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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

RIFLE RANGE OPERATIONS

COURSE TITLE

ANNUAL RIFLE TRAINING



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

**DETAILED OUTLINE**

**RIFLE RANGE OPERATIONS**

INTRODUCTION

(3 MIN)

1. GAIN ATTENTION. Smooth range operations are an integral part of successful marksmanship qualification. If the firing line is not running uniformly and in a timely manner, firing line operations will be slow. Likewise, it is imperative that pit operations be effectively controlled to ensure the shooter receives the best pit service possible.
2. OVERVIEW. This lesson will introduce rifle range operations including range personnel responsibilities, range/pit safety, scoring procedures, alibis, and pit commands.
3. INTRODUCE LEARNING OBJECTIVES. This lesson is provided as an overview of rifle range operations in support of live fire training. There are no Terminal or Enabling Learning Objectives for this lesson.
4. METHOD. This lesson will be taught in a classroom setting using lecture.
5. EVALUATION. The Marine will not be evaluated on this material.

TRANSITION: Range personnel conduct and control live fire marksmanship training. Range personnel function to run smooth and efficient range operations by providing firing line and pit commands and by providing the instruction for shooters to learn fundamental marksmanship skills and qualify with the M16A2 service rifle. A great deal of attention is paid to ensuring the shooter has a fair day of firing and ensuring the safety of everyone on the firing line and in the pits. It is important for the shooter to know the range personnel and their functions so he can follow range procedures during training and seek assistance when necessary.



BODY

(35 MIN)

**1. (5 MIN) RANGE PERSONNEL**

a. Coaches. Coaches are the Marines on the range who instruct marksmanship. This is their primary responsibility. Coaches are assigned to each firing point to assist the shooter. If you have a problem, either on or off the firing line, seek assistance from your coach. If you are in position on the firing line and raise your hand, a coach will come to your assistance.

b. Block NCO. The block NCO assists the coach in determining alibis. The block NCO will assist the coach when a shooter needs extra assistance.

c. Line SNCO. The line SNCO assists the range safety officer in operation of the range. He enforces range safety regulations and monitors the conduct of fire.

d. Tower NCO. The tower NCO assists the line SNCO during range operations. The tower NCO gives all line and firing commands. The tower NCO is located at the center of the firing line where he can observe all firing positions. Commands to move on or off the firing line, load your rifle, fire your rifle, etc., are given by the tower NCO.

e. Range Safety Officer. The range safety officer is responsible for the safe and efficient operation of the range. The range safety officer has the final determination on alibis, should there be any question.

f. Pit NCO. The pit NCO is responsible to the range safety officer for pit operations. He oversees and controls all pit operations and enforces pit regulations. The pit NCO gives commands and directs the pit operators during firing operations.

g. Pit Operator. During live fire training, shooters are assigned to relays. When not firing, shooters pull targets in the pits and function as pit operators. The pit operator raises and lowers the target on command from the pit NCO. He must work quickly but effectively to pull and mark the targets. The more efficient the pit operator, the better the conditions for the shooter. Responsibilities of the pit operator include:

- 1) Raising and lowering the target on command from the pit NCO. The shooter must listen attentively for commands from the pit NCO.



2) During slow fire, when a shot hole appears on the target, the pit operator lowers the target and places the appropriate spotter in the shot hole. White spotters are placed in shot holes in the black areas of the target and black spotters are placed in shot holes in the white areas of the target. When the spotter is moved to the next shot hole, the pit operator pastes the previous shot hole with the appropriately colored paster.

3) Following a string of rapid fire, the pit operator raises and lowers the target at the pit NCO's command and places the appropriately colored spotters in the shot holes. At the pit NCO's command, the pit operator runs the target back to show the shooter his shot group. He also removes the spotters and covers the shot holes with the appropriately colored pasters when directed by the pit NCO.

Confirm by questions.

TRANSITION: Safety is the most important consideration during range operations. Any time live firing takes place there is the possibility of injury on the firing line or in the pits. This is especially true in the pits because of rounds being fired overhead, slippery catwalks, and metal target carriages. It is important that shooters and pit operators follow all safety rules while on the range. Safety will be continuously enforced and emphasized.

## 2. (5 MIN) RANGE SAFETY

***INSTRUCTOR'S NOTE:*** *Include the safety brief here from local SOP. Emphasize that range and pit safety is everyone's responsibility.*

### a. Safety On The Firing Line

1) Range commands are given by the tower NCO, however, in the event of an emergency, anyone can call a "Cease Fire." Anyone observing a condition that makes firing dangerous will immediately call "Cease Fire." Report the unsafe condition to a coach, the tower NCO, the pit NCO or the range/safety officer.



2) Weapons will not be loaded except while on the firing line. Shooters will not load weapons until the command to load is given by the tower NCO.

3) Never shoot outside the right or left lateral limits of the range as indicated by markers or pit flags. Never shoot at your target while the scoring disk is in the air.

4) Weapons are always in Condition 4 except:

a) On the firing line when live fire is in progress.

b) When snapping-in. Snapping-in is allowed only in designated areas.

5) On the command "Cease Fire," immediately place your weapon on safe and your finger straight along the receiver, and wait for instructions from the tower. Muzzles are pointed down range and shooters remain in position until the "Unload, Show Clear" command is given and the weapons safety inspection is complete. Upon completion of the weapons safety inspection, place the weapon in Condition 4 before moving off the firing line.

6) Hearing protection must be worn at all times while on the firing line and the ready line while firing is in progress.

b. Safety In The Pits. The pit NCO will enforce safety regulations and constantly remind pit operators about safety.

1) The noise level must be kept to a minimum so the pit NCO can maintain communications with the line and the pit operators.

2) Pit operators must move in a fast but safe and orderly manner.

3) Pit operators must not expose any part of their body above the red limiting line on the overhang above the catwalk.

4) Pit personnel must remain inside the limiting lines in the pits at all times.

5) Pit operators will make no attempt to snap-in, adjust their sights, clean their weapons, or handle their weapons while working in the pits.



Confirm by questions.

TRANSITION: We have discussed the importance of safety on the firing line and in the pits and the responsibilities of shooters and pit personnel as they relate to smooth, safe range operations. In addition, every shooter must be familiar with scoring procedures because Marines qualify with their rifles during the Table 1 Course of Fire.

### 3. (10 MIN) SCORING PROCEDURES

#### a. Personnel

1) Scorekeeper. The scorekeeper on the line keeps the score for each target. As soon as a scorecard is completed, the scorecard is signed by the scorekeeper and collected by the coach. The scorecard on the line will be verified against the scorecard kept in the pits.

2) Pit Operators. When pulling targets in the pits, all shooters will function as pit operators. As pit operators, each of you will be responsible for keeping a scorecard on your target in the pits. The cards bear the date, the number of the target, and the number of the relay. All entries on scorecards are made in ink or indelible pencil. A pit verifier initials all corrections to scorecards. The pit verifier will sign qualification scorecards.

3) Verifiers. On qualification days, verifiers are sent into the pits to verify scoring procedures. Verifiers are staff NCOs or officers from the qualifying unit who are not firing on that detail.

a) The verifier's job is to inspect a target to verify misses. Ricochets are also considered misses. All misses have to be initialed by the verifier on the scorecard.

b) If the pit operator has any doubt about a score value, he calls for a verifier.

c) The verifier reviews each scorecard and checks the addition of the scorers. He then signs the last line of the scorecard as certifying officer.



***INSTRUCTOR'S NOTE:*** *Demonstrate the following with the spotters, pasters, disk, and target.*

b. Spotters. Spotters have a black side and a white side and are used to mark the location of shot holes on the targets. They are placed on the target black on white or white on black for easy sighting at a distance.

1) 3" spotters are used for 200- and 300-yard rapid fire stages and triangulation fire.

2) 5" spotters are used for 200- and 300-yard slow fire stages. If the shot is in or near the center of the aiming black, the shooter may request the target be spotted with a 3" spotter instead of the 5" spotter.

3) 10" spotters are used for 500-yard slow fire stage. If the shot is near the center of the aiming black, the shooter may request the target be spotted with a 5" spotter instead of the 10" spotter.

c. Pasters. Pasters are black or white and are used to cover shot holes on the targets. Once the spotters are removed from the target, the shot holes are covered with the appropriate colored pasters.

d. Scoring Disks. Scoring disks have a red side and a white side and are used to indicate scoring on a target.

(ON SLIDE #1)

1) To score a 5, place the disk over the bull's-eye, with the white side facing the firing line.

(ON SLIDE #2)

2) To score a 4, place the disk over the bull's-eye, with the red side facing the firing line.

(ON SLIDE #3)

3) To score a 3, place the disk on the right side of the target facing the firing line, with the red side facing the firing line.

(ON SLIDE #4)

4) To score a 2, place the disk on the left side of the target facing the firing line, with the red side facing the firing line.



(ON SLIDE #5)

5) To score a miss, with the red side facing the firing line, wave the disk once from the left side of the target facing the firing line to the right.

e. Special Circumstances. If a shot is touching the scoring line or the edge of the aiming black, the higher value is given to the shooter.

1) Excessive Rounds. In rapid fire, if a target has more hits than the prescribed number for that stage of fire, not all of the same value, the shooter assigned to that target will receive an alibi. If all hits are of the same value the shooter will receive the value of the number of shots fired up to the prescribed number of hits for that stage (10 hits).

2) Insufficient Rounds. In rapid fire if a target has 8 hits or less, the shooter must accept the score for the number of rounds impacting the target. If the target has 9 hits all in the "aiming black," the shooter will receive an alibi.

(ON SLIDE #6)

f. Qualification Scores for Table 1

- 1) Marksman - 190 - 209
- 2) Sharpshooter 210 - 219
- 3) Expert 220 - 250

Confirm by questions.

TRANSITION: To ensure scores are determined accurately and fairly for all shooters, alibi procedures have been established for the Table 1 Course of Fire. All shooters have the responsibility of understanding the conditions which rate an alibi.

#### **4. (10 MIN) ALIBIS**

An alibi will be awarded if any condition caused by the weapon (i.e., mechanical malfunction), ammunition, or range operation (line or pit) causes the shooter to not have an equal opportunity to complete a string of fire. An alibi will not be awarded for any condition caused by the shooter.





a. Circumstances Which do Not Constitute an Alibi. The following are examples of events, conditions, or failures to fire which do not constitute an alibi:

- 1) The weapon has not been maintained, cleaned, or lubricated in accordance with TM 05538C-10/1A.
- 2) The rifle or magazine is improperly assembled.
- 3) Failure to properly seat the magazine.
- 4) Failure to chamber the first round of each magazine.
- 5) Failure to ensure the bolt is fully forward and locked.
- 6) Failure to replace magazines that were determined to be defective during practice.
- 7) Failure to shoot the prescribed number of shots for each stage of fire.
- 8) Use of unauthorized ammunition.
- 9) Lost ammunition.
- 10) Magazines are improperly filled or magazines are not filled with the proper number or rounds.
- 11) Failure to properly adjust the rifle's sights for the string of fire.
- 12) Failure to take the weapon off safe prior to firing.
- 13) Engaging the safety while firing.
- 14) Engaging the magazine release button while firing.
- 15) Failure to perform remedial action properly when a stoppage occurs. Upon a stoppage, the shooter must execute remedial action.

b. Circumstances Which Constitute an Alibi

- 1) General
  - a) Faulty ammunition.



b) A malfunction occurs with the rifle which causes a stoppage.

2) Fallen/Crooked Target. If a target is crooked in the frame or falls out after a stage of fire has begun, the shooter rates an alibi, regardless of whether or not the shooter fires on the target. If the shooter sees that his target is crooked prior to firing, he should inform range personnel.

Confirm by questions.

TRANSITION: When working in the pits, pit operators must be well-versed in scoring and signaling procedures, and knowledgeable of the commands given by the pit NCO from the sound shed. In the next section of this lesson we will cover pit commands.

## 5. (5 MIN) PIT COMMANDS

### a. Slow Fire

1) Mark. The shooter on line has shot. Pull the target down and look for the shot hole.

2) Disregard. Disregard the value of the last shot. The pit operator will line through this value on his scorecard and initial it.

3) Re-disk. Re-disk the value of the last shot. The scoring disks must be held up at least three seconds to allow the shooter enough time to see it.

4) Put the Target Back in the Air. Raise the target.

5) Integrate Spotter. Spotters must be white on black and black on white.

6) Straighten Target. Align the target in the target carriage.

7) Slow Target. The pit operator has been labeled as a slow target and is told he needs to speed up his pit service. The pit operator should not take more than 20 seconds to pull and mark a target. There are times when a slow target cannot be helped, for instance, when a target goes down in the pits for repairs or verifiers are busy verifying other targets.



8) Target in Repair. The target or target carriage has been broken and an attempt to repair it is underway.

b. Rapid Fire

1) Count Shot Holes On Target. A command given by the pit NCO to a specific target pit to count the number of hits on the target.

2) Excessive Hits On Target. The pit operator indicates he has more than 10 shots on his target by signaling the pit NCO or the pit verifier. The target will be held in the pits until the pit verifier acknowledges the excessive hits. At this time the pit verifier will have all shot holes pasted up and the target raised to half-mast with the value disk placed in the appropriate spot for excessive hits.

3) Insufficient Hits On Target. The pit operator indicates he has fewer than 10 shots on his target by signaling the pit NCO or the pit verifier. If a target has 8 hits or less, the pit verifier will tell the pit operator to score for the number of rounds impacting the target and run the target all the way up. If the target has 9 hits all in the "aiming black" with no excessive hits on two targets to either side, the shooter will be given the option of receiving an alibi or accepting the score for the 9 shots fired.

c. Signaling Procedures. When the firing line questions the spotting of a target or a miss, the firing line communicates this to the pit NCO, who then communicates this to the target pit. Because the pit operator does not have direct communication with the pit NCO, it will be necessary to use signals to communicate with the sound shed. The pit NCO will present specific signaling procedures after entering the pits.

Confirm by questions.



OPPORTUNITY FOR QUESTIONS:

(1 MIN)

1. Respond to questions from the class.
2. Prompt the students with questions to the class.
  - a. QUESTION: What is the primary responsibility of the coach?

ANSWER: The primary responsibility of the coach is to instruct marksmanship.

- b. QUESTION: Who can call a "Cease Fire?"

ANSWER: Anyone observing a condition that makes firing dangerous will immediately call "Cease Fire."

- c. QUESTION: What circumstances constitute an alibi?

ANSWER: Faulty ammunition, a malfunction with the rifle which causes a stoppage, or a fallen/crooked target are circumstances which constitute an alibi.

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

SUMMARY:

(1 MIN)

This lesson introduced rifle range operations including range personnel responsibilities, range/pit safety, scoring procedures, alibis, and pit commands. The importance of smooth and safe range operations cannot be overemphasized. Effective pit operations are crucial to the success of the shooter on the firing line to ensure that he has the optimum conditions in which to shoot.



**SLIDES**

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