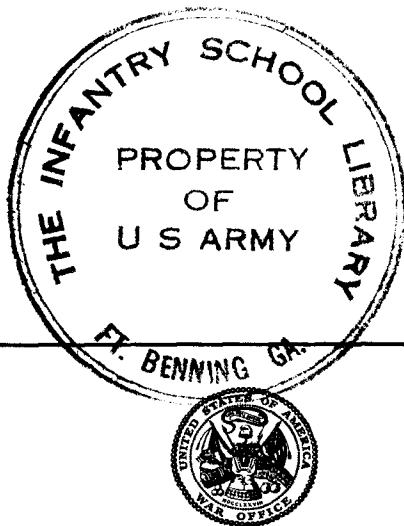


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DEPARTMENT OF THE ARMY FIELD MANUAL

RIFLE MARKSMANSHIP COURSE TRAINFIRE I



HEADQUARTERS, DEPARTMENT OF THE ARMY
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RIFLE MARKSMANSHIP COURSE

TRAINFIRE I

	Paragraphs	Page
CHAPTER 1. INTRODUCTION.....	1-3	2
2. CONDUCT OF TRAINING.....	4-8	4
3. PREPARATORY MARKSMANSHIP TRAINING AND 25-METER FIRING.....	9-22	12
4. FIELD FIRING AND RECORD FIRING....	23-26	27
5. TARGET DETECTION.....	27-34	34
6. TRAINING AIDS, RANGES, AND TARGETS..	35-37	38
APPENDIX LESSON PLANS.....		48
Period 1. Orientation.....		48
2. Introduction to Firing.....		53
3. Mechanical Training.....		59
4. Aiming and the Steady Hold Factors.....		65
5. Prone, Sitting, and Squatting Positions; Introduction to Target Detection.....		74
6. Kneeling, Foxhole, and Standing Positions; Detection of Realistic Battlefield Targets.....		92
7. Progress Check on the Components of Shooting (25-Meter Firing).....		100
8. Battlesight Zeroing.....		103
9. Introduction to Field Firing; Detection of Single Moving Targets.....		109
10. Simulated Advance of Stationary Targets; Detection of Multiple Moving Targets.....		126
11. Field Firing on Surprise Targets; Target Locations by Sound.....		143
12. Advancing on Surprise Targets and Firing from Prescribed Positions; Review of Fundamentals..		155
13. Advance on Surprise Targets and Firing from an Optional Position; Detection Training, Personal Camouflage, and Movement Skills.....		163
14. Field Firing on Distant Stationary Targets; Confirmation of Zeros.....		178
15. Engaging Multiple Surprise Targets from a Stationary Position; Target Detection Training to Include Combination of Sound Localization and Multiple Moving Targets.....		185
16. Engaging Multiple Surprise Targets While Advancing; Review of Target Detection.....		205
17. Record Course; Record Firing I.....		218
18. Record Course; Record Firing II.....		244

CHAPTER 1

INTRODUCTION

1. Purpose and Scope

a. This manual is published for the use of instructors in the conduct of the TRAINFIRE I Rifle Marksmanship Course. It includes a description of the course, training aids, targets, and ranges. It also includes subject schedules and detailed lesson plans for the conduct of the training.

b. The material presented herein is applicable without modification to both atomic and nonatomic warfare.

2. Concepts of Trainfire I

a. The sole purpose of infantry training is to prepare for combat. Since training rarely covers all the requirements of battle, it is vital that every pertinent and feasible combat skill be included. If this is to be done, the combat skills required must be analyzed and reduced to fundamentals upon which sound training can be grounded.

b. The TRAINFIRE I Rifle Marksmanship Course is based on the following fundamental concepts:

- (1) Enemy personnel targets are rarely visible except in a close assault.
- (2) Most combat targets consist of a number of men or objects linear in nature, irregularly spaced, and using cover such as ground folds, hedges, and borders of woods or ditches.
- (3) These targets, detected by smoke, flash, dust, noise, or movement are usually seen only fleetingly.
- (4) These targets can be engaged by using a nearby object as a reference point.
- (5) The range of combat targets will rarely exceed 300 meters.
- (6) The nature of the target, the terrain on which it appears, and the "digging in" requirements of the defensive often preclude the use of the prone position. These conditions do, however, favor supported positions such as the foxhole standing or squatting positions.
- (7) Selecting an accurate aiming point in elevation is difficult because of the low outline and obscurity of combat targets.
- (8) The problem of proper elevation is complicated by using a six o'clock hold on the bull's-eye to achieve a center hit.

- (a) This procedure introduces an error which is half the diameter of the bull's-eye.
 - (b) The error introduced is increased if the soldier is required to aim at the center of the "mass" of a field target rather than at its lowest visible edge.
 - (c) Since only part of the actual "mass" or bulk of the target is usually seen, the center of seen "mass" will normally be above the actual center.
- (9) The conditions of rifle fire in combat rarely require or permit the use of windage adjustment.

3. Objective of Trainfire I

a. The objective of the TRAINFIRE I Rifle Marksmanship Course is to provide the soldier with the training necessary to permit him to use his rifle effectively in combat. The course is based on the fundamental principle that the combat rifleman's targets consist of enemy personnel, and his effectiveness as a rifleman depends upon his ability to neutralize individual targets. To achieve this effectiveness, the rifleman must be skilled in—

- (1) Detecting targets.
- (2) Aiming his rifle at detected targets.
- (3) Firing upon these targets without disarranging his aim.

b. To accomplish its objective, the course includes the following instruction:

<i>Subject</i>	<i>Hours</i>
Orientation.....	2
Mechanical Training.....	4
Preparatory Marksmanship Training and 25-meter Firing.....	26
Battlesight Zeroing.....	4
Field Firing.....	18
Target Detection.....	16
Record Course.....	8
Total.....	78

CHAPTER 2

CONDUCT OF TRAINING

4. General

a. The TRAINFIRE I Rifle Marksmanship Course utilizes a new and different form of individual marksmanship training requiring instructors to rely on the subject material contained in the detailed lesson plans in the appendix. If there is conflict between field manual references and the lesson plans, the lesson plans take precedence.

b. The lesson plans are written as a guide for the instructor and should be followed as closely as possible. They are based on a 200-man company with the training facilities described in chapter 6. Instructors should adjust the lesson plans to fit their own training situation.

c. The subject schedule in paragraph 7, below, is a guide for scheduling the TRAINFIRE I Rifle Marksmanship Course.

d. The table in paragraph 8 below shows the ammunition required for each instructional period.

5. Method of Instruction

a. The TRAINFIRE I Rifle Marksmanship Course utilizes conferences, demonstrations, and practical exercises. By making extensive use of assistant instructors and the coach and pupil method, it emphasizes practical work and individual corrective instruction.

b. The following sequence is used in periods two and four to introduce the soldier to firing the rifle:

- (1) The soldier is given a brief explanation or demonstration of a certain exercise.
- (2) He is then required to perform the exercise.
- (3) A trained demonstrator performs the same exercise, and the performance of the soldier is compared to the results obtained by the demonstrator.
- (4) The soldier is then given a detailed explanation and demonstration of the required exercise.
- (5) He is again required to perform the exercise using the knowledge he gained from the detailed explanation and demonstration.

- (6) His initial and final performances are compared. The improvement he experiences in his final attempt should convince the soldier that the training is necessary and that the principles taught are valid.

c. The success of TRAINFIRE I depends on the competence of the instructors, assistant instructors, and the satisfactory performance of the coaches. The assistant instructors used during the training should have satisfactorily completed the TRAINFIRE I Rifle Marksmanship Course. As a guide, there should be at least one assistant instructor for every 10 soldiers being trained.

6. Training Principles

During the conduct of the training certain well-established principles must be followed. The principles listed below are integrated into the TRAINFIRE I Rifle Marksmanship instruction.

a. *Transfer*. Transfer occurs when training in one task affects performance in another. It is important that training be arranged so that the learning of one skill will facilitate the learning of another and, eventually, the whole act.

b. *Motivation*. Learning will take place more rapidly when the soldier has the desire to learn and realizes the importance of the task being taught.

c. *Knowledge of Principle Involved*. Learning is faster when the soldier understands the underlying principles of the task he is required to perform.

d. *Knowledge of Results*. The soldier should be given immediate information concerning the results of his efforts.

e. *Accuracy or Speed*. The emphasis on accuracy or speed should be determined by the importance each plays in the final performance of the task being learned.

f. *Repetition*. It is necessary for the soldier to practice an act to learn it efficiently.

g. *Fatigue*. It should be kept in mind that fatigue retards the learning process.

h. *Spaced Practice*. Spaced practice periods, interspersed with other activities, have been found to be superior to continuous practice over long periods of time.

i. *Variety*. It is best to vary the material to be learned so that boredom and fatigue are reduced and motivation increased.

7. Subject Schedule for Trainfire I—Rifle Marksmanship Course

P	H	Lessons	Text References	Area	Training Aids and Equipment
1	2	a. <i>Orientation</i> —2 hrs. Orientation; historical development of the rifle and rifleman, FB 272, Misc TF 918; operation of M1 rifle; adjustment of rear sight tension.	Instructors Guide, Lesson Plan, Period One; FM 23-5.	Classroom equipped w/opaque window shades, screen & sound system. Tables and chairs arranged to allow 10-man setup.	Refer to Instructional Aids, Period One.
3	4	b. <i>Mechanical Training</i> —4 hrs. Disassembly and assembly of the barrel and receiver group; disassembly and assembly of the bolt; functioning of the barrel and receiver group; stoppages and immediate action; care and cleaning, TF 9-1172. c. <i>Preparatory Marksmanship Training and 25-meter Firing</i> —22 hrs., <i>Target Detention</i> —4 hrs, <i>ATP Subject</i> —4 hrs.	Instructors Guide, Lesson Plan, Period Three; FM 23-5.	-----do-----	Refer to Instructional Aids, Period Three.
2	4	Aiming steady hold factors; prone position; application of grease; 25-meter early firing; elevation and windage rule; calling the shot, follow-through; firing data card.	Instructors Guide, Lesson Plan, Period Two; FM 23-5.	25-meter Range-----	Refer to Instructional Aids, Period Two.

4	6	Integrated act of shooting; aiming; steady hold in the prone position; review of firing data card; firing in the prone position.	Instructors Guide, Lesson Plan, Period Four; FM 23-5. Target Analysis Sheet.	-----do.-----	Refer to Instructional Aids, Period Four.
5	4	Practice in firing from the prone unsupported and supported positions and the sitting and squatting unsupported positions.	Instructors Guide, Lesson Plan, Period Five (Section I).	25-meter TRAIN-FIRE Range.	Refer to Instructional Aids, Period Five, Section I.
	2	Target Detection; Introduction to Target Detection; estimating range; detecting and marking targets.	Instructors Guide, Lesson Plan, Period Five (Section II); FM 21-75, FM 23-5.	2 Target Detection Ranges.	Refer to Instructional Aids, Period Five, Section II.
	2*	ATP subject.-----	ATP 21-114 Nov 54-----	Area in the vicinity of the 25-meter TRAINFIRE Range.	As required.
6	4	Practice firing from the kneeling unsupported and supported positions, and the foxhole and standing unsupported positions.	Instructors Guide, Lesson Plan, Period Six; FM 23-5.	25-meter TRAIN-FIRE Range.	Refer to Instructional Aids, Period Six, Section I.
	2	Target Detection: Practical work in detecting, marking, and estimating ranges to realistic battlefield targets.	Instructors Guide, Lesson Plan, Period Six; FM 21-75, FM 23-5.	2 Target Detection Ranges.	Refer to Instructional Aids, Period Six, Section II.
	2*	ATP Subject.-----	ATP 21-114 Nov 54-----	Area in the vicinity of the 25-meter TRAINFIRE Range.	As required.
7	4	25-meter progress check from all eight positions.	Instructors Guide, Lesson Plan, Period Seven.	25-meter TRAIN-FIRE Range.	Refer to Instructional Aids, Period Seven.

See footnote at end of table.

P	H	Lessons	Text References	Area	Training Aids and Equipment
8	4	d. <i>Battlesight Zeroing</i> —4 hrs. Determination of 250-meter battlesight zero. e. <i>Field Firing</i> —18 hrs.; <i>Target Detection</i> —12 hrs.; <i>25-meter Firing</i> —4 hrs.; <i>ATP Subject</i> —2 hrs. Firing on field targets at various ranges and from various firing positions.	Instructors Guide, Lesson Plan, Period Eight; FM 23-5.	25-meter TRAIN-FIRE Range and Field Firing Range.	Refer to Instructional Aids, Period Eight.
9	4		Instructors Guide, Lesson Plan, Period Nine.	Field Firing Ranges.	Refer to Instructional Aids, Period Nine, Section I.
	2	Practice firing to correct weaknesses revealed in 25-meter progress check.	-----do-----	25-meter TRAIN-FIRE Range.	Refer to Instructional Aids, Period Nine, Section II.
	2	Target Detection: Practice in detecting and marking single, moving targets.	Instructors Guide, Lesson Plan, Period Nine; FM 21-75.	Target Detection Range.	Refer to Instructional Aids, Period Nine, Section III.
10	2	Field firing on simulated advancing targets.	Instructors Guide, Lesson Plan, Period Ten.	Field Firing Range.	Refer to Instructional Aids, Period Ten, Section I.
	2	Target Detection: Practice in detecting, marking, aiming at, and engaging multiple moving targets.	Instructors Guide, Lesson Plan, Period Ten; FM 21-75.	2 Target Detection Ranges.	Refer to Instructional Aids, Period Ten, Section II.
11	2	Field firing from various positions at surprise targets.	Instructors Guide, Lesson Plan, Period Eleven.	Field Firing Range-----	Refer to Instructional Aids, Period Eleven, Section I.
	2	Target Detection: Locating hostile firing positions by sound.	Instructors Guide, Lesson Plans, Period Eleven; FM 23-5.	2 Target Detection Ranges.	Refer to Instructional Aids, Period Eleven, Section II.

12	2	Practical work in moving with a loaded weapon, assuming prescribed firing positions rapidly, and engaging surprise targets.	Instructors Guide, Lesson Plan, Period Twelve.	Field Firing Range-----	Refer to Instructional Aids, Period Twelve, Section I.
	2	25-meter firing to improve basic shooting ability by firing from several positions using the ball and dummy method.	do-----	25-meter TRAINFIRE Range.	Refer to Instructional Aids, Period Twelve, Section II.
13	2	Practical work in moving with a loaded weapon, assuming an optional firing position, and engaging surprise targets.	Instructors Guide, Lesson Plan, Period Thirteen.	Field Firing Range-----	Refer to Instructional Aids, Period Thirteen, Section I.
	2	Target Detection: Practical work in target detection and movement as a target team. Practical work in personal camouflage.	Instructors Guide, Lesson Plan, Period Thirteen; FM 21-75.	2 Target Detection Ranges.	Refer to Instructional Aids, Period Thirteen, Section II.
14	1	Field firing at medium and distant surprise targets from a defensive position.	Instructors Guide, Lesson Plan, Period Fourteen.	Field Firing Range-----	Refer to Instructional Aids, Period Fourteen, Section I.
	1	Confirmation of battlesight zero-----	do-----	25-meter TRAINFIRE Range.	Refer to Instructional Aids, Period Fourteen, Section II.
	2*	ATP Subject-----	ATP 21-114 Nov 54-----	Area in the vicinity of the TRAINFIRE Range.	As required.
15	2	Practice in engaging multiple surprise targets from a stationary position.	Instructors Guide, Lesson Plan, Period Fifteen.	Field Firing Range-----	Refer to Instructional Aids, Period Fifteen, Section I.

See footnote at end of table.

P	H	Lessons	Text References	Area	Training Aids and Equipment
		<i>e. Field Firing</i> —Continued			
	2	Target Detection: Practice in detecting, marking, aiming at, and engaging a combination of firing and moving targets.	Instructors Guide, Lesson Plan, Period Fifteen.	2 Target Detection Ranges.	Refer to Instructional Aids, Period Fifteen, Section II.
16	2	Practice in engaging multiple surprise targets while advancing.	Instructors Guide, Lesson Plan, Period Sixteen.	Field Firing Range-----	Refer to Instructional Aids, Period Sixteen, Section I.
	1	Review of detecting stationary and moving targets.	do-----	Target Detection Range-----	Refer to Instructional Aids, Period Sixteen, Section II, Part I.
	1	Review of locating targets by sound-----	Instructors Guide, Lesson Plan, Period Sixteen.	Target Detection Range-----	Refer to Instructional Aids, Period Sixteen, Section II, Part II.
17	4	<i>f. Record Firing</i> —8 hrs.; <i>ATP Subject</i> —8 hrs. Record Firing I and Target Detection Test Nr 1.	Instructors Guide, Lesson Plan, Period Seventeen. ATP 21-114 Nov 54-----	Record Firing Range, Target Detection Range. Suitable Training Area-----	Refer to Instructional Aids, Period 17, Sections I and II. As required.
18	4*	ATP Subject-----	Instructors Guide, Lesson Plan, Period Eighteen.	Record Firing Range, 2 Target Detection Ranges, Suitable Area for ATP Subject. Suitable Training Area-----	Refer to Instructional Aids, Period 17, Section I and Period 18, Sections II and III. As required.
	4*	ATP Subject-----	ATP 21-114 Nov 54-----		

*An appropriate subject from ATP 21-114 is to be selected for this training. The subject chosen should not include marksmanship training.

8. Ammunition Breakdown Per Period

Period	Cartridge Ball Cal .30 8-Clip Per Soldier	Cartridge Ball Cal .30 CTN Per Problem for Demon- stration	Cartridge Blank Cal .30 for Target Detection Per*	
			Presenta- tion	Rehearsal
1-----				
2-----	3	64		
3-----				
4-----	18	12		
5-----	24		20	15
6-----	24		32	32
7-----	33			
8-----	17			
9-----	72		15	15
10-----	36		48	48
11-----	36		46	46
12-----	42			
13-----	30			
14-----	54			
15-----	32	32	110	110
16-----	24	16	41	23
17-----	56		17	17
18-----	56		30	30
Total-----	557	124	359	336

*The blank ammunition allocated for target detection training is based on a single presentation. To determine the amount of blank ammunition for a complete period, multiply the number of presentations required by the number of rounds shown above.

CHAPTER 3

PREPARATORY MARKSMANSHIP TRAINING AND 25-METER FIRING

9. General

a. Preparatory marksmanship training and 25-meter firing is designed to teach the soldier the basic fundamentals of shooting and to prepare him for field firing. The training is conducted on a 25-meter TRAINFIRE range (fig. 13). Preparatory marksmanship circles or fields are not used.

b. In this training the soldier is introduced to firing the rifle prior to mechanical instruction. This increases his understanding of how the rifle functions and motivates him to learn its mechanics. In addition, early firing also convinces the soldier that he needs the training which is to follow.

c. Subsequent periods of instruction consist of conferences, demonstrations, and practical exercises on the two main components of shooting (aiming and steady hold) and positions. The soldier receives practical work in assuming various positions and firing from these positions. Thus, shooting the rifle is taught as an integrated act, and the *whole method* is incorporated early in the training. Soldiers are required to wear steel helmets and combat packs during all preparatory marksmanship training and 25-meter firing. This requires the soldier to become accustomed to assuming positions and shooting while wearing this equipment.

d. This chapter discusses the two components of shooting, positions used, and other special considerations for the conduct of the training. Information concerning the sequence of the instruction of the different periods is contained in the lesson plans in the appendix.

10. First Component—Aiming

a. In aiming the rifle, the firer is concerned with sight alinement and sight picture. *Sight alinement* is the relationship between the front sight blade and the rear sight aperture, while sight picture includes sight alinement and the aiming point. When the sights are correctly alined, the center of the top of the front sight blade is exactly in the center of the rear sight aperture. Correct sight picture is obtained when the aiming point is centered over the front sight blade and appears to barely touch it.

b. Correct sight alinement is more important than the correct positioning of the aiming point. An error in sight alinement causes an error which increases as the range to the target increases, while an error in the placement of the aiming point, providing sight alinement is correct, causes an error which is approximately the same for all ranges. Consequently the firer must give sight alinement particular attention while aiming. The last focus of his eye should be on the top portion of the front sight blade. When this is done the eye tends to position the top of the front sight blade in the center of the aperture. The front sight blade will then be clear and distinct; the aiming point will be hazy and indistinct.

c. An *aiming exercise* is conducted to teach correct and consistent aiming. It consists of two men—one aiming and one marking. A rifle with its sights blackened is wedged in tightly on a rifle rest. Twelve clicks elevation and zero windage are placed on the rear sight. The soldier performing the exercise assumes a position beside the rifle so that his eye is positioned the normal distance from the rear sight. He places both elbows on the ground and rests his chin in the palm of his left hand. The other soldier, called the marker, sits on an aiming box which is placed 15 meters from the rifle. The marker holds an aiming disc against a blank sheet of paper which is attached to the box. The soldier performing the exercise signals to the marker with his right hand to move the disc until he has set up a correct sight picture. Then he tells him to MARK. The marker indicates the sight picture by placing a pencil through a hole in the center of the aiming point. The procedure is repeated until a shot group of three sight pictures has been marked. A critique of the group is then conducted using the target analysis sheet. A good group is one which can be covered by the unsharpened end of a pencil.

11. Second Component—Steady Hold

There are eight factors which must be present in a firing position to produce a steady hold. These factors apply to all positions; however, the method in which they are achieved may differ slightly from position to position.

a. *Left Arm and Hand.* The firer should rest the rifle in the V formed by the thumb and forefinger and across the heel of his hand. His grip on the rifle should be relaxed. He exerts a slight rearward pressure with his hand, his left hand holding the rifle at a point which suits the conformation of his body and the location of his target. If the target is high, the firer's left hand should be brought back toward the balance; if it is low his left hand should be moved forward. His left wrist should be straight and his left elbow as nearly under the rifle as possible. The left elbow need not be exactly under the rifle, but it should not be more than two inches from that position. The firer must avoid causing muscular strain by his attempts to place his

elbow directly beneath the rifle. Increasing the angle of his body to the line of aim may aid him in the correct positioning of his left elbow. The placement of the elbow is of no importance in a supported position as long as it is on or against a solid surface.

b. Butt of Stock in Pocket of Shoulder. The firer should place the butt of the stock firmly into the pocket of his right shoulder. The proper placement of the butt lessens the effect of recoil, helps steady the rifle, and prevents the butt of the stock from slipping from the shoulder during firing.

c. Grip of the Right Hand. The firer's right hand should grip the small of the stock firmly but not rigidly. He should exert a firm rearward pressure to keep the butt of the stock in its proper position in the pocket of his shoulder. His thumb should extend over the top of the small of the stock to permit a spot weld and his trigger finger should be placed on the trigger so that there is no contact between the finger and the side of the stock. This permits the trigger to be pressed straight to the rear.

d. Right Elbow. The placement of the right elbow is important to the steadiness of the position (support) and to the maintenance of a good pocket for the butt of the stock. The exact position of the right elbow varies from position to position and is discussed in the explanation of the various positions.

e. Spot Weld. The firm contact between the cheek and the right thumb is called the spot weld (fig. 1). The spot weld is important because it positions the firer's eye the same distance from the rear sight for each shot thus making the firer more consistent in his aiming. It also enables the firer's head to roll with the recoil, preventing the thumb from striking the cheek each time the rifle is fired and permitting quick recovery. To obtain the spot weld the firer lowers his head so that his cheek contacts his right thumb firmly with a pad of flesh rolled up between his thumb and cheek. The spot weld is the same for all positions except the standing. The difference in the standing position is discussed under the explanation of the position.

f. Breathing. The firer must hold his breath for a short time while he is completing his aim and pressing the trigger. He should do this by taking a normal breath, letting part of it out, and then holding the remainder by locking his throat. The firer should not attempt to hold his breath for more than 10 seconds at a time. To do so will result in his position becoming strained and his vision blurred.

g. Relaxation. The firer must learn to relax as much as possible in any firing position. Undue tightness or tension of the muscles will cause trembling. This movement will be transmitted to the rifle and cause difficulty in maintaining a steady aim. If a firer finds that he cannot relax, his whole position should be adjusted to determine the cause of the strain.



Figure 1. Spot weld.

h. Trigger Control. Trigger control involves pressing the trigger straight to the rear with a uniform motion so that the sights are not disarranged. The firer should concentrate his attention on the sight picture and strive for a "surprise shot." If the firer does not know the instant the rifle will fire he will not tend to make involuntary movements in anticipation of the recoil. This is called "flinching" and is an error which must be detected and overcome early in the soldier's training. Closely related to trigger control is "calling the shot." If the firer achieves proper trigger control and concentrates his attention on the sight picture, he will be able to recall the relationship between the front sight blade and the target the instant the rifle fires. By doing this the firer can call his shot by stating where he thought the bullet should strike the target. When the firer learns to call his shot consistently he is then capable of determining many of his own errors.

12. Prone Unsupported Position

(fig. 2.)

a. The prone position is a steady position that is easy to assume and excellent for initial training. In the field the position presents a low silhouette and is readily adaptable to the use of cover and support, but it is a difficult position from which to observe.

b. To assume the prone position the firer stands facing his target and drops to his knees. With his right hand at the heel of the stock,



Figure 2. Prone unsupported position.

he places the butt of the stock well out in front of his right knee. Using the butt of the stock as a pivot, the firer drops to his left side and places the left elbow as nearly under the rifle as possible. He positions the butt of the stock into the pocket of his right shoulder, grasps the small of the stock with his right hand, and lowers his right elbow to the ground. His right elbow should be placed well out from his body and slightly forward. His shoulders should then be approximately level. The firer exerts a slight rearward pressure with his left hand and a firm rearward pressure with his right hand. To complete the position he obtains a good spot weld and relaxes as much as possible. His spine should be straight and his legs comfortably placed. To review the important features of the position, refer to the steady hold factors in paragraph 11.

13. Prone Supported Position

(fig. 3.)

To assume the prone supported position, the firer first assumes the prone unsupported position. He then adjusts his position to fit the available support. He places his left hand and wrist on or against the



Figure 3. Prone supported position.

support. The position of the left elbow is not important since the support is sustaining the weight of the rifle. However, both elbows should be on a solid surface. The firer makes sure that no part of the rifle touches the support, since this will reduce the flexibility of the position and may affect the accuracy of the rifle. Refer to the steady hold factors in paragraph 11 for the important features of the position.

14. Sitting Unsupported Position

The sitting position is especially suitable for use on ground which slopes downward. It may be used when the firer's view is obscured from a lower position or when the space available does not permit the use of the prone position. There are three variations of the sitting position. The firer should use the variation which best fits the conformation of his body.

a. *Open-Legged Sitting Position* (fig. 4). To assume the open-legged sitting position the firer faces his target, executes a half-right face, and spreads his feet wide apart. He sits down, breaking his fall with his right hand, and slides his buttocks well to the rear. His feet should rest on the inside of his heels, with his ankles relaxed so that his toes point inward. He bends his body forward from the hips and places his left upper arm on the flat portion of his shinbone. He places the butt of the stock into the pocket of his right shoulder and takes the proper grip on the small of the stock with his right hand. He positions his right elbow on the inside of his right leg. The firer exerts slight rearward pressure with his left hand and a firm rearward pressure with his right hand. To complete the position, he obtains a spot weld and relaxes. Refer to the steady hold factors in paragraph 11 for a discussion of the important features of the position.



Figure 4. Open-legged sitting position.

b. Cross-Ankled Sitting Position (fig. 5). To assume the cross-ankled sitting position, the firer faces his target, executes a half-right face, and sits down. With his legs extended from his body, he crosses his left ankle over his right ankle, keeping both ankles straight.



Figure 5. Cross-ankled sitting position.



Figure 6. Cross-legged sitting position.

He places his left upper arm across the shinbone of his left leg. He positions the butt of the stock into the pocket of his right shoulder and takes the proper grip on the small of the stock with his right hand. The firer lowers his right elbow so that his right upper arm is in contact with the shinbone of his right leg. To complete the position, he obtains a spot weld and relaxes. This position may be adjusted for a particular individual by varying the distance the legs are extended from the body.

c. Cross-Legged Sitting Position (fig. 6). To assume the cross-legged sitting position, the firer faces his target, executes a half-right face, and sits down. He crosses his left leg over his right leg and draws both feet up close to his body. He places his left upper arm against the shinbone of his left leg, the butt of the stock into the pocket of his right shoulder, and takes the proper grip on the small of the stock with his right hand. He then lowers his right elbow so that his right upper arm is against the shinbone of his right leg. To complete the position, the firer obtains a spot weld and relaxes.

15. Squatting Unsupported Position

(fig. 7)

a. The squatting position is a steady position and can be quickly assumed. This position is good for firing in mud, shallow water, or



Figure 7. Squatting unsupported position.

contaminated areas because only the feet are in contact with the ground. It is best suited for use on level ground or on ground which slopes downward.

b. To assume the squatting position, the firer faces his target and executes a half-right face. He spreads his feet a comfortable distance apart and squats as low as possible, keeping both feet flat on the ground. He places his left elbow inside his left knee and the butt of the stock into the pocket of his right shoulder. He takes the proper grip on the small of the stock with the right hand. The firer lowers his right elbow so that it is against the inside of his right knee. To complete the position the firer obtains a spot weld and relaxes. For the important features of the position refer to the steady hold factors in paragraph 11.

16. Kneeling Unsupported Position

(fig. 8)

a. The kneeling position is a natural position and can be assumed quickly. It is suitable on level ground or on ground which slopes upward. The position can be adjusted in height and is very adaptable to the use of support.

b. To assume the kneeling position, the firer faces his target and executes a right face. He places his left foot to his left front with the toe pointing in the general direction of the target. He then kneels on his right knee, rotating over the toe of the right foot, and sits on his right heel. He places his left elbow over his left knee so that his left upper arm rests on the flat portion of his knee. He places the butt of the stock into the pocket of the right shoulder, grasps the small of the stock with the right hand, and holds his right elbow high enough to maintain a good pocket in his shoulder. He completes the position by shifting the majority of his weight forward, obtaining a spot weld and then relaxing. The important features of the position may be reviewed by referring to the steady hold factors in paragraph 11.

c. The inserts in figure 8 show two additional methods of positioning the right foot in the kneeling position. A firer experiencing difficulty with the normal position, should try these positions to determine which is more suitable for him.

17. Kneeling Supported Position

(fig. 9)

The kneeling supported position is assumed in exactly the same manner as the kneeling unsupported position. When the firer shifts his weight forward, he allows his left hand and arm to come in contact with a support. He insures that the rifle does not touch the support.



Figure 8. Kneeling unsupported position.

18. Foxhole Position

(fig. 10)

a. The foxhole position is used in defensive situations or in other situations where prepared positions are available. The soldier must adjust a foxhole to fit his height by adding or removing dirt or sandbags.

b. To assume the foxhole position, the firer stands with both feet firmly placed. He leans forward until his chest is against the forward



Figure 9. Kneeling supported position.



Figure 10. Foxhole position.

edge of the foxhole. He places his left hand and wrist on the parapet and places his left elbow on or against solid support. He positions the butt of the stock into the pocket of his right shoulder and grasps the small of the stock with his right hand. He places his right elbow on or against solid support. The firer completes the position by obtaining a spot weld and then relaxing. The firer does not permit the rifle to touch the support. Refer to paragraph 11 for the important features of the position.

19. Standing Unsupported Position

(fig. 11)

a. The standing position is used in the assault and to engage surprise targets which appear at close ranges. It is normally used when engaging targets less than 100 meters in range and when the firer is constantly firing and moving.

b. To assume the standing position, the firer faces his target, executes a right face, and spreads his feet a comfortable distance apart. With his right hand at the small of the stock, he places the butt of the stock high against his shoulder so that the sights are approximately level with his eyes. He holds his right elbow high to form a good pocket for the butt of the stock and to permit him to exert a strong upward and rearward pressure with his right hand. He holds the majority of the weight of the rifle with the right hand. He places his left hand at the forward edge of the floorplate of the trigger housing group to support and steady the rifle. To complete the position, the firer shifts his feet until he is aiming naturally at his target and relaxes his weight downward and evenly on both hips. If the firer cannot obtain a spot weld between the thumb and cheek without straining, he should press his cheek firmly against the side of the stock. He should make this contact as far forward as possible without straining and should try to remember the position. The important features of the position are covered under the discussion of the steady hold factors in paragraph 11.

20. Firing Data Card

a. A firing data card similar to the form shown in figure 12 is recommended for use in preparatory marksmanship training and 25-meter firing. It provides the soldier with a record of his calls and hits, the position used, and the sight settings for each shot group he fires on the 25-meter range. It also allows him to record his battlesight zeroing and the final zero obtained.

b. If used properly, the firing data card is an aid to both the soldier and instructor. The card used in conjunction with the targets retained will enable the instructor to determine the firer's progress and to analyze any weaknesses revealed.



Figure 11. Standing unsupported position.

c. The card should be maintained as indicated on the sample form in figure 12. The calls should be plotted after each shot. The group is plotted on the hit target when the firer goes down range to examine his target. It is not visualized that the Firing Data Card will be used after period eight, except for reference.

21. Corrective Instruction

a. Corrective instruction is given to those soldiers who are having unusual difficulties during preparatory marksmanship training and 25-meter firing. It is designed to give individual instruction to those

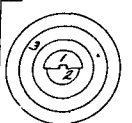
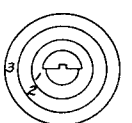
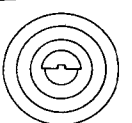
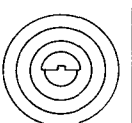

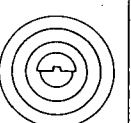
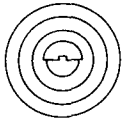
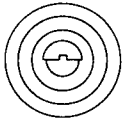
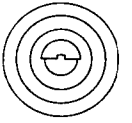
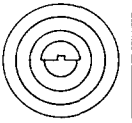
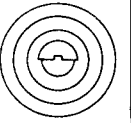
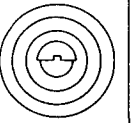
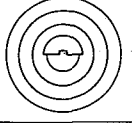

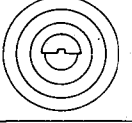
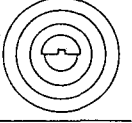



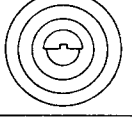
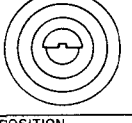
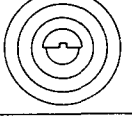


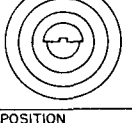
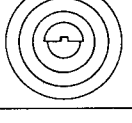
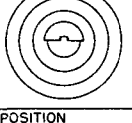
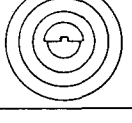


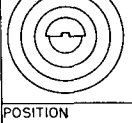
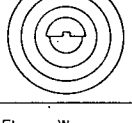
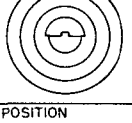
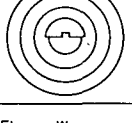
19] CALL TARGET 	HIT TARGET 	25] CALL TARGET 	HIT TARGET 	31] CALL TARGET 	HIT TARGET 
POSITION UN-SQUATTING SUPPORTER	EL <u>12</u> W <u>0</u>	POSITION	EL ____ W ____	POSITION	EL ____ W ____
20] CALL TARGET 	HIT TARGET 	26] CALL TARGET 	HIT TARGET 	32] CALL TARGET 	HIT TARGET 
POSITION	EL ____ W ____	POSITION	EL ____ W ____	POSITION	EL ____ W ____
21] CALL TARGET 	HIT TARGET 	27] CALL TARGET 	HIT TARGET 	BATTLESIGHT ZEROING	
POSITION	EL ____ W ____	POSITION	EL ____ W ____	1st GROUP 	2nd GROUP 
22] CALL TARGET 	HIT TARGET 	28] CALL TARGET 	HIT TARGET 	EL <u>14</u> W <u>0</u>	EL <u>13</u> W <u>5R</u>
POSITION	EL ____ W ____	POSITION	EL ____ W ____	3rd GROUP 	4th GROUP 
23] CALL TARGET 	HIT TARGET 	29] CALL TARGET 	HIT TARGET 	EL <u>12</u> W <u>5R</u>	EL <u>12</u> W <u>5R</u>
POSITION	EL ____ W ____	POSITION	EL ____ W ____	5TH GROUP 	6TH GROUP 
24] CALL TARGET 	HIT TARGET 	30] CALL TARGET 	HIT TARGET 	NAME <u>HIGGINS, SAM L.</u>	
POSITION	EL ____ W ____	POSITION	EL ____ W ____	UNIT <u>Co B, 85TH INF</u>	
				ASN <u>BA 2004532</u>	
				RIFLE NO. <u>100745</u>	
				250 METER BATTLESIGHT ZERO	
				EL <u>12</u>	W <u>5R</u>

Figure 12. Firing data card.

(Reverse side contains 18 blocks of the same type numbered 19-32)

soldiers who reveal weaknesses which should be corrected before they continue the normal training or who are not progressing satisfactorily.

b. Corrective instruction is commonly referred to as the corrective platoon. It is conducted on one end of the firing line or in a rear area. Instructors for the corrective platoon should be selected for their ability to detect and correct errors and should direct their efforts toward correcting specific deficiencies, coordinating their instruction

so that the soldiers in the corrective platoon can attend all formal instruction given in the bleachers. The soldiers should, however, return to the corrective platoon for all practical work periods until the instructor in charge is satisfied that they have overcome their deficiencies.

c. To assist instructors in determining and analyzing individual deficiencies and to check the progress being made, each soldier is required to maintain a progress envelope or folder. In this folder he places each 25-meter target on which he has fired. He also keeps Firing Data Cards, Target Analysis Sheets, and scoresheets in the envelope.

22. Progress Check on the Components of Shooting

At the completion of preparatory marksmanship training and prior to battlesight zeroing, a progress check is conducted on the 25-meter range to determine whether or not the soldiers are ready to progress to field firing. They are required to fire a three-round shot group from each of the eight positions taught. Each position is marked *pass* or *fail* based on the size of the shot group. A scoring template (fig. 26) is used by the assistant instructors to determine whether or not the groups are satisfactory. More precision is required from the foxhole and prone supported positions because either of these positions may be used in battlesight zeroing. Weaknesses revealed in the progress check are used to direct subsequent instruction toward the specific deficiencies of individual soldiers.

CHAPTER 4

FIELD FIRING AND RECORD FIRING

23. General

a. Field firing provides the soldier practice in firing on field targets at various ranges, from different firing positions and within certain time limits. Eighteen hours of training are devoted to field firing problems. These hours are arranged so that while a portion of the company receives field firing, the other portion receives target detection training, 25-meter firing, or training in an additional ATP subject.

b. Record firing tests the soldier's ability to detect and hit combat-type targets in their natural surroundings at unknown ranges. Eight hours are allocated for record firing.

c. The following paragraphs briefly describe the training in field firing and record firing. For a detailed explanation of the conduct of this training refer to the lesson plans in the appendix.

24. Battlesight Zeroing

Prior to receiving training in field firing, the soldiers zero their rifles to determine their battlesight settings. They fire 3-round shot groups at a target placed at a range of 75 meters. The target consists of a black paster, 8.5 centimeters square, affixed to an E-type silhouette. The firer aims at the bottom of the paster and adjusts his sight until the center of the shot group is moved to the center of the top of the paster. The resulting zero is his 250-meter battlesight zero. With this sight setting he can hit his point of aim at 250 meters. After zeroing and adjusting or calibrating the sights to the zero, there is no necessity for further sight adjustments in either elevation or windage. The soldier can confirm his zero at a later period prior to record firing. Hold-off, or the commonly referred to term, "Kentucky windage," is a technique applied to compensate for the effect of the wind in field and record firing.

25. Field Firing.

a. Field firing is conducted on a field firing range at pop-up targets which appear at ranges of 75, 175 and 300 meters (fig. 13). For a description of the range see paragraph 36. To assist the instructor a firing table is provided within each lesson plan showing the sequence of the targets and the time limit, if appropriate. Also a scoresheet is provided as a guide for local reproduction. The use of the scoresheet assists in maintaining a competitive spirit within the unit and pro-

vides a means of determining those individuals in need of corrective instruction.

- (1) *Introduction to field firing.* This introduction consists of giving the soldier practice in engaging pop-up targets at various ranges from supported and unsupported positions. The firer will engage targets at all three ranges from each position. No time limit is established for this firing. Emphasis is placed on aiming, to include selection of proper aiming point and the proper application of steady hold factors in all positions. The selection of the proper aiming point involves aiming at the bottom of the target at ranges of 75 and 175 meters and approximately halfway up on targets at 300 meters. When targets are in natural surroundings, only part of the actual target can be seen. Since targets on the field firing

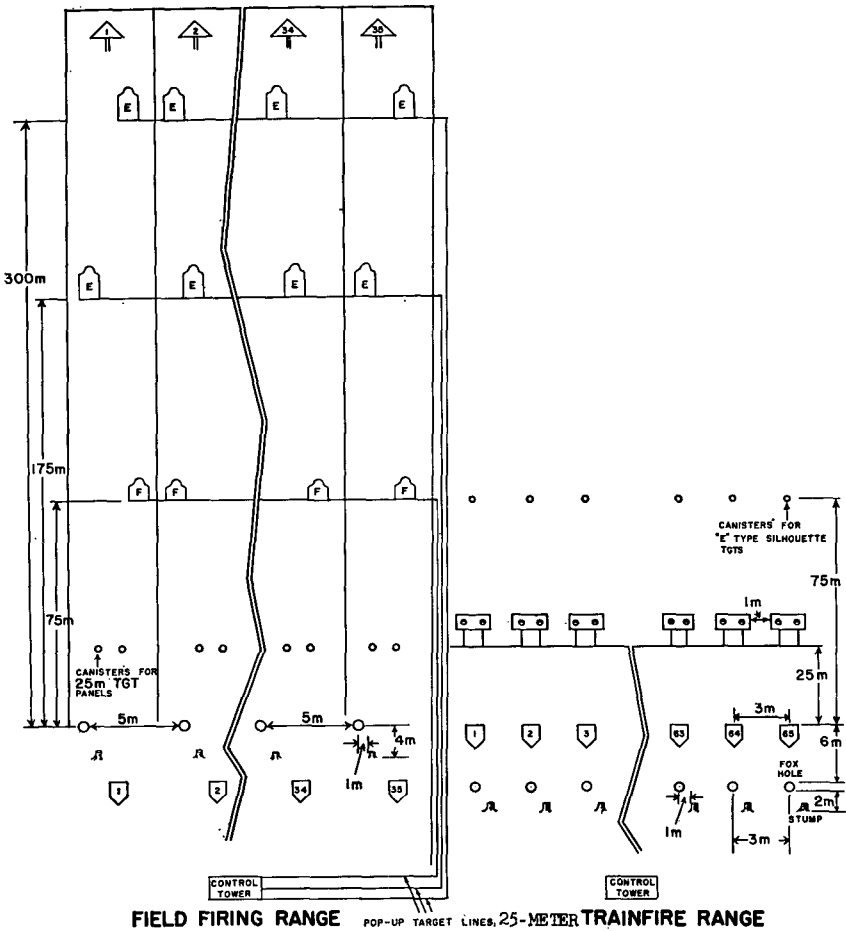


Figure 13. Field firing range and 25-meter TRAINFIRE range.

range are not camouflaged it is necessary to have the firer aim a little high on the 300-meter target. This aiming point is then approximately equivalent to the lowest visible edge of the target if partially camouflaged. This accustoms the firer to aiming at the lowest edge of visible mass, a technique which reduces the possibility of shooting over the target and increases the possibility of hits or short misses. Rounds which fall short give the firer an indication of where he is hitting, and subsequent rounds can be adjusted to hit the target. Aiming low on the target also increases the possibility of ricochets.

- (2) *Simulated advance of stationary targets.* Soldiers receive practice in firing on simulated approaching targets. They engage targets from various prescribed positions, with emphasis on the foxhole position. The targets appear at 300, 175, and 75 meters in that order. This sequence is repeated several times. The 300- and 175-meter targets are exposed for 10 seconds; the 75-meter target for 5 seconds. In this period emphasis is placed on applying correctly the principles of aiming and steady hold within specified time limits.
- (3) *Field firing on surprise targets.* Soldiers receive practice firing at surprise targets from supported and unsupported positions, and practice reloading from all positions. Targets are exposed for brief periods; 10 seconds for the 300-meter target, 7 seconds for the 175-meter target, and 5 seconds for the 75-meter target. Firing positions are prescribed by the instructor; however, the sequence in which the targets appear is not announced.
- (4) *Advancing on surprise targets and firing from prescribed positions.* This training gives the soldier controlled practice in moving with a loaded weapon, assuming firing positions rapidly, and engaging surprise targets that are exposed only briefly. The time limit for the target exposures is the same as for the preceding period. The instructor announces a prescribed position and the location from which the firer will engage the target, but the sequence in which the targets appear is not announced. It is in this period that the soldier receives practice in reacting to a target by assuming the designated position and then engaging the target within the time limit. Emphasis is placed on the rapid and proper assumption of the position, along with speed in reloading.
- (5) *Advance on surprise targets and firing from an optional position.* This period is similar in purpose and conduct to the preceding period except the firer must choose his own position. The soldiers advance and engage targets which appear at various ranges for previously specified periods of time.

Emphasis is placed on assuming a stable position rapidly to insure a well-aimed shot. The firer is instructed to engage a close range target from the position he is in, or from the standing position. For long range targets he is instructed not to use the standing position due to its instability.

- (6) *Field firing on distant stationary targets.* This period gives the soldier practice in engaging medium and distant range surprise targets from a defensive or foxhole position. Firers engage the 300- and 175-meter targets from the foxhole position. The targets are exposed for 10 and 5 seconds respectively. Soldiers are given the opportunity to confirm their battlesight zeros concurrently with this period.
- (7) *Engaging multiple surprise targets from a stationary position.* The purpose of this period is to give the soldier practice in engaging multiple surprise targets from a stationary position and further practice in reloading and application of immediate action. The soldier will fire from a foxhole position at targets spaced over two lanes. More than one target appears at a time and the soldier is required to shift from target to target in order to hit all targets in his sector. The firer has 2 minutes in which to engage 8 targets, reloading and clearing stoppages as required. Forced stoppages are incurred by placing one dummy round in each clip of ammunition. The soldier is instructed to fire on the closest targets first, since they are the most dangerous. If he fails to hit a target with his first round he may attempt a second shot. However, if he does not hit the target on the second try he must engage the next target. Subsequent firing introduces a close range of 75-meter target to the above-mentioned sequence. The firer is required to immediately engage the 75-meter targets, regardless of the exposed longer range targets. To retain emphasis on first round hits, two points are given for targets hit with the first round and one point for those hit with the second round.
- (8) *Engaging multiple surprise targets while advancing.* This period is similar in purpose and conduct to the previously described period, except the firer is required to advance. All firing is from a supported or unsupported position of the firer's choice. The soldier has one minute to engage 4 targets, reloading and clearing stoppages as required. He makes three advances, and a close range target is introduced in each.

b. Instructors should remember the following points in order to insure success in the conduct of field firing problems:

- (1) *Plan, prepare and organize all periods of instruction.*
- (2) *Insure that assistant instructors are trained and observant in*

all periods of instruction. They are the “key to success.” As a guide, one assistant instructor should be provided for every 10 soldiers being trained.

- (3) *Maintain motivation of firers.* Competition between squads and/or platoons is encouraged. Scoresheets are provided for all field firing problems to aid in the administration of competition and, more important, to assist the instructor in determining the deficient firers. It is recommended that rewards be given to winning groups in the form of extra privileges or awards.
- (4) *Allow for individual instruction.* Insure that corrective instruction is given to deficient firers. An open lane on the Field Firing Range or the 25-meter Range may be utilized for this purpose.
- (5) *Eliminate speed.* Do not require firers to double time on the range or to fire with incomplete instructions. Increase the time between exercises by giving proper instructions and conducting critiques. Use lesson outlines as a guide to insure that important points are emphasized.

26. Record Firing

a. Record firing is conducted on a Record Firing Range (fig. 14). See paragraph 36 for a description of the range. The purpose of record firing is to test the soldier's ability to detect and hit single combat-type targets in their natural surroundings at unknown ranges. The course achieves combat realism by—

- (1) Using camouflage to represent enemy cover and concealment.
- (2) Leaving natural cover and terrain undisturbed when placing targets.
- (3) Using olive drab, pop-up silhouette targets.
- (4) Exposing targets briefly, irregularly, and at unknown ranges. (A firing table is provided in period seventeen, the appendix, showing the sequence and exposure time of the targets to be presented.)
- (5) Requiring the soldier to fire from a supported position (fox-hole) and unsupported positions of his own choosing.
- (6) Requiring the soldier to wear his combat pack and steel helmet.

b. The course requires the soldier to engage 32 pop-up targets at ranges 50 to 350 meters from the foxhole position. This is accomplished by firing at 8 targets in each of 4 lanes. It also requires the soldier to engage 24 pop-up targets from an unsupported position of his choice as he moves forward slowly. The soldier has a total of 56 targets exposed to him. He is permitted to fire only one round at each target. He receives no credit for unexpended rounds—*only hits count.*

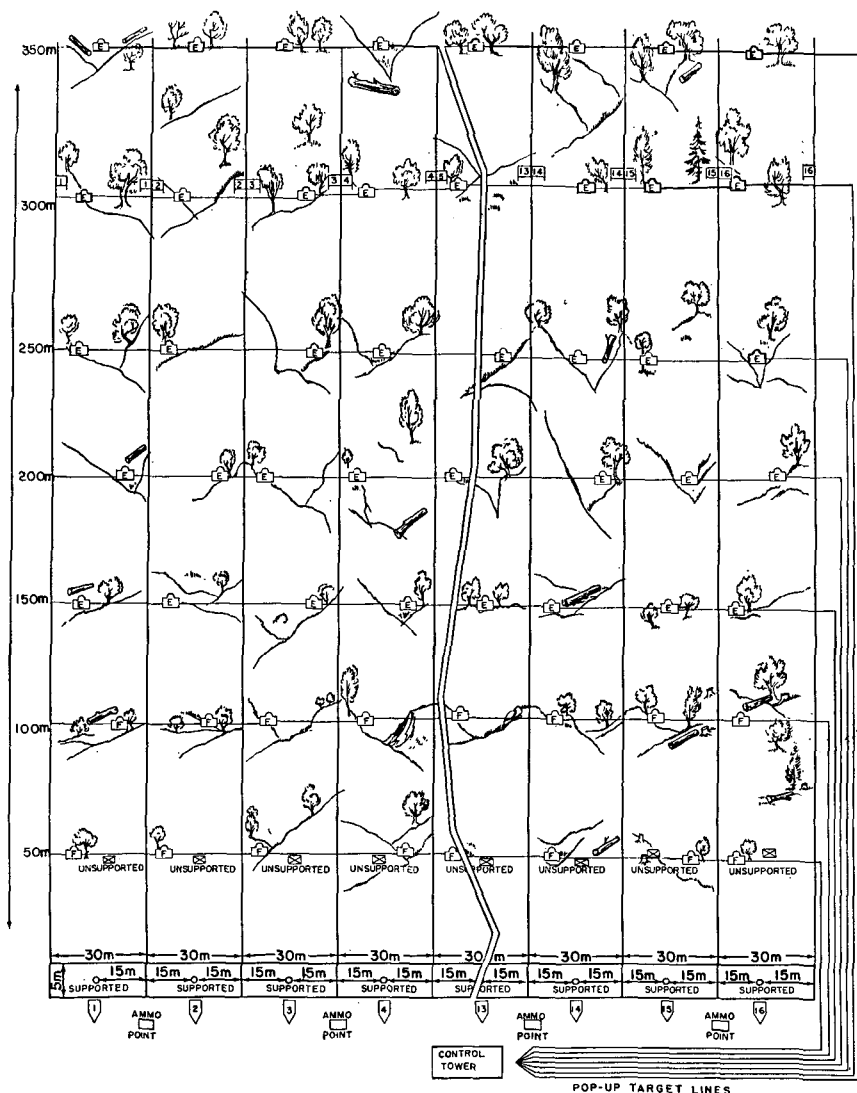


Figure 14. Record firing range.

c. The course is fired twice for record. In each firing the soldier is required to fire over four different lanes. It is recommended that the firing be conducted so that the half of the company which fires in the morning of the first day fires in the afternoon of the second day. This tends to equalize the light conditions which affect the ability of the firer to detect targets on the record firing course.

d. The scores obtained on each firing are added to determine the qualification score. The minimum qualification scores are—

Expert.....	68
Sharpshooter.....	54
Marksman.....	36

e. For the proper conduct of record firing, all range personnel must be trained. For a suggested plan, refer to annex III, period seventeen, the appendix. In particular, scorers must be trained in observing targets and recording scoresheets. The validity of record scores is dependent upon the performance of the scorers.

CHAPTER 5

TARGET DETECTION

27. General

a. Target detection training provides the soldier with the opportunity to practice detecting hidden and partially hidden targets in their natural surroundings. It also gives the soldier practice in locating targets by the sound of rifle fire. The training develops the following major skills:

- (1) Locating hostile personnel targets by observation and sound.
- (2) Marking positions of targets by using reference points.
- (3) Estimating range to targets.

b. The training is conducted on ranges located in the vicinity of the field firing ranges (fig. 15). Upon completion of the target detection training, tests are administered concurrently with record firing on ranges located in the vicinity of the Record Firing Range. For a description of the target detection ranges see paragraph 36 of chapter 6.

28. Target Indications

a. The soldier is taught to detect human targets that are located at likely hostile positions within the range area. These targets perform various indications which are grouped into four phases. The general sequence of the four phases are—

- (1) *Phase 1*, The target is well camouflaged and motionless, making it almost impossible to detect.
- (2) *Phase 2*, The target makes slow up and down movements.
- (3) *Phase 3*, The target makes sharp, fast movements.
- (4) *Phase 4*, The target fires one blank round at the observation line.

b. The targets performing the above indications will occasionally use poor camouflage techniques in the second and third phases. The dangers of shine, regularity of outline, and contrast with background will be shown.

c. Soldiers on the observation line are given 30 seconds to search the area and find the target during each phase. When a target is observed within the specified time limit in any one of the four phases, the observer marks his score sheet, estimates the range, steps back three paces and is checked by an assistant instructor. Throughout target detection training the soldier is required to estimate the range to all of the targets detected. The soldier is also instructed and required to assume the correct position for observing. This position

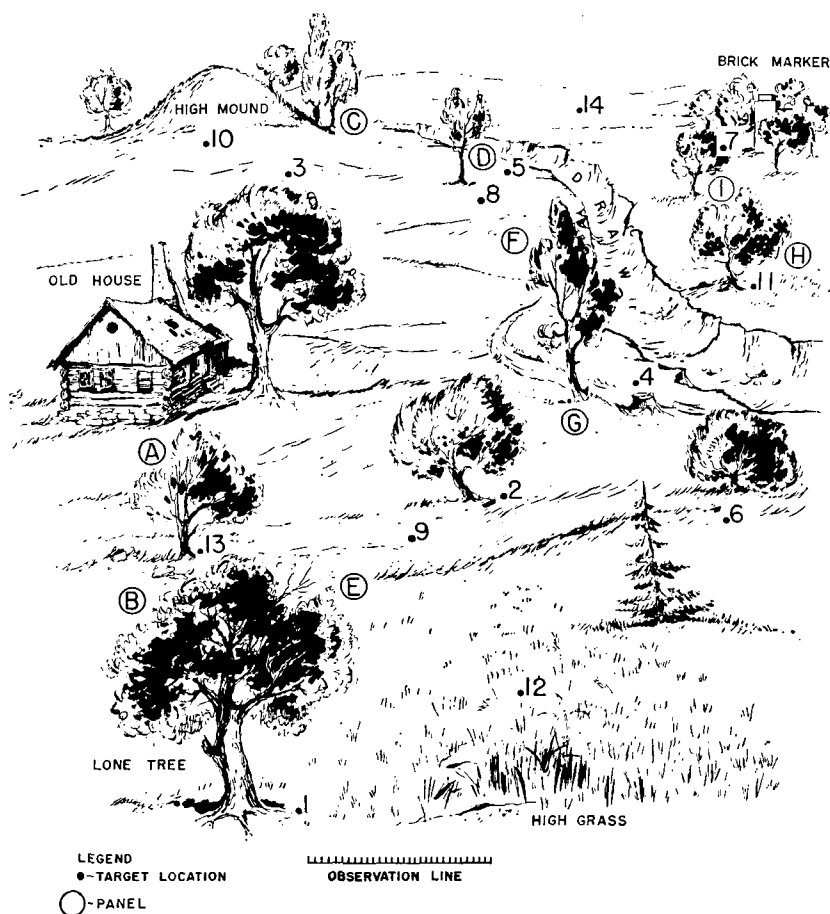


Figure 15. Target detection range.

is the lowest the soldier can assume and still be able to observe the entire area dangerous to him.

d. In addition to the scheduled periods of target detection, soldiers should be encouraged to look over fields as they travel to different problems or while waiting for instruction to begin. This enables them to develop and maintain their target detection ability at a high level.

29. Camouflage

Camouflage training is interspersed throughout all periods of target detection. However, formal instruction and practical work in personal camouflage is also conducted. The dangers of shine, regularity of outline, and contrast with background are emphasized. In addition, the soldier is taught rules of camouflage and types of movement such as crawling and rushing. Refer to FM 21-75.

30. Searching an Area

Prior to receiving practical work in target detection, the soldier is instructed in the method of searching an area. Searching is divided into two periods. The first is the initial, brief (30 seconds or less) examination of the entire area. This is essential for the immediate observation of definite enemy activity which could be directed at the soldier. The second period consists of the more thorough and systematic search that is maintained by all men on observation duty. This is accomplished by searching in 50-meter, overlapping strips beginning with the area most dangerous to the observer. Success in searching an area depends upon the observer's ability to detect target indications, and violations of the rules of camouflage.

31. Detecting and Marking Single Moving Targets

a. The soldier is introduced to this phase by a discussion and demonstration of the principle that smart riflemen keep their opponents off balance by varying rushes; for example, making some long and some short, varying the intervals between rushes, staying concealed for different lengths of time, and rolling or crawling to new positions. The soldier is then instructed on marking and aiming at targets by the use of a nearby object as a reference point. After marking the moving target at the point of its disappearance, the soldier either fires at the point of disappearance or waits until the target reappears. The method he uses depends upon the situation and conditions. The fact that the target drops behind cover or concealment will aid the soldier in his decision. If the target is in concealment the soldier observes the point of disappearance and the area surrounding the point to detect any attempt by the target to roll or crawl away.

b. After receiving the instruction described above, the soldier receives practical work in four phases of target detection similar to the procedure listed in paragraph 28. Targets presented during these phases make fast and slow movements both laterally and forward and disappear behind both good and poor aiming points. Throughout the practical work, emphasis is placed on marking targets mentally, providing they are at a recognizable ground point. However, if a recognizable ground point is not available, a target should be noted according to its relationship to a nearby landmark that is used as a reference point.

32. Detecting and Marking Multiple Moving Targets

a. This training logically follows the detection and marking of single moving targets. Detection of multiple moving targets includes the same basic skills required in detection of single moving targets. Marking the point of disappearance of multiple moving targets is complicated by the following factors:

(1) *Number of targets.* When several targets appear and then

disappear at approximately the same time, the marking of more than one or two is extremely difficult.

- (2) *Exposure of targets.* Moving targets are fleeting and rarely exposed for more than a few seconds. If several targets are exposed for long periods of time, most of the targets may be marked at their points of disappearance. However, if they are exposed for short periods, the number of targets marked will be few. In either case, at least one target should be marked so that effective fire may be placed upon it.
- (3) *Spacing of targets.* When there is considerable distance between targets, emphasis is placed on marking one or two accurately and noting the general area of disappearance of the others for future observation. However, when targets are grouped the soldier is taught to mark and engage as many targets as possible.
- (4) *Good and poor aiming points.* Targets disappearing behind good aiming points can be easily marked for future reference, whereas those disappearing behind poor aiming points necessitate reliance on reference points. The observers are instructed to engage the difficult or poor aiming point targets first.

b. All of the above factors are integrated into this phase of training through discussions and demonstrations and practical work in utilizing various combinations of targets. The aiming device illustrated in figure 24 is used by observers to mark multiple moving targets in the various trials. The aiming device is also used by the instructors to check the correctness of marking of targets by the observers.

33. Detecting and Marking Targets by Sound

Training in locating targets by sound is conducted by conferences, demonstrations, and practical exercises. FM 23-5 stresses the importance of sound, particularly from small arms fire, in locating enemy positions. Therefore, blank ammunition is used to give soldiers practice in locating targets by single and multiple sounds. The soldier can use the sound of firing to pinpoint hostile targets by making a study of the ground and determining the likely hostile firing positions within the area. Soldiers are required to mark likely hostile firing positions on a rough sketch or range card that is checked for correctness prior to the conduct of the practical exercises.

34. Target Detection Tests

Three target detection tests are given concurrently with record firing. These tests are given to test the soldier's ability in detecting and estimating ranges to single stationary targets, marking and detecting single and multiple moving targets, and locating positions of targets by sound of firing.

CHAPTER 6

TRAINING AIDS, RANGES, AND TARGETS

35. Training Aids

a. The TRAINFIRE I Rifle Marksmanship Course calls for the use of a variety of training aids. A description of these training aids may be found in either FM 23-5, local training aids catalogues, or this text.

b. The following is a description of the training aids peculiar to TRAINFIRE I, and also a description of conventional aids that have been modified to be used with TRAINFIRE I.

- (1) Chart, "Cycle of Operation, M1 Rifle" (fig. 16). This chart is used to teach functioning of the rifle according to the eight-step cycle of operation.

CYCLE OF OPERATION

1. FEEDING
2. CHAMBERING
3. LOCKING
4. FIRING
5. UNLOCKING
6. EXTRACTING
7. EJECTING
8. COCKING

Figure 16. Chart, cycle of operation, M1 rifle.

- (2) Aiming Bar, modified. This aid is the same as the one shown in FM 23-5, except that the target has a half bull's-eye. It is used for individual instruction in the corrective platoon.
- (3) Aiming disc for the aiming exercise (fig. 17). This aiming disc is the same as the one shown in FM 23-5, except that the half bull's-eye is used.

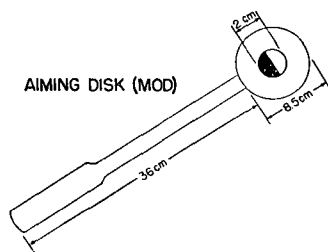


Figure 17. Aiming disc for the aiming exercise.

- (4) Sight picture model, modified (fig. 18). This model is the same as the one shown in FM 23-5, except that the half bull's-eye replaces the conventional one. It is used to demonstrate correct sight alinement and sight picture.

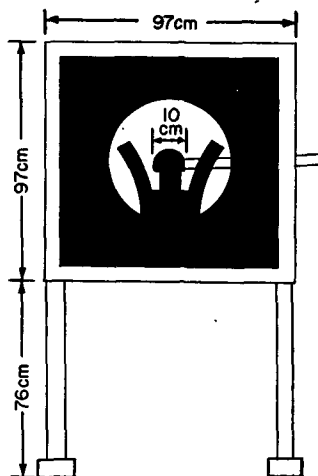


Figure 18. Sight picture model, modified.

- (5) Chart, "Keep Eye Close to Peep" (fig. 19). This chart is used to demonstrate the reason for positioning the eye close to the rear sight while aiming.
- (6) Chart, "Importance of Sight Alinement" (fig. 20). This chart is used to demonstrate the importance of sight alinement by showing the comparative effects of an error in the placement of the aiming point and an error in sight alinement.
- (7) Fixed sight alinement device (fig. 21). This aid, used with an enlarged 25-meter target, is used to teach the method of calling the shot.
- (8) Chart, "Eight Factors of a Steady Hold" (fig. 22), is used to teach the factors of a steady hold that apply to the various firing positions.
- (9) Chart, "Principles of Zeroing" (fig. 23), is used to explain the principles of determining the 250-meter battlesight zero.
- (10) Aiming device, target detection (fig. 24). This device is used on observation points on the target detection range to mark locations of targets.
- (11) Magnetic target (fig. 25). This target is used to teach sight changes using the elevation and windage rule. An A-type rifle target with the bull's-eye modified to a half bull's-eye is placed over the metal plate. Spotters with

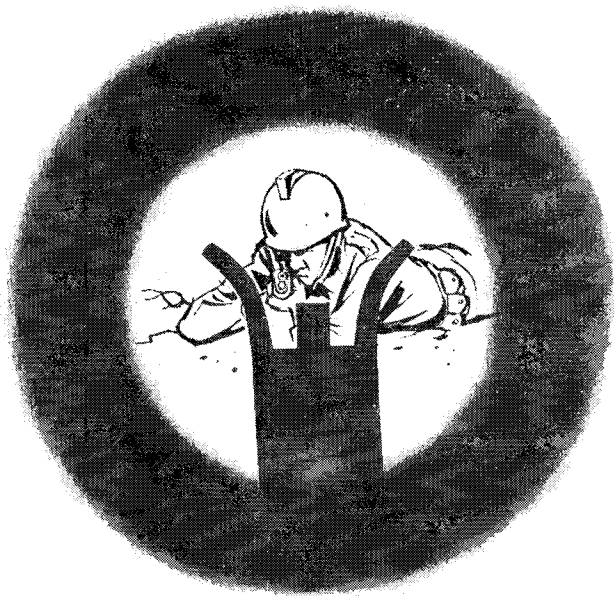


Figure 19. Chart, keep eye close to peep.

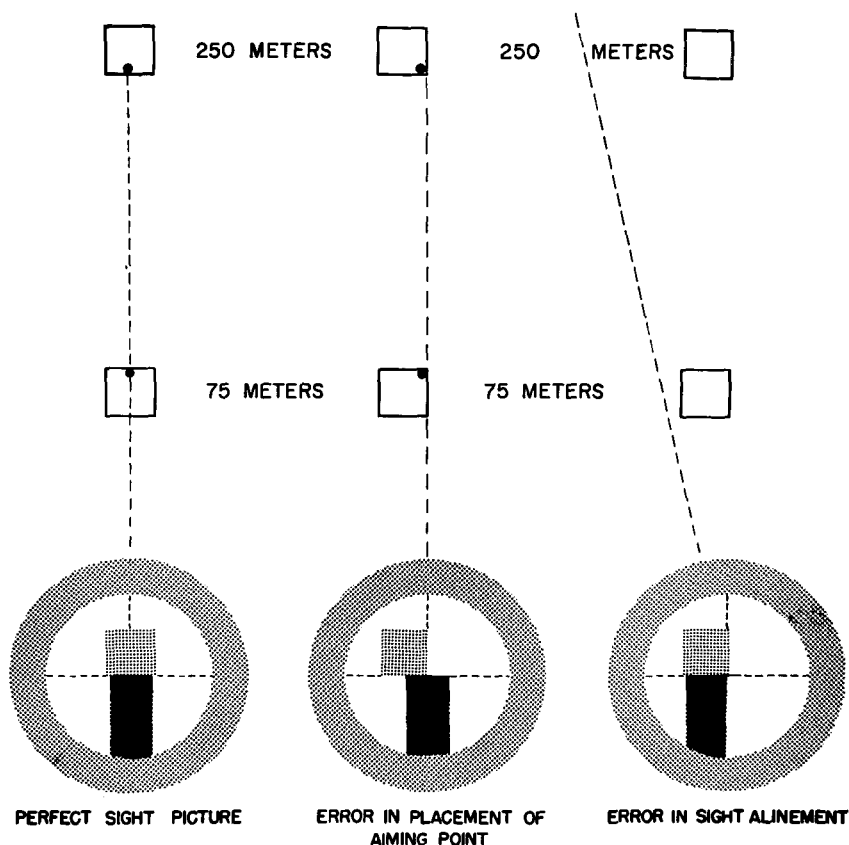


Figure 20. Importance of sight alignment.

small magnets attached are used to locate shot groups on the target.

- (12) Shot group scoring template (fig. 26). This template is used by assistant instructors on the 25-meter range to determine whether or not shot groups are satisfactory.
- (13) Tin discs. These dime-size discs are used for checking the steady hold in firing positions.
- (14) Progress envelopes. These are envelopes or folders large enough to contain such items as target analysis sheets, firing data cards, 25-meter targets, and score sheets which can be used by instructors to analyze the progress of the individual firers.

36. Ranges

The ranges described below and in the accompanying diagrams are considered to be the optimum for use in conducting the TRAINFIRE I Rifle Marksmanship Course. They are based on the training of

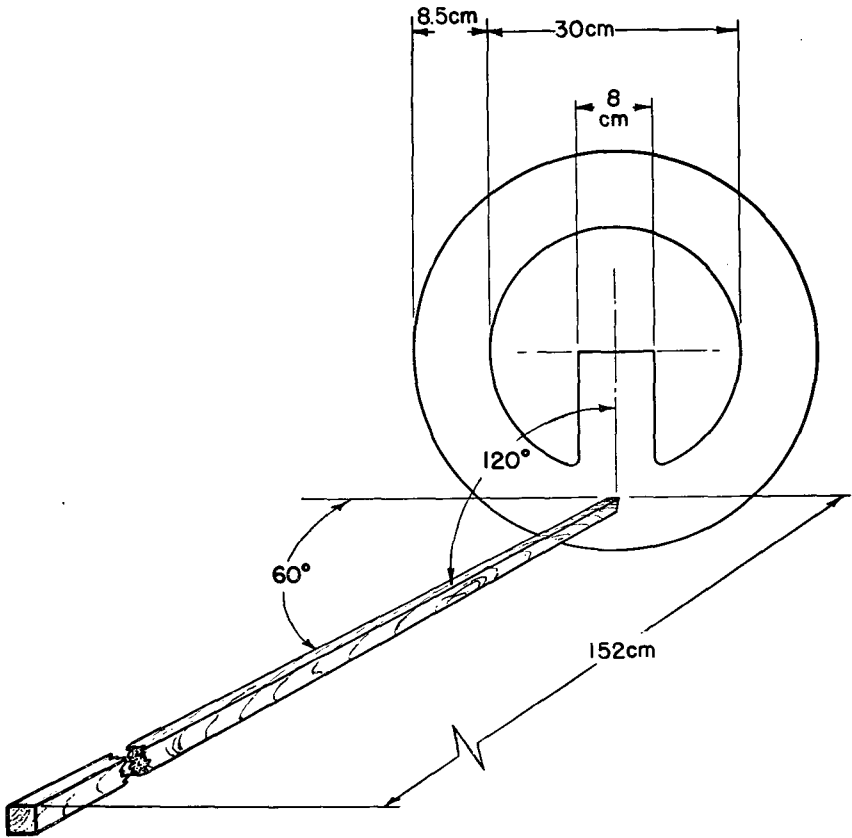


Figure 21. Fixed sight alinement device.

STEADY HOLD FACTORS

1. LEFT ARM AND HAND
2. BUTT IN POCKET OF SHOULDER
3. GRIP OF RIGHT HAND
4. RIGHT ELBOW
5. SPOT WELD
6. BREATHING
7. RELAXATION
8. TRIGGER CONTROL

Figure 22. Chart, eight factors of a steady hold.

a 200-man company in the time allotted for each period of instruction. It is realized that they may be modified to fit local terrain limitations; however, the characteristics must be retained so that they will accomplish the training for which they were designed.

a. *25-meter TRAINFIRE Range* (fig. 13). This range should be constructed adjacent to the Field Firing Range and consist of 65 points with an additional 35 points superimposed on the Field Firing Range, making a total of 100 points. (A 100-point 25-meter range

PRINCIPLES OF ZEROING

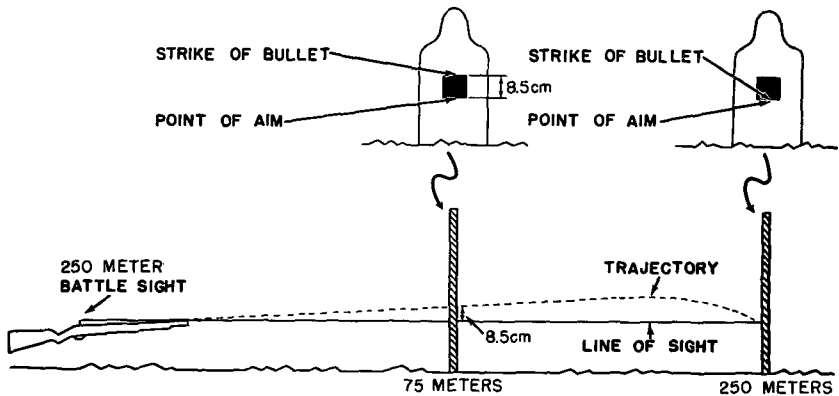


Figure 23. Chart, principles of zeroing.

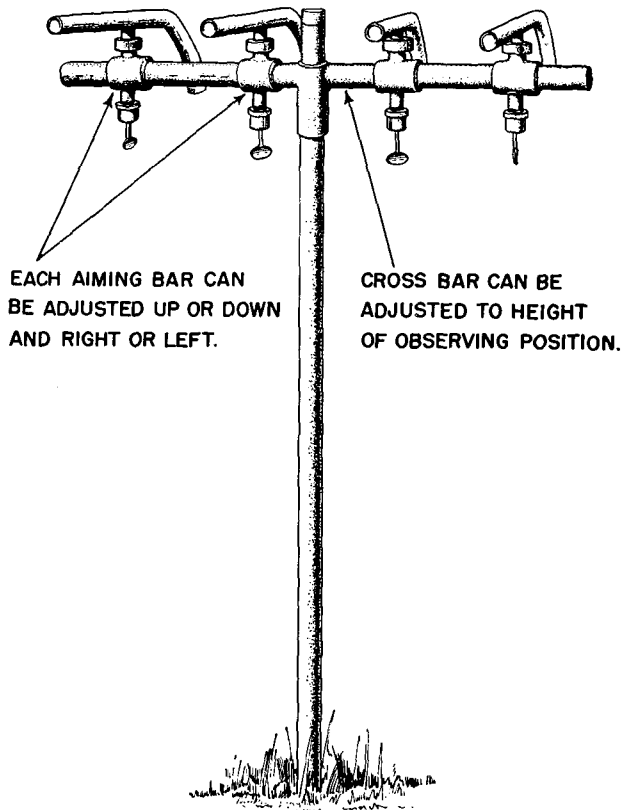


Figure 24. Aiming device, target detection.

is highly desirable, providing space is available.) A minimum of 75 meters depth is required. Standard 25-meter target panels are placed in frames mounted on posts and set in the ground. To make the range flexible, the frames should be capable of being removed easily when not in use. This permits the same range to be used as a 75-meter zeroing range and the Field Firing Range to be used for its primary purpose without interference of the target frames. Foxholes are

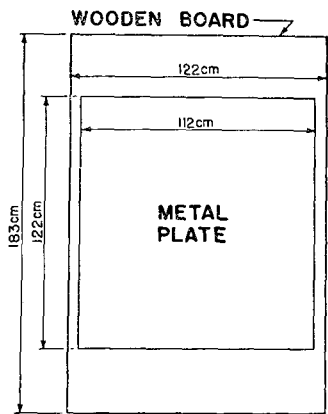


Figure 25. Magnetic target.

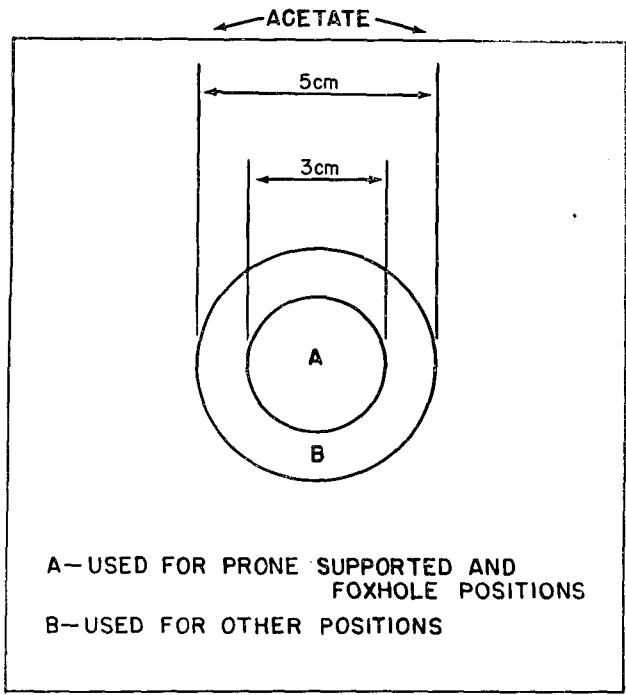


Figure 26. Shot group scoring template.

dug and support for positions provided in the rear of each firing point as shown in figure 13. Canisters are placed in the ground 75 meters to the front of each firing point to accommodate E-type silhouette targets. These targets are used for battlesight zeroing.

b. *Field Firing Range* (fig. 13). This range should be constructed on flat, open terrain and consist of 35 points with foxholes and support provided at each firing point. Pop-up targets are emplaced at ranges of 75, 175 and 300 meters. The 75-meter target devices may be used for the battlesight zeroing. E-type silhouette targets are placed in them for this purpose. Canisters placed in the ground at a range of 25 meters accommodate posts for target frames to give the range the capability of being converted to a 25-meter range.

c. *Target Detection Range* (fig. 15).

- (1) This range should be constructed on terrain which affords a 300-meter visibility with a 60° fan. The terrain should be interspersed with natural cover and concealment and have good landmarks available within the observation field to facilitate the recording of target indications. Lettered panels are placed about the observation field to assist in indicating target locations. The observation line is located on a good tactical firing position to add realism to the training. The range should be located close to other TRAIN-FIRE ranges because target detection training is conducted concurrently with marksmanship training.
- (2) When preparing the range for use, targets are dispersed over the observation field to insure an even distribution of target indications with regard to range and direction, and located where they are adequately visible from all portions of the observation line. At the same time, sufficient concealment should be available so that a prone target can remain unseen. Targets should be located so that no more than two landmarks or panels could be used in referring to their location.
- (3) A minimum of four target detection ranges are required. Two should be convenient to the Field Firing Range and two convenient to the Record Firing Range. These facilities permit target detection training to be given to small groups, which is highly desirable in this type training.

d. *Record Firing Range* (fig. 14). This range should be located on terrain which slopes downward gradually to about 200 meters and then rises to about 400 meters. The terrain is left in its natural state except when trees, bushes, or tall grass render a target completely invisible from the firing line. A range of 16 lanes is recommended; however, a 12-lane range is adequate. Each lane contains seven targets placed at 50-meter intervals to 350 meters. A foxhole is provided at the firing point for each lane.

37. Targets

The following targets are used on the ranges described in paragraph 35.

a. The 25-meter target (fig. 27) is used for 25-meter firing on standard 25-meter target panels. The target is designed to permit the soldier to aim his rifle at the point he intends the bullet to strike. The purpose of the slot on the bottom of the half bull's-eye is to more clearly define the exact aiming point. The rings on the target are not for scoring purposes, but to assist in computing sight changes.

b. F-type silhouette targets are used on the Field Firing and Record Firing Ranges in target devices at ranges of 100 meters or less.

c. E-type silhouette targets are used on the Field Firing and Record Firing Ranges in target devices at ranges of more than 100 meters. They are also used for zeroing battlesights at a range of 75 meters. A black paster 8.5 centimeters by 8.5 centimeters is affixed to the target when used for this purpose.

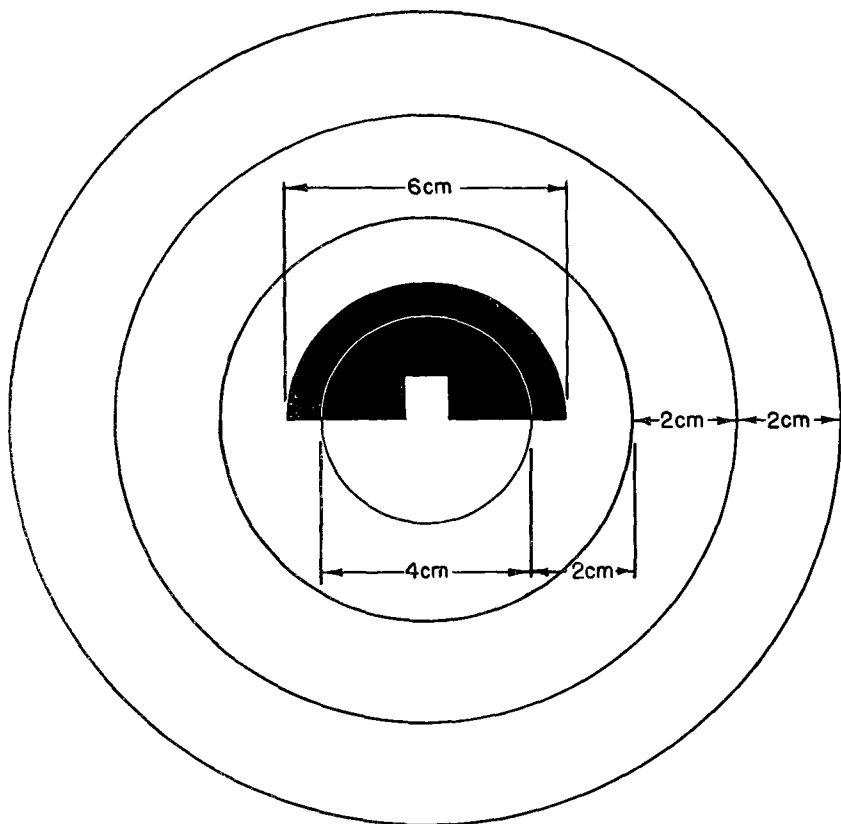


Figure 27. 25-meter target with dimensions.

d. A pop-up target device is used on the Field Firing and the Record Firing Ranges. It is an electrically powered mechanism that presents a pop-up, camouflaged silhouette to the rifleman. The target simulates a human figure that suddenly appears, remains exposed in the same position, then disappears. Its working mechanism is placed in a hole or trench so that only the silhouette target is visible to the observer. The target is operated by remote control. It can be raised to a vertical position by the operator, and it can be lowered by the operator or by the impact of a bullet. The main advantage of the pop-up target device is the increased realism it provides in marksmanship training. It presents a "killable" target to the soldier because it automatically falls when hit by a bullet. This allows the soldier to measure his accuracy immediately.

APPENDIX

LESSON PLANS

PERIOD ONE

ORIENTATION

HOURS:	1-2.
PURPOSE:	To orient the soldier on the role of the combat rifleman; to acquaint him with the capabilities and limitations of his rifle; and to motivate his desire to become an expert shot.
INSTRUCTOR REFERENCES:	FM 23-5.
INSTRUCTIONAL AIDS:	<ul style="list-style-type: none">1 M1 clip of dummy rounds per assistant instructor and soldier.1 M1 rifle per assistant instructor.Film Bulletin 272, "Infantry Weapons and Their Effects."Miscellaneous Film 918, "This is the Infantry."1 Movie projector w/sound.1 Wire pointer for each assistant instructor.1 Combination tool for each assistant instructor.1 Chair per soldier and assistant instructor.Tables (sufficient to make 10-man setups).First Aid box.
INDIVIDUAL EQUIPMENT:	M1 rifle and combination tool.
PHYSICAL FACILITIES:	Classroom equipped with opaque window shades, movie screen, and sound system with microphone. Tables and chairs arranged for 10-man groups.
PERSONNEL:	<ul style="list-style-type: none">1 Principal instructor.1 Assistant instructor per 10 men.
SAFETY FACTORS:	All dummy rounds are checked for live rounds.
ORGANIZATION:	Class divided into 10-man groups, each group supervised by one assistant instructor.

TIME BREAKDOWN

<i>Time in Minutes</i>	<i>Type of Instruction</i>	<i>Subject</i>
5	D, PE-----	Clearance of Rifles.
15	Film, C-----	"Infantry Weapons and Their Effects."
5	C-----	The U. S. Soldier and the M1 Rifle.
15	Film, C-----	"This is the Infantry."
10	C-----	General data.
10	-----	BREAK.
10	D, PE-----	Building the Clip.
20	D, PE-----	Loading and Unloading the Rifle.
3	D, PE-----	Operating the Rifle as a Single Loader.
5	D, PE-----	Loading a Partially Filled Clip.
2	D-----	Firing the Rifle and Setting the Safety.
10	D, PE-----	Adjusting the Tension of the Rear Sight.

LESSON OUTLINE

1st Hour:

a. Clearance of Rifles (5 Min).

- (1) Talk assistant instructors through the proper sequence for clearing a rifle. Open the bolt, place the safety on, and then inspect the chamber.
- (2) Have the soldiers clear their rifles under the supervision of the assistant instructors.
- (3) Have the assistant instructors and soldiers inspect all dummy rounds to make sure there are no live rounds.

b. Infantry Weapons and Their Effects (15 Min).

- (1) Explain that the film is being shown to familiarize the soldiers with the firepower of the M1 Rifle. References to the Automatic Rifle and to preparatory marksmanship in the film do not apply to TRAINFIRE.
- (2) Show FB 272, "Infantry Weapons and Their Effects."
- (3) Answer any questions pertaining to the film.

c. The U. S. Soldier and the M1 Rifle—A Fighting Team (5 Min). Narrative:

THE DEVELOPMENT OF THE RIFLE.

This is a rifle. It was developed because people wanted something better with which to hunt and fight. Rifles haven't always looked like this one. They can be traced to an ancient relative, the crossbow. That weapon has a stock similar to this one, sights, and a stringlike material with which to throw an arrow to a target. The crossbow was effective in its day, but its range was limited and it could not be aimed accurately. Neither could it be reloaded quickly. Consequently, the string was soon changed to a powder charge and the arrow became a bullet. That bullet, even one hundred years ago, was fired in a rifle that had to be loaded through the muzzle of the barrel with only one shot at a time.

Improvements were made over the years and man soon discovered a way to load the rifle with more than one shot at a time. Finally the caliber .30 M1 rifle was developed. This rifle, the best military rifle in use today, permits the rifleman to fire 8 rounds as fast as he can press the trigger. It lets him reload with 8 more rounds in one simple operation.

The M1 rifle used by the modern infantryman is a far cry from its Civil War counterpart. During the Civil War an experienced rifleman could fire about one aimed round a minute. With the M1 rifle the U. S. soldier today could possibly hold off a whole platoon of men armed with the old-fashioned rifles.

THE IMPORTANCE OF THE U. S. RIFLE.

Today's trained rifleman is the most important man in the world. He is charged with the defense of our nation. He is not a man to be underestimated, for as long as there is a battleground to be won, the rifleman will be the person to take and hold that ground.

ADVANTAGES OF THE M1 RIFLE.

The M1 rifle is the best military rifle ever developed and it is superior to military rifles used by any foreign nation. It will fire even under the most adverse conditions. As we saw in the film, it is powerful (review examples of penetrating power). With it, a rifleman can fire up to 500 meters accurately.

Before we adopted the M1, we used a bolt action Springfield rifle. The firer was required to pull the bolt to the rear and then push it forward again each time he wanted to fire. With the M1 he needs only to press the trigger each time he wants to fire.

THE RELATIONSHIP OF THE SOLDIER TO HIS RIFLE.

Each of you has the M1 rifle we have discussed. During the next few weeks you and your rifle will be trained as a fighting team. You will learn to fight as a unit. Remember your rifle is useless to you and the Army unless you know how to aim at a target and score a hit. This course has but one purpose—to make you an expert combat rifleman. Learn well what we teach you about your rifle; when you do, you can go into combat confident that you know your job.

d. This is the Infantry (15 Min).

- (1) Show Misc. Film 918, "This is the Infantry."
- (2) Briefly review MF 918. Point out that every soldier is basically an infantryman and must be prepared to fight as an infantryman. He will be prepared only when he and his rifle have been trained as a fighting unit.
- (3) Answer any questions that pertain to the film.

e. General Data (10 Min).

- (1) Explain what is meant by each of the following:
 - (a) Caliber .30.

- (b) Gas operated.
- (c) Clip loaded.
- (d) Semiautomatic.
- (e) Air cooled.
- (f) Shoulder weapon.
- (2) Have assistant instructors point out the following parts:
 - (a) Front sight.
 - (b) Gas cylinder lock screw with valve assembly.
 - (c) Gas cylinder lock.
 - (d) Gas cylinder.
 - (e) Bayonet stud.
 - (f) Stacking swivel.
 - (g) Stock ferrule swivel.
 - (h) Upper hand guard.
 - (i) Bolt.
 - (j) Rear sight.
 - (k) Clip latch.
 - (l) Trigger guard.
 - (m) Trigger.
 - (n) Safety.
 - (o) Stock.

f. BREAK (10 Min).

2d Hour:

g. Building the Clip (10 Min).

- (1) Have assistant instructors demonstrate the correct method of holding the clip.
- (2) Demonstrate the method of placing the rounds in the clip by talking the assistant instructors through the sequence. Show the soldiers that the first round should be placed on the left so that the top round will be on the right. Explain why the top round should be on the right. Stress that the soldier constantly checks the clip as he is building it to make sure there are no long rounds in the clip. Explain what is meant by long rounds.
- (3) Conduct practical work by having the soldiers place 8 rounds in the clip. Have assistant instructors supervise the practice.

h. Loading and Unloading the Rifle (20 Min).

- (1) Emphasize that the safety should be on except in continuous firing.
- (2) Demonstrate how to hold the rifle while loading.
- (3) Demonstrate where to place the clip in the receiver of the rifle.
- (4) Demonstrate the position of the right hand, right thumb, and elbow when placing the clip all the way into the receiver.
- (5) Demonstrate how to hold the rifle when unloading.

- (6) Demonstrate how to remove the first round, and then how to remove the clip containing the remaining rounds.
 - (7) Conduct practical work in loading and unloading. Have soldiers load the rifle, unload the rifle, and then rebuild the clip several times.
- i. Operating the Rifle as a Single Loader (3 Min).*
- (1) Demonstrate how to load one round into the chamber of the rifle. It is best to do this with the muzzle down so that the round will not fall out of the chamber.
 - (2) Demonstrate how to unload one round.
 - (3) Have soldiers conduct practical work in loading and unloading one round.
- j. Loading a Partially Filled Clip (5 Min).*
- (1) Demonstrate how to load a partially filled clip of three rounds by first inserting the empty clip and then pressing each round into position on top of the follower.
 - (2) Have soldiers load a partially filled clip of three rounds and then unload.
- k. Firing the Rifle and Setting the Safety (2 Min).*
- (1) Demonstrate how to fire the rifle (press the trigger to the rear).
 - (2) Cock the weapons and demonstrate how to place the safety on and off.
- l. Adjusting the Tension of the Rear Sight (10 Min).*
- (1) Discuss the reasons for having the correct tension on the rear sight.
 - (2) Point out that sight tension is no problem for those rifles which have the locking nut on the rear sight as long as that locking nut is kept tight.
 - (3) Demonstrate how to adjust the rear sight for tension. Talk assistant instructors through the sequence step by step. Have soldiers perform each step under supervision of the assistant instructors.
 - (a) Have assistant instructors and students run the rear sight all the way up and tighten the screw in the center of the elevation knob.
 - (b) Have assistant instructors and students run their sights all the way down.
 - (c) Have assistant instructors point out the slotted nut in the center of the windage knob. Point out the forked end of the combination tool.
 - (d) With the forked end of the combination tool, tighten the slotted nut *hand tight without forcing*. Then reverse it one click or one-half turn. The sight should then have the correct tension.

- (e) As a check run the sight up approximately 20 clicks. Place your thumb on top of the rear aperture and attempt to push the aperture down. It should remain up. If it does not, tighten the slotted nut one click and repeat the check.
- (f) Have soldiers adjust the sight tension on their rifles.
- (g) Have assistant instructors check the sight tension on each of the rifles in his group.

PERIOD TWO

INTRODUCTION TO FIRING

HOURS:	3-6.
PURPOSE:	To introduce the soldiers to preparatory rifle marksmanship and show the need for additional training. Also, to demonstrate the capabilities of the M1 rifle when it is in the hands of a well-trained rifleman.
INSTRUCTOR	FM 23-5.
REFERENCES:	
INSTRUCTIONAL	3 Rounds live ammunition per soldier.
AIDS:	64 Rounds of live ammunition for demonstrations.
	1 M1 rifle per demonstrator.
	5 M1 rifles zeroed for 250 meters.
	1 Chart, "8 Factors of a Steady Hold."
	1 Chart, firing data card on blackboard.
	1 Fixed sight alinement model.
	1 Pointer.
	1 Sight picture model (modified).
	1 Enlarged version of the 25-meter target with dimensions, mounted on metal back.
	3 Magnetized spotters, black and white.
	Chalk and eraser.
	1 25-meter target per soldier plus 15.
	1 Patch per soldier (to be used as earplugs).
	1 Blackboard.
INDIVIDUAL	M1 rifle and combination tool.
EQUIPMENT:	Combat pack.
	Steel helmet.
	Clipboard and pencil.
	Progress folder.
	Firing data card.
PHYSICAL	25-meter Range.
FACILITIES:	5 Pop-up targets with E-type silhouettes emplaced for firing at distance of 175 meters.

PERSONNEL: 1 Principal instructor.
1 Assistant instructor per 10 men.

SAFETY FACTORS: Refer to local range regulations and AR
385-63.

ORGANIZATION: As directed in lesson outline.

TIME BREAKDOWN

<i>Time in Minutes</i>	<i>Type of Instruction</i>	<i>Subject</i>
10	-----	Organization.
10	C-----	Range Procedure.
10	C, D-----	Safety Precautions.
20	C, D-----	Aiming.
10	-----	BREAK.
10	C, D-----	Steady Hold Factors.
15	C, D-----	Prone Position.
15	D-----	Recoil Demonstration.
10	C, D-----	Application of Rifle Grease.
10	-----	BREAK.
25	PE-----	1,000-inch Firing.
10	D-----	1,000-inch Firing Demonstration.
15	C, D-----	Effect of Errors.
10	-----	BREAK.
20	C, D-----	Elevation and Windage.
15	C, D-----	Calling the Shot.
5	C-----	Follow-Through.
10	C, D-----	Firing Data Card.

LESSON OUTLINE

1st Hour:

a. Organization of Class (10 Min).

- (1) Check all rifles to make sure they are clear and that no obstructions are in the bore.
- (2) Assign two soldiers to each firing point.
- (3) Move class into the bleachers.

b. Introduction to Range Procedure (10 Min).

- (1) Emphasize the value of early firing while training.
 - (a) It may show the need for additional training.
 - (b) It may show the results of training already received.
- (2) Explain the number of rounds which soldiers are to fire. Also discuss the target at which they will fire.
- (3) Explain why combat packs and steel helmets are always worn on range. (Simulate battlefield firing conditions.)
- (4) Explain how the range will be conducted during the firing.

c. Review the Following Safety Precautions (10 Min).

- (1) When not firing, firers will clear their rifles; clearance will be checked by assistant instructors.
- (2) Ammunition will be obtained only upon command of the control officer.
- (3) Load and commence firing upon command only.

- (4) In case of a stoppage, the firer will raise his hand to obtain the aid of an assistant instructor.
 - (5) Demonstrate how the rifle is removed from and carried to the firing line.
 - (6) Demonstrate how the rifle is placed on the rifle rest.
 - (7) Emphasize that the muzzle of the rifle is always pointing upward and down range.
 - (8) Cease firing immediately upon command.
 - (9) Permit no running on the range at any time.
- d. *Aiming (20 Min)*.
- (1) Point out the parts of the sight picture model.
 - (2) Explain the part played by the rear aperture during aiming. Explain that the soldier looks *through* the rear aperture and not *at* it. He looks through the rear aperture just as he looks through a keyhole.
 - (3) Explain the proper use of the front sight.
 - (a) Demonstrate and explain the relationship between the front sight and the rear aperture.
 - (b) Explain that this relationship is maintained by the focus of the eye on the front sight.
 - (4) Demonstrate the correct alinement and the correct sight picture by using the sight picture model.
 - (a) Explain that sight alinement is the most important part of sight picture.
 - (b) Demonstrate the importance of sight alinement by using a drawing of three sight pictures on a blackboard. See figure 21.
- e. *BREAK (10 Min)*.

2d Hour:

- f. *The Steady Hold Factors (10 Min)*.
- (1) Point out the 8 factors that produce a steady hold and result in good shooting.
 - (a) Left arm and hand.
 - (b) Butt in pocket of shoulder.
 - (c) Grip of right hand.
 - (d) Right elbow.
 - (e) Spot weld.
 - (f) Breathing.
 - (g) Relaxation.
 - (h) Trigger control.
 - (2) Explain that these factors will apply to any position and that in any position these are the factors which must be stressed and performed correctly.
- g. *The Prone Position (15 Min)*.
- (1) Talk the demonstrator into the prone position.

- (2) Emphasize the steady hold factors as they apply to the prone position.
- (3) Make sure that each of the 8 steady hold factors are seen and understood.

h. Recoil Demonstration (15 Min).

- (1) Move the class to the 25-meter firing line in position to observe the demonstration in detail.
- (2) Show the soldiers that the rifle will not hurt them. Explain that they should respect the rifle but not fear it. Conduct the following demonstration to emphasize these points.
 - (a) Have the demonstrator, in the standing position, hold the rifle with only the right hand and fire it.
 - (b) Have the demonstrator fire the rifle with the butt on his thigh.
 - (c) Have the demonstrator fire the rifle with the butt against his stomach.
 - (d) Optional: Have the demonstrator fire the rifle with the butt on his chin.

Caution: The demonstrator should pull the rifle up firmly against his chin and hold his mouth open slightly so that his upper and lower teeth are not in contact.

i. Application of Rifle Grease (10 Min).

- (1) Discuss the need and importance of rifle grease.
- (2) Point out the parts of the rifle where grease is required. Emphasize that a small amount of grease does a better job.
- (3) Have the soldiers apply rifle grease to the necessary parts during the next break.

j. BREAK (10 Min).

3d Hour:

k. 25-meter Firing (25 Min).

(Explain how to use rifle patches for earplugs before the firing begins.)

- (1) Tell firers to place 12 clicks of elevation and zero windage on the rear sight. This should place the shot group somewhere on the target paper.
- (2) Have the first order fire three rounds, loaded singly, in the prone position.
- (3) Have the second order coach.
- (4) Tell firers to clear all rifles and have the clearance checked by assistant instructors. Have the rifles placed on the numbered stakes with the operating rod handles up.
- (5) Have firers and coaches move down range to check their

respective targets. Have assistant instructors analyze each shot group for errors; explain the errors to the firers and tell them how they may be corrected. Point out that these small errors magnify as the range increases.

- (6) Tell each firer to keep his target and file it in his progress folder.
- (7) Have the second order perform the practical work specified above; the first order coaches.
- (8) Clear all rifles and move class into the bleachers.
- l. *Firing Demonstration by Well-Trained Rifleman (10 Min).*
 - (1) Have a well-trained rifleman fire 8 rounds in the prone position at a 25-meter target.
 - (2) Following the demonstration analyze the shot group. Emphasize the fact that this good group is the result of proper aiming and the use of the steady hold factors.
- m. *Effect of Errors (15 Min).*
 - (1) Using the blackboard, review the seriousness of a small error in sight alinement. Explain that the effect of a small error may not be too great at a range of 25 meters, but as the range increases, the error will become larger.
 - (2) Have the soldiers look at their shot groups. Point out that the size of the groups will become smaller with training.
 - (3) Demonstrate the importance of aiming and the steady hold factors by using a pop-up target at a range of 175 meters. Explain that the target will fall when hit.
 - (a) Have an expert fire 8 rounds at a pop-up target using a rifle zeroed for 250 meters.
 - (b) Have 5 soldiers move up and fire a similar exercise. Compare the results of each of the 5 men with the trained demonstrator, thus emphasizing the importance of training in the fundamentals.
- n. *BREAK (10 Min).*

4th Hour:

- o. *Elevation and Windage (20 Min).*
 - (1) Explain that the initial sight setting of 12 clicks elevation and zero windage was used to place the shot group somewhere on the target paper and that the exact location of the shot group makes no difference at this stage of training.
 - (2) Explain that the *size of the shot group* is the *primary consideration* and that the firer will have the opportunity to make sight changes in subsequent periods.
 - (3) Explain that all sight changes will be supervised by assistant instructors and will be authorized only when the *size of the shot group is satisfactory*.

Note. Assistant instructors should use the inner circle on the plastic scoring template (fig. 26) as a guide for determining satisfactory shot groups.

- (4) Explain the operation of the sight on the M1 rifle.
 - (a) Elevation knob.
 - (b) Windage knob.
- (5) Explain the elevation and windage rule.
- (6) Explain the meaning of "zero of a rifle." The zero of a rifle is the sight setting which will cause the bullet to hit the point of aim at a given range.
- (7) Use the enlarged version of the 25-meter target with magnetic spotters to demonstrate that knowledge of target dimensions and the elevation and windage rule help the firer to make accurate sight changes in moving the center of the shot group into the center of the aiming point.
- (8) Conduct 5 problems with class participation in which the elevation and windage rule is used. Place the magnetic spotters on the target and have a soldier estimate the sight changes necessary to move the group to the center of the aiming point.

p. Calling the Shot (15 Min).

- (1) Explain the method of calling the shot by using the fixed sight alinement device and the enlarged 25-meter target. Set up various sight pictures and have the soldiers call the shot for each sight picture.
- (2) Explain that the soldier will call the shot after each round by remembering the sight picture that he saw the instant before the rifle fired. (Example: "Low," or "High and to the right.") No values are given in the call.
- (3) Explain why it is necessary to call the shot.

q. Follow-Through (5 Min).

- (1) Explain the meaning of "follow-through."
- (2) Explain the importance of "follow-through."

r. Explanation of the Firing Data Card (10 Min).

- (1) The firing data card—
 - (a) Is a permanent record of a soldier's sight settings and his progress.
 - (b) Enables both the soldier and the assistant instructors to classify and correct errors. This is done by comparing and analyzing the call and hit targets.
- (2) Demonstrate to the soldiers how to fill out the card properly.

PERIOD THREE

MECHANICAL TRAINING

HOURS:	7-10.
PURPOSE:	To acquaint the soldier with the disassembly, assembly, and functioning of the M1 rifle; stoppages, immediate action, and care and cleaning.
INSTRUCTOR	FM 23-5.
REFERENCES:	
INSTRUCTIONAL AIDS:	<ul style="list-style-type: none">1 Clip of dummy rounds per assistant instructor and soldier.1 M1 rifle per assistant instructor.1 Movie projector with sound, TF 9-1172.1 Master Vu-graph (for use with plastic working model).1 Chart, "Cycle of Operation."1 Chart, "Immediate Action."1 Plastic working model, M1 rifle (use wooden model if plastic one is not available).1 Nomenclature mat per soldier and assistant instructor (GTA 9-58).1 Wire pointer per assistant instructor.1 Combination tool per assistant instructor.Cleaning materials.1 Chair per soldier and assistant instructor.Tables (sufficient number to make 10-man, mechanical training setups).1 Pointer.
INDIVIDUAL EQUIPMENT:	M1 rifle and combination tool.
PHYSICAL FACILITIES:	Classroom equipped with opaque window shades, movie screen, and sound system. Room must be large enough to permit class to be broken down into 10-man groups.
PERSONNEL:	<ul style="list-style-type: none">1 Principal instructor.1 Assistant instructor per 10 men.
SAFETY FACTORS:	Rifles cleared. Dummy rounds checked for live rounds.
ORGANIZATION:	The class is divided into 10-man groups, each group supervised by an assistant instructor.

TIME BREAKDOWN

<i>Time in Minutes</i>	<i>Type of Instruction</i>	<i>Subject</i>
5	-----	Organization.
10	C-----	Introduction.
5	D, PE-----	Separation of the Three Main Groups.
20	D, PE-----	Disassembly of the Barrel and Receiver Group.
10	D, PE-----	Disassembly of the Bolt.
10	-----	BREAK.
10	D, PE-----	Removal and Replacement of the Gas Cylinder Lock Screw.
10	C, PE-----	Review of Nomenclature.
15	D, PE-----	Assembly of the Bolt.
15	D, PE-----	Assembly of the Barrel and Receiver Group.
10	-----	BREAK.
30	C, D-----	Functioning of the Rifle.
20	Film-----	"Principles of Operation."
10	-----	BREAK.
5	D, PE-----	Assembly of the Three Main Groups.
15	C, D, PE---	Stoppages and Immediate Action.
30	C, D-----	Care and Cleaning.

LESSON OUTLINE

1st Hour:

- a. Organization of Class (5 Min).*
 - (1) Check all rifles to make sure they are clear.
 - (2) Move soldiers into classroom and assign 10 soldiers to each group of tables.
- b. Introduction (10 Min).*
 - (1) Discuss the scope of the next four hours of instruction and point out the importance of mechanical training.
 - (2) Explain that the following procedure will be adhered to:
 - (a) The principal instructor will explain the exercise to be performed.
 - (b) The assistant instructors will perform the exercise on command from the principal instructor.
 - (c) The soldiers will perform the exercise on command from the principal instructor and under the supervision of the assistant instructors.
 - (3) Have assistant instructors and soldiers check all dummy rounds for live ammunition.
 - (4) Point out the parts of the combination tool.
- c. Separation of the Three Main Groups (5 Min).*
 - (1) Remove trigger housing group and place it on the table.
 - (2) Separate the stock group from the barrel and receiver group. Place the barrel and receiver group on the table and the stock group across the rungs of the chair.

d. *Disassembly of the Barrel and Receiver Group (20 Min)*. Remove the following parts in order and place them on the nomenclature mat (GTA 9-58):

- (1) Follower rod and operating rod spring (do not separate).
- (2) Follower arm pin.
- (3) Follower arm.
- (4) Operating rod catch assembly.
- (5) Bullet guide.
- (6) Follower assembly.
- (7) Operating rod.
- (8) Bolt.

e. *Disassembly of the Bolt (10 Min)*.

- (1) Point out the various parts of the bolt.
- (2) Explain the necessity for placing the left thumb over the ejector before unseating the extractor. Caution soldiers to keep their faces away from the bolt while performing the operation.
- (3) Unseat the extractor and remove the following parts in order and place them on the nomenclature mat:
 - (a) Extractor.
 - (b) Extractor spring and plunger (do not separate).
 - (c) Ejector and spring (do not separate).
 - (d) Firing pin.

f. *BREAK (10 Min)*.

2d Hour:

g. *Removal and Replacement of the Gas Cylinder Lock Screw With Valve Assembly (10 Min)*.

- (1) Remove the gas cylinder lock screw.
- (2) Unscrew the gas cylinder lock one-half turn and point out the gas port, stressing that this is as far as the individual soldier is permitted to disassemble his rifle. Explain.
- (3) Tighten gas cylinder lock.
- (4) Replace gas cylinder lock screw and tighten. Explain that this must be kept tight because gas may escape and cause a malfunction. Also, a loose gas cylinder lock screw may affect the accuracy of the rifle.

h. *Review of Nomenclature (10 Min)*.

- (1) Have assistant instructors identify each part as it is named.
- (2) Have different soldiers hold up a part as it is named.
- (3) Have several soldiers name all parts in order.

i. *Assembly of the Bolt (15 Min)*.

- (1) Replace the parts in the following order:
 - (a) Firing pin.
 - (b) Ejector and spring.
 - (c) Extractor spring and plunger.
 - (d) Extractor.

- (2) Explain the method of seating the extractor and caution soldiers not to have their face over the bolt while performing the operation.
- (3) Seat the extractor.

j. Assembly of the Barrel and Receiver Group (15 Min).

- (1) As the parts are assembled, point out the following parts which play important roles in functioning:
 - (a) Extractor.
 - (b) Ejector.
 - (c) Striker of the firing pin.
 - (d) Tang of the firing pin.
 - (e) Locking lugs on the bolt.
 - (f) Locking recesses in the receiver.
 - (g) Operating lug on the bolt.
 - (h) Camming surfaces in hump of operating rod.
 - (i) Hammer.
 - (j) Sear.
 - (k) Trigger lugs.
- (2) Point out the clip latch and its front and rear studs.
- (3) Replace the parts in the following order:
 - (a) Bolt.
 - (b) Operating rod.
 - (c) Follower assembly.
 - (d) Bullet guide.
 - (e) Operating rod catch assembly.
 - (f) Follower arm.
 - (g) Follower arm pin.
 - (h) Follower rod and operating rod spring.

k. BREAK (10 Min).

3d Hour:

l. Functioning of the Rifle (30 Min).

- (1) Each time a round is loaded and fired the parts inside the rifle work in a given order. This is known as the *cycle of operation*. This cycle is similar in all small arms. A knowledge of what happens inside the rifle during this cycle of operation will help the soldier understand the cause and remedy for various stoppages.
- (2) The cycle of operation is broken down into 8 steps. These steps are listed below, together with a brief description of what actually occurs inside the rifle during each step. Consider that a full or partially filled clip has been loaded into the rifle, the first round has been fired, and the bolt is now in its rearmost position.
 - (a) *Feeding.* Feeding takes place when the round is moved into the path of the bolt. On the rifle this is accom-

plished by the follower exerting an upward pressure on the bottom round in the clip. The follower is continually forced up by the pressure of the operating rod spring through the follower rod and the follower arm.

- (b) *Chambering.* Chambering occurs when the round is moved into the chamber. On the rifle this happens as the bolt goes forward. The bolt picks up the top round in the clip and drives it forward all the way into the chamber. Chambering is complete when the extractor snaps into the extracting groove on the cartridge case, and the ejector is forced into the face of the bolt.
- (c) *Locking.* Locking is the action of closing the bolt tightly to prevent the loss of gas pressure until the bullet has left the muzzle. On the rifle this is accomplished by the rear camming surface in the hump of the operating rod forcing the operating lug of the bolt down. This engages the locking lugs on the bolt with their recesses in the receiver.
- (d) *Firing.* Firing occurs when the firing pin strikes the primer of the cartridge. When the trigger of the rifle is pressed, the trigger lugs are disengaged from the hammer hooks, and the hammer is released. The hammer moves forward and strikes the tang of the firing pin, driving the firing pin against the primer of the cartridge, activating it and firing the round.
- (e) *Unlocking.* Unlocking occurs after the firing of the round. As the bullet is forced through the barrel by the expanding powder gas, a small portion of this gas escapes through the gas port into the gas cylinder, forcing the operating rod to the rear. Unlocking on the rifle occurs as the operating rod moves to the rear. The camming surface inside the hump of the operating rod forces the operating lug of the bolt upward, disengaging the locking lugs from their recesses in the receiver. The bolt is thus unlocked and ready to be moved to the rear.
- (f) *Extracting.* Extracting is pulling the empty cartridge case from the chamber. The extractor is engaged with the extracting groove on the cartridge case. As the bolt is moved to the rear, the extractor pulls the empty case out of the chamber.
- (g) *Ejecting.* Ejecting is throwing the empty case from the rifle. As the bolt moves to the rear withdrawing the case from the chamber, the round is held in place by the walls of the chamber. When the mouth of the empty

case clears the chamber it is ejected up and to the right front by the ejector.

- (h) *Cocking.* Cocking occurs when the hammer is forced into the proper position for firing the next round. On the rifle this happens as the bolt continues to the rear. The rear end of the bolt forces the hammer back and rides over it. The hammer is caught by the sear if the trigger is still held to the rear, or by the trigger lugs if the trigger pressure has been released.

m. *Training Film 9-1172 "Principles of Operation" (20 Min).*

Introduce film and answer any questions.

n. *BREAK (10 Min).*

4th Hour:

o. *Assembly of the Three Main Groups (5 Min).*

- (1) Have the three main groups assembled.
- (2) Test for correct assembly.

p. *Stoppages and Immediate Action (15 Min).*

- (1) Explain "stoppage."
- (2) Explain and give examples of—
 - (a) Failure to feed.
 - (b) Failure to chamber.
 - (c) Failure to lock.
 - (d) Failure to fire.
 - (e) Failure to extract.
 - (f) Failure to eject.
- (3) Explain the meaning of "immediate action" and how it is performed. Use chart, "Immediate Action."
 - (a) Talk assistant instructors through the proper application of immediate action, then have them perform the operation several times at normal cadence on the command, STOPPAGE.
 - (b) Repeat the same procedure with the soldiers performing the operation under the assistant instructors' supervision.

q. *Care and Cleaning (30 Min).*

- (1) Discuss the importance of proper care and cleaning.
- (2) Give procedure for cleaning the rifle before firing and care necessary during firing. Point out where rifle grease should be applied.
- (3) Explain and demonstrate the following procedure for cleaning the rifle bore after firing:
 - (a) Wet patches.
 - (b) Rifle bore brush.
 - (c) Wet patches.
 - (d) Dry patches.
 - (e) Inspection (repeat above steps if bore is not clean).
 - (f) Oily patch.

PERIOD FOUR

AIMING AND THE STEADY HOLD FACTORS

HOURS: 11-16.

PURPOSE: SECTION I—*Primary Instruction.*

To teach shooting as an integrated act of aiming and steady hold. To show how these components are used in the prone position.

SECTION II—*Corrective Instruction.*

To provide individual corrective instruction to those soldiers who are having serious difficulties. This corrective instruction is a critical part of this training program and must be used to maximum advantage.

INSTRUCTOR FM 23-5 and target analysis sheet. See ANNEX I.

REFERENCES:

INSTRUCTIONAL 18 Rounds live ammunition per soldier.

AIDS: 12 Rounds live ammunition for demonstration.

110 Rounds dummy ammunition.

2 M1 rifles for demonstration.

1 Chart, "8 Factors of a Steady Hold."

1 Chart, "Keep Eye Close to Aperture."

1 Chart, "Spot Weld."

1 Chart, "Rifle Grease Points."

1 Firing data card blackboard with chalk and eraser.

1 Enlarged version of 25-meter target with dimensions mounted on metal facing.

6 Magnetized spotters.

1 Sight picture model (modified).

1 Pointer.

1 M2 aiming device for each assistant instructor.

700 25-meter targets.

110 Rifle rests and aiming boxes.

110 Aiming discs.

Aiming bars for corrective platoon.

Thumb tacks.

Quantity of blank paper, 8 x 10½ in. for aiming boxes.

Carbide lamps.

Rifle grease.

Spare parts box.

Cleaning materials.

1 Fixed sight alinement device.

INDIVIDUAL EQUIPMENT: M1 rifle and combination tool.
 Combat pack.
 Steel helmet.
 Notebook and pencil.
 Clipboard.
 Progress envelope containing target analysis sheets (see ANNEX I), and firing data card.

PHYSICAL FACILITIES: 25-meter Range.
 Space for corrective platoon away from firing line.

PERSONNEL: SECTION I—*Primary Instruction*—(Station 1).
 1 Principal instructor.
 1 Assistant instructor per 10 men.
 1 Ammunition NCO.
 1 Armorer.
 SECTION II—*Corrective Instruction*—(Station 2).
 1 Principal instructor.
 4 Assistant instructors.

SAFETY FACTORS: Refer to local range regulations and AR 385-63.

ORGANIZATION: As directed in lesson outline.

SECTION I PRIMARY INSTRUCTION (25-METER RANGE)

TIME BREAKDOWN

<i>Time in Minutes</i>	<i>Type of Instruction</i>	<i>Subject</i>
5	-----	Organization of Class.
5	C-----	Introduction.
5	C-----	The Integrated Act of Shooting.
15	C, D-----	Aiming, The First Component.
20	PE-----	Practical Work in Aiming.
10	-----	BREAK.
30	PE-----	Practical Work in Aiming.
20	C, D-----	Steady Hold in the Prone Position.
10	-----	BREAK.
10	C, D-----	Duties of the Coach and Tin Disc Exercise.
40	PE-----	Practical Work in Steady Hold—Tin Disc Exercise.
10	-----	BREAK.
20	C, D-----	Review Range Procedure, Firing Data Card, and Calling Shot.
30	PE-----	25-meter Firing—Prone Position.
10	-----	BREAK.
50	PE-----	25-meter Firing—Prone Position.
10	-----	BREAK.
30	PE-----	25-meter Firing—Prone Position.
10	-----	Police Range.
10	C-----	Review.

LESSON OUTLINE

1st Hour:

a. Organization of Class (5 Min).

- (1) Check all rifles to make sure they are clear and that there are no obstructions in the bore.
- (2) Organize the firing line by assigning 2 soldiers to each firing point.
- (3) Move class into bleachers without rifles.

b. Introduction (5 Min).

- (1) Briefly outline the scope of the training for the next 6 hours.
- (2) Explain why this training is necessary. The soldier must understand and be able to apply training fundamentals.
- (3) Give the function of the corrective platoon. Explain when soldiers will be sent to the corrective platoon.

c. The Integrated Act of Shooting (5 Min).

- (1) Rifle shooting is an integrated act consisting of two main components—aiming and steady hold. Explain each component so that the soldier will recognize them in future demonstrations.
 - (a) Aiming is achieved by using the proper sight alinement and sight picture. It is important that the firer aline his sights correctly and obtain a proper sight picture while firing.
 - (b) Steady hold is achieved by using the 8 factors of a steady hold in all positions. By using these 8 factors the firer will be able to hold the correct sight alinement and obtain the correct sight picture.
- (2) Explain that this period of instruction will consider how aiming and the steady hold factors apply to the prone position. In the next period these components will be applied to other positions.

d. Aiming—The First Component (15 Min).

- (1) By using the appropriate training aids (sight picture model and chart or blackboard) explain—
 - (a) Correct sight alinement and sight picture.
 - (b) That sight alinement is the most important part of sight picture.
 - (c) That the last focus of the eye is on the front sight.
 - (d) The importance of holding the breath while aiming.
- (2) Demonstrate the aiming exercise to be performed by two soldiers, one at the rifle and one at the aiming box.
- (3) Discuss the material found on the target analysis sheet. The enlarged version of the 25-meter target with magnetized spotters can be used to illustrate some of the faulty shot groups. Tie this instruction in with the steady hold factors as well as aiming. Answer any questions.

e. *Practical Work in the Aiming Exercise (20 Min).*

- (1) Have the first order perform practical work on the aiming exercise.
 - (a) Have the first order move to the firing line as firers. The second order should move to the aiming boxes (15 meters in front of the rifles) with pencils, paper, and aiming discs.
 - (b) Have the firers wedge the rifle firmly into the rifle rest and assume the prone position alongside their rifles. Have them set up a total of 5 groups of 3 sight pictures each. After each group of three markings, have the firers move to the aiming boxes. Each firer and marker examines and critiques the group with the aid of the target analysis sheet. Firers retain their targets.
 - (c) Assistant instructors with binoculars and M2 aiming devices supervise. Individual instruction is given on the spot to the soldiers with difficulties. Those showing persistent errors are sent to the corrective platoon.

f. *BREAK (10 Min).*

2d Hour:

g. *Practical Work in the Aiming Exercise—Continued (30 Min).*

- (1) Have first order complete their groups.
- (2) Have second order perform the practical work described above. First order moves to the aiming boxes.

h. *Steady Hold in the Prone Position (20 Min).*

- (1) Move class into the bleachers.
- (2) Demonstrator enters with M1 rifle. Talk the demonstrator into the prone position. Point out the important features of the position, and analyze in detail the 8 steady hold factors of the prone position. Emphasize that without a steady hold it is *impossible* to get a tight shot group. These 8 factors are basic to the successful achievement of the first component of shooting—aiming.
- (3) Have a demonstrator move to the firing line with his rifle. He is accompanied by an additional demonstrator with 3 loose rounds plus one clip of 8 rounds. This demonstrator will act as coach. Talk the firer into the prone position and have him load one round. Talk the demonstrator step by step through the act of shooting. Have the demonstrator fire 3 rounds (loaded singly) from the prone position.
- (4) Have the demonstrator go into the prone position and fire three rounds (from a clip) without the instructor's talk-through. This will show the smoothness of the integrated act of shooting.
- (5) Repeat (4) above.
- (6) Show and discuss the targets.

i. *BREAK (10 Min).*

3d Hour:

j. *Duties of the Coach and Tin Disc Exercise (10 Min).*

- (1) Demonstrate the tin disc exercise, and explain how the coach can determine a good steady hold by its use. See paragraph *k* below.
- (2) Explain the duties of the coach.
- (3) Tell firers they will be sent to the corrective platoon if they do not demonstrate their ability to hold the rifle steady and to move on to further training.

k. *Practical Work in Steady Hold—Tin Disc Exercise (40 Min).*

- (1) Have the first order perform practical work on steady hold in the prone position.
 - (a) Have the first order obtain their rifles, move to the firing line, and assume the prone position.
 - (b) Have the second order act as coaches and check the steady hold factors of the firer's position as he is talked through the position by the instructor. When the check has been completed and each firer is ready to press the trigger, have each coach place the tin disc on the rifle just in front of the front sight. The firer then attempts to press the trigger without dislodging the tin disc. The assistant instructors should diagnose the firer's errors in trigger control by noting the direction the disc falls. This exercise continues until the firer can press the trigger repeatedly without dislodging the tin disc.
 - (c) Assistant instructors must give individual instruction to those soldiers unable to obtain a steady hold. Soldiers having serious difficulties should be sent to the corrective platoon.
- (2) Have the second order perform the practical work described above with the first order coaching.

l. *BREAK (10 Min).*

4th Hour:

m. *Review of Range Procedure, Use of Firing Data Card, and Calling the Shot (20 Min).*

- (1) Move soldiers into bleachers and review 25-meter range procedure.
 - (a) Conduct of firing.
 - (b) Live and dummy method of firing (demonstrate).
 - (c) Safety.
 - (d) Review of rifle care (to be done by soldiers during break).
 1. Tighten gas cylinder lock screw.
 2. Grease rifle.
 3. Blacken sights.

(e) Check for earplugs (optional with the individual).

(2) Review the firing data card and calling the shot.

n. 25-Meter Firing—Prone Position (30 Min).

(1) Have the first order move to the firing line as firers and have them assume the prone position. Instruct them to fire a total of three groups, each group consisting of three live rounds and three dummy rounds (loaded singly and randomly). Have firers and coaches move down range and critique their targets after each shot group, using the target analysis sheet as a guide.

(2) Have the second order coach and observe closely for errors as the first order fires each round. Emphasize the random use of dummy rounds.

(3) Have the assistant instructors supervise, using binoculars and M2 aiming devices as aids in detecting errors. Instruct them to conduct critiques of the shot groups at the targets. Send firers making serious errors to the corrective platoon.

o. BREAK (10 Min).

5th Hour:

p. 25-Meter Firing—Prone Position—Continued (50 Min).

(1) Have second order perform practical work in firing in the prone position described above; have first order coach.

(2) Have first order perform practical work in firing in the prone position described above; have second order coach.

q. BREAK (10 Min).

6th Hour:

r. 25-Meter Firing—Prone Position—Continued (30 Min). Have second order perform practical work in firing in the prone position described; have first order coach.

s. Police Range (10 Min).

t. Review (10 Min).

(1) Clear all rifles.

(2) Move class to bleachers and briefly summarize the period of instruction.

(3) Briefly preview the next period.

Note. At the completion of this period all soldiers should have their rifles zeroed for 25 meters. Those who have not yet fired satisfactory groups to permit them to make sight changes should report to the corrective platoon during practical work sessions of subsequent periods. They should remain in the corrective platoon until their rifles are zeroed.

SECTION II
CORRECTIVE INSTRUCTION (CORRECTIVE PLATOON)
LESSON OUTLINE

1st Hour:

a. Same as section I. Instructors assist where needed in primary instruction.

2d Hour:

b. Soldiers who cannot obtain a satisfactory group in the aiming exercise report for additional instruction.

- (1) Using the appropriate training aids, show the soldier how to recognize a correct sight alinement and sight picture. Emphasize that there is no "almost right" alinement or sight picture.
- (2) Concentrate on specific individual problems.
- (3) Return soldiers to their primary instruction as soon as they obtain a satisfactory shot group.
- (4) Those soldiers who are still in the corrective platoon at the time the class moves to the bleachers for steady hold instruction will be kept in a separate group in the bleachers. They will return to the corrective platoon during the third hour for further instruction in aiming.

3d Hour:

c. Soldiers who cannot pass the tin disc test will report for additional instruction.

- (1) Emphasize the eight steady hold factors and place special emphasis on breathing and trigger control.
- (2) Return soldiers who pass the tin disc test to the primary instruction.
- (3) Move all soldiers to the bleachers at the beginning of the fourth hour for instruction on range procedure. At the conclusion of the instruction in the bleachers, return those who still have not passed the tin disc test to the corrective platoon.

4th, 5th, and 6th Hours:

d. Soldiers who have made serious errors in 25-meter firing report for additional instruction.

- (1) Instruction on steady hold factors and aiming should be given on the basis of specific individual needs as determined by shot group critique and by observation of the individual.
- (2) If possible, firers having difficulties should fire their second set of three shot groups under the direct supervision of an instructor or assistant instructor.

PERIOD FOUR

ANNEX I

TARGET ANALYSIS SHEET

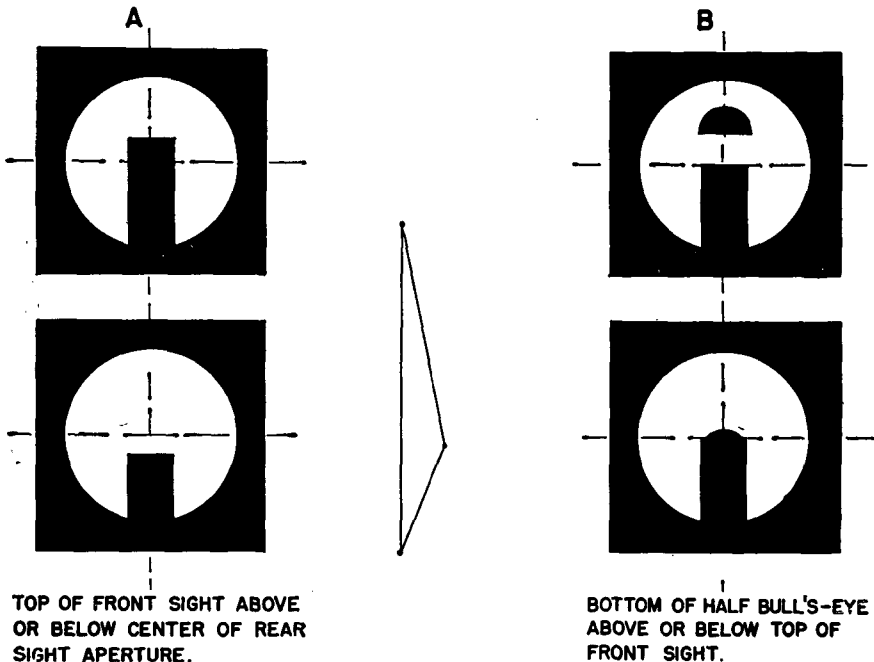
FACTORS DETERMINING THE SIZE AND SHAPE OF SHOT GROUPS

1. In a perfect shot group all the shots are in the same place. Because of the element of human error, a group of this type is almost impossible to obtain. Try to obtain a group in which the shots are as close together as possible.

2. Three shots will fall into a group of some size and shape. The smaller the group the better. Shot groups made using the aiming exercise must be small enough to be covered by the unsharpened end of an ordinary lead pencil to be acceptable.

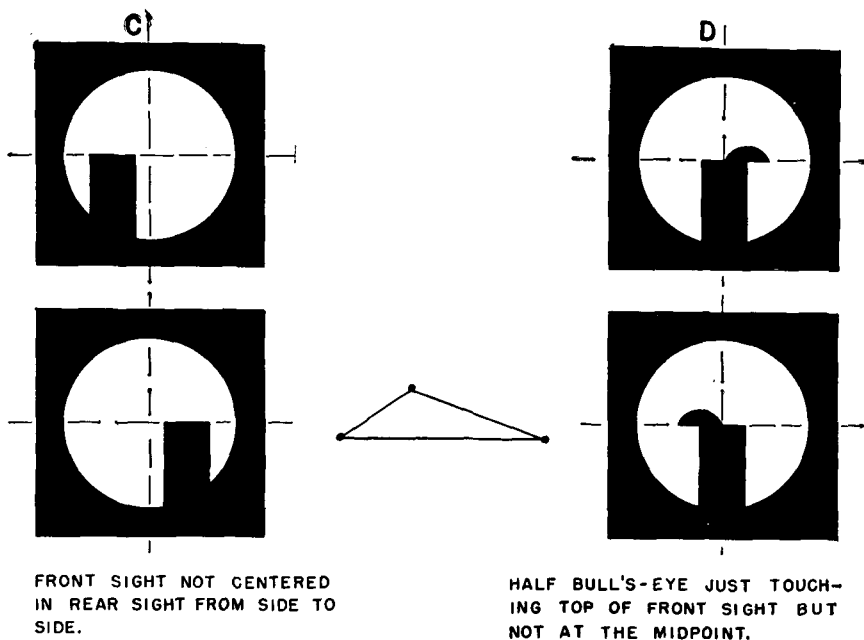
3. Unsatisfactory shot groups are usually either too high (long and vertical) or too wide (long and horizontal).

a. Long and vertical shot groups result from inaccurate vertical alinement of the sights, or from placing the top of the front sight above or below the bottom of the aiming point. They are also caused by a combination of both of these errors (fig. 28).



EITHER KIND OF ERROR ("A" OR "B") OR A COMBINATION OF THEM WILL PRODUCE A SHOT GROUP SIMILAR TO THIS

Figure 28. Long vertical groups.



EITHER KIND OF ERROR ("C" OR "D") OR A COMBINATION OF THEM
WILL PRODUCE A SHOT GROUP SIMILAR TO THIS.

Figure 29. Long horizontal groups.

b. Long and horizontal shot groups result from inaccurate horizontal alinement of the sights or from placing the front sight to the right or left of the center of the aiming point. They are also caused by a combination of both of these errors (fig. 29).

c. A shot group which is both high and wide is the result of a combination of the errors described in *a* and *b* above.

d. A small, tight shot group indicates steady, correct sight alinement and sight picture. It also shows consistency in aiming and correct breathing (fig. 30).

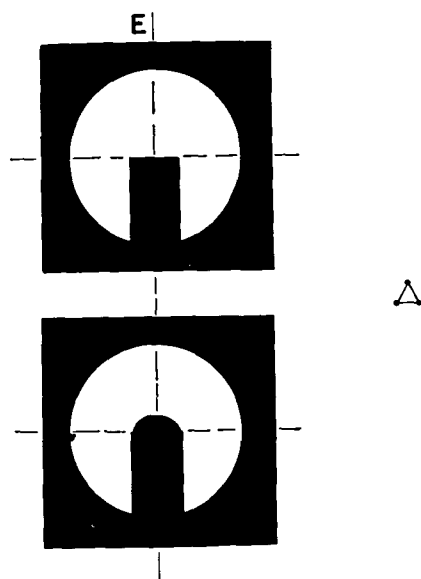
4. The following points should be observed while aiming:

a. Center the top of the front sight exactly in the rear sight aperture. This is the most important part of aiming.

b. Center the aiming point above so that it appears to barely touch the top of the front sight.

c. Hold your breath.

d. Focus your eye on the top of the *front sight*. This causes the front sight to stand out clearly and distinctly and the aiming point to appear hazy or fuzzy.



CORRECT SIGHT ALINEMENT AND SIGHT PICTURE SHOWN
UNDER "E" WILL PRODUCE A SHOT GROUP SIMILAR TO THIS.

Figure 30. Correct groups.

PERIOD FIVE

PRONE, SITTING, AND SQUATTING POSITIONS; INTRODUCTION TO TARGET DETECTION

HOURS:	17-22 (plus 2 hours ATP nonmarksman- ship—Total 8 hours).
PURPOSE:	To give practical work in firing from the supported and unsupported prone position and from the sitting and squatting unsup- ported positions; to introduce the soldier to target detection; to conduct training in an ATP subject.
INSTRUCTOR	See sections I, II, and III.
REFERENCES:	
INSTRUCTIONAL	See sections I, II, and III.
AIDS:	

INDIVIDUAL	M1 rifle.
EQUIPMENT:	Combination tool.
	Steel helmet.
	Combat pack.
	Clipboards (optional).
	Notebook and pencil.
	Progress envelope.
PHYSICAL	25-meter TRAINFIRE Range.
FACILITIES:	2 Target Detection Ranges.
	Adjacent area for ATP subject.
PERSONNEL:	4 Principal instructors.
	1 Assistant instructor per 10 men for 25-meter firing.
	8 Assistant instructors for target detection.
	6 Target men to act as hostile targets for target detection.
	Ammunition NCO.
	Armorer.
	(See individual sections for breakdown.)
SAFETY FACTORS:	See local range regulations and AR 385-63.
ORGANIZATION:	When the company arrives, check all rifles for clearance and bores for obstructions.
	During this period divide each platoon into two orders. Place the first and second platoons at station 1 (25-meter firing and corrective instruction) for 4 hours; third platoon at station 2 (target detection) for 2 hours (one order at each range), and the fourth platoon at station 3 (ATP subject) for 2 hours. At the end of two hours, have the third and fourth platoons change stations. During the last four hours, place the third and fourth platoons at station 1, the first platoon at station 2, and the second platoon at station 3. After two hours, have the first and second platoons change stations.

SECTION I

25-METER FIRING (4 HOURS)

INSTRUCTOR	FM 23-5.
REFERENCES:	

INSTRUCTIONAL AIDS:	24 Rounds live ammunition per soldier. 60 Rounds dummy ammunition. 1 M1 rifle for demonstration. 1 Chart, "8 Factors of a Steady Hold." 1 Tin disc, dime size, per firing point. M2 aiming devices for assistant instructors. 4 25-meter targets per firer. (Mark first shot group. Replace 25-meter target after second shot group.) Carbide lamps. Rifle grease. Spare parts box. Cleaning materials. Binoculars for assistant instructors. 2 Sandbags per point for prone supported positions.
PERSONNEL:	1 Principal instructor. 1 Assistant instructor per 10 men. 1 Ammunition NCO. 1 Armorer.

CORRECTIVE PLATOON

(Integrated as Needed With 25-Meter Firing)

PURPOSE:	To provide individual corrective instruction to those firers making serious errors by means of dry firing exercises. (Live firing may be introduced provided soldier has unused rounds from his exercises.)
INSTRUCTIONAL AIDS:	1 Sight picture model (modified). M2 aiming devices for assistant instructors. Rifle rests and aiming boxes (as needed). Aiming discs (as needed). Aiming bars (as needed). Tin discs, dime size.
PERSONNEL:	As needed.

CONDUCT OF PERIOD

a. The instruction given in the corrective platoon during this period must be directed toward the specific problems of the individual firer. As a firer arrives from the 25-meter firing line for corrective instruction, the instructor should determine his specific deficiency and direct his instruction toward correcting that deficiency. (Careful critique of any targets on which the soldier has fired may be helpful in determining the major difficulties.) It is the responsibility of the

corrective platoon instructors to coordinate their instruction with the 25-meter firing line to insure that no firer misses any of the group instruction (bleachers).

b. It is visualized that the firer will be sent to the corrective platoon with his coach. Under the guidance of a trained assistant instructor and his coach the firer will continue with the scheduled instruction of the order at the corrective platoon. However, particular attention should be given to his specific deficiency by applying appropriate remedial exercises. If additional time is needed for the firer, the coach should be allowed to return to his respective group. The deficient firer is kept at the corrective platoon, except for bleacher or group instruction.

c. As time permits, individual instruction should be given on the following items:

- (1) *Position.* Determine that the firer is correctly applying the steady hold factors for the particular firing position with which he is having difficulty. For the squatting and sitting positions, check his ability to rapidly assume the correct positions. Use tin disc exercise to check steady hold.
- (2) *Aiming.* Review the major principles of correct sight alignment and sight picture. Emphasize the importance of exact precision. Give practical work in the aiming exercise.
- (3) *Live firing.* Live firing may be incorporated at the corrective platoon with the unused rounds of the reporting firer. Such exercises as live and dummy or coach pressing the trigger for firer may well be utilized as remedial exercises.

TIME BREAKDOWN

<i>Time in Minutes</i>	<i>Type of Instruction</i>	<i>Subject</i>
5	C-----	Organization of Class.
15	C-----	Introduction and Review.
15	C, D-----	The Prone Unsupported Position.
15	PE-----	Practical Work in the Prone Unsupported Position.
10	-----	BREAK.
15	PE-----	Practical Work in the Prone Unsupported Position.
10	C, D-----	The Prone Supported Position.
25	PE-----	Practical Work in the Prone Supported Position.
10	-----	BREAK.
20	C, D-----	The Sitting Unsupported Position.
30	PE-----	Practical Work in the Sitting Unsupported Position.
10	-----	BREAK.
15	C, D-----	The Squatting Unsupported Position.
35	PE-----	Practical Work in the Squatting Unsupported Position.

LESSON OUTLINE

1st Hour:

a. Organization of Class (5 Min).

- (1) Assign two soldiers to each firing point.
- (2) Move soldiers into bleachers without their rifles.

Note. During the instruction in the bleachers assistant instructors and the armorer will blacken all sights.

b. Introduction and Review (15 Min).

- (1) Briefly outline the scope of the training for the next four hours.
- (2) Review the necessary safety precautions.
- (3) Explain the purpose and procedure for blackening sights, and caution against touching blackened sights.
- (4) Review aiming and steady hold.

c. The Prone Unsupported Position (15 Min).

- (1) Talk the demonstrator from the standing to the prone unsupported position. Do this twice.
- (2) While the demonstrator is in position the second time, review the steady hold factors.
- (3) Demonstrate and point out the common errors made in this position.
- (4) Explain the conditions under which this position may be used; give advantages and disadvantages.
- (5) Demonstrate how to reload from the position.

d. Practical Work in the Prone Unsupported Position (15 Min).

- (1) The second order will act as coaches and will observe closely for errors.
- (2) Have assistant instructors supervise the exercise, using binoculars and M2 aiming devices as aids in detecting errors.
- (3) Have the first order practice assuming the prone unsupported position. Have the assistant instructors talk the coaches through a check of the factors of a steady hold. When the checks are completed and each firer is ready to press the trigger, instruct each coach to place the tin disc on the muzzle of the rifle to check for proper trigger control and steadiness when the firer presses the trigger. If the disc remains on the muzzle 3 out of 5 tries, the firer's trigger control is satisfactory. Send the firers who are unable to pass the tin disc test to the corrective platoon.
- (4) Have the first order fire two shot groups of three live rounds and two dummy rounds each. Thus the trigger is pressed five times for each group. The dummy rounds should be used randomly within each group, not every other round.

Load the rounds singly. Have assistant instructors check for calling the shot on the firing data card, follow-through, and flinching. Instruct the firer to look away each time the coach loads a round.

- (5) After each shot group, firers and coaches use the target analysis sheet to critique the shot group. Assistant instructors carefully supervise these critiques. Have the firers mark their targets. Send the firers with serious errors to the corrective platoon.

e. *BREAK (10 Min).*

2d Hour:

f. *Practical Work in the Prone Unsupported Position—Continued (15 Min).* Have the second order perform the practical work described above; the first order will coach.

g. *The Prone Supported Position (10 Min).*

- (1) Talk the demonstrator from the standing to the prone supported position using two sandbags for support. Repeat the demonstration.
- (2) While the demonstrator is in position the second time, review the steady hold factors.
- (3) Demonstrate and point out the common errors made in this position.
- (4) Explain the conditions under which this position may be used; give advantages and disadvantages.

h. *Practical Work in the Prone Supported Position (25 Min).*

- (1) The second order coaches the first order.
- (2) Have assistant instructors supervise and assist in the practical work.
- (3) Have the first order practice assuming the prone supported position. Check the position for steadiness and trigger control by means of the tin disc test. Send the firers who are unable to pass the tin disc test to the corrective platoon.
- (4) The first order fires two shot groups of three live rounds and two dummy rounds each. Firers and coaches then use the target analysis sheet to critique targets after each shot group. Assistant instructors carefully supervise these critiques. Each firer retains his target. Send the firers with serious errors to the corrective platoon.
- (5) Have first and second orders change over and repeat procedure.

i. *BREAK (10 Min).*

3d Hour:

j. *The Sitting Unsupported Position (20 Min).*

- (1) Talk the demonstrator from the standing to the three sitting unsupported positions. Repeat the demonstrations.

- (2) Emphasize the need for speed in assuming this position.
 - (3) While the demonstrator is in position, briefly review the steady hold factors.
 - (4) Demonstrate and point out the common errors in these positions and errors made in assuming them.
 - (5) Explain the conditions under which these positions may be used; give advantages and disadvantages.
 - (6) Demonstrate how to reload from the positions.
- k. *Practical Work in the Sitting Unsupported Position (30 Min).*
- (1) The second order coaches the first order.
 - (2) Have assistant instructors supervise and assist in the practical work.
 - (3) On command have the first order assume rapidly and repeatedly the sitting unsupported position. After each attempt, have the coaches and assistant instructors perform a step by step check of the steady hold factors as they apply to the position.
 - (4) Have the coaches and assistant instructors use the tin disc test to check the position for steadiness and trigger control. Send the firers who are unable to pass the test to the corrective platoon.
 - (5) The first order fires two shot groups of three live and two dummy rounds each. Firers and coaches then use the target analysis sheet to critique targets after each shot group. Assistant instructors carefully supervise these critiques. Each firer marks his target. Firers with serious errors go to the corrective platoon.
 - (6) Have the second order perform the practical work described above; the first order coaches.
- l. *BREAK (10 Min).*

4th Hour:

- m. *The Squatting Unsupported Position (15 Min).*
- (1) Talk the demonstrator from the standing into the squatting unsupported position. Repeat the demonstration, emphasizing the necessity for assuming this position rapidly.
 - (2) While the demonstrator is in position the second time, review the steady hold factors.
 - (3) Demonstrate and point out the common errors made in this position.
 - (4) Explain the conditions under which this position may be used; give advantages and disadvantages.
 - (5) Demonstrate how to reload from this position.
- n. *Practical Work in the Squatting Unsupported Position (35 Min).*
- (1) The second order coaches the first order.

- (2) Have assistant instructors supervise and assist in the practical work.
 - (3) Have the first order assume repeatedly and rapidly the squatting unsupported position. After each attempt have the coaches and assistant instructors do a step by step check of the steady hold factors as they apply to this position.
 - (4) Have coaches and assistant instructors use the tin disc test to check the position for steadiness and trigger control. Send firers who are unable to pass the test to the corrective platoon.
 - (5) The first order fires two shot groups of three live rounds and two dummy rounds each. Firers and coaches then use the target analysis sheet to critique targets after each shot group. Assistant instructors carefully supervise the critiques. Each firer retains his target. Firers with serious errors go to the corrective platoon.
 - (6) Have the second order perform the practical work described above; the first order coaches.
- o. Clearance of All Rifles.*

SECTION II

TARGET DETECTION (2 HOURS); INTRODUCTION TO TARGET DETECTION

PURPOSE:	To develop in the soldier the methods and skills required in detecting, marking, and estimating range to realistic battlefield targets.
INSTRUCTOR	FM 21-75; FM 23-5.
REFERENCES:	
INSTRUCTIONAL	6 Shiny helmet liners.
AIDS:	6 Camouflaged helmet liners with rubber bands.
	Tubes of camouflage paint (1 each of four basic colors).
	6 M1 rifles for target men.
	20 Rounds cal .30 blank ammunition per presentation for target men.
	1 Master Trial Sheet per principal and assistant instructor (see ANNEX I, Sample Master Trial Sheet).
	6 Target trial sheets for target men.
	2 Blackboards.
	2 Stopwatches.
	2 First Aid boxes.
	Supply of answer sheets (see ANNEX II) and clipboards.

PHYSICAL
FACILITIES:
PERSONNEL:

Two Target Detection Ranges.
2 Principal instructors (1 for each range).
8 Assistant instructors (4 for each range).
6 Target men to function as hostile targets
(3 for each range).

Note. One principal instructor is needed at both ranges. They have the responsibility for setting up the range, training target men, and conducting the class. Four assistant instructors are needed for each range. They control the observers, assist in scoring (see attached target detection answer sheet), and should be thoroughly familiar with the positions of the targets through the use of attached Sample Master Trial Sheet. The six target men, three for each range, should be trained to perform the duties of targets. Each one is assigned a number of target placements within a certain area, and all target men are given a target sheet containing only the trial numbers and the indications he is to perform. (This target sheet information should be extracted from the principal instructor's Master Trial Sheet—see attached Sample Master Trial Sheet.)

ORGANIZATION: One order is placed on each range.

TIME BREAKDOWN

<i>Time in Minutes</i>	<i>Type of Instruction</i>	<i>Subject</i>
5	C, D-----	Introduction.
20	C, D-----	Search of Area.
10	C, D-----	Use of Range Card.
10	C, D-----	Estimating Range.
5	C, D-----	Marking Target Indications.
10	-----	BREAK.
50	C, D-----	Practical Work & Review.
10	-----	Troop Movement.

LESSON OUTLINE

Preparation

a. Setting Up the Range.

- (1) Assign assistant instructors to help observers on the observation line.
- (2) Check range to see that all panels are up and in proper places.
- (3) Camouflage target men.
- (4) Issue rifles, blank ammunition, and helmets to target men.
- (5) Equipment:
 - (a) Locate loudspeakers along the observation line and down range.
 - (b) Place in position charts, notes, clipboards, pencils, and answer sheets.

- (6) Have previously rehearsed target men assume positions for each trial, and have them perform indications quickly. Each target man should be thoroughly familiar with the trial procedures and have clearly written instructions in his possession.
 - (7) Just before troops arrive, place four camouflaged target men in positions from 10-50 meters from observation line.
- b. *Troop Arrival.*
- (1) Upon arrival of troops, have individuals ground weapons in designated areas.
 - (2) Assign observers to observation points.

Instructional Hours

1st Hour:

c. Introduction (5 Min).

Narrative:

This will be your first class in what we call target detection. You know that to survive and to dominate your enemy, you must be able to hit the target at which you aim. However, even the best shot in the infantry is helpless unless he can find a target to shoot at. On the rifle range, you can locate your targets. Each firer has his own lane and his own special target within that lane. On the battlefield this is not true. You may not see anything to shoot and yet you know something is out there because someone is firing at you. Unless you are trained to locate these targets and to place fire on them, you are likely to become a target yourself. You must be able to locate hidden targets quickly and efficiently in order to neutralize them before they destroy you. This period will begin your instruction in this ability. Let us consider that you have been advancing in this direction (indicate) and reached this point (observation line). Orders have come down to halt the advance until further notice.

Question: What must you do now?

Answer: Prepare for a defense of unknown length.

Question: What does this involve as far as you are concerned?

Answer: First, it would involve visually searching the dangerous area to your front and flanks. Second other duties such as digging in, placing wire and mines in front of the position, patrolling, and sighting your weapons to best advantage for day and night fire.

d. Search of Area (20 Min).

Narrative:

DEMONSTRATION OF TARGET INDICATIONS.

In searching the area to your front and flanks you are looking for hidden targets that could place effective fire on your position.

You must be constantly alert to prevent being caught by surprise. Now let's search the area to our immediate front between panels A-L. At the present time there are four men covering you from ranges of less than 50 yards. Take one minute to search this area and see if you can spot them. If you can't pick out the actual target, pick out four areas you consider dangerous. If you see a target, keep it to yourself and continue to look for the others. At the end of the one minute period, we will see how many you found.

Question: How many saw one target? Two? Three? Four?

That's pretty good for the first time. However, by the time you finish your training, you should be able to detect all four of them. TARGETS, FIRE ONE ROUND AND THEN STAND. Notice the position of each as they disappear. TARGETS, DISAPPEAR. OBSERVERS, ABOUT FACE!

Question: How many of you think you can remember all four positions? (Hands)

Observers face down range and try to detect each target again. The targets are well camouflaged and motionless. This is an important point to remember because a well-camouflaged, motionless target is almost impossible to detect. Now watch while the targets make slow, up and down movements. If this is done properly, it is almost as difficult to detect as the motionless position. In this slow, continuous movement there is nothing to draw your attention to the target's position. If the target moves from side to side slowly, it is easier to detect. Watch while the targets perform this movement. As long as the targets keep their movements slow, they remain hard to detect.

Now let's watch a different type of movement. The targets make sharp, fast movements, drawing your attention to their area immediately. Notice how this simplifies your target detection. Any fast, jerky movement, either up and down or side to side, gives the target's position away; so use them to detect enemy targets and avoid them so you won't be detected. The targets will each fire a round now. Notice how the sound helped you to find the target area. This enables you to concentrate your detection efforts in the specific area of the targets. If you were looking in that area when the round was fired, you could have detected the target by the flash and smoke. These are indications that give a target away every time. Of course, the object in target detection is to find the target before it starts firing on your position. In today's work we will attempt to improve your ability in detecting targets before they fire on you.

CAMOUFLAGE.

The targets will now move up to the observation line so you

can get a closer look at the type of camouflage used. Poor camouflage will give a target position away just as quickly as movements. As you can see, the target men effectively used natural materials growing in this area.

The three dangers of camouflage are *shine, regularity of outline, and contrast with background*. The smallest shiny object can give away a target's position immediately. This can be a belt buckle, rifle barrel, or helmet. These men have purposely put mud on their helmets, rifles, and even their boots. Shine is all right for the parade ground, but keep it off the battlefield.

A round helmet, unbroken by foliage or camouflage paint, is always to be avoided. Any definitely shaped object in natural terrain is certain to draw enemy observers. Look over the observation field and tell me what does not belong there. Right, the loudspeakers, although partially hidden, stick out like sore thumbs. Make sure that all regular outlines are broken. Notice how our targets have broken all their regular outlines by use of camouflage paint or placement of foliage. Their helmets have foliage not only on top, but extending below the brim. Remember these points in future target detection work.

The initial targets were camouflaged with reference to this type of terrain. I think that anyone trying to detect them during the first phase of a trial will agree that they did an excellent job. However, simply because they were well camouflaged for this area does not mean they would be equally well camouflaged for some other area. Your camouflage must vary with the type of terrain to be covered. Look for these factors in today's practical work.

Perhaps the demonstration just concluded will emphasize the importance of searching the area for hidden targets and give you an idea of the type of target indications to look for. But before we go into the actual searching technique, we must consider the position you assume while observing. In observing, two faults are possible in the position. The first is where you get down so low you see nothing. The other fault is to expose oneself more than is necessary. The correct procedure is to assume the lowest position from which you can see the entire area dangerous to you. You assume a position, by slow movement, preferably behind concealment. Pick the portion of the area most difficult to observe and assume a position where you can see this area clearly. Our demonstrators will show you the correct observing position from two of the observation points. DEMONSTRATORS, BEGIN. You can see that the two demonstrators assumed different positions, both using a slow, sure movement; one was almost prone and the other was kneeling. The observing position will vary with the terrain. Let's see if

you can assume the correct position to observe the area between A-L. The assistant instructors will check your choice of position. Now each observer will move left about 5 steps and take up a new observing position. Assistant instructors will check your choice of position.

Generally, searching an area can be divided into two periods: (1) the initial, brief (30 seconds or less) examination of the entire area. This might be termed the "self-preservation search" and is essential in picking up definite enemy activity which could be directed against you. (2) Next comes a more thorough and systematic search which is maintained continuously by all men on observation duty. This is done by searching in 50-meter overlapping strips, beginning with the area most dangerous to you (usually the closest). Each dangerous area within the strip is examined as the eye moves continuously from area to area. Never stop more than momentarily at any one point, unless you have seen something there. The eyes catch movements to one side more easily when they are not fixed upon a single point for any length of time. Keep them moving. Success in searching an area depends on your ability to pick up slight movements of personnel and foliage, shine on equipment, smooth outlines, and sharp contrasts with the background. Later we will give you practical work in this skill.

e. Use of Range Card (10 Min).

Narrative:

Once the higher priority tasks are taken care of, a good squad will prepare individual range cards of their sector of fire. Such a card will indicate the landmarks and the most likely enemy firing positions. It will also include the distance in meters to each. We have a sample range card of this area prepared on this blackboard. Some of you would include other points on your cards; this you may do. You will have a chance to prepare your own range cards in a later period. Let's go over the hostile areas and landmarks indicated on this range card. (Point out landmarks and hostile areas and range in meters to each.)

f. Estimating Range (10 Min).

Narrative:

In today's practical work you will be required not only to find a target, but also to estimate the range to it. Your range card could help you in doing this since you know the range to each landmark. However, let's say you detect some targets before you have time to make a range card. To give you an idea of what targets look like at different distances, we will have a demonstrator walk out to distances of 100, 200, and 300 meters from the observation line. DEMONSTRATOR, WALK OUT TO THE 100-METER DISTANCE. Watch closely as he

gets farther and farther away. He has now reached the 100-meter point. Take a good look at him in the standing position, kneeling position, prone position. He will now repeat these at the 200-meter point and the 300-meter point. Notice how he gets smaller as he gets farther and farther away. You will be making estimations of range constantly in today's practical work. We will inform you of the correct distance after each trial.

g. Marking Target Indications (5 Min).

Narrative:

A very important combat technique which we will introduce here and emphasize in later target detection is the ability to mark a target indication. Marking a target indication means fixing or locating the fleeting indication with relation to some visible point on the terrain, such as a bush or bare spot. When you see a target indication, mark the spot at which you saw it on the ground. Use this spot either as an aiming point or reference point, depending upon the location of the indication in relation to the marked object.

Question: What is an aiming point?

Answer: A point at which you can aim to place effective fire on the target.

Let's have an example. TARGET, DISAPPEAR BEHIND THAT BUSH. All of you saw where he disappeared. To place effective fire on the target you would aim at the bottom of that bush. You could also use the aiming point to further observe the movements of the target. With this good aiming point we can search the rest of the area and still remember the point where the target disappeared. OBSERVERS TURN AROUND. Now look down range and try to pick out the point where the target disappeared. TARGET, STAND UP. You remembered the aiming point without any trouble. Let's do this several more times.

Question: What is a reference point?

Answer: A point you can refer to in order to place fire on a target a short distance away.

Let's have an example. TARGET, STEP OFF THREE METERS AND DISAPPEAR. You can see there is nothing at the point of disappearance to aim at. However, come back to the bush and measure three yards to get your point of disappearance. You use the bush as your reference point and then aim three yards to the right to place effective fire on the target. OBSERVERS, TURN AROUND. Now look down range and try to pick out the point of disappearance using your reference point. TARGET, STAND UP. You should have remembered your reference point and the relation of the target to it. Let's do this several more times.

Remember these points when you detect a target during your practical work today. Mark each indication by using an aiming point or reference point. This becomes extremely important when you fire at a target and when you are confronted with more than one target at a time.

h. BREAK (10 Min).

2d Hour:

i. Practical Work (50 Min) (see ANNEX I for Sample Master Trial Sheet and ANNEX II for answer sheet).

Narrative:

We will now begin our first practical work. Pick up the clipboard, answer sheet, and pencil on the stake and fill in your name, squad, and date. I will read over the instructions and explain them. If you have any trouble, consult the nearest assistant instructor for help. (Read instructions.)

You will have a total of 10 trials today. Each trial will consist of four phases: Phase 1 will usually be a well-camouflaged, motionless target; phase 2, slow movement; phase 3, fast movement, shine, or contrast; and phase 4, exposed target firing a blank round. In phase 4 the additional cues of flash and smoke will help you pick up the target. (Point out that a blank round produces more smoke than a live round.) You will have 30 seconds to search the area and find the target during each phase. I will count this 30 seconds aloud during the first few trials so you can judge the amount of time you can devote to searching. If you see a target during a phase, step three paces to the rear and place a check under the appropriate phase. If you do not see a target during a phase, mark an X in the appropriate space. At this time we will limit our range into three sectors, left, middle, and right. (Use panels in the observation area as a reference in specifying the three sectors.) Prior to each command to observe, I will announce the sector in which the target will perform his indications.

Each trial will begin in the following manner: Your first target will appear in the left sector. TRIAL NO. 1, PHASE 1, OBSERVE. Thirty seconds later, the observation phase will end with the word RECORD. Ten seconds will be allowed for recording and the next phase of the trial will begin. After all four phases of a trial have been completed, the target will stand and reveal his position. On command, he will go back into position and repeat phases 1, 2, 3, and 4 for your information. I will give you the correct range from the center of the observation line to the target. After the trial has been repeated, I will ask you to turn around to allow the targets to take up new positions. Remember that this training is not a test. Record your answers but do not change or correct them in any way. You

will be given a test in target detection at a later date. At present, do your best. (Conduct your ten trials.)

j. *Review.*

(1) *Importance of target detection.*

- (a) Necessity of finding targets at which to shoot.
- (b) Necessity of neutralizing hostile targets.

(2) *Search of area.*

(a) Target indications.

- 1. Motionless, well camouflaged.
- 2. Slow movement, lateral and up-down.
- 3. Fast, jerky movement.
- 4. Firing indications—sound, flash, and smoke.

(b) Camouflage.

- 1. Shine.
- 2. Regularity of outline.
- 3. Contrast with background.

(c) Observation position. Correct procedure.

(d) Method of conducting search.

- 1. Self-preservation search; initial, brief examination of area.
- 2. Thorough, systematic search of area.

(3) *Use of range card.*

- (a) Location of likely, hostile firing positions and landmarks.
- (b) Distance to positions and landmarks.

(4) *Estimating range.*

Diminishing size of target as distance increases.

(5) *Marking target indications.*

- (a) Use of aiming point.
- (b) Use of reference point.

Narrative:

Only with constant practice will you be able to develop and maintain your target detection ability at its highest level. Look over the fields as you travel to different problems or while waiting for instruction to begin. See if you can pick out odd movements or objects that do not fit into the natural terrain.

SECTION III

ATP TRAINING (2 HRS)

An appropriate subject from ATP 21-114 is to be selected for this training. The subject chosen should not include marksmanship training.

The training area should be so located from the 25-meter range that the firing does not disturb the class.

PERSONNEL: 1 Principal instructor.
 2 Assistant instructors.

PERIOD FIVE

ANNEX I

SAMPLE MASTER TRIAL SHEET

GENERAL: The purpose of this annex is to provide a Sample Master Trial Sheet for instructors to use as a guide in preparing a similar plan for use in their target detection training. The Master Trial Sheet contains all the trials and target indications for an entire period for each range used.

RESPONSIBILITY: It is the responsibility of the principal instructor to insure that sufficient copies of Master Trial Sheets are prepared for all of his assistant instructors. All instructors should know where each target is and what each target is doing on every trial. This is necessary to delimit the sector where a target will appear.

<i>Trial No.</i>	<i>Where</i>	<i>Range (Meters)</i>	<i>Target Indications by Phases</i>
1	A, B	22	(1) Be slightly exposed; remain still. (2) Raise and lower head and shoulders slowly. (3) Move head and shoulders from side to side slowly. (4) Fire blank.
2	B, D	66	(1) Be slightly exposed at start of trial; remain still. (2) Move head and shoulders from side to side. (3) Raise head slowly, drop abruptly. (4) Fire one blank.
3	E, F	161	(1) Be exposed but partly hidden, remain still. (2) Move forward and back 1 yard each 10 seconds. (3) Step out and back quickly each 10 seconds. (4) Fire 2 blanks (10 seconds apart).
4	J, K	44	(1) Be slightly exposed at start; remain still. (2) Shake bush gently (each 5 seconds). (3) Raise and lower head slowly with shiny helmet liner. (4) Fire one blank round.
5	B	119	(1) Be exposed at start of trial (kneeling); remain still. (2) Move head and shoulders from side to side. (3) Jump out and back each 5 seconds. (4) Fire 2 blanks from exposed position (10 seconds apart).
6	F, H	95	(1) Be exposed at start of trial, remain still. (2) Assume kneeling position slowly and stand slowly. (3) Come up slowly; go down fast. (4) Fire 2 blanks from exposed position (10 seconds apart).
7	B	91	(1) Be exposed (kneeling) at start of trial; remain still. (2) Raise head slowly, drop abruptly; repeat every 5 seconds. (3) Same as (2) but with shiny helmet liner. (4) Fire 2 blanks from kneeling position (10 seconds apart).

<i>Trial No.</i>	<i>Where</i>	<i>Range (Meters)</i>	<i>Target Indications by Phases</i>
8	D	51	(1) Be slightly exposed in prone position. (2) Raise head slowly, drop abruptly; repeat every 5 seconds. (3) Move to side and back every 5 seconds. (4) Fire blank (kneeling).
9	A, D	41	(1) Raise and lower head and shoulders. (2) Raise head slowly, drop abruptly; repeat every 5 seconds. (3) Repeat with shiny helmet liner. (4) Fire blank.
10	D, E	88	(1) Be slightly exposed; remain still. (2) Move side to side slowly. (3) Same as (2) with shiny helmet liner. (4) Fire 2 blanks from prone position (10 seconds apart).

Note. Target Trial Sheets should be prepared from a Master Trial Sheet similar to the one above; it should contain only the trials and target indication performed by a specific target. Although each target man has been thoroughly rehearsed, the target trial sheets will insure that no mistakes are made. For example, you may assign your trials in the following manner: 1st target man—extract trials 1, 4, 8, 9 as shown in the Master Trial Sheet; 2d target man—extract trials 2, 7, 10; 3d target man—extract trials 3, 5, 6.

PERIOD FIVE

ANNEX II

TARGET DETECTION

ANSWER SHEET

Name ----- Platoon ----- Squad ---- Date ----
 (Last) (First)

Instructions

1. *Do not* change your answers to indicate anything not actually seen.
2. There will be four phases during each trial. Although the target remains in the same location, each phase will consist of a different target indication. Targets will each be presented four times. In the appropriate space for each phase of each trial, place either a ✓ if you saw the target or an × if you failed to see it.
3. Under the “WHERE,” mark the identifying letter of the landmark nearest the target. If you are in doubt as to the identity of the nearest landmark, hold up your hand and the instructor will check with you.
4. Under range enter your estimate to the target in meters. Estimations within 25 meters will be considered correct.

Trial No.	Phase number				Where (Letter of nearest landmark)	Range (meters)
	1	2	3	4		
1-----						
2-----						
3-----						
4-----						
5-----						
6-----						
7-----						
8-----						
9-----						
10-----						
11-----						
12-----						
13-----						
14-----						
15-----						
16-----						
Total----						

PERIOD SIX

KNEELING, FOXHOLE, AND STANDING POSITIONS DETECTION OF REALISTIC BATTLEFIELD TARGETS

HOURS: 23-28 (plus two hours of ATP nonmarksmanship—total 8 hours).

PURPOSE: To give practical work in firing from the kneeling supported and unsupported position; the foxhole position; and the standing unsupported position. To conduct training in detection of realistic battlefield targets, and an ATP Subject.

INSTRUCTOR	See sections I, II, and III.
REFERENCES:	
INSTRUCTIONAL AIDS:	See sections I, II, and III.
INDIVIDUAL EQUIPMENT:	M1 rifle. Combination tool. Steel helmet. Combat pack. Clipboard (optional). Notebook and pencil. Progress envelope.
PHYSICAL FACILITIES:	25-meter TRAINFIRE Range. 2 Target Detection Ranges. Adjacent area for ATP Subject.
PERSONNEL:	4 Principal instructors. 1 Assistant instructor per 10 men for 25-meter firing. 8 Assistant instructors for target detection. 6 Target men to act as hostile targets for target detection. Ammunition NCO. Armorer. (See sections for breakdown.)
SAFETY FACTORS:	See local range regulations and AR 385-63.
ORGANIZATION:	When the company arrives, check all rifles for clearance and bores for obstructions. During this period divide each platoon into two orders. The first platoon goes to station 2 (target detection) for two hours (one order at each Range); the second platoon is at station 3 (ATP Subject) for two hours. At the end of two hours the first and second platoons change stations. The third and fourth platoons are at station 1 (25-meter firing and corrective instruction). During the last four hours place the first and second platoons at station 1, the third platoon at station 2, and the fourth platoon at station 3. After two hours, the third and fourth platoons change stations.

SECTION I

25-METER FIRING (4 HRS)

INSTRUCTOR FM 23-5.

REFERENCES:

INSTRUCTIONAL 24 Rounds live ammunition per soldier.
 AIDS: 60 Rounds of dummy ammunition.
 1 M1 rifle for demonstration.
 1 Chart, "8 Factors of a Steady Hold."
 1 Tin disc, dime size, per firing point.
 M2 aiming devices for assistant instructors.
 4 25-meter targets per firer. (Mark first shot group. Replace 25-meter target after second shot group.)
 Carbide lamps.
 Rifle grease.
 Spare parts box.
 Cleaning materials.
 Binoculars for assistant instructors.

PERSONNEL: 1 Principal instructor.
 1 Assistant instructor per 10 men.
 1 Ammunition NCO
 1 Armorer.

CORRECTIVE PLATOON

(Integrated as Needed with 25-Meter Firing)

Note. For the purpose, instructional aids, personnel, and conduct of this instruction refer to period five.

TIME BREAKDOWN

<i>Time in Minutes</i>	<i>Type of Instruction</i>	<i>Subject</i>
5	C-----	Organization.
15	C-----	Introduction and Review.
15	C, D-----	The Knelling Unsupported Position.
15	PE-----	Practical Work in the Kneeling Unsupported Position.
10	-----	BREAK.
15	PE-----	Practical Work in the Kneeling Unsupported Position.
5	C, D-----	The Kneeling Supported Position.
30	PE-----	Practical Work in the Kneeling Supported Position.
10	-----	BREAK.
15	C, D-----	The Foxhole Position.
35	PE-----	Practical Work in the Foxhole Position.
10	-----	BREAK.
15	C, D-----	The Standing Unsupported Position.
35	PE-----	Practical Work in the Standing Unsupported Position.

LESSON OUTLINE

1st Hour:

a. Organization of Class (5 Min).

- (1) Assign two soldiers to each firing point.
- (2) Move soldiers into bleachers without their rifles.

Note. During the instruction in the bleachers, assistant instructors will blacken all sights.

b. Introduction (15 Min).

- (1) Briefly review the scope of the training to be covered in the next four hours.
- (2) Briefly review safety precautions and previous periods of instruction.

c. The Kneeling Unsupported Position (15 Min).

- (1) Talk the demonstrator from the standing to the kneeling unsupported position. Do this twice, emphasizing the necessity for assuming this position rapidly.
- (2) While the demonstrator is in position the second time, review the steady hold factors.
- (3) Demonstrate and point out the common errors in this position.
- (4) Explain the conditions under which this position may be used; give advantages and disadvantages.
- (5) Demonstrate how to reload from this position.

d. Practical Work in the Kneeling Unsupported Position (15 Min).

- (1) The second order coaches and observes closely for errors.
- (2) Have assistant instructors supervise the exercise using binoculars and M2 aiming devices as aids in detecting errors.
- (3) Have the first order practice assuming the kneeling unsupported position rapidly on command. After each attempt, have the coaches and assistant instructors go through a step by step check of the steady hold factors as they apply to this position.
- (4) Check position for steadiness and trigger control by means of the tin disc test. Send all soldiers who are unable to pass the test to the corrective platoon.
- (5) The first order fires two shot groups of three live rounds and two dummy rounds each. Assistant instructors check for calling the shot on the firing data card, follow-through, and flinching.
- (6) After each shot group have the fires and coaches critique the shot group, using the target analysis sheet. Assistant instructors carefully supervise these critiques. Each firer marks his target. Firers with serious errors go to the corrective platoon.

e. BREAK (10 Min).

2d Hour:

f. Practical Work in the Kneeling Unsupported Position—Con. (15 Min).

The second order performs the practical work described above; the first order coaches.

g. The Kneeling Supported Position (5 Min).

- (1) Talk the demonstrator from the standing to the kneeling supported position, using a stump or a sandbag structure. Do this twice, emphasizing the necessity for assuming this position rapidly.
- (2) While the demonstrator is in position the second time, review the steady hold factors.
- (3) Demonstrate and point out the common errors in this position.
- (4) Explain the conditions under which this position may be used; give advantages and disadvantages.

h. Practical Work in the Kneeling Supported Position (30 Min).

- (1) The second order will act as coaches for the first order.
- (2) Have assistant instructors supervise the practical work giving individual assistance where necessary.
- (3) Have the first order practice assuming the position rapidly. After each attempt have the coaches and assistant instructors perform a step by step check of the steady hold factors as they apply to this position.
- (4) Coaches and assistant instructors check the position for steadiness and trigger control by means of the trigger control test. Send the firers who are unable to pass the tin disc test to the corrective platoon.
- (5) The first order fires two shot groups of three live rounds and two dummy rounds each. Instruct firers and coaches to critique targets after each shot group, using the target analysis sheet. Assistant instructors carefully supervise these critiques. Each firer will retain his target. Send the firers with serious errors to the corrective platoon.
- (6) The second order performs the practical work described above; the first order coaches.

i. BREAK (10 Min).

3d Hour:

j. The Foxhole Position (15 Min.)

- (1) Talk the demonstrator into the foxhole position. Do this twice.
- (2) While the demonstrator is in position the second time, review the steady hold factors.
- (3) Demonstrate and point out the common errors made in this position.

- (4) Explain the conditions under which this position may be used; give advantages and disadvantages.
- (5) Demonstrate how to reload from this position.

k. Practical Work in the Foxhole Position (35 Min).

- (1) The second order coaches the first order.
- (2) Have the assistant instructors supervise the practical work and give assistance where necessary.
- (3) Have the first order practice assuming the foxhole position. Check the position for steadiness and trigger control by means of the tin disc test. Send firers who are unable to pass the test to the corrective platoon.
- (4) The first order fires two shot groups of three live rounds and two dummy rounds each. Instruct firers and coaches to critique targets after each shot group, using the target analysis sheet. Assistant instructors carefully supervise these critiques. Each firer will mark his targets. Send the firers with serious errors to the corrective platoon.
- (5) The second order performs the practical work described above; the first order coaches.

l. BREAK (10 Min).

4th Hour:

m. The Standing Unsupported Position (15 Min).

- (1) Talk the demonstrator through the standing unsupported position. Do this twice, emphasizing the necessity of assuming this position rapidly.
- (2) While the demonstrator is in position the second time, review the steady hold factors.
- (3) Demonstrate and point out the common errors made in this position.
- (4) Explain the conditions under which this position may be used; give advantages and disadvantages.
- (5) Demonstrate how to reload from this position.

n. Practical Work in the Standing Unsupported Position (35 Min).

- (1) The second order coaches the first order.
- (2) Have assistant instructors supervise the practical work and give individual assistance where necessary.
- (3) Have the first order practice assuming the standing unsupported position rapidly. After each attempt, have the coaches and assistant instructors check the steady hold factors as they apply to the position.
- (4) Check the position for steadiness and trigger control by means of the tin disc test. Send the firers who are unable to pass the test to the corrective platoon.
- (5) The first order fires two shot groups of three live rounds and two dummy rounds each. Instruct the firers and

coaches to critique targets after each shot group, using the target analysis sheet. Assistant instructors carefully supervise these critiques. Each firer will retain his targets. Send the firers with serious errors to the corrective platoon.

- (6) The second order performs the practical work described above; the first order coaches.

o. Clearance of All Rifles.

Clear all rifles before moving troops.

SECTION II

TARGET DETECTION (2 HRS); DETECTION OF REALISTIC BATTLEFIELD TARGETS

PURPOSE:	To develop in the soldier the methods and skills required in detecting, marking, and estimating range to realistic battlefield targets.
INSTRUCTOR REFERENCES:	FM 21-75; FM 23-5.
INSTRUCTIONAL AIDS:	6 Shiny helmet liners. 6 Camouflaged helmet liners with rubber bands. Tubes camouflage paint (1 each of four basic colors). 6 M1 rifles for target men. 32 Rounds cal .30 blank ammunition per presentation for target men. 1 Master Trial Sheet for principal and assistant instructors. (Instructors prepare Master Trial Sheet with 16 trials. It is permissible to use the 10 trials presented to the company in the Target Detection of Period Five.) 6 Target Trial Sheets for target men (to be prepared from the above Master Trial Sheet). 1 Target Detection answer sheet per soldier. See Period Five. 2 Blackboards 2 Stopwatches. 2 First Aid boxes. Supply of answer sheets, clipboards, and pencils. Notebook and pencil.
INDIVIDUAL EQUIPMENT:	
PHYSICAL FACILITIES:	Two Target Detection Ranges.

PERSONNEL: 2 Principal instructors (1 per range).
 8 Assistant instructors (4 per range).
 6 Target men (3 per range).
 ORGANIZATION: See Section II, Period Five.

TIME BREAKDOWN

<i>Time in Minutes</i>	<i>Type of Instruction</i>	<i>Subject</i>
50	C, D-----	Practical Work.
10	-----	BREAK.
40	C, D-----	Practical Work.
10	C-----	Review.
10	-----	Troop Movement.

LESSON OUTLINE

Preparation

a. Setting up the Range.

- (1) Assign assistant instructors to instruct observers on the observation line.
- (2) Check range to see that all panels are up in proper places.
- (3) Camouflage target men.
- (4) Issue equipment to target men.
- (5) Equipment:
 - (a) Locate loudspeakers along the observation line and down range.
 - (b) Place charts, notes, clipboards, pencils, and answer sheets in position.
- (6) Have previously rehearsed target men assume positions for each trial, and have them perform indications quickly. Each target man will be familiar with the trial procedure and should have clearly written instructions in his possession.

b. Troop Arrival.

- (1) Upon arrival of troops, have individuals ground weapons in designated areas.
- (2) Assign soldiers to observation points.

Instructional Hours

1st Hour:

c. Practical Work (50 Min).

Narrative:

You will have a total of 16 trials today. The trials will be conducted in the same manner as in your last period of target detection training; however, more time will be devoted to discussion of target indications, camouflage, observation position, method of search, range cards, estimating range, and marking target indications. I will review each of these points for you during the practical work. Feel free to interrupt the practical work at any time to discuss any of the points you do not fully understand. (Conduct practical work of 8 trials.)

d. *BREAK (10 Min).*

2d Hour:

e. *Practical Work (40 Min).*

Narrative:

Let's take up the last 8 trials. Use the same answer sheets and begin with Trial No. 9.

f. *Review (10 Min).*

(1) Importance of Target Detection.

(2) Search of Area.

(a) Target indications.

(b) Camouflage.

(c) Observation position.

(d) Method of conducting search.

(3) Use of Range Card.

(4) Estimating Range.

(5) Marking Target Indications.

Narrative:

Only with constant practice will you be able to develop and maintain your target detection ability at its highest level. Look over the fields as you travel to different problems or while waiting for instructions to begin. See if you can pick out odd movements or objects that do not fit into the natural terrain.

g. *Troop Movement (10 Min).*

Soldiers are dismissed and moved out to next area of instruction.

SECTION III

ATP TRAINING (2 HRS)

An appropriate subject from ATP 21-114 is to be selected for this training. The subject chosen should not include marksmanship training.

The training area should be so located away from the 25-meter range so that the firing does not disturb the class.

PERSONNEL: 1 Principal instructor.
 2 Assistant instructors.

PERIOD SEVEN

PROGRESS CHECK ON THE COMPONENTS OF SHOOTING (25-METER FIRING)

HOURS: 29-32.

PURPOSE: To determine the soldier's readiness for field firing.

INSTRUCTOR None.

REFERENCES:

INSTRUCTIONAL AIDS: 33 Rounds live ammunition per soldier.
Carbide lamps.
Spare parts kit.
Rifle grease.
1 Scoring template per assistant instructor.
1 Progress card (25-meter firing) per soldier.
See Annex I.

INDIVIDUAL EQUIPMENT: 11 25-meter targets per soldier.
M1 rifle and combination tool.
Combat pack.
Steel helmet.
Clipboard and pencil.
Progress envelope.

PHYSICAL FACILITIES: 25-meter TRAINFIRE Range.

PERSONNEL: 1 Principal instructor.
1 Assistant instructor per 10 men.

SAFETY FACTORS: See local range regulations and AR 385-63.

ORGANIZATION: See lesson outline.

TIME BREAKDOWN

<i>Time in Minutes</i>	<i>Type of Instruction</i>	<i>Subject</i>
5	C-----	Organization of Class.
10	C-----	Explanation of Firing.
165	PE-----	25-Meter Firing.
50	PE-----	Second Trial on Positions Failed.

LESSON OUTLINE

a. Organization of Class (5 Min).

- (1) Check all rifles to make sure they are clear and there are no obstructions in the bore.
- (2) Assign two soldiers to each firing point.
- (3) Move class into the bleachers without their rifles.

b. Explanation of Firing (10 Min).

- (1) Explain to the class that the progress check is to be given to determine whether they are ready to advance to field firing.
- (2) Explain in detail the following:
 - (a) All eight firing positions will be checked.
 - (b) A three-round shot group will be fired from each position. A 1½-inch or smaller shot group is passing for the prone supported and foxhole positions. A 2-inch or smaller shot group is passing for the other positions.
 - (c) Each firer will have a progress card (Annex I) which will keep him informed of what positions he has passed. Only assistant instructors will mark on the card. The

progress card will be kept in the firer's progress envelope for use in later periods.

- (d) All firers will complete the check during the first 3 hours. During the last hour, firers who have failed positions will have the opportunity to refire those positions (maximum of three refires per individual).

c. *25-Meter Firing (165 Min).*

- (1) Move both orders to the firing line. The first order will fire and the second order will coach.

- (2) Procedure:

- (a) Have the first order fire a three-round shot group from each of the eight positions.

- 1. After each shot group has been fired, firers, coaches, and assistant instructors will move down range to the targets.

- 2. Each firer will—

- (a) Write on his target his name and the abbreviation of the position fired (example: PS, PU).

- (b) Remove the target as soon as it has been scored by an assistant instructor.

- 3. Assistant instructors will—

- (a) Score each target as “pass” or “fail,” using the scoring template. Any shot group which falls within the prescribed circle (3 centimeters or 5 centimeters as the case may be) passes, including shots which touch the line.

- (b) Mark and initial scorecards of the firers (Annex I).

- (c) Mark targets pass or fail (F for failed, initialed by assistant instructor if passed).

- 4. Collect all targets which have just been fired upon.

- (b) Have the second order fire a three-round shot group from each of the eight positions with the first order coaching. Repeat procedure outlined under (a) above.

d. *Second Trial on Positions Failed (50 Min).*

- (1) Have each order move back to the firing line in the same sequence.

- (2) Have firers refire any position failed (maximum of three).

- (3) In the event a firer has passed all positions, he should be utilized as a coach and his ammunition allotment should be used by firers needing additional practice.

- (4) Give particular attention to the prone supported and foxhole positions (these positions are used to zero in period eight).

- (5) Use the same test procedure previously described.

Note. During this firing, positions are marked “pass” or “fail,” based on the size of the shot group. The 1¼-inch circle is used to require a higher degree of precision from the prone supported and foxhole positions. This

should result in better zeros since firers use these positions to obtain their battlesight settings. The 5-centimeter circle used is based on the size group which can be effective at greater ranges. As an example, a 5-centimeter shot group at 25 meters is approximately equivalent to a 40-centimeter shot group at 200 meters. All three shots of a group this size could hit a man-sized target. It will be relatively easy for good shooters to obtain 3-centimeter and 5-centimeter shot groups. However, the check will definitely indicate the poor shooters, which is its primary objective. The poor shooters, determined by the check, will be given additional instruction in period eight prior to zeroing their rifles. Before period nine all targets must be reviewed to determine which soldiers have failed the most positions. These soldiers will be placed in the second group for period nine to refire the failed positions.

PERIOD SEVEN

ANNEX I

1,000-INCH FIRING PROGRESS CARD

Firer's Name _____ Squad _____ Platoon _____
(Last) (First)

Position

Number of Tries

	1st	2d	3d	4th	5th	6th	7th	8th
1. Prone Supported (PS) _____								
2. Prone Unsupported (PU) _____								
3. Foxhole (F) _____								
4. Sitting Unsupported (SIU) _____								
5. Kneeling Unsupported (KU) _____								
6. Kneeling Supported (KS) _____								
7. Squatting Unsupported (SQU) _____								
8. Standing Unsupported (STU) _____								

Instructions to AI: If firer *fails* a position, put an *F* in the proper box for that position according to the number of times he has tried. When a firer passes a position, write your initials in the proper box.

PERIOD EIGHT

BATTLESIGHT ZEROING

HOURS: 33-36.
PURPOSE: To give each soldier the opportunity to determine the battlesight zero for his rifle.
INSTRUCTOR FM 23-5.
REFERENCES:
INSTRUCTIONAL See sections I and II.
AIDS:

INDIVIDUAL EQUIPMENT:	M1 rifle and combination tool. Combat pack. Steel helmet. Clipboard and pencil. Progress envelope.
PHYSICAL FACILITIES:	25-meter TRAINFIRE Range. Field Firing Range.
PERSONNEL:	2 Principal instructors. 1 Assistant instructor per 10 men. 2 Armorers. (See individual sections for breakdown.)
SAFETY FACTORS:	See local range regulations and AR 385-63.
ORGANIZATION:	This period is organized into two sections, section I—primary instruction (station 1); and section II—corrective instruction (station 2). The class is divided into two groups, based on results of test firing in period seven. Soldiers who are ready to zero are placed in group 1, and those not ready are placed in group 2. Group 2 receives individual corrective instruction prior to zeroing.

SECTION I

PRIMARY INSTRUCTION (BATTLESIGHT ZEROING)

PURPOSE:	To enable each soldier to obtain his 250-meter battlesight zero.
INSTRUCTIONAL AIDS:	12 Rounds of live ammunition per soldier. E-type silhouette targets on stakes (as needed). 1 Zeroing paster per soldier (to be attached to silhouettes). Binoculars for assistant instructors. Chart, "Principles of Zeroing." Carbide lamps.
PHYSICAL FACILITIES:	Field Firing Range and adjacent points on 25-meter TRAINFIRE Range (as needed).
PERSONNEL:	1 Principal instructor. 7 Assistant instructors. 2 Armorers.

TIME BREAKDOWN

<i>Time in Minutes</i>	<i>Type of Instruction</i>	<i>Subject</i>
10	C-----	Organization of Class.
30	C-----	Explanation of Zeroing Procedure.
190	PE-----	Zeroing.

LESSON OUTLINE

a. *Organization of Class (10 Min).*

- (1) Check all rifles to make sure that they are clear and that there are no obstructions in the bore.
- (2) Divide the class into two groups. Group 1 is to consist of those soldiers who are ready to zero their rifles as indicated by the 25-meter progress check. Group 2 consists of those soldiers who are not ready to zero.
- (3) Move the class into the bleachers.

b. *Explanation of Zeroing Procedure (30 Min).*

Narrative:

EXPLAIN ZEROING PROCEDURE AS FOLLOWS:

Up to now you have been firing at a target which was only 25 meters away. The next period you will start firing at the silhouette pop-up targets on the Field Firing Range. The silhouettes will appear 75 meters to 300 meters away. To hit these silhouettes you must properly aim and apply the steady hold factors in all positions. Also, your rifle must be properly zeroed.

We usually think of a bullet as going through the air in a straight line. But we all know that this really isn't so. As it goes through the air it drops slowly, actually moving in a curve rather than a straight line. (Show chart.) This means that the bullet which hits the aiming point at 200 meters would hit low at 300 meters and still lower at 400 meters.

Now that we know what happens to the bullet as it goes through the air, the next question is what to do about it in order to hit long-range targets. Suppose you are pitching in a baseball game and then you are moved to center field. You *were* about 60 feet or 18 meters away from homeplate, *now* you are 200 feet or 61 meters away. If you threw to homeplate from center field exactly like you did from the pitcher's mound, what would happen? The ball wouldn't even get to second base before it would hit the ground. So what do you have to do to get the ball all the way to homeplate? That's right; throw it higher so that it will go farther before it drops to the ground. What does all this mean with regard to our shooting? It means this—you have to make the bullet go up in the air a little more for longer ranges.

We could get that bullet up by aiming higher, but this method is bad because on a long-range target we might have to aim in

the sky to hit a target on the ground. It would be better if we could aim directly at the point we want to hit, just as we do at 25 meters. The bullet would go up in the air and come down right at the point at which we are aiming. The U. S. Army thinks this is a good idea and has made the sights on your rifle with this in mind.

We can adjust the sights on the M1 rifle so that the bullet will come down at exactly the point at which we are aiming, and we can do this for any particular range we choose. (Show chart.) On this chart you see the line of sight (toward the target) which is a straight line, and the path of the bullet, called the trajectory, which is curved. If we adjust the sight so that these two meet at 100 meters, we have a 100-meter zero. If we adjust the sight to make them meet at 200 meters, we have a 200-meter zero. By the zero of a rifle we mean the sight setting which will cause the bullet to hit the point of aim at a given range. We can change the zero of the rifle for different ranges by changing the number of clicks of elevation. Since no two rifles are the same and no two firers are alike, each man must determine for himself how many clicks of elevation he needs for each range.

We could determine how many clicks of elevation are required for 50 meters, 100 meters, 150 meters, 250 meters, and so on as far out as we wanted to go, and memorize the setting for each range. But the enemy is not going to wait while you turn the knobs on your sights. When an enemy target appears, you must get off a well-aimed round immediately. Therefore, you will zero your sights and set them at one range setting. This setting is known as your battlesight zero. Experience and tests have shown the best zero for an infantry rifleman is 250 meters.

We have decided to zero our rifles for 250 meters. This means that you will hit exactly the point at which you aim at 250 meters. One way to determine the sight setting for a 250-meter zero is to fire at a target at 250 meters, then examine the target, adjust the sights, fire again, and so on until you hit exactly where you aim. But 250 meters is a long way to walk to examine the target and it would be very time consuming. Not only that, but you may have to zero your rifle in a combat area where 250 meters of flat terrain is not available. Fortunately there is a simple way to zero your rifle for 250 meters without actually firing a distance of 250 meters. (Show chart.) This chart shows the trajectory from a rifle zeroed for 250 meters. The line of sight meets the trajectory at 250 meters. Now what happens if we put a target in here at less than 250 meters? That's right, the bullet will strike above the line of sight. Sup-

pose we put this closer target at 75 meters. Where would the bullet strike? As a result of repeated firing tests we know that at 75 meters the bullet will strike 8.5 centimeters above the line of sight when the rifle is zeroed for 250 meters. This means that if we fire at a target 75 meters away and the bullet hits 8.5 centimeters above our point of aim, we will be zeroed for 250 meters. That is exactly what we are going to do today. We will fire at a target 75 meters away and adjust our sight until we get a shot group which centers 8.5 centimeters above the point of aim.

How are you going to know when you are hitting just 8.5 centimeters above your aiming point? Here is the zeroing target you will use. (Show zeroing target.) You will aim at the exact center of the bottom of the black square at a range of 75 meters. This square is 8.5 centimeters high. So when you aim at the bottom of this and get a shot group which centers at the top of it, you are zeroed for 250 meters.

You will use the following procedure: You will fire a three-round shot group, aiming at the exact center of the bottom of the black square. You will then go down range with the assistant instructor and determine the center of the shot group. Then, under the direct supervision of the assistant instructor, and *only* under his supervision, you will adjust your sights to move the center of the shot group to the center of the top of the square. This adjustment requires two separate sight changes—elevation and windage. One click of either elevation or windage will move the strike of the bullet approximately 2 centimeters at 75 meters. (Using a zeroing target, show how to find the center of the shot group and how to determine the necessary sight changes. Show this with five or six shot groups. Demonstrate the necessary sight changes on a rifle.) After you have estimated the necessary sight changes and placed them on your rifle, you will refire to check the accuracy of your estimate. After you and the assistant instructor are sure that you have the proper setting for your battlesight zero, it will be recorded on your firing data card. Instruction on calibrating your sights to your battlesight zero will be given at a rear area station. Do not attempt to change these settings after they have been set. The 300-meter index line on the elevation knob must always be opposite the index line on the receiver.

This is an excellent method of zeroing but it is only as accurate as the man behind the rifle. You must aline your sights precisely and aim exactly at the center of the bottom of the square. Remember that this is the sight setting you will use in the remainder of your firing, including the record course. You

cannot get a good firing score with an improperly zeroed rifle.

(1) Emphasize the following points:

(a) It is important that each soldier obtain an accurate zero.

1. An expert shot would have trouble hitting his target with a poorly zeroed rifle.

2. All future firing to include record firing will be done with the zero obtained.

(b) Sight alinement must be correct and the firer must strive for the same sight picture for each shot.

(2) Review procedure:

(a) Each soldier fires a three-round shot group from either the *prone supported position* or the *foxhole position*.

(b) Firers and assistant instructors move down range to the targets after each group has been fired.

(c) If the group is satisfactory, the assistant instructor supervises the necessary sight changes to move the center of the top of the black paster.

(d) The procedure above is repeated until the assistant instructor is satisfied a good zero has been obtained.

(e) Once the zero has been obtained, the assistant instructor insures that it is recorded on the firing data card.

(f) The soldier then takes his rifle to a rear area station where he is given instruction on calibrating his sights.

(3) Have group 1 move to the field firing range and group 2 to the 25-meter range.

c. *Zeroing (190 Min).*

(1) Have soldiers zero according to the procedure outlined in b (2) above.

(2) As firing points are vacated infiltrate other firers to those points.

(3) All firers who cannot fire a satisfactory shot group should be sent to the 25-meter range for corrective instruction.

(4) Check each firer to insure that his zero is recorded on a zero record card and his sights have been calibrated.

Note. In the event groups 1 and 2 are not balanced and there is a large backlog at station 1, additional instruction and practical work in positions should be given in rear of station 1. This will eliminate a large group waiting to zero. This instruction may also be given to the soldiers who complete their zeroing early.

A station should be set up in a rear area for the calibration of the battlesight zero. Assistant instructors should talk the soldiers through the procedure step by step. When the soldiers have set their sights, an assistant instructor should check each individual's rifle to insure the sight has been properly calibrated.

SECTION II

CORRECTIVE INSTRUCTION (CORRECTIVE PLATOON)

PURPOSE:	To improve the firing of those soldiers unable to pass the 25-meter progress check from the prone supported and foxhole positions.
INSTRUCTIONAL AIDS:	5 rounds live ammunition per soldier. Dummy ammunition (as needed). 1 M2 aiming device per assistant instructor. 25-meter targets. 1 Scoring template per assistant instructor. Binoculars for assistant instructors.
PHYSICAL FACILITIES:	25-meter TRAINFIRE Range.
PERSONNEL:	1 Principal instructor. Assistant instructors (based on number of soldiers in corrective platoon).

Note. The function of the corrective platoon during this period is to insure that all soldiers obtain a satisfactory shot group in the prone supported or foxhole positions so they may then zero their rifles. The specific goal is to obtain a 3-centimeter or smaller shot group from the prone or foxhole supported position. Soldiers sent to the corrective platoon are those who have twice failed to pass the 3-centimeter test from the above mentioned positions. The corrective platoon instructors must find and correct their errors.

After a soldier has passed the test in the prone or foxhole supported position, he should report to the principal instructor at the field firing range (station 1). Soldiers who have difficulty zeroing on the field firing range may be sent to the corrective platoon for individual instruction before proceeding with the zeroing process.

PERIOD NINE

INTRODUCTION TO FIELD FIRING; DETECTION OF SINGLE MOVING TARGETS

HOURS:	37-44.
PURPOSE:	To introduce the soldier to firing on field targets at various ranges and from various firing positions; to give instructions on individual weaknesses revealed in the 25-meter progress check; to give target detection training on single moving targets.
INSTRUCTOR REFERENCES:	See sections I, II, and III.
INSTRUCTIONAL AIDS:	See sections I, II, and III.

INDIVIDUAL EQUIPMENT: M1 rifle.
Combination tool.
Steel helmet.
Combat pack.
Notebook and pencil.
Progress envelope (containing progress card for period seven).

PHYSICAL FACILITIES: Field Firing Range.
25-meter TRAINFIRE Range.
Target Detection Range.

PERSONNEL: 3 Principal instructors.
1 Assistant instructor per 10 men.
1 Target control operator.
1 Ammunition NCO.
1 Armorer.
4 Target men (for target detection).
Target repairmen.
(See individual sections for breakdown.)

SAFETY FACTORS: See AR 385-63 and local range regulations.

ORGANIZATION: When the company arrives, check all rifles for clearance and obstructions. Divide the company into two groups. Designate group 1 for soldiers who shot the greatest number of satisfactory shot groups from the position used during the progress check in period seven. Designate group 2 for soldiers who failed to shoot a satisfactory shot group in one or more of the positions used in period seven. Units may place additional firers in group 2 by using as a criterion the number of tries each individual used to shoot a satisfactory shot group. Place group 1 at station 1 (Field Firing) for 4 hours. Place one-half of group 2 at station 2 (25-meter Firing) for 2 hours, and one-half at station 3 (Target Detection) for 2 hours. At the end of 2 hours have these two subgroups of group 2 change stations. During the last four hours, move group 2 to station 1.
Place one-half of group 1 at station 2 (25-meter Firing) for 2 hours and one-half at station 3 (Target Detection) for 2 hours. At the end of 2 hours have the two subgroups of group 1 change stations.

SECTION I

FIELD FIRING (4 HRS)

PURPOSE:	To introduce the soldier to firing on field targets at various ranges from various firing positions.
INSTRUCTOR REFERENCES:	All previous rifle marksmanship references.
INSTRUCTIONAL AIDS:	<p>54 Rounds live ammunition per soldier.</p> <p>Whistle.</p> <p>1 Target device with silhouette for demonstration.</p> <p>Spare target devices.</p> <p>Spare silhouettes (E and F).</p> <p>Target maintenance kit.</p> <p>Carbide lamps.</p> <p>Rifle grease.</p> <p>2 Chairs per firing point (scoring and ready lines).</p> <p>Ammunition tables.</p> <p>Scoresheets (see Annex I).</p> <p>Field Firing Range.</p>
PHYSICAL FACILITIES:	
PERSONNEL:	<p>1 Principal instructor.</p> <p>1 Assistant instructor per 10 men.</p> <p>1 Target control operator.</p> <p>2 Target repairmen.</p> <p>1 Ammunition NCO.</p> <p>1 Armorer.</p>

TIME BREAKDOWN

<i>Time in Minutes</i>	<i>Type of Instruction</i>	<i>Subject</i>
10	C-----	Organization.
30	C-----	Explanation of Range Procedure.
60	PE-----	Field Firing—1st Order.
60	PE-----	Field Firing—2d Order.
60	PE-----	Field Firing—3d Order.
10	C-----	Review.
10	-----	Range Police or Troop Movement.

LESSON OUTLINE

a. Organization of Class (10 Min).

- (1) Assign three firers to each firing point.
- (2) Distribute scoresheets.
- (3) Have soldiers in the first order place their rifles on the numbered stakes and the soldiers in the other two orders place their rifles on the rifle rests. Assemble the group for instruction.

*b. Explanation of Range Procedure (30 Min).**

- (1) General.
 - (a) Explain purpose of the firing.
 - (b) Introduce the "pop-up" target, pointing out that it will represent the enemy for the remainder of the field and record firing.
 - (c) Demonstrate how the "pop-up" target is controlled from the tower. Show the automatic "kill" of the target.
 - (d) Explain that the "pop-up" target will appear completely exposed at various ranges and that it will take well-aimed rounds to hit each target.
 - (e) Refer to a scoresheet and discuss the total number of rounds to be fired and the number to be fired from each position. Explain that from each position the firer fires at 75-, 175-, and 300-meter ranges and only at the targets in his own lane.
 - (f) Review safety regulations.
- (2) Explain the specific firing procedure to be used. Include the following points:
 - (a) Clips are loaded upon command from the tower.
 - (b) After the command to load, the command from the tower will be, WATCH YOUR LANES. The firer may fire without further command as soon as the target in his lane appears.
 - (c) Firers lock their rifles on command from the tower.
 - (d) There is no time limit on operation of the targets. Firers should take sufficient time to engage their targets.
 - (e) Use of the scoresheet.
- (3) Explain the primary duties at each station.
 - (a) Firing line.
 1. Emphasize that consistent hits will result if the fundamentals of aiming and steady hold are carefully applied.
 2. Discuss the importance of applying the steady hold factors in all firing positions.
 3. Explain why it is necessary to aim at the bottom of the silhouette at 75 and 175 meters and approximately halfway up on the silhouettes at 300 meters.
 - (b) Ready line.

Distribute ammunition on command from the tower (6 clips of 8 rounds each and a partial clip of 6 rounds to each firer as soon as he assumes the foxhole firing position. All extra clips are kept in cartridge belts).

*While this instruction is in progress, have the assistant instructors blacken the sights of the rifles belonging to the first order.

(c) Scoring line.

1. Have scorers keep an accurate record of each shot and return the completed scoresheet to the tower.
2. Have scorers assist the firer by informing him of the location or direction of his misses.

c. *Rotation Schedule for Three Orders.*

- (1) Have each order move to its station as shown on line 1 of the rotation schedule shown below and perform the duties explained in (3) (a)–(c), above. At the end of each 60 minute period have the orders change stations.

ROTATION SCHEDULE

	Orders—		
	1st	2d	3d
1-----	F	R	S
2-----	S	F	R
3-----	R	S	F

F—Firing; R—Ready line; S—Scoring.

d. *Conduct of Firing.*

- (1) Expose all targets as each order moves to firing line so that each firer may identify the location of the targets in his lane.
- (2) During the firing, insure that sufficient time is allocated for corrections by assistant instructors.

FIRING TABLE

Phase 1

LOCK, ONE CLIP, LOAD

Position	Range (meters)	Round No.
Foxhole-----	75	1
Foxhole-----	75	2
Foxhole-----	75	3
Foxhole-----	175	4
Foxhole-----	175	5
Foxhole-----	175	6
Foxhole-----	175	7
Foxhole-----	300	8

LOCK, ONE CLIP, LOAD

Foxhole-----	300	9
Foxhole-----	300	10
Foxhole-----	300	11
Foxhole-----	300	12
Foxhole-----	300	13
Foxhole-----	300	14
Foxhole-----	300	15
Foxhole-----	300	16

CLEAR ALL WEAPONS
CHANGE TO STANDING UNSUPPORTED

Phase 2

LOCK, 6 ROUNDS, LOAD

<i>Position</i>	<i>Range (meters)</i>	<i>Round No.</i>
Standing unsupported.....	75	1
Standing unsupported.....	75	2
Standing unsupported.....	75	3
Standing unsupported.....	175	4
Standing unsupported.....	175	5
Standing unsupported.....	175	6

CLEAR ALL WEAPONS
CHANGE TO KNEELING SUPPORTED

Phase 3

LOCK, ONE CLIP, LOAD

Kneeling supported.....	75	1
Kneeling supported.....	175	2
Kneeling supported.....	175	3
Kneeling supported.....	175	4
Kneeling supported.....	300	5
Kneeling supported.....	300	6
Kneeling supported.....	300	7
Kneeling supported.....	300	8

CLEAR ALL WEAPONS
CHANGE TO KNEELING UNSUPPORTED

Phase 4

LOAD, ONE CLIP, LOAD

Kneeling unsupported.....	75	1
Kneeling unsupported.....	175	2
Kneeling unsupported.....	175	3
Kneeling unsupported.....	175	4
Kneeling unsupported.....	300	5
Kneeling unsupported.....	300	6
Kneeling unsupported.....	300	7
Kneeling unsupported.....	300	8

CLEAR ALL WEAPONS
CHANGE TO SQUATTING UNSUPPORTED

Phase 5

LOCK, ONE CLIP, LOAD

Squatting unsupported.....	75	1
Squatting unsupported.....	175	2
Squatting unsupported.....	175	3
Squatting unsupported.....	175	4
Squatting unsupported.....	300	5
Squatting unsupported.....	300	6
Squatting unsupported.....	300	7
Squatting unsupported.....	300	8

CLEAR ALL WEAPONS
CHANGE TO SITTING UNSUPPORTED

Phase 6

LOCK, ONE CLIP, LOAD

<i>Position</i>	<i>Range (meters)</i>	<i>Round No.</i>
Sitting unsupported.....	75	1
Sitting unsupported.....	175	2
Sitting unsupported.....	175	3
Sitting unsupported.....	175	4
Sitting unsupported.....	300	5
Sitting unsupported.....	300	6
Sitting unsupported.....	300	7
Sitting unsupported.....	300	8

CLEAR ALL WEAPONS

c. Review of Field Firing (10 Min).

- (1) Clear all rifles.
- (2) Review common errors noted during day's firing.
- (3) Determine best scores.

SECTION II

25-METER FIRING (2 HRS)

PURPOSE:	To improve the basic shooting ability of the soldier; to supervise practical work to correct the firers' weaknesses revealed in the progress check (period seven).
INSTRUCTOR REFERENCES:	All previous rifle marksmanship references.
INSTRUCTIONAL AIDS:	18 Rounds live ammunition per soldier. 1 Dummy round per 2 soldiers. M2 aiming devices. Rifle rests and aiming boxes. Aiming discs. Aiming bars. 4, 25-meter targets per soldier. 1 Scoring template per assistant instructor. Carbide lamps. Ammunition tables. Binoculars for assistant instructors. 25-meter TRAINFIRE Range.
PHYSICAL FACILITIES:	
PERSONNEL:	1 Principal instructor. 1 Assistant instructor for 10 men.

TIME BREAKDOWN

<i>Time in Minutes</i>	<i>Type of Instruction</i>	<i>Subject</i>
10	-----	Organization.
10	C-----	Explanation of Range Procedure.
30	PE-----	Practical Work in the Aiming Exercise.
60	PE-----	Position Practice and 25-meter Firing.
10	-----	Range Police or Troop Movement.

LESSON OUTLINE

a. Organization of Class (10 Min).

- (1) Divide group into two orders.
- (2) Have the first order place their rifles on the numbered stake; have the second order place their rifles on the rifle rests.
- (3) Assemble the group for instruction.

b. Explanation of Range Procedure (10 Min).

- (1) Explain that the purpose of the instruction and firing is to correct weaknesses revealed in the progress check conducted during Period Seven.
- (2) The aiming exercise will be conducted first. Each firer will make three groups of three sight pictures each.
- (3) The remainder of the period will consist of position practice and 25-meter firing using the live and dummy method. Positions used will be determined by the firer's progress card. Priority should be given to the foxhole, kneeling unsupported and squatting unsupported positions.
- (4) The shot groups will be slightly above the point of aim because the rifles are now zeroed for 250 meters. However, this should be of little concern to the firer since the size of the shot group is the important factor.
- (5) Review safety precautions.

c. Practical Work in the Aiming Exercise (30 Min).

- (1) Have the first order make three groups of three sight pictures each (second order marks).
- (2) Have firers and assistant instructors move to aiming boxes after each group for critique.
- (3) Have first and second orders change places and repeat procedure.

d. Practical Work in Positions and 25-meter Firing (60 Min).

- (1) Have the first order practice positions failed during the progress check conducted during Period Seven. Second order coaches.
- (2) Have the first order fire from positions failed using the live and dummy method. (Each firer is limited to 6-shot groups unless ammunition exceeds the original allotment of 18 rounds per firer.)
- (3) Have the first and second orders change over and repeat procedure.

- (4) Throughout the firing have assistant instructors mark and initial progress cards of individual firers.

Note. The instruction outlined above may not be applicable to some groups of firers. For groups which appear to be more advanced (as evidenced by their progress cards) the instruction should be directed toward specific deficiencies.

SECTION III

TARGET DETECTION (2 HRS); SINGLE MOVING TARGETS

PURPOSE:	To give the soldier practice in detecting and marking single combat-type moving targets.
INSTRUCTOR	FM 21-75.
REFERENCES:	
INSTRUCTIONAL AIDS:	<ul style="list-style-type: none">3 Camouflaged helmet liners with rubber bands.Tubes camouflage paint (1 each of four basic colors).3 M1 rifles for target men.15 Rounds blank cal .30 ammunition per presentation.1 Master Trial Sheet per principal and assistant instructor. (See Annex II, Sample Master Trial Sheet.)3 Target Trial Sheets for target men (to be prepared from the above Master Trial Sheet).1 First Aid kit.1 M1 rifle per observation point with firing pin removed.
PHYSICAL FACILITIES:	<p>Target Detection Range. The panels can be removed if they interfere with the problem. Small numbered stakes signifying beginning and end of a movement can be placed over the observation range to assist target men. Movements are controlled by use of public address system.</p> <p><i>Note.</i> Units may desire to utilize two ranges for each group undergoing this target detection training. If this occurs, double the instructional aids and personnel requirements.</p>
PERSONNEL:	<ul style="list-style-type: none">1 Principal instructor.3 Target men to function as hostile targets.

TIME BREAKDOWN

<i>Time in Minutes</i>	<i>Type of Instruction</i>	<i>Subject</i>
5	C-----	Introduction.
5	C-----	Selection of Observing Positions.
5	C-----	Detecting Moving Targets; Marking and Aiming Procedure.
30	PE-----	Practical Work (4 Trials).
10	-----	BREAK.
45	PE-----	Practical Work (6 Trials).
10	C-----	Summary.
10	-----	Troop Movement.

LESSON OUTLINE

Preparation

a. Setting up the Range.

- (1) Place one rifle *with the firing pin removed* in position at each observation point. Have an officer inspect this rifle.
- (2) Assign assistant instructors to the observation line to instruct observers.
- (3) Place rehearsed target men in their initial positions. Insure that each target man is familiar with the procedure and has clearly written instructions in his possession (Target Trial Sheets).
- (4) Inspect for live ammunition.
- (5) Locate loudspeakers along the observation line and down range.
- (6) Position charts, notes, and other instructional equipment.

b. Troop Arrival.

- (1) Upon arrival, have troops ground weapons in designated areas.
- (2) Inspect for live ammunition.
- (3) Assign soldiers to observation points.

Instructional Hours

1st Hour:

c. Introduction (5 Min).

Narrative:

This is your third period on combat target detection. During this hour we will show you how to detect moving targets. But first let's review some important aspects of the training that you have had so far.

Question: What training did you receive during your last period on this subject? (Pause for all to consider. Select one soldier to answer.)

Answer: Should include some or all of the following:

- (a) Importance of ability to detect a combat target.
- (b) Practice in detecting such targets.

- (c) Practice in range estimation.
- (d) Some practice in marking the location of such targets with reference to visible aiming or reference points.
 - 1. Marking the point of disappearance as an aiming point.
 - 2. Marking the origin of smoke, movement, glare, or noise as an aiming point.
 - 3. Marking by fixing the point in relation to a distinguishable terrain feature and using this feature as a reference point from which the aiming point is recollected.

Question: Why is this an important part of the combat training of a rifleman?

Answer: The best soldier in the world is helpless unless he can locate a target.

d. *Selection of Observing Position (5 Min).*

Narrative:

Each of you is now occupying one of the observation points. Pick out your own observing position from this point but consider the minimum height from which you can see the whole range. Experiment. The standing position gives maximum visibility and minimum cover. The prone position gives minimum visibility and maximum cover. Most positions will probably be a compromise between these two so use your own judgment and learn to make these choices quickly. Now let's practice these for a few minutes. Assume the position you would use in observing from your point. The assistant instructors will check your choice. After this, choose the observing position that you will use from four other points.

e. *Detecting Moving Targets (5 Min).*

Narrative:

A target moving across your front is the easiest to detect but the hardest to hit; targets moving straight toward your position are hardest to detect but the easiest to hit. Continued lateral movement takes assaulting riflemen away from a position rather than to it. The smart rifleman keeps his opponent constantly off balance by varying rushes, making some long and some short; varying the intervals between rushes; staying concealed for different lengths of time; and rolling or crawling to new aiming positions and reappearing from that position. Our target men will demonstrate these movements during our practical work.

f. *Marking and Aiming Procedures (5 Min).*

Narrative:

Now we will discuss the marking and aiming procedures with moving targets, including when and how to engage these targets. Remember—if you can get off an aimed shot, try to engage the target while it is moving.

When a moving target drops from sight the firer marks the point of disappearance using an aiming or reference point. After marking, he either fires at the point where the target disappears, if this point does not afford *protective cover* to the target, or waits until the target reappears. He fires at the target as he gets up and before he moves out, if the point of disappearance affords protective cover.

The method he uses depends upon the situation and conditions. If the target drops behind cover, the firer waits until it reappears before firing. If the target disappears behind concealment but not cover, he observes the aiming point and the area surrounding the aiming point to detect any attempt by the enemy to roll or crawl away from the point of disappearance. Then, the firer fires through the concealment.

Question: How do you use a reference point in aiming with a rifle?

Answer: Remember or retain a mental picture of the relation between the target and the reference as an aid in "aim-off" from the reference point.

g. *Practical Work (30 Min).* (See ANNEX II, Sample Master Trial Sheet.)

(Make comments regarding type of movement and aiming point after each rush.)

Narrative:

You will have 10 trials today.

TRIAL 1—FOUR PHASES IN POSITION WITH A GOOD AIMING POINT.

We will now have the first trial. This follows the four phase sequence used in your previous target detection work. Remember, if you see the target at a recognizable ground point, mark that point mentally for use as an *aiming point*. If you cannot find a recognizable ground point, note the target location in relation to some landmarks and use this as a reference point. (On loudspeaker, announce, TRIAL 1 BEGIN.)

TRIAL 2—FOUR PHASES IN POSITION WITH A POOR AIMING POINT.

(On loudspeaker, announce, TRIAL 2 BEGIN.)

Question: Was this test harder than the first? Why?

Answer: Range was shorter. Marking was difficult. (Stress "Kentucky Windage" or aim-off from nearest visible reference point.)

TRIAL 3—EASY MOVEMENT.

This trial will be different from any we have seen because it concerns a moving target. It will be your first experience with moving targets. See that man to your front about 300 meters out? (Target man is standing in full view.) On command, he will disappear. I want you to mark the point of disappearance in terms of an aiming point. When you mark a disappearing target of this type you have two choices: either fire at the point of disappearance or wait until he reappears and fire as he gets up and before he moves.

Question: Look where he is standing. How many would fire at the point of disappearance? (Hands) How many would wait and fire as he gets up? (Hands)

Answer: Well, each of these courses is right under certain conditions. Suppose he drops behind cover? In that case, wait until he comes out. If he has no cover, but is merely concealed, you have a good aiming point and you could fire. However, you might not score a hit because an experienced infantryman will roll or crawl to a point far enough away from where he dropped to confuse anyone who marked this point. Later in this period you will see how this complicates marking.

Question: What must the observer do to counter this maneuver?

Answer: Observe for any movement around the aiming point. If you see indications of movement such as moving grass or brush, fire at these indications. Get ready to mark the target as he goes down. He will then reappear and make several rushes toward you. Each time he disappears, *mark*; then try to aim at the mark while he is down. When he appears, see if you can hit him before he moves. Repeat this for each rush. Everyone understand? Any question? **READY ON THE OBSERVATION LINE!**

(On loudspeaker, announce TRIAL 3 BEGIN. Target executes five 4-second rushes, each to a position affording a good aiming point.)

Question: What was easy about that trial?

Answer: The target reappeared at point of disappearance, and each disappearing point offered a good aiming point.

TRIAL 4—REAPPEARANCE AT POINT OF DISAPPEARANCE.

Now let's try that same problem again and make it a little harder. You won't know where the man starts. This isn't the only timing that will make the problem difficult. There is something else. See if you can detect it. **READY ON THE OBSERVATION LINE!**

(On loudspeaker, announce, TRIAL 4 BEGIN.)

Question: Who detected what caused the problem to be more difficult?

Answer: No clear aiming points. Rush length varied. Remember—these factors make a target harder to hit.

Comment: When you are required to advance in the face of hostile fire, vary your rushes and stay away from landmarks. Use your judgment to distinguish between a good or poor landmark and good or poor cover.

h. *BREAK (10 Min).*

i. *Practical Work (45 Min).* (Make comments similar to those made during previous practical work.)

Narrative:

Let's take up the remaining 6 trials.

TRIAL 5—VARIED REAPPEARANCE OF A POOR AIMING POINT.

We were beginning to get some difficult trials before our break. Now let's try one even more difficult. Keep in mind what was said about targets reappearing away from where they disappeared. **READY ON THE OBSERVATION LINE!**

(On loudspeaker, announce, TRIAL 5 BEGIN.)

I don't think I have to question you on that. It was more difficult. There is a double moral to this training—*watch out* for these tactics when you are defending, *use* them when you attack.

TRIALS 6 AND 7—LATERAL MOVEMENT.

Now let's try a different problem. All movement is not directly toward you. Sometimes it is to the side. Such movement is easier to detect but harder to hit. The distance moved is usually short, making the problem of hitting the target more difficult. In addition, the target frequently fails to reappear, putting more stress on firing at point of disappearance. Let's try it. **READY ON THE OBSERVATION LINE!**

(On loudspeaker, announce, TRIAL 6 BEGIN.)

Question: How many favor trying to hit such a target on the move? (Hands) How many prefer to mark its disappearance and fire at that point? (Hands) Let's try it over. **READY ON THE OBSERVATION LINE!**

(On loudspeaker, announce, TRIAL 7 BEGIN.)

Question: Now how many prefer "on the wing?" How many mark and fire at leisure?

TRIAL 8—SINGLE LONG RUSH.

Now we'll mix them up and see how you handle the problem. **READY ON THE OBSERVATION LINE!**

(On loudspeaker, announce, TRIAL 8 BEGIN.)

(After one minute): He's evidently not going to reappear.

Question: What do you do now?

Answer: He's behind cover. Should not fire.

Comment: We can wait, probably without results. That's a good example of combat, plenty of "waiting." Remember—a rifleman needs plenty of patience. Now let's try the finale.

TRIAL 9—VARIED MOVEMENT.

(On loudspeaker, announce, TRIAL 9 BEGIN.)

That was a combination. How many noted each of these types of movement:

(a) Disappearance at some good aiming point. (Hands)

(b) Disappearance at aiming point. Reappearance elsewhere. (Hands)

(c) Disappearance and reappearance without a good aiming point. (Hands)

(d) Lateral movement. (Hands)

(e) Varied length rush. (Hands)

TRIAL 10—VARIED MOVEMENT.

(On loudspeaker, announce, TRIAL 10 BEGIN.)

j. Summary (10 Min.).

Briefly summarize the training just completed.

Troop Movement (10 Min.).

k. Dismiss platoon and move to next area of instruction.

PERIOD NINE

ANNEX I

SCORESHEET

FIRER'S NAME _____ PLATOON _____ DATE _____
 (Last) (First)
 SCORER'S NAME _____ FIRING POINT _____
 (Last) (First)

PHASE—1					PHASE—2				
Position	Range (meters)	Round	Hit	Miss	Position	Range (meters)	Round	Hit	Miss
Foxhole.....	75	1			Standing un- supported....	75	1		
Foxhole.....	75	2			Standing un- supported....	75	2		
Foxhole.....	75	3			Standing un- supported....	75	3		
Foxhole.....	175	4			Standing un- supported....	175	4		
Foxhole.....	175	5			Standing un- supported....	175	5		
Foxhole.....	175	6			Standing un- supported....	175	6		
Foxhole.....	175	7							
Foxhole.....	300	8							
Foxhole.....	300	9							
Foxhole.....	300	10							
Foxhole.....	300	11							
Foxhole.....	300	12							
Foxhole.....	300	13							
Foxhole.....	300	14							
Foxhole.....	300	15							
Foxhole.....	300	16							
					PHASE—3				
					Position	Range (meters)	Round	Hit	Miss
					Kneeling sup- ported.....	75	1		
					Kneeling sup- ported.....	175	2		
					Kneeling sup- ported.....	175	3		
					Kneeling sup- ported.....	175	4		
					Kneeling sup- ported.....	300	5		
					Kneeling sup- ported.....	300	6		
					Kneeling sup- ported.....	300	7		
					Kneeling sup- ported.....	300	8		
					Subtotal.....				

PERIOD NINE, ANNEX I, SCORESHEET—Continued

PHASE—4

Position	Range (meters)	Round	Hit	Miss
Kneeling unsupported..	75	1		
Kneeling unsupported..	175	2		
Kneeling unsupported..	175	3		
Kneeling unsupported..	175	4		
Kneeling unsupported..	300	5		
Kneeling unsupported..	300	6		
Kneeling unsupported..	300	7		
Kneeling unsupported..	300	8		

PHASE—6

Position	Range (meters)	Round	Hit	Miss
Sitting unsupported..	75	1		
Sitting unsupported..	175	2		
Sitting unsupported..	175	3		
Sitting unsupported..	175	4		
Sitting unsupported..	300	5		
Sitting unsupported..	300	6		
Sitting unsupported..	300	7		
Sitting unsupported..	300	8		
Subtotal				

PHASE—5

Position	Range (meters)	Round	Hit	Miss
Squatting unsupported..	75	1		
Squatting unsupported..	175	2		
Squatting unsupported..	175	3		
Squatting unsupported..	175	4		
Squatting unsupported..	300	5		
Squatting unsupported..	300	6		
Squatting unsupported..	300	7		
Squatting unsupported..	300	8		

Grand Total for Period Nine

Hit	Miss

PERIOD NINE

ANNEX II

SAMPLE MASTER TRIAL SHEET

<i>Trial No.</i>	<i>Range (meters)</i>	<i>Description of Requirements</i>
1	200	Standing exposed by tree. Down to kneeling, exposed. Slow movement to out-of-sight position. Out-of-sight fire round for smoke indications.
2	150	Same as above with a poor aiming point.
3	175	Start standing. Disappear on command. Reappear in same position. Make five 4-second rushes with a good aiming point. Fire one round from last position.
4	300	Start from kneeling position behind bush. Make five 4- to 5-second rushes. Disappear where there is a poor aiming point. Reappear from same position. 5-3-3-5-5-seconds. Fire round from last position.
5	300	Start prone. Make five 4-5-8-second rushes. Disappear after each rush and roll or crouch to new position. Three-second rush, crawl left. Six-second rush, crawl right. Cross small draw. Appear and make 8-second rush, crawl left. Three-second rush, crawl right. Fire one round from last position.
6	175	Start prone. Make three 4-second and two 6-second lateral rushes to new concealment. Reappear at same point of disappearance. Vary time between rushes. Fire one round from last position.
7	175	Do same in reverse. Crawl or roll to new position after disappearing. Fire round from last position.
8	200	Run 200 yards from tree to position with a poor aiming point. Fire 2 blanks 1 minute after disappearance.
9	300	Start prone. Three-second rush, crawl left. Five-second rush, crawl right. 5-L-3-3-6-R-4-5, through draw. Fire round from last position. (Numbers indicate duration of rush; letters L and R indicate direction of roll or crawl after each rush.)
10	300	Start behind bush. 6-8-R-3-R-4-3. Fire round from last position.

Note. Target trial sheets should be prepared from a master trial sheet similar to the one above containing only the trials and target indications performed by a specific target.

PERIOD TEN

SIMULATED ADVANCE OF STATIONARY TARGETS; DETECTION OF MULTIPLE MOVING TARGETS

HOURS: 45-48.

PURPOSE: To give the soldier practice in firing on a simulated approaching target, and practice in detecting, marking and engaging multiple combat-type moving targets.

INSTRUCTOR REFERENCES: All previous rifle marksmanship references.

INSTRUCTIONAL AIDS:	See sections I and II.
INDIVIDUAL EQUIPMENT:	M1 rifle and combination tool. Combat pack. Steel helmet. Notebook and pencil. Progress envelope.
PHYSICAL FACILITIES:	Two Target Detection Ranges. Field Firing Range.
PERSONNEL:	3 Principal instructors. 1 Assistant instructor per 10 men. 1 Target control operator. 2 Target repairmen. 1 Ammunition NCO. 1 Armorer. 16 Target men (for target detection). (See individual sections for breakdown.)
SAFETY FACTORS:	Refer to local range regulations and AR 385-63.
ORGANIZATION:	When the company arrives, check all rifles for clearance and check bores for obstructions. During this period divide the company in the following manner: First and second platoons are on the Target Detection Ranges for two hours. Divide each platoon into two-man teams per observation point; place the third and fourth platoons on the Field Firing Range for two hours. Divide each platoon into three orders. At the end of two hours, the first and second platoons move to the Field Firing Range; the third and fourth platoons move to the Target Detection Ranges.

Note. In the event there are soldiers who still need additional corrective firing, the corrective platoon may be utilized in conjunction with this period, providing ammunition and 25-meter range facilities are available.

SECTION I

FIELD FIRING (2 HRS)

PURPOSE:	To give the soldier practice in firing on a simulated approaching target.
INSTRUCTIONAL AIDS:	36 Rounds of ball ammunition per soldier. Spare target devices. Spare silhouettes (E and F). Target maintenance kit. Carbide lamps. Rifle grease. 2 Chairs per firing point (scoring and ready lines). Ammunition tables. 1 Whistle. 1 Scoresheet per soldier (see ANNEX I). 2 Stopwatches.
PHYSICAL FACILITIES:	Field firing range.
PERSONNEL:	1 Principal instructor. 1 Assistant instructor per 10 men. 1 Target control operator. 2 Target repairmen. 1 Ammunition NCO. 1 Armorer.

TIME BREAKDOWN

<i>Time in Minutes</i>	<i>Type of Instruction</i>	<i>Subject</i>
10	C-----	Organization.
10	C-----	Explanation of Range Procedure.
25	PE-----	Field Firing—1st Order.
25	PE-----	Field Firing—2d Order.
25	PE-----	Field Firing—3d Order.
15	C-----	Review.
10	-----	Range Police.

LESSON OUTLINE

a. Organization of Class (10 Min.).

- (1) Assign three firers to each firing point. If possible, keep firers grouped as during the previous period (period 9).
- (2) Distribute scoresheets.
- (3) Have the first order place rifles on numbered stakes; have the other two orders place rifles on rifle rests. Assemble the class for instruction.

b. Explanation of Range Procedure (10 Min).

- (1) Explain the general nature and purpose of the firing to be conducted during this period.
 - (a) Firers will be defending the firing line from an attack to their front. Targets will be exposed to simulate the movement of an attack. The targets first appear at 300 meters, then 175, then 75. This sequence is repeated.
 - (b) The 300-meter and 175-meter targets are exposed for 10 seconds; the 75-meter targets for 5 seconds. Emphasize that this is sufficient time to fire a well-aimed round.
 - (c) Each firer fires a total of 36 rounds. The first 12 rounds are fired from the foxhole position, followed by 6 rounds each from the sitting and squatting unsupported and the kneeling supported and unsupported positions.
- (2) Explain the following firing procedure:
 - (a) Clips are loaded upon command from the tower.
 - (b) After the command to load, the command from the tower is, **WATCH YOUR LANES**. The firer then fires as soon as the target in his lane appears and continues to fire at each new target as it appears.
 - (c) Each firer fires only one round per target and fires only at targets in his own lane.
 - (d) Firers do not lock their rifles between rounds.
 - (e) Explain the scoring procedure.
 1. Any shot fired after the whistle sounds is scored as a MISS.
 2. Use of the scoresheet.
- (3) Review the primary duties of each station.
 - (a) Firing.
 1. Emphasize that the time limit is sufficient to allow the firer to apply correctly the fundamentals of aiming.
 2. Discuss the importance of applying steady hold factors in all firing positions.
 3. Explain why it is important to aim at the bottom of the silhouettes at 75 and 175 meters and approximately halfway up on the 300-meter silhouettes.
 - (b) Ready Line.
 1. Distribute ammunition on command from the tower (4 clips of 8 rounds each and a partial clip of 4 rounds will be distributed to each firer as soon as he assumes the foxhole firing position). All extra clips are kept in the cartridge belts.
 2. Blacken sights.

(c) Scoring Line.

1. Have scorers keep an accurate record of each shot and return the completed scoresheet to the tower.
2. Assist the firer by informing him of the location or direction of his misses.

(d) Review safety regulations.

c. *Rotation Schedule for Three Orders.*

ROTATION SCHEDULE

	Orders		
	1st	2d	3d
1-----	F	R	S
2-----	S	F	R
3-----	R	S	F

F—Firing; S—Scoring; R—Ready Line.

d. *Conduct of Firing Procedure.*

(1) Three-target cycle (one advance).

(a) Raise 300-meter targets and start stopwatch.

(b) At end of ten seconds, blow whistle.

(c) Approximately 2 seconds later, lower the 300-meter targets.

(d) Immediately raise the 175-meter targets and repeat the above procedure.

(e) Immediately raise the 75-meter targets and repeat the same procedure *except that the whistle is blown at the end of five seconds.*

(2) This same three-target cycle is repeated 4 times for the foxhole position and for each of the other firing positions as specified in the firing table below.

(3) Firers should be allowed sufficient time to reload between targets, where applicable.

(4) When firers change positions, the assistant instructors check each man individually for correct position before he fires the first round from that position. Assistant Instructors also correct any errors that the firers make after each phase of firing. Time should be allowed for this correction after each phase.

FIRING TABLE

Phase 1

LOCK, 4 ROUNDS, LOAD

<i>Position</i>	<i>Range (meters)</i>	<i>Round No.</i>	<i>Time (Seconds)</i>
Foxhole.....	300	1	10
Foxhole.....	175	2	10
Foxhole.....	75	3	5
Foxhole.....	300	4	10

UNLOAD ALL UNEXPENDED ROUNDS

LOCK, ONE CLIP, LOAD

Foxhole.....	175	5	10
Foxhole.....	75	6	5
Foxhole.....	300	7	10
Foxhole.....	175	8	10
Foxhole.....	75	9	5
Foxhole.....	300	10	10
Foxhole.....	175	11	10
Foxhole.....	75	12	5

UNLOAD ALL UNEXPENDED ROUNDS

CLEAR ALL WEAPONS

CHANGE TO SITTING UNSUPPORTED POSITION

Phase 2

LOCK, ONE CLIP, LOAD

Sitting unsupported.....	300	1	10
Sitting unsupported.....	175	2	10
Sitting unsupported.....	75	3	5
Sitting unsupported.....	300	4	10
Sitting unsupported.....	175	5	10
Sitting unsupported.....	75	6	5

LOCK

CHANGE TO SQUATTING UNSUPPORTED POSITION

Phase 3

Squatting unsupported.....	300	1	10
Squatting unsupported.....	175	2	10

UNLOAD ALL UNEXPENDED ROUNDS

LOCK, ONE CLIP, LOAD

Squatting unsupported.....	75	3	5
Squatting unsupported.....	300	4	10
Squatting unsupported.....	175	5	10
Squatting unsupported.....	75	6	5

LOCK

CHANGE TO KNEELING UNSUPPORTED POSITION

<i>Phase 4</i>			
<i>Position</i>	<i>Range (meters)</i>	<i>Round No.</i>	<i>Time (Seconds)</i>
Kneeling unsupported.....	300	1	10
Kneeling unsupported.....	175	2	10
Kneeling unsupported.....	75	3	5
Kneeling unsupported.....	300	4	10

UNLOAD ALL UNEXPENDED ROUNDS

LOCK, ONE CLIP, LOAD

Kneeling unsupported.....	175	5	10
Kneeling unsupported.....	75	6	5

LOCK

CHANGE TO KNEELING SUPPORTED POSITION

<i>Phase 5</i>			
Kneeling supported.....	300	1	10
Kneeling supported.....	175	2	10
Kneeling supported.....	75	3	5
Kneeling supported.....	300	4	10
Kneeling supported.....	175	5	10
Kneeling supported.....	75	6	5

CLEAR ALL WEAPONS

e. Review of Field Firing (15 Min).

- (1) Review common errors noted during the day's firing.
- (2) Reemphasize that all the principles of steady hold and aiming are important and should be applied correctly when firing a timed exercise.
- (3) Explain that during the next period, targets will appear at various ranges in no particular sequence. Also, the targets at 175 meters will stay up for only 7 seconds.
- (4) Determine best scores.

f. Police of Range (10 Min).

Clear all rifles before leaving range.

SECTION II

TARGET DETECTION (2 HRS); MULTIPLE MOVING TARGETS

PURPOSE:	To give the soldier practice in detecting, marking, aiming at, and engaging multiple combat-type moving targets.
INSTRUCTOR	FM 21-75.
REFERENCES:	
INSTRUCTIONAL AIDS:	<p>16 Camouflaged helmets with rubber bands. Tubes camouflage paint. 16 M1 rifles for target men. 48 Rounds caliber .30 blank ammunition for target men per presentation. 2 Master Trial Sheets (one for each range, see ANNEX II for Sample Master Trial Sheet). Target trial sheets for target men (to be prepared from above Master Trial Sheets). 2 First Aid boxes. 1 Aiming device per point. See figure 24.</p>
PHYSICAL FACILITIES:	Two Target Detection Ranges. The panels can be removed if they interfere with the problem. Small numbered stakes signifying beginning and end of a movement can be placed over the observation range to assist target men. Movements are controlled by use of public address system.
PERSONNEL:	<p>1 Principal instructor for each range. 4 Assistant instructors for each range. 8 Target men for each range to function as hostile targets.</p>

TIME BREAKDOWN

<i>Time in Minutes</i>	<i>Type of Instruction</i>	<i>Subject</i>
10	C-----	Introduction.
10	C, D-----	Detecting and Marking.
10	C, D-----	Aiming and Engaging.
20	PE-----	Practical Work (4 Trials).
10	-----	BREAK.
40	PE-----	Practical Work (6 Trials).
10	C-----	Review.
10	-----	Troop Movement.

LESSON OUTLINE

Preparation

a. Setting up the Range.

- (1) Place one aiming device in position at each observation point.
- (2) Assign assistant instructors to help observers on observation line.
- (3) Place previously rehearsed target men in their initial positions. Each target man should be familiar with the procedure and have in his possession clearly written instructions.
- (4) Insure that no target man has any ball ammunition.
- (5) Equipment:
 - (a) Locate loudspeakers for operation along the observation line and down range.
 - (b) Place in position charts, and notes, and other instructional equipment.

b. Troop Arrival.

- (1) Instruct soldiers to ground weapons in designated areas.
- (2) Divide observers into two-man teams and assign them to observation points.
- (3) Conduct a careful inspection to insure that no one has any live ammunition.

Instructional Hours

1st Hour:

c. Introduction (10 Min).

Narrative:

This is your fourth period on the subject of target detection.

Question: What training did you receive during your last period on this subject?

(Pause for all to consider. Select one soldier to answer.)

The answer should include the following:

- (1) Detecting moving targets to include—
 - (a) Ease of detection.
 - (b) Difficulty of hitting.
 - (c) Movements.
- (2) Marking and aiming procedures, including when and how to engage targets.
- (3) Selection of observing position.

During this period we will utilize what you have already learned and progress to multiple moving targets. The detection, marking, aiming, and engaging of multiple moving targets require the development of special skills. The most important skill is noting and remembering the point of disappearance of more than one target so that you can place effective fire on each of these targets.

d. Detecting and Marking (10 Min).

Narrative:

Detecting multiple moving targets is much the same as detecting single moving targets. These targets may be easy or hard to detect, depending on the type of movement (lateral or forward) being made. With a number of targets available at one time, you should have no trouble detecting two or more and, in most instances, all of them. Marking multiple moving targets is complicated by various factors:

- (1) Number of targets is one factor. When all targets appear and then disappear at approximately the same time, the adequate marking of more than one or two is difficult. Let's have this demonstrated. TARGETS, MOVE OUT. (4 targets move out and make 3-second rush.) If you marked two targets, you are doing fine.
- (2) Exposure of targets is another important factor. Moving targets are fleeting and rarely exposed for more than 4 seconds. Under these circumstances, you will be required to mark as many targets as possible as they disappear. If the targets are exposed for long periods of time, you can mark the general area and mark them as they disappear. If targets are exposed for extremely short periods, you will do well to mark the general area of one or two. In either case, you should have marked at least one target so that effective fire can be placed on it. We will now have this demonstrated. TARGETS, MOVE OUT. (4 targets make 6-second rush, then 2-second rush.)
- (3) Spacing of targets poses a problem in marking. When there is considerable distance between targets, mark one or two accurately and note the general area of disappearance of the others for future observation. When targets are bunched, your problem is simpler and you may be able to mark and engage more targets. We will now have this demonstrated. TARGETS, BEGIN YOUR MOVEMENT. (4 targets widely spaced move out.) In this case the 4 targets were spaced far apart and your job of marking was quite difficult. Some of you may not have had time to cover the entire observation field before the targets disappeared, so it was almost impossible to mark more than one. Now let's have the targets bunched. TARGETS, BEGIN YOUR MOVEMENT. (4 targets move out closely bunched.) In this demonstration it was very easy for you to mark at least two of the 4 targets.
- (4) Good and poor aiming points are most important. Targets which disappear behind a good aiming point can be easily marked and that aiming point retained for purposes of future

observation of firing. Let's have a demonstration of this. TARGETS, BEGIN YOUR MOVEMENT. (4 targets move out and disappear behind good aiming points.) Most of you will be able to remember the points of disappearance because of the excellent aiming points. Remember this when you are moving against an enemy position. Now let's have the targets disappear at points where poor aiming points exist. TARGETS, BEGIN YOUR MOVEMENT. (4 targets move out and disappear behind poor aiming points.) You would do well to recall two of these points of disappearance.

e. *Aiming and Engaging (10 Min).*

Narrative:

Aiming at and engaging multiple moving targets involve the same problems found in aiming at and engaging single moving targets. The most important thing to remember is not to get excited over so many available targets. If you can fire a well-aimed shot at one target, do so, and then try to pick up the others.

GOOD AND POOR AIMING POINTS

When you have a choice of firing at two targets, one with a good aiming point and the other with a poor or difficult aiming point, engage the difficult one first. The good aiming point is easier to remember and you will have no difficulty placing effective fire on this target later. If you fire at the good aiming point first, it will be almost impossible to place effective fire on the poorly marked position at a later time. Let's demonstrate this. TARGETS, BEGIN YOUR MOVEMENT. (2 targets move out to good and poor aiming points.) Each of you will now place fire on the target behind the large pine. That target will now stand to show how effective your fire would be. Now fire at the other target. Target will now stand to show you how effective your fire would be. If you had fired at this target when you saw him disappear, your fire would have been much more effective. Also you could now go back to placing fire on the large pine tree without any loss in effectiveness.

NEARNESS OF TARGET

Another factor in aiming at and engaging multiple moving targets is the proximity of a target to you. If you have a number of targets dispersed over the observation field, fire at the closest and mark the others as they disappear. A close target presents a better target than the far ones and can usually place more effective fire on your position.

f. *Practical Work (20 Min).* (See ANNEX II for Sample Master Trial Sheet.)

Narrative:

Today our practical work will involve two or more moving target indications at the same time. Since the targets are fleeting, it will be necessary for you to mark as many as you can see. This will require that you mark and remember the location of each point until you can fire at it. Some of you will be able to do this better than others, but at the end of this period each of you should have improved in this ability.

We have an aiming device at each position. You will use the device to mark the point of disappearance of each target. Watch the targets as they come up and go down, and then point one aiming bar at each. Work from left to right on your device. After you have done this, the targets will stand so you can check alinement. Odd numbered firers will check the alinements of their even numbered partners, and vice versa. If you have any doubt on a point raise your hand and an instructor will assist you.

I will make comments regarding type of movement and aiming points after each rush. During this period we will emphasize mental recollection of aiming point. I will discuss specific problems of recollecting these aiming points with targets exposed.

(Trial 1—Two targets make four crawling movements to positions with good aiming points.)

TARGET, STAND UP. You can all see where the target is located. Now watch while they go down and go through their movements on command. TARGETS, BEGIN YOUR FIRST MOVEMENT. OBSERVERS, USE YOUR AIMING BARS TO MARK THE POINT OF DISAPPEARANCE. TARGETS, STAND UP. OBSERVERS, CHECK ALINEMENT. This was fairly easy since only two men were involved. Everyone should spot them correctly on every move they make.

TARGETS, MAKE YOUR SECOND MOVEMENT. (Repeat appropriate comment after each movement.)

(Trial 2—Three targets make four crawling movements to positions with poor aiming points.)

TARGETS, STAND UP. NOW DISAPPEAR AND MAKE YOUR FIRST MOVEMENT. OBSERVERS, USE THREE OF YOUR AIMING BARS TO MARK THE POINTS OF DISAPPEARANCE. TARGETS, STAND UP. OBSERVERS, CHECK ALINEMENT. This trial is much harder than the last because of the increase in targets, poor aiming points, and distance between the targets.

TARGETS, MAKE YOUR SECOND MOVEMENT. (Repeat appropriate comments after each movement.)

(Trial 3.—Four targets advance at walk until instructor fires one round. Targets then make five 4-second rushes to positions affording good aiming points.)

TARGETS, START WALKING. (After 30 seconds, instructor fires one round.) The targets disappeared fast under my fire. Now watch the type movements they make. OBSERVERS, USE YOUR AIMING BARS TO MARK THE POINTS OF DISAPPEARANCE. TARGETS, STAND UP. OBSERVERS, CHECK ALINEMENTS. You were probably unable to remember where all of the targets disappeared because of the short time they were moving, the space between them, and the number of targets. However, since all targets disappeared behind good aiming points, your problem was not too difficult.

TARGETS, MAKE YOUR SECOND MOVEMENT. (Repeat appropriate comments after each movement.)

(Trial 4.—Two targets make five 2- to 4-second rushes to positions with poor aiming points.)

TARGETS, STAND UP. DISAPPEAR AND MAKE YOUR FIRST MOVEMENT. OBSERVERS USE YOUR AIMING BARS TO MARK THE POINT OF DISAPPEARANCE. TARGETS, STAND UP. OBSERVERS, CHECK ALINEMENT.

You undoubtedly found this was much easier. Two moving targets are relatively easy to mark and you are improving in remembering aiming points. Even though the targets were not up for a long period of time and there was a poor aiming point, you could concentrate your efforts on them and mark them exactly where they disappeared.

TARGETS, MAKE YOUR SECOND MOVEMENT. (Repeat appropriate comments after each movement.)

g. *BREAK (10 Min).*

2d Hour:

h. *Practical Work (40 Min).* (See ANNEX II.)

(Trial 5.—Three men making five 2- to 6-second rushes to new positions with varied good and poor aiming points.)

TARGETS, STAND UP. DISAPPEAR AND MAKE YOUR FIRST MOVEMENT. OBSERVERS, USE TWO OF YOUR AIMING BARS TO MARK THE POINT OF DISAPPEARANCE. TARGETS, STAND UP. OBSERVERS CHECK ALINEMENTS. Even though there were only three men it becomes more difficult to mark the targets' points of disappearance. The targets were spaced apart to complicate observing more than one at a time; the exposure time varied; and the targets disappeared at points which lacked good aiming points.

TARGETS, MAKE YOUR SECOND MOVEMENT. (Repeat appropriate comments after each movement.)

(Trial 6—Four men making five 2- to 4-second lateral rushes to new positions with varied good and poor aiming points.)

TARGETS, STAND UP. DISAPPEAR AND MAKE YOUR FIRST MOVEMENT. OBSERVERS, USE YOUR AIMING BARS TO MARK THE POINT OF DISAPPEARANCE. TARGETS, STAND UP. OBSERVERS, CHECK ALINEMENT. In this rush the movement was lateral and not directly toward you. The moving targets were harder to hit because of this. It was probably best to carefully mark the point of disappearance and place well-aimed fire on that point. You could also wait until they reappeared for the next rush.

TARGETS, MAKE YOUR SECOND MOVEMENT. (Repeat appropriate comments after each movement.)

(Trial 7—Three targets at different distances making five 2- to 4-second rushes, two lateral and three forward to varied good and poor aiming points.)

We will not spot the targets before they start their movements from now on. TARGETS, MAKE YOUR FIRST MOVEMENT. OBSERVERS, USE THREE OF YOUR AIMING BARS TO MARK POINTS OF DISAPPEARANCE. TARGETS, STAND UP. OBSERVERS, CHECK ALINEMENTS. You should have detected all of these targets. They were almost behind one another, although at different distances. Marking them should have been easy. If you were to place fire on them, you would start with the closest and easiest and work back. In fact, the close target is probably already dead.

TARGETS, MAKE YOUR SECOND MOVEMENT. (Repeat appropriate comments after each rush.)

(Trial 8—Three targets make four crawling movements to positions with poor aiming points.)

TARGETS, STAND UP. NOW DISAPPEAR AND MAKE YOUR FIRST MOVEMENT. OBSERVERS, USE THREE OF YOUR AIMING BARS TO MARK THE POINTS OF DISAPPEARANCE. TARGETS, STAND UP. OBSERVERS, CHECK ALINEMENTS. This trial is much harder than the last one because of the increase in targets, poor aiming points, and distance between the targets.

TARGETS, MAKE YOUR SECOND MOVEMENT. (Repeat appropriate comments after each movement.)

(Trial 9—Three men make five 2- to 6-second rushes to positions with varied good and poor aiming points after being fired on.)

TARGETS, START WALKING. (After 30 seconds, fire one round.) See how quickly they disappear when fired on. Now watch the type movements they make. OBSERVERS, USE

THREE OF YOUR AIMING BARS TO MARK THE POINT OF DISAPPEARANCE. TARGETS, STAND UP. OBSERVERS, CHECK ALINEMENTS. These targets varied the time and direction of their rushes. You will frequently have to do this in advancing to new cover. Sometimes it is better to make a slightly longer rush to good cover than to make a couple of short rushes which leave you exposed. Marking these targets was hard, not because there were poor aiming points, but because there were too many good ones so close together. Each tree in the woods could be considered a good aiming point. Rushes in the woods were also hard to follow, so if you concentrated on one target, the other two were impossible to follow. You should have marked one target very well and marked the general area of the other two.

TARGETS, MAKE YOUR SECOND MOVEMENT.
(Repeat appropriate comments after each rush.)

(Trial 10—Four men make five 2- to 6-second rushes to positions with good and poor aiming points.)

TARGETS, MAKE YOUR FIRST MOVEMENT. OBSERVERS, USE FOUR OF YOUR AIMING BARS TO MARK POINTS OF DISAPPEARANCE. TARGETS, STAND UP. OBSERVERS, CHECK ALINEMENTS. Here again you have targets spaced apart, making it impossible to mark all of them as they disappear; exposure time was about the same for all targets—very short; and aiming points for the different targets varied from good to poor.

TARGETS, MAKE YOUR SECOND MOVEMENT.
(Repeat appropriate comments after each rush.)

i. Review (10 Min).

- (1) Detecting and marking points.
 - (a) Number of targets.
 - (b) Exposure of targets.
 - (c) Spacing of targets.
 - (d) Good and poor aiming points.
- (2) Aiming and engaging.
 - (a) Good and poor aiming points.
 - (b) Nearness of target.

j. Troop Movement (10 Min).

Soldiers are dismissed and moved out to next area of instruction.

PERIOD TEN
ANNEX I
SCORE SHEET

Firer's Name _____ Platoon _____ Date _____
(Last) (First)

Scorer's Name _____ Order _____ Firing Point _____
(Last) (First)

PHASE 1

Position	Range (meters)	Round	Hit	Miss
Foxhole.....	300	1		
Foxhole.....	175	2		
Foxhole.....	75	3		
Foxhole.....	300	4		
Foxhole.....	175	5		
Foxhole.....	75	6		
Foxhole.....	300	7		
Foxhole.....	175	8		
Foxhole.....	75	9		
Foxhole.....	300	10		
Foxhole.....	175	11		
Foxhole.....	75	12		
Total.....				

PHASE 3

Position	Range (meters)	Round	Hit	Miss
Squatting unsupported...	300	1		
Squatting unsupported...	175	2		
Squatting unsupported...	75	3		
Squatting unsupported...	300	4		
Squatting unsupported...	175	5		
Squatting unsupported...	75	6		
Total.....				

PHASE 2

Position	Range (meters)	Round	Hit	Miss
Sitting unsupported.....	300	1		
Sitting unsupported.....	175	2		
Sitting unsupported.....	75	3		
Sitting unsupported.....	300	4		
Sitting unsupported.....	175	5		
Sitting unsupported.....	75	6		
Total.....				

PHASE 4

Position	Range (meters)	Round	Hit	Miss
Kneeling unsupported.....	300	1		
Kneeling unsupported...	175	2		
Kneeling unsupported...	75	3		
Kneeling unsupported...	300	4		
Kneeling unsupported...	175	5		
Kneeling unsupported...	75	6		
Total.....				

PERIOD TEN, ANNEX I, SCORE SHEET—Continued

PHASE 5

Position	Range (meters)	Round	Hit	Miss
Kneeling sup- ported-----	300	1		
Kneeling sup- ported-----	175	2		
Kneeling sup- ported-----	75	3		
Kneeling sup- ported-----	300	4		
Kneeling sup- ported-----	175	5		
Kneeling sup- ported-----	75	6		
Total-----				

Total for Phases 1 to 5

Hit	Miss

PERIOD TEN

ANNEX II

SAMPLE MASTER TRIAL SHEET

	No. in	Range (meters)	Description of Requirements
1	2	75	Kneeling exposed. Crawl to new positions in four 5-meter crawling movements. Fire round from each. Good aiming points.
2	3	100	Same as above. Poor aiming points, but reference points available. Reference points increase in difficulty each time.
3	4	300	Start with targets walking through woods or other partial cover. Disappear when fired on. Make five 4-second rushes to positions with good aiming points. Fire round from last position.
4	2	200	Start from kneeling position behind bush. Make five 2- to 4-second rushes. Disappear where there is a poor aiming point. Reference points available but not easy. 4-2-2-4-4 seconds. Fire round from last position.
5	3	300	Start prone. Make five 2- to 6-second rushes, good and poor aiming points. 2-4-6-6-2. Fire round from last position.
6	4	175	Start at tree. Make five 2- to 4-second lateral rushes to new positions affording good and poor aiming points. Fire round from last position.

PERIOD TEN, ANNEX II, SAMPLE MASTER TRIAL SHEET—Con.

<i>Trial No.</i>	<i>No. Men</i>	<i>Range (meters)</i>	
7	3	175	Start at different distances. Make five 2- to 4-second approach rushes. Varied good and poor aiming points. Fire round from last position.
8	3	200	Make four 5-meter crawling movements to positions without good aiming points. Reference points increase in difficulty each time. Fire round from last position.
9	3	300	Start walking in woods. Make five 2- to 6-second rushes. 4-2-2-6-4. Fire round from last position.
10	4	150	Make five 2- to 6-second rushes. 4-3-6-2-3. Fire round from last position.

Note. Target Trial Sheets should be prepared from a Master Trial Sheet similar to the one above, containing only the trials and indications performed by a specific target or targets.

PERIOD ELEVEN

FIELD FIRING ON SURPRISE TARGETS; TARGET LOCATION BY SOUND

HOURS:	49-52.
PURPOSE:	To give the soldier practice in firing from various positions at surprise targets and in locating targets by sound of firing.
INSTRUCTOR REFERENCES:	All previous rifle marksmanship references.
INSTRUCTIONAL AIDS:	See Sections I and II.
INDIVIDUAL EQUIPMENT:	M1 rifle and combination tool. Combat pack. Steel helmet. Notebook and pencil. Progress envelope.
PHYSICAL FACILITIES:	Field Firing Range. Two Target Detection Ranges.
PERSONNEL:	3 Principal instructors. 1 Assistant instructor per 10 men. 1 Target control operator. 2 Target repairmen. 1 Ammunition NCO. 1 Armorer. 10 Target men (for Target Detection). (See individual sections for breakdown.)
SAFETY FACTORS:	Refer to local range regulations and AR 385-63.

ORGANIZATION: When the company arrives, check all rifles for clearance and bores for obstructions. During this period divide the company in the following manner:

First and second platoons are on the Field Firing Range for two hours.

Divide each platoon into three orders.

Third and fourth platoons are on the Target Detection Ranges for two hours. (One platoon per range.) At the end of two hours, move the first and second platoons to the Target Detection Ranges. Move the third and fourth platoons to the Field Firing Range.

Note. In the event some soldiers still need additional corrective firing, the corrective platoon may be utilized in conjunction with this period, providing ammunition and 25-meter range facilities are available.

SECTION I

FIELD FIRING (2 HRS.)

PURPOSE: To give the soldier practice in firing from various positions at surprise targets. This includes a time limit and practice in reloading.

INSTRUCTIONAL AIDS: 36 Rounds live ammunition per soldier.

Spare target devices.

Spare silhouettes (E and F).

Target maintenance kit.

Carbide lamps.

Rifle grease.

2 Chairs per firing point (scoring and ready lines).

Ammunition tables.

Whistle.

1 Score sheet per soldier (see ANNEX I).

1 First Aid box.

Stopwatches.

PHYSICAL FACILITIES: Field Firing Range.

PERSONNEL:

1 Principal instructor.

1 Assistant instructor per 10 men.

1 Target control operator.

2 Target repairmen.

1 Ammunition NCO.

1 Armorer.

TIME BREAKDOWN

<i>Time in Minutes</i>	<i>Type of Instruction</i>	<i>Subject</i>
10	C-----	Organization.
10	C-----	Explanation of Range Procedure.
25	PE-----	Field Firing—1st Order.
25	PE-----	Field Firing—2d Order.
25	PE-----	Field Firing—3d Order.
15	C-----	Review.
10	-----	Range Police.

LESSON OUTLINE

a. Organization of Class (10 Min).

- (1) Assign three firers to each firing point. If possible, keep firers in the same group as in the previous period (period ten).
- (2) Distribute score sheets.
- (3) Have first order place rifles on foxholes and other two orders place rifles on rifle rests. Assemble the orders for further instruction.
- (4) Review safety regulations.

b. Explanation of Range Procedure (10 Min).

- (1) Explain the general nature and purpose of the firing to be conducted during this period. Include the following points:
 - (a) The firers are not given information as to the sequence and ranges of this period of firing.
 - (b) The 300-meter target is exposed for 10 seconds; the 175-meter target for 7 seconds; and the 75-meter target for 5 seconds. Reemphasize that this is sufficient time to fire a well-aimed round.
 - (c) Each firer fires a total of 36 rounds—the first 12 from the foxhole, six each from the kneeling unsupported and supported, sitting and squatting unsupported positions.
- (2) Explain the firing procedure to be used. Include the following points:
 - (a) Clips are loaded upon command from the tower.
 - (b) After the command to load, the next command from the tower is WATCH YOUR LANES. The firer fires as soon as the target in his lane appears and continues to fire at each new target as it appears.
 - (c) Each firer fires only one round per target and only at targets in his own lane.
 - (d) Firers will not lock their rifles between rounds.

(3) Review the primary duties of each station.

(a) Firing

1. Emphasize that the time limit is sufficient to allow the firer to apply correctly the principles of aiming.
2. Discuss the importance of applying the steady hold factors in all firing positions.
3. Explain why it is important to aim at the bottom of the silhouettes at 75 and 175 meters and about half-way up on the 300-meter silhouettes.

(b) Ready line

1. Distribute four clips of 8 rounds each and a partial clip of 4 rounds to each firer as soon as he has assumed the foxhole firing position. All extra clips are kept in the cartridge belts.
2. Blacken sights.

(c) Scoring line

1. Have scorers keep an accurate record of each shot and return the completed score sheet to the tower.
2. Have the scorers assist the firer by informing him of the location or direction of his misses.

c. *Rotation Schedule for Three Orders.*

ROTATION SCHEDULE

	Orders		
	1st	2d	3d
1.-----	F	R	S
2.-----	S	F	R
3.-----	R	S	F

F—Firing; S—Scoring; R—Ready Line

d. *Conduct of Firing.*

- (1) Raise the targets specified in the firing table.
- (2) At end of specified time, blow whistle.
- (3) Approximately 2 seconds later, lower the target.
- (4) Raise the next target immediately and repeat the above procedure.
- (5) Make sure that all firers have sufficient time to reload between targets.
- (6) Before the firers fire from a new position, have the assistant instructors check them individually for correct position. After each phase of firing, have assistant instructors correct any errors made during that phase. Allow time for this correction after each phase.

FIRING TABLE

Phase 1

LOCK, 4 ROUNDS, LOAD

<i>Position</i>	<i>Range (meters)</i>	<i>Round No.</i>	<i>Time (Seconds)</i>
Foxhole.....	75	1	5
Foxhole.....	300	2	10
Foxhole.....	300	3	10
Foxhole.....	175	4	7

UNLOAD ALL UNEXPENDED ROUNDS

LOCK, ONE CLIP, LOAD

Foxhole.....	175	5	7
Foxhole.....	300	6	10
Foxhole.....	300	7	10
Foxhole.....	300	8	10
Foxhole.....	175	9	7
Foxhole.....	300	10	10
Foxhole.....	75	11	5
Foxhole.....	175	12	7

CLEAR ALL WEAPONS

CHANGE TO KNEELING UNSUPPORTED POSITION

Phase 2

LOCK, ONE CLIP, LOAD

Kneeling unsupported.....	300	1	10
Kneeling unsupported.....	175	2	7
Kneeling unsupported.....	175	3	7
Kneeling unsupported.....	300	4	10
Kneeling unsupported.....	300	5	10
Kneeling unsupported.....	75	6	5

LOCK

CHANGE TO KNEELING SUPPORTED POSITION

Phase 3

Kneeling supported.....	175	1	7
Kneeling supported.....	75	2	5

UNLOAD ALL UNEXPENDED ROUNDS

LOCK, ONE CLIP, LOAD

Kneeling supported.....	300	3	10
Kneeling supported.....	175	4	7
Kneeling supported.....	300	5	10
Kneeling supported.....	300	6	10

LOCK

CHANGE TO SITTING UNSUPPORTED POSITION

<i>Phase 4</i>			
<i>Position</i>	<i>Range (meters)</i>	<i>Round No.</i>	<i>Time (Seconds)</i>
Sitting unsupported.....	300	1	10
Sitting unsupported.....	300	2	10
Sitting unsupported.....	175	3	7
Sitting unsupported.....	300	4	10

UNLOAD ALL UNEXPENDED ROUNDS

LOCK, ONE CLIP, LOAD

Sitting unsupported.....	75	5	5
Sitting unsupported.....	175	6	7

LOCK

CHANGE TO SQUATTING UNSUPPORTED POSITION

<i>Phase 5</i>			
Squatting unsupported.....	75	1	5
Squatting unsupported.....	300	2	10
Squatting unsupported.....	300	3	10
Squatting unsupported.....	175	4	7
Squatting unsupported.....	175	5	7
Squatting unsupported.....	300	6	10

CLEAR ALL WEAPONS

e. Review of Field Firing (15 Min).

- (1) Review common errors noted during the day's firing.
- (2) Preview the activities for the next period. Point out that the soldiers will move forward and engage surprise targets and practice assuming the correct firing positions rapidly.
- (3) Determine best scores.

f. Range Police (10 Min).

Clear all rifles before moving troops.

SECTION II

TARGET DETECTION (2 HRS); LOCATING HOSTILE FIRING POSITIONS BY SOUND

PURPOSE: To give the soldier practice in locating targets by the sound of firing from hostile firing positions.

INSTRUCTOR FM 23-5.

REFERENCES:

INSTRUCTIONAL AIDS:	M1 rifles for target men. 46 Rounds cal .30 blank ammunition for target men per presentation. 2 Master Trial Sheets (see ANNEX II, Sample Master Trial Sheets). Target Trial Sheets for target men. 2 Blackboards with range card drawn showing likely hostile positions. Supply of: Pencils Clipboards Answer sheets (see ANNEX III).
PHYSICAL FACILITIES:	Two Target Detection Ranges. Ranges should have lettered panels (A–N) marking the most likely hostile firing positions. These should be ready to be raised on command of principal instructor.
PERSONNEL:	2 Principal instructors. 1 Assistant instructor per 10 men. 10 Target men (5 for each range).

TIME BREAKDOWN

<i>Time in Minutes</i>	<i>Type of Instruction</i>	<i>Subject</i>
5	C-----	Introduction.
5	C, D-----	Single and Multiple Sounds.
20	PE-----	Range Cards.
20	PE-----	Practical Work.
10	-----	BREAK.
40	PE-----	Practical Work.
10	C-----	Review.
10	-----	Troop Movement.

LESSON OUTLINE

Preparation

a. Setting up the Range.

- (1) Assign the assistant instructors their duties.
- (2) Check range to see that letters are in place and ready to be raised on command.
- (3) Issue equipment to target men.
- (4) Rehearse target men in simultaneous firing.
- (5) Equipment:
 - (a) Locate loudspeakers ready for operation down range and along the observation line.
 - (b) Place in position the charts, notes, and other instructional equipment.
 - (c) Place one clipboard with answer sheet and pencil at each observation point.

b. Troop Arrival.

- (1) Upon arrival, have troops ground weapons in designated areas.
- (2) Assign soldiers to observation points.

Instructional Hours

1st Hour:

c. Introduction (5 Min).

Narrative:

Your previous work has stressed many types of clues or indications you can use to detect targets. Some of these were shine, outline, movement, flash, smoke, dust, and sound. FM 23-5 stresses the importance of sound, particularly from small arms fire, in locating a position. We have used the sound of blank ammunition, but chiefly as an alert. The precise location has been determined by smoke, flash, or dust. Against a careful enemy, sound may be your only clue to the target location. Ability to detect targets by sound will improve considerably with practice.

d. Single and Multiple Sounds (5 Min).

Narrative:

Single sounds can be easily located by fixing the location of the sound as closely as you can and by picking the most likely hostile area nearest the sound where you can place fire on dangerous points. If you draw hostile fire, try to locate the hostile position by combining sound with other indications. If the sound is repeated, it is that much easier to locate.

In combat two or more sounds frequently occur at approximately the same time. This presents special problems because one sound may mask another. However, if one sound occurs slightly before the other, you may have time to locate one before locating the other.

Today we will practice locating single and multiple sounds. The multiple sounds will occur at approximately the same time. The likely hostile firing positions will be well marked and with a little experience you should have practically no difficulty locating the target.

e. Range Cards (20 Min).

Narrative:

You know that the sound of firing can be used to pinpoint hostile targets and that, in this technique, skill is acquired rapidly through practice. A trained rifleman makes a study of the ground and determines the likely hostile firing positions

within his area. He marks these hostile firing positions on a rough sketch or range card.

Let's see if you can select the most likely hostile firing positions within the field of observation to your front. Select from 10 to 14 positions. Pick up your answer sheets and draw a sample range card on the back, listing each of your selections.

Assistant instructors will assist you and answer your questions. (After all observers have completed range cards, bring out previously prepared range card on blackboard and have assistant instructors raise lettered panels marking each position on the range.) The assistant instructors are putting up letters A-N to mark the likely hostile firing positions. Here is a range card with the approximate solutions. (Bring out blackboard.) As we discuss each of these areas, check your range cards to see if you have the correct answer. (Go over each lettered position and discuss reasons for choosing each. Have assistant instructors check each observer's range card and select good and poor examples for comment.)

f. Practical Work (20 Min). (See ANNEX II, Sample Master Trial Sheet.)

Narrative:

Before we take up our first practical work, fill out your answer sheets. Today the trials will begin with TRIAL NO. 1, READY, AIM, FIRE. At this time, one or two shots will be fired from any of the 14 positions. Determine which position or positions you think the firing came from, and record the letters in the space to the right of the trial number. After you have completed your recording, I will have the targets stand and reveal themselves. They will then go back into position and repeat the firing upon command. After each trial you will face away from the range to allow the targets time to take up a new position. Do you have any questions before you begin? (Answer any questions.) TRIAL NO. 1, READY, AIM, FIRE.

g. Break (10 Min).

2d Hour:

h. Practical Work (40 Min). (See ANNEX II.)

i. Review (10 Min).

- (1) Single sounds—ease of detection in conjunction with determining likely hostile firing positions.
- (2) Multiple sounds—masking effect of one sound on others, making detection more difficult.

j. Troop Movement (10 Min).

Move soldiers to next area of instruction.

PERIOD ELEVEN
ANNEX I
SCORESHEET

Firer's Name _____ Platoon _____ Date _____
(Last) (First)

Scorer's Name _____ Order _____ Firing Point _____
(Last) (First)

PHASE 1

Position	Range (meters)	Round	Hit	Miss
Foxhole.....	75	1		
Foxhole.....	300	2		
Foxhole.....	300	3		
Foxhole.....	175	4		
Foxhole.....	175	5		
Foxhole.....	300	6		
Foxhole.....	300	7		
Foxhole.....	300	8		
Foxhole.....	175	9		
Foxhole.....	300	10		
Foxhole.....	75	11		
Foxhole.....	175	12		
Total.....				

PHASE 3

Position	Range (meters)	Round	Hit	Miss
Kneeling supported.....		1		
Kneeling supported.....		2		
Kneeling supported.....		3		
Kneeling supported.....		4		
Kneeling supported.....		5		
Kneeling supported.....		6		
Total.....				

PHASE 2

Position	Range (meters)	Round	Hit	Miss
Kneeling unsupported.....	300	1		
Kneeling unsupported.....	175	2		
Kneeling unsupported.....	175	3		
Kneeling unsupported.....	300	4		
Kneeling unsupported.....	300	5		
Kneeling unsupported.....	75	6		
Total.....				

PHASE 4

Position	Range (meters)	Round	Hit	Miss
Sitting unsupported.....	300	1		
Sitting unsupported.....	300	2		
Sitting unsupported.....	175	3		
Sitting unsupported.....	300	4		
Sitting unsupported.....	75	5		
Sitting unsupported.....	175	6		
Total.....				

PERIOD ELEVEN, ANNEX I, SCORESHEET—Continued

PHASE 5

Position	Range (meters)	Round	Hit	Miss
Squatting un- supported...	75	1		
Squatting un- supported...	300	2		
Squatting un- supported...	300	3		
Squatting un- supported...	175	4		
Squatting un- supported...	175	5		
Squatting un- supported...	300	6		
Total.....				

Total for Periods 1 to 5

Hit	Miss

PERIOD ELEVEN

ANNEX II

SAMPLE MASTER TRIAL SHEET

<i>Trial No.</i>	<i>Sound Position</i>	<i>Trial No.</i>	<i>Sound Position</i>
1.....	H	15.....	G-C
2.....	A-J	16.....	F
3.....	C-L	17.....	A-C
4.....	E-H	18.....	C-J
5.....	A	19.....	I
6.....	G	20.....	E-I
7.....	D-B	21.....	G-A
8.....	I-G	22.....	E
9.....	C	23.....	D
10.....	K-A	24.....	I-B
11.....	B-F	25.....	B-D
12.....	J-I	26.....	F-N
13.....	H-K	27.....	J-F
14.....	J	28.....	B

Note. Target trial sheets should be prepared from a Master Trial Sheet similar to the Master Trial Sheet shown above, containing only the trials and indications performed by a specific target or targets.

ANNEX III
ANSWER SHEET
SOUND DETECTION

Trial No.	Sound position	Trial No.	Sound position
1		15	
2		16	
3		17	
4		18	
5		19	
6		20	
7		21	
8		22	
9		23	
10		24	
11		25	
12		26	
13		27	
14		28	

Total _____ RIGHT _____ WRONG _____

Observer's Name _____ Platoon _____
(Last) (First)

Observation Point _____ Date _____

PERIOD TWELVE

ADVANCING ON SURPRISE TARGETS AND FIRING FROM PRESCRIBED POSITIONS; REVIEW OF FUNDAMENTALS

HOURS:	53-56.
PURPOSE:	To give the soldier practice in moving with a loaded weapon, assuming firing positions rapidly, and engaging surprise targets; to review firing fundamentals on the 25-meter TRAINFIRE range.
INSTRUCTOR REFERENCES:	All previous rifle marksmanship references.
INSTRUCTIONAL AIDS:	See sections I and II.
INDIVIDUAL EQUIPMENT:	M1 rifle and combination tool. Combat pack. Steel helmet. Notebook and pencil. Progress envelope.
PHYSICAL FACILITIES:	Field Firing Range. 25-meter TRAINFIRE Range.
PERSONNEL:	2 Principal instructors. 1 Assistant instructor per 10-men group. 1 Target control operator. 2 Target repairmen. 1 Ammunition NCO. 1 Armorer.
SAFETY FACTORS:	Refer to local range regulations and AR 385-63.
ORGANIZATION:	When the company arrives, check all rifles for clearance and bores for obstructions. During this period divide the company in the following manner: First and second platoons at 25-meter TRAINFIRE Range for two hours. Divide each platoon into two orders. Third and fourth platoons at Field Firing Range for two hours. Divide each platoon into three orders. At end of two hours, the first and second platoons move to the Field Firing Range. The third and fourth platoons move to the 25-meter TRAINFIRE Range.

SECTION I

FIELD FIRING (2 HRS)

PURPOSE:	To give the soldier practice in moving with a loaded weapon, assuming firing positions rapidly, and engaging surprise targets in timed exercises.
INSTRUCTIONAL AIDS:	24 Rounds of live ammunition per soldier. Spare target devices. Spare silhouettes (E and F). Target maintenance kit. Carbide lamps. 2 Chairs per firing point (scoring and ready lines). Ammunition tables. 1 Whistle. 1 Scoresheet per soldier. See ANNEX I. 2 Stopwatches. 1 First Aid box.
PHYSICAL FACILITIES:	Field Firing Range.
PERSONNEL:	1 Principal instructor. 1 Assistant instructor per 10-men group. 1 Target control operator. 2 Target repairmen. 1 Ammunition NCO. 1 Armorer.

TIME BREAKDOWN

<i>Time in Minutes</i>	<i>Type of Instruction</i>	<i>Subject</i>
10	C-----	Organization.
10	C-----	Explanation of Range Procedure.
25	PE-----	Field Firing—1st Order.
25	PE-----	Field Firing—2d Order.
25	PE-----	Field Firing—3d Order.
15	C-----	Review.
10	-----	Range Police.

LESSON OUTLINE

- a. Organization of Class (10 Min).*
 - (1) Assign three firers to each firing point. If possible, keep firers in the same group as in the previous period (period 11).
 - (2) Distribute scoresheets.
 - (3) Have the first order place rifles against support stumps and the other two orders place rifles on rifle rests. Then assemble the orders for further instruction.

b. *Explanation of Range Procedure (10 Min).*

- (1) Explain the general nature and purpose of the firing to be conducted during this period.
 - (a) The firers advance and engage surprise targets from positions that are specified by the tower control officer.
 - (b) Each firer fires 3 clips of 8 rounds for a total of 24 rounds.
 - (c) The 300-meter target is exposed for 10 seconds and the 75-meter target for 5 seconds. The 175-meter target appears for 10 seconds during the first phase of firing and 7 seconds during the second phase.
 - (d) Each firer fires only one round per target and only at targets in his own lane.
 - (e) All firers cease firing when the whistle is blown.
- (2) Explain the firing procedure to be used.
 - (a) Firers start from a firing point behind the stump.
 - (b) Control officer designates a prescribed (scoresheet) position and the place for the firer.
 - (c) On the command MOVE OUT, firers move forward keeping the line dressed to the right until a target appears.
 - (d) Firers assume the prescribed position at the designated place and fire one well-aimed round. Firers do not assume the position at the designated place until the target is presented.
 - (e) The control officer continues the above procedure for the succeeding rounds.
 - (f) All firers dry run the *second advance* of phase 1 prior to any firing.
- (3) Emphasize that—
 - (a) Firers move forward only upon command from the tower. Each firer remains in his last firing position until the command MOVE OUT is given.
 - (b) Firers fire only from the prescribed position.
 - (c) The line of firers is dressed to the right at all times.
 - (d) Each firer insures that his weapon is pointing down range at all times, especially while going in and out of a firing position.
 - (e) Firers will not lock their rifles between rounds.
- (4) Review the scoring procedure.
- (5) Explain that the duties of each station are the same as in previous periods.

c. *Rotation Schedule for Three Orders.*

ROTATION SCHEDULE

	Orders		
	1st	2d	3d
1-----	F	R	S
2-----	S	F	R
3-----	R	S	F

F—Firing; S—Scoring; R—Ready Line.

d. *Conduct of Firing.*

- (1) Have firers dry run the second advance of phase 1.
- (2) Aline firers on starting line at rear of stump.
- (3) Have firers load.
- (4) Designate vicinity and firing position for the first target.
- (5) Give command MOVE OUT.
- (6) Before firers reach the stump, raise the first target prescribed in the firing table.
- (7) At end of the specified time, blow whistle.
- (8) Approximately 2 seconds later, lower the target.
- (9) Designate the firing position and vicinity for the next target.
- (10) Give command MOVE OUT.
- (11) As firers reach the stump, raise the second target and repeat steps (6) through (9) above.
- (12) Complete the advance using the place, position, range and exposure time specified in the firing table.
- (13) As soon as advance is completed, have all rifles locked; have firers return to the starting line, keeping their rifles up and pointed down range *at all times*. Continue with the next advance.

Note. Insure that all firers have sufficient time to reload when it is necessary. But *stress the need for speed in reloading*. Have assistant instructors give individual corrective instruction during the conduct of this firing.

FIRING TABLE

Phase 1

LOCK, ONE CLIP, LOAD

Place	Position	Range (meters)	Round No.	Time
Behind stump-----	Standing-----	75	1	5
By stump-----	Standing-----	75	2	5
By foxhole-----	Standing-----	75	3	5
By front stake-----	Standing-----	75	4	5

LOCK

MOVE BACK TO STANDING LINE

<i>Place</i>	<i>Position</i>	<i>Range (meters)</i>	<i>Round No.</i>	<i>Time</i>
Behind stump-----	Squatting unsupported-----	175	5	10
By stump-----	Kneeling supported-----	175	6	10
By foxhole-----	Kneeling unsupported-----	175	7	10
By front stake-----	Sitting unsupported-----	175	8	10

LOCK

MOVE BACK TO STARTING LINE

UNLOAD ALL UNEXPENDED ROUNDS

LOCK, ONE CLIP, LOAD

Behind stump-----	Sitting unsupported-----	300	9	10
By stump-----	Kneeling supported-----	300	10	10
By foxhole-----	Kneeling unsupported-----	300	11	10
By front stake-----	Squatting unsupported-----	300	12	10

LOCK

MOVE BACK TO STARTING LINE

Behind stump-----	Kneeling unsupported-----	175	13	10
By stump-----	Kneeling supported-----	300	14	10
By foxhole-----	Squatting unsupported-----	175	15	10
By front stake-----	Sitting unsupported-----	300	16	10

LOCK

MOVE BACK TO STARTING LINE

UNLOAD ALL UNEXPENDED ROUNDS

Phase 2

LOCK, ONE CLIP, LOAD

Behind stump-----	Sitting unsupported-----	300	1	10
By stump-----	Kneeling supported-----	175	2	7
By foxhole-----	Squatting unsupported-----	300	3	10
By front stake-----	Standing unsupported-----	75	4	5

LOCK

MOVE BACK TO STARTING LINE

Behind stump-----	Kneeling unsupported-----	175	5	7
By stump-----	Kneeling supported-----	300	6	10
By foxhole-----	Standing unsupported-----	75	7	5
By front stake-----	Squatting unsupported-----	175	8	7

LOCK

MOVE BACK TO STARTING LINE

UNLOAD ALL UNEXPENDED ROUNDS

CLEAR ALL WEAPONS

e. Review of Field Firing (15 Min).

(1) Emphasize the following points:

- (a) In order to have sufficient time for proper aiming on a briefly exposed target, the firer must assume his firing position rapidly.
- (b) Firing during the next period will be very similar to this period. There will be one major difference—the firer must choose his own position. He must decide without any hesitation what position to use and assume that position rapidly and correctly.
- (c) A close range target demands an immediate reaction. The firer may have to fire from the standing position. On longer range targets, the firer must assume the most stable position possible in the time available.

(2) Determine best scores.

f. Troop Movement (10 Min).

SECTION II

25-METER FIRING (2 HRS)

PURPOSE:	To improve the basic shooting ability of the soldiers by having them fire from several positions using both live and dummy ammunition.
INSTRUCTIONAL AIDS:	18 Rounds live ammunition per soldier. 1 Round dummy ammunition per firing point. Carbide lamps. M2 aiming devices. Ammunition tables. Binoculars for assistant instructors. 3, 25-meter targets per soldier. 25-meter TRAINFIRE Range.
PHYSICAL FACILITIES:	
PERSONNEL:	1 Principal instructor. 1 Assistant instructor per 10-men group.

TIME BREAKDOWN

<i>Time in Minutes</i>	<i>Type of Instruction</i>	<i>Subject</i>
10	C-----	Organization.
10	C-----	Explanation of Range Procedure.
45	PE-----	25-meter Firing—1st Order.
45	PE-----	25-meter Firing—2d Order.
10	-----	Troop Movement.

LESSON OUTLINE

a. Organization of Class (10 Min).

Divide class into two orders. Assign firers who have not yet "passed" all positions (check progress cards) to the first order, and pair them with good firers.

b. Explanation of Range Procedure (10 Min).

- (1) Explain that this period is devoted to live and dummy firing in order to give particular attention to proper trigger control.
- (2) Review the live and dummy method firing. Emphasize that the coaches will observe and correct the finching errors. Point out that the dummy round should be used *at least twice* as often as the live round.
- (3) Review the safety regulations.

c. Practical Work on 25-Meter Firing—1st Order (45 Min).

- (1) Have the first order move to the firing line as firers; second order as coaches. Have the assistant instructors check steady hold factors and proper use of dummy rounds.
- (2) Have all firers fire 3 rounds each from the sitting, squatting, kneeling, and standing unsupported positions. Have assistant instructors critique targets after each 3-round shot group. Mark the first shot groups. Retain targets in progress envelopes after the second shot group.
- (3) Have all firers fire an additional 3 rounds using their two weakest positions. Have assistant instructors critique targets after each shot group.

d. Practical Work on 25-Meter Firing—2d Order (45 Min).

- (1) Have second order perform practical work outlined above.
- (2) Have first order coach.

e. Troop Movement (10 Min).

ANNEX I

SCORESHEET

Firer's Name _____ Platoon _____ Date _____
 (Last) (First)

Scorer's Name _____ Order _____ Firing Point _____
 (Last) (First)

	Place	Position	Range (meters)	Round	Hit	Miss
P	Behind stump-----	Standing-----	75	1		
	By stump-----	Standing-----	75	2		
H	By foxhole-----	Standing-----	75	3		
A	By front stake----	Standing-----	75	4		
S	Behind stump-----	Squatting unsupported--	175	5		
E	By stump-----	Kneeling supported-----	175	6		
O	By foxhole-----	Kneeling unsupported----	175	7		
	By front stake----	Sitting unsupported-----	175	8		
N	Behind stump-----	Sitting unsupported-----	300	9		
E	By stump-----	Kneeling supported-----	300	10		
	By foxhole-----	Kneeling unsupported----	300	11		
	By front stake----	Squatting unsupported--	300	12		
	Behind stump-----	Kneeling unsupported----	175	13		
	By stump-----	Kneeling supported-----	300	14		
	By foxhole-----	Squatting unsupported--	175	15		
	By front stake----	Sitting unsupported-----	300	16		
P	Behind stump-----	Sitting unsupported-----	300	1		
H	By stump-----	Kneeling supported-----	175	2		
A	By foxhole-----	Squatting unsupported--	300	3		
S	By front stake----	Standing unsupported----	75	4		
E	Behind stump-----	Kneeling unsupported----	175	5		
	By stump-----	Kneeling supported-----	300	6		
	By foxhole-----	Standing unsupported----	75	7		
T	By front stake----	Squatting unsupported--	175	8		
W						
O						
Total-----						

PERIOD THIRTEEN

ADVANCE ON SURPRISE TARGETS AND FIRING FROM AN OPTIONAL POSITION; DETECTION TRAINING, PERSONAL CAMOUFLAGE, AND MOVEMENT SKILLS

HOURS:	57-60.
PURPOSE:	To give the soldier practice in moving with a loaded weapon, choosing and assuming the proper position from which to fire on surprise targets, personal camouflage, and in movement skills by use of opposing squads.
INSTRUCTOR	All previous rifle marksmanship references.
REFERENCES:	
INSTRUCTIONAL	See sections I and II.
AIDS:	
INDIVIDUAL	M1 rifle and combination tool.
EQUIPMENT:	Combat pack. Steel helmet. Notebook and pencil. Progress envelope.
PHYSICAL	Field Firing Range.
FACILITIES:	2 Target Detection Ranges.
PERSONNEL:	3 Principal instructors. 1 Assistant instructor per 10 men. 1 Target control operator. 2 Target repairmen. 1 Ammunition NCO. 1 Armorer. (See sections for breakdown.)
SAFETY FACTORS:	Refer to local range regulations and AR 385-63.
ORGANIZATION:	When the company arrives, check all rifles for clearance and check bores for obstructions. During this period divide the company in the following manner: First and second platoons are at the Field Firing Range for two hours. Divide each platoon into three orders. Third and fourth platoons are at the Target Detection Ranges for 2 hours. (One platoon per range.) At the end of two hours, the first and second platoons move to the Target Detection Ranges, and the third and fourth platoons move to the Field Firing Range.

SECTION I

FIELD FIRING (2 HRS)

PURPOSE: To give the soldier practice in moving with a loaded weapon and in choosing and assuming the proper position to fire on surprise targets.

INSTRUCTIONAL AIDS: 30 Rounds of live ammunition per soldier.
Spare target devices.
Spare silhouettes (E & F).
Target maintenance kit.
Carbide lamps.
Rifle grease.
2 Chairs per firing point (scoring and ready lines).
Ammunition tables.
Whistle.
Scoresheets. (See ANNEX I.)
Stopwatches.
1 First Aid box.

PERSONNEL: 1 Principal instructor.
1 Assistant instructor per 10 men.
1 Target control operator.
2 Target repairmen.
1 Ammunition NCO.
1 Armorer.

TIME BREAKDOWN

<i>Time in Minutes</i>	<i>Type of Instruction</i>	<i>Subject</i>
10	C-----	Organization.
10	C-----	Explanation of Range Procedure.
25	PE-----	Field Firing—1st Order.
25	PE-----	Field Firing—2d Order.
25	PE-----	Field Firing—3d Order.
15	C-----	Review.
10	-----	Range Police or Troop Movement.

LESSON OUTLINE

- a. *Organization of Class (10 Min).*
 - (1) Assign three soldiers to each firing point. If possible, soldiers should be kept in the same group as in the previous period (period 12).
 - (2) Distribute scoresheets.
 - (3) Have orders assemble for further instruction after directing the first order to place rifles against firing stumps and other orders to place rifles on rifle rests.

b. Explanation of Range Procedure (10 Min).

- (1) Explain the nature of the firing to be conducted during this period.
 - (a) Firing is very similar to the firing of the previous period. Soldiers will again advance and engage targets which appear at any range at any time. Neither the place nor the range will be designated.
 - (b) The firers fire on targets from positions of their own choice. The position chosen should be as stable as possible to insure a well-aimed shot. For a close range target, the firer should remain and fire in the position he is already in or fire from the standing position. However, for long range targets the standing position should never be used due to its instability.
 - (c) The quicker the firer chooses and assumes his firing position, the more time he will have for proper aiming. Delay in choosing a position or slow movement in getting into the position may result in either a wild round or loss of opportunity to fire.
 - (d) Neither the prone position nor the foxhole position will be used.
 - (e) The 300-meter targets will be exposed for ten seconds; the 75-meter targets for five seconds. The 175-meter targets will be exposed for seven seconds during the first phase and for five seconds during the second phase.
 - (f) Each firer will fire a total of 30 rounds.
- (2) Explain the firing procedure to be used.
 - (a) Use the following sequence:
 1. Firers start from a firing point behind the stump.
 2. On the command MOVE OUT, firers move forward, keeping the line dressed to the right until a target appears.
 3. Firers rapidly assume an appropriate position for the target presented and fire one well-aimed round.
 4. If another target appears before the command MOVE OUT, the firer immediately engages the target either by using his previous position or assuming a new position. The position should be dependent on the target presented to the firer.
 5. On the command MOVE OUT, firers rise and move forward to engage their targets as listed above.
 - (b) Emphasize the following points:
 1. Firers move forward only on command from the tower.
 2. The line of firers must be kept straight and dressed to the right at all times.

3. Each firer will be particularly careful to keep his rifle pointing down range when going into or out of a firing position.
4. Any position may be used except prone and foxhole.
5. Each firer fires only one round at each target and fires only in his own lane.

(c) Scoring procedure (review).

(d) The duties of each station are the same as in previous periods.

c. *Rotation Schedule for Three Orders.*

ROTATION SCHEDULE

	Orders—		
	1st	2d	3d
1-----	F	R	S
2-----	S	F	R
3-----	R	S	F

F—Firing; S—Scoring; R—Ready Line

d. *Conduct of Firing.*

- (1) Have the firers go through a dry run of the *second advance* of phase 1 prior to any firing.
- (2) Procedure for any one advance is as follows:
 - (a) Aline firers on starting line at rear of stump.
 - (b) Have firers load.
 - (c) Give command MOVE OUT.
 - (d) Before firers reach the stump, raise the first target prescribed in the firing table.
 - (e) At the end of the specified exposure time, blow the whistle.
 - (f) Approximately 2 seconds later, lower the target.
 - (g) Raise the next target or give the command MOVE OUT, whichever is specified in the firing table.
 - (h) While the firers are moving forward, raise the next target as they reach the stump and repeat steps (d) through (g) above.
 - (i) Complete the advance using the place, range, and exposure time specified in the Firing Table.
 - (j) As advance is completed, have all rifles locked. Have the firers return to the starting line and continue with the next advance.

Note. Conduct frequent critiques when firers miss their targets because of inappropriate positions for the specific targets presented.

- (3) Make certain all firers have sufficient time to reload when necessary, but stress the necessity of speed in reloading.
- (4) Insure that assistant instructors make necessary corrections.

FIRING TABLE

Phase 1

LOCK, 6 ROUNDS, LOAD

<i>Place</i>	<i>Range (meters)</i>	<i>Round No.</i>	<i>Time in seconds</i>
Behind stump-----	300	1	10
Behind stump-----	175	2	7
Move Out			
By stump-----	300	3	10
Move Out			
By foxhole-----	300	4	10
Move Out			
By front stake-----	175	5	7
Move Out			
Forward of stake-----	75	6	5

LOCK

UNLOAD ALL UNEXPENDED ROUNDS

RETURN TO STARTING LINE

LOCK, ONE CLIP, LOAD

Behind stump-----	175	7	7
Behind stump-----	75	8	5
Move Out			
By stump-----	175	9	7
By stump-----	300	10	10
Move Out			
By foxhole-----	300	11	10
By foxhole-----	175	12	7
Move Out			
By front stake-----	300	13	10
Move Out			
Forward of stake-----	300	14	10

LOCK
UNLOAD ALL UNEXPENDED ROUNDS
RETURN TO STARTING LINE

Phase 2

LOCK, ONE CLIP, LOAD

<i>Place</i>	<i>Range (meters)</i>	<i>Round No.</i>	<i>Time in seconds</i>
Behind stump-----	175	1	5
Behind stump-----	300	2	10
Move Out			
By stump-----	300	3	10
By stump-----	300	4	10
Move Out			
By foxhole-----	75	5	5
Move Out			
By front stake-----	175	6	5
By front stake-----	300	7	10
Move Out			
Forward of Stake-----	175	8	5

LOCK

UNLOAD ALL UNEXPENDED ROUNDS
RETURN TO STARTING LINE

LOCK, ONE CLIP, LOAD

Behind stump-----	300	9	10
Behind stump-----	300	10	10
Move Out			
By stump-----	75	11	5
Move Out			
By foxhole-----	175	12	5
By foxhole-----	300	13	10
Move Out			
By front stake-----	300	14	10
By front stake-----	75	15	5
Move Out			
Forward of stake-----	300	16	10

LOCK
CLEAR ALL WEAPONS
RETURN TO STARTING LINE

e. Review of Field Firing (15 Min).

- (1) Review common errors noted during the day's firing.
- (2) Determine best scores.
- (3) Point out that during the last two periods the soldiers have been simulating an attack. During the next period they will fire from defensive positions—that is, the foxhole—at medium range and distant targets. There will also be an opportunity during the next period for anyone to check the zero of his rifle.

f. Police of Range (10 Min).

Clear all rifles before moving troops.

SECTION II

TARGET DETECTION (2 HRS); DETECTION AND MOVEMENT BY OPPOSING TEAMS

PURPOSE:	To give the soldiers practical work in target detection and movement as a target team. To conduct demonstration and practical work in personal camouflage.
INSTRUCTOR	FM 21-75.
REFERENCES:	
INSTRUCTIONAL AIDS:	Tubes camouflage paint (1 each of four basic colors). M1 rifles with firing pins removed. Master Trial Sheets for principal instructors and assistant instructors (see ANNEX II, Sample Master and Target Trial Sheet). Target Trial Sheets for assistant instructors. Supply of rubber bands.
PHYSICAL FACILITIES:	2 Target Detection Ranges.
PERSONNEL:	2 Principal instructors. 1 Assistant instructor per 10 men. 4 Demonstrators (2 at each range) with camouflage suits.
ORGANIZATION:	One platoon will report to each range for the two hour period. The platoons will be divided into four equal squads. During the practical work in the first hour on personal camouflage, the coach and pupil method is used at each range. During the second hour at each range, practical work on

movement as targets is conducted with two squads detecting and two squads performing target movements. After the first phase of practical work is completed, the squads change over to give all squads an opportunity to detect and act as targets.

TIME BREAKDOWN

<i>Time in Minutes</i>	<i>Type of Instruction</i>	<i>Subject</i>
5	C-----	Introduction.
15	C-----	Demonstration of Personal Camouflage.
15	PE-----	Practical Work in Personal Camouflage.
15	CD-----	Types of Movement.
10	-----	BREAK.
20	PE-----	First Practical Work in Movement Skills.
20	PE-----	Second Practical Work in Movement Skills.
10	C-----	Review.
10	-----	Troop Movement.

LESSON OUTLINE

Preparation

a. Setting up the Range.

- (1) Distribute camouflage equipment at various points.
- (2) Have one assistant instructor dressed in camouflage suit and one in fatigues for demonstration purposes.
- (3) Place one rifle, its firing pin removed and inspected by an officer to insure removal, in position at each observation point.
- (4) Assign assistant instructors to assist on the observation line.
- (5) Assign necessary assistant instructors equipped with Target Trial Sheets to supervise the movements of the squad members acting as targets. This should consist of orienting each individual member or his movement prior to the start of the prescribed trial.
- (6) Rehearse assistant instructors in the use of the Target Trial Sheets and rehearse the camouflaged demonstrators.
- (7) Conduct a careful inspection to insure that no assistant instructor has any live ammunition.
- (8) Equipment.
 - (a) Locate loudspeakers for operation along the observation line and down range.
 - (b) Place in position charts, notes and other normal instructional equipment.

b. Troop Arrival.

- (1) Upon arrival of troops, have them ground weapons in designated areas.
- (2) Conduct a careful inspection to insure that no soldier has any live ammunition.

- (3) Assign squads their duties. If observers, they take up positions on the observation line; if targets, they take up positions down range on command of the principal instructor.
- (4) Have Target Trial Sheets issued and explained to squad members acting as targets.

Instructional Hours

1st Hour:

c. Introduction (5 Min).

Narrative:

Today we are doing something slightly different. The previous periods have emphasized your target detection ability only. You have observed other targets making various sorts of target movements. In this period you will all get a chance to practice making a number of movements. Half of you will be detecting, marking, and aiming while the other half will be performing various types of movements. We'll have you change positions and duties with each other later in the period.

d. Demonstration of Personal Camouflage (15 Min).

Narrative:

During the next few minutes you will observe a demonstration on camouflage. Watch this demonstration closely, so you can camouflage yourself later in the period.

Question: As a review, what are the three great dangers camouflage must protect against?

Answer: (a) Shine, particularly helmet, shoes, face and hands.

(b) Regularity of outline, particularly helmet, head, shoulders, and weapons.

(c) Contrast with background.

Let's cover each of these points separately, demonstrating as we go along. Shiny equipment is the most dangerous. Early in World War I an entire platoon of French troops became casualties because the shine of the sun on their messkits gave them away. All equipment with any shine at all should be covered with mud and dust. This includes shoes, helmet, and your weapon. The helmet can be camouflaged by use of helmet covers of burlap or some other material. If this material is not available, cover the helmet with mud or dirt. Then use a string, shoelaces, or rubber bands as a holder and put in common local twigs, straw, or other vegetation. Your face and hands may be camouflaged with camouflage creams, which come in four colors. Normally, green and brown are most useful. You may use dirt, clay, or mud if camouflage cream is not available. Watch the use of mud, however, because very wet mud may gleam in the sun.

Regularity of outline will quickly give you away. Nature's outlines are rarely smooth and unbroken. Also, military equipment and the human body are familiar outlines to all soldiers. You must disguise these shapes to deceive the enemy. The camouflage suits with their varied colors accomplish this to some degree but your helmet still presents a dangerous shape. Break up the helmet outline as our demonstrators are doing by using natural foliage, straw, and twigs. Don't make the mistake of making the stalks too long because they will wave unrealistically when you move. Keep them short and have some of them extending down below the brim of the helmet. You can also add foliage to your clothes and your weapon to break up the outline of your body and your equipment. Look at your demonstrators. One has broken up his outline. Watch them as they take up positions in the foliage. See how well the camouflaged man blends into the background. The outline of his helmet does not give him away as does the uncamouflaged helmet of his companion.

Contrast in color is the last camouflage point we will consider before beginning our practical work. One thing of prime importance to remember is to stay off the skyline. Figures on the skyline can be seen from a great distance because the dark outline against the light sky is easily noticeable. Since shadows conceal, try to remain well back in them. Pick your camouflage to suit your background. Look at our demonstrators and notice how well the camouflaged man blends into his background. Notice his use of shadows for concealment. Remember to do this when camouflaging yourself. Look at how obvious the other demonstrator is. His green suit is completely out of place for the position he has chosen. That concludes our demonstration. Do you have any questions?

e. *Practical Work in Personal Camouflage (15 Min).*

Narrative:

You have been divided up into coach and pupil teams. Each man of the team must camouflage himself with some position in mind. Choose any area around here and camouflage yourself for that area. Be extremely critical of each other's camouflage and do not overlook and smallest detail.

When you have finished, take up a position in the area you chose. The class and I want to see what sort of a job you have done. (Go over each soldier's camouflage and call attention to examples of good and poor camouflage.)

Note. For the above practical work, break the platoon into squads with assistant instructors supervising and critiquing.

f. Types of Movement (15 Min).

Narrative:

The combat infantryman is frequently required to move over terrain which is under enemy observation. There are various movements which he can utilize in moving over different kinds of ground. These movements will afford you the best protection in the face of the enemy. We will discuss and demonstrate them, and then allow you to practice them yourselves.

LOW AND HIGH CRAWL

Two forms of crawling are generally used in day movement—the low and high crawl. These are used in close contact with the enemy—when it is necessary to move without being seen.

When cover and concealment are scarce, use the low crawl. Let's have this demonstrated. **DEMONSTRATOR, MOVE OVER TERRAIN CORRECTLY.**

Notice how close to the ground he keeps his body. He grasps the rifle sling at the stock ferrule swivel and lets the balance of the rifle rest on his forearm and the butt of the rifle drag on the ground. The muzzle is kept off the ground. Notice how he pushes his arms forward with his legs, and then pulls forward with his arms. The pushing leg should be changed frequently to avoid fatigue.

When more cover and concealment are available and more speed is desired, use the high crawl. Let's have this demonstrated. **DEMONSTRATOR, MOVE OVER TERRAIN CORRECTLY.**

Notice how he keeps his body free of the ground, resting his weight on his forearms and lower legs. The rifle is cradled in his arms with the muzzle off the ground. His knees are placed well behind his buttocks so that they stay low. In moving forward, he alternately advances his right elbow and left knee, then his left elbow and right knee.

RUSHING

The rush is the best way to move from one position to another in fireswept terrain. Let's have the rush demonstrated. **DEMONSTRATOR, EXECUTE A FAST, SHORT RUSH.**

Always start your rush from the prone position. Notice how the demonstrator raises his head slowly and selects his next position. This position should be the best cover available. Now he slowly lowers his head, avoiding sharp, fast movements. He draws his arms into his body, keeping his elbows down, and pulls his right leg forward. He raises his body with one movement by straightening his arms, springs to his feet, crouches low, and moves to the new position. Just before hitting the ground, he plants both feet, drops to his knees, and slides his hand to

the heel of the rifle butt. He then falls forward, breaking his fall with the butt of the rifle, and rolls into a firing position.

Notice how the demonstrator did not move just to be moving, this observation line was his objective. From his protected position he picked out the next position to move to and moved fast. Remember to have some purpose and direction in your movement and to pick out a specific position to move to before making your rush. I hope you also noticed that he did not go directly to the position he had picked but hit beside it to throw off enemy fire and then rolled or crawled to the position.

BOUND

The bound is the next movement we will demonstrate. DEMONSTRATOR, BEGIN YOUR MOVEMENT.

As you can see, this is a rapid walk. It is used when enemy fire is ineffective or when he is pinned down by your effective fire. In a bound you move from a favorable position through unfavorable ground to the next selected position. The length of a bound will thus vary with the terrain but in general should not exceed 200 meters. Usually one half of your squad will move up in a bound while the other half covers, provided the terrain permits.

2d Hour:

- g. *First Practical Work in Movement Skills (20 Min.) (See ANNEX II), (Sample Master and Target Trial Sheets).*

Narrative:

The movement squads will now move down range with the assistant instructors and take up their positions. I will call for the movement in the following manner. TRIAL NO. 1, BEGIN! Each soldier having trial No. 1 will perform the movement indicated on his target sheet, while our observation squads will practice aiming at their movements.

After each trial, I will discuss movement and aiming points with the observation squad. Good and poor examples of movement will be commented on. The observation squad should note these movements and practice aiming at awkward and skilled movements.

- h. *Second Practical Work in Movement Skills (20 Min.) (See ANNEX II).*

Narrative:

We will now reverse the roles of the squads. The movement squad will turn their Target Trial Sheets over to the observation squad. Assistant instructors will move them down range and into position for the first trial. TRIAL NUMBER 1, BEGIN!

- i. *Review (10 Min).*

(1) Camouflage.

(2) Types of Movement.

(a) Crawl.

(b) Rush.

(c) Bound.

j. Troop Movement (10 Min).

Soldiers move out to next area of instruction.

ANNEX I
SCORESHEET

Firer's Name _____ Platoon _____ Date _____
(Last) (First)

Scorer's Name _____ Order _____ Firing Point _____
(Last) (First)

PHASE 1

Position	Range (meters)	Round	Hit	Miss
Behind stump_	300	1		
Behind stump_	175	2		
By stump_	300	3		
By foxhole_	300	4		
By front stake_	175	5		
Forward of stake_	75	6		
Behind stump_	175	7		
Behind stump_	75	8		
By stump_	175	9		
By stump_	300	10		
By foxhole_	300	11		
By foxhole_	175	12		
By front stake_	300	13		
Forward of stake_	300	14		
Total_				

PHASE 2

Position	Range (meters)	Round	Hit	Miss
Behind stump_	175	1		
Behind stump_	300	2		
By stump_	300	3		
By stump_	300	4		
By foxhole_	75	5		
By front stake_	175	6		
By front stake_	300	7		
Forward of stake_	175	8		
Behind stump_	300	9		
Behind stump_	300	10		
By stump_	75	11		
By foxhole_	175	12		
By foxhole_	300	13		
By front stake_	300	14		
By front stake_	75	15		
Forward of stake_	300	16		
Total_				

Total for phases 1 and 2

Hit	Miss

ANNEX II

SAMPLE MASTER AND TARGET TRIAL SHEET

a. Master Trial Sheet.

The Master Trial Sheet contains the trials and target indications for the period. The principal instructor and assistant instructors will have one of these in their possession at all times. They should know where the soldier targets are and what they are doing.

MOVEMENTS BY TRIAL

Soldier.....	(1) 6-Sec Rush	(2) 2-Sec Rush	(3) 5-M Low crawl	(4) 4-Sec Rush	(5) 5-M Low crawl	(6) 4-Sec Rush	(7) 10-M High crawl	(8) 2-Sec Rush	(9) 6-Sec Rush	(10) 50-M Bound
Trial No.:										
1.....		X			X	X			X	X
2.....	X		X			X		X		X
3.....		X				X	X		X	X
4.....	X		X	X				X		X
5.....				X	X			X	X	X
6.....	X		X			X		X		X
7.....	X	X		X			X			X
8.....				X			X	X	X	X
9.....		X				X	X		X	X
10.....	X			X	X			X		X
11.....		X				X	X	X		X
12.....		X		X	X				X	X
13.....	X		X			X		X		X
14.....		X		X	X				X	X

Note. The above Sample Master Trial Sheet reflects 14 trials for 10 soldiers acting as targets. Units may revise the above Master Trial Sheet to include additional target requirements so as to insure maximum participation when larger squads are used, or have one squad of ten men or less perform trials 1-7 and second squad of ten men or less perform trials 8-14.

b. Target Trial Sheet.

Each soldier acting as a target should be assigned a number from the Master Trial Sheet and issued a Target Trial Sheet for the target trial that he performs. The Target Trial Sheet will insure that each soldier knows when to make a certain movement. When a trial is called for by the principal instructor, each target man consults his sheet. If that trial appears on his sheet, he performs the movement on command of the principal instructor.

Target Trial Sheet No. 1.

Trials: (2) 2-sec rush; (5) 5-m low crawl; (6) 4-sec rush; (9) 6-sec rush; (10) 50-m bound.

Target Trial Sheet No. 2.

Trials: (1) 6-sec rush; (3) 5-m low crawl; (6) 4-sec rush; (8) 2-sec rush; (10) 50-m bound.

Target Trial Sheet No. 3.

Trials: (2) 2-sec rush; (6) 4-sec rush; (7) 10-m high crawl; (9) 6-sec rush; (10) 50-m bound.

Target Trial Sheet No. 4.

Trials: (1) 6-sec rush; (3) 5-m low crawl; (4) 4-sec rush; (8) 2-sec rush; (10) 50-m bound.

Target Trial Sheet No. 5.

Trials: (4) 4-sec rush; (5) 5-m low crawl; (8) 2-sec rush; (9) 6-sec rush; (10) 50-m bound.

Target Trial Sheet No. 6.

Trials: (1) 6-sec rush; (3) 5-m low crawl; (6) 4-sec rush; (8) 2-sec rush; (10) 50-m bound.

Target Trial Sheet No. 7.

Trials: (1) 6-sec rush; (2) 2-sec rush; (4) 4-sec rush; (7) 10-m high crawl; (10) 50-m bound.

Target Trial Sheet No. 8.

Trials: (4) 4-sec rush; (7) 10-m high crawl; (8) 2-sec rush; (9) 6-sec rush; (10) 50-m bound.

Target Trial Sheet No. 9.

Trials: (2) 2-sec rush; (6) 4-sec rush; (7) 10-m high crawl; (9) 6-sec rush; (10) 50-m bound.

Target Trial Sheet No. 10.

Trials: (1) 6-sec rush; (4) 4-sec rush; (5) 5-m low crawl; (8) 2-sec rush; (10) 50-m bound.

Target Trial Sheet No. 11.

Trials: (2) 2-sec rush; (6) 4-sec rush; (7) 10-m high crawl; (8) 2-sec rush; (10) 50-m bound.

Target Trial Sheet No. 12.

Trials: (2) 2-sec rush; (4) 4-sec rush; (5) 5-m low crawl; (9) 6-sec rush; (10) 50-m bound.

Target Trial Sheet No. 13.

Trials: (1) 6-sec rush; (3) 5-m low crawl; (6) 4-sec rush; (8) 2-sec rush; (10) 50-m bound.

Target Trial Sheet No. 14.

Trials: (2) 2-sec rush; (4) 4-sec rush; (5) 5-m low crawl; (9) 6-sec rush; (10) 50-m bound.

PERIOD FOURTEEN

FIELD FIRING ON DISTANT STATIONARY TARGETS; CONFIRMATION OF ZEROS

HOURS:	61-62 (Plus two hours ATP Nonmarksman- ship—Total 4 hrs.)
PURPOSE:	To give the soldier practice in engaging medium and distant surprise targets from a defensive position, to confirm zeros, and to conduct training in an ATP subject.
INSTRUCTOR REFERENCES:	See sections I, II, III.
INDIVIDUAL EQUIPMENT:	M1 rifle. Combination tool. Steel helmet. Combat pack. Clipboard. Notebook and pencil. Progress envelope.
PHYSICAL FACILITIES:	Field Firing Range. 25-meter TRAINFIRE Range (modified for 75 m firing). Adjacent area for optional ATP subject.
PERSONNEL:	3 Principal instructors. 1 Assistant instructor per 10 men. Ammunition NCO. 2 Armorers. 2 Target repairmen. 1 Target control operator. (See sections for breakdown.)
ORGANIZATION:	When the company arrives, check all rifles for clearance and bores for obstructions. During this period divide the company in the following manner: First platoon at station No. 1 (field firing) for one hour and the second platoon at station No. 2 (25-meter TRAINFIRE Range for confirmation of zeros) for one hour. Divide each platoon into two orders. At the end of the first hour, the first and second platoons change stations. Third and fourth platoons at station No. 3 (ATP subject) for first two hours. At end of two hours, third platoon

moves to station No. 1 for one hour;
fourth platoon at station No. 2 for one hour.
These platoons change stations after one hour.
First and second platoons move to station
No. 3 at end of first two hours.

Note. If only a few soldiers need to confirm their zeros, the instructor may send only those to station No. 2, rather than the entire company. If many of the soldiers have poor zeros, use the organization described above.

SECTION I

FIELD FIRING (1 hr)

PURPOSE: To give the soldier practice in engaging medium and distant surprise targets from a defensive position.

INSTRUCTIONAL AIDS: 48 Rounds live ammunition per soldier.
Spare target devices.
Spare E-type silhouettes.
Target maintenance kit.
Carbide lamps.
Rifle grease.
2 Chairs per firing point (scoring and ready lines).
Ammunition tables.
Whistle.
Scoresheets (see ANNEX I)
Stopwatches.
1 First Aid box.
PHYSICAL FACILITIES: Field Firing Range.

PERSONNEL: 1 Principal instructor.
1 Assistant instructor per 10 men.
1 Target control operator.
2 Target repairmen.
1 Ammunition NCO.
1 Armorer.

TIME BREAKDOWN

<i>Time in Minutes</i>	<i>Type of Instruction</i>	<i>Subject</i>
5	C-----	Organization.
5	C-----	Explanation of Range Procedure.
20	PE-----	Field Firing—1st Order.
20	PE-----	Field Firing—2d Order.

LESSON OUTLINE

a. Organization of Class (5 Min).

- (1) Assign two soldiers to each firing point.
- (2) Distribute scoresheets.
- (3) Have first order place rifles on foxholes and the second order place rifles on rifle rests. Then assemble the orders for further instruction.

b. Explanation of Range Procedure (5 Min).

- (1) Explain the general nature and purpose of the firing to be conducted during this period.
 - (a) Firers defend the firing line from an attack to their front. Targets appear at 175 meters and 300 meters. All firing is done from the foxhole position.
 - (b) Each firer fires a total of 48 rounds. The first 16 rounds are fired at 175-meter targets; the next 16 at 300-meter targets; and the final 16 at both 175- and 300-meter targets appearing in a surprise fashion. The 300-meter targets are exposed for 10 seconds; the 175-meter targets for 5 seconds.
- (2) Explain the specific firing procedure to be used.
 - (a) Point out that—
 1. Clips are loaded upon command from the tower.
 2. After the command to load, the command from the tower is WATCH YOUR LANES. The firer fires as soon as the target in his lane appears. He continues to fire at each new target as it appears.
 3. Each firer fires only one round per target and only at targets in his own lane.
 - (b) Review the scoring procedure.
 - (c) Review the primary duties of the scorer.
 - (d) Review safety regulations.

c. Conduct of Firing.

- (1) Raise the targets as specified in the Firing Table below. At the end of the specified time, blow whistle.
- (2) Approximately 2 seconds later, lower the target.
- (3) Raise the next target immediately and repeat the above procedure.
- (4) Make certain that all firers have sufficient time to reload between targets.
- (5) Have assistant instructors check each man's foxhole position for correct application of the steady hold factors.

FIRING TABLE

Phase 1

LOCK, ONE CLIP, LOAD

<i>Position</i>	<i>Range (meters)</i>	<i>Round No.</i>	<i>Time in Seconds</i>
Foxhole-----	175	1-8	5

UNLOAD ALL UNEXPENDED ROUNDS

LOCK, ONE CLIP, LOAD

Foxhole-----	175	9-16	5
--------------	-----	------	---

UNLOAD ALL UNEXPENDED ROUNDS

Phase 2

LOCK, ONE CLIP, LOAD

Foxhole-----	300	1-8	10
--------------	-----	-----	----

UNLOAD ALL UNEXPENDED ROUNDS

LOCK, ONE CLIP, LOAD

Foxhole-----	300	9-16	10
--------------	-----	------	----

UNLOAD ALL UNEXPENDED ROUNDS

Phase 3

LOCK, ONE CLIP, LOAD

Foxhole-----	175	1	5
Foxhole-----	300	2	10
Foxhole-----	300	3	10
Foxhole-----	175	4	5
Foxhole-----	175	5	5
Foxhole-----	300	6	10
Foxhole-----	300	7	10
Foxhole-----	300	8	10

UNLOAD ALL UNEXPENDED ROUNDS

LOCK, ONE CLIP, LOAD

Foxhole-----	175	9	5
Foxhole-----	300	10	10
Foxhole-----	300	11	10
Foxhole-----	175	12	5
Foxhole-----	300	13	10
Foxhole-----	300	14	10
Foxhole-----	175	15	5
Foxhole-----	300	16	10

CLEAR ALL WEAPONS

d. Review of Field Firing (5 Min).

- (1) Determine best scores of the day.
- (2) Review the common errors noted during day's firing.
- (3) Explain that during the next period the soldiers will receive practice in shifting aim from one target to another, rapidly reloading, and in applying immediate action for stoppages.

e. Range Police or Troop Movement (5 Min).

Clear all rifles before moving troops.

SECTION II

CONFIRMATION OF ZERO (1 HR)

PURPOSE:	To confirm zeros of firers and to check prone supported and foxhole positions.
INSTRUCTIONAL	6 Rounds live ammunition per soldier.
AIDS:	1 E-type silhouette target on stake per firing point.
	1 Zeroing paster per soldier (to be attached to silhouettes).
	Binocular for assistant instructors.
	Carbide lamps.
	First Aid box.
PHYSICAL	25-meter TRAINFIRE Range.
FACILITIES:	(Modified for 75-meter firing.)
PERSONNEL:	1 Principal instructor.
	1 Assistant instructor per 10 men.
	1 Armorer.

TIME BREAKDOWN

<i>Time in Minutes</i>	<i>Type of Instruction</i>	<i>Subject</i>
5	C-----	Organization.
5	C-----	Explanation of Period.
20	PE-----	1st Order Zeroing.
20	PE-----	2d Order Zeroing.
10	-----	Police Range or Troop Movement.

LESSON OUTLINE

a. Organization (5 Min).

- (1) Divide platoon into two orders.
- (2) Assign firers to their firing points.

b. Explanation of Period (5 Min).

- (1) Explain that this period is used to confirm battlesight zeros and to correct errors in assuming positions.
- (2) Explain that the coach and pupil method is used.
- (3) Review firing procedure.
 - (a) Each firer fires two 3-round shot groups from either the prone supported position or the foxhole position.
 - (b) Firers and assistant instructors move down range to targets after each group has been fired, and the assistant instructor critiques each shot group.
 - (c) If the group is satisfactory, the assistant instructor supervises the necessary sight changes to move the center of the group to the center of the top of the black paster.
 - (d) The firer then fires his second 3-round shot group.
 - (e) Once the zero has been confirmed, the firer records any changes necessary on the firing data card.
 - (f) The soldier takes his rifle to the armorer. The armorer helps calibrate the sights to that zero if a new zero was obtained.
 - (g) Second order repeats the procedure outlined in (3)(a) through (f).

c. Practical Work in Confirming Zeros—1st and 2d Orders (40 Min).

d. Police Range and Troop Movement (10 Min).

SECTION III

ATP TRAINING (2 HRS)

An appropriate subject from ATP 21-114 is to be selected for this training. The subject chosen should not include marksmanship training.

The training area should be located far enough from the 25-meter TRAINFIRE Range so that the firing does not disturb the class.

PERSONNEL: 1 Principal instructor.
 2 Assistant instructors.

PERIOD FOURTEEN

ANNEX I

SCORESHEET

Firer's Name _____ Platoon _____ Date _____
 (Last) (First)

Scorer's Name _____ Order _____ Firing Point _____
 (Last) (First)

(ALL PHASES FIRED FROM FOXHOLE POSITION)

PHASE 1 (175 METERS) PHASE 2 (300 METERS)

PHASE 3

Round	Hit	Miss
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
Total		

Round	Hit	Miss
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
Total		

Round	Range (meters)	Hit	Miss
1	175		
2	300		
3	300		
4	175		
5	175		
6	300		
7	300		
8	300		
9	175		
10	300		
11	300		
12	175		
13	300		
14	300		
15	175		
16	300		
Total			

Totals for Phases 1, 2, 3

Hit	Miss

PERIOD FIFTEEN

ENGAGING MULTIPLE SURPRISE TARGETS FROM A STATIONARY POSITION; TARGET DETECTION TRAINING TO INCLUDE COMBINATION OF SOUND LOCALIZATION AND MULTIPLE MOVING TARGETS

HOURS:	63-66.
PURPOSE:	To give the soldier practice in engaging multiple surprise targets from a stationary position and to give practice in reloading and applying immediate action; to give the soldier practice in detecting, marking, aiming at, and engaging combat type targets which move and fire.
INSTRUCTOR REFERENCES:	All previous rifle marksmanship references.
INSTRUCTIONAL AIDS:	See sections I and II.
INDIVIDUAL EQUIPMENT:	M1 rifle. Combat pack. Steel helmet. Notebook and pencil. Progress envelope.
PHYSICAL FACILITIES:	Field Firing Range (modified). 2 Target Detection Ranges.
PERSONNEL:	3 Principal instructors. 1 Assistant instructor per 10 men. 1 Target control operator. 2 Target repairmen. 1 Ammunition NCO. 1 Armorer. 6 Target men (for target detection). (See individual sections for breakdown.)
SAFETY FACTORS:	Refer to local range regulations and AR 385-63.
ORGANIZATION:	During this period divide the company in the following manner: First and second platoons are at station No. 1 (Field Firing) for first two hours. Third and fourth platoons are at station No. 2 (Target Detection) for first two hours (one platoon at each Target Detection Range). At the end of first two hours move first and second platoons to station No. 2 (one platoon at each Target Detection Range) and third and fourth platoons to Station No. 1.

SECTION I

FIELD FIRING (2 HRS)

PURPOSE: To give the soldier practice in firing on multiple surprise targets from a stationary position.

INSTRUCTOR REFERENCE: All previous marksmanship references.

INSTRUCTIONAL AIDS: 32 Rounds of live ammunition per soldier.
 32 Rounds of live ammunition for demonstration.
 Dummy ammunition (one round per clip of live ammunition).
 Spare target devices.
 Spare silhouettes (E and F).
 Target maintenance kit.
 Carbide lamps.
 Rifle grease.
 2 Chairs per firing point (scoring and ready lines).
 Ammunition tables.
 1 Whistle.
 Scoresheets (see ANNEX I).
 2 Stopwatches.
 First Aid box.

PHYSICAL FACILITIES: Field Firing Range (modified).
 Modifications:
Only the following targets are in operation:
 All 300-meter targets.
 175-meter targets in even-numbered lanes.
 75-meter targets in odd-numbered lanes.

PERSONNEL: 1 Principal instructor.
 1 Assistant instructor per 10 men.
 1 Target control operator.
 2 Target repairmen.
 1 Armorer.
 1 Ammunition NCO.

TIME BREAKDOWN

<i>Time in Minutes</i>	<i>Type of Instruction</i>	<i>Subject</i>
10	C-----	Organization.
25	C, D-----	Explanation of Range Procedure.
25	PE-----	Field Firing—1st Order.
25	PE-----	Field Firing—2d Order.
25	PE-----	Field Firing—3d Order.
10	-----	Troop Movement.

LESSON OUTLINE

a. Organization of Class (10 Min).

- (1) Make sure all rifles are clear and that there are no obstructions in the bores.
- (2) Divide the class into three orders.
- (3) Distribute scoresheets.
- (4) Have the first order place rifles on foxholes and other two orders place rifles on rests before assembling for further instruction.

b. Explanation of Range Procedure (25 Min).

- (1) Explain the nature of the firing to be conducted during this period.
 - (a) As a squad member, the rifleman is not only responsible for a narrow lane of fire immediately in front of him but is responsible for covering a sector which may spread over a rather wide angle depending on the particular situation. In Target Detection training, the soldiers have already been introduced to the problem of searching for targets over a wide sector. In this period each soldier will be assigned a sector of fire and will be responsible for all targets which appear in that sector. More than one target will appear at one time and the soldier will be required to shift from target to target in order to hit all targets in his sector.
 - (b) All firing will be from the foxhole position.
 - (c) The firer will have 2 minutes in which to engage 8 targets, reloading and clearing stoppages as required.
 - (d) Each firer will have a total of 32 rounds with which to engage 16 targets.
- (2) Explain the following firing procedure:
 - (a) Phase 1:

Each firer will be issued 2 clips of ammunition (7 live and 1 dummy each) and 2 single rounds. When the targets in his assigned lanes appear, he will load the single round and commence firing. He reloads as necessary and applies immediate action when required. He fires on the closest targets first since they are the most dangerous. If he does not hit a target with the first shot, he may attempt to hit it with the second shot. However, if he does not hit the target on the second try, he must engage the next target. At the end of the specified time all targets will drop and then reappear. The firer continues to fire without further command.

(b) Phase 2:

The firing in this phase differs from Phase 1 in one important way: During the firing a close range target will appear. The firer will immediately take this target under fire regardless of the exposed longer range targets.

(c) 1. Firers fire at targets in their assigned lanes. Firers in odd-numbered lanes fire on targets directly in front of them and in the lane to their right. Firers in even-numbered lanes fire on the targets directly in front of them and in the lane to their left.

2. Firers on odd-numbered points fire first. The firers on even-numbered points dry fire. When the firers on even-numbered points are firing, the firers on odd-numbered points dry fire. During all firing one-half of each order is firing while the other half is dry firing.

3. If the firer does not hit a target with the first shot, he may attempt to hit it with the second shot. However, if he does not hit the target on the second try, he must engage the next target.

4. Firers always fire at the closest target first. When a close target appears while the firer is engaging longer range targets, the firer immediately shifts his fire to the closer target.

5. All extra clips will be kept in cartridge belts.

(d) Explain the scoring procedure. See ANNEX I.

1. The scorer records each hit and miss. (In this period any round fired after the whistle sounds is scored as a miss.)

2. He records whether or not the firer engaged the closest target first.

3. Two points are given for first round hits and 1 point for second round hits. A possible score for both phases combined is 32.

(e) Have an assistant instructor demonstrate the firing procedure by firing one phase. Have a second assistant instructor dry fire in the adjacent lane.

(f) Explain the primary duties at each station.

1. Firing.

(a) To fire or dry fire as instructed.

(b) To observe all safety regulations.

2. Ready line.

(a) To blacken sights.

(b) To observe firing in order to assist scorer when necessary.

(c) To assist with ammunition as needed.

3. Scoring line.
 - (a) To keep an accurate record of each shot.
 - (b) To record whether or not firer engaged closest target first.
 - (c) To return completed score sheets to tower.
- c. *Practical Work in Field Firing—1st Order (25 Min).*
 - (1) Have each order move to its proper station as indicated on line 1 of the Rotation Schedule and perform the practical work indicated for that station.

ROTATION SCHEDULE

	Orders		
	1st	2d	3d
1-----	F	R	S
2-----	S	F	R
3-----	R	S	F

F—Firing; S—Scoring; R—Ready Line

(2) Conduct of firing.

(a) Phase 1:

1. Have ammunition distributed to firers on odd-numbered points (2 clips of 7 live and 1 dummy each, and 2 single rounds).
2. Give command, **FIRERS WATCH YOUR LANES.**
3. Raise all targets.
4. At the end of 75 seconds blow whistle.
5. Approximately 2 seconds later, lower all targets, and immediately raise them again. (*Do not stop the watch.*)
6. At the end of 2 minutes (total for both exposures), blow whistle.
7. Approximately 2 seconds later lower all targets.
8. Clear all weapons and have assistant instructors check clearance.
9. Have assistant instructors collect all unexpended ammunition.

(b) Phase 2:

1. Have ammunition distributed to firers on odd-numbered points (2 clips of 7 live and 1 dummy each, and 2 single rounds).
2. Give command **FIRERS WATCH YOUR LANES.**
3. Raise 175- and 300-meter targets.
4. Ten to 25 seconds later raise the 75-meter targets. (This time interval should be varied from order to order so that firers cannot anticipate this target.)
5. At end of 75 seconds blow whistle.
6. Approximately 2 seconds later lower all targets and

- immediately raise the 175- and 300-meter targets.
(*Do not stop the watch.*)
7. Ten to 25 seconds later raise the 75-meter targets.
 8. At the end of 2 minutes (total for both exposures), blow whistle.
 9. Approximately 2 seconds later lower all targets.
 10. Clear all weapons and have assistant instructor check clearance.
 11. Have assistant instructors collect all unexpended ammunition.
 12. Have ammunition distributed to firers on even-numbered points and repeat procedure.
- (c) During firing have assistant instructors check the following:
1. Difficulties in loading.
 2. Difficulties in applying immediate action.
 3. Failure to fire at closest target first.
- d. *Practical Work in Field Firing—2d Order (25 Min).*
- (1) Rotate orders to stations shown on line 2 of Rotation Schedule.
 - (2) Perform practical work outlined in c, above.
- e. *Practical Work in Field Firing—3d Order (25 Min).*
- (1) Rotate orders to stations shown on line 3 of Rotation Schedule.
 - (2) Perform practical work outlined in c, above.
- f. *Troop Movement (10 Min).* Announce best score, clear rifles, and move troops to next area of instruction.

SECTION II

TARGET DETECTION (2 HRS); COMBINATION OF SOUND LOCALIZATION AND MULTIPLE MOVING TARGETS

PURPOSE:	To give the soldier practice in detecting, marking, aiming at, and engaging a combination of firing and moving combat-type targets.
INSTRUCTOR REFERENCES:	FM 21-75, FM 23-5.
INSTRUCTIONAL AIDS:	<p>16 Camouflaged helmets with rubber bands.</p> <p>Tubes camouflage paint (1 each of four basic colors).</p> <p>16 M1 rifles for target men (8 at each range).</p> <p>110 Rounds caliber .30 blank ammunition per presentation.</p> <p>3 Master Trial Sheets (see ANNEX II, Sample Master Trial Sheet).</p> <p>1 Answer sheet per soldier (see ANNEX III).</p>

PHYSICAL
FACILITIES:

Target Trial Sheets for each target man.
1 Aiming device per observation point.
First Aid box.
Two Target Detection Ranges. The lettered signs can be removed if they interfere with the problem.
Small numbered stakes signifying beginning and end of a movement can be placed over the observation range to assistant target men. Movements are controlled by use of public address system.

PERSONNEL:

2 Principal instructors.
1 Assistant instructor per 10 men.
16 Target men to function as hostile targets (8 at each range).

Note. During this period two ranges are used for target detection training. While two platoons are at the Field Firing Range, one platoon is at each of the two Target Detection Ranges. After the first two hours the platoons at the Field Firing Range change with the platoons on target detection.

TIME BREAKDOWN

<i>Time in Minutes</i>	<i>Type of Instruction</i>	<i>Subject</i>
5	C-----	Introduction.
10	C-----	Detecting and Marking.
10	C-----	Aiming and Engaging.
25	PE-----	Practical Work.
10	-----	BREAK.
40	PE-----	Practical Work.
10	C-----	Review.
10	-----	Troop Movement.

LESSON OUTLINE

Preparation

a. Setting up the Range.

- (1) Place one aiming device with four aiming bars in position at each observation point.
- (2) Assign assistant instructors to assist on observation line.
- (3) Place two previously rehearsed teams of 4 target men each in their initial positions and equip them. Insure that each target man is familiar with the procedure and has in his possession clearly written instructions.
- (4) Conduct ammunition check to insure that no one has any live ammunition.
- (5) Locate loudspeakers along the observation line and down range.
- (6) Place in position charts, notes, and other instructional equipment.

b. Troop Arrival.

- (1) Upon arrival have troops ground weapons in designated areas.
- (2) Divide observers into two-man teams and assign them to observation points.

Instructional Hours

1st Hour:

c. Introduction (5 Min).

Narrative:

During this period you will have a chance to practice what you have learned about single and multiple moving targets and locating positions by sound of firing. Detecting, marking, aiming at and engaging moving and firing targets require skill in remembering the points of disappearance and firing indications of targets long enough to place effective fire on them.

In combat, targets do not normally move toward a position without supporting fire. Today some of the targets will move toward the observation line while others place fire on your position.

d. Detecting and Marking (10 Min).

Narrative:

Multiple firing and moving targets vary in ease of detection and marking, depending on the type and length of movement being made and the firing indications (smoke, flash, dust, and sound) available. With a number of targets available at one time, you should have no difficulty in detecting a few. In many instances you might be able to detect all of them. The firing targets may be more difficult to detect than the moving targets, but with your skill in picking up sound, flash, dust, and smoke indications, you should do well.

Marking multiple firing and moving targets is complicated by number, exposure time, spacing, and by aiming and reference points. For example, when you have indications (firing or movement) of a number of targets, marking and remembering more than one or two is difficult. In today's work we will always have four targets in each trial—some firing and some moving. If you learn to handle these, you are doing extremely well.

NUMBER OF TARGETS

Firing and moving targets are fleeting and rarely exposed for more than a few seconds. A good moving target will not over-expose himself; smoke and flash indications of firing targets last only a few seconds. Of course, if you see the flash and smoke indications, you can mark the firing target immediately. If firing is continued a firing target becomes very easy to mark

and engage. A moving target must be followed and marked as it disappears.

EXPOSURE OF TARGETS

If targets are exposed for long periods of time (continued firing and long movements), you can mark the general area of each and mark them as they disappear or as they fire. When targets are exposed for extremely short periods, or fire only one round, mark the position of at least one and the general location of the others.

SPACING OF TARGETS

When the space between the targets is great, the problem of marking is more difficult than when the targets are grouped together. If you encounter widely spaced targets, mark one or two accurately and note the general area of disappearance or firing of the others for future observation. When targets are grouped together, your problem is simpler and you should be able to mark and engage targets more accurately.

AIMING AND REFERENCE POINTS

Aiming and reference points are most important in marking the point of disappearance of moving and firing targets. Targets which disappear at or fire from a good aiming point can be easily marked and their location mentally retained for future use. When the target disappears at or fires from a position near a good aiming point, use that point as a reference point. Under these conditions, you must remember both the reference and the aim-off from the point to the target.

e. *Aiming and Engaging (10 Min).*

Narrative:

Don't get excited if there are many targets available. Fire a well-aimed shot at one target, then try to pick up the others. Today, your problem will be whether to fire at a target placing fire on your position, or at one moving across the terrain. Your choice will depend upon aiming or reference points and the nearness of the target to your position.

AIMING OR REFERENCE POINTS

When you have a choice of firing at two targets, one with an aiming point and the other with a reference point, engage the difficult one first. In other words, if you locate a target placing fire from a position with a reference point, place your fire at this target rather than at other targets with good aiming points. The good aiming point is easier to remember and you will have no difficulty placing effective fire on the target there at some later time.

PROXIMITY OF THE TARGET

Proximity of the target to you is a factor that should influence your decision. A close target is usually more dangerous than one farther away. This is especially true if it is placing effective

tive fire on your position. This fire can disrupt your observing and firing duties, and your survival may depend on neutralizing it. In addition, a close target is generally easier to hit than one more distant. Remember—where a number of targets are dispersed over the observation field, fire at the closest and mark the others as they disappear.

f. Practical Work (25 Min; see ANNEX II).

Narrative:

Today our practical work will involve various combinations of firing and moving targets. Four targets will appear on every trial. The target indications will occur at approximately the same time. Since the targets appear only momentarily, it will be necessary for you to mark as many as you can and remember the position of each point until you can fire at it.

There is an aiming device with four aiming bars at each position. Use these bars to mark the point of firing or disappearance of each target. After each movement or firing sequence, use the right hand bar first. Watch the targets as they make their firing or movement indications and then align one aiming bar at each. After you have done this all targets will stand so you can check your alignment. We will use the coach and pupil method to do this.

You were broken down into pairs at the beginning of the period. Partners will check each other for alignment. If you have any doubt on a point, raise your hand and an instructor will assist you.

During this period we will emphasize mental recollection of aiming and reference points. I will discuss specific problems of recollecting these aiming points with the targets exposed and comment on the type of movement and aiming points after each rush and firing.

(1) Trial 1—150 Meters.

(Two targets make clumsy 5-meter crawling movements to positions at good aiming points. Another two targets fire 4 rounds each toward the observation line from positions at good aiming points. Targets will be within 10 meters of each other.)

(On loudspeaker announce, TRIAL 1, BEGIN.)

Narrative:

MOVING TARGETS, STAND UP; DISAPPEAR AND MAKE YOUR MOVEMENT. TARGETS, STAND UP. OBSERVERS, CHECK ALINEMENTS USING THE COACH AND PUPIL METHOD. Marking and remembering these targets was not too hard. They were all grounded fairly close together, and all had good aiming points marking their position. The firing targets continued firing during the trial sequence so

that the smoke and flash indications could be seen easily after the sound had indicated the general area.

(2) *Trial 2—200 Meters.*

(Three targets make skilled 5-meter crawling movements to positions remote from good aiming points. One target fires 2 rounds after it begins moving from a position with a reference point. Targets are 25 meters apart.)

(On loudspeaker announce, TRIAL 2, BEGIN.)

Narrative:

MOVING TARGETS, STAND UP; DISAPPEAR AND BEGIN YOUR MOVEMENT. TARGETS, STAND UP. OBSERVERS, CHECK ALINEMENTS USING COACH AND PUPIL METHOD. This trial was considerably harder than the last one because of the remote reference points and the increased distance between targets. The targets were more skilled at making their crawling movements, making them harder to follow. Also, the firing target was harder to locate since he fired only 2 rounds and allowed a lengthy time interval between them.

(3) *Trial 3—300 Meters.*

(Two targets move through the brush until the instructor fires one round. Targets disappear and make 4-second rushes to positions with good aiming points. Two targets fire 4 rounds each from positions at good aiming points.)

(On loudspeaker announce, TRIAL 3, BEGIN.)

Narrative:

TARGETS, START WALKING. (After 30 seconds the instructor fires one round.) The targets disappeared fast under my fire and the firing targets opened fire on our position immediately. Now watch the type movements they make. TARGETS, STAND UP. OBSERVERS, CHECK ALINEMENTS USING THE COACH AND PUPIL METHOD. You were probably unable to remember where all the targets disappeared because of the short time they were moving, the distance between them, and the number of targets. The firing targets were extremely hard to mark since the firing was done from positions deep in the woods.

(4) *Trial 4—150 Meters.*

(One target makes a 4-second rush to a position with a reference point. Three targets fire 4 rounds each from positions with reference points.)

(On loudspeaker announce, TRIAL 4, BEGIN.)

Narrative:

MOVING TARGETS, STAND UP; DISAPPEAR AND BEGIN YOUR MOVEMENT, TARGETS, STAND UP.

OBSERVERS, CHECK ALINEMENTS. You undoubtedly found this trial much easier because the moving target was up for a longer period of time, and there was only one to mark. The firing targets fired four rounds each so that you could mark the point of firing of one; remember it, and go on to the next.

(5) *Trial 5—250 Meters.*

(Two targets, make two 6-second rushes to positions with varied good and poor aiming points. Two other targets fire 2 and 4 rounds from positions with varied aiming and reference points.)

(On loudspeaker announce, TRIAL 5, BEGIN.)

Narrative:

MOVING TARGETS, STAND UP; DISAPPEAR AND BEGIN YOUR MOVEMENT, TARGETS, STAND UP. OBSERVERS, CHECK ALINEMENTS. Again the targets were spaced far apart and they did not disappear at the same time. Since one was up longer than the other, you should have concentrated on the target that disappeared first, then on the one that was still moving. Also, the number of rounds fired by the targets differed—one fired two and the other fired four. These targets were much easier to mark than if they had commenced and ceased firing at the same time.

(6) *Trial 6—125 Meters.*

(One target makes a 4-second lateral rush to a new position with a poor aiming point. Three other targets fire 3 rounds from positions with varied aiming and reference points.)

(On loudspeaker announce, TRIAL 6, BEGIN.)

Narrative:

MOVING TARGETS, STAND UP; DISAPPEAR AND BEGIN YOUR MOVEMENT, TARGETS, STAND UP. OBSERVERS, CHECK ALINEMENTS. In this case, the movement was lateral and not directly toward you. The target was harder to hit but was easy to follow and mark as it disappeared. Your best bet was to mark the most dangerous firing point and to place fire on that, then mark the other areas in general. Enemy fire from this short range would disrupt your normal observation duties.

(7) *Trial 7—250 Meters.*

(One target makes a 6-second rush to position without a good aiming point. Three other targets fire 1 round each from positions with reference points.)

(On loudspeaker announce, TRIAL 7, BEGIN.)

Narrative:

MOVING TARGETS, STAND UP; DISAPPEAR AND BEGIN YOUR MOVEMENT. TARGETS, STAND UP. OBSERVERS, CHECK ALINEMENTS. The firing targets were extremely hard to detect because they fired one round each at approximately the same time. If you saw any of the flash and smoke indications, marking was relatively simple. The targets were located at good aiming points. The moving target was up for an unduly long period of time. Even though it disappeared at a position without a good aiming point, it was easy to mark because you could devote your efforts to following and marking the point of disappearance.

(8) *Trial 8—100 Meters.*

(Three targets make a 5-meter crawling movement to positions with reference points. One other target fires 4 rounds at the observation line.)

(On loudspeaker announce, TRIAL 8, BEGIN.)

Narrative:

MOVING TARGETS, STAND UP; DISAPPEAR AND BEGIN YOUR MOVEMENT. TARGETS, STAND UP. OBSERVERS, CHECK ALINEMENTS. Here again, we have a large number of targets at positions lacking good aiming points. However, the crawling movements were fairly easy to follow and long enough to allow you to mark each target. You should have marked at least three of these targets satisfactorily.

g. Break (10 Min).

2d Hour:

h. Practical Work (40 Min; see ANNEX II).

Narrative:

(1) *Trial 9—300 Meters.*

(Two targets make two 6-second rushes to positions with varied aiming and reference points after being fired on from the observation line. Two targets fire 2 rounds each.)

(On loudspeaker announce, TRIAL 9, BEGIN.)

TARGETS, STAND UP; OBSERVERS, CHECK ALINEMENTS. These targets varied the time and direction of their rush. You will frequently have to do this in advancing to new cover. The firing target was harder to mark because of his good position and because only a few shots were fired.

TARGETS, START WALKING. (After 30 seconds fire one round.) See how quickly they disappear when fired upon. Now watch the type movements they make.

(2) *Trial 10—225 Meters.*

(Four targets fire four rounds each from positions at varied good and poor aiming points.)

(On loudspeaker announce, TRIAL 10, BEGIN.)

TARGETS, BEGIN FIRING; TARGETS, STAND UP; OBSERVERS, CHECK ALINEMENTS. These targets began and stopped firing at approximately the same time, making it almost impossible to mark all of them. Since they fired 4 rounds, you should have been able to mark two or three of them satisfactorily, providing you were covering the area systematically.

(3) *Trial 11—150 Meters.*

(Two targets, spaced far apart, make 2-second rushes to new positions remote from the aiming point. Two targets fire 1 round from each position at good aiming points.)

(On loudspeaker announce, TRIAL 11, BEGIN.)

MOVING TARGETS, STAND UP; DISAPPEAR AND MAKE YOUR MOVEMENT, TARGETS, STAND UP. OBSERVERS, CHECK ALINEMENTS. This was an extremely hard trial. The moving targets were up for a very short period of time and they were spaced rather far apart, making them extremely difficult to mark. The firing targets were also spaced at opposite ends of the observation range. Since they fired only one round each almost simultaneously, you were lucky if you were able to mark one.

(4) *Trial 12—175 Meters.*

(Three targets make 2-second rushes, one fires 2 rounds from positions with varied good and poor aiming points.)

(On loudspeaker announce, TRIAL 12, BEGIN.)

MOVING TARGETS, STAND UP; DISAPPEAR, AND MARK YOUR MOVEMENT. OBSERVERS, CHECK ALINEMENT. In this trial the moving targets were grouped together and were up for an extremely short period of time. The firing target fired only one round. If you happened to be looking in the direction of the firing, you may have been able to pick up the flash, smoke, and sound indications. The firing target is located closer than the others. It is the most dangerous type because it is able to place effective fire on your position. Therefore, concentrate your fire on it.

(5) *Trial 13—175 Meters.*

(One target makes 2-second rushes and three targets fire 2, 3, and 4 rounds, respectively, from positions at varied good and poor aiming points.)

(On loudspeaker announce, TRIAL 13, BEGIN.)

MOVING TARGETS, STAND UP; DISAPPEAR, AND MAKE YOUR MOVEMENT. OBSERVERS, CHECK ALINEMENTS. In this instance we had three firing targets covering the moving target as he moved forward. Remember that while you were observing over the detection range, the targets were placing fire on this position. Think about this next time you choose your observation position. Try to get down lower than the position from which you are now observing. The moving target was easy to detect and fairly easy to mark since there was only one. The firing targets were much harder to mark because they were widely spread over the observation field at positions offering varied good and poor aiming points, and they fired a varying number of rounds.

(6) *Trial 14—250 Meters.*

(One target fires and three others make 3-, 4-, and 5-second rushes to positions with varied good and poor aiming points.)

(On loudspeaker announce, TRIAL 14, BEGIN.)

MOVING TARGETS, STAND UP; DISAPPEAR AND MAKE YOUR MOVEMENTS. OBSERVERS, CHECK ALINEMENTS. This time you were probably able to mark both the firing and moving targets. The moving targets came up together but disappeared at different times. You could have marked them in order as they disappeared. Two of the moving targets were close together, while the other was far away. You could almost use the same aiming point as a reference point to mark the two moving targets. The firing target fired four rounds. If you did not see the smoke and fire indications of the first round, you could probably observe the succeeding rounds.

(7) *Trial 15—225 Meters.*

(Two targets are at opposite ends of the observation line making 3-second rushes to positions at good aiming points; two fire 2 rounds each from positions very close together.)

(On loudspeaker announce, TRIAL 15, BEGIN.)

MOVING TARGETS, STAND UP; DISAPPEAR, AND MAKE YOUR MOVEMENT. TARGETS, STAND UP. OBSERVERS, CHECK ALINEMENTS. This time you should have concentrated on the firing targets since they were close together and able to place effective fire on your positions. The moving targets were spaced far apart and you would do well to mark one. If you saw either target disappear, you should be able to remember it because both disappear behind good aiming points.

(8) *Trial 16—275 Meters.*

(Four targets make 1-, 2-, 3-, and 4-second rushes to new positions with varied good and poor aiming points after being fired on from the observation line. Each target fires 1 round 2 seconds after disappearing.)

(On loudspeaker announce, TRIAL 16, BEGIN.)

MOVING TARGETS, START WALKING. (After 10 seconds, fire one round.) See how quickly they disappeared when fired on. Now watch for their separate movements.

TARGETS, STAND UP; OBSERVERS, CHECK ALINEMENTS. You received a little extra help that time when the targets fired a round after disappearing. If you were unable to mark the target exactly where it disappeared, you may have been able to do so after a round had been fired. Most of you should have marked three of the targets accurately.

(9) *Trial 17—125 Meters.*

(Four targets fire 1, 2, 3, and 4 rounds from positions without good aiming points.)

(On loudspeaker announce, TRIAL 17, BEGIN.)

TARGETS, BEGIN FIRING; TARGETS, STAND UP. OBSERVERS, CHECK ALINEMENTS. Here was a combination of easy and hard targets. Since two of the targets fired 3 and 4 rounds, you should have been able to mark them easily. Once you see the position from which the flash and smoke are coming, mark it and quickly move on to the next target.

(10) *Trial 18—300 Meters.*

(Two targets fire one round and two make a 1-second rush from positions with reference points.)

(On loudspeaker announce, TRIAL 18, BEGIN.)

TARGETS, STAND UP; DISAPPEAR AND MAKE YOUR MOVEMENT. OBSERVERS, CHECK ALINEMENTS. This was an extremely hard trial. The moving targets were far apart and up for an instant. The firing targets fired only one round and this firing occurred almost simultaneously.

(11) *Trial 19—125 Meters.*

(One target fires one round, two makes two 3-second rushes, while another makes a 5-meter crawl to a position with varied good and poor aiming points.)

(On loudspeaker announce, TRIAL 19, BEGIN.)

TARGETS, STAND UP; DISAPPEAR AND MAKE YOUR MOVEMENT. OBSERVERS, CHECK ALINEMENTS. This was another very hard trial. You may have concentrated on the visible targets and failed to look for one crawling. However, the crawling target was still moving long after the other targets had disappeared. If you had continued your observation, you would have been able to detect and mark this target.

(12) *Trial 20—175 Meters.*

(Three targets fire 1, 2, and 3 rounds and one makes a 5-meter crawl to positions with varied good and poor aiming points.)

(On loudspeaker announce, TRIAL 20, BEGIN.)

TARGETS, STAND UP; DISAPPEAR AND MAKE YOUR MOVEMENTS, OBSERVERS, CHECK ALINEMENTS. In this trial, two of the firing targets were relatively easy to detect and mark. The firing may have distracted you so that you did not notice the crawling target. Even though firing is going on, glance over the observation field quickly to see if you can spot any additional targets. The firing may be a coverup for men moving into a position where they can place effective fire on your position. A quick glance should be enough to detect these targets.

i. *Review (10 Min).*

(1) Comment on the following points:

(a) Variations in the difficulty of problems of detecting and marking targets depend upon—

1. Number of targets.
2. Exposure of targets.
3. Spacing of targets.
4. Aiming and reference points.

(b) Complications of aiming and engaging depend upon—

1. Aiming and reference points.
2. Nearness of targets.

j. *Troop Movement (10 Min.)*

Dismiss and move out to next area of instruction.

PERIOD FIFTEEN

ANNEX I

SCORESHEET

Firer's Name _____ Platoon _____ Date _____
(Last) (First)

Scorer's Name _____ Order _____ Firing Point _____
(Last) (First)

PHASE 1 1st Exposure

Range (meters)	Hit		Miss
	First round	Second round	
75_____			
175_____			
300 left_____			
300 right_____			
Total_____			

PHASE 2 1st Exposure

Range (meters)	Hit		Miss
	First round	Second round	
75_____			
175_____			
300 left_____			
300 right_____			
Total_____			

2d Exposure

Range (meters)	Hit		Miss
	First round	Second round	
75_____			
175_____			
300 left_____			
300 right_____			
Total_____			

2d Exposure

Range (meters)	Hit		Miss
	First round	Second round	
75_____			
175_____			
300 left_____			
300 right_____			
Total_____			

Total first round hits x2
Total second round hits _____
Total score _____

Fired at 75-meters target immediately
in _____
1st exposure Yes No
2d exposure Yes No

PERIOD FIFTEEN

ANNEX II

SAMPLE MASTER TRIAL SHEET

Targets representing fire support should be located in a tactically sound position. Moving targets should be located generally to the flank of the maneuver area. Where rushing targets are widely separated (100 meters or more), fire support may be centrally located.

<i>Trial No.</i>	<i>Range (meters)</i>	<i>Description of Requirements</i>
1	150	Two targets make clumsy 5-meter crawling movements; two targets fire 4 rounds each toward the observation line. All positions at good aiming points. Targets located within 10 meters of each other.
2	200	Three targets make skilled 5-meter crawling movements; one target fires 2 rounds after start of movement. All positions lack good aiming points and require use of reference points. Distance between targets is 25 meters.
3	300	Two targets walking through bush until fired on from observation line. Targets disappear and then make 4-second rush. Two targets (some other) fire 3 rounds each and return observation line fire immediately. All positions at good aiming points.
4	150	One target makes a 4-second rush; three other targets fire 4 rounds each. All positions lack good aiming points.
5	250	Two targets make two 6-second rushes; two targets fire 2 to 4 rounds. Positions with varied good and poor aiming points.
6	125	One target makes 2-second lateral rush; three targets fire 3 rounds each. Positions with varied good and poor aiming points.
7	250	One target makes 6-second rush to position without good aiming point; three targets fire 1 round each from positions with good aiming points.
8	100	Three targets make 5-meter crawling movement; one target fires 4 rounds. Positions without good aiming points.
9	300	Two targets walking through bush until fired on from observation line. Targets disappear and then make two 6-second rushes; two targets fire 2 rounds each, returning observation line fire immediately. Position with varied good and poor aiming points.
10	225	Four targets fire 4 rounds each from positions with varied good and poor aiming points.
11	150	Two targets make 2-second rush; two targets fire 1 round each after start of movement. Positions with varied good and poor aiming points.
12	175	Three targets make 2-second rush; one target fires 2 rounds. Position with varied good and poor aiming points.
13	150	One target makes 2-second rush; three targets fire 2, 3, 4 rounds. Positions with varied good and poor aiming points.
14	250	Three men making 3-, 4-, 5-second rushes; one target firing 4 rounds. Positions with varied good and poor aiming points.

PERIOD FIFTEEN, ANNEX II, SAMPLE MASTER TRIAL SHEET—Continued

<i>Trial No.</i>	<i>Range (Meters)</i>	<i>Description of Requirements</i>
15	225	Two targets spaced far apart make 3-second rush; two targets close together fire 2 rounds each. Positions with good aiming points.
16	275	Four targets make 1-, 2-, 3-, 4-second rushes after being fired on from observation line. Each target fires 1 round 2 seconds after disappearing. Positions with varied good and poor aiming points.
17	125	Four targets fire 1, 2, 3, 4 rounds from positions with varied good and poor aiming points.
18	300	Two targets make 1-second rush; two targets fire 1 round. Positions without good aiming points.
19	125	Two targets make two 3-second rushes; one target makes 5-meter crawl; one target fires 1 round. Positions with varied good and poor aiming points.
20	175	One target makes 5-meter crawl; three targets fire 1, 2, 3 rounds. Positions with varied good and poor aiming points.

Note. Target Trial Sheets should be prepared from a Master Trial Sheet similar to the one above, containing only the trials and target indications performed by a specific target.

PERIOD FIFTEEN

ANNEX III

ANSWER SHEET

COMBINATION OF SOUND LOCALIZATION AND MULTIPLE MOVING TARGETS (Observers check each other's alinement and place number of targets correctly alined in space opposite appropriate trial number.)

Name _____ Platoon _____ Squad _____ Date _____

<i>Trial No.</i>	<i>No. Correct</i>	<i>Tria No.</i>	<i>No. Correct</i>
1_____	_____	12_____	_____
2_____	_____	13_____	_____
3_____	_____	14_____	_____
4_____	_____	15_____	_____
5_____	_____	16_____	_____
6_____	_____	17_____	_____
7_____	_____	18_____	_____
8_____	_____	19_____	_____
9_____	_____	20_____	_____
10_____	_____		
11_____	_____	Total correct_____	

PERIOD SIXTEEN

ENGAGING MULTIPLE SURPRISE TARGETS WHILE ADVANCING; REVIEW OF TARGET DETECTION

HOURS:	67-70.
PURPOSE:	To give the soldier practice in engaging multiple surprise targets while advancing and to give practice in reloading and applying immediate action; to give the soldier a review of target detection training.
INSTRUCTOR	FM 23-5.
REFERENCES:	
INSTRUCTIONAL	See sections I and II.
AIDS:	
INDIVIDUAL	M1 Rifle.
EQUIPMENT:	Combat pack. Steel helmet. Notebook and pencil. Progress envelope.
PHYSICAL	Field Firing Range (modified).
FACILITIES:	2 Target Detection Ranges.
PERSONNEL:	3 Principal Instructors. 1 Assistant Instructor per 10 men. 1 Target control operator. 2 Target repairmen. 1 Ammunition NCO. 1 Armorer. 6 Target men (for target detection). (See individual sections for breakdown.)
SAFETY FACTORS:	Refer to local range regulations and AR 385-63.
ORGANIZATION:	The company is divided in the following manner: First and second platoons are at station No. 1 (Field Firing) for the first two hours, and the third and fourth platoons at station No. 2 (Target Detection) for the first two hours (each platoon spends one hour at each of the target detection ranges). At the end of two hours, the first and second platoons change stations with the third and fourth platoons.

SECTION I

FIELD FIRING (2 HRS)

PURPOSE:	To give the soldier practice engaging multiple surprise targets while advancing.
INSTRUCTIONAL AIDS:	24 Rounds of live ammunition per soldier. 1 Round dummy ammunition per clip of live ammunition. 16 Rounds of live ammunition for demonstration. Spare target devices. Spare silhouettes (E and F). Target maintenance kit. Carbide lamps. Rifle grease. 2 Chairs per firing point (scoring and ready lines). Ammunition tables. 1 Whistle. Scoresheets (see ANNEX I) 2 Stopwatches. First Aid box.
PHYSICAL FACILITIES:	Field Firing Range (modified). Modifications: <i>Only</i> the following targets are in operation: All 300-meter targets. 175-meter targets in even-numbered lanes. 75-meter targets in odd-numbered lanes.
PERSONNEL:	1 Principal instructor. 1 Assistant instructor per 10 men. 1 Target control operator. 2 Target repairmen. 1 Armorer. 1 Ammunition NCO.

TIME BREAKDOWN

<i>Time in Minutes</i>	<i>Type of Instruction</i>	<i>Subject</i>
10	-----	Organization.
25	C, D-----	Explanation of Range Procedure.
25	PE-----	Field Firing—1st Order.
25	PE-----	Field Firing—2d Order.
25	PE-----	Field Firing—3d Order.
10	-----	Troop Movement.

LESSON OUTLINE

a. Organization of Class (10 Min).

- (1) Make sure all rifles are clear and that there are no obstructions in the bores.
- (2) Divide the class into three orders.
- (3) Distribute scoresheets.
- (4) Have rifles placed on rifle rests and assemble class in bleachers.

b. Explanation of Range Procedure (25 Min).

- (1) Explain the purpose and type of firing to be conducted during this period.
 - (a) In the previous period the soldier received training in covering a wide sector from a stationary position. In this period he is assigned a sector of fire and will be required to engage all targets which appear in that sector as he advances.
 - (b) All firing will be from a supported or unsupported position of the firer's choice.
 - (c) The firer will have 1 minute in which to engage 4 targets, reloading and clearing stoppages as required.
 - (d) Each firer will have a total of 24 rounds with which to engage 12 targets.
- (2) Explain the following firing procedure:
 - (a) Phase 1:

Each firer will be issued 1 clip of ammunition (7 live and 1 dummy) and 1 single round. When the command MOVE OUT is given, the firer will advance slowly. When the targets in his assigned lanes appear, he will assume a position of his choice and commence firing. He reloads as necessary and applies immediate action when required. He fires on the closest targets first since they are the most dangerous. If he does not hit a target with the first shot, he may attempt to hit it with the second shot. However, if he does not hit the target on the second try, he must engage the next target. At the end of a specified time the command MOVE OUT will be given and a close range target will appear. The firer will immediately take this target under fire regardless of the exposed longer range targets.
 - (b) Phase 2 and phase 3 are conducted in the same manner as phase 1. The firer is required to start advancing at the beginning of each phase.
 - (c) Emphasize the following points:
 1. Firers will fire only at targets in their assigned lanes. Firers in odd-numbered lanes will fire on targets

- directly to their front and in the lane to their right. Firers in even-numbered lanes will fire on the targets directly in front of them and in the lane to their left.
2. Firers on odd-numbered points fire first. The firers on even-numbered points will dry fire. When the firers on even-numbered points are firing, the firers on odd-numbered points will dry fire.
 3. If the firer does not hit a target with the first shot, he may attempt to hit it with the second shot. However, if he does not hit the target with the second shot, he must engage the next target.
 4. Firers will always fire at the closest target first. When a close target appears while the firer is engaging longer range targets, he immediately shifts his fire to the closer target.
 5. Firers will utilize available support when the targets appear.
 6. Firers will remain in last firing position until the command MOVE OUT is given.
- (d) Explain the scoring procedure. (See ANNEX I.)
1. The scorer records each hit and miss. (Any round fired after the whistle sounds is scored as a miss.)
 2. He records whether or not the firer engaged the closest target first.
 3. Two points are given for first round hits and 1 point for second round hits. A possible score for all 3 phases is 24.
- (e) Have an assistant instructor demonstrate the firing procedure by firing one phase. Have the second assistant instructor dry fire in the adjacent lane.
- (f) Explain the primary duties at each station.
1. Firing.
 - (a) To fire or dry fire as instructed.
 - (b) To observe all safety regulations.
 2. Ready line.
 - (a) To blacken sights.
 - (b) To observe firing in order to assist scorer when necessary.
 - (c) To assist with ammunition as needed.
 3. Scoring line.
 - (a) To keep an accurate record of each shot.
 - (b) To record whether or not firer engaged closest target first.
 - (c) To return completed score sheets to tower.

c. *Practical Work in Field Firing—1st Order (25 Min).*

- (1) Have each order move to its proper station as indicated on line 1 of the Rotation Schedule and perform the practical work indicated for that station.

ROTATION SCHEDULE

	Orders		
	1st	2d	3d
1-----	F	R	S
2-----	S	F	R
3-----	R	S	F

F—Firing; S—Scoring; R—Ready Line

- (2) Conduct of firing.

(a) Phase 1:

1. Have firers line up approximately 10 yards in rear of stumps.
2. Have ammunition distributed to firers on odd-numbered points (1 clip of 7 live and 1 dummy, and 1 single round).
3. Give command, LOCK, ONE ROUND, LOAD.
4. Give command, MOVE OUT.
5. Raise 175- and 300-meter targets when firers are near the stumps.
6. Forty seconds later give the command MOVE OUT and then immediately raise the 75-meter targets.
7. At end of 60 seconds (total for the phase) blow the whistle.
8. Approximately 2 seconds later lower all targets.
9. Have assistant instructors collect unexpended ammunition and distribute ammunition.

(b) Phase 2:

1. Give command, LOCK, ONE ROUND, LOAD.
2. Give command, MOVE OUT.
3. Raise 175- and 300-meter targets when firers have advanced approximately 5 meters.
4. Forty seconds later give the command MOVE OUT and then immediately raise the 75-meter targets.
5. At the end of 60 seconds (total for the phase) blow the whistle.
6. Approximately 2 seconds later lower all targets.
7. Have assistant instructors collect unexpended ammunition and issue ammunition.

(c) Phase 3:

1. Give command, LOCK, ONE ROUND, LOAD.
2. Give command, MOVE OUT.

3. Raise 175- and 300-meter targets when firers have advanced approximately 5 meters.
4. Forty seconds later give the command MOVE OUT and then immediately raise the 75-meter targets.
5. At the end of 60 seconds (total for the phase) blow the whistle.
6. Approximately 2 seconds later, lower all targets.
7. Have assistant instructors collect all unexpended ammunition.
8. Have all weapons checked for clearance.
9. Have all firers return to starting line, approximately 10 meters in rear of stumps.
- (d) Have assistant instructors issue ammunition to firers on even-numbered points and repeat procedure.
- (e) During firing have the assistant instructors check—
 1. Loading.
 2. Application of immediate action.
 3. Engagement of closest target.
- d. *Practical Work in Field Firing—2d Order (25 Min).*
 - (1) Rotate orders to stations shown on line 2 of Rotation Schedule.
 - (2) Perform practical work outlined in c, above.
- e. *Practical Work in Field Firing—3d Order (25 Min).*
 - (1) Rotate orders to stations shown on line 3 of Rotation Schedule.
 - (2) Perform practical work outlined in c, above.
- f. *Troop Movement (10 Min).* Announce best scores, clear rifles, and move troops to next area of instruction.

SECTION II

TARGET DETECTION: REVIEW OF TARGET DETECTION (2 HRS)

PURPOSE:	To review training in detecting, marking, and aiming at stationary and moving targets (part I); to review training in locating sound of firing from one or more previously selected likely hostile positions (part II).
INSTRUCTOR REFERENCES:	All previous target detection references.
INSTRUCTIONAL AIDS:	See parts I and II.
PHYSICAL FACILITIES:	See parts I and II.

PERSONNEL:	See parts I and II.
ORGANIZATION:	The third platoon is at one range for the first hour of target detection while the fourth platoon is at the other range. At the end of the first hour, the third and fourth platoons change ranges for the second hour. At the end of two hours, the first and second platoons change stations with the third and fourth platoons and repeat the above procedure.

PART I

REVIEW OF DETECTING STATIONARY AND MOVING TARGETS (1 HR)

PURPOSE:	To review training in detection, marking, and aiming at stationary and moving targets.
INSTRUCTOR	FM 21-75, FM 23-5.
REFERENCES:	
INSTRUCTIONAL AIDS:	4 Shiny helmet liners. 4 Camouflaged helmets with rubber bands. Tubes camouflage paint (1 each of 4 basic colors). 4 M1 rifles for target men. 5 Rounds cal .30 blank ammunition per presentation for each target man. 1 Master Trial Sheet. (See ANNEX II, Sample Master Trial Sheet for part I.) 1 Target Trial Sheet per target. 1 First Aid box. 1 Aiming device per point. Target Detection Range.
PHYSICAL FACILITIES:	
PERSONNEL:	1 Principal instructor. 1 Assistant instructor per 10 men. 4 Target men.

TIME BREAKDOWN

<i>Time in Minutes</i>	<i>Type of Instruction</i>	<i>Subject</i>
5	C-----	Introduction.
5	C-----	Search of Area.
5	C-----	Estimating Range.
5	C-----	Marking and Aiming.
30	PE-----	Practical Work.
10	-----	Troop Movement.

LESSON OUTLINE

Preparation

a. Setting up the Range.

- (1) Assign duties to assistant instructors.
- (2) Check range to see that all letters are in proper places.
- (3) Check camouflaged target men.
- (4) Issue equipment to target men.
- (5) Rehearse target men in their duties.
- (6) Insure that no target man or assistant instructor has any live ammunition in his possession.
- (7) Place one aiming device with four aiming bars in position at each observation point.
- (8) Equipment.
 - (a) Locate loudspeakers for operation along the observation line and down range.
 - (b) Place in position notes and other instructional equipment.

b. Troop Arrival.

- (1) Have troops ground weapons in designated areas.
- (2) Divide observers into two-man teams and assign them to observation points.

Instructional Hour

c. Introduction (5 Min).

Narrative:

Today we will review the main points of the first three target detection periods. We will cover detection, marking, and placing of simulated fire on stationary and moving targets. This is your final period of formal target detection training, so if you want any points clarified, now is the time to have it done.

d. Search of Area (5 Min).

Narrative:

OBSERVATION POSITION

When you intend to visually search an area for signs of enemy activity, you must first assume an observing position. This is done by assuming the lowest possible position that will allow you to see the entire area dangerous to you. You have an aiming device in front of you. I want you to set this at what you consider the correct observation height. (Demonstrate.) ASSISTANT INSTRUCTORS, CHECK AND COMMENT ON THEIR CHOICE OF POSITION.

METHOD OF CONDUCTING SEARCH

When searching an area, divide your time into two periods:
(1) the initial brief examination of the entire area designed to

locate obvious and dangerous targets; and (2) the more thorough systematic search which is maintained continuously.

e. *Estimating Range (5 Min).*

Narrative:

You also will be required to estimate the range to each of the targets in today's trials. By now you should be able to estimate ranges quite accurately. For example, if you constructed a range card, you would know that it is approximately 60 meters to panel D and 210 meters to panel C. I will give you the correct distance to each target after the trial has been completed.

f. *Marking Target Indications (5 Min).*

Narrative:

AIMING POINT

In today's trials you will use aiming points to mark the point of disappearance of the target. An aiming point is a visible fixed object at which you can aim to place effective fire on the target.

REFERENCE POINT

If there is only a poor aiming point available at the point of target disappearance, use the nearest good landmark as a reference point. A reference point is a landmark you can refer to for placing effective fire by a remembered "aim off" on a target a short distance away.

g. *Practical Work (30 Min).*

Narrative:

During the rest of this period, you will be given three trials involving stationary targets and five trials involving single and multiple moving targets.

During this period we will use the aiming device to mark the location of a target indication or point of disappearance of target. You will have 30 seconds during a phase to detect and mark the target. You will work in pairs, that is you will check your partner's alinement to the target. This check for correct alinement will be done each time you complete a trial, provided you detected a target. At this time each observer will point the bar on the aiming device at a visible aiming point. Now change over with your partner and see if you can recognize the point of aim.

After each trial is completed, all observers will turn away from the observation range to allow the targets to take up new positions. TRIAL NO. 1, PHASE 1, OBSERVE. (See ANNEX II, Sample Master Trial Sheet for PART I.)

(Complete 8 Trials.)

h. *Troop Movement (10 Min).* Dismiss and move out to next area of instruction.

PART II

TARGET DETECTION REVIEW IN LOCATING TARGETS BY SOUND (1HR)

PURPOSE: To review training in locating targets by sound of firing from one or more hostile positions.

INSTRUCTOR FM 23-5.

REFERENCES:

INSTRUCTIONAL AIDS: 2 M1 rifles for target men.
36 Rounds of cal .30 blank ammunition per presentation.
1 Master Trial Sheet. (See ANNEX III, Sample Master Trial Sheet for part II.)
1 Target Trial Sheet per target man.
1 Blackboard with a drawing of a range card showing likely hostile positions.
Supply of pencils, clipboards, and blank paper.

PHYSICAL FACILITIES: Target Detection Range.

PERSONNEL: 1 Principal instructor.
1 Assistant instructor per 10 men.
2 Target men.

TIME BREAKDOWN

<i>Time in Minutes</i>	<i>Type of Instruction</i>	<i>Subject</i>
2	C-----	Introduction.
13	C, D-----	Range Cards.
35	PE-----	Practical Work.
10	-----	Troop Movement.

LESSON OUTLINE

Preparation

a. Setting Up the Range.

- (1) Assign assistant instructors to their duties.
- (2) Rehearse target men in simultaneous firing.
- (3) Equipment.
 - (a) Locate loudspeakers for operation down range and along the observation line.
 - (b) Place charts, notes, and other instructional equipment in position.
 - (c) Place one clipboard with blank sheet of paper and pencil at each observation point.

b. Troop Arrival.

- (1) Have troops ground weapons in designated areas.
- (2) Assign observers to observation points.

Instructional Hour

c. Introduction (2 Min).

Narrative:

During this period we will review the target detection periods on localizing single and multiple targets by sound. If you are having any difficulty in localizing sounds, call on an assistant instructor to help you.

d. Range Cards (13 Min).

Narrative:

You have used the sound of firing to pinpoint hostile targets before. To do this effectively you must have a well-prepared range card. You can fix the location of the sound as closely as possible by picking the previously selected likely hostile area closest to the sound. Then you place fire on dangerous points in the area, endeavoring to locate the hostile firing position more closely by additional sound or other indications. Take the back of your blank piece of paper and prepare a range card containing the six most likely hostile firing positions in the area to my right between the road and panel B. (Allow 10 minutes, then bring out blackboard and prepared range card.)

Here is a range card with the approved solutions. Check your own range cards and put in the correct positions as they are pointed out on the actual terrain. We will number these positions 1-6 and will take them up in order. Remember these numbers for scoring purposes during your practical work.

e. Practical Work (35 Min). See ANNEX III.

Narrative:

Now we will practice locating occupied positions by use of single and multiple sounds. The sounds will come from one or more of the six positions listed on your range card. On your paper opposite the range card put the numbers 1-12 and a short line beside each. When you hear sounds, put the appropriate numbers (1-6) of the position(s) the sound(s) came from opposite the trial number. The first six trials will consist of single sounds; the last six will consist of double sounds occurring at approximately the same time. After you have recorded your answer, the targets will stand and reveal their positions. They will then go down and fire another round on my command. After we complete the trial all observers will turn away from the range to allow the targets to take up new positions for the next trial. Do you have any questions about localizing sounds? If not, we will have the first trial.

TRIAL NUMBER 1, READY, AIM, FIRE.

(Conduct remaining eleven trials with appropriate comments after each trial.)

f. Troop Movement (10 Min). Dismiss and move out to next area of instruction.

ANNEX I SCORESHEET

Firer's Name _____ Platoon _____ Date _____
(Last) (First)

Scorer's Name _____ Order _____ Firing Point _____
(Last) (First)

PHASE 1

Range (meters)	Hit		Miss
	First round	Second round	
75_____			
175_____			
300 left_____			
300 right_____			
Total_____			

PHASE 2

Range (meters)	Hit		Miss
	First round	Second round	
75_____			
175_____			
300 left_____			
300 right_____			
Total_____			

PHASE 3

Range (meters)	Hit		Miss
	First round	Second round	
75_____			
175_____			
300 left_____			
300 right_____			
Total_____			

Fired at 75-meter target immediately—
Phase 1—Yes _____ No _____
Phase 2—Yes _____ No _____
Phase 3—Yes _____ No _____
Total first round hits _____ x 2 _____
Total second round hits _____
Total score _____

ANNEX II

SAMPLE MASTER TRIAL SHEET, PART I

<i>Trial No.</i>	<i>Where</i>	<i>Range (meters)</i>	<i>Target Indications by Phases</i>
1	C	200	(1) Prone and slightly exposed with good aiming point; remain still. (2) Raise and lower head and shoulders slowly. (3) Raise head and shoulders slowly; drop abruptly. (4) Fire 2 blanks from exposed position.
2	E	200	(1) Squat slightly exposed with good aiming point; remain still. (2) Raise and lower head and shoulders slowly. (3) Move head and shoulders from side to side quickly. (4) Fire blank from exposed position.
3	H	300	(1) Stand exposed in tree line; remain still. (2) Disappear and appear slowly. (3) Jump to side, pause, jump back, pause; continue throughout the trial. (4) Fire two blanks from exposed position.

<i>Trial No.</i>	<i>No. Men</i>	<i>Range (meters)</i>	<i>Description of Requirements</i>
4	1	250	Start prone. Make five 2- to 4-second rushes to position with varied good and poor landmarks. 2-4-4-2-2. Reappear at point of disappearance.
5	4	200	Start position in woods. Make five 2- to 6-second rushes to new position with good landmarks. 4-6-6-2-4. Vary time between rushes.
6	3	100	Make four 5-yard crawling movements to position with good and poor landmarks. Vary time between crawling movements.
7	2	300	Make five 2- to 6-second rushes to positions with varied good and poor landmarks. 2-4-2-6-4. Vary time between rushes.
8	1	100	Make five 1- to 3-second rushes to new position. 1-1-2-1-3. Roll or crawl to new position after disappearing.

Note. Target trial sheets should be prepared for target men from a trial sheet similar to the above sample trial sheet containing only the trials and target indications performed by a specific target.

ANNEX III

SAMPLE MASTER TRIAL SHEET, PART II

<i>Trial No.</i>	<i>Sound Positions</i>	<i>Trial No.</i>	<i>Sound Positions</i>
1.....	5	7.....	1-5
2.....	1	8.....	3-2
3.....	3	9.....	6-3
4.....	4	10.....	2-1
5.....	6	11.....	4-6
6.....	2	12.....	5-4

Note. Target trial sheets should be prepared for target men from a Sample Master Trial Sheet similar to the one above.

PERIOD SEVENTEEN

RECORD COURSE; RECORD FIRING I

HOURS:	71-74 (Plus 4 hours ATP nonmarksmanship—total 8 hours. See ORGANIZATION, below.)
PURPOSE:	To test the soldier's ability to detect and hit single combat-type targets in their natural surroundings at unknown ranges and detect and estimate ranges to single, stationary battlefield targets.
INSTRUCTOR REFERENCES:	All previous references.
INSTRUCTIONAL AIDS:	See sections I and II.
INDIVIDUAL EQUIPMENT:	M1 rifle. Combination tool. Steel helmet. Combat pack.
PHYSICAL FACILITIES:	Record Firing Range. 1 Target Detection Range. <i>Note.</i> This lesson plan is based on a 12-lane Record Firing Range since experience factors have been gained from units using this size range.
PERSONNEL:	See sections I and II.
SAFETY FACTORS:	Refer to local range regulations and AR 385-63.
ORGANIZATION:	The following organization is based on a 12-lane course. As a guide, 24 men can fire in one hour. This is equivalent to 192 per day. Company is organized into 16 orders, or two separate groups of 8 orders per group. One group of 8 orders reports to Record Firing for four hours, while the second group is training in an ATP subject. At the beginning of the last four hours the groups change. The 8 orders on record firing may follow this guide:

ROTATION SCHEDULE

Hour	Record Firing	Orientation and Ready Areas	Target Detection Test No. 1	Retired Area
1-----	1-2	3-4-5-6	7-8	-----
2-----	3-4	5-6-7-8	1-2	-----
3-----	5-6	7-8	3-4	1-2
4-----	7-8	-----	5-6	1-2-3-4

(Based on two orders on record firing and two orders on Target Detection Test No. 1 per one hour.)

Note. To equalize the effect of firing under different light conditions, the group which fires for record in the morning of the first day should complete record firing in the afternoon of the second day.

SECTION I

RECORD FIRING I

(Conducted concurrently with Section II, Target Detection Test No. 1.)

HOURS:	4.
PURPOSE:	To test the soldier's ability to detect and hit single combat-type targets in their natural surroundings at unknown ranges.
INSTRUCTIONAL AIDS:	56 Rounds live ammunition per soldier. 12 Clipboards with covers. 14 Pair binoculars (scorers and tower). 2 Whistles. 2 Stopwatches. Carbide lamps (for ready area). 1 Scoresheet per soldier. See ANNEX I. Spare target devices. Spare silhouettes (E & F). Cleaning rods, patches, oil and rifle grease (for ready and retired areas). Pencils (scorers). Blackboard w/chalk (for orientation area). Radios (AN/PRC-6) if needed. First Aid box.
PHYSICAL FACILITIES:	Record Firing Range. (1) Orientation area. (2) Ready area. (3) Retired area.

- PERSONNEL:
- 1 Range officer (principal instructor).
 - 1 Tower control officer.
 - 3 Safety officers or NCO's.
 - 1 NCO for troop movement supervision.
 - 1 NCO for ready area.
 - 1 NCO for orientation area.
 - 1 NCO for retired area.
 - 12 Scorers.
 - 1 Target control operator.
 - 2 Target repairmen.
 - 2 Ammunition NCO's.
 - 1 Armorer.

Note. For duties of range personnel see ANNEX II. For training of range personnel see ANNEX III.

LESSON OUTLINE

a. Organization and Company Orientation.

- (1) Check all rifles to make sure that they are clear and that there are no obstructions in the bores.
- (2) Explain that the soldiers will be tested on their ability to both detect and hit combat-type targets and to detect stationary battlefield targets.
- (3) Explain that scores will become a permanent part of each soldier's record. Scores from both Record Firing I and Record Firing II will be added together for their qualification score. (State qualification scores for expert, sharpshooter, and marksman.)
- (4) Move orders to their proper stations using as a guide the rotation schedule in the "organization" section. (The first two orders should initially receive the orientation prior to firing. Thereafter, at least one order should be in the orientation area at all times, ready to fire the course.)

b. Ready Area.

- (1) Have an assistant instructor or noncommissioned officer see that soldiers check—
 - (a) Rifles for smooth operation, applying rifle grease where necessary.
 - (b) Gas cylinder lock screws for tightness.
 - (c) Sight settings for correct zero.
 - (d) Sight for proper blackening.
- (2) Move the next order from the ready area to the orientation area when an order in the orientation area moves to the firing line.

c. *Orientation Area.* Prior to firing—

- (1) Explain the general nature of record firing.
 - (a) Inform the soldiers that record firing requires an application of all the shooting skills he has learned, together with his knowledge of target detection.
 - (b) Point out that the same pop-up type targets are used in this record firing as were used in field firing. But explain that these targets will appear in tall grass among trees and bushes.
 - (c) Explain that each soldier fires the course twice for record and that the scores will be totalled for his qualification. Give qualification scores.
- (2) Assign each soldier his firing point.
- (3) Explain the firing procedures.
 - (a) Using a blackboard drawing or chart, describe the general nature of the range. This drawing should show *only* the number of firing lanes, location of foxholes, location of control tower, and the location and nature of the lane markers. It should not reveal anything about target locations or the nature of the terrain or vegetation.
 1. Show the location of each firing point in relation to the tower.
 2. Describe the nature of the lane markers and emphasize that each firer will fire only at targets appearing in his own lane (between his numbers).
 - (b) Each soldier fires a total of 56 rounds. He fires the first 32 rounds from the foxhole position and then 24 from unsupported positions of his own choice as he advances down range.
 - (c) Using the drawing of the range, explain the lane rotation procedure.
 1. Each soldier fires one clip of 8 rounds from the foxhole on the firing point to which he is assigned. He then rotates on command to the next higher numbered foxhole (lane 4 rotates to lane 1, lane 8 to lane 5, and lane 12 to lane 9) for his second clip. He continues in this manner until he has fired 4 clips from the foxhole position.
 2. Following the last clip of foxhole firing, the firer on command returns to his original lane and moves down range to the 50-meter line for firing in an unsupported firing position at targets which appear while he is advancing. He rotates over 3 lanes in the manner prescribed in 1 above.
 3. Firers carry their scoresheets on clipboards as they

rotate from point to point. They do not look at this scoresheet at any time.

4. Firers walk rapidly as they rotate but do not run.

(d) Explain foxhole firing in detail.

1. Each time a firer moves to a different foxhole he is given an opportunity to adjust the depth of the foxhole to suit his height. He moves sandbags in or out of the hole and adjusts the sandbags on the parapet to provide good support. The firer insures that he has a stable position from which to fire.
2. The assistant instructors who are scoring the lanes point out the limits of each firing lane and give instructions regarding firing regulations. They do *not* give assistance or advice at any time. Each firer is on his own.
3. Firers load by the clip on command only. The command is LOCK, ONE CLIP, LOAD.
4. After loading the command is FIRERS WATCH YOUR LANES. At this time firers unlock their weapons and engage targets as they appear without further command until the command CEASE FIRE is given.
5. Firers do *not* lock between rounds.
6. Firers fire only one round per target.
7. On the command, CLEAR ALL WEAPONS, each firer locks and clears his weapon and returns all unexpended ammunition to the scorer.
8. Alibi firing is limited to target malfunctions and weapon malfunctions which could not have been avoided by proper care and cleaning.

(e) Explain the unsupported firing in detail.

1. After moving down range to the 50-meter line and receiving the command to lock and load, the firer is given the command MOVE OUT. At this time he unlocks his weapon and starts walking forward slowly.
2. When a target appears in his lane the firer stops immediately, assumes any firing position, and engages the target. He can move from side to side in his lane to see and sight on his target but moves forward only on command. He fires only one round per target and does not move forward again until the command, MOVE OUT, is given.
3. If another target appears before the next command to move out, the firer immediately engages it. He can change his firing position if he wishes as long as he does not move forward.

4. On the command, MOVE OUT, the firer rises and walks forward slowly until a target appears. He engages the target as described above.
 5. On the command, CLEAR ALL WEAPONS, the firer locks and clears his rifle and returns all unused ammunition to the scorer.
 6. When each firer finishes firing, the scorer gives him his scoresheet to take to the tower. The firer *will not* look at his scoresheet.
 7. Scorers clear all weapons under the supervision of the safety officers.
- (4) Review safety regulations.
 - (a) Loading is done only on command from the tower.
 - (b) All weapons are pointed upward and down range at *all* times.
 - (c) There is no running on the range at any time.
 - (d) During unsupported firing, soldiers move forward on command only and always stop before firing.
 - (5) Move the next order to the firing line as soon as the previous order has completed firing.
- d. *Conduct of Record Firing.*
- (1) If prearranged firing assignments are being used, check to see that each firer is on the correct firing point as the orders come to the firing line.
 - (2) Have firers adjust the depth of their foxholes and parapet supports by moving the sandbags. Allow at least one minute for this operation.
 - (3) Have scorers obtain seven clips of ammunition.
 - (4) Have firers place all ammunition in cartridge belts.
 - (5) Conduct firing.
 - (a) Foxhole firing.
 1. Command, FIRERS WATCH YOUR LANES.
 2. Raise targets as specified in the Firing Table. At the end of the specified time, blow whistle.
 3. Approximately 2 seconds later, lower the targets.
 4. Raise the next target immediately and repeat the above procedure.
 5. At end of each clip, command, CEASE FIRE. Then fire any alibis that result from unavoidable rifle or target malfunctions.
 6. During the refiring have all soldiers not firing face away from the range. During target repairs have all firers face away from the range.
 7. Have scorers check the clearance of all weapons and signal the clearance to the tower and safety officers prior to rotating firers.

8. Each time firers rotate allow at least one minute for proper foxhole adjustment.
- (b) Unsupported firing.
1. Command, MOVE OUT at points specified in the Firing Table.
 2. Allow firers to move forward 3-6 meters before raising targets.
 3. Raise targets as specified in Firing Table. At end of the specified time, blow whistle.
 4. Approximately 2 seconds later, lower the targets.
 5. Raise the next target or have the firers move out, whichever is specified, and repeat above procedure.

FIRING TABLE

Clip 1

Foxhole Position

FIRERS ADJUST FOXHOLES

LOCK, ONE CLIP, LOAD

FIRERS WATCH YOUR LANES

<i>Round</i>	<i>Range (meters)</i>	<i>Time (seconds)</i>	<i>Round</i>	<i>Range (meters)</i>	<i>Time (seconds)</i>
1.....	250	10	5.....	50	5
2.....	300	10	6.....	350	10
3.....	200	5	7.....	100	5
4.....	150	5	8.....	200	5

CLEAR ALL WEAPONS

ROTATE

Clip 2

Foxhole Position

FIRERS ADJUST FOXHOLES

LOCK, ONE CLIP, LOAD

FIRERS WATCH YOUR LANES

<i>Round</i>	<i>Range (meters)</i>	<i>Time (seconds)</i>
1.....	100	5
2.....	250	10
3.....	300	10
4.....	150	5
5.....	50	5
6.....	350	10
7.....	100	5
8.....	200	5

CLEAR ALL WEAPONS

ROTATE

Clip 3

Foxhole Position

FIRERS ADJUST FOXHOLES

LOCK, ONE CLIP, LOAD

FIRERS WATCH YOUR LANES

<i>Round</i>	<i>Range (meters)</i>	<i>Time (seconds)</i>
1-----	250	10
2-----	150	5
3-----	100	5
4-----	200	5
5-----	250	10
6-----	300	10
7-----	350	10
8-----	200	5

CLEAR ALL WEAPONS

ROTATE

Clip 4

Foxhole Position

FIRERS ADJUST FOXHOLES

LOCK, ONE CLIP, LOAD

FIRERS WATCH YOUR LANES

<i>Round</i>	<i>Range (meters)</i>	<i>Time (seconds)</i>
1-----	50	5
2-----	200	5
3-----	100	5
4-----	200	5
5-----	150	5
6-----	250	10
7-----	300	10
8-----	150	5

CLEAR ALL WEAPONS

ROTATE

MOVE DOWN RANGE

Clip 5

Unsupported Firing

LOCK, ONE CLIP, LOAD

<i>Round</i>	<i>Range (meters)</i>	<i>Time (seconds)</i>
Move Out		
1-----	150	5
2-----	350	10
Move Out		
3-----	100	5
Move Out		
4-----	200	5
5-----	300	10
6-----	200	5
Move Out		
7-----	250	10
Move Out		
8-----	150	5

CLEAR ALL WEAPONS

ROTATE

Clip 6

Unsupported Firing

LOCK, ONE CLIP, LOAD

<i>Round</i>	<i>Range (meters)</i>	<i>Time (seconds)</i>
Move Out		
1-----	250	10
Move Out		
2-----	300	10
3-----	150	5
4-----	250	10
Move Out		
5-----	100	5
Move Out		
6-----	200	5
7-----	300	10
Move Out		
8-----	250	10

CLEAR ALL WEAPONS

ROTATE

Clip 7

Unsupported Firing

LOCK, ONE CLIP, LOAD

<i>Round</i>	<i>Range (meters)</i>	<i>Time (seconds)</i>
Move Out		
1-----	200	5
Move Out		
2-----	300	10
Move Out		
3-----	150	5
4-----	350	10
Move Out		
5-----	300	10
6-----	200	5
7-----	250	10
Move Out		
8-----	150	5

CLEAR ALL WEAPONS

- (6) As soon as an order completes firing, have soldiers report to tower with scoresheets.
 - (a) Collect all scoresheets.
 - (b) Check clearance of all weapons.
- (7) Move orders to target detection ready area.

SECTION II

TARGET DETECTION TEST NO. 1

(Conducted concurrently with Record Firing I, section I.)

PURPOSE:	To test the soldier's ability to detect and estimate range to single, stationary battlefield targets.
INSTRUCTIONAL AIDS:	3 Shiny helmet liners. 3 Camouflaged helmet liners with rubber bands. Tubes camouflage paint (1 each 4 basic colors). 17 Rounds caliber .30 blank ammunition per presentation for target men.

- 1 Master Trial Sheet (see ANNEX IV, Sample Master Trial Sheet).
- 1 Target Detection I Answer Sheet (see ANNEX V).
- 3 Target trial sheets for target men.
- 1 Stopwatch.
- 1 First Aid box.
- Supply of: Answer sheets.
- Clipboards.
- Pencils.

PHYSICAL
FACILITIES:
PERSONNEL:

- 1 Target Detection Range.
- 1 Principal instructor.
- 3 Assistant instructors.
- 3 Target men.

ORGANIZATION: The Target Detection Test No. 1 may be conducted for two orders at the same time in accordance with the guide shown in the ORGANIZATION section of Period Seventeen.

TIME BREAKDOWN

<i>Time in minutes</i>	<i>Type of Instruction</i>	<i>Subject</i>
10	C-----	Introduction.
35	PE-----	Detection Test.
10	-----	Troop Movement.

LESSON OUTLINE

Preparation

a. Setting Up the Range.

- (1) Assign assistant instructors to assist in the conduct of the Target Detection Test.
- (2) Check range to see that all lettered landmarks are up in proper places.
- (3) Camouflage target men.
- (4) Issue equipment to target men.
- (5) Equipment.
 - (a) Locate loudspeakers along observation line and down range.
 - (b) Place in position charts, notes, clipboards, pencils, answer sheets, and other instructional equipment.
- (6) Have target men assume positions for each trial and have them perform trial indications quickly. Insure that each target man is familiar with the trial procedure and has clearly written instructions in his possession.

b. Troop Arrival.

- (1) Have troops ground weapons in designated area.
- (2) Assign observers to observation points.

c. Target Detection Test.

- (1) *Introduction (10 Min).*

Narrative:

Today we are going to test your proficiency in detecting human targets. These targets may be motionless or moving, hidden or exposed, well or poorly camouflaged. At this time take your clipboards and place your name, platoon, squad, and date in the blanks.

You will be given 12 trials in today's exercise. Each trial will consist of four phases. Each phase within a trial is progressively easier than the preceding one. A straight line from the middle of the observation line through panels D and E splits the range into right and left sectors. Before a trial begins, I will indicate the general sector in which the target is located (left or right). Each trial will begin with the words, TRIAL NO. 1, PHASE NO. 1, OBSERVE. When you hear this, look to your immediate front and attempt to locate a target somewhere in the observation sector. You will be given 30 seconds in which to do this. If you see the target during this phase, step back three paces and remain there during the rest of the trial. Once you have seen the target, you need not observe any longer since the target will appear in the same position for all four phases of the trial.

Do not record your answer until you hear the words, RECORD, PHASE NO. 1. Then, if you saw the target during that phase, put a check mark under the appropriate trial and phase number. Under the column headed "Where," put in the letter (A, B, C, etc.) nearest the target. Under the column headed "Range," put in the distance within 25 meters from your position to the target. However, if you are not positively sure that you saw the target, check your observation during the next phase. If what you saw was a target, you will see some definite movement during the succeeding phases. If you did not see the target, put in an X under the appropriate phase trial number. Do the same for all phases. After Phase No. 4 you will be told to turn around. At this time you will face away from the range to allow the target men to take up a new position.

The detection range is to your immediate front. Let me point out all the landmarks so that there will be no confusion on these points (point out the landmarks and check to see if everybody sees them; emphasize the right and left limits of

the observation field). You will use these landmarks to locate the position of the target. Always use the landmark nearest the target for location purposes. For instance, if you see a target near the letter B, B will indicate the proper location. If the target is between A and B, either letter will be correct.

Are there any questions? If not, turn around and we will get ready for Trial No. 1. **TARGETS, TAKE UP YOUR POSITIONS.** We will go through the first few phases of Trial No. 1 slowly. The assistant instructors will check your recordings and will answer any questions you might have on the procedure.

(2) *Detection Test (35 Min).* (See ANNEX IV, Sample Master Trial Sheet.)

(a) You will be observing in the left sector for Trial No. 1.
TRIAL NO. 1, PHASE NO. 1, OBSERVE.

(b) (Conduct remaining trials.)

d. *Troop Movement (10 Min).*

Move orders to next area in accordance with rotation schedule in the ORGANIZATION Section.

ANNEX I

RECORD FIRING SCORESHEET

Firer's Name _____ Serial No. _____ Company _____
(Last) (First)

Order No. _____ Weather: Record I _____ Time: (AM PM) Cross Out One

Record II _____ Time: (AM PM) Cross Out One

RECORD I

Supported Foxhole Firing

	Round	Range (meters)	Hit	Miss	No Fire
Firing point	1-----	250			
	2-----	300			
	3-----	200			
Clip 1	4-----	150			
	5-----	50			
	6-----	350			
	7-----	100			
	8-----	200			

RECORD II

Supported Foxhole Firing

	Round	Range (meters)	Hit	Miss	No Fire
Firing point	1-----	250			
	2-----	300			
	3-----	200			
Clip 1	4-----	150			
	5-----	50			
	6-----	350			
	7-----	100			
	8-----	200			

ANNEX I, RECORD FIRING SCORESHEET—Continued

RECORD I

Supported Foxhole Firing

	Round	Range (meters)	Hit	Miss	No Fire
Firing point	1-----	100			
	2-----	250			
	3-----	300			
Clip 2	4-----	150			
	5-----	50			
	6-----	350			
	7-----	100			
	8-----	200			

Firing point	1-----	250			
	2-----	150			
	3-----	100			
Clip 3	4-----	200			
	5-----	250			
	6-----	300			
	7-----	350			
	8-----	200			

Firing point	1-----	50			
	2-----	200			
	3-----	100			
Clip 4	4-----	200			
	5-----	150			
	6-----	250			
	7-----	300			
	8-----	150			

Record I

Totals-----

Hit	Miss	No Fire

RECORD II

Supported Foxhole Firing

	Round	Range (meters)	Hit	Miss	No Fire
Firing point	1-----	100			
	2-----	250			
	3-----	300			
Clip 2	4-----	150			
	5-----	50			
	6-----	350			
	7-----	100			
	8-----	200			

Firing point	1-----	250			
	2-----	150			
	3-----	100			
Clip 3	4-----	200			
	5-----	250			
	6-----	300			
	7-----	350			
	8-----	200			

Firing point	1-----	50			
	2-----	200			
	3-----	100			
Clip 4	4-----	200			
	5-----	150			
	6-----	250			
	7-----	300			
	8-----	150			

Record II

Totals-----

Hit	Miss	No Fire

ANNEX I, RECORD FIRING SCORESHEET—Continued

RECORD I

Unsupported Firing

Firing point Clip 5	Round	Range (meters)	Hit	Miss	No Fire
	MO 1---	150			
	2---	350			
	MO 3---	100			
	MO 4---	200			
	5---	300			
	6---	200			
	MO 7---	250			
	MO 8---	150			

RECORD II

Unsupported Firing

Firing point Clip 5	Round	Range (meters)	Hit	Miss	No Fire
	MO 1---	150			
	2---	350			
	MO 3---	100			
	MO 4---	200			
	5---	300			
	6---	200			
	MO 7---	250			
	MO 8---	150			

Firing point Clip 6	MO 1---	250			
	MO 2---	300			
	3---	150			
	4---	250			
	MO 5---	100			
	MO 6---	200			
	7---	300			
	MO 8---	250			

Firing point Clip 6	MO 1---	250			
	MO 2---	300			
	3---	150			
	4---	250			
	MO 5---	100			
	MO 6---	200			
	7---	300			
	MO 8---	250			

ANNEX I, RECORD FIRING SCORESHEET—Continued

RECORD I

Unsupported Firing

Firing point Clip 7	Round	Range (meters)	Hit	Miss	No Fire
	MO 1---	200			
	MO 2---	300			
	MO 3---	150			
	4---	350			
	MO 5---	300			
	6---	200			
	7---	250			
	MO 8---	150			

RECORD II

Unsupported Firing

Firing point Clip 7	Round	Range (meters)	Hit	Miss	No Fire
	MO 1---	200			
	MO 2---	300			
	MO 3---	150			
	4---	350			
	MO 5---	300			
	6---	200			
	7---	250			
	MO 8---	150			

Record I

Hit	Miss	No Fire

Totals-----

Record II

Hit	Miss	No Fire

Totals-----

Grand total hits record I and II

Scorer's signature_____

Officer's signature_____

Qualification EX
SS
MK
UQ

ANNEX II

DUTIES OF RANGE PERSONNEL

a. Range Officer.

- (1) Duties.
 - (a) Supervising record firing.
 - (b) Supervising movement of troops to record ranges.
 - (c) Orienting troops on arrival.
- (2) Equipment.
 - (a) Lesson plan.
 - (b) Roster of firing assignments.

b. Tower Control Officer.

- (1) Duties.
 - (a) Conducting record firing.
 - (b) Supervising preparation of range.
 - (c) Supervising range maintenance during firing.
 - (d) Assigning range personnel and instructing them on their duties.
 - (e) Training scores.
 - (f) Supervising assignment of firers to proper points.
- (2) Equipment.
 - (a) Roster of firing assignments.
 - (b) Lesson plan.
 - (c) Clipboard.
 - (d) Binoculars.
 - (e) Radio (for communication with target repairmen when they are down range).

c. Safety Officers or Noncommissioned Officers. (Each safety officer is assigned to 4 lanes of the firing range.)

- (1) Duties.
 - (a) Insuring compliance with all safety regulations during firing.
 - (b) Relaying "ready" and "clearance" signals from scorers to tower.
 - (c) Supervising the scorers.
 - (d) Assisting tower control officer in preparation of range and training of range personnel.
 - (e) Collecting scoresheets from each point after order completes firing.
- (2) Equipment.

None.

d. Troop Movement Supervisor.

- (1) Duties.
 - (a) Directing movement of troops to and from the record firing, target detection, orientation, ready, and retired areas according to the schedule shown in the lesson plan.

- (b) Directing movement of orders to and from the mess area.
 - (c) Insuring that orders do not observe the record firing range, except when firing for record.
 - (d) Supervising noncommissioned officers in charge of ready, orientation, and retired areas.
- (2) Equipment.
Lesson plan.
- e. *Orientation Area Supervisor.*
 - (1) Duties.
 - (a) Assigning firers to individual firing points as specified in prearranged schedule.
 - (b) Giving firing orientation specified in lesson plan.
 - (c) Insuring that briefing of each order is completed prior to its scheduled firing time.
 - (d) Moving each order to the firing line as soon as previous order has completed firing.
 - (2) Equipment.
 - (a) Roster of firing assignments.
 - (b) Lesson plan.
 - (c) Pop-up target.
 - (d) Blackboard drawing of general nature of range.
 - (e) Pointer.
 - (f) Charts on sequence of firing (optional).
- f. *Ready Area Supervisor.*
 - (1) Duties.
 - (a) Supervising to see that firers check for—
 - 1. Smooth operation of their weapons.
 - 2. Tightness of the gas cylinder lock screws.
 - 3. Correct zero on sight settings.
 - 4. Sufficient rifle grease.
 - 5. Proper blackening on sights.
 - (b) Moving proper firing order to orientation area as soon as preceding order has moved to firing line.
 - (2) Equipment.
 - (a) Rifle grease.
 - (b) Sight blackening equipment.
- g. *Retired Area Supervisor.*
 - (1) Duties.
Moving orders to Target Detection Range A or B at proper time as shown in lesson plan.
 - (2) Equipment.
None.
- h. *Scorers.*
 - (1) Duties.
 - (a) Recording accurately a hit, miss, or no-fire for each target.

- (b) Completing all information required on scoresheet.
- (c) Insuring that firer observes all safety regulations.
- (d) Immediately reporting to the tower any target malfunction.
- (e) Issuing ammunition to firer on command from tower.
- (f) Giving soldier information on lane boundaries but avoiding giving any information on target locations or order of appearance.
- (g) Insuring that firer does not look at the scoresheet at any time.
- (2) Equipment.
 - (a) Clipboard.
 - (b) Pencils.
 - (c) Binoculars.
- i. *Target Control Operator.*
 - (1) Duties.
 - (a) Operating target control switchboard under supervision of tower control officer and according to Firing Table.
 - (b) Regulating length of exposure of each target according to Firing Table.
 - (c) Operating whistle or horn as specified to signal end of firing period on each target.
 - (2) Equipment.
 - (a) Two stopwatches.
 - (b) Two whistles.
 - (c) Firing Table.
- j. *Target Repairmen.*
 - (1) Duties.
 - (a) Insuring that targets are in proper working order prior to arrival of troops.
 - (b) Making necessary repairs on target devices and replacing silhouettes as directed by tower control officer.
 - (2) Equipment.
 - (a) Supply of extra target devices.
 - (b) Supply of extra silhouettes.
 - (c) Target maintenance kit.
 - (d) Radios for communication with tower when down range, if needed.
- k. *Ammunition NCO's.*
 - (1) Duties.
 - Distributing ammunition as directed by tower control officer.
 - (2) Equipment.
 - Ammunition carrier.

l. Armorer.

(1) Duties.

- (a) Making any necessary repairs on firers' rifles.
- (b) Assisting ready area supervisor in supervision of soldiers preparing rifles for firing.

(2) Equipment.

Small arms repair kit.

ANNEX III

TRAINING OF RANGE PERSONNEL

a. Responsibility. The training of all range personnel is the responsibility of the range officer. He insures that all range personnel are thoroughly familiar with their duties and that they have the proper equipment available.

b. Time Requirements. One day's training, if thorough and efficient, is sufficient to train range personnel.

- (1) The morning can be spent in familiarizing personnel with the range, making assignments, and giving instructions in their duties. Give special attention to the training of scorers since the validity of the record scores depends upon their performance.
- (2) The afternoon can be devoted to dry firing and live firing exercises. In this training exercise the entire record firing procedure, including "miniature" troop movements, is conducted. This insures smooth functioning of the subsequent record firing and target detection tests.

c. Training of Scorers.

(1) General.

- (a) The accuracy of the record firing scores depends directly on the performance of the scorers. Give special attention to their training.
- (b) It is highly desirable to have two teams of scorers—one team for the morning and the other for the afternoon. This will reduce fatigue and insure accurate and reliable scoring.

(2) Specific training.

(a) Safety regulations.

- 1. Review safety regulations.
- 2. Emphasize the following:
 - (a) Scorer checks clearance after each clip is fired.
 - (b) Rifles are pointed upward and down range at all times.
 - (c) Bolts on cleared rifles are left open at all times.
 - (d) No running on range.

- (e) Loading on command and only with weapon locked until the commands, **FIRERS WATCH YOUR LANE** or **MOVE OUT** are given.
 - (f) On down range firing, the firer moves forward only on the command, **MOVE OUT**.
3. Explain that each scorer is responsible for observation of safety regulations by firer in his lane.
 4. During down range firing each scorer insures that his firer is not more than five yards ahead or behind the firers in the adjacent lanes.
- (b) Firing procedure.
1. As firer reports to point, scorer enters his name on scoresheet or checks his name against the sheet if previously prepared scoresheets are being used. The scorer refrains from unnecessary conversation with the firer.
 2. The firer is given sufficient time to adjust the fox-hole for depth and for parapet support. The scorer insures that firer performs this operation.
 3. On command, the scorer issues seven clips of ammunition. The firer places them in his cartridge belt.
 4. The next command is **LOCK, ONE CLIP, LOAD**. As soon as the firer has locked and loaded, the scorer gives a ready signal to his safety officer. (There will be a safety officer or NCO for 4 lanes of the range.)
 5. When the firing line is ready the tower commands, **FIRERS WATCH YOUR LANE**. The targets then appear and the firer unlocks and commences firing.
 6. At the end of the clip, the command, **CEASE FIRE**, is given. The scorer checks to see that his firer locks his weapon immediately on the command, **CEASE FIRE**.
 7. The next command is **CLEAR ALL WEAPONS**. The firer unloads all unexpended rounds and returns them to the scorer, who then checks the clearance of the weapon.
 8. On the command, **ROTATE**, the scorer gives the firer the clipboard containing his scoresheet. The firer then rotates to the next point. Scorers *do not* change lanes.
 9. After the firers have rotated, each scorer insures that his firer adjusts the foxhole in the time allotted.
 10. Each firer fires a total of four clips from the foxholes.

11. Unsupported firing or down range firing has the following additional features:

- (a) Firers move forward only on the command, MOVE OUT
- (b) The firer assumes any position he desires and can also change his position between rounds. (The scorer does not correct his position or make any suggestions.)
- (c) The firer is not required to be exactly on line with firers in adjacent lanes, but the scorer should not allow his firer to get more than five yards ahead or behind adjacent firers.
- (d) Firers return to the 50-meter line before rotating.
- (e) Each firer fires a total of three clips from the down range unsupported positions.

(c) Scoring procedure.

- 1. Emphasize that the value of this record course depends squarely on the accuracy with which the scorer does his job.
- 2. Explain the use of the scoresheet.

Narrative:

You will see at the top of the scoresheet spaces for entering identifying information about the firer, his rank, serial number, company, platoon, time, date, and weather. If you have any question about what to enter in any of these, ask your safety control officer or NCO. If the name of the firer has been previously entered, check to make sure you have the correct firer.

Notice that the scoresheet is divided into "clips" of firing. Each man fires one clip at your firing point before rotating to the next point. Beside each clip is a space for you to enter the number of your firing point.

You will see that there is a column labeled "Round." These numbers refer to the eight rounds of each clip. The next column, "Range," indicates the range at which each target will appear. This tells you where the target will come up so that you can see it quickly and be ready to score when the firer fires at it.

The next three columns are labeled, "Hit, Miss, and No Fire." Check *one and only one* box for each target. If your firer fails to fire because he did not see the target, was too slow, or through his fault had difficulty with his weapon, check the "No Fire" column. *If he fires after the whistle, score it as a "No Fire."*

You will have to be particularly alert to observe late firing. The targets will not be exposed very long—those from 50 to 200 meters, only 5 seconds; those from 250 to 350, 10 seconds. When the whistle blows it means that the targets are being lowered from the tower. It tells you that the tower, not the firer, dropped the target. Therefore, any round fired as the whistle sounds, or later, must be scored as a “No Fire” because there is no way for you to know whether it was a hit. It is the same as if he didn’t fire at all. This may happen many times during the firing, so you must keep alert. Do not give credit for late rounds. The firer’s task is to detect and hit the target in a certain amount of time.

If a target fails to appear at the proper time or if the firer’s rifle has an unavoidable malfunction, make a note of this beside the round number (a T for target or A for alibi will do). At the end of the clip the tower will call for alibis and allow your firer to complete his firing on that target. The tower will ask you for the number of the round. *Do not call out the range of the target, only the round number.* If you call out the range, the firer has an unfair advantage because he knows exactly where to look for the target. When any firer, besides the one in your lane, is firing an alibi, be sure that your firer faces away from the range.

At the top of the scoresheet are the words, “Supported Foxhole Firing.” These are the first four clips. On the back of the scoresheet just above the fifth clip are the words, “Unsupported Firing.” These are the clips that are fired down range. In this section of the scoresheet, you will see the letters MO in front of some of the round numbers. MO is MOVE OUT, meaning that the firer will move forward before he fires these rounds.

Scoresheets will be issued to you as each new order comes to the line. Place the scoresheet on your clipboard. As your firer rotates to the next point, give him the clipboard with the scoresheet to carry with him. The cover is to prevent him from looking at his scoresheet. *You do not rotate;* you score the same lane all the time. The safety officer of your lanes will collect the scoresheet from you.

Notice that the scoresheets have two columns of firing blocks—one for Record Firing I, the other

Record Firing II. Insure that you do not score across your sheet. Score down to the following blocks. In Record Firing II, check the firing points of the firer's Record Firing I to make sure he does not fire over the same four lanes. (Orientation area has responsibility for proper organization.) At the bottom of the last page of the scoresheet, total the Record I and Record II scores and place the grand total in the appropriate blank. Sign the scoresheet.

- (d) Observation of targets.
 1. Each scorer is trained to score one specific lane.
 2. Each scorer is given repeated practice in observing the targets in his assigned lane so that he is certain of their locations.
 3. During early observation the scorer can use binoculars until he is sure of the target locations.
- (3) Practical work.
 - (a) As a final check on the training of the scorers, the record firing is administered to each team of scorers as the other team scores.
 - (b) These practice runs resemble the actual record firing as closely as possible.
 1. Scoring is done exactly as it is to be done during record firing.
 2. "Miniature" troop movements are used, if possible.

ANNEX IV

SAMPLE MASTER TRIAL SHEET, TARGET DETECTION TEST NO. 1

<i>Trial No.</i>	<i>Where</i>	<i>Range (meters)</i>	<i>Target Indications by Phases</i>
1	B	20	(1) Be slightly exposed at start of trial; remain still. (2) Raise and lower head and shoulders slowly. (3) Move head and shoulders from side to side slowly. (4) Fire 1 blank.
2	G	67	(1) Be slightly exposed in prone position at start of trial, remain still. (2) Raise and lower head and shoulders slowly. (3) Do same with shiny helmet liner. (4) Fire 1 blank.
3	A	149	(1) Be exposed, crouching and motionless. (2) Raise up slowly and go down slowly. (3) Step to side slowly, remain still, then step back (each 5 seconds). (4) Fire 2 blanks (standing position).
4	G	135	(1) Be slightly exposed (kneeling) at start of trial, remain still. (2) Raise head and shoulders slowly, drop quickly. (3) Rustle bush every 5 seconds. (4) Fire 1 blank.

ANNEX IV, SAMPLE MASTER TRIAL SHEET, TARGET
DETECTION TEST NO. 1—Continued

<i>Trial No.</i>	<i>Where</i>	<i>Range (meters)</i>	<i>Target Indications by Phases</i>
5	H, F	150	(1) Be exposed in kneeling position, motionless. (2) Drop head abruptly, raise slowly every 5 seconds. (3) Do same with shiny helmet liner. (4) Fire 2 blanks (kneeling position).
6	E	33	(1) Be slightly exposed (in prone position) at start of trial, remain still. (2) Raise and lower head and shoulders slowly. (3) Move head and shoulders slowly from side to side. (4) Fire 1 blank.
7	I	160	(1) Be partially exposed at start of trial; remain motionless. (2) Move out and back from chimney slowly. (3) Move out and back fast (each 5 seconds). (4) Fire 2 blanks (side of chimney).
8	A	110	(1) Be exposed in standing position at start of trial; remain motionless. (2) Walk forward slowly, 1 yard each 10 seconds. (3) Up and down fast, each 5 seconds. (4) Fire 2 blanks (standing).
9	E	42	(1) Be slightly exposed (prone) at start of trial. (2) Move head and shoulders from side to side slowly. (3) Raise head slowly, then drop abruptly. (4) Fire 1 blank.
10	C	200	(1) Be exposed in standing position at start of trial, remain motionless. (2) Drop quickly, raise head slowly (each 5 seconds). (3) Step to side (each 5 seconds). (4) Fire 2 blanks (standing).
11	H	150	(1) Be exposed in kneeling position; remain motionless. (2) Move forward 1 meter (each 5 seconds) very slowly. (3) Move to side and back every 5 seconds. (4) Fire 1 blank (kneeling).
12	E	24	(1) Be slightly exposed (prone at start of trial), remain still. (2) Move head and shoulders up and down slowly. (3) Move head and shoulders slowly from side to side. (4) Fire 1 blank.

Note. Target Trial Sheets should be prepared from a Master Trial Sheet similar to the sample shown above. It should contain only the trials and target indications performed by a specific target. Although each target man has been thoroughly rehearsed, the Target Trial Sheets will insure that no mistakes are made.

ANNEX V

TARGET DETECTION TEST NO. 1

ANSWER SHEET

Name _____ Platoon _____ Squad _____ Date _____
 (Last) (First)

Instructions

1. Do not change your answers to indicate anything not actually seen.
2. There will be four phases during each trial. Although the target remains in the same location, each phase will consist of a different target indication. Targets will each be presented four times. In the appropriate space for each phase of each trial, place either a ✓ if you saw the target or an X if you failed to see it.
3. Under the WHERE, mark the identifying letter of the landmark nearest the target. If you are in doubt as to the identity of the nearest landmark, hold up your hand and the instructor will check with you.
4. Under RANGE enter your estimate to the target in yards. Estimations within 25 meters will be considered correct.

Trial No.	Phase number				Where (letter of nearest landmark)	Range (meters)
	1	2	3	4		
1 _____						
2 _____						
3 _____						
4 _____						
5 _____						
6 _____						
7 _____						
8 _____						
9 _____						
10 _____						
11 _____						
12 _____						
13 _____						
14 _____						
15 _____						
16 _____						
Total _____						

PERIOD EIGHTEEN

RECORD COURSE; RECORD FIRING II

HOURS:	75-78 (Plus 4 hours ATP nonmarksmanship—total 8 hours).
PURPOSE:	To repeat record firing as conducted in period seventeen. To test the soldier's ability to detect and mark single and multiple moving targets and his ability to locate the sound of firing from one or more hostile type positions.
INSTRUCTOR	All previous references.
REFERENCES:	
INSTRUCTIONAL	See sections I, II, and III.
AIDS:	
INDIVIDUAL	See period seventeen.
EQUIPMENT:	
PHYSICAL	Record Firing Range.
FACILITIES:	2 Target Detection Ranges.
PERSONNEL:	Section I (see period seventeen). Sections II and III (see appropriate attached sections).
SAFETY FACTORS:	Refer to local range regulations and AR 385-63.
ORGANIZATION:	Place each soldier in the same order he was in during period seventeen. Have the 8 orders that fired in the afternoon of period seventeen complete their record firing in the morning during period eighteen and the other group receive instruction in nonmarksmanship ATP subject. At the beginning of the last four hours change the two groups. A group of 8 orders on Record Firing II can follow the same rotation schedule as shown in period seventeen except that Target Detection Tests 2 and 3 are conducted in lieu of Test 1. Target Detection Tests 2 and 3 are 25-minute problems. In the first hour the 7th order receives Test 2; the 8th order, Test 3. After 25 minutes the 7th order changes to Test 3 and the 8th order to Test 2. After 25 minutes, orders 7 and 8 report to the ready area while orders 1 and 2 undergo the same target detection tests. For conduct of the remaining orders, consult the rotation schedule.

SECTION I

RECORD FIRING II

(Conduct concurrently with section II and III, Target Detection Tests 2 and 3.) (4 Hours.)

This section is identical to section I, period seventeen, with the following exceptions:

1. The morning and afternoon schedules of period seventeen are interchanged. See ORGANIZATION.
2. The rotation schedule in period seventeen is altered so that Target Detection Tests 2 and 3 are given in lieu of Target Detection Test 1. See ORGANIZATION.
3. Firers do not fire Record Firing II over the same 4 lanes used in Record Firing I.
4. Scores from Record Firing I and II are totalled on the record firing scoresheet. (See ANNEX I, Period Seventeen.)

Minimum Qualification Scores

Expert.....	68
Sharpshooter.....	54
Marksman.....	36

SECTION II

TARGET DETECTION TEST NO. 2 (25 MIN)

PURPOSE:	To test the soldier's ability in detecting and marking single and multiple moving targets.
INSTRUCTIONAL AIDS:	<p>4 Camouflaged helmet liners with rubber bands.</p> <p>4 Tubes camouflage paint (1 each of 4 basic colors).</p> <p>16 Aiming devices (1 for each observation point).</p> <p>1 Master Trial Sheet. See ANNEX I, Sample Master Trial Sheet.</p> <p>4 Target Trial Sheets for target men.</p> <p>1 Answer sheet per soldier. (See ANNEX II.)</p> <p>1 First Aid box.</p> <p>Supply of: Clipboards.</p> <p style="padding-left: 40px;">Pencils.</p>
PHYSICAL FACILITIES:	Target Detection Range.
PERSONNEL:	<p>1 Principal instructor.</p> <p>4 Assistant instructors.</p> <p>4 Target men to function as hostile targets.</p>

ORGANIZATION: Target Detection Test No. 2 is conducted for 25 minutes with one order. Target Detection Test No. 3 is presented on another range for 25 minutes with another order. After 25 minutes both orders change over. At the end of 50 minutes both orders move to the ready areas in accordance with Rotation Schedule in the ORGANIZATION Section, period seventeen.

TIME BREAKDOWN

<i>Time in Minutes</i>	<i>Type of Instruction</i>	<i>Subject</i>
5	C-----	Introduction.
20	PE-----	Detection Test No. 2.

LESSON OUTLINE

Preparation

- a. *Setting up the Range.*
 - (1) Place one aiming device with four aiming bars in position at each aiming point.
 - (2) Assign assistant instructors to assist in the conduct of the detection test.
 - (3) Equipment.
 - (a) Locate loudspeakers ready for operation along the observation line and down range.
 - (b) Place in position notes, clipboards, pencils, scoresheets, and other instructional equipment.
 - (4) Place target men in their initial positions. Insure that each target man is familiar with the procedure and has in his possession clearly written instructions.
- b. *Troop Arrival.*
 - (1) Have troops ground weapons in designated area.
 - (2) Assign observers to observation points.

Instructional Period

- c. *Target Detection Test.* (See ANNEX II for Answer Sheet.)
 - (1) *Introduction.*

Narrative:

During the next 25 minutes we are going to test your proficiency in detecting, aiming at, and marking single and multiple moving targets. Take up your positions along the observation line, pick up your clipboards, and fill in your answer sheets.

Using your aiming devices, you will detect and mark be-

tween one and four targets. Use the number of aiming bars needed to accurately mark the targets that appear. You have 30 seconds to mark a target's position after he has disappeared. After you have completed marking all targets, face away from the detection range while the assistant instructors check the alinement of your aiming bars. The correctness of your alinement determines your score.

You will be given 10 trials during this period. When you hear the words, OBSERVE, TRIAL NO. 1, face the detection range and try to pick out a moving target or targets.

Let's practice sighting at a few landmarks. Sight first at panel A. When you have the correct alinement, lock your bar in place by using the wing nuts. ASSISTANT INSTRUCTORS, CHECK ALINEMENT. Now sight at panel B.

The detection range is to your immediate front. The limits of this range are (point out limits). No targets will appear outside these limits. Are there any questions? If not, we will proceed with Trial No. 1.

(2) *Detection Test (20 Min)*. See ANNEX I.

OBSERVE TRIAL NO. 1.

(Conduct remaining trials.)

SECTION III

TARGET DETECTION TEST NO. 3 (25 MIN)

PURPOSE:	To test the soldier's ability to locate sound of firing from one or more hostile positions.
INSTRUCTIONAL AIDS:	2 M1 rifles for target men. 30 Rounds caliber .30 blank ammunition per presentation. 1 Master Trial Sheet. See ANNEX III. 2 Target Trial Sheets for target men. 1 Answer sheet per soldier. SEE ANNEX IV. Supply of: Pencils. Clipboards.
PHYSICAL FACILITIES:	Target Detection Range.
PERSONNEL:	1 Principal instructor. 4 Assistant instructors. 2 Target men.
ORGANIZATION:	Refer to ORGANIZATION in Section II of this period.

TIME BREAKDOWN

<i>Time in minutes</i>	<i>Type of Instruction</i>	<i>Subject</i>
5	C-----	Introduction.
20	PE-----	Detection Test No. 3.

LESSON OUTLINE

Preparation

a. Setting up the Range.

- (1) Assign the assistant instructors their duties.
- (2) Check range to see that panels are in place.
- (3) Issue equipment to target men.
- (4) Equipment.
 - (a) Locate loudspeakers ready for operation along the observation line and down range.
 - (b) Place in position notes and other instructional equipment.
 - (c) Place one clipboard with answer sheet and pencil at each observation point.
- (5) Rehearse target men in simultaneous firing.
- (6) Insure that no target man or assistant instructor has any live ammunition.

Instructional Period

b. Target Detection Test. See ANNEX IV for Answer Sheet.

(1) Introduction (5 Min).

Narrative:

We are now going to test your proficiency in locating the sound of firing from one or more likely hostile positions. You will have a total of 20 trials. Ten trials will have single sounds, and ten trials will have multiple sounds. The sounds will come from behind the lettered landmarks spaced over the observation range.

Look out over the observation range and see if you can see the ten lettered landmarks A-J. You will identify the position each sound came from by marking on your answer sheets the letter designating that position. After marking the position of each sound, face away from the observation range and allow the target men to take up new positions.

I will start each trial with the words, TRIAL NO. 1, READY, AIM, FIRE. Assistant instructors will answer any questions you may have about the procedure. We will go through the first few trials slowly until you thoroughly understand the procedure.

(2) Detection Test (20 Min).

TRIAL NO. 1, READY, AIM, FIRE.
(Conduct remaining trials.)

ANNEX I

SAMPLE MASTER TRIAL SHEET, TARGET DETECTION TEST 2

<i>Trial No.</i>	<i>No. Men</i>	<i>Range (meters)</i>	<i>Descriptions of Requirements</i>
1	1	300	Man kneeling by tree, up on command. 10-meter bound. Poor aiming point.
2	3	75	Men rush 15 meters. Poor aiming points.
3	4	200	Men rush 10 meters. Poor aiming points.
4	4	150	Men rush 10 meters laterally. Good aiming points.
5	2	200	10-meter rush. One man left, the other man right. Poor aiming points.
6	3	75 100 125	Three men making 10-meter rush. One good aiming point, two without aiming points.
7	3	75	Three men making 5-meter rush. Poor aiming points.
8	1	200	Man making 20-meter rush. Poor aiming point.
9	2	300	Two men, one making 5-meter rush, one making 10-meter rush. One good and one poor aiming point.
10	2	150	Two men making 5-meter lateral rush. Poor aiming points.

Note. Target Trial Sheets should be prepared from a Master Trial Sheet, similar to the Sample Master Trial Sheet shown above.

ANNEX II

TARGET DETECTION TEST NO. 2 ANSWER SHEET

OBSERVER'S NAME _____ PLATOON _____
(Last) (First)

OBSERVATION POINT _____ DATE _____

<i>Trial number</i>	<i>No. of targets presented</i>	<i>Right</i>	<i>Wrong</i>
1	1		
2	3		
3	4		
4	4		
5	2		
6	3		
7	3		
8	1		
9	2		
10	2		

25 Targets presented

Total _____ Right _____ Wrong _____

ANNEX III

SAMPLE MASTER TRIAL SHEET, TARGET DETECTION TEST 3

<i>Trial No.</i>	<i>Sound Position</i>	<i>Trial No.</i>	<i>Sound Position</i>
1-----	B	11-----	I-H
2-----	A-G	12-----	C
3-----	D-B	13-----	H
4-----	G	14-----	B-I
5-----	J-F	15-----	E
6-----	A	16-----	G-J
7-----	F	17-----	H-E
8-----	C-D	18-----	D
9-----	J	19-----	I
10-----	E-A	20-----	F-C

[AG 353.15 (17 May 57)]

By Order of *Wilber M. Brucker*, Secretary of the Army:

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Chief of Staff.

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Cml Bn	Sig Co	

NG: State AG; units—same as Active Army.

USAR: Same as Active Army.

For explanation of abbreviations used, see AR 320-50.