



DIV-4
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UNITED STATES MARINE CORPS
WEAPONS TRAINING BATTALION
MARINE CORPS COMBAT DEVELOPMENT COMMAND
QUANTICO, VIRGINIA 22134-5040

DETAILED INSTRUCTOR GUIDE

LESSON TITLE

FUNDAMENTALS OF RIFLE MARKSMANSHIP

COURSE TITLE

DIVISION MATCH COURSE



UNITED STATES MARINE CORPS
Weapons Training Battalion
Marine Corps Combat Development Command
Quantico, Virginia 22134-5040

DETAILED OUTLINE

FUNDAMENTALS OF RIFLE MARKSMANSHIP

INTRODUCTION

(3 MIN)

1. GAIN ATTENTION. In marksmanship, there are no tricks or shortcuts. The secret of effective marksmanship is the application of the fundamentals. The fundamentals of marksmanship are applied the same whether in training or in combat. Emphasis is placed on the fundamentals from the first day of Entry Level training through Combat Marksmanship Training throughout a Marine's career. The best firing positions, equipment, and techniques are only as good as the Marine's ability to apply the fundamentals. The Marine's development of fundamentals in training will determine his effectiveness in combat.
2. OVERVIEW. This lesson will cover the fundamentals of rifle marksmanship; aiming, breath control, and trigger control.
3. INTRODUCE LEARNING OBJECTIVES. The Division Match instruction is structured to prepare the shooter to fire the Division Match Course and is not a component of a formal school program. Therefore, there are no learning objectives.
4. METHOD. This lesson will be taught in a classroom setting using lecture.
5. EVALUATION. The Division Match instruction is structured to prepare the shooter to fire the Division Match Course and is not a component of a formal school program. Therefore, students are not evaluated on this material.

TRANSITION: The ability to maintain the correct relationship between the front sight post and the rear sight aperture is essential for accurate shooting. Because of the short distance between the rifle sights, a small error in their alignment causes a considerable error at the target. In sighting and aiming, the rifle is aimed so the bullet will hit the target when fired. For this to happen, the rear sight and the front sight post must be in proper alignment.



BODY

(35 MIN)

1. (17 MIN) AIMING

a. Sight Alignment and Sight Picture

1) Sight Alignment. Sight alignment is the relationship between the front sight post and rear sight aperture and the aiming eye. This relationship is critical in aiming and must remain consistent from shot to shot. A sight alignment error results in a misplaced shot. As the distance to the target increases, so does the error. Correct sight alignment is as follows:

(ON SLIDE #1)

a) Center the tip of the front sight post vertically and horizontally in the rear sight aperture.

b) Imagine a horizontal line drawn through the center of the rear sight aperture. The top of the front sight post will appear to touch this line. Imagine a vertical line drawn through the center of the rear sight aperture. The line will appear to bisect the front sight post.

c) This has been found to be the most natural method of sight alignment because the eye will instinctively accomplish this task with little training. This method also causes the least amount of inconsistency from shot to shot.

2) Aiming. Aiming is applying correct sight alignment to a target.

3) Sight Picture. Sight picture is the placement of the tip of the front sight post in relation to the target while maintaining sight alignment. Correct sight alignment but improper sight placement on the target will cause the bullet to impact the target incorrectly on the spot where the sights were aimed when the bullet left the muzzle.

(ON SLIDE #2)

a) The tip of the front sight post is placed at the center of the target while maintaining sight alignment. Center mass is the correct aiming point so that point of aim/point of impact is achieved.

b) The sighting system for the rifle is designed to work using a center mass sight picture.



c) In combat, targets are often indistinct and oddly shaped. The center mass hold is the most sensible to use because it provides a consistent aiming point.

4) Relationship Between the Eye and Sights. The human eye can focus clearly on only one object at a time. For accurate shooting, it is important to focus on the tip of the front sight post throughout the sighting and aiming process.

a) While exhaling and bringing the front sight to the target, your focus should be shifted repeatedly from the front sight post to the target until the correct sight picture is obtained. Once sight picture is obtained, your primary focus should be the tip of the front sight post. This enables the detection of minute errors in sight alignment.

b) During firing, your peripheral vision will include the rear sight and the target. The rear sight and the target will appear blurry.

c) An inexperienced shooter may have difficulty accepting that the final focus must be on the tip of the front sight post with the target appearing indistinct.

d) To stare or fix your vision on the front sight post for longer than a few seconds can affect your perception of a true sight picture; it may distort the image, and it makes it difficult to detect minute errors in sight alignment.

e) Proper focus on the tip of the front sight post ensures accuracy in marksmanship.

b. Stock Weld and Eye Relief

1) Stock Weld. Stock weld is the point of firm contact between your cheek and the stock of the rifle. Your head should be as erect as possible to enable the aiming eye to look straight through the rear sight aperture.

a) If the position of the shooter's head causes him to look across the bridge of his nose or out from under his eyebrow, the eye will be strained. The eye functions best in its natural forward position. Eye strain will produce involuntary eye movements which reduce the reliability of vision. This will affect your shooting performance.



b) Changing the placement of your cheek up or down on the stock from shot to shot may affect shot placement and the battlesight zero (BZO) on the rifle due to your perception of the rear sight aperture. (BZO will be discussed in a subsequent lesson.)

2) Eye Relief. Eye relief is the distance between the rear sight aperture and the aiming eye.

a) Normal eye relief is two to six inches from the rear sight aperture. Every shooter is different. The distance between the aiming eye and the rear sight aperture depends on how long the shooter's neck is and the position of the rifle stock in his shoulder. Your eye relief should be what is comfortable.

b) If your eye is too close to the rear sight aperture, it will be difficult to line up the front sight post in the rear sight aperture. Moving your eye back from the rear sight aperture will make the aperture appear smaller and allow the tip of the front sight post to be easily lined up inside the rear sight aperture.

c) However, if your eye is too far from the rear sight aperture, it will be difficult to acquire the target and to maintain a precise aiming point.

d) While eye relief varies from one position to another, it is important to have the same eye relief for all shots fired from a particular position.

c. Wearing of Glasses. Wearing glasses can alter the perception of sight alignment and sight picture. If wearing glasses, it is critical to look through the optic center of the lens.

d. Cleaning/Blackening Sights

1) Clean your sights regularly using an all-purpose brush or wipe them with a dry, clean patch.

2) Shiny sights can cause glare, making it difficult to obtain proper sight alignment and sight picture. When sights become so shiny that it becomes difficult to obtain sight alignment or sight picture, return the rifle to the armory for sights replacement or permanent blackening.



Confirm by questions.

TRANSITION: Breath control is also critical in the aiming process. If breathing while trying to aim, the rise and fall of your chest will cause the rifle to move vertically. Normal breathing will not interfere with sight alignment, but to complete the process of aiming, breath control must be practiced.

2. (3 MIN) BREATH CONTROL

a. Natural Respiratory Pause

1) A respiratory cycle (inhaling and exhaling) lasts about four or five seconds. Between respiratory cycles there is a natural pause of two to three seconds. This is the natural respiratory pause. During the respiratory pause, breathing muscles are relaxed and the rifle sights settle at their natural point of aim. The shooter should fire at this point.

2) Some Marines can extend this natural pause up to ten seconds to fire a shot. The pause should last as long as the Marine feels comfortable with it. It really depends on physical condition and lung capacity. A shooter holding his breath longer than is comfortable results in a lack of oxygen. This causes his vision to deteriorate and affects his ability to focus on the sights.

b. Technique for Breath Control During Slow Fire

1) Assume a firing position.

2) Stop breathing at your natural respiratory pause and make final adjustments to your natural point of aim.

3) Breathe naturally, until your sight picture begins to settle.

4) Take a slightly deeper breath.

5) Exhale and stop breathing at the natural respiratory pause.

6) Fire the shot, during the natural respiratory pause.

c. Techniques for Breath Control During Rapid Fire. There are two techniques for breath control during rapid fire:



1) Breathing Between Shots. In this method the Marine breathes after each shot is fired. This establishes a rhythm for shooting.

- a) Assume a firing position.
- b) Stop breathing at your natural respiratory pause.
- c) Fire the shot during the natural respiratory pause.
- d) Repeat steps b) and c) until all five shots have been fired.

2) Holding the Breath

- a) Assume a firing position.
- b) Take a deep breath filling the lungs with oxygen.
- c) Hold your breath and apply pressure to the trigger.
- d) Fire the shots.

Confirm by questions.

TRANSITION: During the natural respiratory pause a precise aiming point must be achieved and the trigger must be pulled without disturbing the aiming process. Firing the rifle without disturbing a perfect aim is the most important fundamental after sight alignment. Not hitting where you aim is usually caused by your aim being disturbed just before or as the bullet leaves the barrel. Most bad shots are caused by the shooter upsetting his sights or aiming point. Trigger control and follow-through must be employed to shoot accurately.

3. (13 MIN) TRIGGER CONTROL

a. Definition. Trigger control is the skillful manipulation of the trigger that causes the rifle to fire, while maintaining sight alignment and sight picture.

b. Grip and Placement of the Trigger Finger

1) Firm Grip of the Hand on the Pistol Grip. A firm grip is essential for good trigger control. Establish a grip before starting the application of trigger control and maintain it through the shot's duration. Establish a firm grip on the rifle as follows:



- a) Place the "V" formed between the thumb and index finger on the pistol grip directly behind the trigger.
- b) Place the fingers and thumb around the pistol grip in a location that allows the trigger finger to rest naturally on the trigger.
- c) The grip should be firm enough to allow manipulation of the trigger, without disturbing the sights.

2) Trigger Finger Placement. A shooter must understand correct trigger finger placement before he masters trigger control.

- a) A shooter's trigger finger should contact the trigger naturally. He should not make any special effort to place a certain portion of his finger on the trigger. Placement of his finger on the trigger depends greatly on the size of the shooter's hand and the manner in which the pistol grip is gripped.
- b) Placement is correct, when it allows trigger movement straight to the rear, without disturbing sight alignment.

c. Techniques of Trigger Control

1) Uninterrupted Trigger Control. The preferred method of trigger control is uninterrupted. After obtaining sight picture, the Marine applies smooth, continuous pressure rearward, until the shot is fired.

- a) Apply pressure to the trigger, while maintaining focus on the tip of the front sight post. It should appear sharply focused and distinct.
- b) Maintain complete concentration on sight alignment until the shot is fired.



2) Interrupted Trigger Control. In interrupted trigger control, the trigger is moved to the rear, until an error is detected in the aiming process. When this occurs, rearward pressure is stopped until sight picture is achieved. When the sight picture settles, the rearward pressure is continued until the shot is fired.

a) This method of trigger control is used in extremely windy conditions when the weapon will not settle. It forces the Marine to pause until the sights return to his aiming point.

b) A shooter should not force his rifle by steering it into an aiming point. Let the rifle move naturally toward and away from the aiming point on the target. If the rifle is moving toward the target, continuously apply trigger pressure. If the rifle is moving away from the target or aiming point, hold trigger pressure until the rifle starts drifting back toward the aiming point. Then, he should apply pressure to the trigger. If the shot breaks as the sights are moving toward the aiming point, the shot will normally be inside a shooter's call.

d. Timing of Trigger Control

1) Controlling the trigger is a mental process. Everyone has probably heard or read that trigger control is such a subconscious process that a surprise shot is fired. This is a good way to develop trigger control.

2) A shooter must develop trigger control so that the shooter fires the shot at the moment the tip of the front sight post settles on his aiming point. It should be a subconscious effort not to disturb the aiming point or sight alignment. The skilled shooter knows when the weapon will fire and manipulates the trigger, so that the shot is fired when he is at his aiming point.

e. Factors Affecting Trigger Control. There are many factors that determine how precisely the trigger can be controlled. Awareness of how these factors affect a shooter's ability to control the trigger helps him perfect trigger control.



1) Grip. Failure to have a firm grip causes the trigger to feel inconsistent from shot to shot. As pressure is applied to the trigger, there is a tendency to tighten the grip on the pistol grip. If the grip is firmly established prior to applying trigger pressure, trigger control is consistent from shot to shot.

2) Trigger Finger Contact with the Trigger. A shooter should keep the middle trigger finger clear of the pistol grip. If his finger touches the side of the pistol grip, it causes pressure to be applied at a slight angle rather than straight to the rear. Side pressure applied no matter how slight, tends to pull the sights off the aiming point.

Confirm by questions.

TRANSITION: Trigger control enables the shooter to maintain sight alignment and sight picture when taking a shot. It is a difficult skill to acquire and shooters must achieve it to avoid errors such as flinching, bucking, and jerking. In addition, stability of hold has a direct result on trigger control and shooting performance. The consistent application of the fundamentals of marksmanship depends on follow-through.

4. (2 MIN) FOLLOW-THROUGH

Follow-through is the continued application of the fundamentals until the round has exited the rifle barrel. Care should be taken not to shift your position, move your head, or let the muzzle of the rifle drop until the bullet has left the barrel. This is important so the direction of your shot will not be disturbed. Proper follow-through reduces the likelihood of errors.

Confirm by questions.

TRANSITION: Mastering the fundamentals of marksmanship and applying follow-through are critical elements to achieving proficiency and success on the battlefield.



OPPORTUNITY FOR QUESTIONS:

(1 MIN)

1. Respond to questions from the class.
2. Prompt Marines with questions to the class.
 - a. QUESTION: What are the three fundamentals of marksmanship?

ANSWER: Aiming, breath control, and trigger control.

- b. QUESTION: Where should the shooter's eye be focused when he is aiming and shooting?

ANSWER: On the tip of the front sight post.

- c. QUESTION: What is follow-through?

ANSWER: The continued application of the fundamentals until the round has left the barrel.

<p><i>INSTRUCTOR'S NOTE:</i> Ask Marines as many questions as necessary to ensure they fully understand the material presented in this lesson.</p>

SUMMARY:

(1 MIN)

All marksmanship training is geared toward the end result of firing accurately. Basic marksmanship fundamentals are taught first, and all other marksmanship training then supports or reinforces these fundamentals. Rounds will not be accurate if the shooter does not continually practice the marksmanship fundamentals of aiming, breath control, and trigger control. The most skilled shooters in the world got to the top by concentration and careful application of these fundamentals. Even though experienced shooters hone their skills, refine techniques, and add variations, their success is rooted in the proper application of the fundamentals of marksmanship.



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