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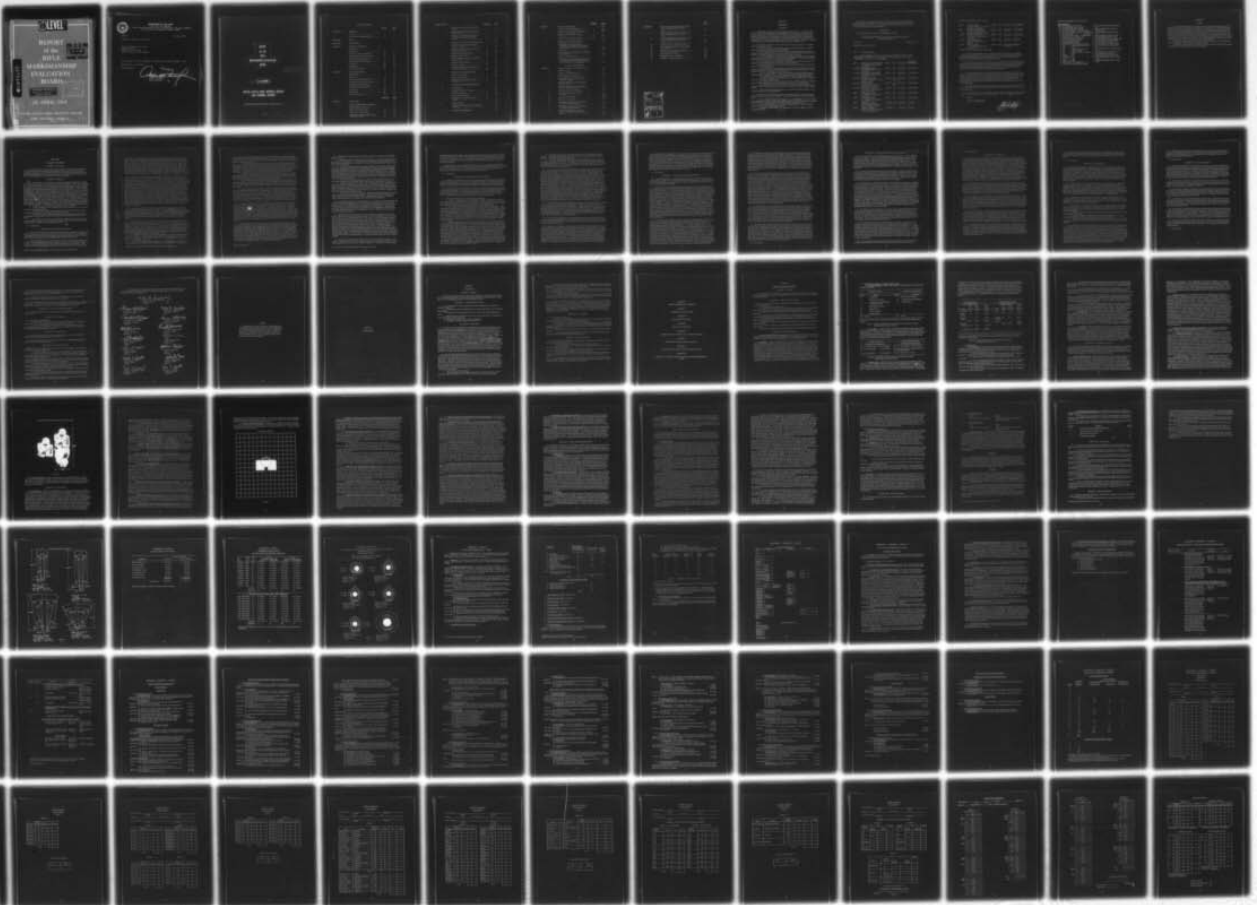
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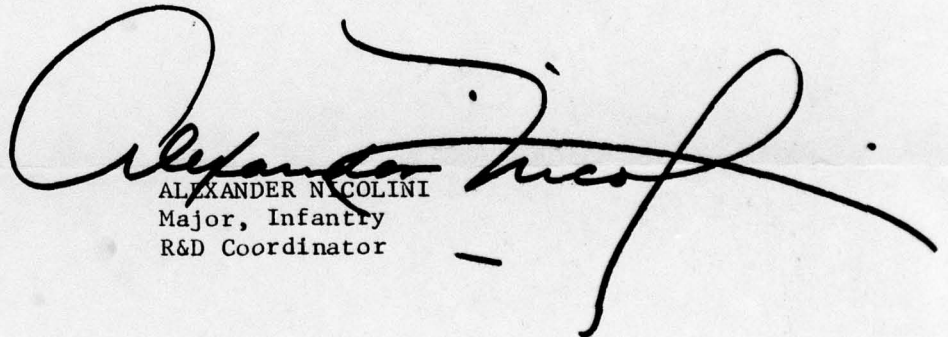
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ALEXANDER NICOLINI
Major, Infantry
R&D Coordinator

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CHAPTER 1

DIRECTIVE

SECTION I

1. United States Continental Army Command Circular 350-41, 11 January 1961, subject: Rifle Marksmanship in the United States Army (Annex J), directed that the Commanding General, United States Army Infantry Center establish a Board for the purpose of conducting a comprehensive review and evaluation of rifle marksmanship in the United States Army. By USAIC letter order of 6 February 1961, this Board was established with membership to include seven officers from USAIC, one officer-designee from each ZI Army and XVIII Airborne Corps, and a non-voting recorder.

2. Specifically, the Board in this review and evaluation was directed to consider the following general areas:

- a. The future basic marksmanship program considered essential to ensure prescribed proficiency for the basic combat soldier.
- b. Annual qualification and familiarization standards considered essential to maintain rifle marksmanship proficiency throughout the active Army and Reserve Components, to include proposed courses and types of ranges to be used.
- c. Army participation in competitive marksmanship to determine any changes that may be desirable to ensure the most effective integration of this type of marksmanship training in the active Army and Reserve Components.
- d. The integration of the individual marksman into combat firing of rifle elements as well as the attainment of proficiency as an individual.
- e. Within the perimeters of the general areas for consideration the Board was further directed to determine:
 - (1) Methods of reducing ammunition expenditure and overhead support personnel requirements consistent with maintenance of marksmanship proficiency, range operation efficiency, safety and shooter instruction.
 - (2) Any requirement for increased emphasis on shooting fundamentals, to include positions, trigger squeeze, sight alignment, rapid firing and rapid reloading.
 - (3) Desirability of KD marksmanship preceding or following Trainfire I.
 - (4) Types of ranges considered necessary in the application of the essential features of Trainfire I and KD firing.
 - (5) Practicability of incorporating use of the small bore rifle in marksmanship training throughout the Army for teaching fundamentals of marksmanship.
 - (6) The impact on the marksmanship program which will be made by the weapons currently being integrated into the Army, and any foreseeable weapons developments.
- f. Other areas considered pertinent in the present and future conduct of rifle marksmanship in the United States Army.

3. In addition to the direction provided by CONARC Circular 350-41, specific instructions were received from CONARC to include the following for review and evaluation:

- a. Letter, ATTNG-TNG 200.6 (Suggestion), Hq USCONARC, 14 Dec 1960, Subject: Suggestion Nr M061-51 (Rapid Fire Requirement for Trainfire Record Course) and Suggestion Nr 3A-1M94-61 (BM 4-277-60) (The National Match Course).
- b. Letter, ATTNG-TNG 353.1 (undtd), Hq USCONARC, 17 Jan 61, Subject: Evaluation of Trainfire I Qualification Scores.
- c. Message, ATTNG 799089, Hq, USCONARC, 18 Jan 61, Subject: Study of Trainfire II Course.

Insert 1,

4. In summary, the Board considered those matters directed by USCONARC, specific problems forwarded by other agencies and those developed by the Board in its deliberations and surveys, and all recommendations submitted pertinent to the review and evaluation of rifle marksmanship.

SECTION II

5. US Army Infantry Center order appointing the Board:

HEADQUARTERS UNITED STATES ARMY INFANTRY CENTER
Fort Benning, Georgia

LO #2-34

6 February 1961

SUBJECT: Board of Officers

TO: See Distribution

1. VOGC 31 Jan 61 cfm as fol: Under the provisions of Circular No 350-41, USCONARC, 11 January 1961, the following board is appointed to evaluate rifle marksmanship in the US Army eff 31 Jan 61:

| | | | | | SEC CLNC TOP SECRET |
|---------|--|----------|------|---------------------|------------------------|
| COL | CHESTER M FREUDENDORF Co I USAIS (Weapons Dept) this station | 023303 | INF | (President) | TOP SECRET |
| LT COL | THOMAS B ROSS JR Co I USAIS (Weapons Dept) this station | 032724 | INF | (Member) | TOP SECRET |
| LT COL | ROBERT A GUENTHNER Co I USAIS (Weapons Dept) this station | 047146 | INF | (Member) | TOP SECRET |
| *LT COL | LONNIE L GOOLSBY Hq Fourth US Army Fort Sam Houston, Texas | 01012903 | GS | (Member) (Armor) | TOP SECRET |
| *LT COL | OTIS D VIALI Hq Third US Army Fort McPherson, Georgia | 0447303 | GS | (Member) (INF) | TOP SECRET |
| *LT COL | WENDELL W LOCKETT Hq First US Army Governors Island, New York | 0391249 | INF | (Member) | TOP SECRET |
| MAJ | CLIFFORD H FORD Co I USAIS (Weapons Dept) this station | 080766 | INF | (Member) | TOP SECRET |
| MAJ | CHARLES A SMITH Co I USAIS (Weapons Dept) this station | 060566 | INF | (Member) | TOP SECRET |
| *MAJ | GERALD J MURRAY Fifth USA Marksmanship Unit Fort Riley, Kansas | 0450088 | ARTY | (Member) | SECRET |
| *MAJ | MILO P FOSTER Sixth USA Marksmanship Unit Fort Ord, California | 01114480 | CE | (Member) | SECRET |

(LO #2-34, Hq USAIC, 6 Feb 61) (Cont)

| | | | | | |
|------|--|---------|-----|--------------------------|------------|
| *MAJ | CLAIR L HESS Hq USA Training Center Armor Fort Knox, Kentucky | 0460564 | INF | (Member) | TOP SECRET |
| *MAJ | ROBERT M COWHERD Hq 82d Airborne Division Fort Bragg, North Carolina | 026932 | INF | (Member) | TOP SECRET |
| CAPT | AWBREY B NORRIS Cmbt Spt Co 1st BG 29th Inf this station | 071848 | INF | (Member) | TOP SECRET |
| CAPT | JOHN R WALKER USA Adv Mkm Unit this station | 064526 | INF | (Member) | SECRET |
| CAPT | JOHN C GRANT Co I USAIS (Weapons Dept) this station | 077415 | INF | (Non-Voting Recorder) | SECRET |

*W/Concurrence of Commanders concerned.

2. The board will convene at the call of the President of Board for the purpose of making a comprehensive review and evaluation of rifle marksmanship in the United States Army including basic marksmanship program, annual arms qualification, familiarization and competitive marksmanship program.

3. The board is authorized to; communicate directly with ZI Armies and Agencies of CONARC for information and assistance; invite comment from major oversea Commanders and DA Staff Agencies; call upon and interview specially qualified individuals in the field of rifle marksmanship; and visit Army agencies or installations within continental US necessary to the accomplishment of its mission.

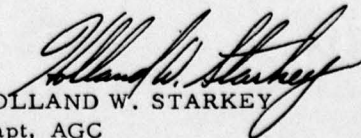
4. It is anticipated that the Board will convene for five (5) days in February and fourteen (14) days in March 1961. The Board will be furnished necessary administrative personnel and support as are essential in the performance of the board functions. The Board will establish its own rules of procedures; complete its study and dispatch a report consisting of findings and recommendations through this headquarters to Hq USCONARC (Attn: Deputy Chief of Staff for Operations, Plans and Training), not later than 28 April 1961.

5. This headquarters will administer all funds required in connection with the mission of the board. Fund cites will be furnished the parent unit of board members to cover all travel cost.

6. LO #1-180, this hq, cs, apt board to evaluate rifle marksmanship in the US Army under the provisions of Cir No 350-41, USCONARC, 11 Jan 61 is revoked. (AJIGT-T)

AJIGT-T

FOR THE COMMANDER:


HOLLAND W. STARKEY
Capt, AGC
Asst AG

(LO #2-34, Hq USAIC, 6 Feb 61) (Cont)

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| 2 - Finance 2 - Ord | |
| 2 - Trans 2 - Sig | |
| 2 - Engr 2 - QM | |
| 2 - 82d Abn Div, Ft Bragg, NC | |
| 2 - G1 Sch Pers (Attn: MSgt Campbell) | |

CHAPTER 2

SCOPE

6. The scope of this report encompasses the rifle marksmanship programs of the United States Army to include those of the Reserve Components. It includes determination of the best methods to employ in teaching the basic trainee those skills necessary for him to fire his rifle effectively in combat, as an individual or as a member of a fire element. It requires establishment of training programs for both the active Army and Reserve Components which will provide for maintenance and development of these combat firing skills. Further, the scope provides for determination of methods to effectively integrate the skills learned in the basic marksmanship program with those required to insure continued success in the competitive marksmanship field.

It includes considerations of economies, range facilities, future developments and mobilization as related to the foregoing broad areas.

The nature of the subject of this report requires inclusion of detailed marksmanship programs to support applicable recommendations.

CHAPTER 3

PROCEDURES

7. General. The complexity of the problem combined with the many strong convictions of a divergent nature necessitated that the Board operate in an atmosphere of clear unbiased objectivity. To this end, it was determined the Board's general procedures should be: first, a comprehensive review and evaluation of all studies, reports and tests currently in existence concerning any aspect of the rifle marksmanship program; secondly, the solicitation of opinions and recommendations from senior commanders as well as personnel at all levels currently implementing rifle marksmanship programs; and thirdly, based on the results of the first two courses of action and the experience and knowledge of the individual Board members, arrive at conclusions and appropriate recommendations therefrom.

8. Organization. The Board was organized with 14 officers plus one recorder. Except for the two periods when formal meetings were held at Fort Benning, the Board was divided into two groupings. Members stationed at Fort Benning were responsible for securing all pertinent literature concerning rifle marksmanship. This group was also responsible for preparing and summarizing a questionnaire which was dispatched to senior commanders in CONUS. The other group consisting of the army and XVIII Airborne Corps representatives were responsible for accumulating certain data pertinent to their specific areas and for visiting appropriate commanders for recommendations and opinions.

9. Operations.

a. During the period 6-10 February, the Board President and a member of the Board visited Department of the Army and Hq, CONARC for the purpose of obtaining additional guidance and information relative to the overall rifle marksmanship evaluation.

b. A comprehensive questionnaire was prepared during the period 13 January to 10 February and sent to army, corps and division commanders, and separate unit commanders (see Annex J). The questionnaire covered the areas for consideration indicated in CONARC Circular 350-41 which established the Board as well as other related items as determined by the Board. A total of 154 questionnaires were dispatched; 141 agencies and commands replied.

c. During the period 14 - 17 February, the Board held its first meeting at Fort Benning, Georgia, for the purpose of orienting all members on the major problem areas and determining the best course of action to follow to fulfill the Board's mission. During this meeting, the Board received a comprehensive briefing by highly qualified personnel on the basic marksmanship program currently in existence, the competitive marksmanship program, annual qualification and familiarization requirements, and future weaponry developments.

d. During the period between Board meetings the following was accomplished:

(1) Board members stationed at Fort Benning joined the appropriate army Board representative and visited major training centers and training activities in each army area.

(2) Comments and recommendations from overseas commands were received and analyzed.

(3) Questionnaires were distributed to the officers in the Career Course at the United States Army Infantry School to obtain the views of the company grade officers who to a large extent are closely associated with the basic marksmanship program. A total of 277 replies were received for Board consideration.

(4) Opinions and recommendations from the following liaison officers stationed at Fort Benning, Georgia, were solicited: United States Marine Corps, British, French and Canadian.

(5) During the period from 10 - 22 March, Board members stationed at Fort Benning reviewed and summarized responses to the Board's questionnaire.

10. The full Board met during the period 22 March - 7 April. At this time, the Board reviewed and evaluated the information and recommendations from all the sources previously described and prepared the conclusions and recommendations contained in this Report.

CHAPTER 4

SUMMARY DISCUSSION

SECTION I - Introduction

11. The succeeding sections of this chapter contain, in each case, a summary of the major problem areas developed during the Board's analysis of the Army's rifle marksmanship program, and the general nature of the conclusions applicable thereto. Annexes A through H contain a more comprehensive treatment of each subject summarized. Recommendations of the Board are contained in Chapter 5.

SECTION II - Objectives

12. As an initial step in its evaluation, the Board identified and analyzed Department of the Army's objectives in the field of rifle marksmanship. This review revealed no clearly stated objective or objectives dealing with the total subject of rifle marksmanship. However, the necessity for accomplishing the essential aspects of this program has been recognized and are stated generally, as parochial objectives: ATP 21-114 and ASubjScd 21-31 outline the basic marksmanship course; ATPs 7-17, 5-5 and 6-100, and ASubjScd 7-11 contain provision for advanced rifle marksmanship; AR 370-5 covers annual qualification and familiarization; AR 920-20 directs Army support of civilian shooting; AR 622-10 provides for competitive-type shooting for Army personnel and civilians. Each of these publications has its own specific objective. This being the case, the Board established as a basic foundation for further evaluation, the system of objectives outlined below. These objectives were analyzed and reanalyzed during all of the Board's discussions of the major problems and in final conclusion the Board recommends these as a statement of policy in establishment of an Army-wide rifle marksmanship program.

a. To develop in every soldier during Basic Combat Training:

(1) The confidence, will, knowledge, and skills required to fire a rifle and hit enemy personnel in combat.

(2) The ability to apply correct techniques of fire when he functions as an individual in a fire unit in the engagement of enemy personnel.

b. To insure that every soldier maintains a continuing degree of proficiency in combat rifle firing consistent with the mission of the unit to which the soldier is assigned.

c. To provide in time of peace a broad base of shooters from which potential precision target marksmen can be selected and further trained to successfully compete in interservice, civilian, and international competition.

13. See Annex A.

SECTION III - Basic Rifle Marksmanship

14. In its review of the Army's basic rifle marksmanship program, the Board noted that two different rifle marksmanship courses are presently in use. One, Trainfire I, was adopted in 1957 as the Army's standard basic rifle marksmanship course after extensive testing; the other is the conventional Known Distance type course.

15. Known Distance has been used for many years by the Army without major modification. It is an 86-hour* course which consists of 3-hours of mechanical training, 35-hours of preparatory marksmanship training and 48-hours of range firing. This course is based on the concept that rifle firing should be taught in five separate steps.

*The 12-hour individual night firing course is not included in this figure.

These steps are sighting and aiming, positions, trigger squeeze, sustained fire and sight setting. After completion of 32-hours of firing fundamentals, the trainee undergoes a 16-hour period of transition firing designed to teach him the essentials of combat-type shooting. During the conduct of this course each soldier fires a total of 427* rounds of ammunition. A complex consisting of four different ranges is required to train a 200-man company within the 86-hour time limit: one, 100-point, 1000" range; one, 50-point, Known Distance range; two, 10-point, combat positions ranges; and, one, 4-point, quick fire range. The total basic land area (area included between firing points and targets) of these ranges is approximately 74 acres. Total land area including impact area and safety fans is approximately 7362 acres. (Appendix I, Annex B)

16. Trainfire I, a 78-hour course, is based on a different concept than Known Distance and emphasizes combat-type firing. Shooting is taught as an "integrated act" rather than as a series of different steps. Procedures and practices not generally used in combat (sight adjustment, use of the sling, bull's-eye targets, etc.) are not employed in Trainfire I. The maximum range at which firing is accomplished is 350-meters, and "killable" silhouette-type targets are used. In Trainfire I, 16-hours are devoted to target detection. The organization and sequence of Trainfire I instruction is designed so as to realize maximum training benefits through the application of well-established principles of learning. These are: transfer of skills, motivation, knowledge of principles, knowledge of results, accuracy or speed, repetition, avoidance of fatigue, spaced practice and variety. In Trainfire I each man fires 557 rounds of ammunition. For a 200-man company to complete the Trainfire I course within the prescribed 78-hour time limit, a complex consisting of the following ranges is required: one, 110-point 25-meter range; one, 35-point field firing range; one, 16-point record range and four, 25-point target detection ranges. The total basic land area (area between firing points and targets) required for Trainfire I is approximately 104 acres. The total land area including impact areas and safety fans, however, is approximately 5137 acres. (Appendix I, Annex B)

17. The Board solicited comments from commanders in the field as to what the Army's basic rifle marksmanship course should be. Less than 1% advocated a return to the Known Distance Course in its present form. Only 3% wanted to retain the present Trainfire I Course in its present form. The remainder were divided about equally in their opinions, with one-half wanting a combination Trainfire I and Known Distance Course and the other half preferring a modified version of the present Trainfire I Course.

18. The Board noted that a combination of Trainfire and Known Distance would result in a longer course than presently used. It agreed that such a course could be expected to produce a better trained rifleman than the courses previously mentioned. The Board felt, however, that it would be unwise to propose a basic rifle marksmanship course of much greater length than the present 78-hour course. An early requirement to incorporate instruction on such weapons as the new Light Antitank Weapon (LAW), the 40mm grenade launcher (M79), and possibly, REDEYE, into an already crowded basic training program provides a basis for this belief.

a. The Board noted that, while added training time on fundamentals as taught in the Known Distance Course would perhaps enhance the effectiveness of Trainfire I, there are nevertheless certain features of the conventional Known Distance Course which are undesirable. These are:

(1) Firing at bull's-eye type targets. A bull's-eye target is unrealistic in size and shape when considered from a combat target point of view. In addition, its

*Exclusive of 63 rounds fired during the individual night firing course.

scoring area is considerably larger than that of a silhouette target. This means that scores obtained on the standard Known Distance bull's-eye targets probably do not accurately reflect a firer's capability to hit a man-sized target--the goal of combat marksmanship. (Table V, Annex B)

(2) The requirement for a trainee to fire at a range of 500-yards should be eliminated. Evidence obtained from a test conducted by the US Army Advanced Rifle Marksmanship Unit casts doubt on validity of having trainees shoot at this range. The average issue weapon/ammunition combination which the trainee will use, appears to be marginal in its ability to deliver a high percentage of hits on a man-sized target at 500-yards, even when fired from an accuracy cradle. (Appendix III, Annex B)

b. The Board believes that, even if these features were overcome, a course combining Trainfire I and Known Distance would not be efficient from an economy and land usage point of view. To adopt a course which requires the use of two completely different range complexes appears to be fundamentally unsound.

c. The Board also noted that more efficient use is made of training time in the Trainfire I Course. Pit details required on a Known Distance range result in 40% or more unproductive marksmanship training time for the trainee. Since electrically operated "pop-up" targets are used on Trainfire I ranges, this unproductive training time is avoided.

d. After an analysis of all of these points, the Board came to the conclusion that a combination of the Trainfire I Course and Known Distance Course is undesirable. The necessity to increase the overall length of such a course, the unsoundness of adopting a course which requires two different range complexes and the unproductive marksmanship training time in the Known Distance phase were the principal reasons for the Board's decision in this matter. Considered also, but relegated to lesser importance since they can be easily modified, was the requirement for trainees to fire at a range of 500-yards and the use of bull's-eye targets rather than man-sized silhouettes.

19. In order to provide a basis for deciding how the Trainfire I Course should be modified to make it more effective as a basic rifle marksmanship course, the Board first examined the question of "fundamentals" of shooting. It found wide misunderstanding and definite differences of opinion as to what fundamentals are. The Board defined fundamentals as being sighting and aiming, positions, and trigger control. When the present Trainfire I Course was examined in light of this definition, no serious lack of emphasis was apparent. The Board considered, however, that some increase in the amount of time devoted to sighting and aiming and to the teaching of positions was needed. Additionally, it favored more definitive guidance being incorporated into lesson outlines so that instructors will be required to devote more attention to the subject of trigger control.

20. A total of fifteen suggested modifications were studied by the Board. Those which were favorably considered for adoption were, (rapid fire at dispersed multiple targets), (rapid reloading exercises), (discontinuance of 75-meter zeroing), (use of a new zeroing target (Figure 2, Annex B)), (change in target sequence on record range, M14 automatic fire exercise*), (use of tracer ammunition to teach "hold-off"), (reduction in target detection instruction), and (change in sequence of instruction in the first three periods of the course). Those not recommended for adoption were use of sling, changing qualification scores, establishing "par" for each record course, practice firing on record range, trained coach at each firing point (desirable but unrealistic from personnel standpoint), change in sequence of target detection, discontinuance of teaching of "hold-off", and combining Trainfire I with individual night firing.

*For consideration.

21. The Board investigated means of effecting economies in the basic rifle marksmanship course.

a. It found the use of electrical "pop-up" targets to be a major means of achieving economy of training time. The elimination of a requirement for pit details in the basic rifle marksmanship course results in a savings of approximately 20-hours of training time for each trainee.

b. The Board found areas in the present Trainfire I Course where minor economies of training time can be effected. By deleting 75-meter zeroing; by eliminating four hours of repetitious instruction in target detection and field firing; and by slightly modifying sequence of instruction, the Board saved approximately six hours. However, since in the proposed program four hours of this time is to be devoted to increased emphasis on fundamentals of shooting an actual time savings of only two hours is realized. If instruction on the automatic fire capability of the M14 rifle is included, only one hour of training time would be saved.

c. Further economy of training time would be realized if the Board's recommendation for reducing the individual night firing course by four hours is accepted.

d. Savings in ammunition can also be realized in both the basic rifle marksmanship course and the individual night firing course. Modifications recommended by the Board in the former course will save approximately 33 rounds of ball ammunition and 5 rounds of blank ammunition per trainee; in the latter course, 16 rounds of ball ammunition can be saved. On the basis of a 300,000 per year trainee input these savings would amount to more than \$1,000,000 per year.

e. The field of .22 caliber firing also offered interesting possibilities for economies in the basic rifle marksmanship course. Although the effect on training proficiency could not be determined by the Board, it appeared that use of this subcaliber weapon might also result in a savings of more than \$1,000,000 annually.

22. In attempting to determine the feasibility of incorporating .22 caliber rifle firing into the basic rifle marksmanship course, the Board surveyed replies from the field, studied the results of available tests, and examined the training courses of other services and armies. The results of this investigation were inconclusive. Consequently, the Board concluded that feasibility tests should be conducted prior to making .22 caliber firing a part of the basic rifle marksmanship course. Appendix VII, Annex B is a proposed program for testing.

23. The Board proposes the 76-hour* course contained in Appendix V, Annex B, as the standard basic rifle marksmanship course for the United States Army. It recognizes, however, that certain features of the course are new and consequently believes that they should be tested before adoption--such testing, to be accomplished as a part of each training center's normal mission, rather than as a separate testing project. This course incorporates all of the desirable features of the present Trainfire I course and, except for the 75-meter range, uses the same ranges. Increased emphasis is placed on instruction in sighting and aiming, prone position, and trigger control. Instruction in rapid firing at several dispersed targets, and in rapid reloading has been added. Instruction in the automatic fire capability of the M14 rifle has been proposed for consideration. Other minor modifications have been made to increase the overall effectiveness of the course. A total of 524 rounds of ball ammunition per soldier is required--33 rounds less than the present program. A savings in blank ammunition has also been effected.

24. The Board recognized that, although construction of Trainfire I ranges is continuing, it will be some time before a sufficient number of these ranges exist for Army-wide implementation of the course proposed in Appendix V, Annex B. For this reason,

*A 77-hour course if M14 familiarization firing is included.

the Board proposed an alternate basic rifle marksmanship course which can be used to supplement the standard course. This alternate course is shown in Appendix VI, Annex B. It is an 82-hour course which incorporates as many of the Trainfire I concepts and principles as possible without requiring major modification to the current Known Distance range systems.

25. Regarding the current individual night firing course, the Board proposed deletion of three hours of night orientation firing and one hour of night vision instruction. The Board believes that the training recommended for deletion has marginal value and is supported in this belief by the majority of commander contacted.

26. See Annex B.

SECTION IV - Qualification and Familiarization

27. The Board evaluated the Army's current program of maintaining marksmanship proficiency to include its effectiveness in providing refresher training in essential combat marksmanship skills, as well as the standards and criteria. Certain major weaknesses were noted and a revised program developed to strengthen the overall program.

28. The present program prescribes a system of courses and firing tables designed to insure that individuals in the active Army and the Reserve Components maintain rifle marksmanship proficiency. Familiarization courses are also provided for weapons familiarization and in one case to provide qualification, per se, for Reserve Components. The details of this program are discussed in Section III, Annex C.

29. The present program has several major weaknesses.

a. The term qualification with its attendant criteria, courses of fire and implementing policies is not synonymous with a positive, clearly established level of combat marksmanship proficiency. In its essentials it appears that the program has reacted to the factors of range facility, fund limitations and increased missions.

b. The system of familiarization courses are particularly noneffective. The Board believes true familiarity involves the ability to fire the rifle well enough to obtain a minimum acceptable score on a record course. Preliminary training leading to successful accomplishment of this requirement must involve sufficient training commensurate with the individual's previous knowledge to assure full understanding of the weapon and its application. A valid requirement exists to train individuals who may be required to fire a rifle in an emergency. The type of course must include training in the fundamentals of combat marksmanship and must be scored to enable commanders to determine proficiency.

c. When adequate range facilities are not available to fire a standard Trainfire or Known Distance qualification course, commanders under the present program may fire an alternate qualification course. This course does not provide the training needed to maintain combat rifle marksmanship proficiency, but rather provides limited training in the basic fundamentals of shooting. Authority to fire this course, in lieu of the qualification course, is not specifically defined in AR 370-5. It was determined through Board visits that an over-dependence was placed on the alternate qualification course when standard facilities were available at installations. Local decisions to use abbreviated courses were prompted partly by a need to save training time, relieve over-scheduled ranges, a lenient interpretation of par 81c, FM 23-5, or a combination thereof. The Board recognizes this type course is needed to meet the needs of small isolated installations in CONUS and overseas theaters. This type of permissive authority, however, tends to reduce the overall standard of marksmanship proficiency. Authority to fire this type of course must be controlled closely.

d. The requirement to fire the rifle at night is not now included in all firing courses. The Board recognizes the value of this type of training and believes that it should be included as an annual requirement.

e. The basic fundamentals of shooting are not adequately stressed. There is at present, wide latitude granted to commanders insofar as the amount of preparatory marksmanship instruction that will be conducted prior to firing the record course. Current publications require only that it be conducted; the specific subjects and the number of hours required are not prescribed.

30. It is essential that a standard qualification course be established which will provide the training needed to insure that the minimum acceptable level of combat rifle marksmanship proficiency is maintained throughout the Army. Modification of this course must not be authorized and individuals who are required to fire a lesser course due to the lack of adequate time or facilities must not be classified as qualified. To insure full use of all available range facilities, the Board believes that it is essential to adapt the standard qualification course to a Known Distance range complex. This is consistent with the objective stated in par 12b. It is recognized that the Trainfire range and its attendant courses is the best means of teaching and maintaining combat rifle marksmanship proficiency. However, the Known Distance Qualification Course A (modified to include Trainfire I principles and techniques) provides a degree of proficiency for the administrative and support units that is consistent with their mission. This being the case, the Board believes that Trainfire priority should be assigned to the combat elements and that the modified Known Distance Course will maintain an acceptable level of proficiency for individuals assigned to administrative and support units. The Board also believes that requiring the Reserve Components to maintain only that level of marksmanship proficiency which will permit immediate deployment under emergency conditions is a realistic objective and is consistent with the mission of these units. The details of the standard qualification course are contained in Section VII, Annex C.

31. A marksmanship fundamentals proficiency course, such as Course B, is needed to meet the needs of a few isolated installations in CONUS and in overseas theaters where adequate range facilities are not available. Authority to fire this course must be closely controlled to insure that it is used only in exceptional cases. Individuals who are required to fire this course should be considered as maintaining a "status quo" of marksmanship proficiency. To prevent the overall level of marksmanship proficiency from being seriously reduced, individuals must not be permitted to fire this type of course for more than three years in succession.

32. The current familiarization course should be replaced by a course which will include training in fundamentals of combat marksmanship. This course must be scored to insure that individuals who may be required to fire the rifle in an emergency possess the minimum necessary skill.

33. The Reserve Components cannot devote sufficient time to marksmanship training to insure that the level of proficiency is equal to that of the active Army. The type of program that is conducted must be designed to meet the premobilization requirements and permit immediate deployment under certain emergency conditions. This program should be supported by adequate range facilities to permit home station training. In this connection, the Board believes that a valid requirement exists to continue the 25-meter range construction program. The Board also believes that the familiarization course currently used by the Reserve Components is not effective and that it should be replaced by a course which will meet the minimum requirements for premobilization proficiency. The type of course recommended is discussed in Section VII to Annex C.

34. Motivation of the individual is a vital part of this program. Several senior commanders have recommended that pay be awarded for varying degrees of rifle marksmanship proficiency. Requiring that rifle marksmanship proficiency be a requisite for proficiency pay was also suggested. The Board recognizes the value of pay as an incentive for the individual soldier, however, in view of the complexity of implementing such a program, the Board recommends that further study be conducted to determine the feasibility of these proposals. The Board also recognizes the value of qualification badges as an incentive, and recommends that minor modification of the current system be made to more accurately reflect the varying degrees of proficiency. The details of these proposals are contained in paragraph 18, Annex C.

35. See Annex C.

SECTION V - Competitive Marksmanship Program

36. The Board examined in considerable detail the Army's current competitive marksmanship program with a view toward determining changes which may be required to insure the most effective integration of this type of marksmanship training in the active Army and Reserve Components.

37. At the outset, the Board quickly determined that the entire competitive structure is geared to one primary goal; attaining and maintaining shooting supremacy of the Army in all competitions. The Board recognizes that this is desirable and believes that in the attainment of this goal every effort should be made to devise methods which insure that the competitive program complements and supplements the overall marksmanship training goals. Since the adoption of Trainfire I in May 1957, emphasis on marksmanship training has been directed toward combat environmental shooting. The training techniques emphasized in the current competitive marksmanship program, however, differ in many respects with the techniques emphasized in the current basic rifle marksmanship program. The major differences are discussed in Section IV, Annex D. The current competitive program, with the exception of that conducted in USAREUR, does not provide for an extension of combat firing skills. The Board believes that certain subsidiary features could be added which would enhance the overall value of the program. The most important of these features is the introduction of combat firing courses into the lower unit competitions of the infantry, armor and airborne divisions. The Board believes that competitions similar to Prix Le Clerc (Appendix I to Annex D) and the Infantry Trophy Match (Appendix II to Annex D) could be readily adapted to existing range facilities and would provide a logical and valuable means of improving combat firing proficiency.

38. The Board believes that the current competitive program makes its major contribution to training by stimulating interest in marksmanship proficiency and by providing a nucleus of highly skilled individuals who can assist in raising the level of marksmanship instruction throughout the Army. The Board reasons, however, that the competitive program in comparison with other marksmanship training programs, contributes only to a limited degree in raising overall marksmanship proficiency. This reasoning is based on several influencing factors. The most important being the selective nature of the program and the resultant small percentage of riflemen who actually participate in the program. The program quickly discards the poor shooter who needs the training the most and concentrates on the proficient shooters who need the training the least. The Board made a comparative analysis between the number of personnel participating in the program and rifle density in the Army. While the figure arrived at cannot be accepted as completely reliable, the Board feels that it is of sufficient validity to mention in this report. The results of this comparative analysis indicate that only 2% or 3% of the riflemen in the Army are participating in the competitive program.

39. An analysis of replies from field commanders also indicate that only marginal training value is being realized from the competitive program. Forty-nine of 76 commanders responding to the Board's questionnaire stated that the training values being realized are poor. Many felt that more tangible training benefits would be derived if combat firing features were incorporated. The Board strongly supports this position and as previously discussed believes that combat-type competitions could be conducted at company/battalion, and battle group level in infantry, armor and airborne divisions without seriously interfering with the current program. The Board could not determine the impact that Army-wide adoption of a combat-type match would have on the current competitive program and believes that its adoption must be carefully evaluated prior to implementation.

40. In view of the specialized skills that are required for precision shooting competition, it may be difficult to identify individuals who possess these skills when the proposed rifle marksmanship programs are fully implemented. The Board recognizes that the Army must maintain its superiority in the current competitive marksmanship field and believes that all available methods of identifying the training potential precision marksman must be fully exploited. Many commanders, in their replies to the Board's questionnaire, recommended that TD spaces be provided from Department of the Army resources to establish an advanced marksmanship unit at division/post level. The Board recognizes the value of this type unit and believes that they materially benefit the overall competitive program. The availability of personnel spaces, however, cannot be determined at this level. Thus, the Board believes that further study is needed at Department of the Army level to determine the feasibility of allocating available personnel spaces for this purpose. The Board also believes that considerable emphasis should be given to more energetic participation in small bore competitions at company level. The skills developed in small bore shooting have direct application to the skills required in precision shooting. A small bore program such as that suggested in Section VIII, Annex D will increase participation in the competitive program, increase the level of marksmanship proficiency throughout the Army and serve as a positive means of identifying potential big bore precision shooters.

41. In examining the various methods which could be used to provide more effective participation by the Reserve Components, the Board found many serious limiting factors. A major departure from current methods would require prohibitive expenditure of monies for the construction of additional ranges, active duty pay and TDY funds. These expenditures combined with other problems peculiar to the Reserve Components, i. e., civilian occupational requirements, home and family requirements, distances from home to places of duty, and limited training time, led the Board to believe that changes were not feasible to increase Reserve Component participation in big bore firing. The Board does believe, however, that the Reserve Components should be encouraged to increase their participation in formal small bore competitions.

42. The Board made a vigorous effort to determine the cost of the major items of the competitive marksmanship program with a view toward determining where economies could be made. Department of the Army and USCONARC agencies and each CONUS Army were queried but pure rifle program costs could not be separated from the pistol and automatic rifle program costs. Further, the Board was unable to secure definitive information with respect to the considerable service ammunition expenditures and costing of overhead personnel requirements. Table I, Annex D summarizes the results of this survey. In view of the considerable amount of monies involved, the Board believes that every effort should be made to insure that appropriate management procedures are followed in the administration of the competitive program.

43. See Annex D.

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SECTION VI - Advanced Rifle Marksmanship Program

44. The advanced rifle marksmanship program is prescribed for certain infantry, artillery, and engineer trainees during advanced individual training. For the infantry and artillery trainee, it consists of four hours of preliminary rifle marksmanship instruction and 16 hours of known distance firing at ranges of 300 and 500-yards. One hundred rounds of ammunition are expended. For the engineer trainee, the program is of 10-hours duration and 50 rounds of ammunition are expended. The objective of the program is to increase rifle marksmanship proficiency at Known Distance ranges, up to 500-yards.

45. The Board in examining the merits of this program evaluated its application to the objectives stated in Annex A, the feasibility of teaching a soldier to fire at a range of 500-yards with current weapons/ammunition combinations, and the necessity to effect economies in ammunition expenditures and training time. The Board also placed considerable weight upon the replies from senior commanders relative to the overall marksmanship training values being realized from the program.

46. In substance, the objectives of the basic marksmanship program are to develop the combat firing skills of the individual soldier. Accordingly, his training is designed to take place in an environment which facilitates attainment of these skills and leads to maximum transfer to combat situations. From this environment the trainee progresses to the program that is under discussion. Here the environment is entirely different. Precision-firing techniques, which differ in many respects with the firing techniques previously taught, and are not used in combat, are emphasized in an environment which is formal and unrealistic from a combat point of view. The Board found that the problems associated with the transition from one training atmosphere to an entirely different one tended to confuse the trainee thereby limiting training values received from the program. The Board's findings were verified by responses to the Board's questionnaire relative to this subject. Of 57 replies, 66% indicated that training values received were not in acceptable proportion to training time, range facility, ammunition, and overhead personnel requirements. Twenty of 27 active Army commanders indicated that the training values received were not acceptable.

47. The objective of this program is to increase rifle marksmanship proficiency at Known Distance ranges up to 500-yards. As discussed previously in this report it is extremely doubtful that current weapons/ammunition combinations will enable the soldier to achieve consistent hits on a man-sized target at ranges in excess of 400-yards. This fact, in itself, raised grave doubts in the minds of the Board as to the feasibility of pursuing a course of training which features shooting at distances greater than that prescribed in the basic marksmanship program.

48. The Board believes that the constant changes in weapons, equipment and organization in the Army demand the most economical utilization of training time if inequitable distribution of training time is not to take place. It feels that those training programs which have only limited training values must be eliminated and the training time thus saved utilized on more important training endeavors. A corollary to savings in training time is the necessity to effect economies in ammunition expenditures. Here again, the Board believes that rising costs and the introduction of new weapons system dictate that economies be made in those areas where only marginal training benefits are derived. Elimination of this program would result in a savings of ten dollars per individual participating.

49. For the reasons discussed in the preceding paragraphs, the Board concluded that the program does not have sufficient training value to warrant its retention.

50. See Annex E.

SECTION VII - Trainfire II

51. Trainfire II was developed by the United States Army Human Research Unit, Fort Benning, Georgia, with assistance from the United States Army Infantry School. It was designed to improve training under ATP 21-114 and consists of integrated and concurrent training in squad tactics and technique of rifle fire. The program prescribes daytime technique of rifle fire as well as basic squad tactics, and develops a trainee's ability to function as a part of a fire team in the engagement of combat-type targets in the attack and defense. It places emphasis on realistic live firing exercises on ranges which feature the latest developments in automatic "pop-up" targets, electronic hit computers and automatic weapons and artillery simulators. The favorable results of the troop tests at Fort Carson, Colorado and Fort Jackson, South Carolina prompted the United States Army Infantry School to recommend adoption of this program to USCONARC in 1958. USCONARC then conducted an extensive review of Trainfire II to determine feasibility of adoption. It concluded that current and forecasted Army budget and manpower austerity policies precluded adoption of Trainfire II as proposed.

52. The United States Army Infantry School was directed to restudy the program with a view toward: (1) elimination of all features not absolutely essential in the training of a basic combat soldier; developing a program which incorporates all basic combat field firing training and meets the POR requirements of the Close Combat and Infiltration Course; (2) reducing overhead personnel, ammunition, and range facility requirements. In a subsequent communication USCONARC directed that this restudy be incorporated as applicable in the findings of this Board's Report.

53. The Board in its examination of Trainfire II determined that revisions could be made to the program which would reflect the guidance furnished by USCONARC. In essence, the Board developed a program (Appendix I, Annex F) which retained the positive benefits of the original program while effecting savings in overhead personnel ammunition and range requirements, and training time. Additionally, the Board incorporated features which meet the POR requirements of the Close Combat Course and the Infiltration Course thereby permitting deletion of these subjects in ATP 21-114 as separate blocks of instruction.

54. The Board's efforts in this field provide a savings (from the original program) of 96 rounds of ammunition per individual, a 40% reduction in cadre personnel, a six hour savings in training time, and elimination of three ranges. However, the initial costs to implement this program remain relatively prohibitive when current economy requirements are considered. The Board estimates that the average cost of the construction of two complexes will approximate \$435,000. In this connection, two complexes are required for an installation with an input of five trainee companies per week.

55. The Board furnished field commanders with copies of the revised program and requested comments pertaining to its desirability and feasibility of implementation. The senior commanders overwhelmingly favored its implementation during basic combat training. Of the 76 replies to the Board's questionnaire concerning this program, only four commanders were not in favor of adopting the program. Only one installation currently with a basic combat training mission indicated that terrain considerations precluded its implementation.

56. Based upon the replies from the field and its own evaluation, the Board concluded that the revised Trainfire II program should be implemented in the five United States Army training centers and the three training divisions for training under ATP 21-114.

57. See Annex F.

SECTION VIII - Mobilization

58. Due to range availability considerations, it is apparent that a dual system of rifle marksmanship training will exist at mobilization. In recognition of this problem, the Board determined that priority criteria should be established to govern the use of the ranges. Accordingly, the Board in its questionnaire to senior commanders proposed that priority of use of Trainfire I ranges should be given to the combat rifle elements of the Army. The senior commanders concurred in this proposal. In substance, 86% of the replies stated that, if sufficient Trainfire I ranges are not available at mobilization, priority of their usage should be given to the combat rifle and the combat support elements.

59. The Board believes that in acceptance of this priority guidance, mobilization planners should, insofar as is feasible, consider assignment of priority units to installations where Trainfire I facilities are available. The Board feels that the current Trainfire I construction program should be reevaluated with a view toward expansion. Meanwhile, until a single system can be achieved, the Board believes that the alternate basic rifle marksmanship program contained in Appendix VI to Annex B will complement the Trainfire I program and provide a reasonable degree of standardization.

60. To determine the requirements for ranges, the Board made a study of the anticipated inputs of individuals and units at each mobilization training center and training division. The range requirements arrived at, bear a security classification and are contained in a separate inclosure to this Report.

61. To facilitate the accomplishment of the goal of a single system of rifle marksmanship training which is to a degree compatible with the impact of range construction costs on peacetime economy measures, the Board agreed that the following priority should be established.

- a. Sufficient Trainfire I ranges be constructed to satisfy the peacetime training requirements of the Army.
- b. Trainfire I ranges be constructed at mobilization stations if they can be profitably utilized by either the active Army or Reserve Components.
- c. Trainfire I ranges be planned and programmed for construction in sufficient quantity to satisfy full mobilization requirements; construction to be initiated upon mobilization.

62. The Board is of the strong opinion that the construction program outlined above is compatible with the Army's current plan for modernization of its equipment and its training. As a result, the Board early in its deliberations attempted to determine an approximation of the costs involved. It soon discovered that to make a reasonably valid approximation the following information was essential: (1) troop strength and geographical location of each active Army installation; (2) troop strength, geographical location, and troop density at each geographical location of the Reserve Components; (3) mission and training time available to the Reserve Components; (4) terrain and real estate considerations in the United States and overseas areas; (5) construction and equipment costs, peculiar to the various geographical areas of the United States and overseas areas; and, (6) a detailed knowledge of the overall mobilization plan.

63. Obtaining and evaluating this detailed information was not feasible within the time frame of the Board's operation. Nevertheless, the Board recognizes the critical importance of the funding aspects of this program and recommends this problem be studied at the appropriate Army level.

64. See Annex G.

SECTION IX - Future Developments

65. The Board evaluated the impact which will be made on the rifle marksmanship programs proposed in this Report by weapons currently integrated into the Army and by future weapons and ammunition developments. Specifically, USCONARC indicated that the small arms weapons system, the M79 grenade launcher and the hand-held all purpose weapon would be considered. At the outset, the Board eliminated the small arms weapons system and the M79 grenade launcher from further consideration. The small arms weapons system will not be developed for troop issue; the M79 grenade launcher is an area weapon and, therefore, is not pertinent to the Board's study.

66. The Board also found that it was concerned with two time frames. First, the mid-range period, during which the M1 rifle will be phased out and the M14 rifle will be phased in, and secondly, the period subsequent to the mid-range period when the hand-held all purpose weapon is expected to be phased in.

67. The Board in making its evaluation was primarily interested in determining major changes in training techniques and/or facilities which might be required; and in insuring that the proposed marksmanship programs were sufficiently flexible to absorb the weapons under consideration without major changes in training concepts and without major expenditure of funds for new facilities.

68. In substance, the Board found that the weapons under consideration (M14 rifle and hand-held all purpose weapon) will not invalidate the rifle marksmanship programs proposed by this Board. This is due primarily to the fact that with these weapons there still remains the fundamental requirement of obtaining a first round hit, using a direct line of sight aiming technique.

69. Several types of ammunition are under development which may, when introduced, require minor modifications to the proposed programs. These modifications fall in the area of types of targets, scoring techniques, qualification criteria, and methods of zero. One type of ammunition, the duplex round, may, because of cost implications require that the Army use the present 7.62 round as a training round. The duplex round, if used will have considerable impact on the use of the bull's-eye target in competitive firing.

70. The overall conclusion the Board drew from its analysis in this field is that the rifle marksmanship programs proposed by the Board will absorb the weapons and ammunition discussed above without major modification to the programs or the attendant range facilities.

71. See Annex H.

CHAPTER 5

RECOMMENDATIONS

SECTION I - Introduction

73. The succeeding sections of this chapter contain a complete list of all recommendations developed by the Board. For purposes of convenience, those recommendations specifically dealing with range construction are grouped under Section IX. Applicable portions of these recommendations are also included as the final sections in Annexes A through G.

SECTION II - Objectives

74. To develop in every soldier during basic combat training:

- The confidence, will, knowledge, and skills required to fire a rifle and hit enemy personnel in combat.
- The ability to apply correct techniques of fire when he functions as an individual in a fire unit in the engagement of enemy personnel.

75. To insure that every soldier maintains a continuing degree of proficiency in combat rifle firing consistent with the mission of the unit to which the soldier is assigned.

76. To provide in time of peace a broad base of shooters from which potential precision target marksmen can be selected and further trained to successfully compete in inter-service, civilian, and international competition.

SECTION III - Basic Marksmanship Program

77. The Board makes the following recommendations relative to the basic rifle marksmanship program of the United States Army:

a. That the basic rifle marksmanship course proposed in Appendix V, Annex B be adopted as the standard basic rifle marksmanship course of the United States Army. Before final adoption, however, it is recommended that the course be tested to determine if minor changes are required. Further, recommend that such testing be conducted at, at least three United States Army training centers during the course of their normal training.

b. That .22 caliber firing not be incorporated into the basic rifle marksmanship program at this time.

c. That a test be conducted of a basic rifle marksmanship course which incorporates .22 caliber firing as suggested in Appendix VII to Annex B. Based on the outcome of this test a decision concerning use of the .22 caliber in the Army's basic marksmanship program should then be made.

d. That the alternate course proposed in Appendix VI to Annex B be tested and considered for adoption as the official course for use at any location, which has a basic training mission but which lacks sufficient Trainfire I ranges to conduct the standard basic rifle marksmanship course.

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SECTION IV - Qualification and Familiarization Program

78. The Board recommends that the proposed annual qualification program outlined in Section VII and Appendix VII to Annex C be approved. Specifically in implementation of this program, it is recommended that:

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- a. Command emphasis of the qualification program be stressed and that increased publicity be provided in military and civilian media.
 - b. Authority be delegated no lower than Army commanders to permit units to fire the modified Known Distance Qualification Course A and the Marksmanship Fundamentals Proficiency Course, Course B, outlined in Section VII, Annex C.
 - c. A system of qualification badges essentially as outlined in par 18, Section VII, Annex C be approved. Further, that the feasibility of including marksmanship proficiency as a part of the Army's proficiency pay system be made a matter of further study.
 - d. Small bore firing be encouraged as a valid means of promoting and maintaining interest in marksmanship.
 - e. Consideration be given to the development, testing and construction of miniature Trainfire I ranges for small bore and large bore 25-meter firing, particularly for units that do not have access to large bore facilities.
 - f. Troop tests be conducted to establish a scoring-system for Course C (25-meter Trainfire I) as outlined in Tab A to Inclosure 6, Appendix VII, Annex C.
 - g. Implementing directives be published and/or existing directives revised essentially as follows:
 - (1) AR 370-5: To prescribe terminology and annual courses of the proposed program (Section VII and Appendix VII to Annex C); categories and personnel to fire a particular course; and delegation of authority to overseas theater and CONUS army commanders to fire the alternate courses where facilities, travel time, or distance prevents units or installations from firing their prescribed annual courses.
 - (2) AR 600-70: To prescribe the system of marksmanship badges outlined in Section VII to Annex C.
 - (3) TA 23-100: To prescribe ammunition allowances for the various courses of fire outlined in Appendix VII, Annex C.
 - (4) FM 23-5: To outline or indicate the appropriate reference for annual qualification courses as well as basic qualification courses.
 - (5) FM 23-71: To outline or indicate the appropriate reference for annual Trainfire I qualification courses.
 - (6) Army Training Program and Army Subject Schedules to reflect the details of the annual program as to hours, periods of instruction, etc.

SECTION V - Competitive Program

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79. Combat firing features be incorporated into the competitive matches of the infantry, armor, and airborne divisions at company/battalion and battle group level.

80. An Army-wide system of competitive matches featuring combat firing techniques not be implemented without a thorough evaluation of the impact such matches would have on the currently successful methods of selecting and training precision shooters.

81. The alternate means for selecting and training precision marksmen discussed in Section VII, Annex D be fully exploited.

82. Increased emphasis be placed on small bore competitions at company level. The small bore program contained in Appendix III to Annex D, if standardized at CONUS Army level would promote such competitions.

83. A feasibility study be made relative to the standardization of TD advanced marksmanship units at CONUS army and post/division level.

84. A standardized small bore competitive program be prescribed for the Reserve Components. The Reserve Components be encouraged to participate in standardized small bore competitions such as that contained in Appendix III, to Annex D.

SECTION VI - Advanced Rifle Marksmanship

85. The advanced rifle marksmanship program be eliminated from ATPs 7-17, 6-100 and 5-5.

SECTION VII - Trainfire II

86. The Board recommends that:
- a. The Trainfire II program as revised be implemented at the installations which have a basic combat training mission. (Appendix I, Annex F)
 - b. Trainfire II complexes be planned for those installations which have a continuing basic training mission after mobilization and subsequent to mobilization such complexes be constructed as required.

SECTION VIII - Mobilization

87. Combat rifle and combat support elements be given priority for the use of Trainfire I ranges during peacetime and mobilization.

88. Recommendations relative to range construction to support mobilization requirements are listed under Section IX.

SECTION IX - Range Construction

89. In the field of CONUS range construction required to support the proposals of the Board, it is recommended that:

- a. Trainfire I ranges be programmed when planning new range construction.
- b. Construction of Trainfire I ranges be continued until sufficient ranges exist at US Army training centers and training divisions to accommodate their maximum projected peacetime trainee input.
- c. Trainfire I ranges be constructed at those active Army installations where combat elements are stationed and at mobilization stations where they can be profitably used by either the active Army or the Reserve Components.
- d. When Trainfire I ranges are not reasonably available, that Known Distance ranges be retained at installations where administrative and support units are stationed to permit these units to fire Known Distance Qualification Course A.
- e. Sufficient Known Distance range facilities be retained to support the current competitive marksmanship program.
- f. Trainfire II complexes constructed at those installations which now have a continuing basic training mission; and that additional complexes be planned to satisfy mobilization needs.
- g. 25-meter ranges be constructed for Reserve Component units that are not within reasonable proximity to existing large bore facilities.

h. That Trainfire I ranges be planned and programmed for construction in sufficient quantity to satisfy full mobilization requirements; construction of these ranges to be initiated upon mobilization.

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NOTE

These annexes further develop the subject matter appearing within the summary discussion and substantiates the recommendations proposed by the Board. Additionally they include comments on matters which are within the Board's purview but which are not specifically discussed in the body of the report. These comments serve as additional coverage and background.

ANNEX A
OBJECTIVES

SECTION I - Purpose

1. The purpose of this annex is to develop an objective or series of objectives that will, when fully implemented, establish the desired standards of proficiency for a complete rifle marksmanship program for the United States Army.

SECTION II - Approach to the Problem

2. In the development of these objectives the Board approached the problem essentially as follows:
- a. Reviewed all current publications and directives concerning rifle marksmanship training.
 - b. Developed a series of objectives for the overall rifle marksmanship program.
 - c. Queried senior commanders of the active Army and Reserve Components as to the desirability of these objectives.
 - d. Evaluated the replies of the senior commanders.
 - e. Developed conclusions and recommendations.

SECTION III - Discussion

3. A review of current publications concerning the rifle marksmanship program clearly indicates that the objectives of a complete rifle marksmanship program for the United States Army have never been clearly stated. However, the necessity for accomplishing certain essential aspects of rifle marksmanship has long been recognized, and numerous provisions have been made for their accomplishment. For example, ATP 21-114 and ASubjScd 21-31 outline a basic rifle marksmanship course; ATP's 7-17, 5-5, and 6-100, and ASubjScd 7-11 contain provisions pertaining to advanced rifle marksmanship; AR 370-5 outlines the requirements for annual qualification and familiarization firing; AR 920-20 recognizes a need for Army support of civilian shooting; and, AR 622-10 provides for certain competitive-type shooting, both for Army personnel and civilians. Each of these has its own specific objective, but there is no standard by which the sum total of these objectives can be measured to determine if they accomplish the results which a complete rifle marksmanship program should accomplish. Obviously, this lack of definitive aims contributes to a lack of direction in the implementation or evaluation of the program.

4. Any rifle marksmanship program for the Army must have as its overriding consideration the teaching and developing of those skills in the individual soldier which will give him the ability to effectively shoot his weapon in combat and destroy enemy personnel. Once this skill is acquired it must be retained to an acceptable degree of proficiency. Within the overall framework of the above, the rifle marksmanship program should provide a broad base of prospective precision shooters. This broad base is a vital factor in the recent successes the Army has enjoyed in the competitive field. Based on these considerations the Board developed the objectives listed below and incorporated them in a questionnaire which was sent to senior commanders for concurrence and/or comments:

- a. Basic Combat Training Phase.
 - (1) To develop in every soldier during Basic Combat Training the will, knowledge and skills required to fire a rifle and hit enemy personnel in combat.

(2) To develop in every soldier during Basic Combat Training the ability to apply correct techniques of rifle fire when he functions as a member of a fire unit in the engagement of enemy personnel in the attack and defense.

b. Qualification and Requalification Phase. To insure that every soldier maintains a continuing degree of proficiency in combat rifle firing consistent with the mission of the unit to which the soldier is assigned.

c. Competitive Marksmanship Phase. To provide in time of peace a broad base of shooters from which potential precision marksmen can be selected and further trained to fire in interservice, civilian, and international competition.

5. A total of 97 replies were received. 87.5% indicated concurrence with the proposed objectives. The recommendation to consolidate the objectives into one or two objectives was suggested more often than any other. The Board recognized the feasibility and merits of this proposal but felt that the objectives fell logically into the three main phases of a rifle marksmanship program namely; basic rifle marksmanship, annual qualification, and competition. Furthermore, brief, concise objectives would be less vulnerable to misinterpretation.

SECTION IV - Conclusions

6. The Board concludes that:

a. Currently, the United States Army does not have a clearly defined statement of objectives for its overall rifle marksmanship program.

b. Objectives for a complete rifle marksmanship program must be established.

c. The objectives of the overall rifle marksmanship program must be concerned primarily with developing the individual skills needed to effectively shoot and kill enemy personnel in combat.

d. Rifle marksmanship skills must be retained to an acceptable degree of proficiency.

e. That competitive marksmanship relies on the broad base of shooters provided by the Army's marksmanship training program.

SECTION V - Recommendations

7. The Board recommends that the following be adopted as the objectives for the Army rifle marksmanship program:

a. To develop in every soldier during Basic Combat Training:

(1) The confidence, will, knowledge, and skills required to fire a rifle and hit enemy personnel in combat.

(2) The ability to apply correct techniques of fire when he functions as an individual in a fire unit in the engagement of enemy personnel.

b. To insure that every soldier maintains a continuing degree of proficiency in combat rifle firing consistent with the mission of the unit to which the soldier is assigned.

c. To provide in time of peace a broad base of shooters from which potential precision target marksmen can be selected and further trained to successfully compete in interservice, civilian, and international competition.

ANNEX B

BASIC MARKSMANSHIP PROGRAM

Appendix I

Range Requirements (Areas)

Appendix II

Range Construction Costs

Appendix III

Summary of AAMU Tests

Appendix IV

Comparison of Scores (Bull's-eye vs Silhouette Targets)

Appendix V

Proposed Basic Rifle Marksmanship Course

Appendix VI

Proposed Alternate Basic Rifle Marksmanship Course

Appendix VII

Inclusion of .22 Caliber Rifle in Proposed Basic Rifle Marksmanship Course

ANNEX B

BASIC RIFLE MARKSMANSHIP

SECTION I - Purpose

1. The purpose of this annex is to review and evaluate the basic rifle marksmanship program presently in use in the United States Army and to recommend, if appropriate, changes thereto.

SECTION II - Approach to the Problem

2. In the conduct of this review and evaluation the Board approached the problem in the following manner:

- a. Reviewed the present program.
- b. Evaluated the Trainfire I Course and the Known Distance Course separately, as a combination, and as a modified course embodying the best features of each.
- c. Analyzed numerous suggestions for the improvement of basic rifle marksmanship.
- d. Explored means of reducing ammunition expenditures and support personnel requirements without adversely affecting the basic rifle marksmanship program.
- e. Considered the feasibility of incorporating .22 caliber firing into the basic rifle marksmanship program.
- f. Proposed a basic rifle marksmanship program for testing and possible subsequent adoption.
- g. Arrived at conclusions regarding basic rifle marksmanship in the United States Army.
- h. Made recommendations relative to the basic rifle marksmanship program.

SECTION III - Present Program

3. Active Army and Reserve Components. Every soldier entering the US Army is taught to fire the rifle under the same basic rifle marksmanship program. This is true regardless of his eventual branch assignment or component destination.

4. Problems. There is only one standard rifle marksmanship course in our basic rifle marksmanship program. This course, Trainfire I, was adopted in 1957 after extensive testing and is the standard basic rifle marksmanship course for the Army. In actual practice, however, two courses are in use. Most training centers and training divisions have sufficient Trainfire I ranges to handle their present trainee input. Other installations, due to insufficient Trainfire I ranges, continue to use existing Known Distance facilities. This lack of standardization presents a problem in administration, scheduling, and logistics at those installations where both courses are taught. Furthermore a problem develops when the soldier, trained in basic training under one course, is subsequently assigned to a unit where annual rifle qualification must be conducted under the other course. To provide a background for a study designed to eliminate these problems the Board examined both the Trainfire I Course and the Known Distance Course.

5. Rifle Marksmanship Courses Currently in Use.

a. Subjects and Hours. Table I lists subjects taught and hours required in each of these two courses.

| Trainfire I Course | | Known Distance Course | |
|--------------------|--|-----------------------|--------------------------|
| Hours | Subjects | Hours | Subjects |
| 2 | Orientation | 3 | Mechanical Training |
| 4 | Mechanical Training | 35 | Preparatory Marksmanship |
| 26 | Preparatory Marksmanship, 25-Meter Firing | 48 | Range Firing |
| 4 | Battle Sight Zeroing | | |
| 18 | Field Firing | | |
| 16 | Target Detection | | |
| 8 | Record Firing | | |
| 78 | Total* | 86 | Total* |

*Does not include 12 hours instruction presently given in the Individual Night Firing Course.

Table I. Subjects taught and hours required in the Trainfire I Course and the Known Distance Course.

b. Ammunition. Table II shows a comparison between the ammunition requirements of the two courses. In the Trainfire I Course each soldier fires 557 rounds of ball ammunition. In addition, approximately .6 rounds of ball ammunition and 14 rounds of blank ammunition per trainee are authorized for demonstrations. In the Known Distance Course each soldier fires 427 rounds of ball ammunition. No ball or blank ammunition is authorized for demonstrations.

| Trainfire I Course | Known Distance Course |
|--|--|
| Ammunition Requirements | Ammunition Requirements |
| Cal .30, ball (Firing) = 557 rds/soldier | Cal .30, ball (Firing) = 427 rds/soldier |
| Cal .30, ball (Demo) = .6 rds/soldier | Cal .30, ball (Demo) = None required but some generally used |
| Cal .30, blank (TD) = 14 rds/soldier | Cal .30, blank (TD) = None |

Table II. Ammunition requirements for the Trainfire I Course and the Known Distance Course.

c. Range Areas. Table III shows the range requirements for both courses. Ranges shown are the minimum requirements for the efficient conduct of firing by a 200-man company as specified in FM 23-5, FM 23-71, and ASubjScd 21-31. "Basic area" as used in this table refers to all that area included between the firing line and the targets. "Total area" refers to basic area plus impact area and safety fans. Calculations

of total area for both type ranges are based on separate impact areas for each range of a complex. A common impact area for several ranges would result in reduced acreage requirements in both cases. However, this would vary at each installation due to diversity of terrain utilization factors. It should be noted that, due to a requirement for 4 target detection ranges, the basic area needed for Trainfire I is approximately 104 acres. The total area required is approximately 5317 acres. The basic area required for the Known Distance Course is approximately 74 acres. The total area required is approximately 7362 acres. (Appendix I shows detailed sketches and computations of areas.)

| Trainfire I Course | | | | | Known Distance Course | | | | |
|--------------------|------------------|-----------------|--------------------|--------------------|-----------------------|-----------------|-----------------|--------------------|--------------------|
| Range Requirements | | | | | Range Requirements | | | | |
| Nr | Type | Points or Lanes | Basic Area (Acres) | Total Area (Acres) | Nr | Type | Points or Lanes | Basic Area (Acres) | Total Area (Acres) |
| 1 | 25-Meter | 110 | 3.0 | 1207.0 | 1 | 1000" | 100 | 2.1 | 1191.1 |
| 1 | Field Firing | 35 | 13.2 | 1735.4 | 1 | KD | 50 | 17.9 | 1226.3 |
| 1 | Record Firing | 16 | 41.3 | 2328.3 | 1 | Combat Position | 20 | 51.6 | 1877.9 |
| | Total | | 57.5 | 5270.7 | 1 | Quick | 4 | 2.7 | 3067.0 |
| 4 | Target Detection | 25 ea | 46.4* | 46.4* | | Total | | 74.3 | 7362.3 |
| | Grand Total | | 103.9 | 5317.1 | | | | | |

*Total for 4 ranges (Note that since this is not a firing area this ground can also be used for other purposes).

Table III. Range requirements for Trainfire I Course and the Known Distance Course.

d. Range Costs.

(1) Construction. The Board found that construction costs obtained from installations which have built both type ranges are not valid for use in a generalized cost comparison between the ranges required for each of the two courses. (Appendix II) Some of the many reasons for this are as follows:

- (a) Most of Known Distance ranges in existence today were constructed 10-20 years ago when costs of material and labor were cheaper than today.
- (b) Some ranges were constructed with civilian labor; others, with troop labor.
- (c) There is frequently a difference in degree of "nice-to-have" features between ranges, e. g., protected passageways from firing line to pits, concrete walkways, permanently installed telephone lines, etc.
- (d) Certain areas require greater engineering effort, e. g., trees moved, swamps drained, or earth moved.
- (e) In some locations the construction of extensive "berms" is required to comply with safety regulations.

(f) Some Trainfire I range costs were based on use of "limited production" automatic target devices. Cost for these early target devices was approximately \$320.00 each, whereas current production automatic target devices cost approximately \$70.00 each.

(g) Not all ranges have the same number of firing points, e. g. , some Known Distance ranges have 100 points; others, 50; some 25-meter ranges have 65 points; others, 110; some Trainfire I record ranges have been built with 12 points; others with 16 or more.

(h) The above reasons, and possibly others, account for the considerable variance in construction cost figures. For example, four installations reported that Known Distance ranges cost considerably more to construct than comparable Trainfire I ranges. Three other installations, however, showed Trainfire I ranges costing more than comparable Known Distance facilities.

(i) While recognizing the questionable value of such figures, the Board determined an average of construction cost figures received from seven installations for both Known Distance ranges and comparable Trainfire I ranges. This resulted in an average construction cost of approximately \$197,000 for a Known Distance range complex and approximately \$125,000 for a Trainfire I range complex. (Appendix II)

(2) Maintenance. Of four installations which answered the Board's questionnaire regarding range maintenance, one did not include maintenance costs of the automatic target device in its figures; two others reported maintenance of Known Distance ranges as costing more than maintenance of Trainfire ranges. Only one installation submitted a maintenance estimate which appeared to be sufficiently detailed and complete as to provide the Board with a reasonable guide figure. Cost for Trainfire I range maintenance at that post, including repairs on automatic target devices, was approximately \$70.00 per company per month - a figure which does not appear to be unduly excessive.

(3) Operation. Regarding range operation there was unanimous agreement as to costs. As measured in terms of manhours, Trainfire I range operation costs are lower than Known Distance range operation costs by a considerable margin. This is true because there is a requirement for large numbers of personnel to work as target pullers, pit scorers, telephone operators, and target pasters, on a Known Distance range, whereas such a requirement does not exist on comparable Trainfire I ranges. An indication of the importance of this becomes evident when it is realized that 40% to 50% of the time which a trainee spends on a Known Distance range is not devoted to rifle marksmanship training due to his having to help in the operation of the range.

SECTION IV - Evaluation of Courses

6. Four different courses were evaluated by the Board in its search for one which appeared to suit the Army's need best. These included the Known Distance Course outlined in FM 23-5, the current standard Trainfire I Course prescribed in FM 23-71, a combination of Trainfire I and Known Distance, and a modification of Trainfire I which included added emphasis on certain fundamentals of shooting.

7. Known Distance Course. The Board noted that the Known Distance Course is based on the concept that rifle firing should be taught to the trainee in five separate steps of instruction. These are: sighting and aiming, positions, trigger squeeze, sustained fire, and sight setting. This instruction is not related to combat-type firing until the soldier has first learned the fundamentals of shooting. Then he is permitted to fire on "transition" ranges designed to teach him the elements of combat shooting. The Known Distance Course was developed over a long period of time and is based on the opinions and theories of many individuals. That this is an effective rifle marksmanship course cannot be denied, since firers trained by this method have been effective in

many wars. Nevertheless, in 1953 a question was raised as to whether or not a more effective rifle marksmanship course could not be developed. Subsequently Trainfire I was designed and tested. In troop tests involving more than 10,000 soldiers, the Trainfire I Course was shown to be a better method of teaching combat-type shooting. Out of more than 100 replies which the Board received from commanders in the field, less than 1% advocated a return to sole use of the Known Distance Course in teaching basic rifle marksmanship.

8. Trainfire I Course. The Trainfire I Course is designed so as to enable the trainee to achieve, within safety and measurement of score limitations, maximum transfer from firing in training to firing under combat conditions. Shooting is taught as an "integrated" act rather than as a series of steps. Emphasis throughout the course is placed on firing skills needed in combat. Procedures having limited application to combat (sight adjustment, use of a sling, firing at bull's-eye targets, etc.) are not stressed. Trainfire I is based on a set of premises developed through a comprehensive review of combat literature and interviews with battle-experienced veterans. It is organized so as to realize maximum training benefits through the application of well-established principles of learning, e. g., transfer of skills, motivation, knowledge of principles, knowledge of results, accuracy or speed, repetition, avoidance of fatigue, spaced practice and variety. When Trainfire I was originally proposed for adoption as the Army's standard basic rifle marksmanship course, it was realized that modifications would be required as a result of experience gained in the field. This has proved to be the case. During its investigation the Board discovered that numerous changes to Trainfire I have been proposed - most of them by units with considerable experience in its use. Additionally confirmation of the need to modify Trainfire I was clearly indicated in replies from the field. While generally pleased with Trainfire I, only three units expressed satisfaction with the course in its present form.

9. Combination of Trainfire and Known Distance. Since several suggestions to combine Trainfire I and Known Distance have come from both military and civilian sources, the Board devoted considerable study to this question.

a. Replies from the field. Approximately 50% of the units which commented on the subject in answering the Board's questionnaire expressed a preference for a course which in essence combined Trainfire I and Known Distance in their present form into a single course. Of the units which wanted Known Distance added to Trainfire I more than 80% had had no previous practical experience with the Trainfire I Course. Almost 20% wanted Known Distance added to Trainfire I simply because this would be a longer course and therefore should result in better training. Another 10% wanted a combination of Trainfire I and Known Distance because they thought such a course would be more adaptable to Reserve Component units. And finally, approximately 20% wanted the combination of Trainfire I and Known Distance because they thought they foresaw fewer difficulties in using it during annual qualification and familiarization firing. As a result of this analysis of replies it appears that only one-half of the units which wanted Known Distance combined with Trainfire I did so because they believed that Known Distance per se would materially improve the basic rifle marksmanship course.

b. Length of Course. The Board noted that a combination of Trainfire I and Known Distance would result in a longer course than is presently used. In fact one combination which was suggested to the Board for consideration contained 120 instructional hours, exclusive of the individual night firing course. Obviously this course could be expected to produce proficient shooters; however, the Board felt that a course of such length is excessive when compared to the total training time available for giving soldiers basic training. In the basic combat course there are at present 35 subjects other than basic rifle marksmanship which must be taught to trainees. This number will increase

as research and development programs make new types of weapons available to the soldier. Soon instruction on the Light Antitank Weapon (LAW), the 40mm grenade launcher, (M79), and possibly, the shoulder-fired anti-aircraft weapon, REDEYE, will have to be incorporated into an already crowded basic training program. The Board considers, therefore, that a basic rifle marksmanship course should not be materially longer than the present standard course.

c. Requirement for different range complexes. The Board recognized that two different types of range complexes would be needed throughout the Army if a combination of Known Distance and Trainfire I were used as a basic rifle marksmanship course. From an economy and land usage point of view such a plan would be highly expensive. Therefore, to propose such a course appeared to the Board to be fundamentally unsound.

d. Range operation efficiency. A serious disadvantage encountered with the use of conventional Known Distance ranges is that a portion of the range time is not devoted to marksmanship training. This is due to a requirement for "pit details." As pointed out earlier, the number of personnel required to operate a Known Distance range is greater than the number required to operate a Trainfire I range.

| | <u>KD</u> | <u>TF I</u> |
|---------------------|---------------|--------------|
| Length of course | 86 hrs | 78 hrs |
| Pit details | <u>20 hrs</u> | <u>0 hrs</u> |
| Total training time | 66 hrs | 78 hrs |

Table IV. Comparison of Productive Training Time on Known Distance ranges and on Trainfire I ranges.

From this comparison it can be seen that on Trainfire I ranges a trainee would receive 12 hours more training from an 8-hour shorter course. So as to realize this saving in training time the Board feels that basic rifle marksmanship should be conducted to the maximum possible extent on ranges utilizing electrical "pop-up" target devices rather than on ranges equipped with targets requiring manual operation.

e. Other considerations. The Board agreed that, while more emphasis on the fundamentals of shooting as taught in the Known Distance Course might enhance the effectiveness of Trainfire I, there are certain features found in the conventional Known Distance Course which should be changed:

(1) 500-yard firing. In the Known Distance Course the trainee fires at ranges out to 500 yards (460-meters). In the Trainfire I Course the trainee fires at ranges out to 385 yards (350-meters). In an effort to determine the validity of having a trainee fire at a range of 500 yards the Board first recognized that one of the premises on which Trainfire I is based is that the range to combat targets will rarely exceed 300 yards. Next it considered the inherent accuracy of the weapon-ammunition combination which the trainee must use. An initial investigation revealed that doubt exists in some quarters that the "average" issue weapon firing "run of the mill" issue ammunition can consistently deliver a high percentage of hits on a man-sized target at ranges much beyond 400 yards. A check of TM 9-1990 indicated that a hit spread of 13 inches (6.5-inch radius) could be expected at 500 yards when caliber .30, ball, M2 ammunition is fired from an "accuracy" rifle. This was interpreted as representing the dispersion area of the ammunition alone. Subsequent examination of reports of limited tests conducted by the United States Army Infantry School were made. These tests suggested that when issue weapons and issue ammunition are used the hit dispersion pattern at 500 yards is relatively large. In an attempt to find out how large, the Board requested the Army

Advanced Rifle Marksmanship Unit located at Fort Benning to conduct limited tests using issue M1 and M14 rifles in an accuracy cradle and firing issue caliber .30 and 7.62mm ammunition. A summary of those tests is included in Appendix III. Results of these tests tended to substantiate the belief that the percentage of consistent hits on a man-sized target at 500 yards is likely to be low with issue weapons and issue ammunition. With both the M1 and the M14 rifles the results were similar at the 500-yard range - an average vertical spread of approximately 34 inches and an average horizontal spread of approximately 26 inches, with some weapon/ammunition combinations delivering an extreme spread of 53 inches vertical dispersion and 40 inches horizontal dispersion. If the results of these tests are valid, then obviously the training value which a trainee will derive from firing at the 500-yard range is highly questionable. The Board would prefer to see 500-yard firing by trainees discontinued and additional emphasis placed on teaching the soldier to hit man-sized targets at closer ranges.

(2) "Bull's-eye" targets. A bull's-eye-type target is unrealistic, from a combat firing point of view, both in size and shape. Also, the scoring system used with bull's-eye targets is more liable to error than is the "one-hit - one point" system used with silhouette targets. Furthermore, duplex ammunition, if adopted, will present a scoring problem for bull's-eye targets; no change in scoring will be required with silhouette targets. In addition, the comparatively large scoring area of the bull's-eye target may be enabling our soldiers to obtain high qualification scores which, when translated into combat-type shooting, may be below acceptable standards. Appendix IV shows a theoretical example of how extreme this difference could be. Table V shows a comparison between scoring areas of the bull's-eye and silhouette targets.

| Range (Yards) | Type (Targets) | Scoring Area (Sq In)* | Comparison of Scoring Areas |
|------------------|-------------------|--------------------------|---|
| 100 | "A" | 1018 | "A" is approx 4 1/2 times larger than "F" |
| | "F" | 224 | |
| 300 | "A" | 1018 | "A" is approx 2 times larger than "E" |
| | "E" | 585 | |
| 500 | "B" | 2827 | "B" is approx 5 times larger than "E" |
| | "E" | 585 | |

*Bottom 4 inches of silhouette targets not included in this table since at least that much will not be exposed to the firer's view.

Table V. A comparison between scoring areas of bull's-eye targets and silhouette targets.

The Board feels that a silhouette-type target, rather than a bull's-eye-type target, should be used in the Army's basic rifle marksmanship program. At this point, it is of interest to note that the British Army uses man-sized silhouette targets in training recruits, even though their firing is done on Known Distance ranges. (Figure 1).

f. Summary. After careful consideration of the above aspects the Board concluded that a combination of the Trainfire I Course and the Known Distance Course is undesirable. The necessity to increase the overall length of such a combined course, the unsoundness of proposing a course which requires two different range complexes, and the less efficient use of training time which pit details cause, were the principal reasons for the Board's view. In addition, there were two features of the combined course which the Board felt should be changed; the requirement for a trainee to fire at a range of 500 yards, and the use of bull's-eye targets.

SILHOUETTE TARGET USED BY BRITISH ARMY

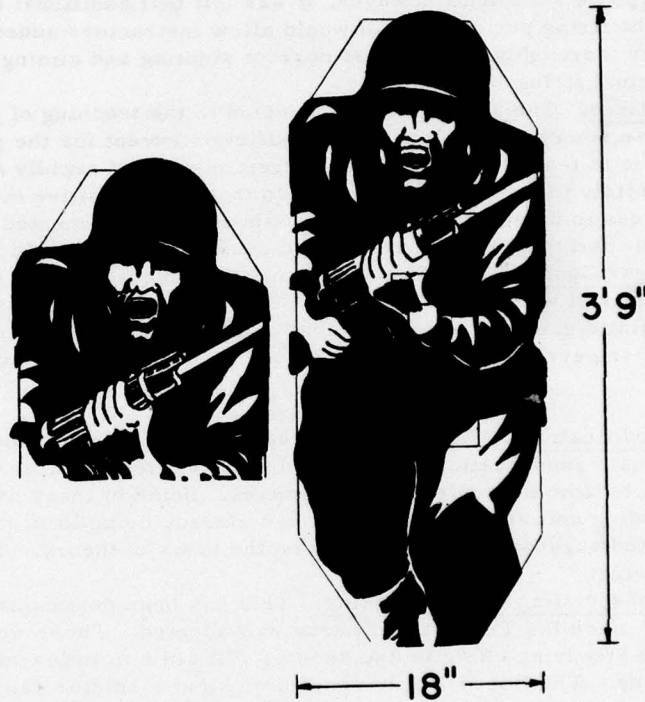


Figure 1

10. Trainfire I Modified. Since strong support for a modified Trainfire I Course came from commanders in the field, the Board examined ways in which this modification could be accomplished. Modifications involving a change in emphasis on fundamentals, as well as modification requiring additions or deletions of certain features of the course, were considered.

SECTION V - Modifications

11. Fundamentals. During its investigations, the Board heard frequent references to a need for increased emphasis on "fundamentals" of shooting. It was discovered, however, that there is a wide misunderstanding and definite differences of opinion as to a true meaning of fundamentals. To facilitate its work, the Board decided to consider the fundamentals of shooting to be sighting and aiming, positions and trigger control (squeeze). Although it has been widely stated that the original Trainfire I Course does not place emphasis on fundamentals, the Board became convinced that no serious lack of such emphasis actually existed. The impression of a lack of emphasis was created in the Trainfire I Course because this course utilizes the "integrated" or "whole" method of teaching rifle marksmanship. It is not possible to look at a subject schedule of the course and determine exactly how much time is devoted to any one subject. Since the teaching of fundamentals is integrated throughout the Trainfire I Course, an almost "minute-by-

minute" analysis must be made to determine total time allocated to any one subject. The Board's examination of time devoted to fundamentals in Training I is as follows:

a. The Board felt that the subject of sighting and aiming needs additional emphasis in the present Trainfire I course. Attention devoted to this subject during periods of firing appears to be sufficient; however, it was felt that additional time should be included prior to the firing periods. This would allow instructors added time to insure that every soldier thoroughly understands correct sighting and aiming procedures before he begins actual firing.

b. Positions. The amount of time devoted to the teaching of positions in the Trainfire I Course seems to the Board to be sufficient except for the prone position. Positive measures to teach the soldier the correct method of rapidly assuming the prone position are definitely in order. It was felt also that more positive means of evaluating the firer's progress in using correct positions should be implemented. This evaluation should begin in preparatory marksmanship and continue through field firing.

c. Trigger Control. The Board felt that the time devoted to trigger control instruction in Trainfire I was sufficient. It was felt, however, that lesson outlines should provide more definite guidance to instructors for making checks of the student's ability to manipulate the trigger correctly. More frequent use of ball and dummy exercises seem warranted.

12. Other Modifications. During the course of its background studies, the Board discovered that many modifications to the original Trainfire I Course have been suggested from time to time by implementing agencies. Some of these have been tested by the recommending unit and in some cases are already being locally implemented. Others are untested suggestions made solely on the basis of theory. The Board considered the following:

a. Use of the sling during shooting. This has been particularly a subject of controversy ever since the Trainfire I Course was adopted. Those who advocate its use claim that its steadying effect on the shooter will aid him in learning the fundamentals of shooting. The Board, while recognizing that a soldier can hold a rifle steadier by using the sling, does not favor a return to its use in the basic rifle marksmanship course. In this respect they agreed with the Human Research Unit studies that since shooting with a sling has little or no combat value its use should not be taught to the basic soldier. Overwhelming support of this position by field commanders was noted during Board members visits to key installations. Here also, it is interesting to note that neither the British nor the Canadian Armies permit the use of the sling during recruit training.

b. Exercise involving rapid fire at multiple dispersed targets. In this area the Board considered the present Trainfire I Course to be seriously deficient. The soldier needs to be able to fire his weapon rapidly and accurately if he is to be able to take full advantage of its capabilities. Rapid fire at the same target is not the answer. This type of firing was devised years ago to promote smooth and swift bolt manipulation. The soldier of today needs to be able to hit several dispersed targets while firing under time pressure. The Board favors the inclusion of this type shooting into the basic rifle marksmanship program.

c. Exercises involving rapid reloading. Here again the Board considered that a weakness exists in the present Trainfire I Course since the soldier is not taught to reload rapidly - in fact the act of loading itself is presently not emphasized sufficiently. Added emphasis on loading and inclusion of rapid reloading exercises are considered by the Board to be in order.

d. Discontinue zeroing at 75-meters and zero only at 25-meters. This recommendation had already been tested by several installations and has been approved by CONARC for implementation. After a review of studies and tests of this proposal the

Board concurred in the action already taken. It is felt that zeroing can be accomplished just as effectively at 25-meters and, at the same time, elimination of 75-meter zeroing will make possible an appreciable savings in time.

e. Use of a new zeroing target. This proposal is related to the one in 12d and is recommended by the Board for adoption. Since this target can be used both in zeroing and in other 25-meter firing it will replace two targets presently in use. Figure 2 shows a sample of the proposed target.

25-METER TARGET

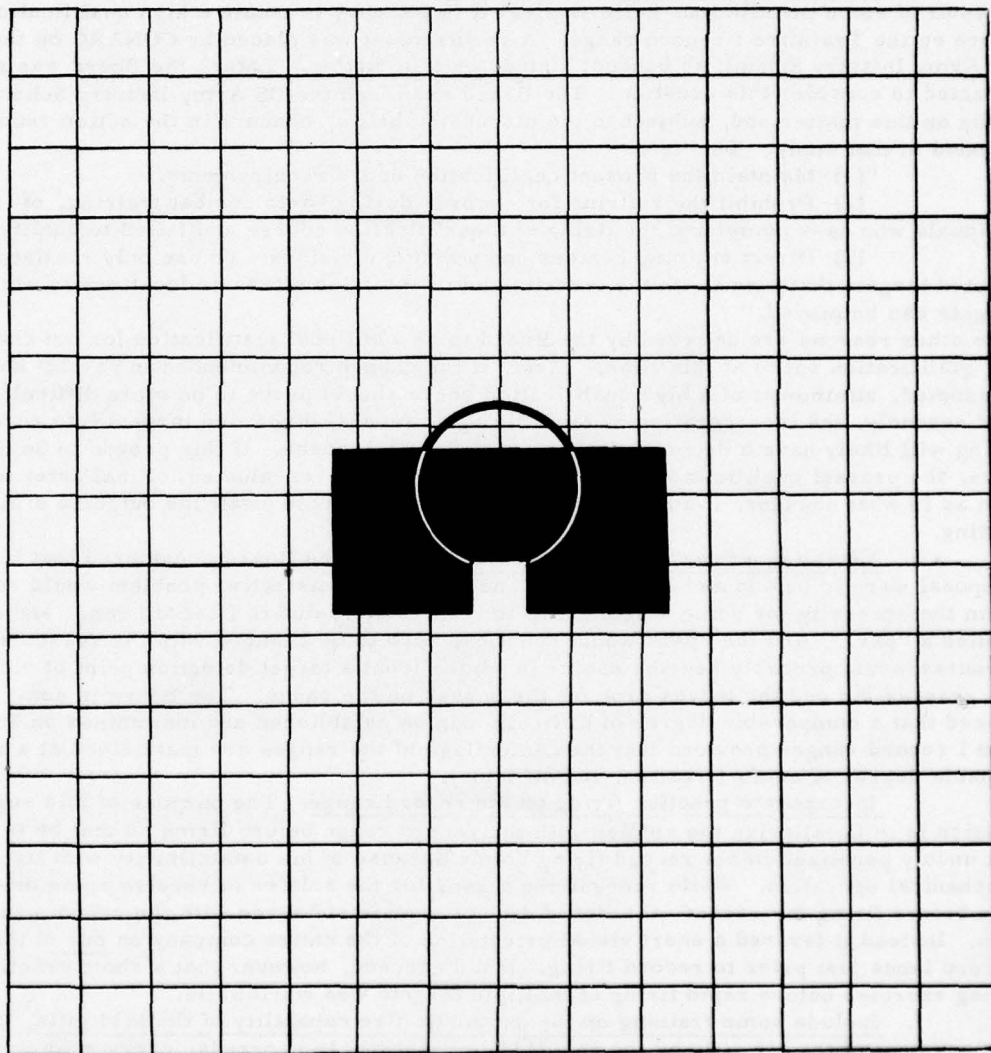


Figure 2

f. Change the sequence and number of targets being raised at the various ranges during record firing. This proposal came about as a result of the discovery that a soldier can qualify as a marksman on the Trainfire I record range without ever having fired at targets at a range greater than 150 meters. This is possible because enough targets are raised at the short ranges to enable the soldier to qualify without shooting at the longer ranges. Because poor shots are best separated from good shots in firing at the longer ranges, the Board recognizes a need to raise more long range targets during record firing.

g. Raise the present qualification score. This recommendation came about as a result of some installations believing that it is too easy to obtain a high qualification score on the Trainfire I record range. A requirement was placed by CONARC on the US Army Infantry School, to conduct a study on this matter. Later, the Board was also directed to consider this question. The Board examined the US Army Infantry School study on this matter and, subject to the discussion below, concurs in the action recommended in that study. This is:

"(1) Maintain the present qualification score requirements.

(2) Prohibit the refiring for record, during basic combat training, of individuals who have completed the firing of a qualification course and failed to qualify.

(3) Direct training centers and training divisions: To use only realistically painted targets that blend with the terrain; and to establish alternate locations to which targets can be moved."

Two other reasons are believed by the Board to be additional justification for not changing the qualification score at this time. First, if the change recommended in par 12f above is adopted, attainment of a high qualification score should prove to be more difficult. And secondly, the incorporation of rapid firing at several dispersed targets into record firing will likely have a decided effect on qualification scores. If this proves to be the case, the present qualification score will then have to be reevaluated. Final determination as to what changes, if any, are needed, however, should await the outcome of final testing.

h. Establish a "par" for each record course. The Board considered that if this proposal were to be adopted a very large and costly administrative problem would result from the necessity for some single group to visit each Trainfire I record range and establish a "par." And the "par" would doubtless have to be changed with the season since a course would probably become easier in winter from a target detection point of view as the grasses die and the leaves drop off the bushes on the range. The Board is convinced that a comparable degree of difficulty can be established and maintained on Trainfire I record ranges provided that the camouflage of the ranges are maintained at a reasonable degree of combat realism and difficulty.

i. Incorporate practice firing on the record range. The purpose of this suggestion is to familiarize the soldier with the record range before firing so that he is not unduly penalized in his record firing solely because of his unfamiliarity with its mechanical operation. While recognizing a need for the soldier to receive some orientation before firing for record, the Board did not completely agree with the recommendation. Instead it favored a short visual orientation of the entire company on one of the record lanes just prior to record firing. It did concede, however that a short practice firing exercise before rapid firing at multiple targets was worthwhile.

j. Include some training on the automatic fire capability of the M14 rifle. Since replacement of the M1 rifle by the new M14 is currently in progress, every soldier armed with a rifle will soon be carrying a weapon with an automatic fire capability. While not all of the rifles will have the automatic fire lever installed at issue, such installation will be permitted at the prerogative of the commander. Under these circumstances the Board considers it necessary for every soldier to be familiarized, during basic training, with the M14 rifle's automatic fire capability. A short familiarization period is therefore recommended for consideration for possible inclusion in the basic rifle marksmanship courses.

k. Require the presence of a trained coach at each firing point. The Board considers this to be desirable but unrealistic, when viewed in the perspective of present-day economies of money, personnel, and time.

l. Change sequence of instruction in Target Detection so that it progresses from "easy" to "hard." This recommendation was made in the belief that detection of moving targets should be taught first, with instruction in stationary targets to come later. The Board believes, however, that such a procedure is basically unsound. If a man is taught to look for evidence of movement in order to detect a target, he may miss detecting a stationary one. If, on the other hand, he is taught to look for indications of a stationary target, he will be more successful in locating this type target and will, at the same time, be able to spot the more easily detected moving target. The Board also notes that in the present Trainfire I Course successful "marking" and "engaging" of targets by the trainee (by far the most important aspect of Target Detection instruction) is contingent upon his first being able to detect a stationary target. For these reasons, the Board believes that a change in sequence of instruction in Target Detection is undesirable.

m. Discontinue the teaching of "hold-off." Advocates of this section point out, and rightly so, that with a rifle zeroed at 250 meters, hits can be obtained on a man-sized target at all ranges up to 350 meters by using a "center aim" on the target. In spite of this, the Board believes that a soldier should be taught the principle of "hold-off" so that he can intelligently apply it and thereby increase his hit probability. The Board recognizes, however, that care must be exercised in this instruction to prevent neophyte firers from "over-correcting" and missing the target. Since it seems likely that such "over-correction" may result from the firer believing that he must actually hold "off" of the target, the Board believes that a word or phrase which more accurately describes the procedure should be used. "Adjusted aiming point" is suggested as a substitute for "hold-off." When novice shooters are instructed, it is believed that the terms, "aim up," "aim down," "aim right," "aim left," would be more readily understood by the trainee.

n. Use tracer ammunition during the teaching of "hold-off" (adjusted aiming point). This suggestion seems to the Board to have merit if used only during the first period of instruction and involving the expenditure of no more than 9 rounds of Tracer. As presently conducted with ball ammunition the soldier has difficulty in seeing where his round goes in relation to his point of aim. By using tracers he should be better able to see the importance of correct "hold-off" or correct selection of a "adjusted aiming point."

o. Change the sequence of certain instruction in the Trainfire I Course. As a general practice the Board considered this to be undesirable. This is true because the Trainfire I Course was carefully designed so as to incorporate several well established principles of learning, e. g., transfer ability, motivation, knowledge of results, accuracy or speed, repetition, avoidance of fatigue, spaced practice and variety. The sequence of instruction in the Trainfire I Course is important in insuring that maximum training benefit is achieved through proper application of these principles. The Board recognizes, however, that practical problems of implementing the course may in some cases have to be the overriding consideration. Such a case is apparent in the present scheduling of the first three periods of the Trainfire I Course. As presently conducted, a 2-hour orientation is followed by a 4-hour period of range firing. This is then followed by 4 hours of mechanical training. Since the orientation and mechanical training periods can best be taught in the cantonment area, a better use of training time would be made if these two periods were taught in sequence rather than being separated by a period of range firing. In this way training time loss resulting from movement to the range during the training day could be minimized. The Board feels that the advantages which would result from such a change in sequence would more than outweigh the adverse effects of such a move.

p. Elimination of repetitious instruction. In its study of the present Trainfire I Course the Board discovered areas of instruction which it believes can be eliminated without detriment to the course. Two hours of target detection is one of these. The target detection review given just prior to record firing is repetitious and should be eliminated. In field firing also, time can be saved. By elimination of repetitious instruction in certain periods and by consolidation of subjects in other periods, two more hours can be saved.

q. Combine individual night firing with Trainfire I. The complete dissimilarity between techniques used in night firing and Trainfire I convinced the Board that an actual combining of these two courses is not desirable. The Board did, however, recognize that individual night firing is sometimes slighted. In order to minimize this possibility in the future any new basic rifle marksmanship program should be considered as consisting of two separate courses - a day course and a night course. Both courses should be contained in detail in future training publications dealing with the basic rifle marksmanship program.

SECTION VI - Means of Effecting Economies

13. The Board recognized a need to effect economies but it preferred wherever possible to realize these economies in less important areas of marksmanship than the basic program. However, as a result of the Board's critical review and evaluation of the basic rifle marksmanship program certain areas where economies can be effected without seriously jeopardizing the program have been discovered:

a. Training Time.

(1) Trainfire I Course. The use of Trainfire I ranges equipped with electrical "pop-up" target devices has already resulted in a considerable training time saving in the Army's basic rifle marksmanship program. As discussed earlier elimination of the requirement for "pit details" has resulted in a training time saving of 20 hours for each trainee. Additional savings are also possible in the training time, however, and will be realized if certain of the proposed modifications already discussed are implemented, e. g., discontinuance of 75-meter zeroing, changes in sequence of teaching certain subjects, elimination of repetitious instruction, etc. Training time saved in this manner may not be readily apparent, however, since in most cases it will be used to give additional emphasis to the fundamentals of shooting.

(2) Individual night firing course. Another area in which savings in training time can be effected without adverse effect on firing proficiency is in the individual night firing course. Presently 12 hours of time are devoted to this subject: 2 hours to night vision training; 4 hours to orientation firing at night; 2 hours to daytime instruction for night firing; and 4 hours to record firing at night. The 2-hour night vision and technique of night firing period can be cut to 1 hour without adversely affecting the course. Also the 3 hours devoted to orientation firing at night appear to be an actual waste of time and ammunition, since the only purpose of this instruction is to show the soldier that he cannot fire accurately at night without special training. The Board feels that these 4 hours of instruction can be eliminated without seriously affecting a trainee's night firing proficiency. The majority of the units in the field who answered the Board's questionnaire agree in this action.

b. Ammunition.

(1) Trainfire I Course. Modifications to the Trainfire I Course which the Board believes appropriate will, if adopted, result in a savings of some ammunition. An overall savings of 33 rounds per man of ball ammunition will result from these changes. In addition a savings of 5 rounds of blank ammunition per man will result from the deletion of a 2-hour period of target detection which the Board considers to be repetitious.

(2) Individual night firing course. Elimination of the 4 hours of the individual night firing course discussed above will result in a savings of 16 rounds of ball ammunition per man.

c. Terrain. Elimination of 75-meter firing will result in a savings of approximately 4 1/2 acres of range area. While it may be impossible to realize this savings on a 25/75 meter range which has already been built, it will lessen the area requirement for 25-meter ranges to be built in the future.

d. Use of Cal .22 rifles. The use of caliber .22 rifles and ammunition in some phase of the basic rifle marksmanship program offers interesting possibilities for economies. This is discussed in more detail in the following section.

SECTION VII - Use of .22 Caliber

14. Replies from the field. Replies from the field suggested possible economies in the basic rifle marksmanship course through the use of caliber .22 rifles to teach the fundamentals of shooting. At the same time it was pointed out that the trainee's problem of making the transition from small caliber to large caliber firing must be recognized.

15. Possible savings.

a. It is the opinion of the Board that 66 rounds per man is the maximum amount of caliber .30 ammunition which should be considered for replacement with caliber .22 ammunition in the basic rifle marksmanship course. Furthermore, this substitution should be made only during 25-meter firing. This opinion is based on the fact that to substitute more would, because of trainee "transition" problems, almost certainly call for an increase, not only in the length of the basic rifle marksmanship course, but also in the amount of caliber .30 ammunition presently used in other phases of the course. Obviously such an eventuality would tend to negate any savings realized through the use of sub-caliber ammunition.

b. On the basis of very limited testing the Board determined that during marksmanship training soldiers can fire 5 rounds of caliber .22 ammunition within the same time limits allocated for the firing of 3 rounds of caliber .30 ammunition. This means that 110 rounds of caliber .22 ammunition could be fired within the same time limits as required to fire 66 rounds of caliber .30 ammunition. It appears then, that comparisons to determine possible economies should be made between costs of a trainee firing 110 rounds of caliber .22 ammunition versus costs of that same trainee firing 66 rounds of caliber .30 ammunition.

c. It must not be forgotten, however, that the wisdom of making such a substitution in basic rifle marksmanship training may be seriously questioned since its effect on marksmanship training proficiency cannot be determined at this time. An indication that it may be too drastic a substitution is suggested by the results of tests conducted under the auspices of the Special Devices Center at Port Washington, New York. These tests showed that, while 20 rounds of caliber .30 ammunition could be substituted for with no apparent loss in trainee marksmanship proficiency, 50 rounds of caliber .30 ammunition was too great a loss of "big bore" practice to be made up by the firing of 155 rounds of caliber .22 ammunition. In light of the results of these tests it seems that a "110 for 66" substitution may not be valid.

d. At current prices 66 rounds of caliber .30, ball, M2, ammunition cost \$5.08, whereas 110 rounds of caliber .22 long rifle ammunition cost \$.99. This means a possible savings of approximately \$4.09 per trainee in ammunition costs. Since caliber 7.62mm ammunition costs more than caliber .30 ammunition, savings here would be even greater, amounting to approximately \$5.68 per trainee. Translated into terms of an annual Army trainee input of 300,000, these savings would amount to approximately \$1,227,000 for caliber .30 ammunition and \$1,704,000 for caliber 7.62mm ammunition annually.

e. Balanced against these ammunition savings, however, must be the added cost of procuring sufficient caliber .22 rifles and their spare parts, the cost of providing and training additional maintenance personnel and, possibly, the cost of added storage and security requirements.

f. The Board, strongly supported by comments from commanders questioned in the field, feels that, if a .22 caliber rifle is used in basic rifle marksmanship, it should be similar to the M14 in sights, weight, configuration, and trigger pull--otherwise its training value will be diminished. Stocks on hand of the bolt action caliber .22 training rifle, M13, need not, however, be an obstacle to the procurement of such a new type training rifle. The active Army, according to information received from the Major Item Supply Management Agency, is authorized only 138 caliber .22 training rifles, M13, and presently has none on hand. This weapon, the M13, is used primarily in Reserve, National Guard, and ROTC units. More than 32,000 M13's are presently in use in these units with a depot backup of close to 9,000. Active Army units have approximately 7,000 of the caliber .22 match grade rifles, M12. These weapons are for use in precision rifle target shooting and are valuable for use in teaching precision target shooting through unit rifle team competitions. Being completely dissimilar to the service weapon, however, they would have limited training value in training recruits.

g. If .22 caliber rifles are used in basic rifle marksmanship training the Board believes that they should be procured only for training centers and training division and handled on a "Weapons Pool" basis. A rate of issue of 120 weapons (includes 10% attrition factor) per training company input per week seems to the Board to be a reasonable estimate of requirements. Translated into terms of 5-company per week input at each of five training centers and a 3-company per week input at each of three training divisions total requirements for the new training weapon would be approximately 4080.

h. Information received by the Board from CONARC indicates a possible cost of \$52 for a Harrington and Richardson caliber .22 version of the M14 rifle. On this basis cost of weapon procurement would be slightly over \$212,000. Allowing another \$10,000 for spare parts and an estimated \$100,000 for the yearly cost of additional maintenance personnel (1 man per 100 weapons) a reasonable estimate of the first year cost to the Army for procuring and maintaining enough .22 caliber weapons to train 300,000 troops seems to be close to \$322,000. When balanced against a possible ammunition savings of \$1,227,000 for caliber .30 ammunition or \$1,704,000 for caliber 7.62mm ammunition, the first year savings would be close to 1 or 1 1/2 million dollars. In subsequent years it could rise to 1 1/2 to 2 million dollars. Savings of such magnitude are well worth realizing provided the Army's marksmanship training does not suffer as a result.

16. Tests. Test results available to the Board concerning substitution of small bore firing for large bore firing were limited in quantity and questionable in validity. The following test results suggest that .22 caliber firing may be feasible in the basic rifle marksmanship course but statistically significant proof is lacking:

a. The 4th Training Regiment, USATC, Armor, Fort Knox, Kentucky, reported the following results based on limited testing: "Tests were conducted with 100 men using the .22 caliber rifle. These men were instructed by the small bore rifle team members. We found that they did fire well using the .22, but when reverting to the .30 caliber weapon, their shot groups were far worse than previous groups fired with the M1 rifle."

b. A summary of tests extracted from a report of the Human Engineering Division of the Special Devices Center, Port Washington, New York, contains the following information:

(1) In tests designed to obtain information on how to save training ammunition it was found that: "Savings in cost in these experiments was achieved using a regular .22 caliber rifle. It is likely that there would be even greater improvement in training with a device which utilized the sight of the M1 rifle and sub-caliber ammunition."

(2) After conduct of an experiment designed to determine whether the .22 caliber rifle could be used as a training device for .30 caliber marksmanship it was reported that: "The findings although not statistically significant, suggest that the loss of 50 rounds of .30 caliber is not adequately made up by a substitution of 155 rounds of .22 caliber and that there is a small loss of marksmanship proficiency."

(3) From the results of an experiment designed to determine whether concentrated practice with the .22 rifle would produce an improvement in .30 caliber marksmanship it was concluded that: "Conservatively speaking it must be held that .22 rifle practice cannot be substituted for too much of .30 caliber ammunition." "This conclusion (reported in b above) seems to be borne out by the second .22 experiment in which only 20 rounds of .30 caliber were replaced with no loss of proficiency resulting. In the second case the proficiency of the .22 caliber groups not only was just as good, but it also had some small and consistent numerical advantage."

17. Other Services and Armies.

a. Marines. A letter received by the Board from the Commandant of the Marine Recruit Training Regiment, Marine Corps Recruit Depot, Parris Island, South Carolina, stated "The use of such weapons (.22 caliber) has been discontinued as a result of a study which indicated that such small bore firing was of little value to the recruit."

b. Canadian Army. The latest revision of the Canadian Army Training Manual (1960) prescribes a rifle course for Infantry troops undergoing recruit training which is essentially a Trainfire I Course and does not provide for any .22 caliber firing.

c. British Army. The .22 caliber is used in the British Army, however, opinion is divided regarding its value. The view of the Commandant of the Small Arms Wing, School of Infantry, Hythe, Kent, is as follows:

(1) "It is generally accepted at the present time that .22 shooting as a means of training recruits is a waste of time; and the recruit should be practiced in shooting the full bore from the start of his training. This is due in part to the introduction of a self-loading rifle of 7.62mm caliber, without an equivalent rifle of .22 caliber, and in part to an unfounded belief that because of this nothing can be achieved in the miniature range.

(2) The miniature range is always of value, but the value will be increased if:

(a) The small bore and full bore rifles match in weight, sights and trigger pull.

(b) The targets and practices are designed so that they are distinctly related to the classification course.

(3) The miniature range must be used intelligently. Training programs should be designed to include periods in the range after each phase of basic training has been completed. By this means many errors in holding, aiming, and trigger operation can be corrected."

18. Summary. The Board recognizes the potential economies which can be realized from incorporating .22 caliber firing in the basic rifle marksmanship course. It has been unable, however, to find any positive evidence that such action will not jeopardize the development of rifle marksmanship training. Available evidence is inconclusive and in some cases even contradictory. In view of this the Board feels that feasibility tests should be conducted before a decision is made concerning incorporation of .22 caliber firing into the basic rifle marksmanship course. Appendix VII shows how a basic rifle marksmanship course proposed by the Board for possible adoption could be modified to include .22 caliber firing. It is recommended that this provide a starting point for testing designed to determine whether or not .22 caliber firing should be made a part of the basic course.

SECTION VIII - Proposed Program

19. The Board proposes a basic rifle marksmanship program which consists of the following courses:

a. Standard Course

Day

Course shown in Appendix V

Night

Present course less 4 hours night orientation firing

b. Alternate Course*

Day

Course shown in Appendix VI

Night

Present course less 4 hours night orientation firing.

c. Standard Course. The basic rifle marksmanship course shown in Appendix V is proposed after much deliberation on the part of the Board. This course is basically a modification of the current Trainfire I Course which retains the important advantages to be derived from application of Trainfire concepts and principles, while at the same time it increases emphasis on certain fundamentals of shooting. The Board has no reservations about the effectiveness of this course in the teaching of the essentials of combat shooting. It considers that the course will without question accomplish the objective: "To develop in every soldier during basic combat training the confidence, will, knowledge, and skills required to fire a rifle and hit enemy personnel in combat."

Practical evidence of the soundness of course based on Trainfire I concepts and principles comes from comments from two overseas commands. Those comments are as follows:

USARPAC

"The Trainfire program is considered to be the most desirable method of insuring the marksmanship proficiency of the basic combat soldier. This program is not only an excellent training vehicle for teaching basic marksmanship skills, but results in a saving of vital training time through the integration of related subjects such as range estimation, transition firing, and field target firing. Additionally, Trainfire provides an approach to realism in preparing the individual soldier for his primary duty in a combat role which cannot be duplicated on the range."

USAREUR

"From limited observation it would appear that individuals who have been trained on Trainfire I in basic training tend to adapt themselves more readily to combat and field firing exercises. Early emphasis on rapid target detection, accurate engagement of fleeting targets, rapid firing and rapid reloading should facilitate the combat-type marksmanship training which is of principal interest to CINCUSAREUR."

d. Alternate Course. The alternate course proposed in Appendix VI is needed because:

(1) At some training centers and training divisions sufficient Trainfire I ranges to accommodate present input do not exist. And this situation is likely to continue for some time in the future. At these installations, however, there are Known Distance ranges which can be used to supplement the Trainfire I ranges.

(2) Since it will probably be impracticable to construct at all mobilization stations in peacetime enough Trainfire I ranges to handle their mobilization requirements, there will necessarily be a need to use some Known Distance ranges at least temporarily.

*For use when Trainfire facilities are not available.

e. Individual Night Firing Course. As indicated earlier there are only two changes which the Board believes should be made in the present individual night firing course. These are:

(1) Recognize the importance of this course and emphasize in all training literature that although a separate course it is still a part of the basic rifle marksmanship program.

(2) Delete 3 hours of night orientation firing and 1 hour of night vision training from the present course. The revised course would be as follows:

| <u>Period</u> | <u>Subject</u> | <u>Hours</u> |
|---------------|--|--------------|
| 1 | Night vision and technique of night firing | 1 |
| 2 | Day instruction in night firing | 3 |
| 3 | Instruction firing (night) | 2 |
| 4 | Record firing (night) | <u>2</u> |
| Total | | 8 |

SECTION IX - Conclusions

20. As a result of its investigations and deliberations covering all aspects of the basic rifle marksmanship program the Board has come to certain conclusions. These are:

a. The current Known Distance Course, as an entity, is less effective as a method of teaching basic combat rifle marksmanship skills than is a course based on Trainfire concepts and principles.

b. The present Trainfire I course is not completely satisfactory in its present form. More emphasis on fundamentals of shooting is desirable and certain minor modifications seem appropriate.

c. A course which combines Trainfire I and Known Distance is not desirable due to its excessive time length, its requirement for a dual range complex and its less efficient use of training time.

d. The basic rifle marksmanship course which the US Army should use is one which essentially follows Trainfire concepts and principles but which also incorporates increased emphasis on fundamentals of shooting.

e. A one (or two*) hour saving in training time is possible through certain modifications of the current basic rifle marksmanship course. More important, however, is the fact that these modifications will also permit added emphasis to be placed on the teaching of fundamentals of shooting.

f. Worthwhile economies in training time and training ammunition can be realized in the Individual Night Firing Course without decreasing the effectiveness of the course.

g. Major economies appear possible in the basic rifle marksmanship program through the use of .22 caliber firing. However, before incorporation of this type of firing into any of the basic rifle marksmanship courses, its use should be thoroughly tested to determine if any adverse effects will result in trainee rifle marksmanship proficiency.

SECTION X - Recommendations

21. The Board makes the following recommendations relative to the basic rifle marksmanship program of the US Army:

a. That the basic rifle marksmanship course proposed in Appendix V be adopted

*If M14 familiarization period is omitted.

as the standard basic rifle marksmanship course of the US Army. Before final adoption, however, it is recommended that the course be tested to determine if minor changes are required. Further recommend that such testing be conducted at at least three US Army Training Centers during the course of their normal training.

b. That construction of Trainfire I ranges be continued until sufficient ranges exist at US Army Training Centers and Training Divisions to accommodate their maximum projected peacetime trainee input.

c. That .22 caliber firing not be incorporated into the basic rifle marksmanship program at this time.

d. That a test be conducted of a basic rifle marksmanship course which incorporates .22 caliber firing as suggested in Appendix VII. Based on the outcome of this test a decision concerning use of the .22 caliber in the Army's basic rifle marksmanship program should then be made.

e. That the alternate course proposed in Appendix VI be tested and considered for adoption as the official course for use at any location, which has a basic training mission but lacks sufficient Trainfire I ranges to conduct the standard basic rifle marksmanship course.

APPENDIX I - ANNEX B
RANGE REQUIREMENTS (AREAS)

Known Distance Course

| No | Type | Basic Area | Total Area |
|----|----------------------|------------|--------------|
| 1 | 1000" (100 pts) | 2.1 Acres | 1191.1 Acres |
| 1 | KD (50 pts) | 17.9 Acres | 1226.3 Acres |
| 2 | Combat Psns (10 pts) | 51.6 Acres | 1877.9 Acres |
| 1 | Quick Fire (4 pts) | 2.7 Acres | 3067.0 Acres |
| | Total | 74.3 Acres | 7362.4 Acres |

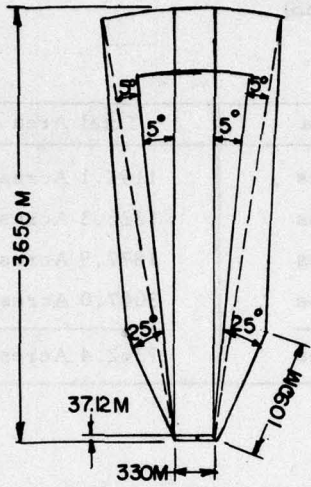
Trainfire I Course

| No | Type | Basic Area | Total Area |
|----|---------------------------|-------------|--------------|
| 1 | 25-Meter (110 pts) | 3.0 Acres | 1207.0 Acres |
| 1 | Field Firing (35 pts) | 13.2 Acres | 1735.4 Acres |
| 1 | Record Range (16 pts) | 41.3 Acres | 2328.3 Acres |
| 4 | Target Detection (25 pts) | 46.4* Acres | 46.4* Acres |
| | Total | 103.9 Acres | 5317.1 Acres |

*Total for 4 target detection ranges.

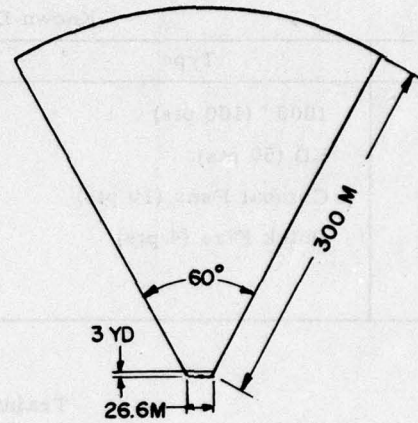
NOTE: Calculations of total area for both type ranges are based on separate impact areas for each range of a complex. A common impact area for several ranges would result in reduced acreage requirements in both cases. However, this would vary at each installation due to diversity of terrain utilization factors.

TRAINFIRE I COMPLEX



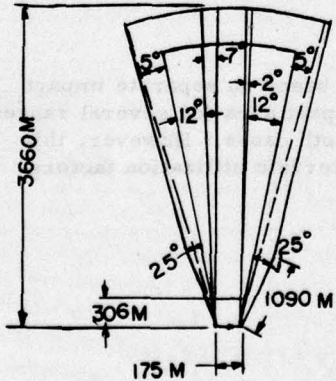
Scale: $\frac{1}{2}'' = 600\text{m}$
 25-METER RANGE
 (110 Pts)

 Basic Area = 3.0 Acres
 Total Area = 1,207.0 Acres



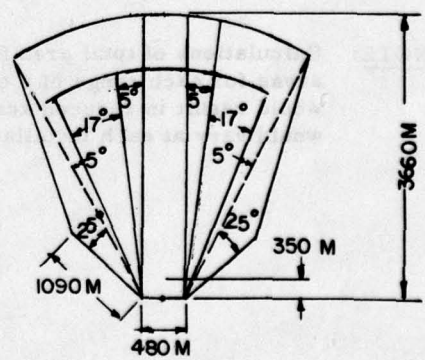
Scale: $\frac{1}{4}'' = 30\text{m}$
 TARGET DETECTION RANGE
 (25 Pts)

 Basic Area = 11.6 Acres
 Total Area = Same



Scale: $\frac{1}{4}'' = 800\text{m}$
 FIELD FIRING RANGE
 (35 Pts)

 Basic Area = 13.2 Acres
 Total Area = 1,735.4 Acres

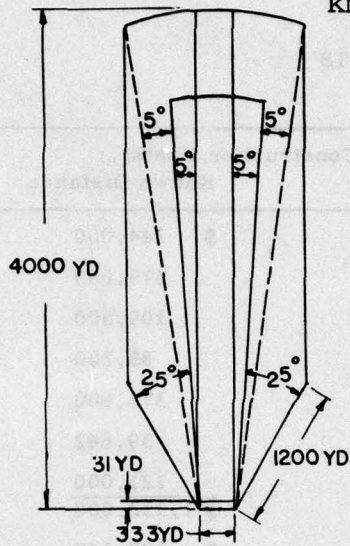


Scale: $\frac{1}{4}'' = 500\text{m}$
 RECORD RANGE
 (16 Pts)

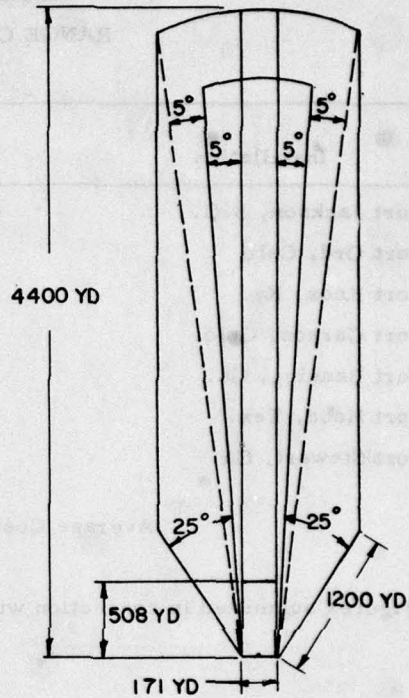
 Basic Area = 41.3 Acres
 Total Area = 2,328.3 Acres

Figure 3

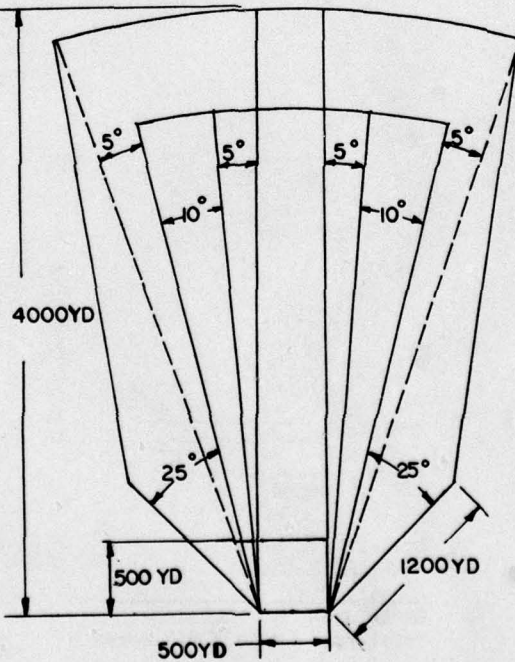
KNOWN DISTANCE COMPLEX



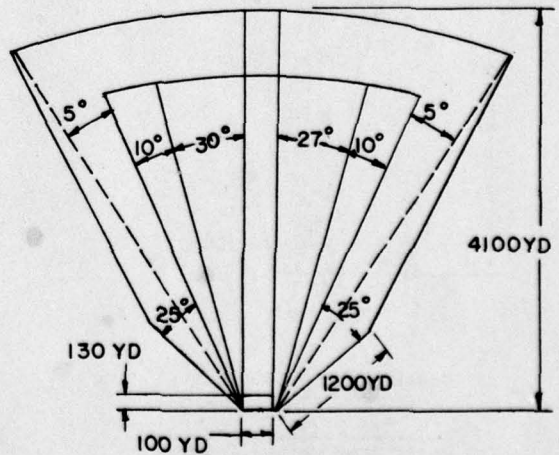
Scale: $\frac{1}{8}'' = 600$ yds
 1000-INCH RANGE
 (100 Pts)
 Basic Area = 2.1 Acres
 Total Area = 1,191.1 Acres



Scale: $\frac{1}{8}'' = 500$ yds
 KD RANGE
 (50 Pts)
 Basic Area = 17.9 Acres
 Total Area = 1,226.3 Acres



Scale: $\frac{1}{8}'' = 500$ yds
 COMBAT POSITIONS RANGE
 (20 Pts)
 Basic Area = 51.6 Acres
 Total Area = 1,877.9 Acres



Scale: $\frac{1}{8}'' = 800$ yds
 QUICK FIRE RANGE
 (4 Pts)
 Basic Area = 2.7 Acres
 Total Area = 3,067.0 Acres

Figure 4

APPENDIX II - ANNEX B
RANGE CONSTRUCTION COSTS

| Installation | Construction Costs | |
|---------------------|--------------------|---------------------|
| | Trainfire I | Known Distance |
| Fort Jackson, S. C. | \$ 48,541* | \$ 244,000 |
| Fort Ord, Calif. | 101,078 | 379,059 |
| Fort Knox, Ky. | 185,036 | 109,300 |
| Fort Carson, Colo. | 59,859* | 85,200 |
| Fort Benning, Ga. | 110,683 | 373,800 |
| Fort Hood, Tex. | 197,473 | 39,642 |
| Fort Stewart, Ga. | 155,634 | 121,000 |
| | <u>\$ 858,304</u> | <u>\$ 1,352,000</u> |
| Average Cost | \$ 122,615 | \$ 197,147 |

*Figures submitted in connection with original troop tests.

APPENDIX III - ANNEX F
SUMMARY OF AAMU TESTS

M1 Rifles w/Cal .30, M2, Ball, Ammunition

| Rifle No | Ammo Lot No | No of Rds | Average 300-Meter Dispersion | | Average 500-Yard Dispersion* | |
|----------|-------------|-----------|------------------------------|------------------|------------------------------|------------------|
| | | | Vertical | Horizontal | Vertical | Horizontal |
| 5730090 | 6685 | 30 | 17 inches | 9 inches | 35 inches | 18 inches |
| 5732463 | 6685 | 30 | 23 inches | 13 inches | 46 inches | 25 inches |
| 2425977 | 6685 | 30 | 15 inches | 11 inches | 29 inches | 22 inches |
| 4744086 | 6685 | 30 | 13 inches | 11 inches | 26 inches | 23 inches |
| 5742419 | 6685 | 30 | 13 inches | 15 inches | 26 inches | 31 inches |
| 5717248 | 6685 | 30 | 22 inches | 10 inches | 44 inches | 19 inches |
| 5720881 | 6685 | 30 | 13 inches | 14 inches | 26 inches | 28 inches |
| 5718408 | 6685 | 30 | 13 inches | 19 inches | 26 inches | 39 inches |
| 4744047 | 6685 | 30 | 26 inches | 20 inches | 53 inches | 40 inches |
| 5679451 | 6685 | 30 | <u>17 inches</u> | <u>11 inches</u> | <u>34 inches</u> | <u>21 inches</u> |
| | Average | | 17.2 inches | 13.3 inches | 34.5 inches | 26.6 inches |
| | Maximum | | 26 | 20 | 53 | 40 |

M14 Rifles w/Cal 7.62mm, M59, Ball, Ammunition

| | | | | | | |
|------|-----------|----|------------------|------------------|------------------|------------------|
| 4992 | WRA 22003 | 30 | 14 inches | 20 inches | 28 inches | 40 inches |
| 3082 | WRA 22003 | 30 | 17 inches | 14 inches | 34 inches | 28 inches |
| 6410 | WRA 22003 | 30 | 15 inches | 16 inches | 30 inches | 31 inches |
| 6505 | WRA 22003 | 30 | 17 inches | 17 inches | 34 inches | 34 inches |
| 4873 | WRA 22003 | 30 | 18 inches | 11 inches | 35 inches | 22 inches |
| 3727 | WRA 22003 | 30 | 21 inches | 14 inches | 43 inches | 28 inches |
| 4048 | WRA 22003 | 30 | 17 inches | 16 inches | 34 inches | 32 inches |
| 3906 | WRA 22003 | 30 | 14 inches | 17 inches | 28 inches | 33 inches |
| 6825 | WRA 22003 | 30 | 20 inches | 16 inches | 39 inches | 31 inches |
| 5670 | WRA 22003 | 30 | <u>18 inches</u> | <u>21 inches</u> | <u>37 inches</u> | <u>41 inches</u> |
| | Average | | 17.1 inches | 16.2 inches | 34.3 inches | 32.0 inches |
| | Maximum | | 21 | 20 | 43 | 41 |

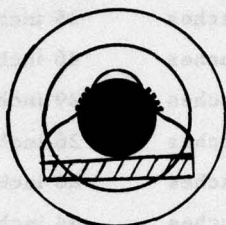
*Weapons fired at range of 300-meters. 500-yard dispersion figures computed mathematically.

APPENDIX IV TO ANNEX B
 COMPARISON OF SCORES (BULL'S-EYE vs SILHOUETTE TARGETS)
 (THEORETICAL ONLY)

RECORD FIRING TABLE 3

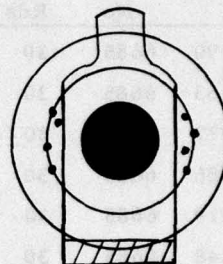
Total Score on bullseye targets = 216 (EXPERT)
 Total Score on silhouette targets = 0

"A" Target
 "F" Target



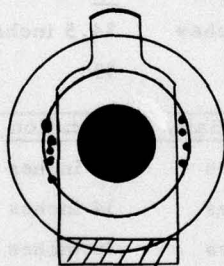
Range = 100 yards
 Rds fired = 8 (slow fire)
 Score on "A" = 40
 Score on "F" = 0

"A" Target
 "E" Target



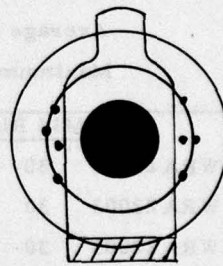
Range = 200 yards
 Rds fired = 8 (slow fire)
 Score on "A" = 32
 Score on "E" = 0

"A" Target
 "E" Target



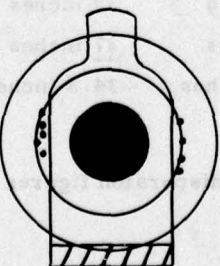
Range = 200 yards
 Rds fired = 9 (sustained fire)
 Score on "A" = 36
 Score on "E" = 0

"A" Target
 "E" Target



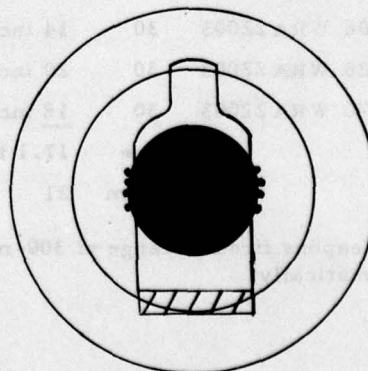
Range = 300 yards
 Rds fired = 8 (slow fire)
 Score on "A" = 32
 Score on "E" = 0

"A" Target
 "E" Target



Range = 300 yards
 Rds fired = 9 (sustained fire)
 Score on "A" = 36
 Score on "E" = 0

"B" Target
 "E" Target



Range = 500 yards
 Rds fired = 8 (slow fire)
 Score on "B" = 40
 Score on "E" = 0

Figure 5

APPENDIX V - ANNEX B
BASIC RIFLE MARKSMANSHIP COURSE

1. Purpose: This course is intended for use as the standard basic rifle marksmanship course for the United States Army. It will be used for all basic rifle marksmanship training unless lack of Trainfire I ranges prevents use.

2. Objective: To develop in every soldier during Basic Combat Training the confidence, will, knowledge, and skills required to fire a rifle and hit enemy personnel in combat.

3. Description of Standard Course: This course is 76* hours in length. It is essentially a modified Trainfire I rifle marksmanship course which, except for the 75-meter range, uses the same ranges as the current standard course. In this course each soldier fires 524 rounds of ball ammunition--33 rounds less than is presently used. It differs from the current Trainfire I course as follows:

a. Fundamentals:

(1) Prior to actual firing, additional time is allocated to sighting and aiming instruction training aids, such as sighting and aiming bar, M15 sighting device, etc., are used by instructors to insure that each soldier thoroughly understands how to obtain a correct sight picture.

(2) Trigger manipulation is carefully checked and critiqued. Ball and dummy exercises are included and used by the instructor as frequently as required to insure that correct trigger control is exercised by each trainee.

(3) Continuing evaluations and necessary corrections of a firer's use of positions are made, not only during preparatory marksmanship training, but also during field firing.

(4) Emphasis is placed on the correct application of fundamentals, beginning in preparatory marksmanship training and continuing through field firing.

(5) Sacrificing fundamentals for speed is avoided.

b. Other Modifications.

(1) Use of the 75-meter range for zeroing has been discontinued. Zeroing is now conducted only at 25-meters.

(2) A new type target is used for zeroing and 25-meter firing. (Figure 2, Annex B)

(3) Rapid fire at several dispersed targets and rapid reloading exercises have been added to the course.

(4) Nine (9) rounds of tracer ammunition have been included in the first period of field firing to aid in teaching the use of an adjusted aiming point (hold-off).

(5) Repetitious instruction in target detection and field firing has been eliminated.

(6) Minor changes in sequence of instruction have been made.

(7) A one (1) hour familiarization period on the M14 rifle in its automatic role has been suggested for possible inclusion. If made a part of this course, ammunition savings will not be as great as previously indicated.

4. Comparison with Present Courses:

*77 hours if 1-hour M14 familiarization is included.

| <u>SUBJECT</u> | <u>DAY COURSE</u> | | |
|--|---|---|--------------------------------------|
| | <u>Proposed Train- fire I (Modified</u> | <u>Current Train- fire I Course</u> | <u>Known Distance Course</u> |
| a. Orientation | 2 | 2 | |
| b. Mechanical Training | 4 | 4 | 3 |
| c. Preparatory Marksmanship | 32* | 26 | 35 |
| d. Battle Sight Zeroing | | 4 | |
| e. Field firing | 16 | 18 | |
| f. Range firing | | | 48 |
| g. Target Detection | 14 | 16 | |
| h. Record firing (single targets) | 4 | 8 | |
| i. Record firing (multiple dispersed targets) | 4 | | |
| | <u>76</u> | | |
| **j. Familiarization firing, M14 rifle (automatic fire) | 1 | | |
| | <u>77</u> | <u>78</u> | <u>86</u> |
| Total | 77 | 78 | 86 |

INDIVIDUAL NIGHT FIRING COURSE

| | |
|---------------------------------------|----------|
| a. Night vision and technique of fire | 1 |
| b. Orientation firing | 3 |
| c. Night firing (practice) | 2 |
| d. Night firing (record) | 2 |
| Total | <u>8</u> |

5. Chart Outline of Course: Inclosure 1.
6. Synopsis of Instruction: Inclosure 2.
7. Master Schedule: Inclosure 3.
8. Lesson Outlines: Inclosure 4.
9. Ammunition Requirements: Inclosure 5.
10. Score Sheets: Inclosure 6.
11. Field Firing Schedule: Inclosure 7.
12. Proposed Schedule (44-hour week): Inclosure 8.
13. Suggested Scheduling Guide (1-6 Cos): Inclosure 9.
14. Facilities Required:
 - a. A "yardstick" has been prepared for use as a guide in planning for training facilities needed to support this course. This "yardstick" must be judiciously applied, however, since it is based on the following assumptions.

*Includes 2 hours of battle sight zeroing.

**Additional ammunition required if this instruction is given.

- (1) "Block" scheduling will be used.
 - (2) Training will be conducted during a 44-hour week.
 - (3) Input will be scheduled so that the same number of units start each week.
- b. "Yardstick" for 1-8 company input is shown in Table VI below:

| Input* Per Week | 25-Meter Range | | Field Firing 35 pts | TD*** 25 pts | Record 16 pts |
|--------------------|----------------|--------|------------------------|-----------------|------------------|
| | 110 pts** | 65 pts | | | |
| 1 | 1 | 1 | 1 | 4 | 1 |
| 2 | 1 | 2 | 2 | 6 | 1 |
| 3 | 2 | 2 | 3 | 10 | 2 |
| 4 | 2 | 3 | 4 | 12 | 2 |
| 5 | 2 | 4 | 4 | 14 | 2 |
| 6 | 3 | 5 | 5 | 18 | 3 |
| 7 | 3 | 6 | 6 | 20 | 4 |
| 8 | 4 | 6 | 7 | 24 | 4 |

Table VI. Yardstick for 1-8 company input.

* 200 to 210-man company.

** If a 25-meter range of 110-points is not available, two (2) 25-meter ranges of 50-65 points each may be substituted.

*** A normal target detection range should include 25-points. The construction of establishment of one 50-point range for two 25-point ranges is not recommended. Trainee familiarity with the range, which would come from continual use, would adversely effect the value of the training received.

16. Modification of Training Aids:

a. Firing data card, Figure 12, FM 23-71, must be modified to conform with the new 25-meter target.

b. The "Page" sighting device (modified) will have to be modified to conform with the new target. This will also be true for the target on the aiming exercise, and the M15 sighting device (modified).

9 Incl
a/s

INCLOSURE 1 - APPENDIX V - ANNEX B

| Period | BASIC Rifle Marksmanship Course | | | | | | Target Detection | | ATP Subjects | | | | |
|--------|---|---|---|--|--|---|--------------------------------------|---|--------------|---|---|---|---|
| | Hours | 1 | 2 | 3 | 4 | 5 | 6 | 1 | 2 | 1 | 2 | 3 | 4 |
| 1 | Orientation | | | | | | | | | | | | |
| 2 | Mechanical training | | | | | | | | | | | | |
| 3 | Introduction to marksmanship training | | | | | | | | | | | | |
| 4 | Fundamentals of marksmanship (3 rds ammo) | | | | | | | | | | | | |
| 5 | Fundamentals of marksmanship (18 rds ammo) | | | | | | | | | | | | |
| 6 | Prone, sitting, squatting and kneeling positions (24 rds ammo) | | | | | | Introduction to target detection | | 1 Platoon | | | | |
| 7 | Kneeling supported, standing and foxhole positions, rapid reloading (21 rds ammo) | | | | | | Detecting, marking, estimating range | | 1 Platoon | | | | |
| 8 | Zeroing, sight changes, calibration of sights, review of fundamentals (12 rds ammo) | | | | | | | | | | | | |
| 9 | Progress check (30 rds ammo) | | | | | | | | | | | | |
| 10 | Introduction to field firing (48 rds ammo) | | | | 25-meter practice firing, aiming review (18 rds) | | Single moving targets | | | | | | |
| 11 | Simulated advancing targets (36 rds ammo) | | | | | | Multiple moving targets | | | | | | |
| 12 | Review aiming, holdoff, surprise targets (36 rds) | | | | | | Sound targets sector sketch | | | | | | |
| 13 | Fundamentals review, 25-meter firing (18 rds) | | | Position fundamentals (24 rds ammo) | | | | | | | | | |
| 14 | Surprise targets, reloading (40 rds ammo) | | | | | | Movement and camouflage | | | | | | |
| 15 | Multiple targets, reloading (40 rds ammo) | | | | | | Sound and multiple moving targets | | | | | | |
| 16 | Confirmation of zero, assuming positions (12 rds) | | | Multiple targets, immediate action (40 rds ammo) | | | | | | | | | |
| 17 | Record firing I, TD test 1 (single targets) (56 rds ammo) | | | | | | | | 1/2 of unit | | | | |
| 18 | Record firing II, TD test 2-3 (multiple targets) (48 rds ammo) | | | | | | | | 1/2 of unit | | | | |
| 19* | M14 auto-fire (12 rds) | | | | | | | | | | | | |

| INDIVIDUAL NIGHT FIRING COURSE | |
|--------------------------------|---|
| 1 | Night vision |
| 2 | Day instruction for record firing, table VII, FM 23-5 (15 rds ammo) |
| 3 | Night record practice table VI, FM 23-5 (16 rds) |
| 4 | Night record table VI, FM 23-5 (16 rds ammo) |

*Additional ammo required if this period given.

INCLOSURE 2 - APPENDIX V - ANNEX B

BASIC RIFLE MARKSMANSHIP COURSE

Synopsis of Instruction

1. Orientation. Two (2) hours designed to prepare the soldier for instruction by giving him the background of the program and to motivate him for the training by instilling a desire to shoot effectively.

2. Mechanical training. Four (4) hours.

3. Preparatory marksmanship and 25-meter firing: This phase includes a total of thirty-two hours and proceeds in the following sequence with essential fundamentals listed:

a. Introduction to marksmanship training: Two (2) hours instruction on a training field. This period is designed to introduce the soldier to the fundamentals of aiming. This will be accomplished by utilizing the M15 sighting device, the Page sighting device, and the aiming bar.

b. Fundamentals: Two (2) blocks of four (4) hours each follow the introduction. Both are designed to increase the soldier's basic knowledge and encourage practice of fundamentals. He will fire his weapon after learning safety, range procedure, factors involved in assuming the prone position, procedure for lubricating his weapon, and witnessing an anti-fear or recoil demonstration. After the soldier fires, a demonstrator will fire the same exercise and let the soldier examine the target and compare it with his own. This will show the soldier his need for further training. A discussion and practical exercise follow, which is concerned with the effects of errors. The soldier is also shown how to examine a shot group and told generally what he is doing wrong. The importance of sight alignment is stressed as well as the reason for the last focus of the eye being on the front sight blade. The aiming box is utilized. Elevation and windage, wobble area, calling the shot, follow through, and trigger control exercises with ball and dummy method are taught. Dry firing with stress on basic position fundamentals is included prior to actual firing.

c. Positions: The next four (4) hours are devoted to practice firing from the prone, sitting, squatting, and kneeling positions. Position checks, ball and dummy exercises, and critique of shot groups will be accomplished.

d. Positions (cont) and rapid reloading: The following period is four (4) hours of firing from the kneeling supported, standing, and foxhole positions to include a period on rapid reloading.

e. Zeroing, sight changes, review: The next four (4) hours are devoted to the zeroing technique, emphasis on sight changes, calibration of sights, and a fundamentals review. One proposed change in technique is to allow the firer to shoot on the same type target during the fundamentals phase that he will use in zeroing. The circles have been omitted and replaced with a grid system which will enable more accurate zeroing. Utilizing the same target throughout preparatory marksmanship will decrease the number of different targets required for the program (see Figure 2, Annex B). Zeroing now has become a phase of preparatory marksmanship and precedes the period in which all positions will be fired for final check prior to moving to field firing. This sequence will allow the firer an additional period ((4) hours) plus thirty rounds of ammunition to check his zero.

f. Progress check: In the four (4) hour progress check, each man will fire from all 8 positions. Sufficient time to check each man in his position is allowed. Also, three positions may be refired.

g. Field firing and fundamentals review: Concurrently with field firing, the soldier will return to a 25-meter range for review of fundamentals. Three (3) periods of two (2) hours each are specified. In Period 10 a review of aiming and position fundamentals is given; Period 13, a fundamentals review with firing. Period 16 contains a confirmation of zero period and an exercise on assuming positions rapidly.

h. Progress envelope: During preparatory marksmanship, a progress envelope containing all targets fired on by the soldier and his firing data card, will be maintained by each man. This will allow each soldier, his coach, and the instructor, to recognize shooters who need closer attention. This attention is given to the soldier by the use of a corrective platoon that is manned by highly qualified instructors and is operative during all firing periods.

4. Field Firing: This sixteen (16) hours of instruction begins after the soldier has obtained a battlesight zero for his weapon and the progress check is completed (see Inclosure 7).

a. Transition: The initial period is a transition phase to get the soldier accustomed to distant targets, teach the practical application of holdoff, and requires constant emphasis on fundamentals. Tracer ammunition is proposed in this phase to assist the firer in learning and applying the adjusted aiming point (hold-off) concept. Nine (9) tracer rounds (3 rounds for each target) are recommended. Time for corrections and detailed critique are allowed.

b. Time pressure: Time limits on target exposure are emphasized during the latter phases of field firing. In the last two periods of field firing, the exposure of multiple targets is introduced which will require the soldier to shift his aim. This prepares him for the record course. More than one round will be allowed for some double exposure targets. Emphasis on first round hits is desirable.

c. Use of corrective platoon: In implementing field firing, the use of a corrective platoon composed of individuals who have demonstrated low proficiency, progress envelope and continuous personal critique is recommended. This will enable the poorer shooters to be identified early. The use of an acceptable score during field firing periods to determine poor shooters is also proposed. Based on a comparison of record and field firing scores at an installation, an experience factor can be established which will establish an average score for field firing.

d. See Inclosure 6 for field firing score sheets, Periods 10 thru 16.

5. Target Detection (14 hours): This program is essentially the same as in the present Trainfire I except a review of two (2) hours has been eliminated. The soldier is tested on target detection concurrently with record firing.

6. Record Firing (8 hours): Two basic changes are proposed: The first record firing will be essentially the same as the present Record I except more distant targets will be exposed at 250-350 meters to increase emphasis on distant targets and preclude qualification by firing and hitting only the closest targets. An orientation on the record range is also included. Record II has been proposed as a multiple target exercise which will require the firer to engage two or three targets within a time limit. He is given more ammunition that targets (40/20) and can fire more than once at a target but gets one point per hit. This exercise will also require him to reload during the exercise. This program should be tested.

7. Concurrent Training: Only four (4) periods are involved with concurrent ATP training-Periods 6, 7, 17, and 18. This was done to allow efficient range utilization and to add some variety to training.

8. Familiarization firing, M14 automatic fire (1 Hour)*: This instruction familiarizes the soldier with the M14 rifle in its automatic role without bipod. The soldier is taught positions and fires at silhouette targets at 50 meters. This is a period which may be omitted; if fired, extra ammunition will be required.

INDIVIDUAL NIGHT FIRING COURSE

Night firing (8 hours): The technique used in night firing is taught to overcome the difficulty in locating targets and firing using the correct technique. The technique for aligning on the target is taught by lecture, demonstration, and practical work. Sequence of instruction will be:

- a. The principles of night vision.
- b. High head position.
- c. Use of both eyes.
- d. Pointing technique.
- e. Day instruction.
- f. Night instruction firing.
- g. Night record firing.

*If this period is included, ammunition savings discussed earlier will be less.

INCLOSURE 3 - APPENDIX V - ANNEX B

MASTER SCHEDULE - BASIC RIFLE MARKSMANSHIP COURSE

| Period | Hour(s) | Lesson | Text References | Area |
|--------|---------|---|-----------------------------------|--|
| 1 | 2 | a. <u>ORIENTATION (2 Hours)</u> Orientation; Role of the rifleman; historical development of the rifle characteristics and outside nomenclature of the rifle; loading and unloading the rifle. | FM 23-5, FM 23-8, FM 23-71. | Classroom. Tables and chairs arranged for 10-man groups. |
| | | b. <u>MECHANICAL TRAINING (4 Hours)</u> | | |
| 2 | 4 | Disassembly and assembly of the rifle; review outside nomenclature; adjustment of rear sight tension, stoppage and immediate action; care, cleaning, and lubricating the rifle. | FM 23-5, FM 23-8, FM 23-71. | Classroom. Tables and chairs arranged for 10-man groups. |
| | | c. <u>PREPARATORY MARKSMANSHIP TRAINING (26 Hours)</u> <u>TARGET DETECTION (4 Hours), ATP SUBJECT (4 Hours)</u> | | |
| 3 | 2 | Introduction to marksmanship training; integrated act of shooting, fundamentals of aiming, sight picture; M-15 sighting device, use of the Page sighting device; use of the aiming bar. | FM 23-5, FM 23-8, FM 23-71. | Training Field. |
| 4 | 4 | Fundamentals of marksmanship: range procedure; safety; steady hold factors; prone position; recoil demonstration; application of lubricants to the rifle; 25-meter early firing; firing demonstration; effects of errors; review integrated act of shooting; aiming box exercise. | FM 23-5, FM 23-8, FM 23-71. | 25-Meter Range. |
| 5 | 4 | Fundamentals of marksmanship; elevation and windage; wobble area; calling the shot; follow through firing data card; prone supported position; trigger control exercise using ball and dummy method; duties of the coach; dry firing; 25-meter firing; orientation on firing positions. | FM 23-5, FM 23-8, FM 23-71. | 25-Meter Range. |

| Period | Hour(s) | Lesson | Text References | Area |
|---|---------|---|------------------------------------|---|
| 6 | 4 | Practice in firing from the prone sitting, squatting and kneeling positions. | FM 23-71. | 25-Meter Range. |
| | 2 | Target Detection: Introduction to target detection; estimating range; detecting, marking and estimating range to stationary targets. | FM 23-5, FM 23-71, FM 21-75. | 2 Target Detection Ranges |
| | 2* | ATP subject. | ATP 21-114 | Area in the vicinity of the 25-Meter Range. |
| 7 | 4 | Practice in firing from the kneeling, supported, standing, and foxhole positions; rapid reloading. | FM 23-5, FM 23-71. | 25-Meter Range with stumps and foxholes. |
| | 2 | Target detection: Practical work in detecting, marking, and estimating ranges to realistic battlefield targets. | FM 21-75, FM 23-71. | 2 Target Detection |
| | 2* | ATP Subject | ATP 21-114 | Area in the vicinity of the 25-Meter Range. |
| 8 | 4 | Principles of zeroing, sight change review, 250-meter zeroing; calibration of sight to battlesight zero; fundamentals review. | FM 23-5, FM 23-71. | 25-Meter Range with stumps and foxholes. |
| 9 | 4 | Fundamentals progress check by firing from all positions at 25 meters. | FM 23-71. | 25-Meter Range with stumps and foxholes. |
| d. <u>FIELD FIRING (16 Hours) TARGET DETECTION (10 Hours) PREPARATORY MARKSMANSHIP TRAINING (6 Hours)</u> | | | | |
| 10 | 4 | Introduction to field firing; use of an adjusted aiming point (hold-off); effects of wind; firing on field targets at various ranges. | | Field Firing Range. |
| | 2 | Practice firing to correct weaknesses revealed in fundamentals progress check. | | 25-Meter Range with stumps and foxholes. |
| | 2 | Target Detection: Detecting and engaging single moving targets. | | 2 Target Detection Ranges. |

*See footnote at end of master schedule.

| Period | Hour(s) | Lesson | Text References | Area |
|--------|---------|--|-----------------|--|
| 11 | 2 | Fundamentals of firing positions and field firing on simulated advancing targets. | | Field Firing Range. |
| | 2 | Target Detection: Detecting and marking multiple moving targets. | | 2 Target Detection Ranges |
| 12 | 2 | Review fundamentals of aiming and holdoff. Field firing at surprise targets. | | Field Firing Range |
| | 2 | Target Detection: Single and multiple sound targets; sector sketch. | | 2 Target Detection Ranges |
| 13 | 2 | Moving with a loaded weapon; Field target firing from prescribed positions; position fundamentals. | | Field Firing Range. |
| | 2 | Review of fundamentals of 25-meter firing; referring from squatting, sitting, kneeling and standing positions. | | 25-Meter Range. |
| 14 | 2 | Review of movement and assuming positions rapidly. Engage surprise targets on the field firing range. | | Field Firing Range. |
| | 2 | Target Detection: Use of camouflage and types of movement. | | 2 Target Detection Ranges |
| 15 | 2 | Engagement of several dispersed targets; rapid reloading and immediate action on the field firing range. | | Field Firing Range. |
| | 2 | Target Detection: Detecting and marking combination sound and multiple moving targets. | | 2 Target Detection Ranges |
| 16 | 2 | Review and practical work in engagement of frontal and lateral type targets; rapid reloading and immediate action on the field firing range. | | Field Firing Range. |
| | 2 | Confirmation of battle sight zero; review in use of an adjusted aiming point (hold-off), assuming positions rapidly and reloading. | | 25-Meter Range with foxholes and stumps. |

| Period | Hour(s) | Lesson | Text References | Area |
|---|---------|---|--------------------------------------|---|
| e. RECORD FIRING (8 Hours) ATP SUBJECT (8 Hours) | | | | |
| 17 | 4 | Record firing I and target detection test Nr 1. | | Record Firing Range, 2 Target Detection Ranges. |
| | 4* | ATP Subject | ATP 21-114 | Suitable training area. |
| 18 | 4 | Record Firing II and Target detection tests Nr 2 and 3. | | Record Firing Range, 2 Target Detection Ranges. |
| | 4* | ATP Subject. | ATP 21-114 | Suitable training area. |
| f. FAMILIARIZATION FIRING M14 RIFLE IN THE AUTOMATIC ROLE (1 Hour) | | | | |
| **19 | 1 | M14 rifle familiarization, automatic fire. | | Instruction firing range. |
| INDIVIDUAL NIGHT FIRING COURSE | | | | |
| <u>NIGHT VISION AND TECHNIQUE OF NIGHT FIRING</u> | | | | |
| 1 | 1 | Principles and techniques on night firing and vision. | FM 23-5, FM 21-75. | Prepared classroom or suitable outside area at night. |
| 2 | 3 | Day instruction firing in night firing on the standard course, Table VII. | FM 23-5, AR 385-63. | Instruction firing range. |
| <u>NIGHT FIRING</u> | | | | |
| 3 | 2 | Instruction in night firing on the standard course, Table VI. | ARs 370-5 and 385-63; FM 23-5. | Night Firing Range. |
| 4 | 2 | Record firing on the standard course, Table VI | ARs 370-5 and 385-63; FM 23-5. | Night Firing Range. |

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

**For consideration

INCLOSURE 4 APPENDIX V - ANNEX B

Basic Rifle Marksmanship Course

Lesson Outlines

Orientation

1. First Period (2 hours).

a. Lesson Objective: To orient the soldier on the role of the combat rifleman and the course of instruction. To acquaint him with the capabilities and limitations of his rifle and to motivate him to become an expert rifleman.

b. Lesson Outline:

- (1) Introduce the subject by presenting the background of the program of instruction; clear all weapons. (10 min)
- (2) Discuss the development of the rifle and the role of the rifleman. (5 min)
- (3) Show Misc Film 918, This is the Infantry. Point out that every soldier is basically an infantryman. (20 min)
- (4) Discuss the characteristics of the rifle. By practical exercises, teach the outside nomenclature of the weapon. (10 min)
- (5) Introduce and show training Film 7-2796, Trainfire I. (30 min)
- (6) Demonstrate and conduct practical work in loading and unloading the rifle to include single rounds, magazines, and magazine chargers (M14 rifle) or full and partial clips (M1 rifle). (10 min)
- (7) Summarize by review. (5 min)

Mechanical Training

2. Second Period (4 hours).

a. Lesson Objective: To teach the soldier the disassembly and assembly of the rifle; adjustment of the rear sight tension; stoppages and immediate action; care and cleaning; and lubricating points.

b. Lesson Outline:

- (1) Organize the class into 10-man setups, check for clearance of weapons and dummy rounds, and introduce the subject by outlining the scope of instruction and citing examples of the use of the rifle in combat. (10 min)
- (2) Explain, demonstrate, and conduct practical work in disassembly of the rifle. (25 min)
- (3) Review nomenclature of rifle by conference and practical exercise. (10 min)
- (4) Explain, demonstrate, and conduct practical work in assembly of the rifle. (20 min)
- (5) Explain, demonstrate, and conduct practical work in adjustment of rear sight tension. (10 min)
- (6) Illustrate and explain the functioning of the rifle. (15 min)
- (7) Introduce and show training Film 9-2970 or 9-1172, Functioning of the Rifle. (30 min)
- (8) Discuss stoppages. Explain, demonstrate, and conduct practical work in application of immediate action. (15 min)
- (9) Explain and demonstrate proper care of cleaning of the rifle. (10 min)
- (10) Conduct practical work in care and cleaning. (10 min)
- (11) Explain, demonstrate and conduct practical work in application of rifle lubricants. (15 min)
- (12) Summarize period of instruction. (10 min)

Preparatory Marksmanship Training, Target Detection

3. Third Period (2 hours).

a. Lesson Objective: To introduce the soldier to marksmanship training with emphasis on fundamentals to include the integrated act of shooting and aids to proper aiming.

b. Lesson Outline:

- (1) Introduce the integrated act of shooting. Emphasize the basic requirements for good shooting and explain why combat packs and steel helmets are worn on the range. (5 min)
- (2) Discuss the steady hold factors with emphasis on points to be concentrated upon when assuming any position. (15 min)
- (3) Discuss aiming to include sight alinement, placement of the aiming point, focus of the eye, and importance of sight alinement. (20 min)
- (4) Summary. (5 min)
- (5) Introduce training aids helpful to obtainment of proper sight picture and explain their value. (5 min)
- (6) Discuss the M15 sighting device and conduct practical exercise. (10 min)
- (7) Discuss the Page sighting device and conduct practical exercise. (10 min)
- (8) Discuss and demonstrate the aiming bar and conduct practical exercise. (15 min)
- (9) Summary. (5 min)

4. Fourth Period (4 hours).

a. Lesson Objective: To show the soldier his need for additional training; to continue the establishment of a sound base of shooting fundamentals; to teach shooting on an integrated act basis; and to provide early corrective instruction to those soldiers who are having difficulty in grasping fundamentals.

b. Lesson Outline:

- (1) Introduce the period by orienting the soldier on sequence of instruction and how it will tie-in with previous and subsequent instruction. Explain and issue progress envelopes. (10 min)
- (2) Discuss the range complex to include a discussion and demonstration on range procedures and safety precautions used during the preparatory marksmanship training instruction. (10 min)
- (3) Review aiming to include the 25-meter target. (5 min)
- (4) Conduct the recoil demonstration. (5 min)
- (5) Discuss the need and importance of rifle lubricant and point out the parts where lubricant is required. (10 min)
- (6) Summary. (5 min)
- (7) Introduce the early firing phase and demonstrate the prone position with emphasis on the steady hold factors. Outline position and basic duty of a coach. (10 min)
- (8) Conduct practical work in firing from the prone position. (30 min)
- (9) Summarize by pointing out common errors apparent during firing exercise. (5 min)
- (10) Conduct a firing demonstration by a well-trained rifleman and have the soldiers compare their targets with that of the demonstrator. (10 min)
- (11) Discuss the target analysis sheet and explain practical application to the soldier's firing. (10 min)
- (12) Explain and demonstrate the aiming box exercise. (10 min)

- (13) Conduct practical work with the aiming box exercise. (15 min)
- (14) Continue aiming box exercise. Insure that each firer and marker examine and critique the shot groups with the aid of the target analysis sheet. Assistant instructors must give on the spot correction and instruction to the soldiers with difficulties. Those showing persistent errors are sent to the corrective platoon. (40 min)
- (15) Summary. (5 min)

5. Fifth Period (4 hours).

a. Lesson Objective: To provide the soldier with additional areas of consideration in marksmanship fundamentals; to employ the fundamentals by firing.

b. Lesson Outline:

- (1) Introduce the period and explain the tie-in with previous and subsequent instruction. (5 min)
- (2) Explain wobble area; illustrate by using fixed sight alignment device and enlarged target chart. (5 min)
- (3) Explain and demonstrate follow through and calling the shot. (10 min)
- (4) Explain and conduct practical work in the use of the firing data card. (10 min)
- (5) Review effects of errors. Establish sample groups by integrating calling the shot, use of firing data card and shot group analysis. (15 min)
- (6) Explain the functioning of the rear sight; the elevation and windage rule; and conduct practical work in applying the factors of the elevation and windage rule. (10 min)
- (7) Review and demonstrate the steady hold factors in relation to the prone supported position. (5 min)
- (8) Explain and demonstrate the duties of the coach and the ball and dummy exercise. (5 min)
- (9) Conduct instruction firing from the prone supported position utilizing the maximum amount of dry firing prior to live firing. Emphasize trigger control by using the dummy round at least two (2) times with each three (3) round shot group. (100 min)
- (10) Review common firing errors. (5 min)
- (11) Orient soldiers on remaining positions utilized in the program with reference to the steady hold factors. (10 min)

6. Sixth Period (4 hours).

a. Lesson Objective: To give practical work in firing from the prone, sitting, squatting, and the kneeling positions; to develop in the soldier the skills required in detection, marking, and estimating range to realistic battlefield targets; and to provide individual corrective instruction by means of dry firing exercises to those firers making serious errors.

b. Lesson Outline: (25-Meter Firing).

- (1) Demonstrate the prone position (5 min)
- (2) Practical work in the prone position. (40 min)
- (3) Demonstrate the sitting position and two alternates. (5 min)
- (4) Practical work in the sitting position. (40 min)
- (5) Demonstrate the squatting position. (5 min)
- (6) Practical work in the squatting position. (40 min)
- (7) Demonstrate the kneeling position. (5 min)
- (8) Practical work in the kneeling position. (40 min)

NOTE: All demonstrations must emphasize the steady hold factors. Before engaging in actual firing from each position, insure that each firer has assumed a good position. Checks of these positions must be made during actual firing. The ball and dummy exercise will be utilized. Include summary and review as applicable.

c. Lesson Outline: (Target Detection).

- | | | |
|------------|--|----------|
| struction. | (1) Introduction and explain the target detection phase of in- | (5 min) |
| | (2) Target indications. | (10 min) |
| | (3) Selection of observation position and methods of search. | (10 min) |
| | (4) Marking targets and range estimation. | (15 min) |
| | (5) Summary. | (5 min) |
| | (6) Practical work and review. | (45 min) |

7. Seventh Period (4 hours).

a. Lesson Objective: To give practical work in firing from the kneeling supported, the standing, and the foxhole positions; to provide instruction and practical work in rapid reloading; and to review the principles of detecting, marking and estimating range to battlefield targets.

b. Lesson Outline: (25 Meter Firing).

- | | | |
|---|---|----------|
| | (1) Demonstrate the kneeling support position. | (5 min) |
| | (2) Practical work in the kneeling position. | (40 min) |
| | (3) Demonstrate the standing position. | (5 min) |
| | (4) Practical work in the standing position. | (40 min) |
| | (5) Demonstrate the foxhole position. | (5 min) |
| | (6) Practical work in the foxhole position. | (40 min) |
| partial clips, full clips, or magazine and magazine chargers. | (7) Explanation and demonstration of loading single rounds, | (10 min) |
| | (8) Practical work in rapid loading. | (25 min) |
| | (9) Summary. | (10 min) |

NOTE: See note in Period Six.

c. Lesson Outline: (Target Detection).

- | | | |
|--|---|----------|
| | (1) Introduction and review. | (5 min) |
| | (2) Practical work. | (40 min) |
| | (3) Practical work, summary and troop movement. | (45 min) |

8. Eighth Period (4 hours).

a. Lesson Objective: To review principles of sight changes; to explain the principles of battle sight zeroing; to determine a battle sight zero; to calibrate the battle sight, and to determine the firer's knowledge of basic marksmanship fundamentals by means of conference reviews.

b. Lesson Outline:

- | | | |
|---------------|---|-----------|
| sight change. | (1) Review principles of rear sight adjustments and effect of | (15 min) |
| | (2) Explanation of the principles of battle sight zeroing. | (30 min) |
| sight. | (3) Practical work in zeroing and calibration of the battle | (105 min) |
| | (4) Conference on review of marksmanship fundamentals. | (30 min) |

9. Ninth Period (4 hours).

a. Lesson Objective: To determine the firer's proficiency in application of the fundamentals of marksmanship by live firing progress check.

- b. Lesson Outline:
- (1) Practical work in firing a three round shot group from each position. (125 min)
 - (2) Critique of shot group progress firing with emphasis on fundamentals required for improvement. (10 min)
 - (3) Refiring weak positions (maximum of three positions). (40 min)
 - (4) Summary. (5 min)

Field Firing, Target Detection, and Preparatory Marksmanship Training

10. Tenth Period (8 hours).

a. Lesson Objective: To introduce the soldier to firing on field targets at various ranges from various positions using the adjusted aiming point (hold-off) technique; to improve the basic shooting ability by additional instruction and practical work on marksmanship fundamentals on the 25-meter range; and to give the soldier practice in detecting, marking, and engaging single moving targets.

- b. Lesson Outline: (Field Firing - 4 hours)
- (1) Explanation of range procedure and safety precautions. (15 min)
 - (2) Explanation and demonstration of fundamentals of firing positions. (10 min)
 - (3) Explanation and demonstration of adjusted aiming points (hold-off) using tracer ammunition. (10 min)
 - (4) Practical work in firing from various positions using the adjusted aiming point (hold-off) technique. (135 min)
 - (5) Summary. (10 min)

NOTE: Sufficient time to allow proper assumption of positions by the soldier must be inserted. Constant critiques must be made by assistant instructors.

- c. Lesson Outline: (25 Meter Firing 2 Hours).
- (1) Organization of class and explanation of range procedure and safety precautions. (10 min)
 - (2) Practical work in aiming using the M15 sighting device and review of positions. (30 min)
 - (3) Outline previous weaknesses revealed in 25 meter progress check and emphasize the fundamentals required to correct such deficiencies. (5 min)
 - (4) Practical work in refiring weak positions. (45 min)

- d. Lesson Outline: Target Detection (2 hours).
- (1) Introduction. (5 min)
 - (2) Detecting single moving targets; discussion of engaging factors. (5 min)
 - (3) Practical work. (10 min)
 - (4) Summary. (10 min)

11. Eleventh Period (4 hours).

a. Lesson Objective: To give the soldier instruction and practice in firing on a simulated advancing target and practice in detecting and marking multiple moving combat type targets; discussion of engaging several dispersed targets.

- b. Lesson Outline: (Field Firing 2-Hours)
- (1) Organization and explanation of range procedure and safety. (5 min)
 - (2) Review fundamentals of firing positions. (5 min)
 - (3) Firing on simulated advancing targets. (75 min)
 - (4) Critique of firing with stress of fundamentals. (5 min)

NOTE: Although time of target exposure is considered important, the practice of basic concepts cannot be slighted. Corrections and critiques between target exposures are considered essential.

c. Lesson Outline: (Target Detection - 2 hours).

- (1) Introduction. (5 min)
- (2) Discussion of marking factors. (10 min)
- (3) Discussion of engaging factors. (10 min)
- (4) Review principles of range estimation with emphasis on the rules that apply to the terrain in that immediate area. (10 min)
- (5) Practical work in detection and marking of multiple moving combat-type targets. (55 min)

12. Twelfth Period (4 hours).

a. Lesson Objective: To give the soldier practice in engaging surprise targets on the field firing range and practice in locating targets by the sound of firing from hostile positions.

b. Lesson Outline: (Field Firing - 2 Hours).

- (1) Organization and explanation of range procedures and safety. (10 min)
- (2) Review fundamentals of aiming and use of adjusted aiming points (hold-off). (10 min)
- (3) Practical work in firing at surprise targets. (70 min)

NOTE: See note under field firing, period eleven.

c. Lesson Outline: (Target Detection - 2 Hours).

- (1) Introduction. (5 min)
- (2) Single and multiple sounds in locating hostile positions. (5 min)
- (3) Sector sketch. (20 min)
- (4) Practical work in locating hostile firing positions by sound of firing and estimating the range to the positions. (55 min)
- (5) Review. (5 min)

13. Thirteenth Period (4 hours).

a. Lesson Objective: 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 range.

b. Lesson Outline: (Field Firing - 2 Hours).

- (1) Organization and explanation of range procedure. (10 min)
- (2) Conduct practical work in moving with a loaded weapon and engaging field targets with emphasis on assuming a good fundamental firing position (including prone). (70 min)
- (3) Review and troop movement. (10 min)

c. Lesson Outline: (25 Meter Firing - 2 Hours)

- (1) Organization and explanation of range procedure. (5 min)
- (2) Review of fundamentals of 25 meter firing. (10 min)
- (3) Practice work in firing from the sitting, squatting, kneeling and standing positions. (70 min)
- (4) Summary. (5 min)

14. Fourteenth Period (4 Hours).

a. Lesson Objective: To give the soldier practice in engaging surprise targets from specified and optional positions while advancing; to give practice in reloading and applying immediate action; to give practical work in target detection and movement as a target team; personal camouflage.

- b. Lesson Outline: (Field Firing - 2 Hours).
- (1) Organization and explanation of range procedures. (10 min)
 - (2) Review fundamentals applicable to movement and assuming positions rapidly. (5 min)
 - (3) Practical work in rapid reloading, moving assuming firing positions rapidly and engaging surprise targets. (70 min)
 - (4) Summary with emphasis on correction of fundamentals. (5 min)

NOTE: To incorporate rapid reloading, a single round is recommended to be loaded at the first of each phase with the subsequent requirement to load a clip/magazine. A dummy round will be placed within the clip/magazine to require immediate action.

- c. Lesson Outline: (Target Detection - 2 Hours).
- (1) Introduction to combat movements. (5 min)
 - (2) Explanation and demonstration of personal camouflage. (10 min)
 - (3) Practical work in personal camouflage. (15 min)
 - (4) Explanation and demonstration of movements. (15 min)
 - (5) Practical work in movement skills. (40 min)
 - (6) Summary. (5 min)

15. Fifteenth Period (4 Hours).

a. Lesson Objective: To give the soldier practice in engaging lateral surprise targets from the foxhole and selected positions; to give practice in rapid reloading and applying immediate action; to give the soldier practice in detecting and marking, combat-type targets that move and shoot.

- b. Lesson Outline: (Field Firing - 2 Hours).
- (1) Explanation and demonstration of range procedures to include method of engagement of multiple lateral targets. (15 min)
 - (2) Practical work in engagement of targets, rapid loading and immediate action. (70 min)
 - (3) Summary of instruction with emphasis on fundamentals of shooting. (5 min)

- c. Lesson Outline: (Target Detection - 2 Hours).
- (1) Introduction. (5 min)
 - (2) Explanation and demonstration of detection and marking targets. (10 min)
 - (3) Practical work on detection, marking and estimating range to combat-type targets. (55 min)
 - (4) Summarize period of instruction. (5 min)
 - (5) Review all principles of target detection. (15 min)

16. Sixteenth Period (4 Hours).

a. Lesson Objective: To give the soldier practice in engaging multiple surprise targets while moving; to give practice in reloading and applying immediate action; to confirm the battle sight zero, and to review the principles of hold-off firing.

- b. Lesson Outline: (Field Firing 2 - Hours)
- (1) Explanation and demonstration of range procedure to include method of engagement of lateral type targets. (15 min)
 - (2) Practical work in engagement of lateral type targets, rapid loading and immediate action. (70 min)
 - (3) Summary of instruction with emphasis on fundamentals of marksmanship. (5 min)

- c. Lesson Outline: (25 Meter Firing-2 Hours).
- (1) Review range procedure and safety. (5 min)

- (2) Confirmation of battle sight zero. (40 min)
- (3) Explanation of the use of adjusted aiming point (hold-off) technique as applicable to record firing. (10 min)
- (4) Practice in assuming firing positions rapidly and reloading. (30 min)
- (5) Summary. (5 min)

Record Firing

17. Seventeenth Period (4 Hours).

a. Lesson Objective: To test the soldier's ability to detect and hit single combat-type targets in their natural surroundings at unknown ranges and to detect and estimate the range to single stationary battlefield targets.

- b. Lesson Outline: (Record Firing I and Target Detection Test No I - 4 Hours).
- (1) Organization of firers and orientation. (30 min)

NOTE: Orientation to be conducted on an actual record range to include a demonstration in one (1) lane of the course. While one-half the unit is engaged in Record I, the other half the unit will be engaged in a concurrent period of ATP training.

- (2) TD Test No I. (45 min)
- (3) Record Firing I. (105 min)

18. Eighteenth Period (4 Hours).

a. Lesson Objective: To test the soldier's ability to fire rapidly and accurately at single and several dispersed combat-type targets in their natural surroundings and at single and multiple moving targets; and to locate targets by sound of firing on the target detection range.

- b. Lesson Outline: (Record Firing II and Target Detection Tests 2 and 3 - 4 Hours).
- (1) Organization of firers and orientation. (30 min)

NOTE: See period seventeen for unit breakdown.

- (2) TD Test No 2. (25 min)
- (3) TD Test No 3. (25 min)
- (4) Record Firing II. (100 min)

Familiarization Firing, M14 Rifle in the Automatic Role

*19. Nineteenth Period (1 Hour).

a. Lesson Objective: To familiarize the soldier with the automatic capability of the M14 rifle without bipod.

- b. Lesson Outline:
- (1) Introduction. (5 min)
 - (2) Explain range procedure and safety. (5 min)
 - (3) Demonstrate the firing exercise. (5 min)
 - (4) Conduct practical work in firing the M14 rifle without bipod, automatic, at combat-type targets. (30 min)

*For consideration.

INDIVIDUAL NIGHT FIRING COURSE

Night Vision and Technique of Night Firing

1. First Period (1 hour).
 - a. Lesson Objective: To teach the soldier the principles and techniques used in night firing and night vision.
 - b. Lesson Outline: (FM 23-5 and FM 23-75)
2. Second Period (3 hours).
 - a. Lesson Objective: To teach the soldier the techniques of firing at night and to prepare him for firing at night.
 - b. Lesson Outline: Conduct day instruction firing using Table VII, FM 23-5.

NIGHT FIRING

3. Third Period (2 hours).
 - a. Lesson Objective: To permit the soldier to put into practice the techniques learned during day instruction firing.
 - b. Lesson Outline: Conduct instruction night firing using Table VI, FM 23-5.
4. Fourth Period (2 hours).
 - a. Lesson Objective: To test the soldier on his ability to fire at night.
 - b. Lesson Outline: Conduct record night firing using Table VI, FM 23-5.

INCLOSURE 5 - APPENDIX V - ANNEX B
BASIC RIFLE MARKSMANSHIP COURSE

Ammunition Requirements

| <u>Period</u> | <u>Cartridge, Ball Per Soldier</u> | <u>Cartridge Blank For Target Detection</u> | | |
|---------------|--|---|---------------------|------------------------------------|
| | | <u>Total For All** Presentations</u> | <u>Rehearsal***</u> | <u>Number of Presentations</u> |
| 1 | | | | |
| 2 | | | | |
| 3 | | | | |
| 4 | 3 | | | |
| 5 | 18 | | | |
| 6 | 24 | 128 | 32 | 8 |
| 7 | 21 | 128 | 32 | 8 |
| 8 | 12 | | | |
| 9 | 30 | | | |
| 10 | 66 | 80 | 20 | 8 |
| 11 | *36 | 124 | 62 | 4 |
| 12 | 36 | 178 | 94 | 4 |
| 13 | 42 | | | |
| 14 | 40 | | | |
| 15 | 40 | 308 | 154 | 4 |
| 16 | 52 | | | |
| 17 | 56 | 96 | 24 | 8 |
| 18 | 48 | 264 | 66 | 8 |
| | <u>(524)</u> | <u>1306</u> | <u>484</u> | |
| #19 | <u>12</u> 536 | | | |

INDIVIDUAL NIGHT FIRING COURSE

| | |
|---|-----------------|
| 1 | |
| 2 | 15 |
| 3 | 16 |
| 4 | <u>16</u> 47 |

*Includes nine rounds of tracer ammunition.

**The total rounds for presentation divided by number of presentations will indicate the number of rounds utilized on one target detection range.

***This indicates the total number of rounds required to rehearse on two ranges.

#Additional ammunition required if M14 familiarization is included.

INCLOSURE 6 - APPENDIX V - ANNEX B
BASIC RIFLE MARKSMANSHIP COURSE

Score Sheets

PERIOD TEN

SCORE SHEET

Firer's Name _____
(Last) (First)

Platoon _____ Order _____ Firing Point _____ Date _____

Scorer's Name _____
(Last) (First)

PHASE - 1

PHASE - 2

| Position | Range (Meters) | Round | Hit | Miss |
|----------|----------------|-------|-----|------|
| Foxhole | 75* | 1 | | |
| Foxhole | 75* | 2 | | |
| Foxhole | 75* | 3 | | |
| Foxhole | 175* | 4 | | |
| Foxhole | 175* | 5 | | |
| Foxhole | 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 | | |

| Position | Range (Meters) | Round | Hit | Miss |
|-----------------|----------------|-------|-----|------|
| Prone supported | 75 | 1 | | |
| Prone supported | 175 | 2 | | |
| Prone supported | 175 | 3 | | |
| Prone supported | 175 | 4 | | |
| Prone supported | 300 | 5 | | |
| Prone supported | 300 | 6 | | |
| Prone supported | 300 | 7 | | |
| Prone supported | 300 | 8 | | |
| Total | | | | |

*Tracer Ammunition

Total

PERIOD TEN
SCORE SHEET

(Cont)

PHASE - 3

| Position | Range (Meters) | Round | Hit | Miss |
|----------|----------------|-------|-----|------|
| Kneeling | 75 | 1 | | |
| Kneeling | 175 | 2 | | |
| Kneeling | 175 | 3 | | |
| Kneeling | 175 | 4 | | |
| Kneeling | 300 | 5 | | |
| Kneeling | 300 | 6 | | |
| Kneeling | 300 | 7 | | |
| Kneeling | 300 | 8 | | |
| Total | | | | |

PHASE - 4

| Position | Range (Meters) | Round | Hit | Miss |
|-----------|----------------|-------|-----|------|
| Squatting | 75 | 1 | | |
| Squatting | 175 | 2 | | |
| Squatting | 175 | 3 | | |
| Squatting | 175 | 4 | | |
| Squatting | 300 | 5 | | |
| Squatting | 300 | 6 | | |
| Squatting | 300 | 7 | | |
| Squatting | 300 | 8 | | |
| Total | | | | |

PHASE - 5

| Position | Range (Meters) | Round | Hit | Miss |
|----------|----------------|-------|-----|------|
| Sitting | 75 | 1 | | |
| Sitting | 175 | 2 | | |
| Sitting | 175 | 3 | | |
| Sitting | 175 | 4 | | |
| Sitting | 300 | 5 | | |
| Sitting | 300 | 6 | | |
| Sitting | 300 | 7 | | |
| Sitting | 300 | 8 | | |
| Total | | | | |

Grand Total for Period Ten

| Hit | Miss |
|-----|------|
| | |

**PERIOD ELEVEN
SCORE SHEET**

(Cont)

PHASE - 5

| Position | Range (Meters) | Round | Hit | Miss |
|----------|----------------|-------|-----|------|
| Standing | 300 | 1 | | |
| Standing | 175 | 2 | | |
| Standing | 75 | 3 | | |
| Standing | 300 | 4 | | |
| Standing | 175 | 5 | | |
| Standing | 75 | 6 | | |
| Total | | | | |

Total for Period Eleven

| Hit | Miss |
|-----|------|
| | |

PERIOD TWELVE
SCORE SHEET

(Cont)

PHASE - 5

| Position | Range (Meters) | Round | Hit | Miss |
|----------|----------------|-------|-----|------|
| Sitting | 300 | 1 | | |
| Sitting | 300 | 2 | | |
| Sitting | 175 | 3 | | |
| Sitting | 300 | 4 | | |
| Sitting | 75 | 5 | | |
| Sitting | 175 | 6 | | |
| Total | | | | |

PHASE - 6

| Position | Range (Meters) | Round | Hit | Miss |
|-----------|----------------|-------|-----|------|
| Squatting | 75 | 1 | | |
| Squatting | 300 | 2 | | |
| Squatting | 300 | 3 | | |
| Squatting | 175 | 4 | | |
| Squatting | 175 | 5 | | |
| Squatting | 300 | 6 | | |
| Total | | | | |

Total for Period Twelve

| Hit | Miss |
|-----|------|
| | |

PERIOD THIRTEEN

SCORE SHEET

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

Platoon _____ Order _____ Firing Point _____ Date _____

Scorer's Name _____
 (Last) _____ (First)

PHASE - 1

| Place | Position | Range (Meters) | Round | Hit | Miss |
|----------------|--------------------|----------------|-------|-----|------|
| Behind stump | Standing | 75 | 1 | | |
| By stump | Standing | 75 | 2 | | |
| By foxhole | Standing | 75 | 3 | | |
| By front stake | Prone | 75 | 4 | | |
| Behind stump | Squatting | 175 | 5 | | |
| By stump | Kneeling supported | 175 | 6 | | |
| By foxhole | Kneeling | 175 | 7 | | |
| By front stake | Sitting | 175 | 8 | | |
| Behind stump | Sitting | 300 | 9 | | |
| By stump | Kneeling supported | 300 | 10 | | |
| By foxhole | Kneeling | 300 | 11 | | |
| By front stake | Squatting | 300 | 12 | | |
| Behind stump | Kneeling | 175 | 13 | | |
| By stump | Kneeling supported | 300 | 14 | | |
| By foxhole | Squatting | 175 | 15 | | |
| By front stake | Sitting | 300 | 16 | | |

| | | PHASE - 2 | | | |
|----------------|--------------------|-----------|---|--|--|
| Behind stump | Sitting | 300 | 1 | | |
| By stump | Kneeling supported | 175 | 2 | | |
| By foxhole | Squatting | 300 | 3 | | |
| By front stake | Standing | 75 | 4 | | |
| Behind stump | Kneeling | 175 | 5 | | |
| By stump | Kneeling supported | 300 | 6 | | |
| By foxhole | Standing | 75 | 7 | | |
| By front stake | Squatting | 175 | 8 | | |
| Total | | | | | |

PERIOD FOURTEEN
SCORE SHEET
(Cont)

PHASE - 3

| Place | Position | Range (Meters) | Round | Hit | Miss |
|----------------|--------------------|----------------|-------|-----|------|
| Behind stump | Kneeling | 175 | 1 | | |
| By stump | Kneeling supported | 75 | 2 | | |
| By foxhole | Prone | 300 | 3 | | |
| By front stake | Standing | 75 | 4 | | |
| Behind stump | Squatting | 175 | 5 | | |
| By stump | Kneeling supported | 300 | 6 | | |
| By foxhole | Standing | 175 | 7 | | |
| By front stake | Sitting | 300 | 8 | | |
| Total | | | | | |

Totals for Period Fourteen

| Hit | Miss |
|-----|------|
| | |

PERIOD FIFTEEN

SCORE SHEET

(Cont)

PHASE - 3

| Place | Position | Range (Meters) | Round | Hit | Miss |
|----------------|--------------------|----------------|-------|-----|------|
| Behind stump | Kneeling supported | 75 | 1 | | |
| By stump | Kneeling supported | 175 | 2 | | |
| | | 175 | 4 | | |
| By foxhole | Sitting | 300 | 5 | | |
| | | 300 | 6 | | |
| By front stake | Standing | 75 | 7 | | |
| | | 75 | 8 | | |
| Total | | | | | |

Totals for Period Fifteen

| Hit | Miss |
|-----|------|
| | |

PERIOD SIXTEEN
SCORE SHEET

Firer's Name _____
(Last) (First)

Platoon _____ Order _____ Firing Point _____ Date _____

Scorer's Name _____
(Last) (First)

PHASES 1 AND 2 FROM FOXHOLE POSITION

PHASE - 1

| Range (Meters) | HIT | | MISS |
|----------------|-------------|--------------|------|
| | First Round | Second Round | |
| 75 | | | |
| 175 | | | |
| 175 | | | |
| 300 Left | | | |
| 300 Right | | | |
| 175 | | | |
| 300 Left | | | |
| 300 Right | | | |

PHASE - 2

| Range (Meters) | HIT | | MISS |
|----------------|-------------|--------------|------|
| | First Round | Second Round | |
| 75 | | | |
| 175 | | | |
| 175 | | | |
| 300 Left | | | |
| 300 Right | | | |
| 175 | | | |
| 300 Left | | | |
| 300 Right | | | |

PHASE - 3

| Place | Range (Meters) | HIT | | MISS |
|--------------|----------------|-------------|--------------|------|
| | | First Round | Second Round | |
| Behind stump | 75 | | | |
| | 175 | | | |
| By stump | 175 | | | |
| | 300 Left | | | |
| | 300 Right | | | |
| By foxhole | 300 Left | | | |
| | 300 Right | | | |

Totals for Period Sixteen

| | First Round | Second Round | Miss |
|------------|-------------|--------------|------|
| Total Hits | | | |

RECORD FIRING SCORESHEET

Firer's Name (Last) (First) Serial No. Company

Order No. Weather: Record I 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..... | 250 | | | |
| | 5..... | 50 | | | |
| | 6..... | 350 | | | |
| | 7..... | 100 | | | |
| | 8..... | 200 | | | |

| | | | | | |
|-----------------|--------|-----|--|--|--|
| Firing point | 1..... | 100 | | | |
| | 2..... | 250 | | | |
| | 3..... | 300 | | | |
| Clip 2 | 4..... | 150 | | | |
| | 5..... | 300 | | | |
| | 6..... | 350 | | | |
| | 7..... | 100 | | | |
| | 8..... | 200 | | | |

| | | | | | |
|-----------------|--------|-----|--|--|--|
| Firing point | 1..... | 250 | | | |
| | 2..... | 150 | | | |
| | 3..... | 300 | | | |
| 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

Unsupported Firing

| | Round | Range (meters) | Hit | Miss | No Fire |
|-----------------|---------|-------------------|-----|------|------------|
| Firing point | MO 1... | 150 | | | |
| | 2... | 350 | | | |
| Clip 5 | MO 3... | 100 | | | |
| | MO 4... | 200 | | | |
| | 5... | 300 | | | |
| | 6... | 200 | | | |
| | MO 7... | 250 | | | |
| | MO 8... | 150 | | | |

| | | | | | |
|-----------------|---------|-----|--|--|--|
| Firing point | MO 1... | 250 | | | |
| | MO 2... | 300 | | | |
| Clip 6 | 3... | 150 | | | |
| | 4... | 250 | | | |
| | MO 5... | 100 | | | |
| | MO 6... | 200 | | | |
| | 7... | 300 | | | |
| | MO 8... | 250 | | | |

| | | | | | |
|-----------------|---------|-----|--|--|--|
| Firing point | MO 1... | 200 | | | |
| | MO 2... | 300 | | | |
| Clip 7 | MO 3... | 150 | | | |
| | 4... | 350 | | | |
| | MO 5... | 300 | | | |
| | 6... | 200 | | | |
| | 7... | 250 | | | |
| | MO 8... | 150 | | | |

| Record I | Hit | Miss | No Fire |
|-------------|-----|------|---------|
| Totals..... | | | |

RECORD II
Supported Foxhole Firing

| Firing point | Round | Range (meters) | Hit | Miss | No Fire |
|--------------|-------|----------------|-----|------|---------|
| | 1 | 250 | | | |
| 2 | 300 | | | | |
| 3 | 200 | | | | |
| Clip 1 | 4 | 150 | | | |
| | 5 | 50 | | | |
| | 6 | 350 | | | |
| | 7 | 100 | | | |
| | 8 | 200 | | | |

| Firing point | Round | Range (meters) | Hit | Miss | No Fire |
|--------------|-------|----------------|-----|------|---------|
| | 1 | 100 | | | |
| 2 | 250 | | | | |
| 3 | 300 | | | | |
| Clip 2 | 4 | 150 | | | |
| | 5 | 50 | | | |
| | 6 | 350 | | | |
| | 7 | 100 | | | |
| | 8 | 200 | | | |

| Firing point | Round | Range (meters) | Hit | Miss | No Fire |
|--------------|-------|----------------|-----|------|---------|
| | 1 | 250 | | | |
| 2 | 150 | | | | |
| 3 | 100 | | | | |
| Clip 3 | 4 | 200 | | | |
| | 5 | 250 | | | |
| | 6 | 300 | | | |
| | 7 | 350 | | | |
| | 8 | 200 | | | |

| Firing point | Round | Range (meters) | Hit | Miss | No Fire |
|--------------|-------|----------------|-----|------|---------|
| | 1 | 50 | | | |
| 2 | 200 | | | | |
| 3 | 100 | | | | |
| Clip 4 | 4 | 200 | | | |
| | 5 | 150 | | | |
| | 6 | 250 | | | |
| | 7 | 300 | | | |
| | 8 | 150 | | | |

RECORD II
Unsupported Firing

| Firing point | Round | Range (meters) | Hit | Miss | No Fire |
|--------------|-------|----------------|-----|------|---------|
| | MO 1 | 150 | | | |
| 2 | 350 | | | | |
| Clip 5 | MO 3 | 100 | | | |
| | MO 4 | 200 | | | |
| | 5 | 300 | | | |
| | 6 | 200 | | | |
| | MO 7 | 250 | | | |
| | MO 8 | 150 | | | |

| Firing point | Round | Range (meters) | Hit | Miss | No Fire |
|--------------|-------|----------------|-----|------|---------|
| | MO 1 | 250 | | | |
| MO 2 | 300 | | | | |
| 3 | 150 | | | | |
| 4 | 250 | | | | |
| MO 5 | 100 | | | | |
| MO 6 | 200 | | | | |
| 7 | 300 | | | | |
| MO 8 | 250 | | | | |

| Firing point | 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 | Hit | Miss | No Fire |
|-------------|-----|------|---------|
| Totals..... | | | |

Grand total hits record I and II

Scorer's signature _____

Officer's signature _____

Qualification EX
SS
MK
UQ

RECORD FIRING II

PRACTICE

| Phase | Range (Meters) | Hit | Miss | No Fire | Time (Seconds) |
|-------|----------------|-----|------|---------|----------------|
| 1 | 200 | | | | 10 |
| 2 | 150 | | | | 20 |
| | 300 | | | | |
| 3 | 100 | | | | 30 |
| | 200 | | | | |
| | 350 | | | | |

Ammunition: 8 rds (clip or magazine)

FOXHOLE FIRING

| Phase | Range (Meters) | Hit | Miss | No Fire | Time (Seconds) |
|-------|----------------|-----|------|---------|----------------|
| 1 | 150 | | | | 5 |
| 2 | 300 | | | | 10 |
| 3 | 100 | | | | 20 |
| | 250 | | | | |
| 4 | 50 | | | | 20 |
| | 200 | | | | |

Ammunition: 8 rds (clip of magazine)

FOXHOLE FIRING

| | | | | | |
|---|-----|--|--|--|----|
| 1 | 100 | | | | 20 |
| | 350 | | | | |
| 2 | 200 | | | | 20 |
| | 250 | | | | |
| 3 | 50 | | | | 20 |
| | 150 | | | | |
| 4 | 100 | | | | 25 |
| | 250 | | | | |
| | 300 | | | | |
| 5 | 50 | | | | 25 |
| | 200 | | | | |
| | 350 | | | | |

Ammunition: 16 rds
(2 clips or 2 magazines)

UNSUPPORTED FIRING

| | | | | | |
|------|-----|--|--|--|----|
| MO 1 | 100 | | | | 20 |
| | 200 | | | | |
| 2 | 150 | | | | 20 |
| | 300 | | | | |
| 3 | 100 | | | | 30 |
| | 200 | | | | |
| | 300 | | | | |
| 4 | 150 | | | | 30 |
| | 250 | | | | |
| | 350 | | | | |

Ammunition: 16 rds
(2 clips or 2 magazines)

Practice Rounds: 8
Total Rounds-Record II: 40
Targets Exposed: 28

AD-A074 158

ARMY INFANTRY CENTER AND FORT BENNING GA
REPORT OF THE RIFLE MARKSMANSHIP EVALUATION BOARD.(U)
APR 61

F/G 19/1

UNCLASSIFIED

NL

2 OF 3

ADA
074158



INCLOSURE 7 - APPENDIX V ANNEX B

BASIC RIFLE MARKSMANSHIP COURSE

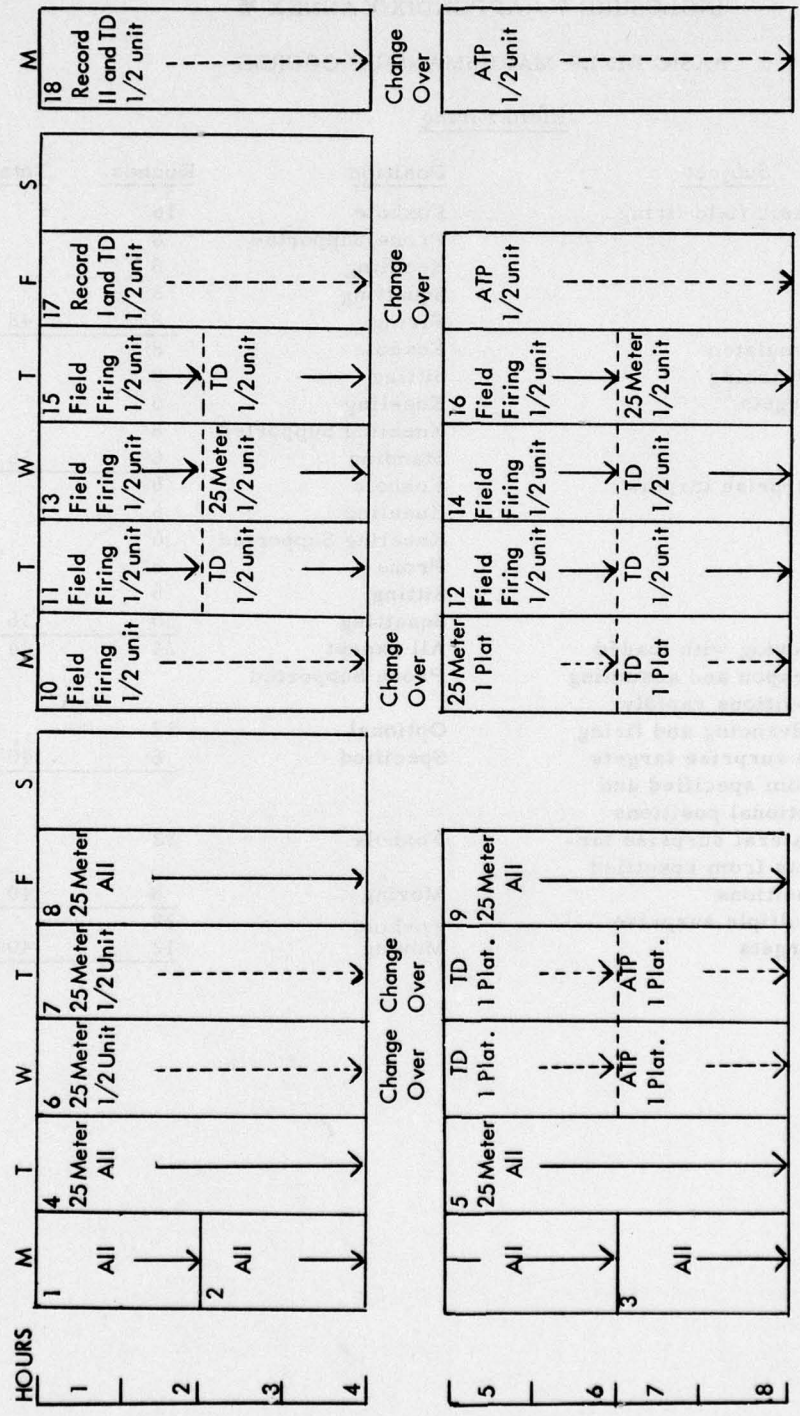
Field Firing

| <u>Period</u> | <u>Hours</u> | <u>Subject</u> | <u>Position</u> | <u>Rounds</u> | <u>Total</u> |
|---------------|--------------|---|--------------------|---------------|--------------|
| 10 | 4 | Basic field firing | Foxhole | 16 | 48 |
| | | | Prone Supported | 8 | |
| | | | Kneeling | 8 | |
| | | | Squatting | 8 | |
| | | | Firing | 8 | |
| 11 | 2 | Simulated advancing targets | Foxhole | 8 | 36 |
| | | | Sitting | 8 | |
| | | | Kneeling | 6 | |
| | | | Kneeling Supported | 8 | |
| | | | Standing | 6 | |
| 12 | 2 | Surprise targets | Foxhole | 6 | 36 |
| | | | Kneeling | 6 | |
| | | | Kneeling Supported | 6 | |
| | | | Prone | 6 | |
| | | | Sitting | 6 | |
| 13 | 2 | Moving with loaded weapon and assuming positions rapidly | All except | 24 | 24 |
| | | | Prone Supported | | |
| 14 | 2 | Advancing and firing on surprise targets from specified and optional positions | Optional | 32 | 40 |
| | | | Specified | 8 | |
| 15 | 2 | Lateral surprise tar- gets from specified positions | Foxhole | 32 | 40 |
| 16 | 2 | Multiple surprise targets | Moving | 8 | |
| | | | Foxhole | 28 | 40 |
| | | | Moving | 12 | |

Inclosure 8 - Appendix V - Annex B

BASIC RIFLE MARKSMANSHIP COURSE

Proposed Scheduling (based on a 44-hour week)



| Facilities | Usage In Hours | Total |
|-------------------|----------------|-------|
| Classroom | 6 | 6 |
| 25 Meter (6SPts) | 32 | 8 |
| 25 Meter (110Fts) | 16 | 8 |
| Field Firing | 32 | 8 |
| TD (2 Ranges) | 56 | 8 |
| Record Course | 16 | 8 |
| Adjacent Areas | 34 | 8 |

Inclosure 9 - Appendix V - Annex B

BASIC RIFLE MARKSMANSHIP COURSE
Suggested Scheduling Guide For 1-6 Unit Input
One (1) Unit Per Week Input

| UNIT | ** 1st Week - A | | | | | | | 2nd Week - B | | | | | | | 3d Week - C | | | | | | | 4th Week - D | | | | | | | | | |
|------|--------------------------------------|---|---|---|---|---|---|--------------|----|----|----|----|----|----|-------------|-------|----|----|----|----|----|--------------|----|----|----|----|----|----|----|----|----|
| | M | T | W | T | F | S | | M | T | W | T | F | S | | M | T | W | T | F | S | | M | T | W | T | F | S | | | | |
| A | 1-2-3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | |
| B | | | | | | | | 1-2-3 | 4 | 5 | 6 | 7 | 8 | 9 | | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | | | | | | | |
| C | | | | | | | | | | | | | | | | 1-2-3 | 4 | 5 | 6 | 7 | 8 | 9 | | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 |
| D | | | | | | | | | | | | | | | | 1-2-3 | 4 | 5 | 6 | 7 | 8 | 9 | | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 |
| | Facilities Required | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 1-Classroom | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 1-Training Field | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 1-25 Meter Range - 110 Pts | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 1-25 Meter Range - 65 Pts | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 1-Field Firing Range | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 4-Target Detection Ranges | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 1-Record Range | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | * Period Number | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | ** 1st Week of Marksmanship Training | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

Three (3) Units Per Week Input

| UNIT | ** 1st Week - A | | | | | | | 2nd Week - B | | | | | | | 3d Week - C | | | | | | | 4th Week - D | | | | | | |
|------|-----------------|-------|-------|---|---|---|-------|--------------|----|----|----|----|---|-------|-------------|-------|-------|----|---|---|-------|--------------|-------|----|----|---|---|--|
| | M | T | W | T | F | S | | M | T | W | T | F | S | | M | T | W | T | F | S | | M | T | W | T | F | S | |
| A1 | * 1-2-3 | 4 | 6 | 7 | 8 | 9 | | 10 | 11 | 13 | 15 | 17 | | 18 | | | | | | | | | | | | | | |
| 2 | | 1-2-3 | 4 | 6 | 7 | | 8 | 10 | 11 | 13 | 15 | 16 | | 17 | 18 | | | | | | | | | | | | | |
| 3 | | | 1-2-3 | 4 | 6 | | 7 | 8 | 10 | 11 | 13 | 14 | | 15 | 17 | | | | | | | | | | | | | |
| B1 | | | 1-2-3 | 5 | | | 1-2-3 | 4 | 6 | 7 | 8 | 9 | | 10 | 11 | 13 | 15 | 17 | | | | | | | | | | |
| 2 | | | | | | | 1-2-3 | 4 | 6 | 7 | | | 8 | 10 | 11 | 13 | 15 | 16 | | | 17 | 18 | | | | | | |
| 3 | | | | | | | | 1-2-3 | 4 | 6 | | | 7 | 8 | 10 | 11 | 13 | 14 | | | 15 | 17 | 18 | | | | | |
| C1 | | | | | | | | | | | | | | 1-2-3 | 4 | 6 | 7 | 8 | 9 | | 10 | 11 | 13 | 15 | 17 | | | |
| 2 | | | | | | | | | | | | | | | 1-2-3 | 4 | 6 | 7 | | | 8 | 10 | 11 | 13 | 15 | | | |
| 3 | | | | | | | | | | | | | | | | 1-2-3 | 4 | 6 | | | 7 | 8 | 10 | 11 | 13 | | | |
| D1 | | | | | | | | | | | | | | | | | 1-2-3 | 4 | 6 | | 1-2-3 | 4 | 6 | 7 | 8 | | | |
| 2 | | | | | | | | | | | | | | | | | | | | | | 1-2-3 | 4 | 6 | 7 | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | 1-2-3 | 4 | 6 | | | |

* Period Number
 ** 1st Week of Marksmanship Training

Five (5) Units Per Week Input

| UNIT | ** 1st Week - A | | | | | 2nd Week - B | | | | | 3d Week - C | | | | | 4th Week - D | | | | | | | | | | |
|------|--------------------------------------|---|---|---|---|--------------|-------|----|----|----|-------------|----|----|----|----|--------------|----|----|----|----|----|----|----|----|----|----|
| | M | T | W | T | F | S | M | T | W | T | F | S | M | T | W | T | F | S | M | T | W | T | F | S | | |
| A1 | 1-2-3 | 4 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 |
| 2 | 1-2-3 | 4 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 |
| 3 | 1-2-3 | 4 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 |
| 4 | 1-2-3 | 4 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 |
| 5 | 1-2-3 | 4 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 |
| B1 | 1-2-3 | 4 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 |
| 2 | Facilities Required | | | | | | 4 | 6 | 7 | 8 | 10 | 11 | 13 | 15 | 17 | 18 | D5 | | | | | | | | | |
| 3 | 1-Classroom | | | | | | 1-2-3 | 5 | 4 | 6 | 7 | 9 | 12 | 14 | 16 | 18 | D5 | | | | | | | | | |
| 4 | 1-Training Field | | | | | | 1-2-3 | 5 | 4 | 6 | 7 | 9 | 12 | 14 | 16 | 18 | D5 | | | | | | | | | |
| 5 | 2-25 Meter Ranges - 110 Pts each | | | | | | 1-2-3 | 5 | 4 | 6 | 7 | 9 | 12 | 14 | 16 | 18 | D5 | | | | | | | | | |
| C1 | 4-25 Meter Ranges - 65 Pts each | | | | | | 1-2-3 | 5 | 4 | 6 | 7 | 9 | 12 | 14 | 16 | 18 | D5 | | | | | | | | | |
| 2 | 4-Field Firing Ranges | | | | | | 1-2-3 | 5 | 4 | 6 | 7 | 9 | 12 | 14 | 16 | 18 | D5 | | | | | | | | | |
| 3 | 14-Target Detection Ranges | | | | | | 1-2-3 | 5 | 4 | 6 | 7 | 9 | 12 | 14 | 16 | 18 | D5 | | | | | | | | | |
| 4 | 2-Recrd Courses | | | | | | 1-2-3 | 5 | 4 | 6 | 7 | 9 | 12 | 14 | 16 | 18 | D5 | | | | | | | | | |
| 5 | *Period Number | | | | | | 1-2-3 | 5 | 4 | 6 | 7 | 9 | 12 | 14 | 16 | 18 | D5 | | | | | | | | | |
| | ** 1st Week of Marksmanship Training | | | | | | 1-2-3 | 5 | 4 | 6 | 7 | 9 | 12 | 14 | 16 | 18 | D5 | | | | | | | | | |

Six (6) Units Per Week Input

| UNIT | ** 1st Week - A | | | | | | | 2nd Week - B | | | | | | | 3d Week - C | | | | | | | 4th Week - D | | | | | | | |
|------|-----------------|---|---|-------|------------------------------|---|---|--------------|---|---|---|---|----|-------|-------------|-------|-------|---|---|---|---|--------------|---|---|---|---|---|---|---|
| | M | T | W | T | F | S | M | T | W | T | F | S | M | T | W | T | F | S | M | T | W | T | F | S | M | T | W | T | F |
| A1 | 1-2-3 | | | | | | | | | | | | C1 | 1-2-3 | | | | | | | | | | | | | | | |
| A2 | 1-2-3 | | | | Subsequent Scheduling | | | | | | | | C2 | 1-2-3 | | | | | | | | | | | | | | | |
| A3 | 1-2-3 | | | | Same as five (5) Unit Input. | | | | | | | | C3 | 1-2-3 | | | | | | | | | | | | | | | |
| A4 | | | | 1-2-3 | | | | | | | | | C4 | | | 1-2-3 | | | | | | | | | | | | | |
| A5 | | | | | 1-2-3 | | | | | | | | C5 | | | | 1-2-3 | | | | | | | | | | | | |
| A6 | 1-2-3 | | | | | | | | | | | | C6 | 1-2-3 | | | | | | | | | | | | | | | |
| B1 | | | | | | | 1-2-3 | | | | | | | | | | | | | | | | | | | | | | |
| B2 | | | | | | | 2-Classrooms | | | | | | | | | | | | | | | | | | | | | | |
| B3 | | | | | | | 2-Training Platforms | | | | | | | | | | | | | | | | | | | | | | |
| B4 | | | | | | | 3-25 Meter Ranges - 110 Pts each | | | | | | | | | | | | | | | | | | | | | | |
| B5 | | | | | | | 5-25 Meter Ranges - 65 Pts each | | | | | | | | | | | | | | | | | | | | | | |
| B6 | | | | | | | 5-Field Firing Ranges | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | 10-Target Detection Ranges | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | 3-Record Courses | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | (Fbr and increase in weekly input, use facilities required for five (5) unit input and add additional facilities per basic yardstick) | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | *Period Number | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | ** 1st Week of Marksmanship Training | | | | | | | | | | | | | | | | | | | | | | |

APPENDIX VI

BASIC RIFLE MARKSMANSHIP COURSE (ALTERNATE)

(For Use Where Trainfire Ranges are Not Available)

1. Purpose: This alternate course is designed for use by units and installations which do not have access to Trainfire I ranges.
2. Objective: Same as for the standard course.
3. Description of Alternate Course: The course is 83 hours in length and conforms insofar as possible to the standard course. It is based on Trainfire concepts and follows Trainfire principles throughout. The "integrated" or "whole" method of instruction is used. Target detection instruction is included in this course. Preparatory marksmanship is taught on the 1000-inch range. Fundamentals of shooting are emphasized on this range, as well as throughout all other firing exercises. The bull's-eye targets normally used on the Known Distance range are replaced by silhouette targets (Inclosure 6) and field firing is conducted at ranges of 92-276 meters (100-300 yards). Record firing is conducted in two phases: the Known Distance firing phase and the combat positions firing phase. This latter phase is conducted on the conventional Combat Positions Range. Only minor modification of the range is required.
4. Changes Made to Adapt the Conventional Known Distance Course to Trainfire Concepts:
 - a. The whole method of teaching fundamentals on the 1000" range is employed in place of the conventional preparatory instruction on the PRI circle.
 - b. The soldier wears the combat pack and the steel helmet for all marksmanship range training.
 - c. The rifle sling is not used in firing.
 - d. All firing on the Known Distance and the Combat Position Range requires the use of the battle sight and the adjusted aiming point (hold-off) technique.
 - e. Combat-type targets (E and F silhouettes) have replaced the bull's-eye targets on the Known Distance range.
 - f. Targets are exposed for a relatively short period of time, as they would be in combat.
 - g. The soldier is taught to advance with a loaded rifle, to assume firing positions rapidly, and to engage targets as soon as they are detected.
 - h. More than one target is exposed at one time, forcing the soldier to shift his point of aim.
 - i. A requirement for immediate action is injected into the training by insertion of a dummy round into a clip or magazine of live ammunition which forces a stoppage.
 - j. A premium is placed on accurate fire and first round hits; one point is scored for each hit.
 - k. Target detection training assists the soldier in locating targets in the Combat Positions range and prepares him for future combat.

5. Outline of Alternate Course:

ALTERNATE COURSE

| <u>Subjects</u> | <u>Hours</u> |
|--|--------------|
| a. Orientation | 2 |
| b. Mechanical training | 4 |
| c. Fundamentals of marksmanship | 26 |
| d. KD field combat target firing (inst) | 12 |
| e. KD field combat target firing (record) | 4 |
| f. Target detection | 16 |
| g. Combat positions firing (inst) | 4 |
| h. Combat positions firing (record) | 2 |
| i. (Pit details)* | 12 |
| | <u>82</u> |
| **j. Familiarization firing, M14 (automatic) | 1 |
| Total | <u>83</u> |

INDIVIDUAL NIGHT FIRING COURSE

| | |
|---|-----------|
| a. Night vision and technique of night firing | 4 |
| b. Night firing | 4 |
| Total | <u>8</u> |
| Total for both day and night course | <u>91</u> |

*Due to a splitting of unit down to platoon during firing periods, pit requirements must be shown separately (see Inclosure 1).

**For consideration

6. Chart Outline of Course: Inclosure 1.
7. Synopsis of Instruction: Inclosure 2.
8. Master Schedule: Inclosure 3.
9. Lesson Outlines: Inclosure 4.
10. Ammunition Requirements: Inclosure 5.
11. Targets Used: Inclosure 6.
12. Administrative Positions: Inclosure 7.
13. Scoring System: Inclosure 8.
14. Qualification Tables: Inclosure 9.
15. Score Sheets: Inclosure 10.
16. Suggested Scheduling Guide: Inclosure 11.
17. Range Requirements: Inclosure 12.
18. .22 Caliber Firing: Inclosure 13.

INCLOSURE 2 - APPENDIX VI - ANNEX B
BASIC RIFLE MARKSMANSHIP COURSE (ALTERNATE)

Synopsis of Instruction

1. Orientation: In the orientation period the soldier is made aware of the importance of the combat rifleman and is brought to the realization that every soldier must be extremely well qualified to serve as an effective rifleman in combat.
2. Mechanical Training: In this period the soldier is taught:
 - a. Disassembly and assembly of the rifle.
 - b. Nomenclature.
 - c. Functioning.
 - d. Adjustment of rear sight tension.
 - e. Stoppages and immediate action.
 - f. Lubrication of the rifle.
 - g. Care and cleaning.
3. Introduction to Marksmanship Training: During this phase of training the soldier is taught that shooting is an integrated act consisting of two fundamentals: "aiming" and "steady-hold" in the firing positions. He receives an introduction to aiming through the use of the:
 - a. Sight picture model.
 - b. "Page" sighting device.
 - c. Aiming bar.
4. Fundamentals. Fundamentals of marksmanship are taught on the 1000-inch range to develop skills in:
 - a. Aiming: This is emphasized constantly. Sight alignment and placement of the aiming point combine to make sight picture. Sight alignment is taught as being more important than correct positioning of the aiming point. Review of aiming, triangulation dry firing exercises and shot group analysis provide constant means of reviewing the soldier's skill in aiming.
 - b. Breathing: This is taught as part of the integrated act of shooting. This factor is reviewed as an integral part of each new position being taught.
 - c. Trigger control: Trigger control is taught as part of the integrated act of shooting and is reviewed as each new position is taught. This factor is tested through-out position instruction by use of the ball and dummy method. Dummy rounds are used at least two times with every three rounds.
 - d. Positions: Positions are taught as part of the integrated act of shooting. Each position is demonstrated to the soldier twice--once with the firer facing the class and the second time with the firer at right angles to the class. In the second demonstration the instructor relates the firing position to the steady-hold factors and points out common errors of the position. Soldiers then move to the firing line where they are talked into the firing position. The instructor reminds the coaches of check points for the position and the coaches then perform the step-by-step inspection of the steady-hold factors as they apply to the position.
 - e. Sight adjustment: Sight adjustment is taught in the early portion of preparatory marksmanship. Noncommissioned officers review sight adjustments concurrently with target analysis. However, the size and shape of the shot group is considered more important than its location on the target at this stage of training. Instruction on the rear sight is reviewed in teaching the principles of the battle sight zero and in calibration of the sight.

f. Rapid reloading: Rapid reloading is taught after the initial periods of instruction in the firing positions. This permits the soldier to progressively learn new skills and emphasis is not placed on speed until he has had adequate time to absorb the principles of the integrated act of shooting.

5. Known Distance combat target firing (instruction): In this phase of training, the soldier receives instruction in adjusted aiming point (hold-off) techniques and engagement of silhouette targets. These targets are made to appear suddenly and the firer must engage them under time pressure. He fires from the 100, 200 and 300 yard lines. All firing is conducted using the battle sight. Initially the soldier is not given a time limit but as the training progresses the target exposure time is reduced accordingly until the 100 yard target is exposed for only 5 seconds and the 200 and 300 yard targets for only 10 seconds. He is also taught to advance with a loaded rifle, to assume firing positions rapidly and to engage targets upon their appearance above the pits. Emphasis is placed on first round hits to encourage accurate shooting. The soldier is also taught how to engage more than one target at a time and is forced into situations requiring immediate action.

6. Known Distance combat target firing (record): This course is designed to test the soldier's ability to engage single and multiple targets from a stationary position and while moving. His score on this range constitutes approximately 55% of his qualification score.

7. Combat positions firing (instruction): This phase of instruction is designed to teach the soldier the fundamentals essential to proper utilization of cover and to gain support from stumps, piles of stone, barricades, roof tops, foxholes, bunkers and ditches. He receives instruction in assuming these positions in a concurrent station on the Known Distance range and receives additional training during the instruction firing phase on the combat position range.

8. Combat positions firing (record): This course tests the soldiers ability to detect single and several dispersed targets, to assume firing positions rapidly and to obtain first round hits.

9. Target detection: Target detection provides the soldier with the opportunity to practice observing and detecting combat targets hidden in their natural surroundings. It develops the following skills:

- a. Locating hostile personnel targets by the sound of firing and by observation.
- b. Marking positions of targets by using reference points.
- c. Estimating range to targets.

10. M14 rifle in automatic fire role: This instruction, if incorporated into the course, will familiarize the soldier with M14 rifle and its capability to deliver accurate automatic fire.

NOTE: The individual Night Firing Course is the same as that prescribed for use with the standard.

INCLOSURE 3 - APPENDIX VI - ANNEX B

MASTER SCHEDULE-BASIC RIFLE MARKSMANSHIP COURSE (ALTERNATE)
(For units or stations where trainfire ranges are unavailable)

| Period | Hour(s) | Lesson | Text References | Area |
|--|---------|--|-----------------------------------|--|
| a. <u>ORIENTATION-(2 Hours)</u> | | | | |
| 1 | 2 | Orientation; historical development of the rifle; role of the rifleman; characteristics and outside nomenclature of the rifle; loading clips and/or magazines; loading and unloading the rifle. | FM 23-5, FM 23-8, FM 23-71. | Classroom. Table and chairs. |
| b. <u>MECHANICAL TRAINING (4 Hours)</u> | | | | |
| 2 | 4 | Disassembly and assembly of the rifle; review outside nomenclature; assembly of the rifle; adjustment of rear sight tension; stoppage and immediate action; care, cleaning and lubricating the rifle. | FM 23-5, FM 23-8, FM 23-71. | Classroom. Tables and chairs arranged for 10-man groups. |
| c. <u>PREPARATORY MARKSMANSHIP TRAINING (26 Hours)</u> <u>Target Detection (4 Hours), ATP Subject (4 Hours)</u> | | | | |
| 3 | 2 | Introduction to marksmanship training; integrated act of shooting; fundamentals of aiming; M-15 sighting device, Page sighting device, and aiming bar. | FM 23-5, FM 23-8, FM 23-71. | Field. |
| 4 | 4 | Fundamentals of marksmanship range procedure; safety; steady hold factors; prone position; recoil demonstration; application of lubricants to the rifle; 1000" early firing; firing demonstration; effects of errors; aiming box exercise. Note for instructor: See attached Tables for ammunition requirements. | FM 23-5, FM 23-8, FM 23-71. | 1000" Range. |
| 5 | 4 | Fundamentals of Marksmanship: Elevation and windage; wobble area; calling the shot; firing data card; follow through; prone supported position; trigger control exercise using the ball and dummy method; duties of the coach; dry firing, 25-meter firing; orientation of firing positions. | FM 23-5, FM 23-8, FM 23-71. | 1000" Range. |

| Period | Hour(s) | Lesson | Text References | Area |
|---|---------|--|-----------------------------------|--|
| 6 | 4 | Practice in firing from the prone sitting, squatting and kneeling positions. | FM 23-71 | 1000" Range. |
| | 2 | Target detection: Introduction to target detection: estimating range; detecting and marking targets. | FM 23-71, FM 21-75. | 2 Target Detection Ranges. |
| | 2 | ATP Subject. | ATP 21-114. | Area in the vicinity of the 1000" Range. |
| 7 | 4 | Practice firing from the standing position, rapid reloading, and rapid fire. | FM 23-5, FM 23-8, FM 23-71. | 1000" Range. |
| | 2 | Target Detection: Practical work in detecting, marking, and estimating ranges to realistic battlefield targets. | FM 23-71. | 2 Target Detection Ranges. |
| | 2 | ATP Subject. | ATP 21-114. | Area in the vicinity of the 1000" Range. |
| 8 | 4 | Principles of zeroing, 1000" zeroing; calibration of sight to battle sight zero, fundamentals review. | FM 23-8. | 1000" Range. |
| 9 | 4 | 1000" progress check by firing from six firing positions and two rapid fire exercises. | FM 23-5. | 1000" Range. |
| d. <u>KD FIELD FIRING (16 Hours) COMBAT POSITION INSTRUCTION PRACTICE (2 Hours), TARGET DETECTION (6 Hours)</u> | | | | |
| 10 | 4 | Introduction to KD field instruction firing: Range procedure and safety; review principles in the use of adjusted aiming points (hold-off); demonstration in use of adjusted aiming points (hold-off) using tracer ammunition; review rapid reloading; conduct field target instruction firing using Table II, attached. | FM 23-5, FM 23-8, FM 23-71. | KD Range. |
| | 4 | Target Detection: Detection of single moving targets; locating hostile positions by sound of firing. | FM 23-71. | 2 Target Detection Ranges. |

| Period | Hour(s) | Lesson | Text References | Area |
|--------|---------|---|-----------------|---|
| 11 | 4 | KD field firing-advancing and firing: Review range procedure and safety precautions; advancing with a loaded weapon; assuming positions rapidly; rapid reloading; instruction practice in firing while advancing using Table III, attached. | FM 23-71. | KD Range. |
| | 4 | Target Detection: Same instruction as period 10. | FM 23-71. | 2 Target Detection Ranges |
| 12 | 4 | KD field firing-advancing and firing and multiple targets: Review range procedure and safety precautions; use of adjusted aiming points (hold-off); rapid reloading; explanation and demonstration of firing at several dispersed targets; instruction practice using Table IV, attached. | FM 23-71. | KD Range. |
| | 2 | Target Detection: Detection and marking targets; aiming points and engagement of targets; range estimation; detection of multiple moving targets. | | |
| | 2 | Fundamentals of combat position firing: Explanation and demonstration of foxhole, rubble pile, stump, window, bunker, prone, barricade, forward slope, rooftop; and log positions; practical work in assuming positions. | FM 23-5. | Area in rear of KD Range, mock up of combat position range. |
| 13 | 4 | KD field firing, Record I: Review range procedures and safety precautions; use of adjusted aiming points (hold-off); fundamentals of positions; scoring systems; conduct record firing using Table V, attached. | FM 23-71. | KD Range. |
| | 2 | Target Detection: Same instruction as period 12. | FM 23-71. | 2 Target Detection Ranges. |
| | 2 | Fundamentals of combat position firing; same instruction as period 12. | FM 23-5. | Mock up of combat position range. |

| Period | Hour(s) | Lesson | Text References | Area |
|--|---------|---|-----------------|----------------------------|
| e. <u>COMBAT POSITION, FIRING (4 Hours)</u> | | | | |
| <u>TARGET DETECTION (6 Hours)</u> | | | | |
| <u>ATP SUBJECT (2 Hours)</u> | | | | |
| 14 | 2 | Combat position instruction firing: Demonstrate range procedure, safety and target operation by means of firing demonstration; explain target exposure and scoring system; review fundamentals of firing positions. Conduct instruction practice firing using Table VI, attached. | FM 23-5. | Combat Position Range.* |
| | 2 | Combat position record fire II; Review range procedure, safety and scoring; conduct record firing using Table VI, attached. | FM 23-5. | Combat Position Range. |
| | 2 | Target Detection: Personal camouflage and movement skills: Personal camouflage; demonstration of combat movements; practical work in movement skills. | FM 23-71. | 2 Target Detection Ranges |
| | 2 | Target detection: Combination of sound localization and multiple moving targets: detection and marking; aiming and engaging multiple moving targets. | FM 23-71. | 2 Target Detection Ranges. |
| | 1 | Tests: Number 1: Detection and estimation of range to single stationary battlefield targets. | FM 23-71. | Target Detection Ranges. |
| | 1/2 | Number 2: Detection and marking of single and multiple moving targets. | | |
| | 1/2 | Number 3: Location of hostile positions by the sound of firing. | FM 23-71. | Target Detection Range. |
| | 2 | ATP Subject. | ATP 21-114. | Suitable area. |
| f. <u>FAMILIARIZATION FIRING, M14 RIFLE IN THE AUTOMATIC ROLE (1 Hour)</u> | | | | |
| **15 | 1 | M14 familiarization automatic fire from prone position. | FM 23-8. | Instruction firing range. |

*The combat position range, as prescribed in FM 23-5, will be modified as follows: The window on lane 4 will be moved to lane 10; the log on lane 10 will be moved to lane 4. The target on lane 6 will be replaced by an "E" silhouette and will be moved forward to 400 yards/368 meters.

** For consideration.

INDIVIDUAL NIGHT FIRING COURSE

| Period | Hour(s) | Lesson | Text References | Area |
|---|---------|---|-----------------------------------|---------------------------|
| a. <u>PRINCIPLES OF NIGHT VISION (1 Hour)</u> | | | | |
| 1 | 1 | Principles of night vision. | FM 21-75, FM 23-5. | Prepared class-room |
| b. <u>NIGHT FIRING (7 Hours)</u> | | | | |
| 2 | 3 | Day instruction firing using night firing techniques, Table VII, FM 23-5. | FM 23-5. | Instruction firing Range. |
| 3 | 2 | Night Instruction Firing Table VI, FM 23-5. | FM 21-75, FM 23-5, FM 23-8. | Night firing Range. |
| 4 | 2 | Night Record Firing Table VI, FM 23-5. | FM 21-75, FM 23-5, FM 23-8. | Night firing range. |

INCLOSURE 4 - APPENDIX VI - ANNEX B

Basic Rifle Marksmanship Course (Alternate)

(For units and stations where Trainfire ranges are unavailable)

Lesson Outlines

Orientation

1. First Period (2 hours).

a. Lesson Objective: 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.

b. Lesson Outline:

- | | |
|--|----------|
| (1) Introduce the subject and clear weapons. | (5 min) |
| (2) Introduce and show FB 272 <u>Infantry Weapons and their Effects.</u> | (10 min) |
| (3) Discuss the development of the rifle and the role of the rifleman. | (5 min) |
| (4) Introduce and show miscellaneous film 918 <u>This is the Infantry.</u> Point out that every soldier is basically an infantryman. | (20 min) |
| (5) Summarize by review. | (5 min) |
| (6) Discuss the characteristics of the rifle by practical exercise, teach the outside nomenclature of the weapon. | (15 min) |
| (7) Explanation, demonstration and practical work in building the clip and/or loading the magazines. | (10 min) |
| (8) Demonstrate and conduct practical work in loading and unloading the rifle to include single rounds, magazines, and magazine chargers (M14 rifle) or full and partial clips (M1 rifle). | (15 min) |
| (9) Review key points of instruction. | (5 min) |

Mechanical Training

2. Second Period (4 hours).

a. Lesson Objective: To teach the soldier the disassembly and assembly of the rifle; adjustment of the rear sight tension; stoppages and immediate action; care and cleaning; and lubrication points.

b. Lesson Outline:

- | | |
|--|----------|
| (1) Organize the class into 10-man setups, check for clearance of weapons and dummy rounds, and introduce the subject by outlining the scope of instruction and citing examples of the use of the rifle in combat. | (5 min) |
| (2) Explain, demonstrate, and conduct practical work in disassembly of the rifle. | (25 min) |
| (3) Review nomenclature of rifle by conference and practical exercise. | (15 min) |
| (4) Explain, demonstrate, and conduct practical work in assembly of the rifle. | (20 min) |
| (5) Explain, demonstrate, and conduct practical work in adjustment of rear sight tension. | (10 min) |
| (6) Illustrate and explain in detail the functioning of the rifle. | (15 min) |
| (7) Introduce and show Training Film 9-2970 or 9-1172, <u>Functioning of the Rifle.</u> | (30 min) |
| (8) Discuss stoppages. Explain, demonstrate, and conduct practical work in application of immediate action. | (15 min) |

- | | | |
|---------------------------|--|----------|
| rifle. | (9) Explain and demonstrate proper care and cleaning of the | (15 min) |
| | (10) Conduct practical work in care and cleaning. | (10 min) |
| tion of rifle lubricants. | (11) Explain, demonstrate and conduct practical work in applica- | (15 min) |
| | (12) Summary of instruction. | (5 min) |

Preparatory Marksmanship Training, Target Detection.

3. Third Period (2 hours).

a. Lesson Objective: To introduce the soldier to marksmanship training with emphasis on fundamentals to include the integrated act of shooting and aids to proper aiming.

b. Lesson Outline:

- | | |
|---|----------|
| (1) Introduce the integrated act of shooting — emphasize the basic requirements for good shooting and explain why combat packs and steel helmets are worn on the range. | (5 min) |
| (2) Discuss the steady hold factors with emphasis on points to be concentrated upon when assuming any position. | (15 min) |
| (3) Discuss aiming to include sight alinement, placement of the aiming point, focus of the eye, and importance of sight alinement. | (20 min) |
| (4) Summary. | (5 min) |
| (5) Introduce training aids helpful to obtainment of proper sight picture and explain their value. | (5 min) |
| (6) Discuss the M15 sighting device (modified) and conduct practical exercise. | (10 min) |
| (7) Discuss the "Page" sighting device (modified) and conduct practical exercise. | (10 min) |
| (8) Discuss and demonstrate the aiming bar and conduct practical exercise. | (15 min) |
| (9) Summary | (5 min) |

4. Fourth Period (4 hours)*.

a. Lesson Objective: To show the soldier his need for additional training; to continue the establishment of a sound base of shooting fundamentals; to teach shooting as an integrated act; and to provide early corrective instruction to those soldiers who are having difficulty in grasping the fundamentals.

b. Lesson Outline:

- | | |
|---|----------|
| (1) Introduce the period by orienting the soldier on the sequence of instruction. Explain and issue progress envelopes. | (10 min) |
| (2) Discuss the range complex to include a discussion and demonstration on range procedures and safety precautions used during the preparatory marksmanship training instruction. | (10 min) |
| (3) Review aiming to include the 25 meter target. | (5 min) |
| (4) Conduct the recoil demonstration. | (5 min) |
| (5) Discuss the need and importance of rifle lubricants and point out the parts where lubricant is required. | (10 min) |
| (6) Summary. | (5 min) |
| (7) Introduce the early firing phase and demonstrate the prone position with emphasis on the steady hold factors and the basic duties of the coach. | (10 min) |
| (8) Conduct practical work in firing from the prone position. | (30 min) |

*.22 caliber may be substituted for this firing.

- (9) Summarize by pointing out common errors apparent during firing exercise. (5 min)
- (10) Conduct a firing demonstration by a well-trained rifleman and have the soldiers compare their targets with that of the demonstrator. (10 min)
- (11) Discuss the target analysis sheet and explain practical application to the soldier's firing. (10 min)
- (12) Explain and demonstrate the aiming box exercise. (10 min)
- (13) Conduct practical work with the aiming box exercise. (15 min)
- (14) Continue aiming box exercise. Insure that each firer and marker examine and critique the shot groups with the aid of the target analysis sheet. Assistant instructors must give on the spot correction and instruction to the soldiers with difficulties. Those showing persistent errors will be sent to the end of the firing line for special corrective instruction. (40 min)
- (15) Summary. (5 min)

5. Fifth Period (4 hours)*.

a. Lesson Objective: To provide the soldier with additional areas of consideration in marksmanship fundamentals and to employ the fundamentals by firing.

b. Lesson Outline:

- (1) Introduce the period and explain the tie-in with previous and subsequent instruction. (5 min)
- (2) Explain wobble area; illustrate by using fixed sight alinement device and enlarged target chart. (5 min)
- (3) Explain and demonstrate follow through and calling the shot. (10 min)
- (4) Explain and conduct practical work in the use of the firing data card. (10 min)
- (5) Review effects of errors. Establish sample groups by integrating calling the shot, use of the firing data card and shot group analysis. (15 min)
- (6) Explain the functioning of the rear sight; the elevation and windage rule; and conduct practical work in applying the factors of the elevation and windage rule. (10 min)
- (7) Review and demonstrate the steady hold factors in relation to the prone supported position. (5 min)
- (8) Explain and demonstrate the duties of the coach and the use of the ball and dummy exercise. (5 min)
- (9) Conduct instruction firing from the prone supported position utilizing the maximum amount of dry firing prior to live firing. Emphasize trigger control by using the dummy round at least two times with each three round shot group. (100 min)
- (10) Review common firing errors. (5 min)
- (11) Orient soldiers on remaining positions utilized in the program with reference to the steady hold factors. (10 min)

6. Sixth Period (6 Hours)*.

a. Lesson Objective: To give practical work in firing from the prone position, the sitting position, the squatting position, and the kneeling position; to develop in the soldier the methods and skills required in detection, marking, and estimating range to realistic battlefield targets; and to provide individual corrective instruction to those firers making serious errors by means of dry firing exercises on one end of the firing line.

b. Lesson Outline.

- (1) 1000" range (4 hours)*.

*.22 caliber may be substituted for this firing.

- (a) Demonstrate the prone position, emphasize steady hold factors and the coaches check points. (5 min)
- (b) Instruction practice in the prone position. (40 min)
- (c) Demonstrate the sitting position (and two alternates) emphasizing steady hold and the coaches check points. (5 min)
- (d) Instruction practice in the sitting position. (40 min)
- (e) Demonstrate the squatting position emphasizing steady hold and the coaches check points. (5 min)
- (f) Instruction practice in the squatting position. (40 min)
- (g) Demonstrate the kneeling position emphasizing steady hold and the coaches check points. (5 min)
- (h) Instruction practice in the kneeling position. (40 min)
- (2) Target Detection (2 hours).
- (a) Introduction to target detection. (5 min)
- (b) Visual search of combat area. (15 min)
- (c) Use of area sector card. (5 min)
- (d) Range estimation. (15 min)
- (e) Marking target indications. (5 min)
- (f) Practical work in detection of field combat targets. (45 min)

7. Seventh Period (6 hours)*.

a. Lesson Objective: To provide instruction and practical work in firing from the standing supported position; to provide instruction and practice in rapid reloading; and to review the principles of detecting, marking and estimating the range to battle-field targets.

b. Lesson Outline:

(1) 1000" Range (4 hours)*.

- (a) Demonstrate the standing position to include application of the steady hold factors and the duties of the coach. (5 min)
- (b) Conduct instruction practice firing from the standing position. (40 min)
- (c) Explain and demonstrate rapid fire as related to standing to prone firing position. (10 min)
- (d) Explain and demonstrate loading single rounds, partial clips, full clips, and/or magazine chargers or magazines. (5 min)
- (e) Instruction practice in loading partial clips, full clips and/or magazine chargers or magazines, assuming the prone position rapidly, firing the first round, reloading, dry firing the first and second rounds, and live firing. (30 min)
- (f) Continued instruction practice dry firing and live firing from standing to prone position. (45 min)
- (g) Instruction practice, rapid reloading, dry firing and live firing from standing to sitting position. (45 min)

(2) Target Detection (2 Hours).

Review of principles of target detection while conducting practical work in detection of targets in the field. Troops should be rotated so that they do not receive this period of instruction on the same target detection range that they received their original instruction. (90 min)

*.22 caliber may be substituted for firing.

8. Eighth Period (4 hours)*.

a. Lesson Objective: To review the principles of sight changes, to explain the principles of battle sight zeroing, to determine a battle sight zero, to calibrate the battle sight and to determine the firers knowledge of basic marksmanship fundamentals by means of conference review.

b. Lesson Outline:

- changes.
- (1) Review principles of sight adjustments and effect of sight changes. (15 min)
 - (2) Explanation of the principles of battle sight zeroing. (30 min)
 - (3) Practical work in zeroing and calibration of the battle sight. (90 min)
 - (4) Conference review of marksmanship fundamentals. (45 min)

9. Ninth Period (4 hours)

a. Lesson Objective: To determine the firers proficiency in the application of the fundamentals of marksmanship by live firing.

b. Lesson Outline:

- (1) Practical work in firing one three round shot group from each position and two rapid fire exercises. (135 min)
- (2) Critique of shot group progress firing with emphasis on fundamentals required for improvement. (10 min)
- (3) Refire weak positions (maximum of three positions). (35 min)

KD Field Combat Target Firing, Target Detection, Combat Position Instruction

10. Tenth Period (8 hours).

a. Lesson Objective: To introduce the soldier to firing on field targets at various ranges from various positions using the adjusted aiming point (hold off) technique; to give practice in rapid reloading and applying immediate action; and to give the soldier practice in detecting and marking and estimating ranges to single moving targets and practice in locating hostile positions by the sound of firing.

b. Lesson Outline:

- (1) KD Field Firing (4 hours).
 - (a) Explanation of range procedure and safety precautions. (15 min)
 - (b) Explanation and demonstrations of fundamentals of firing positions to include rapid reloading and immediate action. (10 min)
 - (c) Explanation and demonstration in the use of adjusted aiming points (hold off) using tracer ammunition. (10 min)
 - (d) Practical work in firing from various positions using the adjusted aiming point (hold off) technique. (145 min)
- (2) Target Detection (4 hours).
 - (a) Introduction. (5 min)
 - (b) Selection of observation position. (5 min)
 - (c) Detection of single moving targets. (5 min)
 - (d) Marking and aiming procedures. (5 min)
 - (e) Explanation and practical exercise in range estimation with emphasis on range determination by physical characteristics of features of individual targets. (25 min)
 - (f) Practical work in target detection and range estimation. (40 min)
 - (g) Critique. (5 min)
 - (h) Introduction. (5 min)
 - (i) Single and multiple sounds in locating hostile positions. (5 min)
 - (j) Sector observation card. (20 min)

*.22 caliber may be substituted for firing.

- (k) Practical work in locating hostile firing positions by sound of firing and estimating the range to the positions. (55 min)
- (l) Review period of instruction. (5 min)
- c. Platoon schedule for training:
 - 1st Platoon - pull targets.
 - 2d Platoon - target detection.
 - 3d & 4th Platoon - field firing.
 - Rotate at noon.
 - 1st & 2d Platoon - field firing.
 - 3d Platoon - pull targets.
 - 4th Platoon - target detection.

11. Eleventh Period (8 hours).

a. Lesson Objective: To give the soldier instruction and practice in firing on a simulated combat target while moving with a loaded rifle and practice in detection, marking, estimating ranges to single moving combat-type targets and practice in locating hostile positions by the sound of firing.

b. Lesson Outline:

- (1) KD Field Firing (4 hours).
 - (a) Organization and explanation of range procedure and safety. (10 min)
 - (b) Explanation and demonstration of fundamentals of firing positions. (10 min)
 - (c) Firing on simulated combat targets. (155 min)
 - (d) Critique of firing with stress on fundamentals. (5 min)
- (2) Target Detection (4 hours).
 - (a) Introduction. (5 min)
 - (b) Selection of observation position. (5 min)
 - (c) Detection of single moving targets. (5 min)
 - (d) Marking and aiming procedures. (5 min)
 - (e) Explanation and practical exercise in range estimation with emphasis on range determination by physical characteristics of features of individual targets. (25 min)
 - (f) Practical work in target detection and range estimation. (40 min)
 - (g) Critique. (5 min)
 - (h) Introduction. (5 min)
 - (i) Single and multiple sounds in locating hostile positions. (5 min)
 - (j) Sector observation card. (20 min)
 - (k) Practical work in locating hostile firing positions by sound of firing and estimating the range to the positions. (55 min)
 - (l) Review period of instruction. (5 min)
- c. Platoon schedule for training:
 - 1st & 2d Platoon - field firing.
 - 3d Platoon - target detection.
 - 4th Platoon - pull targets.
 - Rotate at noon.
 - 1st Platoon - target detection.
 - 2d Platoon - pull targets.
 - 3d & 4th Platoons - field firing.

12. Period Twelve (8 hours).

a. Lesson Objective: To give the soldier instruction practice in engaging single and multiple targets while moving with a loaded rifle; to give instruction practice in supported positions used on the combat position range and to give practice in locating multiple moving targets.

b. Lesson Outline:

- (1) Field Firing (4 hours).
- (a) Organization and explanation of range procedures (10 min)
 - and safety. (b) Review fundamentals of aiming and hold off firing. (5 min)
 - (c) Instruction practice in firing at combat-type targets. (165 min)
- (2) Target Detection (2 hours).
- (a) Introduction. (5 min)
 - (b) Detection and marking targets. (10 min)
 - (c) Aiming points and engagement of targets. (10 min)
 - (d) Review principles of range estimation with emphasis on the rules that apply to the terrain in that immediate area. (10 min)
 - (e) Practical work in detection and engagement of multiple moving combat-type targets. (55 min)
- (3) Fundamentals of Combat Position Firing (2 hours).
- (a) Introduction to supported positions used in combat firing. (5 min)
 - (b) Explanation and demonstration of foxhole, rubble pile, stump, window and bunker firing positions. (20 min)
 - (c) Instruction practice in assuming positions. (20 min)
 - (d) Explanation and demonstration of prone, barricade forward slope, roof top, and log position. (20 min)
 - (e) Instruction practice in assuming positions. (20 min)
 - (f) Summary. (5 min)
- c. Platoon Schedule for Training:
- 1st Platoon - fundamentals of combat position firing and target detection.
 - 2d Platoon - pull targets.
 - 3d & 4th - field firing.
 - Rotate at noon.
 - 1st & 2d Platoon - field firing.
 - 3d Platoon - fundamentals of combat position firing and target detection.
 - 4th Platoon - pull targets.

13. Period Thirteen (8 hours).

a. Lesson Objective: To test the soldiers ability in moving with a loaded weapon, assuming firing positions rapidly, and engaging combat-type targets; and practice in detection, marking, estimating range, and aiming at multiple moving combat-type targets.

b. Lesson Outline:

- (1) Field Firing (4 hours).
- (a) Organization and explanation of range procedure. (10 min)
 - and engaging field targets. (b) Conduct Record Fire I in moving with a loaded weapon (165 min)
 - (c) Review. (5 min)
- (2) Target Detection (2 hours).
- Same instruction as period eleven.
- (3) Fundamentals of Combat Position Firing (2 hours).
- Same instruction as period eleven.
- c. Platoon schedule for training:
- 1st & 2d Platoon - field firing.
 - 3d Platoon - pull targets.
 - 4th Platoon - fundamentals of combat position firing and target detection.
 - Rotate at noon.
 - 1st Platoon - pull targets.
 - 2d Platoon - fundamentals of combat position firing and target detection.
 - 3d & 4th Platoons - field firing.

Combat Position Firing, Target Detection

14. Period Fourteen (16 hours).

a. Lesson Objective: To give the soldier practice in searching for indistinct targets, to estimate range to targets, and to apply the proper aiming point for the range to the target and to engage targets with fire within a prescribed time limit. To provide the soldier practice in personal camouflage and movement skills; detecting multiple moving targets; sound localization; and to test his target detection skill.

b. Lesson Outline:

- (1) Combat position firing (2 hours).
 - (a) Explanation and demonstration of range procedure, safety, target operation and exposure time, and scoring system. (20 min)
 - (b) Conduct instruction combat position firing. (70 min)
- (2) Combat position Record Fire II (2 hours).
 - (a) Review range procedure and safety. (5 min)
 - (b) Conduct Record Fire II. (85 min)
- (3) Target Detection (6 hours).
 - (a) Personal camouflage and movement skills.
 1. Introduction to combat movements. (5 min)
 2. Explanation and demonstration of personal camouflage. (15 min)
 3. Practical work in personal camouflage. (15 min)
 4. Explanation and demonstration of movements. (10 min)
 5. Practical work in movement skills. (40 min)
 6. Summary of period of instruction. (5 min)
 - (b) Combination of sound localization and multiple moving targets (2 hours).
 1. Introduction. (5 min)
 2. Detecting and marking. (10 min)
 3. Aiming and engaging. (10 min)
 4. Practical work in detecting and marking multiple moving targets. (60 min)
 5. Review principles of target detection. (5 min)
 - (c) Target Detection Tests (2 hours).
 1. Test No 1: Detection and estimation of range to single stationary battlefield targets. (45 min)
 2. Test No 2: Detection and marking of single and multiple moving targets. (20 min)
 3. Test No 3: Location of hostile positions by the sound of firing. (25 min)
- (4) ATP Subject (2 hours) (Platoon Schedule for Training).
 - (a) First Day.
 - 1st Platoon - pull targets.
 - 2d Platoon - target detection (personal camouflage and movement skills) and ATP subject.
 - 3d Platoon - combat position instruction and target detection (personal camouflage and movement skills).
 - 4th Platoon - target detection (personal camouflage and movement skills) and combat position firing.
 - Rotate at noon.
 - 1st Platoon - target detection (personal camouflage and movement skills) and combat position instruction firing.

- 2d Platoon - combat position instruction firing and target detection (multiple moving targets and sound localization).
- 3d Platoon - pull targets.
- 4th Platoon - target detection (multiple moving targets and sound localization) and ATP subject.
- (b) Second Day.
 - 1st Platoon - record combat position firing and target detection (multiple moving targets and sound localization).
 - 2d Platoon - target detection (Tests 1-3) and record combat position firing.
 - 3d Platoon - target detection (multiple moving targets and sound localization and ATP subject).
 - 4th Platoon - pull targets.
 - Rotate at noon.
 - 1st Platoon - target detection (Tests 1-3) and ATP subject.
 - 2d Platoon - pull targets.
 - 3d Platoon - record combat position firing and target detection (Tests 1-3).
 - 4th Platoon - target detection (Tests 1-3) and record combat position firing.

Familiarization Firing, M14 Rifle in Automatic Role

- 15. Period Fifteen (1 hour).
 - a. Lesson Objective: To familiarize the soldier with the automatic capability of the M14 rifle without bipod.
 - b. Lesson Outline:
 - (1) Introduction. (5 min)
 - (2) Explanation and demonstration of automatic firing from prone position. (5 min)
 - (3) Conduct practical work in firing from the prone position. (35 min)

INDIVIDUAL NIGHT FIRING COURSE

Night Vision and Technique of Night Fire

- 1. First Period (1 hour).
 - a. Lesson Objective: To teach the soldier the principles and techniques used in night firing and night vision.
 - b. Lesson Outline: (FM 23-5, FM 21-75) (45 min)

Night Firing

- 2. Second Period (3 hours).
 - a. Lesson Objective: To teach the soldier the techniques of firing at night and to prepare him for firing at night.
 - b. Lesson Outline: Conduct day instruction firing using Table VII, FM 23-5. (135 min)
- 3. Third Period (2 hours).
 - a. Lesson Objective: To permit the soldier to put into practice the night firing techniques learned during day instruction firing.

b. Lesson Outline: Conduct instruction night firing using Table VI, FM 23-5. (90 min)

4. Fourth Period (2 hours).

a. Lesson Objective: To test the soldier on his ability to fire at night.
b. Lesson Outline: Conduct record night firing using Table VI, FM 23-5. (90 min)

- NOTES:
1. Period 4-5 and 8-9 require one day to complete the entire company on a 100 point range or two days on a 50-point range.
 2. The sling will not be used in any firing exercise.
 3. The steel helmet and the combat pack will be worn for all firing periods.
 4. The battle sight will be used in firing periods 8-14.
 5. .22 caliber may be substituted in periods 4-7.

INCLOSURE 5 - APPENDIX VI - ANNEX B

BASIC RIFLE MARKSMANSHIP COURSE (ALTERNATE)

Ammunition Requirements

| Period | Cartridge, Ball | Cartridge, Blank, for Target Detection | | |
|---------------------------------------|-----------------|--|-------------|-------------------------|
| | Per Soldier | Total for all Presentations * | Rehearsal** | Number of Presentations |
| 1 | | | | |
| 2 | | | | |
| 3 | | | | |
| 4 | 3 | | | |
| 5 | 18 | | | |
| 6 | 24 | 128 | 32 | 8 |
| 7 | 21 | 128 | 32 | 8 |
| 8 | 12 | | | |
| 9 | 30 | | | |
| 10 | 52 | 129 | 57 | 2 |
| 11 | 48 | 129 | 57 | 2 |
| 12 | 48 | 62 | 31 | 2 |
| 13 | 50 | 62 | 31 | 2 |
| 14 | 80 (386) | 668 1306 | 244 484 | 8 |
| # 15 | 12 398 | | | |
| <u>INDIVIDUAL NIGHT FIRING COURSE</u> | | | | |
| 1 | | | | |
| 2 | 15 | | | |
| 3 | 16 | ----- | | |
| 4 | 16 47 | | | |

*The total rounds for presentation divided by number of presentations will indicate the number of rounds utilized on one target detection range.

**This indicates the total number of rounds required to rehearse on two ranges.

***Caliber .22 may be substituted in these periods with a ratio of 5 rounds for each 3 rounds of caliber .30 or 7.62mm ammunition.

#Additional ammunition required if M14 familiarization is included.

INCLOSURE 6 - APPENDIX VI - ANNEX B

BASIC RIFLE MARKSMANSHIP COURSE (ALTERNATE)

Targets Used

1. 25-Meter Range. For zeroing and subsequent 25-meter firing a target similar to the one at Figure 2, Annex B is used.

2. Known Distance Range.

a. Type of targets. "E" and "F" silhouette targets are used on this range. One "E" and one "F" silhouette target is required for each firing point. The targets must be positioned so that they will come up in the same spot and at the same height for each exposure. Automatic "pop-up" devices could be used to raise and lower these silhouettes; however, extensive modification to the Known Distance range and considerable added cost would be necessary to make this possible. At Figure 6 is a suggested method of target operation. The remaining discussion assumes use of this type device.

b. Operation of targets. Targets are raised at the appropriate time as determined by the Officer-in-Charge of the range. A buzzer system from the firing line to the pits can be used as a means of control. Upon receiving a signal, target operators pull down on the staffs, raising all appropriate targets to the upright position. When a target is hit, it is lowered by the target operator. At the end of the time limit a command is given from the firing line and all targets lowered.

c. Scoring. One point is scored for each target hit. After each shot is fired, targets which are hit will be lowered and a chalk mark made over the bullet hole in the back of the target. At the end of the exercise the target operator will signal the number of misses by using a red flag. (He will move the flag from right to left and lower it for each miss.)

3. Combat Positions Range.

a. Type targets. The "F" silhouette is used for targets located at 100 yards or less; "E" silhouettes are used for all other ranges. Targets should be raised so that the target is completely exposed and is perpendicular to the firer. A suggested method of target operation is attached at Figure 7.

b. Operation of targets. Targets are raised and lowered at the proper time as determined by the Officer-in-Charge of the range. A buzzer system can be used as a means of control. Upon receiving a signal, target operators pull down on the target staff until the target is vertical. They then push it straight up to expose the target above the dirt mound. When a target is hit it is dropped. At the end of the prescribed time limit all remaining targets are lowered upon signal from the Officer-in-Charge of the range.

c. Scoring. One point is scored for each target hit. Scoring is accomplished at the firing line by the scorer. He looks for the target to drop after each shot is fired. After the exercise is fired and all targets are lowered, a chalk mark is made over the bullet holes on the back of each target hit.

SUGGESTED METHOD OF TARGET OPERATION (KNOWN DISTANCE RANGE)

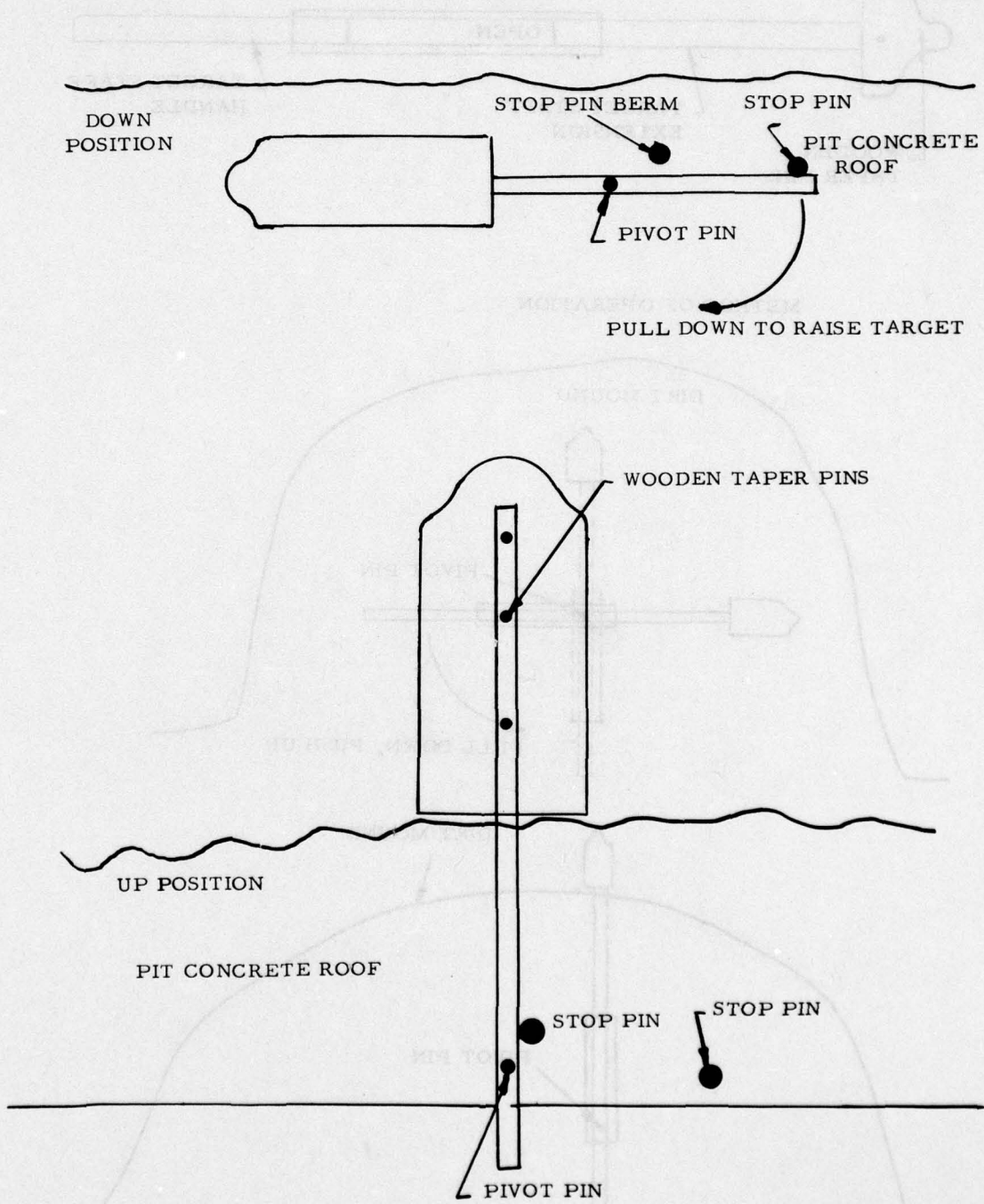
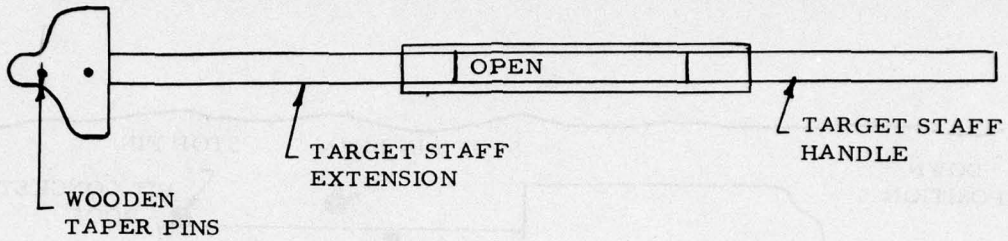


Figure 6

SUGGESTED METHOD OF TARGET OPERATION (COMBAT POSITIONS RANGE)



METHOD OF OPERATION

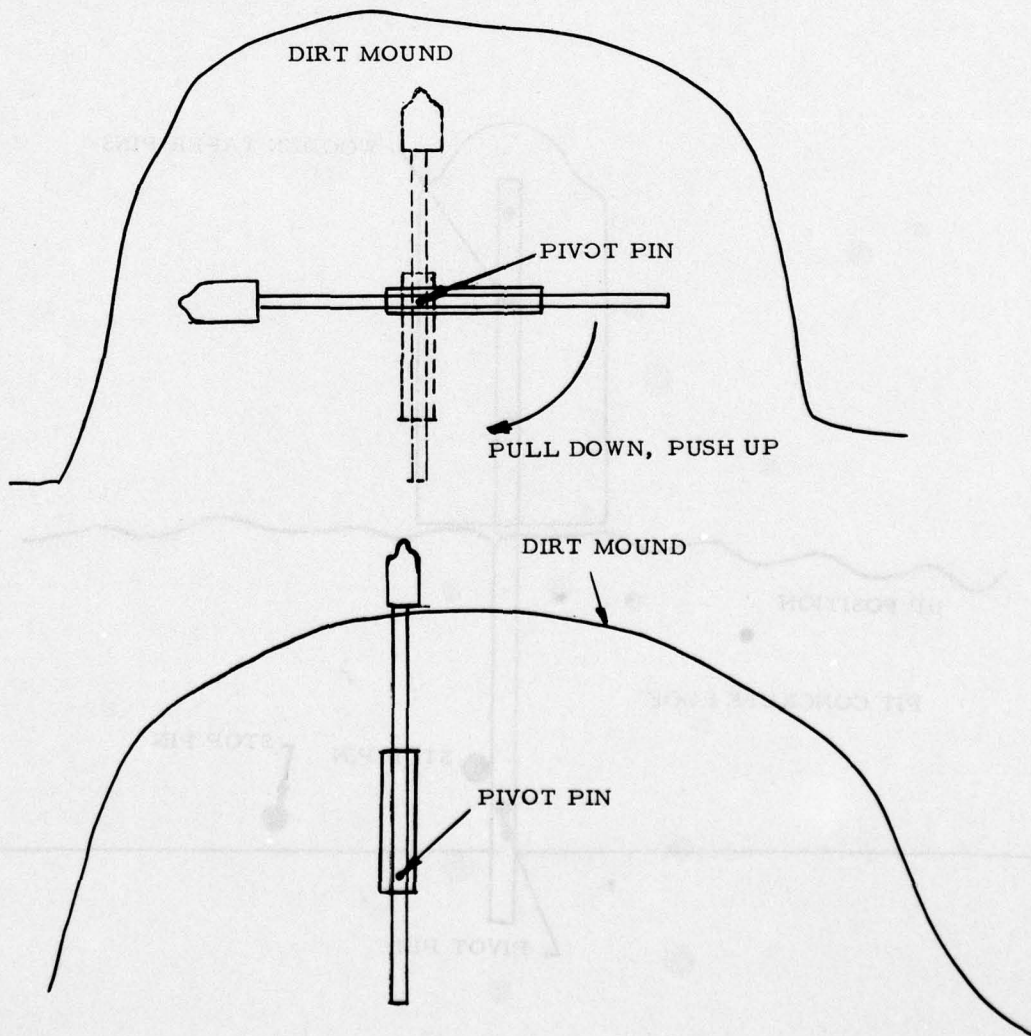


Figure 7
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INCLOSURE 7 - APPENDIX VI - ANNEX B
BASIC RIFLE MARKSMANSHIP COURSE (ALTERNATE)

Administrative Positions
(Used to insure safety on ranges)

1. Purpose: The standing ready position is provided for use as a safety measure on the range. With the movement required under the proposed program and the proximity of firers to each other, this control measure is essential and must be thoroughly understood by all instructors and trainees. Another safety measure is necessary to move firers from the forward edge of the firing line to the rear edge of the firing line. This must be accomplished efficiently to save training time and to maintain range safety. This procedure demands rigid adherence.

2. Description: In any phase of instruction in which the soldier is to advance or is waiting for the target to appear, he will use the following position:

The soldier faces his target with his feet approximately 15 inches apart. The butt plate of the rifle rests on the buckle of the cartridge belt. His left hand (right handed firer) is at the balance of the piece and the right hand at the small of the stock. The muzzle of the rifle is up and points down range. Upon the command "Move Out," the soldier assumes the standing ready position and advances in this position until the target appears. Then he assumes the appropriate firing position. When the soldier gets the command "Move Out" (when he is in a firing position) he will assume the standing ready position and begin advancing.

3. Periods requiring the standing ready position:

a. Period 8. The standing ready position will be taught at this time. It will be used when the soldier moves forward with his rifle to check his target and make the necessary sight changes to establish a 250-meter battle sight zero.

b. Periods 11, 12 and 13. The standing ready position will be used in all advances with the rifle. It will be used immediately after getting out of a firing position and prior to going into another firing position. Coaches will not be used during these periods; the duty of the coach during these periods is to observe the strike of the bullet and inform the firer of the location of the strike when he misses the target.

c. Period 14. The standing ready position will be used prior to assuming the supported positions so designated in Firing Table VI.

4. Procedure for moving the firer to the rear of the firing line to make a second advance:

a. When the firer reaches the forward edge of the firing line and has completed a particular phase of training, he will assume the standing ready position facing his target. The instructor commands "Place your rifle on your left shoulder. Place your left hand on the heel of the butt and drop your right hand to your right side. Face to the rear by turning to your right. Move out."

b. When the firer reaches the desired spot on the firing line, the instructor commands "Halt. Face to the rear by turning to your left. Place your right hand on the small of the stock. Place your left hand at the balance of the piece. Place the butt of the rifle over your belt buckle."

INCLOSURE 8 - APPENDIX VI - ANNEX B
BASIC RIFLE MARKSMANSHIP COURSE (ALTERNATE)

Scoring System

1. The proposed alternate course is based on a possible score of 90. One point is scored for each target hit.

2. The current Known Distance scoring system was considered in determining the new scoring system; however, this system is not directly applicable to the proposed course. For example, the following percentages of points were required for Known Distance qualification:

Expert - 84.8% (percent of possible points)
Sharpshooter - 74.8% (percent of possible points)
Marksman - 64% (percent of possible points)

3. Translated into terms of the proposed alternate course, this would have resulted in the following qualification scores:

Expert - 76.
Sharpshooter - 67.
Marksman - 58.

4. However, when the scoring area of the "F" and "E" silhouette targets is compared with that of the "A" and "B" bull's-eye targets, it is quite apparent that the silhouette shooter has much less target area to hit. Therefore, appropriate consideration must be given to this factor in determining the qualification score system.

5. No attempt was made by the Board to establish an arithmetical relationship between the scoring system of this course and that of any other course. Instead, inherent differences and comparative degrees of difficulty between this course, the Known Distance Course and the Trainfire I Course were used as a basis for a judgemental decision. Final determination as to the validity of the scoring system proposed below must await the outcome of the testing of the course.

6. The following qualification scores are proposed:

- a. Possible score - 90 (100%)
- b. Expert - 60 (67%)
- c. Sharpshooter - 50 (55%)
- d. Marksman - 40 (44%)
- e. Unqualified - Less than 40

INCLOSURE 9 - APPENDIX VI - ANNEX B

BASIC RIFLE MARKSMANSHIP COURSE (ALTERNATE)

Qualification Firing Tables

Table I. Combat qualification course, instruction firing,
1000-inch (total rounds - 108)

| Period | Range | Time Limit (in seconds) | Rounds | Position |
|--------|-------|----------------------------|--------|------------------------|
| 4 | 1000" | None | 3 | Prone |
| 5 | 1000" | None | 18 | Prone supported (zero) |
| 6 | 1000" | None | 6 | Prone |
| 6 | 1000" | None | 6 | Sitting |
| 6 | 1000" | None | 6 | Squatting |
| 6 | 1000" | None | 6 | Kneeling |
| 7 | 1000" | None | 6 | Standing |
| 7 | 1000" | 24 | 9 | Standing to prone |
| 7 | 1000" | 24 | 6 | Standing to sitting |
| 8 | 1000" | None | 12 | Prone (zero) |
| 9 | 1000" | None | 3 | Prone supported |
| 9 | 1000" | None | 3 | Prone unsupported |
| 9 | 1000" | None | 3 | Sitting |
| 9 | 1000" | None | 3 | Squatting |
| 9 | 1000" | None | 3 | Kneeling |
| 9 | 1000" | None | 3 | Standing |
| 9 | 1000" | 24 | 3 | Standing to prone |
| 9 | 1000" | 24 | 3 | Standing to sitting |
| 9 | 1000" | None | 6 | Weak positions |

Table II. Combat qualification course, instruction firing,
known distance combat target firing (total rounds - 52)

PERIOD 10

| Range (meters/yards) | Time Limit (in seconds) | Rounds* | Target | Position |
|-------------------------|----------------------------|---------|--------|-----------|
| 92/100 | 30 | 4 | F | Prone |
| 92/100 | 10 | 8 | F | Standing |
| 184/200 | 30 | 4 | E | Prone |
| 184/200 | 15 | 4 | E | Kneeling |
| 184/200 | 15 | 4 | E | Squatting |
| 184/200 | 15 | 4 | E | Sitting |
| 276/300 | 30 | 8** | E | Prone |
| 276/300 | 15 | 8** | E | Kneeling |
| 276/300 | 15 | 8** | E | Sitting |

*one round per target.

**plus one dummy round loaded in the clip or magazine.

Table III. Combat qualification course, instruction firing, known distance combat target firing (total rounds - 48)

| PERIOD 11 | | | | |
|-------------------------|----------------------------|---------|--------|-----------------------------------|
| Range (meters/yards) | Time Limit (in seconds) | Rounds* | Target | Position |
| 92/100 | 8 | 2 | F | Standing to kneeling |
| 92/100 | 7 | 2 | F | Standing to squatting |
| 92/100 | 6 | 2 | F | Standing to standing |
| 92/100 | 6 | 2 | F | Standing to standing |
| 184/200 | 12 | 2 | E | Standing to sitting |
| 184/200 | 12 | 2 | E | Standing to kneeling |
| 184/200 | 12 | 2 | E | Standing to squatting |
| 184/200 | 12 | 2 | E | Standing to prone |
| 184/200 | 12 | 8** | E | Standing to optional (3 moves) |
| 276/300 | 12 | 4 | E | Standing to squatting |
| 276/300 | 12 | 4 | E | Standing to sitting |
| 276/300 | 12 | 4 | E | Standing to kneeling |
| 276/300 | 12 | 4 | E | Standing to prone |
| 276/300 | 12 | 8** | E | Standing to optional (3 moves) |

Table IV. Combat qualification course, instruction firing, known distance combat target firing (total rounds - 48)

| PERIOD 12 | | | | |
|-------------------------|----------------------------|---------------------|--------|-----------------------|
| Range (meters/yards) | Time Limit (in seconds) | Rounds* | Target | Position |
| 184/200 | 20 | 8** | (2)E | Standing to prone |
| 184/200 | 20 | 2 | (2)E | Standing to sitting |
| 184/200 | 20 | 4 (2 per exposure) | (2)E | Standing to kneeling |
| 184/200 | 20 | 2 | (2)E | Standing to sitting |
| 184/200 | 10 | 4 | E | Standing to kneeling |
| 276/300 | 10 | 4 | E | Standing to prone |
| 276/300 | 20 | 8** | (2)E | Standing to prone |
| 276/300 | 20 | 4 (2 per exposure) | (2)E | Standing to kneeling |
| 276/300 | 20 | 4 | (2)E | Standing to squatting |
| 276/300 | 20 | 4**(2 per exposure) | (2)E | Standing to sitting |
| 276/300 | 20 | 4 (2 per exposure) | (2)E | Standing to prone |

*one round per target.

**plus one dummy round loaded in the clip or magazine.

Table V. Combat qualification course, record firing, known distance combat target firing (total rounds -50)

| PERIOD 13 | | | | |
|-------------------------|----------------------------|---------|--------|-----------------------------------|
| Range (meters/yards) | Time Limit (in seconds) | Rounds* | Target | Position |
| 92/100 | 5 | 8 | F | Standing (3 moves) |
| 184/200 | 10 | 2 | E | Standing to sitting |
| 184/200 | 10 | 2 | E | Standing to kneeling |
| 184/200 | 10 | 2 | E | Standing to squatting |
| 184/200 | 10 | 2 | E | Standing to prone |
| 184/200 | 20 | 9 | (2)E | Standing to optional (3 moves) |
| 184/200 | 10 | 8 | E | Optional |
| 276/300 | 20 | 9 | (2)E | Standing to optional |
| 276/300 | 10 | 8 | E | Optional |

*one round per target.

- NOTES: 1. Possible Score (Table V) - 50.
2. Qualification is determined by total of scores of Tables V and VI.

Table VI. Combat qualification course, instruction and record firing, combat positions range (total rounds - 80) (This table is fired twice - once for practice and once for record.) Instruction firing will be conducted the first day and record firing the second day.

| PERIOD 14 | | | | |
|-------------------------|--|---------|--------|---------------|
| Range (meters/yards) | Time Limit per target (in seconds) | Rounds* | Target | Position |
| 138-276/150-300 | 10 | 4 | F-E | Foxhole |
| 184-368/200-400 | 10 | 4 | (2)E | Rubble Pile |
| 276-368/300-400 | 10 | 4 | (2)E | Stump |
| 184-299/200-325 | 10 | 4 | (2)E | Log |
| 138-230/150-250 | 10 | 4 | (2)E | Bunker |
| 368/400 | 10 | 4** | E | Prone |
| 111-368/125-400 | 10 | 4 | (2)E | Barricade |
| 230-322/250-350 | 10 | 4 | (2)E | Forward Slope |
| 161-299/175-325 | 10 | 4 | (2)E | Roof top |
| 153-253/125-275 | 10 | 4 | (2)E | Window |

*The first two rounds will be expended at single targets that appear individually for ten seconds; the second two rounds will be expended at two targets that appear simultaneously and will be exposed for a total of 20 seconds.

**Single target appears 4 different times, 10 seconds each time.

- NOTES: 1. Possible Score (Table VI) - 40.
2. Qualification is determined by total of scores of Tables V and VI.
3. Possible Score (Tables V and VI) - 90.
4. Qualification Classification:
 Expert - 60
 Sharpshooter - 50
 Marksman - 40
 Unqualified - Less than 40

INDIVIDUAL NIGHT FIRING COURSE

1. Periods and Tables:

| <u>Period</u> | <u>Qualification Firing Table</u> |
|---------------|-----------------------------------|
| 1. | -- |
| 2. ----- | See Table VII, FM 23-5 |
| 3. ----- | See Table VI, FM 23-5 |
| 4. ----- | See Table VI, FM 23-5 |

2. Qualification Classification: Page 333, FM 23-5

NOTE: 1. Possible score (Table VI) - 50.
 2. Qualification is determined by total of scores of Tables V and VI.

Table VI. Combat qualification course, instruction and record firing. Combat positions range from rounds - 50. (This table is fixed twice - once for practice and once for record.) Instruction firing will be conducted on the first day and record firing on the second day.

| Position | Target | Rounds | Time Limit per Target (in seconds) | Range (meters/yards) |
|---------------|--------|--------|------------------------------------|----------------------|
| Forward Slope | (3)E | 4 | 10 | 100-200/100-200 |
| Root Top | (3)E | 4 | 10 | 100-200/100-200 |
| Window | (3)E | 4 | 10 | 100-200/100-200 |
| Forward Slope | (3)E | 4 | 10 | 100-200/100-200 |
| Root Top | (3)E | 4 | 10 | 100-200/100-200 |
| Window | (3)E | 4 | 10 | 100-200/100-200 |
| Forward Slope | (3)E | 4 | 10 | 100-200/100-200 |
| Root Top | (3)E | 4 | 10 | 100-200/100-200 |
| Window | (3)E | 4 | 10 | 100-200/100-200 |

The first two rounds will be expended at single targets that appear individually for two rounds. The second two rounds will be expended at two targets that appear simultaneously and will be expended for a total of 20 seconds. *Single target appears a different target, 10 seconds each time.

NOTE: 1. Possible score (Table VI) - 50.
 2. Qualification is determined by total of scores of Tables V and VI.
 3. Possible score (Table VII) - 30.
 4. Qualification Classification:
 Expert - 50
 Sharpshooter - 50
 Marksman - 40
 Unqualified - Less than 40

INCLOSURE 10-APPENDIX VI-ANNEX B

PERIOD TEN

KNOWN DISTANCE INSTRUCTION FIRING

SCORESHEET

Firer's Name _____
 (Last) (First)

Platoon _____ Order _____ Firing Point _____ Date _____

Scorer's Name _____
 (Last) (First)

(Rounds Fired-52; Possible Score-52)

| Position | Range (meters/yards) | Hits Scored | | | | Total |
|-----------|-------------------------|-------------|--|--|--|-------|
| PRONE | 92/100 | | | | | |
| STANDING | 92/100 | | | | | |
| PRONE | 184/200 | | | | | |
| KNEELING | 184/200 | | | | | |
| SQUATTING | 184/200 | | | | | |
| SITTING | 184/200 | | | | | |
| PRONE | 276/300 | | | | | |
| KNEELING | 276/300 | | | | | |
| SITTING | 276/300 | | | | | |

Total Period 10 _____

PERIOD ELEVEN
 KNOWN DISTANCE ADVANCING AND FIRING
 SCORESHEET

Firer's Name _____
 (Last) (First)

Platoon _____ Order _____ Firing Point _____ Date _____

Scorer's Name _____
 (Last) (First)

(Rounds Fired-48; Possible Score-48)

| Position* | Range (meters/yards) | Hits Scored | | | | Total |
|-----------|-------------------------|-------------|--|--|--|-------|
| KNEELING | 92/100 | | | | | |
| SQUATTING | 92/100 | | | | | |
| STANDING | 92/100 | | | | | |
| STANDING | 92/100 | | | | | |
| SITTING | 184/200 | | | | | |
| KNEELING | 184/200 | | | | | |
| SQUATTING | 184/200 | | | | | |
| PRONE | 184/200 | | | | | |
| OPTIONAL | 184/200 | | | | | |
| SQUATTING | 276/300 | | | | | |
| SITTING | 276/300 | | | | | |
| KNEELING | 276/300 | | | | | |
| PRONE | 276/300 | | | | | |
| OPTIONAL | 276/300 | | | | | |

Total Period 11 _____

*All positions begin from the standing ready position.

PERIOD THIRTEEN
 KNOWN DISTANCE RECORD FIRE
 SCORESHEET

Firer's Name _____
 (Last) (First)

Platoon _____ Order _____ Firing Point _____ Date _____

Scorer's Name _____
 (Last) (First)

(Rounds Fired-50; Possible Score-50)

| Position | Range (meters/yards) | Hits Scored | Total |
|------------|-------------------------|-------------|-------|
| STANDING* | 92/100 | | |
| SITTING* | 184/200 | | |
| KNEELING* | 184/200 | | |
| SQUATTING* | 184/200 | | |
| PRONE* | 184/200 | | |
| OPTIONAL* | 184/200 | | |
| OPTIONAL* | 184/200 | | |
| OPTIONAL | 276/300 | | |
| OPTIONAL | 276/300 | | |

Total Known Distance Record Fire _____

*Begin from standing ready position.

Scorer's Signature _____

Officer's Signature _____

PERIOD FOURTEEN
COMBAT POSITION INSTRUCTION FIRE
SCORESHEET

Firer's Name _____
 (Last) (First)

Platoon _____ Order _____ Firing Point _____ Date _____

Scorer's Name _____
 (Last) (First)

(Rounds Fired-40; Possible Score-40)

| Position* | Range (meters/yards) | Hits Scored | | | | Total |
|-------------------|-------------------------|-------------|--|--|--|-------|
| | | | | | | |
| FOXHOLE | 138-276/150-300 | | | | | |
| RUBBLE PILE* | 184-368/200-400 | | | | | |
| STUMP* | 276-368/300-400 | | | | | |
| LOG* | 184-299/200-325 | | | | | |
| BUNKER | 138-230/150-250 | | | | | |
| PRONE* | 368/400 | | | | | |
| BARRICADE* | 115-368/125-400 | | | | | |
| FORWARD SLOPE* | 230-322/250-350 | | | | | |
| ROOF TOP | 161-299/175-325 | | | | | |
| WINDOW* | 115-253/125-275 | | | | | |

Total Instruction Practice _____

*Begin from standing ready position.

Inclosure 11 - Appendix VI - Annex B

BASIC RIFLE MARKSMANSHIP COURSE (ALTERNATE)

Suggested Scheduling Guide

1-A Company Input Schedule

| UNIT | 1st Week | | | | | | | 2nd Week | | | | | | | 3d Week | | | | | | | 4th Week | | | | | | | | | |
|--------|----------|-----|-----|-----|-----|---|-----|----------|-----|----|----|---|----|----|---------|----|----|---|---|---|---|----------|---|---|----|---|---|---|---|---|--|
| | M. | T | W | T | F | S | M | T | W | T | F | S | M | T | W | T | F | S | M | T | W | T | F | S | M | T | W | T | F | S | |
| 1st Co | 1-3 | 4-5 | 6 | 7 | 8-9 | | 10 | 11 | 12 | 13 | | | 14 | 14 | 15 | | | | | | | | | | | | | | | | |
| 2nd Co | | 1-3 | 4-5 | 6 | 7 | | 8-9 | 10 | 11 | 12 | 13 | | | | 14 | 14 | 15 | | | | | | | | | | | | | | |
| 3rd Co | | | 1-3 | 4-5 | 6 | | 7 | 8-9 | 10 | 11 | 12 | | 13 | 14 | 14 | 15 | | | | | | | | | | | | | | | |
| 4th Co | | | | 1-3 | 4-5 | | 6 | 7 | 8-9 | 10 | 11 | | 12 | 13 | 14 | 14 | 15 | | | | | | | | 15 | | | | | | |

- NOTES: Periods 4-5 requires a 100-point 1000" range or 2 days using a 50-point range.
 Periods 6 and 7 each require a 50-point range or a 100-point range for one half day.
 Periods 8-9 requires a 100-point 1000" range or 2 days using a 50-point range.
 Periods 10-13 requires a 50-point KD range each day.
 Period 14 requires a 10-land Combat Positions range for 2 days.

BASIC RIFLE MARKSMANSHIP COURSE (ALTERNATE)

Range Requirements

| UNIT | One Company Input | | | | | Two Company Input | | | | | Three Company Input | | | | | Four Company Input | | | | | | | | | | | | | | |
|---------------------|-------------------|---|---|---|---|-------------------|---|---|---|---|---------------------|-----|---|---|---|--------------------|---|-----|---|---|---|---|---|-----|---|---|---|---|---|---|
| | M | T | W | T | F | TOT | M | T | W | T | F | TOT | M | T | W | T | F | TOT | M | T | W | T | F | TOT | M | T | W | T | F | |
| Class Room | 1 | | | | | 1 | 1 | 1 | 1 | 1 | | 1 | 1 | 1 | 1 | 1 | | 1 | 1 | 1 | 1 | 1 | | 1 | 1 | 1 | 1 | 1 | | |
| Training Field | 1 | | | | | 1 | 1 | 1 | 1 | 1 | | 1 | 1 | 1 | 1 | 1 | | 1 | 1 | 1 | 1 | 1 | | 1 | 1 | 1 | 1 | 1 | | |
| 50 Point | | | | | | 1 | 1 | | | | 2 | 1 | | | | 2 | 1 | | | | 2 | 1 | | | | 2 | 1 | | | |
| 1000" range | | | | | | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 1 |
| 100 Point | | | | | | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 50 Point | | | | | | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 1 |
| KD range | | | | | | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cbt Psn | | | | | | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Range | | | | | | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Night | | | | | | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Vision Classroom | | | | | | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Day and Night Range | | | | | | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |

INCLOSURE 13 - APPENDIX VI - ANNEX B

BASIC RIFLE MARKSMANSHIP COURSE (ALTERNATE)

.22 Caliber Firing

1. Modification of the Basic Rifle Marksmanship Course (Alternate) to include .22 caliber firing requires the following revisions to the Master Schedule and the Lesson Outline:

- a. Periods 4-7 will be fired using the .22 caliber rifle.
- b. Subject schedule and lesson outline changes are required in the following periods:
 - (1) Period 4. Eliminate the recoil demonstration in the first hour of instruction and replace it with five (5) minutes additional discussion on range procedures and safety.
 - (2) Period 7. Eliminate the thirty (30) minutes in the hour of instruction that is devoted to practice in rapid reloading of clips and/or magazines and substitute practice in assuming the prone position, squeezing off the first round, simulating reloading, and practice squeezing off the first round.
 - (3) Period 8:
 - (a) In the first hour of instruction reduce review of principles of sight adjustment and the effect of sight changes to ten (10) minutes.
 - (b) Conduct the recoil demonstration immediately after the explanation of the principles of battle sight zeroing.
 - (4) Period 9. Include thirty (30) minutes instruction on instruction practice in loading partial clips, full clips and/or magazine chargers or magazines. This will be presented prior to firing the rapid fire exercises in the alternate course.

2. All firing during Period 9 will be used as a further confirmation of the battle sight zero established during Period 8.

APPENDIX VII - ANNEX B

INCLUSION OF .22 CALIBER FIRING IN THE PROPOSED BASIC RIFLE MARKSMANSHIP COURSE

1. Modification of the Basic Rifle Marksmanship Course to include .22 caliber firing requires the following revisions to the Master Schedule and the Lesson Outline:
 - a. Periods 4 - 7 will be fired using the .22 caliber rifle.
 - b. Subject schedule and lesson outline changes are required in the following periods:
 - (1) Period 4. Eliminate the recoil demonstration in the first hour of instruction and replace it with five (5) minutes additional discussion on range procedures and safety.
 - (2) Period 7. Eliminate the thirty (30) minutes in the hour of instruction that is devoted to practice in rapid reloading of clips and/or magazines and substitute practice in assuming the prone position, squeezing off the first round, simulating reloading, and practice squeezing off the first round.
 - (3) Period 8:
 - (a) In the first hour of instruction reduce review of principles of sight adjustment and the effect of sight changes to ten (10) minutes.
 - (b) Conduct the recoil demonstration immediately after the explanation of the principles of battle sight zeroing.
 - (4) Period 9. Include thirty (30) minutes instruction on instruction practice in loading partial clips, full clips and/or magazine chargers or magazines. This will be presented prior to firing the rapid fire exercises in the course.
2. All firing during Period 9 will be used as a further confirmation of the battle sight zero established during Period 8.
3. This proposal should be tested prior to adoption.
4. In order to realize full training benefits, the .22 caliber weapon should have the same sight, weight, configuration and trigger pull as the M14 service rifle.

ANNEX C

QUALIFICATION AND FAMILIARIZATION

Appendix I

Trainfire I Requalification Courses -- Course A and B

Appendix II

Active Army Known Distance Combat Qualification Course

Appendix III

Alternate Qualification Course

Appendix IV

Familiarization Course

Appendix V

USAR and ARNG Trainfire I Familiarization Course

Appendix VI

Summary of Questionnaires

Appendix VII

Proposed Program

Appendix VIII

Comparison of Proposed Program and Present Program

ANNEX C

QUALIFICATION AND FAMILIARIZATION FIRING

SECTION I - Purpose

1. This annex discusses the annual qualification and familiarization standards considered essential to maintain combat rifle marksmanship proficiency throughout the active Army and Reserve Components, and recommends courses and type of ranges to be used to accomplish the objectives of this phase of the rifle marksmanship program.

SECTION II - Approach to the Problem

2. In evaluating the qualification and familiarization aspects of the overall marksmanship program the Board approached the problem essentially as follows:

- a. Examined the present program used by the active Army and the Reserve Components.
- b. Evaluated the effectiveness of the courses fired and criteria governing the current qualification and familiarization program.
- c. Determined the acceptable standards and skills needed to sustain rifle marksmanship proficiency.
- d. Developed a program and firing courses which will insure maintenance of a desirable degree of proficiency. In developing the program general consideration was given to:
 - (1) Any requirement for increased and continuing emphasis on shooting fundamentals.
 - (2) The training time available to the active Army and Reserve Components for marksmanship proficiency training.
 - (3) A system of standard annual qualification courses which encompasses economy, uniformity of instruction and simplicity of program operation.
- e. Considered the specific impact of the following factors on the program and courses of fire required to maintain marksmanship proficiency throughout the Army.
 - (1) Motivational and incentive factors which influence effective implementation of the program.
 - (2) Ranges, by type and location that are currently available and programmed in CONUS active installations, Reserve and mobilization installations, and in overseas theaters.
 - (3) The use of the small bore rifle in maintaining combat rifle marksmanship proficiency.
- f. Developed conclusions and recommendations.
- g. Established for the purposes of discussion herein the following definitions:
 - (1) Combat elements - those units or elements of those units that by reason of mission can be expected to be in close contact with conventional front line forces of the enemy. This category includes normal combat attachments and close support units.
 - (2) Administrative and Support Units - those units and headquarters or elements of those units that in combat normally would be located and operate in rear areas not in contact with conventional front line forces of the enemy. TD units are considered within the scope of this category.

SECTION III - The Present Program

3. Active Army.

a. Essentially, the present program requires that all officers, warrant officers, and EM of the active Army fire:

- (1) A qualification course, annually, with the weapon with which armed.
- (2) A familiarization course with all individual weapons with which 10% or more of the individuals of their organization are armed.

b. There are exceptions to this policy. As an example, individuals with 15 years of active military service are exempt from firing a qualification course and fire only a familiarization course. The other exceptions are contained in AR 370-5.

c. Two systems are now being used for annual qualification - Trainfire I and Known Distance. Known Distance ranges are used when Trainfire ranges are not available. Attached at Appendix I are two Trainfire I qualification courses -- a 56 hour course and a 38 hour course. The 56 hour course is fired by individuals who have not previously fired on a Trainfire range. Attached at Appendix II is the Known Distance qualification course. The score obtained from firing Table III determines the individual's degree of qualification, however he is required to confirm his qualification by satisfying a minimum requirement in combat firing and night firing. (Table IV, V, and VI, FM 23-5) There is one additional course that is fired annually by units in lieu of a qualification course - the alternate qualification course (proficiency) (Page 334, FM 23-5). This course is intended for the use of reserve component units not in active military service but it is also fired by active Army units who do not have time or facilities to fire the Combat Qualification Course. Authority to fire this course in lieu of the qualification course is not specifically spelled out in AR 370-5. Those active Army units firing this course do so under their interpretation of the guidance provided in FM 23-5. The course is designed to test the soldier on the fundamentals of shooting without particular regard to the special requirements of using the rifle in combat. A proficiency rating is awarded for this course, rather than a qualification classification. See Appendix III.

d. Attached at Appendix IV is the familiarization course fired by members of the active Army. This course may be fired on a 1000" range or a 200-yard range. Therefore, either Trainfire (25-meter) or Known Distance range facilities may be used. This course is designed to acquaint the individual with firing the rifle. It does not specifically test the soldier on the fundamentals of shooting or the special requirements of using the rifle in combat.

4. Reserve Components.

a. Members of the Reserve Components fire for qualification once every three years and fire a familiarization course during the intervening years. There are a few exceptions to this policy. Essentially, they are the same as those authorized for individuals of the active Army. Where facilities are available, this firing is accomplished during the home station portion of the training year.

b. The alternate qualification course, described in paragraph 3c above, is fired by the Reserve Components. However, Appendix XVII to Annex AA, USCONARC Training Directive authorizes the Reserve Components to award a qualification classification for this course rather than the proficiency rating. The Trainfire I Courses outlined above are not fired by the Reserve Components for annual qualification. Units are authorized to fire a unit cadre, not to exceed 5% of the assigned personnel to provide unit instructors for the Reserve Components in support of their Trainfire Familiarization Firing Program, and to assist in marksmanship training upon mobilization.

c. There are two types of familiarization courses that may be fired by the Reserve Components - Trainfire I (25-meter firing and target detection) and Known Distance. The Known Distance Familiarization Course is identical to the familiarization course fired by the active Army (Appendix IV) and is fired at 200-yards on a Known Distance range. While some emphasis is placed on shooting fundamentals, this course, like the course for the active Army, primarily, acquaints the soldier with firing the rifle. When a 25-meter range is available, the Trainfire I Familiarization Course is fired (Appendix V). This course also places minimum emphasis on shooting fundamentals, however, an abbreviated course in target detection has been added.

SECTION IV - Effectiveness of the Present Program;
Courses Fired; and Criteria

5. Implementation.

a. The preceding section outlined the present program and the courses fired to maintain rifle marksmanship proficiency. It is necessary now to examine that program, as well as its standards and criteria to determine if in fact, this program meets the objective outlined in paragraph 7b, Annex A.

b. At the outset the Board found strong indications that the program is not implemented effectively. As an example: Survey of the two career courses at the Infantry School revealed that 58% of these officer students believe that units in the field do not implement the currently prescribed course effectively. They believe that many commanders are more interested in satisfying the pure administrative aspects of the program rather than conducting training to maintain marksmanship proficiency (Appendix VI). In addition, during visits to the various installations throughout CONUS, members of the Board interviewed several senior commanders and their subordinates with a view toward determining the effectiveness of the present program. The comments of these individuals generally parallel the comments of the career course students. They also strengthen the point that annual marksmanship training is frequently directed toward the goal of satisfying an administrative requirement rather than conducting a sound training program. This failure of effective implementation, casts serious doubt as to the training value derived from such programs. As far as implementation is concerned, the most positive course of action lies in the field of command emphasis. Command emphasis is necessary in all fields. Marksmanship is no exception. If the trend toward firing to satisfy an administrative requirement continues, the effectiveness of the program will continue to be damaged.

c. The Board recognizes and has evaluated many of the pressures which come to bear on the commander charged with implementing the Army's combat marksmanship program, i. e., limited time and facilities; priorities of training required by unit mission; personnel turbulence. It is not intended to imply that commanders purposely fail to implement marksmanship training to the degree the Board believes is necessary. Rather, their reaction reflects, in large measure, that priority that commanders feel compelled to assign to this subject. In this connection, the Board believes that every means available should be exploited to insure increased emphasis on the annual qualification program. For example, Inspector Generals could concentrate specific interest on the program during annual General Inspection, particularly with respect to the extent, effectiveness, and validity of training accomplished and qualifications achieved by individuals. Increased publicity could be afforded through information media, both military and civilian.

d. One of the major weaknesses of the present program is that the various courses of fire inherent in the program appear to have been developed to meet the many situations posed by available Known Distance ranges, programmed implementation of Trainfire I, and training time available. A detailed examination of AR 370-5; FM 23-5; FM 23-71; clearly indicates varying degrees of permissive qualification, and presents a definite paradox from the standpoint of marksmanship proficiency. For example: In the active Army, the essential standard requires the individual to fire annually either the Trainfire Course (Appendix I), or the Known Distance Course (Appendix II). However, commanders are authorized to excuse individuals assigned to overhead and administrative positions. Yet from a marksmanship proficiency point of view, it appears that the authority to excuse individuals should be reversed. The combat soldier, particularly the rifleman, does a great deal of firing during normal training in squad and platoon live firing exercises and maintains proficiency throughout the year. On the other hand, overhead and administrative personnel have little or no opportunity to fire the rifle except in

annual marksmanship qualification training. Thus the individual who needs the training most is authorized to be excused from participating in annual marksmanship training.

e. Another paradox is the fact that all individuals of the active Army with less than 15 years service are required to undergo the same marksmanship training annually. Little or no recognition is given to the marksmanship proficiency needs of the young soldier versus the older soldier who has received this training several years in succession. If this training is aimed at the inexperienced, then it may be more than enough for the experienced. Even worse, if the training is aimed at satisfying the needs of the old soldier, then it may be inadequate for the bulk of the individuals of the Army. It would seem to be more realistic to design more than one course to meet the specific needs of each category. Additional courses, however, add to the complexity of an already complex program. The solution to this problem will be developed best within the concept of a basic qualification course which includes blocks of instruction on mechanical training, preparatory marksmanship, field firing, target detection, and record firing. The latter two must be uniformly required regardless of previous training. Personnel with previous experience will normally participate as active instructors in the other instructional areas and thus become, again, proficient in all of the essential aspects of combat rifle marksmanship. This concept will assist in keeping the program uncomplicated yet will be sufficiently flexible to meet the individual requirements discussed earlier in this paragraph.

f. As mentioned earlier, local commanders fire the Alternate Qualification Course when time and facilities are not available to fire the prescribed qualification course. The board recognizes that this type course is needed to meet the needs of a few isolated installations but its use tends to degrade the overall standard of marksmanship throughout the Army. It appears that there should be more positive control over the use of this type of course to insure that it is used only in exceptional circumstances. Requiring local commanders to solve their marksmanship training requirements by using resources locally available could be restrictive. Again, this is an indication that marksmanship training is now governed by limited training time and range availability, not by the needs of the individual soldier. The Alternate Qualification Course does not provide the training that is needed to maintain combat rifle marksmanship proficiency. It provides training only in the basic fundamentals of shooting. It would be much more realistic to establish a standard course that would meet the needs of all individuals who are armed with a rifle and require that this course be fired by using all of the facilities that are within reasonable distance of the installation. Withdrawing the permissive authority to fire the alternate course from the local commander and placing it with the commander who exercises control over all available facilities would insure a more realistic training program. In addition, this concept would assist the commander who is responsible for programming range construction projects to establish construction priorities which will meet the needs of all activities under his command.

g. The familiarization course is also an example of the lack of marksmanship proficiency training insofar as the needs of the individual soldier is concerned. This course provides only the minimum training needed to enable individuals to operate and fire the rifle. Firing 30 rounds of ammunition in an unscored exercise is not a valid test of an individual's capabilities for firing the rifle effectively. Individuals who may be required to fire a rifle in an emergency need to know much more than how to operate and fire the weapon. They must, as a minimum, receive training in the basic fundamentals of combat shooting, and commanders must be able to evaluate the individual's capabilities in these skills. For these reasons, the Board believes that the current familiarization course is not effective. Furthermore, the Board believes that a valid requirement exists to provide additional marksmanship training for those individuals who may be required to fire a rifle in an emergency. The type of course that should be used must include training in the fundamentals of combat marksmanship and a scored firing requirement.

h. Another interesting aspect of the overall standard of marksmanship training is that the term qualified is not synonymous with the minimum requirements of combat marksmanship proficiency. For example, the reserve components are authorized to award a qualification classification for successful completion of the Alternate Qualification Course. This classification continues during the next two years when only a familiarization course is fired. Whereas in the active army the essential standard for qualification requires that a Known Distance or Trainfire Qualification Course be fired each year. Thus, individuals who have little or no opportunity to fire the rifle except during annual marksmanship training now fire less rounds for qualification than the active Army soldier who does a great deal of firing throughout the year. If the term qualified is to accurately reflect true marksmanship proficiency under these circumstances it would appear again that the standards should be reversed. The Board recognizes, however, that the Reserve Components do not have sufficient time to implement a full scale combat marksmanship proficiency program and that their training must be directed toward satisfying pre-mobilization marksmanship proficiency requirements. However, if the term qualified is to reflect accurately the minimum acceptable level of combat marksmanship proficiency the Reserve Components should not be authorized to classify individuals as qualified upon completion of the alternate course. In addition, the Board believes that the criteria governing the pre-mobilization firing in the Reserve Components should be changed to permit them to fire a pre-mobilization course each year. As discussed earlier, the familiarization course has serious limitations insofar as true marksmanship proficiency is concerned. It should be replaced by a course that will assist in maintaining the skills needed to maintain proficiency in the basic fundamentals of shooting.

i. It appears that a requirement exists for increased emphasis on shooting fundamentals in the current annual qualification program. Trainfire I annual qualification courses are sufficiently detailed in subject schedules to provide guidance as to hours and subjects to be devoted to annual preparatory marksmanship. Such is not the case for Known Distance annual qualification. Existing directives, AR 370-5 and FM 23-5, prescribe that Known Distance qualification will be conducted annually by firing Table III and confirming qualification by firing Tables IV, V, VI and that this will be preceded by mechanical training and preparatory marksmanship. The hours or subjects are not prescribed. Thus, much is left to the discretion of individual commanders resulting in the lack of a standard program. The inclusion of a standard preparatory marksmanship phase would increase emphasis on shooting fundamentals.

SECTION V - Minimum Acceptable Standards

6. The preceding sections point out that the various courses of fire that are being used to maintain marksmanship proficiency do not clearly prescribe a standard level of marksmanship proficiency. Prior to developing a recommended program and course of fire it is now necessary to determine the minimum acceptable standard of individual combat rifle marksmanship proficiency that must be maintained throughout the Army.

7. In the Board's view, the minimum acceptable standard must be based on the best available estimate of how the individual soldier will be required to use a rifle in combat. One need not search too far to determine that the battlefield of the future will be characterized by highly mobile and widely dispersed units. Infiltration will be a common form of maneuver and maximum use will be made of airborne and airmobile operations. Every individual who is armed with a rifle, not just the combat soldier, will be susceptible to enemy action. We must expect that rear units will be attacked. How often and with what size force is a judgment question. The fundamental question from a rifle marksmanship proficiency viewpoint is: Is it essential for all individuals to maintain the same degree of proficiency or should individuals who are assigned to administrative and support

elements maintain only that amount of proficiency needed to fire the weapon with which armed in an emergency? This is a highly controversial subject.

8. To gain a broad base of opinion on this subject, as a basis for further analysis, commanders of major active Army, National Guard and Reserve Components commands were asked the following questions:

- a. Is the present criteria of qualification and familiarization training adequate?
- b. Is it necessary that all individuals in the Army maintain the same level of marksmanship proficiency?
- c. Would it be feasible to train the combat and combat support elements on Trainfire and the other on Known Distance?

9. Detailed comments on the foregoing questions are contained in Appendix VI. In summary these reports indicated:

- a. That present criteria governing annual rifle qualification and familiarization firing is adequate; however, increased emphasis must be placed upon effective implementation to maintain a satisfactory level of marksmanship proficiency.
- b. It is not necessary that all individuals armed with the rifle maintain the same proficiency. Again it is pointed out that this is the most controversial area in this phase of marksmanship. The majority of the commanders believe that it is not necessary for all individuals to maintain the same proficiency. However, their detailed comments indicate that all things being equal, such as more facilities, it would be desirable for all individuals to maintain the same proficiency. Realistically, however, this cannot be attained in view of the time required for mission and specialized training requirements of the combat support and administrative units, and the Reserve Components.
- c. A Trainfire type course is the desired course for annual qualification for all personnel armed with the rifle; however, if sufficient Trainfire facilities are not available, it is feasible to use Known Distance facilities.

10. The Board agrees with the comments and conclusions of the major commanders; however, an effective program of qualification and familiarization is not a matter of black or white. First, the question of criteria: It does not appear that merely firing one of the qualification courses, as they are currently developed, satisfies the overall need for combat marksmanship proficiency for all branches of the active and Reserve Components of the Army. Secondly, it appears feasible to establish a program of proficiency training which specifically meets the combat requirements of the units, as well as the individuals of these units. Lastly, accepting the premise that Trainfire provides better training than does Known Distance for the individual who is likely to engage in direct combat with the enemy, all units should train and qualify on Trainfire ranges. In the absence of Trainfire ranges, however, a Known Distance course which includes target detection, field firing, night firing, and a review of fundamentals will provide a satisfactory degree of proficiency consistent with the mission of the administrative and support elements.

11. The Reserve Components are faced with the problem of insufficient training time to implement a full scale combat marksmanship proficiency program. These units are authorized 48 drill assemblies at home station each fiscal year. The average training time available is 96-hours plus an estimated 40-hours accomplished in "multiple assemblies." In addition, units conduct two continuous weeks of training each summer. Several major commanders stated that as a general average, 10-hours per Reserve Component individual per year is devoted to marksmanship training. Many other hours are devoted to this subject during "off-duty" time. Most of the latter is spent on small bore ranges. It is not anticipated that any appreciable increase in training time can be devoted to marksmanship. An increase in drill assemblies would be helpful, but it is recognized that the system of drill assemblies currently in existence represents a

proximate optimum between the time an individual can devote to the Army Reserve activities and that required to pursue his civilian livelihood.

a. The system of qualification and familiarization firing on the Known Distance type ranges has been evaluated. The Board believes, as a fundamental fact, that positive combat marksmanship proficiency requires frequent and continuous firing of the individual weapon with which the man is armed. An Army program which requires less than annual successful qualification on a record firing course and refresher instruction in fundamentals, and target detection does not provide an acceptable minimum level of proficiency.

b. The above being the case, it must be expected that the Reserve Components cannot normally meet combat readiness marksmanship requirements except in special cases where nearby facilities (active Army or state owned) are available. These cases were found to be relatively rare. Must the Army accept a situation wherein Reserve units rely on the marginal level of marksmanship proficiency provided by a small bore firing and a thinly spread big bore program? The answer is no. The solution, in the Board's view, requires a sharp departure from current qualification and familiarization criteria and must be supported by substantial funds for the construction of 25-meter ranges. The Board believes that the forty-one 25-meter ranges currently constructed and those programmed for construction are warranted (see Annex I). It is recognized that these ranges will not of themselves, provide the facility to maintain a level of combat readiness marksmanship proficiency, even though supported, as it must be, by an active small bore program. On the other hand, we must face the fact that the NG and USAR have the mission of being combat ready, or at least, to attain a position of combat readiness with a minimum of time and lost motion. The concept of extensive time for mobilization is past. This brings the focus of the problem down to whether we should:

(1) Spend the money to provide additional training time for the necessary marksmanship training in the reserve in order to gain combat readiness marksmanship proficiency. This is not practicable from a fiscal point of view, nor could we "buy" such a solution if we wanted it. The individual Reservist cannot devote any marked increase in training time to the Reserve and NG.

(2) Rely on spaced qualification during ANACDUTRA with intervening familiarization firing courses. This offers a degree of proficiency but is not subject to uniform implementation and standards of proficiency; relies heavily on accomplishment during the critical training periods during summer encampments; is remote from home station training thus generates little motivational interest in marksmanship training; is highly inflexible from a scheduling and time utilization point of view; and does not act as an incentive for "off-duty" shooting.

(3) Provide 25-meter ranges, locally available, to support a vigorous marksmanship program at home station.

(a) Such a program should be supported by a requirement for individual qualification training upon mobilization. Exception to this requirement would be those units which have been able to maintain a level of combat readiness marksmanship proficiency qualification as a matter of routine annual firing on active Army or state owned facilities, reasonably available.

(b) This type program, it should be understood, will not meet minimum requirements. Individuals firing such a program cannot be accepted as having the same degree of proficiency as their active Army counterparts. It is believed, however, that such ranges, if fully implemented, will bring the Reserve Component to a level of training consistent with their mission. There is a requirement in implementing this program that a system of priorities be developed. A definitive discussion requires detailed knowledge of Army plans at the highest level and thus is beyond the purview of this Board. Further, in the interest of economy, 25-meter ranges should not be constructed in areas where reasonably available federal and state owned ranges can be used.

SECTION VI - Essential Skills That Must be Maintained

12. Before a program and firing courses can be devised to insure maintenance of rifle marksmanship proficiency, consideration must first be given to the skill needed to fire a rifle effectively in combat, a detailed analysis of skills required is contained in Annex B. The program and courses of fire that are developed must, as a minimum, enable the individual to maintain these essential skills.

SECTION VII - Proposed Program

13. In the Boards view, a complete marksmanship training program including mechanical training, preparatory marksmanship, target detection and record firing must be conducted by the active Army at least once each year. It is also essential that a standard course be developed which will be economical to implement, simple to operate, and at the same time, provide training in all of the essential skills of combat marksmanship. Successful completion of this course will insure that individuals throughout the Army are proficient in all of the skills required to fire a rifle effectively in combat. This concept recognizes that rifle marksmanship is not an end in itself, but a means to an end and thus ties directly into additional marksmanship training best leading to the production of a team of riflemen - squad and platoon live firing exercises. In the Board's view, the minimum acceptable standard of combat readiness rifle marksmanship proficiency for all individuals must be successful completion of this standard course. Modification of this course must not be authorized and individuals who are required to fire a lesser course, due to the lack of adequate time or facilities, must not be classified as qualified.

14. The Board recognizes, however, that the Reserve Components and small isolated posts in CONUS and some overseas theaters will not be able to fire the standard course and that the level of individual rifle marksmanship proficiency will be below the desired standard. For example, most units in USAREUR do not have adequate range facilities to enable them to fire the standard course. The limited training areas that are available will restrict construction of Trainfire I ranges or Combat Position ranges. Thus marksmanship training must, in most cases, be conducted only on a Known Distance range. In the Boards view, this will not pose a serious problem in Europe since units in this area conduct numerous field training exercises in connection with their continuing mission to maintain combat readiness. The individual soldier will maintain proficiency in the basic fundamentals of shooting through the use of available Known Distance ranges. The essential skills of combat marksmanship proficiency will then be maintained by the use of live firing exercises, and associated small unit tactics. The Board does not advocate, however, that these individuals be classified as qualified. To preserve the true meaning of the term qualified no exceptions should be made to the requirement to fire the standard course. Insofar as the small isolated posts in CONUS are concerned, units at these posts should travel to the nearest installation that has adequate facilities. The Board has designed a course, Course B, that will maintain some degree of marksmanship proficiency in the fundamentals of shooting but it is suggested that this course be considered as maintaining a "status-quo" of proficiency and that individuals who fire this course be required to complete the standard course at least once each three years. Exceptions to this basic concept must be rigidly controlled.

15. As discussed earlier, the Reserve Components cannot devote sufficient training time to marksmanship to insure that the level of marksmanship proficiency is equal to that of the active Army. The type program conducted must be designed to meet their pre-mobilization requirements, recognizing that additional training may be required upon mobilization.

16. Based on the above, an overall marksmanship program designed to insure maintenance of proficiency, must be divided into three distinct courses:

a. Course A: The Combat Readiness Marksmanship Proficiency Course. This is the only course that may be fired by the active Army for annual qualification.

b. Course B: The Marksmanship Fundamentals Proficiency Course. This course is needed to meet exigencies of the service and may not be fired more than three years in succession. This course will not be required when adequate range facilities are made available to all active Army units.

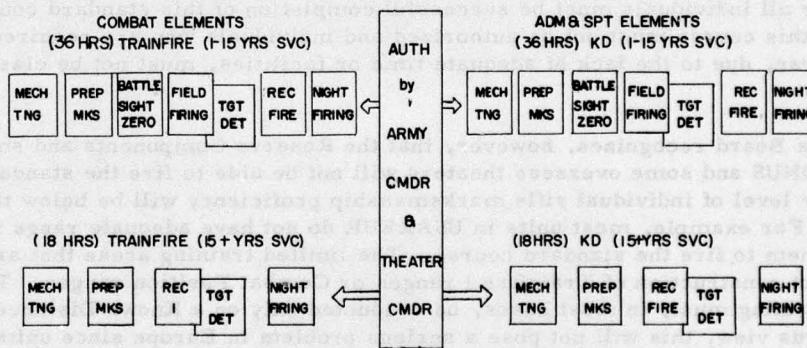
e. Course C: The Pre-Mobilization Readiness Proficiency Course. This course is designed to meet the special needs of the Reserve Components.

17. Courses of Fire:

a. The proposed courses of fire are outlined in Figure 8 and a detailed explanation of each period of instruction and the Tables to be fired are at Appendix VII. A comparison between the proposed program and the present program as to ammunition economy is included as Appendix VIII.

THE PROPOSED PROGRAM

COMBAT READINESS MARKSMANSHIP PROFICIENCY COURSE "A"



MARKSMANSHIP FUNDAMENTAL PROFICIENCY COURSE "B"

(27 HRS) KD RANGE



PRE-MOBILIZATION READINESS PROFICIENCY COURSE "C"



Figure 8.

b. The most significant feature of this program is that only one course, Course A, will be used for qualification. In determining the type of course that should be used, the Board examined the possibility of designing a combat readiness marksmanship proficiency course that could be fired on a Known Distance without requiring the use

of the Combat Positions range. However, a detailed analysis of the type of training that can be conducted on the Known Distance range (100-500 yard) revealed that this type range has serious limitations insofar as combat marksmanship proficiency is concerned. Specifically this type range cannot be used to teach:

- (1) Target detection.
- (2) Rapidly shifting point of aim from near to far distances and firing an aimed shot under time pressure.
- (3) Estimating range to combat type targets.
- (4) Selection of an accurate aiming point in elevation on a partially obscure target that has a low outline.

Therefore, the Board concluded that the Known Distance range could be used only to train and test individuals in the basic fundamentals of shooting and that this type range is inadequate insofar as combat marksmanship proficiency is concerned.

c. The remaining two courses may be fired on a Known Distance range. They have been provided to meet the needs of the active Army units that do not have adequate range facilities to conduct a complete program, and to meet the special needs of the Reserve Components. These two remaining courses will not meet the minimum requirements of combat rifle marksmanship proficiency, however, they do provide sufficient training to enable individuals to maintain proficiency in the basic fundamentals of shooting. Additional training in the special requirements of combat rifle marksmanship must be conducted to raise the individuals proficiency to the minimum acceptable level.

d. Another significant feature of this program is that the combat qualification course, Course A, is designed to insure maximum use of all existing range facilities, however, the Board considers that the authority to substitute the Known Distance course (modified to include Trainfire I principles and techniques) for the Trainfire I course must be retained at the highest level that is consistent with coordinating and planning requirements for the use and programmed construction of Trainfire I ranges. For this reason, the Board suggests that it is necessary for the authority to fire on a Known Distance range, regardless of the type course fired, Course A or B, to be granted by the level of command that is responsible for coordinating use and construction of Trainfire I ranges. In the Board's view, CONUS army commanders and theater overseas commanders should approve the use of Known Distance ranges by all units of their command. This will insure maximum use of all existing Trainfire ranges and give the priority for the use of these ranges to the combat elements. In some cases it may be necessary to require combat elements to travel to a nearby installation to fire on a Trainfire range until adequate ranges are constructed.

e. Course C is designed for use by the Reserve Components. It prescribes the use of the 25-meter range with a target detection range for annual marksmanship training, but recognizes that it will be necessary to use existing Known Distance facilities until adequate 25-meter ranges have been constructed. As previously discussed, the Board believes that adequate range facilities must be provided to the Reserve Components to enable completion of marksmanship training at home station. These ranges will enable individuals to maintain proficiency in the basic fundamentals of shooting. Only a minimum amount of training in the fundamentals of combat shooting will be needed upon mobilization. The Board also suggests that the small bore rifle be used as a supplement to this training to raise the level of proficiency by stimulating an interest in off-duty firing. However, the Board considers that the amount of big bore shooting that is prescribed annually is the minimum amount needed to insure proficiency in the basic fundamentals of shooting the weapon with which the individual will be armed upon mobilization. Reduction of the number of rounds fired with the big bore rifle will seriously detract from the effectiveness of the training.

f. As discussed earlier, the Board believes that the present familiarization course is not effective, therefore it has been eliminated from this program. The course that will now be used by individuals who previously fired this course will be the 18 hour Combat Readiness Proficiency Course. This course will provide the training needed to

achieve the minimum level of proficiency that is required to fire the weapon effectively. Specifically, the individual with over 15 years of service, medical personnel and individuals who fire the weapon with which 10% of the unit is armed, all require much more than pure weapons familiarity. These individuals must receive sufficient training to achieve a degree of proficiency that will enable them to fire the rifle effectively in combat. These individuals need to know not only how to operate and fire the rifle but how to engage a target under combat conditions. Again a period of instruction in mechanical training and preparatory marksmanship instruction followed by target detection and an abbreviated record course will permit adequate training in rifle marksmanship that will be consistent with the mission of the unit to which the individual is assigned and in consonance with the expected use of the rifle. The individual with more than 15 years of service should receive a qualification classification for successful completion of this course. This type individual has received extensive training. Permitting him the opportunity to receive brief refresher training in the basic fundamentals and then firing a reduced record course will test his skill in all of the essential skills of combat marksmanship.

g. Night firing has been added to all courses except Course C (for Reserve Component units). This previously was required only in Known Distance qualification. The Board recognized the importance of night training in teaching the soldier to effectively operate at night and certainly the ability and confidence to shoot his weapon at night should be included. In not providing for night firing in Course C, consideration was given to training time and facilities available, and the fact that this type training will be conducted by Reserve Component units upon mobilization. However, if facilities and ammunition are available and training time permits, Reserve Component units should be authorized and encouraged to conduct night firing.

18. Incentives.

a. Motivation of the individual shooter is a vital part of this program. Rifle marksmanship proficiency is currently a requirement for the award of the Expert Infantryman Badge. In addition, an individual soldier is awarded a shooting badge which attests to his ability with the rifle. However, these individual motivations may not be adequate to fully motivate the soldier to do his best. The current Trainfire course motivates the individual shooter to do his best while on the range, however, the Board believes that additional incentives are needed.

b. Several senior commanders have recommended that pay be awarded for varying degrees of rifle marksmanship proficiency. Others point out the need to include proficiency in rifle marksmanship as a requisite for proficiency pay for certain enlisted men. The complexity of this proposal is recognized by the Board and further study beyond the purview of the Board is necessary to determine feasibility, particularly as to inserting credit for levels of marksmanship qualification into pro-pay criteria.

c. The Marksmanship Qualification Badge, once considered a coveted honor has lost much of its prestige. This is in consonance with the general feeling that annual qualification has become an administrative requirement. Exacting individual qualification standards must be established so that the badge is a true indication of a proficiency achievement to be sought by all individuals of the Army. In addition to exacting individual standards, appropriate recognition must be provided commensurate with the degree of qualification achieved, course fired and consecutive annual proficiency maintained.

(1) The traditional levels of qualification; marksman, sharp-shooter, and expert should be retained.

(2) To be considered qualified in terms of combat rifle proficiency, an individual must demonstrate this proficiency by annual qualification on proposed Course A, outlined in Appendix VII. To satisfy the morale factor in units firing annual pre-mobilization courses some type of recognition must be established. Thus, the system of badge awards, while providing recognition of achievements regardless of course fired, must

consider that only Course A provides a true measure of combat rifle proficiency. The following badges and bars or devices affixed will achieve this:

(a) "Combat Rifle" - A bar for those individuals maintaining combat rifle marksmanship proficiency by annual qualification on proposed Course A.

(b) "25 Meter Rifle" or "200 Yard Rifle" - An appropriate bar for those individuals maintaining proficiency in fundamentals of shooting rather than combat rifle marksmanship proficiency by annual firing of an acceptable score on proposed Course C. This is intended for Reserve Component units only.

(c) "Smallbore" - A bar for those individuals maintaining proficiency in fundamentals of shooting by annual firing of an acceptable score on a .22 caliber range. This is intended only for Reserve Component units that do not have access to large bore facilities.

(d) No bar or device is contemplated for firing an acceptable score on proposed Course B. This course is designed to meet exigencies of the service for active Army units where Trainfire I or combat type ranges are not available. The intent is to preserve a "status quo" of the individual's previous qualification in combat rifle marksmanship by the firing of an acceptable confirming score.

(e) Recognition of five consecutive years of qualification as an expert should be rewarded by a distinctive badge or device such as a gold badge or bar. This would be retained permanently and authorized for wear in addition to the current badge or bar of qualification.

(f) Inasmuch as annual qualification has been determined as a minimum indication of combat rifle proficiency, with the exception of permanently retained badges such as (e) above, an individual should be authorized to wear only his current annual qualification badge to include the appropriate bars or devices thereto.

(g) Individuals who fail to fire within a year following a previous qualification or during their unit's range period whichever occurs later, should lose their marksmanship qualification.

SECTION VIII - Range Facilities

19. In determining the feasibility of implementing the proposed program, the Board examined the ranges, by type and location, available to the active Army in CONUS and overseas, and those within CONUS available to the Reserve Components (Annex I). By the end of FY 62, sufficient Trainfire ranges will be available to support marksmanship proficiency requirements of the combat elements of the active Army in the US; as well as other elements on or near those installations. Additionally, Trainfire facilities will be available at each of the training centers.

20. It was indicated earlier in this Annex that under certain circumstances service elements may be required to maintain combat proficiency on Known Distance type ranges. The range survey indicates adequate Known Distance ranges to support such a program. However, the range survey indicates that Trainfire ranges are not programmed for these small installations.

21. Regarding the Reserve Components, a study of the program of promotion of rifle practice, short title "The Mead Report," outlines ranges available to the Reserve Components. Significant to this Board is the fact that forty-one 25-meter ranges have been constructed. It is indicated, and rightly so, that these ranges are being constructed to facilitate increased rifle marksmanship training near the home station, thus reducing the need for this type training during the two weeks annual active duty training. No Trainfire ranges have been programmed for the Reserve Components. In many instances it is noted that Trainfire ranges are available on active Army installations which could be used to support the Reserve Components.

22. The availability of ranges overseas, is attached at Annex I. The number of Known Distance ranges currently constructed in the overseas areas was not available to the Board. It is apparent however, that adequate Known Distance ranges are available to sustain their training programs. A survey of overseas Trainfire range construction, indicates full implementation by mid-61. Some slippage in these target dates is being experienced due to difficulties in developing final approved contracts from local indigenous contracts and, in some areas, required revision of range safety zones.

23. In the European theater, US Army forces are billeted in widely separated cantonment areas and supported for training, by limited local training areas and four major training areas. One major training area is controlled by German forces and is used by US Army 50% of the training time. Construction of a Trainfire range at this training area will be subject to German concurrence. The cost of Trainfire range construction in local training areas with one exception is prohibitive. Thus Trainfire ranges will be confined to the major training areas. Considering the troop base organization in USAREUR, disposition of these forces, their requirement to be combat ready, and the range site problems, cited above, it is obvious that:

- a. Trainfire I training in Europe is behind the CONUS program.
- b. Rifle density exceeds the training capacity of current and projected Trainfire range facilities.

24. USAREUR is currently developing and implementing a policy for priority of training on these ranges. The details of this policy are not available. However, it can be assumed that the fundamental considerations will be:

- a. A marksmanship training objective directed toward maintenance in combat marksmanship effectiveness.
- b. Priority of training on available Trainfire ranges to the combat forces, with support forces utilizing available Known Distance ranges. This concept has been substantiated in correspondence from CINCUSAREUR, in which he has indicated a general plan to reduce the Trainfire construction program to four or five ranges. These ranges will be constructed in the major training areas, and utilized as field firing exercises rather than established annual qualification facilities. Annual qualification requirements will be retained on the Known Distance range facilities available in the local training areas. Insofar as the other overseas areas are concerned, i. e., USARPAC, USARCARIB, USARAL programmed Trainfire I range facilities will accommodate active Army forces without severe priority restrictions.

25. There are many problems facing overseas commanders in implementing Trainfire I. The presence of these problems, some of which have no immediate solution requires a closely coordinated training priority policy and does not permit full implementation of the requirements of a course of fire and associated training in either Trainfire or the combat positions portion of the Known Distance Course. It appears however that essential marksmanship training facilities required to sustain combat effectiveness will be available to the overseas commands.

SECTION IX - Use of the Small Bore Rifle

26. The Board considered use of the small bore rifle in maintaining individual marksmanship proficiency. In evaluating the feasibility of such a program the Board attempted to develop answers to the following questions:

- a. Can the small bore rifle effectively substitute for the service rifle in annual qualification?
- b. If not an effective substitute, can the small bore rifle be used to review or emphasize basic shooting fundamentals? If so, where is its place in the program?

27. The basic differences in firing characteristics such as recoil and effective range seriously detract from the small bore rifle as a substitute for the service rifle in annual qualification. Any valid test of the combat rifleman's proficiency should as closely approximate combat conditions as possible, including type targets, ranges, and firing characteristics of the weapon. Even if a small bore rifle with weight and configuration characteristics of the service rifle were developed, it is considered, at this time, that it would obtain marginal realism.

28. It is recognized that certain basic shooting fundamentals can be taught, reviewed, and emphasized using the small bore rifle. Sufficient information is not available however, upon which to determine the feasibility of its use or its place in preparation for annual qualification or proficiency training. Attention is invited to the discussion on small bore training outlined in Annex B. Comments contained therein are equally applicable to combat rifle marksmanship proficiency training.

SECTION X - Conclusions

29. The present marksmanship program is tailored to fit existing range facilities and training time available to different categories of units. The need to maintain a standard level of combat readiness and pre-mobilization marksmanship proficiency is not clearly defined and supported.

30. An efficient marksmanship program requires increased command emphasis to prevent annual qualification from deteriorating to an administrative (or POR) requirement.

31. Additional individual motivations should be included in the marksmanship program. Consideration should be given to specific changes in qualification badges to more clearly reflect combat readiness proficiency, premobilization proficiency (for Reserves), proficiency without qualification, and small bore proficiency.

32. A minimum level of proficiency should be established which gives full consideration to the essential skills a rifleman must attain and maintain to effectively fire his rifle and hit enemy personnel in combat. An annual qualification course culminating with record fire on a Trainfire I range most nearly achieves this objective.

33. Annual qualification of all personnel armed with the rifle should be required on a Trainfire I range. Due to limited facilities available or programmed, it is acceptable for administrative and support elements to utilize existing Known Distance facilities, provided the latter facilities are supported by a modified firing course involving Trainfire principles of instruction.

34. The current familiarization program is non-effective. True familiarity must involve a requirement to successfully complete the record firing portion of an abbreviated course.

35. The term qualification is synonymous with minimum combat marksmanship proficiency, only when qualification is conducted on the prescribed Trainfire I Course A or the Known Distance Course A outlined in Inclosure 1 and 2, Appendix VII.

36. Current qualification courses are not compatible with facilities and training time available to Reserve Components. Individuals of these units cannot be expected to achieve the minimum proficiency standard for combat readiness nor should they be considered as maintaining a minimum standard by reason of qualification on a course less exacting than that required for combat readiness proficiency.

37. It is not feasible for Reserve Components to maintain the same level of marksmanship proficiency as the active Army; however, additional combat marksmanship proficiency training may be required upon mobilization contingent upon the immediacy of the deployment mission. A level of proficiency which makes immediate deployment feasible under certain emergency conditions can be reached through home station training provided local ranges are available.

38. In the interest of economy, uniformity of training, uniform standards of proficiency, and simplicity of program operation, it is desirable that a standard combat readiness marksmanship program be adopted. This program should include standard annual qualification course requirements yet be sufficiently flexible to meet the needs of the Army as a whole. The proposed program at Appendix VII meets this criteria and should be adopted.

39. In planning new range construction, Trainfire I ranges should be constructed. At installations where combat elements are stationed Trainfire complexes should be constructed. For other units, Known Distance ranges should be retained, provided facilities are made available for combat positions firing as prescribed by the proposed course.

40. To insure maximum effective use of Trainfire I facilities with priority to combat elements, and to insure that all personnel fire an appropriate marksmanship proficiency course consistent with their unit's mission, it is necessary that any deviation to an alternate course of fire by a unit or installation be authorized by the commander exercising area responsibility for range programming and construction. This is considered to be overseas theater and CONUS army commanders.

41. The small bore rifle is not considered, at present, to be an effective substitute for the service rifle in determining or testing individual marksmanship proficiency. A thorough troop test is necessary prior to further consideration of the use of the small bore rifle in teaching, reviewing or emphasizing shooting fundamentals preparatory to service rifle qualification.

42. The small bore rifle can be used to promote and maintain interest in marksmanship and to provide shooting opportunities for units that do not have access to facilities or time for large bore firing. Toward increasing realism, consideration should be given to development and construction of outdoor and indoor ranges in miniature configuration of the Trainfire I range.

SECTION XI - Recommendations

43. The Board recommends that the proposed annual marksmanship program outlined in Section VII and Appendix VII be approved. Specifically in implementation of this program, it is recommended that:

- a. Command emphasis of the qualification program be stressed and that increased publicity be provided in military and civilian media.
- b. Authority be delegated no lower than Army Commanders to permit units to fire the Known Distance Qualification Course A and the Marksmanship Fundamentals Course, Course B, outlined in Section VII and Figure 8 thereto.
- c. Trainfire I ranges be programmed when planning new range construction.
- d. Trainfire I ranges be constructed at those installations where combat elements are stationed.
- e. When Trainfire I ranges are not reasonably available, that Known Distance range facilities be retained at installations where administrative and support units are stationed to permit these units to fire Known Distance Qualification Course A.

f. 25 meter ranges be constructed for Reserve Component units that are not within reasonable proximity to existing large bore facilities.

g. A system of qualification badges essentially as outlined in paragraph 15, Section VII, be approved. Further, that the feasibility of including marksmanship proficiency as a part of the Army's proficiency pay system be made a matter of further study.

h. Small bore firing be encouraged as a valid means of promoting and maintaining interest in marksmanship.

i. Consideration be given to the development, testing and construction of miniature Trainfire I ranges for small bore and large bore 25 meter firing, particularly for units that do not have access to large bore facilities.

j. Troop tests be conducted to establish a scoring system for Course C (25-meter Trainfire I) as outlined in Tab A to Inclosure 6, Appendix VII.

k. Implementing directives be published and/or existing directives revised essentially as follows:

(1) AR 370-5: To prescribe terminology and annual courses of the proposed program (Section VII and Appendix VII); categories and personnel to fire a particular course; and delegation of authority to overseas theater and CONUS Army Commanders to fire the alternate courses where facilities, travel time, or distance prevents units or installations from firing their prescribed annual courses.

(2) AR 600-70: To prescribe the system of marksmanship badges outlined in Section VII.

(3) TA 23-100: To prescribe ammunition allowances for the various courses of fire outlined in Appendix VII.

(4) FM 23-5: To outline the appropriate reference for annual qualification courses as well as basic qualification courses.

(5) FM 23-71: To outline the appropriate reference for annual Trainfire I qualification courses.

(6) Army Training Programs and Subject Schedules: To reflect the details of the annual program as to hours, periods of instruction, etc.

APPENDIX I TO ANNEX C
SUBJECT SCHEDULE FOR TRAINFIRE I ANNUAL REQUALIFICATION COURSE A
 (for pers not holding a previous TRAINFIRE I qual - 56 hr)

| P | H | Lessons | Text References | Area | Training Aids and Equipment |
|---|---|---|--|---|---|
| | | a. Mechanical training - 2 hr. | | | |
| 1 | 2 | Disassembly and assembly of the barrel and receiver group; functioning of the barrel and receiver group; care and cleaning. | Lesson plan, period 3, FM 23-71; FM 23-5. | Classroom with sound system. Tables and chairs to allow 10-man setup. | Refer to instructional aids, period 3. |
| | | b. Preparatory marksmanship training - 14 hr. | | | |
| 2 | 2 | Recoil demonstrations; sighting and aiming; steady hold factors; effect of errors; elevation and windage rule; calling the shot, follow through; firing data card, range procedures and safety precautions. | Lesson plan, periods 2 and 4, FM 23-71; FM 23-5. | 25-meter range | Refer to instructional aids, periods 2 and 4. |
| 3 | 4 | Practice in firing from the prone supported and unsupported position, and sitting and squatting unsupported position. | Lesson plan, period 5, section 1, FM 23-71; FM 23-5. | TRAINFIRE 25-meter range with 1 point per 2 students. | Refer to instructional aids, period 5, section 1. |
| 4 | 4 | Practice in firing from the kneeling and supported and unsupported, standing unsupported and foxhole position. | Lesson plan, period 6, section 1, FM 23-71; FM 23-5. | TRAINFIRE 25-meter range with 1 point per 2 students | Refer to instructional aids, period 6, section 1 |

| P | H | Lessons | Text References | Area | Training Aids and Equipment |
|---|---|---|---|--------------------------------------|---|
| 5 | 4 | 25-meter progress check from all 8 positions. | Lesson plan, period 7, FM 23-71. | TRAINFIRE 25-meter range | Refer to instructional aids, period 7. |
| 6 | 4 | c. Battlesight zeroing - 4 hr. Determination of 250-meter battlesight zero. | Lesson plan, period 8, FM 23-71. | TRAINFIRE zeroing range (75 meters). | Refer to instructional aids, period 8. |
| 7 | 4 | d. Field firing - 14 hr: target detection - 10 hr; 25-meter firing - 4 hr. Firing on field targets at various ranges and from various firing positions | Lesson plan, period 9, FM 23-71. | Field firing range | Refer to instructional aids, period 9, section I. |
| 8 | 2 | Practice firing to correct weaknesses revealed in 25-meter progress check. | DO | TRAINFIRE 25-meter range. | Refer to instructional aids, period 9, section II. |
| 8 | 2 | Target detection - introduction to target detection, estimating range, detecting and marking targets. | Lesson plan, period 5, section II, FM 23-71; FM 21-75; FM 23-5. | Two target detection ranges. | Refer to instructional aids, period 5, section II. |
| 8 | 2 | Field firing from various positions at surprise targets. | Lesson plan, period 11, FM 23-71. | Field firing range. | Refer to instructional aids, period 11, section I. |
| 8 | 2 | Target detection - practice in detecting single moving targets. | Lesson plan, period 9, FM 23-71; FM 21-75. | Target detection. | Refer to instructional aids, period 9, section III. |

| P | H | Lessons | Text References | Area | Training Aids and Equipment |
|----|---|--|--|---------------------------------------|--|
| 9 | 2 | Practical work in moving with a loaded weapon, assuming prescribed positions rapidly, and engaging surprise targets. | Lesson plan, period 12, FM 23-71. | Field firing range. | Refer to instructional aids, period 12, section I. |
| 2 | | 25-meter firing to improve basic shooting ability. | DO | TRAINFIRE 25-meter range. | Refer to instructional aids, period 12, section II. |
| 10 | 2 | Practical work in moving with a loaded weapon, assuming optional positions rapidly and engaging surprise targets. | Lesson plan, period 13, FM 23-71. | Field firing range | Refer to instructional aids, period 13, section I. |
| 2 | | Practice in detecting, marking, aiming at, and engaging multiple moving targets. | Lesson plan, period 10, FM 23-71. | Two target - detection ranges. | Refer to instructional aids, period 10, section II. |
| 11 | 2 | Field firing at medium and distant surprise targets from a defensive position | Lesson plan, period 14, FM 23-71. | Field Firing range. | Refer to instructional aids, period 14, section I. |
| 2 | | Location of hostile targets by sound | Lesson plan, period 11, FM 23-71; FM 23-5. | Two target-detection ranges | Refer to instructional aids, period 11, section II. |
| 12 | 2 | Practice in engaging multiple surprise targets while advancing. | Lesson plan, period 16, FM 23-71. | Field firing range | Refer to instructional aids, period 16, section I. |
| 1 | | Review of stationary and moving targets. | DO | Target-detection range. | Refer to instructional aids, period 16, section II, part I. |
| 1 | | Review of locating targets by sound. | Lesson plan period 16, FM 23-71. | Target-detection range. | Refer to instructional aids, period 16, section II, part II. |
| 13 | 4 | e. Record fire, 8 hr. Record firing I and target detection test I. | Lesson plan, period 17, FM 23-71. | Record range; target detection range. | Refer to instructional aids, period 17, sections I and II. |

SUBJECT SCHEDULE FOR TRAINFIRE I ANNUAL REQUALIFICATION COURSE B
(for pers holding a previous TRAINFIRE I qual - 38 hr)

| P | H | Lessons | Text References | Area | Training Aids and Equipment |
|---|---|---|---|--|---|
| 1 | 2 | a. Mechanical training - 2 hr. Disassembly and assembly of barrel and receiver group; functioning of barrel and receiver group; care and cleaning. | Lesson plan, period 3, FM 23-71; FM 23-5. | Classroom with sound system. Tables and chairs to allow 10-man setup. | Refer to instructional aids, period 3. |
| | | b. Preparatory marksmanship training - 12 hrs. | | | |
| 2 | 1 | Sighting and aiming, steady hold factors in the prone position, range procedures and safety precautions. | Lesson plan periods 2 and 4, FM 23-71; FM 23-5. | 25-meter range. | Refer to instructional aids, periods 2 and 4. |
| 3 | 3 | Practice firing from the prone supported, sitting unsupported, and squatting unsupported positions. | Lesson plan, period 5, FM 23-71; FM 23-5. | TRAINFIRE 25-meter range with 1 point per 2 students. | Refer to instructional aids, period 5. |
| 4 | 4 | Practice firing from the kneeling supported and unsupported, standing unsupported, and foxhole. | Lesson plan, period 6, FM 23-71; FM 23-5. | TRAINFIRE 25-meter range with 1 point per 2 students. | Refer to instructional aids, period 6. |
| 5 | 4 | 25-meter progress check from all eight positions. | Lesson plan, period 7, FM 23-71. | TRAINFIRE 25-meter range. | Refer to instructional aids, period 7. |
| 6 | 4 | c. Battle sight zeroing 4 hr. Determination of 250-meter battlesight zero. | Lesson plan, period 8, FM 23-71. | TRAINFIRE zeroing range (75 meters). | Refer to instructional aids, period 8. |
| | | d. Field firing - 6 hr; target detection - 6 hr. | | | |

| P | H | Lessons | Text References | Area | Training Aids and Equipment |
|---|---|--|---|------------------------------|---|
| 7 | 2 | Practical work in moving with a loaded weapon assuming prescribed firing positions rapidly and engaging surprise targets. | Lesson plan, period 12, FM 23-71. | Field firing range. | Refer to instructional aids, period 12, section I. |
| | 2 | Target detection: Review of target detection, practical work in detection, marking, and estimating range to battlefield targets. | Lesson plan, periods 5 and 6, FM 23-71. | Two target detection ranges. | Refer to instructional aids, Periods 5 and 6, section II. |
| 8 | 2 | Practical work in moving with a loaded weapon, assuming an optional firing position, and engaging surprise targets. | Lesson plan, period 13, FM 23-71. | Field firing range. | Refer to instructional aids, period 13, section I. |

| P | H | Lessons | Text References | Area | Training Aids & Equipment |
|----|----|---|--|--|---|
| | 2 | Target detection; practice in detecting, marking, aiming at, and engaging single and multiple moving targets. | Lesson plan, periods 9 and 10 FM 23-71; FM 21-75 | Two target detection ranges. | Refer to instructional aids, period 9, section III and period 10, section II. |
| 9 | 2 | Field firing at medium and distant targets from a defensive position. | Lesson plan, period 14, FM 23-71. | Field firing range. | Refer to instructional aids, period 14, section I. |
| | 2 | Target detections: Locating hostile positions by sound. | Lesson plan, period 11, FM 23-71. | Two target detection ranges. | Refer to instructional aids, period 11, section II. |
| | e. | Record firing - 8 hr. | | | |
| 10 | 4 | Record firing I and target detection test 1. | Lesson plan, period 17, FM 23-71 | Record range; two target detection ranges. | Refer to instructional aids, period 17, sections I and II. |
| 11 | 4 | Record firing II and target detection tests 2 and 3. | Lesson plan, period 18, FM 23-71. | D0 | Refer to instructional aids, period 18, sections I and II. |

* Reduction in presentation time of material referred to in lesson plans of 23-71 are made possible by reducing firing exercises and/or conducting instruction as a review.

** Where there is a conflict between 23-71 and 23-5, the former takes precedence.

APPENDIX II TO ANNEX C
CURRENT
ACTIVE ARMY KNOWN DISTANCE COMBAT QUALIFICATION COURSE

(This table is fired twice - once for practice and once for record.) (100 rounds).

| <u>RANGE</u> | <u>TIME LIMIT</u> | <u>ROUNDS</u> | <u>POSITION</u> |
|--------------|-------------------|---------------|-----------------------|
| 100 | 8 min | 8 | Standing |
| 200 | 8 min | 8 | Kneeling or Squatting |
| 200 | 50 sec | 9 | Sitting (rapid) |
| 300 | 8 min | 8 | Prone |
| 300 | 50 sec | 9 | Prone (rapid) |
| 500 | 8 min | 8 | Prone |

| | |
|----------------|-------|
| Possible Score | - 250 |
| Expert | - 212 |
| Sharpshooter | - 187 |
| Marksman | - 160 |

Preparatory marksmanship training and instruction firing must be completed before firing this course.

When a 500 yard range is not available, the 8-rounds prone at 500 yards will be replaced by 8-rounds sitting at 300-yards.

The firer must confirm his qualification by satisfying a minimum requirement in combat firing and night firing.

**APPENDIX III TO ANNEX C
CURRENT ALTERNATE QUALIFICATION COURSE (Proficiency)**

(This table is fired twice - once for practice and once for proficiency.) (109 rounds)

| <u>RANGE</u> | <u>TIME LIMIT</u> | <u>ROUNDS</u> | <u>POSITION</u> |
|--------------------------|-------------------|---------------|-----------------------|
| 1000" or 200 yards | None | 9* | Prone (for zero) |
| 1000" or 200 yards | 8 min | 8 | Prone |
| 1000" or 200 yards | 8 min | 8 | Sitting |
| 1000" or 200 yards | 8 min | 8 | Kneeling or Squatting |
| 1000" or 200 yards | 8 min | 8 | Standing |
| 1000" or 200 yards | 50 sec | 9 | Sitting (rapid) |

*Fired for instruction only.

| | |
|----------------|-------|
| Possible Score | - 250 |
| Superior | - 202 |
| Excellent | - 175 |
| Satisfactory | - 150 |

Preparatory marksmanship training must be completed before firing this course.

The firer does not confirm his degree of proficiency by combat firing and night firing exercises.

APPENDIX IV TO ANNEX C

CURRENT
FAMILIARIZATION COURSE

(30 Rounds)

| <u>RANGE</u> | <u>TIME LIMIT</u> | <u>ROUNDS</u> | <u>POSITION</u> |
|--------------------------|-------------------|---------------|-----------------------|
| 1000" or 200 yards | None | 9 | Prone (for zero) |
| 1000" or 200 yards | None | 4 | Sitting |
| 1000" or 200 yards | None | 4 | Kneeling or Squatting |
| 1000" or 200 yards | None | 4 | Standing |
| 1000" or 200 yards | 50 sec | 9 | Sitting (rapid) |

| | |
|----------------|-------|
| Possible Score | - 105 |
| Excellent | - 85 |
| Good | - 70 |
| Fair | - 60 |

Preparatory marksmanship training must be completed before firing this course.

APPENDIX V TO ANNEX C
USAR AND ARNG TRAINFIRE I FAMILIARIZATION COURSE
 (16 Hours)

| P | H | Lessons | Text References | Area | Training Aids and Equipment |
|---|---|---|--|---|--|
| | | a. Mechanical Training - 2 - hr*. | | | |
| 1 | 2 | Disassembly and assembly of barrel and receiver group. Functioning of the barrel and receiver group. Care and cleaning. | Lesson plan, period 3, FM 23-71; FM 23-5**. | Classroom with sound system. Chairs and tables to allow 10-man setup. | Refer to instructional aids, period 3. |
| | | b. Preparatory marksmanship training - 2 hr*. | | | |
| 2 | 1 | Review of sighting and aiming and steady hold factors, range procedures and safety precautions. | Lesson plan, period 2, FM 23-71. | 25-meter range with 1 point per 2 students. | Refer to instructional aids, period 2, section I. |
| | | c. Preparatory marksmanship training - 6 hr ***. | | | |
| 3 | 2 | Firing from the sitting and squatting, unsupported positions. | Lesson plan period 5, FM 23-71; FM 23-5 | 25-meter range with 1 point per student. | Refer to instructional aids, period 5, section I. |
| | | Firing from the prone supported position. | Lesson plan, periods 4 and 5, FM 23-71; FM 23-5. | DO | Refer to instructional aids, periods 4 and 5, section I. |

| P | H | Lessons | Text References | Area | Training Aids and Equipment |
|---|---|--|--|--|--|
| 2 | | Target detection, detecting, marking and estimating ranges to battlefield targets. | Lesson plan, periods 5 and 6 FM 23-71. | Two target-detection ranges. | Refer to instructional aids, periods 5 and 6, section II. |
| 4 | 2 | Firing from the kneeling supported and unsupported positions. | Lesson plan, period 6, FM 23-71. | TRAINFIRE 25-meter range with 1 point per 2 students | Refer to instructional aids, period 6, section I. |
| | 2 | Target detection, practice in detecting, marking, aiming at and engaging single and multiple moving targets. | Lesson plan, periods 9 and 10, FM 23-71. | Two target-detection ranges. | Refer to instructional aids, periods 9 and 10, section II. |
| 5 | 2 | Firing from the standing unsupported position and the standing foxhole. | Lesson plan, period 6, FM 23-71. | TRAINFIRE 25-meter range with 1 point per 2 students | Refer to instructional aids, period 6, section I. |
| | 2 | Target detection, locating hostile firing positions by sound. | Lesson plan, period 11, FM 23-71; FM 23-5. | Two target-detection ranges. | Refer to instructional aids, period 11, section II. |

* Reduction in presentation time of material referred to in lesson plans of FM 23-71 is made possible by reducing firing exercises and/or presenting instruction as a review.

** Where differences occur between 23-71 and 23-5, the former takes precedence.

*** Reduction in time is made possible by reducing the number of trials.

APPENDIX VI TO ANNEX C

SUMMARY OF QUESTIONNAIRES PERTAINING TO QUALIFICATION AND FAMILIARIZATION FIRING

1. Objective. To insure that every soldier maintains a continuing degree of proficiency in combat rifle firing consistent with the mission of the unit to which the soldier is assigned.

2. Questions asked the field pertaining to this objective were as follows:

a. Do you believe that the present criteria governing annual rifle qualification and rifle familiarization is adequate to meet the (above) objective or your modifications thereto?

b. Is it essential for all individuals armed with the rifle to maintain the same degree of combat rifle proficiency? In answering this question consider such categories as:

- (1) Combat Infantry Rifle Elements.
- (2) Combat Support Elements.
- (3) Administrative Elements.
- (4) Others.

c. Assume that Trainfire I, FM 23-71, in Basic Combat Training, meets the objective of developing in every soldier the will, knowledge, and skills required to fire a rifle and hit enemy personnel in combat or your modification to this objective. Is it acceptable to design an annual qualification and familiarization program essentially as outlined below:

| <u>FOLLOWING UNITS FIRE A KD TYPE CRS</u> | <u>FOLLOWING UNITS FIRE A TF I TYPE CRS</u> |
|---|---|
| Administrative & Support Units | Infantry Combat Rifle Elements |
| Combat Support Units (Engr-Arty) | Armor Combat Rifle Elements |

3. Question 2a.

a. Twelve National Guard and two USAR commanders consider the present criteria adequate while four National Guard and one USAR commanders consider that the present criteria is not adequate. Nineteen active Army commanders consider the present criteria adequate while eleven consider that it is not adequate.

b. It is difficult to attach a great deal of significance purely to the above statistics due to many individual qualifications attached to replies.

Generally:

(1) Most commanders of active Army units believe that the present criteria governing annual qualification and familiarization firing are adequate to insure that every soldier maintains a continuing degree of proficiency in combat firing consistent with the mission of the unit to which the soldier is assigned. These commanders point out that combat rifle elements participate in squad and platoon live firing exercises and attain a higher degree of combat rifle marksmanship proficiency than other units.

(2) Most commanders of Reserve Components believe that existing criteria is adequate to insure that individuals maintain rifle marksmanship proficiency insofar as proficiency in the basic fundamentals of shooting are concerned. Upon mobilization, additional marksmanship training will be required to insure that individuals again become proficient in combat firing techniques. They point out that such factors as limited training time available and range facilities locally available permit them to conduct a minimum of rifle marksmanship training and that during armory and local training this must be limited to firing on a 25 meter range or a known distance range in some instances. A few commanders would like to fire their units on a Trainfire range during annual active duty for training.

(3) A survey of the two career courses at the Infantry School reveals that although the present criteria is considered adequate, 58% of these officer students believe that units in the field do not implement the currently prescribed courses for annual qualification and familiarization firing effectively. The following are typical comments: "In too many cases this is treated as a burden to be gotten rid of as quickly as possible." "I have spent six years with troops, both in Seventh Army and STRAC and paper qualification is not uncommon." "It is too often treated with the same respect as the flu shot - It is treated as a requirement, not as an opportunity to maintain proficiency in the most necessary of all fields." "I have served in units where some members have not fired their basic weapon for years." 66% felt that the present program did not maintain a satisfactory level of marksmanship proficiency. The reasons given were ineffective implementation of the current program and that the frequency of firing (once annually) was not satisfactory. Most of these officers felt that firing should be conducted twice annually.

c. Subconclusions.

(1) Reserve Component commanders replies were strongly influenced by lack of facilities for annual qualification firing.

(2) That present criteria governing annual rifle qualification and familiarization is adequate.

(3) Increased emphasis must be placed on effective implementation of the program and maintaining a satisfactory level of marksmanship.

4. Question 2b.

a. 14 National Guard and 4 USAR commanders feel that it is not necessary for all individuals to maintain the same level of proficiency while 5 National guard and one USAR commanders feel that all individuals should be required to maintain the same proficiency. Active Army commanders' replies were about equally divided. 16 said maintain equal proficiency - 14 said this was not necessary.

b. This is probably the most controversial question in this particular phase of the overall marksmanship program. Generally:

(1) These commanders who state that all individuals should maintain the same degree of proficiency, believe (22 of 54 answers to this question) that in future battles, units that usually are expected to have little or no combat will be engaged by guerrillas, armor elements or air mobile units. More support is given to this thesis by commanders who cite combat examples where cooks, clerks, mechanics, etc., suddenly find themselves assigned to an infantry rifle platoon. These commanders feel that rear area units must be able to defend themselves or the entire unit may be lost due to a relatively minor enemy force and that individuals who are assigned to rear area units may be used, on short notice, in front line units.

(2) Those who believe that it is not essential (32 of 54 answers) for all individuals to maintain the same degree of proficiency recognize that this concept is a calculated risk. Also, they point out that limited training time is a major factor which mitigates against an extensive annual marksmanship training program. They believe that all soldiers must be put through a rigorous marksmanship program during BCT and that a minimum amount of marksmanship training is needed for administrative and most combat support units to maintain proficiency. This school of thought believes that if the necessary training is devoted to marksmanship training, it will seriously detract from the operational effectiveness of the unit. Thus, administrative and combat support elements need to maintain only that amount of proficiency to fire a rifle in an emergency.

c. Subconclusions:

(1) Reserve Component commanders' replies were strongly influenced by a lack of facilities for annual qualification firing.

(2) All individuals armed with the rifle need not maintain the same level of proficiency.

5. Question 2c.

a. The questionnaire generally elicited no comments from USAR commanders; however, National Guard commanders, almost without exception replied in the affirmative. Replies of active Army commanders were two to one in favor of feasibility. Generally:

b. All commanders were in favor of one course (Trainfire I) for all; however, in the absence of sufficient facilities, priority for use of Trainfire ranges should be to rifle elements, with administrative and support units utilizing KD ranges.

c. Subconclusions:

(1) Reserve Component commanders' replies were strongly influenced by lack of facilities for annual qualification firing.

(2) It is acceptable for administrative and combat support units to fire a KD course and Infantry and Armor combat rifle elements to fire Trainfire for annual qualification.

6. Overall Conclusions:

a. That present criteria governing annual rifle qualification and familiarization firing is adequate; however, increased emphasis must be placed upon effective implementation and maintaining a satisfactory level of marksmanship proficiency.

b. It is not necessary that all individuals armed with the rifle maintain the same proficiency. Again it is pointed out that this is the most controversial area in this phase of marksmanship. The majority of the commanders feel that it is not necessary for all individuals to maintain the same proficiency. However, their detailed comments indicate that all things being equal, such as more facilities, it would be desirable for all to maintain the same proficiency, but realistically this cannot be obtained due to time required for mission and specialized training requirements for combat support and administrative units.

c. A Trainfire type course is the desired course for annual qualification for all personnel armed with the rifle; however, if sufficient Trainfire facilities are not available, it is feasible for rifle elements to use Trainfire facilities and administrative and support units to use KD facilities.

APPENDIX VII TO ANNEX C

COURSE OF FIRE UNDER PROPOSED PROGRAM

1. Combat Readiness Marksmanship Proficiency - Trainfire Course A.
 - a. See Inclosure 1.
 - b. Summary:
 - (1) Number rounds fired - 316.
 - (2) Number rounds record fire - 96.
 - (3) Record Firing Table - Same as Record I and II Tables in proposed Basic Rifle Marksmanship Course, Annex B.
 - (4) Scoring -
 - (a) Possible - 96
 - (b) Expert) Same as proposed Basic Rifle Marksmanship Qualification Course and to be determined after troop test due to change of Record II to multiple targets.
 - (c) Sharpshooter)
 - (d) Marksman)
2. Combat Readiness Marksmanship Proficiency - Modified KD Course A.
 - a. See Inclosure 2.
 - b. Summary:
 - (1) Number rounds fired - 299.
 - (2) Number rounds record fire - 90
 - (3) Record Firing Table - Same as Table V and VI in proposed Basic Rifle Marksmanship Course (Alternate) Annex B.
 - (4) Scoring:
 - (a) Possible - 90
 - (b) Expert - 60
 - (c) Sharpshooter - 50
 - (d) Marksman - 40
3. Combat Readiness Marksmanship Proficiency - Trainfire Course A (Reduced).
 - a. See Inclosure 3.
 - b. Summary:
 - (1) Number rounds fired - 196.
 - (2) Number rounds record fire - 56.
 - (3) Record Firing Table - Same as Record I in proposed Basic Rifle Marksmanship Course, Annex B.
 - (4) Scoring:
 - (a) Possible -) Same as Record I in proposed Basic Rifle Marksmanship Course and to be determined after troop test.
 - (b) Expert -)
 - (c) Sharpshooter)
 - (d) Marksman -)
4. Combat Readiness Marksmanship Proficiency - Modified KD Course A (Reduced).
 - a. See Inclosure 4.
 - b. Summary:
 - (1) Number rounds fired - 174.
 - (2) Number rounds record fire - 50.
 - (3) Record Firing Table - Same as Table V, proposed Basic Rifle Marksmanship Course (Alternate), Annex B.

- (4) Scoring:
 - (a) Possible - 50.
 - (b) Expert - 33.
 - (c) Sharpshooter - 27.
 - (d) Marksman - 22.

- 5. Marksmanship Fundamentals Proficiency - Course B.
 - a. See Inclosure 5.
 - b. Summary:
 - (1) Number rounds fired - 219.
 - (2) Number rounds record fire - 50.
 - (3) Record Firing Table - Same as Table V, proposed Basic Rifle Marksmanship Course (Alternate), Annex B.
 - (4) Scoring:
 - (a) Possible - 50.
 - (b) Expert - 33.
 - (c) Sharpshooter - 27.
 - (d) Marksman - 22.

- 6. Pre-Mobilization Readiness Proficiency - Trainfire Course C.
 - a. See Inclosure 6.
 - b. Summary:
 - (1) Number rounds fired - 105.
 - (2) Number rounds record fire - 42.
 - (3) Record Firing Table - See Tab A Inclosure 6 hereto.
 - (4) Scoring to be determined after troop test.

- 7. Pre-Mobilization Proficiency - Modified KD Course C.
 - a. See Inclosure 7.
 - b. Summary:
 - (1) Number rounds fired - 109.
 - (2) Number rounds record fire - 50.
 - (3) Record Firing Table - See Inclosure 7 hereto.
 - (4) Scoring:
 - (a) Possible - 50.
 - (b) Expert - 33.
 - (c) Sharpshooter - 27.
 - (d) Marksman - 22.

INCLOSURE 1-APPENDIX VII-ANNEX C

Combat Readiness Marksmanship Proficiency-Trainfire I Course A (36 hours)

| P1 | H2 | Lesson | Text References | Area | Training Aids and Equipment |
|----|----|---|----------------------|----------------------------|-----------------------------|
| | | a. <u>Orientation (1 Hour)</u> | | | |
| 1 | 1 | Orientation: Role of the rifleman; Basic concept of Trainfire; course to be fired to include preparatory instruction, field firing, target detection and record firing | FM 23-5, 23-8, 23-71 | 25 Meter Range | |
| | | b. <u>Mechanical Training (1 Hour)</u> | | | |
| 2 | 1 | Mechanical Training: Integrated conference, demonstration and practical exercise in disassembly; assembly; nomenclature; stoppages and immediate action; lubricating, care and cleaning of rifle. | FM 23-5, 23-8 | Classroom | |
| | | c. <u>Preparatory Marksmanship Training (14 Hours), Target Detection (2 Hours)</u> | | | |
| 3 | 4 | Fundamentals of marksman-ship: Integrated conference, demonstration and practical exercise in range procedures, safety precautions; effect of errors, windage, and use of firing data card, prone supported, prone, and sitting positions. 25 Meter Firing. | FM 23-5, 23-8, 23-71 | 25 Meter Range TD Range | 27 rds Per Soldier |
| 4 | 4 | Fundamentals of Marksman-ship: Integrated conference, demonstration, and practical exercise squatting, kneeling, standing positions and the kneeling supported position. | FM 23-5, 23-8, 23-71 | 25 Meter Range TD Range | 36 rds Per soldier |

| P1 | P2 | Lesson | Text References | Area | Training Aids & Equipment |
|----|----|--|----------------------|-----------------------------|---------------------------|
| 5 | 6 | <p>Fundamentals of Marksman-ship and target detection: Integrated conference, demonstration and practical exercise, battle sight zeroing and 1000" progress check: Integrated conference, demonstration and practical exercise in range procedures, safety, and fundamentals of shooting; explanation of battle sight zeroing and conduct firing to establish 250 meter battle sight zero, calibrate the battle sight; conduct progress check of prone supported, prone, sitting, squatting, kneeling and rapid fire exercises, foxhole positions.</p> | FM 23-5, 23-8, 23-71 | 25 Meter Range | 69 rds Per Soldier |
| | 2 | <p>Target detection: Integrated conference, demonstration and practical exercise of detection, marking and estimating range to single stationary targets.</p> | FM 23-71 | TD Range | |
| 6 | 4 | <p>d. Field Firing (4 Hours), Target Detection (4 Hours) Field Firing: Integrated conference, demonstration, and practical exercise to include range procedures, safety, hold-off, engagement of surprise, lateral and multiple targets.</p> | FM 23-5, 23-8, 23-71 | Field Firing Range TD Range | 48 rds Per Soldier |

| PI | H2 | Lesson | Text References | Area | Training Aids & Equipment |
|----|----|--|----------------------|----------------------------------|---|
| | 4 | Target Detection: Integrated conference, demonstration and practical exercise in detecting, marking and estimating range to single and multiple moving targets and combination of sound localization and multiple moving targets. | | | |
| | | e. <u>Record Firing (8) Hours</u> | | | |
| 7 | 4 | Record Firing I, Integrated Conference and demonstration: Range procedures and method of instruction on record range. Practical Exercise and examination in firing on record range. Conference and Practical exercise on target detection test #1. | FM 23-5, 23-8, 23-71 | TD Range TF Record Range | 56 rds per soldier Record I Table Trainfire I Annex B. |
| 8 | 4 | Record Firing II, Practical Exercise and examination in firing on record range, multiple targets, Conference and practical exercise on target detection Tests #2 and #3. Night Vision and Firing. Integrated conference, demonstration, and practical exercise in night vision and principles of night firing. | FM 23-5, 23-8, 23-71 | TD Range TF Record Range | 48 rds per soldier Record II Table Trainfire I Annex B. |
| 9 | 2 | f. <u>Night Firing (2 Hours)</u> Integrated conference, demonstration and practical exercise to include range procedure, safety, night vision, and principles of night firing; conduct instruction and record (night firing) | FM 23-5, 21-75, 23-8 | Concurrent with Periods 7 & 8 | 32 rds per soldier Night Firing Range |

INCLOSURE 2 - APPENDIX VII - ANNEX C

Combat Readiness Marksmanship Proficiency - Modified KD Course A (36 Hours)

| PI | H2 | Lesson | Text References | Area | Training Aids and Equipment |
|----|----|--|-----------------------------------|----------------------------------|-----------------------------|
| 1 | 1 | <p>a. <u>Orientation (1 Hour)</u></p> <p>Orientation: Role of the rifleman; basic concepts of Trainfire as applicable to the alternate course; 1000" firing; target detection; KD field target firing; and combat position firing.</p> | <p>FM 23-5, FM 23-8, FM 23-71</p> | Classroom | |
| 2 | 1 | <p>b. <u>Mechanical Training (1 Hour)</u></p> <p>Mechanical Training: Integrated conference, demonstration and practical exercise in disassembly; assembly; nomenclature; stoppages and immediate action; lubricating, care and cleaning of the rifle.</p> | <p>FM 23-5, 23-8, 23-71</p> | Classroom | |
| 3 | 4 | <p>c. <u>Preparatory Marksmanship Training (3 Hours)</u></p> <p>Introduction to fundamentals: Integrated conference, demonstration, and practical exercise in range procedures, safety precautions, method of instruction, integrated act of shooting, effect of errors, elevation and windage, firing data card, prone supported, prone, sitting, squatting, kneeling and standing positions and rapid fire exercises to prone and sitting positions.</p> | | <p>100 Point 1000" Range</p> | 45 rds Per Soldier |
| | | <p>1 P--Period 2 H--Hour</p> | | | |

| P1 | H2 | Lesson | Text References | Area | Training Aids and Equipment |
|-------------|----|--|----------------------|--------------------------|--|
| 4 | 4 | Battle sight zeroing and 1000" progress check: Integrated conference, demonstration, and practical exercise in range procedures, safety, and fundamentals of shooting; explanation of battle sight zeroing, conduct firing to establish 250 meter battle sight zero, calibrate the battle sight; conduct progress check of prone supported, prone, sitting, squatting kneeling and rapid fire exercises. | FM 23-5, 23-8, 23-71 | 100 Point 1000" Range | 42 rds Per Soldier |
| 5 | 4 | d. <u>KD Field Firing (8 Hours)</u> , Target Detection (2 Hours), Combat Position Instruction (2 Hours) KD Instruction Practice: Integrated conference, demonstration and practical exercise in range procedure, safety, hold-off, target operation, scoring and practical work in engaging single and multiple targets and moving with a loaded weapon. | FM 23-5, 23-8, 23-71 | KD Range | 50 rds Per Soldier (Table V, Annex B) |
| | 4 | KD Record Combat Target Firing: Integrated conference, demonstration and practical work in range procedure, safety, hold-off, and scoring; record firing. | FM 23-5, 23-8, 23-71 | KD Range | 50 rds Per Soldier (Table V, Annex B) |
| 1 P--Period | | | | | |
| 2 H--Hour | | | | | |

| P1 | H2 | Lesson | Text References | Area | Training Aids and Equipment |
|-------------|----|---|-----------------|--|--|
| | 2 | Target Detection: Integrated FM 23-71 conference, demonstration and practical work in detection and marking single stationary targets; range estimation; single moving targets. | FM 23-71 | Target Detection Range | |
| | 2 | Combat position instruction: FM 23-5 Integrated conference demonstration and practical exercise in orientation for combat position firing; demonstration of positions used; practical exercise in assuming firing positions; hold off, as applicable to combat position firing. | FM 23-5 | Mock up of Combat Position Range in vicinity of KD Range | |
| | 4 | Pit Details | | | |
| 6 | 2 | Instruction and record combat, position firing: Integrated conference, demonstration and practical exercise in range procedure, safety, fundamentals of positions and scoring; conduct instruction and record firing. | FM 23-5 | Combat Position Range | 80 rds Per Soldier (Table VI, Annex B) |
| | 2 | Detection of multiple moving targets: Integrated conference, demonstration and practical exercise in detection | FM 23-71 | Target Detection Range | |
| 1 P--Period | | | | | |
| 2 H--Hour | | | | | |

| PI | HZ | Lesson | Text References | Area | Training Aids and Equipment |
|----|----|--|----------------------|------------------------|-----------------------------|
| | | and marking multiple moving targets; practical exercise. | | | |
| | 2 | Sound localization and multiple moving targets: Integrated conference, demonstration and practical exercise in location of targets by sound of firing and combination of sound and localization and multiple moving targets. | FM 23-71 | Target Detection Range | |
| | 2 | Pit Detail | | | |
| 7 | 2 | f. <u>Night Firing (2 Hours)</u> Night instruction and record firing: Integrated conference, demonstration and practical exercise in range procedure, safety, night vision, night firing techniques; conduct instruction and record night firing. | FM 21-75, 23-5, 23-8 | Night Firing Range | 32 rds Per Soldier |

1 P--Period
2 H--Hour

INCLOSURE 3 - APPENDIX VII - ANNEX C

Combat Readiness Marksmanship Proficiency - Modified KD Course (Reduced)(18 Hours)

| P1 | H2 | Lesson | Text References | Area | Training Aids and Equipment |
|----|----|---|----------------------|-------------------------------|---|
| | | <u>a. Preparatory Marksmanship Training (4 Hours),</u> <u>Target detection (4 Hours)</u> | | | |
| 1 | 4 | Fundamentals of marksmanship: Integrated conference, demonstration, and practical exercise to include aiming and steady hold; range procedures; safety precautions; positions; 25 meter progress check; battle sight zeroing. | FM 23-5, 23-8 | 25 Meter Range | 42 rds per Soldier |
| 2 | 4 | Target Detection: Integrated conference, demonstration, and practical exercise to include single stationary targets, single multiple moving targets. | FM 23-5, 23-8, 23-71 | TD Range | |
| | | <u>b. Field Firing (4 Hours)</u> | | | |
| 3 | 4 | Field Firing | FM 23-5, 23-8, 23-71 | Field Firing Range | 66 rds Per Soldier |
| | | <u>c. Record Firing (4 hours)</u> | | | |
| 4 | 4 | Record Firing, practical exercise and examination Record I | FM 23-5, 23-8, 23-71 | Record Range | 56 rds Per Soldier Record I Table Trainfire I Annex B. |
| | | Night Vision and Firing integrated conference, demonstration and practical exercise in night vision and principles of night firing. | FM 23-5 | Concurrent with periods 3 & 4 | |
| | | Target detection test No. 1. | FM 23-71 | TD Range | |

| P1 | H2 | Lesson | Text References | Area | Training Aids and Equipment |
|----|----|--------|-----------------|------|-----------------------------|
|----|----|--------|-----------------|------|-----------------------------|

| | | | | | |
|---|---|--|---------|--------------------|--------------------|
| 5 | 2 | <p>d. <u>Night Firing (2 Hours)</u></p> <p>Integrated conference limitations and practical exercise to include range principles, safety night vision principles of night firing; combat instruction and record night firing.</p> | FM 23-5 | Night Firing Range | 32 Rds Per Soldier |
|---|---|--|---------|--------------------|--------------------|

NOTE: Review of Mechanical training at discretion of commander based on needs of individual.

1 P--Period
2 H--Hour

INCLOSURE 4- APPENDIX VII - ANNEX C

Combat Readiness Marksmanship Proficiency - Modified K. D. Course (Reduced) (18 Hours)

| P1 | H2 | Lesson | Text References | Area | Training Aids and Equipment |
|----|----|--|----------------------|-------------|--|
| | | a. Preparatory Marksmanship Training (4 Hours)* | | | |
| 1 | 4 | Battle sight zeroing and 1000" progress check: Integrated conference, demonstration, and practical exercise in range procedure, safety, and fundamentals of shooting; explanation of battle sight zeroing, combat firing to establish 250 meter battle sight zero, calibrate the battle sight; conduct progress check of prone supported, prone, sitting, squatting kneeling and rapid fire exercises. | FM 23-5, 23-8, 23-71 | 1000" Range | 42 rds per soldier |
| 2 | 4 | b. KD Field Firing (8 Hours) KD Instruction Practice: Integrated conference demonstration and practical exercise in range procedure, safety hold-off, target operation, scoring and conduct practical work in engaging single and multiple targets and moving with a loaded weapon. | FM 23-5, 23-8, 23-71 | KD Range | 50 rds per soldier (Table V, Annex B) |

1 P--Period
2 H--Hour

| P1 | H2 | Lesson | Text References | Area | Training Aids and Equipment |
|----|----|--|----------------------|----------|---------------------------------------|
| 3 | 4 | KD Record Combat Target Firing: Conference, demonstration and practical work in range procedure, safety, hold off, scoring; record firing. | FM 23-5, 23-8, 23-71 | KD Range | 50 rds per soldier (Table V, Annex B) |
| 4 | 2 | c. <u>Target Detection (4 Hours)</u> Integrated conference, demonstration and practical exercise in multiple moving targets, location of hostile targets by sound of firing, combination of sound localization and multiple moving targets. | FM 23-71 | TD Range | |
| | 2 | Integrated conference, demonstration and practical exercise in single stationary and single moving targets. | FM 23-71 | TD Range | |
| 5 | 2 | d. <u>Night Firing (2 Hours)</u> Night instruction and record firing: Integrated conference, demonstration and practical exercise in night vision night firing techniques, range procedure, safety; instruction and record night firing. | | | 32 rds per soldier |

*Additional hours in preparatory marksmanship training or mechanical training may be scheduled for individuals as deemed necessary by the unit commander.

1 P--Period
2 H--Hour

INCLOSURE 5 - APPENDIX VII - ANNEX C

Marksmanship Fundamentals Proficiency - Course B (27 Hours)

| P1 | H2 | Lesson | Text References | Area | Training aids and equipment |
|----|----|---|----------------------------|--------------------------|--|
| | | a. Orientation and Mechanical Training (1 Hour) | | | |
| 1 | 1 | Orientation: Role of the rifleman; basic concepts of trainfire as applicable to the alternate course; 1000" firing; target detection; KD field target firing; and combat position firing. | FM 23-5, FM 23-8, FM 23-71 | Classroom | |
| | | b. Preparatory Marksmanship Training (8 Hours) | | | |
| 2 | 4 | Introduction to fundamentals; integrated demonstration and practical exercise in range procedures, safety, method of instruction, integrated act of shooting, effect of errors, elevation and windage, firing data card, prone supported, prone, sitting, squatting, kneeling and standing positions and rapid fire exercises to prone and sitting positions. | FM 23-5, FM 23-8, FM 23-71 | 100 Point 1000" Range | 45 rds per soldier |
| 3 | 4 | Battle sight zeroing and 1000" progress check; Integrated conference, | FM 23-5, FM 23-8, FM 23-71 | KD Range | 50 rds per soldier (Table V, Annex B) |

1 P--Period
2 H--Hour

| P1 | H2 | Lesson | Text References | Area | Training aids and equipment |
|----|----|--|----------------------------|----------|---|
| | | demonstration, and practical exercise in range procedure, safety, and fundamentals of shooting; explanation of battle sight zeroing, combat firing to establish 250 meter battle sight zero, calibrate the battle sight; conduct progress check of prone supported, prone, sitting, squatting kneeling and rapid fire exercises. | | | |
| | | c. <u>KD Field Firing (8 Hours) Target Detection (4 Hours)</u> | | | |
| 4 | 4 | KD Instruction practice: Integrated conference demonstration and practical exercise in range procedure, safety, hold off, target operation, scoring and practical work in engaging single and multiple targets and moving with a loaded weapon. | FM 23-5, FM 23-8, FM 23-71 | KD Range | 50 rds per soldier (Table V, Annex B) |
| | | Pull Targets | | | |
| 5 | 4 | KD Record Combat Target Firing: Integrated conference, demonstration and practical | FM 23-5, FM 23-8, FM 23-71 | KD Range | (50 rds per soldier) (Table V, Annex B) |

1 P--Period
2 H--Hour

| P1 | H2 | Lesson | Text References | Area | Training aids and equipment |
|----|----|---|----------------------------|--------------------|-----------------------------|
| | | exercise in range procedure, safety, hold-off and scoring; conduct record firing. | | | |
| | 2 | Target Detection: Integrated conference, demonstration and practical exercise in detection and marking single stationary and moving targets; range estimation. | FM 23-71 | KD Range | |
| | 2 | Target Detection: Integrated conference, demonstration and practical exercise in detecting and marking multiple moving targets; location of hostile positions by the sound of firing. | FM 23-71 | KD Range | |
| 6 | 2 | d. Night Firing (2 Hours) Night Instruction and record firing: Integrated conference, demonstration and practical exercise in range procedure, night vision, night firing techniques; conduct instruction and record night firing. | FM 21-75, FM 23-5, FM 23-8 | Night Firing Range | 32 rds per soldier |

1 P--Period
2 H--Hour

INCLOSURE 6 - APPENDIX VII - ANNEX C

Pre-Mobilization Proficiency-Course C (Trainfire 25 Meter) (For Res Comp Units) (16 Hours)

| P1 | H2 | Lesson | Text References | Area | Training aids and equipment |
|----|----|---|----------------------------|-----------------|--------------------------------------|
| | | a. <u>Mechanical Training (1 Hour)</u> | | | |
| 1 | 1 | Mechanical Training: Integrated conference, demonstration and practical exercise in disassembly; assembly; nomenclature; stoppages and immediate action; lubricating, care and cleaning of the rifle. | FM 23-5, FM 23-8 | Classroom | |
| | | b. <u>Preparatory Marksmanship (11 Hours) Target Detection (4 Hours)</u> | | | |
| 2 | 3 | Marksmanship: Integrated conference, demonstration, and practical exercise on fundamentals: Aiming and steady hold factors. Positions, Trigger control, Safety precautions, Range procedures. | FM 23-5, FM 23-8, FM 23-71 | Field or Armory | |
| 3 | 4 | 25 Meter Firing (Practice) Proposed Table at Tab A. Practical exercise and progress check; Battle sight zero. | FM 23-5, FM 23-8, FM 23-71 | 25 Meter Range | 63 rds per soldier Table at Tab A |
| 4 | 4 | 25 Meter Firing (Record) Proposed Table at Tab A. Practical exercises and examination on record range. | FM 23-5, FM 23-8, FM 23-71 | 25 Meter Range | 42 rds per soldier Table at Tab A |

1 P--Period
2 H--Hour

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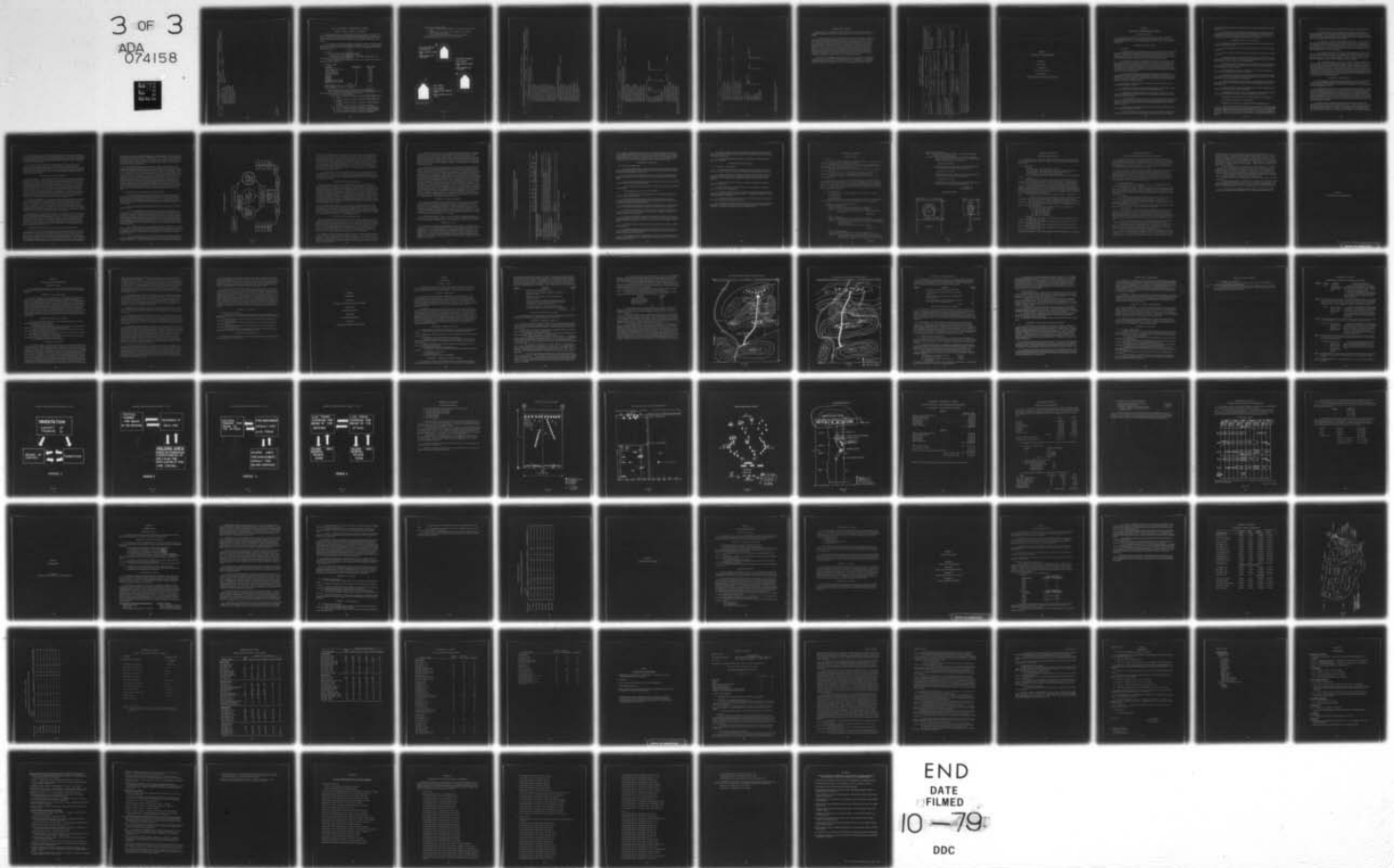
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Pre-Mobilization Proficiency-Course C (Trainfire 25 Meter) (For Res. Comp Units) (16 Hours)

| P1 | H2 | Lesson | Text References | Area | Training aids and equipment |
|----|----|--|----------------------------|----------|-----------------------------|
| 5 | 4 | Target Detection: Integrated conference, demonstration, and practical exercise, to include single stationary targets, single and multiple moving targets, and sound and multiple moving targets. | FM 23-5, FM 23-8, FM 23-71 | TD Range | |

1 P--Period
2 H--Hour

TAB A - INCLOSURE 6 - APPENDIX VII - ANNEX C

COURSE OF FIRE - COURSE C (TRAINFIRE)

1. Present 25-meter firing conducted in Trainfire I is not scored, but rather is a means for determining weapon zero and proficiency in grouping shots. Therefore, in order to support the requirement for scoring the Pre-Mobilization Readiness Proficiency Course C (Trainfire) it is necessary to develop a firing table and a target that can be scored.

2. In developing the proposed firing table in paragraph 4 and the proposed target at Figure 9, consideration was given to translation of skills to Trainfire-I. The proposed table provides for firing in all Trainfire positions and rapid fire including reloading and rapid shifting of aim.

3. Scoring.

a. Two possibilities appear feasible for scoring.

(1) Using scoring rings to count 5's, 4's and 3's.

(2) Counting only hits on silhouettes. This system would provide more realism and a better translation to Trainfire I.

b. As no experience factors exist for this course, the scoring system should be adopted only after a troop test.

4. Proposed Table:

| <u>POSITION</u> | <u>NR ROUNDS</u> | <u>TIME LIMIT</u> |
|-----------------------------|------------------|-------------------|
| *Prone Supported for Zero | 9 | None |
| Prone Supported | 4 | 4 min |
| Foxhole Supported | 4 | 4 min |
| Kneeling Supported | 4 | 4 min |
| Squatting | 4 | 4 min |
| Kneeling | 4 | 4 min |
| Standing | 4 | 4 min |
| Standing to Prone (Rapid) | 9 | 1 min |
| Standing to Sitting (Rapid) | <u>9</u> | 1 min |

Total - 51

*Fired during practice only, omit for record.

Total ammunition per firer - 93 rounds.

a. Table will be fired twice; once for practice and once for record.

(1) Four targets of three silhouettes each will be required for each firer for practice and four targets of three silhouettes each for record.

(2) Targets will be fired as follows:

(a) 1. 4 rds in 4 minutes on number 3 silhouette, prone supported position.

2. 4 rds in 4 minutes on number 2 silhouette, foxhole supported position.

3. 4 rds in 4 minutes on number 1 silhouette, kneeling supported position.

4. A maximum of 4 hits will be scored on each silhouette.

(b) 1. 4 rds in 4 minutes on number 3 silhouette, squatting position.

2. 4 rds in 4 minutes on number 2 silhouette, kneeling position.

3. 4 rds in 4 minutes on number 1 silhouette, standing position.

4. A maximum of 4 hits will be scored on each silhouette.

- (c) Rapid fire standing to prone.
1. 3 rds on each silhouette, numbers 1, 2, and 3 respectively in one minute.
 2. Reloading with 8 round clip will be required after firing first round on silhouette number 1.
 3. A maximum of 3 hits will be scored on each silhouette.
- (d) Rapid fire standing to sitting. Same as (3) above.

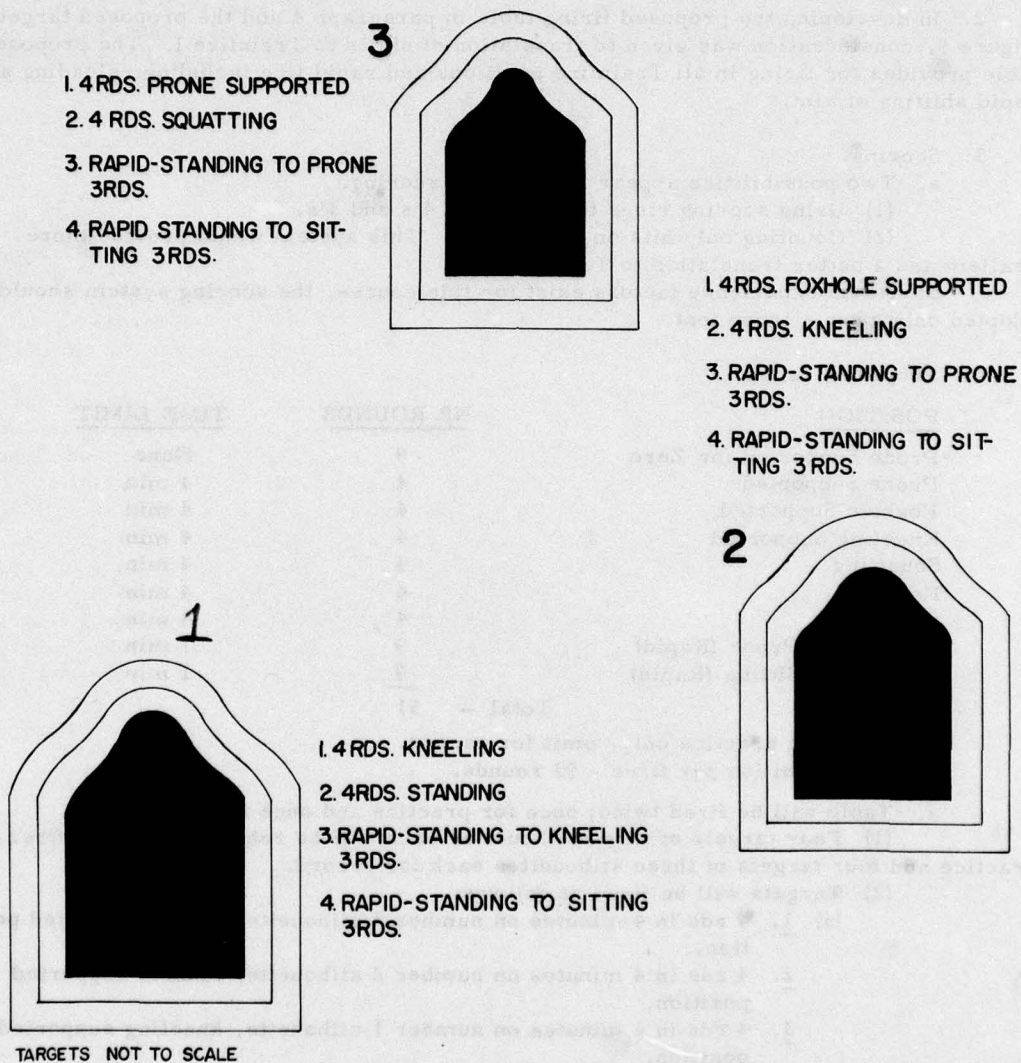


Figure 9.

INCLOSURE 7 - APPENDIX VII - ANNEX C
 Pre-mobilization Readiness Proficiency-(Modified KD Course) (For Reserve Component Units) (20 Hours)

| P1 | H2 | Lesson | Text References | Area | Training Aids and Equipment |
|----|----|--|----------------------|------------|-----------------------------|
| | | a. <u>Orientation and Mechanical Training (1 Hour)</u> | | | |
| 1 | 1 | Orientation: Role of the rifleman; basic concepts of trainfire as applicable to the alternate course; 1000" firing; target detection; KD field target firing; and combat position firing. Mechanical Training: Integrated conference, demonstration and practical exercise in disassembly; assembly, nomenclature stoppages and immediate action; lubricating, care and cleaning of the rifle. | FM 23-5, 23-8, 23-71 | Armory | |
| | | b. <u>Preparatory Marksmanship Training (3 Hours)</u> | | | |
| 2 | 3 | Fundamentals of marksmanship, Integrated exercise in integrated act of shooting, demonstration and practical, effect of errors; elevation and windage; firing data card; day firing from prone supported, prone, sitting, squatting, kneeling, standing positions, and rapid fire exercises - standing to prone and sitting positions. | FM 23-5, 23-8, 23-71 | PRI Circle | |

| P1 | H2 | Lesson | Text References | Area | Training Aids and Equipment |
|----|----|--------|-----------------|------|-----------------------------|
|----|----|--------|-----------------|------|-----------------------------|

- 3 c. KD Field Firing (8 Hours) (4 Target Detection)
- 4 Introduction to KD Field FM 23-5, 23-8, 23-71 KD Range 59 rds Per Soldier
 combat target firing: Inte-
 grated conferences, dem-
 onstration and practical
 exercise in range pro-
 cedure, safety, hold-off,
 target operation, scoring,
 zeroing; practical work
 in engaging single and
 multiple targets from
 prone, sitting, kneeling,
 squatting positions and
 two rapid fire exercises.

Firing Table: 200 Yard Range

| Position | Rounds | Target | Time per shot |
|-----------------|--------|--------|---------------|
| Prone | 9 zero | E | 60 |
| Prone | 8 | E | 13 |
| Sitting | 8 | E | 12 |
| Kneeling | 4 | E | 12 |
| Squatting | 4 | E | 11 |
| Standing | 8 | E | 11 |
| Sitting (Rapid) | 9 | 2E | 10 |
| Prone (Rapid) | 9 | 2E | 10 |

Target Detection:*

- 2 Integrated conferences, FM 23-71 TD Range
 demonstration and practical
 exercise in detection, mark-
 ing, estimating range to
 single stationary targets;
 single moving targets.

*One platoon pulls targets each 1/2 day while the other receives target detection.

| P1 | H2 | Lesson | Text References | Area | Training Aids and Equipment |
|----|----|--|-----------------|----------|-----------------------------|
| | 2 | Integrated conferences, demonstration and practical exercise in detection of multiple moving targets and location of hostile positions by the sound of firing. | | | |
| 4 | 4 | Field Combat Target Firing: FM 23-5, 23-8, 23-71 Integrated conference demonstration and practical exercise in range procedure, safety, hold-off and scoring system; conduct record firing. | | KD Range | 50 rds Per Soldier |
| 4 | | Pit Details.* | | | |
| | | Firing Table: | 200 Yard Range | | |
| | | Position | Round | Target | Time Per Shot |
| | | Prone | 8 | E | 10 |
| | | Sitting | 8 | E | 10 |
| | | Kneeling | 8 | E | 10 |
| | | Squatting | 4 | E | 10 |
| | | Standing | 4 | E | 10 |
| | | Sitting (Rapid) | 9 | 2E | 10 |
| | | Prone (Rapid) | 9 | 2E | 10 |

*One platoon pulls targets each 1/2 day while the other receives target detection.



APPENDIX VIII TO ANNEX C

Comparison of the proposed annual qualification program and the present annual qualification program as to hours of training, subjects covered, and ammunition requirements.

1. It is difficult to obtain a valid comparison between the two programs. Implementing directives of the present KD program, AR 370-5 and FM 23-5, while prescribing the frequency that individuals will fire qualification and familiarization courses and that such courses will be preceded by mechanical training and preliminary marksmanship, do not prescribe the subjects or hours to be devoted to this. These directives do not prescribe whether or not the various tables for qualification will be fired annually for practice as well as record, as is the case in the Basic Combat Qualification Course. However, TA 23-100 does contain an authorization of ammunition for annual qualification and familiarization firing. Thus, it appears that much is left to a commander's discretion, resulting in a wide variance among commands as to time devoted, subjects covered, and ammunition expended in the current annual KD program.

2. Inclosure 1 is a tabulated comparison between the two programs as to ammunition requirements. Requirements of the present program, as indicated, are based upon ammunition authorizations contained in TA 23-100. Due to differences in terminology and for the purposes of comparison, courses are categorized as to purposes served.

INCLOSURE I - APPENDIX VIII - ANNEX C
ANNUAL AMMUNITION REQUIREMENTS

| Purpose | Proposed Program | Present Program | Annual Ammunition Savings per Individual under Proposed Program at \$.10 per Round. |
|--|--|---|---|
| Annual Qualification | Course A, Trainfire I - 316 rds or Course A (Alternate) - 299 rds | Trainfire I - *557, rds or KD (including all tables) - *447 rds | 241 rds -- \$24.10 148 rds -- \$14.80 |
| For personnel with over 15 years service | Course A, Trainfire I - 196 rds or Course A (Alternate) - 174 rds | Familiarization - 30 rds | Increase of 166 rds -- \$16.60 Increase of 144 rds -- \$14.40 |
| For areas where Trainfire or Combat position ranges do not exist | Course B - 219 rds | KD (less Tables IV, V, VI, and VII)** - 248 rds | 29 rds -- \$2.90 |
| For Reserve Component Units | Pre-Mobilization Course C (Trainfire I, 25 Meter) - 105 rds or Pre-Mobilization Course C (Alternate) - 109 rds | Qualification and Familiarization*** - 56 rds | Increase of 49 rds -- \$4.90 Increase of 53 rds -- \$5.30 |

*Authorized number of rounds per individual for annual qualification contained in TA 23-100.

**Based upon TA 23-100 allowance of 447 rounds less that required for Tables IV, V, VI, and VII.

***Qualification course of 109 rounds is fired every third year. In intervening years, the Familiarization Course of 30 rounds is fired. Therefore, under the present program the annual average is 56 1/3 or 56 rounds.

ANNEX D

COMPETITIVE MARKSMANSHIP PROGRAM

SECTION I - Purpose

1. The purpose of this annex is to evaluate Army participation in competitive marksmanship to determine any changes that may be desirable to insure the most effective integration of this type of marksmanship training to the Active Army and Reserve components.

SECTION II - Present Program

5. Active Army

ANNEX D

COMPETITIVE MARKSMANSHIP

Appendix I

Prix Le Clerc

Appendix II

Infantry Trophy Match

Appendix III

Suggested Indoor Small Bore Rifle Program

ANNEX D

COMPETITIVE MARKSMANSHIP PROGRAM

SECTION I - Purpose

1. The purpose of this annex is to evaluate Army participation in competitive marksmanship to determine any changes that may be desirable to insure the most effective integration of this type of marksmanship training in the active Army and Reserve components.

SECTION II - Present Program

2. Active Army.

a. USCONARC Memorandum Nr 69 prescribes a mandatory sequence of competitions which progress from company level through succeeding echelons to post or division level. The courses of fire and frequency of matches at each level are a matter of local command policy. The results of these matches provide a positive means to identify and select best qualified marksmen for further training and competitions.

b. CONUS Army commanders and equivalent commanders are required to conduct an annual command match not later than May of each year. As a minimum these competitions must include three separate firings over the National Trophy Individual Rifle Match Course for individual participants, a team match over this course, and a team match over the Infantry Trophy Course. From these competitions the best qualified individuals are selected to compete in the United States Army Championship matches as major command representatives.

c. US Army Rifle Championship Matches are conducted annually in June at Fort Benning, Georgia and consist of not less than five firings over the National Trophy Rifle Match Course and not less than one firing over the Infantry Trophy Match Course. From these matches, individuals are further selected to compete in the National Rifle Matches at Camp Perry, Ohio in August.

3. Army Reserve. The Army Reserve Program generally parallels the active Army program except as follows:

a. Inter-unit competitions (company through division) are not mandatory and in the majority of units are not conducted due to lack of adequate ranges.

b. Commanders of CONUS United States Army Corps are required to conduct matches for Army Reserve Units in their area, unless directed to do otherwise by the Army commanders concerned.

c. Each CONUS United States Army Corps and each United States Army Reserve division is authorized to enter at least one rifle team in appropriate major command matches. Total Army Reserve teams from each corps including those from divisions may not exceed six.

d. Personnel of the US Army Reserve are not authorized to compete in the US Army Championships (par 2c above).

e. Army Commanders are required to select one Army Reserve rifle team to represent the Army area in the National Matches at Camp Perry, Ohio. In addition,

not more than eight individual rifle marksmen may be selected to accompany the Army Reserve team.

4. Army National Guard. USCONARC Memorandum Nr 69 does not prescribe a competitive marksmanship program for the Army National Guard. Competitors from the National Guard are encouraged to participate in small arms firing schools and in the post/division and major command matches of the active Army.

SECTION III - Approach to the Problem

5. In evaluating the competitive marksmanship program the Board approached the problem essentially as follows:

- a. Reviewed programs currently prescribed for the active Army and Reserve Components.
- b. Made an analysis of the skills necessary to produce a proficient competitive marksman.
- c. Evaluated responses to the Board's questionnaire to determine the overall training values being realized from the program and to determine those areas in which changes could be made to enhance these training values.
- d. Examined competitive programs which incorporate combat firing features, and evaluated the impact of these programs upon the Army's current method of selecting and training precision marksmen.
- e. Investigated alternate means to improve current methods of identifying, selecting, and training potential precision marksmen.
- f. Considered the feasibility of implementing an Army-wide mandatory small bore competitive program designed to improve marksmanship proficiency and to facilitate identification of potential precision marksmen.
- g. Analyzed the impact of the program on unit commanders in connection with interference with normal training activities and loss of key personnel during critical training periods.
- h. Examined methods which would provide for more effective participation by the Reserve Components in the competitive program.
- i. Attempted to ascertain the costs of the program in terms of TDY and travel funds, overhead personnel, weapons, and match ammunition requirements.
- j. Investigated methods and means of effecting economies in the program.
- k. Developed conclusions and recommendations.

SECTION IV - Compatibility with the Basic Marksmanship Program

6. a. The result of the Board's research in this area revealed that the rifle marksmanship techniques emphasized in the competitive program and the rifle marksmanship techniques emphasized in basic marksmanship program have only limited application to each other. Reports from the field verified this finding; of 50 commanders replying to this portion of the Board's questionnaire, 38 stated that the two programs are not compatible.

b. The major differences in procedures and techniques are discussed below.

(1) Use of Sights. The basic marksmanship program stresses the use of a battle sight setting and the application of "hold-off" to compensate for variances in ranges and weather. The training in precision marksmanship places great emphasis on the correct evaluation of wind, light, and temperature, zero at each distance to be fired, and exact sight manipulation to reflect these conditions.

(2) Positions. The basic marksmanship program does not teach and does not permit the individual soldier to use a sling when firing his rifle. It emphasizes the use of eight positions which take advantage of rocks, trees, or other natural means to furnish support. On the other hand, the fundamentals taught the precision marksman place great emphasis on use of the sling and stress perfection of its application to three basic positions; prone, sitting, and standing.

(3) Targets and Scoring. The basic marksmanship program utilizes a target and scoring system that places primary emphasis on the shooter's ability to detect and hit a combat-type target and gives equal credit to the shooter regardless of where he hits on that target. The competitive program requires a target and a scoring system that will show a variance in the performance of the participants.

(4) Training Environment. It is in this area that the most significant differences exist. The basic marksmanship program introduces a training environment which attempts to simulate the conditions of combat. The use of silhouette targets and their disposition on the terrain, the combat equipment that the soldier is required to wear, the application of one battle sight setting to all distances fired, the use of service weapons and service ammunition, and many other features will tend to produce this environment. The Known Distance range with its elevated targets and firing points, slings, shooting jackets, match ammunition, match weapons and other technical items creates an entirely different training atmosphere.

SECTION V - Training Values

7. The Board believes that the competitive program makes its major contribution to training by stimulating interest in marksmanship proficiency and by providing a nucleus of highly skilled individuals who can assist in raising the level of marksmanship instruction throughout the Army.

8. The Board reasons, however, that the competitive program in comparison with other marksmanship training programs, contributes only to a limited degree in raising overall marksmanship proficiency. This reasoning is based on several influencing factors. The most important being the selective nature of the program and the resultant small percentage of riflemen who actually participate in the program. Because the program quickly discards the poor shooters who need the training the most and concentrates on the proficient shooters who need the training the least, a departure from sound training principles is evident.

9. The Board made a comparative analysis between the number of personnel participating in the program and rifle density in the Army. While the figure arrived at cannot be accepted as completely reliable, the Board feels that it is of sufficient validity to mention in this report. The results of this comparative analysis indicated that only 2% or 3% of the riflemen in the Army are participating in the competitive program.

10. An analysis of replies from field commanders indicated that only marginal training values are being realized from the competitive program. Forty-nine of 76 commanders responding to the Board's questionnaire stated that the training values being realized are poor. Many felt that more tangible training benefits would be derived if combat firing features were incorporated.

11. The Board strongly supports this latter position. It feels that the precise features of the competitive program could be modified along combat firing lines in matches conducted at company/battalion, and battle group level in infantry, armor, and airborne divisions without serious interference to the current methods of identifying and selecting precision type shooters. Section VI discusses possible combat type matches which might be incorporated.

SECTION VI - Combat Type Matches

12. Prix Le Clerc. A brief description of the Prix Le Clerc course is contained in Appendix I to this Annex. The Board feels that many features of Prix Le Clerc or Prix Le Clerc per se should be incorporated into the company, battalion/battle group competitions of the infantry, armor, and airborne divisions. The targets used are difficult to distinguish and approximate the appearance of silhouettes. However, they are easy to score and contain sufficient discriminatory features to identify individual shooter variances in proficiency. The course places great emphasis on physical conditioning; fire and movement wearing full combat gear, and firing under conditions of physical stress. Prix Le Clerc competitions are readily adaptable to Known Distance ranges and can be conducted on an individual and team basis. Matches of this type would provide a logical means for improving combat firing skills and as stated previously should be prescribed for competitions in units with predominate combat missions.

13. Infantry Trophy Match. This match is described in detail in Appendix II to this Annex. It is prescribed for major command and higher level competitions. The match is fired on a Known Distance range at silhouette targets mounted on normal target frames. It emphasizes rapid fire and techniques of fire distribution and can only be scored on a team basis. It does not require the wearing of combat equipment or rapid movement between firing points. The Board feels that matches of this type have valuable application to the training mission of combat units and could be incorporated into company, battalion/battle group level competitions with minimum difficulty.

14. Adaptation of the Trainfire Record Range. The Board considered the feasibility of individual competitions adapted to the Trainfire I Record Range. Its research in this area disclosed many interesting possibilities. However, the lack of uniformity (degree of target camouflage, target location and differences in terrain configuration) between each lane on a normal record range introduces undesirable factors which prevent the establishment of a completely fair system of determining the more proficient shooters. As a result the Board considers that this type competition is the least desirable of the programs discussed in this section.

SECTION VII - Selection and Training of Potential Precision Marksmen

15. General. The Board fully recognizes the desirability of incorporating the type competitions discussed in the preceding Section into the overall competitive marksmanship structure. It feels that such programs will materially enhance combat rifle proficiency, and will stimulate the now lagging unit commander's interest in and backing of the competitive program. However, the Board could not determine the impact that Army-wide adoption of combat-type competitive programs would have on the current eminently successful system of identifying, selecting and training of potential precision marksmen

for inter-service and international competitions. In this connection, the Board believes that the present superiority of Army individuals and teams in inter-service competitions is a direct reflection of the efficiency of this system. As a result, the Board feels that any changes to the competitive program which might have a disruptive effect on the overall system to produce winners should be thoroughly evaluated prior to implementation. A discussion of the system follows.

16. Selection of Potential Precision Marksmen. Figure 10 portrays the current sequence of competitions which provides at each succeeding level a selective means to identify and train the more proficient shooters for the next level of competition. Normally, it is at post/division level that the more specialized aspects of the competitive system are introduced. The more proficient marksmen, as determined by the post-division level matches, are selected, placed on TDY with an advanced marksmanship type organization, and trained for participation in the major command match. Based upon the results of this latter match, the commanding officer of the army level advanced marksmanship unit selects, places on TDY or SD, and trains the more proficient marksmen for participation in the United States Army Championship Matches at Fort Benning, Georgia. After these matches the Commanding Officer of the United States Army Advanced Marksmanship Unit and the Officer in Charge of the Eastern and Western regions select and place on TDY personnel for their respective teams. Following two months of intensive training these personnel compete in the National Matches at Camp Perry, Ohio.

17. Alternate Means of Selecting Precision Type Marksmen.

a. Section IV of this annex discusses differences in teaching techniques and procedures used in producing combat-type marksmen and precision-type marksmen. The Board does not believe that these differences will have a serious impact on the continued success of Army individuals and teams in inter-service competitions provided that alternate means of recognizing and training potential precision-type marksmen are fully exploited.

b. Some of the alternate means discussed below are being utilized to a limited extent at present.

(1) The establishment of closer liaison with the Professors of Military Science at the various universities, colleges, and military schools. Intensive training in small bore shooting, frequent postal and shoulder-to-shoulder competitions, and the "Warrior of the Pacific" competitions fired during summer camp training have produced many outstanding ROTC marksmen, who, upon entering active duty, have participated in the competitive program with outstanding success. The advanced marksmanship unit organizational structure, particularly at CONUS army level, readily provides the means for the establishment of this close liaison and subsequent "earmarking" of more highly qualified marksmen.

(2) The National Rifle Association conducts frequent "large bore" and "small bore" matches. Close scrutiny of the match bulletins and personal visits to these matches by CONUS army advanced marksmanship unit representatives could provide a profitable means of detecting and "earmarking" promising new shooters who express an intent to enter the Army.

(3) The 300,000 soldiers who receive basic combat training annually provide the Army with an almost unlimited resource from which to make early detection of precision type shooters. The present competitive system does not exploit the full potential

SEQUENCE OF COMPETITIONS

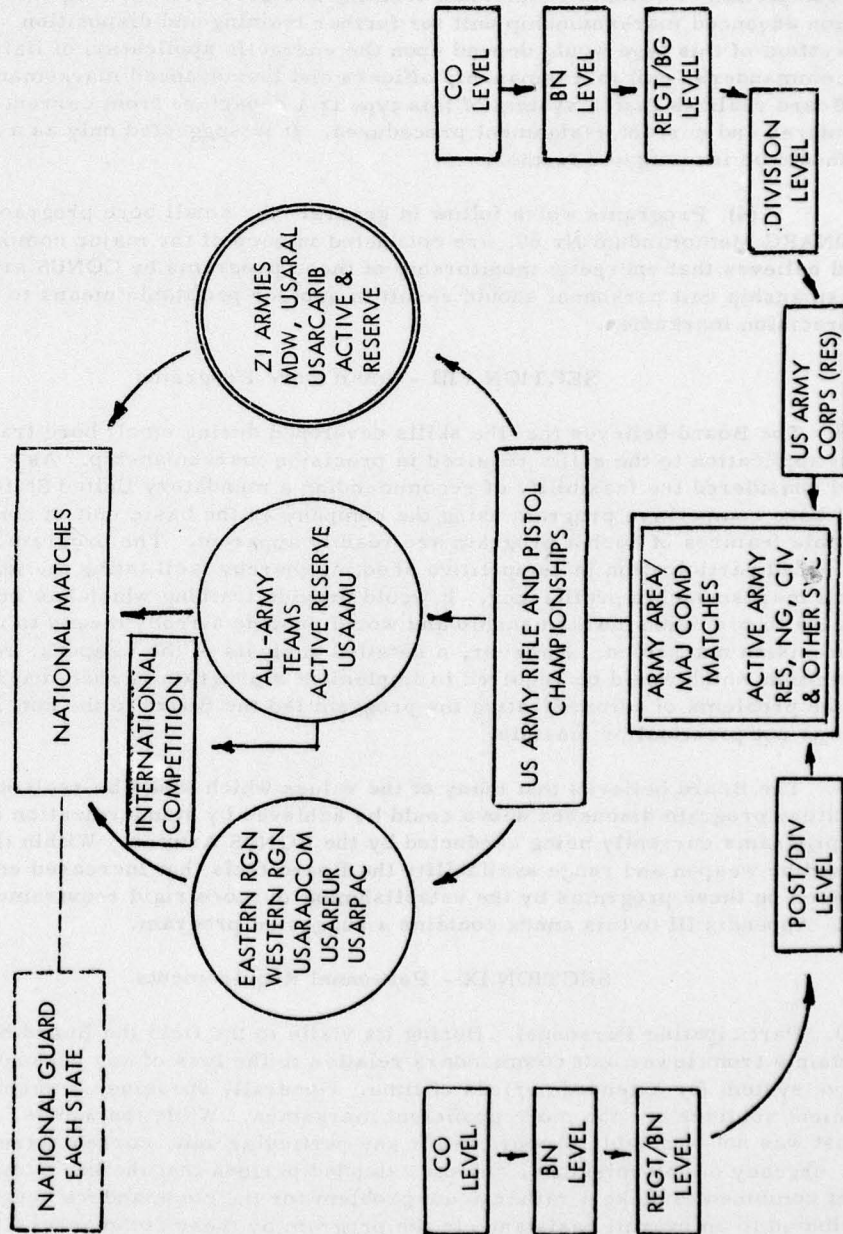


Figure 10

of this source. Highly selective procedures which provide a means of identifying only the most promising new shooters during the conduct of basic rifle marksmanship training should be established. These promising new shooters could be "earmarked" and upon completion of advanced individual training assigned to a training center/training division advanced marksmanship unit for further training and disposition. The success of a system of this type would depend upon the energetic application of liaison between unit commanders, unit marksmanship officers and the advanced marksmanship unit. The Board realizes that a system of this type is a departure from current competitive procedures and current assignment procedures. It is suggested only as a possibility and should be investigated further.

(4) Programs which follow in general the small bore program outlined in USCONARC Memorandum Nr 69, are conducted in each of the major commands. The Board believes that energetic monitorship of these programs by CONUS army advanced marksmanship unit personnel should result in another profitable means to identify potential precision marksmen.

SECTION VIII - Small Bore Programs

18. The Board believes that the skills developed during small bore training have direct application to the skills required in precision marksmanship. As a result, the Board considered the feasibility of recommending a mandatory United States Army-wide small bore competitive program using the company as the basic unit of competition. The desirable features of such a program are readily apparent. The program would insure widespread participation in competitive shooting thereby facilitating the improvement of overall marksmanship proficiency. It would provide training which has important transfer value to precision marksmanship and would provide a ready means to identify potential precision marksmen. However, a detailed analysis of the weapons, ranges, and ammunition which would be required to implement a program of such magnitude combined with the problems of administrating the program led the Board to the conclusion that the idea was not practical or feasible.

19. The Board believes that many of the values which would be realized from the mandatory program discussed above could be achieved by standardization of the small bore programs currently being conducted by the CONUS Armies. Within the limitations imposed by weapon and range availability the Board feels that increased emphasis could be placed on these programs by the establishment of more rigid requirements at CONARC level. Appendix III to this annex contains a suggested program.

SECTION IX - Personnel Requirements

20. Participating Personnel. During its visits to the field the Board heard frequent complaints from lower unit commanders relative to the loss of key personnel to the competitive system for extended periods of time. Generally speaking, it seems that the more proficient soldiers are the more proficient marksmen. While the number of key personnel lost was not of sizable proportion for any particular unit, current personnel shortages, urgency of unit missions, and the extended periods that the key personnel were absent combined to make a rather acute problem for the commanders concerned, and contributed to an overall resistance to the program by these commanders.

21. Support Personnel. The ratio of support personnel to participating personnel in a match of any size is approximately two and one half to one. It was in this area that the commanders took sharp exception to the competitive program. They felt that the relatively frequent requirements for units of company and battalion size to support rifle competitions were depriving these units of valuable time which should be spent on more productive training endeavors.

22. The Board does not have any ready solutions to the above problems. It realizes that the only sure method to produce outstanding precision marksmen is to provide for intensive training periods under the supervision of highly proficient shooters with broad experience in the competitive field. During these training periods the marksman must be accustomed to the pressures and emotional stresses of marksmanship competitions. This can only be accomplished by the conduct of frequent matches. Accordingly, the Board does not believe that it would be desirable to make reductions in training time and match frequency.

23. Field commanders currently have the prerogative to establish advanced marksmanship units from TD spaces available within their commands. The CONUS armies, posts, and divisions have established such units. However, standardization of organization has not been achieved due to differences in the number of TD spaces available within each command for such purposes. Many commanders, in their replies to the Board's questionnaire, recommended that Department of Army approved advanced marksmanship units be established at CONUS army and division/post level and that TD personnel spaces be furnished from Department of Army resources as is presently the case for the United States Army Advanced Marksmanship Unit. Their reasoning being that once a potential precision marksman was selected, he would be transferred (not placed on SD or TDY) to an appropriate advanced marksmanship unit for further training and development. The commander concerned would then have a basis to requisition a replacement for this loss. The Board believes that this recommendation has merit. It would provide a standardized and more efficient system for the development of precision shooters and would diminish unit commander resistance to the competitive program. The Board feels that as a minimum 25 TD spaces would be required for riflemen at CONUS army level and 15 TD spaces for riflemen at division/post level. The problems attendant to implementation of this system are beyond the Board's means to determine. It is mentioned in this report as a suggestion only; a suggestion worthy of further study.

SECTION X - Reserve Components

24. The Board examined methods which would provide more effective participation by the Reserve Components in the competitive program. It determined that major departures from current methods would call for prohibitive expenditures of monies for the construction of additional range facilities, active duty pay, and TDY funds. These expenditures combined with other problems peculiar to the Reserve Components, i. e. , civilian occupational requirements, home and family requirements, distances from home to places of duty, and limited training time, led the Board to the conclusion that changes to current directives and methods were not feasible.

25. The Board does believe, however, that the Reserve Components should be encouraged to increase their participation in formal small bore competitions and programs such as that suggested in Appendix III to this annex should be made directive in nature.

SECTION XI - Costs

26. In an effort to ascertain where economies could be effected, the Board made a vigorous effort to determine the breakdown of major item costs of the competitive marksmanship program. It queried Department of Army and USCONARC agencies and each CONUS Army. Table I contains the results of the Board's research in this area. The Board could not separate pure rifle program costs from the pistol and automatic rifle program costs. Further, the Board was unable to secure definitive information with respect to the considerable service ammunition expenditures and the costing of overhead personnel requirements.

COST OF THE ARMY COMPETITIVE MARKSMANSHIP PROGRAM
(RIFLE, PISTOL AND AUTOMATIC RIFLE)

| | 1st | 2d | 3d | 4th | 5th | 6th | US | US | US | US | USA | US | TOTAL |
|--|--|---------|---------|---------|---------|---------|-----|----|-------|-------|------|------|---------|
| | US Army | US Army | US Army | US Army | US Army | US Army | MDW | AR | ADCOM | EUR | PAC | IB | AL |
| 1. TDY, Travel, Equip, Nat'l Match (Includes only active Army and Army Reserve) - Programmed FY 61 (00) | 119 | 642* | 319 | 315 | 235 | 206 | 25 | 85 | 250** | 200** | 20** | 30** | 2,919** |
| 2. Overhead Personnel | Unknown - Could not be obtained from major commands. | | | | | | | | | | | | |
| 3. Service Ammunition | Unknown - Could not be obtained from major commands. | | | | | | | | | | | | |
| 4. Match Grade Ammunition | 2,731,254 (Does not include Match Ammunition for the National Matches) | | | | | | | | | | | | |
| 5. Weapons Programmed from Ordnance in FY 61 | 898,391 | | | | | | | | | | | | |
| 6. TOTAL Known Costs | \$6,548,645 | | | | | | | | | | | | |

NOTE: * - Approximately \$457,000 used to support the Nat'l Matches.

** - Estimates.

Table I.

27. Despite considerable effort in this area, the Board was unable to secure sufficient definitive information to enable it to make a valid determination of where economies could be effected. Because of the rather considerable amount of monies involved the Board believes that every effort should be made to insure that appropriate management procedures are followed in the administration of the competitive program.

SECTION XII - Conclusions

28. The Board concludes that:

a. The rifle marksmanship techniques emphasized in the competitive program and the rifle marksmanship techniques emphasized in the basic marksmanship program have only limited application to each other.

b. This variance in techniques will require a period of transition training for promising new shooters who have been selected for precision marksmanship competitions.

c. Due to the following factors maximum training benefits are not being realized from the competitive marksmanship program.

(1) The relatively small percentages of riflemen in the Army who participate in the program.

(2) The highly selective nature of the program.

(3) The differences in training techniques of the competitive program and the basic marksmanship program.

d. More tangible training benefits would be derived from the competitive marksmanship program if combat firing features were incorporated into the program at company, battalion, and battle group level.

e. The type matches discussed in Section VI of this Annex are readily adaptable to existing range facilities and provide a means for improving combat firing skills.

f. The current organization for and conduct of the competitive marksmanship program has proven to be a successful means of producing winning individuals and teams in inter-service competitions.

g. Army-wide adoption of competitive programs which feature combat firing techniques could have a disruptive effect on the currently successful system of selecting and training potential precision marksmen for inter-service and international competitions.

h. Alternate means for selecting and training precision type shooters should be fully exploited.

i. Increased emphasis on small bore competitions at company level would increase overall rifle marksmanship proficiency and would provide a ready means to identify potential precision marksmen.

j. The suggestion contained in paragraph 23 relative to the standardization of TD advanced marksmanship units at CONUS Army and division/post level has merit and deserves further study.

k. Monetary considerations and other problems peculiar to the Reserve Components prevent more effective integration of the Reserve Components into the competitive large bore programs.

1. Increased participation by the Reserve components in formal small bore programs is desirable.

SECTION XIII - Recommendations

29. The Board recommends that:

a. Combat firing features be incorporated into the competitive matches of the infantry, armor, and airborne divisions at company, battalion and battle group level.

b. An Army-wide system of competitive matches featuring combat firing techniques not be implemented without a thorough evaluation of the impact such matches would have on the currently successful methods of selecting and training precision shooters.

c. Sufficient Known Distance ranges be retained to support the competitive marksmanship program.

d. The alternate means for selecting and training precision marksmen discussed in Section VII be fully exploited.

e. Increased emphasis be placed on small bore competitions at company level. The small bore program contained in Appendix III, if standardized at CONUS army level, would promote such competitions.

f. A feasibility study be made relative to the standardization of TD marksmanship units at CONUS army and post/division level.

g. A standardized small bore competitive program be prescribed for the Reserve Components. The Reserve Components be encouraged to participate in standardized small bore competitions such as that contained in Appendix III.

APPENDIX I TO ANNEX D

PRIX LE CLERC

1. General.

- a. The Prix Le Clerc competition held annually in Europe, combines precision-type Known Distance firing and combat firing features.
- b. In general, the firer is required to run, assume a firing position and fire within a limited time frame at a target that by virtue of its coloring is difficult to distinguish under varying conditions and levels of the sun.
- c. Weapons used must be of standard Army-issue and may not be altered or modified in any way.
- d. The competitor wears a combat uniform to include steel helmet, field jacket, and weapons belt complete. All equipment must be standard issue.
- e. Strict rules of procedure and safety must be adhered to or the team is severely penalized.

2. Team Selection. Teams are selected initially at battle group/battalion level and participate in divisional matches. From here, the top three teams are selected to fire in the corps match with the winner and runner-up participating in the USAREUR match. The top team here represents the United States in the NATO Prix Le Clerc match. The original team members selected at battle group represent their organization at all levels of competition.

3. Team Composition.

- a. A complete Le Clerc team is composed of the following three groups:
 - (1) 12 riflemen.
 - (2) 10 AR men.
 - (3) 2 pistol men.
- b. Each team must be composed of a minimum of two officers, a maximum of seven old shooters (over two years service) and a minimum of 15 young shooters.

4. Rifle Course (As fired in 1960 Competition).

a. Practice 1 (deliberate).

Range - 300-yards; Position-Prone; Target "A"; Rounds - 10

Procedure: Firer is given 10 rounds to fire in 10-minutes.

First 2 rounds are for spotting (zero). Remaining 8 rounds for record.

Possible 32

b. Practice 2: (Rapid)

Range - 300-yards; Position-Prone; Target "A"; Rounds - 8

Procedure: Firer assumes prone position on 400-yard line and upon signal rises and runs to 300-yard line. Here he takes up prone position and fires 8 rounds.

Firer is given 60-seconds for this entire action.

Possible 32

c. Practice 3 (Snapshooting).

Range - 300-yards; Position-Prone; Target "C"; Rounds - 10

Procedure: Target is exposed for 6-seconds and down for 6-seconds on five occasions. Firer fires 2 rounds on each exposure. First 2 rounds are for spotting (zero). 8 rounds are fired for record.

Possible 32

d. Practice 4 (Steeplechase).

Range - 400, 300, 200, 100-yards; Position - Prone, Sitting, Kneeling, Standing; Target "A"; Rounds - 8

Procedure: Firer assumes prone position on 450-yard line. On signal, target is exposed for 45 seconds. Firer runs to 400-yard line and fires 2 rounds from the prone position.

Target down 15-second

On second exposure of 45-seconds, firer runs from 400-yard line to 300 and fires 2 rounds from sitting position.

Target down 15 seconds.

On third exposure of 45 seconds, firer runs from 300-yard line to 200 and fires 2 rounds from kneeling position.

Target down 15 seconds.

On final exposure of 45-seconds, firer runs from 200-yard line to 100 and fires 2 rounds from standing position.

Possible 32

Total Possible 128

PRIX LE CLERC TARGETS

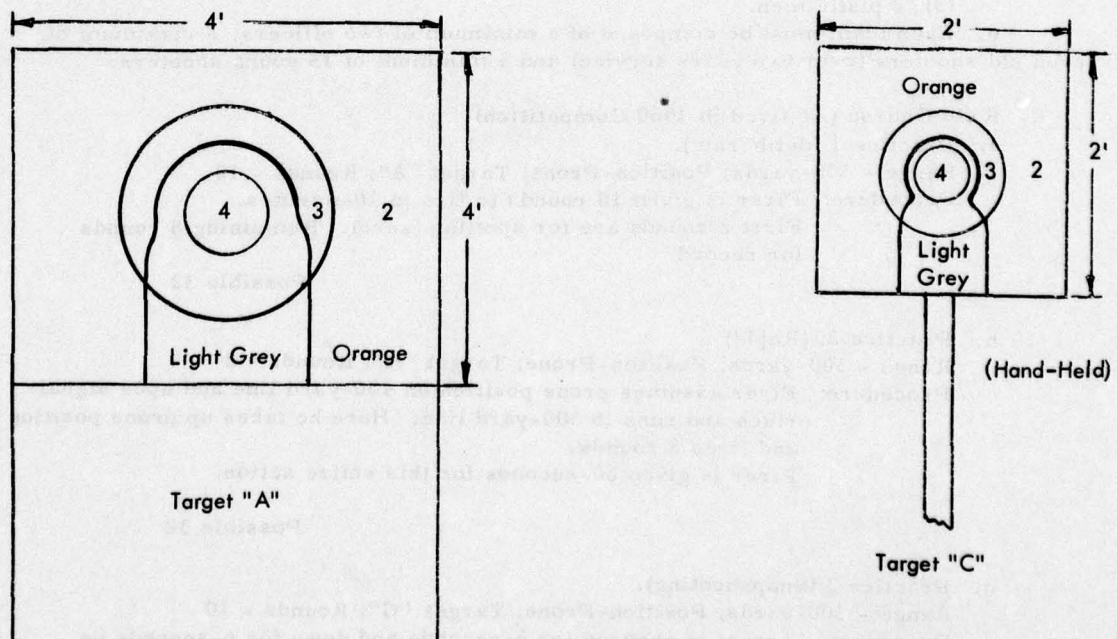


Figure 11

APPENDIX II TO ANNEX D

*INFANTRY TROPHY MATCH

1. Strength of teams. Teams will consist of six firing members, a team captain and/or coach (nonfiring members), all of whom will be permitted on the firing line during the match.

2. Course of fire.

a. Stages.

- (1) First stage. 600-yards prone--50 seconds.
- (2) Second stage. 500-yards prone, sitting, or kneeling--50 seconds.
- (3) Third stage. 300-yards sitting or kneeling--50-seconds.
- (4) Fourth stage. 200-yards off hand--50 seconds.
- (5) Use of the sling. The use of the sling is optional in all stages and positions.

b. Conditions.

- (1) 384 rounds of ammunition in eight round clips will be issued to each team on the 600-yard firing point prior to the start of the match. This ammunition is the total for the entire match and may be used at the discretion of the team captain.
- (2) Teams will take places on the 600-yard firing line as directed by team officials. Firing will begin at each stage when targets are exposed, teams in firing position, pieces loaded and locked. Targets will be withdrawn after being exposed 50-seconds. Movement forward between stages will be in line with pieces loaded and locked, muzzles elevated and pointed down range. Each relay will complete the match prior to the next relay being called to the firing line.

(3) Scoring--all scoring will be done on the firing line. Spotters will be used.

(a) Hits will count 4 points at 600-yards, 3 points at 500-yards, 2 points at 300-yards, and 1 point at 200-yards. Hits on backing target will not be scored.

(b) To the total score made at each range will be added, as a bonus for distribution, the square of the number of targets containing 6 or more hits each.

(c) No adjustments will be made for misfires, disabled pieces, or other failure of material or personnel.

(d) The team making the highest total score will be the winner.

(e) Ties will be broken as follows:

1. High score 600-yards.
2. High score 500-yards.
3. High score 300-yards.
4. High score 200-yards.

c. Targets.

(1) 200-yards, 8 F-targets, each superimposed on an A-target, top of F-target alined with the top of the 4 ring.

(2) 300-yards, 8 F-targets, superimposed on A-target, top of F-target alined with the top of the 4 ring.

(3) 500-yards, 8 E-targets, superimposed on A-target, top of E-target alined with the top of the 3 ring.

(4) 600-yards, 8 E-targets, superimposed on A-target, top of E-target alined with the top of the 3 ring.

*Extracted from AR 920-30, Rules and Regulations For National Matches, as amended.

APPENDIX III TO ANNEX D

SUGGESTED INDOOR SMALL BORE RIFLE PROGRAM

1. CONUS army commanders will conduct an Indoor Small Bore Rifle Match annually during the month of March. Firing will be conducted on ranges locally available, and will be supervised by marksmanship coordinators and witnessed by a disinterested officer appointed by commanders concerned. Army Reserve and Army National Guard are invited and encouraged to participate. Teams will be formed where possible; however, individuals may compete for appropriate awards.

2. Unit commanders will notify the major command marksmanship project officer, not later than 15 February, annually, through channels, of number of teams and/or individuals desiring to compete in these matches. Upon receipt of this information, official targets and score sheets will be forwarded, through channels to organizations concerned. Requests received after 15 February annually will be returned without action. Personnel assigned to US Army Advanced Marksmanship Units will not compete in these matches, either as a team or individually.

3. Rules and Regulations.

a. General. In cases not provided for in these rules, NRA (National Rifle Association) small bore rifle rules will apply.

b. Composition of Teams. A team will consist of six firing members, a team captain and a coach from a company size unit (as defined in Annex A, USCONARC Memo 69). Team members must have been assigned to unit which they represent for at least 60 days prior to record firing, except in cases of individuals newly assigned from other installations.

c. Targets.

(1) The reduced International 50-meter, 27B targets will be furnished for record firing. Targets will plainly be marked and numbered for each stage.

(2) Interchange of assigned targets is prohibited. Duplicate targets will not be issued. All targets and score sheets received will be returned to the major command marksmanship project officer.

d. Positions. Any of the positions described and illustrated in NRA Small Bore Rifle Rules 5.6, 5.8, 5.10, 5.11, 5.12, and 5.13 are authorized.

e. Course of Fire.

(1) Ten shots for record in each of three positions: prone, kneeling, and standing. One target for each position with one shot fired at each record bull's-eye. Sighters and foulers are permitted. In event of misplaced sighting shots provisions of NRA Small Bore Rifle Rule 9.8 will govern. Time limits will be governed by NRA Small Bore Rifle Rule 8.2(a) for individuals and Rule 8.3 for team. Ten minutes per ten shot string will be allowed; sighters or foulers must be taken within the overall ten minute limit.

(2) A team will fire as a unit. If range facilities cannot accommodate six individuals at one time, no more than ten minutes will elapse between relays.

f. Scoring. Targets will be visually scored and certified by a disinterested officer appointed by commanders conducting matches. Targets will be plugged, re-scored and verified by the major command marksmanship project officer and will be final and official. Targets will not be plugged by certifying officer.

g. Rifle. The rifle authorized for use in small bore rifle matches is the .22 caliber rim-fire rifle chambered for cartridges commercially catalogued as ".22 Short", ".22 Long", or ".22 Long Rifle" cartridges. There are no restrictions on barrel on barrel length or overall weight of rifle and accessories. No portion of the rifle or

any attachment of the rifle shall extend more than three inches beyond rear of the shooter's shoulder. Trigger pull must be capable of lifting three (3) pounds. The same rifle must be used throughout all stages of any one match except in the case of a malfunction or disabled rifle, when the competitor may change rifles with permission of the chief range officer. Rifle will be equipped with metallic sights only. This includes any sight not containing a lens or system of lenses. A single lens may be attached to the rear sight as a substitute for prescribed spectacles. Scheutzen type butt-plates and/or palm rests are authorized.

h. Ammunition: Rim-fire cartridges commercially catalogued as ".22 Short", ".22 Long", or ".22 Long Rifle", which have an over-all length of not more than 1.1 inches and loaded with lead or alloy bullet of not larger than .23 inch diameter which weighs not more than 40 grains are authorized. Hollow point, tracer, incendiary or explosive bullets are specifically excluded from ammunition authorized for match use.

i. Rests or Supports. Rests or artificial supports will not be used. Kneeling rolls meeting and requirements of NRA Rule 5.10 are authorized.

j. Range. Fifty feet from firing point to face of target when hung in its customary position.

k. Disposition of Targets. Targets and score sheets will be forwarded to reach the major command marksmanship project officer not later than 3 April annually. Unused or incomplete targets and score sheets will be forwarded with completed targets. Failure to comply with target return time will disqualify team or individual concerned.

4. The major command marksmanship project officers will submit three copies of their official bulletin to CG USCONARC, ATTN: Marksmanship Project Officer.

ANNEX E

ADVANCED RIFLE MARKSMANSHIP

SECTION I - Purpose

The purpose of this manual is to provide the student with the necessary information to understand the purpose and objectives of the program.

SECTION II - The Program

The program is designed to provide the student with the necessary information to understand the purpose and objectives of the program. The program is designed to provide the student with the necessary information to understand the purpose and objectives of the program.

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ANNEX E

ADVANCED RIFLE MARKSMANSHIP

SECTION I - Purpose

1. The purpose of this annex is to review and evaluate the advanced rifle marksmanship program prescribed by ATP's 7-17, 6-100, and 5-5 during advanced individual training.

SECTION II - The Present Program

2. ATP's 7-17 (Infantry), 6-100 (Artillery), and 5-5 (Engineer) provide for known distance rifle marksmanship training for individuals being trained under MOS's 111, 140, and 120, respectively, during advanced individual training. The instruction for the Infantry and Artillery MOS's consists of four hours of preliminary marksmanship training and sixteen hours of known distance range firing, eight hours of which is pit detail. A total of 100 rounds of ammunition is fired; 50 rounds at 300-yards, 50 rounds at 500-yards. The instruction for those individuals being trained under MOS 120 (Engineer) consists of two hours of preliminary marksmanship training and nine hours of known distance firing at ranges of 300 and 500-yards, four hours of which is pit detail. A total of 50 rounds of ammunition is fired. The stated objective of advanced rifle marksmanship training is to increase rifle marksmanship proficiency at known distance ranges up to 500-yards.

SECTION III - Approach to the Problem

3. To review and evaluate the advanced rifle marksmanship program, the Board approached the problem in this manner:

- a. Examined the present program.
- b. Evaluated the effectiveness of the program with respect to the attainment of objectives of the overall rifle marksmanship program (Annex A).
- c. Appraised the feasibility of teaching the rifleman to shoot at increased distances with service weapons and ammunition.
- d. Analyzed the program's training values in relation to training time, personnel, range facilities, and ammunition requirements.
- e. Evaluated and analyzed the recommendations and comments received from commanders in response to the Board's questionnaire.
- f. Developed conclusions and recommendations.

SECTION IV - Discussion

4. The objectives of basic marksmanship training are clearly defined in Annex B of this report and are strongly supported by senior commanders. To state these objectives succinctly, the trainee must be taught the skills necessary to enable him to shoot and kill an enemy in combat either as an individual or as a member of a fire element. The belief that this goal can be realized by using the principles of Trainfire I is accepted by the majority of senior commanders, members of this Board, and the Department of the Army. The principles of Trainfire I are well known and are defined in other portions of this report. Early in his military career the trainee is exposed to these principles. Throughout his first eight weeks of basic training the trainee is indoctrinated with the shooting skills which are essential for him to apply on the battlefield. The basic rifle marksmanship program and subsequent technique of rifle fire and squad tactical training are designed to impart marksmanship skills that have maximum transfer value to combat situa-

tions. The trainee is taught the fundamentals of shooting in an environment which he might expect to find in combat, i. e., wearing combat equipment, minimum sight adjustment, no sling, shooting from natural or covered positions, and aiming at indistinct or fleeting targets. From this environment the trainee progresses to the program which is under consideration--advanced marksmanship training. Under the present program the environment is completely different and in many respects incompatible with the previous training received. During this phase the soldier must learn the finer points of precision firing. He learns how to adjust his sling, make frequent sight adjustments, take deliberate positions, aim at clearly defined point targets; all of which, are seldom performed in combat.

5. To obtain the opinion of senior commanders concerning the combat firing values of the subject program, the Board asked the following question: "Does the present advanced rifle marksmanship program materially increase the rifleman's ability to hit enemy personnel in combat?" There was a total of 44 replies to this question. Sixty-one per cent of the commanders gave a negative reply while 39 per cent indicated an affirmative answer. It is significant that 24 of the 33 active Army commanders were among the 61 per cent who replied in the negative.

6. Based on the preceding discussion, the Board reasoned that this program does not materially increase the soldier's ability to hit enemy personnel in combat and therefore does not directly support the attainment of the first objective of the rifle marksmanship program.

7. The Board examined this program with respect to the third objective of the overall rifle marksmanship program, i. e., in time of peace to provide a broad base for the identification of potential precision shooters for the competitive marksmanship program. The type of training conducted under this program is directly related to the firing that is performed in competition. Therefore, this program would fulfill the requirements of the third objective.

8. During the Board deliberations on the objective of this program--"to increase rifle marksmanship proficiency at known distances ranges up to 500-yards"--considerable doubt was raised by the more experienced shooters on the Board concerning the accuracy of both the issue weapon and ammunition at this range. Since the requirement for teaching at a greater range is a consideration under the basic rifle marksmanship portion of this report, it is not discussed in detail in this annex. (Paragraph 9e(1), Annex B) Briefly it indicates that a soldier who applies correctly all the principles of precision firing will not necessarily hit his target because of the inaccuracies of both the issue weapon and ammunition. This fact, in itself, raises grave doubts as to the feasibility of pursuing a course of training which emphasizes shooting at distances greater than that prescribed in the basic marksmanship program.

9. The constant changes in weapons, equipment, and organization in today's Army demand the most judicious utilization of training time. The adoption of relatively complex weapons and equipment by the Army necessitates rather extensive training to attain the desired proficiency. In many instances, these weapons or equipment do not replace existing items but are in addition to existing items. For the reasons indicated in the preceding paragraphs, the Board believes that the value received for the time spent in this program is not justified. The Board feels that training time could be employed more profitably in other training activities.

10. A corollary to the preceding discussion is the urgent necessity to effect economies in the expenditures of ammunition. Rising costs and the introduction of new weapons systems dictate that economies be made in those areas where only marginal training benefits are derived. The Board considers the advanced rifle marksmanship program as one of those marginal benefit areas. Elimination of the program would result in a savings of approximately ten dollars per individual in ammunition alone.

11. The requirements for overhead personnel and range facilities must be analyzed in relation to the training value received. Here again the requirement for pit details, range operation, and range maintenance definitely portend a negative consideration when compared to the value of the training received. The Board asked the commanders in its questionnaire the following: "Are the training values of this program realized in an acceptable proportion to time, personnel, facilities, and ammunition requirements?" Of the 57 replies, 66% indicated that the value received was not acceptable. Twenty active Army commanders indicated no value, while seven stated that the training realized some values. Based on its own evaluation and on an analysis from the senior commanders' responses, the Board is of the strong opinion that the program is not of sufficient training value to warrant the expenditure of time, personnel, facilities, and ammunition required.

SECTION V - Conclusions

12. The Board concludes that:

- a. The advanced rifle marksmanship program does not directly support the attainment of the objectives of the basic marksmanship training program as recommended by the Board.
- b. The program does not materially increase the ability of the soldier to hit enemy personnel in combat.
- c. The program does assist in providing a base for the selection of potential precision marksmen.
- d. It does not appear feasible to train soldiers to fire issue weapons and ammunition at increased distances.
- e. The training value of this program does not warrant the expenditure of the training time, personnel, facilities and ammunition required.

SECTION VI - Recommendations

13. The Board recommends that the advanced rifle marksmanship program be eliminated from ATPs 7-17, 6-100 and 5-5.

ANNEX F

TRAINFIRE II

Appendix I

Breakdown of Proposed Trainfire II Program

Appendix II

Range Requirements

Appendix III

Ammunition Expenditures

Appendix IV

Scheduling and Personnel Requirements

ANNEX F

TRAINFIRE II

SECTION I - Purpose

1. The purpose of this annex is to discuss the Trainfire II program of instruction and to recommend revisions to this program which reflect economies in overhead personnel, range facilities and ammunition expenditures without detriment to training.

SECTION II - Background

2. Trainfire II was developed by the United States Army Human Research Unit, Fort Benning, Georgia, with assistance from the United States Army Infantry School. It was designed to improve training under ATP 21-114 and consists of integrated and concurrent training in squad tactics and technique of rifle fire. The favorable results of the troop tests at Fort Carson, Colorado, and Fort Jackson, South Carolina, prompted the United States Army Infantry School to recommend adoption of this program to USCONARC in 1958.

3. USCONARC then conducted an extensive review of Trainfire II to determine feasibility of adoption. It concluded that current and forecasted Army budget and manpower austerity policies precluded adoption of Trainfire II as proposed. The United States Army Infantry School was directed to restudy the program with a view toward: (1) eliminating all features not absolutely essential in the training of a basic combat soldier; (2) developing a program which incorporates all basic combat field firing training and meets the POR requirements of the close combat and infiltration course; and (3) reducing overhead personnel, ammunition, and range facility requirements. In a subsequent communication USCONARC directed that this restudy be incorporated as applicable in the findings of this Board's report.

SECTION III - Approach to Problem

4. The Board made its evaluation of the Trainfire II program essentially as follows:
- a. Examined in detail the Trainfire II program as originally proposed by USAIS.
 - b. Examined in detail the subjects which the Trainfire II program would replace in ATP 21-114.
 - c. Compared the relative effectiveness of each program.
 - d. Developed a program which retained the positive benefits of the original program while effecting savings in overhead personnel, ammunition, and range facility requirements.
 - e. Evaluated responses from the field with respect to desirability of the program and problems of implementation.
 - f. Considered the impact of the following factors:
 - (1) Availability of terrain at installations currently conducting basic combat training.
 - (2) Mobilization requirements.
 - (3) Construction costs.
 - g. Developed conclusions and recommendations.

SECTION IV - Trainfire II as Originally Proposed

5. The Trainfire II program was designed to replace 26-hours of squad tactical training and technique of fire contained in ATP 21-114. It reproduces in training the

basic problems a squad would encounter in combat. The program prescribes daytime technique of rifle fire as well as basic squad tactics, and develops a trainee's ability to function as a part of a fire team in the engagement of combat type targets in the attack and defense. It places emphasis on realistic live firing exercises on ranges which feature the latest developments in automatic "pop-up" targets, electronic hit computers, automatic weapons and artillery simulators. The 26-hour program is outlined in Table I.

| <u>PERIOD</u> | <u>SUBJECT</u> | <u>HOURS</u> |
|---------------|--|--------------|
| 1 | Orientation, Formations and Control. | 2 |
| 2 | Tactical Training for Squad in Defense; Techniques of Rifle Fire, Part I. | 4 |
| 3 | Tactical Training for Squad in Attack; Technique of Rifle Fire, Part II. | 4 |
| 4 | Live Firing Exercise for Squad in Defense; Live Firing Battle Drill; Practical Exercises in Reorganization and Consolidation; Technique of Assault Fire. | 8 |
| 5 | Live Firing Exercise for Squad in Attack; Tactical Training for Squad in Semi-independent Action (Offensive). | 8 |
| Total Hours | | 26 |

Table I, Current Trainfire II Program

6. The ammunition, overhead personnel, and range facility requirements for this program will be discussed in subsequent paragraphs of this annex.

SECTION V - Restudy of Trainfire II

7. The Board in examining Trainfire II determined that revisions could be made which would reflect savings in ammunition, overhead personnel and range requirements without reducing the effectiveness of the program. These proposed revisions are discussed below:

a. Elimination of all features now included in Trainfire II which are not absolutely essential to training the basic combat soldier.

(1) Investigation indicated several phases which could be eliminated or integrated with another phase of the program. These phases are:

(a) Reorganization and Consolidation, Period 4, Table I. This phase of Period 4 can be eliminated as a separate and distinct unit of instruction. The principal teaching points can appropriately be made a part of the scope of the tactical and live firing exercises for the squad in the attack and practical work included as the final phase of these exercises.

(b) Technique of Assault Fire, Period 4, Table I. This phase of Period 4 can also be eliminated as a separate unit of instruction. The principal teaching points can appropriately be integrated within the scope of the fire team battle drill exercises, and practical work included as the final phase of these exercises. The revision will result in the elimination of the assault range and will reduce ammunition expenditures.

(c) Tactical Training for the Squad in Semi-independent Action (Offensive), Period 5, Table I. ATP 21-114 does not prescribe tactical training for the squad in semi-independent action. This training goes beyond the basic fundamentals of squad tactical training and is appropriately covered during Advance Individual Training under ATP 7-17. The Board feels that this training and resultant blank firing expenditures should be eliminated.

(d) Technique of Rifle Fire, Periods 2 and 3, Table I. By rearranging program sequence and by eliminating duplication, Technique of Rifle Fire Part I and Technique of Rifle Fire Part II can be combined into one 4-hour block of instruction. This will reduce the Technique of Rifle Fire Range requirement from two to one.

(e) Live Firing Battle Drill, Period 4, Table I. This period of instruction involves individual and fire team live firing exercises on two different ranges. By combining the essential features of each exercise into one exercise, ammunition savings and the elimination of one range can be effected.

b. Incorporation of all basic combat training field firing exercises to include battle indoctrination features of the infiltration and close combat courses.

(1) There are four subjects prescribed in ATP 21-114 which include field type firing and battle field indoctrination POR requirements. These are:

| <u>SUBJECT</u> | <u>HOURS</u> |
|-------------------------|--------------|
| Technique of Rifle Fire | 12 |
| Squad Tactical Training | 14 |
| Close Combat Course | 4 |
| Infiltration Course | <u>6</u> |
| Total | 36 |

(2) Technique of Rifle Fire and Squad Tactical Training. The Board considers the technique of rifle fire and squad tactical training techniques contained in Trainfire II to be far superior to those techniques prescribed in ATP 21-114 as discussed in Section VII.

(3) Close Combat Course. The Board feels that the Trainfire II program, by the use of realistic targets at combat ranges under field conditions, by the emphasis on live firing exercises throughout the program, and by the extensive use of pyrotechnics, demolitions, and simulators, prepares the soldier for the sensations and mental stresses of actual combat. The Board considers that the POR requirements of the Close Combat Course are duplicated within the framework of Trainfire II.

(4) Infiltration Course. The Trainfire II program as originally proposed does not meet all of the POR requirements of the Infiltration Course, i.e., infiltration methods, movement under live fire, and negotiation of an obstacle under fire. The Board feels, however, that the battle indoctrination features of the Infiltration Course can be effectively integrated into the Trainfire II program. This can be accomplished by integrating overhead machinegun fire into the live firing attack problem and by constructing a barbed wire obstacle which must be negotiated by the squad during the conduct of the attack exercise. An attack exercise combining these features with simulated artillery and mortar fire provides a live firing exercise approaching the realism of combat. Figures 12 and 13 show how these features can be integrated into the program.

ATTACK RANGE WITH LIVE OVERHEAD FIRE (1)

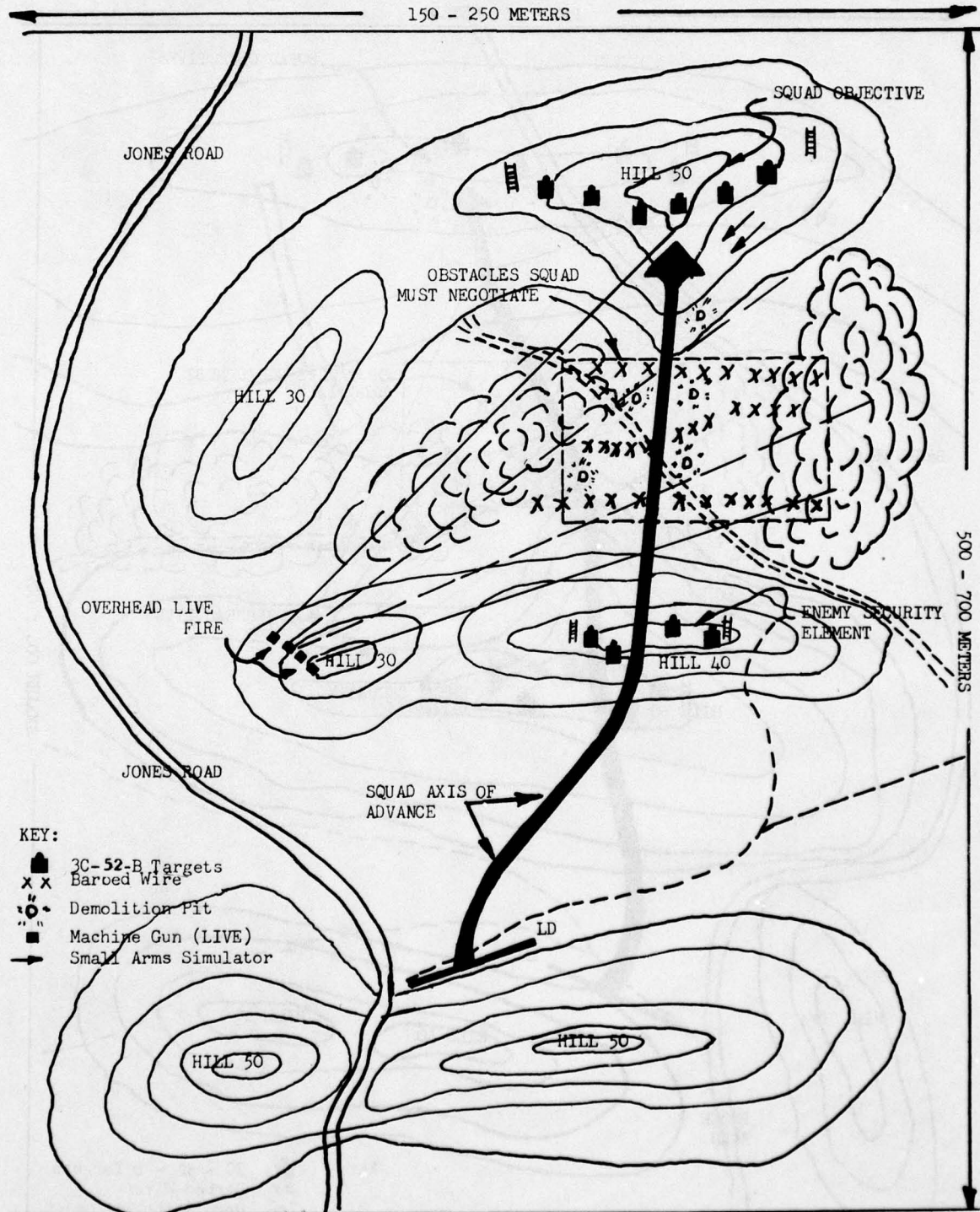


Figure 12.

ATTACK RANGE WITH LIVE OVERHEAD FIRE (2)

150 - 250 METERS

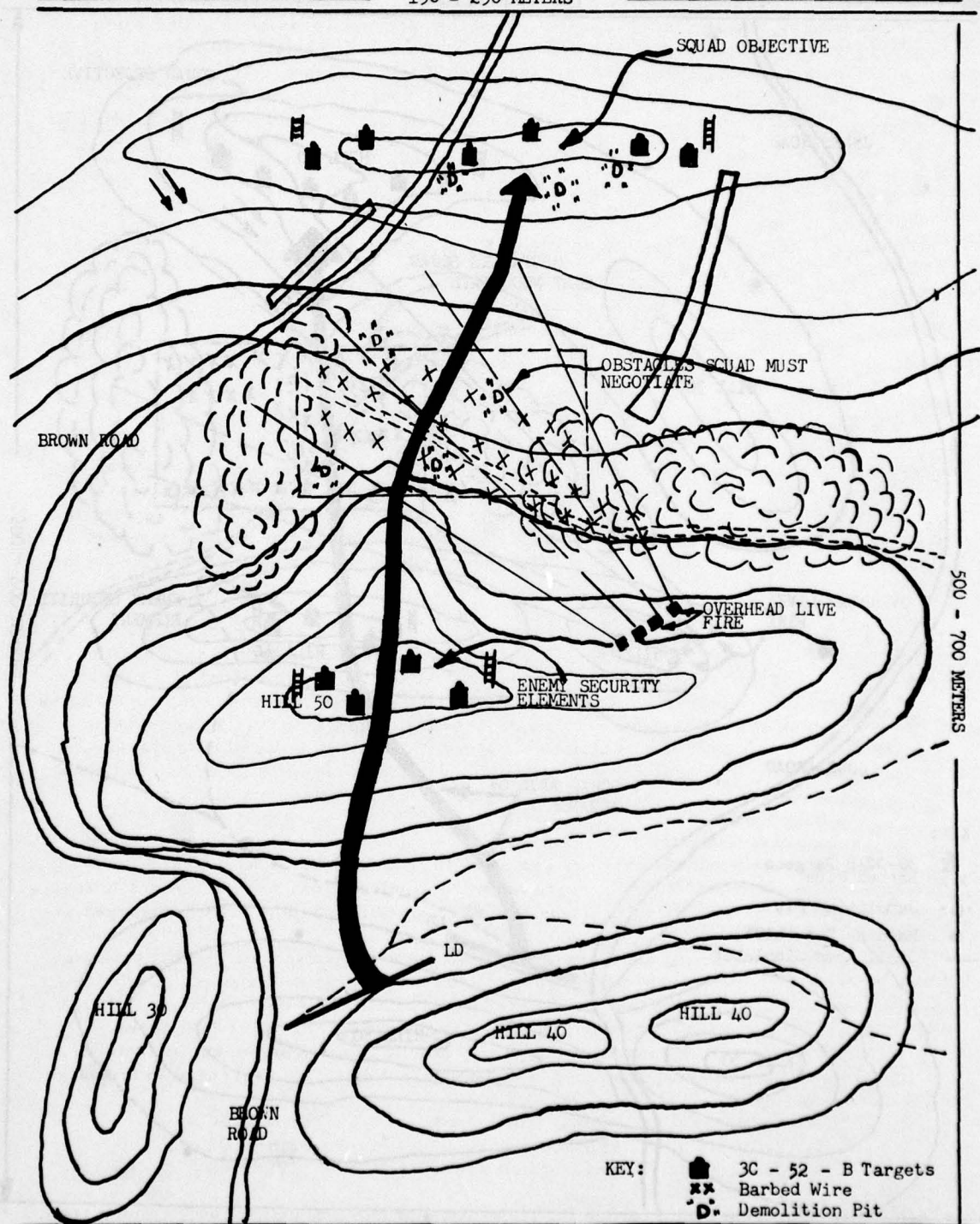


Figure 13.

SECTION VI - Revised Trainfire II

8. Revised Program. As discussed in Section V, the Board found several areas where revision of the original Trainfire II program appeared feasible and desirable. Accordingly, the Board developed the program appearing in Table II. Appendix I to this annex outlines in detail the specific features of this program.

| <u>PERIOD</u> | <u>SUBJECT</u> | <u>HOURS</u> |
|---------------|--|--------------|
| 1 | Orientation, Formations and Control Methods. | 2 |
| 2 | Tactical Training for Squad in Defense; Technique of Rifle Fire. | 8 |
| 3 | Tactical Training for Squad in Attack; Battle Drill and Assault Fire. | 8 |
| 4 | Live Firing Exercises for Squad in Defense; Live Firing Exercises for Squad in Attack. | 12 |
| | Total | 30 |

Table II - Revised Trainfire II Program

9. Training Time. The revised Trainfire II program requires an increase of 4-hours over the program appearing in Table I. The increase in training time was necessitated by combining certain phases of the original program and the inclusion of the barbed wire obstacle and overhead firing features in the attack problem. However, the increase in training time will be more than compensated for as the revised program replaces four subjects in ATP 21-114 which require a total of 36-hours; an overall savings of 6-hours.

10. Range Savings. The revised program eliminates the need for the following ranges: one Technique of Rifle Fire Range; the Individual Battle Drill Range and the Assault Range. Elimination of these ranges will reduce the original cost of a range complex approximately \$81,500.00. It appears that the average cost for the construction of two complexes at each installation concerned will be \$437,000.00. True costs for each installation will depend on variable factors such as availability of troop labor, costs for run-in of primary power, construction of access roads, etc. A more detailed discussion of range requirements is contained in Appendix II to this annex.

11. Reducing Ammunition Expenditures.

a. In its study of the original Trainfire II program, the Board carefully examined each phase to detect areas where ammunition allocations were in excess to training needs. The revised program, Table II, reflects a total savings of 96 rounds per individual.

b. The Board made a survey of installations conducting basic combat training to determine ammunition expenditures for the current programs (technique of rifle fire, squad tactical training, close combat course) that Trainfire II would replace. The results of the survey and the related data are contained in Appendix III to this annex.

c. Based upon the results of the survey and by applying other known factors, the Board made the following comparison of ammunition costs as expressed in terms of a 200-man company:

| | |
|---|------------|
| (1) Trainfire II as originally proposed | \$5,496.00 |
| (2) Trainfire II as revised | 3,654.00 |
| *(3) Conventional Training which Trainfire II would replace | 2,989.00 |

*This figure represents the average for eight installations conducting basic combat training and does not include the infiltration course expenditures.

d. An analysis of the data contained in paragraph 1, Appendix III to this annex, indicates that ammunition costs for the conduct of conventional training at four installations is approximately the same as that required for the revised Trainfire II program. One installation, Fort Ord, is spending \$842.11 in excess of that required for the revised Trainfire II program. Fort Leonard Wood is conducting conventional training (Technique of Rifle Fire, squad tactical training and the Close Combat Course) for a cost of only \$1,271.96; \$1,717.04 below the average. This latter factor obviously reduces the overall average significantly.

12. Operating Personnel.

a. At the onset the Board recognized that the emphasis on live firing exercises and the advanced teaching techniques followed in the Trainfire II program would require an increase in cadre personnel over that required for conventional training in Technique of Rifle Fire, squad tactics and the Close Combat Course.

b. The Board in the revision of the program was able to reduce substantially cadre personnel requirements. The Trainfire II program as originally proposed required an average of nine officers and 51 EM cadre per 200-man company. The revised Trainfire II program requires approximately five officers and 30 EM cadre per 200-man company; a savings of 40%.

c. The Board received varied responses from the field with respect to the survey concerning operating personnel requirements. Some installations indicated that additional personnel would not be required; some installations indicated that a substantial increase in personnel would be necessary. No firm figures were reported.

d. The Board feels it is reasonable to assume that upon complete implementation of this training, personnel support requirements may be reduced significantly through experience and training management.

e. Appendix IV to this annex contains a detailed discussion of personnel requirements.

SECTION VII - Effectiveness of Trainfire II Program

13. As a result of research in this matter, the Board feels that the Trainfire II program would be a more effective method of teaching basic combat soldiers the fundamentals of squad tactical training and technique of rifle fire. Under ATP 21-114 squad tactical training and technique of rifle fire are taught separately. There is no requirement for the soldier to combine the results of this training in live firing tactical type exercises. Fundamental parts of squad combat training are not now integrated into a complete squad training program where the squad member applies his fire as a well-trained member of a fire unit in the attack and defense. The Trainfire II program overcomes this deficiency.

14. The Board feels that the inclusion of the barbed wire obstacle and overhead fire in Period 4 of the revised programs satisfies the current requirements of the standard Infiltration Course. It also feels that the overall atmosphere under which Trainfire II is conducted more than adequately fulfills the requirements of the Close Combat Course.

15. Commanders in the field were provided the revised Trainfire II program. They overwhelmingly supported its implementation during Basic Combat Training. Of the 76 replies to the Board's questionnaire concerning the feasibility of adopting this program, 72 concurred and only four nonconcurred.

SECTION VIII - Implementation

16. Peacetime. An evaluation of the relative merits of Trainfire II in comparison with the current methods of teaching techniques of rifle fire and squad tactical training led to the inevitable conclusion that as a minimum the Trainfire II program should be implemented at the installations currently with a basic combat training mission. The Board, recognizing that Trainfire II type ranges have valuable application in other training endeavors, such as a basis for measuring the performance of squads in Army Training Tests, felt that terrain and monetary considerations preclude wholesale implementation of the program.

17. Mobilization. The Board believes that the combat training values of the Trainfire II program are so great that Trainfire II complexes with a programmed availability of target devices should be planned for those mobilization stations which will have a continuing basic combat training mission after mobilization. Upon mobilization, construction should be initiated without delay.

SECTION IX - Problems of Implementation

18. Terrain Requirements. The revised Trainfire II program will require an estimated increase of 9,000 acres per complex over terrain requirements for conventional training. Inasmuch as two complexes are required to train an input of five trainee companies per week, a total increase of 18,000 acres will be required for most installations. With the exception of Fort Dix, New Jersey, responses from the field indicated that this additional acreage requirement posed no major problems.

19. Construction Costs and Implementation Time. Initial installation costs are relatively high (approximately \$435,000.00 for two complexes). (See Appendix II, Inclosure 1.) The Board estimates that as a minimum 60 days would be required to construct a Trainfire II complex and to implement the program.

SECTION X - Conclusions

20. The Board concludes that:

a. Trainfire II is superior to present methods of instruction in basic squad tactics and techniques of rifle fire. The program provides realistic training which produces a trainee who can effectively take his place as a member of a fire unit in combat.

b. The revised Trainfire II Program:

(1) Includes only those features considered absolutely essential in the basic training of the combat soldier.

(2) Incorporates all basic combat training field firing exercises and meets the POR requirement of the Close Combat and Infiltration Course.

(3) Reduces personnel requirements, ammunition expenditures and range requirements consistent with obtaining the desired training objectives.

c. Implementation of the Trainfire II program will result in an increase in operating personnel and ammunition expenditures, but with a corresponding increase in training effectiveness.

d. Further reductions in personnel requirements may be possible after implementation.

e. The cost in terms of personnel, dollars, and terrain are not excessive in view of the improved rifleman produced, and savings in training time, and ultimate savings through more efficient small units.

SECTION XI - Recommendations

T.C.S.T.D.

21. The Board recommends that:

a. The Trainfire II program as revised be implemented at the installations which have a basic combat training mission,

b. Trainfire II complexes be planned for those installations which have a continuing basic combat training mission after mobilization, and subsequent to mobilization such complexes be constructed as required.

APPENDIX I TO ANNEX F

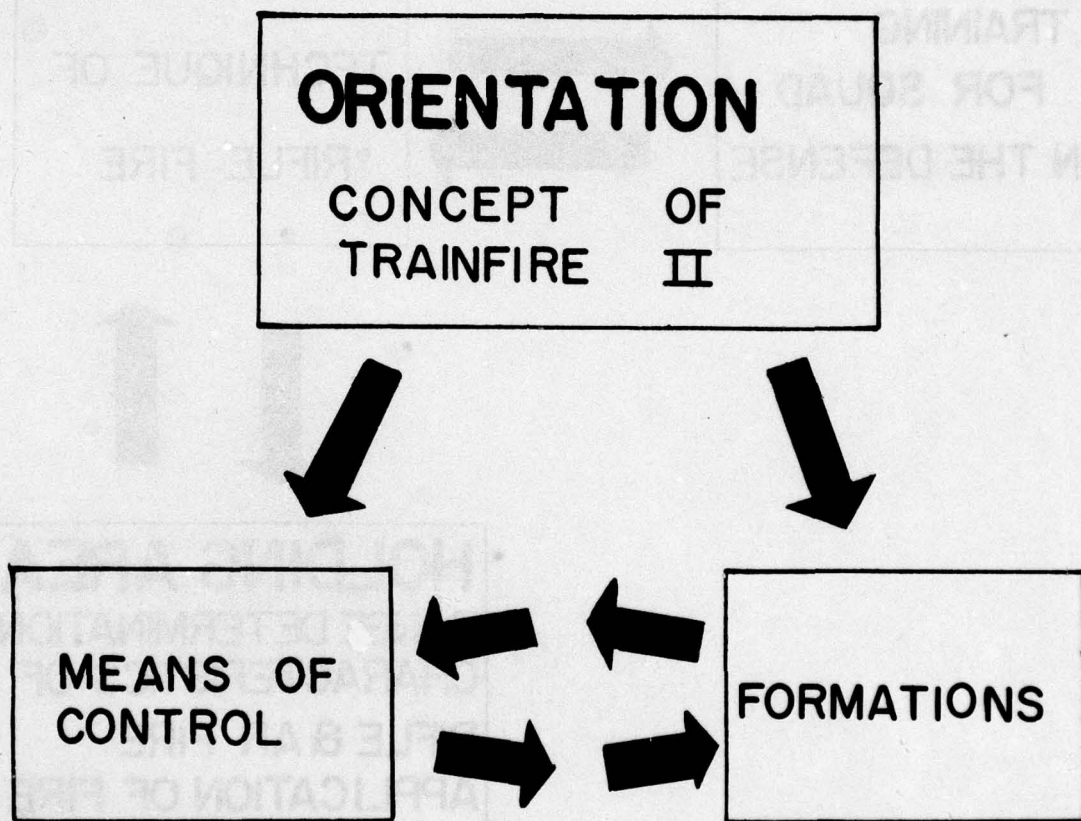
BREAKDOWN OF PROPOSED TRAINFIRE II PROGRAM

| <u>PERIOD</u> | <u>HOURS</u> | <u>SUBJECT</u> | <u>SCOPE OF INSTRUCTION</u> |
|---|--------------|--|---|
| 1 | 2 (1-2) | Orientation; Formations and Means of Control | Integrated CONFERENCE and DEMONSTRATION covering introduction to Trainfire II, role of the rifle squad in combat, TOE of rifle squad, outline of the course. Integrated CONFERENCE, DEMONSTRATION, and PRACTICAL EXERCISE covering basic squad formations, hand, arm and pre-arranged signals. |
| <p><u>NOTE:</u> Initially the entire unit receives a 15-minute orientation, then the unit is divided into two groups. One-half of the unit receives training in "Combat Formations" (35-min), while the other half receives instruction in "Hand, Arm, and Whistle Signals" (35-min). Groups change over for the second part of the period.</p> | | | |
| 2 | 8 (3-10) | Tactical training for squad in defense; Technique of rifle fire | Integrated CONFERENCE and PRACTICAL EXERCISE covering defense order, movement into position, SOPs for placing foxholes, sector of fire; technique of rifle fire to include range determination, characteristics of rifle and automatic rifle fire, distribution of fire, fire control. |
| <p><u>NOTE:</u> One-half of the unit receives training in defense (4-hours), while the other half receives training in TRF (4-hours). Groups change over after 4-hours.</p> | | | |
| 3 | 8 (11-18) | Tactical training for squad in the attack; Battle Drill and assault fire | Integrated CONFERENCE and PRACTICAL EXERCISE covering attack orders, movement from the assembly area to the attack position and across the line of departure, technique of advance, reorganization on the objective, technique of fire and movement (Battle Drill), technique of assault fire. |
| <p><u>NOTE:</u> One-half of the unit receives training in the offense (4-hours), while the other half receives training in battle drill and assault fire (4-hours). Groups change over for the second 4-hours.</p> | | | |
| 4 | 12 (19-30) | Live firing exercises for squad in the attack; Live firing exercises for squad in the defense. | Live firing PRACTICAL EXERCISE for squad in the defense and attack. (Live overhead fire integrated into attack exercises.) Review of all training received during Trainfire II. |

NOTE: One-half of the unit receives training on the Defense Range (6-hours), while the other half receives training on the Attack Range. Groups change over after 6-hours.

NOTE: For detailed breakdown of proposed program, see Inclosure 1 and Figures 14 through 17.

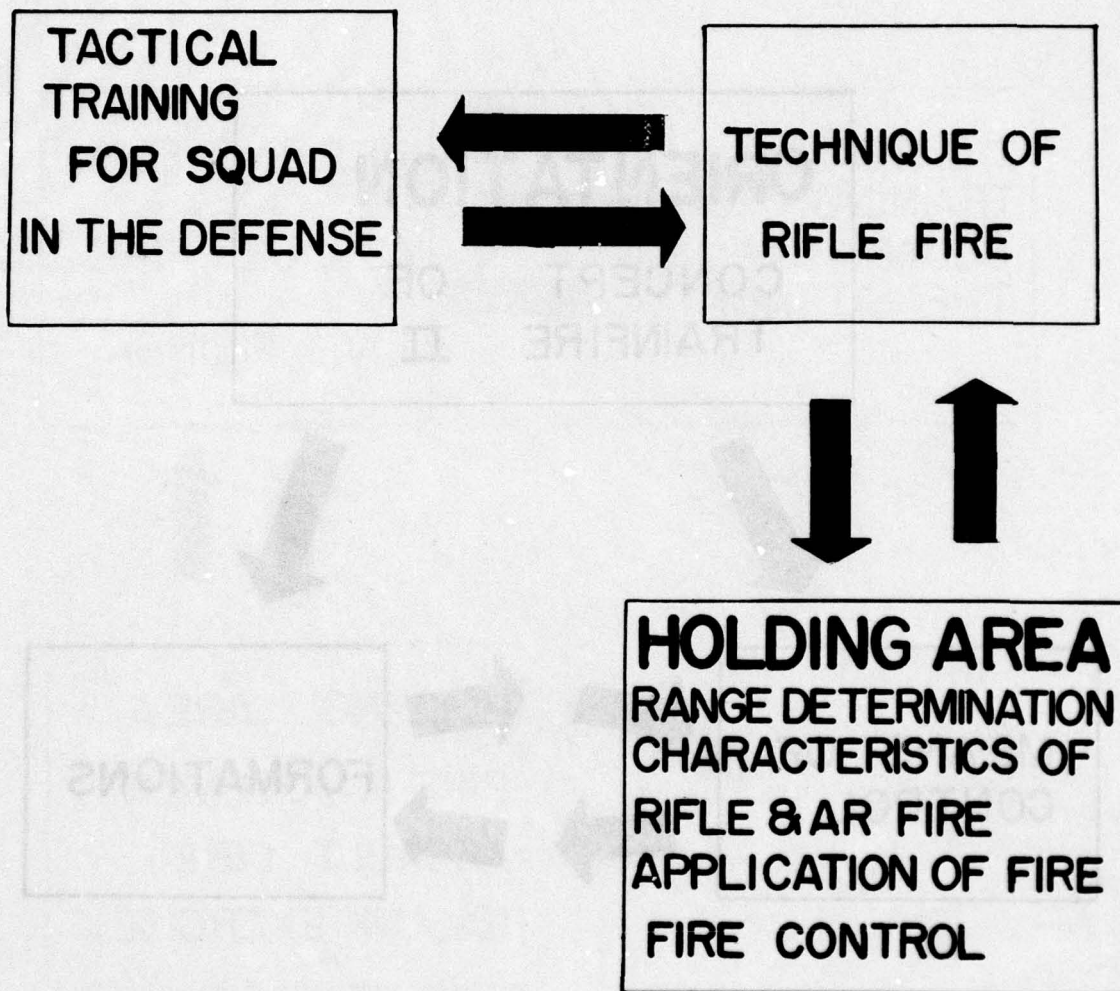
GENERAL ORGANIZATION FOR TRAINING - Period 1



PERIOD 1

Figure 14.

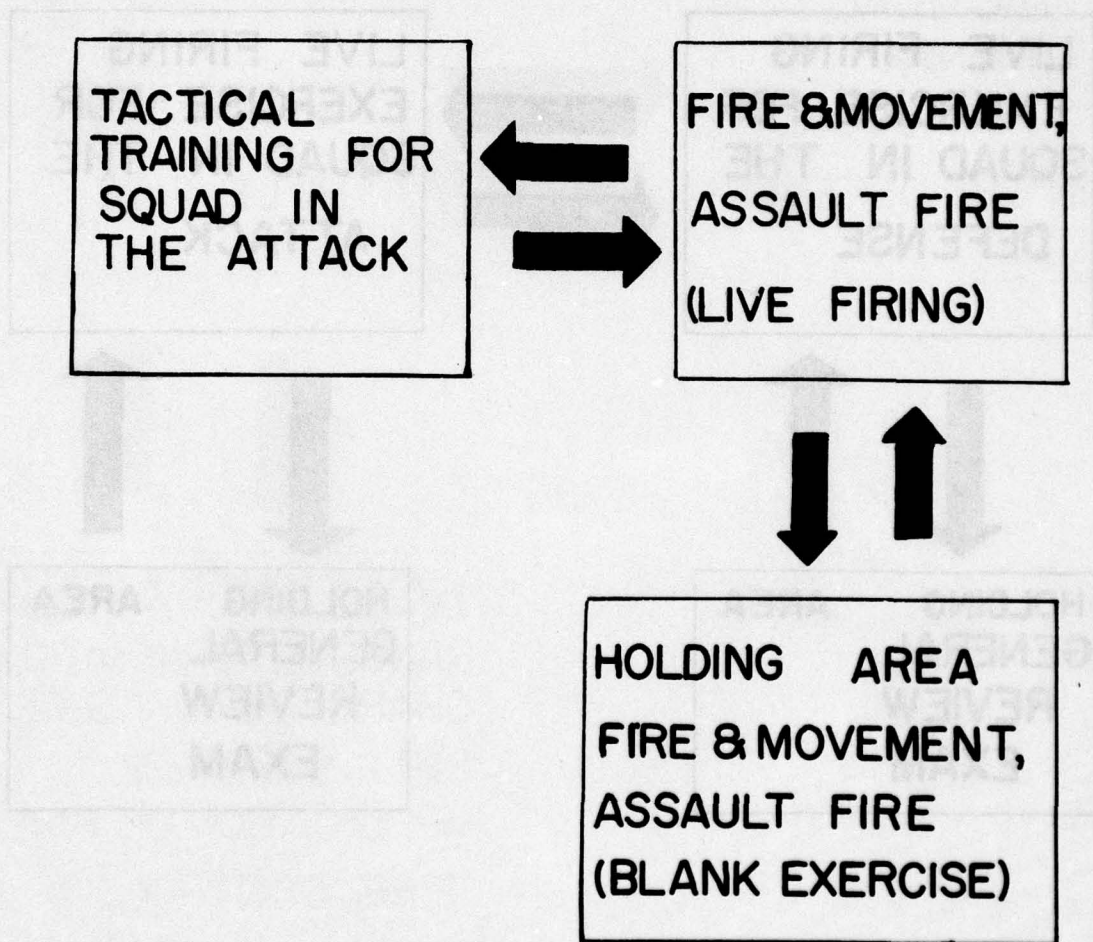
GENERAL ORGANIZATION FOR TRAINING - Period 2



PERIOD 2

Figure 15.

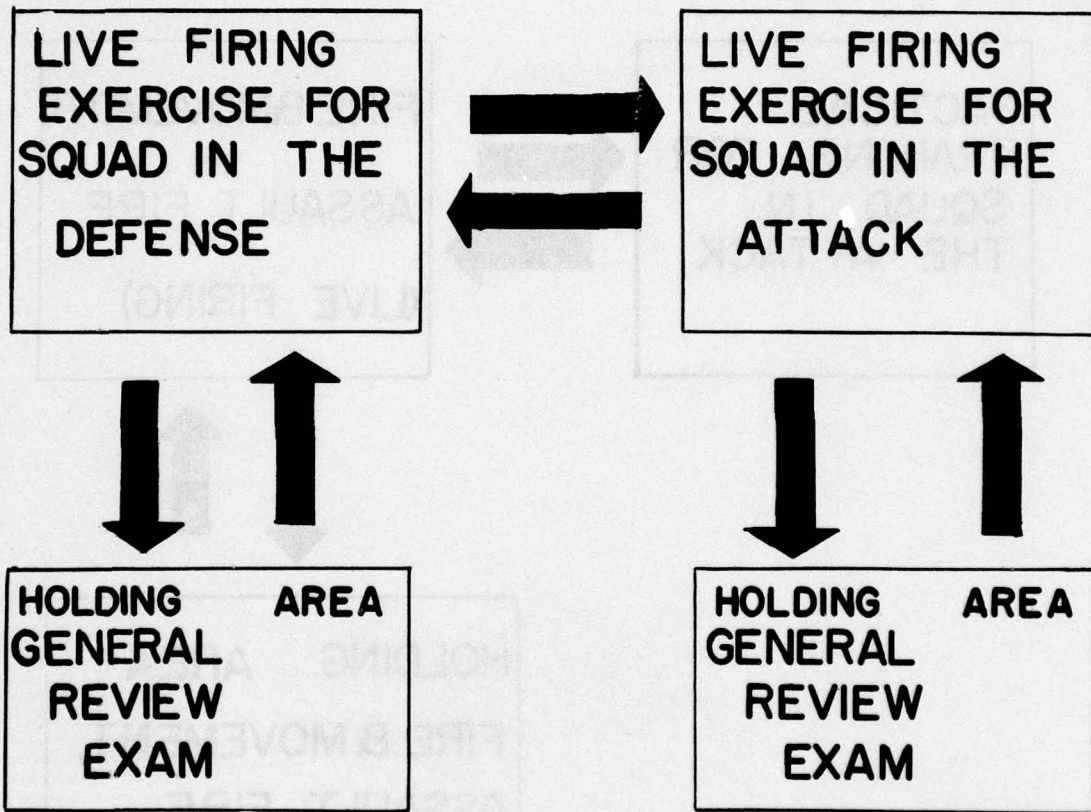
GENERAL ORGANIZATION FOR TRAINING - Period 3



PERIOD 3

Figure 16.

GENERAL ORGANIZATION FOR TRAINING - Period 4



PERIOD 4

Figure 17.

APPENDIX II TO ANNEX F

RANGE REQUIREMENTS

1. The current Trainfire II program requires the following ranges:
 - a. Two Technique of Rifle Fire Ranges.
 - b. One Individual Battle Drill Range.
 - c. One Five Team Battle Drill Range.
 - d. One Assault Range.
 - e. One Attack Range.
 - f. One Defense Range.

2. The revised Trainfire II program eliminates the need for the following ranges:
 - a. One Technique of Rifle Fire Range. A reduction in the number of live firing exercises and an increase in training time makes it possible to conduct all techniques of rifle fire training on one two-squad capacity range.
 - b. Individual Battle Drill Range. Live firing battle drill is considered essential to training the basic combat soldier. However, one blank firing exercise followed by one live firing exercise on the Fire Team Battle Drill Range is considered sufficient to obtain the training objective. The squads will receive additional practice in live firing battle drill during the live firing attack exercises. (Period 4, Appendix I)
 - c. Assault Range. The assault range can be eliminated by combining battle drill and assault training and culminating each live firing battle drill exercise with a live firing assault. An example of a modified *Battle Drill Range* that will serve this purpose is contained in Figure 19.

3. Schematic drawings of the ranges required to support the revised program are contained in Figures 18 through 21.

4. Inclosure 1 contains a recapitulation of cost estimates for two Trainfire II complexes (by contract) at Fort Benning, Georgia.

TECHNIQUE OF FIRE RANGE (SCHEMATIC)

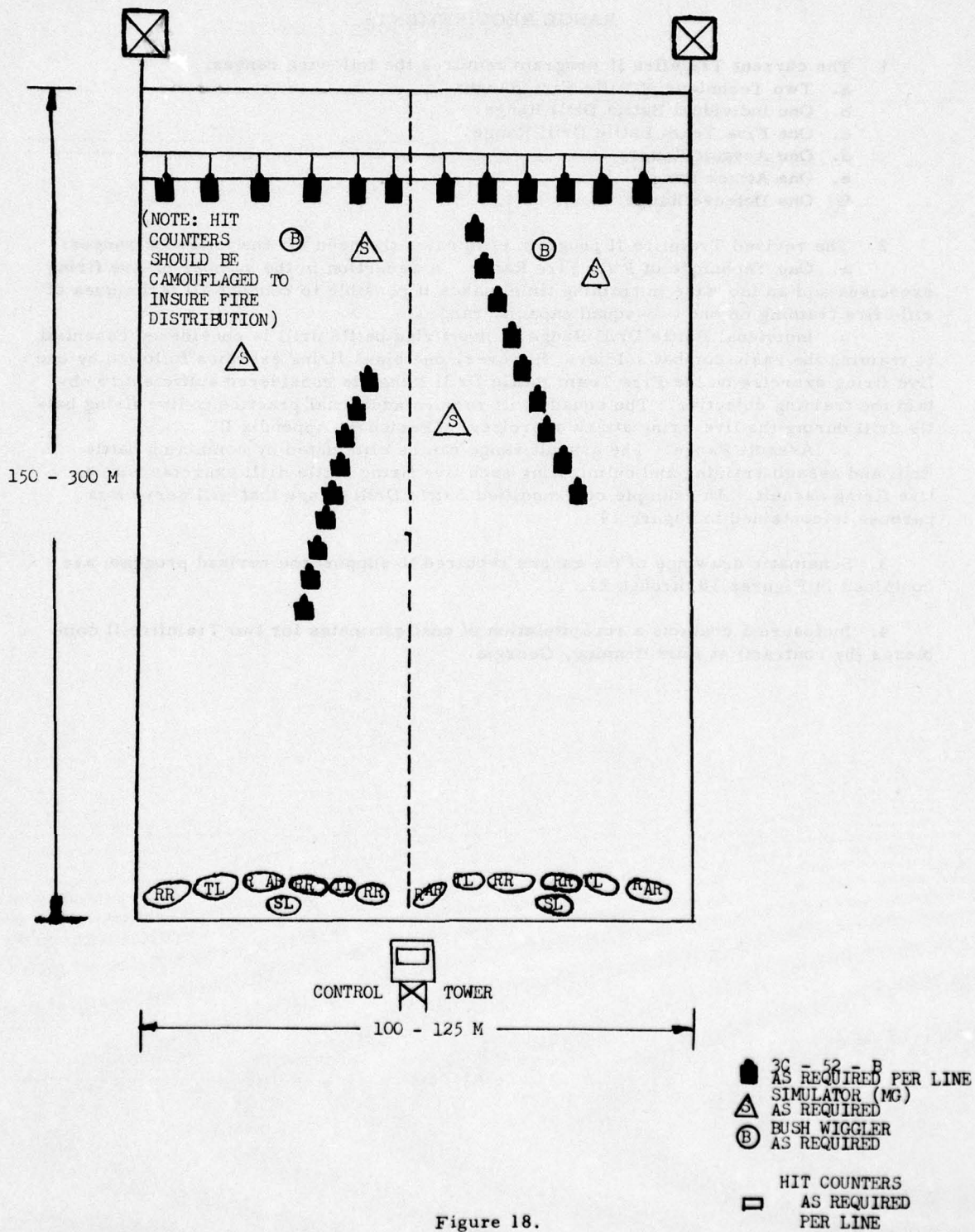


Figure 18.
236

DEFENSE TRAINING RANGE (SCHEMATIC)

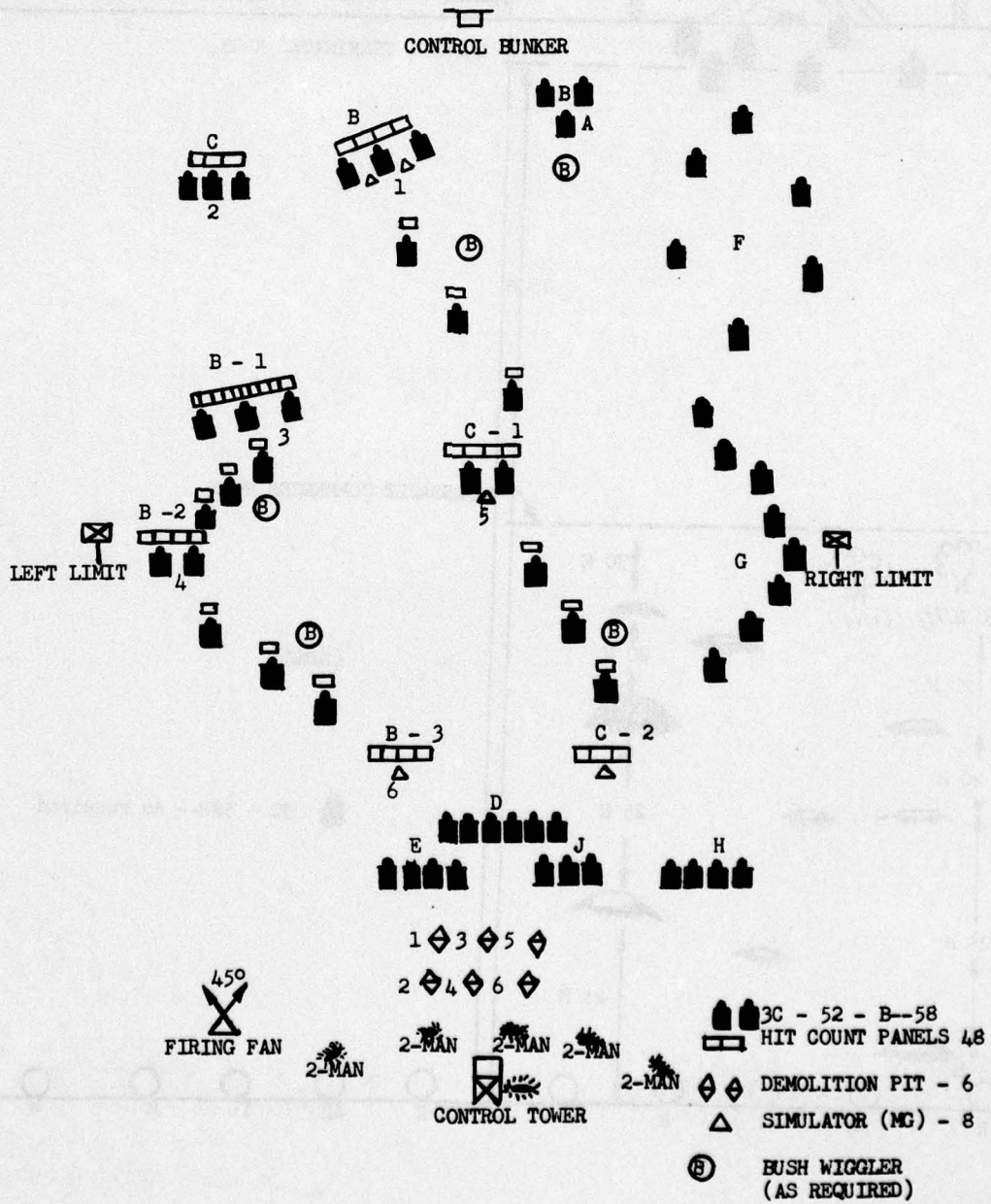


Figure 20.
238

ATTACK RANGE (SCHEMATIC)

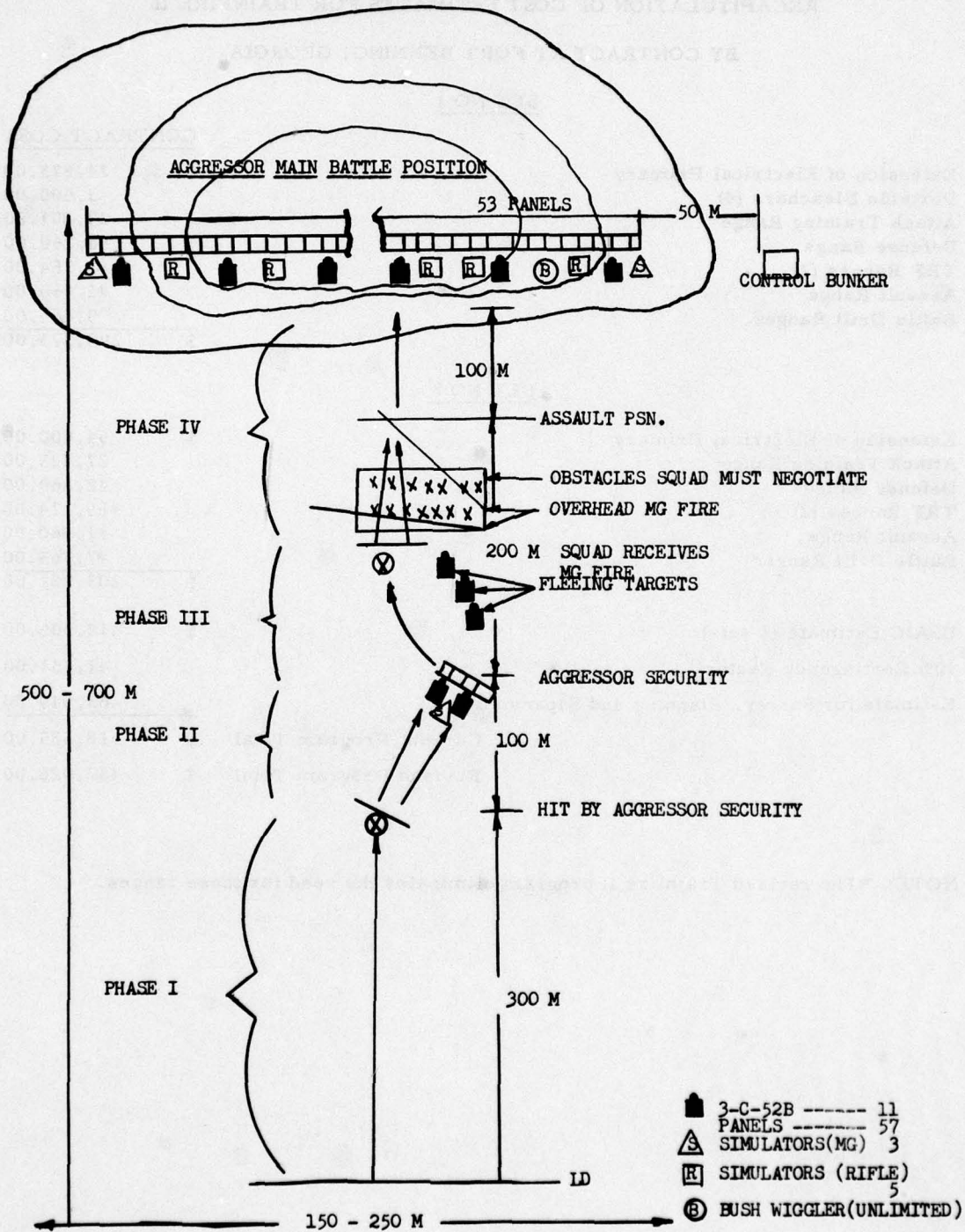


Figure 21.

INCLOSURE 1 - APPENDIX II - ANNEX F

RECAPITULATION OF COST ESTIMATES FOR TRAINFIRE II

BY CONTRACT AT FORT BENNING, GEORGIA

SET NO 1

| | <u>CONTRACT COST</u> |
|---------------------------------|----------------------|
| Extension of Electrical Primary | \$ 24,573.00 |
| Portable Bleachers (4) | 3,500.00 |
| Attack Training Range | 29,801.00 |
| Defense Range | 56,260.00 |
| TRF Ranges (2) | 83,764.00 |
| Assault Range | *1,960.00 |
| Battle Drill Ranges | 9,465.00 |
| | <u>\$ 209,323.00</u> |

SET NO 2

| | |
|---|----------------------|
| Extension of Electrical Primary | \$ 54,000.00 |
| Attack Training Range | 27,523.00 |
| Defense Range | 42,860.00 |
| TRF Ranges (2) | *69,874.00 |
| Assault Range | *1,960.00 |
| Battle Drill Ranges | *7,765.00 |
| | <u>\$ 203,982.00</u> |
| USAIC Estimate (2 sets) | \$ 413,305.00 |
| 10% Contingency Factor | 41,331.00 |
| Estimate for Survey, Planning and Supervision | <u>63,949.00</u> |
| Current Program Total | \$ 518,585.00 |
| Revised Program Total | \$ 437,026.00 |

NOTE: *The revised Trainfire II program eliminates the need for these ranges.

APPENDIX III - ANNEX F

AMMUNITION EXPENDITURES

1. Line 1 shows the cost for ammunition expended at each USATC and STRAF Training Division, per 200-man company, to conduct the following: (a) squad tactical training, (b) Technique of Rifle Fire, (c) Close Combat Courses. Line 2 shows the cost of ammunition expended to conduct the infiltration course at each installation, per 200-man company.

| | <u>Line 1</u> | <u>Line 2</u> |
|---------------------------------|-----------------|---------------|
| Fort Ord | \$ 4,496.11 | \$ 512.00 |
| Fort Knox | 3,727.75 | 428.00 |
| Fort Jackson | 2,255.85 | 498.48 |
| Fort Leonard Wood | 1,271.96 | 260.40 |
| Fort Dix | 3,212.24 | 751.00 |
| 1st Inf Div | 2,502.85 | 870.22 |
| 2d Inf Div | 2,657.73 | 403.30 |
| 2d Armored Div | <u>3,793.79</u> | <u>794.46</u> |
| TOTAL | \$23,918.28 | \$4,517.86 |
| Average per 200-Man Company | \$ 2,989.78 | \$ 564.73 |
| Average without Ft Leonard Wood | \$ 3,235.19 | |

2. Breakdown of Ammunition Expenditures for the Revised Trainfire II Program.

a. Ctg, Cal .30 ball 8 rd clip.

| <u>Period</u> | <u>Ammo Per Individual</u> |
|---------------|----------------------------|
| 1 | None |
| 2 | 48 rds (ball) |
| 3 | 48 rds (ball) |
| 4 | <u>112 rds (ball)</u> |
| TOTAL | 208 rds |

b. Ctg, Cal .30 Blank Ctn - 48 per man.
(Fired during Period Three)

| | |
|-----------------------------------|-----|
| c. Other - Cap Blasting Elec Spec | 240 |
| Ctg, Gren Rifle Cal .30 | 40 |
| TNT 1/2 lb Block | 240 |
| Expendable Comp | 200 |
| F/Prac Hand Gren | |

3. Cost of Ammunition Required for the Revised Trainfire II Program.

| <u>ITEM</u> | <u>UNIT COST</u> | <u>QUANTITY</u> | <u>COST</u> |
|-----------------------------|------------------|-----------------|-------------------|
| Ctg, Cal .30 Ball 8 rd clip | .077 | 40,000 | \$3,080.00 |
| Ctg, Cal .30 Blank, Ctn | .04 | 9,600 | 384.00 |
| Cap Blasting Elec Spec | .18 | 240 | 43.20 |
| Ctg Gren Rifle Cal .30 | .06 | 40 | 2.40 |
| TNT 1/2 lb Block | .27 | 240 | 64.80 |
| Expendable Comp | .40 | 200 | 80.00 |
| F/Prac Hand Gren | | | |
| TOTAL COST | | | <u>\$3,654.40</u> |

4. Comparison of Ammunition Requirements.

| | |
|--|------------|
| Currently Proposed Trainfire II Program | \$5,496.00 |
| Revised Trainfire II Program | 3,654.40 |
| Conventional Training Average (Squad Tactical Training, Technique of Rifle Fire and Close Combat Course) | 2,989.78 |

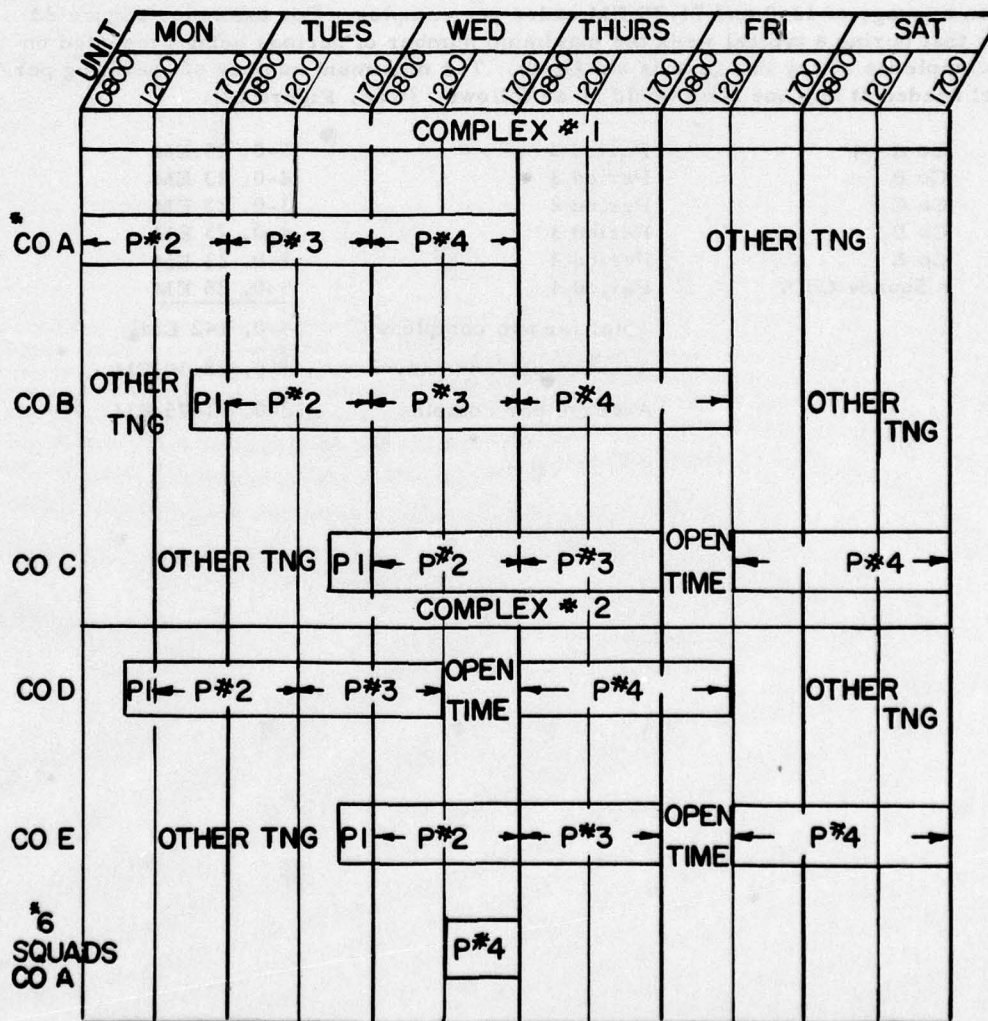
5. The figures used in this comparison do not include the infiltration course expenditures. It is estimated that the live overhead firing which will be conducted during the attack exercise (Period 4, revised Trainfire II program) will require approximately the same amount of ammunition presently expended during the infiltration course.

APPENDIX IV TO ANNEX F
SCHEDULING AND PERSONNEL REQUIREMENTS

1. Scheduling. Figure 22 illustrates a suggested method of scheduling TRAINFIRE II training on two complexes to train 5 BCT companies per week.

a. In order to make the most effective use of personnel, range facilities and time, Period 1 (2 hours) should be presented to one company prior to 0800 hours the first day of the week in which TRAINFIRE II is conducted. This will enable the unit to start one company at 0800 hours on the first day as illustrated in Figure 22.

SCHEDULING CHART



*By utilizing both range complexes (Wed), Co A is capable of conducting Period 4 in an eight hour training day.

Legend: P--Period

Figure 22.

2. Personnel Requirements. It is estimated that the revised program can be supported with an average of five officers and 28-30 EM cadre per 200-man company.

a. Based on personnel requirements at Fort Carson, Colorado, during the troop testing of Trainfire II, personnel required to present each period of instruction to a 200-man company is as follows:

| <u>PERIOD</u> | <u>PERSONNEL</u> |
|---------------|------------------|
| 1 | 2-0, 26 EM |
| 2 | 3-0, 23 EM |
| 3 | 4-0, 23 EM |
| 4 | 5-0, 25 EM |

b. An installation with an input of five BCT companies can conduct Trainfire II with an average of 12-0 and 71-75 EM cadre per complex. For example, Figure 22 shows that during a typical week the maximum number of periods being presented on both complexes at any one time is six (Wed). The maximum number of operating personnel needed at any one time would be as follows: (Wed, Figure 22).

| | | |
|---------------|-------------------------|----------------|
| Co A (-) | Period 4 | 5-0, 25 EM |
| Co B | Period 3 | 4-0, 23 EM |
| Co C | Period 2 | 3-0, 23 EM |
| Co D | Period 3 | 4-0, 23 EM |
| Co E | Period 2 | 3-0, 23 EM |
| 6 Squads Co A | Period 4 | 5-0, 25 EM |
| | Total for two complexes | 24-0, 142 EM |
| | Average per company | 5-0, 28-30 EM |
| | Average per complex | 12-0, 71-75 EM |

Mobilization

SECTION I - Purpose

The purpose of this annex is to evaluate the impact of mobilization on the maintenance training of the active Army and Reserve Components.

SECTION II - Approach to the Problem

In evaluating the impact of mobilization on the maintenance training of the active Army and Reserve Components, the Board approached the problem essentially as follows:

1. Examined the following documents pertaining to mobilization:
 - (a) Mobilization Training Program, Annex I (U) (SECRET)
 - (b) Mobilization Training Program, Annex II (U) (SECRET)
 - (c) Mobilization Training Program, Annex III (U) (SECRET)
 - (d) Mobilization Training Program, Annex IV (U) (SECRET)
2. Conducted a survey to determine the number and types of ranges available at the most critical stations identified in the training program outlined in paragraph 1 above.

ANNEX G
MOBILIZATION

Appendix I

Yardstick for Ranges Based on Proposed Program

ANNEX G

MOBILIZATION

SECTION I - Purpose

1. The purpose of this annex is to evaluate the impact of mobilization on the rifle marksmanship training of the active Army and Reserve Components.

SECTION II - Approach to the Problem

2. In evaluating the impact of mobilization on the rifle marksmanship training of the active Army and the Reserve Components, the Board approached the problem essentially as follows:

- a. Examined the following documents pertaining to mobilization:
 - (1) Mobilization Troop Program, Annex I (U) (SECRET).
 - (2) Mobilization Troop Program, Annex II (U) (SECRET).
 - (3) Mobilization Troop Program, Annex III (U) (SECRET).
 - (4) USCONARC Operating Program, Mobilization Annex (U) (SECRET).
- b. Conducted a survey to determine the number and types of ranges available at the mobilization stations specified in the planning programs outlined in paragraph a, above.
- c. Established criteria for effective utilization of available range facilities to conduct rifle marksmanship training during mobilization.
- d. Evaluated the requirement for additional range construction at mobilization stations.
- e. Determined criteria for programming of future range construction.
- f. Considered the cost implications of extensive range construction program.
- g. Determined conclusions and recommendations.

SECTION III - Discussion

3. The survey of Trainfire I facilities which are operational, under construction, and programmed for construction clearly indicated that unless current construction policy is modified, a dual system of marksmanship training will exist at mobilization. In this connection, the survey revealed that sufficient Known Distance and Trainfire I ranges are available to support a dual program.

4. Based upon the results of the survey and the statement in CONARC Circular 350-41 that Trainfire I facilities are not planned for mobilization stations, the Board established priority criteria to serve as a guide in determining which system of marksmanship training (Trainfire I or Known Distance) that the various elements of the Army should receive. In this respect, the Board determined that priority for Trainfire I training should be given to the combat rifle elements of the Army. In order to obtain the views of senior commanders of the active Army and the Reserve Components regarding the dual system of marksmanship training, to include the priority as indicated above, the Board posed the following question: "Considering normal unit missions, would it be feasible to train soldiers under the programs proposed below during periods of mobilization?"

Known Distance Program (add target detection)
Administrative Units
Support Units
Combat Support Units (Artillery - Engineers)

Trainfire I Program
Infantry Combat Rifle Elements
Armor Combat Rifle Elements
Airborne Combat Rifle Elements

5. Overwhelming support to this proposal was reflected in the responses of the senior commanders. Eighty-six (86%) percent of the replies stated in substance, that if sufficient Trainfire I facilities cannot be made available, priority of this training should be given to the combat rifle elements and the combat support elements. The remaining fourteen (14%) percent had divergent opinions. Some stated that a dual system of rifle marksmanship training was undesirable and that the Army should decide upon one program to teach rifle marksmanship to all soldiers.

6. CONARC Circular 350-41 indicates that by the end of FY 62, Trainfire I ranges will be in existence at all major CONUS active Army training installations. Accepting the priority guidance discussed in the preceding paragraphs, mobilization planners should, insofar as is feasible, consider the assignment of priority type units to those installations where Trainfire I facilities are available. At those installations which have a capability for both marksmanship programs, commanders concerned should establish priority for use of the Trainfire I facilities as proposed by the Board.

7. The Board has taken full cognizance of the budgetary considerations which force a dual system of rifle marksmanship training. However, it believes that the Army should strive to achieve the goal of a single system as soon as possible. Since Trainfire I is the standard system of rifle marksmanship training, the Board feels that the current Trainfire I construction program should be re-evaluated, with a view toward expansion. Meanwhile, until a single system can be achieved the Board believes that the alternate basic rifle marksmanship program contained in Appendix VI to Annex "B" will complement the Trainfire I program and provide a reasonable degree of standardization.

8. The Board takes exception to the policy that Trainfire I ranges are not planned at most installations to be used in the event of mobilization. It feels that as a minimum, detailed plans should be made for construction of such facilities and upon mobilization actual construction initiated.

9. To determine the requirements for ranges, the Board made a study of the anticipated inputs of individuals and units at each mobilization training center and training division. To arrive at any reasonable conclusion it was necessary to develop a "yardstick" (Appendix I), which provides for efficient range utilization and relate this "yardstick" to existing range facilities and inputs. The Board recognizes that a "yardstick" cannot be considered as a constant factor, but it does provide a basis for approximating requirements and can be used as a point of departure for more detailed study by the installations concerned. The range construction requirements for mobilization training centers as determined by the Board, bear a security classification and are contained in a separate inclosure to this report (Appendix II).

10. The Board attempted to determine the range facilities required for construction at mobilization stations, other than training centers and training divisions. It found that the number of variables such as unit "phasing-in" schedules, marksmanship training requirements, and divergency of missions precludes any valid determination of requirements. It is believed that this can best be accomplished by the mobilization planners at each installation who have the detailed information of the above considerations.

11. To facilitate the accomplishment of the goal of a single system of marksmanship training which is compatible with the impact of range construction costs on peacetime economy measures, the Board agreed that the following priority should be established:

a. Sufficient Trainfire I ranges be constructed to satisfy the peacetime training requirements of the active Army.

b. Trainfire I ranges be constructed at mobilization stations if they can be profitably utilized by either the active Army or Reserve Components during peacetime.

c. Trainfire I ranges be planned and programmed for construction in sufficient quantity to satisfy full mobilization requirements, construction of these ranges to be initiated upon mobilization.

12. The Board is of the strong opinion that the construction program outlined above is compatible with the Army's current plan for modernization of its equipment and its training. As a result, the Board early in its deliberations attempted to determine an approximation of the costs involved. It soon discovered that to make a reasonably valid approximation the following information was essential: (1) troop strength and geographical location of each active Army installation; (2) troop strength, geographical location, and troop density at each geographical location of the Reserve Components; (3) mission and training time available to the Reserve Components; (4) terrain and real estate considerations in the United States and overseas areas; (5) construction and equipment costs peculiar to the various geographical areas of the United States and overseas areas; and, (6) a detailed knowledge of the overall mobilization plan.

13. Obtaining and evaluating this detailed information was not feasible within the time frame of the Board's operation. Nevertheless, the Board recognizes the importance of the funding aspects of this program and recommends that this problem be studied at the appropriate army level.

14. The 25-meter annual qualification program for Reserve Components as proposed in Annex "C" of this report, if accepted and implemented, would result in increased marksmanship proficiency for Reserve Component personnel. This, then, would in all probability, reduce their rifle marksmanship training requirements when mobilized, thereby alleviating pressure on range facilities and facilitating deployment.

SECTION IV - Conclusion

15. The Board concludes that:

a. A dual system of rifle marksmanship will be required in the event of mobilization.

b. Sufficient range facilities exist to support a dual system of marksmanship training.

c. Combat rifle elements and combat support elements should have priority for Trainfire I marksmanship training during peacetime and mobilization.

d. The Army's goal should be a single system of marksmanship training.

e. Construction of Trainfire I ranges should be programmed for maximum peacetime use.

f. Construction of Trainfire I ranges should be planned and programmed for all mobilization stations to facilitate a single system of marksmanship training during mobilization.

SECTION V - Recommendations

16. The Board recommends that:

a. Combat rifle and combat support elements be given priority for the use of Trainfire I ranges during peacetime and mobilization.

b. Construction of Trainfire ranges be programmed for peacetime construction in the following priority:

(1) In sufficient quantity to satisfy the training requirements of the active Army.

(2) At mobilization stations where they can be profitably utilized by either the active Army or Reserve Components.

c. That Trainfire I ranges be planned and programmed for construction in sufficient quantity to satisfy full mobilization requirements; construction of these ranges to be initiated upon mobilization.

APPENDIX I TO ANNEX G

YARDSTICK FOR RANGES BASED ON PROPOSED PROGRAM

| Input per week | 25-Meter | | | | | Record Range (16 Pts) |
|----------------|------------|-----------|-----------------------|-------------|---|-----------------------|
| | 110 Points | 65 Points | Field Firing (35 Pts) | TD (25 Pts) | | |
| One Unit | 1 | 1 | 1 | 4 | 1 | 1 |
| Two Units | 1 | 2 | 2 | 6 | 1 | 1 |
| Three Units | 2 | 2 | 3 | 10 | 2 | 2 |
| Four Units | 2 | 3 | 4 | 12 | 2 | 2 |
| Five Units | 2 | 4 | 4 | 14 | 2 | 2 |
| Six Units | 3 | 5 | 5 | 18 | 3 | 3 |
| Seven Units | 3 | 6 | 6 | 20 | 4 | 4 |
| Eight Units | 4 | 6 | 7 | 24 | 4 | 4 |

SECTION I - Purpose

SECTION II - Authority

The purpose of this study is to determine the future needs of the Army for this type of weapon system, and to recommend a program of research and development to meet these needs.

SECTION III - Objectives

1. The Board shall recommend a program of research and development to meet the Army's needs for this type of weapon system.
2. The Board shall recommend a program of research and development to meet the Army's needs for this type of weapon system.
3. The Board shall recommend a program of research and development to meet the Army's needs for this type of weapon system.
4. The Board shall recommend a program of research and development to meet the Army's needs for this type of weapon system.
5. The Board shall recommend a program of research and development to meet the Army's needs for this type of weapon system.

ANNEX H

FUTURE DEVELOPMENTS

The following are the future developments that are expected to occur in the near future.

SECTION I - Introduction

The following are the future developments that are expected to occur in the near future.

1. The Army will continue to develop and improve its current weapons systems.
2. The Army will continue to develop and improve its current weapons systems.
3. The Army will continue to develop and improve its current weapons systems.
4. The Army will continue to develop and improve its current weapons systems.
5. The Army will continue to develop and improve its current weapons systems.

The following are the future developments that are expected to occur in the near future.

- (1) Development of new weapons systems.
- (2) Development of new weapons systems.
- (3) Development of new weapons systems.

ANNEX H

FUTURE DEVELOPMENTS

SECTION I - Purpose

1. The purpose of this annex is to determine the impact which will be made on the rifle marksmanship programs proposed by this Board by weapons currently being integrated into the Army and by future weapons and ammunition developments.

SECTION II - Approach to the Problem

2. The Board approached the problem essentially as follows:
- a. Examined the current weapons and ammunition systems.
 - b. Evaluated the military characteristics of weapons and ammunition currently under research and planned for integration into the weapons system of the Army. To facilitate this study representatives of the Board:
 - (1) Visited the Office of the Chief of Research and Development, Department of the Army.
 - (2) Received a briefing from a representative of the Combat Developments Office, US Army Infantry School.
 - (3) Researched pertinent documents.
 - c. Evaluated the weapons and ammunition being developed as pertains to the overall rifle marksmanship program.
 - d. Formulated conclusions based on the evaluation of the information available to the Board.

SECTION III - Weapons

3. The United States Army weapons system is currently undergoing a change with the introduction of the M14 rifle. This change will be completed at the end of the mid-range period and will have no significant impact on rifle marksmanship training programs.

4. The weapons that the Board was directed to evaluate are: (1) the small arms weapons system; (2) the M79 grenade launcher; and (3) the hand-held all purpose weapon. At the outset, the Board eliminated the small arms weapons system and the M79 grenade launcher from further consideration. In this respect, the Board found that the small arms weapons system will not be developed for troop issue; that the M79 is an area weapon and, therefore, is not pertinent to the Board's study. The Board examined the contents of the Combat Developments Objective Guide (CDOG) (SECRET) to determine the military characteristics of the hand-held all purpose weapon and the probable date of its introduction into the weapons system. This examination indicated that:

- a. The time frame with respect to the development and production of the weapon is subsequent to the mid-range period.
- b. The military characteristics of the weapon do not have a significant impact on the rifle marksmanship programs proposed by this Board.
- c. Adoption of the weapon will require minor changes in the proposed programs in the areas of:
 - (1) Methods of zero.
 - (2) Training time.
 - (3) Qualification scoring system.

SECTION IV - Ammunition

5. The United States Army is currently considering adopting a duplex round of ammunition. The introduction of this round will not adversely affect the program proposed by this Board. The requirements for teaching the basic principles of marksmanship will remain substantially the same as at present. However, there probably will be minor changes in the following areas:

- a. Method of zero.
- b. Method of scoring.
- c. Qualification scoring system.
- d. Types of targets.

6. This round may cost significantly more than the ammunition now in use. In view of the increased cost and the need to make minor revision in scoring and zeroing procedures, it may be advisable to continue to use current 7.62mm "ball" ammunition as a training round.

7. The Board evaluated the impact of the flachette round on the proposed programs. The adoption of this round will probably simplify some aspects of the proposed programs. However, due to difficulties in scoring, the conventional bull's-eye target should not be used with the flachette round; the use of silhouette targets and electrical target devices will not be affected.

SECTION V - Facilities

8. The weapons and ammunition discussed in this annex will require essentially the same type of range complexes that are needed for the proposed programs. These ranges, with minor modification, can be used to teach all of the essential marksmanship skills needed to effectively employ these items. An analysis of the type of training that can be conducted on these ranges revealed that a trainfire-type range is more compatible with developmental items than any other system. The type of marksmanship training inherent in the trainfire concept, i. e., combat environmental marksmanship will not require any major changes in type of targets and scoring procedures used.

SECTION VI - Conclusions

9. The Board concludes that the weapons and ammunition discussed in this annex, when introduced into the Army's weapons system, will necessitate only minor modifications to the marksmanship training programs and supporting facilities proposed by this Board.

ANNEX I
RANGE AVAILABILITY

Appendix I
Trainfire I Facility Breakdown

Appendix II
Status of Trainfire Ranges Overseas

Appendix III
Known Distance Ranges - Active Army

Appendix IV
Active Army Small Bore Ranges

ANNEX I

RANGE AVAILABILITY

1. The purpose of this annex is to present a survey of the range facilities available or programmed to support active Army and Reserve Component participation in the marksmanship programs developed by the Board.

2. At Appendix I is a detailed breakdown of the number of ranges and firing points for each Trainfire I complex in the active Army. Attached as Inclosure 1 to Appendix I is a yardstick developed by the Board to determine the size and amount of facilities necessary to support a given weekly input of training companies.

3. At Appendix II is the status of Trainfire I complexes in the overseas theaters. A detailed breakdown of the number of ranges and firing points for each complex was not available.

4. At Appendix III are the Known Distance range facilities currently maintained in CONUS active Army installations.

5. At Appendix IV are the small bore ranges currently available at active Army installations within CONUS.

6. Reserve Component range facilities.

a. Background: In December 1959, the Department of the Army approved a CONARC recommendation that, "all individual weapons qualification and familiarization firing by personnel of Reserve Components be conducted on 25-meter ranges at home stations." In April 1960, CONUS Army commanders were directed to initiate this program and to submit estimates of costs involved to construct 25-meter ranges at Reserve Component unit home stations.

b. Current status of 25-meter range program.

(1) USAR:

| <u>ARMY AREA</u> | <u>25-METER RANGES</u> | |
|------------------|------------------------|-------------------|
| | <u>EXISTING</u> | <u>PROGRAMMED</u> |
| First | 0 | 2 |
| Second | 39 | 0 |
| Third | 0 | 9 |
| Fourth | 0 | 0 |
| Fifth | 2 | 29 |
| Sixth | 0 | 30 |

(2) ARNG:

| <u>Army Area</u> | <u>25-METER RANGES</u> | |
|------------------|--------------------------|-------------------|
| | <u>EXISTING</u> | <u>PROGRAMMED</u> |
| First | 6 | 21 |
| Second | No information available | |
| Third | 0 | 21 |
| Fourth | No information available | |
| Fifth | 17 | 0 |
| Sixth | 3 | 9 |

c. The Board believes that a valid overall cost estimate of the 25-meter range construction program for the Reserve Components is not feasible at this time. The reasons for this determination are as follows:

(1) Inconclusive information as evidenced by the data compiled in paragraphs 6b(1) and (2) above.

(2) Lack of valid figures relative to the per point cost for building a range. The cost per point figures submitted ranged from a low of approximately \$370.00, exclusive of land acquisition, in the Sixth Army area to a high of \$9,500, including land acquisition, in the Third Army area.

(3) Lack of sufficient information to determine the number of firing points which should be constructed to support a given troop population. For example, Third Army requested nine ranges be built. Included in this request was a 50 point range to support a troop density of 750 and a 15 point range to support a comparable troop density of 650.

(4) Insufficient information regarding existing and/or programmed Army National Guard facilities.

d. However, to provide an approximation of the 25-meter range construction casts for an Army area the Board took the Fifth Army Area as an example.

(1) At Fort Des Moines, Iowa, a 25-meter 18 firing point range, incorporating essential safety features, was constructed at a cost of \$12,000 or \$667.00 per point.

(2) Fifth Army has requested construction of 29 USAR ranges with a total of 395 firing points. Using the cost per point developed in paragraph d(1) above, the total cost of construction for the USAR range program in the Fifth Army area would be \$263,485.

7. Evaluation of replies received from USAR and ARNG units relative to the 25-meter range program clearly indicated that the program has valuable training application. Construction of these ranges should be programmed when firm requirement data is obtained.

APPENDIX I TO ANNEX I

TRAINFIRE I FACILITY BREAKDOWN

| INSTALLATION | 25-Meter Range | Field Firing | Target Detection | Record Fire |
|------------------------|----------------------------------|-----------------|-------------------------|----------------|
| Fort Dix, N. J. | 360 Pts | 175 Pts | 15 Ranges | 48 Lanes |
| Fort Devens, Mass. | 80 Pts | 35 Pts | 2 Ranges | 16 Lanes |
| Cp. A. P. Hill, Va. | 100 Pts | 68 Pts | 4 Ranges | 12 Lanes |
| Fort Knox, Ky. | 687 Pts | 142 Pts | 21 Ranges | 48 Lanes |
| Fort Meade, Md. | 180 Pts | 60 Pts | 8 Ranges | 32 Lanes |
| Cp. Pickett, Va. | 100 Pts | 68 Pts | 4 Ranges | 12 Lanes |
| Fort Bragg, N. C. | 330 Pts | 225 Pts | 14 Ranges | 48 Lanes |
| Fort Campbell, Ky. | 320 Pts | 70 Pts | 8 Ranges | 32 Lanes |
| Fort Jackson, S. C. | 730 Pts | 175 Pts | 10 Ranges | 48 Lanes |
| Fort Stewart, Ga. | 100 Pts | 35 Pts | 4 Ranges | 16 Lanes |
| Fort McClellan, Ala. | 65 Pts | 35 Pts | 3 Ranges | 16 Lanes |
| Fort Rucker, Ala. | 65 Pts | 35 Pts | 4 Ranges | 12 Lanes |
| Fort Benning, Ga. | 850 Pts | 210 Pts | 16 Ranges | 96 Lanes |
| | (Includes 2d Inf Div Facilities) | | | |
| Fort Bliss, Tex. | 340 Pts | 70 Pts | 10 Ranges | 32 Lanes |
| Cp. Bullis, Tex. | 200 Pts | 70 Pts | 3 Ranges | 32 Lanes |
| Fort Hood, Tex. | 510 Pts | 105 Pts | 15 Ranges | 32 Lanes |
| Fort Sill, Okla. | 130 Pts | 70 Pts | 4 Ranges (2 Planned) | 32 Lanes |
| Fort Carson, Colo. | 330 Pts | 99 Pts | 4 Ranges | 32 Lanes |
| Fort Riley, Kans. | 440 Pts | 140 Pts | 6 Ranges | 32 Lanes |
| Fort Leonard Wood, Mo. | 600 Pts | 175 Pts | 16 Ranges | 32 Lanes |
| Fort Lewis, Wash. | 610 Pts | 104 Pts | 9 Ranges | 32 Lanes |
| Fort Ord, Calif. | 680 Pts | 140 Pts | 4 Ranges | 32 Lanes |

INCLOSURE 1 - APPENDIX I - ANNEX I

YARDSTICK FOR RANGES BASED ON PROPOSED PROGRAM

25-Meter

| Input per week | 110 Points | 65 Points | Field Firing (35 Pts) | TD (25 Pts) | Record Range (16 Pts) |
|----------------|------------|-----------|-----------------------|-------------|-----------------------|
| One Unit | 1 | 1 | 1 | 4 | 1 |
| Two Units | 1 | 2 | 2 | 6 | 1 |
| Three Units | 2 | 2 | 3 | 10 | 2 |
| Four Units | 2 | 3 | 4 | 12 | 2 |
| Five Units | 2 | 4 | 4 | 14 | 2 |
| Six Units | 3 | 5 | 5 | 18 | 3 |
| Seven Units | 3 | 6 | 6 | 20 | 4 |
| Eight Units | 4 | 6 | 7 | 24 | 4 |

APPENDIX II TO ANNEX I

STATUS OF TRAINFIRE I RANGES OVERSEAS

| <u>Location</u> | <u>Completion Date</u> |
|-----------------------------|---------------------------|
| (*1) Hohenfels, Germany (2) | 1 - 30 Nov 60 1 Aug 61 |
| Wildflecken, Germany (1) | 1 - 30 Nov 60 |
| *Grafenwoehr, Germany (3) | Dec 61 |
| *Tennenlohe, Germany (1) | Aug 61 |
| *Baumholder, Germany (1) | Aug 61 |
| Mortmillan, France (1) | 61 |
| Asiago (SETAF), Italy (1) | Completed |
| Fort Richardson, USARAL | Sep 60 |
| Fort Kobbe, USARCARIB (1) | 30 Nov 60 |
| Korea, USARPAC (2) | 2 - 31 Dec 60 |
| Okinawa (Bolo), USARPAC (1) | 31 May 61 |
| Schofield Bk (2) | 31 Jan 61 |
| TOTAL: 17 Ranges | |

NOTE: Since the information shown above was received, CG USAREUR has suspended construction of Trainfire I facilities at the locations marked by an (*).

APPENDIX III TO ANNEX I

KNOWN DISTANCE RANGES - ACTIVE ARMY

Number of Firing Points at:

| INSTALLATION | Number of Firing Points at: | | | | | |
|-----------------------------|-----------------------------|---------|---------|---------|---------|----------|
| | 25 M (1000) | 200 yds | 300 yds | 500 yds | 600 yds | 1000 yds |
| FIRST ARMY | | | | | | |
| Fort Hamilton, NY | 8 | 0 | 0 | 0 | | 0 |
| Fort Niagra, NY | 0 | 40 | 0 | 40 | 40 | 40 |
| Fort Tilden, NY | 0 | 25 | 0 | 0 | 0 | 0 |
| Fort Dix, N.J | 880 | 135 | 135 | 135 | 135 | 0 |
| Fort Wadsworth, NY | 15 | 0 | 0 | 0 | 0 | 0 |
| Cp. Edwards, Mass | 25 | 0 | 0 | 0 | 0 | 0 |
| Fort Devens, Mass | 170 | 62 | 62 | 62 | 62 | 0 |
| Fort Monmouth, Mass | 0 | 84 | 70 | 29 | 0 | 0 |
| West Point, NY | 65 | 50 | 50 | 43 | 0 | 0 |
| Cp. Drum, NY | 0 | 165 | 165 | 35 | 0 | 0 |
| SECOND ARMY | | | | | | |
| Fort Knox, Ky | 131 | 214 | 214 | 162 | 50 | 0 |
| Fort Meade, Md | 0 | 177 | 177 | 177 | 100 | 5 |
| Aberdeen Proving Ground, Md | 0 | 50 | 50 | 0 | 0 | 0 |
| Army Chemical Ctr., Md | 0 | 50 | 50 | 0 | 0 | 0 |
| Fort Eustis, Va | 0 | 100 | 100 | 100 | 0 | 0 |
| Fort Lee, Va | 0 | 150 | 100 | 0 | 0 | 0 |
| Cp. Breckinridge, Ky | 200 | 200 | 200 | 200 | 0 | 0 |
| Indiantown Gap Mil Res, Pa | 266 | 200 | 200 | 200 | 0 | 0 |
| Cp. Pickett, Va | 0 | 10 | 10 | 0 | 0 | 0 |
| Cp. A. P. Hill, Va | 0 | 150 | 150 | 50 | 0 | 0 |
| Fort Ritchie, Md | 10 | 0 | 0 | 0 | 0 | 0 |
| New Cumberland Gen Dep, Pa | 8 | 0 | 0 | 0 | 0 | 0 |
| Richmond QM Depot, Va | 6 | 0 | 0 | 0 | 0 | 0 |
| Letterkenney Ord Depot, Pa | 20 | 10 | 0 | 0 | 0 | 0 |
| THIRD ARMY | | | | | | |
| Fort Bragg, N. C. | 260 | 224 | 224 | 30 | 30 | 0 |
| Fort Jackson, S. C. | 400 | 381 | 231 | 31 | 15 | 0 |
| Fort Stewart, Ga. | 100 | 175 | 175 | 175 | 10 | 0 |
| Fort McClellan, Ala. | 45 | 130 | 130 | 130 | 80 | 0 |
| Fort Gordon, Ga. | 271 | 200 | 200 | 200 | 50 | 50 |
| Fort Benning, Ga. | 488 | 336 | 336 | 336 | 336 | 70 |
| Fort Campbell, Ky. | 100 | 90 | 90 | 90 | 30 | 0 |
| Fort Rucker, Ala. | 50 | 15 | 15 | 15 | 15 | 0 |
| FOURTH ARMY | | | | | | |
| Fort Polk, La. | 173 | 158 | 158 | 158 | 0 | 0 |
| Fort Hood, Tex. | 400 | 335 | 335 | 255 | 110 | 0 |
| Fort Bliss, Tex. | 20 | 80 | 80 | 40 | 40 | 0 |
| Fort Sill, Okla. | 0 | 134 | 134 | 85 | 36 | 0 |
| Cp. Wolters, Tex. | 0 | 146 | 70 | 73 | 73 | 40 |
| Cp Bullis, Tex. | 0 | 146 | 70 | 73 | 73 | 73 |

| INSTALLATION | Number of Firing Points at: | | | | | |
|--------------------------------|-----------------------------|---------|---------|---------|---------|----------|
| | 25 M (1000) | 200 yds | 300 yds | 500 yds | 600 yds | 1000 yds |
| FIFTH ARMY | | | | | | |
| Fort Crowder, Mo. | 30 | 100 | 100 | 100 | 0 | 0 |
| Fort Carson, Colo. | 188 | 156 | 156 | 156 | 70 | 20 |
| Fort Riley, Kan. | 851 | 298 | 298 | 298 | 104 | 20 |
| Fort Leonard Wood, Mo. | 200 | 120 | 120 | 120 | 60 | 0 |
| Fort Leavenworth, Kan. | 15 | 0 | 0 | 0 | 0 | 0 |
| Fort Ben Harrison, Ind. | 0 | 25 | 0 | 0 | 0 | 0 |
| Fort Sheridan, Ill. | 0 | 20 | 0 | 0 | 0 | 0 |
| Cp. McCoy, Wis. | 12 | 192 | 239 | 52 | 0 | 0 |
| Cp. Lucas, Mich. | 0 | 15 | 15 | 15 | 0 | 0 |
| Fort Custer, Mich. | 112 | 56 | 54 | 56 | 0 | 0 |
| Cp. Atterbury, Ind. | 300 | 200 | 200 | 200 | 0 | 0 |
| SIXTH ARMY | | | | | | |
| Fort Lewis, Wash. | 260 | 144 | 144 | 144 | 144 | 36 |
| Fort Ord, Calif. | 145 | 100 | 100 | 100 | 100 | 0 |
| Hunter Liggett Mil Res, Calif. | 0 | 0 | 30 | 30 | 30 | 0 |
| Cp. Roberts, Calif. | 0 | 225 | 225 | 225 | 87 | 50 |
| Fort Lawton, Wash. | 0 | 20 | 20 | 0 | 0 | 0 |
| Fort Huachuca, Ariz. | 0 | 50 | 50 | 50 | 50 | 25 |
| Presidio of San Francisco | 0 | 25 | 25 | 25 | 25 | 0 |
| Fort MacArthur, Calif. | 0 | 20 | 20 | 0 | 0 | 0 |
| Fort Douglas, Utah | 0 | 35 | 35 | 35 | 35 | 0 |
| D. P. G., Dugway, Utah | 0 | 5 | 5 | 5 | 5 | 0 |
| Cp San Luis Obispo, Calif. | 0 | 128 | 128 | 128 | 28 | 14 |
| Yakima Firing Center, Wash. | 30 | 30 | 30 | 30 | 0 | 0 |
| Vancouver Barracks, Wash. | 0 | 25 | 25 | 25 | 8 | 0 |
| Cp Parks, Calif. | 40 | 0 | 0 | 0 | 0 | 0 |
| Cp Irwin, Calif. | 10 | 50 | 50 | 25 | 15 | 0 |

APPENDIX IV TO ANNEX I

ACTIVE ARMY SMALLBORE RANGES

| INSTALLATION | INDOOR | OUTDOOR | |
|------------------------------|--------|---------------|---------|
| | Nr Pts | Nr Pts 50 yds | 100 yds |
| <u>FIRST ARMY</u> | | | |
| Fort Niagra, N. Y. | 0 | 10 | 0 |
| Fort Totten, N. Y. | 4 | 0 | 0 |
| Fort Dix, N. J. | 12 | 0 | 0 |
| Fort William, Me. | 10 | 10 | 10 |
| Boston Army Base, Mass. | 4 | 0 | 0 |
| Fort Devens, Mass. | 13 | 0 | 0 |
| Watertown Arsenal, Mass. | 4 | 0 | 0 |
| Fort Monmouth, N. J. | 0 | 30 | 0 |
| West Point, N. Y. | 26 | 0 | 0 |
| Springfield Armory, Mass. | 33 | 0 | 0 |
| Picatinny Armory, N. J. | 5 | 0 | 0 |
| Waterville Arsenal, N. Y. | 1 | 0 | 0 |
| <u>SECOND ARMY</u> | | | |
| Fort Meyer, Va. | 14 | 0 | 0 |
| Fort McNair, D. C. | 6 | 0 | 0 |
| Fort Belvoir, Va. | 12 | 0 | 0 |
| Arlington Hall, Va. | 6 | 0 | 0 |
| Fort Knox, Ky | 83 | 0 | 0 |
| Fort Holabird, Md. | 6 | 0 | 0 |
| Fort Meade, Md. | 14 | 30 | 30 |
| Aberdeen Proving Ground, Md. | 10 | 100 | 100 |
| Army Chemical Center, Md. | 6 | 0 | 0 |
| Fort Eustis, Va. | 8 | 0 | 0 |
| Fort Lee, Va. | 20 | 0 | 0 |
| Carlisle Barracks, Pa. | 8 | 0 | 0 |
| Fort Monroe, Va. | 9 | 0 | 0 |
| Fort Hayes, Ohio | 5 | 0 | 0 |
| Cp. Pickett, Va. | 0 | 0 | 10 |
| Cp. A. P. Hill, Va. | 4 | 0 | 0 |
| New Cumberland Gen Dep, Pa. | 6 | 0 | 0 |
| Letterkenny Ord Dep, Pa. | 0 | 20 | 10 |
| Tobyhanna Sig Dep, Pa. | 6 | 8 | 8 |
| <u>THIRD ARMY</u> | | | |
| Fort Bragg, N. C. | 0 | 2 | 2 |
| Fort Jackson, S. C. | 5 | 0 | 0 |
| Fort Benning, Ga. | 24 | 35 | 35 |
| <u>FOURTH ARMY</u> | | | |
| Fort Polk, La. | 0 | 10 | 0 |
| Fort Hood, Texas | 20 | 10 | 10 |
| Fort Bliss, Texas | 10 | 0 | 0 |
| Fort Sill, Okla | 28 | 0 | 0 |
| Cp. Wolters, Texas | 24 | 0 | 0 |
| Fort Sam Houston, Texas | 14 | 0 | 0 |

| INSTALLATION | INDOOR | OUTDOOR | |
|-----------------------------------|--------|---------------|---------|
| | Nr Pts | Nr Pts 50 yds | 100 yds |
| <u>FIFTH ARMY</u> | | | |
| Fort Carson, Colo. | 22 | 0 | 0 |
| Fort Riley, Kan. | 30 | 0 | 0 |
| Fort Leavenworth, Kan. | 6 | 0 | 0 |
| Fort Ben Harrison, Ind. | 0 | 15 | 0 |
| Cp. McCoy, Wis. | 0 | 0 | 192 |
| <u>SIXTH ARMY</u> | | | |
| Fort Lewis, Wash. | 82 | 0 | 0 |
| Fort Ord, Calif. | 6 | 100 | 100 |
| Hunter Liggett, Calif. | 0 | 25 | 30 |
| Fort Lawton, Wash. | 8 | 0 | 0 |
| Fort Huachuca, Ariz. | 0 | 25 | 25 |
| Presidio of San Francisco, Calif. | 112 | 10 | |
| Fort Douglas, Utah | 5 | 0 | 0 |
| Cp. San Luis Obispo, Calif. | 0 | 252 | 0 |
| Utah General Depot | 4 | 0 | 0 |
| Sierra Ord Dep Herlong, Calif. | 17 | 0 | 0 |
| Toole, Utah | 6 | 0 | 0 |

ANNEX J

DIRECTIVE AND PROCEDURES

1. USCONARC Circular 350-41, Hq USCONARC, 11 January 1961, subject: "Rifle Marksmanship In The US Army"
2. References.
3. List of Commands and Agencies Visited By Board Members.
4. Questionnaire Addressees.
5. List of Agencies and Individuals from which the Board Solicited Information by Interview, Briefing or Correspondence.

Documentation accumulated during the course of the Board's activities and listed herein will be retained in the files of the Weapons Department, US Army Infantry School, Fort Benning, Georgia, for 1 year in accordance with paragraph 14, AR 354-268.

SECTION I - Directive

CON Cir 350-41

USCONARC CIRCULAR

Nr 350-41

HEADQUARTERS
UNITED STATES CONTINENTAL ARMY COMMAND
FORT MONROE, VIRGINIA, 11 January 1961

Effective until 30 November 1961 unless sooner rescinded or superseded

E D U C A T I O N A N D T R A I N I N G

R I F L E M A R K S M A N S H I P I N T H E U S A R M Y

| | Paragraph | Page |
|--|-----------|------|
| References | 1 | 1 |
| Purpose | 2 | 1 |
| Scope | 3 | 1 |
| Facts Bearing on the Evaluation | 4 | 2 |
| Areas for Consideration | 5 | 4 |
| Marksmanship Evaluation | 6 | 5 |
| Report, "Rifle Marksmanship in the US Army" (Reports Control Symbol ATTNG-(OT)-352) | 7 | 6 |
| Appendix. REFERENCES | -- | 7 |

1. REFERENCES. Pertinent references are listed in the appendix.

2. PURPOSE. The purpose of this project is:

a. To direct the Commanding General, US Army Infantry Center, to establish a board for the purpose of making a comprehensive review and evaluation of rifle marksmanship in the US Army.

b. To direct the Commanding Generals, all ZI Armies and MDW, to provide all possible assistance, to include members for the board, as requested by the CG, USAIC.

c. To invite comments of major oversea commanders and DA staff agencies.

3. SCOPE.

a. This evaluation will encompass the basic marksmanship program, annual arms qualification and familiarization, and the competitive marksmanship program. The peacetime and mobilization marksmanship requirements of both the active Army and the Reserve components will be considered. Existing and programmed range facilities will be reviewed and future range and ammunition requirements identified to indicate where savings can be made.

b. The Basic Marksmanship should be considered as a preliminary to combat firing of rifle elements as well as the attainment of proficiency for individuals armed with the rifle.

4. FACTS BEARING ON THE EVALUATION.

a. In May 1957, TRAINFIRE I (TF I) was adopted by the Department of the Army as the standard method for conducting basic rifle marksmanship training in the Army. The method was developed as a result of research conducted by the US Army Infantry

Human Research Unit, and was thoroughly troop tested at Forts Carson, Colorado, and Jackson, South Carolina, prior to adoption. Analysis of the final reports of these troop tests revealed conclusively that the TF I rifle marksmanship course better prepared the individual soldier to employ his rifle in combat than did the conventional training previously conducted.

b. Previously, Army marksmanship training was conducted on known distance (KD) ranges with preliminary training placing emphasis on proper positions, slings, sighting procedures, etc. TF I permitted a reduction in marksmanship training time, from 86 to 78 hours, thus making available training time for additional instruction in other subjects without requiring an increase in the overall length of basic combat training (BCT).

c. Initially, construction of TF I ranges was programed over a 4-year period and included all CONUS active Army installations, major active duty training (mobilization) stations of the Reserve components, and major oversea commands. Subsequently, budgetary considerations dictated an extension of the TF I construction program over a 6-year period (through FY 62) and elimination of TF I range construction at mobilization stations. In April 1959, when the TF I range construction program had progressed to the point where TF I could be implemented in the BCT program, it was determined that the Army should retain a dual capability in both TF I and KD ranges for the foreseeable future. Accordingly, retention of KD facilities at CONUS class I installations was directed and KD firing was prescribed in the advanced individual training of certain MOS (111, 120, and 140) of the combat arms, i. e., 111, Light Weapons Infantryman, and 140, Field Artillery Basic, 20 hours and 120, Pioneer, 10 hours, although the latter training is prescribed it is not always received. This decision nullified the 8-hour time-saving advantage of TF I (b supra) and increased the requirements for marksmanship training ammunition.

d. In December 1959, the Department of the Army approved the USCONARC recommendation that all individual weapons qualification and familiarization firing by personnel of Reserve components (RC) would be conducted on 25-meter (1,000-inch) ranges at home stations. RC personnel are required to fire a qualification course a minimum of once every 3 years or until qualified, and a familiarization course during intervening years when no qualification course is fired. Training guidance covering these points was published in February and March 1960 in Annexes AA and AH to the USCONARC Training Directive. These annexes have been consolidated into Annex AA, dated 1 December 1960. In April 1960, CONUS Army commanders were directed to initiate the program and submit estimates of costs involved in necessary construction of 25-meter ranges at RC unit home stations. The National Guard Bureau by letter, dated 21 March 1960, directed that all rifle firing conducted under weapons training program will be accomplished on a 25-meter firing range. The consolidated Annex AA, 1 December 1960, stresses advanced marksmanship and competitive firing, and directs that following completion of 25-meter firing, a prescribed familiarization course on the KD range be fired, provided ranges and time are available and travel distance is not prohibitive.

e. On 16 December 1960 the following DA policy was announced regarding the marksmanship program:

(1) The approved DA policy concerning the ARNG use of 25 meter and Known Distance ranges is as follows:

(a) Favors the 25 meter range and firing program for Reserve Components where KD ranges do not exist.

(b) Does not favor the destruction of KD ranges or allowing them to deteriorate through lack of maintenance; nor should they be lost through lapse of leases.

(c) Available KD facilities should be used for marksmanship training.

CON Cir 350-41

(2) The Chief, National Guard Bureau has been directed to continue the federal support to state owned ARNG Known Distance ranges insofar as possible.

(3) DA policy does not favor large expenditures of service ammunition on short ranges such as 25 meter for teaching fundamentals of marksmanship. This phase of instruction can be accomplished to a large extent with the small bore rifle at greatly reduced cost with the same training benefit.

(4) It is requested that:

(a) The use of the small bore rifle be incorporated in marksmanship training programs throughout the Army.

(b) All Active Army Known Distance range facilities presently in existence be retained even though the number of targets is in excess of those specified to be retained by USCONARC until current CONARC marksmanship study is completed.

(c) The USCONARC study of the marksmanship program for all components be referred to this headquarters after completion and staffing and prior to implementation.

f. Related to the foregoing, and directly affected thereby, is the Army competitive marksmanship program. The great training benefits which the Army gains from the competitive marksmanship program demand continued support of that program. The outstanding accomplishments of Army shooters in national competitions in recent years point up the importance the Army attaches to shooting skill. Of particular interest is the clean sweep the Army teams made during the 1960 National Trophy and National Championship matches as compared to only one win in 1956 and the recent first win by the United States in the International Military Sports Council (C. I. S. M.) Match held in Athens, Greece.

5. AREAS FOR CONSIDERATION. In view of the foregoing, it is desired that this review and evaluation give consideration to the following:

a. Future basic marksmanship program considered essential to insure prescribed proficiency for the basic combat soldier. Findings in this connection should recognize the implication that TRAINFIRE facilities are not available or planned at most installations to be used in the event of mobilization.

b. Annual qualification and familiarization standards considered essential to maintain rifle marksmanship proficiency throughout the active Army and Reserve components, to include proposed courses and types of ranges to be used.

c. Army participation in competitive marksmanship to determine any changes that may be desirable to insure the most effective integration of this type of marksmanship training in the active Army and Reserve components.

d. Rifle marksmanship is not an end in itself but a means to an end. The basic rifle marksmanship should be the fundamental subject best leading to the production of a team of riflemen through the subsequent courses of transition firing, musketry, etc.

e. In connection with these considerations, findings of this evaluation also should determine:

(1) Methods of reducing ammunition expenditure and overhead support personnel requirements consistent with maintenance of marksmanship proficiency, range operation efficiency, safety, and shooter instruction.

(2) Any requirement for increased emphasis on shooting fundamentals, to include positions, trigger squeeze, sight alignment, rapid firing, and rapid reloading.

(3) Desirability of KD marksmanship preceding or following TF I.

(4) Types of ranges considered necessary in the application of the essential features of TRAINFIRE and KD firing.

(5) Practicability of incorporating use of the small bore rifle in marksmanship training throughout the Army for teaching fundamentals of marksmanship.

(6) The impact on the marksmanship program which will be made by the weapons currently being integrated into the army, and any foreseeable weapons developments.

f. Other areas considered pertinent in the present and future conduct of Rifle Marksmanship in the US Army.

6. MARKSMANSHIP EVALUATION.

a. Major oversea commanders and Department of the Army staff agencies are invited to submit comments to the CG, US Army Infantry Center, prior to 28 February 1961. (Exempt report, subpar. 17x, AR 335-15.)

b. CG, US Army Infantry Center, will:

(1) Establish a Board, to include designation of the chairman, and membership to conduct the evaluation.

(2) Determine the need for assistance from CONUS armies and major installation commanders.

(3) Submit to this headquarters by 26 January 1961 an estimate of funds required to conduct the evaluation, to include the anticipated number of officers on the Board, their home stations, and length of TDY anticipated. (Exempt report, subpar. 17k, AR 335-15.)

(4) Complete the evaluation.

(5) Cite funds to parent units of Board members. (Exempt report, subpar. 17a, AR 335-15.)

7. REPORT, "RIFLE MARKSMANSHIP IN THE US ARMY" (REPORTS CONTROL SYMBOL ATTNG-(OT)-352). CG, USAIC, will dispatch a report consisting of findings and recommendations to this headquarters, ATTN: Deputy Chief of Staff for Operations, Plans, and Training, not later than 28 April 1961.

REFERENCES

1. AR 370-5, "Qualification in Arms," as amended.
2. DA Pamphlet Nr 210-1, "United States Army Installations and Major Activities in the Continental United States."
3. ATP 5-5, "Engineer Combat Units."
4. ATP 6-100, "Army Training Program for Field Artillery Units," as amended.
5. ATP 7-17, "Army Training Program for Rifle Company, Infantry and Airborne Division Battle Groups, Light Weapons Infantryman, Heavy Weapons Infantryman," as amended.
6. ATP 7-27, "Army Training Program for Rifle Company, Armored Infantry Battalion."
7. ATP 21-114, "Basic Combat Training Program for Male Military Personnel Without Prior Service," as amended.
8. FM 23-5, "US Rifle, Caliber .30," as amended.
9. FM 23-8, "US Rifle 7.62-mm, M14," as amended.
10. FM 23-71, "Rifle Marksmanship Course; TRAINFIRE I."
11. USCONARC Training Directive, HQ USCONARC, 1 July 1958, as amended.
12. Letter, ATTNG-TNG 353.01/5(1 Apr 59), HQ USCONARC, 1 April 1959, subject: "TRAINFIRE I Implementation Program," as amended.
13. Memorandum Nr 69, HQ USCONARC, 27 November 1959, subject: "Competitive Small Arms Marksmanship Program."
14. HumRRO Technical Report Nr 22, Human Research Unit Nr 3 CONARC, Fort Benning, Georgia, October 1955, subject: "TRAINFIRE I: A New Course in Basic Rifle Marksmanship."
15. CON Cir 622-1, "Competitive Marksmanship Program, Training of US Army National Trophy Teams."

(ATTNG-TNG)

FOR THE COMMANDER:

OFFICIAL:

L. L. DOAN
Major General, GS
Chief of Staff

/s/ Foster B. Watson
FOSTER B. WATSON
Lt Colonel, AGC
Asst Adjutant General

CON Cir 350-41

DISTRIBUTION:

A1; B; C2; C3; D
DCSOPS, DA
CG

1st Inf Div
2d Armd Div
2d Inf Bde
2d Inf Div
4th Inf Div
82d Abn Div
101st Abn Div
USAARMC
USAIC
USATC Armor
USATC Engr
USATC FA
USATC Inf, Ft Dix
USATC Inf, Ft Jackson
USATC Inf, Ft Ord
CO, USA Adv Marksmanship Unit
Comdt
USAAMS
USASWS

SECTION II

REFERENCES

1. Background references:

AR 140-220, "Army Reserve, Active Duty Training of Individual Members," as amended.

AR 370-5, "Qualification in Arms," "Qualification & Familiarization," as amended.

AR 622-10, "Qualification in Arms," "Competition in Small Arms," as amended.

AR 920-30, "Rules and Regulations for National Matches."

Field Manuals.

23-5, "US Rifle, Caliber .30," as amended.

23-8, "US Rifle, 7.62mm, M-14," as amended.

23-71, "Rifle Marksmanship Course; Trainfire I."

23-72, "Carbine Marksmanship Course; Trainfire I."

Army Training Programs.

5-5, "Engineer Combat Units."

6-100, "Army Training Program for Field Artillery Units," as amended.

7-17, "Army Training Program for Rifle Company, Infantry and Airborne Division, Battle Group, Light Weapons Infantryman, Heavy Weapons Infantryman," as amended.

7-27, "Army Training Program for Rifle Company, Armored Infantry Battalion."

21-114, "Basic Combat Training Program for Male Military Personnel without Prior Service," as amended.

Army Subject Schedules.

21-31, "US Rifle Caliber .30, M-1."

7-11, "Advanced Rifle Marksmanship."

DA Pamphlets.

23-2, 7 January 1959, subject: "Hits Count."

210-1, "US Army Installations and Major Activities in the Continental United States."

DA Bulletins.

12, 17 August 1955, subject: "Reserve Forces Act of 1955."

DA Booklets.

"Mobilization Troop Program (U) of the Army," FY 61, 30 September 1960, with three (3) annexes.

"Mobilization Installations Program (U) FY 61," 15 November 1960.

Human Engineering Reports, Special Devices Center, Office of Naval Research

494-01-01, "Army Marksmanship and Gunnery Training: Training Requirements for Individual Weapons," 12 June 1952.

494-01-2, "Experiments in Rifle Marksmanship Training," 15 June 1953.

494-01-3, "Experimental Evidence for Improvements Needed in Rifle Marksmanship Training," 15 June 1953.

USCONARC Training Directive, Hq USCONARC, 1 July 1958, as amended.

USCONARC Circular Nr 622-1, Hq USCONARC, 1 December 1960, subject: "Competitive Marksmanship Program, Training of US Army National Trophy Teams."

USCONARC Circular Nr 622-2, Combat Developments Objective Guide(s).

USCONARC Memorandum Nr 69, Hq USCONARC, 27 November 1959, subject: "Competitive Small Arms Marksmanship Program."

Letter, ATTNG-TNG 353.01/5 (1 Apr 59), Hq USCONARC, 1 April 1959, subject: "Trainfire I Implementation Program," as amended.

USCONARC Pamphlet Nr 120-1, 15 January 1961, subject: "Mobilization Production Times, TO&E and TD Units."

Mobilization Annex to USCONARC Operating Program (Tables 2000 A and 2100A), 20 March 1959.

US Army Infantry Human Research Unit Studies

Technical Report Nr 22, October 1955, subject: "Trainfire I: A New Course in Basic Rifle Marksmanship."

Quarterly Research Report - January-March 1957.

Research Memorandum, December 1958, subject: "Extension of Research in Trainfire I Basic Rifle Marksmanship Course."

Research Memorandum, July 1959, subject: "An Aiming Point Comparison Study."

Quarterly Research Report, October-December 1959.

Research Memorandum, November 1959, subject: "Trainfire V: Extension of Research as Trainfire I Rifle Marksmanship Course."

Quarterly Research Report - October-December 1960.

Technical Report Nr 67, December 1960, subject: "The Development of a List of Minimal Training Goals for Basic Combat Training."

Staff Memorandum, undated, subject: "Realistic Targets for the Training and Testing of Combat Riflemen."

Trainfire I, Questions and Answers, Tripartite Conference, 2 November 1956.

Staff Study, Department of the Army, subject: "Study of the Program of Promotion of Rifle Practice," (Meade Report).

Staff Study, Headquarters US Army Training Center, Armor, 9 February 1961, subject: "Evaluation of Trainfire I and Known Distance Marksmanship Programs, USATC, Armor."

Test Report, "Battlesight Zeroing at 25-Meters - Trainfire I," Hqs US Army Training Center, Infantry, Fort Dix, New Jersey.

Staff Study, Weapons Department, US Army Infantry School, 21 November 1960,
subject: "Evaluation of Trainfire I Qualification Scores."

Folio of Working Drawings for Military Construction, "Training Facilities,"
Department of the Army, US Army Corps of Engineers, Folio No 1, 1 Sept 1952.

3 Trainfire I Ranges, "Training Facilities," US Army Corps of Engineers, Savannah,
Georgia, Dec 59.

US Army Infantry School Career Course Student Monographs pertaining to:

- (1) Comparison of US Army rifle marksmanship training with that of other nations (USSR, Great Britain, Canada);
- (2) Methods to improve rifle marksmanship in the US Army.

Foreign Service Documents

CAMT 7-51, Rifle, Bayonet and Automatic Rifle (Provisional), 17 Feb 1960, as amended (Canadian)

Study, Oct 1944, Canadian Army Operational Research Group, subject: "The Value of the .22 Caliber Rifle in the Initial Stages of Training" (Canadian)

Instruction Du Tir, 1955, as amended (French)

Infantry Training, Volume III, "Ranges and Courses," (British)

Infantry Training, Volume I, "7.62mm Self-Loading Rifle" (British)

Infantry Training, Volume I, "Sniping" (British)

Infantry Training, Volume I, "Exercises in Handling of Weapons" (British)

Letter, 13 March 1961, Commandant, Small Arms Wing, School of Infantry, Hythe Kent, subject: "Marksmanship Review." (British)

2. Documents Received Containing Specific Problem Areas and/or Recommendations.

Letter, 12 May 1960 from General Bruce C. Clarke, (then) Commanding General, US Continental Army Command, to Mr. Franklin L. Orth, Executive Vice President, National Rifle Association of America.

Letter, 20 May 1960 from Mr. Franklin L. Orth, Executive Vice President, National Rifle Association of America to General Bruce C. Clarke, (then) Commanding General, US Continental Army Command.

Letter, with inclosures, 21 November 1960 from Major General Lewis W. Truman, Deputy Chief of Staff for Operations, Plans & Training, US Continental Army Command to Major General Hugh P. Harris, Commanding General, US Army Infantry Center.

Letter, 23 November 1960 from Brigadier General L. A. Walsh Jr., Assistant Commandant, US Army Infantry School to Major General Lewis W. Truman, Deputy Chief of Staff for Operations, Plans & Training, US Continental Army Command.

Letter, 16 December 1960 from Colonel K. L. Kolb, Commanding Officer, 2d Training Regiment, Fort Dix, New Jersey, to Major General Lewis W. Truman, Deputy Chief of Staff for Operations, Plans & Training, US Continental Army Command.

Letter, with inclosures, 25 January 1961 from General Herbert B. Powell, Commanding General, US Continental Army Command to Major General Hugh P. Harris, Commanding General, US Army Infantry Center.

Letter, with inclosures, 3 February 1961 from Lieutenant General Paul D. Adams,
Commanding General, Third United States Army to General Herbert B. Powell,
Commanding General, US Continental Army Command.

Letter, 3 March 1961 from General Bruce C. Clarke, Commander in Chief,
USAREUR to General George H. Decker, Chief of Staff, US Army.

SECTION III

LIST OF COMMANDS VISITED BY BOARD MEMBERS

Department of the Army

Office of the Deputy Chief of Staff for Operations

Office of the Chief, Research and Development

Headquarters United States Continental Army Command, Fort Monroe, Virginia

Headquarters First United States Army, Governors Island, New York

Headquarters Second United States Army, Fort Meade, Maryland

Headquarters Third United States Army, Fort McPherson, Georgia

Headquarters Fourth United States Army, Fort Sam Houston, Texas

Headquarters Fifth United States Army, Chicago, Illinois

Headquarters Sixth United States Army, San Francisco, California

Office of the Adjutant General, State of Texas

Headquarters XVIII Airborne Corps, Fort Bragg, North Carolina

Headquarters XI United States Army Corps, St. Louis, Missouri

Headquarters XV United States Army Corps, Presidio of California

Headquarters XIII United States Army Corps, Fort Devens, Massachusetts

United States Army Training Center, Infantry, Fort Jackson, South Carolina

United States Army Training Center, Infantry, Fort Dix, New Jersey

United States Army Armor Center, Fort Knox, Kentucky

United States Army Training Center, Armor, Fort Knox, Kentucky

United States Army Training Center, Engineer, Ford Leonard Wood, Missouri

United States Army Training Center, Infantry, Fort Ord, California

Headquarters 1st Infantry Division, Fort Riley, Kansas

Headquarters 2d Armored Division, Fort Hood, Texas

Headquarters 4th Infantry Division, Fort Lewis, Washington

Headquarters 82d Airborne Division, Fort Bragg, North Carolina

Headquarters 2d Infantry Brigade, Fort Devens, Massachusetts

SECTION IV

QUESTIONNAIRE SENT TO FOLLOWING ADDRESSEES

The Board's questionnaire was forwarded to those commanders listed below on 13 February 1961. Sufficient copies of the questionnaire were forwarded to division and brigade commanders to encourage dissemination to subordinate commanders. 154 Addressees received the questionnaire. The Board received 141 replies, including some directly from battle groups and battalion commanders.

1. Active Army:

Commanding General, First United States Army
Commanding General, Second United States Army
Commanding General, Third United States Army
Commanding General, Fourth United States Army
Commanding General, Fifth United States Army
Commanding General, Sixth United States Army
Commanding General, XVIII Airborne Corps
Commanding General, II United States Army Corps
Commanding General, IV United States Army Corps
Commanding General, VI United States Army Corps
Commanding General, VIII United States Army Corps
Commanding General, X United States Army Corps
Commanding General, XI United States Army Corps
Commanding General, XII United States Army Corps
Commanding General, XIII United States Army Corps
Commanding General, XIV United States Army Corps
Commanding General, XV United States Army Corps
Commanding General, XVI United States Army Corps
Commanding General, XIX United States Army Corps
Commanding General, XX United States Army Corps
Commanding General, XXI United States Army Corps
Commanding General, US Army Armor Center, Fort Knox, Kentucky
Commanding General, US Army Training Center, Infantry, Fort Dix, N. J.
Commanding General, US Army Training Center, Infantry, Fort Jackson, S. C.
Commanding General, US Army Training Center, Infantry, Fort Ord, California
Commanding General, US Army Training Center, Armor, Fort Knox, Kentucky
Commanding General, US Army Training Center, Artillery, Fort Sill, Oklahoma
Commanding General, US Army Training Center, Engineer, Fort Leonard Wood, Mo.

Commanding General, Fort Carson, Colorado
Commanding General, 1st Infantry Division
Commanding General, 2d Infantry Division
Commanding General, 2d Armored Division
Commanding General, 4th Infantry Division
Commanding General, 82d Airborne Division
Commanding General, 101st Airborne Division
Commanding General, CCA, 1st Armored Division, Fort Hood, Texas
Commanding General, 2d Infantry Brigade, Fort Devens, Mass.
Commanding Officer, 1st Infantry Brigade, Fort Benning
Commanding Officer, 7th Special Forces Group (Abn), Fort Bragg
Commanding Officer, 3d Armored Cavalry Regiment, Fort Meade
Commanding Officer, 6th Armored Cavalry Regiment, Fort Knox
Commanding Officer, 1st Battle Group, 3d Infantry, Fort Myer
Commanding Officer, 1st Battle Group, 10th Infantry, Fort Ord
Commanding Officer, 2d Battle Group, 30th Infantry, Fort Sill
Commanding Officer, 2d Battle Group, 31st Infantry, Fort Rucker

2. National Guard:

Adjutant General, each state, Commonwealth of Puerto Rico and the District of Columbia

Commanding General, 26th Infantry Division, Mass
Commanding General, 27th Armored Division, N. Y.
Commanding General, 28th Infantry Division, Pa
Commanding General, 29th Infantry Division, Md
Commanding General, 30th Infantry, Division, N. C.
Commanding General, 30th Armored Division, Tenn
Commanding General, 31st Infantry Division, Ala
Commanding General, 32d Infantry Division, Wisc
Commanding General, 33d Infantry Division, Ill
Commanding General, 34th Infantry Division, Neb
Commanding General, 35th Infantry Division, Kansas
Commanding General, 36th Infantry Division, Texas
Commanding General, 37th Infantry Division, Ohio
Commanding General, 38th Infantry Division, Indiana
Commanding General, 39th Infantry Division, La
Commanding General, 40th Armored Division, Cal

Commanding General, 41st Infantry Division, Oregon
Commanding General, 42d Infantry Division, N. Y.
Commanding General, 43d Infantry Division, Conn
Commanding General, 45th Infantry Division, Okla
Commanding General, 46th Infantry Division, Michigan
Commanding General, 47th Infantry Division, Minn
Commanding General, 48th Armored Division, Georgia
Commanding General, 49th Armored Division, Texas
Commanding General, 49th Infantry Division, Cal
Commanding General, 50th Armored Division, N. J.
Commanding General, 51st Infantry Division, S. C.
Commanding Officer, 258th Infantry Brigade (Sep), Arizona
Commanding Officer, 2d Battle Group, 145th Infantry, Ohio
Commanding Officer, 1st Battle Group, 176th Infantry, Va
Commanding Officer, 1st Battle Group, 178th Infantry, Ill

3. Reserve:

Commanding General, 63d Infantry Division, Cal
Commanding General, 70th Infantry Division, Mich
Commanding General, 76th Infantry Division (Training), Conn
Commanding General, 77th Infantry Division, N. Y.
Commanding General, 78th Infantry Division, N. J.
Commanding General, 79th Infantry Division, Penn
Commanding General, 80th Infantry Division, Va
Commanding General, 81st Infantry Division, Ga
Commanding General, 83d Infantry Division, Ohio
Commanding General, 84th Infantry Division, Wisc
Commanding General, 85th Infantry Division, Ill
Commanding General, 89th Infantry Division, Kansas
Commanding General, 90th Infantry Division, Texas
Commanding General, 91st Infantry Division (Training), Cal
Commanding General, 94th Infantry Division, Mass
Commanding General, 95th Infantry Division, (Training), Okla
Commanding General, 96th Infantry Division, Montana
Commanding General, 98th Infantry Division, N. Y.
Commanding General, 100th Infantry Division (Training), Ky
Commanding General, 102d Infantry Division, Mo

Commanding General, 103d Infantry Division, Iowa

Commanding General, 104th Infantry Division, Wash.

Commanding General, 108th Infantry Division, (Training), N. C.

4. Questionnaire not dispatched to following, however, their comments were submitted to Board in accordance with paragraph 6(a), USCONARC Circular 350-41.

Headquarters, United States Army, Europe

Headquarters, United States Army, Pacific

SECTION V

LIST OF AGENCIES AND INDIVIDUALS FROM WHICH THE BOARD SOLICITED
INFORMATION BY INTERVIEW, BRIEFING, OR CORRESPONDENCE

United States Army Infantry Human Research Unit (HumRRO), Fort Benning, Georgia

Combat Developments Office, US Army Infantry School, Fort Benning, Georgia

Commanding General, Aberdeen Proving Ground, Maryland

Commanding General, US Army Ordnance, Major Item Supply Management Agency,
Chambersburg, Pennsylvania

Commanding Officer, Recruit Training Regiment, Marine Corps, Recruit Depot, Parris
Island, South Carolina

Commanding Officer, 2d Infantry Training Regiment, Marine Corps Base, Camp Pendle-
ton, California

Colonel Henry E. Kelly, USA (Ret), US Army Infantry Human Research Unit, Fort Ben-
ning, Georgia

Lt Colonel John S. McLaren, British Liaison Officer, US Army Infantry School, Fort
Benning, Georgia

Lt Colonel Paul Aussarresse, French Liaison Officer, US Army Infantry School, Fort
Benning, Georgia

Lt Colonel Victor A. Kleber, Jr., Marine Corps Liaison Officer, US Army Infantry
School, Fort Benning, Georgia

Lt Colonel Rodman E. Lindow, Combat Developments Office, US Army Infantry School,
Fort Benning, Georgia

Major Gordon A. Gunton, Canadian Liaison Officer, US Army Infantry School, Fort Ben-
ning, Georgia

Mr. Franklin L. Orth, Executive Vice President, National Rifle Association of America

Mr. Frank L. Wyman, Director, Program Division, Administrative Staff, National Rifle
Association of America