



SLR.16  
1 Oct 99

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

**DETAILED INSTRUCTOR GUIDE**

LESSON TITLE

BZO EXERCISE

COURSE TITLE

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



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

**INSTRUCTOR PREPARATION CHECKLIST**

**ESSENTIAL DATA**

LESSON DESIGNATOR	SLR.16
LESSON TITLE	BZO Exercise
DATE PREPARED	1 October 1999
TIME	2 hrs
METHOD	Practical application and performance evaluation
LOCATION	Outdoor firing range
INSTRUCTORS REQUIRED	Range Coaches as needed
REFERENCE	MCRP 3-01A
TRAINING AIDS/EQUIPMENT	Targets, ammunition, spotters, value spotters, pasters, and 7 MOA template



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Weapons Training Battalion  
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**DETAILED OUTLINE**

**BZO EXERCISE**

***INSTRUCTOR'S NOTE:*** This 300-yard BZO Exercise is fired after KD firing and just prior to the Phase III Field Firing Exercises in the SLR Program.

**1. TRAINING OBJECTIVE**

a. Intent. This exercise will enable the Marine to zero the M16A2 service rifle to achieve a seven minute of angle (MOA) group at the center of the target at 300 yards. The Marine will perform remedial action as necessary.

b. Learning Objectives. The Terminal Learning Objective and Enabling Learning Objectives pertaining to this exercise are as follows:

1) Terminal Learning Objective. Given an M16A2 service rifle, sling, cartridge belt, magazines, magazine pouches, ammunition, target, and data book, without the aid of references, zero the rifle at 300 yards/meters so a seven minute of angle (MOA) group is achieved at the center of the target IAW MCRP 3-01A. (PVTX.11.4)

2) Enabling Learning Objectives

a) Given an M16A2 service rifle, sling, cartridge belt, magazines, magazine pouches, ammunition, target, and data book, without the aid of references, employ the windage and elevation rules to establish a battlesight zero (BZO) IAW MCRP 3-01A. (PVTX.11.4h)

b) Given an M16A2 service rifle, sling, cartridge belt, magazines, magazine pouches, ammunition, target, and data book, without the aid of references, triangulate the shot group to find the center IAW MCRP 3-01A. (PVTX.11.4i)

c) Given an M16A2 service rifle, sling, cartridge belt, magazines, magazine pouches, ammunition, target, and data book, without the aid of



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references, adjust the rifle sights to establish a  
battlesight zero (BZO) IAW MCRP 3-01A.  
(PVTX.11.4j)



## 2. EXERCISE PLANNING

a. Range. Ensure a 300-yard range is available for the exercise.

b. Supply List. Ensure the following supplies are obtained:

- 1) One "D"-MOD target per Marine.
- 2) One 7 MOA scoring template per block of 10 targets.
- 3) Four 5" spotters per target. A 3" spotter may be substituted for a 5" spotter if the shot holes are too close to allow a 5" spotter in.
- 4) One 5" fluorescent orange value spotter per target.
- 5) Hearing protection.

c. Ammunition. For this exercise, 10 rounds of ammunition per Marine are required.

d. Communication. Ensure communication requirements for live fire comply with MCO P3570.1\_. Communications gear or hand and arm signals between range personnel should be planned and utilized throughout the exercise.

e. Safety. Ensure safety requirements comply with MCO P3570.1\_ and local SOP.

## 3. EXERCISE SETUP

a. Brief range personnel on setting up targets and exercise procedures. Prepare targets by drawing a scoring circle in the center of the target using the 7 MOA template. The bottom of the scoring circle is exactly 1 1/2 inches from the bottom of the "D"-MOD target.

b. Establish and maintain communications with range control and other range personnel as required by the range SOP.

c. Designate a location for the safety vehicle and corpsman.

d. Place targets at designated points on the range.

## 4. CONDUCT OF EXERCISE

a. Equipment. Ensure Marines have the following equipment in accordance with MCO 3574.2\_:



- 1) Standard issue M16A2 service rifle. The M203 will not be attached to the service rifle during SLR firing.
- 2) Standard issue web sling.
- 3) Cartridge belt.
- 4) Magazines.
- 5) Magazine pouches.
- 6) Suspenders.

***INSTRUCTOR'S NOTE:*** A load-bearing vest may be substituted for magazine pouches and suspenders. Gear will be worn in accordance with the MBST Handbook.

- 7) Helmet.
- 8) Flak jacket.
- 9) Hearing protection.
- 10) Data book.
- 11) Any item(s) cold or foul-weather gear authorized to be worn by Marines may be worn on the rifle range.

b. Exercise Brief. The following items must be included in the brief given to Marines prior to the start of the exercise:

- 1) Review safety rules, commands, and weapons handling procedures and emphasize these procedures throughout the exercise.
- 2) Review procedures for performing remedial action.
- 3) Marines will be given one minute of preparation time on the firing line to establish a position with the hasty sling.
- 4) On command, Marines will fire the designated number of rounds per string in a time limit of one minute.



c. Exercise Procedures. Organize Marines into relays for the live fire exercise.

BZO Exercise				
<u>Distance</u>	<u>Target</u>	<u>Time Limit</u>	<u># of Round</u>	<u>Manner Fired</u>
300 yds	"D"-MOD	1 min	$\frac{3}{s}$	Prone (Hasty Sling)
300 yds	"D"-MOD	1 min	3	Prone (Hasty Sling)
300 yds	"D"-MOD	1 min	4	Prone (Hasty Sling)

- 1) On the ready line, Marines will adjust their hasty slings for the prone position, fill two magazines with 3 rounds each and one magazine with 4 rounds.
- 2) On the firing line, Marines will assume the prone position with a hasty sling and prepare to fire. Marines will adjust their rifle sights to a known BZO.

**NOTE**

If a previous BZO has been established, leave the rear sight windage knob and front sight post at the setting previously determined. Ensure the unmarked (small) rear sight aperture is up.

- 3) Aim and fire a 3-shot group in a time limit of one minute using center of mass hold.
- 4) Target pullers will mark and raise targets to show shot groups.
- 5) Analyze the target to determine elevation and windage adjustments.
  - a) Plot the shot group in the data book on the 300-YARD ZEROING page.
  - b) Triangulate the shot group. If the center of the 3-shot group is not in the exact center of the aiming black, calculate the required clicks to move the shot group into the target center.
    - (1) To raise the shot group: Rotate the front sight post clockwise (in the direction of the UP arrow).



(2) To lower the shot group: Rotate the front sight post counterclockwise.

(3) To move the shot group to the right: Rotate the rear sight windage knob clockwise (in the direction of the arrow).

(4) To move the shot group to the left: Rotate the rear sight windage knob counterclockwise.

c) Record any sight adjustments in the data book.

6) Target pullers will lower targets and paste shot holes.

7) Fire a second 3-shot group.

8) Target pullers will mark and raise targets to show shot groups.

9) Repeat step 5 to center the shot group on the target.

10) Target pullers will lower targets and paste shot holes.

11) Fire a 4-shot group to confirm the BZO.

12) Target pullers will mark targets and fill out scorecards. The pit verifier will determine if the Marine passed the exercise by measuring the shot group. The Marine passes if all 4 final shot holes are inside or touching the 7 MOA scoring circle.

a) Target pullers will spot targets for pass or fail using the value spotter. The value spotter is placed in the lower right-hand corner of the target to indicate a Marine passed the exercise. The value spotter is placed at 3 o'clock to indicate a Marine failed.

b) Target pullers will mark and raise targets to show shot groups.

13) Make final windage and elevation adjustments if necessary.

14) When the shot group has been moved to the center of the aiming black, the rifle is battlesight zeroed. This is your rifle BZO. Record the BZO settings in the data book and store this information in the buttstock of your rifle.

d. Scoring Procedures. Marines must get all 4 shots of





the final shot group inside the 7 MOA scoring circle.

- 1) The fluorescent value spotter placed in the lower right-hand corner of the target indicates the Marine passed.
- 2) The fluorescent value spotter placed at 3 o'clock on the target indicates the Marine failed the exercise.

## **5. AFTER EXERCISE PROCEDURES**

Upon completion of the exercise, Marines will be critiqued on their performance. The following areas can be addressed when critiquing Marines:

- a. Adjustment of the rifle sights.
- b. Application of the fundamentals of marksmanship (aiming, breath control, and trigger control).
- c. Triangulating the shot group to find the center.
- d. Recording BZO in the data book.

## **6. EXERCISE EVALUATION**

The objective is for Marines to obtain a 7 MOA shot group in the center of the target. The Marine passes the exercise if all 4 final shot holes are inside or touching the 7 MOA scoring circle. Use the attached performance checklist to evaluate mastery of learning objectives.



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**PERFORMANCE CHECKLIST**

LESSON TITLE

BZO EXERCISE

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



## PERFORMANCE TEST ITEM

TERMINAL LEARNING OBJECTIVE. Given an M16A2 service rifle, sling, cartridge belt, magazines, magazine pouches, ammunition, target, and data book, without the aid of references, zero the rifle at 300 yards/meters so a seven minute of angle (MOA) group is achieved at the center of the target IAW MCRP 3-01A. (PVTX.11.4)

### ENABLING LEARNING OBJECTIVES

- a. Given an M16A2 service rifle, sling, cartridge belt, magazines, magazine pouches, ammunition, target, and data book, without the aid of references, employ the windage and elevation rules to establish a battlesight zero (BZO) IAW MCRP 3-01A. (PVTX.11.4h)
- b. Given an M16A2 service rifle, sling, cartridge belt, magazines, magazine pouches, ammunition, target, and data book, without the aid of references, triangulate the shot group to find the center IAW MCRP 3-01A. (PVTX.11.4i)
- c. Given an M16A2 service rifle, sling, cartridge belt, magazines, magazine pouches, ammunition, target, and data book, without the aid of references, adjust the rifle sights to establish a battlesight zero (BZO) IAW MCRP 3-01A. (PVTX.11.4j)

### TEST ITEM

#### 1. INSTRUCTIONS TO THE EVALUATOR:

- a. Ensure the Marine has the M16A2 service rifle, sling, cartridge belt, magazines, magazine pouches, and ammunition.
- b. Ensure the Marine understands how he will be evaluated.
- c. Evaluate the Marine via the performance checklist.

2. INSTRUCTIONS TO THE MARINE: When the Tower NCO tells you to begin, you will be given time to obtain your firing position and establish a natural point of aim before continuing with the BZO exercise. Observe the four safety rules at all times.



3. PERFORMANCE CHECKLIST:

PASS

FAIL

a. Employed the windage and elevation rules to establish a battlesight zero.

\_\_\_\_\_

b. Triangulated the shot group to find the center.

\_\_\_\_\_

c. Adjusted the rifle sights to establish a battlesight zero.

\_\_\_\_\_

d. Zeroed the rifle at 300 yards/meters to achieve a seven minute of angle (MOA) group at the center of the target.

\_\_\_\_\_



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**RANGE COMMANDS**

LESSON TITLE

BZO EXERCISE

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



RANGE COMMANDS

**300-YARD BZO EXERCISE**

"Relay \_\_\_\_ move to the ready line, prepare a hasty sling, fill two magazines with 3 rounds and one magazine with 4 rounds."

"Relay \_\_\_\_ move to the firing line."

"Relay \_\_\_\_ assume a prone position. This is your first string of the BZO exercise, firing 3 rounds, prone, in a time limit of one minute. Your one minute preparation period begins when the targets appear."

"Relay \_\_\_\_ move to the ready line, prepare a hasty sling, fill two magazines with 3 rounds and one magazine with 4 rounds."

"Relay \_\_\_\_ your preparation period has ended. With a magazine of 3 rounds, load, **(Pause)** make ready. You may commence firing when your target appears."

"Cease fire. **(Pause)** Unload."

"Relay \_\_\_\_ stand by for groups."

"Relay \_\_\_\_ this is your second string of the BZO exercise, firing 3 rounds, prone, in a time limit of one minute. With a magazine of 3 rounds, load, **(Pause)** make ready. You may commence firing when your target appears."

"Cease fire. **(Pause)** Unload."

"Relay \_\_\_\_ stand by for groups."

"Relay \_\_\_\_ this is your third string of the BZO exercise, firing 4 rounds, prone, in a time limit of one minute. With a magazine of 4 rounds, load, **(Pause)** make ready. You may commence firing when your target appears."

"Cease fire. **(Pause)** Unload."

**TOWER NOTE:** Continue directly into the Phase III Field Firing Exercises (SLR.31). If the BZO is not conducted prior to the Field Firing Exercises and, instead, is conducted at the end of a day's firing, conduct an Unload, Show Clear at the completion of firing.



Unit	Unit Rep.
Date of Detail	Range Fired On