SLR.20
1 Oct 99

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

DETAILED INSTRUCTOR GUIDE

LESSON TITLE

APPLICATION OF MARKSMANSHIP FUNDAMENTALS IN FIELD FIRING/ OFFSET AIMING

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.20
LESSON TITLE	Application of Marksmanship Fundamentals in Field Firing/ Offset Aiming
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.20-1 and sSLR.20-2)

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

DETAILED OUTLINE

APPLICATION OF MARKSMANSHIP FUNDAMENTALS IN FIELD FIRING/ OFFSET AIMING

INTRODUCTION (3 MIN)

1. GAIN ATTENTION. The demands of combat are stressful. When and where targets will appear is unknown and unpredictable; the duration of target exposure is unknown; and the tempo of the battle is constantly changing. The speed and uncertainty with which combat occurs require the Marine to act without hesitation. But he must still rely on the fundamentals of marksmanship if he is to engage targets quickly and accurately. The Marine must further rely on offset aiming techniques if time does not permit sight adjustments.

2. OVERVIEW. This lesson will cover the fundamentals of marksmanship for field firing, their application to the engagement of limited exposure targets, and offset aiming techniques.

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

a. TERMINAL LEARNING OBJECTIVE. Given an M16A2 service rifle, sling, cartridge belt, magazines, magazine pouches, flak jacket, helmet, suspenders, ammunition, and targets, without the aid of references, engage targets of limited exposure time with the rifle IAW MCRP 3-01A and to achieve a proficiency level IAW MCO 3574.2_. (PVTX.11.6)

b. ENABLING LEARNING OBJECTIVE. Given an M16A2 service rifle, sling, cartridge belt, magazines, magazine pouches, flak jacket, helmet, suspenders, ammunition, and targets, without the aid of references, employ offset aiming techniques IAW MCRP 3-01A. (PVTX.11.6f)

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

5. EVALUATION. Performance will be evaluated via a performance checklist during the Field Firing Live Fire Exercises, SLR.31.

TRANSITION: In combat, targets present themselves quickly and without warning. The effective Marine quickly applies the fundamentals of marksmanship at a rate consistent with his physical capabilities to deliver accurate fire on target. This lesson will present the application of marksmanship fundamentals in field firing.

BODY (25 MIN)

1. (1 MIN) COMPRESSING THE FUNDAMENTALS

In combat, the fundamentals of marksmanship must be applied in the shortest period of time possible while still achieving accurate target engagement. There is no room for error or hesitation. The time required is unique to each individual and his own capabilities.

a. The ultimate goal in quick engagement is to achieve sight alignment and sight picture simultaneously, and to fire the shot at the moment sight alignment and sight picture are acquired.

b. Executing your shots at a rapid but effective rate can be achieved only through practice and experience. Eventually, you will become so skilled that you are not even conscious of the separate steps you take to fire a shot.

c. You must know your abilities. Fire only as quickly as you are capable of firing accurately. Do not exceed your shooting skills in an effort to get rounds quickly on target. Chances are those rounds will be ineffective; and in combat, you might not have a second chance.

Confirm by questions.

TRANSITION: While the fundamentals of marksmanship are equally applied in all shooting scenarios, the speed of their application is increased in combat to quickly and effectively engage targets from various locations and distances.

2. (15 MIN) APPLICATION OF MARKSMANSHIP FUNDAMENTALS IN FIELD FIRING

a. Aiming

1) Sight Alignment/Sight Picture. In field firing, the fundamentals are applied simultaneously in a compressed time so sight alignment and sight picture are achieved as the shot is fired. Although the target must be quickly engaged in combat, sight alignment is still the first priority. Always strive for a clear tip of the front sight post and a center of mass hold.

2) Weapons Presentation as an Aid to Achieving Sight Alignment/Sight Picture

a) Proper stock weld and placement of the butt of the rifle in the shoulder aid in establishing sight alignment quickly. The rifle butt's placement in the shoulder serves as the pivot point for presenting the rifle up to a fixed point on the cheek (stock weld). If the butt of the rifle is placed in the shoulder correctly and stock weld is correct, you should be looking through the rear sight as your rifle is presented.

NOTE
Changing the placement of your head from normal stock weld may affect your BZO.

b) When a target is identified, quickly present the weapon to the target. In combat, you will be looking at the target as you are presenting your rifle. As the rifle sights become level with the aiming eye, visually locate the target through the rear sight aperture. As the rifle settles, shift your focus back to the front sight post to place the tip of the post on the target and obtain sight picture. To maintain sight picture, shift the focus repeatedly from the front sight post to the target until correct sight picture is obtained.

c) Practice during rifle presentation drills and dry fire will help you achieve proper and consistent stock weld. This will aid in getting sight alignment quickly. Do not move your head down to meet the stock of the weapon. Hold your head as erect as possible to allow the aiming eye to see directly through the sights.

3) Sight Alignment and Distance to the Target. As the distance to the target increases, sight alignment becomes more critical for accurate target engagement.

a) Long-range Engagements

(1) As the range to the target increases (i.e., over 100 yards/meters), correct sight alignment and sight picture are more critical for accurate target engagement and should not be compromised for speed.

(2) At longer ranges, the target appears smaller and a more precise shot is required to accurately engage the target. To be accurate at longer ranges, you must take the time to slow down and accurately apply the fundamentals.

(3) As the distance to the target increases, the front sight post covers more of the target, making it difficult to establish a center of mass hold. Since you must see the target to engage it, there is a tendency to look at the target by lowering the tip of the front sight post. This causes shots to impact low or miss the target completely. Consciously aim center mass and attempt to maintain center mass sight picture.

b) Short-range Engagements

(1) Proper sight alignment is always your goal. However, as the distance to the target decreases (e.g., 100 yards/meters or less), perfect sight alignment is not as critical to placing effective shots on the target.

(2) At very short ranges, a deviation in sight alignment can still produce accurate results as long as the tip of the front sight post is in the rear sight aperture and on the target.

(3) Although the goal of a clear front sight post may be compromised at short distances to get a shot off quickly, you should take the time to obtain proper sight alignment and sight picture if a second shot is to be fired on the target.

(4) The time required to accurately engage a target is unique to each individual. Although you must engage the target rapidly, some semblance of sight alignment is still required

to be accurate.

b. Breath Control

1) Breath Control During Long-range or Precision Fire. To minimize movement during long-range engagement, you must fire the shot during the natural respiratory pause. To perform breath control:

a) Breathe naturally until sight picture begins to settle.

b) Take a slightly deeper breath.

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

d) Fire the shot during the natural respiratory pause.

2) Breath Control During All Other Combat Situations. In most combat situations, you will fire two shots and quickly assess the threat/situation. In combat, you may not have time to fire a shot during the natural respiratory pause. Your breathing and heart rate will often be increased due to physical exertion (e.g., running) or the stress of battle. Therefore, you must interrupt your breathing cycle to create a pause that is long enough to fire two shots. To perform breath control:

a) Take a deep breath filling the lungs with oxygen.

NOTE

It may be necessary to take several deep breaths quickly before holding the breath.

b) Hold your breath and apply pressure to the trigger.

c) Fire two shots.

c. Trigger Control. When a combat target appears, it must be engaged as quickly as you can accurately fire. You must stay within your capabilities and strike a balance between speed and accuracy to deliver well-aimed shots on target. Firing quickly but inaccurately is ineffective and will give the enemy time to respond with his own fire. The goal in combat is uninterrupted trigger control. You must be aggressive in applying uninterrupted trigger control. Your trigger finger should be moving to the trigger as the rifle is presented and trigger control should begin as soon as you acquire sight picture. Trigger control in combat is achieved by the following:

1) Maintain a firm grip on the weapon to increase stability and counter the effects of recoil. Even with a tighter grip, the trigger finger must be able to operate independently from the gripping hand so the trigger can be moved straight to the rear without disturbing sight alignment.

2) As presentation of the weapon begins, sweep the safety and move the trigger finger toward the trigger.

3) When the trigger finger contacts the trigger, apply slight pressure but do not move the trigger rearward.

4) As soon as sight picture is achieved, move the trigger to the rear in one continuous movement.

d. Follow-Through/Recovery. In preparatory and KD marksmanship training you practiced follow-through to avoid altering the direction of the round by keeping your rifle as still as possible until the round exits the barrel. In combat, follow-through is just as important. In field firing, equally as important as follow-through is getting the rifle sights back on the target for another shot. This is known as recovery. Recovery starts immediately after the round leaves the barrel. Rather than allow the recoil of the weapon to take its normal course, you must physically bring the sights back on the target. Applying recovery techniques ensures the sights are on target as quickly as possible to fire another shot.

Confirm by questions.

TRANSITION: In combat, you may have only one opportunity to engage a target in a very limited time. You must apply the fundamentals of marksmanship aggressively and without hesitation. However, you should never compromise accuracy for speed. In combat, when time does not permit sight adjustments, the aiming point is adjusted, not the sights. This is known as offset aiming. To use offset aiming, you must have sight alignment, but sight picture will change as the aiming point is shifted.

3. (9 MIN) OFFSET AIMING

a. Point of Aim Technique. The point of aim technique is the shifting of sight picture to ensure rounds strike a man-sized target at center mass. To use this technique, the rifle sights are placed on a predetermined location on or off the target to compensate for trajectory of the bullet, wind conditions, and to establish a lead on a moving target. These predetermined locations are known as points of aim.

Refer to slide sSLR.20-1.

1) Elevation – Compensating for Trajectory. Predetermined points of aim sector the target horizontally. These points of aim are used to compensate for the elevation required to engage a target beyond the BZO capability of the rifle or to engage a small target (e.g., head shot) inside the BZO of the weapon.

a) Points of Aim

(1) The tip of the front sight post held at shoulder level is considered one point of aim.

(2) The tip of the front sight post held at the top of the target’s head is considered two points of aim.

b) Beyond the BZO. To use the point of aim technique to engage a target beyond the BZO of the rifle, apply the following guidelines:

(1) When range to the target is estimated to be beyond 300 yards/meters out to 400 meters, hold one point of aim.

(2) When the range to the target is estimated to be beyond 400 yards/meters out to 500 meters, hold two points of aim.

NOTE

It is better to apply a hasty sight setting at ranges beyond the rifle's BZO. Points of aims are only guidelines at these distances because the front sight post will mask the target when held above center mass.

c) Inside the BZO. If the rifle is properly zeroed for 300 yards/meters, the trajectory (path of the bullet) will rise approximately 4 1/2 inches above the line of sight at a distance of approximately 175 yards/meters. At other distances, the strike of the bullet will be less than 4 1/2 inches above the point of aim. Only at 36 yards/30 meters and 300 yards/meters does the point of impact coincide with the point of aim.

(1) If only a portion of the target is visible (e.g., the head of an enemy soldier), the trajectory of the bullet may have to be taken into consideration when firing at a distance less than 300 yards/meters.

(2) You must consider trajectory to ensure you do not shoot over the top of the target if the target is small and at a distance less than 300 yards/meters.

2) Windage – Compensating for Wind Conditions. Predetermined points of aim sector the target vertically. These points of aim are used to compensate for wind affecting the strike of the round when there is no time to adjust the rifle sights.

a) Points of Aim

(1) The tip of the front sight post centered on the edge of the target into the wind is considered one point of aim.

(2) The trailing edge of the front sight post held on the edge of the target into the wind is considered two points of aim.

(3) The same units of measure are applied off the target for holds of additional points of aim.

b) To use the point of aim technique to compensate for full value winds (halve the points of aim for half value winds):

Refer to slide sSLR.20-2.

(1) For distances out to 300 yards/meters and light winds up to 5 mph, the aiming point is center mass; a point of aim is not required.

(2) For distances 200 - 300 yards/meters and medium winds (6 - 15 mph), hold one point of aim into the wind.

(3) For distances out to 200 yards/meters and strong winds (16 - 25 mph), hold one point of aim into the wind.

(4) For distances 200 - 300 yards/meters and strong winds (16 - 25 mph), hold two points of aim into the wind.

b. Known Strike of the Round. This technique is used to compensate for rounds striking off target center. To effectively engage a target using this technique, the Marine aims an equal distance from center mass opposite the known strike of the round. This technique will be discussed more fully in lesson SLR.25, Firing with the Field Protective Mask.

Confirm by questions.

TRANSITION: Offset aiming techniques and the ability to compress the fundamentals of marksmanship in a field firing situation allow the Marine to engage combat targets quickly and effectively.

OPPORTUNITY FOR QUESTIONS: (1 MIN)

1. Respond to questions from the class.

2. Prompt Marines with questions to the class.

a. QUESTION: How can you adjust your point of aim to ensure rounds strike target center when there is no time to adjust your rifle sights?

ANSWER: By using offset aiming techniques; specifically, the point of aim technique.

b. QUESTION: When should trigger control be applied?

ANSWER: When sight picture is obtained.

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

SUMMARY: (1 MIN)

In combat, targets can present themselves quickly and without warning. To be effective in this type of environment, you must hone your field firing skills through training and practice to apply the fundamentals as quickly as possible while still maintaining accuracy. You must also be able to employ offset aiming techniques when time does not permit sight adjustments. These techniques will allow quick and accurate target engagement and, ultimately, survival on the battlefield.

SLIDES

TABLE OF CONTENTS