

Change 4

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## **RIFLE MARKSMANSHIP M16A1, M16A2/3, M16A4, AND M4 CARBINE**

1. Change FM 3-22.9(FM 23-9), 24 April 2003, as follows:

**Remove old pages:**

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4-19 through 4-21  
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# RIFLE MARKSMANSHIP

## M16A1, M16A2/3, M16A4, and M4 CARBINE

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## PREFACE

This manual provides guidance for planning and executing training on the 5.56-mm M16-series rifle (M16A1/A2/A3/A4) and M4 carbine. It is a guide for commanders, leaders, and instructors to develop training programs, plans, and lessons that meet the objectives or intent of the United States Army rifle marksmanship program and FM 7-0 (Training the Force).

This manual is organized to lead the trainer through the material needed to conduct training during initial entry training (IET) and unit sustainment training. Preliminary subjects include discussion on the weapons' capabilities, mechanical training, and the fundamentals and principles of rifle marksmanship. Live-fire applications are scheduled after the soldier has demonstrated preliminary skills.

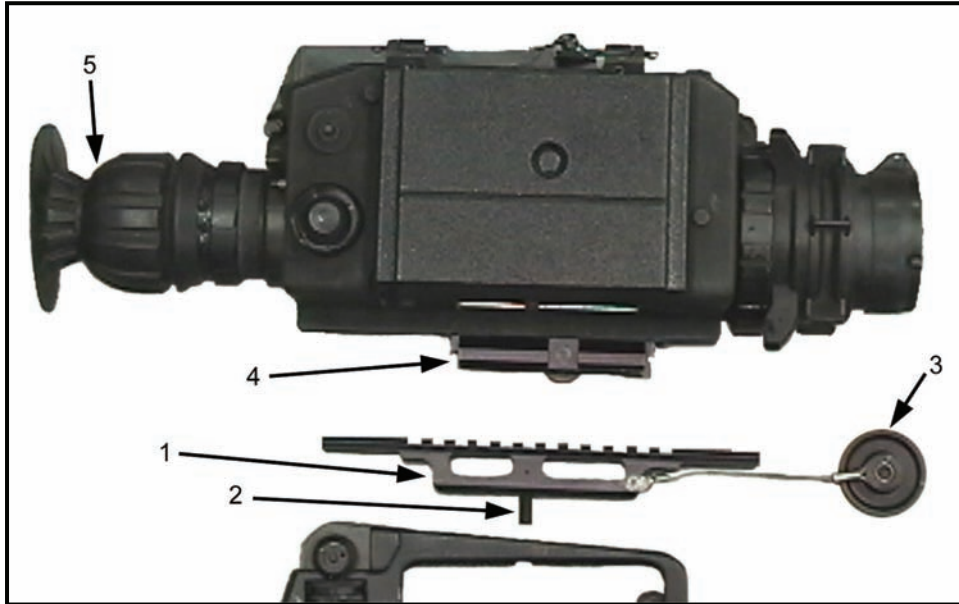
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\*Chemical, biological, radiological, and nuclear (CBRN) now replaces, nuclear, biological, chemical (NBC), throughout this manual.

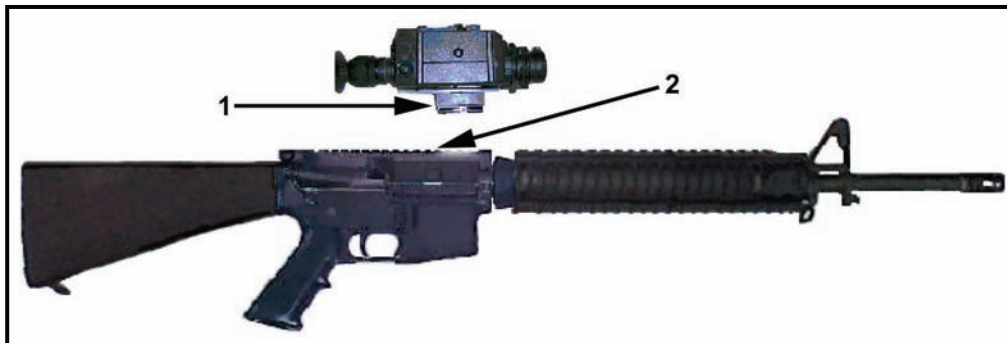
Unless this publication states otherwise, masculine nouns and pronouns may refer to either men or women.

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**Figure 2-35. Mounting TWS on an M16A1/A2/A3.**

b. **M16A4/M4-Series Weapons** (Figure 2-36). The Picatinny style rail grabber with spacer (1) on the bottom of the TWS is aligned with a notch on the integrated rail (2) of the M16A4/M4-series weapons ensuring the TWS is positioned to accommodate an effective firing position once the eyecup is depressed. The TWS will not retain zero if the rail grabber extends beyond the end of the integrated rail when mounted. Tighten the torque-limiting knob clockwise until it clicks twice. Retightening the rail grabber is recommended after a few rounds have been fired to ensure the sight is fully seated. The mounting procedures are identical for the M16A4 and M4-series MWS.

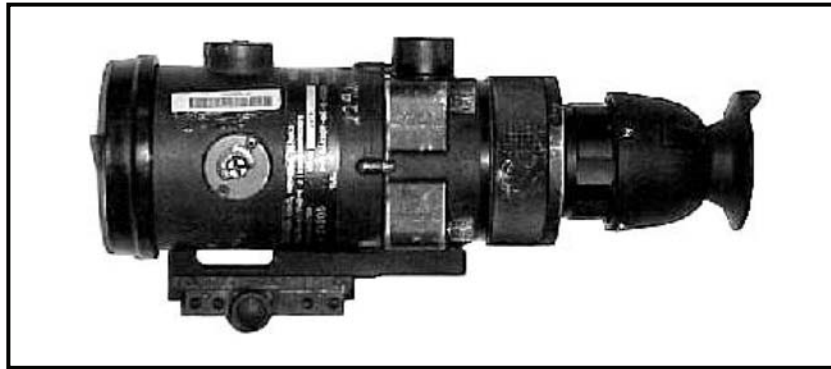


**Figure 2-36. Mounting TWS on M16A4/M4-series weapons.**

#### **\*2-9. AN/PVS-4 NIGHT VISION SIGHT**

The AN/PVS-4 night vision sight is a portable, battery-operated electro-optical instrument used for observation and aimed fire of weapons at night (Figure 2-37, page 2-24). It amplifies reflected light, such as moonlight, starlight, and sky glow, so that the viewed scene becomes clearly visible to the operator. The AN/PVS-4 does not emit visible or infrared light (except from the eyepiece) that can be detected by the enemy.

It can be used on the M16A2 rifle, M4 carbine, and M4 modular weapon system. Mounting brackets are provided for each type of weapon.



**Figure 2-37. AN/PVS-4 night vision sight.**

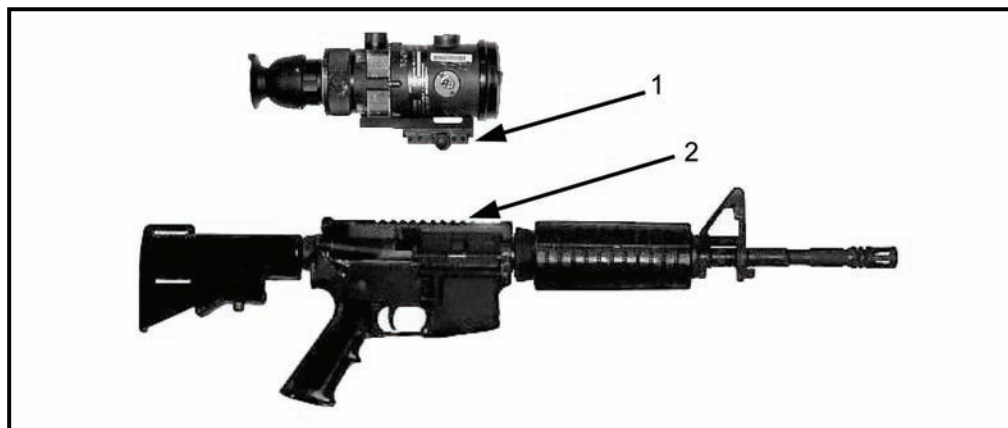
a. **M16A2-Series Weapons** (Figure 2-38). The AN/PVS-4 is mounted to the carrying handle on the M16A2-series weapons. Position the sight in the groove on the top of the carrying handle and align the threaded hole in the base of the sight-mounting adapter over the hole in the handle. Insert the mounting knob assembly through the hole in the carrying handle and screw it firmly clockwise into the sight-mounting adapter. If difficulty is encountered, turn the sight and the rifle upside down. Place the rifle handle onto the sight-mounting adapter, lining up the hole in the carrying handle with the hole in the sight-mounting adapter. Place the mounting knob assembly through the hole in the carrying handle and screw it clockwise.



**Figure 2-38. AN/PVS-4 on the M16A2-series weapons.**

b. **M4/M4-MWS-Series Weapons** (Figure 2-39). The Picatinny rail grabber with a mounting adapter (1) on the bottom of the AN/PVS-4 is aligned with a notch on the integrated rail (2) of the M4/M4-MWS-series weapons ensuring the AN/PVS-4 is positioned to accommodate an effective firing position once the eyecup is depressed. The AN/PVS-4 will not retain zero if the rail grabber extends beyond the end of the integrated rail when mounted.

Tighten the torque-limiting knob clockwise until it clicks twice. Retightening of the rail grabber is recommended after a few rounds have been fired to ensure the sight is fully seated. The mounting procedures are identical for the M4 and M4-MWS-series weapons.



**Figure 2-39. AN/PVS-4 on the M4/M4-MWS-series weapon.**

## 2-10. BORELIGHT

The borelight (Figure 2-40) is an eye-safe laser that is used to zero aiming lasers, such as the AN/PAQ-4 or AN/PEQ-2, without a 25-meter confirmation. The borelight has four settings: OFF (the borelight is not in use); GOGGLE (when using NVGs; this mode is selected when using the borelight in a tactical environment); LOW (used during normal operations); and PULSE (used during dry-fire training mode). The borelight will also boresight optics and iron sights to ensure the first shot group hits the 25-meter zero target when zeroing the weapon. The borelight comes with a 5.56-mm, 7.62-mm, .50 caliber, and MK 19 mandrel.



**Figure 2-40. Borelight with a 5.56-mm mandrel.**

a. Boresighting is conducted at 10 meters with the borelight, weapon, aiming device and a 10-meter offset. Each aiming device and weapon combination has a unique 10-meter offset (Appendix G).

b. Figure 2-41A depicts a 10-meter boresight target and Figure 2-41B (page 2-26) depicts a 25-meter zero target. When used properly these offsets will align the aiming device on the selected weapon to engage a target center mass at 300 meters.

(1) The 10-meter boresight target is used in conjunction with the borelight. The 10-meter boresight target is a 1-centimeter grid system with a crosshair and a circle. The crosshair is the aiming point for the aiming device and the circle is the point of impact for the borelight. (Refer to Chapter 8 for a detailed explanation of bore sighting procedures.)

(2) The 25-meter zero target is used when live firing at 25-meters. The 25-meter zero target for the M16- and M4-series weapons is the standard M16A2 zero target with the appropriate strike zone marked on the target (Figure 2-41B). The M4 zero target is only used when zeroing the iron sights on the M4. The aiming point is always center mass of the 300-meter scaled silhouette. The designated strike zone is a 4-by-4 square designating where the rounds should impact when you aim center mass. (Refer to Chapter 8 for a detailed explanation of the 25-meter offset zeroing procedures.)

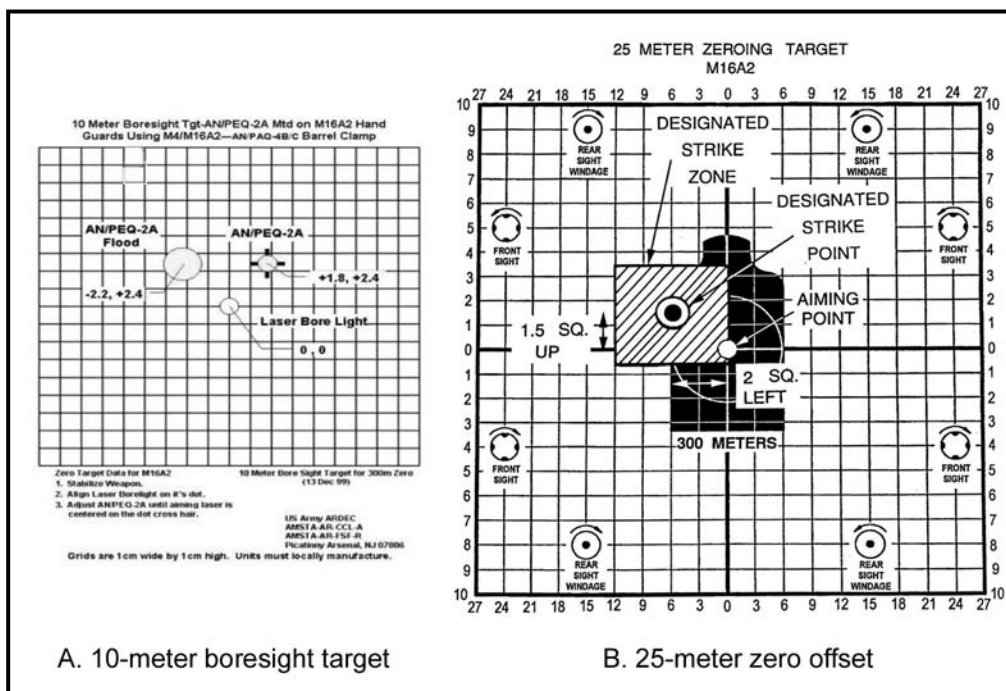


Figure 2-41. 10-meter boresight target and 25-meter zero offset.

## 2-11. AMMUNITION TYPES AND CHARACTERISTICS

This paragraph provides information on different types of standard military ammunition used in the M16-/M4-series weapons (Figure 2-42, page 2-28). Use only authorized ammunition manufactured to U.S. and NATO specifications. (Figures 2-43 through 2-47 [pages 2-28 through 2-30] show ammunition trajectory data.)

a. **Cartridge, 5.56-mm, Ball, M193.** The M193 cartridge is a center-fire cartridge with a 55-grain, gilded metal-jacketed, lead alloy core bullet. The M193 round is the standard cartridge for field use with the M16A1 rifle and has no identifying marks (1, Figure 2-42, page 2-28).

b. **Cartridge, 5.56-mm, Tracer, M196.** (Used in the M16A1 rifle) The M196 cartridge has a red or orange painted tip (2, Figure 2-42, page 2-28). Its main uses are for observation of fire, incendiary effect, and signaling. Soldiers should avoid long-term use of 100 percent tracer rounds, which could cause deposits of incendiary material, or



chemical compounds that could damage the barrel. Therefore, when tracer rounds are fired, they are mixed with ball ammunition in a ratio of no greater than one-to-one with a preferred ratio of three or four ball rounds to one tracer round.

c. **Cartridge, 5.56-mm, Dummy, M199.** (Used in all rifles.) The M199 dummy cartridge is used during dry firing and other training (3, Figure 2-42, page 2-28). This cartridge can be identified by the six grooves along the sides of the case beginning about 1/2 inch from its tip. It contains no propellant or primer. The primer well is open to prevent damage to the firing pin.

d. **Cartridge, 5.56-mm, Blank, M200.** (Used in all rifles.) The M200 blank cartridge has no projectile. The case mouth is closed with a seven-petal rosette crimp and shows a violet tip (4, Figure 2-42, page 2-28).

\* e. **Cartridge, 5.56-mm, Ball, M855.** (Used in the M16A2/3/4 and M4-series weapons.) The M855 cartridge has a 62-grain, gilded metal-jacketed, lead alloy core bullet with a steel penetrator. The primer and case are waterproof. This round is also linked and used in the M249. It has a green tip (5, Figure 2-42, page 2-28). This ammunition should not be used in the M16A1 except under emergency conditions, and only at targets less than 90 meters in distance. (The twist of the M16A1 rifling is not sufficient to stabilize the length of the 62-grain projectile of the round.)

\* f. **Cartridge, 5.56-mm, Tracer, M856.** (Used in the M16A2/3/4 and M4-series weapons.) The M856 tracer cartridge has characteristics similar to the M196 tracer with a slightly longer tracer burnout distance. This cartridge has a 63.7-grain bullet. The M856 does not have a steel penetrator. It has a red tip (orange when linked 4 to 1 for the M249) (6, Figure 2-42, page 2-28). This ammunition should not be used in the M16A1 except under emergency conditions, and only at targets less than 90 meters in distance. (The twist of the M16A1 rifling is not sufficient to stabilize the length of the 63.7-grain projectile of the round.)

g. **Cartridge, 5.56-mm Short-Range Training Ammunition (SRTA), M862.** (Used in all rifles.) The M862 SRTA (7, Figure 2-42, page 2-28) is designed exclusively for training. It can be used in lieu of service ammunition on indoor ranges and by units that have a limited range fan that does not allow the firing of service ammunition. SRTA ammunition must be used with the M2 training bolt.

(1) Although SRTA closely replicates the trajectory and characteristics of service ammunition out to 25 meters, it should not be used to set battle sight zero of weapons to fire service ammunition. The settings that are placed on the sights for SRTA could be different for service ammunition.

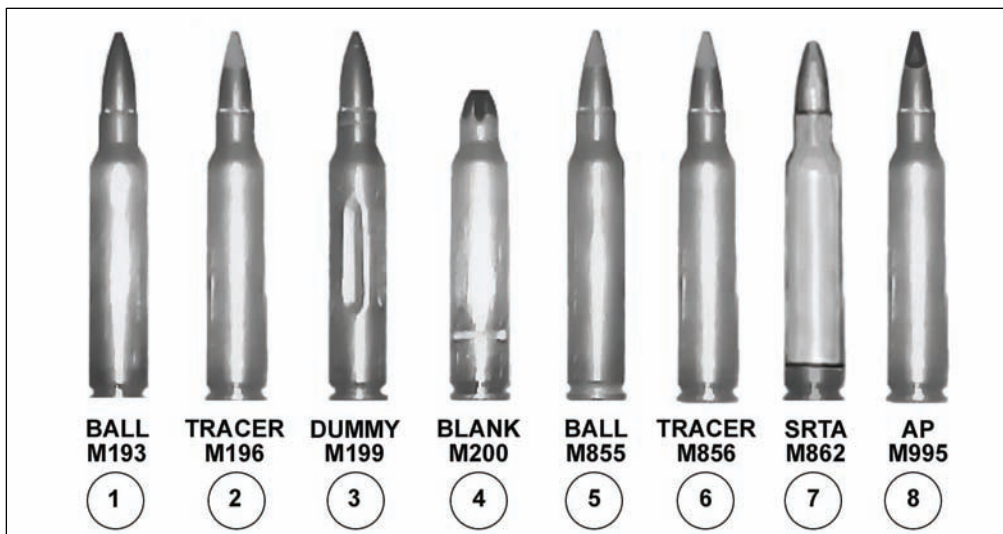
(2) If adequate range facilities are not available for sustainment training, SRTA can be used for any firing exercise of 25 meters or less. This includes the 25-meter scaled silhouette, 25-meter alternate qualification course, and quick-fire training. SRTA can also be used for Urban Operations training. (See Appendix A for use of SRTA in training.)

\* h. **Cartridge, 5.56-mm, Armor Piercing (AP) M995.** The M995 cartridge (8, Figure 2-42, page 2-28) is used by the M249 (SAW), M16/A2/A3/A4, and M4 series weapons. Procurement is intended for use against light armored targets. The M995 offers the capability to defeat these targets at ranges two to three times that of currently available 5.56-mm ammunition. The M995 cartridge consists of a projectile and a propelling charge contained in a brass cartridge case. The projectile is a dense metal penetrator (tungsten carbide) enclosed by a standard gilding metal jacket. An aluminum

cup sits at the rear of the projectile for the purpose of properly locating the penetrator within the projectile. The cartridge utilizes a conventional brass case and double base propellant. A standard rifle cartridge primer is used in the case to initiate the propelling charge.

i. **Storage.** When storing ammunition in the open is necessary, it must be raised on dunnage at least 6 inches from the ground and protected with a cover, leaving enough space for air circulation. Since moisture and high temperatures adversely affect ammunition and explosives, the following must be adhered to:

- Do not open ammunition boxes until ready to use.
- Protect ammunition from high temperatures and the direct rays of the sun.
- Do not attempt to disassemble ammunition or any of its components.
- Never use lubricants or grease on ammunition.



\*Figure 2-42. Ammunition, 5.56-mm for the M16- and M4-series weapons.

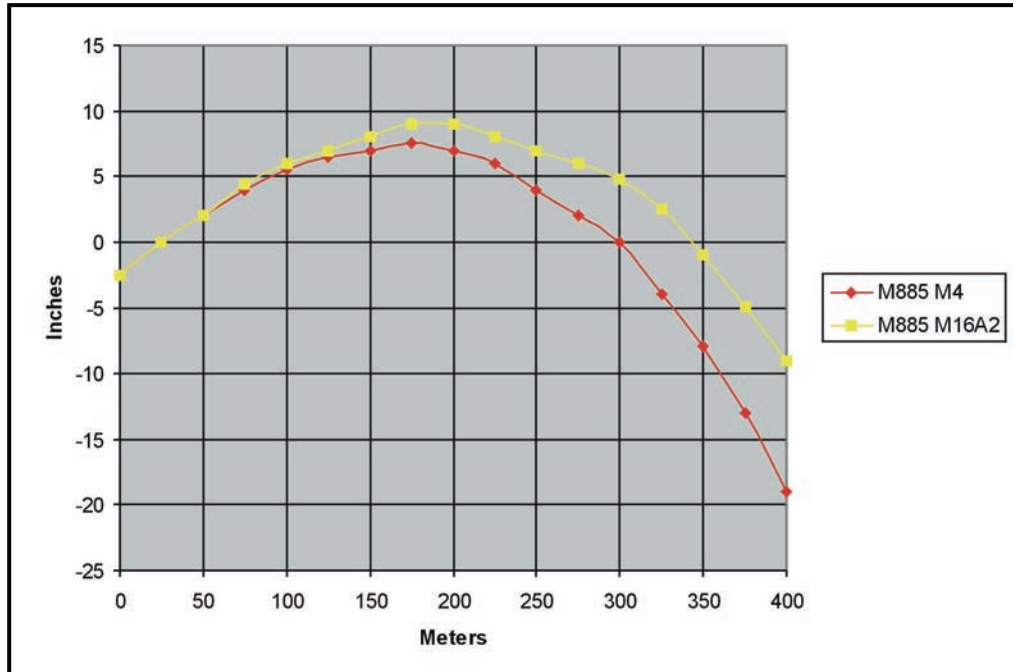


Figure 2-43. M855 drop during 25-meter zeroing (M16A2 at 8/3+1; M4 at 6/3).

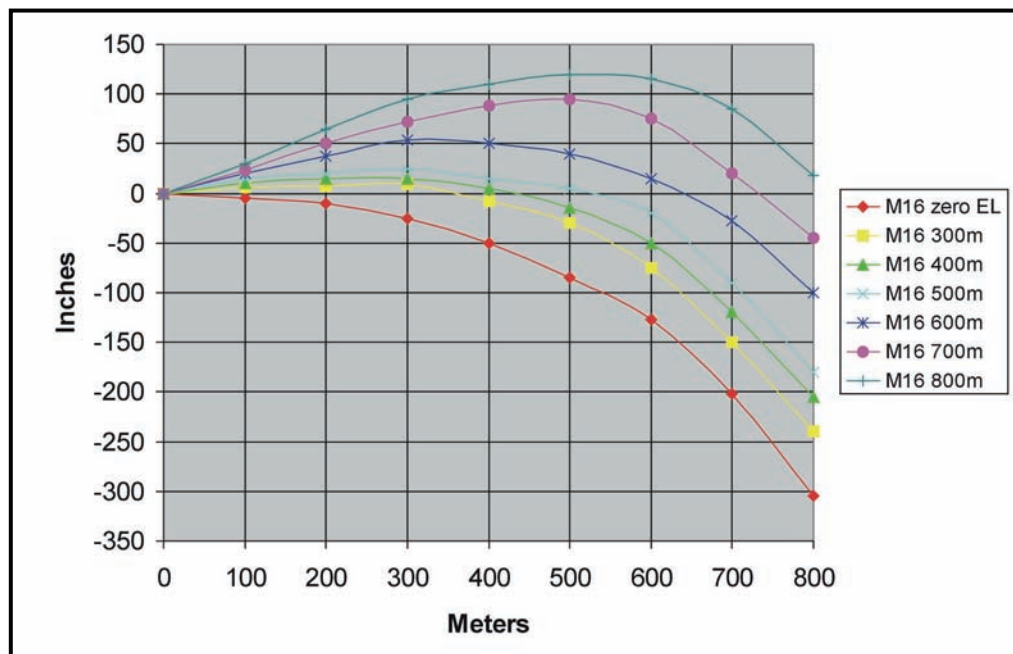


Figure 2-44. Bullet drop of M855 ammunition with M16A2 (8/3).

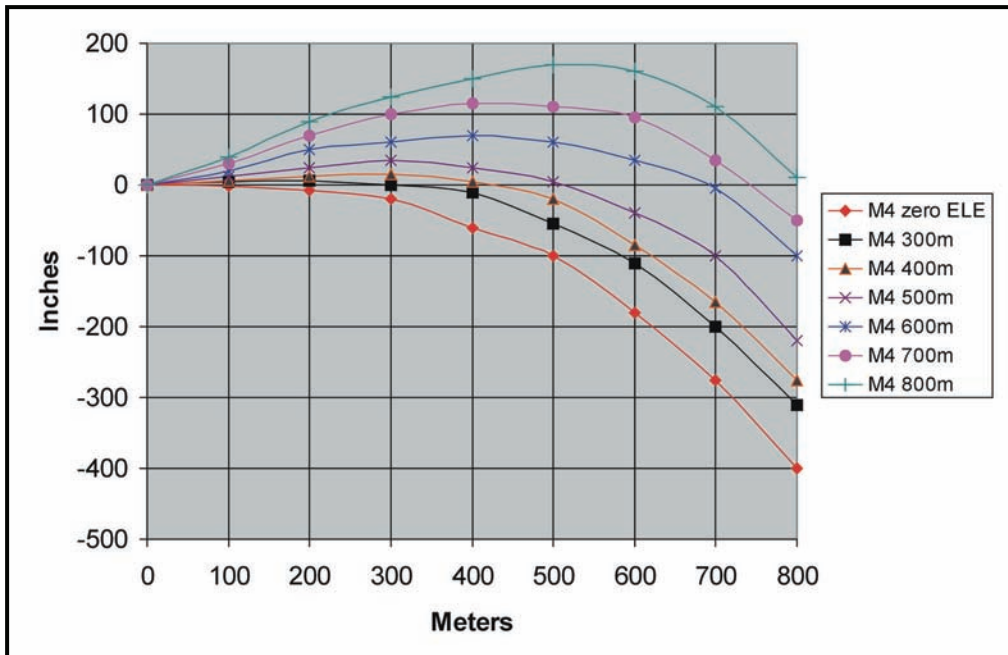


Figure 2-45. Bullet drop of M855 ammunition with M4 (6/3).

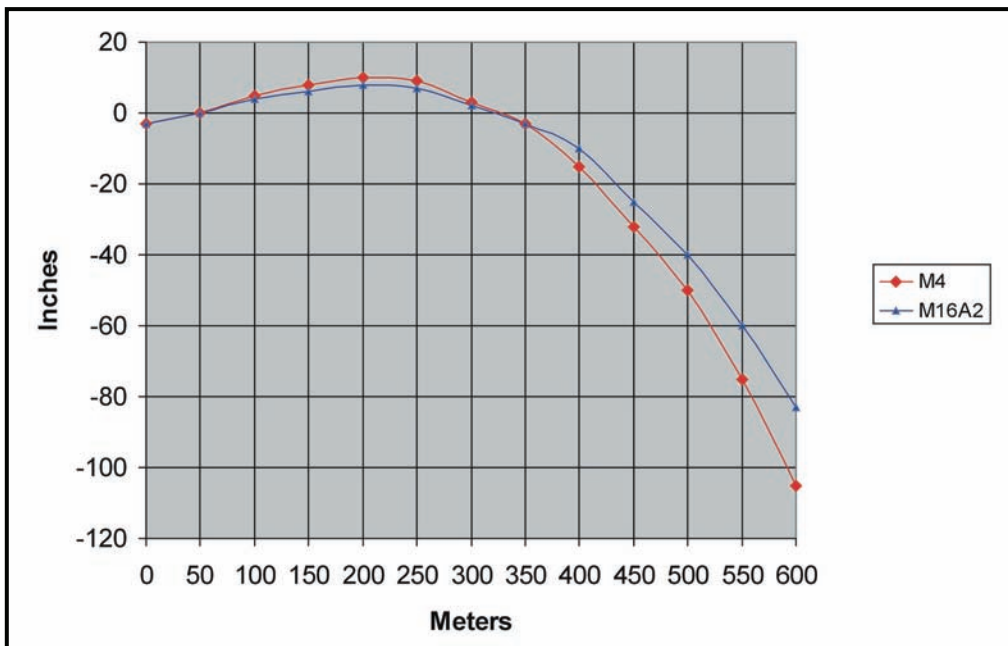


Figure 2-46. M4 carbine and M16A2 rifle bullet trajectory comparison.

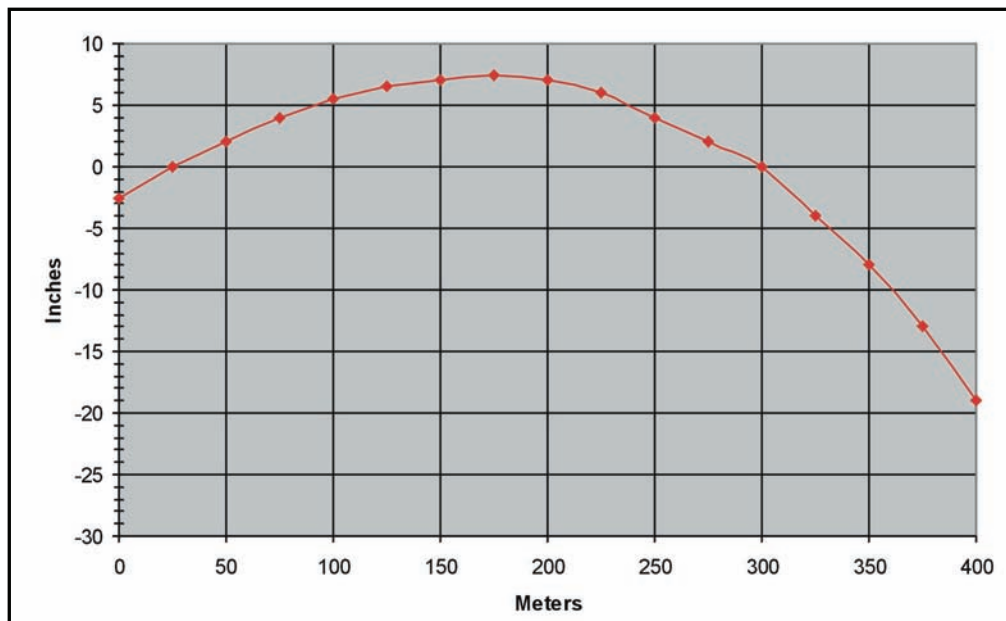
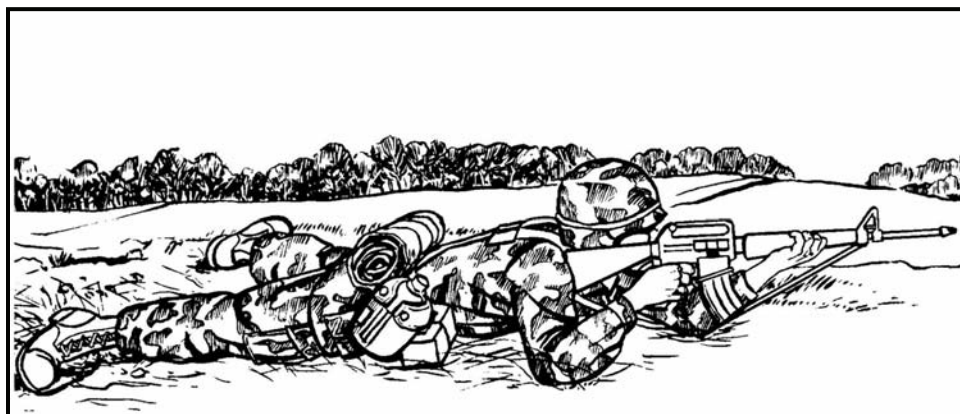


Figure 2-47. Bullet drop of M4/M855 during 25-meter zeroing on 6/3.

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**NOTE:** The objective is to establish a steady position under various conditions. The ultimate performance of this task is combat. Although the firer must be positioned high enough to observe all targets, he must remain as low as possible to provide added protection from enemy fire.

b. **Basic Prone Unsupported Firing Position.** This firing position (Figure 4-23) offers another stable firing platform for engaging targets. To assume this position, the soldier faces his target, spreads his feet a comfortable distance apart, and drops to his knees. Using the butt of the rifle as a pivot, the firer rolls onto his nonfiring side, placing the nonfiring elbow close to the side of the magazine. He places the rifle butt in the pocket formed by the firing shoulder, grasps the pistol grip with his firing hand, and lowers the firing elbow to the ground. The rifle rests in the V formed by the thumb and fingers of the non-firing hand. The soldier adjusts the position of his firing elbow until his shoulders are about level, and pulls back firmly on the rifle with both hands. To complete the position, he obtains a stock weld and relaxes, keeping his heels close to the ground.



**Figure 4-23. Basic prone unsupported firing position.**

#### **\*4-7. PROPER WEAR AND FIT OF INTERCEPTOR BODY ARMOR**

The new BRM strategy includes the wearing of Interceptor body armor (IBA) minus the throat, collar, and groin attachments during all BRM periods and concurrent training. Though the conditions have changed, marksmanship fundamentals remain unchanged. Improper wear and fit of IBA impedes a soldier's marksmanship ability. Prior to BRM training, use an IBA immersion approach so the soldier can adapt to weight and movement restrictions. Incrementally introduce the outer tactical vest (OTV) and front/back small arms protective insert (SAPI) plates for an easier weight transition. While the natural "pocket of the shoulder" is covered by the OTV, the buttstock is still placed where the "pocket" would be.

\* a. **Quantity and Sizing.** Have adequate IBA quantities (Figure 4-24, page 4-20) on hand for all soldiers during IBA immersion. Make a conscious effort to size IBA to the soldier by conducting deliberate fit procedures to reduce or eliminate fit and size problems. Ensure that the SAPI size corresponds to the OTV. Also make sure nothing else is in the OTV/SAPI compartment.



**\*Figure 4-24. Interceptor body armor.**

\* b. **Wear of Helmets.** When in the prone position the back plate in IBA tends to shove the personnel armor system for ground troops (PASGT) helmet over soldiers' eyes. To minimize as much as possible the PASGT helmet positioning problem, always make sure it is properly sized and fitted. Excessive hair between the IBA and helmet further forces the helmet down over the shooter's eyes. Encourage female soldiers to wear a short (chin length) haircut or cornrow hairstyle. A hair bun adds more material between the IBA rear SAPI and PASGT helmet. If short hair is not a female soldier's prerogative, allow her hair to be worn down when firing. This allows soldiers to establish a foundation in firing with IBA before adding additional body armor components. Tightening the suspension harness and sweat band (raising the helmet higher in the head) can lessen interference with the IBA, hair, and helmet. The Army combat helmet (ACH) is lighter, has better weight distribution, and contains less material that can impede a soldier's prone position firing vision than is contained in the PASGT helmet. The ACH does not interfere with the IBA and block a soldier's vision while in the prone position.

\* c. **Tactics, Techniques, and Procedures.** To increase comfort and increase stability while wearing IBA in the prone position, sand or dirt should be scooped underneath the chest while preparing to fire. To alleviate pain and pressure on elbows and knees the added weight of IBA causes, elbow and knee pads can be used. If used in the kneeling position, the elbow pad should not rest on the knee pad; hard plastic on hard plastic is not conducive to a steady position. To help with stability while firing in the kneeling position, pinch and squeeze the rifle buttstock between the SAPI plate and bicep. Loosen the firing side straps and tighten the nonfiring side straps to shift the SAPI away from the firing side. Attaching canteens, ammunition pouches, or first aid pouches directly to IBA (instead of using load bearing equipment [LBE]) can minimize interference with LBE shoulder straps, IBA, and helmet. Reserve IBA firing with throat, collar, or groin protectors for advanced rifle marksmanship (ARM). Shorter stature soldiers may have to increase their body-line to rifle-axis-angle to more of an "L" shape so they can position themselves comfortably (physically reach the hand guards). Soldiers should be in a comfortable firing position to leverage the natural point of aim. The more the target and rifle are naturally in line, while in a relaxed position the less movement is needed to acquire a proper sight picture.



**\*4-8. FIRING POSITIONS WITH INTERCEPTOR BODY ARMOR**

While the natural “pocket of the soldier” is covered by the OTV, the buttstock is still placed where the “pocket” would be.

\* a. **Prone Supported Firing Position.** To assume the prone supported firing position, the soldier faces his target and drops to the ground, breaking his fall with the butt of the weapon (Figure 4-25). Legs are spread apart with the firing leg bent to relieve pressure on the lower body. The prone supported firing position uses sandbags or any other suitable object to support the handguard. The nonfiring hand in this position remains free for use on any part of the rifle. Both elbows are placed on the ground to support the upper body. The firing hand is placed on the pistol grip; the nonfiring hand is placed on the upper handguard. Elbow and knee pads can be worn to relieve IBA induced pain and pressure in these areas. The butt of the weapon should be placed between the SAPI plate and bicep to help stabilize the weapon and absorb recoil.



**\*Figure 4-25. Prone supported firing position.**

\* b. **Prone Unsupported Firing Position.** To assume the prone unsupported firing position, the soldier faces his target and drops to the ground, breaking his fall with the butt of the weapon. Legs are spread apart with the firing leg bent to relieve pressure on the lower back (Figure 4-26). Both elbows are placed on the ground to support the upper body. The firing hand is placed on the pistol grip; the nonfiring hand is placed on the upper handguard. Elbow and knee pads can be worn to relieve pressure and IBA induced pain in these areas. The butt of the weapon should be placed between the SAPI plate and bicep to help stabilize the weapon and absorb recoil.



**\*Figure 4-26. Prone unsupported firing position.**

\* c. **Kneeling Unsupported Firing Position.** To assume the kneeling firing position, the soldier keeps his left foot in place, steps back with the right foot, then drops to the right knee (Figure 4-27). He places the left nonfiring hand on the upper handguard with the upper arm (triceps) on the left knee for support. The right firing hand is placed on the pistol grip with the butt of the weapon between the SAPI plate and bicep to help stabilize the weapon and absorb recoil. The ball of the right foot should rest firmly on the ground so the soldier can sit back with his buttock on the heel. Relaxing and leaning forward into the position can help absorb recoil. The butt of the weapon should be placed between the SAPI plate and bicep to help stabilize the weapon and absorb recoil.



**\*Figure 4-27. Kneeling unsupported firing position.**

\* d. **Standing Unsupported Firing Position.** To assume the standing unsupported firing position, the soldier faces his target, executes a facing movement to his firing side, then spreads his feet a comfortable distance apart (Figure 4-28, page 4-23). With his firing hand on the pistol grip and his nonfiring hand on the upper hand guard or bottom of the magazine, the soldier places the butt of the rifle between the SAPI plate of the IBA and his bicep. This stabilizes the weapon and absorbs recoil. The soldier shifts his feet until aiming naturally at the target and his weight is evenly distributed. The standing position provides the least stability, but can be assumed quickly while moving, and is a good position for target area observation. Support for any portion of the body or rifle improves stability. More stability can be obtained by adjusting the ammunition pouch to support the nonfiring elbow. This allows the rifle magazine to rest in the nonfiring hand.



**\*Figure 4-28. Standing unsupported firing position.**

\* e. **Standing Supported Firing Position Around Obstacles.** To assume the standing firing position, the soldier faces his target, executes a facing movement to his firing side, then spreads his feet a comfortable distance apart (Figure 4-29). With his firing hand on the pistol grip and his nonfiring hand on the upper handguard, the soldier places the butt of the rifle between the SAPI plate and his bicep. This helps stabilize the weapon and absorbs the recoil. The soldier then leans into the wall or obstacle with his nonfiring forearm, shoulder, and nonfiring thigh touching the obstacle for support. The soldier shifts his feet until he is aiming naturally at the target and his weight is evenly distributed.



**\*Figure 4-29. Standing supported firing position around obstacles.**



**\*4-9. TRAINING DEVICES AND EXERCISES**

Several marksmanship training devices are available to aid in sustainment training when used with the appropriate training strategies. They are beneficial when ammunition is limited for training or practice exercises. Some training devices are complex, costly, and in limited supply, while others are relatively simple, cheap, and in large supply. Devices and aids can be used alone or in combinations. Individuals or squads can sustain or practice basic marksmanship skills and fundamentals with devices and aids.

a. **Dominant Eye Training.** This exercise assists the coach and the firer in determining which eye the firer should use when engaging targets. The firer's dominant eye should be identified early in the training process to prevent unnecessary problems such as a blurred sight picture or the inability to acquire a tight shot group during the grouping exercise. (Refer to Appendix A for a detailed explanation on the dominant eye training exercise and training standards.)

b. **M15A1 Aiming Card.** This exercise measures the soldier's ability to acquire the same sight picture each time the firer places his sights on a target using iron sights (Refer to Appendix A for a detailed explanation on the M15A1 aiming card exercise and training standards.)

c. **Target Box and Paddle Exercise.** This exercise incorporates the soldier's position and breathing while aiming at a target 25 meters away, simulating a live fire 25-meter engagement. This exercise reinforces the basic fundamentals while refining the soldier's muscle memory during the integrated act of dry firing. This exercise specifically focuses on the soldier's position, breathing and sight picture. (Refer to Appendix A for a detailed explanation of the target box and paddle exercise and training standards.)

d. **Dime and Washer Exercise.** This exercise incorporates the soldier's position; breathing and trigger squeeze at a target 25 meters away, simulating a live fire 25-meter engagement. The soldier must successfully dry-fire his weapon six consecutive times without the washer falling to the ground. This exercise specifically focuses on all four of the soldier's fundamentals. (Refer to Appendix A for a detailed explanation of the dime and washer exercise and training standards.)

### Section III. MARKSMANSHIP FUNDAMENTALS II

This training program (Figure 4-30) reinforces BRM and the four fundamentals while demonstrating the integrated act of shooting on the Weaponeer.

<p><b>Marksmanship Fundamentals II</b> <b>Period 3 (8 hours)</b> <b>Instructional Intent:</b> Reinforce BRM 1, 2 and the four fundamentals while demonstrating the integrated act of shooting on the Weaponeer. <b>Observables:</b> All fundamentals emphasized and applied on the Weaponeer. Weapons safety reinforced on the Weaponeer. Peer coaching is emphasized during Weaponeer firing. Remediate all soldiers who fail to hit six out of nine shots at the 300-meter Weaponeer target. <b>Tasks:</b> Demonstrate the integrated act of firing while using the Weaponeer device.  <b>Note:</b> Soldiers who do not meet the standard will receive remedial training before subsequent instruction.</p>
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**Figure 4-30. Marksmanship Fundamentals II training program.**

#### **\*4-10. WEAPONEER**

The Weaponeer is capable of simulating all of the BRM live-fire scenarios without firing rounds. Immediate feedback is available for critiquing the soldier's application of the integrated act of firing while using the Weaponeer device to include misfire procedures. (Refer to Appendix A for a detailed explanation of the Weaponeer training procedures and training standards.) This exercise incorporates all four fundamentals while giving immediate downrange feedback.

#### **\*4-11. ENGAGEMENT SKILLS TRAINER 2000**

The engagement skills trainer (EST) 2000 is a portable firearms training simulator system that provides training of marksmanship, squad tactical, and close-range shoot-don't shoot techniques and skills for small arms weapons. EST 2000 will not be used as a substitute for live fire qualification. Commanders should review DA PAM 350-38, Standards in Training Commission (STRAC), for those live-fire events that can be executed in the EST 2000. Features that differentiate the EST 2000 from other systems are superior accuracy and state of the art graphics. (Refer to Appendix A for a detailed explanation of the EST 2000 training simulator.)

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### Section III. RECORD QUALIFICATION

Qualification ratings and first-time GO rates are important during record fire, if properly used. They provide goals for the soldier and aid the commander in identifying the quality of his training. This should be considered in the assignment of priorities, instructor personnel, and obtaining valuable training resources. The objective of record firing is to access and confirm the individual proficiency of firers and the effectiveness of the training program.

#### 6-6. PRACTICE RECORD FIRE I AND II

Although the soldier receives a practice rating based on the number of target hits, practice record fire should also be considered a valuable training exercise. When practice record fire is correctly conducted, all soldiers gain valuable experience and become more confident in engaging combat targets (Figure 6-4).

<p><b>Instructional Intent:</b> Reinforce PMI and KD firing and apply the techniques of target detection by engaging a more difficult course of fire, with increased time stress with single and multiple pop-up targets.</p> <p><b>Special Instructions:</b> Ensure proper rear sight setting (M16A1=the unmarked aperture, short-range) Ensure proper rear sight setting (M16A2/3=8/3, M16A4 and M4=6/3 flush). Ensure the rear sight aperture is set on 300, not 800. Ensure small aperture is being used. Peer coaching is stressed (Practice Record Fire I)</p> <p><b>Observables:</b> Soldiers are applying all aspects of BRM. Soldiers hit 23 out of 40 target exposures. Soldiers that do not meet the standard receive remedial training before re-firing. Practice record fire should be conducted on a different range than record fire.</p>
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**Figure 6-4. Practice record fire.**

\* a. **Concept.** During Practice Record Fire I and II, each firer receives 40 target exposures at ranges from 50 to 300 meters, and 40 rounds of 5.56-mm ammunition. Twenty rounds are fired from the prone supported firing position (or at the unit commander's discretion), the foxhole supported firing position. Ten rounds are fired from the prone unsupported firing position. Another ten rounds are fired from the kneeling firing position. Each soldier must hit a minimum of 23 out of 40 target exposures. The soldier must thoroughly understand and apply the fundamentals of marksmanship so he can accurately detect and engage combat targets on the battlefield. Coaching or assistance to firers is permitted only during Practice Record Fire I. If a firer consistently misses targets or experiences problems with target detection and range estimation, coaches should point out the shooting error to help correct it. Target detection is accomplished with a dry-fire scenario before engaging targets.

- NOTES:**
1. If possible, Practice Record Fire I and II should be fired on different ranges. Soldiers firing Practice Record Fire II on the same range as Practice Record Fire I must fire on a different lane.
  2. Practice Record Fire I and II should closely resemble all aspects of actual qualification. Practice Record Fire I allows peer coaching and the use of dummy ammunition. Practice Record Fire II does not allow peer coaching and dummy ammunition will not be used.

\* b. **Conduct of a Practice Record Fire Range.** The uniform for practice record fire is helmet, LBE/LBV, and Interceptor body armor with all SAPI plates. No other armor is required. During practice record fire, soldiers fire at 40 single or multiple target exposures. They are issued one 20-round magazine to be fired from the prone supported firing position or (at the unit commander's discretion), \*the foxhole supported firing position. A 10-round magazine is fired from the prone unsupported firing position. Another 10-round magazine is fired from the kneeling unsupported firing position. Based on the total number of hits achieved in each table, soldiers are critiqued on the practice record fire score. Exposure times are three to seven seconds at ranges of 50 to 300 meters. Since it requires one to two seconds for the manually activated target mechanism to raise the target, timing begins when the target is fully exposed rather than when the tower operator activates the target switch. When practice record fire is conducted on the new family of automated record fire ranges, these factors are included in the computer program.

(1) **Alibi Firing.** Alibi firing should be conducted at the end of each firing table IAW tower operator commands. Alibis are provided during practice record fire for three reasons: malfunction of the rifle, malfunction of the target mechanism, or faulty ammunition.

(2) **Range Training Areas.** Three range training areas are as follows:

(a) **Orientation Area.** This area is located so firers cannot see the firing area. Practice record fire orientation includes conduct of fire, instructions on safety, and range operations (procedures in ready and retired areas).

(b) **Ready Area.** This area is near the firing range and located so firers cannot see targets on the range. The firer blackens the rifle sights, lubricates the rifle, and checks for defects that might cause malfunctions.

(c) **Retired Area.** This area is about 100 meters behind the ready area. Soldiers completing practice record fire move to the retired area to clean their rifles and be critiqued on their firing performance.

(3) **Record of Performance.** Practice record fire is conducted IAW DA Form 3595-R (Record Fire Scorecard). (See the back of the book after the index for a blank reproducible copy.)

## 6-7. PRACTICE RECORD FIRE STANDARDS

Accurate performance data are critical. The firer's score is recorded using the practice record fire scorecard, or automated by using a computer printout provided on the automated range. Based on the data recorded, an after-action review can be performed by range and firing position to discuss firing performance. A firer who fails to qualify on his



first try should re-fire the practice record fire range after his problem has been diagnosed and remedial training provided. The following is a practice qualification rating:

- Marksman: Hits 23 to 29 targets.
- Sharpshooter: Hits 30 to 35 targets.
- Expert: Hits 36 to 40 targets.

#### 6-8. RECORD FIRE

The intent of record fire is to facilitate the commander's evaluation of several individual tasks and integrated marksmanship skill performances, and to provide unit readiness indicators (Figure 6-5). The qualification standards are specifically related to a prescribed procedure for the conduct of record fire. Individual performance must be evaluated IAW three components:

- What test was used (standard, known-distance, or scaled)?
- How was the test administered?
- How were individual and unit performances distributed (23 to 40 or 26 to 40 for alternate), and at which target ranges?

**Instructional Intent:**  
 Reinforce all phases of BRM.  
 Allow soldiers to practice and refine critical marksmanship skills.  
 Measure the soldier's complete understanding of BRM.

**Special Instructions:**  
 Ensure proper rear sight setting (M16A1=the unmarked aperture, short-range).  
 Ensure proper rear sight setting to zero (M16A2/3=8/3, M16A4=6/3, M4=6/3).  
 Ensure the rear sight aperture is set on 300, not 800.  
 Ensure small aperture is being used.  
 Ensure that all targets are operational.  
 \*Ensure each soldier has one 20-round magazine, and two 10-round magazines.

**Observables:**  
 Soldiers are applying all aspects of BRM.  
 Soldiers hit 23 out of 40 target exposures.  
 Soldiers that do not meet the standard receive remedial training before re-firing.

**Figure 6-5. Record fire.**

a. **Concept.** Since all soldiers must fire the record fire course at least once a year for qualification, the course can provide excellent firing performance evaluations. It also provides excellent diagnostic information for instructor-trainers who are concerned with scheduling training to overcome the most serious firing weaknesses. The standard course should be used for all soldiers. There are times when a qualification exercise must be conducted on an alternate course.

(1) The following information concerning the development of the record fire course is provided to assist in understanding how standards were established.

(2) Testing and development indicates the soldier should hit at least 39 of 40 targets if he applies the marksmanship fundamentals correctly (assuming target mechanisms have been checked and are functioning). This probability of hit (PH) is

provided as a guide considering the capability of the typical rifle, ammunition, and soldier firing a standard course (Table 6-1).

RANGE (METERS)	PH	NUMBER OF TARGETS
50	1.0	05
100	1.0	09
150	1.0	10
200	.99	08
250	.95	05
300	.90	03

**Table 6-1. Probability of hits.**

(3) When the IET BRM POI or an adequate unit training program is conducted, the following PH can be expected (Table 6-2).

RANGE	TARGETS	LOW PH	AVERAGE PH	HIGH PH
50	5	.80	.95	.98
100	9	.70	.90	.95
150	10	.65	.90	.95
200	8	.45	.70	.90
250	5	.35	.60	.85
300	3	.25	.50	.80
		23 hits	32 hits	37 hits

**Table 6-2. Results from an adequate unit training program.**

(4) The first task on a standard record fire course is to ensure all targets function properly. When in doubt, a lane should be fired to ensure a bullet strike will activate each target. Sometimes slapping a target with a cleaning rod can cause it to activate, but a bullet will not. When it is hot, plastic targets may allow the 5.56-mm bullet to pass through without causing sufficient vibration to activate the mechanism, resulting in a requirement to change targets more often, to use double targets, or to use different silhouettes for a positive indication of hits.

\* b. **Conduct of Record Fire Range.** The record fire course provides for the engagement of one 20-round exercise, and two 10-round exercises. Twenty single or multiple targets are engaged from the prone supported or (at the unit commander's discretion) the foxhole supported firing position; 10 targets are engaged from the prone unsupported position; and 10 targets are engaged from the kneeling position. Once firing begins, no cross-loading of ammunition is allowed. The uniform for qualification is helmet, LBE/LBV, and Interceptor body armor with all SAPI plates. No other armor is required.

\* (1) **Table 1. Prone Supported Firing Position** (or at the unit commander's discretion) **Foxhole Supported Firing Position.** The firer is given one 20-round magazine to engage 20 targets at various ranges

\* (2) **Table 2. Prone Unsupported Firing Position.** The firer is given one 10-round magazine to engage 10 targets at various ranges.

\* (3) **Table 3. Kneeling Unsupported Firing Position.** The firer is given one 10-round magazine to engage 10 targets at various ranges.

(4) Credit for targets hit should not be given when rounds are “saved” from difficult targets to be used on easier targets. (Example: not firing at the 300-meter target so an additional round can be fired at the 150-meter target.) When double targets are exposed, the soldier should fire two rounds. If the first target is missed, he may fire at that same target with the second round.

(5) Engage the target that poses the greatest threat first (normally assumed to be the closer target). No scoring distinction is made between near targets and far targets or the sequence in which they are engaged. Credit is not given if unused ammunition from one 20-round table is added to a magazine provided for the next table.

(6) Soldiers who fail to qualify on the first attempt should be given appropriate remedial training and allowed to refire in a few days. When a soldier refires the course, he remains unqualified with a score of 22 target hits or less. A rating of marksman is awarded for a score of 23 to 40 target hits. When automated scoring procedures are available that allow the performance of the soldier to be stored and retrieved before a weapon malfunction, his performance is added to the score of his first attempt after weapon repair and refire. If a soldier’s weapon becomes inoperable and his performance before a malfunction precludes qualification, he is considered unqualified and must refire.

(7) Alibi firing is reserved for soldiers who encounter a malfunctioning target, ammunition, or rifle. A soldier will not be issued more than 20 rounds for Table 1, 10 rounds for Table 2, or 10 rounds for Table 3. Soldiers who fire 20 rounds, despite a target malfunction, will not be issued additional alibi rounds. There are no alibis for soldier-induced weapon malfunctions or for targets missed during application of immediate action. These procedures must be strictly adhered to when a malfunction occurs.

**NOTE:** The ammunition procedures, allocation, and alibi procedures for practice record fire and record fire are conducted the same. The only exception is that coaching is authorized for practice record fire.

(a) The soldier must apply immediate action and continue to fire the exercise. After firing, the soldier notifies the NCOIC to determine if the ammunition was faulty or if the target malfunctioned.

(b) The NCOIC verifies the malfunction. The soldier is permitted to fire at that target(s) with the exact number of rounds equal to the target malfunctions. For example, the soldier had two confirmed target malfunctions at 250 meters. Although he may have had five rounds left from the overall exercise. The soldier would be given only two rounds to engage the two 250-meter target exposures, if repaired, or the next closer target. He would not be allowed to fire all remaining five rounds at the two 250-meter target exposures.

(c) The NCOIC or scorer monitoring the lane must verify the target malfunction. The soldier continues to fire the exercise. On a computerized range, the tower operator confirms which target and how many malfunctions occurred.

(d) Inoperable weapons are uncorrectable malfunctions such as a broken firing pin, jam caused by double feed not caused by the soldier, failure to extract due to

broken extractor, or round in the bore. The soldier must apply correct immediate action to eliminate the stoppages. If the stoppage is determined to be correctable for example, the soldier did not apply correct immediate action and as a result the soldier did not engage the required number of targets, he is at fault.

(e) Qualified weapons personnel or the NCOIC must verify weapon malfunctions before the soldier can refire the course. Soldiers who erroneously claim a malfunction on the firing line are considered unqualified and refire as a second-time firer.

(f) On-site observation, detailed analysis and evaluation of individual results, and unit performance identify weaknesses. Training can then focus on combat tasks, skills, or other factors that address these weaknesses. For example, rifles that are not serviceable could be the cause of poor zeroes or failures to fire and, therefore, failures to qualify. Some soldiers may not qualify because of a lack of understanding of immediate-action procedures or maintenance of the rifle and magazine. Soldiers who miss targets are not applying the four fundamentals or are not accurately zeroing the rifle. Soldiers who do not fire at exposed targets during qualification may indicate:

- Failure to scan the designated area.
- Lack of ability to detect targets.
- Lack of ability to shift from one target to another.
- Failure to manage ammunition.
- A stoppage.

\* (8) The record fire range is fired IAW DA Form 3595-R (Record Fire Scorecard). (See Appendix B for a completed scorecard example.)

c. **Qualification Standards.** To achieve the lowest possible individual qualification rating, a soldier must achieve a minimum score of 23 target hits on a standard record fire range. The following are the qualification ratings:

- Expert: Hits 36 to 40 targets.
- Sharpshooter: Hits 30 to 35 targets.
- Marksman: Hits 23 to 29 targets.

## 6-9. ALTERNATE QUALIFICATION COURSES

Units should conduct rifle qualification on a standard record fire range. Convenience and comfort should not be the prime consideration when choosing a range. The KD alternate course is used by all components of the Regular Army, US Army Reserve, and Army National Guard when a standard record fire range is not available. The 25-meter alternate course is used when neither a standard record fire or KD range is available for rifle qualification. Units are permitted to use the 15-meter scaled alternate course only if a 25-meter range is not available.

**\*NOTE:** The uniform for the alternate qualification course is helmet, LBE/LBV, and Interceptor body armor with all SAPI plates. No other armor is required.

**NOTE:** The official records of personnel who are using an alternate qualification course are noted to distinguish alternate qualification ratings from standard record fire course ratings. For example, official personnel records are annotated as follows:

JONES, John Q. 000-00-0000 Expert 36 (RF)

JONES, John Q. 000-00-0000 Expert 38 (KDAC)

JONES, John Q. 000-00-0000 Expert 38 (AC)

a. **25-Meter Alternate Course.** The 25-meter alternate course provides a way for units to test a soldier's rifle marksmanship proficiency.

(1) A soldier undergoing rifle qualification should first confirm the zero on his rifle before engaging the alternate course. The zero may be confirmed with the 25-meter battlesight zero procedure of six sighter rounds, which are fired in the prone supported position. Sighter rounds do not count for score. Training or sustainment ammunition is used for sighter rounds if a zeroing exercise is not conducted the day of record fire.

(2) Firing at scaled silhouettes gives the soldier the chance to engage targets with time limits and feedback. Engaging targets at 25 meters precludes any training value received on target detection or the effects of wind and gravity, which is learned when firing at longer distances. Rifle qualification requirements are scheduled on the 25-meter alternate course when a standard record fire or KD range is not available. The alternate course is an eight-hour course of instruction with four hours for 25-meter zeroing and four hours for record fire.

**NOTE:** If zeroing/grouping exercises are not performed on the day of record fire, six rounds of training/sustainment ammunition will be fired for 25-meter zero confirmation prior to conducting the qualification course.

\* b. **Conduct of Fire.**

\* (1) **Table 1. Prone Supported or Foxhole Supported Firing Position.** The firer is given one 20-round magazine to engage 10 silhouettes on the target. Table includes two rounds for each silhouette from the prone supported position. Firing must be completed within 120 seconds. No more than two hits for each silhouette are scored.

\***NOTE:** The foxhole supported firing position may be substituted for the prone supported position at the unit commander's discretion.

\* (2) **Table 2. Prone Unsupported Firing Position.** The firer is given one 10-round magazine to engage 10 silhouettes on the same target sheet. Table includes one round for each silhouette from the prone unsupported position. Firing must be completed within 60 seconds. No more than one hit for each target will be scored from the prone unsupported position.

\* (3) **Table 3. Kneeling Position.** The firer is given a final 10-round magazine to engage 10 silhouettes on the same target sheet. Table includes one round for each silhouette from the kneeling position. Firing must be completed within 60 seconds. No more than one hit for each target is scored from the kneeling position.

**\*NOTE:** Firers should engage targets on the sheet left to right, from the nearest to the farthest away target (50m, 100m left, 100m center, 100m right, 150m left, 150m right, 200m left, 200m right, 250m, and 300m last). This “guideline” for target engagement is intended to ensure firers do not forget which targets they engaged during qualification. It also alleviates the possibility of shooting each target more than the prescribed amount of times.

\* (4) The time between each firing position is not specified, but enough time should be allotted to allow the firer to clear his weapon, quickly change firing positions, and reload before the beginning of the next firing table. The RSO will ensure enough time is given between each change in firing positions to facilitate the timely flow of the record fire qualification table.

\* c. **Scoring.** The same target sheet is used for every 40-round qualification table a firer completes.

(1) One hit is awarded for each round that strikes within or touches some part of the silhouette. A maximum of four hits for each silhouette on the same target sheet are scored.

\* (2) Scorecard DA FORM 5790-R will be used to score alternate course record fire qualifications. The NSN for the scaled silhouette target are: 25m, NSN # 6920-01-167-1398, and 15m, NSN # 6920-01-1396. The alternate course will be used only when standard record fire and known distance ranges are unavailable.

d. **Qualification Standards.** The chief range officer briefs all soldiers on the proper scoring procedures. The firing line safety crew—

- Performs as scorers.
- Informs the chief range officer of crossfires.
- Informs the chief range officer of allowable alibis.
- Accurately counts hits and misses. A hit is any bullet hole that is either completely in or touches some part of the scaled silhouette. If a bullet hole does not touch some part of the scaled silhouette, it is counted as a miss. Ricochets are counted as hits or misses.
- \*Counts only four hits for each silhouette for score.
- Completes the scorecard.
- Assists the soldier with target repair.
- Totals, signs, and returns the completed scorecard to the chief range officer.

(1) Qualification ratings for the alternate course follow:

- Expert: Hits 38 to 40 targets.
- Sharpshooter: Hits 33 to 37 targets.
- Marksman: Hits 26 to 32 targets.
- Unqualified: Hits 25 and below.

\* (2) These courses are fired IAW DA Form 5790-R (Record Firing Scorecard-Scaled Target Alternate Course). (See Appendix B for an example of a completed scorecard.)

CHAPTER 7  
**ADVANCED RIFLE MARKSMANSHIP**  
**(Phase IV of Basic Rifle Marksmanship)**

*The procedures and techniques for implementing the Army rifle marksmanship training program are based on all soldiers understanding common firing principles, being proficient marksmen, and being confident in applying their firing skills in combat. During preliminary marksmanship instruction, instructors-trainers emphasize initial learning by reviewing, reinforcing, and practicing the basics. This chapter concentrates on advanced techniques and procedures the soldier will need to participate in collective training during unit live-fire training exercises. Areas discussed in this chapter include advanced firing positions; combat \*firing techniques; chemical, biological, radiological, and nuclear (CBRN) firing; unassisted night fire; moving target engagement; short-range marksmanship (SRM) training; and squad designated marksman (SDM) training.*

**NOTE:** The unit METL and STRAC allocation will determine which ARM tasks will be trained.

**Section I. ADVANCED FIRING POSITIONS**

After mastering the four marksmanship fundamentals in the basic firing positions, the next step is to master the four fundamentals while firing from a variety of advanced firing positions. The following paragraphs demonstrate the most common firing positions a soldier may be required to fire from. The firer's position may change but the application of the remaining three fundamentals applied from a stable position never changes. Ultimately, any firing position that aids the firer in applying the fundamentals is acceptable, as long as it is applied consistently each time it is used to avoid changing the firer's sight picture.

**7-1. ALTERNATE PRONE FIRING POSITION**

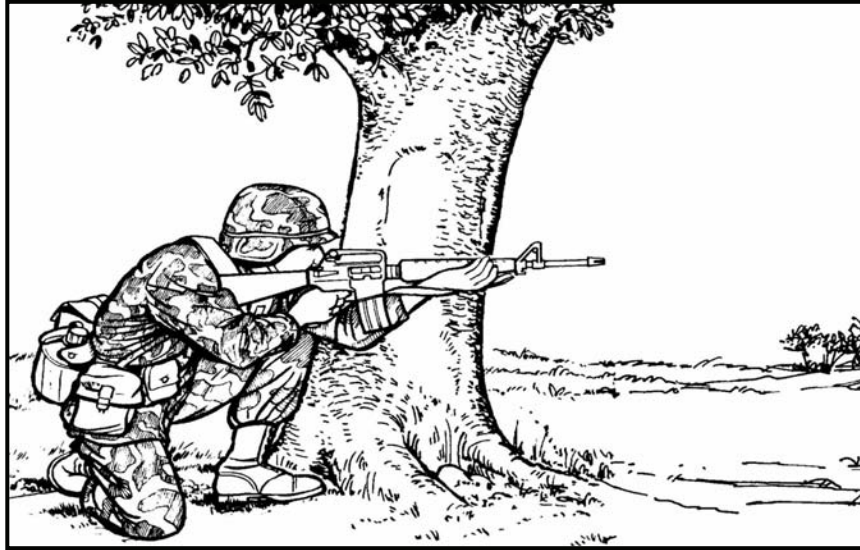
This position is an alternative to both prone supported and unsupported firing positions (Figure 7-1). The firer can assume a comfortable position while maintaining the same relationship between his body and the axis of the rifle. This position relaxes the stomach muscles and allows the firer to breathe naturally.



**Figure 7-1. Alternate prone firing position.**

### 7-2. KNEELING SUPPORTED FIRING POSITION

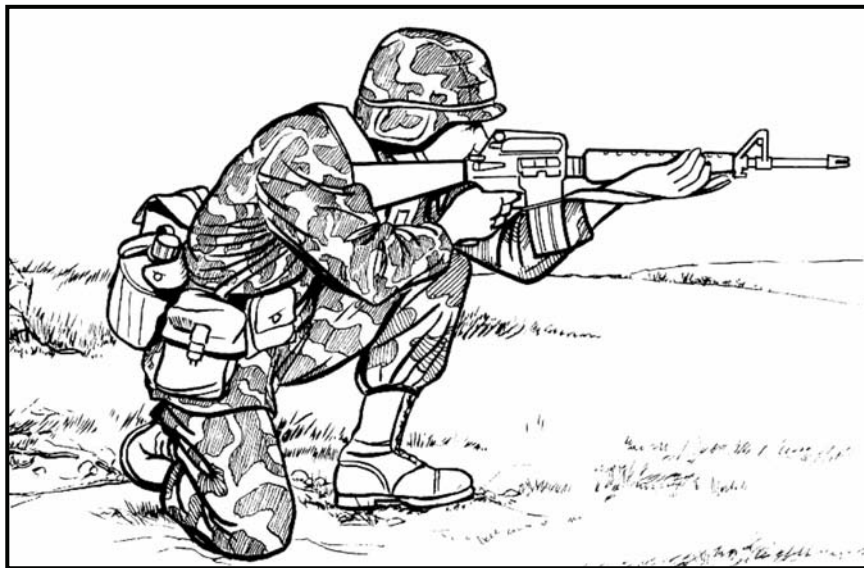
This position allows the soldier to obtain the height necessary to observe many target areas, taking advantage of available cover (Figure 7-2). Solid cover that can support any part of the body or rifle assists in firing accuracy.



**Figure 7-2. Kneeling supported firing position.**

### 7-3. KNEELING UNSUPPORTED FIRING POSITION

This position is assumed quickly, places the Soldier high enough to see over small brush, and provides a stable firing position (Figure 7-3). The nonfiring elbow should be pushed forward of the knee so the upper arm is resting on a flat portion of the knee to provide stability. The trailing foot should be placed in a comfortable position.



**Figure 7-3. Kneeling unsupported firing position.**





**Figure 7-16. Pointed quick fire.**

(a) The difference in speed of delivery between these two techniques is small. Pointed quick fire can be used to fire a shot about one-tenth of a second faster than aimed quick fire. The difference in accuracy, however, is more pronounced. A soldier well trained in pointed quick fire can hit an E-type silhouette target at 15 meters, although the shot may strike anywhere on the target. A soldier well trained in aimed quick fire can hit an E-type silhouette target at 25 meters, with the shot or burst striking 5 inches from the center of mass. This variance of target hit for this type of engagement reinforces the need for well-aimed shots.

(b) The key to the successful employment of either technique is practice. Both pointed and aimed quick fire must be repeatedly practiced during dry-fire training. Live-fire exercises provide further skill enhancement and illustrate the difference in accuracy between the two techniques. Tactical considerations dictate which technique is most effective in a given situation, and when single shot versus burst fire is used.

(c) Pointed and aimed quick fire should be used only when a target cannot be engaged fast enough using the sights in a normal manner. These techniques should be limited to targets appearing at 25 meters or less. Modern short-range combat (SRC) techniques emphasize carrying the rifle with the butt high, so the rifle sights can be brought into display as quickly as firing a hasty unaimed shot. In extremely dangerous moments, special reaction teams (SRTs) commonly advance with weapons shouldered, aiming as they advance.

b. **Four Fundamental Modifications for Quick-Fire Techniques.** Quick-fire techniques require major modifications to the four fundamentals of marksmanship. These modifications represent a significant departure from the normal applications of the four fundamentals. Initial training in these differences, followed by repeated dry-fire exercises, will be necessary to prepare the soldier for live fire.

(1) **Steady Position.** The quickness of shot delivery prevents the soldier from assuming a stable firing position. He must fire from his present position when the target

appears. If the soldier is moving, he must stop. Adjustments for stability and support cannot be made before the round is fired.

(a) *Aimed*. The butt of the rifle is pulled into the pocket of the shoulder as the cheek comes in contact with the stock. Both hands firmly grip the rifle, applying rearward pressure. The firing eye looks through or just over the rear sight aperture. The firer's sight is placed on the target.

(b) *Pointed*. The rifle is pulled into the soldier's side and both hands firmly grip the rifle, applying rearward pressure.

(2) *Aiming*. This fundamental must be highly modified because the soldier may not have time to look through the rear sight, find the front sight, and align it with the target.

(a) *Aimed*. The soldier's initial focus is on the target. As the rifle is brought up, the firing eye looks through or just over the rear sight aperture at the target. Using his peripheral vision, the soldier locates the front sight post and brings it to the center of the target. When the front sight post is in focus, the shot is fired. Focus remains on the front sight post throughout the aiming process.

(b) *Pointed*. The soldier's focus is placed on the center or slightly below the center of the target as the rifle is aligned with it and is fired. The soldier's instinctive pointing ability and peripheral vision are used to aid proper alignment.

**NOTE:** Using either aiming technique, bullets may tend to impact above the desired location. Repeated live-fire practice is necessary to determine the best aim point on the target or the best focus. Such practice should begin with the soldier using a center of mass aim.

(3) *Breath Control*. This fundamental has little application to the first shot of quick fire. The round must be fired before a conscious decision can be made about breathing. If subsequent shots are necessary, breathing must not interfere with the necessity of firing quickly. When possible, use short, shallow breaths.

(4) *Trigger Squeeze*. Initial pressure is applied as weapon alignment is moved toward the target. Trigger squeeze is exerted so when weapon-target alignment is achieved, the round is fired at once. The soldier requires much training and practice to perfect this rapid squeezing of the trigger.

### **\*Section III. CHEMICAL, BIOLOGICAL, RADIOLOGICAL, AND NUCLEAR FIRING**

All soldiers must effectively fire their weapons to accomplish combat missions in a \*chemical, biological, radiological, and nuclear (CBRN) environment. With proper training and practice, soldiers gain confidence in their ability to effectively hit targets in full Mission Oriented Protective Posture (MOPP) equipment. MOPP firing proficiency must be part of every unit's training program. Figure 7-17, page 7-19 shows the current training program for CBRN firing.

**Instructional Intent:**

The primary objective of CBRN fire is to develop the soldier's confidence and ability to engage targets while in any level of MOPP.

**Special Instructions:**

Ensure M16A1 rear sight is set on the unmarked aperture.

Ensure M16A2/A3/A4 and M4 series weapon's rear sight is set on the 0-2 aperture.

Ensure soldiers have insert lenses, if required, before firing.

Ensure soldiers have proper seal on the mask to prevent fogging and loss of visibility.

Soldiers are issued 20 rounds of ammunition to be loaded 10/10 in two magazines.

Soldier engages 20 targets each at 50 meters. Target exposures consist of 10 from the right and 10 from the left from the foxhole supported firing position using Table 1 of the Record Fire Qualification firing table (DA Form 3595-R).

This is a GO/NO GO exercise.

**Observables:**

Soldier obtains 11 hits out of 20 target exposures.

**\*Figure 7-17. CBRN fire training program.**

## 7-12. MOPP EQUIPMENT FIRE TRAINING

\*Firing weapons is only part of overall CBRN training. Soldiers must first be familiar with CBRN equipment, its use, and proper wear before they progress to learning the techniques of MOPP firing. Trainers must consider the impact of MOPP equipment (hood or mask, gloves, overgarments) on the soldier's ability to properly apply the fundamentals of marksmanship and combat firing skills.

a. **Operation and Function Modification.** Handling the rifle, performing operation and function checks, loading and unloading, and cleaning are affected by MOPP equipment. Movements are slowed, tasks take longer to complete and often require more effort. Vision is impaired, and care is needed to avoid damaging MOPP equipment and possible exposure to lethal agents. Because of the great differences between MOPP Level 0 and MOPP Level 4, soldiers must be trained in *all* aspects of operation and maintenance of the weapon while practicing at the highest MOPP level. Only through repeated training and practice can the soldier be expected to perform tasks efficiently.

b. **Immediate Action.** Under normal conditions a soldier should be able to clear a stoppage in 3 to 5 seconds. Under increased MOPP levels, however, this may take as long as 10 seconds to successfully complete. Dry-fire practice under these conditions is necessary to reduce time and streamline actions. Mask (with or without hood) and gloves must be worn. Care must be taken not to snag or damage the gloves or dislodge the hood or mask during movements. Applying immediate action to a variety of stoppages during dry fire must be practiced using dummy or blank ammunition until such actions can be performed by instinct.

(1) Vision is limited to what can be seen through the mask lenses or faceplate. Peripheral vision is severely restricted. The lenses or faceplate may be scratched or partly fogged, further restricting vision.

**NOTE:** Soldiers requiring corrective lenses must be issued insert lenses before training.

(2) Scanning movement may be restricted by the hood or mask. Any of these factors could adversely affect the soldier's ability to quickly and accurately detect targets. Additional skill practice should be conducted.

c. **Marksmanship Fundamentals.** Although the four marksmanship fundamentals remain valid during MOPP firing, some modifications may be needed to accommodate the equipment.

(1) **Steady Position.** Due to the added bulk of the over garment, firing positions may need adjustment for stability and comfort. Dry and live firing while standing, crouching, or squatting may be necessary to reduce bodily contact with contaminated ground or foliage. A consistent spot or stock weld is difficult to maintain due to the shape of the protective mask. This requires the firer to hold his head in an awkward position to place the eye behind the sight.

(2) **Aiming.** Wearing a protective mask may force firers to rotate (cant) the rifle to see through the rear aperture. The weapon should be rotated the least amount possible to see through and line up the sights. The center tip of the front sight post should be placed on the ideal aiming point. This ideal aiming procedure (Figure 7-18, page 7-21) should be the initial procedure taught and practiced.

(a) If this cannot be achieved, a canted sight picture may be practiced. The normal amount of cant needed by most firers to properly see through the sights has a limited influence on rounds fired at ranges between 75 meters or less.

(b) Rifle ballistics causes the strike of the bullet to impact low in the direction of the cant (when a cant is used) at longer ranges. Due to this shift in bullet strike and the many individual differences in sight alignment when wearing a protective mask, it is important to conduct downrange feedback training at ranges beyond 75 meters on known-distance ranges. This allows soldiers to determine what aiming adjustments are needed to achieve center target hits. Figure 7-19, page 7-21, shows what might be expected for a right-handed firer engaging a target at 175 meters with a certain amount of cant, and the adjustment in point of aim needed to move the bullet strike to the center of the target. Figure 7-20, page 7-22 shows what might be expected for a right-handed firer engaging a 300-meter target. The adjustments in point of aim for left-handed firers are the opposite of those shown in Figures 7-19 and 7-20.

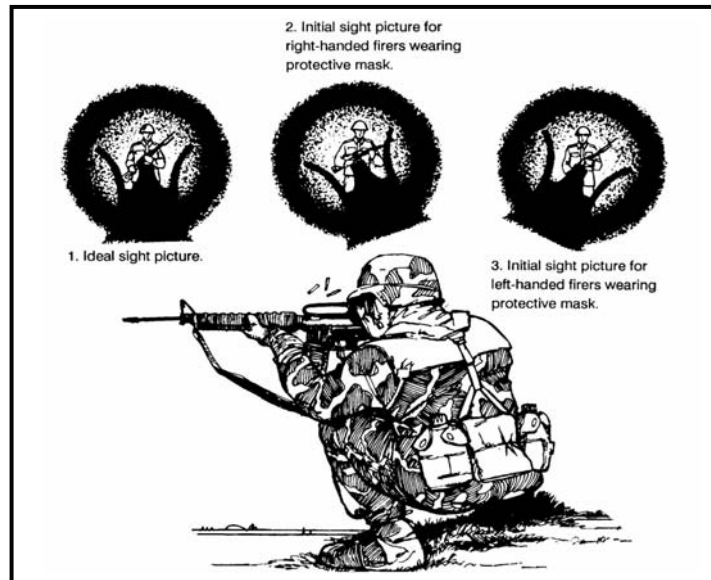
(c) Although bullet strike is displaced when using a cant, individual differences are such that center-of-mass aiming should be used until the individual knows what aiming adjustment is needed. When distant targets are missed, a right-handed firer should usually adjust his point of aim to the right and high; a left-handed firer should adjust to the left and high. Then, the aiming rules are clear.

(d) All targets should initially be engaged by aiming center mass, regardless of cant. When targets are missed while using a cant, firers should adjust the point of aim higher and opposite the direction of the cant. Actual displacement of the aiming point must be determined by using downrange feedback targets at ranges beyond 75 meters.

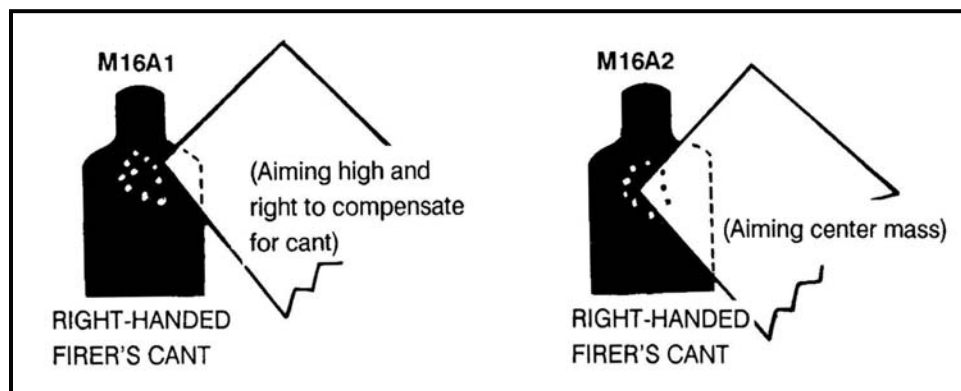
(3) **Breath Control.** Breathing is restricted and more difficult while wearing the protective mask. Physical exertion can produce labored breathing and make settling down into a normal breathing rhythm much more difficult. More physical effort is needed to move around when encumbered by MOPP equipment, which can increase the breath rate. All these factors make holding and controlling the breath to produce a well-aimed shot

more energy and time consuming. Emphasis must be placed on rapid target engagement during the limited amount of time a firer can control his breath.

(4) **Trigger Squeeze.** Grasping the pistol grip and squeezing the trigger with the index finger is altered when the firer is wearing MOPP gloves. The action of the trigger finger is restricted, and the fit of the glove may require the release of the swing-down trigger guard. Because the trigger feels different, control differs from that used in barehanded firing. This difference cannot be accurately predicted. Dry-fire training using dime-washer exercises is necessary to ensure the firer knows the changes he will encounter during live fire.



**Figure 7-18. Sight picture when canting the rifle while wearing a protective mask (75-meter target).**



**Figure 7-19. Engagement of 175-meter target.**

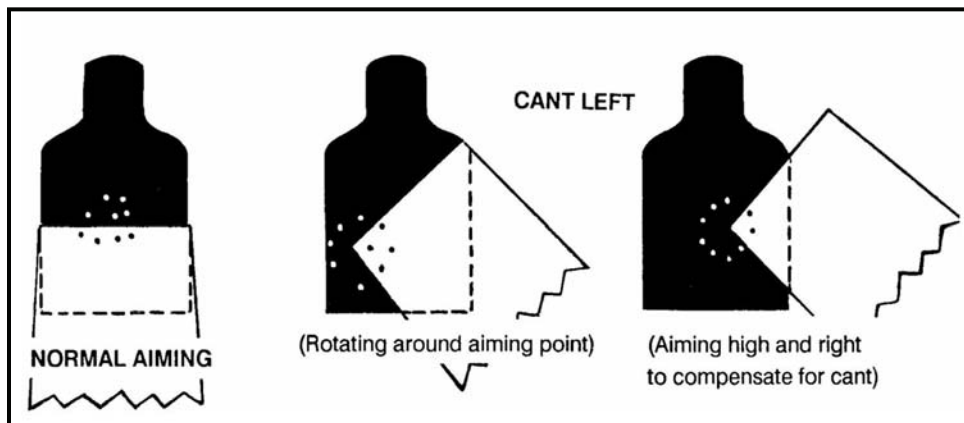


Figure 7-20. Engagement of 300-meter target.

### \*7-13. CBRN DRY-FIRE AND LIVE-FIRE EXERCISES

Repeated dry-fire training and live-fire exercises are the most efficient means to prepare the soldier for successful target engagements at any range while in MOPP Level 4 during MILES exercises and in live-fire training. The soldier must follow these procedures and applications to be combat effective in a CBRN environment.

\* a. **CBRN Dry-Fire Exercises.** As with all marksmanship training, the soldier must start at the basics in order to become proficient at CBRN fire. Modified fundamentals can be taught anywhere and are done before the soldier does a live-fire exercise. The dry-fire exercises, which are used during CBRN training, are the same ones that are used during initial rifle marksmanship (dime-washer exercise, target box, SPORTS, and Weaponeer). The soldier must conduct dry-fire exercises in MOPP Level 4 so he can train at the highest degraded level and adjust his shooting technique to increase his marksmanship ability in a CBRN environment. The instructor-trainer can be imaginative in his modifications of the dry-fire exercises to challenge the soldier and improve his marksmanship skills while making the training interesting.

\* b. **CBRN 50-Meter Live-Fire Exercise.** The basic CBRN live-fire exercise allows all soldiers to gain confidence in their abilities to effectively engage targets in a CBRN environment. Practice and proficiency firing can be conducted on any range. Practice can also be accomplished by the use of MILES equipment during force on force training. When a Remote Electronic Target System (RETS) range is used for this exercise the two 50-meter mechanisms are used. For the CBRN live-fire exercise, the soldier will perform the following scenario after the command of “GAS – GAS – GAS” is given.

(1) Each soldier will be issued 20 rounds of ammunition to be loaded 10/10 in two magazines.

(2) Each soldier engages 20 targets, each at 50 meters. Target exposures consist of 10 from the right and 10 from the left from the foxhole supported firing position using Table I of the Record Fire Qualification firing table (DA Form 3595-R).

(3) At the commander’s discretion, Table II of the Record Fire Qualification firing table (DA Form 3595-R) may be used as an alternate course of fire. This table allows the soldier to engage targets from 50 to 300 meters.

(4) Each soldier must achieve 11 hits out of 20 target exposures. This is a GO/NO GO exercise.

\* c. **CBRN Alternate Fire Exercise.** The CBRN alternate fire course uses the 25-meter scaled silhouette timed-fire target. The benefits of using the 25-meter scaled silhouette is that it can be used on any 25-meter range, the target provides feedback to the firer on where the strike of the round impacts the target, and it increases the soldier's knowledge and skill in delivering accurate well-aimed fire using the modified CBRN fundamentals. It is conducted in the same manner as the 25-meter alternate course.

(1) Each soldier will be in MOPP Level 4 conditions.

(2) Each soldier will be issued 20 rounds of ammunition to be loaded 10/10 in two magazines.

(3) Each soldier will engage each silhouette with two rounds from the foxhole supported position using Table I of the Scaled Target Alternate Course (DA Form 5790-R).

(4) Each soldier must achieve 11 hits out of 20 target exposures. This is a GO/NO GO exercise.

\* d. **CBRN Downrange Feedback.** The purpose of the CBRN downrange feedback is to give the soldier confidence, knowledge, and skills required to consistently deliver accurate, well-aimed fire against combat targets out to 300 meters in MOPP Level 4 equipment while using the modified fundamentals associated with CBRN firing. On a KD range, the soldier will perform the following scenario:

(1) The soldier will be issued six magazines. The first and second magazine will have 5 rounds each, the third magazine and fourth will have 10 rounds each, and the fifth and sixth magazine will have 5 rounds each.

(2) The soldier engages the 75-meter (100-yard) target with one 5-round magazine from the foxhole, standing, crouching, or squatting supported position and again engages the 75-meter target from the foxhole, standing, crouching, or squatting supported position with the second 5-round magazine.

(3) The soldier engages the 175-meter (200-yard) target with one 10-round magazine from the foxhole, standing, crouching, or squatting supported firing position and again engages the 175-meter target from the foxhole, standing, crouching, or squatting supported firing position with the second 10-round magazine.

(4) The soldier engages the 300-meter target with one 5-round magazine from the foxhole, standing, crouching, or squatting supported firing position and again engages the 300-meter target from the foxhole, standing, crouching, or squatting supported firing position using the last 5-round magazine.

(5) The soldier must obtain 8 hits out of 10 shots on the 75-meter target; 14 hits out of 20 shots on the 175-meter target; and 5 hits out of 10 shots on the 300-meter target.

- NOTES:**
1. The KD range scorecard is used for the CBRN KD range.
  2. The ammunition allocated for advanced skill training can be used for the CBRN downrange feedback scenario.

#### **Section IV. NIGHT FIRE TRAINING**

All units must be able to fight during limited visibility. All soldiers must know how to employ their weapons during such time. Soldiers must experience the various conditions of night combat from total darkness to the many types of artificial illumination. All units must include basic, unassisted night fire training annually in their unit marksmanship

programs. Combat units should conduct tactical night fire training at least quarterly. This tactical training should include MILES, during force-on-force training, as well as live-fire training. The many effects darkness has on night firing are discussed in this section. This section will provide units guidance on training soldiers to be effective in total darkness without using iron sights and using iron sights during limited visibility. (Figure 7-21 shows the current training program for unassisted night fire training.) (See Appendix H for more detailed information on night fighting.)

<p><b>Instructional Intent:</b> The primary training objective of unassisted night fire is to develop the soldier's confidence in his ability to hit targets when he cannot see through his rifle sights and does not have night vision capability.</p> <p><b>Special Instructions:</b> Ensure M16A1 rear sight is set on the unmarked aperture. Ensure M16A2/A3/A4 and M4 series weapon's rear sight is set on the 0-2 aperture. Soldier is given two 15-round magazines with tracer/ball ammunition (10 rounds ball/5 rounds tracer) in each magazine. Based on the commander's METL, soldier engages the 50-meter F-type silhouette target from the prone supported position or foxhole supported fighting position with one magazine. Soldier engages the 50-meter F-type silhouette target from the prone unsupported fighting position or kneeling position with the second magazine. This is a GO/NO GO exercise.</p> <p><b>Observables:</b> Soldier achieves 7 hits out of 30 target exposures.</p>
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**Figure 7-21. Unassisted night fire training program.**

#### 7-14. UNASSISTED NIGHT FIRE TRAINING

Trainers must consider the impact of limited visibility on the soldier's ability to properly apply the fundamentals of marksmanship and combat firing skills. During limited visibility, a firer cannot generally use his sights in most situations and without artificial illumination the sights block his field of vision. These fundamentals and skills include:

a. **Operation and Maintenance of the Weapon.** Handling the weapon, performing operation and function checks, loading and unloading, and maintenance are all affected by nighttime conditions. Movements are slower, tasks take longer to complete, vision is impaired, and equipment is more easily misplaced or lost. Because combat conditions and enforcement of noise and light discipline restrict the use of illumination, soldiers must be trained to operate, service, and clean their weapons in total darkness. Although initial practice of these tasks should occur during daylight to facilitate control and error correction, repeated practice during actual nighttime conditions should be integrated with other training. Only through repeated practice and training can the soldier be expected to perform all tasks efficiently.

b. **Immediate Action.** Under normal conditions, a soldier should clear a stoppage in three to five seconds. After dark this task usually takes longer. Identifying the problem may be difficult and frustrating for the soldier. A hands-only technique of identifying a stoppage must be taught and practiced. Clearing the stoppage using few or no visual indicators must also be included. The firer must practice applying immediate action with his eyes closed. Dry-fire practice (applying SPORTS) using dummy or blank rounds under these conditions is necessary to reduce time and build confidence. Training should



one-eye-open method, he must engage targets using this method for zero accuracy.

- (c) *Breath Control*. This fundamental does not change.
- (d) *Trigger Squeeze*. This fundamental does not change.

**NOTE:** The aiming method used to zero must also be used to engage targets. When using the M68, the weapon must not be canted during aiming or firing.

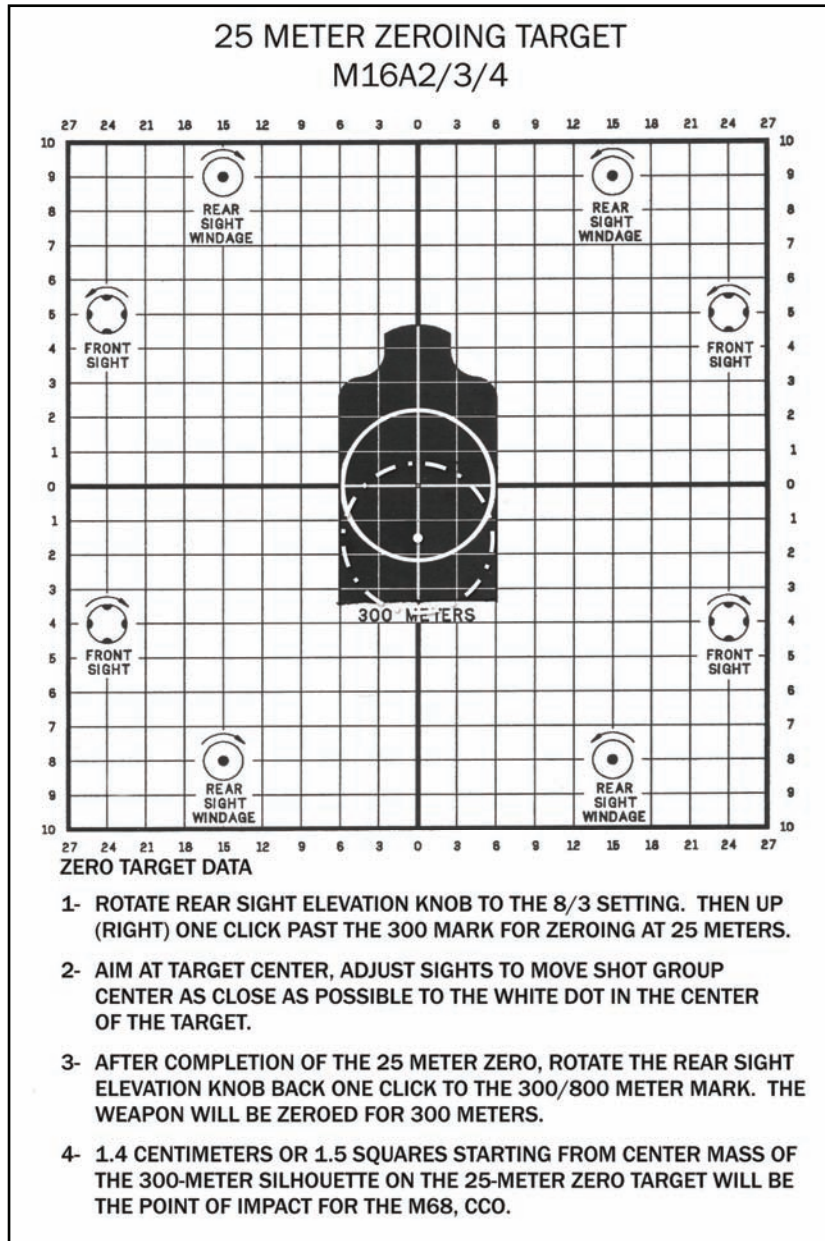
(2) ***M68 Dry (Nonfiring) Zeroing***. Starting with a securely installed and live-fire zeroed BIS, mount the reflex sight to the front of the receiver rail or to the top RAS as preferred. Adjust windage and elevation on the reflex sight until the center of the aiming dot is at the tip of the front sight post when viewed through the BIS while assuming a normal firing position.

(3) ***25-Meter Zero Procedures***. When zeroing the M68 CCO at 25 meters a designated \*point of impact zone must be identified on the 25-meter zero target (Figure 8-8, page 8-14). Starting from center mass of the 300-meter silhouette on the 25-meter zero target, count down 1½ squares or 1.4 centimeters. This is now the point of impact when zeroing the M68 CCO. Soldiers will continue to aim center mass of the 300-meter silhouette and will make adjustments to the M68 so that the rounds impact in the secondary 4x4 centimeter circular box, 1½ squares or 1.4 centimeters down from the point of aim. Other procedures are the same as standard iron sight procedures.

- Two clicks = 1 centimeter at 25 meters for windage and elevation.
- One click clockwise on elevation moves bullet strike down.
- One click clockwise on windage moves bullet strike left.
- Conduct zeroing only on the M16A2 25-meter zero target.

**NOTES:**

1. At ranges of 50 meters and beyond, the effects of parallax are minimal. However, at ranges of 50 meters and closer, parallax exists and the firer must ensure that the red dot is centered while zeroing.
2. The aiming method (two eyes open or one eye open) used to zero must be used to engage targets.



**\*Figure 8-8. 25 Meter zeroing target M16A2/3/4.**

(4) **Target Detection.** Target detection procedures for the M68 are the same as with standard iron sights.

**WARNING**

In position 4 and above, the red dot is visible through the front of the sight. For night vision operations, close the front lens cover before turning the rotary switch clockwise to position 2 and 3. Check the light for proper intensity before opening the front lens cover. Close the front lens cover before turning the rotary switch counterclockwise to the OFF position. Failure to follow this warning could reveal your position to the enemy.

(5) *Practice Qualification.* The procedures are the same as standard iron sight procedures.

(6) *Record Qualification.* The procedures are the same as standard iron sight procedures.

**8-5. AN/PAS-13 (V2), (V3), THERMAL WEAPON SIGHT**

The AN/PAS-13 (V2), (V3), thermal weapon sight (TWS) is an IR imaging sensor used for target acquisition under conditions of low visibility. IR light is received through the telescope, detected by an IR sensor, converted to digital data, processed, and displayed \*for the user. (Figure 8-9 shows the AN/PAS-13 training program.)

**Instructional Intent:**

Qualify with the ANPAS-13, TWS.

**Special Instructions:**

Ensure soldiers are proficient with the TWS.

Ensure spacer is used with the M4, M16A4, and MWS.

Ensure proper 10-meter boresight target is used during boresight procedures.

Ensure both fields of view (FOV) are boresighted.

Confirm 10-meter boresight with a 25-meter zero.

Ensure M16A2 zero target is used with a four-by-four-centimeter square cut out of the center of the silhouette.

Ensure zero range and qualification range have been thermalized.

Ensure that during zero and qualification every other lane is used.

Ensure range has been inspected for targets that are not thermalized.

**Observables:**

The TWS is zeroed to the same standards as with iron sights.

Soldier achieves the same practice qualification and qualification standards as with day record fire.

**\*Figure 8-9. AN/PAS-13 (TWS) training program.**

**WARNING**

**Ensure the weapon is not loaded and is on SAFE before installing the TWS on the weapon. A loaded weapon may accidentally discharge causing severe injury or death.**

a. **Concept.** Training strategy on the AN/PAS-13 is much the same as aiming lights. The TWS is a thermal sight and does not require the use of night vision devices. The course of fire for the TWS is the same scenario as the day qualification tables with the same requirements for standards of fire for current day standards. Qualification standards are the same for day and night.

b. **Conduct of Training.** AN/PAS-13 equipment training should familiarize the soldier with the proper operation and characteristics of the TWS in accordance with the TM to include:

(1) **Modified Fundamentals.** The fundamentals of BRM change as follows:

(a) **Steady Position.** This fundamental slightly changes due to the height of the sight. Soldiers must adjust their body position so they can properly look through the sight. In most cases, the cheek-to-stock weld no longer exists.

(b) **Aiming.** To properly aim with the TWS, soldiers must ensure that the correct reticle is selected in the sight. (Refer to TM 11-5855-312-10, 31 Oct 00 for reticle selection and point of aim for use with the TWS.)

(c) **Breath Control.** This fundamental is not affected by night firing conditions using the TWS.

(d) **Trigger Squeeze.** This fundamental of marksmanship does not change during night firing.

(2) **25-Meter Zero Procedures.** Refer to TM 11-5855-312-10, 31 Oct 00 for target preparation.

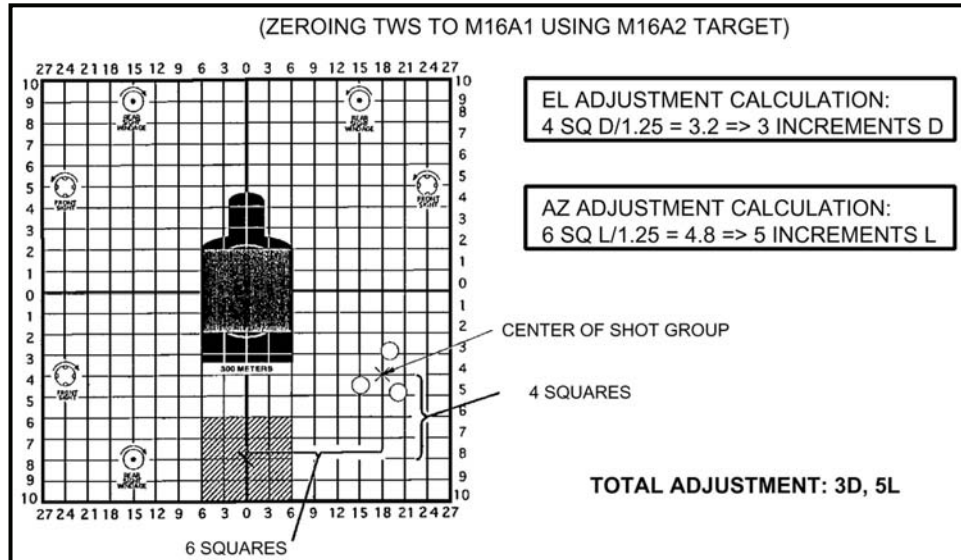
(a) Use the same procedures and standards as with iron sights.

(b) At the 25-meter range each increment of azimuth or elevation setting moves strike of the round as follows:

- 1 1/4 centimeters for MTWS on WFOV.
- 3/4 centimeter for MTWS on NFOV.
- 3/4 centimeter for HTWS on WFOV.
- 1/4 centimeter for HTWS on NFOV.

(c) **Retighten the rail grabber** after the first three rounds fired.

\* (d) Zero both FOVs (Figure 8-10, page 8-17).



**\*Figure 8-10. Example of TWS zeroing adjustments.**

(3) **Target Detection.** With night vision devices the field of view is much smaller, scanning becomes much more deliberate, and, with the TWS, camouflage becomes less of a factor. Even though night vision devices greatly enhance the soldier's ability to acquire a target at night, increased awareness of target detection must be trained to allow the soldier to key in on the visual cues of infrared imagery.

(a) **Select Position.** The TWS is a large device; therefore, selecting a position that allows for good fields of view but at the same time does not silhouette the soldier and his equipment might be a challenge. Since the TWS detects thermal energy (heat) emitted from an object, a position near an object emitting a vast amount of thermal energy (for example, a vehicle with the engine running, a fire, or so on) may affect the soldier's ability to acquire a target.

(b) **Scanning.** With earlier versions of the TWS, scanning too fast causes a stuttering on the screen, which causes the soldier to miss or overlook a target. With these versions scanning must be done slowly in order to maintain a good thermal image on the screen. With the newer version, this stuttering is not as obvious. One advantage the TWS (heavy and medium) has over other night vision devices is that it has two fields of view—wide and narrow. Each field of view has its own advantages and disadvantages. The narrow field of view increases magnification but decreases the field of view. The wide field of view decreases magnification but increases the field of view. The soldier chooses which field of view to use to scan and engage targets.

(c) **Target Indicators.** While scanning the sector and or lane with the TWS, the soldier should be aware of thermal cues that allow him to detect and identify targets. The engine compartment, exhaust, and tires of a vehicle that has been moving are all examples of thermal cues. Adjusting the brightness, contrast, and polarity helps enhance the thermal cues of a target, allowing for quicker detection and identification.

(d) **Sound.** Use the same techniques outlined in day and night target detection.

(e) **Movement.** Thermal cues become much more obvious on a moving object than on an object standing still. A good example is the tire on a vehicle. With the vehicle not

moving, the tires are cold. On a moving vehicle, the friction between the road and the tires causes the tires to heat up and become prominent when observed through the TWS. The same is true with the human body—a person moving generates more heat than someone standing still.

(f) *Camouflage*. Probably the biggest advantage the TWS provides is its ability to negate camouflage. The TWS gives the soldier the ability to see through camouflage, such as paint, foliage, and camouflage netting, thereby increasing both day and night target-detecting abilities.

**WARNING**  
**If the TWS is operated with the eyecup removed, light emitting from the eyepiece may be visible to the enemy's night vision devices.**

(4) *Practice Qualification*. Practice qualification with the TWS is the same as day practice qualification with iron sights. Dry fire is done to allow the soldiers to make adjustments to the TWS. Every other firing lane should be used so that the soldier engages only the targets in his lane.

(5) *Record Qualification*. Record qualification with the TWS is the same as day record qualification with iron sights.

- NOTES:**
1. Record qualification with the TWS can be done day and or night. Regardless of the qualification, the standard day record fire for the iron sights will be used. The standards for qualification with the TWS, either day or night, are 23 out of 40.
  2. During practice qualification and qualification, it is the soldier's preference on polarity and field of view.

#### **8-6. AN/PAQ-4B/C AND AN/PEQ-2A INFRARED AIMING LASERS**

The newest infrared aiming lasers greatly increase the night firing accuracy of all infantry weapons. The infrared aiming lasers complete the transition from day optics to night optics. Their effectiveness is limited by the capability of the image-intensifying (I2) sight \*with which they are used. (Figure 8-11, page 8-19) shows the current training program for these lasers.)

**Instructional Intent:**

Qualify with the AN/PAQ-4B/C or AN/PEQ-2A.

**Special Instructions:**

Ensure soldiers are proficient with the AN/PAQ-4B/C or AN/PEQ-2A.

Ensure proper 10-meter boresight target is used during boresight procedures.

Ensure borelight filter is used.

Ensure AN/PEQ2A is set to AIM LO.

Ensure illuminator on the AN/PEQ-2A is boresighted.

Ensure M16A2 25-meter zero target is used for 25-meter zero.

Ensure a 3x3-cm hole is cut in the center of the 25-meter zero target and E-type silhouette.

**Observables:**

Soldier conducts either 10-meter boresight or a 25-meter zero.

Soldier displays good scanning, IR discipline, and IR walking technique.

Soldier achieves at least 17 target hits out of 40 target exposures.

**\*Figure 8-11. AN/PAQ-4B/C or AN/PEQ-2A training program.**

a. **Concept.** Two training strategies have been devised to adequately train soldiers in the use of the AN/PAQ-4B/C and AN/PEQ-2A infrared aiming laser devices. The night initial training strategy is used for soldiers who have little or no previous experience with night vision goggles, or for units beginning a night-training program. The night sustainment training strategy is for soldiers who are familiar with night vision goggles, and for units that have already implemented a night-training program. However units should always review the night initial training strategy prior to sustainment training.

b. **Conduct of Training.** AN/PAQ-4B/C and AN/PEQ-2A equipment training should familiarize the soldier with the proper operation and characteristics of the AN/PAQ-4B/C and the AN/PEQ-2A in accordance with the TM to include:

(1) **Modified Fundamentals.** Although the same four fundamentals of marksmanship are used for night firing, adjustments must be made to accommodate the night vision devices.

(a) *Steady Position.* The firer's natural tendency is to attempt to acquire a good cheek-to-stock weld position and align the iron sights. The gunner must realize that a good cheek-to-stock weld is not possible with NVGs mounted on his head. The firer should ensure that the butt of the weapon is firmly pulled into the pocket of the shoulder to prevent the laser from wobbling. When the soldier is ready to fire, the elbows are firmly planted on the ground to prevent the laser from wobbling excessively.

(b) *Aim.* The gunner must practice raising his head just enough to clear the weapon with his NVGs and acquire a good sight picture by walking the laser onto the target and then aiming at center mass.

(c) *Breath Control.* This fundamental is not modified for night firing conditions.

(d) *Trigger Squeeze.* The objective is to not disrupt alignment of the laser with the target by jerking the trigger.

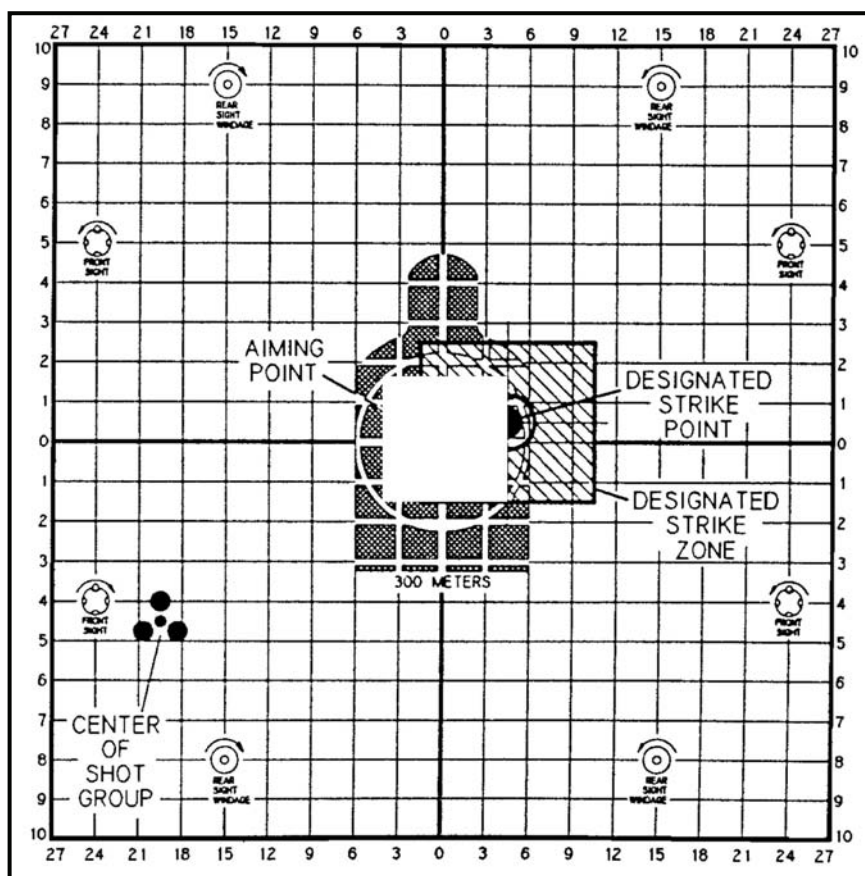
(2) **25-Meter Zero Procedures.** If the borelight is not available, a 25-meter zero must \*be conducted (Figure 8-12).

(a) *AN/PAQ-4B/C.*

- Same standards as with iron sights.
- Set the adjusters to their zero preset position (see TM 11-5855-301-12&P).
- Prepare 25-meter zero target by cutting a 3x3-centimeter square out of the center of the silhouette.

- Elevation adjustment screw—one click at 25 meters = 1 centimeter (clockwise = up).
- Windage adjustment screw—one click at 25 meters = 1 centimeter (clockwise = left).
- **Retighten rail grabber** after the first three rounds are fired.

**NOTE:** When cutting the 3-centimeter square out of the target, some of the strike zone may be cut out. Care must be taken when annotating the impact of the rounds. When the weapon is close to being zeroed, some of the shots may be lost through the hole in the target.



**\*Figure 8-12. Example of shot group adjustment with strike zone.**

(b) *AN/PEQ-2A.*

- Same standards as with iron sights.
- Set the adjusters to their zero preset position (see TM 11-5855-308-12&P).
- Prepare the 25-meter zero target by cutting out a 3x3-centimeter square in the center of the target and E-type silhouette.
- Turn the aiming beam on in the low power setting (AIM LO). Install aim point filter to eliminate excessive blooming.
- The adjustments for the AN/PEQ-2A (top mounted) are as follows:



- **AIMING POINT.**
  - Elevation adjustment screw—one click at 25 meters = 1 centimeter or one square (clockwise = up).
  - Windage adjustment screw—one click at 25 meters = 1 centimeter or one square (clockwise = right).
- **TARGET ILLUMINATOR.**
  - Elevation adjustment screw—one click at 25 meters = 1 centimeter or one square (clockwise = down).
  - Windage adjustment screw—one click at 25 meters = 1 centimeter or one square (clockwise = right).
- **Retighten rail grabber and AN/PEQ2A.**
- Once the aiming beam is zeroed, rotate the selector knob to the DUAL LO, DUAL LO/HI or DUAL HI/HI mode to observe both aiming and illumination beams. Rotate the illumination beam adjusters to align the illumination beam with the aiming beam.

- NOTES:**
1. Failure to fully tighten the mounting brackets and AN/PEQ2A thumbscrew may cause zero retention problems. Confirm that equipment is tight prior to zeroing.
  2. To retain zero, remove the TPIAL and rail grabber as a whole assembly and place back onto the same notch as removed.

(3) **Target Detection.** Soldiers should receive in-depth instruction on the proper use and fit of night vision goggles to include characteristics and capabilities, maintenance, and mounting procedures. Extensive testing has proven that the average soldier does not properly use the night vision devices. Unit leaders must be proficient in the train-the-trainer strategy. At night, soldiers should conduct a terrain walk to become more familiar and build confidence using the night vision goggles.

(a) *Scanning for Targets.* The night vision devices have a 40-degree field of view, which causes the average shooter to miss easy targets of opportunity. The soldier must be trained to aggressively scan his sector of fire for targets. The art of target detection at night is only as good as the soldier practices. Regular blinking during scanning relieves some of the eyestrain that the soldier tends to have trying to spot distant targets. Regular blinking must be reinforced during training. After the soldier has mastered the art of scanning he will find that targets are more easily detected by acknowledging the flicker or the movement of a target.

(b) *IR Discipline.* A soldier must be taught that what he can see downrange or on the battlefield through his NVGs, the enemy can also see. The soldier must train to activate his laser at the base of the target and engage the target as soon as the target is detected. After the target has been engaged, the laser is deactivated. When a soldier uses proper IR discipline while scanning for targets, he must keep his weapon oriented within his sector of fire. When the target is detected the soldier orients his weapon around the base of the target, activates his laser, and walks the laser to the center mass of the target for engagement.

(4) **Field Fire.** During the dry-fire exercise, soldiers acquire a sight picture on all exposed silhouette targets before conducting the field-fire scenario. This allows the soldier to focus on the targets at range.

- Conduct dry-fire exercise.
- Conduct in the same manner as field fire II.
- Targets at 50, 150, and 250 meters.
- 36 rounds, 18 rounds supported firing position, 18 rounds prone unsupported firing position.

(5) **Practice Qualification.** The procedures for practice qualification are:

- Conduct dry-fire exercise.
- Use coaches.
- 20 rounds foxhole supported, 20 rounds unsupported.
- Engage targets from 50 to 250 meters.
- Standards are 17 out of 40.

(6) **Record Qualification.** The procedures for record qualification are:

- Conduct dry-fire exercise.
- 20 rounds foxhole supported, 20 rounds unsupported.
- Engage targets from 50 to 250 meters.
- Standards are 17 out of 40.

#### 8-7. AN/PVS-4 NIGHT VISION DEVICE

The AN/PVS-4 night vision device is a portable, battery operated electro-optical instrument used for observation and aimed fire of weapons at night. It amplifies reflected light such as moonlight, starlight, and sky glow so that the viewed scene becomes clearly visible to the operator. It can be mounted on the M16A2 rifle, M4 carbine, M16A4 rifle, \*and M4 MWS. Mounting brackets are provided for each type of weapon. (Figure 8-13, page 8-23 shows the AN/PVS-4 training program.)

##### **Instructional Intent:**

Qualify with the AN/PVS-4 night vision device.

##### **Special Instructions:**

Ensure soldiers are proficient with the AN/PVS-4.

Ensure that the spacer and Picatinny rail grabber are installed when mounting on MWS.

Ensure proper 10-meter boresight target is used during boresight procedures.

Ensure proper reticle is used.

Confirm 10-meter boresight with a 25 meter zero.

##### **Observables:**

The AN/PVS-4 is zeroed to the same standard as with the iron sight.

Soldier achieves same practice and qualification standards as done with day record fire.

#### **\*Figure 8-13. AN/PVS-4 training program.**

a. **Concept.** Training strategy on the AN/PVS-4 is much the same as aiming lights. The course of fire for the AN/PVS-4 sight is the same scenario as with the aiming lasers with the same qualifications standards.

b. **Conduct of Training.** This training should familiarize the soldier with the proper operation and characteristics of the AN/PVS-4 in accordance with the TM.

(1) **Modified Fundamentals.** The fundamentals are changed as follows:

- *Steady position.* This fundamental slightly changes due to the height of the sight. Soldiers must adjust their body position so they can properly look through the sight. In most cases, the cheek-to-stock weld no longer exists.
- *Aiming.* To properly aim the AN/PVS-4, the soldier must ensure that the proper reticle is inserted in the sight. (Refer to TM 11-5855-213-10 to insert the proper reticle.) The aiming point is placed center mass of the target.
- *Breath control.* This fundamental is not affected by night firing conditions using the AN/PVS-4.
- *Trigger squeeze.* This fundamental of marksmanship does not change during night firing.

(2) **25-Meter Zero Procedures.** Use the same procedures and standards as with the iron sights along with the following.

- At 25-meter range each increment of azimuth or elevation setting moves the strike of the round .63 centimeters or 1/4 mil. Two clicks of the windage or elevation will move the strike of the round approximately one square on the M16A2 zero target.
- Retighten the thumb screw on the rail grabber after initial three rounds fired.

**NOTE:** During boresighting or zeroing procedures if there is not enough ambient light available to see either the boresight mark at ten meters or the silhouette on the zero target, a flashlight can be used by shining the light indirectly towards the target. This will provide enough ambient light to allow the soldier to boresight or zero.

(3) **Target Detection.** Target detection with the AN/PVS-4 is very similar to target detection with the night vision goggles. The AN/PVS-4 has a 14.5-degree field of view leaving the average shooter to miss easy targets of opportunity, more commonly the 50-meter left or right. The soldier must be trained to aggressively scan his sector of fire for targets. The art of target detection at night is as good as the soldier practices. Regular blinking during scanning relieves some of the eyestrain that the soldier tends to have trying to spot far targets. Regular blinking must be reinforced during training. After the soldier has mastered the art of scanning he will find that targets are more easily detected by acknowledging the flicker or the movement of a target.

(4) **Field Fire.** During the dry-fire exercise soldiers acquire a sight picture on all exposed silhouette targets prior to conducting the field-fire scenario. This allows the soldier to focus on the targets at range.

- Conduct dry-fire exercise.
- Conducted in the same manners as Field Fire II (see Appendix F, for scenario).
- Targets at 50, 150, and 250 meters.
- 36 rounds—18 rounds supported firing position, 18 rounds prone unsupported firing position.

(5) **Practice qualification.** The procedures for practice qualification are:

- Conduct dry fire exercise.
- Coaches are to be utilized.

- 20 rounds foxhole supported, 20 rounds unsupported.
  - Engage targets form 50 to 250 meters.
  - Standards 17 out of 40.
- (6) **Record qualification.** The procedures for record qualification are:
- Conduct dry fire exercise.
  - 20 rounds foxhole supported, 20 rounds unsupported.
  - Engage targets from 50 to 250 meters.
  - Standards 17 out of 40.

**STEP 7.** Summarize and record the soldier's basic firing problems. These seven steps are designed to diagnose and show the soldier his firing errors. This could be enough to correct the error. Diagnosis needs to be followed up with remedial exercises either with the Weaponeer, target-box exercise, or dime washer exercise.

**h. Unit Sustainment Training.** Sustainment training and prequalification refresher training can be conducted with the Weaponeer, depending on availability.

(1) Direct the soldier to zero the Weaponeer rifle (sandbag supported position). Emphasize tight, consistently placed shot groups. Starting with the closest target and working out to the most distant, direct the soldier to practice slow precision fire at each target (supported and prone unsupported positions).

(2) Direct the soldier to slow fire at random pop-up targets (both firing positions). Emphasize speed and precision. Direct him to slow fire at random pop-up targets with short exposure times (both firing positions).

OPTION: Direct the soldier to practice windage hold-off, rapid magazine change, and immediate action (both firing positions).

OPTION: Direct the soldier to practice night fire, automatic or burst fire, and gasmask fire.

**i. Assessment of Skills.** The Weaponeer can aid in the objective assessment of basic marksmanship. Periodic Weaponeer diagnosis should be conducted and recorded. Each soldier fires until zeroed on the Weaponeer. If unable to zero in 9 to 15 rounds, he should be withdrawn from testing and given remedial training. The soldier fires a surrogate record-fire scenario according to the following:

(1) **Scenario of Target Presentation.** Presentation of the targets is controlled by the operator who uses the target buttons.

(2) **Order of Target Presentation.** The scaled 100-meter and 250-meter targets (or 75 meters, 175 meters, and 300 meters) are presented in a mixed order according to a planned schedule.

(3) **Ratio of Target Presentation.** Targets are presented in a ratio of three 250-meter targets to one 100-meter target (or three 300-meter, two 175-meter to one 75-meter). A 64-target scenario consisting of two 32-target scenarios (the first engaged from the supported position; the second from the prone unsupported position) is conducted with a short break between.

(4) **Target Exposure Time.** Exposure time is four seconds for the scaled 250-meter targets (or 175 meters) and two seconds for the scaled 100-meter target (or 75 meters).

(5) **Intertarget Interval.** The time between target exposures should be varied from one to eight seconds.

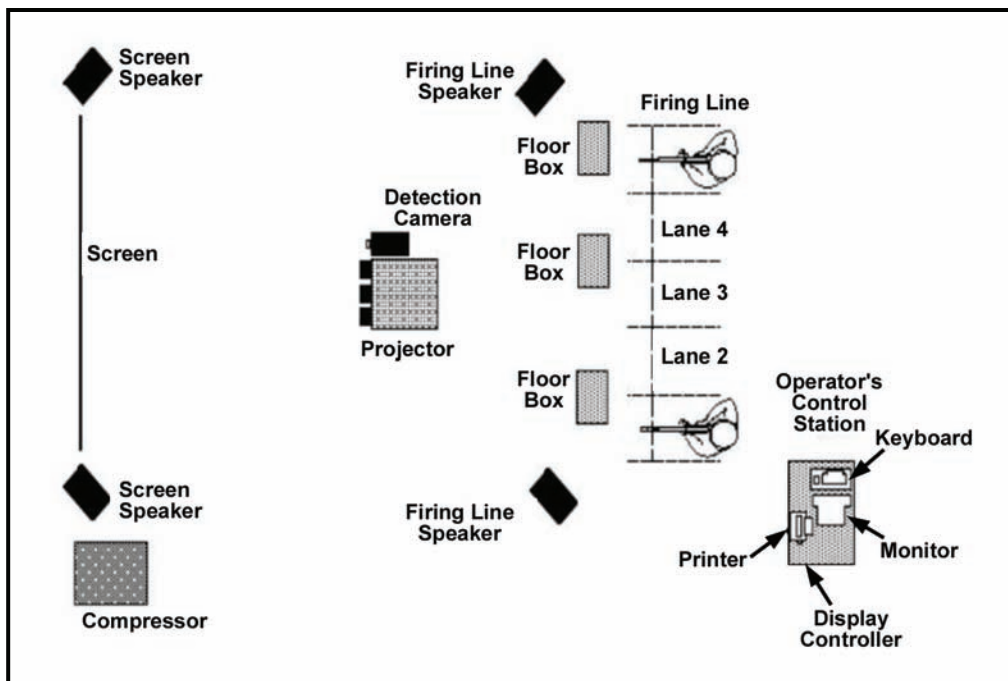
(6) **Target Mode.** The kill mode is used so targets fall when hit. A score of 41 hits out of the 64 targets indicates soldiers can proceed to actual record fire. Soldiers who score lower than 41 should receive remedial training.

## A-7. ENGAGEMENT SKILLS TRAINER 2000

The engagement skills trainer (EST) 2000 supports realistic and comprehensive "gated" rifle marksmanship instruction, identifies soldiers needs by requiring them to satisfy gate requirements in order to progress, and, when needed, facilitates remedial training prior to qualification. The EST 2000 (Figure A-18) is designed to be used primarily as a

unit/institutional, indoor, multipurpose, multilane, small-arms, crew-served, and individual antitank training simulator to—

- Train and evaluate individual marksmanship training for initial entry Soldiers (BCT/OSUT).
- Provide Active and Reserve Component unit sustainment training in preparation for qualification on individual and crew small arms live-fire weapons.
- \*Provide unit collective tactical training for static dismounted infantry, scout, engineer, military police squads, and combat support/combat service support (CS/CSS) elements. Simulate weapon training events which will lead to live fire individual and crew weapon qualification.
- \*Simulate training events currently not resourced that contribute to increased weapon, crew, fire team, and squad combat effectiveness.
- \*Simulate squad collective, defensive, ambush, gunnery, and tactical tasks.
- \*Provide the medium for training leaders of fire teams and squads in command, control, and distribution of fires.
- \*Save current required ammunition resources, travel time and cost to and from ranges and other range support resources.
- \*Support the functional gunnery training strategies and standards in weapons training.



**Figure A-18. Engagement skills trainer.**

a. **Background.** The EST 2000 matches leading edge technology with user requirements and is designed to meet the small-arms training requirements by providing a realistic training environment, targets, weapons effects, and challenging scenarios.

b. **Authorization.** The EST 2000 is an Infantry School and TRADOC approved TADSS supported by PEO-STRI (formerly STRICOM) and has a life cycle support/sustainment plan.

c. **Funding.** The EST 2000 is a centrally-funded training simulator supported by the production contractor with a one-year, full parts warranty. It will then transition to PEO-STRI's life-cycle contractor support (LCCS) umbrella contract for the life of the system.

d. **General Characteristics.** The EST 2000 replicates eleven weapons including the rifle, carbine, pistol, grenade launcher, all machine guns, MK19, shotgun, and AT4. The EST 2000 has three modes of training:

(1) **Marksmanship Training.** The EST 2000 uses Army standard courses of fire for all small-arms weapons. It accurately simulates live-fire ranges in daylight and limited visibility conditions using precision-scaled targets, high-resolution imagery, and essential weapons' system accuracy to compensate for errors (drift, parallax). The EST 2000 isolates, captures, and displays shots with replay that highlights shooter's errors in the application of the fundamentals of marksmanship. Replay of the aim-point trace (before the shot, during the shot, and after the shot) diagnoses shooter problems with aiming, breathing, steady hold, trigger control, and shot recovery for on-the-spot corrections. Cant sensors visually indicate shooter-induced right or left can't possibly resulting in \*missed shots. During individual sustainment training, it is recommended that as a minimum, grouping and zeroing, and Field Fire I and II be conducted to standard in the EST 2000 prior to Live Fire qualification.

(2) **Tactical Collective Training.** The EST 2000 provides fully articulated interactive targets with variable outcomes based on a squad's action or inaction. It uses realistic 3D modeled battlefield terrain, variable environmental effects that include day/night and dawn/dusk, variable weather conditions, and illumination and will soon include an entry-level indirect fire capability as a product improvement. It uses other special effects to enhance the static eye point of the battlefield to include weapon's effects, explosions, and vehicle damage. The EST 2000 allows the trainer and unit to build scenarios as they would fight. Feedback provided by the EST 2000 to the shooters is shot-by-shot and is tied to each shooter's lane of fire. Most importantly, the tactical collective exercises train squad, team, and element leaders in fire distribution and control.

(3) **Shoot/Don't Shoot Rules of Engagement Training.** The EST 2000 uses video-based graphic overlays with multiple escalation or de-escalation points that require the shooter to justify his actions based on his situational awareness. By using the video-based graphic overlays, EST 2000 can be configured to enhance special operations and counterterrorism training. It is also the premier training simulation for stability and support operations training.

**WARNING**

**Laser light is used in the operation of this equipment. Injury may result if personnel fail to observe safety precautions.**

- **Never stare into the laser beam, look down the barrel of the simulated weapon, or directly view the laser beam with optical instruments.**
- **Avoid direct eye exposure.**
- **No one should be allowed beyond the firing line.**

**The instructor should ensure that all persons entering the training room are aware that laser radiation is present.**

e. **Weapon Safety.** Each simulated weapon has the same appearance as a fully functioning weapon, with the exception of the trainer-peculiar umbilical cable. Under certain circumstances, especially in the subdued light of a training room, it is possible to mistake a “live” firearm for a simulated weapon. This situation could create the potential for personal injury or damage to property. To avoid confusion, neither live nor blank ammunition, nor any live weapons, should be allowed in the training room.

(1) Simulated weapons will not accept live or blank ammunition. Any attempt, accidental or otherwise, to chamber a live or blank round may damage the simulated weapon and create an unsafe situation.

(2) The following general safety precautions should be adhered to:

- Fire simulated weapons only if they are pointed downrange.
- Post WARNING signs at all entry doors
- Do not allow personnel to stand downrange from the firing line
- Instruct weapons handlers never to look directly into a barrel
- Take the weapon off-line for testing and service at the first indication of malfunction and refer to the troubleshooting procedures.

f. **Laser Safety.** The lasers used in the simulated weapons meet ANSI Standard Z136.1-1993 Class I Standards for single laser pulse power. This classification is commonly referred to by the industry rating of “eye-safe.” However, even eye-safe lasers may be dangerous under extraordinary circumstances. To ensure personnel safety, weapons handlers should not stare directly down a simulated weapon barrel. Serious eye injury could result if a laser malfunctioned while a user was staring into the weapon’s muzzle (into the laser beam).

g. **Equipment.** The EST 2000’s subsystem functions are described in Table A-5. The 5-lane EST 2000 subsystem shipping and receiving configuration consists of:

- COMPRESSOR PALLET: Compressor.
- FLOOR BOX/PRINTER SHIPPING CASE:
  - Floor box assemblies (3).
  - Printer.
  - Cable tray.
  - EST 2000 Operator’s Manual.
  - Interactive courseware compact disk.
- SCREEN SHIPPING CASES (2): Screen assembly.



- SPEAKER PALLET: Speakers (2).
- PROJECTOR/CAMERA ASSEMBLY SHIPPING CASE: Projector/camera assembly.
- INSTRUCTOR/OPERATOR STATION SHIPPING CASE:
  - Display controller computer assembly.
  - Autotracker assembly.
  - Keyboard and mouse.
  - AC power distribution unit (ACPDU).
  - Rack distribution unit (RDU).
- MONITOR SHIPPING CASE: Monitor.
- SIMULATED WEAPONS SHIPPING CASE: Simulated weapons.

ITEM	MODEL	DESCRIPTION
Short Autotracker	Shorts Assembly	Computer-controlled device used to generate weapon aim point data and laser modulation signals.
Hewlett Packard Printer	HP DeskJet 880C	Drop-on-demand thermal inkjet printer used to provide hardcopy records.
Werther International Compressor	100/50 gal Panther	Electrical air compressor used to provide recoil effect for the simulated weapons.
Quantum Computer	Pentium III 500	Display controller computer, 500 MHz processor with 128 MB SDRAM.
D.A.S. Speaker	DS-15A	Self-powered loudspeakers with 150-watt low frequency transducer amplifier and 50-watt high frequency amplifier.
Connect Tech Inc. Rack Distribution Unit	Dflex-4	Multiport serial communications adapter that provides cable routing and signal connections between EST subassemblies.
EMC Multisystems Monitor	OSD Autoscan	On-screen display (OSD) color monitor.
Keyboard	TBD	Enhanced 104 keyboard.
Mouse	TBD	Two-button mouse.
BARCO Projector	708	High-fidelity video projection system with fully automatic convergence and geometry subsystems.
COHU IR Camera	4710	Infrared detection camera used to provide the input signal for autotracker processing
FATS Simulated Weapons	M16A2, M4, M9, M2, M240B, M249, M60, M203, Mk19, M136, M1200	Computer-monitored simulated weapons equipped with lasers and pneumatically simulated recoil.
Floor Box	ECC Assembly	Interface hardware used to supply and regulate voltage to the weapon laser and air pressure recoil.

**Table A-5. EST 2000 subsystem functions.**

h. **Basic Rifle Marksmanship Training.** The EST 2000 begins training the fundamentals of marksmanship right from the beginning, before the soldier has a chance to develop bad habits.

(1) Using EST 2000 technology, soldiers and units can reduce their rate of marksmanship failures and increase the soldiers' confidence in being able to fire their assigned weapons. EST 2000 is particularly useful for teaching BRM where a "gated" strategy is used requiring a soldier to pass requirements in simulation before firing live ammunition. The soldier does not proceed or pass a gate scenario until he meets the standard.

(2) EST 2000 marksmanship training provides basic range firing and qualification and is accomplished in either 5-, 10-, or 15-lane configurations. Each firer is restricted to one firing lane. EST 2000 training scenarios include:

- Marksmanship—203 scenarios.
- Tactical collective training—181 scenarios total:
  - Infantry squad—91.
  - Scout squad—19.
  - Engineer squad—10.
  - Military Police squad—17.
  - Military Police team—17.
  - Marksmanship/observer team—3.
  - Combat support/combat service support—24.
- Judgmental shoot/don't shoot—4 scenarios.

**NOTE:** The marksmanship core scenarios can be found in the EST 2000 Operator's Manual, TD-07-6910-702-10, and in Table A-6, pages A-28 through A-32.

i. **Remedial Marksmanship Training.** While use of the EST 2000 BRM gated strategy often reduces the requirements for remedial live-fire training, it is highly useful in diagnosing and correcting problems through simulation gates before the soldier fires actual live rounds. Using the EST 2000 technology of rifle cant, trigger pressure, and before-the-shot, during-the-shot, and after-the-shot AARs, trainers can quickly identify and correct problems thus raising confidence and first-time qualifications.

j. **Tactical Collective Training.** Tactical collective training is conducted on two networked 5-lane subsystems. This configuration can support up to 11 weapons including tandem weapons for the following collective training:

- Infantry squad of nine soldiers.
- Scout squad of five soldiers.
- Engineer squad of nine soldiers.
- Military Police squad of ten soldiers.
- Combat support/combat service support element up to ten soldiers.

The tandem weapons capability is available in collective training only. This capability allows the use of an extra weapon connected to the fifth lane (port 6) in the third floor box allowing a firer to manage two weapons. (For further instructions, refer to the EST 2000 Operator's Manual.)

**NOTE:** The tactical collective training core scenarios can be found in the EST 2000 \*Operator's Manual, TD-07-6910-702-10, and in Table A-7 on pages A-33 through A-41.

k. **Judgmental Shoot/Don't Shoot Training.** Shoot/don't shoot training is conducted on a 5-lane subsystem. This training uses video-based graphic overlays that provide important clues, such as facial expressions and body language, for the firer to cue on. Multiple escalation or de-escalation points are used that require the shooter to justify his actions based on his situational awareness.

**NOTE:** The judgmental shoot/don't shoot core scenarios can be found in the EST 2000 Operator's Manual, TD-07-6910-702-10, and in Table A-8 on page A-42.

\*l. **Unit Sustainment Training.** Sustainment training and prequalification refresher training can be conducted with the EST 2000. Although all units have a sustainment training program, it is recommended that as a minimum, grouping and zeroing, and Field Fire I & II be conducted to standard in the EST 2000 prior to live fire qualification.

m. **Scenario Editor.** The scenarios currently available in the EST 2000 meet 90 percent of a unit's training requirements. As a unit's mission changes or additional training requirements occur, the unit can use the scenario editor to generate or tailor new scenarios. Weapons and TTP changes may also require creation or modification of scenarios. The use of the scenario editor will enhance the individual soldier's skills and, collectively, the squad's ability to engage and destroy an enemy threat. (Complete detailed instructions on how to create and modify scenarios can be found in the EST 2000 Training Support Package).

n. **EST 2000 System Block Diagram.** This navigation diagram (Figure A-19) provides a quick view of how the operator navigates through the instructor/operator (I/O) station.

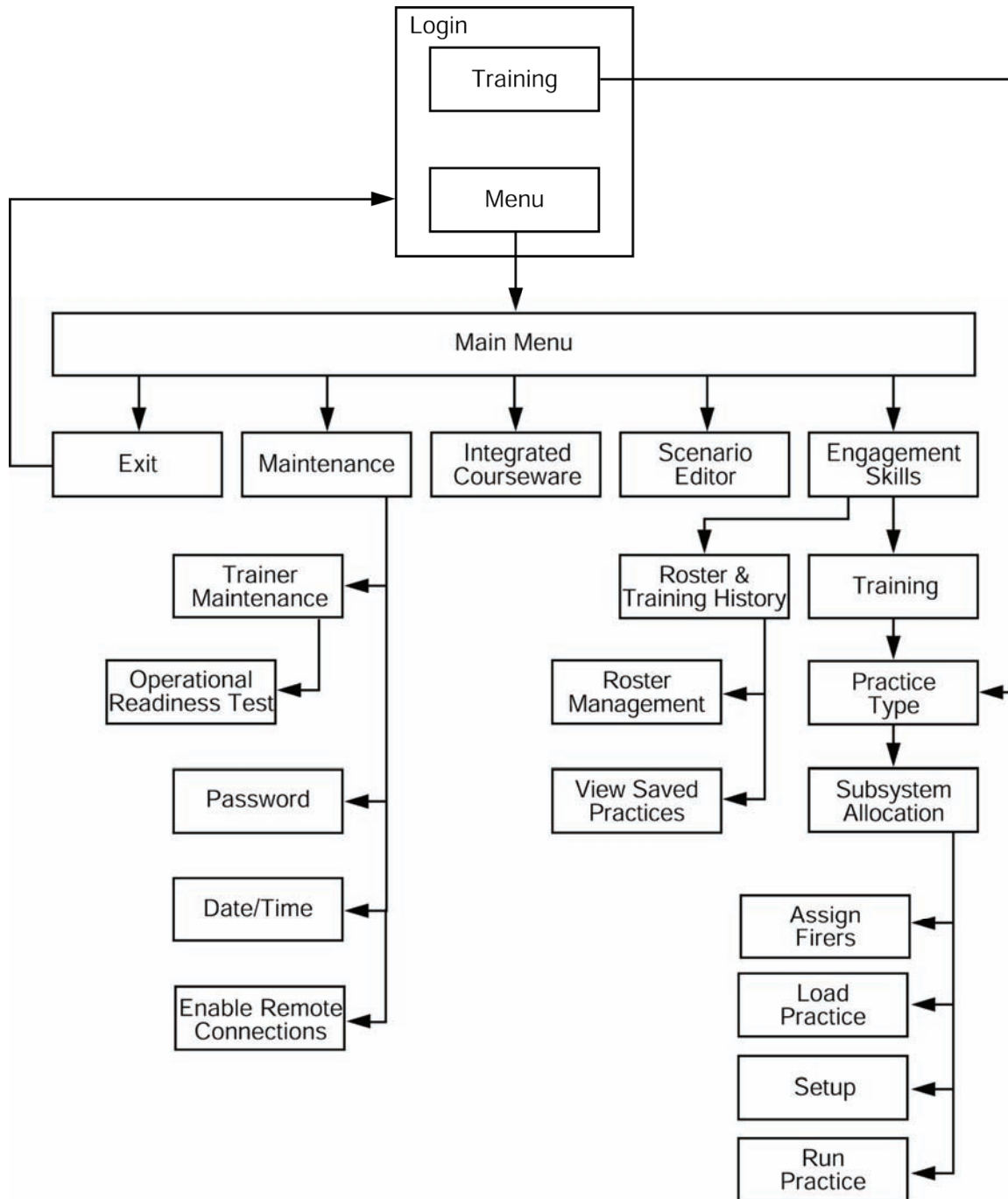


Figure A-19. System block diagram.

MARKSMANSHIP CORE SCENARIOS

No.	SCENARIO TASK	WPN	RDS	AREA/CONDITIONS	RANGE	TARGET	IO FDBK	SOLDIER FDBK	TIMED	AAR
A002	Shot Grouping	M16A2/M4	27	Unspec/Day/Clear	25m	Sngl/Stat	Y	Y	N	Y
A003	Battlesight Zero	M16A2/M4	18	Unspec/Day/Clear	25m	Sngl/Stat	Y	Y	N	Y
A004	Downrange Feedback I	M16A2/M4	6	Unspec/Day/Clear	175m	Sngl/Stat	Y	Y	N	Y
A005	Downrange Feedback II	M16A2/M4	10	Unspec/Day/Clear	75m	Sngl/Stat	Y	Y	N	Y
A006	Downrange Feedback III	M16A2/M4	20	Unspec/Day/Clear	175m	Sngl/Stat	Y	Y	N	Y
A007	Downrange Feedback IV	M16A2/M4	10	Unspec/Day/Clear	300m	Sngl/Stat	Y	Y	N	Y
A008	Field Fire I	M16A2/M4	54	Unspec/Day/Clear	Multiple	Sngl/Stat	Y	Y	Y	Y
A009	Field Fire II	M16A2/M4	44	Unspec/Day/Clear	Multiple	Sngl/Stat	Y	Y	Y	Y
A010	Practice Record Fire (Sim)	M16A2/M4	40	Unspec/Day/Clear	Multiple	Multi/Stat	Y	Y	Y	Y
A011	Record Fire (Sim)	M16A2/M4	40	Unspec/Day/Clear	Multiple	Multi/Stat	Y	Y	Y	Y
A012	Burst Firing	M16A2/M4	21	Unspec/Day/Clear	Multiple	Multi/Stat	Y	Y	N	Y
A013	Protective Mask Firing	M16A2/M4	20	Unspec/Day/Clear	25m	Multi/Stat	Y	Y	Y	Y
A014	Night Fire I	M16A2/M4	35	Unspec/Night/Clear	Multiple	Multi/Stat	Y	Y	N	Y
A015	Night Fire II	M16A2/M4	35	Unspec/Night	Multiple	Multi/Stat	Y	Y	N	Y
A016	Advanced Marksmanship I	M16A2/M4	10	Unspec/Day/Clear	Multiple	Multi/Stat	Y	Y	Y	Y
A017	Advanced Marksmanship II	M16A2/M4	40	Unspec/Day/Clear	Multiple	Multi/Stat	Y	Y	Y	Y
A018	Advanced Marksmanship—Qual (Sim)	M16A2/M4	50	Unspec/Day/Clear	Multiple	Multi/Stat	Y	Y	Y	Y
A019	Quick Fire	M16A2/M4	20	Unspec/Day/Clear	25/50m	Multi/Stat	Y	Y	Y	Y
A020	CBRN Fire	M16A2/M4	30	Unspec/Day/Clear	Multiple	Multi/Stat	Y	Y	Y	Y
A021	Night Fire I	M16A2/M4	30	Unspec/Night	75/175m	Sngl/Stat	Y	Y	Y	Y
A022	Night Fire II (w AN/PVS-4)	M16A2/M4	30	Unspec/Night	Multiple	Sngl/Stat	Y	Y	Y	Y
A023	KD Range I (Zero)	M16A2/M4	12	Unspec/Day/Clear	Multiple	Sngl/Stat	Y	Y	N	Y
A024	KD Range II	M16A2/M4	46	Unspec/Day/Clear	Multiple	Sngl/Stat	Y	Y	Y	Y
A025	Rapid Fire	M16A2/M4	20	Unspec/Day/Clear	25M	Sngl/Stat	Y	Y	Y	Y
A026	Suppressive Fire	M16A2/M4	40	Unspec/Day/Clear	25M	Multiple	Y	Y	N	Y
A027	AR Firing	M16A2/M4	35	Unspec/Day/Clear	25M	Sngl/Stat	Y	Y	N	Y
B007	Simulated Qualification - Table I	M9	7	Unspec/Day/Clear	Multiple	Multi/Stat	Y	Y	Y	Y
B008	Simulated Qualification - Table II	M9	8	Unspec/Day/Clear	Multiple	Multi/Stat	Y	Y	Y	Y
B009	Simulated Qualification - Table III	M9	7	Unspec/Day/Clear	Multiple	Multi/Stat	Y	Y	Y	Y
B010	Simulated Qualification - Table IV	M9	5	Unspec/Day/Clear	Multiple	Multi/Stat	Y	Y	Y	Y
B011	Simulated Qualification - Table V	M9	13	Unspec/Day/Clear	Multiple	Multi/Stat	Y	Y	Y	Y
B012	Simulated Night Qualification - Table I	M9	7	Unspec/Night	Multiple	Multi/Stat	Y	Y	Y	Y
B013	Simulated Night Qualification - Table II	M9	8	Unspec/Night	Multiple	Multi/Stat	Y	Y	Y	Y
B014	Simulated Night Qualification - Table III	M9	7	Unspec/Night	Multiple	Multi/Stat	Y	Y	Y	Y
B015	Simulated Night Qualification - Table IV	M9	5	Unspec/Night	Multiple	Multi/Stat	Y	Y	Y	Y
B016	Simulated Night Qualification - Table V	M9	13	Unspec/Night	Multiple	Multi/Stat	Y	Y	Y	Y
B017	Simulated CBRN Qualification - Table I	M9	7	Unspec/Day/Clear	Multiple	Multi/Stat	Y	Y	Y	Y
B018	Simulated CBRN Qualification - Table II	M9	8	Unspec/Day/Clear	Multiple	Multi/Stat	Y	Y	Y	Y
B019	Simulated CBRN Qualification - Table III	M9	7	Unspec/Day/Clear	Multiple	Multi/Stat	Y	Y	Y	Y
B020	Simulated CBRN Qualification - Table IV	M9	5	Unspec/Day/Clear	Multiple	Multi/Stat	Y	Y	Y	Y
B021	Simulated CBRN Qualification - Table V	M9	13	Unspec/Day/Clear	Multiple	Multi/Stat	Y	Y	Y	Y
B022	Alt Srm Qualification - Table I	M9	7	Unspec/Day/Clear	25m	Sngl/Stat	Y	Y	Y	Y
B023	Alt Srm Qualification - Table II	M9	13	Unspec/Day/Clear	25m	Sngl/Stat	Y	Y	Y	Y

\*Table A-6. Marksmanship core scenarios.



No.	SCENARIO TASK	WPN	RDS	AREA/CONDITIONS	RANGE	TARGET	IO FDBK	SOLDIER FDBK	TIMED	AAR
B024	Alt Sim Qualification - Table III	M9	10	Unspec/Day/Clear	25m	Sngl/Stat	Y	Y	Y	Y
B025	Alt Sim Qualification - Table IV	M9	10	Unspec/Day/Clear	25m	Sngl/Stat	Y	Y	Y	Y
B026	Alt Sim Night Qualification	M9	30	Unspec/Day/Clear	25m	Sngl/Stat	Y	Y	Y	Y
B027	Alt Sim CBRN Qualification	M9	20	Unspec/Day/Clear	25m	Sngl/Stat	Y	Y	Y	Y
C001	10 Meter Zeroing	M249	12	Unspec/Day/Clear	10m	Sngl/Stat	Y	Y	N	Y
C002	10m Controlled Burst Firing	M249	6	Unspec/Day/Clear	10m	Sngl/Stat	Y	Y	N	Y
C003	10m CBRN Traverse & Search I	M249	15	Unspec/Day/Clear	10m	Sngl/Stat	Y	Y	N	Y
C004	10m Traverse & Search I	M249	24	Unspec/Day/Clear	10m	Sngl/Stat	Y	Y	N	Y
C005	10m Traverse & Search II (Sim Qual)	M249	12	Unspec/Day/Clear	10m	Sngl/Stat	Y	Y	Y	Y
C006	10m CBRN Traverse & Search II (Sim Qual)	M249	24	Unspec/Day/Clear	10m	Sngl/Stat	Y	Y	Y	Y
C007	10m Traverse & Search III (Sim Qual)	M249	15	Unspec/Day/Clear	10m	Sngl/Stat	Y	Y	Y	Y
C008	Transition Firing I (Fld Zero)	M249	12	Unspec/Day/Clear	300m	Sngl/Stat	Y	Y	N	Y
C009	Transition Firing II	M249	6	Unspec/Day/Clear	200m	Sngl/Stat	Y	Y	Y	Y
C010	Transition Firing III (Sim Qual)	M249	6	Unspec/Day/Clear	400m	Sngl/Stat	Y	Y	Y	Y
C011	Transition Firing IV (Sim Qual)	M249	6	Unspec/Day/Clear	100m	Sngl/Stat	Y	Y	Y	Y
C012	Transition Firing V (Sim Qual)	M249	6	Unspec/Day/Clear	300m	Sngl/Stat	Y	Y	Y	Y
C013	Transition Firing VI (Sim Qual)	M249	12	Unspec/Day/Clear	100/300m	Sngl/Stat	Y	Y	Y	Y
C014	Transition Firing VII (Sim Qual)	M249	12	Unspec/Day/Clear	200/300m	Multi/Stat	Y	Y	Y	Y
C015	Transition Firing VIII (Sim Qual)	M249	18	Unspec/Day/Clear	100/200/400m	Multi/Stat	Y	Y	Y	Y
C016	Night Firing I (Zeroing ANUPVS-4)	M249	12	Unspec/Night	25m	Sngl/Stat	Y	Y	N	Y
C017	Night Firing II	M249	6	Unspec/Night	200m	Sngl/Stat	Y	Y	N	Y
C018	Night Firing III	M249	6	Unspec/Night	400m	Multi/Stat	Y	Y	N	Y
C019	Night Firing IV	M249	6	Unspec/Night	100m	Sngl/Stat	Y	Y	N	Y
C020	Night Firing V	M249	6	Unspec/Night	300m	Sngl/Stat	Y	Y	N	Y
C021	Night Firing VI	M249	6	Unspec/Night	100m	Sngl/Stat	Y	Y	N	Y
C022	Field Firing I (Zeroing)	M249	12	Unspec/Day/Clear	300m	Sngl/Stat	Y	Y	N	Y
C023	Field Firing II	M249	30	Unspec/Day/Clear	Multiple	Sngl/Stat	Y	Y	N	Y
C024	Field Firing III	M249	46	Unspec/Day/Clear	Multiple	Multi/Stat	Y	Y	N	Y
C025	Field Firing IV	M249	60	Unspec/Day/Clear	Multiple	Multi/Stat	Y	Y	N	Y
C026	Alternate Field Firing II	M249	6	Unspec/Day/Clear	25m	Sngl/Stat	Y	Y	Y	Y
C027	Alternate Field Firing III	M249	12	Unspec/Day/Clear	50/25m	Sngl/Stat	Y	Y	Y	Y
C028	Alternate Field Firing IV	M249	18	Unspec/Day/Clear	25/50/75m	Sngl/Stat	Y	Y	Y	Y
D001	10 Meter Bipod Firing I (Zeroing)	MG	6	Unspec/Day/Clear	10m	Sngl/Stat	Y	Y	N	Y
D002	10 Meter Bipod Firing II	MG	6	Unspec/Day/Clear	10m	Sngl/Stat	Y	Y	N	Y
D003	10 Meter Bipod Firing III	MG	6	Unspec/Day/Clear	10m	Sngl/Stat	Y	Y	N	Y
D004	10 Meter Bipod Firing IV	MG	6	Unspec/Day/Clear	10m	Sngl/Stat	Y	Y	N	Y
D005	10 Meter Bipod Firing V	MG	6	Unspec/Day/Clear	10m	Sngl/Stat	Y	Y	N	Y
D006	10 Meter Bipod Firing VI	MG	6	Unspec/Day/Clear	10m	Sngl/Stat	Y	Y	N	Y
D007	10 Meter Bipod Firing VII	MG	6	Unspec/Day/Clear	10m	Sngl/Stat	Y	Y	N	Y
D008	10 Meter Tripod Firing Practice I (Zeroing)	MG	6	Unspec/Day/Clear	10m	Sngl/Stat	Y	Y	N	Y
D009	10 Meter Tripod Firing Practice II	MG	24	Unspec/Day/Clear	10m	Sngl/Stat	Y	Y	N	Y
D010	10 Meter Tripod Firing Practice III	MG	48	Unspec/Day/Clear	10m	Sngl/Stat	Y	Y	N	Y
D011	10 Meter Tripod Firing Practice IV	MG	30	Unspec/Day/Clear	10m	Sngl/Stat	Y	Y	N	Y
D012	10 Meter Tripod Firing Record Practice I	MG	48	Unspec/Day/Clear	10m	Sngl/Stat	Y	Y	N	Y
D013	10 Meter Tripod Firing Record Practice II	MG	30	Unspec/Day/Clear	10m	Sngl/Stat	Y	Y	N	Y

\*Table A-6. Marksmanship core scenarios (continued).



No.	SCENARIO TASK	WPN	RDS	AREA/CONDITIONS	RANGE	TARGET	IO FDBK	SOLDIER FDBK	TIMED	AAR
D014	10 Meter Tripod Firing Sim Record I	MG	6	Unspec/Day/Clear	10m	Sngl/Stat	Y	Y	N	Y
D015	10 Meter Tripod Firing Sim Record II	MG	24	Unspec/Day/Clear	10m	Sngl/Stat	Y	Y	N	Y
D016	10 Meter Tripod Firing Sim Record III	MG	48	Unspec/Day/Clear	10m	Sngl/Stat	Y	Y	Y	Y
D017	10 Meter Tripod Firing Sim Record IV	MG	30	Unspec/Day/Clear	10m	Sngl/Stat	Y	Y	Y	Y
D018	Transition Firing I	MG	20	Unspec/Day/Clear	Multiple	Sngl/Stat	Y	Y	N	Y
D019	Transition Firing II	MG	120	Unspec/Day/Clear	Multiple	Sngl/Stat	Y	Y	Y	Y
D020	Day Defensive Firing I (Zeroing)	MG	20	Unspec/Day/Clear	Multiple	Sngl/Stat	Y	Y	N	Y
D021	Day Defensive Firing II	MG	100	Unspec/Day/Clear	Multiple	Multi/Stat	Y	Y	N	Y
D022	Day Defensive Firing III	MG	80	Unspec/Day/Clear	Multiple	Multi/Stat	Y	Y	N	Y
D023	Predetermined Fire I	MG	40	Unspec/Day/Clear	Multiple	Multi/Stat	Y	Y	N	Y
D024	Predetermined Fire II	MG	40	Unspec/Day/Clear	Multiple	Multi/Stat	Y	Y	N	Y
D025	Predetermined Fire III	MG	40	Unspec/Day/Clear	Multiple	Multi/Stat	Y	Y	N	Y
D026	Predetermined Fire IV	MG	20	Unspec/Night	Multiple	Multi/Stat	Y	Y	N	Y
D027	Predetermined Fire V	MG	20	Unspec/Night	Multiple	Multi/Stat	Y	Y	N	Y
D028	Predetermined Fire VI	MG	20	Unspec/Night	Multiple	Multi/Stat	Y	Y	N	Y
D029	Assault Firing I	MG	30	Unspec/Day/Clear	Multiple	Multi/Stat	Y	Y	N	Y
D030	Assault Firing II	MG	40	Unspec/Day/Clear	Multiple	Multi/Stat	Y	Y	N	Y
D031	Assault Firing III	MG	30	Unspec/Day/Clear	Multiple	Multi/Stat	Y	Y	N	Y
D032	Conduct or Stationary Firing I	MG	25	Unspec/Day/Clear	300m	Multi/Stat	Y	Y	N	Y
D033	Conduct or Stationary Firing II	MG	25	Unspec/Day/Clear	800m	Multi/Stat	Y	Y	N	Y
D034	Conduct or Stationary Firing III	MG	25	Unspec/Day/Clear	1100m	Multi/Stat	Y	Y	N	Y
D035	Conduct or Stationary Firing IV	MG	25	Unspec/Day/Clear	500m	Multi/Stat	Y	Y	N	Y
D036	Conduct or Moving Firing I	MG	25	Unspec/Day/Clear	300m	Multi/Stat	Y	Y	N	Y
D037	Conduct or Moving Firing II	MG	25	Unspec/Day/Clear	300m	Multi/Stat	Y	Y	N	Y
D038	Conduct or Moving Firing III	MG	25	Unspec/Day/Clear	300m	Multi/Stat	Y	Y	N	Y
D040	Conduct or Moving Firing IV	MG	25	Unspec/Day/Clear	300m	Multi/Stat	Y	Y	N	Y
E001	10 Meter Firing I (Zeroing)	M2	12	Unspec/Day/Clear	10m	Sngl/Stat	Y	Y	N	Y
E002	10 Meter Practice	M2	105	Unspec/Day/Clear	10m	Sngl/Stat	Y	Y	N	Y
E003	10 Meter Firing II	M2	14	Unspec/Day/Clear	10m	Sngl/Stat	Y	Y	N	Y
E004	10 Meter Firing III	M2	35	Unspec/Day/Clear	10m	Sngl/Stat	Y	Y	N	Y
E005	10 Meter Firing IV	M2	56	Unspec/Day/Clear	10m	Sngl/Stat	Y	Y	N	Y
E006	10 Meter Simulated Qual Firing V	M2	28	Unspec/Day/Clear	10m	Sngl/Stat	Y	Y	N	Y
E007	10 Meter Simulated Qual Firing VI	M2	28	Unspec/Day/Clear	10m	Sngl/Stat	Y	Y	N	Y
E008	10 Meter Simulated Qual Firing VII	M2	35	Unspec/Day/Clear	10m	Sngl/Stat	Y	Y	N	Y
E009	Day Practice - Table 1	M2	140	Unspec/Day/Clear	Multiple	Sngl/Stat	Y	Y	N	Y
E010	Day Qualification - Table 1	M2	140	Unspec/Day/Clear	Multiple	Sngl/Stat	Y	Y	N	Y
E011	Transition Firing I (Sim Qual)	M2	28	Unspec/Day/Clear	550m	Sngl/Stat	Y	Y	N	Y
E012	Transition Firing II (Sim Qual)	M2	14	Unspec/Day/Clear	800m	Sngl/Stat	Y	Y	Y	Y
E013	Transition Firing III (Sim Qual)	M2	14	Unspec/Day/Clear	400m	Sngl/Stat	Y	Y	Y	Y
E014	Transition Firing IV (Sim Qual)	M2	14	Unspec/Day/Clear	700m	Sngl/Stat	Y	Y	Y	Y
E015	Transition Firing V (Sim Qual)	M2	14	Unspec/Day/Clear	1000m	Sngl/Stat	Y	Y	Y	Y
E016	Transition Firing VI (Sim Qual)	M2	28	Unspec/Day/Clear	400/700m	Sngl/Stat	Y	Y	Y	Y
E017	Transition Firing VII (Sim Qual)	M2	28	Unspec/Day/Clear	550/800m	Sngl/Stat	Y	Y	Y	Y
E018	Transition Firing VIII (Sim Qual)	M2	42	Unspec/Day/Clear	Multiple	Multi/Stat	Y	Y	Y	Y
E019	CBRN Firing I (Sim Qual)	M2	28	Unspec/Day/Clear	550m	Sngl/Stat	Y	Y	N	Y

\*Table A-6. Marksmanship core scenarios (continued).



No.	SCENARIO TASK	WPN	RDS	AREA/CONDITIONS	RANGE	TARGET	IO FDBK	SOLDIER FDBK	TIMED	AAR
E020	CBRN Firing II (Sim Qual)	M2	14	Unspec/Day/Clear	800m	Sngl/Stat	Y	Y	Y	Y
E021	CBRN Firing III (Sim Qual)	M2	14	Unspec/Day/Clear	400m	Sngl/Stat	Y	Y	Y	Y
E022	CBRN Firing IV (Sim Qual)	M2	14	Unspec/Day/Clear	700m	Sngl/Stat	Y	Y	Y	Y
E023	CBRN Firing V (Sim Qual)	M2	14	Unspec/Day/Clear	1000m	Sngl/Stat	Y	Y	Y	Y
E024	CBRN Firing VI (Sim Qual)	M2	28	Unspec/Day/Clear	400/700m	Multi/Stat	Y	Y	Y	Y
E025	CBRN Firing VII (Sim Qual)	M2	28	Unspec/Day/Clear	550/800m	Multi/Stat	Y	Y	Y	Y
E026	CBRN Firing VIII (Sim Qual)	M2	42	Unspec/Day/Clear	Multiple	Multi/Stat	Y	Y	Y	Y
E027	Night Firing Sim Qual (Zero AN/TVS-5)	M2	28	Unspec/Night	50m	Sngl/Stat	Y	Y	N	Y
E028	Night Firing Sim Qual II	M2	14	Unspec/Night	800m	Sngl/Stat	Y	Y	Y	Y
E029	Night Firing Sim Qual III	M2	14	Unspec/Night	400m	Sngl/Stat	Y	Y	Y	Y
E030	Night Firing Sim Qual IV	M2	14	Unspec/Night	700m	Sngl/Stat	Y	Y	Y	Y
E031	Night Firing Sim Qual V	M2	14	Unspec/Night	1000m	Sngl/Stat	Y	Y	Y	Y
E032	Night Firing Sim Qual VI	M2	28	Unspec/Night	400/700m	Multi/Stat	Y	Y	Y	Y
E033	Night Firing Sim Qual VII	M2	28	Unspec/Night	550/800m	Multi/Stat	Y	Y	Y	Y
E034	Night Firing Sim Qual VIII	M2	42	Unspec/Night	Multiple	Multi/Stat	Y	Y	Y	Y
E035	Mounted Firing Exercise I	M2	7	Unspec/Day/Clear	450m	Sngl/Stat	Y	Y	N	Y
E036	Mounted Firing Exercise II	M2	14	Unspec/Day/Clear	450m	Sngl/Stat	Y	Y	N	Y
E037	Mounted Firing Exercise III	M2	14	Unspec/Day/Clear	850m	Sngl/Stat	Y	Y	N	Y
E038	Mounted Firing Exercise IV	M2	28	Unspec/Day/Clear	Multiple	Multi/Stat	Y	Y	N	Y
E039	Mounted Firing Exercise V	M2	28	Unspec/Day/Clear	Multiple	Multi/Stat	Y	Y	N	Y
E040	Mounted Firing Exercise VI	M2	28	Unspec/Day/Clear	Multiple	Multi/Stat	Y	Y	N	Y
E041	Mounted Firing Exercise VIII	M2	14	Unspec/Day/Clear	500m	Sngl/Stat	Y	Y	N	Y
E042	Mounted Firing Exercise IX	M2	28	Unspec/Day/Clear	Multiple	Multi/Stat	Y	Y	N	Y
E043	Mounted Firing Exercise X	M2	42	Unspec/Day/Clear	Multiple	Multi/Stat	Y	Y	N	Y
E044	Predetermined Firing I	M2	12	Unspec/Day/Clear	Multiple	Multi/Stat	Y	Y	N	Y
E045	Predetermined Firing II	M2	28	Unspec/Day/Clear	Multiple	Multi/Stat	Y	Y	N	Y
E046	Predetermined Firing III	M2	56	Unspec/Day/Clear	Multiple	Multi/Stat	Y	Y	N	Y
E047	Predetermined Firing IV	M2	28	Unspec/Day/Clear	Multiple	Multi/Stat	Y	Y	N	Y
E048	Predetermined Firing V	M2	28	Unspec/Day/Clear	Multiple	Multi/Stat	Y	Y	N	Y
E049	Predetermined Firing VI	M2	14	Unspec/Day/Clear	Multiple	Multi/Stat	Y	Y	N	Y
E050	Predetermined Firing VII	M2	14	Unspec/Day/Clear	Multiple	Multi/Stat	Y	Y	N	Y
E051	Instructional Fire III	MK19	4	Unspec/Day/Clear	400m	Sngl/Stat	Y	Y	N	Y
F003	Instructional Fire IV	MK19	8	Unspec/Day/Clear	1000m	Sngl/Stat	Y	Y	N	Y
F004	Instructional Fire V	MK19	8	Unspec/Day/Clear	1500m	Sngl/Stat	Y	Y	N	Y
F005	Instructional Fire VI	MK19	6	Unspec/Day/Clear	600m	Multi/Stat	Y	Y	N	Y
F006	Dismounted Range Card III	MK19	4	Unspec/Day/Clear	400m	Sngl/Stat	Y	Y	N	Y
F010	Dismounted Range Card IV	MK19	4	Unspec/Day/Clear	600m	Sngl/Stat	Y	Y	N	Y
F011	Dismounted Range Card V	MK19	8	Unspec/Day/Clear	1100m	Sngl/Stat	Y	Y	Y	Y
F012	Dismounted Range Card VI	MK19	6	Unspec/Day/Clear	600m	Multi/Stat	Y	Y	Y	Y
F013	Dismounted Range Card VII	MK19	8	Unspec/Day/Clear	1500m	Sngl/Stat	Y	Y	Y	Y
F014	Dismounted Range Card VIII	MK19	12	Unspec/Day/Clear	Multiple	Multi/Stat	Y	Y	Y	Y
F015	Mounted Combat II	MK19	4	Unspec/Day/Clear	400m	Sngl/Stat	Y	Y	Y	Y
F018	Mounted Combat III	MK19	8	Unspec/Day/Clear	800m	Sngl/Stat	Y	Y	Y	Y
F019	Mounted Combat IV	MK19	6	Unspec/Day/Clear	600m	Multi/Stat	Y	Y	Y	Y
F020	Mounted Combat V	MK19	8	Unspec/Day/Clear	1000m	Sngl/Stat	Y	Y	Y	Y

\*Table A-6. Marksmanship core scenarios (continued).



No.	SCENARIO TASK	WPN	RDS	AREA/CONDITIONS	RANGE	TARGET	IO FDBK	SOLDIER FDBK	TIMED	AAR
F021	Night Fire II	MK19	6	Unspec/Night	400m	Sngl/Stat	Y	Y	Y	Y
F024	Night Fire III	MK19	8	Unspec/Night	800m	Sngl/Stat	Y	Y	Y	Y
F025	Night Fire IV	MK19	8	Unspec/Night	800m	Sngl/Stat	Y	Y	Y	Y
F026	Linear & Deep Targets I	MK19	40	Multiple	Multiple	Multi/Stat	Y	Y	Y	Y
F028	Linear & Deep Targets II	MK19	80	Multiple	Multiple	Multi/Stat	Y	Y	Y	Y
F029	Linear & Deep Targets III	MK19	40	Multiple	Multiple	Multi/Stat	Y	Y	Y	Y
F030	Linear & Deep Targets IV	MK19	80	Multiple	Multiple	Multi/Stat	Y	Y	Y	Y
F031	Linear Targets with Dept I	MK19	40	Multiple	Multiple	Multi/Stat	Y	Y	Y	Y
F032	Linear Targets with Dept II	MK19	80	Multiple	Multiple	Multi/Stat	Y	Y	Y	Y
F033	Area Targets I	MK19	160	Multiple	Multiple	Multi/Stat	Y	Y	Y	Y
F034	Area Targets II	MK19	240	Multiple	Multiple	Multi/Stat	Y	Y	Y	Y
G001	Zero I (Leaf Sight)	M203	3	Unspec/Day/Clear	200m	Sngl/Stat	Y	Y	N	Y
G002	Zero II (Quadrant Sight)	M203	3	Unspec/Day/Clear	200m	Sngl/Stat	Y	Y	N	Y
G003	Simulated Record Fire I	M203	3	Unspec/Day/Clear	Multiple	Sngl/Stat	Y	Y	Y	Y
G004	Simulated Record Fire II	M203	3	Unspec/Day/Clear	Multiple	Sngl/Stat	Y	Y	Y	Y
G005	Simulated Record Fire III	M203	3	Unspec/Day/Clear	Multiple	Sngl/Stat	Y	Y	Y	Y
G006	Simulated Record Fire IV	M203	3	Unspec/Day/Clear	Multiple	Sngl/Stat	Y	Y	Y	Y
G007	Simulated Record Fire V	M203	3	Unspec/Day/Clear	Multiple	Sngl/Stat	Y	Y	Y	Y
G008	Zeroing the AN/PVS-14	M16/M203	10/10	Unspec/Day/Clear	10/25m	Sngl/Stat	Y	Y	Y	Y
G009	Night Firing	M203	3	Unspec/Night	Multiple	Sngl/Stat	Y	Y	N	Y
H001	Instructional Firing	AT4	12	Unspec/Day/Clear	Multiple	Multi/Stat	Y	Y	N	Y
H002	Instructional Night Firing	AT4	12	Unspec/Night	Multiple	Multi/Stat	Y	Y	N	Y
H003	Qualification Fire (Sim)	AT4	8	Unspec/Day/Clear	Multiple	Multi/Stat	Y	Y	N	Y
H004	Night Qualification Fire (Sim)	AT4	6	Unspec/Night	Multiple	Multi/Stat	Y	Y	N	Y
H005	Advance Instructional Fire	AT4	8	Unspec/Day/Clear	Multiple	Multi/Stat	Y	Y	N	Y

\*Table A-6. Marksmanship core scenarios (continued).

## TACTICAL COLLECTIVE TRAINING CORE SCENARIOS

No.	SCENARIO TASK	WEAPON	RDS	AREA/ CONDITIONS	RANGE	TARGET	IO FDBK	SOLDIER FDBK	TIMED	AAR
K001	Defend	M16s/A1ch. MG - All small arms supported	Basic Load	Desert/day, clear	450m	18-man dismounted patrol-80 total personal targets	Y	Y	N	Y
K002	Defend	M16s/4AT4/A1ch.- MG All small arms supported	Basic Load	Desert/day, cloudy	400m	2 BTR w/squads preceded by 9 dismounts- 80 total personal targets	Y	Y	N	Y
K003	Defend	M16s/A1ch. MG - All small arms supported	Basic Load	Forest/day, cloudy	300m	18-man dismounted patrol-80 total personal targets	Y	Y	N	Y
K004	Defend	M16s/2AT4/A1ch. MG - All small arms supported	Basic Load	Forest/night, clear	250m	1 BTR preceded by 10 dismounts - 80 total personal targets	Y	Y	N	Y
K005	Defend	M16s/2AT4/A1ch. MG - All small arms supported	Basic Load	Desert/night, clear	300m	2 BTR w/squads preceded by 9 dismounts- 80 total personal targets	Y	Y	N	Y
K006	Defend	M16s/A1ch. MG - All small arms supported	Basic Load	Urban/day, clear	100m	18-man dismounted patrol-80 total personal targets	Y	Y	N	Y
K007	Defend	M16s/2AT4/A1ch. MG - All small arms supported	Basic Load	Woodland/dusk, haze	250m	1 BTR preceded by 18 dismounts - 80 total personal targets	Y	Y	N	Y
K008	Defend	M16s/A1ch. MG - All small arms supported	Basic Load	Woodland/day, cloudy	400m	18-man dismounted patrol-80 total personal targets	Y	Y	N	Y
K009	Overwatch	M16s/A1ch. MG/PVS-7 - All small arms supported	Basic Load	Forest/night, clear	100m	1 squad in defense posture w/AK 74s	Y	Y	N	Y
K010	Overwatch	M16s w/A1ch. MG - All small arms supported	Basic Load	Urban/day, clear	150m	1 squad-size patrol w/ AK 74s	Y	Y	N	Y
K011	Overwatch	M16s w/A1ch. MG - All small arms supported	Basic Load	Forest/day, cloudy	200m	10-man patrol, w/ AK 74s	Y	Y	N	Y
K012	Overwatch	M16s w/A1ch. MG - All small arms supported	Basic Load	Jungle/day, clear	75m	9-man dismounted patrol	Y	Y	N	Y
K013	Overwatch	M16s w/A1ch. MG - All small arms supported	Basic Load	Mountains/day, rain	200m	1 squad-size element in defense posture	Y	Y	N	Y
K014	Overwatch	M16s w/A1ch. MG - All small arms supported	Basic Load	Desert/day, sunrise	175m	9 man dismounted patrol	Y	Y	N	Y
K015	Overwatch	M16s w/A1ch. MG - All small arms supported	Basic Load	Woodland/day, clear	100-150m	9-man dismounted patrol	Y	Y	N	Y
K016	Overwatch	M16s w/A1ch. MG - All small arms supported	Basic Load	Woodland/dusk, clear	150m	1 bunker w/ MG team w/ RPK 74s	Y	Y	N	Y
K017	Armor Ambush	M16s/4AT4/A1ch. MG - All small arms supported	Basic Load	Forest/day, clear	275m	2 BTR w/ mounted squads	Y	Y	N	Y
K018	Armor Ambush	M16s/4AT4/A1ch. MG - All small arms supported	Basic Load	Woodland/dusk, clear	275m	2 BTR w/ mounted squads	Y	Y	N	Y
K019	Armor Ambush	M16s/4AT4/A1ch.MG - All small arms supported	Basic Load	Urban/day, clear	175m	2 BTR w/ mounted squads	Y	Y	N	Y
K020	Armor Ambush	M16s/2AT4/A1ch. MG - All small arms supported	Basic Load	Forest/night, clear	200m	1 BTR 9-man dismounted squad	Y	Y	N	Y

Table A-7. Tactical collective training core scenarios.

No.	SCENARIO TASK	WEAPON	RDS	AREA/ CONDITIONS	RANGE	TARGET	IO FDBK	SOLDIER FDBK	TIMED	AAR
K021	Armor Ambush	M16s/4AT4/Atch. M - All small arms supported	Basic Load	Mountains/dusk, clear	275m	2 BTR w/ mounted squads	Y	Y	N	Y
K022	Armor Ambush	M16s/4AT4/Atch. MG - All small arms supported	Basic Load	Woodland/day, fog	250m	2 BTR w/ mounted squads	Y	Y	N	Y
K023	Armor Ambush	M16s/4AT4/Atch. MG - All small arms supported	Basic Load	Valley/open terrain/night, clear	275m	2 BTR w/ mounted squads	Y	Y	N	Y
K024	Armor Ambush	M16s/2AT4/Atch. MG - All small arms supported	Basic Load	Desert/day, clear	275m	1 BTR w/ mounted squad	Y	Y	N	Y
K025	Knock/bunker	M16s w/Atth. MG - All small arms supported	Basic Load	Woods, light veg/day, haze	300m	2 bunker MG team w/ RPK 74	Y	Y	N	Y
K026	Knock/bunker	M16s w/Atth. MG - All small arms supported	Basic Load	Forest/night, clear	250m	1 bunker 1 MG team w/ RPK74	Y	Y	N	Y
K027	Knock/bunker	M16s w/Atth. MG - All small arms supported	Basic Load	Desert/day, cloudy	300m	2 bunker manned by two men w/ RPK 74s	Y	Y	N	Y
K028	Knock/bunker	M16s w/Atth. MG - All small arms supported	Basic Load	Woodland/night, smoke	350m	1 bunker 1 MG team w/ RPK 74	Y	Y	N	Y
K029	Knock/bunker	M16s, 2AT4s, w/Atth. MG - All small arms supported	Basic Load	Forest/dusk, clear	250m	2 bunker MG team w/ RPK 74	Y	Y	N	Y
K030	Knock/bunker	M16s, 2AT4s, w/Atth. MG - All small arms supported	Basic Load	Mountains/day, rain	200m	2 bunker MG team w/ RPK 74	Y	Y	N	Y
K031	Knock/bunker	M16s w/MG Tm - All small arms supported	Basic Load	Jungle/day, clear	75m	1 bunker 1 MG team w/ RPK 74	Y	Y	N	Y
K032	Knock/bunker	M16s w/MG Tm - All small arms supported	Basic Load	Woodland/dusk, hazy	350m	2 bunker MG team w/ RPK 74	Y	Y	N	Y
K033R1	Support by Fire	All small arms supported	Basic load	Woodland/day, clear	600m	8-man support element + 7-man assault team w/ AK-74s and RPK-74s	Y	Y	N	Y
K034R1	Passage of Lines	All small arms supported	Basic load	Woodland/dusk, clear	450m	10-man dismounted patrol w/ 8 AK-74s and 2 RPK-74s	Y	Y	N	Y
K035R1	Delay	All small arms supported	Basic load	Woodland/day, fog	450m	10-man dismounted patrol w/ 8 AK-74s and 2 RPK-74s	Y	Y	N	Y
K036R1	Support by Fire	All small arms supported	Basic load	Desert/day, clear	500m	8-man support element + 7-man assault team w/ AK-74s and RPK-74s	Y	Y	N	Y
K037R1	Defend (FPL)	All small arms supported	Basic Load	Woodland/day, clear	300m	20-man element x 2 w/ AK-74s	Y	Y	N	Y
K038R1	Passage of Lines	All small arms supported	Basic load	Korean village/dusk, clear	300m	10-man dismounted patrol w/ 8 AK-74s and 2 RPK-74s	Y	Y	N	Y
K039R1	Delay	All small arms supported	Basic load	Desert/day, smoke	300m	10-man dismounted patrol w/ 8 AK-74s and 2 RPK-74s	Y	Y	N	Y
K040R1	Support by Fire	All small arms supported	Basic load	Woodland/day, clear	400m	8-man dismounted patrol w/ 6 AK-74s and 2 RPK-74s	Y	Y	N	Y
K041	Point Ambush	M16s w/Atch. MG - All small arms supported	Basic Load	Mountains/day, rain	350m	16-man dismounted patrol	Y	Y	N	Y
K042	Point Ambush	M16s w/Atch. MG - All small arms supported	Basic Load	Woodland/day, fog	250m	16-man dismounted patrol	Y	Y	N	Y

Table A-7. Tactical collective training core scenarios (continued).

No.	SCENARIO TASK	WEAPON	RDS	AREA/ CONDITIONS	RANGE	TARGET	IO FDBK	SOLDIER FDBK	TIMED	AAR
K043	Point Ambush	M16s w/Atch. MG - All small arms supported	Basic Load	Valley(open terrain)/night, clear	200m	16-man dismounted patrol	Y	Y	N	Y
K044	Point Ambush	M16s w/Atch. MG - All small arms supported	Basic Load	Jungle/day, clear	75m	16-man dismounted patrol	Y	Y	N	Y
K045	Point Ambush	M16s w/Atch. MG - All small arms supported	Basic Load	Forest/night, clear	75m	16-man dismounted patrol	Y	Y	N	Y
K046	Point Ambush	M16s w/Atch. MG - All small arms supported	Basic Load	Woodland/dusk, smoke	100m	16-man dismounted patrol	Y	Y	N	Y
K047	Point Ambush	M16s w/Atch. MG - All small arms supported	Basic Load	Valley(open terrain)/night, clear	100m	16-man dismounted patrol	Y	Y	N	Y
K048	Point Ambush	M16s/2AT4/Atch. MG - All small arms supported	Basic Load	Forest/dusk, clear	200m	1 BTR 16-man dismounted squad	Y	Y	N	Y
K049	Point Ambush	M16s/4AT4/Atch. MG - All small arms supported	Basic Load	Mountains/day, haze	250m	2 BTRs, 14 dismount on contact	Y	Y	N	Y
K050R1	Fire FPL	All small arms supported	Basic load	MOUT/day, clear	300m	20-man element x 2 w/ AK-74s = 40 total	Y	Y	N	Y
K051R1	Fire FPL	All small arms supported	Basic load	Korea/day, clear	300m	20-man element x 2 w/ AK-74s = 40 total	Y	Y	N	Y
K052R1	Call for Fire	All small arms supported	Basic load	Woodland/day, clear	300m	20-man element x 2 w/ AK-74s = 40 total	Y	Y	N	Y
K053R1	Call for Fire	All small arms supported	Basic load	Woodland/day, clear	300m	6 BRDM w/possible 16 men w/ AK-74s	Y	Y	N	Y
K054R1	Call for Fire	All small arms supported	Basic load	Woodland/day, clear	300m	6 BRDM w/possible 48 men w/ AK-74s	Y	Y	N	Y
K055R1	Passage of Lines	All small arms supported	Basic load	Desert/day, clear	450m	10-man dismounted patrol w/ AK-74s	Y	Y	N	Y
K056R1	FPL on Bridge	All small arms supported	Basic load	Bridge/day, clear	300m	20-man element x 2 w/ AK-74s = 40 total	Y	Y	N	Y
K057R1	FPL on Bridge	All small arms supported	Basic load	Bridge/day, clear	300m	3 thin-skinned vehicles w/ 14.5mm MG w/4 dismounts and AK-74s	Y	Y	N	Y
K058	Defend MOUT	M16s/4AT4/Atch MG - All small arms supported	Basic Load	Bosnia, urban core/day, clear	100m	2 BTRs w/ mounted squads +9 dismounts - 26 total personnel targets	Y	Y	N	Y
K059	Defend MOUT	M16s/4AT4/Atch MG - All small arms supported	Basic Load	Korean village/day, haze	150m	2 BTRs w/ mounted squads + 9 dismounts - 35 total personnel targets	Y	Y	N	Y
K060	Defend MOUT	M16/4AT4/Atch MG - All small arms supported	Basic Load	Korea, residential/day, clear	250m	2 BTRs w/ mounted squads + 10 dismounts - 38 total personnel targets	Y	Y	N	Y
K061	Defend MOUT	M16s/4AT4/Atch MG - All small arms supported	Basic Load	Outlying industrial/day, rain	200m	18 dismounts + 2 snipers = 54 total personnel targets	Y	Y	N	Y
K062	Defend MOUT	M16s/4AT4/Atch MG - All small arms supported	Basic Load	Bosnia, commercial/night, clear	100m	18 dismounts - 50 total personnel targets	Y	Y	N	Y
K063	Defend MOUT	M16s/2AT4/Atch MG - All small arms supported	Basic Load	Bosnia, urban core/day, smoke	175m	9 dismounts - 36 total personnel targets	Y	Y	N	Y

Table A-7. Tactical collective training core scenarios (continued).



No.	SCENARIO TASK	WEAPON	RDS	AREA/ CONDITIONS	RANGE	TARGET	IO FDBK	SOLDIER FDBK	TIMED	AAR
K064	Defend MOUT	M16/2AT4/Atch MG/PVS7 - All small arms supported	Basic Load	Korea, residential/night, clear	75m	1 BTR w/mounted squad + 9 dismounts - 42 total personnel targets	Y	Y	N	Y
K065	Defend MOUT	M16s/4AT4/Atch MG - All small arms supported	Basic Load	Sub-Sahara Africa, shanty town/dusk	300m	2 BTRs w/ mounted squads + 9 dismounts - 35 total personnel targets	Y	Y	N	Y
K066	Defend MOUT	M16s/4AT4/Atch MG - All small arms supported	Basic Load	Korean village/day, haze	350m	2 BTRs w/ mounted squads + 9 dismounts - 27 total personnel targets	Y	Y	N	Y
K067	Defend MOUT	M16s/4AT4/Atch MG - All small arms supported	Basic Load	Far East, urban/day, clear	350m	3 BTR + 15 dismounts - 15 total personnel targets	Y	Y	N	Y
K068	Point Ambush	M16s/4AT4/Atch MG - All small arms supported	Basic Load	Bosnia, urban core/dusk, clear	75m	2 BTRs, 7 dismount on contact = 14 total personnel targets	Y	Y	N	Y
K069	Point Ambush	M16s/2AT4/Atch MG - All small arms supported	Basic Load	Bosnia, urban core/dusk, clear	100m	1 BTR + 16 dismounts	Y	Y	N	Y
K070	Armor Ambush	M16s/4AT4/Atch MG - All small arms supported	Basic Load	Korean village/day, haze	200m	2 BTRs, 9 dismount on contact = 18 total personnel targets	Y	Y	N	Y
K071R1	Delay	All small arms supported	Basic load	Desert/day, clear	300m	4 BRDMs w/10 dismounts and AK-74s	Y	Y	N	Y
K072	Defend	M16s/4AT4/Atch MG - All small arms supported	Basic Load	Bosnia, urban core/dusk, clear	150m	2 BTRs w/ mounted squads + 9 dismounts - 41 total personnel targets	Y	Y	N	Y
K073	Defend	M16s/4AT4/Atch MG - All small arms supported	Basic Load	Far East/urban/day, rain	150-m	2 BTRs w/ mounted squads + 9 dismounts - 32 total personnel targets	Y	Y	N	Y
K074	Point Ambush	M16/2AT4/Atch MG/PVS7 - All small arms supported	Basic Load	Korea, outlying area/night, clear	200m	1 BTR, 18 man dismounted squad	Y	Y	N	Y
K075	Point Ambush	M16s/4AT4/Atch MG - All small arms supported	Basic Load	Far East, urban/day, clear	150m	2 BTRs, 7 dismount on contact = 14 total personnel targets	Y	Y	N	Y
J010	2-man Guard Post	M16/M9	3 Mags/Ea	Korea, ammo point/night, snow	10-100m	Civ trk and clothes, weapons	Y	Y	N	Y
J017	2-man Guard Post	M16/M9	3 Mags/Ea	Africa, village, Red Cross supply point/day, clear	150m	Receiving sniper fire	Y	Y	N	Y
J019	2-man Guard Post	M16/M9	3 Mags/Ea	Bosnia, MOUT, IFOR ckpt/day, clear	10-100m	Receiving sniper fire	Y	Y	N	Y
J025	2-man Guard Post	M16/M9	3 Mags/Ea	Africa, village, food wrhse/night, full moon	10-100m	Receiving sniper fire	Y	Y	N	Y
J027	Patrol Base-Inf Sgd	M16/M249/M203	Basic Load	Forest/day, clear	200m	Enemy patrol firing	Y	Y	N	Y
J028	Patrol Base-Inf Sgd	M16/M249/M203	Basic Load	Forest/day, smoke	100m	Enemy patrol, not firing	Y	Y	N	Y
J029	Patrol Base-Inf Sgd	M16/M249/M203	Basic Load	Jungle/sunset, clear	10m	Civilian, unarmed	Y	Y	N	Y

Table A-7. Tactical collective training core scenarios (continued).

No.	SCENARIO TASK	WEAPON	RDS	AREA/ CONDITIONS	RANGE	TARGET	IO FDBK	SOLDIER FDBK	TIMED	AAR
J030	Patrol Base-Inf Sgd	M16/M249/M203	Basic Load	Jungle/sunrise, fog	50-100m	Enemy patrol, not firing	Y	Y	N	Y
J031	Patrol Base-Inf Sgd	Same+PVS4&7	Basic Load	Forest/night, clear, full moon	100m	Enemy patrol, not firing	Y	Y	N	Y
J032	Patrol Base-Inf Sgd	Same+PVS4&7	Basic Load	Forest/night, smoke	25-50m	Friendly patrol	Y	Y	N	Y
J033	Patrol Base-Inf Sgd	Same+PVS4&7	Basic Load	Jungle/night, clear	25-50m	Civilian, armed	Y	Y	N	Y
J034	Patrol Base-Inf Sgd	Same+PVS4&7	Basic Load	Jungle/night, smoke	25-50m	Friendly patrol firing at you	Y	Y	N	Y
J015	2-man Guard Post	M16/M9	3 Mags/Ea	Bosnia, MOUT, IFOR ckpt/day, clear	10-100m	Delivery vehicle, proper I.D.	Y	Y	N	Y
J016	2-man Guard Post	M16/M9	3 Mags/Ea	Bosnia, MOUT, IFOR ckpt/day, snow	10-100m	Delivery vehicle, no I.D.	Y	Y	N	Y
J021	2-man Guard Post	M16/M9	3 Mags/Ea	Africa, MOUT, food whse/night, full moon	10-100m	Military vehicle, no I.D.	Y	Y	N	Y
J022	2-man Guard Post	M16/M9	3 Mags/Ea	Africa, MOUT, food whse/night, cloudy	10-100m	Military vehicle, use of duress codeword	Y	Y	N	Y
<b>SCOUT SQUAD - EST 2000 COLLECTIVE SIMULATION EXERCISES</b>										
L001	Defend an observation Post	M16/M4, M203, M240B, M2, AT4, MK 19	Basic load	Forest/day, clear	300-1000m	Infantry Squad				
L002	Defend an observation Post	M16/M4, M203, M240B, M2, AT4, MK 19	Basic load	Desert/day, fog	300-1000m	Infantry Squad				
L003	Defend an observation Post	M16/M4, M203, M240B, M2, AT4, MK 19	Basic load	Forest/night	300-1000m	Infantry Squad				
L004	Support a Hasty attack	M16/M4, M203, M240B, M2, AT4, MK 19	Basic load	Forest/day, clear	300-1000m	BDRM				
L005	Support a Hasty attack	M16/M4, M203, M240B, M2, AT4, MK 19	Basic load	Forest/night	300-1000m	BDRM				
L006	Support a Hasty attack	M16/M4, M203, M240B, M2, AT4, MK 19	Basic load	Desert/night	300-1000m	BDRM				
L007	Conduct a screen	M16/M4, M203, M240B, M2, AT4, MK 19	Basic load	Forest/day, clear	300-1000m	2 BDRM				
L008	Conduct a screen	M16/M4, M203, M240B, M2, AT4, MK 19	Basic load	Desert/night	300-1000m	2 BDRM				
L009	Border Defense (Screen)	M16/M4, M203, M240B, M2, AT4, MK 19	Basic load	Forest/day, clear	300-1000m	Infantry Squad				
L010	Border Defense (Screen)	M16/M4, M203, M240B, M2, AT4, MK 19	Basic load	Forest/night	300-1000m	Infantry Squad				
L011	Delay	M16/M4, M203, M240B, M2, AT4, MK 19	Basic load	Forest/day, clear	300-1000m	2 BDRM				
L012	Guard Flank	M16/M4, M203, M240B, M2, AT4, MK 19	Basic load	Desert/day, fog	300-1000m	2 BDRM				

Table A-7. Tactical collective training core scenarios (continued).

No.	SCENARIO TASK	WEAPON	RDS	AREA/ CONDITIONS	RANGE	TARGET	IO FDBK	SOLDIER FDBK	TIMED	AAR
L013	Table 1 Manipulation Exercise	MK 19	26 rounds							
L014	Table 2 Tripod Exercise	MK 19	33 rounds							
L015	Table 3 Adjustment of fire (stationary)	MK 19	33 rounds							
L016	Table 4 Basic crew qualification	MK 19	66 rounds							
L017	Table 5 Crew proficiency course (Mod)	MK 19	61 rounds							
L018	Table 6 Crew Baseline (Mod)	MK 19	45 rounds							
L019	Table 7 Crew practice (Mod)	MK 19	56 rounds							
<b>ENGINEER SQUAD - EST 2000 COLLECTIVE SIMULATION EXERCISES</b>										
M001	Defend	M16s/2AT4/MG Tm	Basic Load	Desert/day/clear	500m	10-man dismounted patrol	Y	Y	N	Y
M002	Defend	M16s/2AT4/MG Tm	Basic Load	Urban/day/clear	100m	10-man dismounted patrol	Y	Y	N	Y
M003	Defend	M16s/2AT4/MG Tm	Basic Load	Desert/day/cloudy	400m	9-man dismounted patrol	Y	Y	N	Y
M004	Defend MOUJ	M16s/2AT4/MG Tm	Basic Load	Bosnia/urban core/dusk/clear	100m	3 BTRs w/ mounted squads	Y	Y	N	Y
M005	Defend MOUJ	M16/2AT4/MG Tm/PVS7	Basic Load	Korea/residential/nigh t/haze	250m	2 BTRs w/ mounted squads	Y	Y	N	Y
M006	Defend MOUJ	M16s/2AT4/MG Tm	Basic Load	Bosnia/commercial/nigh t/clear	100m	2 BTRs, 9 dismount on contact	Y	Y	N	Y
M007	Defend MOUJ	M16/2AT4/MG Tm/PVS7	Basic Load	Korea/residential/nigh t/clear	75m	1 BTR 4 man dismounted on contact	Y	Y	N	Y
M008	Defend MOUJ	M16s/2AT4/MG Tm	Basic Load	Korea/village/day/haze	350m	2 BTRs, 9 dismount on contact	Y	Y	N	Y
M009	Point Ambush	M16s/2AT4/MG Tm	Basic Load	Bosnia/urban core/dusk/clear	50m	2 BTRs, 9 dismount on contact	Y	Y	N	Y
M010	Defend	M16s/2AT4/MG Tm	Basic Load	Bosnia/urban core/dusk/clear	100m	3 BTRs w/ mounted squads	Y	Y	N	Y
<b>MILITARY POLICE SQUAD COLLECTIVE SIMULATION EXERCISES</b>										
N001	Convoy Security Operations	All EST 2000 weapons	Basic Load	Desert, Day, Clear	500m	10-man dismounted squad	Y	Y	N	Y
N002	Convoy Security Operations	All EST 2000 weapons	Basic Load	Desert, Day, Cloudy	300-1000m	2BTRs, squad dismount on contact	Y	Y	N	Y
N003	Secure and defend position	All EST 2000 weapons	Basic Load	Forest Day, Rain	300m	10-man dismounted patrol	Y	Y	N	Y

Table A-7. Tactical collective training core scenarios (continued).

No.	SCENARIO TASK	WEAPON	RDS	AREA/ CONDITIONS	RANGE	TARGET	IO FDBK	SOLDIER FDBK	TIMED	AAR
N004	Secure and defend position	All EST 2000 weapons	Basic Load	Desert/day, smoke	200-1000m	1BTR, dismounted squad	Y	Y	N	Y
L011	Delay	M16/M4, M203, M240B, M2, AT4, MK 19	Basic load	Forest/day, clear	300-1000m	2 BDRM				
L012	Guard Flank	M16/M4, M203, M240B, M2, AT4, MK 19	Basic load	Desert/day, fog	300-1000m	2 BDRM				
L013	Table 1 Manipulation Exercise	MK 19	26							
L014	Table 2 Tripod Exercise	MK 19	33							
L015	Table 3 Adjustment of fire(stationary)	MK 19	33							
L016	Table 4 Basic crew qualification	MK 19	66							
L017	Table 5 Crew proficiency course(Mod)	MK 19	61							
L018	Table 6 Crew Baseline (Mod)	MK 19	45							
L019	Table 7 Crew practice (Mod)	MK 19	56							
<b>ENGINEER SQUAD - EST 2000 COLLECTIVE SIMULATION EXERCISES</b>										
M001	Defend	M16s/2AT4/MG Tm	Basic Load	Desert/day, clear	500m	10-man dismounted patrol	Y	Y	N	Y
M002	Defend	M16s/2AT4/MG Tm	Basic Load	Urban/day, clear	100m	10-man dismounted patrol	Y	Y	N	Y
M003	Defend	M16s/2AT4/MG Tm	Basic Load	Desert/day, cloudy	400m	9-man dismounted patrol	Y	Y	N	Y
M004	Defend MOUT	M16s/2AT4/MG Tm	Basic Load	Bosnia, urban core/dusk, clear	100m	3 BTRs w/ mounted squads	Y	Y	N	Y
M005	Defend MOUT	M16/2AT4/MG Tm/PV57	Basic Load	Korea, residential/night, haze	250m	2 BTRs w/ mounted squads	Y	Y	N	Y
M006	Defend MOUT	M16s/2AT4/MG Tm	Basic Load	Bosnia, commercial/night, clear	100m	2 BTRs, 9 dismount on contact	Y	Y	N	Y
M007	Defend MOUT	M16/2AT4/MG Tm/PV57	Basic Load	Korea, residential/night, clear	75m	1 BTR 4 man dismounted on contact	Y	Y	N	Y
M008	Defend MOUT	M16s/2AT4/MG Tm	Basic Load	Korea, village/day, haze	350m	2 BTRs, 9 dismount on contact	Y	Y	N	Y
M009	Point Ambush	M16s/2AT4/MG Tm	Basic Load	Bosnia, urban core/dusk, clear	50m	2 BTRs, 9 dismount on contact	Y	Y	N	Y
M010	Defend	M16s/2AT4/MG Tm	Basic Load	Bosnia, urban core/dusk, clear	100m	3 BTRs w/ mounted squads	Y	Y	N	Y

Table A-7. Tactical collective training core scenarios (continued).



No.	SCENARIO TASK	WEAPON	RDS	AREA/ CONDITIONS	RANGE	TARGET	IO FDBK	SOLDIER FDBK	TIMED	AAR
<b>MILITARY POLICE SQUAD COLLECTIVE SIMULATION EXERCISES</b>										
N001	Convoy Security Operations	All EST 2000 weapons	Basic Load	Desert/day, clear	500m	10-man dismounted squad	Y	Y	N	Y
N002	Convoy Security Operations	All EST 2000 weapons	Basic Load	Desert/day, cloudy	300-1000m	2 BTRs, squad dismount on contact	Y	Y	N	Y
N003	Secure and defend position	All EST 2000 weapons	Basic Load	Forest/day, rain	300m	10-man dismounted patrol	Y	Y	N	Y
N004	Secure and defend position	All EST 2000 weapons	Basic Load	Desert/day, smoke	200-1000m	1BTR, dismounted squad	Y	Y	N	Y
<b>NOTES:</b> 1. All squad and team tactical scenarios should permit the deployment of the Light Vehicle Obscuration Smoke System (LVOSS) on command. 2. All scenarios involving buildings should permit simultaneous interior entry team and exterior cover team play.										
<b>COMBAT SUPPORT/COMBAT SERVICE SUPPORT ELEMENTS - EST 2000 COLLECTIVE SIMULATION EXERCISES</b>										
P001	Defend Against Air Atk	5-10 soldiers/M16s/1MG	Basic Load	Desert/day, clear, weapons free	500- Infinite	Mi-8 Hip hovering, firing	Y	Y	Y	Y
P002	Defend Against Air Atk	5-10 soldiers/M16s/1MG	Basic Load	Desert/day, cloudy, weapons tight	1000 ft	An-2 crossing directly overhead	Y	Y	Y	Y
P003	Defend Against Air Atk	5-10 soldiers/M16s/1MG	Basic Load	Desert/day, clear, weapons hold	500 ft	AH-64, crossing, not firing	Y	Y	Y	Y
P004	Defend Against Air Atk	5-10 soldiers/M16s/1MG	Basic Load	Forest/day, clear, weapons free	500 ft	Su-25 crossing directly overhead	Y	Y	Y	Y
P005	Defend Against Air Atk	5-10 soldiers/M16s/1MG	Basic Load	Forest/day, cloudy, weapons tight	100 ft	UH-60, crossing, not firing	Y	Y	Y	Y
P006	Defend Against Air Atk	5-10 soldiers/M16s/1MG	Basic Load	Forest/day, clear, weapons hold	200 ft	Mi-8 Hip, crossing, not firing	Y	Y	Y	Y
P007	Defend Against Air Atk	5-10 soldiers/M16s/1MG	Basic Load	Desert/night, clear, full moon, weapons free	2000 ft	An-2 Colt, crossing, paratroops exiting	Y	Y	Y	Y
P008	Defend Against Air Atk	5-10 soldiers/M16s/1MG	Basic Load	Desert/night, cloudy, weapons tight	500 ft	Su-25 crossing overhead, not firing	Y	Y	Y	Y
P009	Defend Against Air Atk	5-10 soldiers/M16s/1MG	Basic Load	Desert/night, clear, weapons hold	1500 ft	C130 crossing forward of position	Y	Y	Y	Y
P010	Defend Against Air Atk	5-10 soldiers/M16s/1MG	Basic Load	Forest/night, clear, full moon, weapons free	1000 ft	C17 toward you	Y	Y	Y	Y
P011	Defend Against Air Atk	5-10 soldiers/M16s/1MG	Basic Load	Forest/night, clear, weapons tight	200 ft	Su-25 toward you, firing	Y	Y	Y	Y
P012	Defend Against Air Atk	5-10 soldiers/M16s/1MG	Basic Load	Forest/night, cloudy, weapons hold	150 ft	AH-64 toward you, firing	Y	Y	Y	Y
P013	Defend	5-10 soldiers/M16s/1MG	Basic Load	Desert/day, clear	500 m	3-man friendly patrol, dismounted	Y	Y	Y	Y
P014	Defend	5-10 soldiers/M16s/1MG	Basic Load	Desert/day, smoke	350 m	5-man enemy patrol, dismounted	Y	Y	Y	Y

Table A-7. Tactical collective training core scenarios (continued).

No.	SCENARIO TASK	WEAPON	RDS	AREA/ CONDITIONS	RANGE	TARGET	IO FDBK	SOLDIER FDBK	TIMED	AAR
P015	Defend	5-10 soldiers/M16s/1MG	Basic Load	Desert/day, clear	1000 m	1 BRDM-2	Y	Y	Y	Y
P016	Defend	5-10 soldiers/M16s/1MG	Basic Load	Forest/day, clear	200 m	5-man enemy patrol, dismounted	Y	Y	Y	Y
P017	Defend	5-10 soldiers/M16s/1MG	Basic Load	Forest/day, rain	150 m	3-man friendly patrol, dismounted	Y	Y	Y	Y
P018	Defend	5-10 soldiers/M16s/1MG	Basic Load	Forest/day, smoke	200 m	10-man enemy patrol, dismounted	Y	Y	Y	Y
P019	Defend	5-10 soldiers/M16s/1MG	Basic Load	Desert/night, clear, full moon	300 m	3-man enemy patrol, dismounted	Y	Y	Y	Y
P020	Defend	5-10 soldiers/M16s/1MG	Basic Load	Desert/night, clear	250 m	5-man enemy patrol, dismounted	Y	Y	Y	Y
P021	Defend	5-10 soldiers/M16s/1MG	Basic Load	Desert/night, clear	800 m	1 BRDM-2	Y	Y	Y	Y
P022	Defend	5-10 soldiers/M16s/1MG	Basic Load	Forest/night, clear, full moon	100 m	10-man enemy patrol, dismounted	Y	Y	Y	Y
P023	Defend	5-10 soldiers/M16s/1MG	Basic Load	Forest/night, cloudy	100 m	3-man enemy patrol, dismounted	Y	Y	Y	Y
P024	Defend	5-10 soldiers/M16s/1MG	Basic Load	Forest/night, smoke	75 m	3-man friendly patrol, dismounted	Y	Y	Y	Y

Table A-7. Tactical collective training core scenarios (continued).

**JUDGMENTAL SHOOT/DON'T SHOOT CORE SCENARIOS**

NO.	SCENARIO TASK	WEAPON	RDS	AREA/ CONDITIONS	RANGE (METERS)	TARGET	IO FDBK	SOLDIER FDBK	TIMED	AAR
ROBBERY SIMULATION EXERCISE										
N038	Hostage rescue	M9	2 Mag	Commissary/day, clear	10-20	2 Suspects, 5 Hostages	Y	Y	N	Y
N039	Robbery	M9	2 Mag	Credit Union/day	10	2 Suspects, 2 Hostages, 1 Teller	Y	Y	N	Y
N040	Robbery	M9	2 Mag	Shoppette/well lit, night, outside	10	2 Suspects, 2 Hostages, 1 Wounded MP	Y	Y	N	Y
N041	Robbery	M9	2 Mag	Electronics Store	10	1 Suspect, 1 Hostage/ Manager	Y	Y	N	Y

Table A-8. Judgmental shoot/don't shoot core scenarios.

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**RECORD FIRE SCORECARD**  
For use of this form see, FM 3-22.9; proponent agency is TRADOC

DATA REQUIRED BY PRIVACY ACT OF 1974

10 USC 3012(g)/Executive Order 9397.  
Facilitates individual's transition to distant target and provides feedback.  
Evaluate individual proficiency: SSN is used for positive identification purpose only.  
Voluntary. Individuals not providing information cannot be rated/scored on mass basis.

1. NAME (LAST, FIRST, MIDDLE INITIAL) **WHITE ROBERT M.** 2. LAST 4 SSN **0100** 3. GRADE **E-7** 4. UNIT **Co C 2/29<sup>th</sup> INF** 5. ROSTER NO. **C017**

6. **TABLE 1 - PRONE SUPPORTED OR FOXHOLE SUPPORTED**

RD	RANGE (M)	TIME (SEC)	HIT	MISS	NO FIRE	RANGE (M)	TIME (SEC)	HIT	MISS	NO FIRE	
1	50	3	X			11	100	X			
2	200	6	X			12	200	X			
3	100	4	X			13	150	X			
4	150	5		X		14	300	X			
5	300	8	X			15	100	X			
6	250	7	X			16	250	X			
7	50	3	X			17	200	X			
8	200	6	X			18	150	X			
9	150	5	X			19	50	X			
10	250	7	X			20	100	X			
TOTAL			8	2		TOTAL			9	1	

7. **TABLE 2 - PRONE UNSUPPORTED**

RD	RANGE (M)	TIME (SEC)	HIT	MISS	NO FIRE	RD	RANGE (M)	TIME (SEC)	HIT	MISS	NO FIRE
1	200	6	X			1	150	8		X	
2	250	8	X			2	50	4	X		
3	150	6	X			3	100	5	X		
4	300	10	X			4	150	6	X		
5	200	10	X			5	100	5	X		
6	150	12	X			6	50	4	X		
7	200	12	X			7	100	5	X		
8	250	9	X			8	150	6	X		
9	150	9	X			9	50	4	X		
10	150	6	X			10	100	5	X		
TOTAL			9	1		TOTAL			10	9	1

8. **TABLE 3 - KNEELING**

RD	RANGE (M)	TIME (SEC)	HIT	MISS	NO FIRE
1	150	8			
2	50	4	X		

9. 10. QUALIFICATION SCORES/RATINGS (Check One)

TABLE	HIT	MISS	NO FIRE
1	17	3	
2	10	1	
3	9	1	
TOTAL	36	4	

11. FIRER'S QUALIFICATION SCORE **Expert**

12. REMARKS

13. NIGHT FIRE EXERCISE

DATE	HIT	MISS	GO	NO GO
3/7/06	8	2	X	

14. CBRN FIRE EXERCISE

DATE	HIT	MISS	GO	NO GO
3/7/06	12	8	X	

15. CHECK WHICH AIMING DEVICE WAS USED

IRON SIGHT     AN/PAS-13 (DAY)  
 BACK UP IRON SIGHT     AN/PAS-13 (NIGHT)  
 MGS

16. DATE SIGNED (YYYYMMDD) **2006/03/07**  
 17. SCORER'S SIGNATURE **Robert Green SFC**

18. DATE SIGNED (YYYYMMDD) **2006/03/07**  
 19. OFFICER'S SIGNATURE **Samuel Green CPT**

DA FORM 3595-R, JULY 2006

APD V1.00

\*Figure B-5. Example of completed DA Form 3595-R (Record Fire Scorecard).



**RECORD FIRING SCORECARD \* SCALED TARGET ALTERNATE COURSE**  
For use of this form, see FM 3-22.9. The proponent agency is TRADOC

**DATA REQUIRED BY PRIVACY ACT OF 1974**

10 USC 3012(g)/Executive Order 9397.  
Facilitates individual's transition to distant target and provides feedback.  
Evaluate individual proficiency. SSN is used for positive identification purpose only.  
Mandatory or voluntary disclosure and effect on individual not providing information. Voluntary. Individuals not providing information cannot be rated/scored on mass basis.

**AUTHORITY:** 10 USC 3012(g)/Executive Order 9397.  
**PRINCIPAL PURPOSE(S):** Facilitates individual's transition to distant target and provides feedback.  
**ROUTINE USE(S):** Evaluate individual proficiency. SSN is used for positive identification purpose only.  
**DISCLOSURE:** Mandatory or voluntary disclosure and effect on individual not providing information. Voluntary. Individuals not providing information cannot be rated/scored on mass basis.

1. NAME (LAST FIRST, MIDDLE INITIAL) <i>Spicer, Curtis P</i>	2. LAST 4 SSN <i>000Z</i>	3. GRADE <i>E-7</i>	4. UNIT <i>00C 2/29th INF</i>	5. ROSTER NO <i>0102</i>	6. DATE (YYYYMMDD) <i>2006/07/05</i>
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7. TABLE 1 - PRONE SUPPORTED OR FOXHOLE SUPPORTED				8. TABLE 2 - PRONE UNSUPPORTED				9. TABLE 3 - KNEELING				10. REMARKS
TARGET	RANGE (M)	HIT	TIME 120 SEC	TARGET	RANGE (M)	HIT	TIME 60 SEC	TARGET	RANGE (M)	HIT	TIME 60 SEC	
1	300	X		1	300	X		1	300	X		
2	300	0		2	250	X		2	250	0		
3	250	X		3	200	X		3	200	X		
4	250	X		4	200	X		4	200	X		
5	200	X		5	150	X		5	150	X		
6	200	X		6	150	X		6	150	X		
7	200	X		7	100	X		7	100	X		
8	200	X		8	100	X		8	100	X		
9	150	X		9	100	X		9	100	X		
10	150	X		10	50	X		10	50	X		
11	150	X		TOTAL HITS TABLES 1, 2 AND 3 =			10				9	
12	150	X		11. QUALIFICATION SCORES/RATING (Check one)								
13	100	X		38-40 EXPERT <input checked="" type="checkbox"/>		26-32 MARKSMAN <input type="checkbox"/>						
14	100	X		33-37 SHARPSHOOTER <input type="checkbox"/>		25-BELOW UNQUALIFIED <input type="checkbox"/>						
15	100	X										
16	100	X										
17	100	X										
18	100	X										
19	50	X										
20	50	X										

12. DATE SIGNED (YYYYMMDD) <i>2006/07/05</i>	13. DATE SIGNED (YYYYMMDD) <i>2006/07/05</i>	15. OFFICER'S SIGNATURE <i>Jeffrey Ray</i>
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DA FORM 5790-R, JULY 2006

\*Figure B-6. Example of completed DA Form 5790-R (Record Firing Scorecard—Scaled Target Alternate Course (front) (25 and 15 meters).

## GLOSSARY

AAR	after action review
AC	alternate course
AI	assistant instructor
AIM	advanced infantry marksmanship
AMU	Army marksmanship unit
AN/PAQ-4B/C	IR aiming light
AN/PAS-13 (V2)/(V3)	thermal weapon sight (medium/heavy)
AN/PEQ-2A	target pointer illuminator/aiming light
AN/PVS-4	night vision sight
AN/PVS-14	night vision goggles
AN/PVS-7	night vision goggles
AR	Army regulation
ARI	Army Research Institute
ARM	advanced rifle marksmanship
*ACH	Army combat helmet
ARTEP	Army Training and Evaluation Program
ATC	Army Training Center
BCT	basic combat training
BIS	backup iron sight
BOI	basis of issue
BRM	basic rifle marksmanship
BT	basic training
*CBRN	chemical, biological, radiological, and nuclear
CCO	close combat optic
cm	centimeter
CS	combat support
CSS	combat service support
DA	Department of the Army
DOT	Directorate of Training
DPS	Directorate of Public Safety
DS	direct support
DVC	device
EST	engagement skills trainer
FBI	Federal Bureau of Investigation
FF	field fire
FM	field manual
FOV	field of view
fps	feet per second

FPF	final protective fire
FSN	Federal stock number
FTX	field training exercise
GS	general support
GTA	graphic training aid
Hz	hertz
HTWS	heavy thermal weapon sight
I <sup>2</sup>	image intensifying
IAW	in accordance with
*IBA	Interceptor body armor
ICCC	Infantry Captain's Career Course
ID	identification
IET	initial entry training
IOBC	Infantry Officer's Basic Course
IR	infrared
KD	known distance
KDAC	known distance alternate course
LBE	load bearing equipment
LCE	load carrying equipment
LFX	live-fire exercise
LLLSS	low-light level sight system
LMTS	Laser Marksmanship Training System
LOI	letter of instruction
LOMAH	location of misses and hits
m	meter
MACOM	major command
MACS	Military Arcade Computer System
MAIT	maintenance assistance and instruction team
METL	mission-essential task list
MILES	Multiple Integrated Laser Engagement System
mm	millimeter
MOPP	mission oriented protective posture
MOS	military occupational specialty
mph	miles per hour
MPRC	multipurpose range complex
MTOE	modified table of organizational equipment
MTWS	medium thermal weapon sight
MWS	modular weapon system
NATO	North Atlantic Treaty Organization



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NBC	nuclear biological chemical
NCO	noncommissioned officer
NCOES	Noncommissioned Officer Education System
NCOIC	noncommissioned officer in charge
NFOV	narrow field of view
NG	Army National Guard
NOD	night observation device
NSN	national stock number
NVD	night vision device
OIC	officer in charge
OPFOR	opposing forces
OSUT	one-station unit training
*OTV	outer tactical vest
PA	public address
*PASGT	personnel armor system for ground troops
PH	probability of hit
PMCS	preventive maintenance checks and services
PMI	preliminary marksmanship instruction
POC	point of contact
POI	program(s) of instruction
PPA	plastic practice ammunition
PRI	preliminary rifle instruction
RAS	rail adapter system
RATELO	radiotelephone operator
RETS	remote electronic target system
RF	record fire
RFA	rimfire adapter
RND	round
ROE	rules of engagement
ROTC	Reserve Officer's Training Corps
RSO	range safety officer
*SAPI	small arms protective insert
SAW	squad automatic weapon
SDM	squad designated marksman
SEC	second(s)
SME	subject matter expert
SOP	standing operating procedure
SPORTS	acronym for immediate action procedures
SRC	short-range combat
SRM	short-range marksmanship
SRT	special reaction teams
SRTA	short-range training ammunition

STRAC	standards in training commission
STX	situational training exercise
TASC	Training and Audiovisual Support Center
TC	training circular
T&EO	training and evaluation outline
TF	training film
TM	technical manual
TPIAL	target pointer illuminator/aiming light
TRADOC	Training and Doctrine Command
TSC	training support center
TTP	tactics, techniques and procedures
TVT	television tape
TWS	thermal weapon sight
UO	urban operations
US	United States
USAIS	United States Army Infantry School
USAMU	US Army Marksmanship Unit
USAR	United States Army Reserve
WFOV	wide field of view

#### DEFINITIONS:

**Active Army:** All Regular Army (RA) forces in the Active Army.

**adjusted aiming point:** An aiming point that allows for gravity, wind, target movement, zero changes, and MOPP firing.

**advanced marksmanship:** Normally refers to marksmanship skills taught during ARM.

**advanced rifle marksmanship:** Normally refers to the formal marksmanship instruction received by infantrymen upon completion of BRM during OSUT.

**aiming:** A marksmanship fundamental; refers to the precise alignment of the rifle sights with the target.

**aiming card:** The M15A1 aiming card is a cardboard sleeve with a moveable insert. The rear sight aperture, front sight post, and target are pictured. This training device is used in conjunction with aiming instructions.

**aiming point:** A place on a target in which the rifle sights are aligned normally the target center of mass.

**alibi target:** A target or additional target a soldier is allowed to engage during qualification firing when unable to complete a record fire scenario due to circumstances beyond his control; for example, a target mechanism, weapon, or ammunition malfunction.

**alternate course:** Alternatives to standard qualification courses.

**ammunition lot:** A quantity of cartridges, each of which is made by one manufacturer under uniform conditions and is expected to work in a uniform manner.

**ammunition lot number:** Code number that identifies a particular quantity of ammunition from one manufacturer.

**aperture:** The hole in the rear sight.

**armorer:** One who services and makes repairs on small arms and performs similar duties to keep small arms ready for use.

**Army Training and Evaluation Program:** A guide for the training and evaluation of critical unit combat missions – crew/squad through battalion/task force echelon.

**Army Training Center:** Conducts OSUT and BRM. Locations are Fort Benning, Ga; Fort Jackson, SC; Fort Knox, Ky.

**artificial illumination:** Any light from a man-made source.

**assault course:** An area of ground used for training soldiers in attacking an enemy in close combat.

**automatic fire:** A firing mode that causes the weapon to continue firing as long as the trigger is held or until all ammunition has been expended.

**ball:** The projectile; the bullet.

**ball ammunition:** General-purpose standard service ammunition with a solid core bullet.

**ball and dummy:** An exercise that substitutes a dummy round for a live round without the firer knowing it. An excellent exercise for identifying and correcting trigger jerks.

**ballistics:** A science that deals with the motion and flight characteristics of projectiles.

**barrel erosion:** Wearing away of the surface of the bore due to the combined effects of gas washing, coring, and mechanical abrasion.

**basic marksmanship:** Fundamental marksmanship skills taught in BRM during IET and OSUT.

**basic rifle marksmanship:** The formal course of marksmanship instruction received by all soldiers.

**battlesight zero:** A sight setting that soldiers keep on their weapons. It provides the highest probability of hitting most high-priority combat targets with minimum adjustment to the aiming point, a 250 meter sight setting as on the M16A1 rifle, and a 300 meter sight setting as on the M16A2 rifle.

**blank ammunition:** A complete cartridge without the bullet used to simulate weapon firing.

**blank firing adapter:** A device that fits in the muzzle of the rifle; used only with blank ammunition.

**brass:** An alloy of copper and zinc used to make cartridge cases and bullet jackets. Also, a common name for expended cases.

**breath control:** The third marksmanship fundamental; refers to the control of breathing to help keep the rifle steady during firing.

**bullet:** The projectile or ball; the part that goes downrange. It may also be used to refer to the complete cartridge.

**bull's-eye target:** Any target with a round black circle and scoring rings. Normally used in competitive marksmanship training.

**buttplate:** Metal or rubber covering of the end of the stock on the rifle.

**cadre coach:** A trainer with expertise and knowledge exceeding that of the firer.

**caliber:** Diameter of the bore; for example, the M16-series rifle bore is 5.56mm (.223 inch).

**cartridge:** A complete round of ammunition.

**center of mass:** A point that is horizontally (left and right) and vertically (up and down) at the center of the target.

**chambering:** The step in the cycle of operation that refers too fully seating the round in the chamber of the rifle.

**chamber plug:** A range safety device that is a small plastic plug designed to fit into the chamber of the M16. A handle extends out the ejection port so safety personnel can see at a glance that the rifle is clear of ammunition.

**clock method:** Method of calling shots by referring to the figures on an ordinary clock dial assumed to have the target at its center. Also a method of determining the strength and direction of wind.

**coach:** Any individual who assists firers on the firing line.

**coach-and-pupil method:** Method of training in which pairs of pupils take turns practicing a procedure explained by the instructor/trainer.

**cocking:** The step in the cycle of operation that refers to the rearward movement of the bolt riding over the hammer, resetting the weapon for subsequent firing.

**collective firing proficiency:** Units delivering effective fire in a tactical setting. It requires individual skill plus command and control to engage all targets within an assigned sector.

**concurrent training:** Training that occurs at the same time that other unit members are using the primary training facilities.

**cookoff:** A round that fires as a result of a hot chamber without the trigger being pulled. It can occur any time until the weapon is cooled.

**crack and thump:** A method to determine the general direction and distance to an enemy firer who is shooting at you.

**cradle:** A vise-like mechanism that holds a weapon in a secure position for test firing.

**cross dominance:** A soldier with a dominant hand and a dominant eye that are not the same; for example, a right-hander firer with a dominant left eye.

**cycle of operation:** The eight steps involved in firing a round of ammunition: feeding, chambering, locking, firing, unlocking, extracting, ejecting, and cocking.

**cyclic rate of fire:** The maximum rate at which a weapon will fire in the automatic mode.

**dime-washer exercise:** A dry-fire exercise used to practice trigger squeeze.

**downrange feedback:** Used to describe any training technique that provides precise knowledge of bullet strike (whether hit or miss).

**dry fire:** A technique used to simulate the firing of a live round with an empty weapon. Any application of the fundamentals of marksmanship without live ammunition may be referred to as dry fire.

**dry-fire moving target trainer:** A small-motorized scaled target device used to teach the engagement of moving personnel targets.

**dummy ammunition:** A cartridge without a primer or powder. Primarily used for ball-and-dummy exercises on the live-fire line.

**effective wind:** The average of all the varying winds encountered.

**ejection:** The step in the cycle of operation that removes the expended cartridge from the weapon out of the ejection port.

**elevation adjustment:** Rotating the front sight post to cause the bullet to strike higher or lower on the target.

**expert:** The highest qualification rating.

**external ballistics:** What happens to the bullet between the time it leaves the rifle and the time it arrives at the target.

**extraction:** The step in the cycle of operation that pulls the round from the chamber.

**eye relief:** The distance from the firing eye to the rear sight. Eye relief is a function of stock weld.

**feedback:** Obtaining knowledge of performance.

**feedback target:** Targets designed for use at 75, 175, or 300 meters; includes an overprinted grid similar to a zero target.

**feeding:** The step in the cycle of operation that is the forward movement of the bolt, stripping the top round from the magazine and moving it toward the chamber.

**field firing:** Training on the standard field firing range with target banks at 75, 175, and 300 meters.

**firing:** The step in the cycle of operation that refers to pulling the trigger, releasing the hammer to strike the firing pin, which strikes the primer. The primer ignites and, in turn, ignites the powder charge within the cartridge case.

**firing hand:** The right hand of a right-handed firer. The left hand of a left-handed firer.

**firing pin:** Plunger in the bolt of a rifle that strikes the primer.

**fleeting target:** A moving target remains within observing or firing distance for such a short period that it affords little time for deliberate adjustment and fire against it.

**functioning:** (See cycle of operation.)

**fundamentals of rifle marksmanship:** The four essential elements needed to hit targets: steady position, aiming, breath control, and trigger squeeze.

**gravity:** The natural pull of all objects to the center of the earth.

**grouping:** A live-fire exercise with the objective of shooting tight shoot groups.

**gun bore line:** A reference line established by the linear extension of the bore axis of a gun.

**headspace:** The distance between the face of the bolt(fully closed) and the face of a fully chambered cartridge.

**hold-off:** (See adjusted aiming point.)

**horizontal dispersion:** The left-to-right displacement of bullets on a target.

**immediate action:** procedures applied to rapidly reduce any rifle stoppage without determining its cause.

**individual firing proficiency:** Individual firing skills; for example, an individual's performance on the record fire course.

**Infantry Remoted Target System (IRETS):** (See RETS.)

**infrared aiming light:** A unique night sighting system that uses infrared light to assist in the aiming process.

**initial entry training:** Indicates the first training received by a new soldier, includes the MOS-producing portion of his training such a one-station unit training (OSUT).

**initial pressure:** The applications of about half of the total trigger pressure it takes to fire a rifle.

**instructor-trainer ratio:** The number of soldiers for which each instructor/trainer is responsible.

**internal ballistics:** What happens to the bullet before it leaves the muzzle of the rifle.

**\*Interceptor body armor:** Multi-threat body armor system made up of two modular components: the outer tactical vest and small-arms protective inserts, or plates. Will stop 7.62-mm rounds. Weight: 16.4 pounds.

**known distance:** Describes the older range complexes with large target frames behind a large berm and firing lines at 100 yards or 100-meter increments. (See FM 25-7.)

**laser:** Light amplification by simulated emission of radiation.



**lead:** Distance ahead of a moving target that a rifle must be aimed to hit the target.

**lead rule:** Provides the soldier guidance on how to adjust his aiming point to hit moving targets.

**line of sight:** A line between the rifle and the aiming point, extending from the firing eye through the center of the rear aperture, across the tip of the front sight post, and onto the target.

**location of misses and hits :** A projectile location system that provides immediate and precise information to the firer concerning bullet strike (hit or miss).

**locking:** The step in the cycle of operation that is a counterclockwise rotation of the bolt, securing it into the barrel locking lugs.

**long-range sight:** The aperture marked L on the M16A1 rifle equipped with standard sights; provides for a zero at 375 meters. The M16A1 rifle equipped with LLLSS has an aperture marked L, but it is a regular sight.

**Low-Light Level Sight System (LLLSS):** A sighting system for low visibility firing that replaces the standard front and rear sights on the M16A1 rifle.

**marksman:** The designation given to the lowest qualification rating.

**maximum effective range:** The greatest distance at which a soldier may be expected to deliver a target hit.

**maximum effective rate of fire:** The highest rates of fire that can be maintained and still achieve target hits.

**maximum range:** The longest distance a projectile will travel when fired from a weapon held at the optimum angle.

**minute of angle:** A angle that would cover 1 inch at a distance of 100 yards, 2 inches at 200 yards, and so on. Each click of sight adjustment on the M16A1 rifle with standard sights is equal to one minute of angle.

**Multiple Integrated Laser Engagement System (MILES):** A tactile shooting device that uses a low-powered laser to activate detectors placed on people and vehicles.

**Multipurpose Arcade Combat Simulator (MACS):** A pert-task weapons trainer that is under development. The system consists of a light pen attached to the weapon, video monitor, and microcomputer.

**muzzle velocity:** The speed of a projectile as it leaves the muzzle of the weapon.

**natural point of aim:** The direction of the body/rifle combination is oriented while in a stable, relaxed firing position.

**natural respiratory pause:** The temporary cessation of breathing between an exhale and inhale.

**night firing:** Firing performed under all conditions of limited visibility.

**nonfiring hand:** The opposite of the firing hand.

**optical sight:** Sight with lenses, prisms, or mirrors used in lieu of iron sights.

**Paige sighting device:** A device with a small-scaled target that fits into the muzzle of the weapon, allowing the soldier to practice aiming.

**pasters:** Small white or black gum-backed paper used for covering bullet holes.

**peep sight:** The rear sight; a sight with a small aperture (hole).

**peer coach:** A soldier with shooting experience and knowledge equal to that of the firer he is coaching.

**pit:** The target area behind the large berm of a KD range.

**plastic practice ammunition:** Ammunition with a plastic projectile, high-muzzle velocity (the light weight causes it to lose velocity rapidly with a maximum range of 250 meters or less) designed for use in close-in training areas; frangible bullet.

**point of aim:** The exact spot on a target the rifle sights are aligned with.

**point of impact:** The point that a bullet strikes; usually considered in relation to point of aim.

**pop, no kick:** A firing condition when the primer ignites and the powder charge does not. This normally results in lodging the bullet inside the barrel.

**pop-up target:** A silhouette target that is activated remotely so it can suddenly appear and fall when struck by a bullet.

**practice record:** Firing conducted on a qualification course for practice.

**predetermined fire:** A technique of aligning the rifle during good visibility so the rifle can be aligned and fired on designated areas when they cannot be seen due to darkness, smoke, or fog.

**preparatory marksmanship training:** All marksmanship training that takes place before live fire.

**primer:** A small explosive device in the center base of the cartridge case that is struck by the firing pin to fire the round.

**probability of hit:** Ranging from 0 to 1.0, it refers to the odds of a given round hitting the target at a given range.

**qualification firing:** Firing on any authorized course that results in meeting qualification requirements; may also be called record fire. (See record fire.)

**quick fire:** A technique of fire used to engage surprise targets at close range.

**range card:** Small chart on which ranges and directions to various targets and other important points in the area under fire are recorded.

**rapid semiautomatic fire:** A firing procedure that results in an accurate shot being fired every one or two seconds.

**receiver:** That portion of a firearm that holds the barrel and houses the bolt and firing mechanism.

**recoil:** The rearward motion or kick of a gun upon firing.

**record fire:** Any course of fire used to determine if qualification standards are met. The standard record fire course consists of 40 target exposures at ranges between 50 and 300 meters. The standard course requires 23 hits to qualify as marksman, 30 for sharpshooter, and 36 for expert.

**reduced range ammunition:** Ammunition that is designed to be a ballistic match with service ammunition to an appropriate range for training (may be less than maximum effective range) and a reduced maximum range.

**regular rear sight:** The M16A1 rifle rear sight that is zeroed for 250 meters (the unmarked aperture on rifles with standard sights and the aperture marked L on rifles equipped with LLLSS).

**reinforcement training:** Training conducted that is over and above scheduled training.

**remedial action:** A procedure applied after immediate action has failed to correct a malfunction, which determines the cause of the malfunction.

**remedial training:** Additional training presented to soldiers who have demonstrated special shooting problems.

**Remote Electronic Target System:** Range complexes. Some ranges include moving targets.

**Reserve Components:** Includes Army National Guard and Army Reserve forces.

**ricochet fire:** Fire in which the projectile glances from a surface after impact.

**Riddle sighting device:** A small magnetic device with a scaled target that attaches to the front sight assembly, allowing the soldier to practice aiming.

**rifle cant:** Any leaning of the rifle to the left or right from a vertical position during firing.

**rim-fire adapter:** The caliber .22-rim fire adapter (M261) consists of a bolt and a magazine insert, which allows standard .22 caliber ammunition to be fired in the M16 rifle.

**round:** May refer to a complete cartridge or to a bullet.

**scaled-silhouette target:** Any target that is reduced in size. When it is observed from 25 meters, it looks the same size as though at a greater range.

**sector of fire:** An area assigned to an individual, weapon, or unit to be covered by fire.

**semiautomatic fire:** A mode of fire that allows one round to be fired each time the trigger is pulled.

**serviceability checks:** A technical inspection of the rifle to determine if it is safe to fire and in working condition. (May not ensure accuracy.)

**service ammunition:** Standard ammunition used by the military. Ammunition designed for combat.

**service rifle:** The primary rifle of a military force.

**service school:** Branch schools such as the US Army Infantry School at Fort Benning, Ga. and the Armor School at Fort Knox, Ky.

**sharpshooter:** The middle rating of qualification.

**shot group:** A number of shots fired using the same aiming point, which accounts for rifle, ammunition, and firer variability. Three shots are enough, but any number of rounds may be fired in a group.

**shot group analysis:** A procedure for analyzing the size of shot groups on a target to determine firer error.

**sight alignment:** Placing the center tip of the front sight post in the exact center of the rear aperture.

**sighter rounds:** Rounds fired that allow the bullet strike to be observed in relation to the aiming point.

**sight picture:** Placing correct sight alignment on a selected aiming point on a target.

**sight radius:** The distance from the front sight post to the rear sight aperture of a rifle.

**sighting device (M16):** A small metal device with a tinted square of glass that is placed on the carrying handle, allowing a coach to see what the firer sees through the sights.

**silhouette target:** A target that represents the outline of a man.

**spotters:** A round cardboard disk placed in bullet holes with a small wooden peg so the bullet strike can be observed from the firing line.

**squad automatic weapon:** A lightweight, one-man, 5.56mm machine gun.

**starlight scope:** A weapon scope that amplifies ambient light so targets can be seen and effectively engaged during darkness. The AN/PVS-2 and AN/PVS-4 are used on the M16 rifle.

**steady position:** The first marksmanship fundamental, which refers to the establishment of a position that allows the weapon to be held still while it is being fired.

**stock weld:** The contact of the cheek with the stock of the weapon.

**supported position:** Any position that uses something other than the body to steady the weapon (artificial support).

**suppressive fire:** Any engagement that does not have a definite or visible target. Firing in the general direction of known or suspected enemy location.

**sustained rate of fire:** Rate of fire that a weapon can continue to deliver for an indefinite period without overheating.

**terminal ballistics:** What happens to the bullet when it comes in contact with the target.

**tight shot group:** A shot group with all bullet holes close together.

**tracer ammunition:** Ammunition with a substance at the rear of the bullet that ignites soon after firing. It burns brightly so the trajectory of the bullet can be seen.

**tracking:** Engaging moving targets where the lead is established and maintained; moving with the target as the trigger is squeezed.

**train the trainer:** Describes any training that is designed to train marksmanship instructors or coaches.

**trainfire:** A marksmanship program using pop-up targets in a realistic environment.

**trajectory:** The flight path the bullet takes from the rifle to the target.

**trapping:** A technique for engaging moving targets. The aiming point is established forward of the target. The rifle is held stationary and fired as the target approaches the aiming point.

**trigger squeeze:** The fourth fundamental; squeezing the trigger so that the movement of firing is a surprise, the lay of the weapon is not disturbed, and a large target hit can be expected.

**unit marksmanship:** All marksmanship training that is conducted by units.

**unlocking:** The step in the cycle of operation that refers to the clockwise rotation of the bolt after firing, freeing the bolt from the barrel locking lugs.

**unsupported position:** Any position that requires the firer to hold the weapon steady using only his body (bone support).

**vertical dispersion:** The up-and-down displacement of bullets on a target.

**Weaponer:** A training device that simulates the firing of the M16 rifle to provide performance feedback.

**windage adjustment:** Moving the rear sight aperture to cause the bullet to strike left or right on the target.

**wind value:** The effect the wind will have on the trajectory of the bullet.

**wobble area:** The natural movement of the weapon/sight on and around an aiming point when the weapon is being held in a steady position.

**zero criterion:** The standard or requirement for zeroing; 4cm or smaller group at 25 meters.

**zeroing:** Adjusting the rifle sights so bullets hit the aiming point at a given range.

**zero target:** A scaled-silhouette target with a superimposed grid for use at 25 meters.

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**RECORD FIRING SCORECARD \* SCALED TARGET ALTERNATE COURSE**

For use of this form, see FM 3-22.9. The proponent agency is TRADOC

**DATA REQUIRED BY PRIVACY ACT OF 1974**

**AUTHORITY:** 10 USC 3012(g)/Executive Order 9397.  
**PRINCIPAL PURPOSE(S):** Facilitates individual's transition to distant target and provides feedback.  
**ROUTINE USE(S):** Evaluate individual proficiency. SSN is used for positive identification purpose only.  
**DISCLOSURE:** Mandatory or voluntary disclosure and effect on individual not providing information. Voluntary. Individuals not providing information cannot be rated/scored on mass basis.

<b>1. NAME (LAST FIRST MIDDLE INITIAL)</b>	<b>2. LAST 4 SSN</b>	<b>3. GRADE</b>	<b>4. UNIT</b>	<b>5. ROSTER NO</b>	<b>6. DATE (YYYYMMDD)</b>
<b>7. TABLE 1 - PRONE SUPPORTED OR FOXHOLE SUPPORTED</b>					
TARGET	RANGE (M)	HIT			
1	300				
2	300				
3	250				
4	250				
5	200				
6	200				
7	200				
8	200				
9	150				
10	150				
11	150				
12	150				
13	100				
14	100				
15	100				
16	100				
17	100				
18	100				
19	50				
20	50				
TIME	120 SEC	HITS			
<b>8. TABLE 2 - PRONE UNSUPPORTED</b>					
TARGET	RANGE (M)	HIT			
1	300				
2	250				
3	200				
4	200				
5	150				
6	150				
7	100				
8	100				
9	100				
10	50				
TIME	60 SEC	HITS			
<b>9. TABLE 3 - KNEELING</b>					
TARGET	RANGE (M)	HIT			
1	300				
2	250				
3	200				
4	200				
5	150				
6	150				
7	100				
8	100				
9	100				
10	50				
TIME	60 SEC	HITS			
<b>11. QUALIFICATION SCORES/RATING (Check one)</b>					
<input type="checkbox"/> 38-40 EXPERT		<input type="checkbox"/> 26-32 MARKSMAN			
<input type="checkbox"/> 33-37 SHARPSHOOTER		<input type="checkbox"/> 25-BELOW UNQUALIFIED			
<b>TOTAL HITS TABLES 1, 2 AND 3 =</b>					
*FIRER ISSUED 40 ROUNDS TO ENGAGE 10 TARGETS - NO MORE THAN 4 RDS PER TARGET. THE ROUNDS WILL BE PRELOADED IN 1, 20 ROUND MAGAZINE FOR TABLE ONE, 1, 10 ROUND MAGAZINE FOR TABLE TWO, AND 1, 10 ROUND MAGAZINE FOR TABLE THREE. ALL ROUNDS WILL BE FIRED WITH THE LONG RANGE SIGHT ON THE M4/M16 RIFLE SERIES. HITS ARE DENOTED BY AN "X" MARK. MISSES ARE DENOTED BY A ZERO "0".					
<b>12. DATE SIGNED (YYYYMMDD)</b>					
<b>13. DATE SIGNED (YYYYMMDD)</b>					
<b>14. SCORER'S SIGNATURE</b>					
<b>15. OFFICER'S SIGNATURE</b>					

NIGHT FIRE EXERCISE

HIT	MISS	GO	NO GO

CBRN FIRE EXERCISE

HIT	MISS	GO	NO GO



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This scorecard will be used to score Alternate Course Record Fire Qualification when the 25m (NSN 6920-01-167-1398) or 15m (NSN 6920-01-167-1396) scaled silhouette target is used. The Alternate Course will be used only when standard Record Fire and known distance ranges are unavailable.

NOTE: If zeroing/grouping exercises are not performed on the day of Record Fire, six rounds of training/sustainment ammunition will be fired for 25 meter zero confirmation prior to conducting the Qualification Course.

#### CONDUCT OF FIRE

**Table 1. Prone Supported or Foxhole Supported Firing Position.** The firer is given one 20-round magazine to engage 10 silhouettes on the target. Table includes two rounds for each silhouette from the prone supported position. Firing must be completed within 120 seconds. No more than two hits for each silhouette are scored.

\*The foxhole supported firing position may be substituted for the prone supported position at the unit commander's discretion.

**Table 2. Prone Unsupported Position.** The firer is given one 10-round magazine to engage 10 silhouettes on the same target sheet. Table includes one round for each silhouette from the prone unsupported position. Firing must be completed within 60 seconds. No more than one hit for each target will be scored from the prone unsupported position.

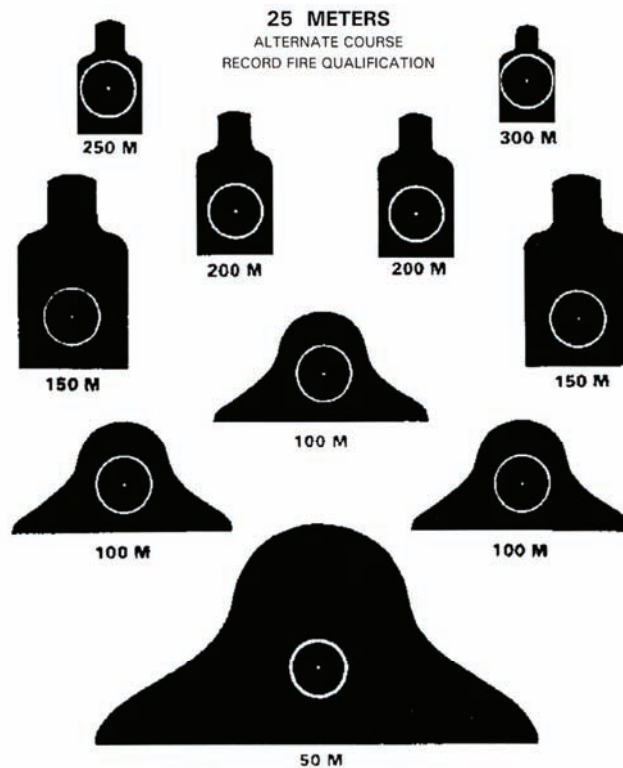
**Table 3. Kneeling Position.** The firer is given a final 10-round magazine to engage 10 silhouettes on the same target sheet. Table includes one round for each silhouette from the kneeling position. Firing must be completed within 60 seconds. No more than one hit for each target is scored from the kneeling position.

NOTE: Alternate Course Qualification firers will have one 20-round magazine and two 10-round magazines. Firers should engage targets on the sheet from left to right, and nearest to farthest (50m, 100m left, 100m center, 100m right, 150m left, 150m right, 200m left, 200m right, 250m, and 300m last). This "guideline" for target engagement is intended to ensure firers do not forget which targets they engaged during qualification. It also alleviates the possibility of shooting each target more than the prescribed amount of times.

Though the time between each firing position is not specified, enough time should be allotted to allow the firer to clear his weapon, quickly change firing positions, and reload before the beginning of the next firing table. The range RSO will ensure enough time is given between each change in firing positions to facilitate the timely flow of the Record Fire Qualification table.

#### SCORING

The same target sheet is used for every 40-round qualification table a firer completes. One hit is awarded for each round that strikes within or touches some part of the silhouette. A maximum of four hits for each silhouette on the same target sheet are scored.



THE WHITE DOT ON EACH TARGET SHOWS THE CENTER OF MASS AIMING POINT. BULLETS SHOULD HIT WITHIN THE CIRCLE, BUT ARE SCORED AS HITS IF THEY HIT ANY PART OF THE SILHOUETTE.

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**RECORD FIRE SCORECARD**

For use of this form see, FM 3-22.9; proponent agency is TRADOC

DATA REQUIRED BY PRIVACY ACT OF 1974

**AUTHORITY:** 10 USC 3012(g)/Executive Order 9397.  
**PRINCIPAL PURPOSE(S):** Facilitates individual's transition to distant target and provides feedback.  
**ROUTINE USE(S):** Evaluate individual proficiency; SSN is used for positive identification purpose only.  
**DISCLOSURE:** Voluntary. Individuals not providing information cannot be rated/scored on mass basis.

1. NAME (LAST, FIRST, MIDDLE INITIAL) \_\_\_\_\_ 2. LAST 4 SSN \_\_\_\_\_ 3. GRADE \_\_\_\_\_ 4. UNIT \_\_\_\_\_ 5. ROSTER NO. \_\_\_\_\_

6. TABLE 1 - PRONE SUPPORTED OR FOXHOLE SUPPORTED										7. TABLE 2 - PRONE UNSUPPORTED					8. TABLE 3 - KNEELING				
RD	RANGE (M)	TIME (SEC)	HIT	MISS	NO FIRE	RD	RANGE (M)	TIME (SEC)	HIT	MISS	NO FIRE	RD	RANGE (M)	TIME (SEC)	HIT	MISS	NO FIRE		
1	50	3				1	200	6				1	150	8					
2	200	6				2	250	8				2	50	4					
3	100	4				3	150	6				3	100	5					
4	150	5				4	300	10				4	150	6					
5	300	8				5	200	5				5	100	5					
6	250	7				6	150	9				6	50	4					
7	50	3				7	200	6				7	100	5					
8	200	6				8	250	9				8	150	6					
9	150	5				9	150	6				9	50	4					
10	250	7				10	150	6				10	100	5					
TOTAL						TOTAL						TOTAL							

9. QUALIFICATION SCORES/RATINGS (Check One)

36-40 EXPERT     
  30-35 SHARPSHOOTER     
  23-29 MARKSMAN     
  22-BELOW UNQUALIFIED

10. FIRER'S QUALIFICATION SCORE

11. CHECK WHICH AIMING DEVICE WAS USED

IRON SIGHT     
  AN/PAS-13 (DAY)  
 BACK UP IRON SIGHT     
  AN/PAS-13 (NIGHT)  
 MGS

12. REMARKS

13. NIGHT FIRE EXERCISE

DATE	HIT	MISS	GO	NO GO

14. CBRN FIRE EXERCISE

DATE	HIT	MISS	GO	NO GO

15. SCORER'S SIGNATURE \_\_\_\_\_

16. DATE SIGNED (YYYYMMDD) \_\_\_\_\_

17. OFFICER'S SIGNATURE \_\_\_\_\_

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## Conduct of Record Fire Range

The Record Fire Course provides for the engagement of one 20-round exercise, and two 10-round exercises. Twenty single or multiple targets are engaged from the prone supported or foxhole supported firing position; 10 targets are engaged from the prone unsupported position; and 10 targets are engaged from the kneeling position. Once firing begins, no cross-loading of ammunition is allowed. The uniform for qualification is helmet, LBE/LBV, and Interceptor body armor with both SAPI plates; one in front, one in back. No other armor is required.\*

**(1). Table 1**

**Prone Supported Firing Position** (or at the unit commander's discretion) **Foxhole Supported Firing Position.** The firer is given one 20-round magazine to engage 20 targets at various ranges.

**(2). Table 2**

**Prone Unsupported Firing Position.** The firer is given one 10-round magazine to engage 10 targets at various ranges.

**(3). Table 3**

**Kneeling Unsupported Firing Position.** The firer is given one 10-round magazine to engage 10 targets at various ranges.

**(A).** Credit for target hits should not be given when rounds are "saved" from difficult targets for use on easier targets. (Example: not firing at the 300-meter target so an additional round can be fired at the 150-meter target.) When double targets are exposed, the soldier should fire two rounds. If the first target is missed, he may fire at that same target with the second round.

**(B).** Engage the target that poses the greatest threat first (normally assumed to be the closer target). No scoring distinction is made between near and far targets or the sequence in which they are engaged. Credit is not given if unused ammunition from one 20-round table is added to a magazine provided for the next table.

**(C).** Soldiers who fail to qualify on the first attempt should be given appropriate remedial training and allowed to refire in a few days. When a soldier refires the course, he remains unqualified with a score of 22 target hits or less. A rating of marksman is awarded for a score of 23 to 40 target hits. When automated scoring procedures are available that allow the performance of the soldier to be stored and retrieved before a weapon malfunction, his performance is added to the score of his first attempt after weapon repair and refire. If a soldier's weapon becomes inoperable and his performance before a malfunction precludes qualification, he is considered unqualified and must refire.

**(D).** Alibi firing is reserved for soldiers who encounter a malfunctioning target, ammunition, or rifle. A soldier will not be issued more than 20 rounds for Table 1, 10 rounds for Table 2, or 10 rounds for Table 3. Soldiers who fire 20 rounds despite a target malfunction will not be issued additional alibi rounds. There are no alibis for soldier-induced weapon malfunctions or for targets missed during application of immediate action. These procedures must be strictly adhered to when a malfunction occurs.

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