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

SUSTAINMENT LEVEL RIFLE MARKSMANSHIP (PHASE I, II, III)

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

INSTRUCTOR PREPARATION CHECKLIST

ESSENTIAL DATA

LESSON DESIGNATOR	SLR.3
LESSON TITLE	Fundamentals of Rifle Marksmanship
DATE PREPARED	1 October 1999
TIME	30 min
METHOD	Lecture
LOCATION	Indoor/outdoor classroom
INSTRUCTORS REQUIRED	One Primary Marksmanship Instructor (PMI)
REFERENCE	MCRP 3-01A
TRAINING AIDS/EQUIPMENT	Slides (sSLR.3-1 - sSLR.3-3)

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DETAILED OUTLINE

FUNDAMENTALS OF RIFLE MARKSMANSHIP

INTRODUCTION (3 MIN)

1. GAIN ATTENTION. The fundamentals of marksmanship remain the same whether firing from the 100-yard line or the 500-yard line, whether firing in windy conditions or on a perfectly sunny day, whether firing on a known distance (KD) range or a sand dune halfway around the world. No matter the environment, the fundamentals remain the same. Marines must become proficient marksmen; they do most of their fighting with the M16A2 service rifle. To become proficient, the Marine must master the fundamentals. For marksmanship, these fundamentals are aiming, breath control, and trigger control. These fundamentals must be continually studied and practiced because they are the means by which shots are placed on target.

2. OVERVIEW. This lesson will cover the fundamentals of rifle marksmanship--aiming, breath control, and trigger control.

3. INTRODUCE LEARNING OBJECTIVES. The Terminal Learning Objective and Enabling Learning Objectives pertaining to this lesson are as follows:

a. TERMINAL LEARNING OBJECTIVE. Given an M16A2 service rifle, sling, cartridge belt, magazines, magazine pouches, ammunition, and a target, without the aid of references, fire the rifle at the sustained rate of fire, achieving a five shot group with the size not exceeding seven minutes of angle (MOA) and IAW MCRP 3-01A. (PVTX.11.3)

b. ENABLING LEARNING OBJECTIVES

1) Without the aid of references, identify aiming IAW MCRP 3-01A. (PVTX.11.3a)

2) Without the aid of references, identify breath control IAW MCRP 3-01A. (PVTX.11.3b)

3) Without the aid of references, identify trigger control IAW MCRP 3-01A. (PVTX.11.3c)

4) Given an M16A2 service rifle, sling, cartridge belt, magazines, magazine pouches, ammunition, and a target, without the aid of references, apply the fundamentals of marksmanship while firing the rifle IAW MCRP 3-01A. (PVTX.11.3h)

4. METHOD. This lesson will be taught in a classroom setting using lecture.

5. EVALUATION. The Marine will be evaluated in a comprehensive written examination for Phase I of this course following completion of lessons SLR.1 - SLR.12. Performance will be evaluated via a performance checklist during the 36-Yard Grouping Exercise, SLR.15.

TRANSITION: The purpose of sighting and aiming the rifle is to hit the target when the round is fired. For this to happen, the rear sight and the front sight post must be in proper alignment. 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 front sight post and the rear sight aperture, a small error in their alignment causes a considerable error at the target.

BODY (25 MIN)

1. (15 MIN) AIMING

a. Sight Alignment and Sight Picture

1) Sight Alignment. Sight alignment is the relationship between the front sight post and the 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 margin of error. Correct sight alignment is as follows:

Refer to slide sSLR.3-1.

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 as 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 exited the muzzle.

Refer to slide sSLR.3-2.

a) To achieve correct sight picture, place the tip of the front sight post center mass on 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 M16A2 service rifle is designed to work using the center mass sight picture.

c) In combat, targets are often indistinct and oddly shaped. The center mass hold 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 the 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 and ensures accuracy in marksmanship.

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

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 your head causes you to look across the bridge of your nose or out from under your 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 lesson SLR.10.)

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 Marine is different. The distance between the aiming eye and the rear sight aperture depends on how long the Marine's neck is and the position of the rifle stock in his shoulder. Your eye relief should be what is comfortable.

Refer to slide sSLR.3-3.

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 slightly 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.

1) Elastic bands may be used to hold glasses high on the nose.

2) There are other methods; if you have problems, ask range personnel for assistance.

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. If the sights become so shiny that it becomes difficult to obtain sight alignment or sight picture, the rifle should be returned to the armory to have the sights replaced or permanently blackened.

Confirm by questions.

TRANSITION: Breath control is also critical to the aiming process. If breathing while trying to aim, the rise and fall of the 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. (2 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, your breathing muscles are relaxed and your rifle sights settle at their natural point of aim. The shot should be fired at this point.

2) Some Marines can extend this natural pause up to 10 seconds to fire a shot. The pause should last as long as the Marine feels comfortable with it. It really depends on your physical condition and lung capacity. Holding your breath longer than is comfortable will result in a lack of oxygen, causing your vision to deteriorate and affecting your 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: Not hitting where you aim is usually caused by your aim being disturbed just before or as the bullet leaves the barrel. During the natural respiratory pause a desired aiming point must be achieved and the trigger must be pulled without disturbing the aiming process. Trigger control must be employed to shoot accurately. Controlling the trigger is a mental process, while pulling the trigger is a physical process.

3. (7 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. The grip should be established before starting the application of trigger control and maintained through the duration of the shot. To establish a firm grip on your rifle:

a) Place the "V" formed between your thumb and index finger on the pistol grip directly behind the trigger.

b) Place your fingers and thumb around the pistol grip in a location that allows your trigger finger to be placed naturally on the trigger.

c) Your grip should be firm enough to allow manipulation of the trigger without disturbing the sights.

2) Trigger Finger Placement. The correct placement of the trigger finger must be understood before trigger control can be mastered.

a) Your trigger finger should contact the trigger naturally. No special effort should be made to place a certain portion of your finger on the trigger. Placement of your finger on the trigger depends greatly on the size of your hand and the manner in which the pistol grip is gripped.

b) Your placement is correct when it allows the trigger to be moved 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 trigger control. 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, forcing the Marine to pause until the sights return to his aiming point.

b) Do not force your rifle by steering it into your aiming point. Let the rifle move naturally toward and away from the aiming point on your 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 your trigger pressure until the rifle starts drifting back toward your aiming point. Then apply pressure to the trigger. If the shot breaks as the sights are moving toward your aiming point, the shot will normally be inside your 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) Trigger control must be developed 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 your ability to control the trigger will help you perfect trigger control.

1) Grip. Failure to have a firm grip will cause 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 will be consistent from shot to shot.

2) Trigger Finger Contact with the Trigger. The middle part of your trigger finger should be kept clear of the pistol grip. If your finger touches the side of the pistol grip, it will cause pressure to be applied at a slight angle rather than straight to the

rear. Such side pressure, no matter how slight, will tend to pull the sights off the aiming point.

Confirm by questions.

TRANSITION: Trigger control is a difficult skill to acquire and must be achieved to avoid errors. Mastering the three fundamentals--aiming, breath control, and trigger control--is critical to becoming a proficient marksman. The consistent application of the fundamentals of marksmanship depends on follow-through.

4. (1 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 fires the shot?

   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.

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

SUMMARY: (1 MIN)

Basic marksmanship fundamentals are taught first, and all other marksmanship training supports or reinforces these fundamentals. Shot placement will not be accurate if the Marine does not continually practice the marksmanship fundamentals of aiming, breath control, and trigger control. Experienced shooters hone their skills and refine techniques. Their success is rooted in the proper application of the fundamentals of marksmanship.

SLIDES

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