

## Exhibit 25

To Defendants' Memorandum in Support of Motion for  
Summary Judgment

**FM 3-22.9**

# RIFLE MARKSMANSHIP M16-/M4-SERIES WEAPONS



**25 METER ZEROING TARGET  
M4 CARBINE  
(NSN 6920-01-395-2949)**

**ZERO TARGET DATA FOR M4 CARBINE:**

- 1- FOR ZEROING AT 25 METERS, ROTATE THE REAR SIGHT ELEVATION KNOB TO THE 300 METER (6/3) SETTING. (DO NOT USE THE "Z" MARK ON THE ELEVATION KNOB).
- 2- AIM AT TARGET CENTER. ADJUST SIGHTS TO MOVE SHOT GROUP CENTER AS CLOSE AS POSSIBLE TO THE WHITE DOT IN THE CENTER OF THE TARGET.
- 3- AFTER COMPLETING THE 25 METER ZERO, THE WEAPON WILL BE ZEROED FOR 300 METERS.

**August 2008**

**DISTRIBUTION RESTRICTION:** Approved for public release; distribution is unlimited.

**HEADQUARTERS  
DEPARTMENT OF THE ARMY**

## Preface

This manual provides guidance for planning and executing training on the 5.56-millimeter 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.

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 weapon's capabilities, mechanical training, and the fundamentals and principles of rifle marksmanship. Live-fire applications are scheduled after the Soldier has demonstrated preliminary skills.

This manual was revised to include references to new materiel and systems. This revision includes—

- The new Army total marksmanship training strategy, to include specific strategies for the United States Army Reserve (USAR) and the Army National Guard (ARNG).
- Information about the advanced combat optical gunsight (ACOG), the AN/PEQ-15 advanced target pointer/illuminator aiming light (ATPIAL), various thermal sights, and the MK 262 round.
- Information about the alternate qualification record fire courses (known distance [KD] record fire, 25-meter scaled target alternate course, 15-meter scaled target alternate course).
- Information about the rapid magazine change and barricade transition fire for short-range marksmanship (SRM).
- Changes to all of the scorecards.
- Updated terminology.

\*This publication prescribes DA Form 3595-R (Record Fire Scorecard), DA Form 3601-R (Single Target—Field Firing Scorecard), DA Form 5239-R (100-, 200-, and 300-Meter Downrange Feedback Scorecard), DA Form 5241-R (Single and Multiple Targets—Field Firing Scorecard), DA Form 5789-R (Record Firing Scorecard—Known-Distance Course), DA Form 5790-R (Record Firing Scorecard—Scaled Target Alternate Course), DA Form 7489-R (Record Night Fire Scorecard), DA Form 7649-R (Squad Designated Marksman—Record Fire I and II Scorecard), DA Form 7650-R (Squad Designated Marksman—Position Evaluation), and DA Form 7682-R (Combat Field Fire Scorecard).

This publication applies to the Active Army, the Army National Guard (ARNG)/National Guard of the United States (ARNGUS), and the US Army Reserve (USAR).

Terms that have joint or Army definitions are identified in both the glossary and the text. Terms for which FM 3-22.9 is the proponent FM are indicated with an asterisk in the glossary.

Uniforms depicted in this manual were drawn without camouflage for clarity of the illustration. Unless this publication states otherwise, masculine nouns and pronouns refer to both men and women.

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### ***FIRING FROM WINDOWS***

7-11. When firing from windows, Soldiers should stay in the shadows and make sure that the weapon's muzzle does not protrude out of the opening (Figure 7-7).



**Figure 7-7. Firing from a window.**

## **SECTION II. COMBAT FIRE TECHNIQUES**

Combat is the ultimate test of a Soldier's ability to apply the fundamentals of marksmanship and firing skills. Soldiers must apply the marksmanship skills mastered during training, practice, and record fire exercises to many combat situations (for example, attack, assault, ambush, or UO). Although these situations present problems, basic techniques and fundamentals require only two modifications: changes to the rate of fire and alterations in weapon/target alignment.

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**NOTE:** The necessary changes are significant and must be thoroughly taught and practiced before performing LFXs.

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### **RAPID SEMIAUTOMATIC FIRE**

7-12. The most important firing technique during fast-moving, modern combat is rapid semiautomatic fire. It is the most accurate technique of placing a large volume of fire on poorly defined targets or target areas, such as short exposure, multiple, or moving targets. To apply rapid semiautomatic fire, the Soldier intentionally fires a quick series of shots into the target area to ensure a high probability of a hit.

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**NOTE:** Increased speed and volume should be sought only after the Soldier has demonstrated expertise and accuracy during slow semiautomatic fire.

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***EFFECTIVENESS AND CONTROL OF RAPID SEMIAUTOMATIC FIRE***

7-13. With proper training, Soldiers can select the appropriate mode of fire: semiautomatic fire, rapid semiautomatic fire, or automatic/burst fire.

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**NOTE:** Leaders must ensure that Soldiers apply proper fire discipline at all times. Even in training, unaimed fire must never be tolerated, especially unaimed automatic fire.

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7-14. While Soldiers sacrifice some degree of accuracy to deliver a greater volume of fire, it is surprising how devastatingly accurate rapid semiautomatic fire can be. At ranges beyond 25 meters, rapid semiautomatic fire is superior to automatic fire in all measures: shots per target, trigger pulls per hit, and time to hit. Proper training and repeated practice increases the degree of accuracy.

7-15. Rapid application of the four fundamentals will result in a well-aimed shot every one or two seconds. This technique of fire allows a unit to place the most effective volume of fire in a target area while conserving ammunition. It is the most accurate means of delivering suppressive fire.

***MODIFICATIONS FOR RAPID SEMIAUTOMATIC FIRE***

7-16. Trainers must consider the impact of the increased rate of fire on the Soldier's ability to properly apply the fundamentals of marksmanship and other combat firing skills, such as immediate action procedures.

**Marksmanship Fundamentals**

7-17. The following paragraphs describe the modifications necessary for Soldiers to apply the four fundamentals when firing in the rapid semiautomatic fire mode.

***Steady Position***

7-18. Consider the following modifications to achieve a steady position:

- Make sure that the weapon is well-supported to improve accuracy and reduce recovery time between shots.
- Grip the handgrip tightly to reduce recovery time and rapidly shift or distribute fire to subsequent targets.
- When possible, pivot the weapon where the nonfiring hand meets the support.
- Avoid changing the position of the nonfiring hand on the support; it is awkward and time-consuming when rapidly firing a series of shots.

***Aiming***

7-19. Consider the following recommendations to properly aim the weapon:

- Do not change sighting and stock weld during rapid semiautomatic fire. Keep the cheek on the stock for every shot, align the firing eye with the rear aperture, and focus on the front sightpost.
- When using slow semiautomatic fire, seek a stable sight picture.
- In the fast-moving situations that require rapid semiautomatic fire, accept target movement and unsteady sight picture, and keep firing into the target area until the target is down or there is no chance of a hit.
- Aim every shot.

***Breath Control***

7-20. Breath control must be modified because the Soldier does not have time to take a complete breath between shots. Consider the following modifications to achieve proper breath control:

- Hold your breath at some point in the firing process.
- Take shallow breaths between shots.

### *Trigger Squeeze*

7-21. To maintain the desired rate of fire, the Soldier has a brief period of time to squeeze the trigger. The firer must cause the weapon to fire in about half of a second or less and still not anticipate the precise moment of firing. Consider the following modifications to achieve proper trigger squeeze:

- Apply initial trigger pressure as soon as a target is identified and while the front sightpost is being brought to the desired point of aim.
- When the front sightpost reaches the point of aim, apply final pressure to cause the weapon to fire almost at once. Apply this additional pressure, also known as final trigger squeeze, without disturbing the lay of the weapon.
- Increase the firing rate by firing, releasing enough trigger pressure to reset the sear, and then immediately firing the next shot. This technique is called rapid trigger squeeze. It eliminates the time used in fully releasing pressure on the trigger and allows the firer to rapidly deliver subsequent rounds.

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**NOTE:** Training and practice sessions are required for Soldiers to become proficient in the technique of rapid trigger squeeze.

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7-22. Repeated dry-fire training using simulators, such as the EST 2000 and LMTS, and live-fire practice ensure that the Soldier can squeeze the trigger and maintain a rapid rate of fire consistently and accurately.

### **Immediate Action Procedures**

7-23. To maintain an increased rate of suppressive fire, Soldiers must apply immediate action quickly. Repeated dry-fire practice using blanks or dummy rounds, followed by live-fire training and evaluation, ensures that Soldiers can rapidly apply immediate action procedures while other Soldiers initiate fire.

### ***RAPID SEMIAUTOMATIC FIRE TRAINING***

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**NOTE:** Soldiers should be well-trained in all aspects of slow semiautomatic firing before attempting any rapid semiautomatic fire training. Those who display a lack of knowledge of fundamental marksmanship skills should not advance to rapid semiautomatic fire training until these skills are learned and mastered.

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7-24. Initial training should focus on the modifications to the fundamentals and other basic combat skills necessary during rapid semiautomatic firing.

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**NOTE:** See Table 7-1 for the current training program.

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**Table 7-1. Rapid semiautomatic fire training program.**

<b>RAPID SEMIAUTOMATIC FIRE TRAINING PROGRAM</b>
<b>Instructional Intent</b>
<ul style="list-style-type: none"> <li>Soldiers learn to engage targets using rapid semiautomatic fire and practice rapid magazine changes.</li> </ul>
<b>Special Instructions</b>
Ensure that— <ul style="list-style-type: none"> <li>The M16A2/A3/A4 rifle's or M4 carbine's rear sight is set on the 0-2 aperture.</li> <li>The M16A1's rear sight is set on the unmarked aperture.</li> <li>Soldiers use a 25-meter alternate course C qualification target.</li> <li>Each Soldier is given four 5-round magazines of 5.56-millimeter ball ammunition.</li> <li>Soldiers use rapid semiautomatic fire to engage targets.</li> <li>Each Soldier fires one round at each of the 10 silhouettes on the alternate course C qualification target.</li> <li>Each Soldier does a rapid magazine change after each magazine is fired.</li> <li>The first iteration of 10 rounds is fired within a time limit of 40 seconds.</li> <li>The second iteration of 10 rounds is fired within a time limit of 30 seconds.</li> <li>Each target is inspected, and the results are posted after each iteration.</li> </ul>
<b>Observables</b>
<ul style="list-style-type: none"> <li>Coaches continuously analyze the firer's application of the fundamentals.</li> <li>Each Soldier obtains 14 hits out of 20 silhouette target exposures.</li> </ul>

## Conduct

7-25. Each Soldier receives four 5-round magazines of 5.56-millimeter ball ammunition. Using rapid semiautomatic fire, the Soldier fires one round at each of the 10 silhouettes on the alternate course C qualification target. Soldiers fire two iterations, performing a rapid magazine change after each magazine is fired. The targets are inspected, and the results are posted after each iteration. Each Soldier must obtain 14 hits out of 20 silhouette target exposures.

7-26. Table 7-2 depicts the two iterations and provides related information, such as time constraints, number of rounds that must be fired, type of target that must be used, and the distance away from the firer that the target must be placed.

**Table 7-2. Rapid semiautomatic fire training and related information.**

<b>ITERATION</b>	<b>TIME CONSTRAINTS</b>	<b>NUMBER OF ROUNDS</b>	<b>TYPE OF TARGET</b>	<b>DISTANCE (m)</b>
1	40 sec	10	25-m alternate course C qualification target	25
2	30 sec	10	25-m alternate course C qualification target	25

## Dry-Fire Exercises

7-27. Repeated dry-fire exercises are the most efficient means to ensure that Soldiers can apply modifications to the fundamentals. Multiple dry-fire exercises are needed, emphasizing a rapid shift in position and point of aim, followed by breath control and fast trigger squeeze.

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- NOTES:**
- Blanks or dummy rounds may be used to train rapid magazine changes and immediate action procedures.
  - The Soldier should display knowledge and skill during dry-fire exercises before attempting LFXs.
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## Live-Fire Exercises

7-28. There are two types of LFXs:

- Individual.
- Collective.

### *Individual*

7-29. To conduct an individual LFX—

- Ensure that the emphasis is on each Soldier maintaining a heavy volume of accurate fire.
- Keep weapon downtime (during immediate action and rapid magazine changes) to a minimum.
- Begin by firing at shorter ranges, progressing to longer ranges as Soldiers display increased proficiency.
- Shorten exposure or engagement times and increase the number of rounds to simulate the need for a heavy volume of fire.
- Provide downrange feedback to determine the accuracy of fire.

### *Collective*

7-30. Rapid semiautomatic fire should be the primary means of delivering fire during a collective LFX. To conduct a collective LFX, ensure that the emphasis is on performing staggered rapid magazine changes, maintaining a continuous volume of fire, and conserving ammunition.

## AUTOMATIC OR BURST FIRE

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**NOTE:** Automatic or burst fire should be trained only after the Soldier has demonstrated expertise during slow and rapid semiautomatic fire.

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7-31. When applying automatic or burst fire, Soldiers deliver the maximum number of rounds (one to three rounds per second) into a designated target area while rapidly applying the four fundamentals. This specialized technique of delivering suppressive fire may not apply to most combat engagements.

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**NOTE:** The M16A1/A3 rifle and M4A1 carbine have fully automatic settings. The M16A2/A4 rifle and M4 carbine use a three-round burst capability.

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### ***EFFECTIVENESS AND CONTROL OF AUTOMATIC OR BURST FIRE***

7-32. Automatic or burst fire is inherently less accurate than semiautomatic fire. The first fully automatic shot fired may be on target, but recoil and a high cyclic rate of fire often combine to place subsequent rounds far from the desired point of impact. Even controlled (three-round burst) automatic or burst fire may place only one round on the target. Because of these inaccuracies, it is difficult to evaluate the effectiveness of automatic or burst fire, and even more difficult to establish absolute guidelines for its use.

### ***FACTORS FOR USE OF SEMIAUTOMATIC VERSUS AUTOMATIC OR BURST FIRE***

7-33. Trainers must ensure that Soldiers understand the capabilities and limitations of automatic or burst fire. They must know when it should and should not be used.



### **Semiautomatic Fire**

7-34. M16 rifles and M4 carbines should normally be employed in the semiautomatic fire mode.

7-35. Depending on the tactical situation, Soldiers should employ the semiautomatic fire mode in the following conditions:

- Ammunition is in short supply, or resupply may be difficult.
- Single targets are being engaged.
- Widely spaced multiple targets are being engaged.
- The target is located more than 50 meters away.
- The effect of bullets on the target cannot be observed.
- Artificial support is not available.
- Targets may be effectively engaged using semiautomatic fire.

### **Automatic or Burst Fire**

7-36. In some combat situations, the use of automatic or burst fire can improve survivability and enhance mission accomplishment. Clearing buildings, final assaults, FPF, and ambushes may require limited use of automatic or burst fire.

7-37. Depending on the tactical situation, Soldiers should employ automatic or burst fire in the following conditions:

- Ammunition is readily available, and there are no problems with resupply.
- Closely spaced multiple targets are located 50 meters away or less.
- Maximum fire is immediately required at an area target.
- Tracers or some other means can be used to observe the effect of bullets on the target.
- Leaders can maintain adequate control over weapons firing in the automatic fire mode.
- Good artificial support is available.
- The initial sound of gunfire disperses closely spaced enemy targets.

### ***MODIFICATIONS FOR AUTOMATIC OR BURST FIRE***

7-38. Automatic or burst fire is inherently less accurate than semiautomatic fire. Trainers must consider the impact of recoil and the high cyclic rate of fire on the Soldier's ability to properly apply the fundamentals of marksmanship and other combat firing skills, such as immediate action procedures and rapid magazine changes.

### **Marksmanship Fundamentals**

7-39. The following paragraphs describe the modifications necessary for Soldiers to apply the four fundamentals when firing in the automatic fire mode.

#### ***Steady Position***

7-40. Consider the following modifications to achieve a steady position:

- Make sure that the weapon is well-supported.
- Grip the weapon a little more firmly and pull it into the shoulder a little tighter than when in the semiautomatic fire mode.

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**NOTE:** This support and increased grip help offset the progressive displacement of weapon/target alignment caused by recoil.

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- To provide maximum stability, assume the modified supported prone firing position (Figure 7-4).

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**NOTE:** If the weapon is equipped with the ARS, use the vertical pistol grip to further increase control of the weapon.

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### ***Aiming***

7-41. Consider the following recommendations to properly aim the weapon:

- Do not change sighting and stock weld during automatic or burst fire. Keep the cheek on the stock for every shot, align the firing eye with the rear aperture, and focus on the front sightpost.
- Although recoil may disrupt this process, try to apply the aiming techniques throughout recoil.

### ***Breath Control***

7-42. Breath control must be modified because the Soldier does not have time to take a complete breath between shots. Consider the following modifications to achieve proper breath control:

- Hold your breath at some point in the firing process.
- Take shallow breaths between shots.

### ***Trigger Squeeze***

7-43. Training and repeated dry-fire practice aid the Soldier in applying proper trigger squeeze during automatic firing. LFXs enable him to improve this skill.

### **M16A2/3/4 Rifles and M4 Carbines**

7-44. Until the weapon fires, trigger squeeze is applied in the normal manner. To use the burst fire mode—

- (1) Hold the trigger to the rear until three rounds are fired.
- (2) Release pressure on the trigger until it resets.
- (3) Reapply pressure for the next three-round burst.

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- NOTES:**
1. Do not slap or jerk the trigger. Squeeze it, and then quickly release pressure.
  2. Depending on the position of the burst can when the selector is moved to the burst fire mode, the weapon may fire one, two, or three rounds when the trigger is held to the rear for the first time. If the weapon fires only one or two rounds, quickly release pressure on the trigger and squeeze again, holding it to the rear until a three-round burst is completed.
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### **M16A1 Rifles**

7-45. Until the weapon fires, trigger squeeze is applied in the normal manner. Because three-round bursts are the most effective rate of fire, pressure on the trigger should be released as quickly as possible. To use the burst fire mode, keep the index finger on the trigger, but quickly release pressure to prevent an excessive number of rounds from being fired in one burst. With much dry-fire practice, the Soldier can become proficient at delivering three-round bursts with the squeeze/release technique.

### **Immediate Action**

7-46. To maintain an increased rate of suppressive fire, Soldiers must apply immediate action quickly. Repeated dry-fire practice using blanks or dummy rounds, followed by live-fire training and evaluation, ensures that Soldiers can rapidly apply immediate action procedures.

### **Rapid Magazine Changes**

7-47. Rapid magazine changes are vital in maintaining automatic or burst fire. Rapid magazine changes must be correctly taught and practiced during dry-fire and live-fire exercises until the Soldier becomes proficient.

***AUTOMATIC OR BURST FIRE TRAINING***


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**NOTE:** Soldiers should be well-trained in all aspects of slow semiautomatic firing before attempting any automatic training. Those who display a lack of knowledge of fundamental skills should not advance to automatic or burst fire training until these skills are learned.

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7-48. Initial training should focus on the modifications to the fundamentals and other basic combat skills necessary during automatic firing.

7-49. Unit training is vital to properly applying this technique. Soldiers must be taught the advantages and disadvantages of automatic and burst firing so they know when it should be used. Without this knowledge, Soldiers tend to switch to the automatic or burst fire mode in life-threatening situations.

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**NOTE:** See Table 7-3 for the current training program.

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**Table 7-3. Automatic or burst fire training program.**

<b>AUTOMATIC OR BURST FIRE TRAINING PROGRAM</b>
<b>Instructional Intent</b>
<ul style="list-style-type: none"> <li>Soldiers learn the advantages and disadvantages of automatic or burst fire.</li> </ul>
<b>Special Instructions</b>
Ensure that— <ul style="list-style-type: none"> <li>The M16A2/A3/A4 rifle's or M4 carbine's rear sight is set on the 0-2 aperture.</li> <li>The M16A1's rear sight is set on the unmarked aperture.</li> <li>Soldiers use a 25-meter alternate course C qualification target.</li> <li>Each Soldier is in a proper modified automatic/burst firing position.</li> <li>Each Soldier is given two 15-round magazines of 5.56-millimeter ball ammunition.</li> <li>Each Soldier fires one 3-round burst at each of the 10 silhouettes on the alternate course C qualification target.</li> <li>Each Soldier does a rapid magazine change after each magazine is emptied.</li> </ul>
<b>Observables</b>
<ul style="list-style-type: none"> <li>Each Soldier obtains five target hits.</li> <li>Soldiers demonstrate control of the weapon in the automatic/burst fire mode.</li> </ul>

**Conduct**

7-50. Each Soldier receives two 15-round magazines of 5.56-millimeter ball ammunition. Each Soldier fires one 3-round burst at each of the 10 silhouettes on the alternate course C qualification target, performing a rapid magazine change after each magazine is emptied. Each Soldier must obtain five target hits.

7-51. Table 7-4 depicts automatic or burst fire training and provides related information, such as number of rounds that must be fired, type of target that must be used, and the distance away from the firer that the target must be placed.

**Table 7-4. Automatic or burst fire training and related information.**

<b>FIRING POSITION</b>	<b>NUMBER OF ROUNDS</b>	<b>TYPE OF TARGET</b>	<b>DISTANCE (m)</b>
Modified automatic/burst firing position	30, one 3-round burst at each of the 10 silhouettes	Alternate course C qualification target	25

### **Dry-Fire and Live-Fire Exercises**

7-52. Repeated dry-fire exercises are the most efficient means to ensure that Soldiers can apply modifications to the fundamentals. Multiple dry-fire exercises are needed, emphasizing a stable position and point of aim, followed by breath control and appropriate trigger squeeze.

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- NOTES:**
1. Blanks or dummy rounds may be used to train trigger squeeze, rapid magazine changes, and immediate action procedures.
  2. The Soldier should display knowledge and skill during dry-fire exercises before attempting LFXs.
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## **SUPPRESSIVE FIRE**

7-53. Suppressive fire is precisely aimed at a definite point or area target. Some situations may require a Soldier to place suppressive fire into a wide area (for example, wood line, hedgerow, or small building) while, at other times, the target may be a smaller area (for example, a bunker or window). Suppressive fire is used to control the enemy and the area he occupies. It is employed to kill the enemy or to prevent him from observing the battlefield, effectively using his weapons, or moving.

### ***EFFECTIVENESS AND CONTROL OF SUPPRESSIVE FIRE***

7-54. Many Soldiers have difficulty delivering effective suppressive fire when they cannot see a definite target, only likely locations or general areas where the enemy is known to exist. Even though definite targets cannot be seen, most suppressive fire should be well-aimed.

7-55. When controlling suppressive fires, two factors must be considered:

- Point of aim.
- Rate of fire.

### **Point of Aim**

7-56. Suppressive fire should be well-aimed, sustained, semiautomatic fire. Although lacking a definite target, the Soldier must be taught to control and accurately deliver fire within the limits of the suppressed area. As when engaging a point target, the weapon sights are used, with the front sightpost placed so each shot impacts within the desired area.

### **Rate of Fire**

7-57. During most phases of live-fire training (for example, grouping, zeroing, qualifying), shots are delivered using slow semiautomatic fire (one round every 3 to 10 seconds). During training, this allows a slow and precise application of the fundamentals. Successful suppressive fire requires a faster, but sustained, rate of fire. Soldiers may need to fire full automatic or bursts (13 rounds per second) for a few seconds to gain initial fire superiority. Rapid semiautomatic fire (one round every one or two seconds) allows the firer to sustain a large volume of accurate fire while conserving ammunition.

### ***MODIFICATIONS FOR SUPPRESSIVE FIRE***

7-58. The tactical situation dictates the most useful rate of fire, but the following must be considered:

- Marksmanship fundamentals.
- Rapid magazine changes.
- Ammunition conservation.

## Marksmanship Fundamentals

7-59. As the stress of combat increases, some Soldiers may fail to apply the fundamentals of marksmanship. This factor contributes to reduced accuracy and effectiveness. While some modifications are appropriate, the basic fundamentals should be applied and emphasized—regardless of the rate of fire or combat stress. Strategies to enhance marksmanship skills under combat stress include shooting in the prone position, as opposed to standing.

7-60. Factors that contribute to combat stress are:

- Environmental.
- Operational.

### *Environmental*

7-61. Environmental stressors have been shown to degrade marksmanship accuracy up to 20 percent. Such stressors include—

- Heat.
- Altitude.

### *Operational*

7-62. Operational stressors have been shown to degrade marksmanship accuracy from 17 percent to 136 percent. Such stressors include—

- MOPP gear.
- Tasks that require carrying rucksacks, litter patients, and other equipment on the body.
- Sleep deprivation.

## Rapid Magazine Changes

7-63. One of the keys to sustained suppressive fire is reloading the weapon rapidly. Rapid magazine changes must be correctly taught and practiced during dry-fire and live-fire exercises until the Soldier becomes proficient. Small-unit training exercises must be conducted so Soldiers who provide suppressive fire practice staggered magazine changes.

## Ammunition Conservation

7-64. Automatic or burst fire should be used sparingly and only to gain initial fire superiority. Depending on the tactical situation, the rate of fire should be adjusted so that a minimum number of rounds are expended. Accurate fire conserves ammunition, while preventing the enemy from placing effective fire on friendly positions.

### *SUPPRESSIVE FIRE TRAINING*

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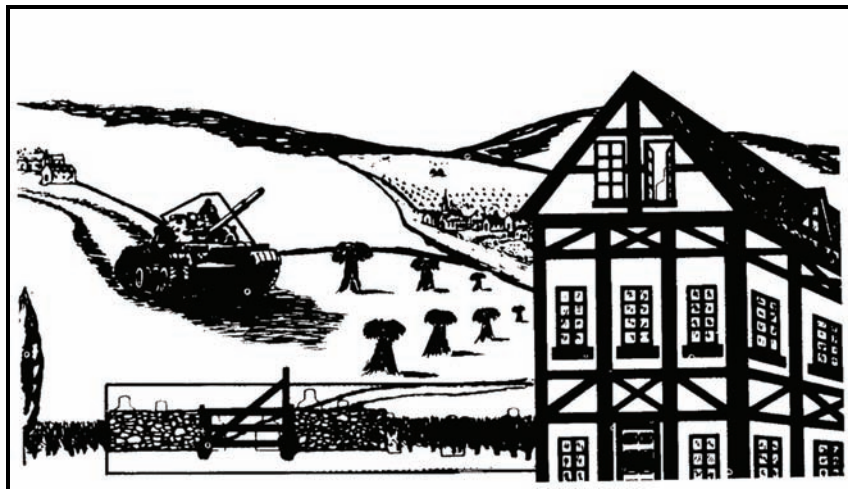
**NOTE:** See Table 7-5 for the current training program.

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**Table 7-5. Suppressive fire training program.**

<b>SUPPRESSIVE FIRE TRAINING PROGRAM</b>	
<b>Instructional Intent</b>	
<ul style="list-style-type: none"> <li>• Soldier learns to suppress targets using suppressive fire.</li> </ul>	
<b>Special Instructions</b>	
Ensure that— <ul style="list-style-type: none"> <li>• The M16A2/A3/A4 rifle's or M4 carbine's rear sight is set on the 0-2 aperture.</li> <li>• The M16A1's rear sight is set on the unmarked aperture.</li> <li>• Soldiers use a 25-meter scaled landscape target.</li> <li>• Each Soldier is given two 9-round magazines and one 12-round magazine of 5.56-millimeter ball ammunition.</li> <li>• Each Soldier is in a proper supported firing position.</li> <li>• Each Soldier fires 9 rounds at the open window area of the target using rapid semiautomatic fire with the first 9-round magazine.</li> <li>• Each Soldier fires 12 rounds at the fence or hedgerow area of the target using rapid semiautomatic fire with the 12-round magazine.</li> <li>• Each Soldier fires three 3-round bursts at the tank turret area of the target using the automatic/burst fire mode with the second 9-round magazine.</li> </ul>	
<b>Observables</b>	
<ul style="list-style-type: none"> <li>• Each Soldier achieves 5 hits inside the open window area within 18 seconds.</li> <li>• Each Soldier achieves 10 hits inside the dotted lines surrounding the fence or hedgerow area within 24 seconds.</li> <li>• Each Soldier achieves 3 hits inside the tank turret area within 24 seconds.</li> </ul>	

7-65. Figure 7-8 shows a landscape target suitable for suppressive fire training. When this type of target is used, trainers must develop a firing program to include areas of engagement and designated target areas. At 25 meters, this target provides the firer with an area to suppress without definite targets to engage.



**Figure 7-8. Landscape target.**

## Conduct

7-66. Each Soldier receives two 9-round magazines and one 12-round magazine of 5.56-millimeter ball ammunition. The Soldier engages three areas of a 25-meter scaled landscaped target: the open window area, the fence or hedgerow area, and the tank turret area. Each Soldier achieves 5 hits inside of the open window area, 10 hits inside of the dotted lines surrounding the fence or hedgerow area, and 3 hits inside of the tank turret area.

7-67. Table 7-6 depicts suppressive fire training and provides related information, such as number of rounds that must be fired, type of target that must be used, and the distance away from the firer that the target must be placed.

**Table 7-6. Suppressive fire training and related information.**

FIRING POSITION	TYPE OF TARGET	AREA OF TARGET ENGAGED	NUMBER OF ROUNDS	TYPE OF FIRE	TIME CONSTRAINTS
Supported firing position	25-m scaled landscape target	Open window	9	Rapid semiautomatic	18 sec
		Fence or hedgerow	12	Rapid semiautomatic	24 sec
		Tank turret	9, in three 3-round bursts	Automatic/burst	24 sec

## QUICK FIRE

7-68. The two main techniques of directing fire with a rifle or carbine are—

- Aim using the sights.
- Use weapon alignment, instinct, bullet strike, or tracers to direct the fire.

7-69. The preferred technique is to use the sights, but sometimes quick reflex action is required. Quick fire, also known as instinctive firing or quick kill, is a technique used to deliver fast, effective fire on surprise personnel targets 25 meters away or less.

### *EFFECTIVENESS AND CONTROL OF QUICK FIRE*

7-70. Quick fire techniques are appropriate when Soldiers are presented with close, suddenly appearing, surprise enemy targets; or when close engagement is imminent.

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**NOTE:** Fire may be delivered in the SEMIAUTO or AUTOMATIC/BURST fire mode. For example, a point man in a patrol may carry the weapon on AUTOMATIC/BURST. This may also be required when clearing a room or bunker. Initial training should be in the SAFE mode.

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7-71. Two techniques of delivering quick fire are:

- Aimed.
- Pointed.

7-72. The difference in the speed of delivery of 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.

7-73. This variance of target hit for this type of engagement reinforces the need for well-aimed shots.

7-74. 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 weapon with the buttstock high so that the weapon 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.

### **Aimed**

7-75. When using this technique, a Soldier can accurately engage a target at 25 meters or less in one second or less.

7-76. To use aimed quick fire (Figure 7-9)—

- (1) Bring the weapon to the shoulder.
- (2) With the firing eye, look through or just over the rear sight aperture.
- (3) Use the front sightpost to aim at the target.
- (4) Quickly fire a single shot.



**Figure 7-9. Aimed quick fire.**



## Pointed

7-77. When using this technique, a Soldier can engage a target at 15 meters or less in less than one second.

7-78. To use pointed quick fire (Figure 7-10)—

- (1) Keep the weapon at your side.
- (2) Keeps both eyes open, and use instinct and peripheral vision to line up the weapon with the target.
- (3) Quickly fire a single shot or burst.



Figure 7-10. Pointed quick fire.

### ***FACTORS FOR USE OF CONTROLLED PAIRS VERSUS BURST FIRE***

7-79. Tactical considerations dictate whether controlled pairs or burst fire is most effective in a given situation.

### ***MODIFICATIONS FOR QUICK FIRE***

7-80. Trainers must consider the impact of the increased rate of fire on the Soldier's ability to properly apply the fundamentals of marksmanship and other combat firing skills.

### **Marksmanship Fundamentals**

7-81. Quick fire techniques require major modifications to the four fundamentals of marksmanship. Initial training in these differences, followed by repeated dry-fire exercises, will be necessary to prepare the Soldier for live-fire.

#### ***Steady Position***

7-82. The quickness of shot delivery prevents the Soldier from assuming a stable firing position. Consider the following modifications:

- Fire from the present position when the target appears.
- If moving, stop.
- Do not make adjustments for stability and support before the round is fired.

#### **Aimed**

7-83. Consider the following modifications:

- (1) Pull the weapon's buttstock into the pocket of the shoulder as the cheek comes in contact with the stock.
- (2) Firmly grip the weapon with both hands, applying rearward pressure.
- (3) Place the firing eye so that it looks through or just over the rear sight aperture.
- (4) Place the sight on the target.

#### **Pointed**

7-84. Consider the following modifications:

- Pull the weapon into the side.
- Firmly grip the weapon with both hands, applying rearward pressure.

#### ***Aiming***

7-85. 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.

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

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**Aimed**

7-86. Consider the following modified procedure:

- (1) Initially focus on the target.
  - (2) Place the firing eye so that it looks at the target through or just over the rear sight aperture.
  - (3) Using peripheral vision, locate the front sightpost and bring it to the center of the target.
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**NOTE:** Focus remains on the front sightpost throughout the aiming process.

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- (4) When the front sightpost is in focus, fire a controlled pair.

**Pointed**

7-87. Consider the following modifications:

- Place the focus on or slightly below the center of the target as you align the weapon with it, and fire the weapon.
- Use your instinctive pointing ability and peripheral vision to aid in proper alignment.

**Breath Control**

7-88. 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.

**Trigger Squeeze**

7-89. Consider the following modifications:

- (1) Apply initial pressure as weapon alignment is moved toward the target.
- (2) Exert trigger squeeze so when weapon/target alignment is achieved, the rounds are fired at once.

7-90. Perfecting rapid trigger squeeze requires much training and practice.

**QUICK FIRE TRAINING**

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**NOTE:** Only Soldiers in basic training will conduct quick fire training. SRM will be conducted at the unit level. See Section VI of this chapter for more information about SRM training.

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7-91. The key to the successful employment of both quick fire techniques is practice. Both pointed and aimed quick fire must be repeatedly practiced during dry-fire training. LFXs provide further skill enhancement and illustrate the difference in accuracy between the two techniques.

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**NOTE:** See Table 7-7 for the current training program.

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**Table 7-7. Quick fire training program.**

<b>QUICK FIRE TRAINING PROGRAM</b>
<b>Instructional Intent</b>
<ul style="list-style-type: none"> <li>• Soldiers learn how to engage targets using the quick fire techniques.</li> </ul>
<b>Special Instructions</b>
Ensure that— <ul style="list-style-type: none"> <li>• The M16A2/A3/A4 rifle's or M4 carbine's rear sight is set on the 0-2 aperture.</li> <li>• The M16A1's rear sight is set on the unmarked aperture.</li> <li>• Each Soldier is given two 10-round magazines.</li> <li>• Each Soldier engages 10 target exposures of 2 seconds each at 15 meters using the first 10-round magazine.</li> <li>• Each Soldier moves to the 25-meter line and engages 10 target exposures of 2 seconds each at 25 meters using the second 10-round magazine.</li> </ul>
<b>Observables</b>
<ul style="list-style-type: none"> <li>• Each Soldier achieves 7 hits out of 10 target exposures at 15 meters.</li> <li>• Each Soldier achieves 5 hits out of 10 target exposures at 25 meters.</li> </ul>

**Conduct**

7-92. Each Soldier receives two 10-round magazines. Each Soldier must achieve 7 target hits out of 10 target exposures at 15 meters and 5 target hits out of 10 target exposures at 25 meters.

7-93. Table 7-8 depicts quick fire training and provides related information, such as the number of target exposures, distance from the firer, number of rounds that must be fired, and time constraints.

**Table 7-8. Quick fire training and related information.**

<b>NUMBER OF TARGET EXPOSURES</b>	<b>DISTANCE</b>	<b>NUMBER OF ROUNDS</b>	<b>TIME CONSTRAINTS</b>
10	15	10	2 sec per target exposure
10	15	10	2 sec per target exposure

**SECTION III. CHEMICAL, BIOLOGICAL, RADIOLOGICAL, AND NUCLEAR FIRING**

All Soldiers must effectively fire their weapons to accomplish combat missions in a CBRN environment. With proper training and practice, Soldiers gain confidence in their ability to effectively hit targets in full MOPP equipment. MOPP firing proficiency must be part of every unit's training program.

**MISSION-ORIENTED PROTECTIVE POSTURE EQUIPMENT FIRE**

7-94. Firing weapons is only part of overall CBRN training. Soldiers must be familiar with CBRN equipment, its use, and proper wear before they progress to learning the techniques of MOPP firing.

***MODIFICATIONS FOR MISSION-ORIENTED PROTECTIVE POSTURE FIRE TRAINING***

7-95. Trainers must consider the impact of MOPP equipment (for example, hood or mask, gloves, overgarments) on the Soldier's ability to properly apply the fundamentals of marksmanship and combat firing skills.

## ***TRIGGER MANIPULATION***

7-188. SRC engagements are usually quick, violent, and deadly. Due to the reduced reaction time, imperfect sight picture, and requirement to effectively place rounds into targets, Soldiers must fire multiple rounds during each engagement in order to survive. Multiple shots may be fired either through the use of a controlled pair or automatic weapon fire.

### **Controlled Pair**

7-189. A controlled pair is two rounds fired in rapid succession. Controlled pairs should be fired at single targets until they go down. When multiple targets are present the Soldier must fire a controlled pair at each target, and then reengage any targets left standing. To fire a controlled pair—

- (1) Fire the first round, and allow the weapon to move in its natural arc without fighting the recoil.
- (2) Rapidly bring the weapon back on target, and fire a second round.

7-190. Soldiers must practice firing the controlled pair until it becomes instinctive.

### **Automatic Fire**

7-191. While rapid, aimed, semiautomatic fire is the most accurate method of engaging targets during SRC and controlled three-round bursts are better than automatic fire, automatic weapon fire may be necessary to maximize violence of action or gain fire superiority when gaining a foothold in a room, building, or trench. When properly trained, Soldiers should be able to fire six rounds (two three-round bursts) in the same time it takes to fire a controlled pair. With practice, the accuracy of engaging targets can be equal to that of semiautomatic fire at 10 meters.

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**NOTE:** The key to burst or automatic firing is to squeeze the trigger, not jerk it.

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7-192. For the majority of Soldiers, fully automatic fire is rarely effective and can lead to unnecessary noncombatant casualties or fratricide. Not only is fully automatic fire inaccurate and difficult to control, but it also rapidly empties ammunition magazines. A Soldier who finds himself out of ammunition with an armed, uninjured enemy Soldier during SRC will become a casualty unless a fellow Soldier intervenes.

### **Failure Drill**

7-193. To make sure that a target is completely neutralized, Soldiers should be trained to execute the failure drill. The firer will fire a controlled pair into the lethal zone, followed by a third round placed into the incapacitation zone. This type of target engagement is particularly useful when engaging targets wearing body armor.

## **PRELIMINARY SHORT-RANGE MARKSMANSHIP INSTRUCTION**

7-194. As with all other forms of marksmanship training, preliminary SRM instruction must be conducted to establish a firm foundation. Soldiers must be taught, and must understand, the fundamentals of SRM. Blank-fire drills are conducted to ensure a thorough understanding of the fundamentals, as well as to provide the trainers with valuable feedback about each Soldier's level of proficiency.

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**NOTE:** To maximize safety during training and in combat situations, it is important to emphasize muzzle awareness and selector switch manipulation during preliminary SRM instruction. The risk of fratricide or noncombatant casualties is greatest during SRC.

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7-195. Table 7-17 outlines the tasks that preliminary SRM instruction should include (at a minimum).