Fire five rounds to obtain a shot group.
- Adjust the reticle to move the center of the shot group to the desired point of impact.

PERFORM ZEROING PROCEDURES TO ACHIEVE POINT OF AIM (POA)/POINT OF IMPACT (POI)

Fire five rounds to confirm the zero. The rifle is considered zeroed when a shot group is inside the 4-inch aiming area of the target.

Record zero in data book.

PERFORM ZEROING PROCEDURES TO ACHIEVE POINT OF AIM (POA)/POINT OF IMPACT (POI)

STOCKWELD AND EYE RELIEF (5)

BUTT OF WEAPON HIGH IN POCKET OF SHOULDER (2)

(1) FORWARD HAND RELAXED AND ELBOW CLOSE TO THE WEAPON (PROVIDING VERTICAL BONE SUPPORT)

(6) BREATHING

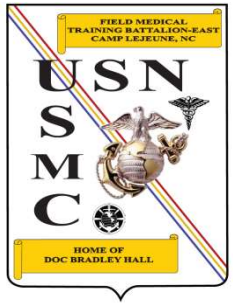
(7) MUSCULAR CONTROL

(3) HIGH FIRM PISTOL GRIP

PLACEMENT OF REAR ELBOW (4)

Natural Point of Aim	Natural point of aim is the point at which the rifle sights settle when bone support and muscular relaxation are achieved. The marksman will always check it (and adjust as necessary) every time a position is built.

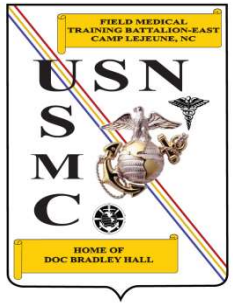
FACTORS AFFECTING A ZERO



- There are several factors that can affect your ability to place accurate fire on a target, as well as maintain an accurate and stable zero.

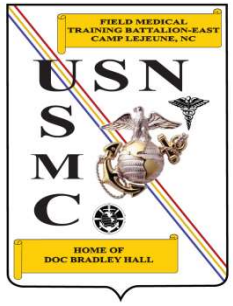
- Anything the shooter changes from shot to shot affects the zero on their RCO. These are some of the common factors that, when applied inconsistently, affect your ability to maintain the accuracy of your zero:

FACTORS AFFECTING A ZERO



- Placement of support hand
- Placement of the rifle buttstock in the pocket of the shoulder
- Grip of the firing hand
- Firing-side elbow
- Stock weld
- Eye relief

FACTORS AFFECTING A ZERO



- Sight picture
- Muscular control
- Breathing
- Trigger control
- Sling tension

DEMONSTRATION

COACHING

Demonstrate Rifle Marksmanship Skills