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APPLICATION OF TACTICAL DATA SYSTEMS FOR TRAINING VOL. III - DEVELOPMENT OF COURSEWARE AND ANALYSIS OF RESULTS FOR MOS 11B40

W. G. Hoyt, A. K. Butler and F. D. Bennik
System Development Corporation

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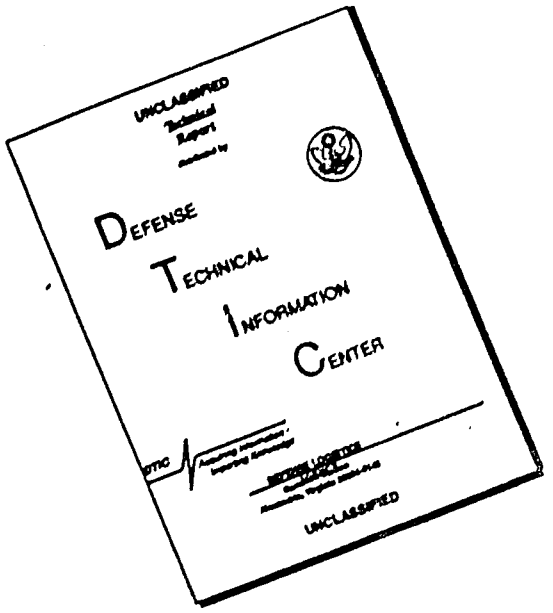
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20. ABSTRACT *(Continue on reverse side if necessary and identify by block number)*

This research report demonstrates that a complex Computer-Assisted Instruction (CAI) system can be integrated within a tactical computer system and that learning does take place within the tactical computer environment.

While it is unreasonable to expect that a given method of instruction will be applicable to all Army personnel, it should at least cover a fairly broad range of personnel with varying aptitude (G) scores. These personnel

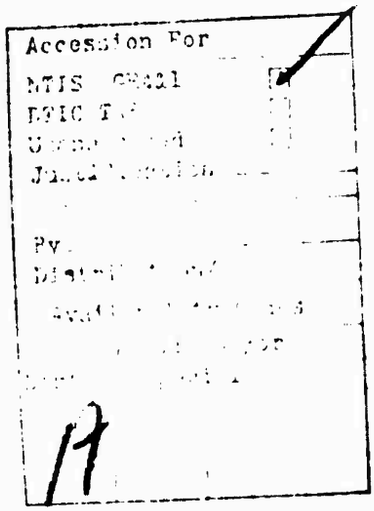
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present problems in regard to training costs. While student costs (time) is a consideration, instructor time (cost of preparation and instructing) is a more heavily weighted factor. A training program which has the capability to reduce instructor time in relation to student time offers a cost-effective, cost-saving approach to training.



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APPLICATION OF TACTICAL DATA SYSTEMS FOR TRAINING

FINAL REPORT

VOLUME III - DEVELOPMENT OF COURSEWARE AND ANALYSIS OF RESULTS FOR MOS 11B40

2 JANUARY 1974

W. G. Hoyt
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TM-5261/002/00

FOREWORD

System Development Corporation submits this Final Report in conformance to Contract No. DAHC19-73-C-0029, Application of Tactical Data Systems for Training. It is structured as follows:

Volume No.	Title	SDC ID No.
I	Executive Summary	TM-5261/000/00
II	AI/DEVTOS Automation Studies	TM-5261/001/00
III	Development of Courseware and Analysis of Results for MOS 11B40	TM-5261/002/00
IV	Development of Courseware and Analysis of Results of GED Math	TM-5261/003/00

While each document noted above is a discrete entity, references have been made to other volumes when such would provide amplification of--or information supplemental to--the topic under discussion. Computer listings of the statistical results of this study are presented under separate covers as Attachment to appropriate volumes.

ACKNOWLEDGEMENTS

ARI wishes to acknowledge the efforts made by US Army military and civilian personnel in the development of the course materials and conduct of MASSTER Test 122, IBCS: Automated Instruction. Our sincere thanks to the members of the US Army Research Institute for the Behavioral and Social Sciences, particularly to Mr. James Baker, Dr. Michael Strub, Mr. Cecil Johnson, Mr. Sidney Sachs, and Dr. Charles Nystrom (Fort Hood Field Unit); and to Major John Mackey and Major M. Buzz Hensel, Tactical System Development Group (TSDG), CSC, Fort Hood, Texas.

The cooperation of personnel of the United States Armed Forces Institute, Madison, Wisconsin, particularly Dr. Clay Brittain, aided greatly in developing the training objectives for the GED course materials. While it is not possible to specify each by name in this context, their willingness and capability in contributing to this effort have not gone unnoticed.

TABLE OF CONTENTS

Section		Page
1	INTRODUCTION	1-1
	A. Project Background	1-1
	B. Purpose of the Study	1-2
	C. Study Objectives	1-2
	D. Value and Importance of this Study	1-3
	E. Purpose and Scope of this Document	1-6
2	DEVELOPMENT OF COURSEWARE	2-1
	A. Background	2-1
	B. Development of Courseware: Crew Served Weapons	2-2
	1. Selection of Subject Matter Areas	2-2
	2. Development of Instructional Objectives and Test Items	2-10
	3. Review and Revision	2-15
	4. Development of Course Materials	2-18
	5. Lesson Design and Content	2-29
	6. Adjunct Materials	2-44
	7. Assessment Materials	2-44
	8. Delivery of Course Materials	2-45
	9. Preliminary On-Line Tryout and Review of Course Material	2-45
	C. Development of Courseware: Tactics	2-48
	1. Selection of Subject Matter Areas	2-48
	2. Development of Instructional Objectives and Test Items	2-55
	3. Review and Revision	2-56
	4. Development of Course Materials	2-60
	5. Lesson Design and Content	2-63
	6. Adjunct Materials	2-74
	7. Assessment Materials	2-74
	8. Delivery of Course Materials	2-75
	9. Review of Course Materials	2-75
	D. Problems Encountered	2-76

TABLE OF CONTENTS (Cont'd)

Section		Page
3	CONDUCT OF THE FIELD TEST	3-1
	A. Preliminary Activities	3-1
	1. Identification and Selection of the Subject Pool	3-1
	2. Computer Checkout of Course Materials	3-3
	B. Conduct of the Experiment	3-5
	1. Experimental Design	3-5
	2. Initial Planning	3-7
	3. Training of Monitors	3-12
	4. Physical Layout	3-13
	5. Procedures	3-17
4	ANALYSIS OF RESULTS	4-1
	A. Introduction	4-1
	B. Results of the Crew Served Weapons Study	4-2
	1. Statistical Analysis	4-2
	2. Analysis of 11B40 Personnel Attitude toward Automated Instruction (AI)	4-13
	3. Discussion of Findings	4-15
	C. Results of the Tactics Study	4-19
	1. Introduction	4-19
	2. Statistical Analysis	4-19
	3. Analysis of 11B40 Personnel Attitude toward Automated Instruction (AI)	4-31
	4. Discussion of Findings	4-33
5	CONCLUSIONS AND RECOMMENDATIONS	5-1
	A. Introduction	5-1
	B. Crew Served Weapons Study	5-1
	1. Conclusions	5-1
	2. Recommendations	5-2

TABLE OF CONTENTS (Cont'd)

Section		Page
	C. Tactics Study	5-6
	1. Conclusions	5-6
	2. Recommendations	5-7
APPENDIX A:	MOS AI TASK FLOW CHARTS	A-1
APPENDIX B:	AI TRAINING ANALYSIS RESULTS: CREW SERVED WEAPONS AND TACTICS	B-1
APPENDIX C:	REVIEW INSTRUCTIONS AND RATING MATERIALS FOR MOS AI TRAINING ANALYSIS RESULTS	C-1
APPENDIX D:	MOS AI COURSE ADJUNCT MATERIALS	D-1
APPENDIX E:	INTRODUCTORY LESSON FOR THE AI GROUP	E-1
APPENDIX F:	ORIENTATION BRIEFING FOR MASSTER TEST 122	F-1
APPENDIX G:	INSTRUCTIONS FOR THE SELF-STUDY GROUPS: CSW, TACTICS, GED	G-1
APPENDIX H:	INSTRUCTIONS FOR THE ALPHA DOT CODE STUDY	H-1
APPENDIX I:	AI DEBRIEFING QUESTIONNAIRES	I-1
APPENDIX J:	COMMENTS OF AI SUBJECTS	J-1

TABLE OF CONTENTS (Cont'd)

ATTACHMENTS

CREW SERVED WEAPONS AI, S AND C GROUPS, VARIABLES 1-26:

ATTACHMENT A: Frequency Distributions

ATTACHMENT B: Means, Standard Deviations, Range of Scores, Intercorrelation Matrix

ATTACHMENT C: Individual Scores

CREW SERVED WEAPONS AI GROUP, VARIABLES 1-122:

ATTACHMENT D: Frequency Distributions

ATTACHMENT E: Means, Standard Deviations, Range of Scores, Intercorrelation Matrix

ATTACHMENT F: Individual Scores

TACTICS AI, S AND C GROUPS, VARIABLES 1-26:

ATTACHMENT G: Frequency Distributions

ATTACHMENT H: Means, Standard Deviations, Range of Scores, Intercorrelation Matrix

ATTACHMENT I: Individual Scores

TACTICS AI GROUP, VARIABLES 1-122:

ATTACHMENT J: Frequency Distributions

ATTACHMENT K: Means, Standard Deviations, Range of Scores, Intercorrelation Matrix

ATTACHMENT L: Individual Scores

LIST OF FIGURES

Figure		Page
2-1	AI Courseware Developmental Process	2-2
2-2	Task Flow Chart for an M72A2 LAW Topic in Crew Served Weapons Course	2-7
2-3	A TAIS for a Crew Served Weapons Topic	2-8
2-4	A Criterion and Enabling Objectives Worksheet for the Crew Served Weapons Course	2-12
2-5	A Test Items Worksheet for the Crew Served Weapons Course	2-14
2-6	Display Unit	2-20
2-7	Example of a Completed AI Frame Ready for Keypunching	2-28
2-8	Task Flow Chart for Individual Combat Training Topics in the Tactics Course	2-52
2-9	A TAIS for a Tactics Topic	2-56
2-10	A Criterion and Enabling Objectives Worksheet for the Tactics Course	2-57
2-11	A Test Item Worksheet for the Tactics Course	2-58
2-12	Example of a Completed Tactics AI Frame Ready for Keypunching	2-63
3-1	Sample of Subject Pool Listings	3-2
3-2	Tactical Computer Van, Computer Operator Console	3-9
3-3	Facility Layout for MASSTER Test 122	3-14
3-4	Diagram of the Facility Layout for MASSTER Test 122	3-15
3-5	TOSSOC Van	3-16
3-6	Sample Introductory Form	3-18
3-7	Sample Student Record Form	3-19
3-8	Sample Pretest Instructions	3-20
3-9	Scoring Tests in Portavan 1	3-21
3-10	CRT Console in TOSSOC	3-23
3-11	Instructions for AI Group	3-24
3-12	AI Group Taking Course	3-25

LIST OF FIGURES (Cont'd)

Figure		Page
3-13	Study Group in Portavan 3	3-26
3-14	Control Group in Portavan 2	3-28
3-15	Control Group Monitor Demonstrating Alpha Dot Equipment to Test Subject	3-29
3-16	Control Group Learning the Alpha Dot System	3-30
3-17	Interviewing AI Group Subject in Portavan 1	3-32
4-1	Relationship of Pretest, Posttest and Gain Scores (Var. 25) to CT Scores (Var. 26) for CSW AI Subjects	4-6
4-2	Relationship of Pretest, Posttest and Gain Scores (Var. 25) to GT Scores (Var. 26) for CSW S Subjects	4-7
4-3	Relationship of Pretest, Posttest and Gain Scores (Var. 25) to GT Scores (Var. 26) for CSW C Subjects	4-8
4-4	Relationship of Pretest, Posttest and Gain Scores (Var. 25) to GT Scores (Var. 26) for TAC AI Subjects	4-24
4-5	Relationship of Pretest, Posttest and Gain Scores (Var. 25) to GT Scores (Var. 26) for TAC S Subjects	4-25
4-6	Relationship of Pretest, Posttest and Gain Scores (Var. 25) to GT Scores (Var. 26) for TAC C Subjects	4-26

LIST OF TABLES

Table		Page
2-1	Crew Served Weapons Source Documentation	2-3
2-2	Results of Preliminary Analysis to Select Crew Served Weapons Topics as Candidates for AI Development	2-6
2-3	Crew Served Weapons Course Structure	2-30
2-4	Tactics Source Documentation	2-49
2-5	Results of Preliminary Analysis to Select Tactics Topics as Candidates for AI Development	2-51
2-6	Tactics Course Structure	2-62
3-1	Experimental Design	3-6
4-1	Results of the Crew Served Weapons Study	4-2
4-2	Crew Served Weapons Study Group Means and Standard Deviations	4-4
4-3	Results of the Tactics Study	4-20
4-4	Tactics Study Group Means and Standard Deviations	4-22

Section 1: INTRODUCTION

A. PROJECT BACKGROUND

The Army's current efforts to improve its overall training program, spearheaded by the work of the Board for Dynamic Training at Fort Benning, Georgia, has identified that future training will be increasingly decentralized, placing greater responsibility on unit and individual training programs. It is conceivable that tactical ADP systems could be made available to tactical units to alleviate the problems each will face in meeting its increasing unit training requirements by providing an Automated Instruction (AI) capability to supplement training resources. Data are needed that would delineate the potential payoffs as well as the pitfalls inherent in taking the techniques and materials of AI from the formal school setting to the field, and attempting to implement them using tactical ADP equipment to meet user training requirements in a tactical unit environment. Such information would provide an empirical basis for making broad management decisions regarding the Army's training needs of the future and should impact on Army tactical ADP system design by specifying "subsystem training packages" which these systems should accommodate.

In November 1971, ACSFOR requested OCRD to initiate a research effort defining the potential roles of tactical computers in training. Subsequently, OCRD (ARI) developed a research plan which was coordinated with ACSFOR and the Board for Dynamic Training. The plan was accepted and MASSTER Test 122, entitled IBCS: Automated Instruction, was scheduled by ACSFOR.

MASSTER Test 122 provided for the development of two stand-alone Automated Instruction (AI) packages--one to assist MOS 11B40 personnel in preparing for MOS proficiency testing and one for general educational development. These packages were to be prepared and programmed for use with the DEVTOS tactical system at Fort Hood, Texas.

The decision to use 11B40 personnel was based upon Board for Dynamic Training identification of the maintenance of proficiency by 11B40s, the Light Weapons Infantrymen, as a significant unit training problem. In addition, a CONARC task group report on computer assisted instruction identified the 11B40 MOS as a top contender for attention in the "nontechnical" skills area. Within the four 11B40 MOS subject areas, Tactics and Crew Served Weapons were prime candidates because they accounted for most of the proficiency test failures. The same reasoning applied to the selection of the mathematics area for General Educational Development (GED).

In December 1972, the System Development Corporation (SDC) was tasked to develop and field test the two AI packages.

B. PURPOSE OF THE STUDY

The purpose of the study undertaken by SDC was to evaluate the feasibility of using Army tactical data systems for automated instruction. Special attention was directed toward identifying problems of user acceptance, measuring participant improvement in performance, and defining the technical problems encountered.

C. STUDY OBJECTIVES

Specific study objectives included:

- Determine the feasibility of using tactical computers for instruction in MOS training, specifically 11340.
- Determine the feasibility of using tactical computers for instruction in GED topics, specifically mathematics.
- Determine the feasibility of using tactical computers to identify proficiency area weaknesses and the resultant special remedial training needed.
- Identify factors influencing user acceptability of automated instruction.
- Provide input data for design decisions which will satisfy the stated material need for a TOS automated instruction capability.

Also defined were the following subobjectives:

- Determine the amount of learning derived from an AI course on the 11B40 subject matter area entitled "Crew Served Weapons."
- Compare the learning of "Crew Served Weapons" achieved via AI with that achieved by self-study (non-AI) methods.
- Determine the amount of learning derived from an AI course on the 11B40 subject matter area entitled "Tactics".
- Compare the learning of "Tactics" achieved via AI with that achieved by self-study (non-AI) methods.
- Determine the amount of learning derived from an AI course in GED mathematics.
- Compare the learning of math achieved via AI with that achieved by self-study (non-AI) methods.
- Determine if AI applies equally well to personnel with different ACB scores.
- Determine if slow learners attain the same proficiency level as fast learners.
- Determine if educational level is correlated with learning using AI.
- Determine user acceptance of AI by means of an in-depth interview with each user subsequent to his training.
- Compile in easily interpretable form the results of all analyses conducted in the course of satisfying the above subobjectives.

D. VALUE AND IMPORTANCE OF THIS STUDY

The Army has a growing computer capability, especially in the area of tactical computers. These computers are not expected to be used full time for their tactical mission. Concurrently, the findings of the Board for Dynamic Training indicate that Army Training needs to be improved. The ways that such improvement can take place are being examined very closely. One of these is automated instruction (computer-assisted instruction (CAI)).

This study demonstrates that:

- *A complex CAI system can be integrated within a tactical computer system.*
- *Learning does take place within the tactical computer environment.*

While it is unreasonable to expect that a given method of instruction (i.e., AI) will be applicable to all Army personnel, it should at least cover a fairly broad range of personnel with varying aptitude (GT) scores. An allied consideration is what happens to Army personnel in the lower range of GT scores. These personnel present problems in regard to training costs. While student costs (time) is a consideration, instructor time (cost of preparation and instructing) is a more heavily weighted factor. A training program which has the capability to reduce instructor time in relation to student time offers a cost-effective, cost-saving approach to training.

The statistical and practical results of this study indicate that:

- *Learning via AI occurs with Army personnel whose GT scores cover a broad range.*
- *Army personnel with relatively low GT scores can learn effectively without high instructor costs.*

One of the questions in regard to AI (and other methods of instruction) is the acceptability of the method. Data in regard to acceptability are important in making command decisions concerning methods of training. These data should come from Army personnel who have been exposed to this method of instruction in a subject area where training is needed.

Results of interviews conducted during this study reveal that:

- *The AI method of instruction is highly regarded by MOS 11B40 AI participants.*

In the past, typical Army classroom training has been characterized as follows:

- Geared to the slowest individuals in the class
- Few opportunities for individualized training
- Lacking the environment or opportunity for questions or clarification during the presentation
- Boring and uninteresting
- Not necessarily accurate
- Disjointed...little continuity
- Omission of the "why" of training, which leaves it up to the individual student to determine the importance of the training--an unnecessary and perhaps overwhelming burden which he (as well as some instructors) cannot handle.

This study identifies:

- *Ways in which AI alleviates these deficiencies.*
- *Factors in AI methodology that lead to increased participation, motivation and morale--i.e., factors that account for its effectiveness.*
- *Special considerations required by combat personnel for successful MOS training.*

Although beyond the scope of this study, the Army is also faced with the unique problems encountered in training personnel with a limited grasp of English.

Results of this study indicate that:

- *An AI training program minimizes language problems by providing access to continued and/or repetitious instructional material.*

E. PURPOSE AND SCOPE OF THIS DOCUMENT

As defined in the FOREWORD, this document is one of four volumes of a Final Report submitted to the U.S. Army Research Office on the feasibility of the Application of Tactical Data Systems for Training. Information is presented in the following manner:

- Section 1 - provides a brief statement of the history and purpose of this study; defines study objectives; discusses the benefits to be derived; and outlines document structure.
- Section 2 - details the procedures involved in the design and development of courseware for both the Crew Served Weapons and Tactics portions of the MOS 11B40 effort.
- Section 3 - describes the nature and conduct of the field test.
- Section 4 - documents and analyzes the results of the field test.
- Section 5 - states the conclusions drawn from this study and recommends additional areas for future applications of study findings as well as new areas for investigation.

Supplemental information is appended, as appropriate. In addition, computer listings of statistical results specific to the Crew Served Weapons and Tactics portions of this study are provided under separate covers as Attachments to this volume.

Section 2: DEVELOPMENT OF COURSEWARE

A. BACKGROUND

This section describes the process by which courseware for the MOS 11B40 (Light Weapons Infantryman) domain was developed for the AI project. This effort was commenced in January 1973 and was deemed completed with the advent of the field trials conducted at Fort Hood in August 1973. As stated in DA Pamphlet 12-11B, there are four major areas that MOS 11B40 cover on their MOS Proficiency Tests. The four areas are: Individual Weapons, Crew Served Weapons, Tactics, and Field Activities.

For this project the two areas selected for courseware development were Crew Served Weapons (Area 2) and Tactics (Area 3). These two areas were selected because 11B40 personnel had lower scores on their proficiency tests than for Individual Weapons (Area 1) and Field Activities (Area 4). The amount of AI material to be developed for this project was to be equivalent to 24 hours of classroom instruction, with 12 hours each being allocated to Crew Served Weapons and Tactics, respectively. From each 12-hour block, approximately 4 hours of AI material were selected for use within the experiment.

The procedures used in this AI courseware development followed established principles of course development. They evolved from an analysis as to what was to be developed through the presentation of completed instructional material to the target population, with appropriate review and revision cycles interspersed throughout the process. The specific steps are indicated in Figure 2-1 and are described in this section. Although the courseware developed for Crew Served Weapons and Tactics followed the same developmental steps and occurred in parallel, they are treated separately here for reader convenience.

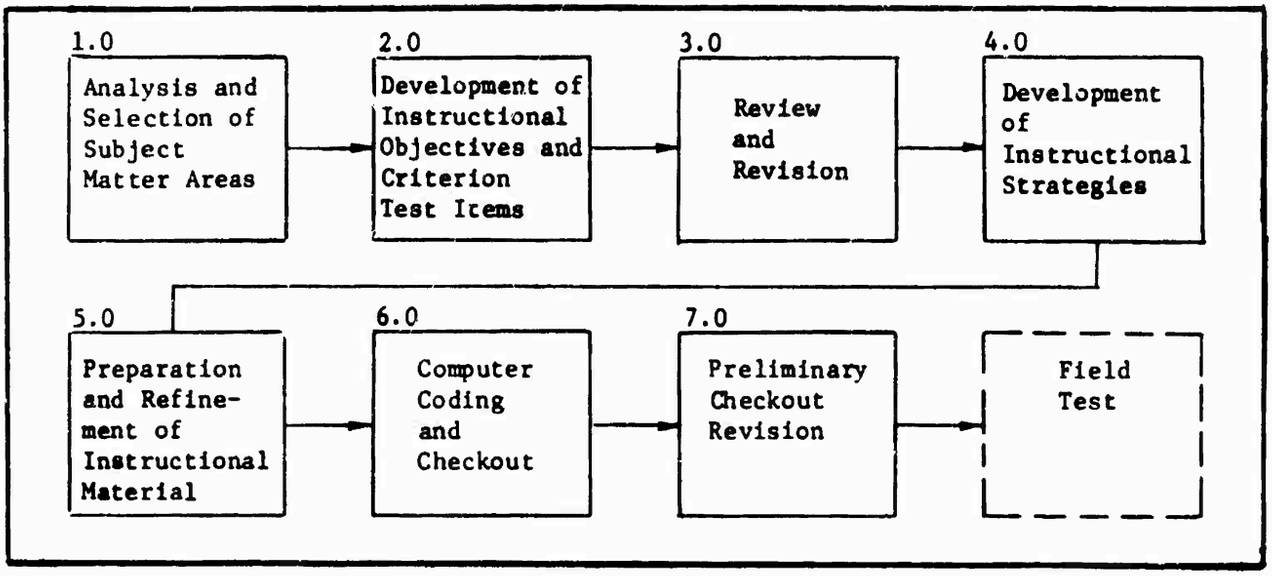


Figure 2-1. AI Courseware Developmental Process

B. DEVELOPMENT OF COURSEWARE: CREW SERVED WEAPONS

1. Selection of Subject Matter Areas

The initial task (Step 1.0 in Figure 2-1) was to identify and analyze subject areas within Crew Served Weapons from which candidate topics would be selected for development into 12 hours of AI material. This was accomplished in several steps. A preliminary analysis was conducted resulting in a candidate list of subject areas. This list was then reviewed by subject matter experts at The Infantry School, Fort Benning, Georgia, and a finalized list of subject matter topics for AI development produced.

a. Preliminary Analysis

SDC commenced its preliminary analysis by focusing on the source documentation and reference material for areas specified in DA Pamphlet 12-11B for Crew Served Weapons. This included the M72A2 LAW, 90MM Recoilless Rifle, M60 Machinegun, Caliber .50 Machinegun, and Adjustment of Indirect Fire. This analysis was directed toward specifying the subject areas without regard as to

whether they were amenable to AI. The documentation and reference material used to create this list of general subject areas are indicated in Table 2-1.

TABLE 2-1. CREW SERVED WEAPONS SOURCE DOCUMENTATION

DOCUMENT	WEAPON SYSTEM OR REQUIREMENT AREA
DA Pamphlet 12-11B	MOS 11B40
FM23-33 TM 9-1340-214-12, Ch. 1, 2 Six Roads to Success, Vol. II UTEC, UT-B-002	M72A2 LAW
FM 23-11, Ch. 1-3, 5 Six Roads to Success, Vol. II UTEC, UT-B-002	90MM Recoilless Rifle
FM 23-67, Ch. 8 Six Roads to Success, Vol. II UTEC, UT-B-021	M60 Machinegun
FM 23-65, Ch. 2, 4 Six Roads to Success, Vol. II UTEC, UT-B-024	Caliber .50 Machinegun
FM 23-90, Ch. 5-7 (Mortars) UTEC, UT-B-023	Adjustment of Indirect Fire
Additional Documentation Common and Branch Task Statements USAIS Job Task Data Cards, Category 25, Anti-tank Weapons	

The next task was to identify topics and their criticality subsumed under each of these general subject areas that could be considered candidates for development as AI segments, with noncandidate topics being considered for elimination. This latter step would reduce the total number of topics retained for further consideration, thereby moving closer to identifying those topics that would comprise the 12 hours of AI material.

To perform this topic analysis, selection criteria were derived by SDC project personnel. An initial examination was made of each topic to determine if it would:

- Be representative of Crew Served Weapons requirements
- Be capable of presentation via AI without use of actual equipment, additional crew members, or mediation by instructor personnel
- Require minimal development of off-line materials (e.g., panels, exhibits, handouts, etc.)

Topics meeting these criteria were then subjected to a detailed analysis as to whether they should be included or excluded as candidates for AI development. Specific inclusion/exclusion factors developed and used were as follows:

Inclusion Factors

- Topic contains performance-oriented tasks which can be presented via AI with high fidelity
- Topic comprises applicable knowledge content
- Topic contains tasks which have a clear start and end point
- Topic contains tasks which have a logical sequence of procedural steps

Exclusion Factors

- Topic contains tasks requiring more than one person to perform
- Topic contains tasks requiring the use of actual equipment which would not be available for use during this project

Exclusion Factors (continued)

- Topic contains tasks requiring the actual physical disassembly/ assembly of equipment
- Topic contains tasks which depend upon locally developed SOPs
- Topic is not essential to 11B40 personnel
- Topic content is basically the same as for other weapon systems

The analysis indicated that the essential tasks could be completely covered by automated instruction. Using the M72A2 LAW system as a benchmark, the topics within the other weapon systems were examined. Of primary concern was the reduction of redundant topics among the weapons systems without disrupting logical continuity of topical structure within a specific weapon system. The results of this preliminary analysis are summarized in Table 2-2. All topics for the major weapon systems are included. Topics less critical or less amenable for AI development are flagged.

At this stage in the courseware development it was SDC's decision to retain those topics considered less critical or less suitable as candidates for AI development, pending a subsequent review and concurrence by subject matter experts at The Infantry School, Fort Benning, Georgia. It was possible that a topic that failed to achieve candidate status might be considered by The Infantry School to be an essential element within the subject area.

b. Preparation of Task Flow Charts

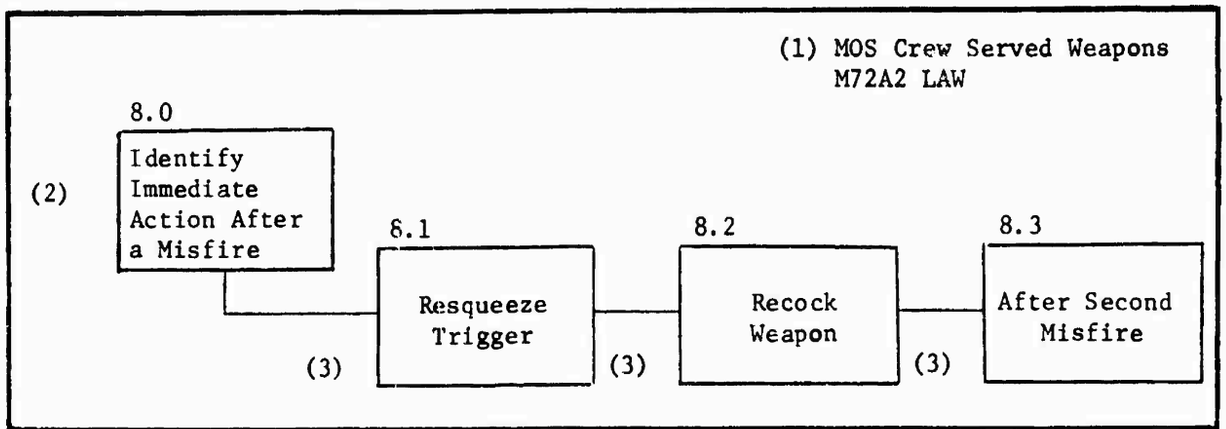
SDC prepared a Task Flow Chart for each candidate topic. The Task Flow Chart represents the tasks and their task elements within each topic that were selected as a candidate for AI development. A hierarchical relationship is implied between a task and its subelements.

Figure 2-2 shows a Task Flow Chart for the Crew Served Weapons course. Completed Task Flow charts prepared for the Crew Served Weapons course are contained in Appendix A to this document.

TABLE 2-2. RESULTS OF PRELIMINARY ANALYSIS TO SELECT CREW SERVED WEAPONS TOPICS AS CANDIDATES FOR AI DEVELOPMENT

M72A2 LAW	90MM RECOILLESS RIFLE	M60 MACHINEGUN	CALIBER .50 MACHINEGUN	ADJUSTMENT OF INDIRECT FIRE
Characteristics	Characteristics	Characteristics	Target Designator	Target Location
Component Parts	Component Parts	Nomenclature**	Target Engagement	Call for Fire
Capabilities/ Limitations	Disassembly/ Assembly**	Disassembly**	Characteristics**	Adjustment of Fire
Inspection	Ammunition	Assembly**	Disassembly**	
Prepare for Fire	Sub Caliber Device**	Maintenance**	Assembly**	
Aiming	Firing Positions**	Cycle of Functioning**	Headspace and Timing**	
Firing Positions	Backblast Area	Malfunctions	Operation**	
Malfunctions and Immediate Action	Boresight Techniques**	Stoppages	Functioning**	
Restore to Carrying Configuration	Rates of Fire	Characteristics of Fire	Malfunctions and Immediate Action	
Decontamination**	Misfire Procedures	Classes of Fire	Maintenance**	
Destruction**	Technique of Fire	Laying the Gun**		
	Fire Adjustment	Range Cards**		
	Mechanical Training**			
	Maintenance**			
	Lubrication**			
	Gun Crew Responsibility			
	Decontamination**			
	Destruction**			

** Indicates topic was considered less critical or less amenable as a candidate for AI development.



EXPLANATORY NOTES:

(1) Identification: Indicates the course and module. The course is Crew Served Weapons and the modules are: M72A2 LAW, 90MM Recoilless Rifle, M60 Machinegun, Caliber .50 Machinegun, Adjustment of Indirect Fire.

(2) Major Task: The box contains a statement of the major task within the topic. The number indicates the sequence of this task in relation to all tasks selected for this instructional module (e.g., 8.0 indicates this is task number eight in the sequence of tasks for the M72A2 LAW). The task number commences at 1.0 for each module within the Crew Served Weapons course. The number of modules and corresponding tasks (topics) initially selected for AI development include: M72A2 LAW (1.0-9.0), 90MM Recoilless Rifle (1.0-10.0), M60 Machinegun (1.0-5.0), Caliber .50 Machinegun (1.0-2.0), Adjustment of Indirect Fire (1.0-3.0).

(3) Task Element: Each box represents a subtask of the major task. Their sequence indicates the order in which the task elements are to be presented. An ascending decimal number system is used to relate each subelement to its major task.

Figure 2-2. Task Flow Chart for an M72A2 LAW Topic in Crew Served Weapons Course

c. Preparation of Training Analysis Information Sheets

SDC prepared a Training Analysis Information Sheet (TAIS) for each candidate topic. The TAIS was used to record the results of the training analysis and to provide basic information for specifying the instructional objectives, criterion test items, and development of course material. A representative TAIS is shown in Figure 2-3. The complete set of Training Analysis Information Sheets for the Crew Served Weapons Course is presented in Appendix B.

TAIS No. 1007 (1)

(2) MODULE MOS-CS
UNIT LAW

TRAINING ANALYSIS INFORMATION SHEET

(3) 1. TASK IDENTIFICATION: 7.0

(4) 2. TASK: Identify the firing positions prescribed for use with the M72A2 LAW to engage stationary or moving targets.

(5) 3. CONDITIONS: Given constructed response and multiple-choice questions concerning prescribed positions for use with the M72A2 LAW, provide correct responses.

(6) 4. STANDARD: No errors.

5. TASK ANALYSIS:

TASK ELEMENTS (7)	SUB ELEMENTS (8)	SUPPLEMENTAL TRAINING MATERIAL (9)	REFERENCES (10)
7.1 Identify firing positions to engage stationary targets	7.1 Knowledge of rifle firing positions	None	1. FM 23-33 para 28
7.2 Identify firing positions to engage moving targets	7.2 Knowledge of rifle firing positions		2. Six Roads to Success Vol II para 28 pg 67 3. UT-B-002 pgs 9-10 4. TM9-1340-214-12 para 2-5

Figure 2-3. A TAIS for a Crew Served Weapons Topic (Sheet 1 of 2)

EXPLANATORY NOTES:

(1) TAIS No.: The TAIS identification number is entered here. For the Crew Served Weapons course the sequence runs from 1001 through 1029.

(2) Module Unit: The module identification--CS indicates this TAIS pertains to the Crew Served Weapons course. The unit designation indicates the major subject areas (module) within the Crew Served Weapons Course. These are: LAW - M72A2 LAW; 90MM - 90MM Recoilless Rifle; M60 - M60 Machinegun; Cal 50 - Caliber .50 Machinegun; Adj - Adjustment of Indirect Fire.

(3) Task Identification: The identification of the task (topic). The initial task identification within each module commences at 1.0.

Note: This identifier corresponds to the major task on the Task Flow Charts.

(4) Task: Statement of the behavioral objective.

(5) Conditions: Statements indicating what must be learned and in what context performance must be demonstrated.

(6) Standard: The performance standard considered adequate to ensure that learning has occurred under the stated conditions.

(7) Task Elements: Each statement corresponds to a task element and is a subtask to the task for which the TAIS is prepared.

Note: The decimal numbers correspond tc the task elements on the Task Flow Charts.

(8) Prerequisite Knowledge or Skill Requirements: The requirements for each task element. Each must be taught or known before instruction on the actual task commences.

(9) Supplemental Training Material: Materials that are required to perform the task. These may be SDC-produced off-line pictures and diagrams issued as handouts or on-line representations.

(10) References: The source documentation and materials from which the training analysis was conducted.

Figure 2-3. A TAIS for a Crew Served Weapons Topic (Sheet 2 of 2)

d. Review and Revision

Review of candidate topics for concurrence by subject matter experts at The Infantry School, Fort Benning, Georgia, was accomplished in conjunction with the overall review of the instructional objectives and criterion test items. Specific procedures and results are presented in paragraph B.3, below.

2. Development of Instructional Objectives and Test Items

The development of instructional objectives and criterion test items followed as the next logical task in the Crew Served Weapons courseware development process (Step 2.0 in Figure 2-1).

Instructional objectives serve as a base from which instructional material is developed and lead directly, as well, to the development of criterion test items. Two types of instructional objectives were developed for this project: (1) criterion objectives, and (2) enabling objectives. Criterion objectives are end objectives associated with a specific task with each objective specifying the type of behavior required. Enabling objectives are subobjectives; each enabling objective represents a skill or knowledge necessary for successful performance of a given task.

a. Development of a Course Outline

As a preliminary step, SDC developed a course outline for each unit within the Crew Served Weapons module. The Training Analysis Information Sheets served as the primary source for this task. Production of these unit course outlines forced an overall structuring to the envisioned Crew Served Weapons course, and it was from this point that development of the instructional objectives commenced. The outline for the Crew Served Weapons course is presented in Appendix B to this document.

b. Development of Instructional Objectives

Criterion objectives were developed for each task element specified in the Training Analysis Information Sheets. Enabling objectives were developed as required to indicate on a more detailed level the knowledge and skills required of an individual to master the criterion objective. Each instructional objective was stated in behavioral terms.

Figure 2-4 shows a sample Criterion and Enabling Objectives Worksheet. Additional Criterion and Enabling Worksheets were used as required. Refer to Appendix B for a complete set of Criterion and Enabling Objectives Worksheets developed for the Crew Served Weapons course.

c. Development of Criterion Items

SDC developed criterion and enabling test items which were keyed directly to the criterion and enabling instructional objectives. Test items serve as indicators as to how well the student masters instructional segments. To aid test item specification, the following guidelines were adopted.

- Test items are performance oriented and require the student to demonstrate skills and knowledges directly related to the criterion objectives.
- Each test item elicits measurable behavior.
- The structure of the test item is positively oriented.
- Test items requiring constructed responses are deemed preferable to multiple-choice items because they require the formulation of a response rather than the selection or discrimination of answers from a number of alternatives.
- When multiple-choice items are used, they have at least four alternatives.
- The test item is amenable to AI presentation, or AI presentation plus a simple off-line exhibit.

TAIS No. 1008 (1)

(1) MODULE MOS-CS
UNIT LAW

TEST ITEMS

(1) TASK IDENTIFICATION: 8.0

(2) TASK ELEMENTS: 8.1-8.3

(3) CRITERION ITEM(S)	(4) ENABLING ITEM(S)
8.1-8.3 When presented with a list of procedures for applying immediate action to correct misfire conditions, but with the procedures in a scrambled order, the student can state the correct order in which the procedures should be performed to overcome a series of consecutive misfires when attempting to fire the weapon. The sequence is as follows: a. Resqueeze trigger b. Wait 10 seconds c. Place trigger safety handle on safe d. Remove from shoulder and wait one minute e. Recock weapon f. Check backblast area g. Assume firing position h. Place trigger safety handle in fire position and attempt to fire	8.1.1 Fill in MISFIRE as a complete failure to fire. 8.1.2 Fill in HANGFIRE as a delay in the functioning of the propelling charge explosive train at the time of firing. 8.1.3 Select from a multiple-choice list the reason misfire procedures must be followed when a failure to fire occurs: THE OPERATOR CANNOT IMMEDIATELY TELL THE DIFFERENCE BETWEEN A MISFIRE AND A HANGFIRE. 8.1.4 Select from a multiple-choice list the immediate action to take after failure to fire: RESQUEEZE THE TRIGGER. 8.1.5 State 10 SECONDS as the time period to wait after attempting to fire a second time. 8.2.1 Select from a multiple-choice list the steps to take if the weapon fails to fire after resqueezing the trigger and 10 seconds have elapsed: (a) Return Trigger Safety Handle to the SAFE position, (b) Keep weapon pointed toward target, (c) Take off shoulder, (d) Wait 1 minute, (e) Depress Barrel Detent, (f) Partially collapse launcher

Figure 2-4. A Criterion and Enabling Objectives Worksheet for the Crew Served Weapons Course (Sheet 1 of 2)

EXPLANATORY NOTES:

(1) TAIS No.:
Module:
Unit:
Task Identification:
} Same identifications as appear on the TAIS. Each TAIS has a matching Criterion and Enabling Objectives Worksheet.

(2) Task Elements: Numeric code identifying the Task Element

(3) Criterion Objectives: Criterion objectives are prepared for the Task Element(s) as identified on the corresponding TAIS. A Criterion Objective may be prepared for each Task Element or may include all Task Elements. The number associated with the Criterion Objective identifies the Task Element(s) for which the Criterion Objective corresponds.

(4) Enabling Objectives: As appropriate, one or more Enabling Objectives are prepared for each Criterion Objective. The number indicates the Criterion-Enabling Objective correspondence and sequence in which the Enabling Objective is to be presented within the instructional material.

Figure 2-4. A Criterion and Enabling Objectives Worksheet for the Crew Served Weapons Course (Sheet 2 of 2)

Figure 2-5 shows a Test Items Worksheet. Additional Test Items Worksheets were used as required. Correct answers to Criterion and Enabling test items are indicated in two formats.

- Constructed response answers are enclosed within parentheses and underscored. Alternative responses may be included along with the correct response but are not underscored. For example, (Misfire/Hangfire) indicates Hangfire is the correct response to the test item, with Misfire being the incorrect response.
- An asterisk (*) precedes the correct alternative for multiple-choice test items.

TAIS No. 1018 (1)

(1) MODULE MOS-CS

UNIT LAW

TEST ITEMS

(1) TASK IDENTIFICATION: 8.0

(2) TASK ELEMENTS: 8.1-8.3

(3) CRITERION ITEM(S)	(4) ENABLING ITEM(S)
8.1-8.3 Below is the list of procedures we have just discussed for applying immediate action after a misfire occurs. You arrange them in the correct sequence. I will indicate how well you have done after you have finished. a. Place Trigger Safety Handle on SAFE b. Wait 10 seconds c. Check Backblast area d. Remove from shoulder and wait 1 minute e. Recock weapon f. Assume firing position g. Place Trigger Safety Handle in fire position and attempt to fire h. Resqueeze trigger Step 1 is - ? (h) (enter a letter from the above list) Step 2 is - ? (b) Step 3 is - ? (a) Step 4 is - ? (d) (etc.)	8.1.1 A complete failure to fire is termed a (Misfire/Hangfire) 8.1.2 A delay in the functioning of the propelling charge explosive train at the time of fire is termed a (Misfire/Hangfire) 8.1.3 The gunner must follow the misfire procedures when a failure to fire occurs because? (select a letter) a. There is no difference between a misfire and a hangfire b. Only one set of procedures have been developed *c. The gunner cannot immediately tell the difference between a misfire and a hangfire d. Hangfires do not occur if the weapon is carried properly

Figure 2-5. A Test Items Worksheet for the Crew Served Weapons Course (Sheet 1 of 2)

EXPLANATORY NOTES:

(1) TAIS No.:
Module:
Unit:
Task Identification:
— Same identifications as appear on the TAIS and on the Criterion and Enabling Objectives Worksheets

(2) Task Elements: — Same numeric code identifying the Task Elements as appears on the Criterion and Enabling Objectives Worksheet.

(3) Criterion Item(s). — Criterion items are prepared for each criterion objective. Thus, the criterion item may correspond to one or more Task Elements depending on whether they have been combined. The statement labeled CONDITIONS on the TAIS is used to derive the content and context of the test item. The number associated with the Criterion Item identifies the Criterion Objective for which it corresponds.

(4) Enabling Item(s): — Enabling Items are prepared for each enabling objective and serve to test the individual skill and knowledge that is required for successful performance on each criterion objective. The number indicates the Enabling Objective-Enabling Item correspondence.

Figure 2-5. A Test Items Worksheet for the Crew Served Weapons Course (Sheet 2 of 2)

3. Review and Revision

Work efforts in the previously discussed courseware development process culminated during the month of March in the production of a working paper titled "Automated Instruction Training Analysis Results." This working paper was subjected to an extensive review (Step 3 in Figure 2-1) by subject matter experts from The Infantry School (TIS), Fort Benning, Georgia.

To structure this review meeting, SDC prepared a set of instructions for each major task that was to be accomplished.

Task 1: Determine the relative importance of the topics indicated for each Crew Served Weapon. A 4-point scale was developed for this purpose whereby each topic could be rated from "1. Must be Included" to "4. Minimum Value."

Task 2: Rank each weapon as to its relative importance within the Crew Served Weapons Course.

Task 3: Examine the training analysis results, consisting of the course outline, Training Analysis Information Sheets, Criterion and Enabling Objectives Worksheets, and Test Items Worksheets for completeness, content validity, and accuracy.

A sample set of instructions and rating sheets is contained in Appendix C.

The review meeting was conducted at The Infantry School, Fort Benning, Georgia. Participants included:

Captain J. F. Rex	Mortar Committee, TIS
Captain R. J. Evans	Armor and Mine Committee, TIS
Captain R. E. Lemaster	Machinegun Committee, TIS
T/Sgt. J. H. Davis	Machinegun Committee, TIS
Dr. Leo Nawrocki	Army Research Institute, Wash.,D. C.
SDC Project Staff	

In performing Task 1, Determine the Importance of Subject Matter Areas, those areas that were given a rating of 3 (borderline) or 4 (minimum value) were discussed on a topic-by-topic basis. Some of these areas, such as decontamination of weapons, were considered of minimum value and had been dropped from

the 1973 11B40 MOS Proficiency Test. In general, the subject matter experts rated those topics selected for AI development by SDC as important and agreed that they should be considered for inclusion within the Crew Served Weapons course. Of equal importance, however, was the fact that not one of the topics recommended for exclusion by SDC was considered to be of such great importance as to require reconsideration for inclusion within the Crew Served Weapons course.

Results from Task 2, Rank the Weapons, indicated the relative importance of the weapon systems to be: M60 Machinegun, M72A2 LAW, 90MM Recoilless Rifle, Caliber .50 Machinegun, and Adjustment of Indirect Fire. The closeness in rankings between the M60 Machinegun and M72A2 LAW basically substantiated SDC's contention that the M72A2 LAW should serve as the primary weapon system for AI development. It was also concluded that those topics indicated under the Caliber .50 Machinegun could be included with the M60 Machinegun, as the procedures for these topics were the same. Further, it was concluded that Adjustment of Indirect Fire, having received the lowest ranking, could be eliminated from further consideration. This would bring into closer alignment the commitment to develop 12 hours of AI material and would basically retain intact the candidate topics for three weapons—M60 Machinegun, M72A2 LAW, and the 90MM Recoilless Rifle.

For Task 3, Examine Training Analysis Data, each subject matter expert covered on a page-by-page basis those areas of his expertise. In general, the number of comments elicited were minimal, with changes being suggested primarily to improve the wording of the test item stem, or alternatives, to increase accuracy or improve clarity.

This review activity led SDC to make changes to the TAISs, Instructional Objectives, and Test Items, as appropriate. The material contained in Appendix B reflects these changes. A further implication was that SDC could start the next phase--production of course materials for the M60 Machinegun, M72A2 LAW, and 90MM Recoilless Rifle, for the Crew Served Weapons Course.

4. Development of Course Materials

The development of the instructional materials proceeded in a logical sequence from developing instructional strategies through a preliminary checkout and revision (Steps 4.0 through 7.0 of Figure 2-1). This phase of the project occurred during the period March through June 1973.

SDC was to develop 12 hours of AI material from which approximately 4 hours would be selected for use within the experiment. The material was to be individualized for self-paced presentation within an AI environment and the instructional sequences had to be specified so as to meet the enabling and criterion objectives concurred upon at the Fort Benning March Review meeting.

a. AI Language and Student Device

In addition to the above commitments, two additional factors had considerable impact upon the development and structure of the AI materials for this project--the AI language and the student device.

The AI language selected for this project was PLANIT. (Refer to Volume II for details concerning the survey and recommendations made by SDC to the Army for selecting an AI system.) PLANIT is a "frame" oriented language. Each frame, numbered for identification purposes, contains groups which contain one or more lines. Instructional content, answer processing instructions, feedback, and decision rules must be entered within these "frame" units according to prescribed rules and conventions. PLANIT limits each lesson to a maximum of 100 frames. There is no limit to the number of lessons which are linked to form courses.

The User Input/Output Device (UIOD), as part of DEVTOS, served as the student instructional device. The UIOD is really two terminal devices: A Cathode Ray Tube display unit with a typewriter-like keyboard, and a modified electric typewriter. Use of the electric typewriter was not required for this project. Figure 2-6 shows the display unit. The student received the instructional material via the display screen and used the keyboard to enter his response. The UIOD has a display capability of 1000 characters (20 lines of 50 characters per line). AI presentation was limited to lines 1 through 18, with lines 19 and 20 reserved for student input. A "roll-up" capability was employed whereby previously displayed information starting on line 1 was moved off the display to make room for subsequent lines of information commencing at line 18. The "new" information displaced the old information for as many lines as required up to a maximum of 18 new lines. Thus, old information might be completely or partially removed, depending upon the number of new lines of information requiring display. However, the full 18 lines were not available for presentation of instructional material, as PLANIT ouputs an asterisk (*) as a cue to the student when a response is required. To ensure that this built-in PLANIT cueing feature would be operable for all frames requiring student responses, AI materials were developed as "frame" units which contained no more than 17 lines of presentation, thereby permitting the asterisk to be output on line 18 or any of the preceding lines as the last line of information on the UIOD.

b. Development of Instructional Strategies

The next step was to develop instructional strategies. SDC viewed the formulation of instructional strategies from two broad levels. This encompassed strategies that would have application across as well as within lessons. Further, it was SDC's desire to capitalize upon those capabilities of PLANIT that are provided to assist both the author in preparing the instructional material and the student in receiving it. Decisions were made which governed presentation, answer-matching, feedback, entry point control, enroute control, and lesson-to-lesson control for each lesson.

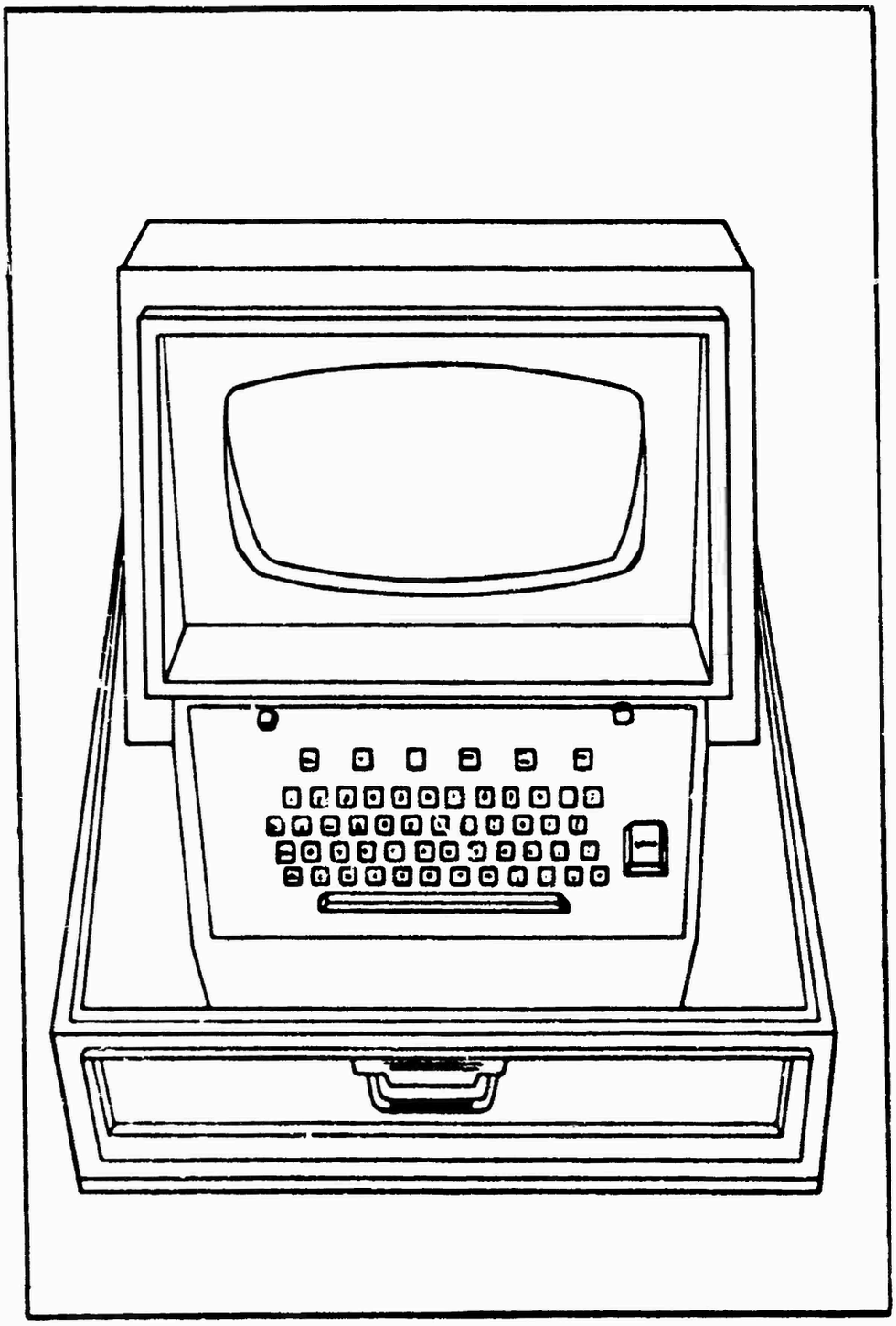


Figure 2-6. Display Unit

In some cases strategy decisions were lesson-specific and in other cases they applied across lessons. The strategy designs employed are discussed in the following paragraphs.

- Presentation Strategies

  1. A straight instructional path was prepared for each topic which lead the student through the enabling objectives to the criterion objective(s). The preparation of accelerated or remedial instructional paths was a function of the complexity of the topic and the need for inclusion of remedial material.

  2. The language level was aimed at basic for adults, but did incorporate terms that were considered military in nature and were germane to the instructional content. Wherever possible, synonyms or examples were incorporated to assist the student in understanding terms or difficult concepts.

  3. To the greatest extent possible, on-line representations of situations or examples were used. When this was neither possible nor feasible, pictures and diagrams were prepared as adjunct materials for use by the student.

  4. All student responses were made on-line using the existing facilities of the UIOD.

- Answer-Matching Strategies

  1. For frames requiring constructed responses, correct as well as incorrect answers were anticipated as appropriate to assist the student in mastering the material. The incorrect responses served as the basis for remedial material and decisions for subsequent actions.

  2. The answer-matching capabilities of the AI software were used to the greatest extent practical in order to detect and correctly match correct, incorrect, and neutral responses. This included:

a) Matching phonetically equivalent responses to permit students to enter misspellings within given tolerances and receive credit for those answers in which correct spelling was not essential. Pluralizations and tense variations were included.

b) Matching of key words to permit students to embed responses within a character string independent of order, and receive full or partial credit when order of response was not essential.

c) Matching on one or more key characters entered by a student within a string of characters to receive partial credit or detect incorrect responses. (NOTE: The function of this feature proved unreliable in the version of PLANIT used for this project, and its use was deleted from the AI materials.)

- Feedback Strategies

1. The student received feedback for each response entered. The feedback took a positive, negative, or neutral form.

2. Prompts were inserted within the instructional material as required to cue students as to possible available answer choices, to obtain the remaining part of a partially correct answer, to provide additional information, or to indicate that a response was required after a time interval had elapsed.

- Entry Point Strategies

1. The instructional starting point within each lesson was the same for each student. However, the path the student took within the lesson varied.

2. Rentry points within a lesson were controlled to maintain instructional continuity in the event execution of a lesson was interrupted and then resumed.

- Enroute Strategies

1. As appropriate, choice points within the instructional material were provided which were either under program control or student option. This permitted exposure to additional material, review of previous areas, or omission of instructional segments subject to assessment of future performance.

   The student was given the option to review various subtopics of his choice or proceed to the criterion items. He can operate in this selective review mode until he selects the option "no more review," indicating he wants to take the criterion items.

2. A selected number of attempts by a student to meet a criterion objective was permitted. Students who failed to meet criterion on the first attempt were given feedback concerning their performance, followed by exposure to remedial material. At the completion of this sequence, the student was given another opportunity to meet criterion.

   If the student was unsuccessful, he was exposed to additional instruction and then taken to the next instructional sequence. This caused a few students to be moved forward to the next instructional segment who had not completely mastered a previous sequence. This strategy was adopted to permit more extensive coverage of the course materials during the 4-hour period related to AI.

c. Production Considerations

To initiate production of AI materials, SDC examined the topics specified for each of the three weapon systems retained within the Crew Served Weapons Course to determine how the 12 hours could be distributed among the three weapon systems so that approximately 4 hours of instructional material would be produced for each weapon system or module.

An estimate of the number of lessons that would be constructed for each module (weapon system) was made. This estimate was not critical, as the number of lessons could be increased or decreased depending upon the number of "frames" required to cover each topic, while not exceeding the 100-frame limit per lesson. In this manner, a topic could be designated as a lesson and be combined with other topics to form a lesson or included in more than one lesson without causing any alteration in the sequencing of the instructional material.

For control purposes it was decided to number the frames within each module in the Crew Served Weapons Course in ascending order, even though frame numbers that appear within lessons are treated independently by PLANIT. That is, frame 10.00 can appear in any PLANIT lesson but may not be duplicated within a given lesson.

d. Preparation of Instructional Material

Two types of instructional material were required: AI material and instructional material that would be used off-line by the students to augment the AI materials. SDC's commitment was to deliver the completed AI material as card decks to ARI, which would then use the PLANIT off-line lesson building capability to generate the AI materials as lessons for on-line presentation. To meet these requirements, SDC established the following procedures.

A task, as specified on the TAIS, became the basic instructional production unit. For each task, the relevant task flow, TAIS, Criterion and Enabling Objectives and Test Item Worksheets were reviewed. Following the instructional strategies as formulated above, an instructional sequence was determined for the task which proceeded from one criterion objective to the next, with the enabling objectives appropriately embedded.

A series of frames was prepared in conjunction with each enabling or criterion test item in the lesson sequence. Each frame was designed to perform one or more of the following functions:

- Present content information, examples, test items, or instructions to the student
- Evaluate a student response as correct, incorrect, neutral, or unanticipated
- Provide feedback messages appropriate to the category of response and, in many cases, to the particular correct or incorrect response given
- Decide on the next action to be taken, i.e., await another response, proceed in sequence, branch to another point in the lesson, or branch to another lesson.

In creating frames that presented information to the student, an attempt was made to adhere to basic groundrules of instructional style, i.e., to

- Let the student know where he is going and why that is important, by providing a preview organizer at the start of each lesson
- Inform the student of his performance over sets of subgoals
- Provide clear instructions--avoid ambiguity of what is required
- Keep information and feedback as straightforward and concrete as possible.

These frames were prepared on sheets from which cards for input to PLANIT could be readily keypunched. The structure of the frames was, for the most part, free-flowing but did adhere to the PLANIT rules and conventions for developing off-line instructional materials as specified in TM(L)-4422/002/01, PLANIT Language Reference Manual, with one exception: The ampersand (&) was used in place of the backslash (\) as the character for controlling a carriage return/line feed, as the keypunch available did not contain a backslash.

Frames representing enabling and criterion test items were labeled with a mnemonic formed from the identifier that appeared on the Criterion and Enabling Objectives Worksheets; for example, the frame for criterion Item 4.2 might be labled C42, while the frame for enabling test Item 3.1.1 might be labeled E311. This served as a control feature for branching internal to the lesson and for quick reference to ensure that all test items were included. Other frames were labeled at the discretion of the author to serve as reference points within the instructional material. This was useful when lesson listings were used to observe and monitor student progress during the AI field experiment.

In constructing these frames, care was taken to ensure that presentation requirements did not exceed the 17 lines allocated for display of AI material on the UIOD before a student response was required. This occurred because PLANIT continues to execute a series of instructional frames until a student response is required. Information contained in frames for display to the student beyond the UIOD presentation capability would therefore have been lost.

This required the author to be cognizant of the number of display lines required to present instructional content, permit the student to enter a single-line response (a PLANIT limitation), and receive feedback and any subsequent instructional content before the next response was required.

As a means of controlling the presentation, two techniques were employed. The first was to have the student enter the response "GO" to continue whenever 17 lines of presentation would be exceeded. This caused PLANIT to await the student's response before proceeding to the next frame.

A second technique was employed when instructional material needed to be retained for student use in formulating responses to subsequent questions. For these situations, frames were prepared that would cause PLANIT to loop (branch) back to the appropriate frame in the instructional sequence for the question. This iteration of presenting information followed by a question could be continued until all pertinent questions were covered, without loss of information to the student as long as 17 lines of presentation were not exceeded. Figure 2-7 depicts a completed frame ready for keypunching.

When a set of frame sheets constituting a task was completed, it was submitted to keypunch for preparation as cards. As indicated below, a special sheet of instructions was prepared to facilitate this keypunch operation.

Special Guidelines for Keypunching PLANIT Frames

- Each frame is divided into several groups labeled 1, 2, 3, 4 in Column 1.
- Where an F:, C:, R:, B: is encountered in Group 4, always punch the colon immediately following the command letter, followed by the next character on the line (if any). Where no printable characters follow the F:, R:, C:, B:, leave at least one space before the next character, e.g., F:, $C:, $F:XXXXX, etc. Leave a space where the blanks occur (marked in the example only).
- Never punch more than 50 characters and spaces on a line, exclusive of the control symbols @, $, F:, R:, C:, B:, ;, ', PRINT. If Group 4 contains a line with more than 50 characters and spaces, continue

```
1.  214.00  M.  E534.

2.  What do you think the gunner should do with the
    "sling assembly" after it has fallen free from the
    launcher?

3.  A.  Neatly fold it so it can be returned to supply
        for reuse.
    B.  Keep it until after the launcher has been
        successfully fired.
    C.  Throw it away.
    D.  Give it to the weapons squad leader.
    E.  Retain until the launcher is cleaned and then
        reinstall.

4.        C:Related on
        B F:Excellent
      ACD F:Wrong.  You may have need for it if the
          R:Launcher is not fired.  Try again.
        E F:You have the right idea, but for the wrong
          R:Reason.  Try again.
       ST R:Wrong.  Answer A, B, C, D or E.
     ACDE F: No, the answer is B.
        F F:That's the idea.
```

Figure 2-7. Example of a Completed AI Frame Ready for Keypunching

it by inserting a line prefaced with the same command as the last one on the prior line, e.g.,

```
F:  IF THIS LINE HAS MORE THAN 50 CHARACTERS
F:  CONTINUE IT AS SHOWN ON THIS LINE.
```

or

```
F:  IF THIS LINE HAS $C:PRINT 'MORE THAN 50 CHARACTERS'
```

then punch it as:

```
F: IF THIS LINE HAS $C:PRINT 'MORE THAN'
C: PRINT '50 CHARACTERS'                    to limit each line to 50.
```

A listing was generated from each set of cards. The author and other project members reviewed the listing for inaccuracies and logical inconsistencies. Corrections made to the listing were resubmitted for keypunching and the card decks updated accordingly.

This production cycle was repeated until AI frames had been prepared for all tasks within a module. Card decks of frames representing these tasks were then grouped to form PLANIT lessons from which a listing was produced. The process was repreated for each module within the Crew Served Weapons Course. The course structure is indicated in Table 2-3.

5. Lesson Design and Content

Following is the general design and content of each lesson prepared for the Crew Served Weapons Course.

1. M72A2 LAW

a. LAW1 - TAIS 1001 - Characteristics
TAIS 1002 - Component Parts
TAIS 1003 - Capabilities and Limitations

TABLE 2-3. CREW SERVED WEAPONS COURSE STRUCTURE

MODULE	PLANIT LESSON NAME	TASK NUMBER	FRAME NUMBERS	NUMBER OF FRAMES TASKS	NUMBER OF FRAMES LESSON	TOTAL FRAMES PER MODULE
M72A2 LAW	LAW 1	1001 1002 1003	10.00-24.00 25.00-70.00 100.00-126.00	17 43 29	89	
	LAW 2	1004 1005	150.00-177.00 200.00-264.00	34 63	97	
	LAW 3	1006	300.00-383.00	97	97	
	LAW 4	1007 1008	400.00-412.00 425.00-482.50	13 65	78	
	LAW 5	1009	500.00-576.00	86	86	447
90MM Recoil-less Rifle	RIF901	1010 1011 1012	1.00-18.00 25.00-64.00 100.00-128.00	19 37 34	90	
	RIF902	1013 1014 1015	150.00-175.00 200.00-217.00 225.00-255.00	28 18 33	79	
	RIF903	1016	300.00-359.00	70	70	
	RIF904	1017	400.00-478.00	85	85	
	RIF905	1018	500.00-540.00	47	47	
	RIF906	1019	600.00-677.00	84	84	455
M60 Machine-gun	MG1	1020	1.00-23.00	23	23	
	MG2	1021	25.00-99.80	90	90	
	MG3	1022	125.00-199.70	86	86	
	MG4	1023 1024	200.00-238.00 250.00-293.00	44 51	95	
	MG5	1025	300.00-382.00	93	93	
	MG6	1026	400.00-444.00	47	47	434

Content

This lesson is intended to present to the student the basic information concerning the M72A2 LAW. The major characteristics (self-contained, watertight, lightweight, and a throwaway system) are outlined, followed by indicating the major component parts (sling assembly, barrel detent, front and rear sights, etc.) of the LAW while in a closed, as well as an extended position. The lesson also indicates the LAW's range and penetration capability. Finally, a description of the backblast area, including safety precautions, that is generated when the LAW is fired completes the initial lesson.

Design

This lesson is basically linear in design with limited opportunities to accelerate. Remedial material is provided as required. If the student fails to meet criterion items, he is given additional material and/or summary data and moved on to the next topic.

Pictures of the LAW in a closed and extended position augment the on-line instruction on componer parts.

b. LAW2 - TAIS 1004 - Maintenance Actions
TAIS 1005 - Preparation for Firing

Content

In this lesson the gunner's inspection requirements for the LAW are indicated. The student is exposed to the general conditions which cause the LAW to be considered unserviceable. These unserviceable conditions include cracks, dents, or bulges to the launcher; Trigger Safety Handle not in a SAFE position; or wear/damage to the rubber boots that over the trigger bar and barrel detent. Finally, the procedural steps and proper sequence for preparing the LAW for firing are detailed.

Design

The design of this lesson permits the student to move at an accelerated pace through the instructional material concerning maintenance requirements. A step-by-step approach is employed in presenting the procedural steps for preparing the LAW for firing. The student receives instruction on each procedure and then selected procedures in combination. For each topic, failure to meet enabling items causes the student to be branched to selected remedial material and then returned to the primary track. The student is given several attempts to meet criterion before proceeding to the next topic or lesson.

A picture of the LAW depicting potentially unserviceable areas, as well as a series of pictures demonstrating a gunner preparing the LAW for firing, serve as supporting material for the on-line instruction.

c. LAW3 - TAIS 1006 - Aiming the M72A2 LAW

Content

The sighting equipment of the LAW is detailed to the student. The scales within the front sight are identified as the Vertical Range Line, Stadia Lines, Lead Marks, and Range Marker, and their function is described. Armored vehicle vulnerability is discussed and the techniques for aiming the LAW are presented. These techniques include estimating target range, speed, and direction of movement by employing the scales in the front sight.

Design

The student receives instruction on the sighting equipment scales and their function. Following this he must match the scale with its function before proceeding to the next topic or repeat the entire sequence a second time. At the start of the next topic, the student is given the opportunity to

indicate the vulnerable areas of armored vehicles before receiving any instruction. If successful, he proceeds to the next topic; otherwise, he proceeds through the instructional sequences. Instruction on techniques of aiming is presented basically in a linear format, with remedial loops as appropriate. The student is given a second attempt to meet criterion following feedback concerning his performance, and then proceeds to the next lesson.

Diagrams of the front sight and various sight pictures augment the on-line instruction.

d. LAW4 - TAIS 1007 - Firing Positions
TAIS 1008 - Malfunctions and Immediate Action

Content

This lesson indicates the firing positions (standing, kneeling, sitting, prone, etc.) prescribed for use with the LAW to engage stationary or moving targets. The lesson also describes the types of malfunctions (misfire, hangfire) that can occur, the differences between them and the procedural steps (resqueeze trigger, wait 10 seconds, place trigger safety handle on safe, etc.) and the proper sequence the gunner must take to initiate immediate action.

Design

In this lesson, the student is given the opportunity to indicate the firing positions prescribed for the LAW and bypass the instructional sequence. If he selects this option and is successful, he proceeds to the next topic; if not, he receives the instruction and then proceeds to the next topic. In the second topic, the student proceeds in a linear manner through the instruction concerning the types of malfunctions and the procedural steps to initiate immediate action. Remedial material is provided as required. As a subtask, the student must indicate the proper

sequence for a cluster of related steps before proceeding to the criterion test. The student is given a second opportunity to meet criterion after receiving feedback concerning his performance, and then proceeds to the next lesson.

e. LAW5 - TAIS 1009 - Restore M72A2 LAW to a Carrying Configuration

Content

This lesson details the procedural steps and proper sequence for restoring the LAW to a carrying configuration in the event the LAW has been extended but not fired. In addition, the condition of the LAW after being extended (no longer watertight) is emphasized.

Design

The design of this lesson gives the student the option of either indicating the sequence of the procedural steps for returning the LAW to a carrying configuration before receiving any instruction, or being given instruction on the procedural steps. (The procedural steps are basically the reverse of those detailed in LAW2.)

If the student elects to attempt the exercise and fails at any point in the sequence, he is branched to the appropriate point in the lesson to receive instruction on those procedural steps in which his performance indicates he is deficient. Students who correctly sequence the procedural steps are given instruction on the substeps to replace the sling assembly, tested, and branched to the end of the lesson. Students who elect to bypass the exercise at the beginning of this lesson receive instruction on a step-by-step basis, with remedial material provided as appropriate. These students also receive instruction on replacing the sling assembly. Following this instructional segment, they are tested and then given two attempts to correctly sequence the procedural steps for restoring the LAW to a carrying configuration.

At the end of the lesson, the student is instructed to enter >FINISHED, signifying he has completed the LAW module.

2. 90MM Recoilless Rifle

a. RIF901 - TAIS 1010 - Characteristics
TAIS 1011 - Component Parts
TAIS 1012 - Ammunition

Content

This lesson presents to the student the basic information concerning the 90MM Recoilless Rifle. The major characteristics (lightweight, portable, crew served, etc.) are outlined. The major component parts (tube, breech-block group, firing cable, face shield, etc.) when viewing the right or left side of the 90MM Recoilless Rifle are identified. Finally, the types of ammunition (heat, antipersonnel) used in the 90MM Recoilless Rifle, their effective range, and the basic load carried by the guncrew are described.

Design

At the beginning of the lesson, the student is given the option to state the characteristics of the 90MM Recoilless Rifle. If he elects to try, and is successful, he is branched to the next topic. If he is not successful or elects not to try, he proceeds through the instructional sequence and then is tested on the characteristics of the 90MM Recoilless Rifle. Instruction on the component parts is basically linear in design, with remedial material provided as needed. The student is given review material if he fails to pass the criterion exercise and then proceeds to the next topic. In the final topic, types of ammunition, the student must master each subsection before proceeding. Failure at selected points in the instruction causes the student to be subjected to remedial sequences. Pictures of the right and left side of the 90MM Recoilless Rifle augment the on-line instruction.

b. RIF902 - TAIS 1013 - Backblast Area
TAIS 1014 - Rates of Fire
TAIS 1015 - Gun Crew Personnel

Content

This lesson defines the backblast area that is caused when the 90MM Recoilless Rifle is fired. Included is a description of the size (dimension) of the backblast area, the two major areas (danger and caution), and the the safety precautions that must be exercised. In addition, the two rates of fire for the 90MM Recoilless Rifle and how they should be employed are indicated. The final topic covers the 90MM Recoilless Rifle gun crew personnel, their responsibilities, and their relationship to the Weapons Squad Leader.

Design

This lesson contains several features. In the first topic, a comparison exercise between the backblast areas created by the M72A2 LAW and the 90MM Recoilless Rifle is provided. The student must examine these two backblast areas for similarities and contrasts. In the topic on the rates of fire, acceleration is permitted if the student demonstrates his knowledge concerning the rates of fire and the safety precautions. Otherwise, he receives the basic instructional material coupled with remedial material, as required. For the topic on Gun Crew Responsibilities, the student is given the option to answer several questions concerning gun crew responsibilities or proceed directly to the instructional sequence. If the student elects to answer the questions and is successful, he can by-pass several sequences of instructional material. If his performance does not meet the established criterion, he is placed at the appropriate point within the instructional material. All students have to match gun crew personnel with their responsibilities before proceeding to the next lesson.

A diagram of the backblast area for the 90MM Recoilless Rife augments the on-line instruction.

c. RIF903 - TAIS 1016 - Sighting Equipment

Content

This lesson describes the M103 sight for the 90MM Recoilless Rifle. The scales within the M103 sight (range, lead marks, stadia lines and mil scale) are identified and their function explained to the student.

Design

The lesson commences with a brief explanation of the M103 sight. The student is given the option of attempting to identify the scales within the M103 sight or receive instruction and then attempt the identification exercise. If the student elects to attempt to identify a scale and fails, he is branched to the point in the instructional material that identifies and describes the function of that specific scale. At this point he continues along the main instructional track, receiving instruction on any additional scales he did not identify. Students who do not elect this option receive instruction and remedial material as required, and then attempt the scale identity exercise. Students are given additional material and summary data if they initially fail the criterion item.

A line drawing of the M103 Sight Reticle augments the on-line instruction.

d. RIF904 - TAIS 1017 - Aiming Techniques

Content

This lesson is designed to present to the student the techniques for determining range, speed and leads to a target. The student is instructed in the use of the stadia lines and other methods for estimating range to a target, determining apparent speed, and using leads to estimate target speed. Finally, the student is presented target situations and must select the correct sight picture.

Design

The lesson is basically linear in design with remedial material provided as required. The student receives instruction in techniques for estimating range, followed by a discussion on apparent speed and then the application of leads to estimate speed. The student has the opportunity for limited acceleration within each of these topics. The student is given a second attempt to meet criterion after receiving information concerning his performance and reviewing areas in which he is deficient. After the second attempt to meet criteria, his performance is indicated and summary data presented. The student then proceeds to the next lesson.

Diagrams of various sight pictures as well as on-line representations augment the instruction.

e. RIF905 - TAIS 1018 - Fire Adjustment

Content

This lesson presents the primary method (burst-on-target) of fire adjustment for the 90MM Recoilless Rifle. The student is instructed in the procedures the gunner takes to adjust his fire when a target is not hit.

Design

The student receives instruction on the burst-of-fire procedures and then is given the option of receiving additional instruction or attempting to identify the procedures in the correct sequence from a scrambled list. If the student elects to bypass the additional instruction and fails the test, he receives remedial material as well as the additional material he bypassed. He then repeats the test, receives additional material, if required, and proceeds to the next lesson. The student who requests the additional material completes the sequence and then has two opportunities to meet criterion before receiving additional instruction and summary data. The student then proceeds to the next lesson.

Diagrams showing sight pictures for the burst-of-fire procedures augment the on-line instruction.

f. RIF906 - TAIS 1019 - Misfire Procedures

Content

This lesson details the procedural steps and proper sequence taken by the gun crew of the 90MM Recoilless Rifle to initiate immediate action when a misfire occurs. The lesson considers the steps to take for a series of consecutive misfires. In addition, the probable cause of the misfire (faulty round or faulty weapon) is discussed and the rationale for making the determination indicated.

Design

In this lesson the student is presented with the list of procedural steps that must be taken by the gun crew when misfires occur consecutively. Instruction for the steps to initiate immediate action for a single misfire is presented in detail. The student can accelerate this instruction depending upon the quantity of material he requires for each step. After all steps have been presented, the student is required to indicate the sequence for these steps from a scrambled list. Before presenting the steps for taking immediate action in the event a second misfire occurs, the student is given the option to indicate the correct sequence for these steps. If the student attempts to select the steps in the correct sequence and fails, he receives the instruction. If he correctly indicates the sequence of steps, he proceeds to the criterion item. Declining the option, the student receives instruction in the steps to initiate action for a second misfire,and then proceeds to the criterion item. The criterion item requires the student to identify the procedural steps in the correct sequence to initiate immediate action when a series of consecutive misfires occur. The student is given a second attempt to meet criterion after receiving information concerning his performance. After the second attempt,

he receives summary data. At the completion of the lesson the student is instructed to enter <FINISHED, indicating he has completed the 90MM Recoilless Rifle module.

3. M60 Machinegun

a. MG1 - TAIS 1020 - Characteristics

Content

This lesson presents to the student the major characteristics of the M60 Machinegun as being belt-fed, fires from an open bolt position and has fixed headspace. Also included is a discussion of the attributes of these characteristics.

Design

The lesson is designed to enable the student who is familiar with the characteristics of the M60 Machinegun and can successfully complete the criterion item to proceed to the next lesson without receiving additional instructions. For students not familiar with these characteristics or who unsuccessfully attempt the criterion item, instruction is provided--followed by the criterion. If the student fails to meet criterion, he is given additional material, including summary data. He then proceeds to next lesson.

b. MG2 - TAIS 1021 - Malfunctions and Corrective Actions

Content

This lesson describes the types of malfunctions (sluggish operation and runaway gun) that can occur when attempting to operate the M60 Machinegun. The causes of sluggish operation (excessive friction and excessive loss of gas) and runaway gun (excessive carbon buildup, loss of gas and worn sear and sear notch) are indicated, followed by the procedural steps that are required to correct each malfunction condition.

Design

Instruction in each type of malfunction is presented. The procedural steps to initiate action to correct sluggish operation are presented, followed by the procedural steps to correct a runaway gun condition. The student is provided remedial material as required for each of these topics. Following these instructional sequences, the student is presented a series of test situations in which he must differentiate between the type of malfunction. For the criterion item, the student must identify the procedural steps for each type of malfunction in the correct sequence or receive selected review prior to attempting the criterion item a second time.

A diagram of areas where malfunctions can occur in the M60 Machinegun augments the on-line instruction.

c. MG3 - TAIS 1022 - Stoppages and Immediate Action

Content

This lesson presents the types of stoppages that can occur, how they are classified according to the cycle of functioning (feeding, chambering, locking, firing, etc.) and the procedural steps required to initiate immediate action. Defined terms include immediate action, cookoff, and hangfire.

Design

The design of the lesson permits the student to receive basic instruction on the types of stoppages. He is then given the option to attempt to sequence the procedural steps for applying immediate action or to receive instruction concerning each procedural step and then attempt to indicate the correct sequence from a scrambled list of procedural steps. If the student elects to attempt the exercise prior to receiving instruction and is successful, he moves forward in the lesson. If he is unsuccessful, the program branches to the appropriate instructional point in the lesson where he proceeds as though he had elected to receive the instruction and not

attempt the exercise. Following the attempt to sequence the procedural steps and/or receiving instruction, the student proceeds through the lesson in a basically linear path, receiving remedial material as required. The student is given a second opportunity to meet criterion. Following a review of those procedural steps in which a deficiency is indicated, he proceeds to the next lesson.

d. MG4 - TAIS 1023 - Characteristics of Fire
TAIS 1024 - Types of Targets

Content

This lesson defines the characteristics of fire. Terms include trajectory, cone of fire, beaten zone, center of impact and danger space. The types of targets that are engaged by a M60 Machinegun are also indicated. This includes point, linear, linear with depth, deep and area.

Design

The design of this lesson is basically linear. The student receives instruction on each characteristic of fire, with remedial material provided as required. Limited opportunities to accelerate are provided. On-line representations of the characteristics of fire are interjected throughout the lesson to assist the instructional presentation. Failure to meet criterion requires the student to review the instructional material a second time, return to the criterion item and then proceed to the next topic--receiving summary data, if required. Instruction for types of targets follows the above design. The student proceeds through the lesson receiving remedial material as required until the criterion items are reached. The student is given a second attempt to meet criterion after receiving selected review in those areas in which deficiencies are indicated. He then proceeds to the next lesson.

On-line representations of the target types are included.

e. MG5 - TAIS 1025 - Classes of Fire

Content

This lesson describes the classes of fire with respect to ground (grazing, plunging), respect to target (frontal, flanking, oblique, enfilade) and respect to the gun (fixed, traversing, searching, traversing and searching, swinging traverse and free gun). The most appropriate type of fire with which to engage a target with the M60 Machinegun is also presented.

Design

The design of this lesson is basically linear. The student receives instruction on each class of fire with respect to target, ground and gun. Remedial material is provided as required. Limited opportunities to accelerate instruction are provided. After receiving review, the student has a second opportunity to meet criterion before proceding to the next lesson.

f. MG6 - TAIS 1026 - Target Designation

Content

In this lesson, the three basic elements to designate a target are described. This includes methods for indicating target direction (general direction, firing the gun, laying the gun and reference points) and describing a target, and rules for announcing range to a target.

Design

The design of this lesson is basically linear. The student proceeds through instructional segments for each element of target designation, receiving remedial material as required. If the student does not meet criterion he receives additional material and summary data. At the end of the lesson, the student is instructed to enter >FINISHED, signifying he has completed the M60 Machinegun module.

A diagram depicting the sectors-of-fire concept augments on-line instruction.

6. Adjunct Materials

Adjunct materials were developed in conjunction with preparation of the AI materials. In developing the instructional sequences and laying out the frame content, specific points were determined in the instruction where off-line materials were needed to facilitate student comprehension of the task.

Development of these materials was accomplished either by securing copies of pictures and diagrams that were contained in source documentation from The Infantry School, Fort Benning, Georgia and modifying them as required, or by preparing original materials. Completed materials for each module were bound separately as handouts for student use. A complete set of handouts for the Crew Served Weapons Course is contained in Appendix D.

7. Assessment Materials

On-line materials for preassessment and postassessment of student performance were prepared. Using the Criterion and Enabling Test Items Worksheets, a list of items was prepared. From this list, two test versions for each module were prepared, with each version containing 25 items. The test structure for each module follows.

MODULE	PLANIT NAME	NO. OF ITEMS		NO. OF FRAMES	
		VERS. A	VERS. B	VERS. A	VERS. B
M72A2 LAW	TALAW	25		38	
	TBLAW		25		38
90MM Recoilless Rifle	TA90	25		41	
	TB90		25		41
M60 Machinegun	TA60	25		49	
	TB60		25		49

Items that appeared in both versions were treated as follows:

- The content of the alternatives contained within multiple-choice items was maintained but the order was scrambled.

- For test items that consisted of a series of steps, different steps were selected for inclusion within each version.
- Items requiring constructed responses that did not lend themselves to alteration were inserted at different points within each test version.

As with the production of AI materials, card decks and listings were prepared for each test version, reviewed and modifications made as required.

8. Delivery of Course Materials

Completed sets of course materials (card decks, listings and adjunct materials) were shipped to ARI during the June through July time period. ARI converted the card decks into the character set required for operational use at the test facility, Fort Hood, Texas. A set of course materials was also sent to Fort Hood as a backup measure.

9. Preliminary On-Line Tryout and Review of Course Material

As part of the courseware development process, SDC had requested that subject matter experts from The Infantry School, Fort Benning, Georgia review the prepared courseware materials prior to the on-line field tryouts scheduled for mid-July at the test facility, Fort Hood, Texas. During this same time period, SDC and ARI personnel met and mutually agreed to assist each other by using SDC-developed courseware to determine: (1) the preliminary status of PLANIT's executing and editing features prior to installation of the system at Fort Hood, Texas; (2) any compatibility problems with courseware operation under PLANIT control; and (3) response latencies in courseware presentation. Selected course materials from the Crew Served Weapons Course (LAW1 and LAW2) served as a partial vehicle for this assessment of PLANIT and preliminary checkout of course materials. (Refer to Volume IV for a discussion of the use of GED AI material in this effort).

These two tasks were accomplished in sequence, with the assessment of PLANIT capabilities occurring first.

a. On-line Tryout at Army Research Institute

Use of SDC-produced course material to assess PLANIT execution and editing capabilities required conversion of the card decks to the CDC 3300 format. In this conversion process, frame numbers had been changed so that frame numbers for each lesson ran in sequence from frame 1.00 to the end of the lesson, with no frame number over 99.00, as opposed to the frame numbering sequence indicated in Table 2-3. However, this process did not convert frame numbers entered in statements embodied within the frame. Consequently, any decision or action statement containing a frame number could not be executed properly.

The requirement to change frame numbers occurred because the version of PLANIT in use at ARI during this tryout apparently would not process frames over 99.99. This restriction disappeared in a later PLANIT version, permitting the use of SDC-produced AI materials to be implemented as constructed except for the need to convert to a character set compatible with the CDC 3300. Also, an incorrect character was used in the converted decks for the colon (:), causing error messages to occur or statements containing this character to be rejected.

Although the tryout was severely limited due to these problems, benefits did occur. The on-line tryout indicated that execution time of the course material within the CDC 3300 system was longer than initially anticipated, and that a smaller quantity of material should be selected for the 4-hour time block specified for the AI experiment. Further, it became apparent that certain features contained in the version of PLANIT under investigation were not functioning as anticipated. (Refer to Volume II, Section 4 for a discussion of SDC's involvement with the PLANIT development and integration phase of this project.)

b. Course Material Review - Fort Benning, Georgia

Listings of the AI course material and handouts of the adjunct material were hand-carried by SDC project personnel to Fort Benning, Georgia for a review by subject matter experts from The Infantry School. Participants included:

Captain J. F. Rex	Mortar Committee, TIS
Captain J. P. Marcaccio	Small Arms Committee, TIS
Captain F. L. Lemon	Small Arms Committee, TIS
SFC Eugene Cummings	Armor and Mine Committee, TIS
SDC Project Staff	

As in the March review meeting, each subject matter expert reviewed those areas in his field of expertise. No formal instructions were provided for this review. Each subject matter expert was given a listing and told to review those parts of the instructional program that would be presented to the student and the anticipated answers (correct as well as incorrect) to ensure that they were correct and/or logical for the theme of the material.

Results of this review meeting indicated that the Crew Served Weapons course ranged from "Material is well covered" for the M72A2 LAW to "could be used for MOS Refresher for 11B" for the M60 Machinegun. Suggested changes were minimal and minor in nature and were incorporated into the card decks.

This completed the development of the Crew Served Weapons AI materials. The materials were considered ready for the field checkout and revision--the final preparatory step before being used in the AI experiment.

C. DEVELOPMENT OF COURSEWARE: TACTICS

The process for developing course materials for Tactics follows the same steps as indicated in Figure 2-1. Rather than repeat the details for each step in this section, only those actions and decisions within this developmental process that are specific to Tactics are described.

1. Selection of Subject Matter Areas

The initial task for developing courseware for Tactics was the same as for Crew Served Weapons, namely, identify subject areas from which candidate topics would be selected for developing 12 hours of AI material. The areas of concern within Tactics were defined by DA Pamphlet 12-11B as being: Individual, Techniques of Fire of a Rifle Squad, and Platoon. The documentation and source material which served as the basis for SDC's preliminary analysis are indicated in Table 2-4.

Selection criteria were derived by project personnel for analyzing the source documentation for candidate topics. To be considered for further analysis, topics had to meet these criteria:

- Be representative of Tactics requirements.
- Be capable of presentation via AI without use of equipment, additional squad members, or mediation by instructor personnel.
- Require development of a minimum of off-line materials (e.g., panels, exhibits, handouts, etc.).

Topics meeting these criteria were subjected to a further analysis to determine whether they should be included or excluded as candidates for AI development.

Inclusion Factors

- Topic comprises mostly knowledge content
- Topic contains tasks which have a clear start and end point
- Prerequisite topics have been included or mastery has previously been accomplished

TABLE 2-4. TACTICS SOURCE DOCUMENTATION

DOCUMENT	REQUIREMENTS AREA
DA Pamphlet 12-11B	MOS 11B40
FM 21-75, Chapter 2	Individual Combat Training
FM 23-12, Chapter 2 UTEC, UT-B-022	Individual Skills and Knowledges
FM 7-10, Appendix E FM 23-12, Chapter 3, Para. 29 & 30 UTEC, UT-B-042	Squad Battle Drill
FM 23-12, Chapter 3 UTEC, UT-B-043	Rifle Squad in the Attack
FM 23-12, Chapter 4 UTEC, UT-B-047	Rifle Squad in the Defense
FM 21-75, Chapters 12, 13, 15, 16, 24	Patrolling
FM 7-10, Appendix D	Platoon Combat Formations
FM 7-10, Chapter 3	Rifle Platoon in the Attack
FM 7-10, Chapter 4	Rifle Platoon in Defense
FM 7-10, Chapter 5	Retrograde Movement
FM 21-75, Chapter 1	Combat Intelligence and Counterintelligence
FM 7-10, Appendix D FM 23-12, Appendix B, E UTEC, UT-B-042	Combat Formation
Other Documentation Six Roads to Success, Volume III, Tactics UTEC, UT-B-041, 046, 050	

- Topic contains performance-oriented tasks which are amenable to AI and retain a high fidelity
- Instructional continuity is retained among subelements of instruction

Exclusion Factors

- Topic content is basically the same as for other tactical areas
- Topic is considered more relevant to a rifle company or larger unit
- Topic is more representative of field activities
- Considering the contractual time frame, the topic is considered to be less critical to 11B40 personnel.

The results of this preliminary analysis are indicated in Table 2-5. Topics for the major areas of Tactics specified for study in DA 12-11B were retained except Combat Intelligence and Counterintelligence, which were judged to fall within the area of Field Activities and therefore outside the scope of this project. Topics considered less critical or less amenable for AI development are flagged in Table 2-5. However, a final decision in topic selection was not made until after the March Review Meeting conducted at Fort Benning, Georgia (refer to paragraph C.3).

a. Preparation of Task Flow Charts

A Task Flow Chart was prepared for each candidate topic for the Tactics Course using the same form and procedures as described for the Crew Served Weapons Course. Figure 2-8 shows a Task Flow Chart for the Tactics Course. Completed Task Flow Charts prepared for the Tactics Course are presented in Appendix A.

TABLE 2-5. RESULTS OF PRELIMINARY ANALYSIS TO SELECT TACTICS TOPICS AS CANDIDATES FOR AI DEVELOPMENT

SUBJECT AREA	TOPICS
Individual Combat Training	General, Day and Night Combat, Day Combat,** Night Combat, Night Vision**
Individual Skills and Knowledge	Introduction,** Range Determination,** Characteristics of Rifle, Automatic Rifle, and Grenade Launcher Fire
Squad Combat Formation	General, Dismounted Squad Formation
Squad Battle Drill	General, Squad Teams, Fire Support Element, Maneuver Element, Squad Battle Drill, Battle Drill from Squad Column (Fire Teams Abreast), Considerations of the Squad Leader**
Rifle Squad in the Attack	Introduction,** Daylight Attack, Night Attack, Assault Techniques (Day and Night), Sniper Detection and Engagement,** Elements of the Warning Order
Rifle Squad in Defense	Introduction,** Rifle Squad in the Defense, Day Defensive Positions, Limited Visibility Defense, Aerial Target Engagement,** Fundamentals of Defense
Patrolling	Patrol Planning and Preparation, Conduct of Patrols, Raid Patrols, Ambush and Ambush Patrols, Use of Scout Dogs with Patrols**
Formations	Dismounted Platoon Formation
Rifle Platoon in the Attack	Introduction,** Planning the Attack, Conduct of the Attack,** Employment of Attached Tanks,** Mechanized Infantry Rifle Company in the Attack**, Night Attacks, Infiltration**, Movement to Contact**, Reserve Role**
Rifle Platoon in Defense	Introduction, Planning the Defense, Conduct of the Defense, Perimeter Defense,** Reverse Slope Defense,** Combat Outpost,** Rifle Company in the Reserve Role**
Retrograde Movement	Introduction,** Withdrawal,** Delaying Action,** Retirement**

**Indicates topic considered less critical or less amenable as a candidate for AI development.

b. Preparation of Training Analysis Information Sheets

SDC prepared a Training Analysis Information Sheet (TAIS) for each Tactics candidate topic. The form and procedures are the same as those used for the Crew Served Weapons Course. The TAIS was used to record the results of the training analysis and served to provide basic information for specifying the instructional objectives, criterion test items and development of material. A representative Tactics TAIS is shown in Figure 2-9.

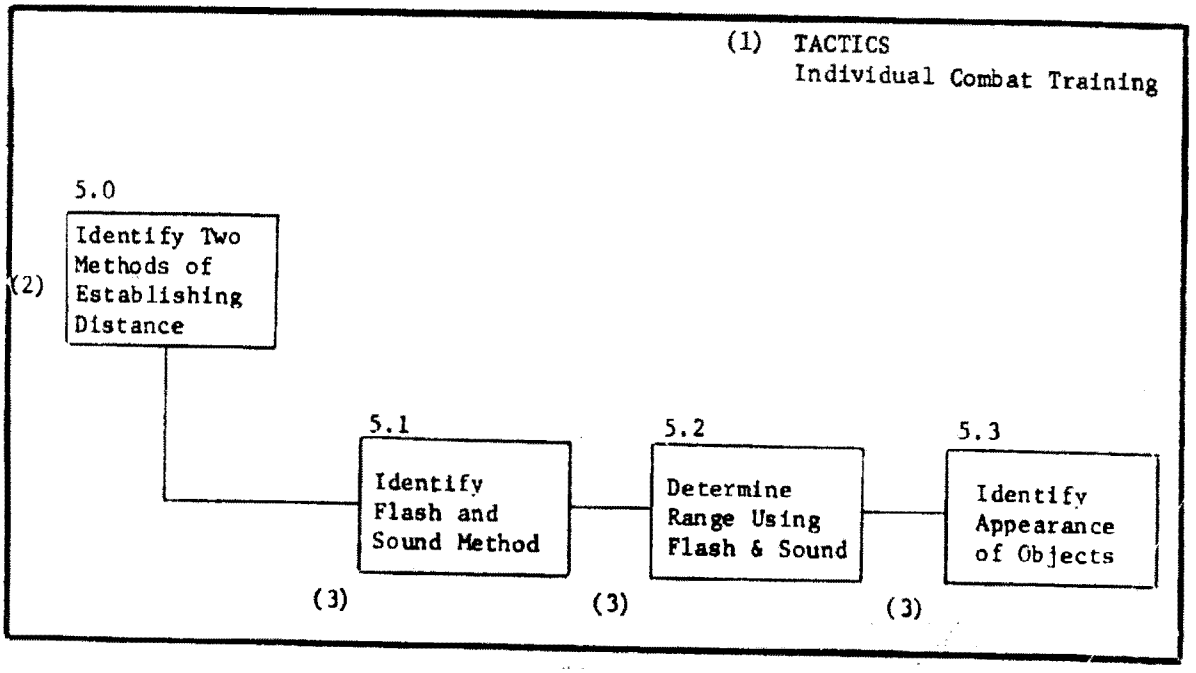


Figure 2-8. Task Flow Chart for Individual Combat Training Topic in the Tactics Course (Sheet 1 of 2)

EXPLANATORY NOTES:

(1) Identification: For the Tactics Course the Units are:

- Individual Combat Training
- Individual Skills and Knowledge
- Squad Combat Formations
- Squad Battle Drill
- Rifle Squad in the Attack
- Rifle Squad in Defense
- Patrolling
- Platoon Combat Formations
- Rifle Platoon in the Attack
- Rifle Platoon in Defense

(2) Major Task: A similar numbering scheme was used for Tactics (e.g., 5.0 indicates this is task number five in the sequence of tasks for Individual Combat Training). The number of units and corresponding tasks (topics) initially selected for AI development include:

Individual Combat Training	1.0-9.0
Individual Skills & Knowledge	1.0-2.0
Squad Combat Formations	1.0-2.0
Squad Battle Drill	1.0-3.0
Rifle Squad in Attack	1.0-3.0
Rifle Squad in Defense	1.0-7.0
Patrolling	1.0-5.0
Platoon Combat Formations	1.0-2.0
Rifle Platoon in the Attack	1.0-2.0
Rifle Platoon in Defense	1.0-3.0

(3) Task Element: (No difference from Crew Served Weapons)

Figure 2-8. Task Flow Chart for Individual Combat Training Topic in the Tactics Course (Sheet 2 of 2)

TAIS No. 2015 (1) (2) MODULE MOS-T

UNIT SBD

TRAINING ANALYSIS INFORMATION SHEET

(3) 1. TASK IDENTIFICATION: 2.0

(4) 2. TASK: Identify the types of battle drill squad maneuvers and the appropriate arm and hand signals.

(5) 3. CONDITIONS: Given a tactical situation where battle drill fire and maneuver is required, identify the appropriate arm and hand signals for the squad manuevers required.

(6) 4. STANDARD: No errors

5. TASK ANALYSIS:

TASK ELEMENTS (7)	PREREQUISITE KNOWLEDGE OR SKILL REQUIREMENTS (8)	SUPPLEMENTAL TRAINING MATERIAL (9)	REFERENCES (10)
2.1 Identify manuever right 2.2 Identify manuever left 2.3 Identify maneuver front, left, (right) 2.4 Identify appropriate arm and hand signals for the types of maneuvers.	2.1 Know squad combat formations 2.2 Know squad combat formations 2.3 Know squad combat formations 2.4 Know squad combat formations	Figure showing arm and hand signals and on-line representations of tactical situations	1. FM 7-10 Appendix E para E4 to E6 2. Six Roads to Success Vol III a. Appendix E para E1 to E11 pgs 98-103 b. para 29-30 pgs 284-286 3. FM 23-12 para 29-30 4. UT-B-042 pgs 11-13

Figure 2-9. A TAIS for a Tactics Topic (Sheet 1 of 2)

EXPLANATORY NOTES:

(1) TAIS No.:	The TAIS identification number sequence for Tactics runs from 2001 through 2038.
(2) MODULE UNIT:	"T" is used in the module identification to indicate the TAIS pertains to the Tactics Course. The major subject areas for Tactics are indicated under the Unit Designation. This includes: ICT - Individual Combat Training ISK - Individual Skills and Knowledge SCF - Squad Combat Formations SBD - Squad Battle Drill RSA - Rifle Squad in the Attack RSD - Rifle Squad in Defense PAT - Patrolling PCF - Platoon Combat Formations RPA - Rifle Platoon in the Attack RPD - Rifle Platoon in Defense
(3) - (10)	Explanations for these parenthetical numbers are the same as indicated for the Crew Served Weapons Course (refer to B.1.c.)

Figure 2-9. A TAIS for a Tactics Topic (Sheet 2 of 2)

c. Review and Revision

The review of candidate topics for concurrence by subject matter experts was accomplished during the March Review Meeting conducted at Fort Benning, Georgia. (This is described in paragraph C.3.)

2. Development of Instructional Objectives and Test Items

The development of instructional objectives and criterion items for the Tactics Course progressed through the same developmental steps as described for the Crew Served Weapons Course (paragraph B.2.). Briefly, this entailed formulating a course outline using the TAISs as the primary source, developing

criterion and enabling objectives for each task element specified in the TAISs and specifying criterion and enabling test items which were keyed to the criterion and enabling objectives. The forms and procedures used in developing these materials for the Tactics Course were the same as those used for developing the Crew Served Weapons Course. Figure 2-10 shows a sample Criterion and Enabling Objective Worksheet and Figure 2-11 shows a Test Item Worksheet for the Tactics Course. Explanations for the items identified by the parenthetical numbers are the same as those indicated in paragraph B.2., Figures 2-4 and 2-5, for Crew Served Weapons.

The completed materials for this phase of the Tactics Course became part of the working paper titled, "Automated Instruction Training Analysis Results." This includes the Course Outline, Criterion and Enabling Objectives Worksheets and Test Items Worksheets. The tactics portion of this working paper is contained in Appendix B.

3. Review and Revision

Review of the Tactics material was conducted as part of the formalized review meeting held at Fort Benning, Georgia during March 1973. Subject matter experts from The Infantry School performed the review. Instructions prepared by SDC to structure the review of the tactics material were the same as those prepared for reviewing the Crew Served Weapons material. Three tasks were to be performed:

Task 1: Required a determination of the relative importance of the topics selected for the tactics areas. A 4-point scale was developed for this purpose whereby each topic could be rated from "1. Must be included" to "4. Minimum value."

Task 2: Required that each subject area be ranked as to its relative importance within the Tactics Course.

Task 3: Requested that the subject matter experts examine the training analysis results for completeness, content validity and accuracy.

A sample set of instructions and rating sheets is contained in Appendix C.

TAIS No. 2015 (1)

(1) MODULE MOS-T

UNIT SBD

CRITERION AND ENABLING OBJECTIVES

TASK IDENTIFICATION: 2.0 (1)

TASK ELEMENTS: 2.1-2.4 (2)

(3) CRITERION OBJECTIVE(S)	(4) ENABLING OBJECTIVE(S)
2.1-2.4 When given a situation where fire and maneuver is required, select the appropriate arm and hand signals which depicts the type of maneuver required.	2.1.1-2.3.1 Select from a multiple-choice list the types of squad maneuvers: a. MANEUVER RIGHT b. MANEUVER LEFT c. MANEUVER FRONT, LEFT, (RIGHT) 2.4.1 When given fire and maneuver formations, select the appropriate arm and hand signals which depict: a. MANEUVER RIGHT FROM SQUAD COLUMN, FIRE TEAMS IN COLUMN b. MANEUVER FRONT (LEFT) FROM SQUAD COLUMN, FIRE TEAMS IN COLUMN c. MANEUVER LEFT, FROM SQUAD COLUMN, FIRE TEAMS ABREAST d. MANEUVER FRONT (RIGHT) FROM SQUAD COLUMN, FIRE TEAMS ABREAST

Figure 2-10. A Criterion and Enabling Objectives Worksheet for the Tactics Course

TAIS No. 2015 (1)

(1) MODULE MOS-T
UNIT SBD

TEST ITEMS

TASK IDENTIFICATION: 2.0 (1)

TASK ELEMENTS: 2.1-2.4 (1)

(3) CRITERION ITEM(S)	(4) ENABLING ITEM(S)
2.1-2.4 Consider the following tactical situation. Assume the squad is in the attack and Alfa team has been fired upon with small arms fire from the objective. Bravo team is in position defilade in a creek bed. The situation is as follows: OBJECTIVE 6 2 4 3 5 1 G R TL AR (ALFA TEAM) SL TL R AR (BRAVO TEAM) G R 1. Bravo team is to move to position 1. What maneuver is this? (Maneuver front, left) 2. Refer to figure 8 in your handout. What command and signal would the SL give for this maneuver? The signal would be - ? (enter a letter) (d)	2.1.1-2.3.1 Which of the following types of maneuver can the squad leader indicate: a. Maneuver flank b. Maneuver oblique * c. Maneuver right d. Maneuver wedge * e. Maneuver left f. Maneuver rear * g. Maneuver front (enter the letter(s) in a single line) (c, e, g)

Figure 2-11. A Test Item Worksheet for the Tactics Course

Participants included:

Major R. D. Yearoot	Company Operations Department, TIS
Captain J. J. Barry	Ranger Department, TIS
Captain C. W. McInnis	Company Operations Department, TIS
Captain M. H. Yardley	MOS Test Project Director
SFC G. E. Morgan	Company Operations Department, TIS
SDC Project Staff	

Results of Task 1: Determining the importance of subject matter areas indicated that there was general agreement among the subject matter experts as to the importance of the various subject matter areas. Also, no conflicts emerged between SDC's appraisal of the importance of the subject matter areas and the subject matter experts' determinations.

Results of Task 2: Ranking the tactics areas indicated that Individual Combat Training was considered the most important topic of the 11 topics ranked by all raters except one, with Squad Battle Drill a close second. Tactics areas considered to be of less importance were those concerning Platoon activities and Retrograde Movement, which was considered by all raters to be the least important topic for inclusion, receiving a ranking of 11.

SDC's analysis had determined that the amount of instructional material covering these 11 tactics areas far exceeded the 12 hours of AI material to be developed. Based upon the results of Task 2, it was decided to eliminate from further consideration those tactics topics that received a ranking greater than 7. This eliminated the following topics:

Tactics Topics	Ranking
Platoon Combat Formations	8
Rifle Platoon in the Attack	9
Rifle Platoon in Defense	10
Retrograde Movement	11

Tactics topics retained were those that dealt primarily with individual and squad skills and knowledge areas.

Results of Task 3: Each subject matter expert covered on a page-by-page basis those areas of his expertise. Special attention was given to the test items to ensure that they were performance based and job oriented. In general, the number of comments was minimal, with changes being suggested to improve the wording of the test items to meet the above goals or strengthen the alternatives.

Based upon this detailed review, some of the sample aspects of Individual Combat Training were eliminated from further developmental consideration.

As a result of this review, SDC made changes to the TAISs, Instructional Objectives and Test Items, as appropriate. This updated material is contained in Appendix B.

4. Development of Course Materials

The development of the instructional materials for the Tactics Course proceeded in parallel with the material development for the Crew Served Weapons Course. The same steps, forms and procedures were used. SDC was to develop 12 hours of Tactics AI material from which approximately 4 hours would be selected for use in the experiment. In developing the Tactics Course material, the same considerations applied as for Crew Served Weapons. The AI language was PLANIT and the student device was the UIOD. The total amount of presentation capability for a single frame was to be restricted to a maximum of 50 characters per line for a total of 17 lines.

However, some minor differences did occur in developing the Tactics Course materials. Notably, the 12 hours of instruction had to be spaced across more topics for Tactics than for Crew Served Weapons. By examining each topic to compare the estimated extent of material contained within the topic against an estimate of topic importance as ranked by the subject matter experts, an allocation of time for each topic and production sequence was established. Based upon this analysis, production of materials started on 5 of the 7 remaining Tactics topics, with material development for Rifle Squad in the Attack and Rifle Squad in Defense to commence at a later date. It was felt that a better estimate could be determined after several hours of AI materials had been developed, and that perhaps these two Tactics topics would not be needed to fulfill the 12 hours of AI materials. This proved to be correct, as the on-line tryout of AI materials at the ARI Washington facility during July 1973 indicated that execution time for AI material was longer than anticipated, thereby requiring development of less AI material. (Refer to paragraph B.9. for a discussion of the on-line tryout at ARI and the results.)

Two types of instructional materials were also prepared for the Tactics Course: AI material and materials for off-line use by the students to augment the on-line instruction. The strategies that were formulated for the development of the Crew Served Weapons material applied to the development of the Tactics material as well. The development of this AI material proceeded through the frame production steps culminating in card decks ready for subsequent input to PLANIT. Listings were also produced as a quality control vehicle to correct the card decks. Figure 2-12 shows an example of a completed Tactics frame ready for keypunching. The Tactics Course structure is indicated in Table 2-6.

TABLE 2-6. TACTICS COURSE STRUCTURE

MODULE	PLANIT LESSON NAME	TASK NUMBER	FRAME NUMBERS	NUMBER OF FRAMES TASKS	NUMBER OF FRAMES LESSON	TOTAL FRAMES PER MODULE
Individual Combat Training	INDIV 1	2005	10.00-24.00	21		
		2006	25.00-43.00	27		
		2007	44.00-66.00	27	75	
	INDIV 2	2008	65.00-75.90	32		
		2009	76.00-94.00	53	85	160
Individual Skills and Knowledges	INDIV 3	2010	94.00-125.00	68		
		2011	126.00-146.00	31	99	99
Squad Combat Formations	SQUAD 1	2012	301.00-386.00	95	95	
	SQUAD 2	2013	1.00-25.70	24	95	
	SQUAD 21		26.00-95.00	78	102	197
Squad Battle Drill	SQUAD 3	2014	401.00-425.00	27	27	
	SQUAD 31	2015	425.00-464.00	40		
	SQUAD 31	2016	465.00-499.50	35	75	102
Patrol-ling	PAT 1	2027	701.00-749.00	77	77	
	PAT 2	2028	1.00-80.00	59	59	
	PAT 3	2029	801.00-834.00	40	40	
	PAT 4	2030	1.00-66.00	80	80	
	PAT 5	2031	1.00-78.00	82	82	338

FRAME FROM SQUAD BATTLE DRILL

1 426.00 M

2 Who decides upon the type of maneuver to be used? (Select a letter)

3
A. Fire team alfa
B. Fire team leaders
C. Squad leader
D. Fire team bravo

4 C F: Excellent

ABD F: Wrong. The squad leader decides the type of
F: maneuver after he has made a quick
F: estimate of the situation.

Figure 2-12. Example of a Completed Tactics AI Frame Ready for Keypunching

5. Lesson Design and Content

The content and general design of each lesson prepared for the Tactics Course follows:

a. Individual Combat Training

1) INDIV1 - TAIS 2005 - Estimating Distance
TAIS 2006 - Observation and Listening Posts
TAIS 2007 - Challenge and Password

Content

This lesson describes the two basic methods used to estimate distance. This includes the flash and sound method and the appearance of objects method. The techniques for each method are detailed and the uses and

advantages of each method indicated. The lesson also discusses observation posts (OPs) and listening posts (LPs). Included is the purpose of OPs and LPs, the requirements considered in selecting a suitable location (maximum observation, cover and concealment, concealed routes, etc.), how each type of post is established and operated, and the differences and similarities between them. The lesson also presents the proper use of the challenge and password and the procedures required for establishing the identity of one person or a group.

Design

This lesson is basically linear in design. The student is guided through the instructional sequences, with remedial material being provided as required. Limited opportunity for acceleration is available. After receiving extensive review, the student is given two opportunities to meet each criterion item within the lesson. He then proceeds to the next topic.

On-line representations depicting tactical situations are included within the instructional segments.

2) INDIV2 - TAIS 2008 - Actions under Flares
TAIS 2009 - Crossing Danger Areas

Content

In this lesson, the student is instructed on the actions to take if he were to be caught under the light of a ground or overhead flare. Various situations are presented (being caught in the open, crossing an obstacle, during an assault, being among trees, etc.), and the steps required to minimize or overcome the situation. This lesson also identifies the procedures to initiate when crossing danger areas. Danger areas considered include open areas, roads and trails, native villages, enemy positions, minefields, streams and barbed wire.

Design

The design of this lesson is basically linear. The student proceeds through instructional segments concerning the actions to take for various situations involving ground and overhead flares until reaching criterion. Remedial material is provided enroute as required. The student is given a second opportunity to meet criterion after receiving information concerning his performance and being subjected to an extensive review. He then proceeds to the next topic, Crossing Danger Areas. The instructional design of this topic is similar to the first topic. The student receives instruction on the procedures to take when crossing various types of danger areas. Remedial material is provided as required. A limited opportunity to accelerate instruction is provided. Failure to meet criterion requires the student to review the material, attempt the criterion items a second time, receive summary data and then proceed to the next lesson.

On-line representations of dangerous situations (i.e., crossing a trail or enemy position) augment the instruction.

b. Individual Skills and Knowledges

INDIV3 - TAIS 2010 - Characteristics of Fire
TAIS 2011 - Classes of Fire

Content

This lesson defines the characteristics of fire for rifle, automatic rifle and grenade launcher fire. Terms include trajectory, danger space, cone of fire, beaten zone and casualty radius. The characteristics of rifle, automatic rifle and grenade launcher fire in relation to these terms are indicated. The classes of fire with respect to target (frontal, flanking, oblique, enfilade) and with respect to ground (grazing, plunging) are presented.

Design

In this lesson, the student receives instruction on each of the characteristics of fire and how these characteristics interact for each type of fire--rifle, automatic rifle and grenade launcher. The student proceeds through each instructional segment, receiving remedial material as required. A limited opportunity to accelerate is provided. Failure to meet criterion causes the student to be branched to selected review of those characteristics of fire for which his performance indicates a deficiency exists. Review is terminated by attempting the criterion item a second time. The student receives information on his performance and then proceeds to the next topic. Instruction on classes of fire is basically linear in design. The student receives instruction on each class of fire with respect to target and ground. Remedial material is provided as required. If the student fails to meet criterion, he is provided additional information and then proceeds to the next lesson.

On-line representations of the characteristics of fire and classes of fire in relation to a target and the ground augment the instruction.

c. Squad Combat Formations

1) SQUAD1 - TAIS 2012 - Squad Dismounted Formations

Content

This lesson describes the organization of a rifle squad (the members and their basic function) and the various dismounted squad formations they may assume. The squad formations include squad file; squad line; squad column, fire teams in column; squad column, fire teams abreast; and modified squad column, fire teams abreast. Arm and hand signals to form and control squad teams are also presented.

Design

This lesson is basically linear in design. The student receives instruction on the basic organization of the rifle squad, followed by material detailing the various dismounted formations. Review sequences and remedial material are provided for each type of squad formation. After an extensive review, the student is given a second opportunity to meet criterion for squad formations before he receives instruction on the arm and hand signals associated with each. Instruction on arm and hand signals is presented in the same sequence as the squad formations were presented, with remedial material provided to the student as required. Limited opportunity to accelerate instruction is available. The student is informed of his performance on the criterion test and proceeds to the next lesson.

On-line representations of squad formations are interjected to facilitate the instruction. In addition, line drawings and diagrams of squad formations and arm and hand signals augment the on-line instruction.

2) SQUAD2 - TAIS 2013 - Tactical Considerations

Content

This is the first of a two-part topic. In this lesson the four squad formation characteristics (control, rate of movement, flexibility and security) that must be considered in selecting a squad formation are described. The student is informed that the importance of each of these characteristics varies with the given situation. How these characteristics apply to each squad formation described in the previous lesson (SQUAD1) is indicated, with squad line being the formation considered in this particular lesson. The firepower configuration is also indicated for each squad formation.

Design

This lesson is basically linear in design. The student proceeds through the instructional segments at his own pace, receiving remedial material as required. Limited opportunity to branch ahead is provided. The student must meet criterion before proceeding to the next lesson.

3) SQUAD21 - TAIS 2013 - Tactical Considerations (Continued)

Content

This lesson is a continuation of SQUAD2. How the squad formation characteristics (control, rate of movement, flexibility and security) and fire power configuration apply to each squad formation in meeting different tactical situations is indicated. The squad formations discussed in the lesson include squad file; squad column, fire teams in column; squad file, fire teams abreast; and modified squad column, fire teams abreast.

Design

The student receives instruction in the basic characteristics of each squad formation. The student must demonstrate mastery of each instructional segment before proceeding to a subsequent squad formation, or be subjected to a review of the instructional segment. Enroute remedial material is provided as required. At the completion of the basic instructional track, the student is subjected to a series of questions concerning each squad formation and its characteristics. If his performance indicates a deficiency concerning the squad formation, he is subjected to a selected review, followed by the opportunity to answer the questions a second time. This cycle continues until the question set is exhausted. At the completion of this exercise, the student moves to the criterion item. If the student meets criterion, he proceeds to the next lesson; otherwise, he receives additional material and summary data concerning his performance and then proceeds to the next lesson. A list of squad combat formations is used to augment the criterion test.

d. Squad Battle Drill

1) SQUAD3 - TAIS 2014 - Fundamentals of Fire and Maneuver

Content

This lesson describes the mission of the fire support and maneuver elements of a rifle squad when engaging in squad battle drill. The term squad battle drill is defined.

Design

This lesson is basically linear in design, although some opportunity for the student to accelerate is provided. The student proceeds through instructional segments describing the mission of the fire support element and maneuver element, respectively. The student is given a second opportunity to meet criterion after reviewing both of these instructional segments, followed by summary data. He then proceeds to the next lesson.

2) SQUAD31 - TAIS 2015 - Types of Battle Drill Maneuvers
TAIS 2016 - Considerations of the Squad Leader

Content

This lesson presents the types of battle drill maneuvers and the arm and hand signals associated with each. Maneuvers include right, left and front (left or right). The lesson also describes the factors (control, dispersion, security) the squad leader considers in tactical employment of the squad.

Design

The student receives instruction in each type of battle drill maneuver and its associated arm and hand signal. A limited opportunity to accelerate instruction is available. Remedial material is provided as required throughout the instructional sequences. After an extensive review is completed,

the student is given a second opportunity to meet criterion. The student receives information concerning his performance and moves to the next topic. The instruction concerning factors for squad leader consideration is modular in design. Review cycles and remedial material are provided for each of the three factors (control, dispersion, and security) under consideration. After receiving information concerning his performance, the student is given a second opportunity to meet criterion. On-line presentations of squad formations and tactical situations are interjected to facilitate the instruction. At the end of the lesson the student is instructed to enter > FINISHED, signifying he has completed this portion of the Tactics Course.

Figure drawings of arm and hand signals for maneuver augment the on-line instruction.

e. Patrolling

1) PAT1 - TAIS 2027 - Steps in Planning and Preparing Patrols

Content

This lesson presents the patrol steps to be considered in planning a patrol. The 11 steps are organized into three stages of implementation consisting of:

(a) Tentative Planning for Patrol - Step 1: Receive and study the mission
Step 2: Plan use of your time
Step 3: Study the terrain and situation
Step 4: Make a tentative plan

(b) Completing the Detailed Plan - Step 5: Organize the patrol and select men, weapons and equipment
Step 6: Issue warning order
Step 7: Coordinate

Step 8: Make reconnaissance
Step 9: Complete detailed plan

(c) Finalizing the Patrol Planning and Preparation - Step 10: Issue the operation order for the patrol
Step 11: Inspect, rehearse and supervise

This lesson provides the student with prerequisite information needed for preparing the detailed plan for patrol which is presented in the subsequent lesson PAT2.

Design

This lesson is basically linear in design. The student proceeds through the instructional sequences describing the 11 patrol steps on a step-by-step basis. Remedial material is provided enroute and a limited opportunity to accelerate instruction is available. Assessment of student performance occurs periodically as the student progresses through the instructional material. After completing the instructional sequences, the student proceeds to the next lesson.

2) PAT2 - TAIS 2028 - Detailed Plan

Content

This lesson explains the elements of concern to the Patrol Leader in completing the detailed plan for a patrol. The lesson stresses those elements that were incorporated into the tentative plan (presented in the previous lesson PAT1) and must now be finalized within a detailed plan. These elements include: Missions in the objective area, other missions, and coordinating instructions. Under coordinating instructions the following 12 items are covered: 1) Times of departure and return, 2) Primary and alternate routes, 3) Departure and reentry of friendly areas, 4) Organization for movement, 5) Actions in danger areas, 6) Actions at enemy contact, 7) Rallying points and actions at rallying

points, 8) Actions in objective area, 9) Fire support, 10) Debriefing, 11) Other actions, and 12) Rehearsals and inspections. Use of the "clock" system to break enemy contact is also discussed.

Design

The student receives instruction in each of the items noted above. Remedial material is provided as required. Limited acceleration of instruction is permitted. Situations are presented in which the student must decide which element in the detailed plan pertains to the situation. After instruction in all elements of the detailed plan has been completed, the student proceeds to the next lesson .

3) PAT3 - TAIS 2029 - Control of Patrols

Content

This lesson discusses the measures used to control a patrol. Included are use of voice and other audible means (radio, whistle, etc.), silent methods (arm and hand signals) and other patrol members. The techniques used to account for personnel (counting) and situations under which this control measure should be employed are indicated.

Design

The design of this lesson is basically linear. The student receives instruction on each subtopic (e.g., purposes of raid patrols). Based upon his performance, the student is permitted to proceed to the next subtopic or is required to review the subtopic before proceeding to the next subtopic. At the completion of all subtopics, the student is given the option to review various subtopics of his choice or proceed to the criterion items. He can operate in this selective review mode until he selects the option "no more review," indicating he wishes to proceed to the criterion items. At the completion of the criterion items the student receives data on his performance and then proceeds to the next lesson.

On-line representations of tactical situations are included in the instructional segments.

4) PAT5 - TAIS 2031 - Ambush Patrols

Content

In this lesson the types of ambushes (point, area and hasty) and their purposes (destruction and/or harassment) are described. In addition, the fundamentals of ambush operations (surprise, coordinated fires, control) are indicated. Finally, for various ambush formations (line, L or V), the advantages and disadvantages are discussed to include control of ambush patrol, type of fire and how specific ambush patrols should be employed.

Design

The student proceeds basically in a linear manner. He receives instruction on each subtopic and, based upon his performance, proceeds to the next topic, receives additional material or is required to enter a remedial loop. After receiving instruction on all subtopics, the student is presented five tactical situations and must select the most appropriate formation in which to engage the target. Depending upon his performance, he proceeds serially through this sequence or is required to receive selected review on the formation for which he appears deficient. Following review, he returns to the exercise and continues subject to his subsequent performance. At the completion of all five tactical situations, the student's performance dictates whether he is automatically taken to the end of the lesson or is given the option of reviewing any ambush formation type of his choice. Terminating the review session takes the student to the end of the lesson. At the end of the lesson the student is instructed to enter · FINISHED to indicate that he has completed the Patrolling Module.

On-line representations of ambush formations are included in the instructional segments.

6. Adjunct Materials

Adjunct materials for the Tactics Course were developed in the same manner as were those for the Crew Served Weapons Course. Specific points were flagged within the AI material where off-line materials were needed to augment the on-line instruction. Only two modules required development of supporting materials: Squad Combat Formations and Squad Battle Drill.

The materials for these two modules were developed using line drawings and figures found within the appropriate source documentation and modified as required to complement the on-line AI materials. Completed materials for each module were bound separately as handouts for student use. A complete set of handouts for the Tactics Course is contained in Appendix D.

7. Assessment Materials

On-line materials for preassessment and postassessment of student performance were prepared following the same procedures as delineated for Crew Served Weapons (refer to paragraph B.7.). Using the Criteri... and Enabling Test Items Worksheets, a list of items was prepared. From this list, two tests were prepared, with each test consisting of a Version A and Version B. One test contains 28 items which cover the content areas for the following modules:

Module	Number of Test Items
Individual Combat Training	6
Individual Skills and Knowledges	7
Squad Combat Formations	7
Squad Battle Drill	8

A second test containing 26 items was prepared for the Patrolling module.

The test structure for each module follows.

Module	PLANIT Name	Number of Items Version A	Number of Items Version B	Number of Frames Version A	Number of Frames Version B
Tactics (as indicated above)	TACA	28		48	
	TABC		28		48
Patrolling	TAPAT	26		29	
	TBPAT		26		29

For each test version, card decks and listings were prepared and reviewed and modifications made, as required.

8. Delivery of Course Materials

Completed sets of Tactics Course materials (card decks, listings and adjunct materials) were shipped along with Crew Served Weapons Course materials to ARI, Washington and the test facility at Fort Hood, Texas, during the June through July time period.

9. Review of Course Materials

The completed Tactics courseware materials were scheduled for review in July by subject matter experts from The Infantry School, Fort Benning, Georgia. This review of Tactics courseware material occurred in conjunction with the review of the Crew-Served Weapons course materials. By this July date, all course materials for the Tactics Course were completed except approximately 30% of the AI material relating to the Patrolling Module and the preassessment and postassessment tests.

Listings of the completed AI course material and handouts of the off-line supporting material were hand carried by SDC project staff members to this review meeting.

Participants included:

Major Knox	Ranger Department, TIS
Major Greene	Ranger Department, TIS
Captain C. W. McInnis	Company Operations Department, TIS
Captain R. F. Brisson	Company Operations Department, TIS
SDC Project Staff	

No formal instructions were provided for this review. Each subject matter expert was given a listing and told to review those parts of the instructional program that would be presented to the student and the anticipated answers (correct as well as incorrect) to ensure that they were correct and/or logical for the theme of the material.

The Patrolling Module, although only 70% completed, did receive an extensive review by the Ranger Department.

Results of this review meeting indicated that the Tactics Course material was well received and comments were very favorable. Suggested changes were minimal and minor in nature and were incorporated into the card decks.

This completed the development of the Tactics AI materials, which were then considered ready for the field. These materials were combined with the Crew Served Weapons AI materials to form the MOS AI package, which was to be subjected to a field checkout and revision cycle scheduled to occur during the month of August 1973 at the test facility, Fort Hood, Texas.

D. PROBLEMS ENCOUNTERED

Several problems were encountered during the development of the MOS AI materials for the Crew-Served Weapons and Tactics courses. Although additional expenditure of effort was required, the problems encountered did not jeopardize the meeting of project commitments. The major problems were:

- Documentation - In a few instances, documentation secured at project start was found during the March review meeting at Fort Benning, Georgia, to be out of date or lacking indication of all pertinent changes. This required some modifications to be made to the construction of the Criterion and Enabling Objectives and Test Items before further development of the AI material could proceed.

- UIOD "Roll-up" Capability - Initial interpretation of how the UIOD "roll-up" feature functioned implied that subsequent material would be presented by moving previous material off the top of the display. In the event that the new material exceeded 18 lines of display, new material would continue to be presented at the bottom of the display, forcing information at the top to be moved off the screen until a student response was required which caused the presentation to halt. Material was designed to avoid this condition, but it was difficult to control every case without actual on-line execution of all possible instructional paths. This was not possible, as a viable PLANIT functioning in the test facility was not available during the development of the AI materials. Further, this concept of the "roll-up" operation proved to be incorrect. Just the opposite occurred. Material which caused the presentation to exceed 18 lines was never presented, having been truncated by the interface system. This alteration of interpretation of the "roll-up" capability caused considerable modifications to be made to the AI material during the August field test at Fort Hood, Texas, to ensure that all information would be presented during the AI experiment.

- Card Deck Development - The temporary requirement to alter the PLANIT frame numbers so that each lesson contained no frame number larger than 99.00 greatly reduced the effectiveness of the initial on-line tryout of the AI materials at ARI, Washington, interjected errors into the card decks, and required additional quality control to establish viable card decks for use at the Fort Hood test facility.

The latency in establishing a firm character set for use at the Fort Hood test facility also contributed to the problem of constructing card decks that wouldn't require extranecus modifications. Pending a resolution, it was SDC's decision to proceed and construct the MOS AI materials conforming to the PLANIT character set except as noted in paragraph B.4.C. above--even though future modifications might have to be accomplished manually.

Section 3: CONDUCT OF THE FIELD TEST

A. PRELIMINARY ACTIVITIES

1. Identification and Selection of the Subject Pool

The study was directed toward 11B40 personnel. The problem was to both identify 11B40 personnel and determine those who would need or benefit by MOS training in crew served weapons or tactics or in GED mathematics. The approach used was to obtain the personnel data on 11B40 personnel from the PA6 tapes covering the 2nd Armored Division and 1st Cavalry Division at Fort Hood, Texas. Listings of summary data were prepared and card decks containing identifying information were punched from the tapes. These card decks were sent to the Enlisted Evaluation Center, Fort Benjamin, Harrison, Indiana to obtain the 1972 MOS proficiency test scores. Updated listings (Figure 3-1) and card decks were then prepared.

In August 1973, a month prior to the start of MASSTER Test 122, the card decks were run against the SIDPERS personnel system (which replaced the PA6 system at Fort Hood). Two critical pieces of information regarding the listed 11B40 personnel were obtained from this run: (1) whether they were still at Fort Hood; and (2) their current education levels. On the basis of this information, listings (Figure 3-1) of the subject pool were prepared and delivered to Headquarters MASSTER.

Those with GT scores below 88 (8th Grade Level is 90) were eliminated. Frequency distributions were plotted of 1972 MOS Proficiency Test Scores. An upper and lower cut-off score on the total test of 79 and 40 (score of 31 on the 125-item, multiple-choice MOS Proficiency Test is chance) was established for inclusion in the sample population. These cut-off scores represented breakpoints on the distribution where the curve showed a marked change. In the 2nd Armored Division, approximately 4% of the lower end of the distribution and approximately 15% of the upper end of the distribution were eliminated by this process.

SELECTED ARMORED DIVISION SUBJECTS SORTED BY NAME

SSN	NAME	PAY GRD	DOS	ED	VERBAL	ARITHMETIC	GT	1	2	3	4	TOT
501366920	RODRIGUEZSANTANA V	E06	11840	C			GT-097	11	11	12	19	53
356344379	ROGERS BERMAN	E06		B			GT-085					
544667[illegible]	ROGERS RONALD W	E0[illegible]	[illegible]	F			GT-10[illegible]					
560 54227	ROJAS PEDRO	E0[illegible]	11840	F			GT-091	14	17	16	[illegible]	66
401463437	ROPER EVERETT L	E06										
213067[illegible]	ROUSSEAU RICHARD EDWAR	E06	[illegible]	F			GT-11[illegible]					
462703003	ROY FRANCIS LLOYD	E05	11840	B	VE-1B-103	AR-3B-103	GT-103	13	11	13	27	64
465764171	RUBALCAVA RUBEN	E05	11840	[illegible]			GT-092	12	09	15	20	56
10040 667	RUDOLPH PATRICK J	E05	11840	N			GT-146					
557604361	RUGE JERRY WAYNE	E05	11840	C	VE-C -080	AR-B -068	GT-074	15	15	14	22	66
383465121	RUSH HORACE E	E06	11840	E			GT-114	10	16	19	22	67
454547660	SALINAS MANUEL PERALES	E07	11840	F			GT-101	14	20	19	32	85
27522 554	SAPS LEE JUNIOR JR	E06	11840	[illegible]	VE-1B-135	AR-3B-131	GT-132	17	20	19	29	85
452744149	SARDEFER THOMAS HENRY	E05	11840	A				13	14	13	19	59
436824632	SAUNDERS CHARLIE	E05	11840	B			GT-790					
457668756	SAUNDERS TEDDY DOYLE	E05	97020	E	VE-2B-128	AR-4B-116	GT-122	12	10	13	20	55
326443283	SAUNDERS WILLIAM EDWARD	E05	11840	E	VE-2B-084	AR-4B-084	GT-084	13	16	12	19	60
457762675	SAURIGUEL JUAN	E05	11840	A	VE-8Q-068	AR-8Q-080	GT-088	08	11	18	18	55
583[illegible]193	SAVIAIN ESTEBAN	E0[illegible]		E			GT-089	10	17	15	17	59
378488335	SCHINDLER GARY EDWIN	E05		B			GT-060					
254663518	SCOTT HERBERT CARLTON	E05	11840	F		AR-3B-079	GT-112	25	22	20	31	98
438728463	SCOTT LEROY	E05		E	VE-1B-078	AR-3B-086	GT-082	09	13	16	19	57
494543214	SCOTT TERRY LYNN	E05	11840	J	VE-1B-109	AR-3B-107	GT-108					
248701905	SCRIVEN JOSEPH	E05	11840	E			GT-082	08	09	12	16	45
250781344	SEARS WILLIAM FORREST	E06	11840	E	VE-7Q-100	AR-7Q-105	GT-103					
229646450	SELL EDWIN T	E05	11840	C			GT-095					
436523699	SEYMORE DANIEL ALBERT	E06	11840	E			GT-086	10	17	18	26	71
255569637	SHARPE THEODIS	E05		F			GT-086					
257782710	SHAVERS HENRY JR	E05	11C40	E	VE-7Q-062	AR-7Q-074	GT-068	11	16	10	17	54
308445554	SHAW RAYMOND ALBERT	E06	11840	E	VE-8Q-084	AR-8Q-068	GT-076	12	16	11	22	61
494444476	SHEPARD JOHN E	E06	17K40	F	VE-2B-084	AR-4B-089	GT-087	11	15	20	20	66
230741727	SHEPPARD MILLARD LEE	E05	11840	F	VE-7Q-097	AR-7Q-093	GT-099	08	12	12	17	49
403745174	SHUMATE JIMMY TAYLOR	E05	11840	B	VE-1B-111	AR-3B-101	GT-106					
411528175	SHYES JOHNNY B	E07		E			GT-101	14	18	24	20	76
407665442	SIDEBOTTOM LARRY ROSS	E05	11840	E	VE-8Q-071	AR-8Q-090	GT-081					
586 5 1	SIGUENZA THOMAS B	E05	11840					08	10	06	10	34
115362398	SIMMONS JAMES EDWARD	E05	11840	E			GT-113	13	12	18	25	68
478589508	SIMMONS TERRY P	E05	11840	E			GT-109	16	15	18	19	68
224542027	SIMPSON WILLIAM MARTIN	E05	11820	7	VE-2B-065	AR-4B-084	GT-075					
439688173	SMELSER JOHN DAVID	E05	11840	F	VE-1B-130	AR-3B-129	GT-130	19	15	16	27	77
200264084	SMITH CLEMENT EUGENE	E07	11840	E			GT-109	13	20	19	27	79
495548873	SMITH DANIEL P	E05	11840	E			GT-074					
454807324	SMITH JOE D	E06	11840	E			GT-119	17	16	19	25	77
452747936	SMITH WILLIAM DANIEL	E05	11840	E	VE-7Q-118	AR-7Q-093	GT-106	17	21	21	25	84
228661777	SMITH WILLIAM ODELL JR	E05	11840	E	VE-1B-084	AR-3B-086	GT-085					
461769292	SOZA JESSE CASTILLO	E05	11840	K			GT-125					
242845371	SPEIGHT AMOS RUDOLPH	E06	11840	E	VE- Q-086	AR- Q-087	GT-087	13	11	10	16	50
252842602	SPILLERS GARY WAYNE	E05	71M30	E	VE-1B-152	AR-3B-116	GT-134					
461649082	STANLEY JIMMIE ROYCE	E06	11840	F			GT-097	14	16	23	31	84
416603973	STAPLES JOE NATHAN	E05	11840	E			GT-087	16	12	14	24	66

Figure 3-1. Sample of Subject Pool Listings

The above process provided a pool of 11B40 subjects for whom training was needed and whose education level (8th grade or higher) indicated attainment of the minimum reading skills required for this training medium.

Preliminary analysis of the 11B40 subject pool indicated that a substantial number of 11B40 personnel had neither obtained their high school diploma nor met the GED high school equivalency requirements. However, experience with 11B40 personnel during the first 3 weeks of MASSTER Test 122 showed that almost all of those selected from the pool for the test had now met the GED requirements (only four had not, one of whom had scored very high on the pretest).

Consequently, a subsequent list of Army personnel with GT scores of 70 and above and an education level of 7th, 8th and 9th grade was developed. All of the GED subjects except three came from this list. Most of these subjects were Privates or PFCs, were considerably younger than the 11B40s, and had lower GT scores than the 11B40s.

There is a probable tendency on the part of the Army to volunteer subjects who are least important to the operation of the unit or organization. This probably would have resulted in the subject pool for this study being more representative of nonkey personnel in the organization, i.e., personnel at the lower end of the distribution. Therefore, by identifying the subject pool in advance, it was felt that a better quality of participating subjects would be ensured than were the organization free to send whomever it pleased. An example of this occurred when one of the GED subjects turned out to have 2 years of college, was not on the selection list, and had been sent to fulfill the required number of "bodies" for that particular day.

2. Computer Checkout of Course Materials

Prior to the field test, 10 subjects were obtained for a period of 5 workdays for course checkout. These subjects comprised 11B40, 11B20, 11B10 and other personnel. Because of system problems, the arrival and use of these personnel

were delayed until Wednesday, 22 August 1973. Throughout the remainder of the week a variety of system problems, e.g., not enough storage for student records, caused computer breakdown or many restarts, which negated the effective use of these subjects. On Monday and Tuesday, 27 and 28 August, although system performance improved, many problems still existed, e.g., unreliable subsystems communications. An attempt was made to increase the availability period of the 10 subjects in question, but this was denied by the unit concerned.

SDC, ARI, TSDG and BRC personnel continued to check out the system and course materials throughout the week, and by 31 August the system was considered reliable enough to start MASSTER Test 122 on schedule.

Despite the limited opportunity for using personnel for tryout, many valuable insights were obtained into 11B40 personnel requirements for taking the courses. For example, one major effort involved updating the courseware to provide additional specific cues indicating that a response was required and the form of that response (e.g., on a multiple-choice question, select a letter). Based on experience with the 10 subjects, a second major effort was to incorporate additional anticipated incorrect responses into the course materials and to provide specific feedback on why they were wrong.

In addition, it became apparent that on-line pretesting and posttesting of subjects during the experiment would be impractical, as the average student test execution time was 30 to 40 minutes. This would have reduced the available on-line computer time for AI to approximately 3 hours, which was in conflict with the 4 hours allocated for the Study and Control Groups. A decision was made to create paper and pencil tests, designated Versions A and B, for each group, i.e., AI, Study and Control. These tests contained the same test items as those incorporated in the on-line pretests and posttests described in Section 2. (Sample tests are available at the U.S. Army Research Institute or SDC.) Student execution time as measured by this checkout also gave indications as to the amount of AI materials that could be executed by "average"

students during 4 hours of on-line time. Based upon these execution time estimates, the structure for the AI courses to be used in the field experiment was finalized as follows.

CSW	TACTICS	GED
LAW1	INDIV1 (1)	DEC1
LAW2	INDIV3	DEC2
LAW3	SQUAD1 (2)	DEC3
LAW4	SQUAD2	DEC32
	SQUAD21	DEC4
	SQUAD3	
	SQUAD31	

A short introductory lesson called INTRO was also developed which showed the types of questions being asked in the courses and the various methods of responding. Refer to Appendix E for a listing of lesson INTRO.

The net effects of these changes were to make the mechanics of taking the courses simpler for 11B40 personnel so that they could concentrate on the learning process without the frustrations entailed in not knowing how to communicate with the computer.

B. CONDUCT OF THE EXPERIMENT

1. Experimental Design

The experimental design for each of the two MOS portions and the GED portion of this study is shown in Table 3-1.

(1) The topic "Challenge and Password" in this lesson was not used during the experiment.

(2) Instruction in the lesson concerning "Review of the Organization of a Combat Rifle Squad" was not used during the experiment.

TABLE 3-1. EXPERIMENTAL DESIGN

PRESELECTION	PRETEST	RANDOM SELECTION OF GROUPS	TRAINING	POST-TEST	INTERVIEW
MOS: 11B40 personnel who are relatively low on MOS Proficiency Subtest for either Crew Served Weapons or Tactics; GT score of at least 88 (slightly below 8th Grade Level of 90).	Low to Middle Range on Pretest	AI n = 30 C n = 15 S n = 15	AI Training No Training Study Training	Yes Yes Yes	Yes No No
GED:* 11B40 personnel who have not graduated from high school or met high school equivalency requirements; minimum GT score of 88.	Low to Middle Range on Pretest	AI n = 30 C n = 15 S n = 15	AI Training No Training Study Training	Yes Yes Yes	Yes No No

*Apparently Fort Hood has an extensive GED program and many of the 11B40 personnel who expected to be part of the GED portion of the study had already met their high school equivalency requirements. Therefore, the preselection criteria on GED was modified during the course of the study to include any Army personnel who had a GT score at or above 78 (slightly below the dull normal level of 80) and an education level of 7th grade or above.

The AI Group of 30 and the Control and Study Groups of 15 each were selected to provide the minimum number of subjects required to: (1) thoroughly sample learner characteristics and reactions to the system; (2) show not only statistically significant differences, should they occur, but also a substantial supportive set of practical differences; (3) provide some stability to the analysis of results by reducing the chance effect of one or two individuals who may deviate markedly from the performance of the group as a whole.

While further increases in this minimum sample size would have been desirable from a statistical viewpoint, a balance had to be maintained between computer console availability and total experimental requirements. The above sample size was considered a good compromise between the two.

2. Initial Planning

The agencies involved in the planning and conduct of the field test were:

U.S. Army Research Institute, Washington, D.C.

U.S. Army Research Institute Field Unit, Fort Hood, Texas

Tactical System Development Group (TSDG), CSC, Fort Hood, Texas

ARTADS Field Units, Fort Hood, Texas

Headquarters MASSTER, Fort Hood, Texas

System Development Corporation, Santa Monica, Calif.

Planning activities centered around the following areas:

Computer Operation

Personnel Support

Physical Facilities

Test Subjects

Test Monitors

Test Logistics - transportation of students, messing, latrines, etc.

a. Computer Operation

The DEVTOS computer facility is a tactical system comprising a CDC 3300 central computer and four CDC 1700 computer RSDTs (Remote Station Data Terminals), each connected to five UIODs (User Input/Output Device). Both the central and remote computers have cryptology equipment attached which encodes and decodes the messages transmitted. Each UIOD comprises a display station (CRT and keyboard) and an IBM selectric typewriter for hardcopy output. For the purposes of this study, only the display station was used and the typewriters were "capped" with their field covers.

The central computer, each RSDT and the 20 UIOD CRTs are housed in separate vans. (Figure 3-2 depicts the central computer.) Communication between the vans is by a voice "squawk box." Whenever the TOSSOC (Tactical Operations System Sector Operations Center), a double van which houses the 20 UIODs, is used, a crypto operator is required to be in attendance when the crypto equipment is in use. Use of the crypto equipment increased the communication time for transmitting and receiving messages and increased the difficulty of resolving problems regarding the communication hardware and software interfaces of the system.

ARI had responsibility for the PLANIT installation, including reprogramming of the central computer and system checkout. TSDC (assisted by BRC) was responsible for interfacing the CDC 1700 to accept PLANIT inputs and outputs and for operation of the system. SDC was responsible for computer on-line checkout of the courseware. Several factors served to further confound the situation: the PLANIT AI System was still in the developmental stage during the July-August 1973 time period; the RSDT hardware and communications interface software had never been run continuously over a prolonged time period and its reliability was therefore in question, especially with regard to the effect of the number of users (students); and the effects of running PLANIT courseware and maintaining student records on the system over a long period of time were unknown. Each of the organizations involved required good system analysis and careful allocation of available computer time, especially since the activities of all three agencies



Figure 3-2. Tactical Computer Van, Computer Operator Console

were taking place during the August time frame. Complete checkout of course materials could not take place until the various parts of the system and their interfaces were made operational. Unique to this situation was the use of course materials to check out the various CAI and computer software programs and their interfaces.

b. Personnel Support

ARI and TSDG personnel assigned to MASSTER Test 122 included computer operators, crypto personnel, RSDT personnel, TOSSOC personnel, computer programmers (including Bunker Ramo personnel assigned to TSDG), system analysts, TSDG project officers, scientists and appropriate support personnel. SDC project personnel completed the test team.

c. Physical Facilities

Physical facilities were carefully reviewed. TSDG has only one classroom, used periodically for briefings and other activities. Moreover, this limited space is at the end of a 1/4-mile tunnel, which meant a minimum travel time of 15 minutes each way. The use of Portavans placed adjacent to the TOSSOC was considered a better solution. Three Portavans were obtained--complete with lighting, heating and air conditioning--and located adjacent to the TOSSOC. Field tables and folding chairs were then acquired for use within each Portavan.

These Portavans were used for the pretests, Study and Control Group activities, posttests, and interviewing. They provided for fairly close control of subject activity, minimized the time lost going from one phase of the field test to another, and resulted in a reduction of the number of test monitors required. Telephone communication between the Portavans and TOSSOC facilitated the smooth scheduling of test subjects into the various test phases within each day's activities.

d. Test Subjects

Test subjects were 11B40 personnel, Light Weapons Infantryman. A rigid paper control was established on personnel in the subject pool. Lists of eligible personnel in the pool were furnished to Headquarters MASSTER and checks made to ensure that these personnel were the ones reporting as test subjects. One of the unknowns was how 11B40 personnel would treat the CRTs in the TOSSOC. A short preliminary instruction sheet was prepared to facilitate getting on the computer and a short introductory lesson, INTRO, developed to provide subjects with experience in interacting with the computer. Procedures for handling the subjects through the various phases of test activities were developed to ensure that their time was fully occupied in test activities.

The waiting period between the pretest and assignment to AI, Study or Control Groups was designated as a coffee break, which also provided time for subjects to peruse personal data on the test record sheet in their test folder. This folder was retained by the subject during the day's activities and showed his progress through various phases of the test. This served as a control measure in that it identified the subject to the test personnel who, by looking at the test record sheet, could determine if the subject was in the right place and if he was working on the correct activity, e.g., Version B of the posttest.

c. Test Monitors

The test monitors were four NCOs, paygrade E4, who were trained to administer and score the pretest and posttest, conduct the Control Group activities, and monitor the Study Group. During their training process, they took the tests, took portions of the AI courses, and generally served as a checkout group for the procedures used. Some consideration was given to the possible situation of E4 personnel monitoring the activities of higher ranking NCO test subjects, but this was not felt to be a potential problem area.

f. Test Logistics

Test logistics involved: (1) transporting the test subjects from Fort Hood, main post to the test area at West Fort Hood and return; (2) messing facilities for the noon meal; and (3) toilet facilities during the day. Arrangements were made for an Army bus to deliver the students each morning and to return the students in the afternoon upon completion of test activities. Coffee and water were provided to the test subjects throughout the day. The noon meal was provided primarily by the Post Exchange food truck on its regular run to the TSDG area; the appearance of the truck signaled the noon lunch break. At the morning briefing, subjects were offered the option of eating at the mess hall at West Fort Hood. Those few who accepted the offer were transported to the mess area by private car, driven primarily by test monitor personnel. Toilet facilities comprised two portable latrines located behind the Portavans.

3. Training of Monitors

Four NCO monitors from the 163rd M.I. Battalion (C) at West Fort Hood were used throughout the study. These were Sgts. Crane, Rains, Shaw and Skrine. They arrived, as scheduled, on 4 September 1973 and were briefed on the purpose of MASSTER Test 122 and the procedures to be used. The monitors were then used to test out the procedures. They filled out the Introductory Form, the Test Data Questionnaire, took the LAW pretest, and went on-line with the LAW course.

On 5 September, specific monitor assignments were made and the procedures-introductory form, initial briefing, pretest, scoring, assignment to groups, AI Group activities, Study Group activities, Control Group activities, posttest, scoring, interview and release were dry run several times. Instructions for use of all materials, forms, and tests were covered.

4. Physical Layout

MASSTER Test 122 was conducted at West Fort Hood in the TSDG area, which is somewhat removed from other activities conducted at West Fort Hood. The physical layout is depicted in Figures 3-3 and 3-4. As noted previously, three Portavans were obtained for MASSTER Test 122. These had windows, electric lights, air conditioning, electric heating, field desks and folding chairs. Portavans 1 and 2 had telephone hookups into the Fort Hood exchange; long distance calls could be received--but not sent--from these phones. Portavan 2 contained the Alpha Dot communication equipment for the Control Group. Pallets were used to construct walks between Portavans and the parking areas and roads.

Portavan 1, the headquarters van, was used for scoring tests, interviewing subjects, and briefing visitors; Portavan 2 for Control Group activities, test administration, and interviewing subjects; and Portavan 3 for filling out the Introductory Form, briefing on the study, Study Group activities, test administration, and interviewing subjects.

The AI (CAI) Group activities took place in the TOSSOC van (Figure 3-5). Students were restricted to the guard post and TOSSOC areas.

Two portable latrines were obtained and serviced weekly.

As described in paragraph 2 above, an Army bus provided subject transportation from Fort Hood, usually arriving between 0800 and 0830 hours and returning around 1600 hours. Messing facilities were provided by means of a PX lunch truck, which usually showed up around 11:15 A.M., or by transporting students by private cars to the 163rd M.I. Bn (C) mess hall at West Fort Hood, about 2 miles away.

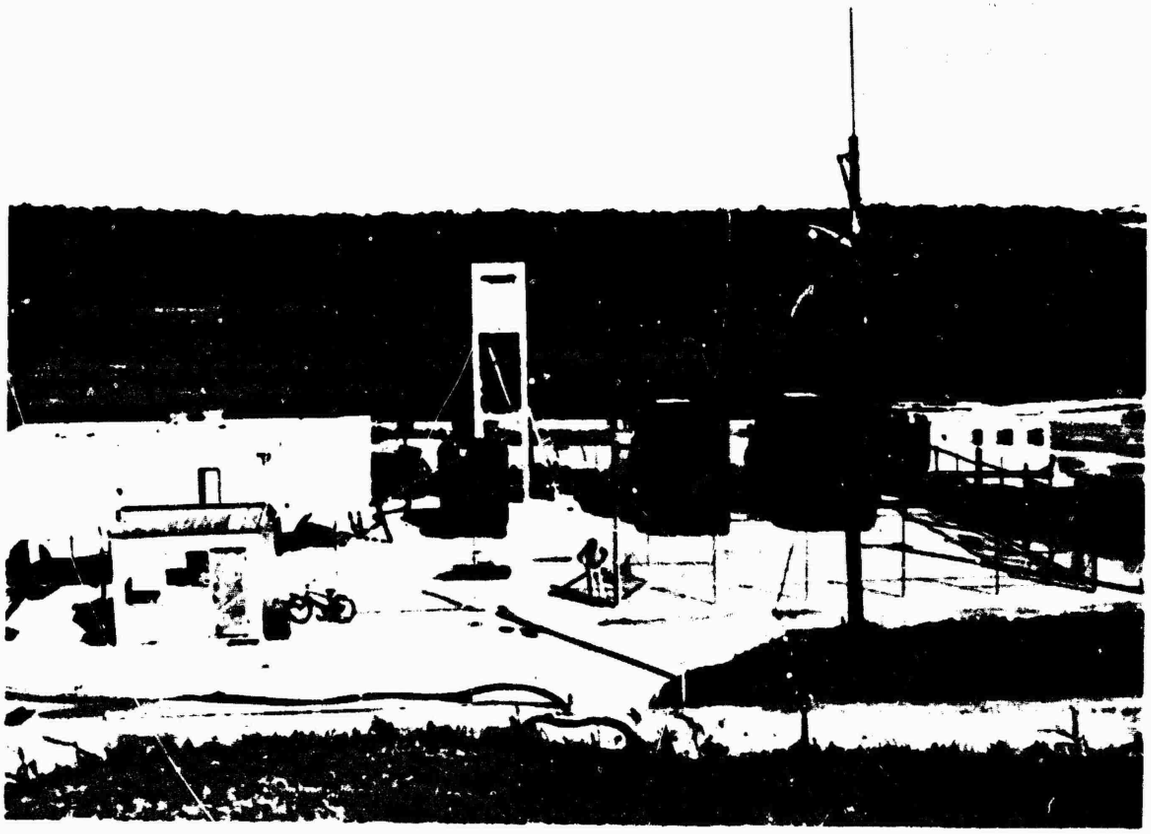


Figure 3-3. Facility Layout for MASSTER Test 122

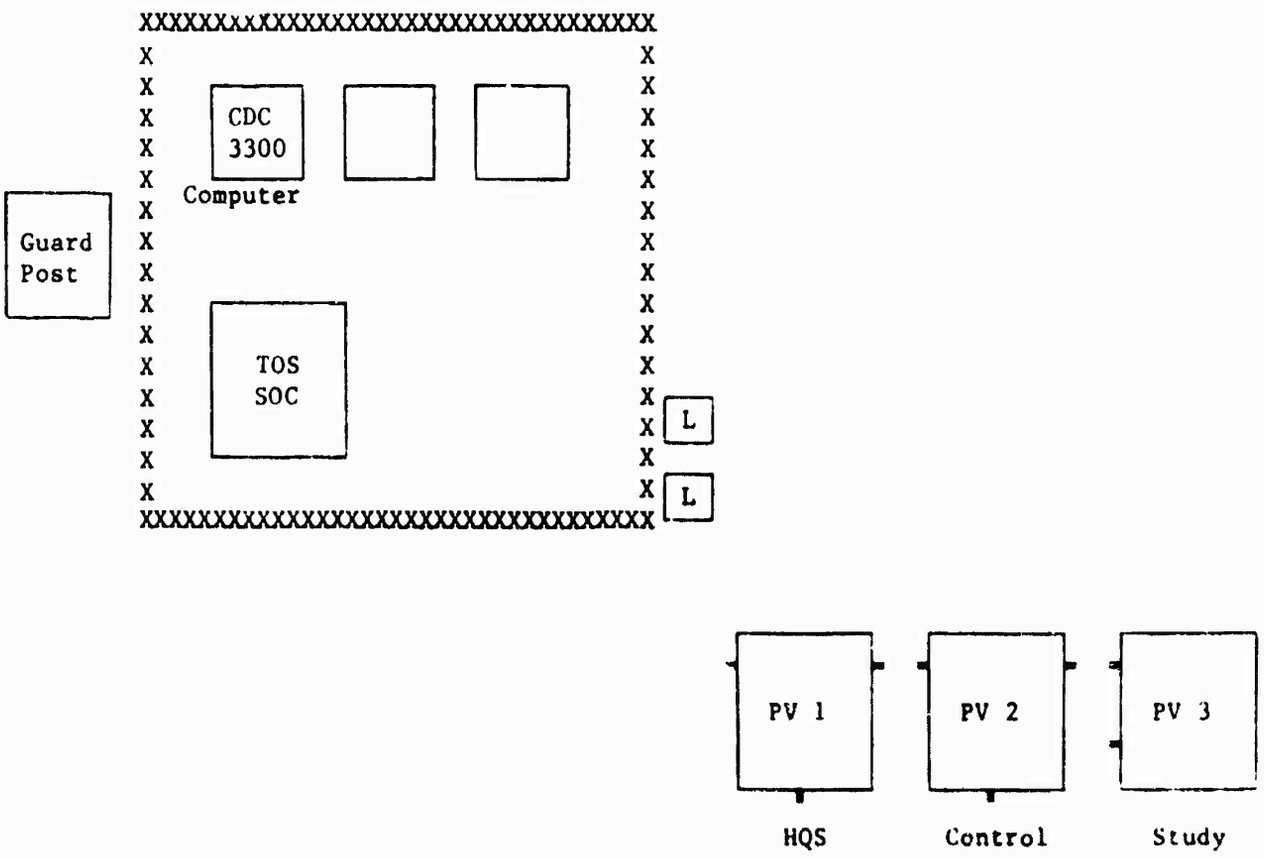


Figure 3-4. Diagram of the Facility Layout for MASSTER Test 122

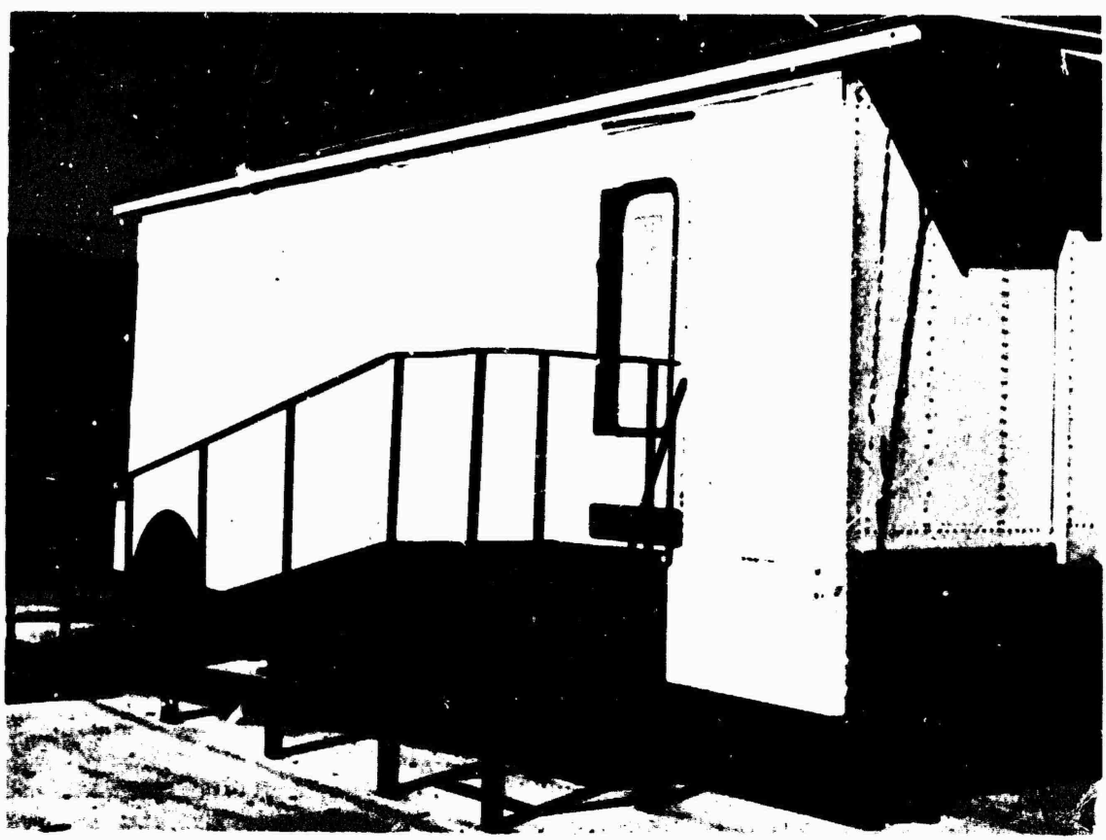


Figure 3-5. TOSSOC Van

5. Procedures

a. Initial Test Assignment: CSW, Tactics or GED Math

Subjects (maximum of 12) were met on arrival and directed to Portavan 3. They were asked to fill out the Introductory Form (Figure 3-6), and were then briefed on the purpose of MASSTER Test 122 (Appendix F contains this orientation briefing). While the briefing was being conducted, student record forms were pulled (Figure 3-7) and assignment made to one of the three subject areas based upon MOS Proficiency Subtest Scores for CSW or Tactics (usually the lower of the two) or, for GED, not having achieved a high school equivalency diploma (as shown on the student form and in the subject's statements on the Introductory Form). The appropriate pretest (half Version A and half Version B) was then pulled and inserted into the subject's manila folder along with the student record form.

b. Pretest

After the briefing, the 12 subjects were divided into two groups, six remaining in Portavan 3, and six going to Portavan 2. The pretests, half Version A and half Version B, were administered at this time. Figure 3-8 shows the instructions provided. Subjects were allowed as much time as they required to take the pretest. For each subject, the monitors noted the start time and end time on the test cover sheet. When finished, subjects were given a coffee break outside the Portavan. Subjects were not told their pretest scores until after the day's activities had been completed.

c. Assignment to Groups: AI, S or C

The pretests were scored (Figure 3-9). Those scoring too high were automatically assigned to an XC Group and treated as other subjects in the Control Group. The remaining subjects were assigned at random to the AI, S and C Groups by pulling a slip of paper from a cup and assigning the subject to the group specified on the slip. One stipulation was that there would be at least five (sometimes four) AI Group members each day in order to maximize use of computer

TEST DATA QUESTIONNAIRE

NAME Juan San Miguel DATE 7 Sept 73

SERVICE NO. (or SS No.) 457-76-2675 RECORDED BY

GRADE E-5 TIME IN GRADE 3 yrs MOS 11B40 AGE 25

JOB TITLE SQ Leader EDUCATION GED
(Grade completed or degree)

UNIT H Co 1st Bn 41st Inf 2nd I.D.

Are you in the USAFI GED High School Equivalency Program? Yes ____ No ✓

PHONE NUMBER 685-2936

Figure 3-6. Sample Introductory Form

ID NUMBER: 1. S7762675 2. 3. DATE: 9/7/73

NAME: SANMIGUEL JUAN GRADE: E05 SSAN: 457762675

PRIMARY MOS: 11B40 DUTY MOS: 11B40 RANK: SGT

GT SCORE: 1. C88 2. ECUCATION: A DATE OF BIRTH: 1 OCT 47

MOS 1: 08 UNIT: ADO

MOS 2: 11

MOS 3: 18

MOS 4: 18 PHONE NUMBER:

MOS T: 55

COURSE: CSW TOTAL TIME: START TIME: 0945 1150 1355 END TIME: 1120 1335 1505

MODULE: NUMBER OF FRAMES:

PRE: 11 VER: B TIME: 25 START TIME: 0840 END TIME: 0905

POST: 20 VER: A TIME: 14 START TIME: 1515 END TIME: 1529

GROUP ASSIGNED: (A1) S C MONITOR:

LESSON 1: TIME: NUMBER OF FRAMES: 1. 2.

LESSON 2: TIME: NUMBER OF FRAMES: 1. 2.

LESSON 3: TIME: NUMBER OF FRAMES: 1. 2.

LESSON 4: TIME: NUMBER OF FRAMES: 1. 2.

LESSON 5: TIME: NUMBER OF FRAMES: 1. 2.

INTERVIEW: DATE: START TIME: END TIME: INTERVIEWER:

RECORDS: HARDCOPY: DATE:

TAPE: TAPE NUMBER: DATE:

1. 4. 7.

2. 5. 8.

3. 6. 9.

Figure 3-7. Sample Student Record Form

NAME: _____ DATE: _____

SSAN _____ START TIME: _____

UNIT. _____ END TIME: _____

_____ 1._____2._____

LAW TEST

VERSION A

INSTRUCTIONS:

1. PLEASE ENTER YOUR NAME, SOCIAL SECURITY NUMBER, UNIT AND DATE AT THE TOP OF THE PAGE.

2. WAIT FOR THE MONITOR TO TELL YOU WHEN TO START. HE WILL ENTER THE START TIME.

3. LET THE MONITOR KNOW WHEN YOU HAVE FINISHED BY RAISING YOUR HAND. HE WILL ENTER THE END TIME.

4. YOU WILL NEED FIGURES 2, 4, 7, 9A THROUGH 9C TO TAKE THIS TEST. IF YOU DO NOT HAVE THEM, RAISE YOUR HAND AND THE MONITOR WILL GIVE THEM TO YOU.

5. WORK AT YOUR OWN PACE AND CHECK YOUR ANSWERS AS YOU GO.

WHEN YOU HAVE COMPLETED PUTTING IN YOUR NAME, SSAN NUMBER, UNIT AND DATE, AND ARE READY TO TAKE THE TEST, LET THE MONITOR KNOW BY RAISING YOUR HAND.

Figure 3-8. Sample Pretest Instructions



Figure 3-9. Scoring Tests in Portavan 1

consoles, and this many AI slips were always included in the cup. S and C slips, which constituted the remainder of slips in the cup, matched the number of usable subjects for that particular day, e.g., if 2 subjects out of 11 for a particular day were XC subjects, the cup would contain 9 slips broken down to 5 AI, 2 C, and 2 S slips. Assignment of the 9 subjects to the AI, S and C Groups was on a random basis.

d. Test Period

1. AI Group. The AI Group was signed in and issued a security briefing at the guard post, and then taken to the TOSSOC. After assignment to a console (Figure 3-10), students followed the printed instructions (Figure 3-11) and logged in with their student ID number, took the short INTRO lesson to become accustomed to the computer console, and then took their assigned course--Crew Served Weapons, Tactics or GED Math. Subjects remained on console until they had completed their course or the time period (average approximately 4 hours on console for all AI subjects) had elapsed (Figure 3-12). Students logged out for lunch when the PX truck arrived; after lunch, they logged in again and resumed where they had left off. They were free to take coffee or latrine breaks whenever they so desired during the day. Student activities were monitored and logged by the AI Group monitor.

2. Study Group. The Study Group was sent to Portavan 3 (Figure 3-13) and given the instructions and study group materials for their assigned study--Crew Served Weapons, Tactics or GED Math (Appendix G). These Study Group materials covered the same lesson areas as those taken by the AI Group on the computer; however, specific subject matter areas and field manuals or texts giving paragraphs and page numbers to be studied were cited for the Study Group.

Subjects remained in the Study Group for approximately 4 hours, which was the same amount of time that the AI Group averaged on the computer.



Figure 3-10. CRT Console in TOSSOC

When you see	Type (Exactly as spaced)
LOG IN OR END	(Your I.D. - example H2304163) then press the black SEND Button
ENTER COMMAND	GET INTRO - then press the black SEND Button
IDENTIFY YOURSELF	(Your I.D. - example H2304163) then press the black SEND button
When you take a break	>FINISHED - then press the black SEND button
When asked what course	A for Crew Served Weapon (LAW) B for Tactics C for GED Math THEN press the black SEND button

Figure 3-11. Instructions for AI Group



Figure 3-12. AI Group Taking Course

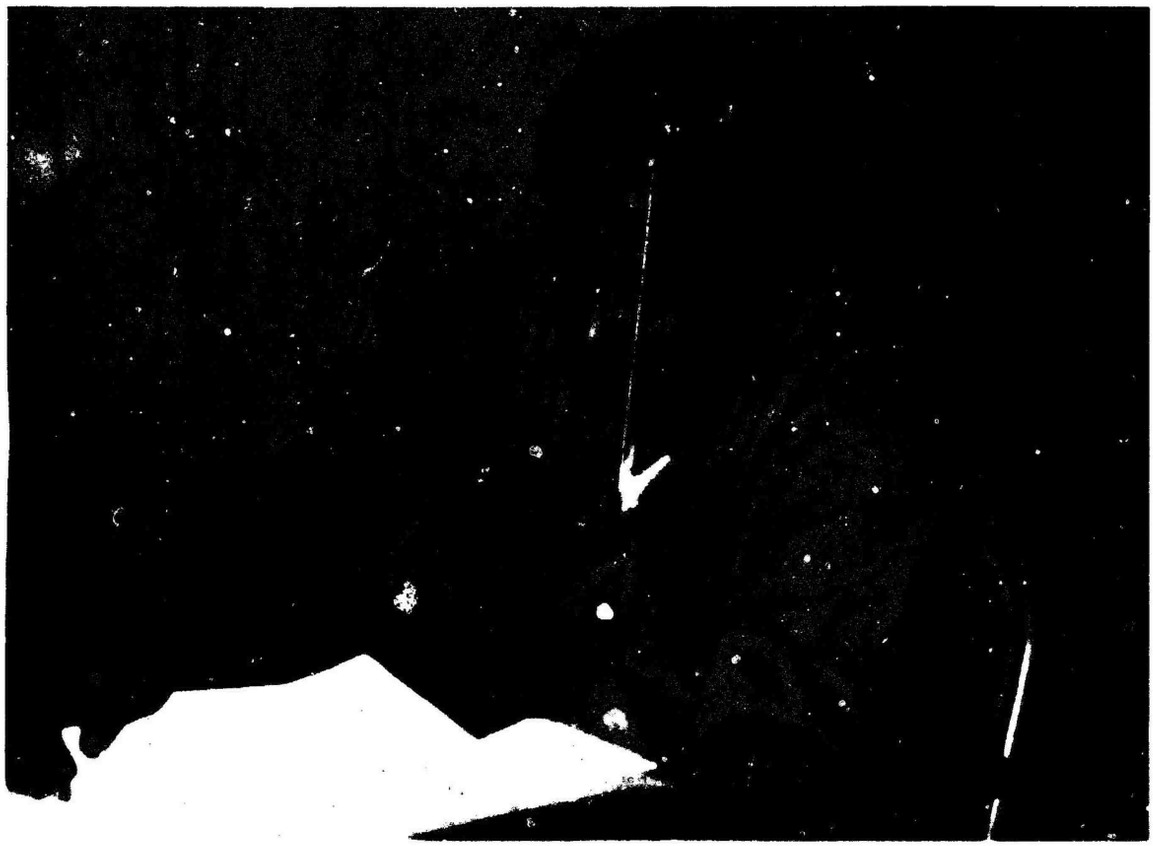


Figure 3-13. Study Group in Portavan 3

As in all groups, they were free to take coffee and latrine breaks whenever they so desired, and broke for lunch when the PX truck arrived.

The Study Group monitor remained in the Portavan during the study period but was instructed not to offer help or assistance on the materials studied.

3. Control Group. The Control Group was sent to Portavan 2 (Figure 3-14) and given instruction in the Alpha Dot Code (Figure 3-15), an experimental method of providing battlefield data to a computer data base using a small, cigarette package size electronic device containing six dots. (Refer to Appendix H for sample instruction and code sheets.) The subjects learned the alphabet, numerals, and punctuation marks using combinations of the six dots that resembled the way they normally would be printed.

After learning the alphabet, each subject practiced writing scripted messages on paper and pencil forms (Figure 3-16). When the required number of messages had been satisfactorily completed, the subject went on-line with the Alpha Dot Equipment, which was linked by phone line to the ARI center in Washington. Rate of transmission and error scores on each subject were then obtained.

Subjects spent approximately 4 hours training time on Alpha Dot, the same amount of time as the AI and Study Groups spent on their activities.

Basically, the Control Group activities during the 4-hour period kept these subjects occupied in activities unrelated to training in Crew Served Weapons, Tactics or GED Math. The Control Group also served the practical purpose of furnishing the U.S. Army Research Institute with subject experience in the use of the Alpha Dot system. Essentially, this was a partial study within a study, and the Alpha Dot results will be reported separately by ARI under the overall study of which it is a part.

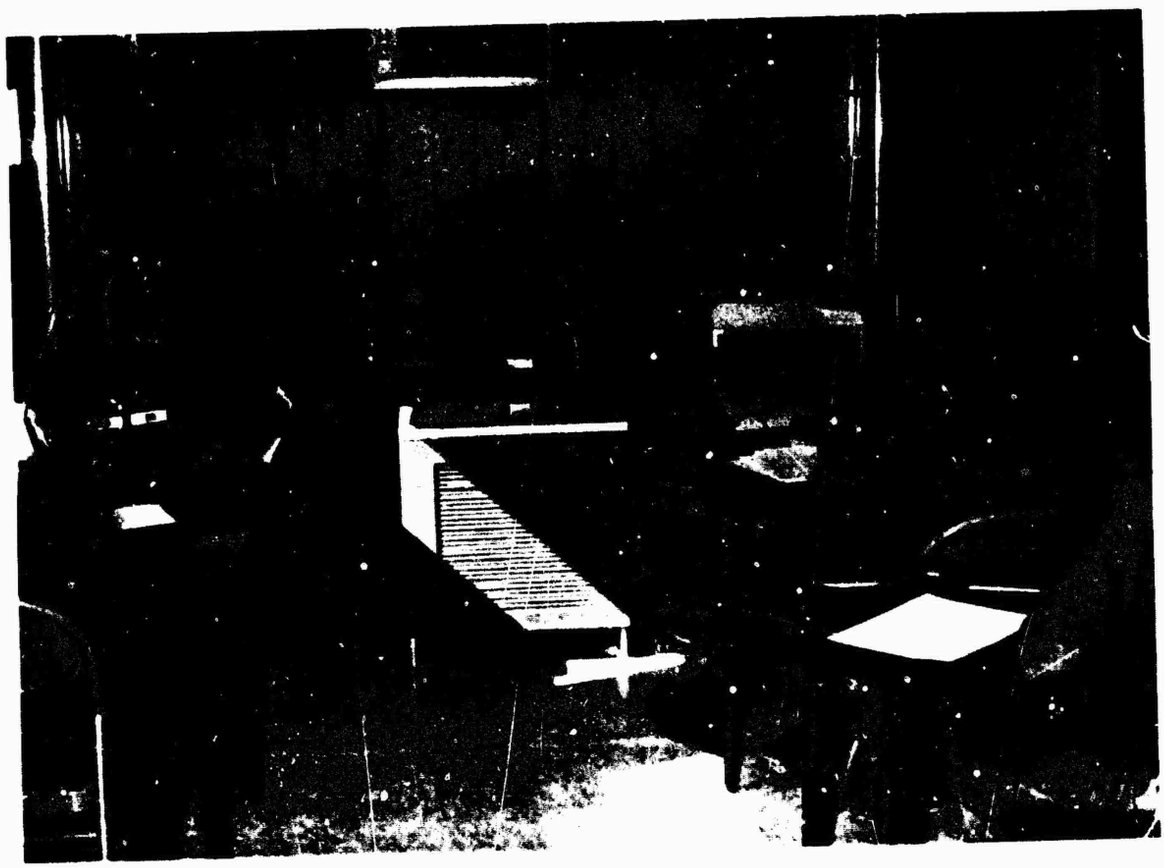


Figure 3-14. Control Group in Portavan 2



Figure 3-15. Control Group Monitor Demonstrating Alpha Dot Equipment to Test Subject

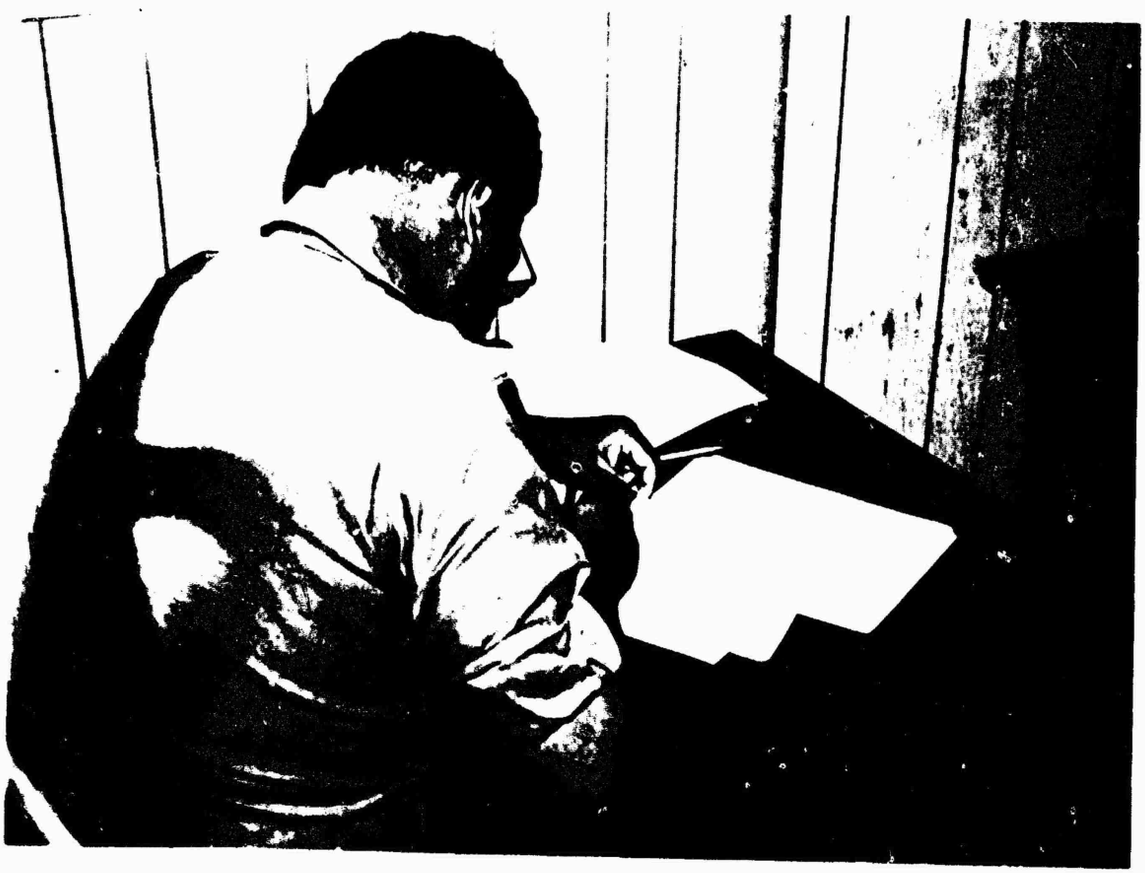


Figure 3-16. Control Group Learning the Alpha Dot System

e. Posttest

At the end of the test period, subjects were administered the posttest in Portavans 2 and 3. They took the opposite version of the pretest, e.g., Version A on pretest, Version B on posttest, and vice versa. Subjects were allowed as much time as they required to take the posttest. Monitors noted the start and end times on the test cover sheet for each subject. Monitors remained in the Portavans throughout the entire test period.

f. Interview

Following scoring of the posttest, subjects in the AI Group were interviewed in depth in regard to their experience with computer-assisted instruction (CAI) (Figure 3-17). SDC and ARI personnel conducted the interviews, using an interview form as a basis. The interviewer filled out the form based upon the subject's responses. Some questions were open ended and others required a specific answer. Two versions of the Crew Served Weapons and Tactics Interview Form were used: The second updated version changed the positive end of some questions from the beginning alternative to the end alternative and revised slightly, dropped or added certain questions. A separate questionnaire was used for the AI subjects taking GED Math. These interview forms are shown in Appendix I.

Interviews were recorded on SONY and CRAIG cassette tape recorders unless the subject objected to being recorded (one subject did object).

Interviews took place in each of the three Portavans, behind the Portavans and in cars parked near the vans--wherever space and sufficient quiet were available. At the beginning, two interviews were occasionally recorded in the same van at the same time. This resulted in some overlap of voices on the two concurrent interviews being recorded; furthermore, occasional telephones ringing, helicopters passing overhead, and trucks passing by on the road would be picked up by the sound track. These, however, were not disruptive.

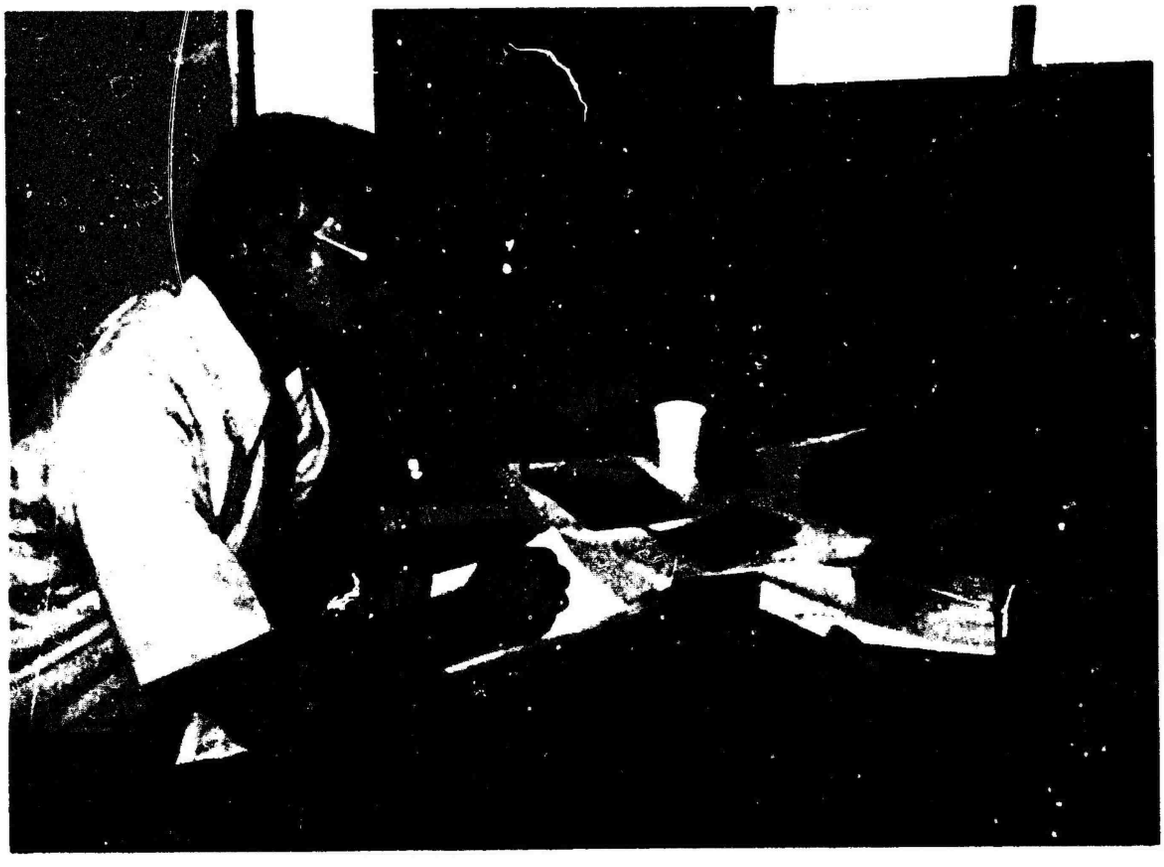


Figure 3-17. Interviewing AI Group Subject in Portavan 1

Section 4: ANALYSIS OF RESULTS

A. INTRODUCTION

The data were analyzed to determine the degree to which (1) significant gains in MOS subject matter learning took place as a result of AI training, and (2) this learning was comparable to or better than that obtained by current study procedures.

Subjects were preselected initially for either the Crew Served Weapons Study or Tactics Study on the basis of their MOS proficiency scores and GT scores. For additional details on this procedure, refer to Section 3. After being given a pretest appropriate to the study of which they became a part, they were assigned at random to one of three treatment groups: Automated Instruction (AI), Study (S) or Control (C). After experiencing their assigned treatment condition, they were given the posttest. The dependent variable used to determine the amount of learning that took place was the gain score, i.e., the posttest score minus the pretest score on an instrument expressly designed to measure MOS relevant subject matter in the area being trained. Independent student's t tests were made to determine the statistical significance of critical experimental differences, namely those occurring between the AI Group and the Control Group and the AI Group and the Study Group.

A series of analyses was conducted in order to test for possible contaminating influences in the data that might have affected the validity of the critical experimental comparisons. Another series of analyses dealt with attitudinal data gathered from interviews with AI subjects concerning the relative acceptability of computerized training by military personnel. Still another series of analyses sought to isolate pertinent learning concepts in computerized field military training that might be of value in assisting the Army to establish such training on a sound footing.

B. RESULTS OF THE CREW SERVED WEAPONS STUDY

1. Statistical Analysis

a. Comparison of AI, S and C Group Performance

(1) Critical Comparisons

The two critical comparisons of this study are between: (1) the AI and Control Groups and (2) the AI and Study Groups. The statistics upon which these comparisons are made are shown in Table 4-1.

TABLE 4-1. RESULTS OF THE CREW SERVED WEAPONS STUDY

TREATMENT GROUP	n	MEAN PRETEST SCORE (Var. 6)	MEAN POSTTEST SCORE (Var. 7)	PERCENT INCREASE PRETEST TO POSTTEST	MEAN GAIN SCORE (Var. 25)	GAIN SCORE STANDARD DEVIATION
AI	33	10.273	18.667	82%	8.394	3.082
S	13	10.077	15.615	54%	5.538	3.755
C	13	10.384	12.538	21%	2.154	2.996

The AI Group had a mean gain score of 8.394, an 82% increase in proficiency over their pretest scores. The Control Group had a mean gain score of 2.154, a 21% increase in proficiency over their pretest scores. The difference in mean gain score between the AI and Control Groups is 6.240 (8.394 - 2.154). The t test was used to determine if this difference was statistically significant. With 44 degrees of freedom and a standard error of the difference of 1.002, this difference produces a t ratio of 6.23, which is significant at the .01 level (.01 significance = ratio of 2.69). The t ratio shows that the possibility of the mean difference of 6.240 occurring by chance is remote. Consequently, this difference can be attributed to training given the AI Group. The significant t ratio and the 82% increase in proficiency are positive statistical and practical evidence that learning takes place by means of automated instruction.

The Study Group had a mean gain score of 5.538, a 54% increase in proficiency over their pretest scores (as compared to 82% for the AI Group, a difference of 28% in favor of the AI Group). The difference in mean gain score between the AI and Study Groups is 2.856 (8.394 - 5.538). With 44 degrees of freedom and a standard error of the difference of 1.074, this difference produces a t ratio of 2.66 in favor of the AI Group, which is significant at the .05 level (.05 = t of 2.02, .01 = t of 2.69). *The significant t ratio and a 52% increase in proficiency over the Study Group* $\left(\frac{82\% - 54\%}{54\%} = 52\%\right)$ *are positive statistical and practical evidence that learning by means of automated instruction is more effective than study group methods of training.*

Although not as germane to the study, the differences between the Study Group and Control Group produced a t ratio of 2.54 which, with 24 degrees of freedom, is significant at the .05 level (.05 = t ratio of 2.06, .01 = t ratio of 2.80). *Thus the Study Group also had a significant gain in learning when compared to the Control Group, although not as great as that of the AI Group.*

(2) Equivalence of AI, S and C Groups

A number of variables were examined to determine whether, in spite of random assignment to the three groups, one or more groups were favored (biased) in regard to background variables or pretest scores and pretest time. The means and standard deviations on these variables are shown in Table 4-2. Posttest score and time and gain score are also included to present the test data as well. The frequency distributions for these variables are provided in Attachment A.

The results in Table 4-2 show that the mean scores for the three groups are about the same, which indicates that the effects of these variables were virtually cancelled out by the random assignment of test subjects to the AI, S, and C Groups. The one variable that has the greatest difference is GT score (Var. 26), where the Control Group had a mean of 108, while the AI and Study Groups had means near 100. The difference is not regarded as having a serious

effect on the critical comparisons made above, since the correlations of GT Score (Var. 26) and pretest score (Var. 6) was low (.26), and the difference was in favor of the Control Group.

TABLE 4-2. CREW SERVED WEAPONS STUDY GROUP MEANS AND STANDARD DEVIATIONS

VARIABLE NAME (NO.)	AI GROUP (n=33)		STUDY GROUP (n=13)		CONTROL GROUP (n=13)	
	M	SD	M	SD	M	SD
GT Score (26)	100.2	8.9	100.7	11.0	108.3	12.8
Education (4)	12.3	1.6	12.1	1.8	12.1	2.1
Age (5)	28.4	5.6	30.9	6.0	29.6	5.3
Paygrade (2)	5.7	0.6	5.9	0.5	5.8	0.6
MOS Test 1 (9)	13.0	3.1	12.9	2.5	13.5	3.2
MOS Test 2 (10)	13.5	2.8	14.2	2.6	12.7	2.9
MOS Test 3 (11)	17.5	3.3	17.2	2.7	15.8	3.1
MOS Test 4 (12)	21.9	3.2	21.8	3.3	22.2	3.5
MOS Test Total (13)	65.9	8.6	66.1	8.4	64.2	10.5
Pretest Time (21)	25.6	6.3	26.2	4.9	25.6	7.6
Pretest Score (6)	10.3	2.7	10.1	2.5	10.4	3.1
Posttest Score (7)	18.7	3.5	15.6	3.1	12.6	3.1
Posttest Times (23)	15.0	5.2	22.9	4.9	20.5	8.3
Gain Score (25)	8.4	3.1	5.5	3.8	2.2	3.0

(3) Differences in Posttest Time

Although the mean pretest time (Var. 21) for the AI, S and C Groups in Table 4-2 were within 1/2 minute of each other, averaging 25.73 minutes overall, the mean posttest time (Var. 23) for the three groups differed considerably. The AI Group averaged 15.00 minutes, the Study Group 22.92 minutes, and the Control Group 20.46 minutes. *On the average, the Study Group took 8 minutes or 53% longer to complete the posttest than the AI Group. Based upon feedback obtained during the interview, this indicates that the AI Group was more confident of their knowledge and skills than the Study Group, and were able to answer the test questions more quickly as well as more accurately.*

(4) Intercorrelation of Variables

The intercorrelation matrix for each of the three groups for the variables listed in Table 4-2 are given in Attachment B. These matrices are computed from the individual values shown in Attachment C. The correlation coefficients, rounded to two decimal places without the decimal point, are shown in the upper half of each matrix, while the number of subjects on which each coefficient was based is shown in the lower half of each matrix.

Of particular interest in the intercorrelation matrices is the relationship of pretest (Var. 6), posttest (Var. 7), and gain score (Var. 25) to GT score (Var. 26) for each of the three CSW groups--AI, S and C. These have been plotted in Figures 4-1, 4-2, and 4-3. Posttest and pretest scores are plotted on the y axis and GT score on the x axis. The legend explains the entries. Maximum test score is 25. The correlation between gain score and GT for the AI Group is -.14 (Figure 4-1); for the S group, .04 (Figure 4-2); and for the Control Group, -.01 (Figure 4-3). The difference of .18 (-.14 and .04) between the AI and S Groups is well within chance differences; however, the direction of the differences is worth noting. *Apparently, learning crew served weapons by means of automated instruction minimizes the effect of GT score (a measure of general aptitude or learning ability).*

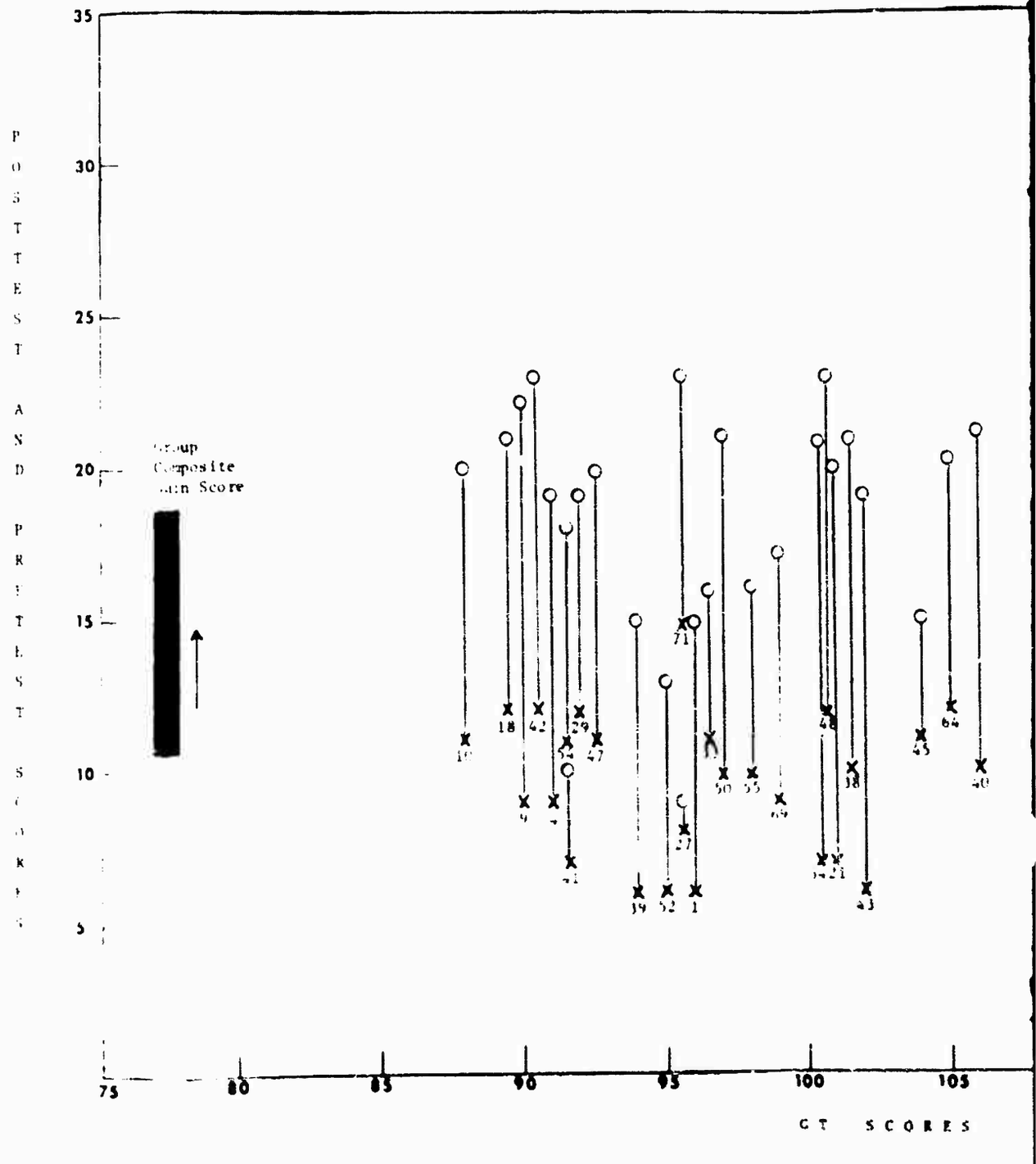
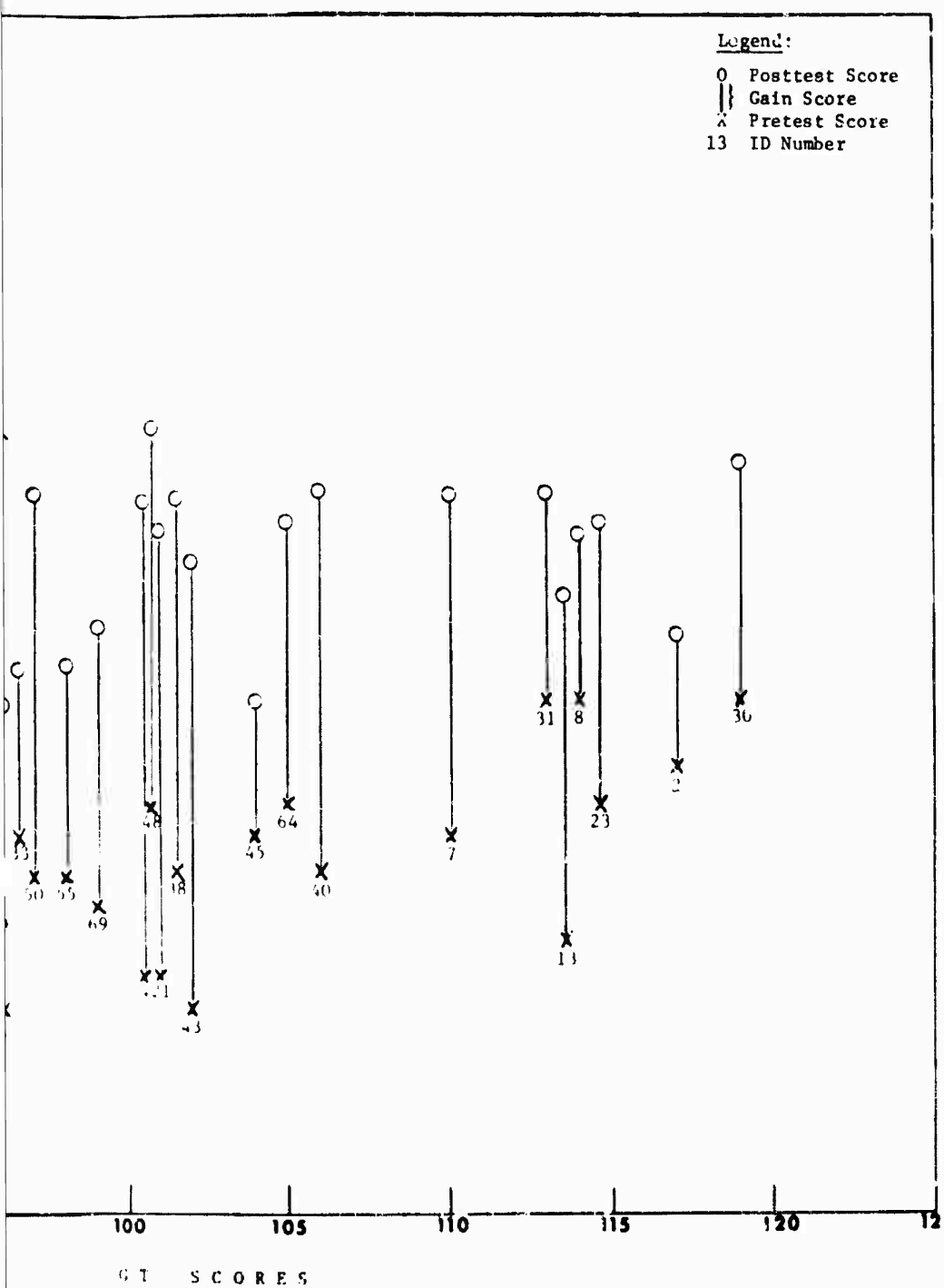


Figure 4-1. Relationship of Pretest, Posttest and Gain Scores (Var. 25) to GT Scores (Var. 26) for CSW A1 (Correlation between Gain and GT is -.14)



Scores (Var. 26) for CSW AI Subjects (n = 33)

2

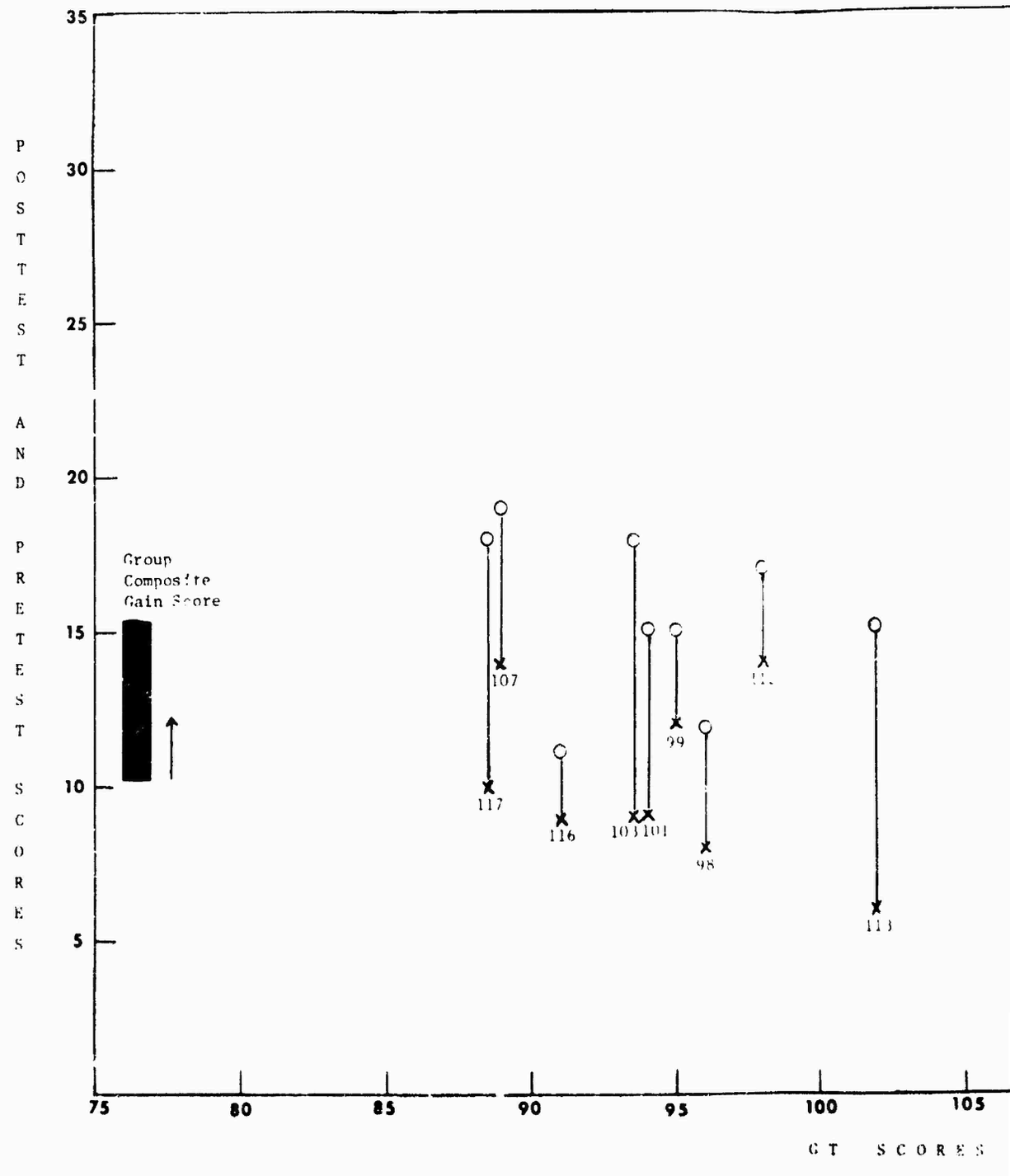
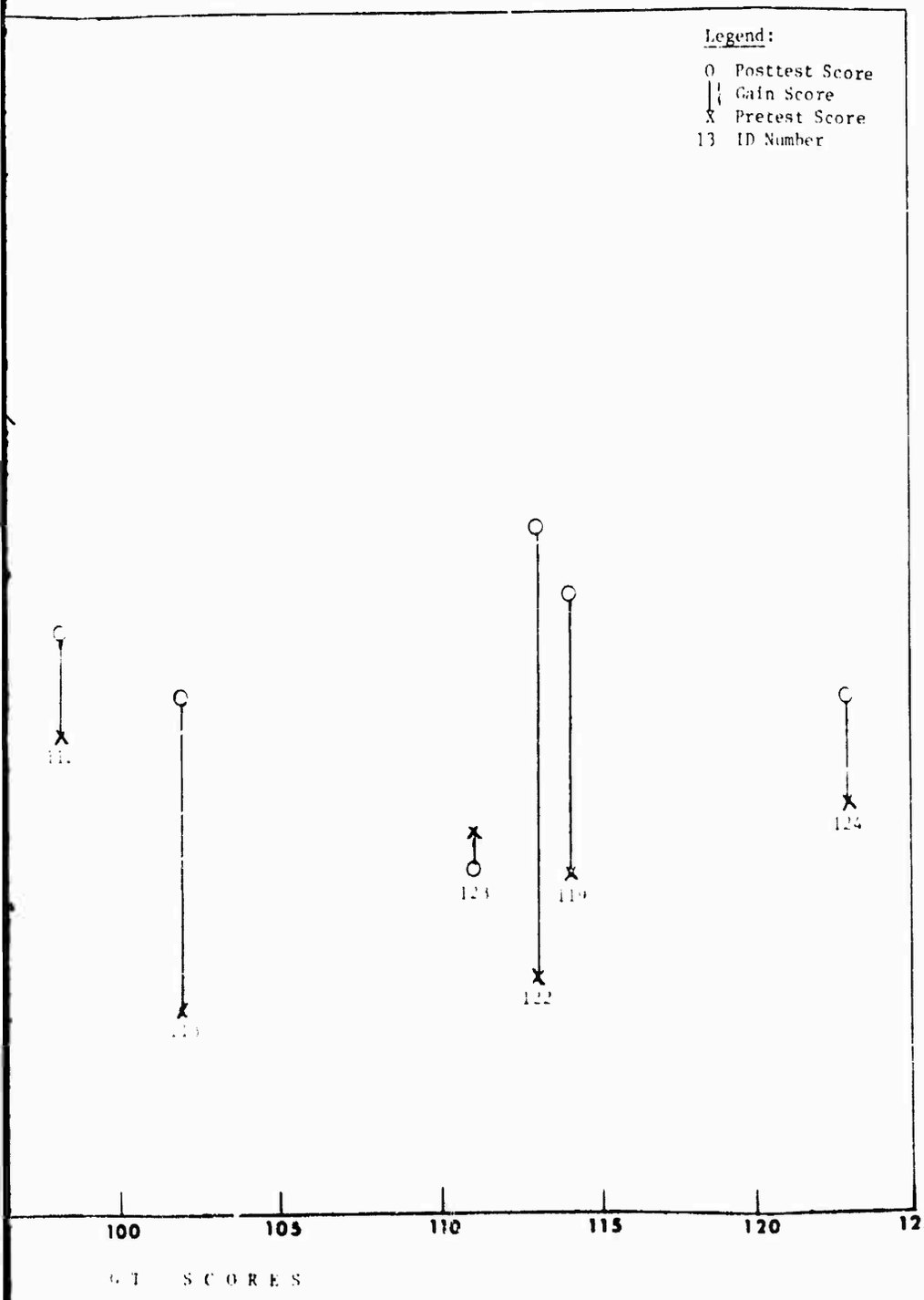


Figure 4-2. Relationship of Pretest, Posttest and Gain S
(Correlation between Gain and GT is .04)



est, Posttest and Gain Scores (Var. 25) to GT Scores (Var. 26) for CSW S Subjects (n = 13)
Gain and GT is .04)

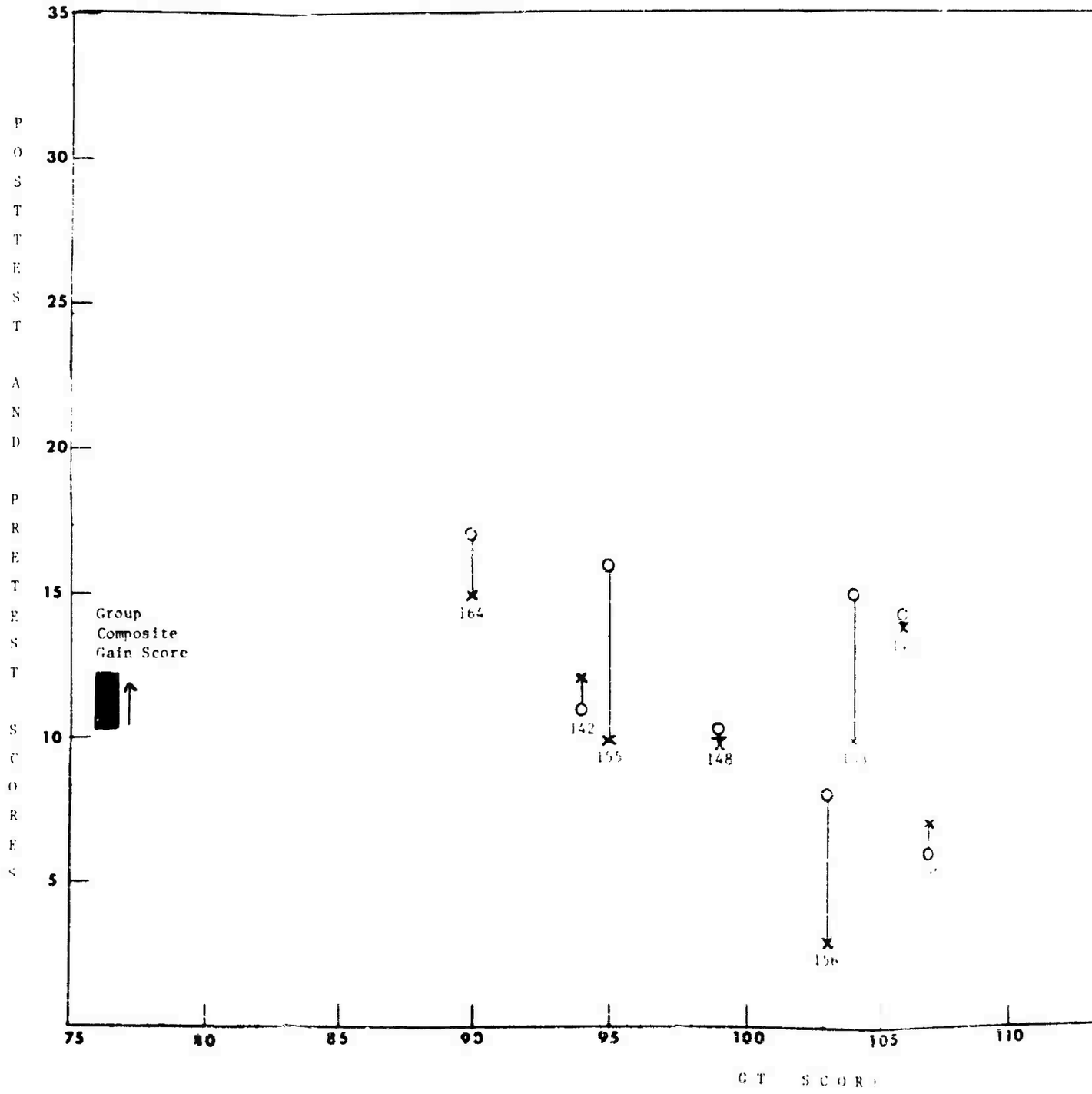
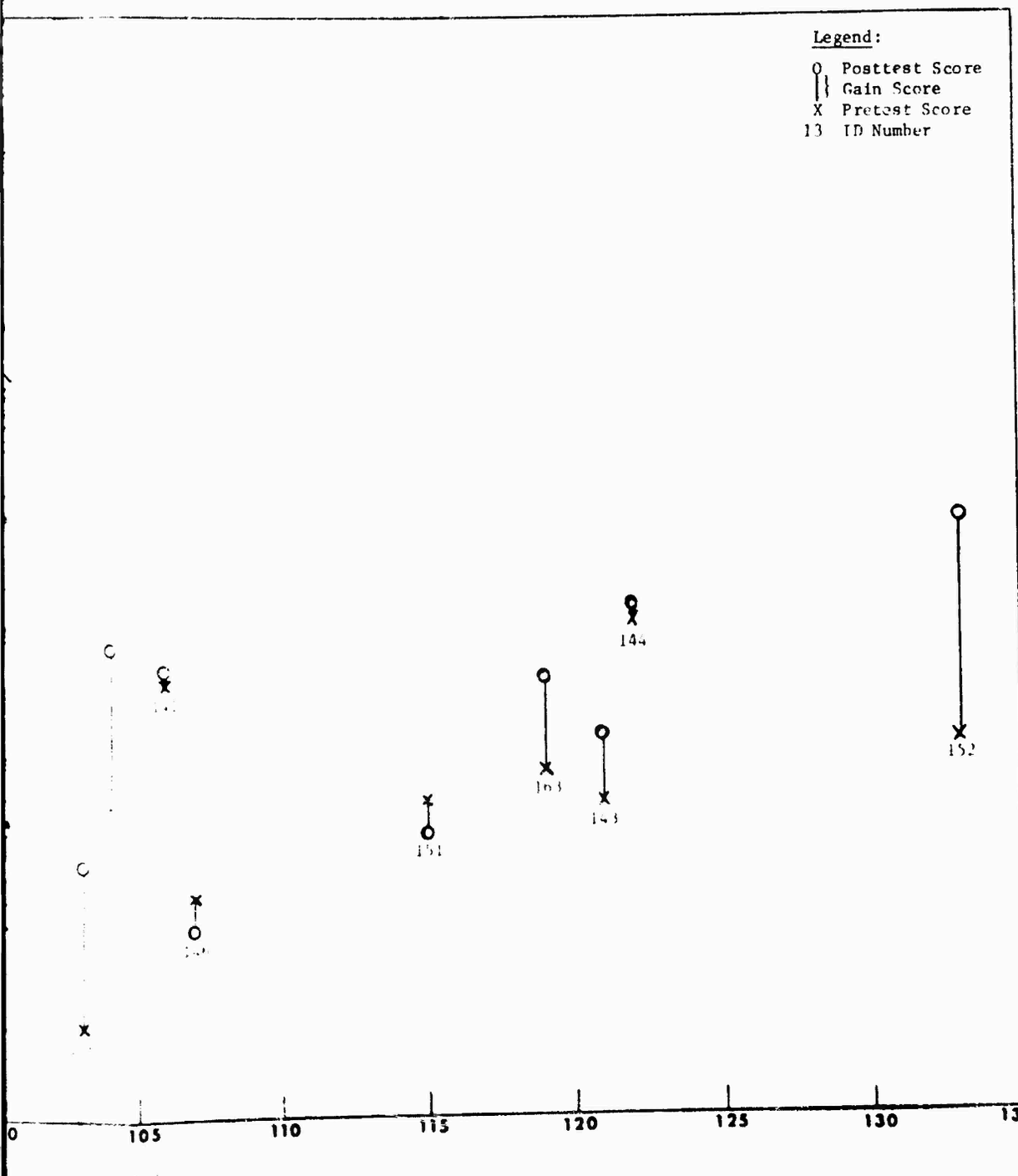


Figure 4-3. Relationship of Pretest, Posttest and Gain Scores (Var. 25) to GT Scores (Var. 26) for CSW C
(Correlation between Gain and GT is -.01)



of Scores (Var. 26) for CSW C Subjects (n = 13)

In comparing gain scores for the AI and S Groups (Figures 4-1 and 4-2), especially in the below-100 GT range, the AI Group was markedly consistent in showing substantial gain scores compared to the S Group. This is particularly evidenced in comparing the number of AI subjects who scored 20 or above, 18 (55%), versus the number of S subjects, 1 (8%), who scored 20 or above. Since not all AI subjects finished the LAW course in the allotted time period, the posttest and gain scores shown for the AI Group in Figure 4-1 would have been expected to increase still further as compared to those for the S Group, had they been allotted time to finish.

b. Analysis of AI Group Results

(1) Introduction

There were 77 variables analyzed for the 33 subjects in the CSW AI Group. The frequency distributions of scores for each variable are shown in Attachment D. The means, standard deviation and range of scores for each variable and the intercorrelation matrix for the 77 variables are presented in Attachment E. Scores for each subject are shown in Attachment F. As previously explained, coefficients rounded by two decimal places without the decimal point are shown in the upper half of each matrix, while the number of subjects on which each coefficient is based is shown in the lower half of each matrix.

(2) The Relation of Paygrade, Education, and Age to Automated Instruction

The intercorrelation matrix in Attachment E shows that paygrade (Var. 2), education (Var. 4), and age (Var. 5) have low negative correlations, from -.05 to -.15, with gain score (Var. 25). These correlations, well within chance probabilities, indicate that there is no evident relationship between these variables and learning by means of automated instruction. Thus, automated instruction appears to be effective across age groups, across education level, and across the paygrades of the 11B40 population.

(3) The Relation of GT Score to Automated Instruction (AI)

GT score is derived by combining the verbal (VE) and arithmetic reasoning (AR) scores on the Army Classification Battery (ACB) and dividing by 2. GT is considered a measure of general aptitude or ability to learn. Combat arms personnel, many of whom are in the lower ranges of GT score, are considered to present special problems in training for the military services.

The results of this study show that the automated instruction method of training applies equally well to both high and low GT groups. As shown in Figure 4-1, subjects in the lower GT scores have posttest scores which compare favorably to those with higher GT scores. The 10 subjects with the lowest GT scores had an average posttest score of 18.7 and the 10 highest, an average of 19.5. There is less than a 1-point difference between the two. The correlation between GT score (Var. 26) and gain score (Var. 25) is -.14, which is well within chance probability.

Results indicate that automated instruction is an effective method of providing weapons (LAW) training across the range of 11B40 GT scores. Automated instruction weapons training has the effect of reducing or overcoming the verbal handicaps usually associated with lower GT scores. If this finding continues to be substantiated, it will have an important bearing on how MOS training can be conducted.

(4) ow the AI Group Took the Course

The course variables are Total FL Frames (Var. 31), Total Entries (Var. 35), Total Course Time (Var. 39), FL Frames per Minute (Var. 43), Entries per Minute (Var. 47), and Entries per FL Frame (Var. 51). Frequency distributions, means and standard deviations for the variables are shown by variable number in Attachment D; the means, standard deviations, and low and high scores (range) are provided in Attachment E.

There were four lessons in the CSW (LAW) course. The FL Frames (Var. 31) for each are as follows:

Lesson Name	FL Frame	Cumulative FL Frames
LAW1	81	81
LAW2	77	158
LAW3	69	227
LAW4	59	286

Twenty-four of the 33 AI Group subjects completed or almost completed the course in the time period allotted, 1 was in Lesson 4 and the other 8 had completed or were in Lesson 3. The specific number of FL Frames reached, i.e., the stopping point for each subject, is given in the frequency distribution for Var. 31, Total FL Frames, in Attachment D.

The total course time (Var. 39) for the 33 subjects averaged 224 minutes and ranged from 158 minutes to 300 minutes.

The speed with which FL Frames were executed is given by the FL Frames per Minute (Var. 43 in Attachment E). The fastest execution rate, 1.75 per minute, is approximately 3 times the slowest, .58 per minute. The fastest Entries per Minute (Var. 47) execution rate is approximately 2-1/2 times the slowest, from 2.26 per minute to .91 per minute. However, the number of Entries per FL Frame (Var. 51) is only .47 times, from 1.16 to 1.70. *This indicates a difference in speed of execution but little difference in the number of executions, in terms of how the AI Group took the course.*

(5) How Slow Learners Took the Course

To get an answer to this question, a ratio was obtained for each AI subject from the data contained in Attachment F. The Total Entries (Var. 35) for each subject was divided by the Total FL Frames (Var. 31), which was the minimum fast line (FL) path to the point reached by the subject in the course. This ratio is the number of entries made for each FL Frame.

The ratios for the fastest 16 and the slowest 16 (ignoring the middle entry) on Total Course Time (Var. 39) are as follows:

Fastest 16 (below 221 Minutes)		Slowest 16 (above 229 Minutes)	
Entries Per FL Frame (Var. 51)	Time	Entries Per FL Frame (Var. 51)	Time
1.22	(203)	1.27	(233)
1.32	(212)	1.52	(251)
1.32	(192)	1.50	(253)
1.50	(191)	1.60	(270)
1.40	(207)	1.33	(234)
1.27	(210)	1.34	(262)
1.35	(200)	1.34	(242)
1.67	(211)	1.42	(246)
1.21	(200)	1.22	(230)
1.41	(220)	1.70	(300)
1.16	(175)	1.56	(250)
1.19	(162)	1.38	(239)
1.25	(158)	1.62	(233)
1.36	(212)	1.48	(240)
1.30	(164)	1.38	(260)
1.56	(218)	1.56	(300)
Total 19.49		Total 23.22	
Mean 1.34		Mean 1.45	
n = 16		n = 16	

The slowest 16 subjects made .11 entries (1.45 - 1.34) more per FL Frame than the fastest 16. This amounts to one additional entry every nine FL Frames reached. This relatively small difference would indicate that the slower learners went through the AI course in the same way as the fast learners and simply required more time to read and comprehend the material.

2. Analysis of 11B40 Personnel Attitude toward Automated Instruction (AI)

Following the posttest, subjects in the AI Group were interviewed to determine any problems they had had in regard to automated instruction and their reactions to CAI. A questionnaire (revised early in the study) was used by each interviewer to structure the interview and record the responses. The original and revised questionnaires with the variable number and scoring for each question are shown in Appendix I. Thirty of the 33 interviews were recorded satisfactorily on cassette tapes. Of the three not recorded, one subject objected to being recorded, and equipment problems were encountered in regard to the other two. Responses to the questionnaire (Vars. 58 through 122) are contained in Attachment E (means, standard deviations and low and high scores) and Attachment D (frequency distributions). The positive end of the alternatives was scored highest, e.g., very effective scored 5; effective, 4; etc.

The response of 11B40 personnel is overwhelmingly in favor of automated instruction. They were virtually unanimous:

- In liking automated instruction (Var. 58) and in believing their MOS test score would be significantly improved (Var. 77)
- In stating that the computer method is more effective than Army classroom instruction (Var. 78) and self-study methods (Var. 79)
- In being willing to volunteer to take AI (Var. 83)
- In thinking this method of instruction is effective (Var. 67)
- In stating that instructions for using the equipment were easy to understand (Var. 59)
- In believing that new methods of training such as AI would make Army instruction better (Var. 94) and more interesting (Var. 95)
- In their ability to place the LAW in operation (Var. 87), estimate target range (Var. 88) and fire the LAW (Vars. 89 and 90).

A cross-section of comments made by 11B40 personnel during the interviews are recorded in Appendix J. These comments elicit the following characteristics:

- Characteristics of Automated Instruction
  1. Quiet
  2. Work at own pace
  3. Provides feedback
  4. Individualized instruction
  5. No disruption as in classroom
  6. Not an adversary situation
  7. Individual teaching himself
  8. Requires positive action to progress satisfactorily
- Characteristics of Course Development
  1. Easy to understand
  2. Material has continuity and integration
  3. Builds on knowledge of subject--remedial, if required
  4. Considered accurate by the student
  5. Provides the facts without the B.S.
  6. Eliminates unnecessary material
- Characteristics of the Learner
  1. Challenge
  2. Mastery over equipment
  3. Can understand what is said
  4. Rewarding situation, sense of individual progress and achievement, able to advance in the lesson
  5. Measured achievement--right or wrong--difference in pretest and posttest.

The variations in student patterns of progress through the lessons, the fact that learning did occur, and the observed attentiveness of subjects during the AI learning, all tend to corroborate the interview statements.

3. Discussion of Findings

a. Introduction

In reviewing the results of the study, two basic comparisons were made between the Automated Instruction (AI) Group and the Control (C) Group and between the AI and Study (S) Groups. Mention should be made about the Study Group conditions. In preparing for their MOS proficiency tests, 11B40 personnel are typically given a list of references which cite the field manuals (in numerical order) and the chapters in those manuals which they are to study. Each individual then has to obtain the field manuals and organize and integrate the material in some manner or other; presumably, the better organized the individual, the better use is made of the time spent studying the material. In any case, the individual has no positive knowledge of where he stands in terms of how much he knows or doesn't know in regard to the material.

In this study, the Study Group, like the AI Group and the Control Group, took the pretest. Even though the individual was not given his score on the pretest, he did have some idea of whether he did or did not know the answers to the questions asked. In the study period, the Study Group was given the applicable field manuals and a set of instructions (see Appendix H) which cited the field manuals, noted the topics to be covered, and referenced the applicable page. The topics are organized to present a logical beginning, a logical sequence and a logical ending for the instructional period. This pretesting, organization of material and availability of complete and up-to-date documentation probably enhance the integration of material, the effective use of time and the motivation of 11B40 personnel in the Study Group considerably beyond what would normally be expected were they left on their own. Furthermore, the outside distractions of TV, radio, having a beer, or family interaction have also been eliminated. It is reasonable to expect that, were 11B40 personnel left to their own devices, the Study Group results obtained would normally be less than those in this study. In other words, the structure of the study tended to enhance the effect of Study Group performance. This

fact should be kept in mind in interpreting the comparative results between the AI and Study Groups. It should also be remembered in structuring the learning situation for the student--regardless of the media used.

b. Learning Taking Place - Gain Score

The significant differences in gain score between the AI Group and the Control Group show that learning takes place by means of automated instruction. The significant differences in gain score between the Study and Control Groups shows that learning also takes place by means of organized self-study in a classroom situation. The significant differences in gain score between the AI and Study Groups shows that automated instruction is more effective than organized self-study in a classroom situation.

The Automated Instruction Group was 84% better than the Study Group in comparison with the Control Group. When the AI and Study Groups only are compared, the AI Group was 51% better than the Study Group. These results provide positive statistical and practical evidence that automated instruction is better than study methods of instruction.

The significant differences in learning in favor of automated instruction can not be accounted for by differences between the AI, S and C Groups in pretest score, pretest time, paygrade, age, education, or MOS proficiency test score, as these were essentially the same for all three groups. There was a significant difference in GT score only in favor of the Control Group over the AI Group and the Study Group, and virtually no differences between the AI and Study Groups. The fact that Control Group had higher GT scores has no material effect on the results obtained.

c. Posttest Time - A Measure of Confidence

Mean pretest times for the AI, S and C Groups were within 1/2 minute of each other, averaging 25.73 minutes overall. However, the posttest time differed radically: the AI Group averaged 15.00 minutes, the Study Group 22.92 minutes, and the Control Group 20.46 minutes.

This time difference (in conjunction with significantly higher gain scores for the AI Group) can perhaps be considered a measure of confidence in he knowledge and skills learned, i.e., knowing you are right. This phenomenon is borne out by statements made by the AI subjects during the conduct of their interviews, and can be attributed to the fact that in AI instruction, the subject was tested throughout the course and given positive feedback to that effect. This element of knowing you are right when you are right and wrong when you are wrong is apparently missing in the classroom or when self-study methods are employed. As one qualified NCO drill instructor aptly expressed it, "It gave me confidence in the knowledge I already had," and, in addition, "It covered the whole weapon. When you came out of there, you knew a hell of a lot more than you did when you went in." Another NCO expressed it this way, "Makes you confident because when you walk out, you know the subject."

d. Attitude toward AI

The response to and acceptance of automated instruction by 11B40 personnel in this study is striking as indicated by the recorded responses to questions asked during the interview. The taped interviews show not only an acceptance of automated instruction, but an enthusiastic response to this method of training. All 33 AI subjects, for example, would voluntarily go to a computer learning center to take AI in preparation for their MOS proficiency test. Many volunteered to come back the following day or on the weekend to take additional AI courses.

e. Applicability of AI to Training Army Personnel in Combat Arms

While the sample population of subjects is fairly small (n=33), they do cover a fairly wide range of 11B40 personnel. Their length of service ranges from 4 to 19 years, in paygrades 5, 6 and 7; GT scores range from 88 to 119; ages range from 21 to 45. The sample includes men of different races and different ethnic backgrounds, including Spanish-speaking personnel; consequently, they can be considered a fair cross-section of Army NCOs in the Infantry and other combat arms. Therefore, the results obtained in this study can be expected to be replicated with other groups of NCOs in the combat arms.

f. Applicability of AI to 11B40 Personnel with Lower GT Scores

The results indicate that 11B40 personnel with lower GT scores are brought up to a level of performance that compared favorably with the performance of personnel with higher GT scores. The 10 subjects with the lowest GT scores had an average posttest score of 18.7, and the 10 subjects with the highest GT scores had an average of 19.5.

This result is important in considering methods of training to increase the performance level of NCOs in the lower GT score brackets. It also has some bearing on the general Army problem of training personnel in the lower range of GT scores. Applying these results to the total Army population should be approached cautiously, however, as NCOs are a select group and those NCOs with low GT scores may not be representative of the full range of Army personnel in the lower GT brackets.

g. Applicability of AI to Those with English-Language Problems

Interviews with Spanish-speaking personnel and others in this study who have problems comprehending the English language indicated that automated instruction allows them the opportunity to read and re-read the material until it is understood. They indicated that language problems make it difficult to understand instructors and to ask questions in class; field manuals provide no

diagnosis and feedback. Automated instruction apparently overcomes these language problems and provides a positive, nonthreatening learning experience for these 11B40 personnel.

h. Use of Tactical Computers for MOS Training

The results show that an automated instruction system (PLANIT) was successfully installed in the DEVTOS tactical computer and run in the tactical configuration with 11B40 personnel to provide MOS training. This study demonstrates that tactical computers can be used for MOS training.

C. RESULTS OF THE TACTICS STUDY

1. Introduction

The Tactics Study represents a completely parallel investigation to the Crew Served Weapons Study. Its design, conduct and purpose were identical in every way except that the course content and the 11B40 subjects were employed different. This study, therefore, constitutes a scientific replication of the CSW AI experiment, accompanied by a change in subject matter content. Thus, if the results of the Tactics Study corroborate the findings for the Crew Served Weapons Study, this would provide strong scientific support for the generality of AI training in the combat arms.

2. Statistical Analysis

a. Comparison of AI, S and C Group Performance

(1) Critical Comparisons

The two critical comparisons of this study are between: (1) The AI and Control Groups and (2) The AI and Study Groups. The statistics upon which these comparisons are made are shown in Table 4-3.

TABLE 4-3. RESULTS OF THE TACTICS STUDY

TREATMENT GROUP	n	MEAN PRETEST SCORE (Var. 6)	MEAN POSTTEST SCORE (Var. 7)	PERCENT INCREASE PRETEST TO POSTTEST	MEAN GAIN SCORE (Var. 25)	GAIN SCORE STANDARD DEVIATION
AI	34	10.353	18.324	77%	7.971	3.099
S	14	10.143	15.000	48%	4.857	3.840
C	13	9.769	9.077	- 7%	-0.692	2.428

The AI Group had a mean gain score of 7.971, a 77% increase in proficiency over their pretest scores. The Control Group had a mean gain score of -0.692, a 7% decrease in proficiency over their pretest scores. The difference in mean gain score between the AI and Control Groups is 8.663 (7.971 - -0.692). The t test was used to determine if this difference was statistically significant. With 45 degrees of freedom and a standard error of the difference of 0.957, this difference produces a t ratio of 9.05, which is significant at the .01 level (.01 significance = ratio of 2.69). The t ratio shows that the possibility of the mean difference of 8.663 occurring by chance is remote. Consequently, this difference can be attributed to the training given the AI Group. *The significant t ratio and the 77% increase in proficiency are positive statistical and practical evidence that learning takes place by means of automated instruction.*

The Study Group had a mean gain score of 4.857, a 48% increase in proficiency over their pretest scores (as compared to 77% for the AI Group, a difference of 29% in favor of the AI Group). The difference in mean gain score between the AI and Study Groups is 3.114 (7.971 - 4.857). With 45 degrees of freedom and a standard error of the difference of 1.56, this difference produces a t ratio of 2.95 in favor of the AI Group, which is significant at the .01

level (.01 = t of 2.69). *The significant t ratio and a 60% increase in proficiency over the Study Group* $\left(\frac{77\% - 48\%}{48\%} = 60\%\right)$ *are positive statistical and practical evidence that learning by means of automated instruction is more effective than study group methods of training.*

Although not as germane to the study, the differences between the Study Group and Control Group produced a t ratio of 4.45 which, with 25 degrees of freedom, is significant at the .01 level (.01 = t ratio of 2.80). Thus the Study Group also had a significant gain in learning when compared to the Control Group, although not as great as that of the AI Group.

(2) Equivalence of AI, S and C Groups

A number of variables were examined to determine whether, in spite of random assignment to the three groups, one or more groups were favored (biased) in regard to background variables or pretest scores and pretest time. The means and standard deviations on these variables are shown in Table 4-4. Posttest score and time and gain score are also included to present the test data as well. The frequency distributions for these variables are provided in Attachment

The results in Table 4-4 show that the mean scores for the three groups are about the same, which indicates that the effects of these variables were virtually cancelled out by the random assignment of test subjects to the AI, S, and C Groups. The one variable that has the greatest difference is GT score (Var. 26), where the Control Group had a mean of 97.3, while the AI and Study Groups had means of 102.2 and 102.7, respectively. These differences are not regarded as having a serious effect on the critical comparisons made above, since they are not statistically significant and the correlations of GT Score (Var. 26) and pretest score (Var. 6) was low (.17)

TABLE 4-4. TACTICS STUDY GROUP MEANS AND STANDARD DEVIATIONS

VARIABLE NAME (NO.)	AI GROUP (n=34)		STUDY GROUP (n=14)		CONTROL GROUP (n=13)	
	M	SD	M	SD	M	SD
GT Score (26)	102.2	8.8	102.7	11.8	97.3	7.6
Education (4)	12.3	1.5	12.4	1.3	12.0	1.6
Age (5)	28.8	5.0	28.1	4.4	26.8	4.0
Paygrade (2)	5.5	0.6	5.7	0.7	5.2	0.4
MOS Test 1 (9)	14.0	3.6	13.0	3.3	12.6	3.2
MOS Test 2 (10)	15.8	2.5	15.4	2.6	14.7	3.1
MOS Test 3 (11)	14.3	2.6	14.6	2.7	12.8	3.8
MOS Test 4 (12)	22.1	4.2	21.4	4.6	20.9	4.6
MOS Test Total (13)	65.8	9.7	64.3	10.1	61.1	11.8
Pretest Time (21)	33.6	8.8	33.1	9.5	30.2	4.7
Pretest Score (6)	10.3	3.0	10.1	3.2	9.8	3.0
Posttest Score (7)	18.3	3.7	15.0	4.6	9.1	4.0
Posttest Time (23)	18.1	5.6	25.0	6.1	18.7	3.5
Gain Score (25)	8.0	3.1	4.9	3.8	- 0.7	2.4

(3) Differences in Posttest Time

Although the mean pretest time (Var. 21) for the AI and S Groups in Table 4-4 were within 1/2 minute of each other, the mean posttest time (Var. 23) for the AI and S Groups differed considerably. The AI Group averaged 18.09 minutes, and the Study Group 25.00 minutes. *On the average, the Study Group took 7 minutes or 28% longer to complete the posttest than the AI Group. Based upon feedback obtained during the interview, this indicates that the AI Group was more confident of their knowledge and skills than the Study Group, and were able to answer the test questions more quickly as well as more accurately.* It should be noted that the Control Group answered the posttest questions as quickly as the AI Group, but with no increase in performance over their pretest scores.

(4) Intercorrelation of Variables

The intercorrelation matrix for each of the three groups for the variables listed in Table 4-4 are given in Attachment H. These matrices are computed from the individual values shown in Attachment I. The correlation coefficients, rounded to two decimal places without the decimal point, are shown in the upper half of each matrix, while the number of subjects on which each coefficient was based is shown in the lower half of each matrix.

Of particular interest in the intercorrelation matrices is the relationship of pretest (Var. 6), posttest (Var. 7), and gain score (Var. 25) to GT score (Var. 26) for each of the three Tactics groups--AI, S and C. These relationships have been plotted in Figures 4-4, 4-5, and 4-6. Posttest and pretest scores (and gain score) are plotted on the y axis and GT score on the x axis. The legend explains the entries. Maximum test score is 28.

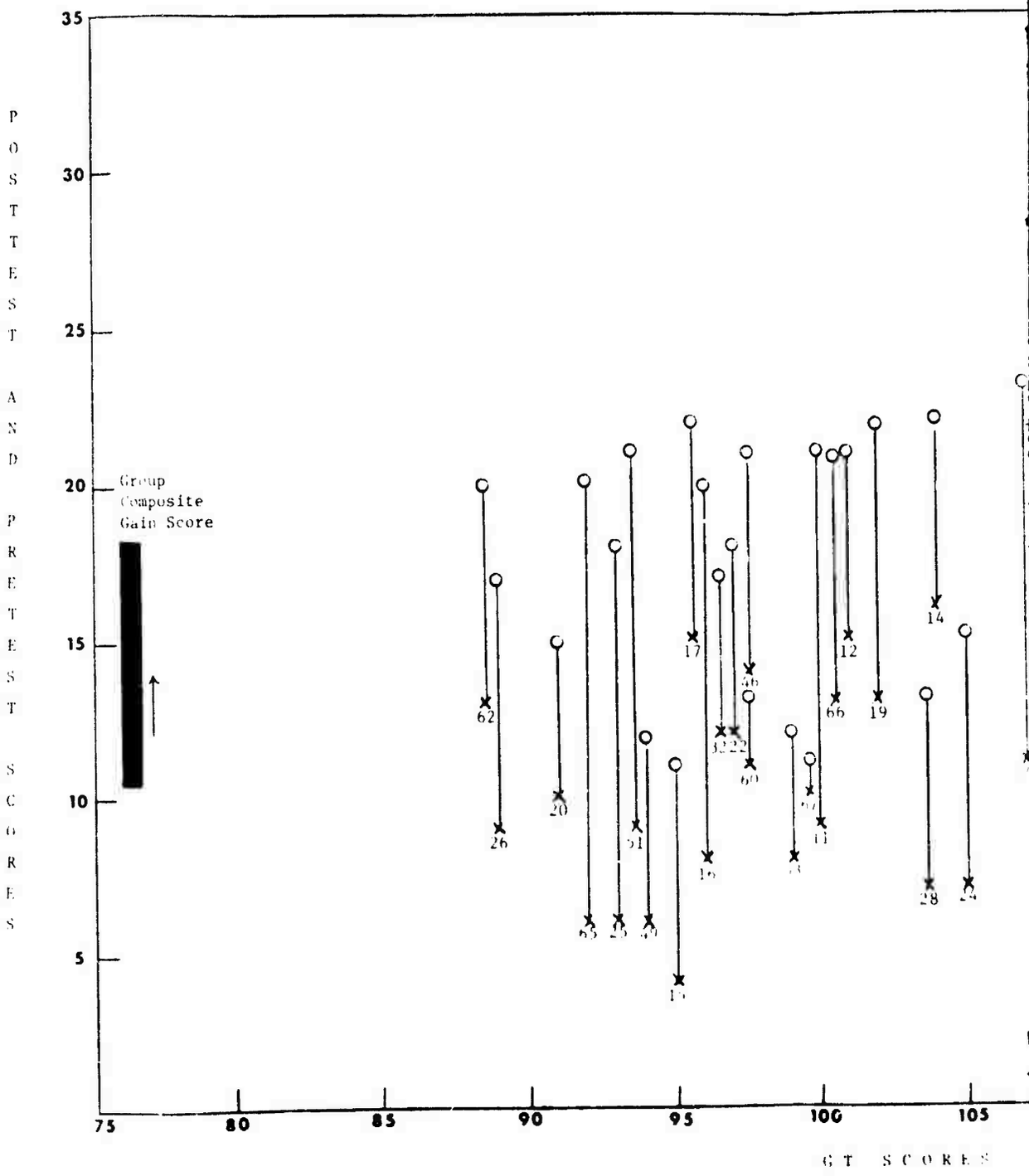
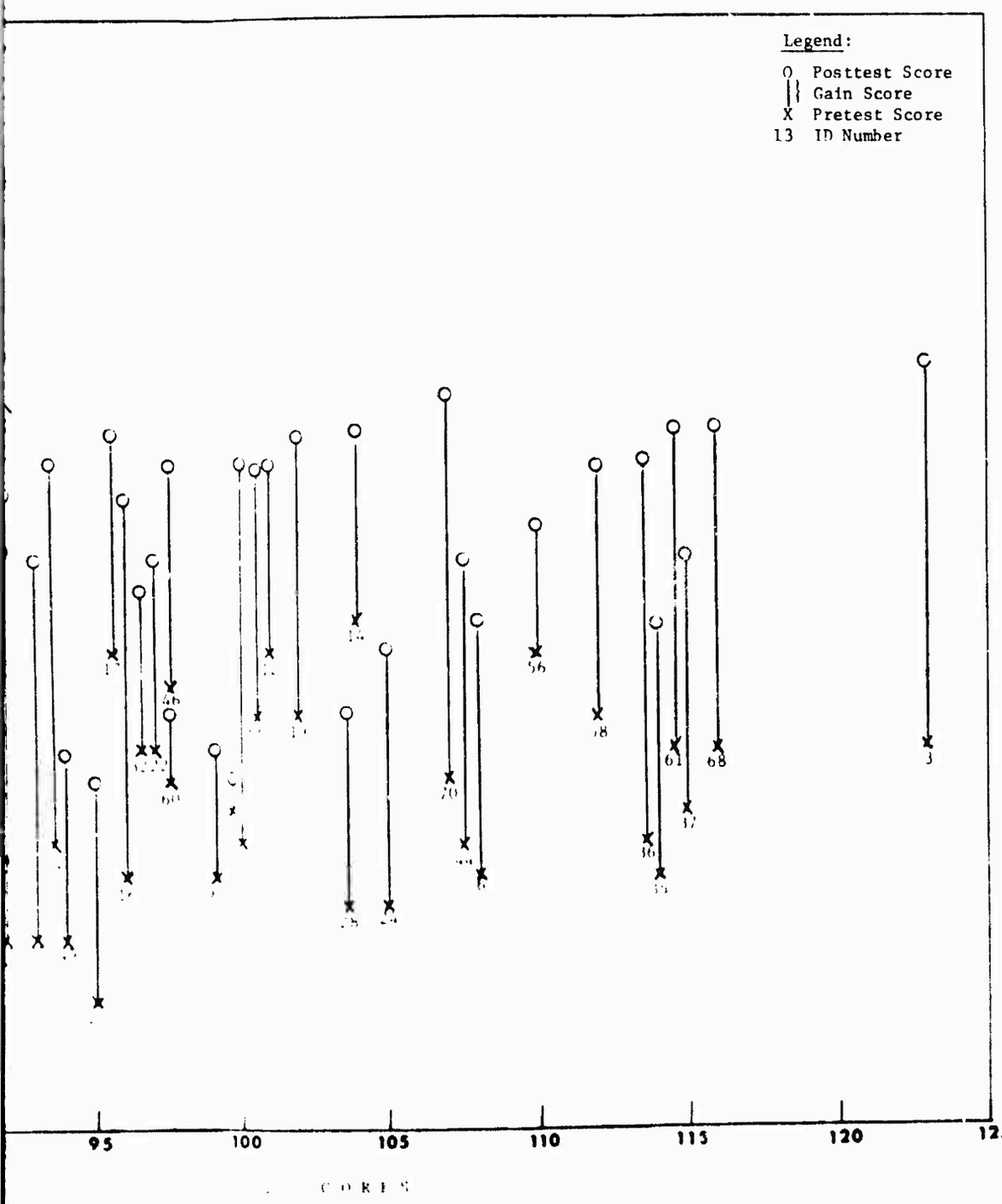


Figure 4-4. Relationship of Pretest, Posttest and Gain Scores (Var. 25) to GT Scores (Var. 26) for TAC A
(Correlation between Gain and GT is .19)



25) to GT Scores (Var. 26) for TAC AI Subjects (n = 34)

2

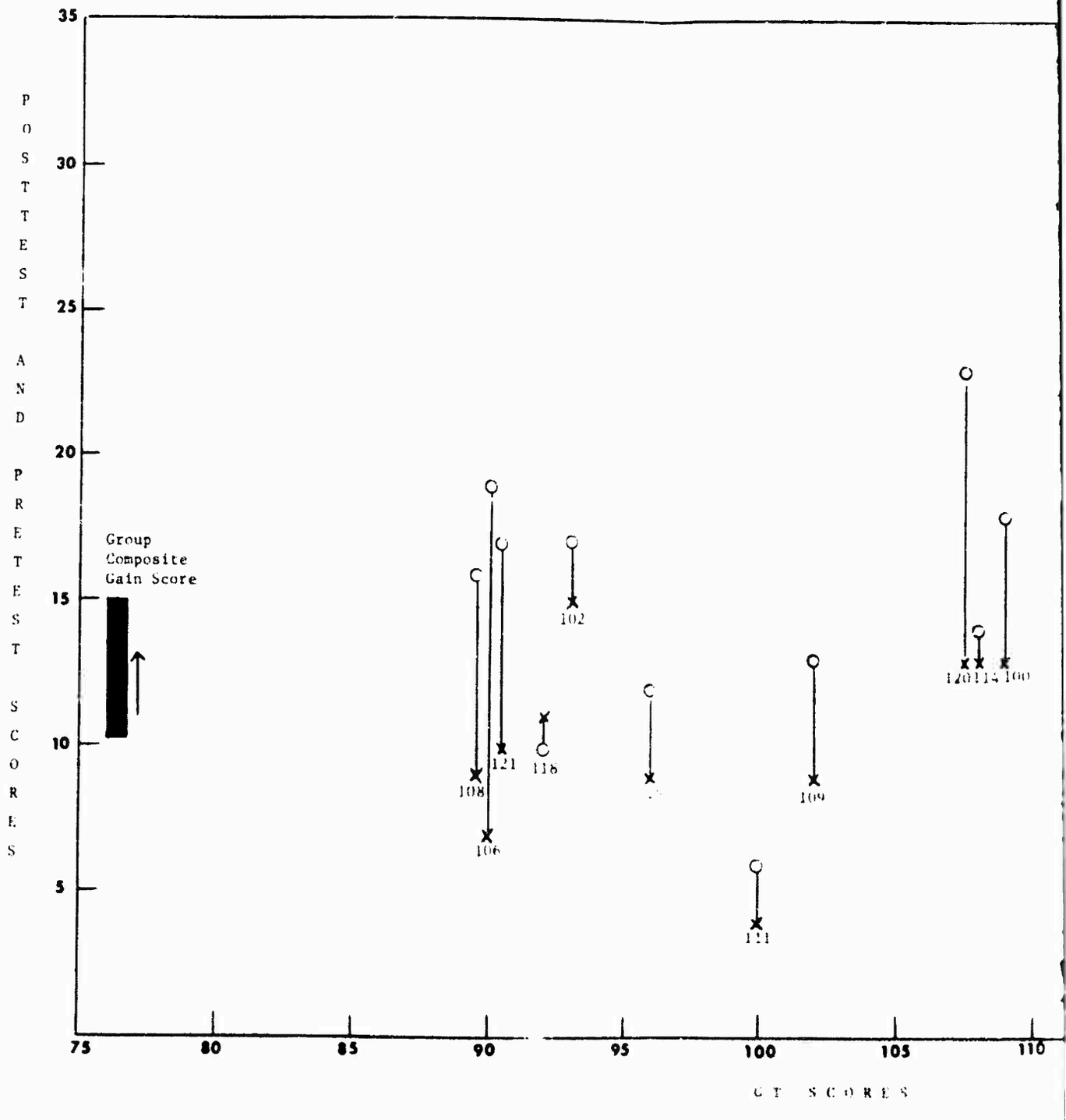
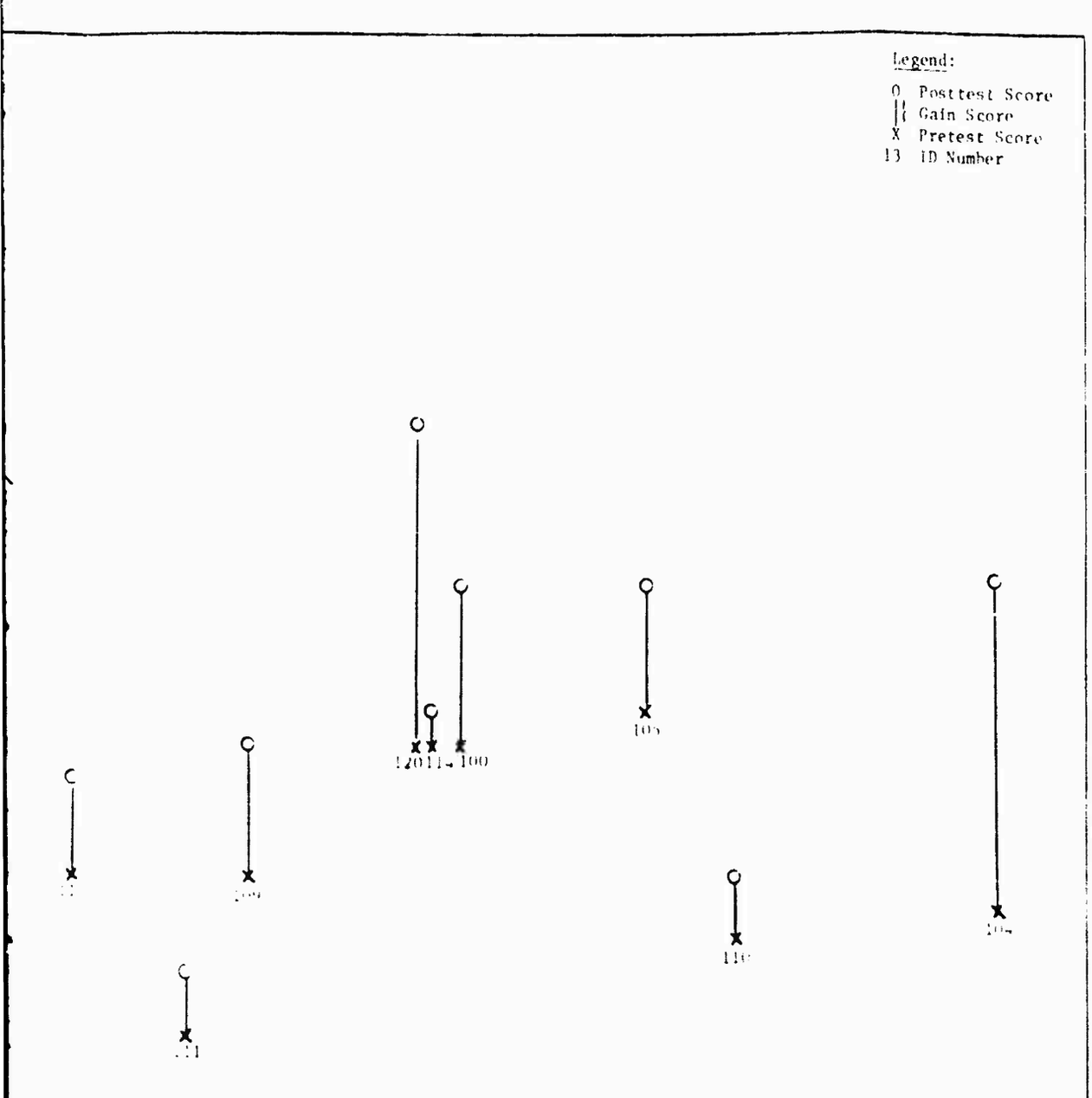


Figure 4-5. Relationship of Pretest, Posttest and Gain Score
(Correlation between Gain and GT is .08)



nship of Pretest, Posttest and Gain Scores (Var. 25) to GT Scores (Var. 26) for TAT S Subjects (n = 14)
ation between Gain and GT is .08)

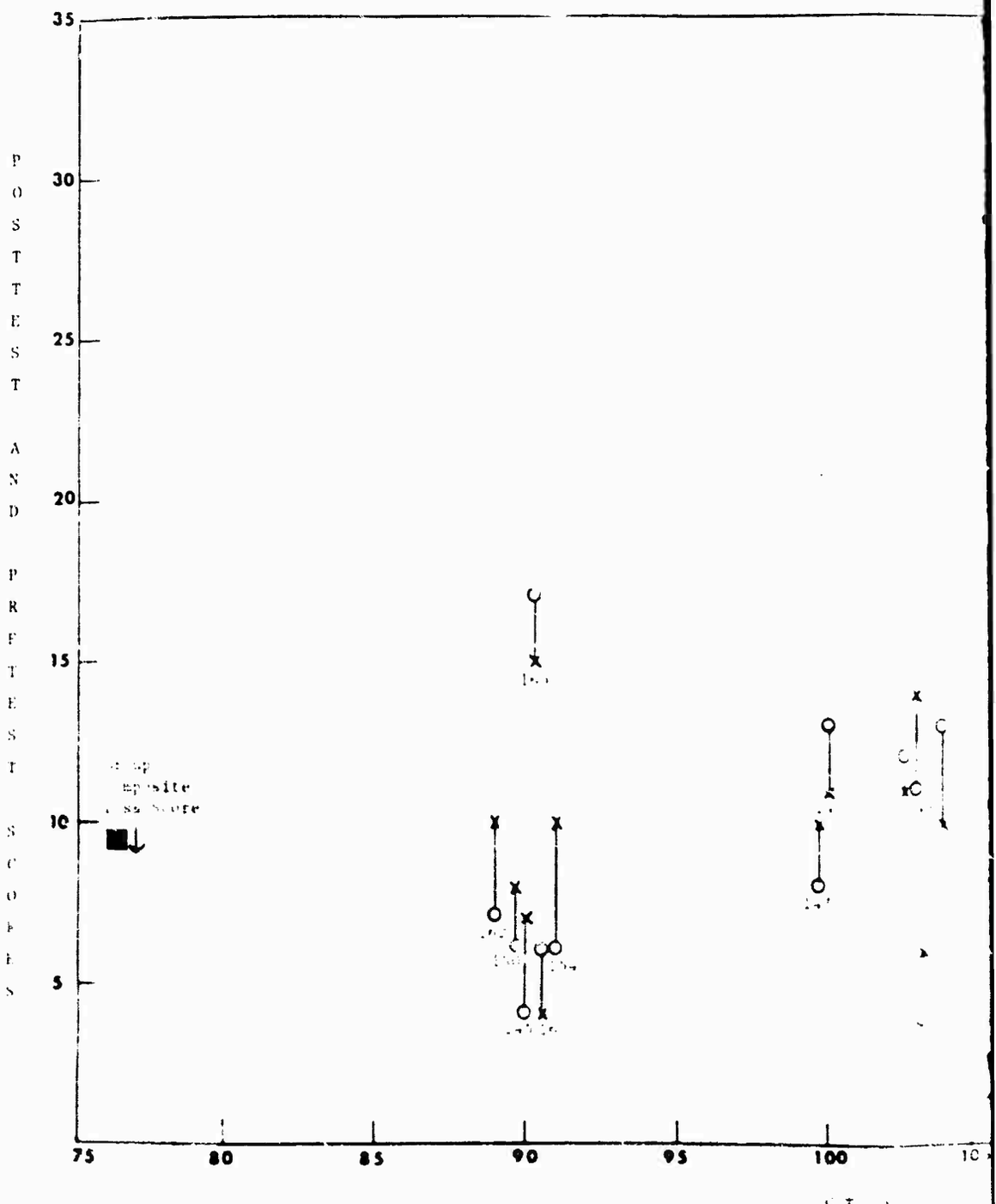
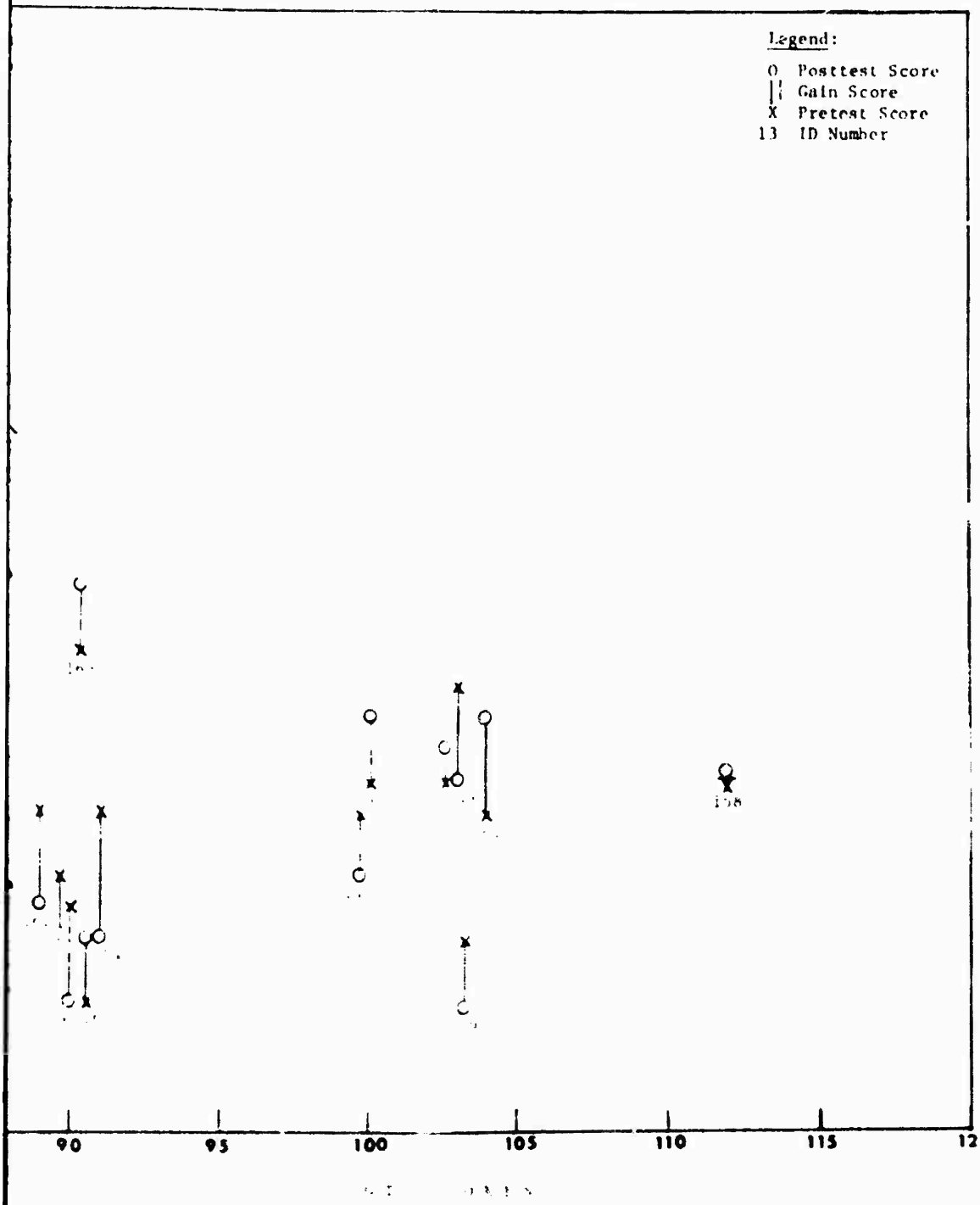


Figure 4-6. Relationship of Pretest, Posttest and Gain Scores (Var. 25) to GT Scores (Var. 26) for
(Correlation between Gain and GT is .25)



ar. 25) to GT Scores (Var. 26) for TAC C Subjects (n = 13)

2

In comparing gain scores for the AI and S Groups (Figures 4-4 and 4-5), the AI Group was markedly consistent in showing substantial gain scores across the range of GT scores as compared to the S Group. This is particularly evidenced in comparing the number of AI subjects who scored 20 or above, 17 (50%), versus the number of S subjects, 1 (7%), who scored 20 or above. Since not all AI subjects finished the Tactics course in the allotted time period, the posttest and gain scores shown for the AI Group in Figure 4-4 would have been expected to increase still further as compared to those for the S Group, had they been allowed time to finish.

Apparently, learning Tactics by means of automated instruction minimizes the effect of GT score (a measure of general aptitude or learning ability).

b. Analysis of AI Group Results

(1) Introduction

There were 73 variables analyzed for the 34 subjects in the Tactics Group. The frequency distributions of scores for each variable are shown in Attachment J. The means, standard deviation and range of scores for each variable and the intercorrelation matrix for the 73 variables are presented in Attachment K. Scores for each subject are shown in Attachment L. As previously explained, coefficients rounded to two decimal places without the decimal point are shown in the upper half of each matrix, while the number of subjects on which each coefficient is based is shown in the lower half of each matrix.

(2) The Relation of Paygrade, Education, and Age to Automated Instruction

The intercorrelation matrix in Attachment K shows that paygrade (Var. 2), education (Var. 4), and age (Var. 5) have low correlations, from -.10 to .10, with gain score (Var. 25). These correlations, well within chance probabilities, indicate that there is no evident relationship between these variables and learning by means of automated instruction. Thus, automated instruction appears to be effective across age groups, across education level, and across the paygrades of the 11B40 population.

(3) The Relation of GT Score to Automated Instruction (AI)

GT score is derived by combining the verbal (VE) and arithmetic reasoning (AR) scores on the Army Classification Battery (ACB) and dividing by 2. GT is considered a measure of general aptitude or ability to learn. Those in the lower ranges of GT score, many of whom are in the combat arms, are considered to present special problems in training for the military services.

The results of this study show that the automated instruction method of training applies equally well to both high and low GT groups. As shown in Figure 4-4, subjects in the lower GT scores, have posttest scores which compare favorably to those with higher GT scores. The 10 subjects with the lowest GT scores had an average posttest score of 17.6 and the 10 highest, an average of 19.7. There is only a 2-point difference between the two, yet a 20-point difference in GT score (92.9 vs 113.5). The correlation between GT score (Var. 26) and gain score (Var. 25) is .19, which is well within chance probability.

Results indicate that automated instruction is an effective method of providing Tactics training across the range of 11849 GT scores. Automated instruction Tactics training has the effect of reducing or overcoming the verbal handicaps usually associated with lower GT scores. If this finding continues to be substantiated, then it will have an important bearing on how MOS training can be conducted.

(4) How the AI Group Took the Course

The course variables are Total FL Frames (Var. 31), Total Entries (Var. 35), Total Course Time (Var. 39), FL Frames per Minute (Var. 43), Entries per Minute (Var. 47), and Entries per FL Frame (Var. 51). Frequency distributions, means and standard deviations for the variables are shown by variable number in Attachment J; the means, standard deviations, low and high scores (range) are provided in Attachment K.

There were seven lessons in the Tactics course. The FL Frames (Var. 31) for each are as follows:

Lesson Name	FL Frames	Cumulative FL Frame
INDIV1	46	46
INDIV3	86	132
SQUAD1	39	171
SQUAD2	23	194
SQUAD21	73	267
SQUAD3	22	289
SQUAD31	70	359

Eleven of the 34 AI Group subjects completed the course or were in Lesson 7 in the time period allotted, 4 were in or had completed Lesson 6, 9 had completed or were in Lesson 5, 4 had completed Lesson 4, 3 had completed or were in Lesson 3, and 1 subject had completed Lesson 2. The specific number of FL Frames reached, i.e., the stopping point for each subject, is given in the frequency distribution for Var. 31, Total FL Frames, in Attachment .

The total course time (Var. 39) for the 34 subjects averaged 250 minutes and ranged from 205 minutes to 318 minutes.

The speed with which FL Frames were executed is given by the FL Frames per minute (Var. 43 in Attachment K). The fastest execution rate, 1.75 per minute, is approximately 3 times the slowest, .55 per minute. The fastest Entries per Minute (Var. 47) execution rate is approximately 3 times the slowest, from 2.27 per minute to .75 per minute. The fastest number of Entries per FL Frame (Var. 51) is approximately 2 times the slowest, from 1.06 to 2.35. This speed of execution in relation to the number of executions has a ratio of 3 to 2 in terms of how the AI Group took the course.

(5) How Slow Learners Took the Course

To get an answer to this question, a ratio was obtained for each AI subject from the data contained in Attachment L. The Total Entries (Var. 35) for each subject was divided by the Total FL Frames (Var. 31), which was the minimum fast line (FL) path to the point reached by the subject in the course. This ratio is the number of entries made for each FL Frame.

The ratios for the fastest 17 and the slowest 17 on Total Course Time (Var. 39) are as follows:

Fastest 17 (249 minutes and below)		Slowest 17 (250 minutes and above)	
Entries Per FL Frame (Var. 51)	Time	Entries Per FL Frame (Var. 51)	Time
1.43	(227)	1.50	(307)
1.44	(245)	1.50	(252)
1.25	(222)	1.08	(270)
1.35	(243)	1.25	(265)
1.61	(235)	1.32	(272)
1.14	(205)	1.35	(250)
1.28	(249)	1.54	(250)
1.09	(229)	1.36	(265)
1.19	(205)	1.06	(279)
1.53	(240)	1.45	(260)
1.86	(243)	1.21	(265)
1.16	(206)	1.44	(260)
1.29	(240)	1.35	(318)
1.17	(248)	1.14	(263)
2.35	(238)	1.43	(260)
1.19	(249)	1.13	(256)
1.28	(238)	1.27	(262)
Total 23.61		Total 22.38	
Mean 1.39		Mean 1.32	
n = 17		n = 17	

The slowest 17 subjects made .07 entries (1.39 - 1.32) less per FL Frame than the fastest 17. This amounts to a difference of 1 additional entry every 14 FL Frames reached. This relatively small difference would indicate that the slower learners went through AI course in the same way as the fast learners and simply required more time to read and comprehend the material.

3. Analysis of 11B40 Personnel Attitude toward Automated Instruction (AI)

Following the posttest, subjects in the AI Group were interviewed to determine any problems they had had in regard to automated instruction and their reactions to CAI. A questionnaire (revised early in the study) was used by each interviewer to structure the interview and record the responses. The original and revised questionnaires with the variable number and scoring for each question are shown in Appendix I. Interviews were also recorded on cassette tapes. Responses to the questionnaire (Vars. 58 through 122) are contained in Attachment K (means, standard deviations and low and high scores) and Attachment J (frequency distributions). The positive end of the alternatives was scored highest, e.g., very effective scored 5; effective, 4; etc.

The response of 11B40 personnel is overwhelmingly in favor of automated instruction. They were virtually unanimous:

- In liking automated instruction (Var. 58) and, in believing their MOS test score would be significantly improved (Var. 77)
- In stating that the computer method is more effective than Army classroom instruction (Var. 78) and self-study methods (Var. 79)
- In being willing to volunteer to take AI (Var. 83)
- In thinking this method of instruction is effective (Var. 67)
- In stating that instructions for using the equipment were easy to understand (Var. 59)
- In believing that new methods of training such as AI would make Army instruction better (Var. 94) and more interesting (Var. 95)

A cross-section of comments made by 11B40 personnel during the interviews are recorded in Appendix J. These comments elicit the following characteristics:

- Characteristics of Automated Instruction
  1. Quiet
  2. Work at own pace
  3. Provides feedback
  4. Individualized instruction
  5. No disruption as in classroom
  6. Not an adversary situation
  7. Individual teaching himself
  8. Requires positive action to progress satisfactorily
- Characteristics of Course Development
  1. Easy to understand
  2. Material has continuity and integration
  3. Builds on knowledge of subject--remedial, if required
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- Characteristics of the Learner
  1. Challenge
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The variations in student patterns of progress through the lessons, the fact that learning did occur, and the observed attentiveness of subjects during the AI learning, all tend to corroborate the interview statements.

4. Discussion of Findings

a. Introduction

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fact should be kept in mind in interpreting the comparative results between the AI and Study Groups. It should also be remembered in structuring the learning situation for the student--regardless of the media used.

b. Learning Taking Place - Gain Score

The significant differences in gain score between the AI Group and the Control Group show that learning takes place by means of automated instruction. The significant differences in gain score between the Study and Control Groups shows that learning also takes place by means of organized self-study in a classroom situation. The significant differences in gain score between the AI and Study Groups shows that automated instruction is more effective than study group methods of training. (The Automated Instruction Group was 60% better than the Study Group.)

The significant differences in learning in favor of automated instruction can not be accounted for by differences between the AI, S and C Groups in pretest score, pretest time, paygrade, age, education, MOS proficiency test score, or GT score, as these were essentially the same for all three groups.

c. Posttest Time - A Measure of Confidence

Pretest and posttest times for the AI, S and C Groups were as follows:

	AI	S	C
Pretest (Var. 21)	33.6	33.1	30.2
Posttest (Var. 23)	18.1	25.0	18.7
Difference	15.5	8.1	11.5

All three groups took less time on the posttest. However, the AI Group took 15.5 minutes less as compared to the S Group, which took 8.1 minutes less--a difference of 7.4 minutes.

This time difference (in conjunction with significantly higher gain scores for the AI Group) can perhaps be considered a measure of confidence in the knowledge and skills learned, i.e., knowing you are right. This phenomenon is borne out by statements made by the AI subjects during the conduct of their interviews, and can be attributed to the fact that in AI instruction, the subject was tested throughout the course and given positive feedback to that effect. This element of knowing you are right when you are right and wrong when you are wrong is apparently missing in the classroom or when self-study methods are employed. As one NCO expressed it, "When I did make a mistake, computer told me." Another sergeant expressed it this way, "Right there in front of you, interesting, put to you, all your mistakes."

d. Attitude toward AI

The response to and acceptance of automated instruction by 11B40 personnel in this study is much more striking than as indicated by the recorded responses to questions asked during the interview. The taped interviews show not only an acceptance of automated instruction, but an enthusiastic response to this method of training. All except 2 of the 34 AI subjects, for example, would voluntarily go to a computer learning center to take AI in preparation for their MOS proficiency test. Many volunteered to come back the following day or on the weekend to take additional AI courses.

e. Applicability of AI to Training Army Personnel in Combat Arms

While the sample population of subjects if fairly small (n=34), they do cover a fairly wide range of 11B40 personnel. Their length of service ranges from 3-1/2 to 23 years, in paygrades 5, 6 and 7; GT scores range from 89 to 129; ages range from 20 to 41: The sample includes men of different races and different ethnic backgrounds, including Spanish-speaking personnel; consequently, they can be considered a fair cross-section of Army NCOs in the Infantry and other combat arms. Therefore, the results obtained in this study can be expected to be replicated with other groups of NCOs in the combat arms.

f. Applicability of AI to Personnel with Lower GT Scores

The results indicate that 11B40 personnel with the lower GT scores are brought up to a level of performance that compared favorably with the performance of personnel with higher GT scores. The 10 subjects with the lowest GT scores had an average posttest score of 17.6 and the 10 subjects with the highest GT scores had an average of 19.7, yet there was a 20-point difference in GT scores (92.9 versus 113.5) between the two.

This result is important in considering methods of training to increase the performance level of NCOs in the lower GT score brackets. It also has some bearing on the general Army problem of training personnel in the lower range of GT scores. Applying these results to the total Army population should be approached cautiously, however, as NCOs are a select group and those NCOs with low GT scores may not be representative of the full range of Army personnel in the lower GT brackets.

g. Applicability of AI to Those with English-Language Problems

Interviews with Spanish-speaking personnel and others in this study who have problems comprehending the English language indicated that automated instruction allows them the opportunity to read and re-read the material until it is understood. They indicated that language problems make it difficult to understand instructors and to ask questions in class; field manuals provide no diagnosis and feedback. Automated instruction apparently overcomes these language problems and provides a positive, nonthreatening learning experience for these 11B40 personnel.

h. Use of Tactical Computers for MOS Training

The results show that an automated instruction system (PLANIT) was successfully installed in the DEVTOS tactical computer and run in the tactical configuration with 11B40 personnel to provide MOS training. This study demonstrates that tactical computers can be used for MOS training.

Section 5: CONCLUSIONS AND RECOMMENDATIONS

A. INTRODUCTION

The following conclusions and recommendations have been derived by SDC project personnel as a result of the MOS portion of this study on the application of Tactical Data Systems for training.

B. CREW SERVED WEAPONS STUDY

1. Conclusions

- A sophisticated CAI system, PLANIT, has been successfully installed on the DEVTOS tactical computer.
- MOS Crew Served Weapons courseware has been developed and successfully executed on the tactical computer.
- Automated Instruction (AI) is effective in providing MOS Crew Served Weapons training for 11B40 personnel. These combat infantry NCOs state AI is an effective and easy way to learn the weapon, and the increase in proficiency (gain scores) proves that they do indeed learn.
- Automated Instruction is enthusiastically accepted by 11B40 personnel. They like it, accept it, and would like to see other MOS courses presented in this manner.
- AI CSW training is 54% more effective than study methods of training in the same subject. 11B40 personnel prefer automated instruction over study methods of training by a ratio of 30 to 1; they prefer AI training over classroom training by a ratio of 27 to 2.
- AI training has the effect of reducing or overcoming the verbal handicaps usually associated with lower GT scores. Furthermore, automated instruction applies equally well to 11B40 personnel in both the higher and lower ranges of GT scores.

- Automated Instruction has the effect that the same number of entries relative to particular topics are made by both slow learners and fast learners. The difference is that slow learners need more time to read and understand the material rather than extensive remedial material.
- Automated Instruction holds the attention of the students, requires them to think about what they are doing, and patiently provides them the time in which to think and learn.
- Automated Instruction provides a positive learning experience in a nonthreatening environment.

2. Recommendations

- As a result of this study, the U.S. Army now has Automated Instruction (AI) courses in the Crew Served Weapons areas covering the LAW, 90MM Recoilless Rifle, and M60 Machinegun. The 11B40 personnel who participated in the AI portion of this study have recommended that these courses be given for: (1) familiarization training whenever the weapon is part of the TO&E unit, (2) advanced individual training, and (3) preparation for MOS proficiency tests. Other uses are OCS and ROTC training.

  It is recommended that the AI courses be installed on a trial basis at a number of suitable locations, primarily to increase the combat proficiency of Army personnel and, secondarily, to enhance the training image of the U.S. Army by providing a dynamic example of how subjects can be taught in this medium.

- It is estimated that the LAW course covers the complete operation of the weapon; the 90MM Recoilless Rifle course, approximately 60%; and the M60 Machinegun course, 40%.

Because of the success of the AI method of training, it is recommended that the courses for the 90MM Recoilless Rifle and the M60 Machinegun be completed and that courses on the caliber .50 Machinegun and the adjustment of indirect fire be constructed starting from the training objectives already developed in this study. Further, it is recommended that the AI Tactics area be completed and AI courses developed in the two remaining major areas for 11B40 personnel, Individual Weapons and Field Activities.

- Combat infantry personnel who took the LAW AI course were asked if they had learned enough about the LAW to go out to the range and fire it. All but one subject (who wanted to take the course again) confidently answered "yes" to this question.

  It is recommended that a study (or studies) be undertaken to demonstrate individual capability to go directly from AI training in the use of a weapon (LAW) to range firing of that weapon. This will determine what more--if anything--is needed to enable personnel to go to the range; place the weapon in operation; and sight, aim, fire the weapon and hit the target.

- Army use of Automated Instruction (AI) is expected to expand. This expansion will eventually include personnel in the lower GT ranges. It is important to the Army to be able to differentiate between those who can and can not benefit from such training and to identify the factor that account for the difference between the two. The results of this study show that many of those subjects in the lower GT ranges do as well--or almost as well--as those in the higher GT ranges; some, however, do not. This difference is not accounted for by education, age, paygrade or GT score.

It is recommended that a research study be undertaken to determine those factors that discriminate between Army personnel in the lower GT ranges who do and do not benefit from AI training.

- As documented in Volume IV of this series, automated instruction is effective in teaching GED mathematics to lower ranking enlisted personnel in the lower GT score brackets. It is quite probable that automated instruction would be effective in providing MOS training for these personnel. AI courses developed as part of this study in both the Crew Served Weapons and Tactics areas have been field tested on combat infantry NCOs with excellent results. However, they have not been tried out on enlisted personnel in the lower paygrades, a number of whom fall into the lower GT score range.

  It is recommended that a research study be undertaken to determine the extent to which automated instruction is an effective means of providing MOS training to E-1, E-2 and E-3 enlisted personnel in the lower range of GT scores.

- New Army tactical systems are in process of development and installation. One of these is TOS^2. As part of this study, SDC analyzed the DEVTOS system to identify the requirements which must be met by an Automated Instruction program in order to operate within the system.

  It is recommended that a similar study be conducted on TOS^2 and other tactical data systems to determine the problems which may exist in implementing Automated Instruction on these systems.

- The TOS^2 tactical data system is being installed at Fort Hood, Texas. This system will not be operational for some time. This capability can probably be utilized for Automated Instruction both prior to and after the system is operational. It is anticipated that AI can be

used to train combat NCOs in Crew Served Weapons and Tactics on AI courses already developed, either at the TSDG facility at West Fort Hood or by remote terminals in the 2nd Armored and 1st Cavalry Divisions areas on the main post. A second use would be to train personnel in the operation of the tactical system, using the tactical consoles. An added benefit would be the early identification of user problems in operating the system.

It is recommended that: (1) an AI system be implemented on the TOS^2 tactical system, (2) the system be used to provide MOS training in Crew Served Weapons and Tactics for the 2nd Armored and 1st Cavalry Division personnel, and (3) AI course materials be developed to train TOS^2 tactical system operators and identify problem areas in regard to system use.

- Tactical computers have capabilities which, when not used for the operational mission, can be used to manage training and to test proficiency of personnel on computer. The accumulation of such records would be a tool to assist in determining the operational proficiency of a particular company, battalion or brigade.

  It is recommended that a prototype computer-managed system be developed to test the feasibility of this use of tactical computers.

- Tactical computers are being designed specifically to carry out the operational mission. This is the primary purpose. However, it is probable that minor modifications in design would permit the Army to use Tactical computers to carry out the training mission, manage the training process, assist in determining operational readiness, plus other uses.

It is recommended that the tactical data system design concepts be analyzed to: (1) identify the problem areas in extending the use of tactical computers, (2) identify the modifications that would be required, and (3) identify alternatives and the costs and benefits of implementing such modifications.

C. TACTICS STUDY

1. Conclusions

- A sophisticated CAI system, PLANIT, has been successfully installed on the DEVTOS tactical computer.
- MOS Tactics courseware has been developed and successfully executed on the tactical computer.
- Automated Instruction (AI) is effective in providing MOS Tactics training for 11B40 personnel. These combat infantry NCOs state AI is an effective and easy way to learn, and the increase in proficiency (gain scores) proves that they do indeed learn.
- Automated Instruction (AI) is enthusiastically accepted by 11B40 personnel. They like it, accept it, and would like to see other MOS courses presented in this manner.
- AI Tactics training is 60% more effective than study methods of training in the same subject. 11B40 personnel prefer automated instruction over study methods of training by a ratio of 27 to 4; they prefer AI training over classroom training by a ratio of 28 to 1.
- AI Tactics training has the effect of reducing or overcoming the verbal handicaps usually associated with lower GT scores. Furthermore, automated instruction applies equally well to 11B40 personnel in both the higher and lower ranges of GT scores.

- Automated Instruction has the effect that the same number of entries relative to particular topics are made by both slow learners and fast learners. The difference is that slow learners need more time to read and understand the material, rather than extensive remedial material.
- Automated Instruction holds the attention of the students, requires them to think about what they are doing, and patiently provides them the time in which to think and learn.
- Automated Instruction provides a positive learning experience in a nonthreatening environment.

2. Recommendations

- As a result of this study, the U.S. Army now has Automated Instruction (AI) courses in those tactics areas covering Individual Combat Training, Individual Skills and Knowledge, Squad Combat Formations, Squad Battle Drill, and Patrolling. The 11B40 personnel who participated in the AI portion of this study have recommended that these courses be given for: (1) unit training, and (2) advanced individual training, and (3) preparation for MOS proficiency tests. Other uses are OCS and ROTC training.

  It is recommended that the AI courses be installed on a trial basis at a number of suitable locations, primarily to provide Tactics training to Army personnel and, secondarily, to enhance the training image of the U.S. Army by providing a dynamic example of how subjects can be taught in this medium.

- The present AI courses cover individual and squac tactics and patrolling. Other Tactics subject matter areas are: Rifle Squad in the Attack, Rifle Squad in Defense, Platoon Combat Formations, Rifle Platoon in the Attack and Rifle Platoon in the Defense. Training objectives for the latter areas have already been developed as part of this study.

Because of the success of the AI method of training, it is recommended that courseware be developed in these additional areas to provide individual, squad, and platoon tactics coverage in the AI mode. Further, it is recommended that the AI Crew Served Weapons area be completed and AI courses developed for the two remaining areas for 11B40 personnel, Individual Weapons and Field Activities.

- Army use of Automated Instruction (AI) is expected to expand. This expansion will eventually include personnel in the lower GT ranges. It is important to the Army to be able to differentiate between those who can and can not benefit from such training and to identify the factors that account for the difference between the two. The results of this study show that many of those in the lower GT ranges do as well--or almost as well--as those in the higher GT ranges; some, however, do not. The difference is not accounted for by education, age, paygrade or GT score.

  It is recommended that a research study be undertaken to determine those factors that discriminate between Army personnel in the lower GT ranges who do and do not benefit from AI training.

- As a result of this study, it has been determined that automated instruction is effective in teaching GED mathematics to lower ranking enlisted personnel in the lower GT score brackets. It is quite probable that automated instruction would be effective in providing MOS training for these personnel. AI courses developed as part of this study in both the Crew Served Weapons and Tactics areas have been field tested on combat infantry NCOs with excellent results. However, they have not been tried out on enlisted personnel in the lower paygrades, a number of whom fall into the lower GT score range.

It is recommended that a research study be undertaken to determine the extent to which automated instruction is an effective means of providing MOS training to E-1, E-2 and E-3 enlisted personnel in the lower range of GT scores.

- New Army tactical systems are in process of development and installation. One of these is TOS^2. As part of this study, SDC analyzed the DEVTOS system to identify the requirements which must be met by an Automated Instruction program in order to operate within the system.

  It is recommended that a similar study be conducted on TOS^2 and other tactical data systems to determine the problems which may exist in implementing Automated Instruction on these systems.

- The TOS^2 tactical data system is being installed at Fort Hood, Texas. This system will not be operational for some time. This capability can probably be utilized for Automated Instruction both prior to and after the system is operational. It is anticipated that AI can be used to train combat NCOs in Crew Served Weapons and Tactics on AI courses already developed, either at the TSDG facility at West Fort Hood or by remote terminals in the 2nd Armored and 1st Cavalry Divisions areas on the main post. A second use would be to train personnel in the operation of the tactical system, using the tactical consoles. An added benefit would be the early identification of user problems in operating the system.

  It is recommended that: (1) the AI interface program (MIOPS) be written for the TOS^2 tactical system, (2) the system be used to provide MOS training in Crew Served Weapons and Tactics for the 2nd Armored and 1st Cavalry Division personnel, and (3) AI course materials be developed to train TOS^2 tactical system operators and identify problem areas in regard to system use.

- Tactical computers have capabilities which, when not used for the operational mission, can be used to manage training and to test proficiency of personnel on computer. The accumulation of such records would be a tool to assist in determining the operational proficiency of a particular company, battalion or brigade.

  It is recommended that a prototype computer-managed system be developed to test the feasibility of this use of tactical computers.

- Tactical computers are being designed specifically to carry out the operational mission. This is the primary purpose. However, it is probable that minor modifications in design would permit the Army to use Tactical computers to carry out the training mission, manage the training process, assist in determining operational readiness, plus other uses.

  It is recommended that the tactical data system design concepts be analyzed to: (1) identify the problem areas in extending the use of tactical computers, (2) identify the modifications that would be required, and (3) identify alternatives and the costs and benefits of implementing such modifications.

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APPENDIX A

MOS AI TASK FLOW CHARTS

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APPENDIX CONTENTS

This Appendix contains the Task Flow Charts that were developed by SDC for the Crew Served Weapons Course and the Tactics Course. These Task Flow Charts reflect changes that were incorporated subsequent to the review conducted by The Infantry School, Fort Benning, Beorgia during March 1973.

The following notes are included to aid the reader.

Crew Served Weapons

a. Tasks 1.0 and 2.0 for the Caliber .50 Machinegun Module were incorporated into the M60 Machinegun Module as Tasks 7.0 and 5.0, respectively.

b. Adjustment of Indirect Fire (Tasks 1.0-3.0) was eliminated from courseware development.

Tactics

a. Individual Combat Training Tasks 1.0 and 2.0 were eliminated from courseware development. Tasks 3.0 and 4.0 had been previously incorporated into Tasks 1.0 and 2.0.

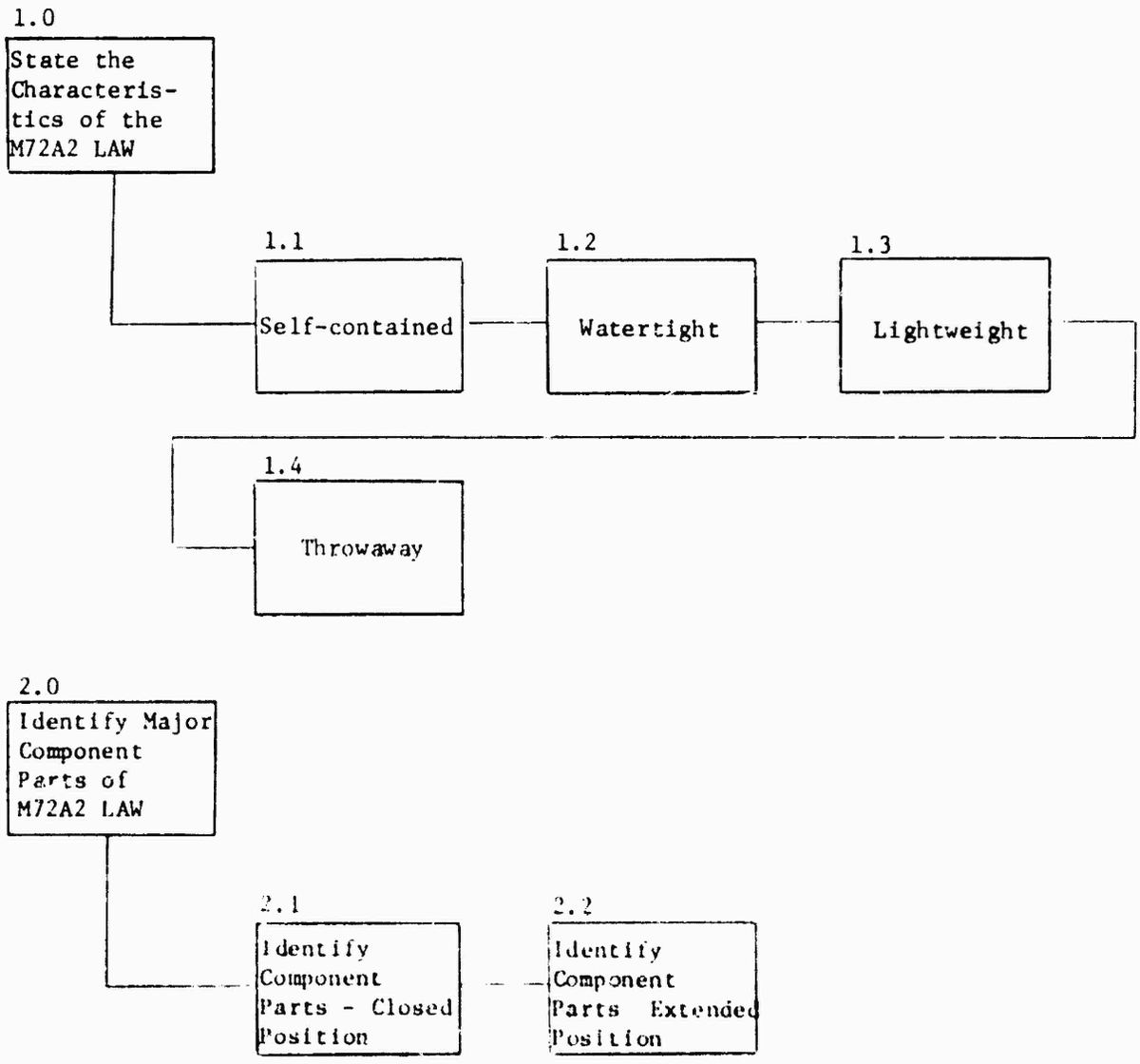
b. The following modules were eliminated from courseware development.

Rifle Squad in the Attack	Tasks 1.0 - 3.0
Rifle Squad in Defense	Tasks 1.0 - 7.0
Platoon Combat Formations	Tasks 1.0 - 2.0
Rifle Platoon in Attack	Tasks 1.0 - 2.0
Rifle Platoon in Defense	Tasks 1.0 - 3.0

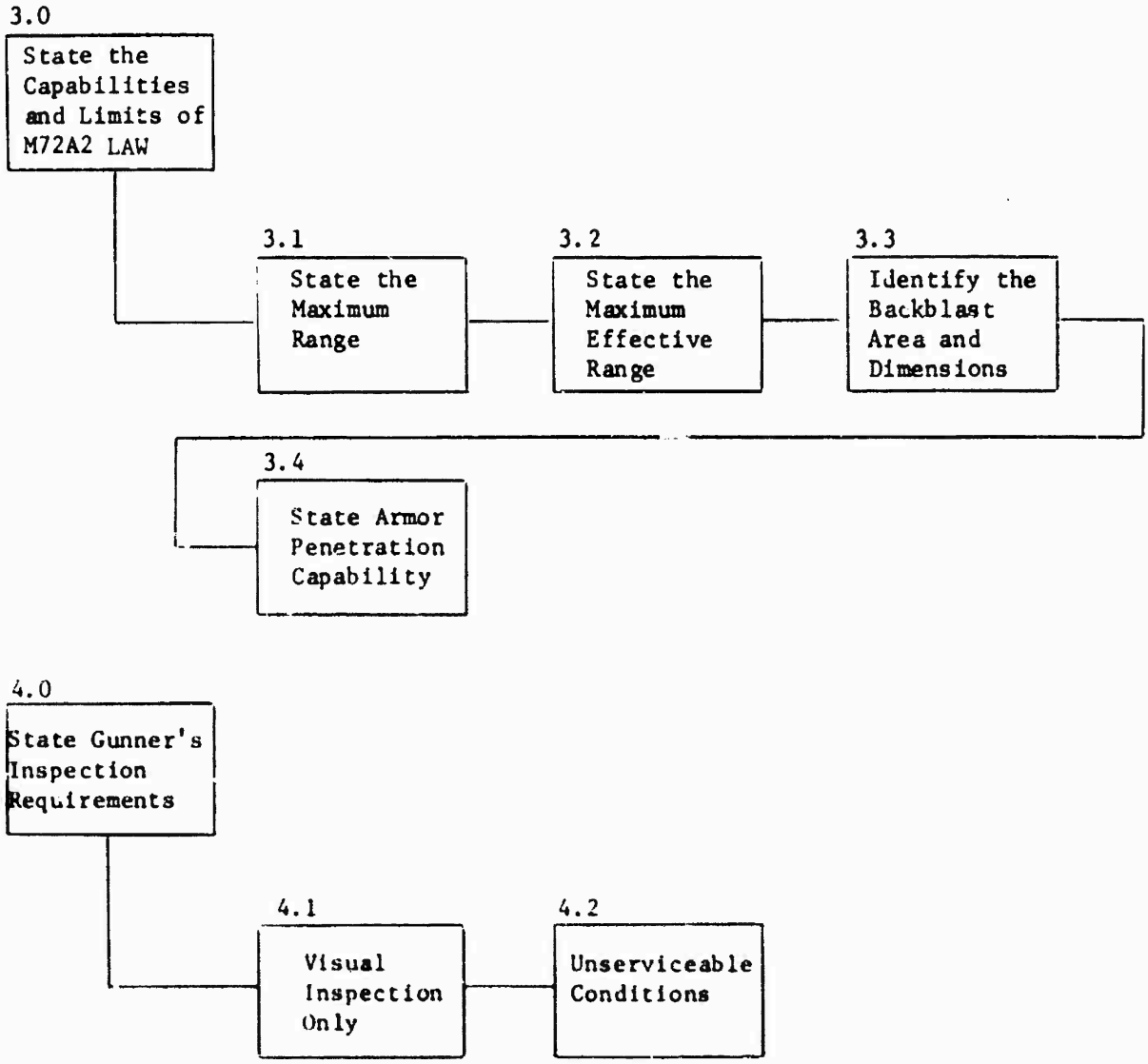
TASK FLOW CHARTS

CREW SERVED WEAPONS

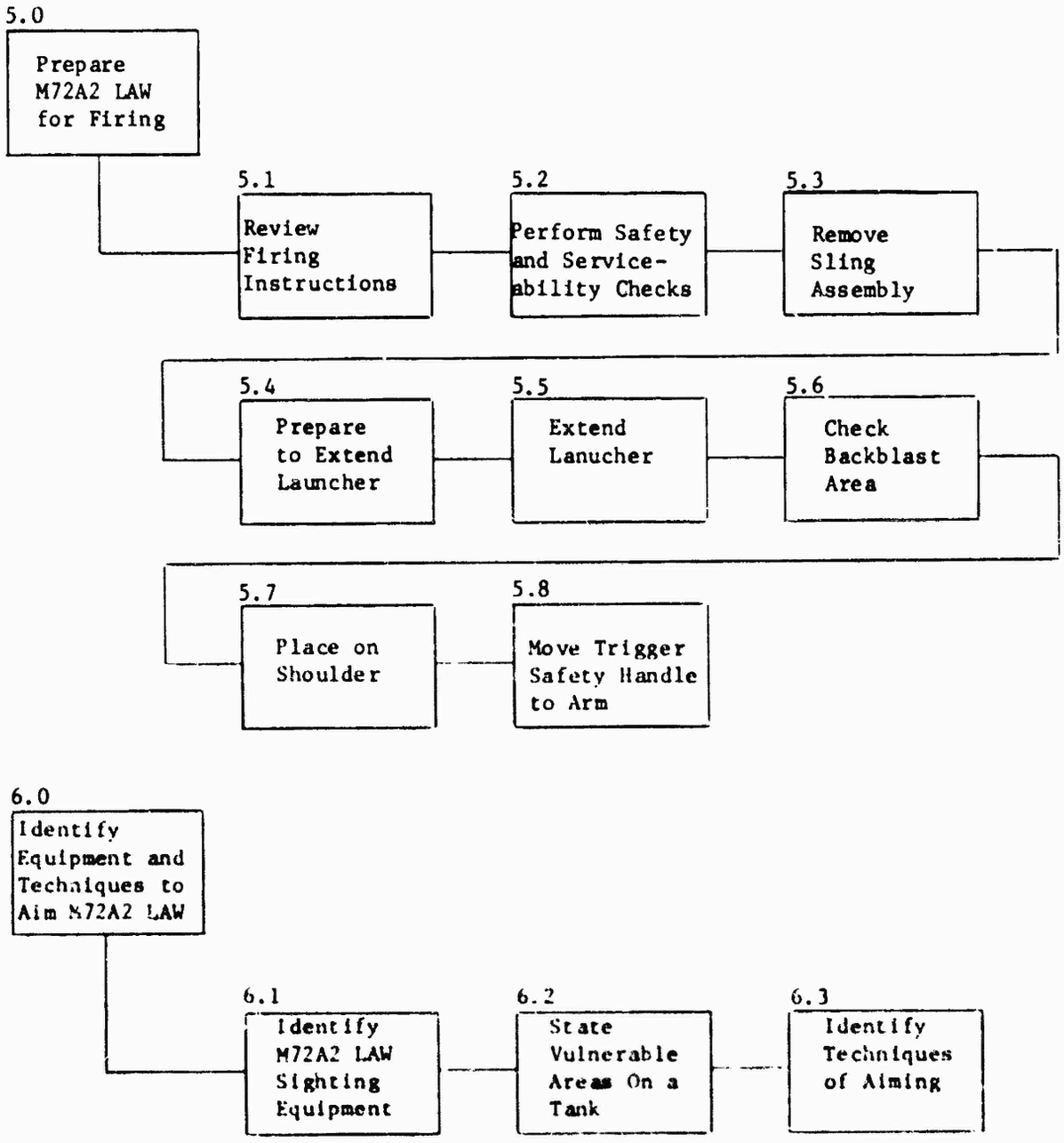
MOS Crew Served Weapons
M72A2 LAW



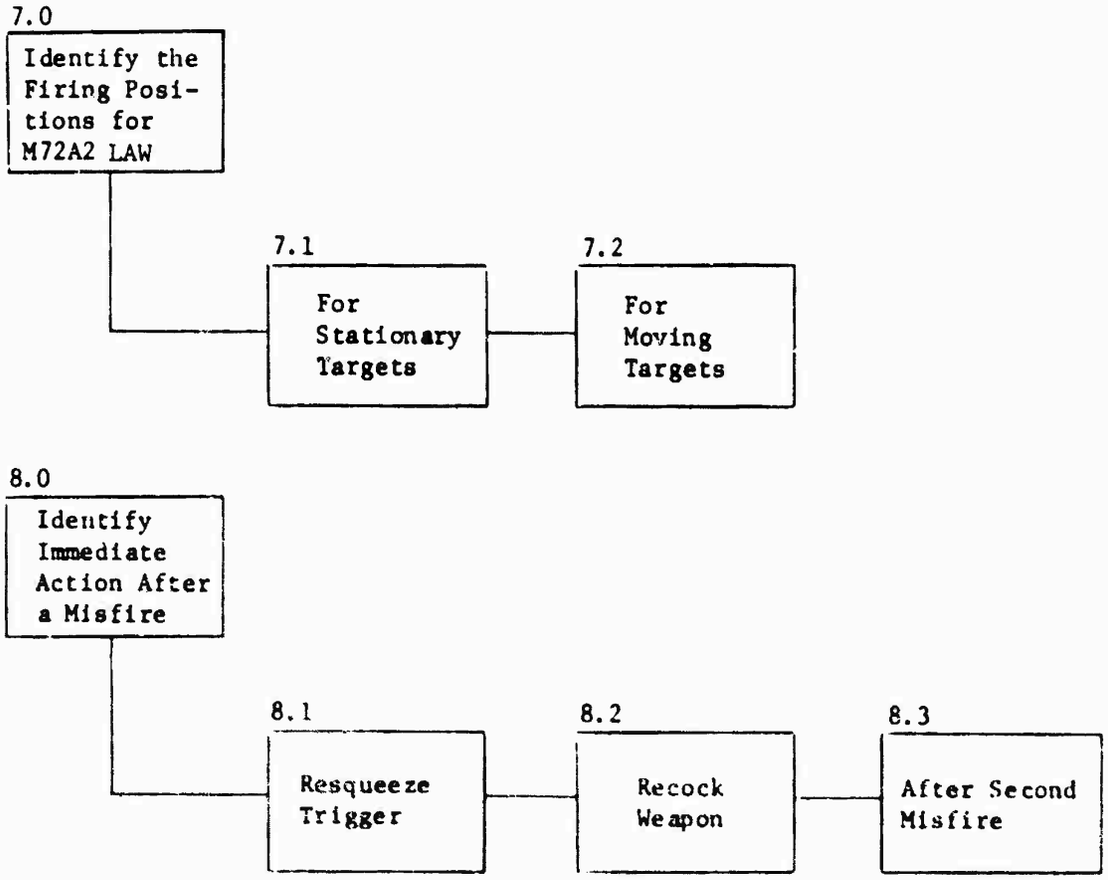
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M72A2 LAW



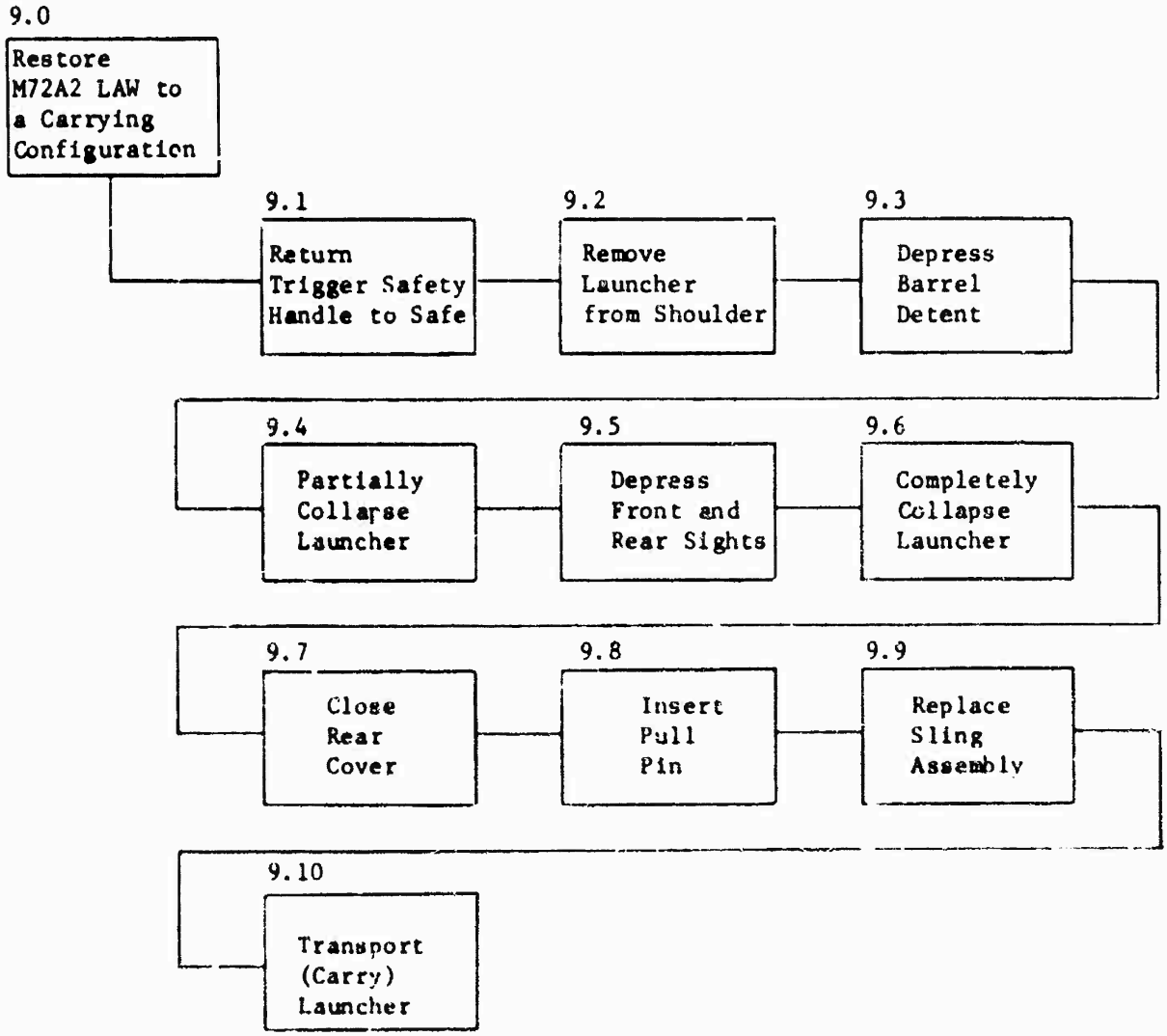
MOS Crew Served Weapons
M72A2 LAW



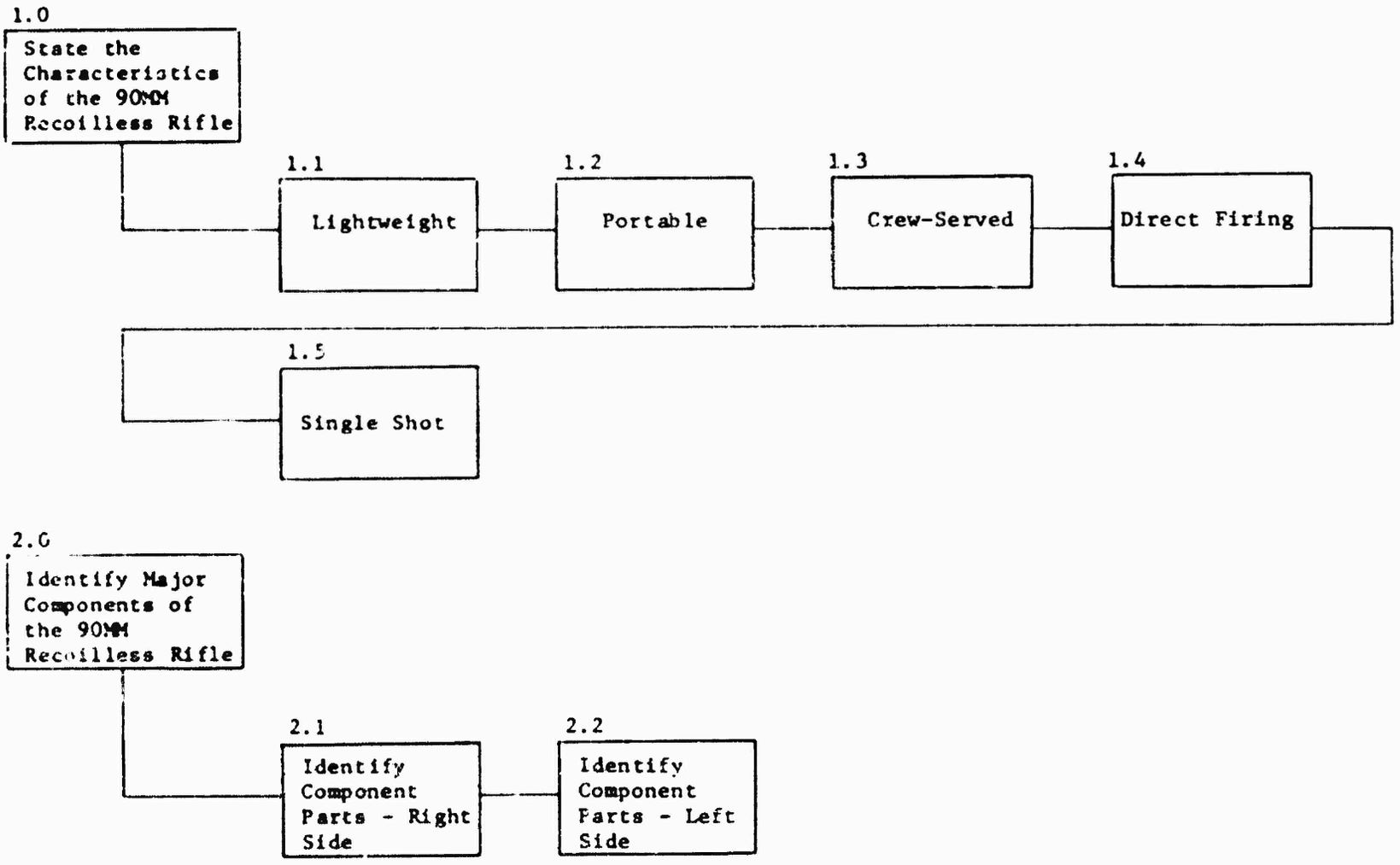
MOS Crew Served Weapons
M72A2 LAW



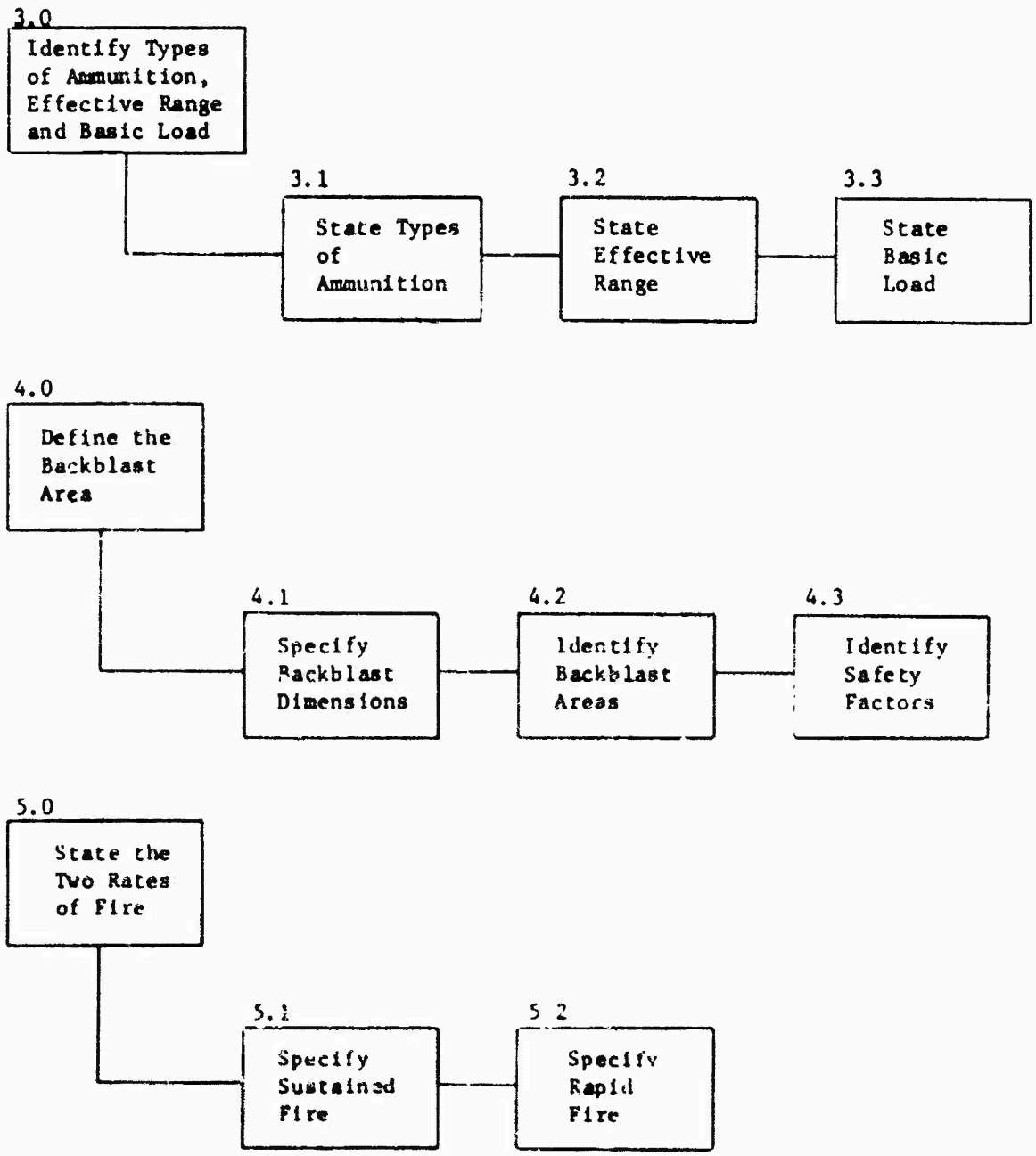
MOS Crew Served Weapons
M72A2 LAW



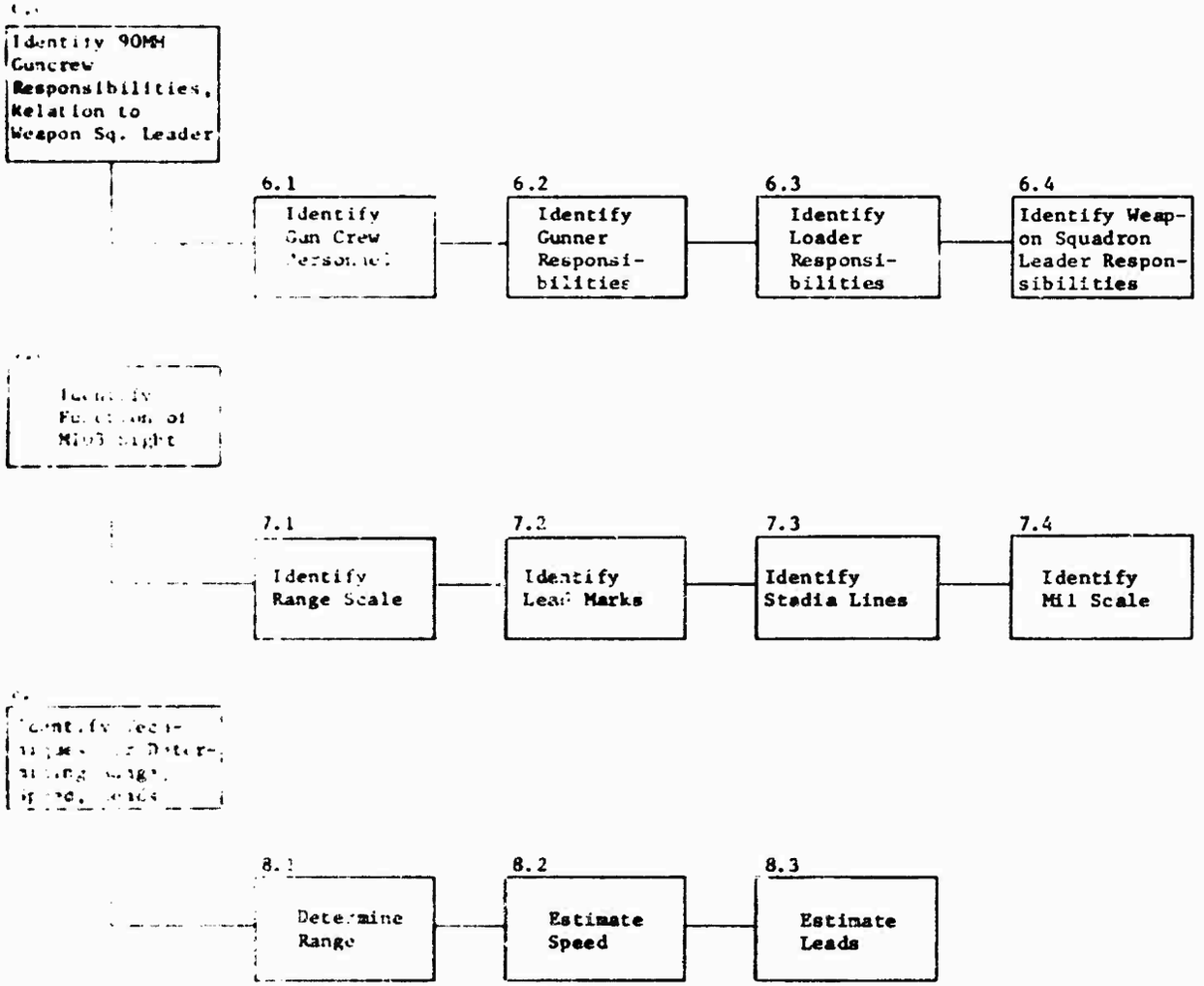
MOS Crew Served Weapons
90MM Recoilless Rifle



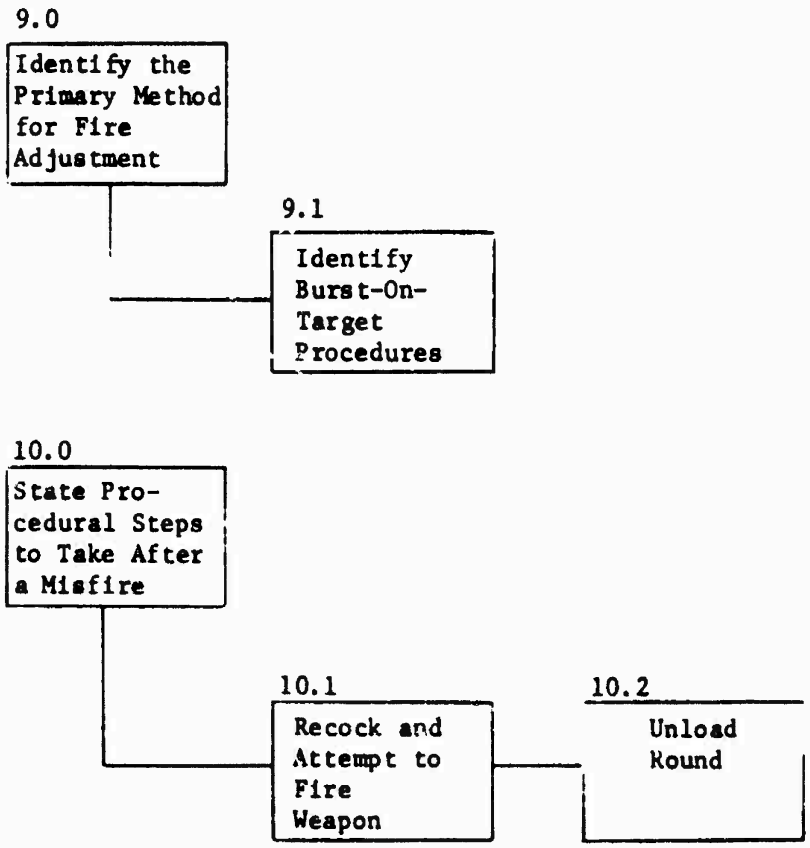
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90MM Recoilless Rifle



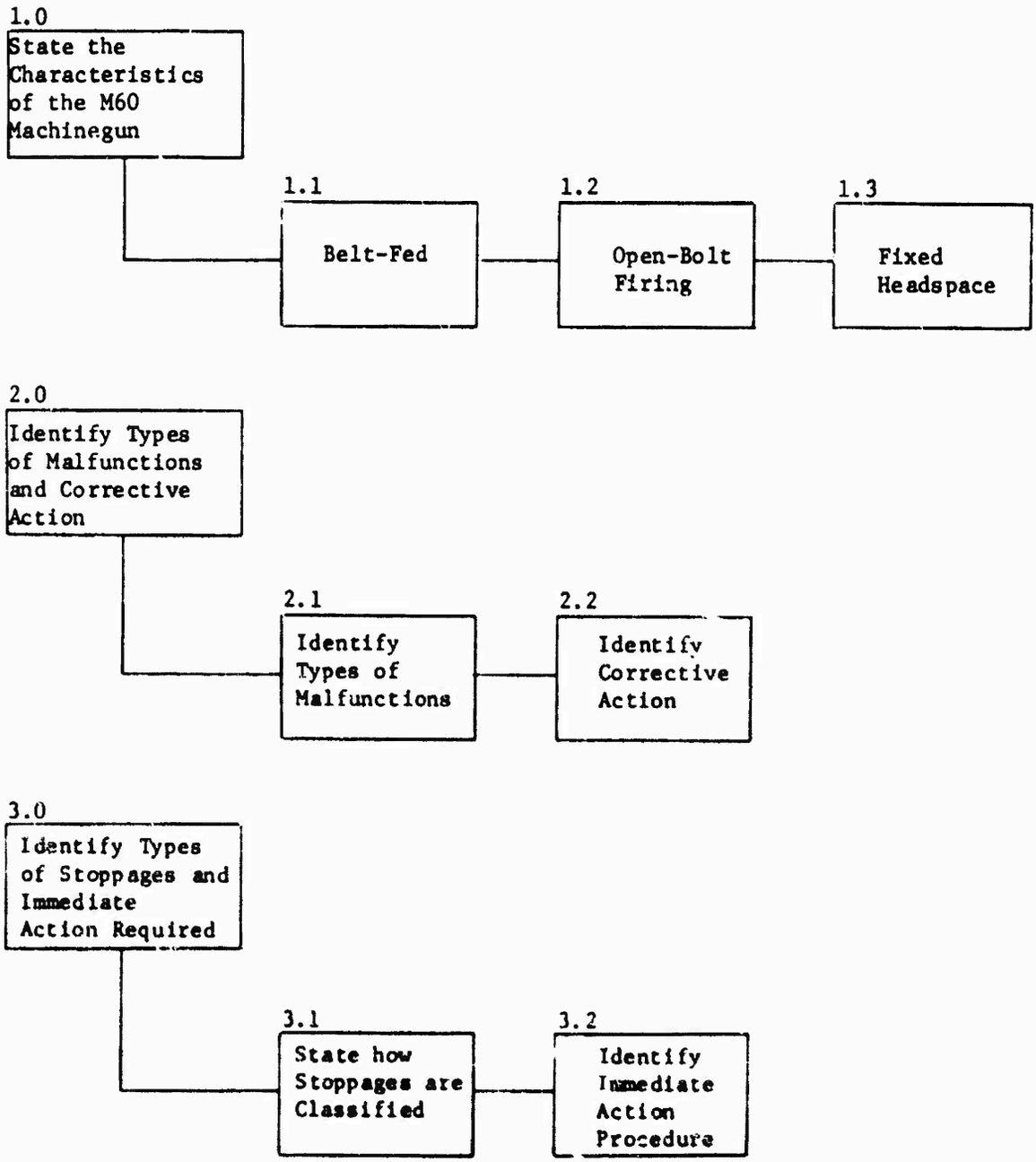
MOS Crew Served Weapons
90MM Recoilless Rifle



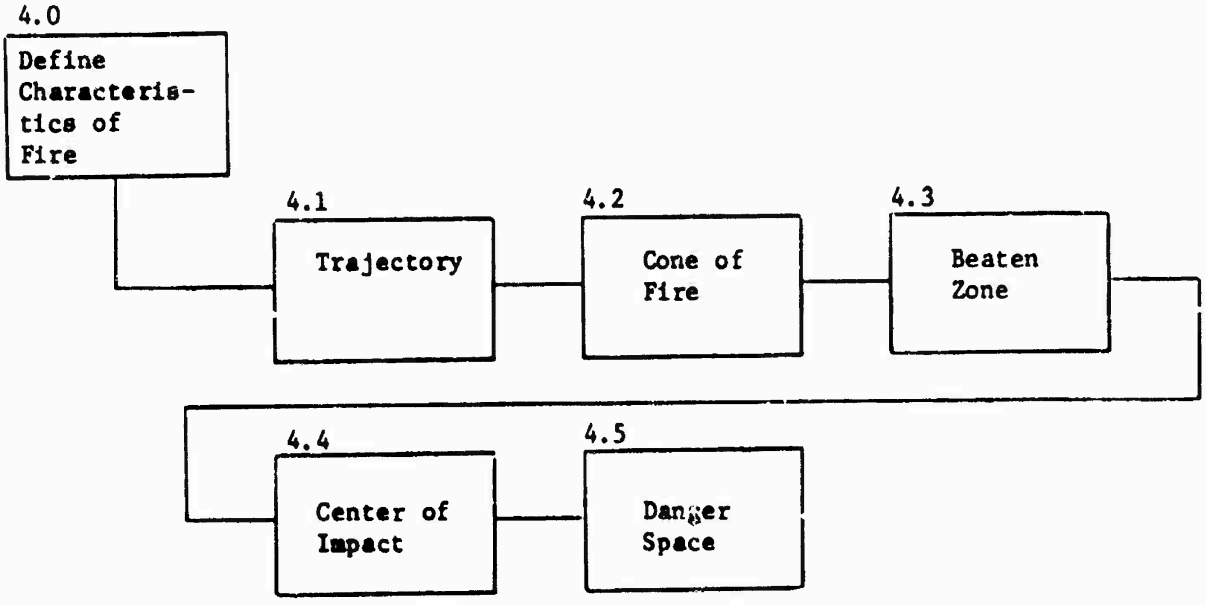
MOS Crew Served Weapons
90MM Recoilless Rifle



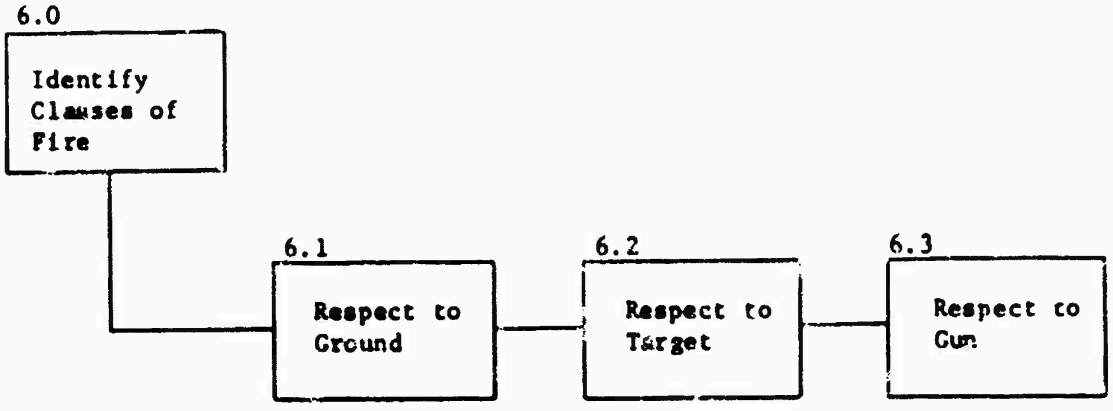
MOS Crew Served Weapons
M60 Machinegun



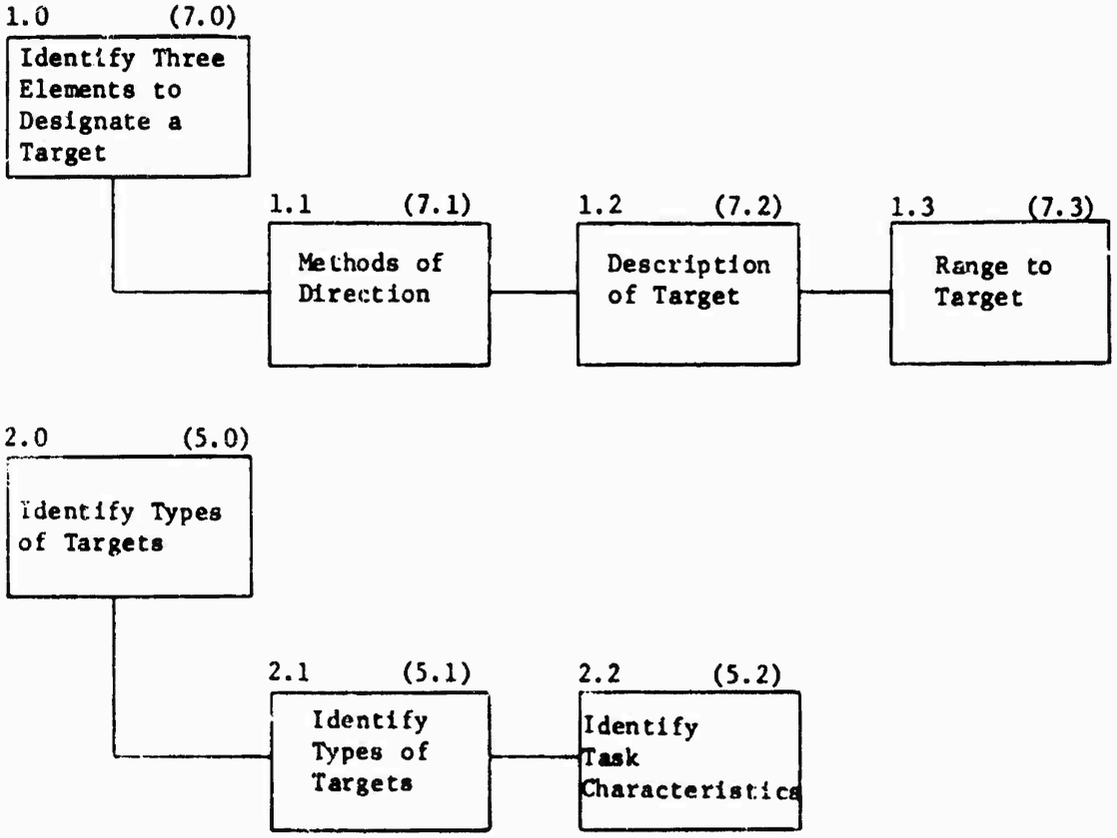
MOS Crew Served Weapons
M60 Machinegun



5.0 Refer to Caliber .50 Machinegun Task Flow Charts.



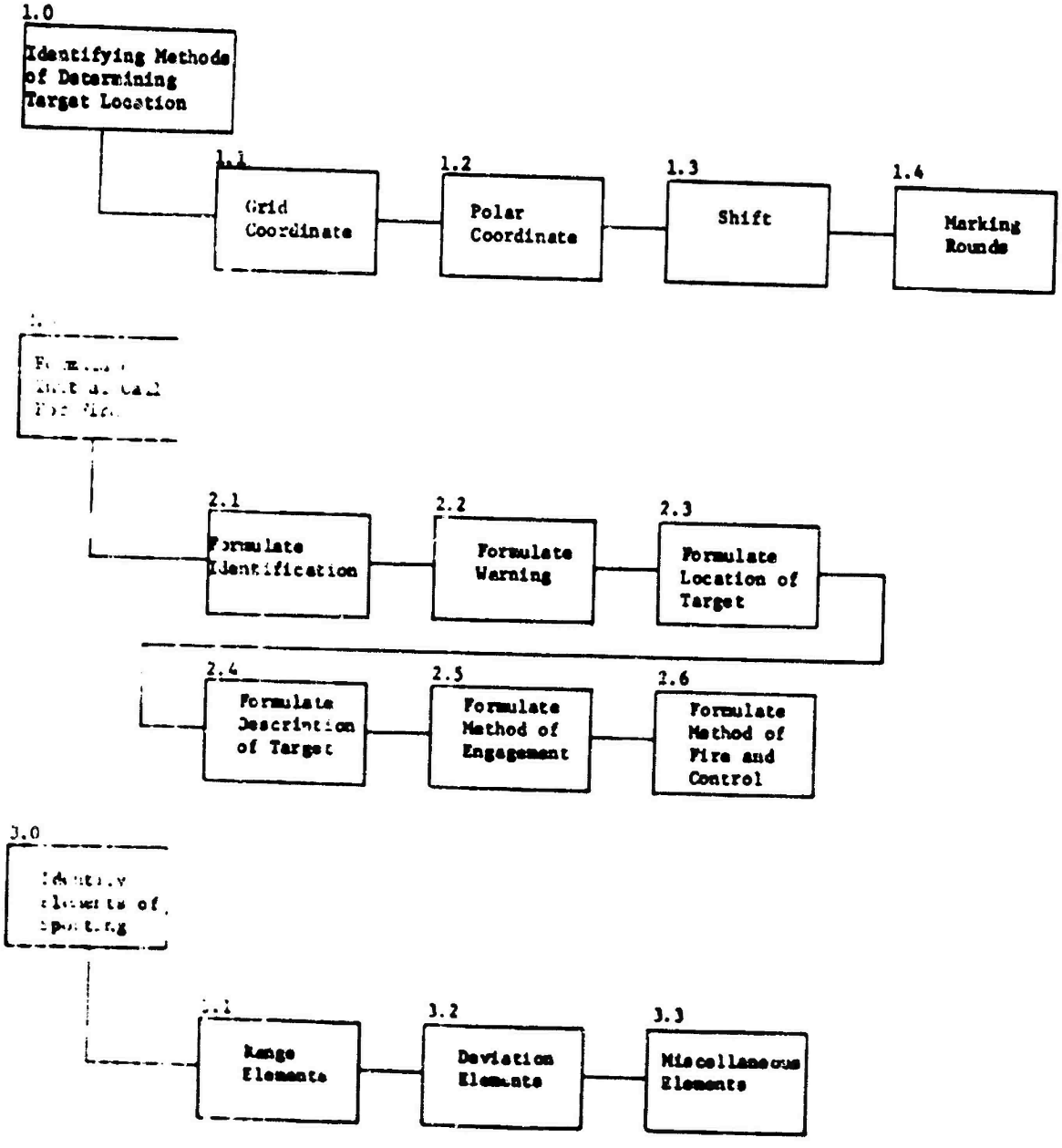
MOS Crew Served Weapons
Caliber .50 Machinegun



Note: These tasks were incorporated within the M60 Machinegun Unit.

The numbers in parentheses reflect the Task Identification within that unit.

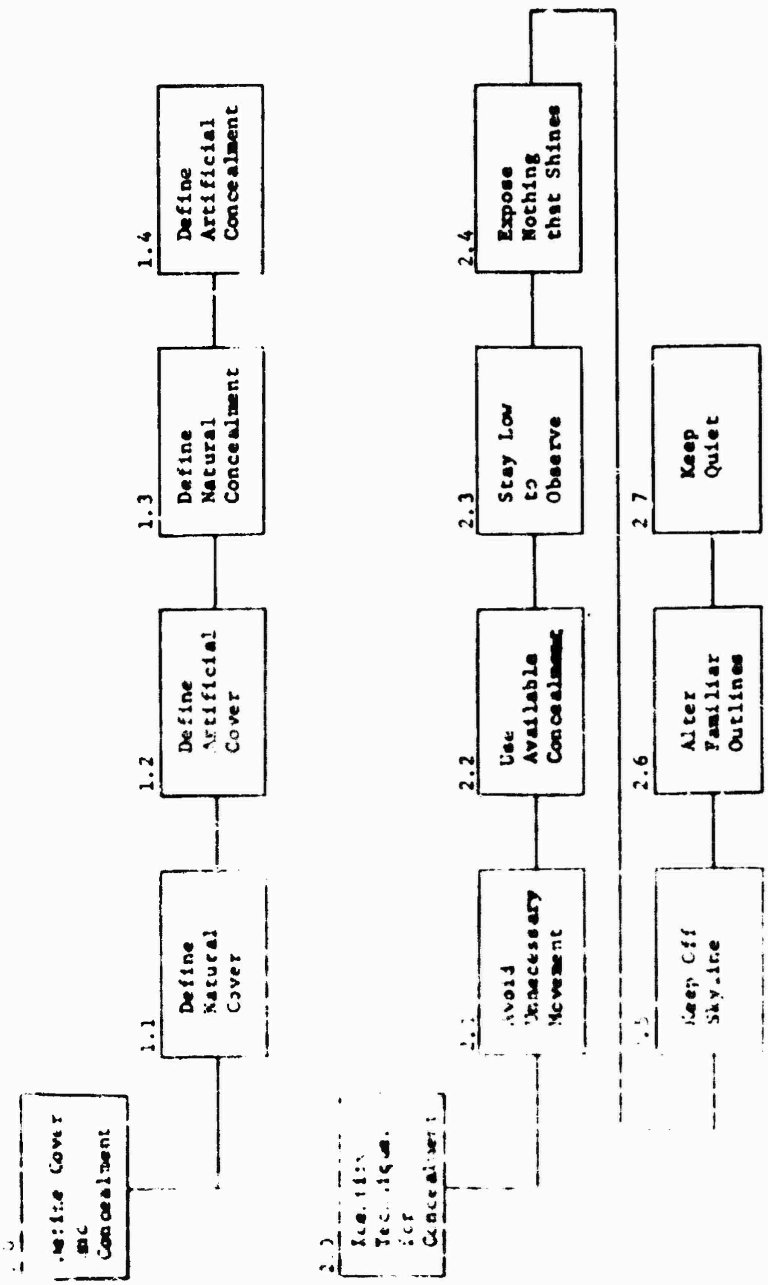
MOS Crew Served Weapons
Adjustment of Indirect Fire



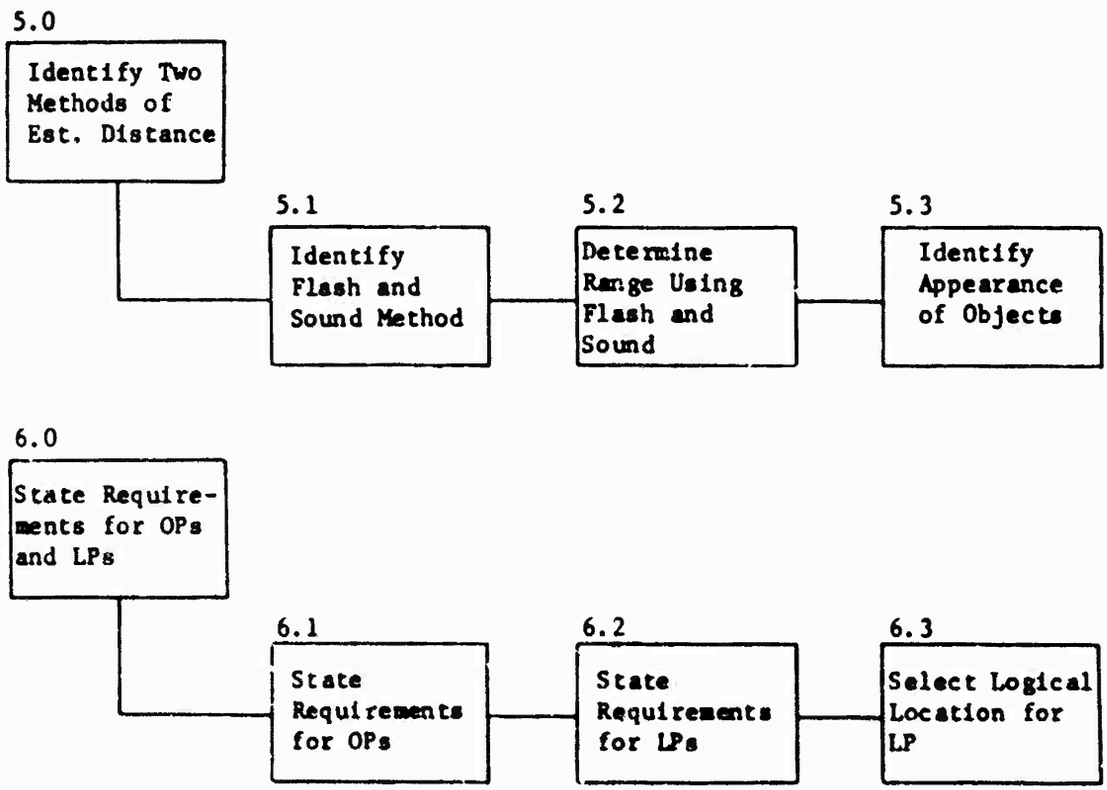
TASK FLOW CHARTS

TACTICS

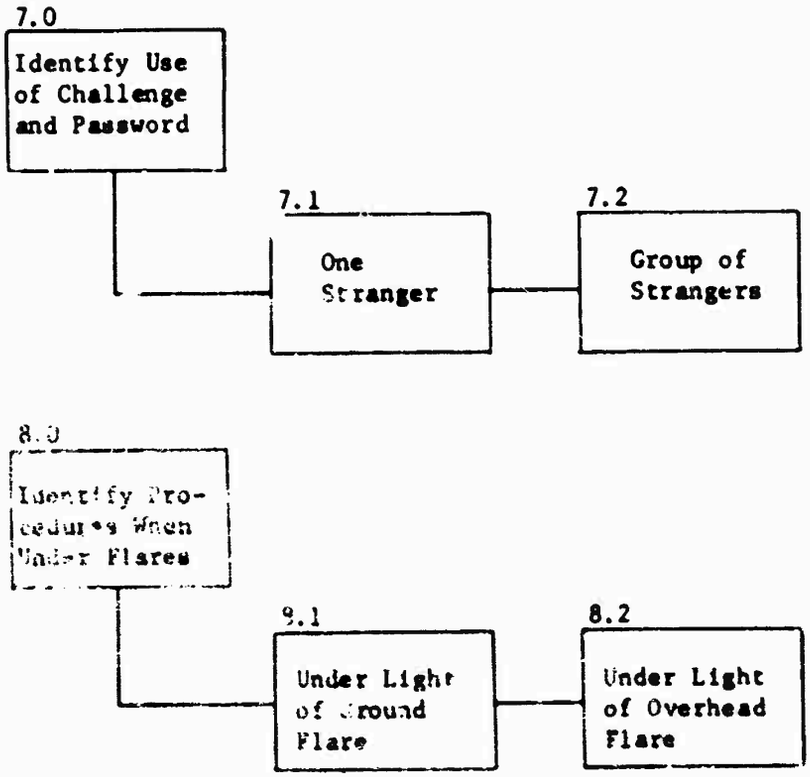
MOS Tactics
Individual Combat Training



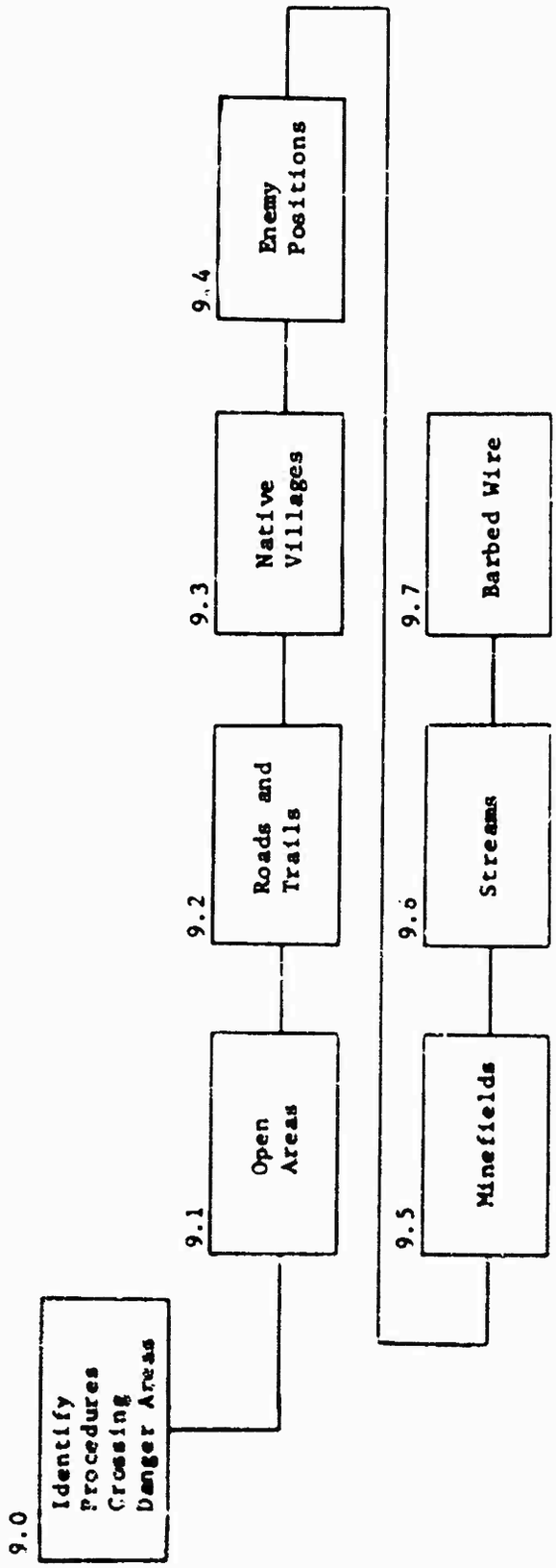
MOS Tactics
Individual Combat Training



MOS Tactics
Individual Combat Training

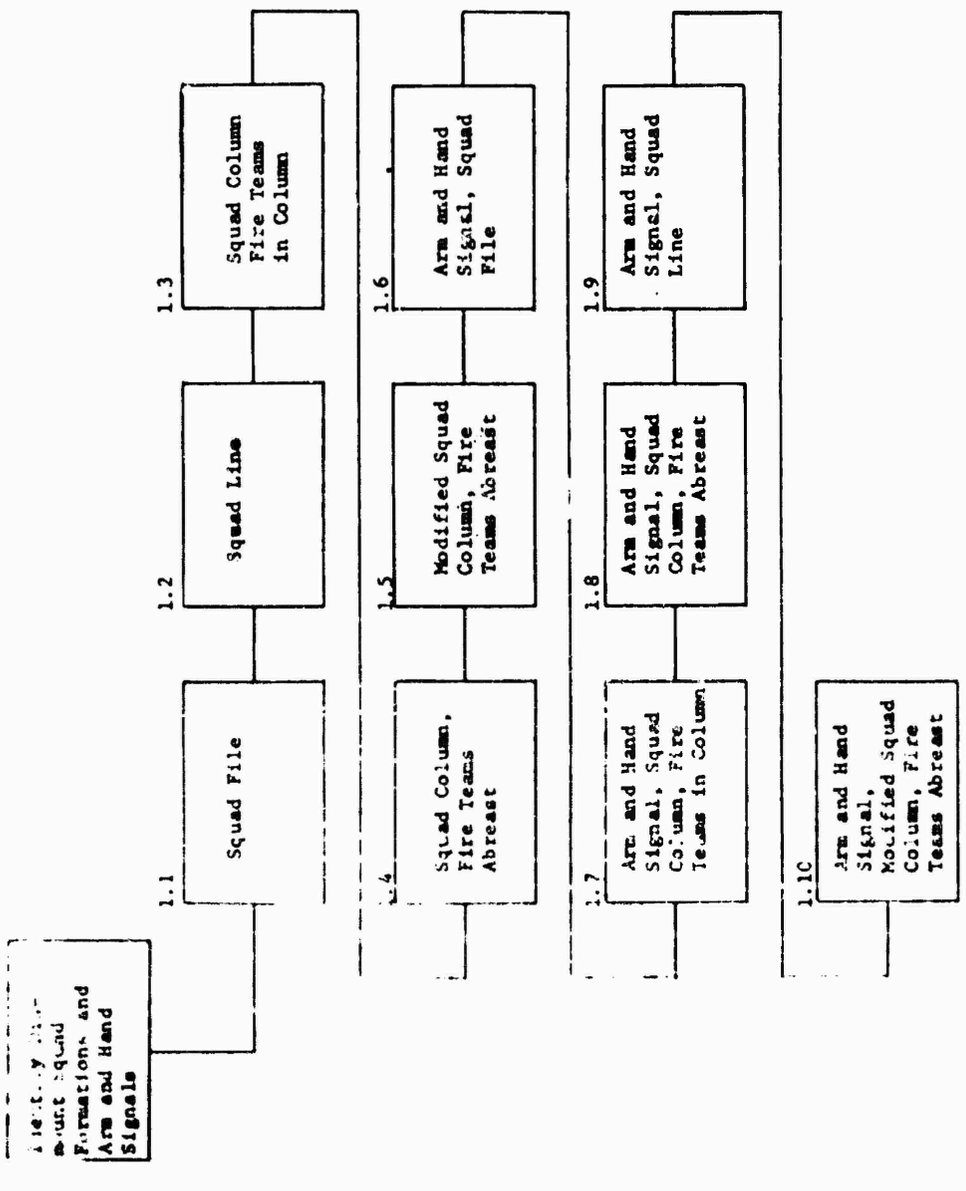


MOS Tactics
Individual Combat Training



MOS Tactics
Individual Skill and Knowledge

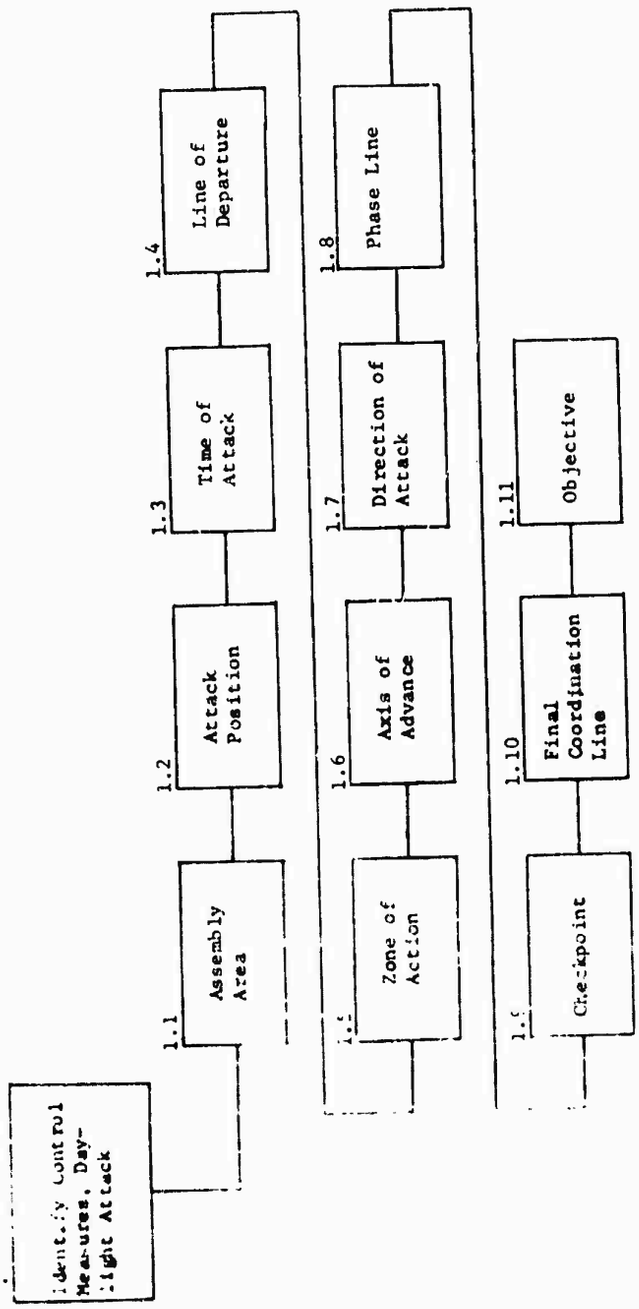
MOS Tactics
Squad Combat Formation



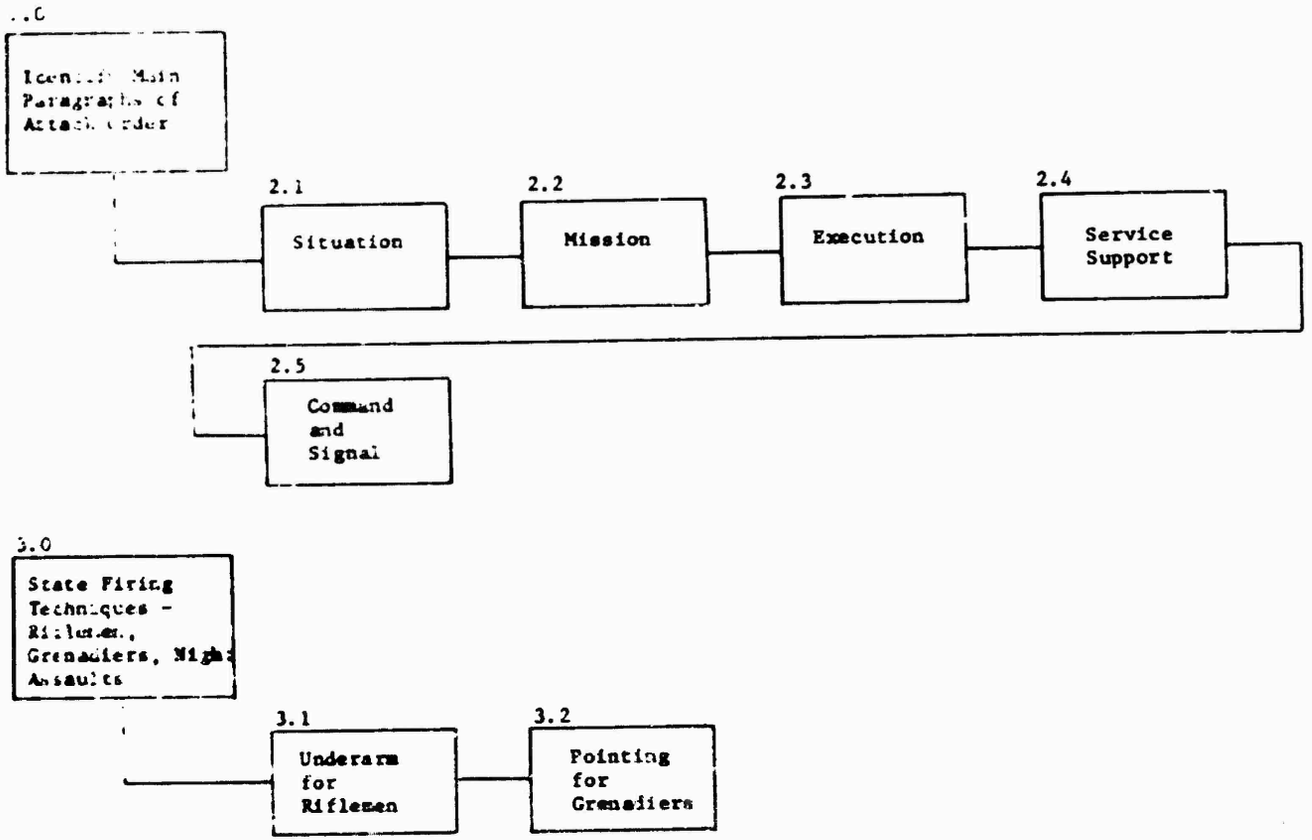
MOS Tactics
Squad Combat Formation

MOS Tactics
Squad Battle Drill

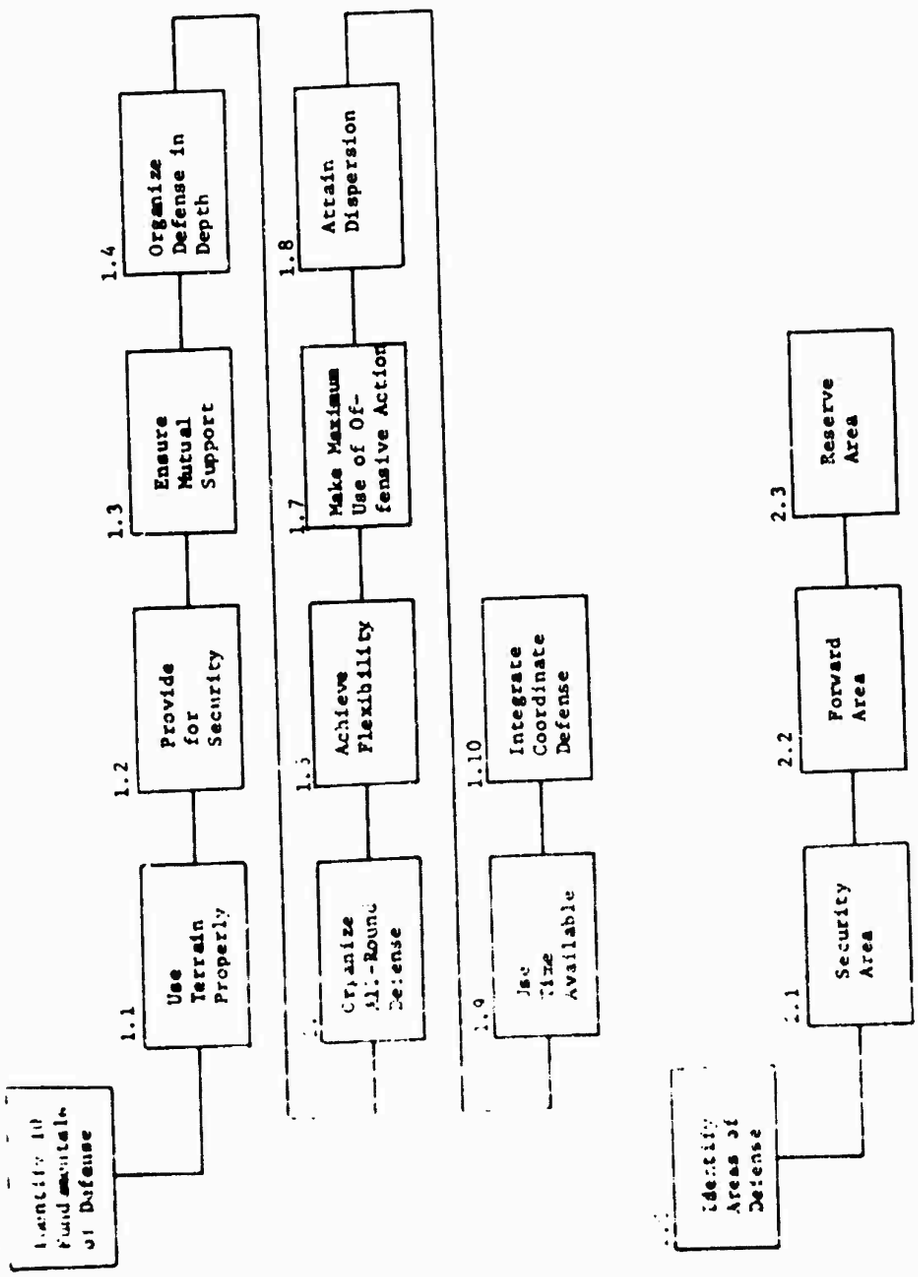
MOS Tactics
Rifle Squad in the Attack
(Sheet 1 of 2)



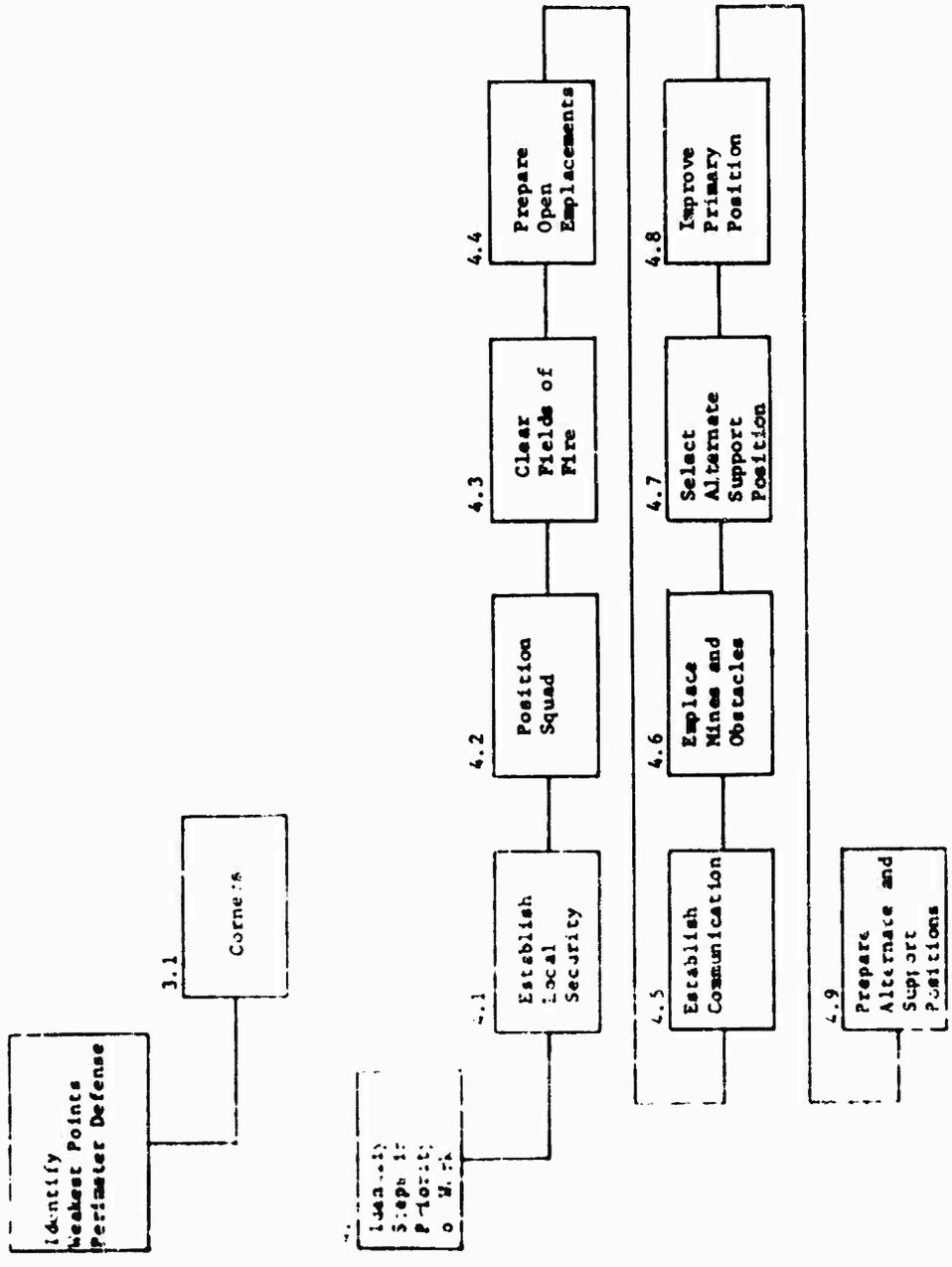
MOS Tactics
Rifle Squad in the Attack
(Sheet 2 of 2)



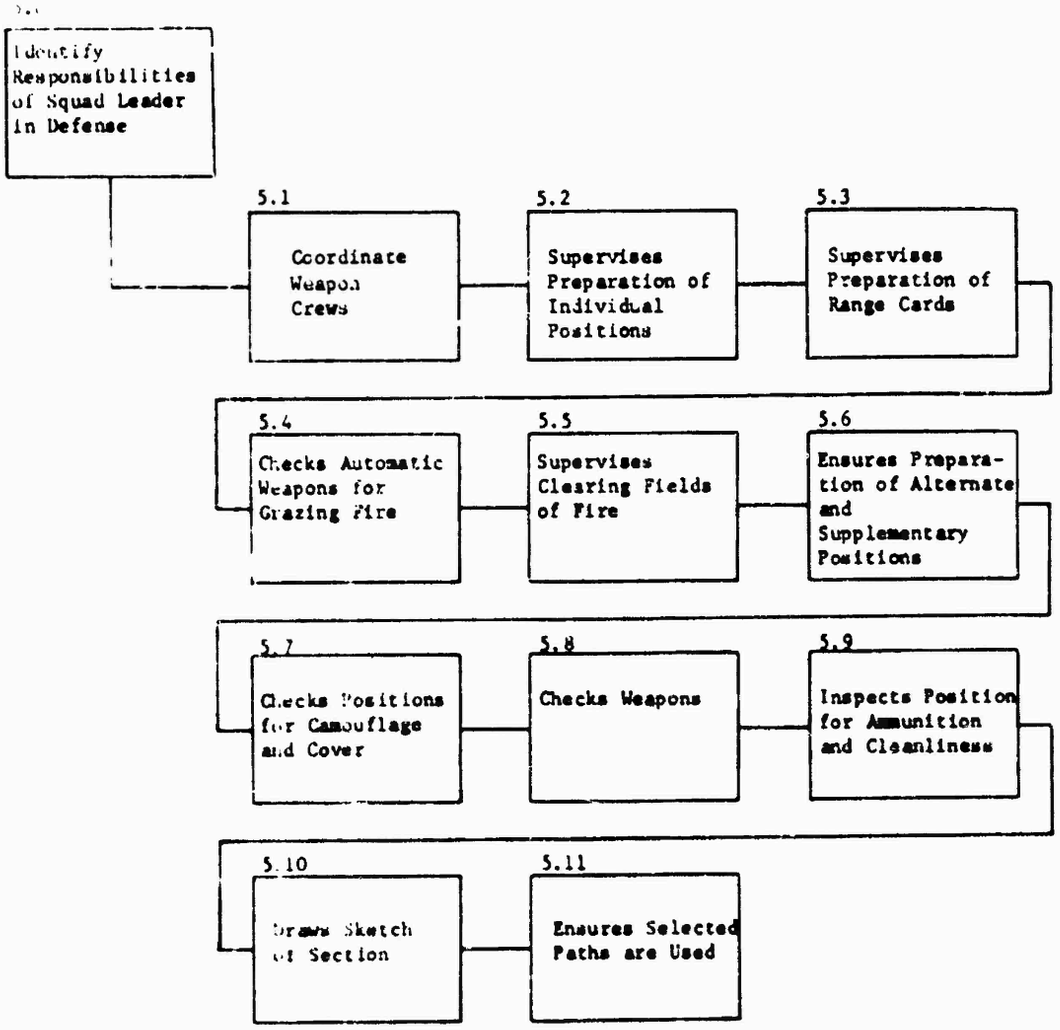
MOS Tactics
Rifle Squad in Defense



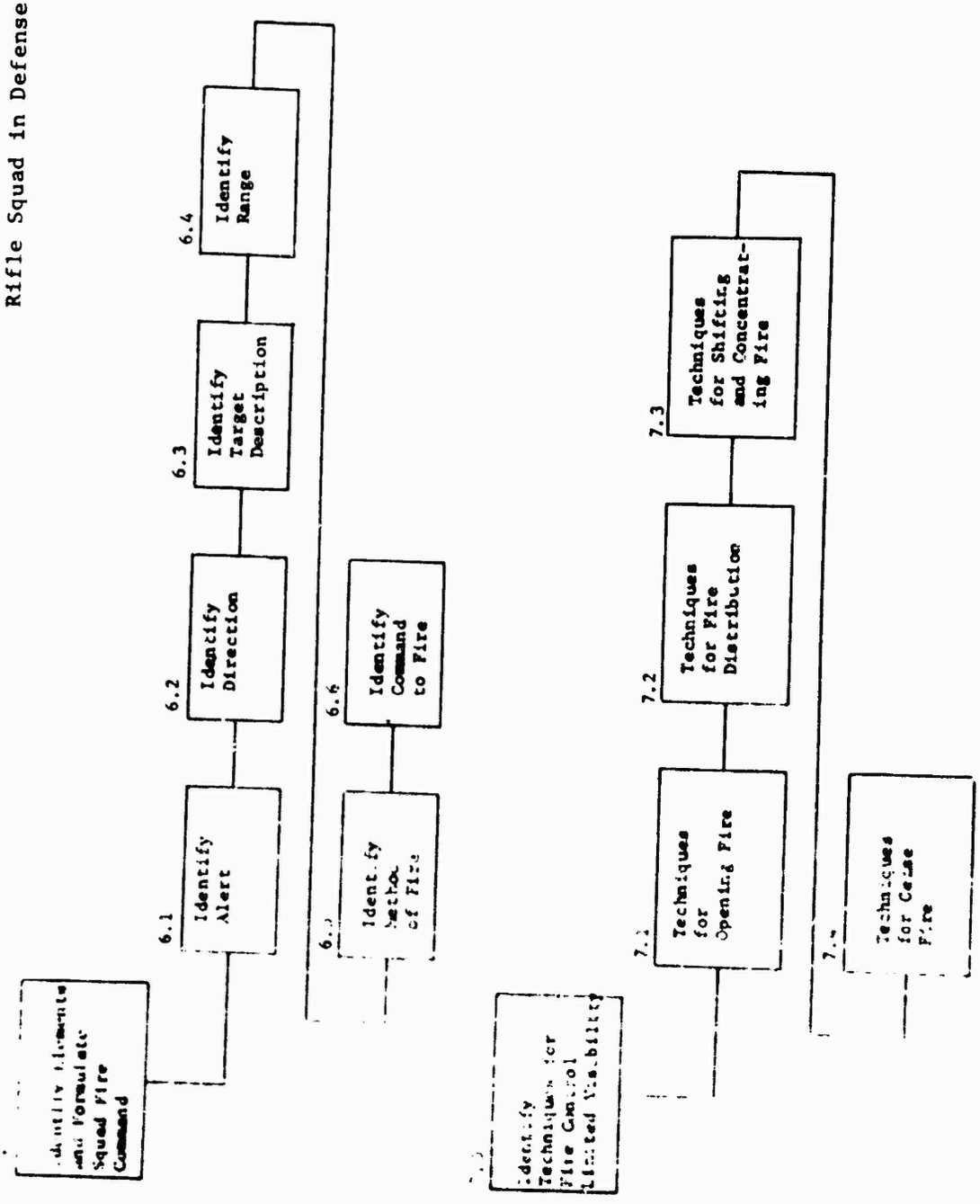
MOS Tactics
Rifle Squad in Defense



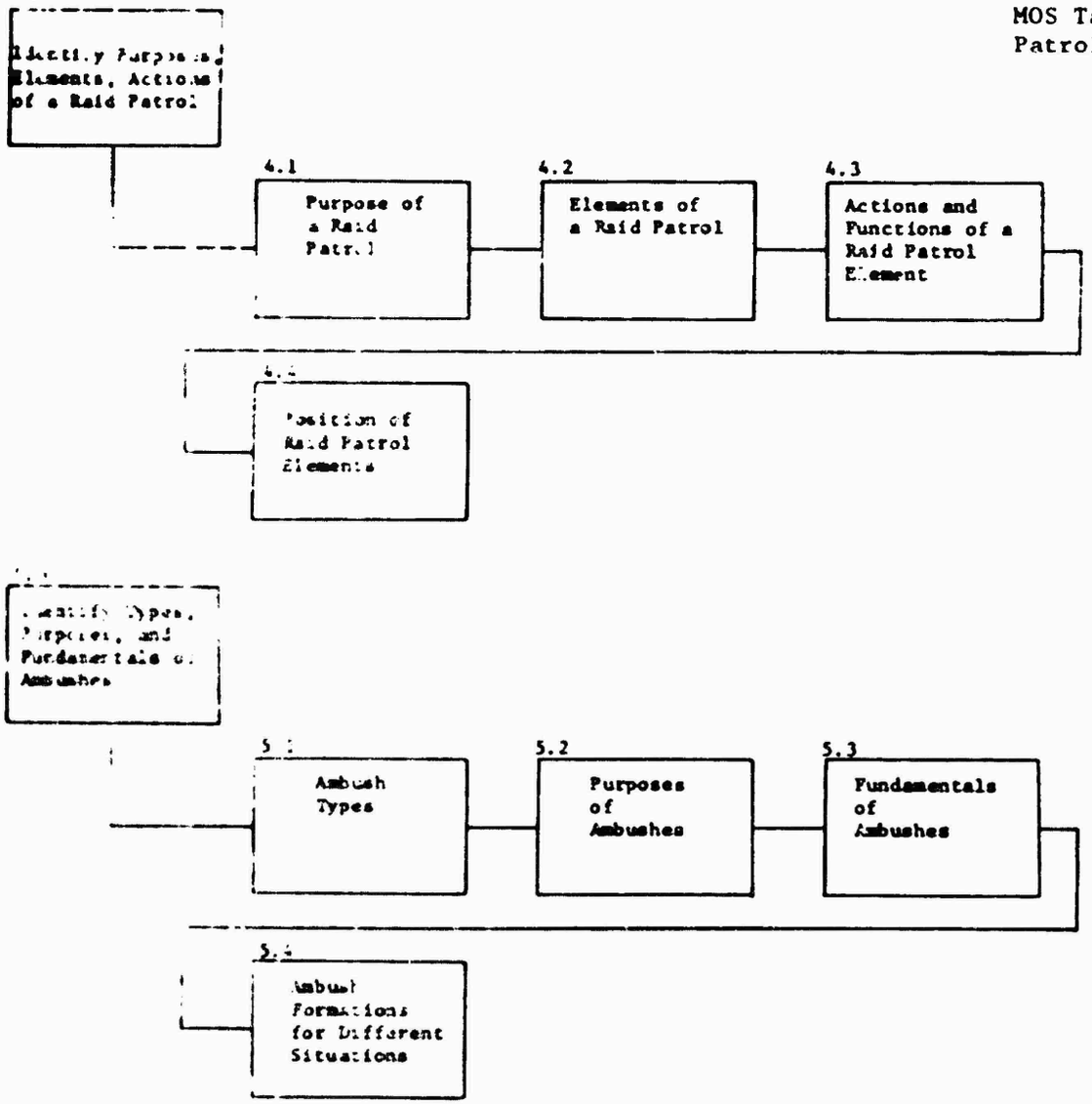
MOS Tactics
Rifle Squad in Defense



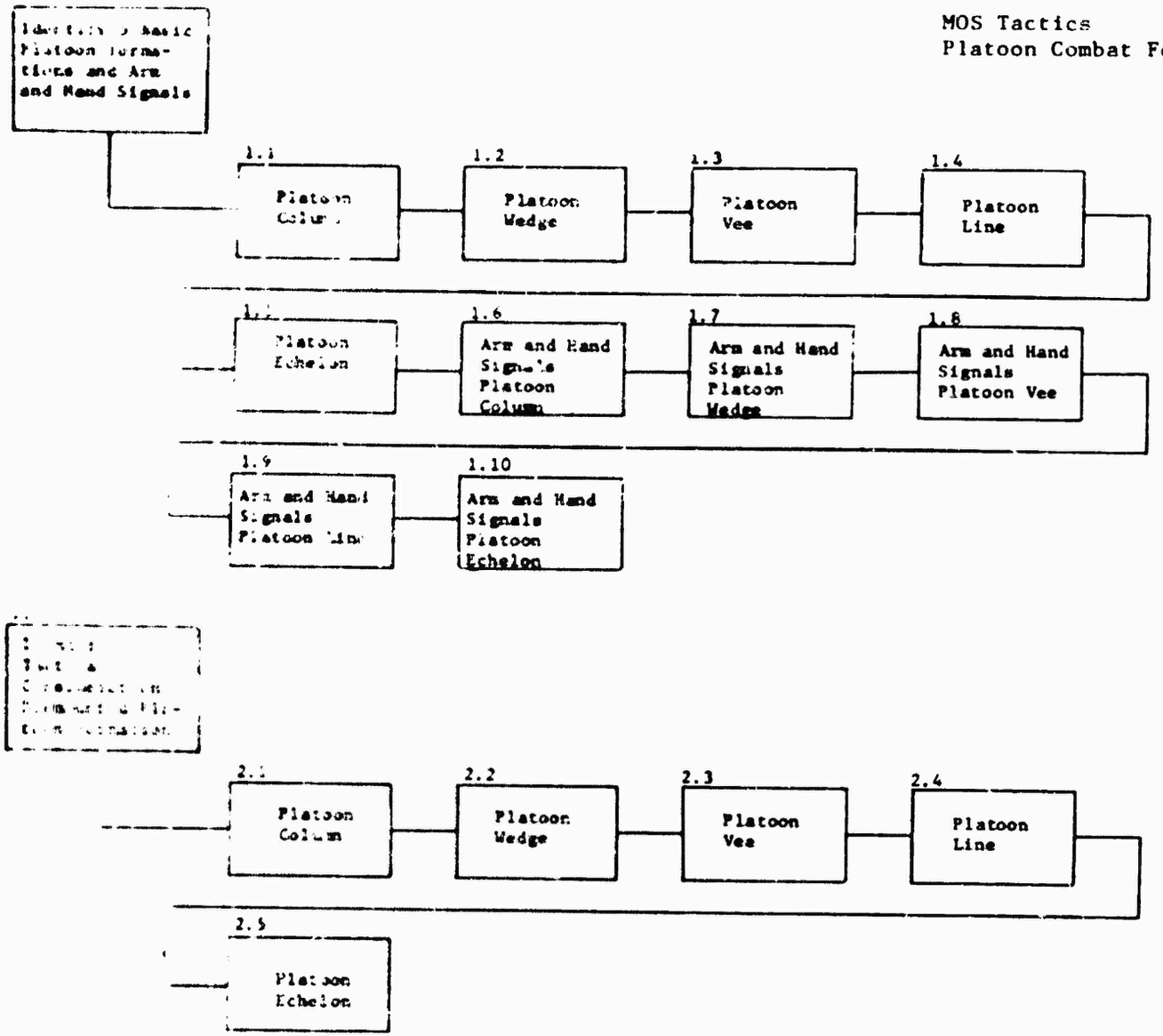
MOS Tactics
Rifle Squad in Defense



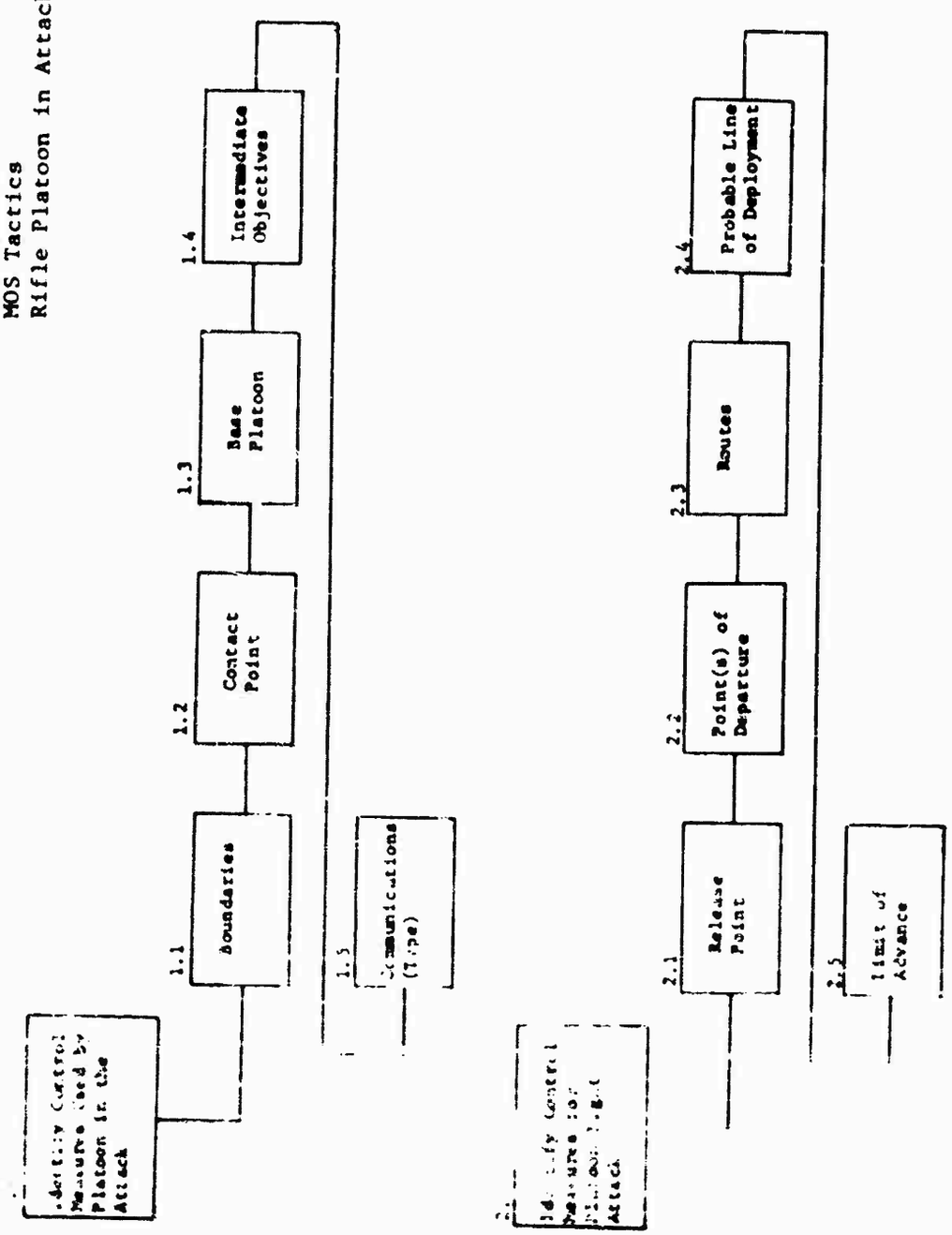
MOS Tactics
Patrolling


Identify Purposes, Elements, Actions of a Raid Patrol
4.1
Purpose of a Raid Patrol
4.2
Elements of a Raid Patrol
4.3
Actions and Functions of a Raid Patrol Element
4.4
Position of Raid Patrol Elements
Identify Types, Purposes, and Fundamentals of Ambushes
5.1
Ambush Types
5.2
Purposes of Ambushes
5.3
Fundamentals of Ambushes
5.4
Ambush Formations for Different Situations

MOS Tactics
Platoon Combat Formation

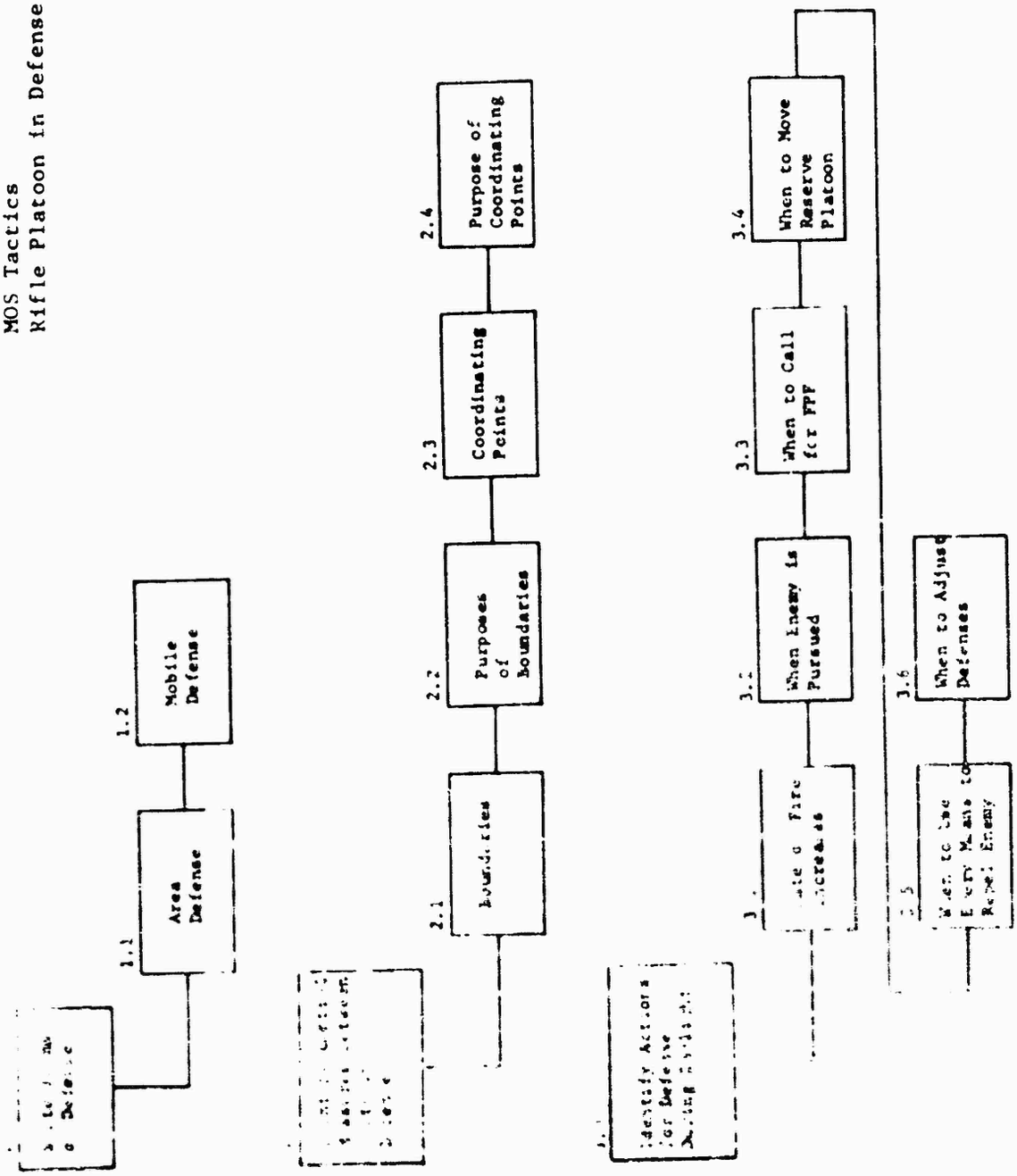


MOS Tactics
Rifle Platoon in Attack



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MOS Tactics
Rifle Platoon in Defense



APPENDIX B

AI TRAINING ANALYSIS RESULTS

CREW SERVED WEAPONS AND TACTICS

APPENDIX CONTENTS

This appendix contains the Automated Instruction Training Results developed by SDC for the Crew Served Weapons and Tactics Courses. It is divided into two parts, with Part 1 containing the documentation for Crew Served Weapons and Part 2 the documentation for Tactics. Each part comprises the following:

Section 1 - Content development (course outline)

Section 2 - Documentation for each topic to include a Training Analysis Information Sheet (TAIS), Criterion and Enabling Worksheets and Test Items Worksheets. The topics have been assembled in ascending order according to the TAIS identification number. A separate sheet identifies modules within each course.

All documentation that was prepared for review by subject matter experts from The Infantry School, Fort Benning, Georgia, during March 1973 is included here, even though as a result of that review some topics were eliminated from further course development. Documentation for those topics that were developed as courses has been updated to reflect changes resulting from this review meeting as well as any further changes that occurred as a result of the field trails conducted at Fort Hood, Texas, during August 1973.

PART 1

CREW SERVED WEAPONS DOCUMENTATION

Page

Section 1 - Content Development B-7

Section 2 - Topic Documentation for Crew Served Weapons B-17

M72A2 LAW B-19

TAIS 1001
TAIS 1002
TAIS 1003
TAIS 1004
TAIS 1005
TAIS 1006
TAIS 1007
TAIS 1008
TAIS 1009

90MM Recoilless Rifle B-65

TAIS 1010
TAIS 1011
TAIS 1012
TAIS 1013
TAIS 1014
TAIS 1015
TAIS 1016
TAIS 1017
TAIS 1018
TAIS 1019

M60 Machinegun B-105

TAIS 1020
TAIS 1021
TAIS 1022
TAIS 1023
TAIS 1024
TAIS 1025
TAIS 1026

Adjustment of Indirect Fire (deleted from courseware development) B-141

TAIS 1027
TAIS 1028

SECTION 1

CONTENT DEVELOPMENT

Subject Breakdown	General Task/Objective (TAIS)
M72A2 LAW	
1. Characteristics	1.0 State the characteristics of the M72A2 LAW.
a. Self contained	
b. Watertight	
c. Lightweight	
d. Throwaway	
2. Component Parts	2.0 Identify the major component parts when the M72A2 LAW is in the closed or extended position.
a. Closed position	
(1) Sling assembly (2) Front and rear covers (3) Pull pin (4) Trigger housing assembly (5) Barrel detent (6) Trigger safety handle (7) Trigger bar (8) Rear sight cover	
b. Extended position	
(1) Inner tube (2) Front and rear sights	
3. Capabilities and Limitations	3.0 State the capabilities and limitations of the M72A2 LAW.
a. Range	
b. Backblast area	
c. Penetration power	4.0 State the gunner requirements for maintenance of the M72A2 LAW and identify general conditions which make the launcher unserviceable.
4. Maintenance Actions	
a. Visual inspection	
b. Unserviceable conditions	

Content Development

Subject Breakdown	General Task/Objective (TAIS)
M72A2 LAW	
5. Preparation for Firing	5.0 State the procedural steps and proper sequence to prepare the M72A2 for firing.
a. Review firing instructions	
b. Perform safety and serviceability checks	
c. Remove sling assembly	
d. Prepare to extend launcher	
e. Extend launcher	
f. Check backblast area	
g. Place on shoulder	
h. Move trigger safety handle to arm position	
6. Aiming the M72A2 LAW	6.0 Identify the sighting equipment and techniques to aim the M72A2 LAW at a target.
a. Sighting equipment	
(1) Front sight (2) Rear sight	
b. Armored vehicle vulnerability	
c. Techniques of aiming	
(1) Estimating range (2) Types of targets	
7. Firing Position	7.0 Identify the firing position prescribed for use with the M72A2 LAW to engage stationary or moving targets.
a. Standing	
b. Kneeling	
c. Modified kneeling	
d. Sitting	
e. Modified sitting	
f. Prone position	

Module MOS-CS

Unit M72A2 LAW

Content Development

Subject Breakdown	General Task/Objective (TAIS)
M72A2 LAW	
8. Malfunction and Immediate Action	8.0 State the procedural steps and proper sequence to initiate immediate action after a misfire.
a. Types	
(1) Misfire (2) Hangfire	
b. Immediate action procedure	
(1) Resqueeze trigger (2) Wait 10 seconds (3) Place trigger safety handle in safe (4) Remove from shoulder and wait one minute (5) Recock weapon (6) Check backblast area (7) Assume firing position (8) Place trigger safety handle in fire position and attempt to fire	
9. Restore M72A2 LAW to Carrying Configuration	9.0 State the procedural steps and proper sequence to restore the M72A2 LAW to a carrying configuration.
a. Return trigger safety handle to the safe position	
b. Remove launcher from shoulder	
c. Depress barrel detent	
d. Partially collapse the launcher	
e. Depress front and rear sights	
f. Completely collapse launcher	
g. Close rear cover	
h. Insert pullpin	
i. Replace sling assembly	
j. Transport (carry) launcher	

Module MOS-CS

Unit 90MM

Content Development

Subject Breakdown	General Task/Objective (TAIS)
90MM Recoilless Rifle	
1. Characteristics	1.0 State the characteristics of the 90MM Recoilless Rifle.
a. Lightweight	
b. Portable	
c. Crew served	
d. Direct firing	
e. Single shot	
2. Component Parts	2.0 Identify the major component parts of the 90MM Recoilless Rifle.
a. Tube	
b. Neoprene sound suppressor ring	
c. Breechblock group	
d. Rear mounting bracket group	
e. Front mounting bracket group	
f. Firing cable	
g. Face shield	
h. Sighting and control group	
3. Ammunition	3.0 Identify the types of ammunition used in the 90MM Recoilless Rifle, their effective range and the basic load carried by the gun crew.
a. Types	
b. Effective range	
c. Gun crew basic load	

Module MOS-CS

Unit 90MM

Content Development

Subject Breakdown	General Task/Objective (TAIS)
90MM Recoilless Rifle	
4. Backblast Area	4.0 Define the backblast area.
a. Size (dimension)	
b. Areas	
(1) Danger (2) Caution	
c. Safety Factors	
5. Rates of Fire	5.0 State the two rates of fire for the 90MM Recoilless Rifle.
a. Sustained rate	
b. Rapid rate	
6. Gun Crew Personnel	6.0 Identify the 90MM Recoilless Rifle gun crew personnel, their responsibilities and relationship to the Weapons Squad Leader.
a. Personnel	
b. Responsibilities	
(1) Gunner (2) Loader	
c. Weapons Squad Leader Responsibilities	
7. M103 Sight	7.0 Identify the function of the scales of the M103 Sight on the 90MM Recoilless Rifle.
a. Scales	
(1) Range (2) Lead (3) Stadia	
b. Functions	

Module MOS-CS

Unit 90MM

Content Development

Subject Breakdown	General Task/Objective (TAIS)
90MM Recoilless Rifle	
8. Range Determination, Estimating Lead and Apparent Speed	8.0 Identify the techniques for determining range, speed and leads to a target.
a. Estimating range to a target	
(1) Stadia	
(2) Other	
b. Estimate apparent speed	
(1) Direct line	
(2) Frontal	
(3) Oblique	
c. Lead estimates	
9. Fire Adjustment	9.0 Identify the primary method of fire adjustment for the 90MM Recoilless Rifle during day or night firing.
Burst-on-target procedure	
10. Misfire Procedures	10.0 State the procedural steps and proper sequence to initiate immediate action when a misfire occurs with the 90MM Recoilless Rifle.
a. Initial misfire	
b. Consecutive misfire	

Module MOS-CS

Unit M60

Content Development

Subject Breakdown	General Task/Objective (TAIS)
M60 Machinegun	
1. Characteristics	1.0 State the characteristics of the M60 Machinegun.
a. Belt fed	
b. Fires from open bolt position	
c. Fixed headspace	
2. Malfunctions	2.0 Identify the types of malfunctions which occur when operating the M60 Machinegun and the corrective action required.
a. Sluggish operation	
b. Runaway gun	
c. Immediate action	
3. Stoppages	3.0 Identify the immediate action required to correct stoppages.
a. Types	
b. Immediate action	
4. Characteristics of Fire	4.0 Define the characteristics of fire.
a. Trajectory	
b. Cone of fire	
c. Beaten zone	
d. Center of impact	
e. Danger space	
5. Types of Targets	5.0 Identify the types of targets engaged by a M60 Machinegun
a. Point	
b. Linear	
c. Linear with depth	
d. Deep	
e. Area	

Module MOS-CS
Unit M60

Content Development

Subject Breakdown	General Task/Objective (TAIS)
M60 Machinegun	
6. Classes of Fire	6.0 Identify the classes of fire with respect to ground, gun and target.
a. Respect to ground	
(1) Grazing	
(2) Plunging	
b. Respect to target	
(1) Frontal	
(2) Flanking	
(3) Oblique	
(4) Enfilade	
c. Respect to gun	
(1) Fixed	
(2) Traversing	
(3) Searching	
(4) Traversing and searching	
(5) Swinging traverse	
(6) Free gun	
7. Target Designation	7.0 Identify the three elements used to designate targets being engaged with a M60 Machinegun.
a. Direction	
(1) General direction	
(2) Firing the gun	
(3) Laying the gun	
(4) Reference point method	
b. Description	
c. Range	

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Module MOS-CS

Unit Adj. Fire
(deleted)

Content Development

Subject Breakdown	General Task/Objective (TAIS)
Adjustment of Indirect Fire	
1. Methods of Target Location	1.0 Identify the four methods of target location.
a. Grid coordinate	
b. Polar coordinate	
c. Shift	
d. Marking rounds	
2. Call for Fire	2.0 Formulate an initial call for fire.
a. Identification	
b. Warning order	
c. Location of target	
d. Description of the target	
e. Method of engagement	
f. Method of fire and control	

SECTION 2

TOPIC DOCUMENTATION FOR CREW SERVED WEAPONS

M72A2 LAW

TAIS No. 1001 MODULE MOS-CS

UNIT LAW

TRAINING ANALYSIS INFORMATION SHEET

1. TASK IDENTIFICATION: 1.0

2. TASK: State the characteristics of the M72A2 LAW

3. CONDITIONS: Given constructed response test items on M72A2 LAW characteristics, provide the correct response.

4. STANDARD: No errors

5. TASK ANALYSIS:

TASK ELEMENTS	PREREQUISITE KNOWLEDCE OR SKILL REQUIREMENTS	SUPPLEMENTAL TRAINING MATERIAL	REFERENCES
1.1 State Self-contained	1.1 None	None	1. FM 23-33 para 2
1.2 State Watertight	1.2 None		2. Six Roads To Success, Vol II para 2 pg 53
1.3 State Lightweight	1.3 None		3. UT-B-002 pg 3
1.4 State Throwaway	1.4 None		4. TM9-1340-214-12 para 1-3

TAIS No. 1001

MODULE MOS-CS

UNIT LAW

CRITERION AND ENABLING OBJECTIVES

TASK IDENTIFICATION: 1.0

TASK ELEMENTS: 1.1-1.4

CRITERION OBJECTIVE(S)	ENABLING OBJECTIVE(S)
1.1-1.4 The student is able to state the four major characteristics of the M72A2 LAW as being: a. Self contained b. Watertight c. Lightweight d. Throwaway	1.1.1 Select from a list where the rocket is contained for the M72A2 LAW from the time of manufacture: INSIDE THE LAUNCHER 1.4.1 Select from a multiple-choice list the action that is to be taken after the M72A2 LAW is fired: DESTROY ACCORDING TO UNIT SOP

TAIS No. 1001

MODULE MOS-CS

UNIT LAW

TEST ITEMS

TASK IDENTIFICATION: 1.0

TASK ELEMENTS: 1.1-1.4

CRITERION ITEM(S)	ENABLING ITEM(S)
1.1-1.4 Which of the following are considered major characteristics of the M72A2 LAW? (Input the letters in a single line in alphabetical order) a. Sustained fire * b. Throwaway * c. Lightweight d. Both ends covered * e. Watertight * f. Self contained (b, c, e, f)	1.1.1 The LAW is also considered to be a "lightweight" weapon. The total weight of the launcher and the rocket is less than 5 1/2 pounds. It is easy to carry as the soldier does not have to carry the launcher and rocket separately since from the time of manufacture, the rocket is kept: (Select a letter) a. Within Company Headquarters b. Within the Back Pack * c. Inside the Launcher d. As part of the loader's allotment 1.4.1 Therefore, after firing the LAW, the action the soldier must take is to: (Select a letter) a. Reload the launcher * b. Destroy the launcher according to his Unit SOP c. Clean and lubricate the launcher d. Return launcher to higher command for reboring/reloading

TAIS No. 1002 MODULE MOS-CS

UNIT LAW

TRAINING ANALYSIS INFORMATION SHEET

1. TASK IDENTIFICATION: 2.0

2. TASK: Identify the major component parts when the M72A2 LAW is in a closed or extended position

3. CONDITIONS: Given a picture of the M72A2 in a closed or extended position with arrows and associated letters pointing to major component parts, identify each major part by matching the letter with the correct name from a list of component parts.

4. STANDARD: Correctly identifies at least 8 out of the 10 component parts presented.

5. TASK ANALYSIS:

TASK ELEMENTS	PREREQUISITE KNOWLEDGE OR SKILL REQUIREMENTS	SUPPLEMENTAL TRAINING MATERIAL	REFERENCES
2.1 Identify major component parts when the M72A2 LAW is in a closed position.	2.1 None	Picture of M72A2 LAW in a closed position.	1. FM 23-33 para 3 2. Six Roads To Success, Vol II para 3-4 pg 53 3. UT-B-002 pg 3 4. TM9-1340-214-12 para 1-3
2.2 Identify major component parts when the M72A2 LAW is in an extended position.	2.2 None	Picture of M72A2 LAW in an extended position.	

TAIS No. 1002

MODULE MOS-CS

UNIT LAW

CRITERION AND ENABLING OBJECTIVES

TASK IDENTIFICATION: 2.0

TASK ELEMENTS: 2.1-2.2

CRITERION OBJECTIVE(S)	ENABLING OBJECTIVE(S)
2.1 Identify major component parts when given a picture of a M72A2 LAW in a closed position. The component parts are indicated by arrows which are associated with letters. The student can identify the component part by matching the letter with the correct name when presented with a list of component parts. The letters and component part associations are as follows: A. Sling Assembly B. Front and Rear Cover C. Pull Pin D. Trigger Housing Assembly E. Barrel Detent F. Trigger Safety Handle G. Trigger Bar H. Rear Sight Cover 2.2 Identify major component parts when given a picture of a M72A2 LAW in an extended position. The component parts are identified as indicated above. The student can identify the component part by matching the letter with the correct name selected from a list of component parts. The letter and component associations are as follows: I. Inner Tube J. Front and Rear Sights	

TAIS No. 1002

MODULE MOS-CS

UNIT LAW

TEST ITEMS

TASK IDENTIFICATION: 2.0

TASK ELEMENTS: 2.1-2.2

CRITERION ITEM(S)	ENABLING ITEM(S)
2.1-2.2 Using Figure 2, enter the letter which points to each of the following component parts. I will tell you how well you did after you answer the questions. The first one is the: 1. Trigger Safety Handle: Letter = ? (enter the letter of your choice) (F) 2. Pull Pin: Letter = ? (C) 3. Sling Assembly: Letter = ? (A) 4. Inner Tube: Letter = ? (I) 5. Trigger Housing Assembly: Letter = ? (D) 6. Rear Sight Cover: Letter = ? (H) 7. Front and Rear Sight: Letter = ? (J) 8. Trigger Bar: Letter = ? (G) 9. Front and Rear Cover: Letter = ? (B)	

TAIS No. 1003 MODULE MOS-CS

UNIT LAW

TRAINING ANALYSIS INFORMATION SHEET

1. TASK IDENTIFICATION: 3.0

2. TASK: State the capabilities and limitations of the M72A2 LAW

3. CONDITIONS: Given constructed response and multiple-choice questions concerning M72A2 LAW capabilities and limitations, provide correct response.

4. STANDARD: No errors

5. TASK ANALYSIS:

TASK ELEMENTS	PREREQUISITE KNOWLEDGE OR SKILL REQUIRFMENTS	SUPPLEMENTAL TRAINING MATERIAL	REFERENCES
3.1 State the maximum range for the M72A2 LAW.	3.1 None	3.1 None	1. FM 23-33 para 4
3.2 State the maximum effective range for the M72A2 LAW.	3.2 None	3.2 None	2. Six Roads To Success Vol II para 3-4 pg 53
3.3 Identify the Backblast area and its dimensions.	3.3 Safety precautions	3.3 Line drawing of the backblast area	3. UT-B-002 pg 4
3.4 State the armor penetration capabilities of the M72A2 LAW.	3.4 None	3.4 None	4. TM9-1340-214-12 para 1-5

TAIS No. 1003

MODULE MOS-CS

UNIT LAW

CRITERION AND ENABLING OBJECTIVES

TASK IDENTIFICATION: 3.0

TASK ELEMENTS: 3.1-3.4

CRITERION OBJECTIVE(S)	ENABLING OBJECTIVE(S)
3.1 The student can select from a multiple-choice list the maximum range of the M72A2 LAW as being: APPROXIMATELY 1000 METERS 3.2 The student can state the maximum effective range as being: (200) Meters 3.3 The student can state BACKBLAST as being an area extending to the rear of the launcher which is 40 meters deep and 25 meters wide. 3.4 The student can select from a list the penetration capability of the M72A2 LAW as being: DESIGNED TO PENETRATE ANY KNOWN ARMOR ON THE BATTLEFIELD TODAY.	3.3.1 Select from a list the two zones contained within the Backblast area: DANGER AND CAUTION. 3.3.2 Given a line drawing of the Backblast area with selected dimensions missing, compute the depth of the Caution Area: (25) Meters. 3.3.3 Using the same line drawing of the Backblast area, compute how far the danger and caution zones extend to the rear of the launcher: (15 and 25) Meters.

TAIS No. 1003

MODULE MOS-CS

UNIT LAW

TEST ITEMS

TASK IDENTIFICATION: 3.0

TASK ELEMENTS: 3.1-3.4

CRITERION ITEM(S)	ENABLING ITEM(S)
3.1 What is the maximum range of the M72A2 LAW? (select a letter) a. 100 Meters b. 200 Meters c. 500 Meters * d. 1000 Meters e. 2000 Meters	3.3.1 The entire Backblast area must be observed for safety reasons during training. This includes both the: (select a letter) * a. Danger and caution b. Caution and neutral c. Danger and free d. Personnel and material
3.2 The LAW is also designed to penetrate any known armor on the battlefield today. To achieve a high probability of a hit, the LAW should be employed against targets within a maximum effective range of (200) meters.	3.3.2 Using Figure 3 showing the shape and selected dimensions of the Backblast area, how deep does the caution area extend? (25) Meters.
3.3 The area that extends 40 meters to the rear of the launcher and is 25 meters wide at the base is called the (BACKBLAST) area?	3.3.3 How far do the danger and caution zones extend to the rear of the launcher? (15 and 25) meters each.
3.4 The LAW is designed to penetrate and knock out: (select a letter) * a. Any known armor on the battlefield today. b. Light and medium tanks. c. Bunkers only. d. Armored cars and knock out tanks treads.	

TAIS No. 1004

MODULE MOS-CS

UNIT LAW

TRAINING ANALYSIS INFORMATION SHEET

1. TASK IDENTIFICATION: 4.0

2. TASK: State the gunner requirements for inspection of the M72A2 LAW and identify general conditions which cause the launcher to be unserviceable

3. CONDITIONS: Given constructed response and multiple-choice questions concerning gunner maintenance, provide the correct responses. Given a picture of the M72A2 LAW which has component parts labelled, match the component with a statement describing an unserviceable condition.

4. STANDARD: Gunner maintenance - no errors. Unserviceable conditions--Correctly matches 2 out of 3 unserviceable conditions with its component part.

5. TASK ANALYSIS:

TASK ELEMENTS	PREREQUISITE KNOWLEDGE OR SKILL REQUIREMENTS	SUPPLEMENTAL TRAINING MATERIAL	REFERENCES
4.1 State the gunner's inspection requirements concerning the M72A2 LAW.	4.1 None	None	1. FM 23-33 para 18-19
4.2 Identify general conditions which cause the M72A2 LAW to be serviceable.	4.2 Knowledge of the component parts of the M72A2 LAW	Picture of the M72A2 LAW.	2. Six Roads To Success, Vol II para 18-19 PR 64 3. UT-B-002 PR 5 4. TM9-1340-214-12 para 2-2

TAIS No. 1004

MODULE MOS-CS

UNIT LAW

CRITERION AND ENABLING OBJECTIVES

TASK IDENTIFICATION: 4.0

TASK ELEMENTS: 4.1-4.2

CRITERION OBJECTIVE(S)	ENABLING OBJECTIVE(S)
4.1 When asked what the gunner's inspection requirements are for the M72A2 LAW, the student can state: VISUAL inspection only.	4.1.1 Select from a multiple-choice list when visual examinations of the M72A2 LAW must be performed. BOTH UPON ISSUE AND IMMEDIATELY BEFORE FIRING.
4.2 When given a picture of the M72A2 LAW which has selected components labelled, the student can match the component with a statement describing a condition which causes the launcher to be considered unserviceable. The pairings are: Launcher - Cracks, Dents Or Bulges Trigger Safety Handle - Not In Safe Position When Launcher Is In A Closed Configuration Trigger Bar and Barrel Detent - Rubber Boots Are Cracked, Torn Or Deteriorated	4.2.1 Pick from a list the launcher is considered UNSERVICEABLE when it contains cracks, dents or bulges. 4.2.2 State FALSE when asked if the weapon is considered serviceable when the trigger handle is present but not in a safe position. 4.2.3 Pick from a list RUBBER BOOTS as being the parts that cover the trigger bar and barrel detent that should be inspected to insure that they are free from cracks or tears, and are not deteriorated. 4.2.4 State NO when asked if he would normally fire the LAW if it had a small dent on the side.

TAIS No. 1004

MODULE MOS-CS

UNIT LAW

TEST ITEMS

TASK IDENTIFICATION: 4.0

TASK ELEMENTS: 4.1-4.2

CRITERION ITEM(S)	ENABLING ITEM(S)
4.1 The type of inspection you would make would be a (visual) inspection only.	4.1.1 When should the gunner perform a visual inspection of the LAW: (enter a letter) a. After firing b. Before and after firing c. When weapon is issued * d. Both upon issue and immediately before firing e. Both upon issue and immediately after firing
4.2 Refer to Figure 4, which has 4 component parts of the LAW labelled. From the following list, match a statement describing a condition which causes the LAW to be considered unserviceable with the correct component part. a. Paint is worn b. Cracks, dents or bulges c. Frayed sling d. Not is safe position when launcher is in a closed configuration e. Rubber boots are cracked, torn or worn out f. Firing instructions are hard to read An unserviceable condition for the "launcher" (tube) would be? (enter the letter of your choice from the above list) (b) An unserviceable condition for the "trigger safety handle" would be? (d) An unserviceable condition for the trigger bar and barrel detent would be? (e)	4.2.1 This visual inspection would include checking the launcher for cracks, dents or bulges. If any occur the launcher must be considered: (select a letter) a. Serviceable * b. Unserviceable 4.2.2 However, if the gunner finds the "trigger handle" present but not in the "safe" position, he may consider the weapon system to be serviceable. (true or false)

TAIS No. 1004

MODULE MOS-CS

UNIT LAW

TEST ITEMS

TASK IDENTIFICATION: 4.0

TASK ELEMENTS: 4.1-4.2

CRITERION ITEM(S)	ENABLING ITEM(S)
	4.2.3 In performing this visual inspection, the parts that cover the "trigger bar" and "barrel detent" that should be inspected by the gunner to make sure they are free from cracks, or tears and are not worn out are the: (select a letter) a. Front and rear covers * b. Rubber boots c. Trigger housing assembly d. Rear cover assembly 4.2.4 If the LAW was issued to you and upon inspection you discovered a dent about an inch round on the right hand side, would you accept this weapon if you were expected to eventually fire the weapon? a. Yes * b. No

TAIS No. 1005 MODULE MOS-CS

UNIT LAW

TRAINING ANALYSIS INFORMATION SHEET

1. TASK IDENTIFICATION: 5.0

2. TASK: State the procedural steps and proper sequence to prepare the M72A2 LAW for firing

3. CONDITIONS: Given a list of procedural steps involving the preparation of the M72A2 LAW for firing, select the correct procedural steps and the order in which they should be performed.

4. STANDARD: Select in the correct order 6 out of 8 procedural steps from a scrambled list.

5. TASK ANALYSIS:

TASK ELEMENTS	PREREQUISITE KNOWLEDGE OR SKILL REQUIREMENTS	SUPPLEMENTAL TRAINING MATERIAL	REFERENCES
5.1 Review firing instructions	5.1 Ability to read or interpret pictures	Picture of the M72A2 LAW in closed, partially extended and fully extended positions	1. FM 23-33 para 11
5.2 Perform safety and serviceability checks	5.2 Know conditions which cause the M72A2 LAW to be considered unserviceable		2. Six Roads To Success, Vol II para 11 pg 55
5.3 Remove sling assembly			
5.4 Prepare to extend launching	5.3 Knowledge of M72A2 LAW component parts		3. UT-B-002 pg 6
5.5 Extend launcher	5.4 None		4. TM9-1340-214-12 para 2-5
5.6 Check backblast area	5.5 None		
5.7 Place on shoulder	5.6 Safety precautions		
5.8 Move trigger safety handle to ARM position	5.7 None		
	5.8 Know location of trigger safety handle		

TAIS No. 1005

MODULE MOS-CS

UNIT LAW

CRITERION AND ENABLING OBJECTIVES

TASK IDENTIFICATION: 5.0

TASK ELEMENTS: 5.1-5.8

CRITERION OBJECTIVE(S)	ENABLING OBJECTIVE(S)
5.1-5.8 When presented a list of procedures involved in preparing the M72A2 LAW for firing, but with the procedures in a scrambled order, the student can state the correct order in which these procedures should be performed. The correct order is: a. Review firing instructions if sufficient light is available b. Perform safety and serviceability checks c. Remove sling assembly d. Prepare to extend launcher e. Extend launcher f. Check backblast area g. Place on shoulder h. Move trigger safety handle to ARM position	5.2.1 State when Safety and Serviceability checks should be performed by the gunner: BEFORE PREPARING THE M72A2 LAW FOR FIRING. 5.3.1 Select from a list the first step in preparing the M72A2 for firing: REMOVE PULL PIN. 5.3.2 Select from a multiple-choice list the procedure to follow after the Pull Pin is removed: ROTATE THE REAR COVER DOWNWARD. 5.3.3 State that after Step 3, the SLING assembly should fall free. 5.3.4 Select from a multiple-choice list the action to take after the sling assembly has fallen free from the launcher: KEEP IT UNTIL AFTER THE LAUNCHER HAS BEEN SUCCESSFULLY FIRED. 5.3.5 List in correct order the steps required in removing the Sling Assembly. The correct order is: (a) Remove pull pin, (b) Rotate rear cover downward, (c) Allow sling assembly to fall free, (d) Move sling assembly out of immediate firing area.

TAIS No. 1005

MODULE MOS-CS

UNIT LAW

CRITERION AND ENABLING OBJECTIVES

TASK IDENTIFICATION: 5.0

TASK ELEMENTS: 5.1-5.8

CRITERION OBJECTIVE(S)	ENABLING OBJECTIVE(S)
	5.4.1 Select from a list the steps required to prepare to extend the launcher. The steps are: (a) Hold launcher out to the front and away from the body, (b) Grasp the rear sight cover with the firing hand, (c) Grasp the forward section of the launcher with the nonfiring hand, palms down.
	5.5.1 State that the extension of the launcher requires the hands grasping the launcher be pulled in opposite directions SHARPLY.
	5.5.2 State that the launcher is automatically COCKED when properly extended.
	5.6.1 Pick from a multiple-choice list the area that must be checked by the gunner to insure it is free of personnel and material: BACKBLAST.
	5.7.1 Select from a multiple-choice list the procedure that should be followed after the extension and backblast steps have been completed: PLACE LAUNCHER ON SHOULDER.
	5.8.1 State ARM position when asked where the Trigger Handle Safety must be placed as the final step in preparing the M72A2 LAW for firing.

TAIS No. 1005

MODULE MOS-CS

UNIT LAW

TEST ITEMS

TASK IDENTIFICATION: 5.0

TASK ELEMENTS: 5.1-5.8

CRITERION ITEM(S)	ENABLING ITEM(S)
5.1-5.8 Following is a list of procedures which have been scrambled. You are to put these steps in order, one step at a time. a. Place on shoulder b. Review firing instructions if sufficient light is available c. Extend launcher d. Move trigger safety handle to ARM position e. Check backblast area f. Prepare to extend launcher g. Remove sling assembly h. Perform safety and serviceability checks The first step is? (b) (enter a letter from the above list) Step 2 is - ? (h) Step 3 is - ? (g) Step 4 is - ? (f) Step 5 is - ? (c) Step 6 is - ? (e) Step 7 is - ? (a) The last step is - ? (d)	5.2.1 However, Step 2 concerning safety and serviceability checks must be performed (before/after) preparing the LAW for firing. 5.3.1 Assuming we have a serviceable LAW, tell me what you think is the first step a gunner must do to prepare the LAW for firing. (select a letter) * a. Remove pull pin b. Insert sling lever c. Cut trigger safety d. Pull safety pin e. Align sling assembly 5.3.2 After the "Pull Pin" is removed, the next step the gunner must do is: a. Check the backblast area b. Assume the prone position * c. Rotate the rear cover downward d. Load the launcher 5.3.3 After the rear cover is rotated downward the (Sling) Assembly should fall free.

TAIS No. 1005

MODULE MOS-CS

UNIT LAW

TEST ITEMS

TASK IDENTIFICATION: 5.0

TASK ELEMENTS: 5.1-5.8

CRITERION ITEM(S)	ENABLING ITEM(S)
	5.3.4 What do you think the gunner should do with the "sling assembly" after it has fallen free from the launcher? (select a letter) a. Neatly fold it so it can be returned to supply for reuse * b. Keep it until after the launcher has been successfully fired c. Throw it away d. Give it to the Weapons Squad Leader e. Retain until the launcher is cleaned and then reinstall 5.3.5 Put in the proper order the steps required to remove the "Sling Assembly" 1. Rotate rear cover downward 2. Remove pull pin 3. Move sling assembly out of the immediate fire area 4. Allow sling assembly to fall free The first step is - ? (b) (enter the number 1, 2, 3, or 4 to indicate the first step) The second step is - ? (a) The third step is - ? (d) The fourth step is - ? (c)

TEST ITEMS

TASK IDENTIFICATION: 5.0

TASK ELEMENTS: 5.1-5.8

CRITERION ITEM(S)	ENABLING ITEM(S)
	5.4.1 Now, from the following list, select in the correct order the steps a gunner must take when preparing to extend the launcher. a. Assume the prone position b. Grasp the forward section of the launcher with the nonfiring hand palm down * c. Hold the launcher out to the front and away from the body d. Flex the trigger housing assembly * e. Grasp the rear sight cover with the firing hand (enter the letters in a single line) (c, e, b) 5.5.1 Extension of the launcher by the gunner requires that the hands grasping the launcher be pulled (Sharply) in the opposite direction. 5.5.2 Properly extending the launcher causes the LAW to be automatically (Cocked). 5.6.1 The name of the area that the gunner must check to make sure it is free of personnel and material is the? (select a letter) a. Blast area b. Beaten zone c. Defilade area * d. Backblast area

TAIS No. 1005

MODULE MOS-CS

UNIT LAW

TEST ITEMS

TASK IDENTIFICATION: 5.0

TASK ELEMENTS: 5.1-5.8

CRITERION ITEM(S)	ENABLING ITEM(S)
	5.7.1 After checking the backblast area the gunner? (select a letter) a. Fires the weapon b. Places the launcher on his back * c. Places the launcher on his shoulder d. Removes the launcher from his shoulder 5.8.1 As the final step, the Trigger Safety Handle should be placed in the (ARM) position?

TAIS No. 1006

MODULE MOS-CS

UNIT LAW

TRAINING ANALYSIS INFORMATION SHEET

1. TASK IDENTIFICATION: 6.0

2. TASK: Identify the equipment and techniques to aim the M72A2 LAW at a target

3. CONDITIONS: Given a picture of the M72A2 LAW, identify the front and rear sights and their usage. State the techniques when given a series of line drawings of the front sight depicting engagement of a target at various ranges and attack angles.

4. STANDARD: No errors when required to match front and rear sight component parts with their function. Select the five correct sight pictures from an array of 15 to engage targets at varying ranges and speeds and directions of movement.

5. TASK ANALYSIS:

TASK ELEMENTS	PREREQUISITE KNOWLEDGE OR SKILL REQUIREMENTS	SUPPLEMENTAL TRAINING MATERIAL	REFERENCES
6.1 Identify the M72A2 LAW sighting equipment and their usage.	6.1 Know location of component parts.	Line drawing of Front Sight Reticle	1. FM 23-33 para 25, 34
6.2 State those areas on a tank which are most vulnerable to a M72A2 LAW.	6.2 None	Line drawing of the front sight engaging a target at various ranges and attack angles	2. Six Roads To Success Vol II para 25, 34 pgs 65, 80
6.3 Identify techniques of aiming	6.3 Use of sight reticle		3. UT-B-002 pgs 7-9

TAIS No. 1006

MODULE MOS-CS

UNIT LAW

CRITERION AND ENABLING OBJECTIVES

TASK IDENTIFICATION: 6.0

TASK ELEMENTS: 6.1-6.3

CRITERION OBJECTIVE(S)	ENABLING OBJECTIVE(S)
6.1 When given a line drawing of the front sight with the component parts of the sight labelled, the student can match the correct statement with the function of the part. The pairings are: VERTICAL RANGE LINE — A. SCALE WHICH INDICATES RANGE FROM 50-350 METERS IN 25 METER INCREMENTS STADIA LINES — B. USED TO OBTAIN AN ESTIMATE OF THE RANGE TO ARMORED VEHICLES OF KNOWN DIMENSIONS LEAD MARKS — C. USED TO FORM THE CORRECT SIGHT PICTURE FOR MOVING TARGETS RANGE MARKER — D. INDICATES RANGE EVERY 25 METERS 6.2 The student can identify the most vulnerable areas of a tank when using the M72A2 LAW as being the: REAR, SIDES AND BOTTOM	6.1.1 Select from a multiple-choice list the location of the sights on a M72A2 LAW: FRONT AND REAR. 6.1.2 Pick from a multiple-choice list what the rear sight compensates for automatically: TEMPERATURE CHANGES. 6.1.3 Pick NO ADJUSTMENT REQUIRED from a list when asked about adjusting the M72A2 LAW sights. 6.1.4 Pick from a list the scale in the front sight which is used to indicate range to a target: VERTICAL RANGE SCALE. 6.1.5 State (350)meters as being the maximum range a target can be engaged using the front sights on M72A2 LAW. 6.1.6 State STADIA lines as being the scale used by a gunner to estimate range to armored vehicles of known dimensions. 6.2.1 State SIDE as being the most vulnerable area to engage a tank using the M72A2 LAW. 6.3.1 Pick from a multiple-choice list the average size of an armored vehicle for use in aiming: 10 FT WIDE BY 20 FT LONG. 6.3.2 State lead marks represent a target lead of 15 MPH. 6.3.3 Select from a list between STADIA LINES as where a target moving directly across the line of sight must be placed to estimate range.

TAIS No. 1006 MODULE MOS-CS

UNIT LAW

CRITERION AND ENABLING OBJECTIVES

TASK IDENTIFICATION: 6.0

TASK ELEMENTS: 6.1-6.3

CRITERION OBJECTIVE(S)	ENABLING OBJECTIVE(S)
6.3 Given the target range, speed and direction of movement, the student can select the correct sight picture when using the M72A2 LAW. The situations and sight picture pairings are as follows: Situation — Sight Picture 1. Target approaching gunner, 150 meters, at an angle of 45 degrees or less — E 2. Target moving left to right, 10 m.p.h. at 200 meters — L 3. Target moving away from gunner, 175 meters, at an angle of 45 degrees — C 4. Target moving left to right, 15 m.p.h. at 200 meters — G 5. Stationary target at 200 meters — O	6.3.4 Select from a multiple-choice list the point on the target where the vertical range line is pointed to obtain an estimate of range to the target when using a full stadia picture: CENTER OF MASS 6.3.5 Select from a multiple-choice list the sight picture to use to estimate range when a target is moving directly toward or away from the line of sight: HALF STADIA PICTURE. 6.3.6 State MORE LEAD is required when the target is moving at a range greater than 200 meters. 6.3.7 Select from a multiple-choice list the action required when the estimated speed of a target is not 15 MPH: INCREASE OR DECREASE LEAD ESTIMATES ACCORDINGLY. 6.3.8 Pick from a list the action required when the target is moving at a range greater than 200 meters: INCREASE THE LEAD ESTIMATE.

TAIS No. 1006

MODULE MOS-CS

UNIT LAW

TEST ITEMS

TASK IDENTIFICATION: 6.0

TASK ELEMENTS: 6.1-6.3

CRITERION ITEM(S)	ENABLING ITEM(S)
6.1 Using Figure 7 in your handout, let's see if you can match each labelled part in the front sight with its function below: a. Used to estimate speed of walking personnel b. Indicates range every 25 meters c. Scale which indicates range from 50-350 meters in 25 meter increments d. Used to form mil-angle relationships e. Used to obtain an estimate of the range to armored vehicles of known dimension f. Used to form the correct sight picture for moving targets 1. Vertical Range Line. Its function is? (enter the letter of your choice from the above list) (c) 2. Stadia lines. Their function is? (e) 3. Lead marks. Their function is? (f) 4. Range marks. Their function is? (b)	6.1.1 The sighting equipment consists of two sights which after the LAW is extended are visible in the? a. Top and front b. Front and side c. Side and rear * d. Front and rear 6.1.2 The gunner can basically ignore how changes in the weather might affect the sights on the LAW, since the rear sight automatically compensates for changes in: (select a letter) a. Height b. Azimuth c. Range * d. Temperature 6 1.3 When must the gunner adjust the M72A2 LAW sights: (select a letter) a. Every time the launcher is fired b. Once a month c. Only when boresighting * d. No adjustment is required

TAIS No. 1006

MODULE MOS-CS

UNIT LAW

TEST ITEMS

TASK IDENTIFICATION: 6.0

TASK ELEMENTS: 6.1-6.3

CRITERION ITEM(S)	ENABLING ITEM(S)
6.2 A gunner using the LAW should attempt to engage an armored vehicle in its most vulnerable areas. These areas are the: (select a letter) a. Top, sides, bottom * b. Rear, sides, and bottom c. Front, rear, and top d. Front, sides, and bottom	6.1.4 The scale which indicates (marks) the range to a target is termed the? (select a letter) a. Horizontal Range Scale b. Mil Range Scale * c. Vertical Range Scale d. Curved Range Scale
6.3 Refer to Figure 9A through 9C for these questions. For each of the following combat situations, select the appropriate sight picture a gunner would use to engage the target Assume target speed is 15 MPH unless stated otherwise.	6.1.5 The maximum range a target can be engaged using the scale in the front sight is (350) meters?
	6.1.6 Assume a tank is approaching your position. You must use the (Stadia) lines in the front sight to obtain an estimate of the range to the tank.
1. Target is moving away from the gunner, range 175 meters, at an angle of 45 degrees. The sight picture would be? (c)	6.2.1 The most vulnerable area to engage a tank using the M72A2 LAW is the (Side)?
2. Stationary target at 200 meters. Flank showing. The sight picture would be? (o)	6.3.1 When aiming, the average size of an armored vehicle is considered to be? (select a letter) a. 10 ft. wide by 10 ft. long * b. 10 ft. wide by 20 ft. long c. 20 ft. wide by 10 ft. long d. 20 ft. wide by 20 ft. long
3. Target gunner, range 150 meters, approaching at an angle of 45 degrees or less. The sight picture would be? (e)	
4. Target moving left to right, 15 m.p.h. at 200 meters. The sight picture would be? (g)	

TAIS No. 1006 MODULE MOS-CS

UNIT LAW

TEST ITEMS

TASK IDENTIFICATION: 6.0

TASK ELEMENTS: 6.1-6.3

CRITERION ITEM(S)	ENABLING ITEM(S)
5. Target moving left to right, 10 m.p.h. at 200 meters. The sight picture would be? (1)	6.3.2 How much lead does a lead mark represent? (15) m.p.h. 6.3.3 Consider a target moving directly across the gunner's front. Here, the gunner must estimate target speed (apply lead) as well as estimate range. First he estimates range by placing the target: (select a letter) a. On the vertical range line b. Outside the Stadia lines c. At the 200 range marker * d. Between the Stadia lines 6.3.4 The first situation is the stationary target-side view. The gunner estimates the range to the target using a full stadia picture, then finds the range on the vertical range line and places that point at the: (select a letter) * a. Center of Mass of the target b. Front of the target c. Side of the target d. Rear of the target

TAIS No. 1006

MODULE MOS-CS

UNIT LAW

TEST ITEMS

TASK IDENTIFICATION: 6.0

TASK ELEMENTS: 6.1-6.3

CRITERION ITEM(S)	ENABLING ITEM(S)
	6.3.5 Consider a target moving directly toward the gunner. For this situation, the gunner would estimate the range to the target, locate this range on the vertical range line and place the point on the target's center of mass. What sight picture should be used to estimate range? (select a letter) a. Vertical range line picture b. Full stadia line picture * c. Half stadia picture d. Lead marker picture e. Front or rear picture 6.3.6 If a target is moving at a range which is greater than 200 meters, do you think (more or less) lead is required? 6.3.7 When the estimated speed of target is not 15 m.p.h., what action must the gunner take? (select a letter) a. Fire at will b. Stop using lead estimates c. Subtract a constant from the range * d. Increase or decrease lead estimates accordingly e. Always increase the lead estimates

TAIS No. 1007

MODULE MOS-CS

UNIT LAW

TRAINING ANALYSIS INFORMATION SHEET

1. TASK IDENTIFICATION: 7.0

2. TASK: Identify the firing positions prescribed for use with the M72A2 LAW to engage stationary or moving targets

3. CONDITIONS: Given constructed response and multiple-choice questions concerning prescribed positions for use with the M72A2 LAW, provide correct responses.

4. STANDARD: No errors

5. TASK ANALYSIS:

TASK ELEMENTS	PREREQUISITE KNOWLEDGE OR SKILL REQUIREMENTS	SUPPLEMENTAL TRAINING MATERIAL	REFERENCES
7.1 Identify firing positions to engage stationary targets	7.1 Knowledge of rifle firing positions	none	1. FM 23-33 para 28
7.2 Identify firing positions to engage moving targets	7.2 Knowledge of rifle firing positions		2. Six Roads to Success Vol II para 28 pg 67 3. UT-B-002 pgs 9-10 4. TM9-1340-214-12 para 2-5

TAIS No. 1007

MODULE MOS-CS

UNIT LAW

CRITERION AND ENABLING OBJECTIVES

TASK IDENTIFICATION: 7.0

TASK ELEMENTS: 7.1-7.2

CRITERION OBJECTIVE(S)	ENABLING OBJECTIVE(S)
7.1 The student is able to identify the prescribed firing positions to engage a stationary target using the M72A2 LAW as being: SIMILAR TO ALL STANDARD RIFLE POSITIONS 7.2 The student is able to identify the most suitable firing positions for engaging a moving target using the M72A2 LAW as being: STANDING AND MODIFIED KNEELING	7.1.1 Identify or receive instruction that (1) standing, (2) kneeling/modified kneeling, (3) sitting/modified sitting, (4) prone, are the prescribed firing positions for the M72A2 LAW. 7.1.2 Fill in 45° as the minimum angle the gunner's body should be in relation to the line of fire when firing the M72A2 LAW in the prone position.

TAIS No. 1007

MODULE MOS-CS

UNIT LAW

TEST ITEMS

TASK IDENTIFICATION: 7.0

TASK ELEMENTS: 7.1-7.2

CRITERION ITEM(S)	ENABLING ITEM(S)
7.1 The exact firing positions may vary slightly to allow for the person's body configuration, but they are still similar to: (select a letter) a. All standard rifle positions except the prone position * b. All standard rifle positions c. Kneeling and sitting rifle positions d. The standing rifle position	7.1.1 Enter each standard rifle position after you receive each asterisk (*). You will do this four times. Your first answer is - ? (enter your answer) 7.1.2 When using the prone position, the minimum angle the gunner's body should be in relation to the line of fire is (45) degrees?
7.2 The most suitable firing positions for engaging a moving target are: (select a letter) a. Standing and prone * b. Standing and modified kneeling c. Standing and kneeling d. Standing and sitting e. Kneeling and sitting	

TAIS No. 1008

MODULE MOS-CS

UNIT LAW

TRAINING ANALYSIS INFORMATION SHEET

1. TASK IDENTIFICATION: 8.0

2. TASK: State the procedural steps and proper sequence to initiate immediate action after a misfire

3. CONDITIONS: Given a list of procedural steps to correct a misfire condition, state the correct procedural steps and the order in which they should be performed for the following conditions: initial attempt to fire, after recocking and when a second attempt to fire fails.

4. STANDARD: Select in the correct order 5 out of 8 procedural steps from a scrambled list.

5. TASK ANALYSIS:

TASK ELEMENTS	PREREQUISITE KNOWLEDGE OR SKILL REQUIREMENTS	SUPPLEMENTAL TRAINING MATERIAL	REFERENCES
8.1 Resqueeze Trigger. 8.2 Recock Weapon. 8.3 Identify procedures when a second misfire occurs.	8.1 Know location of trigger. 8.2 Know location of M72A2 component parts. 8.3 Know location of M72A2 component parts.	Picture of a M72A2 LAW being used in a standing position.	1. FM 23-33 para 13 2. Six Roads To Success Vol II para 13 pgs 58-59 3. UT-B-002 pg 7 4. TM9-1340-214-12 para 2-7

TAIS No. 1008

MODULE MOS-CS

UNIT LAW

CRITERION AND ENABLING OBJECTIVES

TASK IDENTIFICATION: 8.0

TASK ELEMENTS: 8.1-8.3

CRITERION OBJECTIVE(S)	ENABLING OBJECTIVE(S)
8.1-8.3 When presented with a list of procedures for applying immediate action to correct misfire conditions, but with the procedures in a scrambled order, the student can state the correct order in which the procedures should be performed to overcome a series of consecutive misfires when attempting to fire the weapon. The sequence is as follows: a. Resqueeze trigger b. Wait 10 seconds c. Place trigger safety handle on safe d. Remove from shoulder and wait one minute e. Recock weapon f. Check backblast area g. Assume firing position h. Place trigger safety handle in fire position and attempt to fire	8.1.1 Fill in MISFIRE as a complete failure to fire. 8.1.2 Fill in HANGFIRE as a delay in the functioning of the propelling charge explosive train at the time of firing. 8.1.3 Select from a multiple-choice list the reason misfire procedures must be followed when a failure to fire occurs: THE OPERATOR CANNOT IMMEDIATELY TELL THE DIFFERENCE BETWEEN A MISFIRE AND A HANGFIRE. 8.1.4 Select from a multiple-choice list the immediate action to take after failure to fire: RESQUEEZE THE TRIGGER. 8.1.5 State 10 SECONDS as the time period to wait after attempting to fire a second time. 8.2.1 Select from a multiple-choice list the steps to take if the weapon fails to fire after resqueezing the trigger and 10 seconds have elapsed: (a) Return Trigger Safety Handle to the SAFE position, (b) Keep weapon pointed toward target, (c) Take off shoulder, (d) Wait 1 minute, (e) Depress Barrel Detent, (f) Partially collapse launcher. 8.2.2 State that partially collapsing and re-extending the launcher is the action that causes the launcher to be RECOCKED. 8.2.3 State 1 MINUTE as being the waiting period after the launcher is removed from the shoulder and the Barrel Detent is depressed.

TAIS No. 1008

MODULE MOS-CS

UNIT LAW

CRITERION AND ENABLING OBJECTIVES

TASK IDENTIFICATION: 8.0

TASK ELEMENTS: 8.1-8.3

CRITERION OBJECTIVE(S)	ENABLING OBJECTIVE(S)
	8.3.1 Select from a list the steps to take after recocking the launcher: (a) Check the Backblast area, (b) Assume firing position, (c) Attempt to fire. 8.3.2 Select from a multiple-choice list the step not to take when a second misfire occurs: DO NOT COLLAPSE THE LAUNCHER.

TAIS No. 1008

MODULE MOS-CS

UNIT LAW

TEST ITEMS

TASK IDENTIFICATION: 8.0

TASK ELEMENTS: 8.1-8.3

CRITERION ITEM(S)	ENABLING ITEM(S)
8.1-8.3 Below is the list of procedures we have just discussed for applying immediate action after a misfire occurs. You arrange them in the correct sequence. I will indicate how well you have done after you have finished. a. Place trigger safety handle on SAFE. b. Wait 10 seconds c. Check backblast area d. Remove from shoulder and wait 1 minute e. Recock weapon f. Assume firing position g. Place trigger safety handle in fire position and attempt to fire h. Resqueeze trigger Step 1 is - ? (h) (enter a letter from above list) Step 2 is - ? (b) Step 3 is - ? (a) Step 4 is - ? (d) Step 5 is - ? (e) Step 6 is - ? (c) Step 7 is - ? (f) The last step is - ? (g)	8.1.1 A complete failure to fire is termed a (Misfire/Hangfire)? 8.1.2 A delay in the functioning of the propelling charge explosive train at the time of fire is termed a (Misfire/Hangfire)? 8.1.3 The gunner must follow the misfire procedures when a failure to fire occurs because? a. There is no difference between a misfire and a hangfire b. Only one set of procedures have been developed * c. The gunner cannot immediately tell the difference between a misfire and a hangfire d. Hangfires do not occur if the weapon is carried properly 8.1.4 Assume the gunner has placed the LAW into operation, taken a firing position, obtained a correct sight picture and depressed the trigger bar. The LAW fails to fire. What is the first action he should take? (select a letter) * a. Resqueeze the trigger b. Reload the launcher c. Check the backblast area d. Wait 5 minutes

TAIS No. 1008

MODULE MOS-CS

UNIT LAW

TEST ITEMS

TASK IDENTIFICATION: 8.0

TASK ELEMENTS: 8.1-8.3

CRITERION ITEM(S)	ENABLING ITEM(S)
	8.1.5 How long should the gunner wait after resqueezing the trigger and the launcher fails to fire a second time? (10 seconds)
	8.2.1 Put in the correct sequence the steps the gunner should take if the LAW fails to fire after resqueezing the trigger and 10 seconds have elapsed. 1. Wait 1 minute 2. Keep weapon pointed toward target 3. Return trigger safety handle to the safe position 4. Take off shoulder 5. Partially collapse launcher 6. Depress barrel detent The first step is - ? (3) (enter a number) The second step is - ? (2) The third step is - ? (4) The fourth step is - ? (1) The fifth step is - ? (6) The sixth step is - ? (5)
	8.2.2 Partially collapsing and re-extending the launcher causes the launcher to be (recocked).
	8.2.3 How long should the gunner wait after he removes the launcher from his shoulder and depresses the barrel detent (1 minute)?

TAIS No. 1008

MODULE MOS-CS

UNIT LAW

TEST ITEMS

TASK IDENTIFICATION: 8.0

TASK ELEMENTS: 8.1-8.3

CRITERION ITEM(S)	ENABLING ITEM(S)
	8.3.1 The sequence of steps the gunner should take after recocking the launcher are: a. Reload launcher b. Clean the launcher * c. Check the backblast area * d. Assume firing position e. Depose of the launcher * f. Arm launcher and attempt to fire (enter the letters in a single line) (c, d, f) 8.3.2 The one step in the misfire procedure that the gunner should "not" take if a second misfire occurs is: (select a letter) a. Do not wait 1 minute b. Do not dpress the barrel detent c. Do not take the launcher off the shoulder * d. Do not collapse the launcher

TAIS No. 1009

MODULE MOS-CS

UNIT LAW

TRAINING ANALYSIS INFORMATION SHEET

1. TASK IDENTIFICATION: 9.0

2. TASK: State the procedural steps and proper sequence to restore the M72A2 LAW to a carrying configuration

3. CONDITIONS: Given a list of procedural steps to restore an extended M72A2 LAW to a carrying configuration, state the correct procedural steps and the order in which they should be performed.

4. STANDARD: Select in the correct order 8 out of 10 procedural steps from a scrambled list.

5. TASK ANALYSIS:

TASK ELEMENTS	PREREQUISITE KNOWLEDGE OR SKILL REQUIREMENTS	SUPPLEMENTAL TRAINING MATERIAL	REFERENCES
9.1 Return Trigger Safety Handle to the SAFE position	9.1 Know location and purpose of Trigger Safety Handle	Pictures of the M72A2 LAW in an extended, partially extended and collapsed position	1. FM 23-33 para 11
9.2 Remove launcher from shoulder	9.2 Know location of weapon in reference to body		2. Six Roads To Success Vol II para 11 pg 55
9.3 Depress Barrel Detent	9.3 Know location and purpose of Barrel Detent		3. UT-B-002 pg 6
9.4 Partially collapse launcher	9.4 None		4. TM9-1340-214-12 para 2-6
9.5 Depress front and rear sights	9.5 Know location of front and rear sights		
9.6 Completely collapse launcher	9.6 None		
9.7 Close rear cover	9.7 None		
9.8 Insert Pull Pin	9.8 Know location of Pull Pin and where it is to be inserted		
9.9 Replace sling assembly	9.9 Know location and purpose of component parts		
9.10 Transport (carry) launcher	9.10 Know carrying positions		

TAIS No. 1009

MODULE MOS-CS

UNIT LAW

CRITERION AND ENABLING OBJECTIVES

TASK IDENTIFICATION: 9.0

TASK ELEMENTS: 9.1-9.10

CRITERION OBJECTIVE(S)	ENABLING OBJECTIVE(S)
9.1-9.10 When presented with a list of procedures for restoring an extended M72A2 LAW to a carrying configuration, but with the procedures in a scrambled order, the student can state the correct order in which these procedures should be performed. The correct order is: a. Return Trigger Safety Handle to the SAFE position b. Remove launcher from shoulder c. Depress Barrel Detent d. Partially collapse launcher e. Depress front and rear sights f. Completely collapse launcher g. Close rear cover h. Insert pull pin i. Replace sling assembly j. Transport (carry) launcher	9.1.1 Pick from a multiple-choice list the first step required to restore an extended M72A2 LAW to a carrying configuration: RETURN TRIGGER SAFETY HANDLE TO THE SAFE POSITION. 9.1.2 State FIRING HAND when asked which hand should return the Trigger Safety Handle to the SAFE position. 9.2.1 Identify from a list REMOVE LAUNCHER FROM SHOULDER as the second step. 9.2.2 Pick from a list TOWARD THE TARGET when asked where the launcher should be pointed after removal from the shoulder position. 9.3.1 Select from a multiple-choice list the component part that must be depressed to allow the launcher to be collapsed: BARREL DETENT. 9.4.1 State that the launcher should only be PARTIALLY COLLAPSED after the Barrel Detent is depressed. 9.4.2 State that partially collapsing the launcher causes the launcher to be automatically UNCOCKED. 9.5.1 Select from a multiple-choice list the component parts that must be depressed before the launcher can be completely collapsed: FRONT AND REAR SIGHTS. 9.6.1 State REAR SIGHT COVER as where the rear sight is housed after the launcher is completely collapsed. 9.7.1 Select from a multiple-choice list the component part that must be closed

TAIS No. 1009

MODULE MOS-CS

UNIT LAW

CRITERION AND ENABLING OBJECTIVES

TASK IDENTIFICATION: 9.0

TASK ELEMENTS: 9.1-9.10

CRITERION OBJECTIVE(S)	ENABLING OBJECTIVE(S)
	before the Pull Pin can be inserted: REAR COVER. 9.8.1 State INSERT PULL PIN when asked what is the subsequent step after the rear cover has been closed. 9.9.1 Select from a multiple-choice list the steps required to replace the Sling Assembly: (a) Place the front cover over the muzzle, (b) Place the launcher between the feet with the front cover pointing down, (c) Secure both strands of webbing of the sling assembly (d) Slide the clamp into place. 9.10.1 Select from a multiple-choice list the condition of the launcher after being returned to a carrying configuration: NO LONGER WATERTIGHT. 9.10.2 Select from a multiple-choice list how the launcher should be carried: FORWARD END DOWN.

TAIS No. 1009

MODULE MOS-CS

UNIT LAW

TEST ITEMS

TASK IDENTIFICATION: 9.0

TASK ELEMENTS: 9.1-9.10

CRITERION ITEM(S)	ENABLING ITEM(S)
9.1-9.10 Put the following procedures for restoring an extended M72A2 LAW to a carrying configuration in the proper order: a. Insert pull pin b. Remove launcher from shoulder c. Close rear cover d. Return Trigger Safety Handle to the SAFE position e. Partially collapse launcher f. Replace sling assembly g. Depress barrel detent h. Transport (carry) launcher i. Depress front and rear sights j. Completely collapse launcher Step 1 is - ? (d) (enter the letter of your choice from the above list) Step 2 is - ? (b) Step 3 is - ? (g) Step 4 is - ? (e) Step 5 is - ? (i) Step 6 is - ? (j) Step 7 is - ? (c) Step 8 is - ? (a)	9.1.1 Assume the gunner is in a firing position with the LAW extended. What is the first step he must take to restore the LAW to a carrying configuration. (select a letter) a. Depress the front sight b. Refasten the sling assembly * c. Return trigger safety handle to the SAFE position d. Depress the barrel detent 9.1.2 The first step the gunner must take is to return the Trigger Safety Handle to the SAFE position. He does this with his (firing) hand. 9.2.1 Having made the LAW "SAFE", the gunner can now: (select a letter) a. Insert pull pin b. Collapse launcher c. Depress rear sight * d. Remove the launcher from shoulder 9.2.2 Where should the launcher be pointing after the gunner removes it from his shoulder? (select a letter) a. Toward the ground * b. Toward the target c. Toward the sky d. Toward an open space

TAIS No. 1009

MODULE MOS-CS

UNIT LAW

TEST ITEMS

TASK IDENTIFICATION: 9.0

TASK ELEMENTS: 9.1-9.10

CRITERION ITEM(S)	ENABLING ITEM(S)
Step 9 is - ? (f) The final step is - ? (h)	9.3.1 With the LAW removed from his shoulder he is now ready to start to collapse the launcher. The part that he must depress to allow the launcher to be collapsed is the: (select a letter) * a. Barrel Detent b. Trigger Safety Handle c. Front Sight Assembly d. Rear Sight Assembly 9.4.1 After the gunner has depressed the Barrel Detent, the launcher can be collapsed. At this point the launcher should be collapsed: (select a letter) * a. Partially b. Completely 9.4.2 Partially collapsing the launcher causes it to be automatically (uncocked). 9.5.1 What parts must be depressed before the launcher can be completely collapsed? (select a letter) a. Rear and front covers * b. Front and rear sights c. Pull pin and cotter key d. Barrel detent and pull pin 9.6.1 After the launcher is completely collapsed, the Rear Sight is again housed in the (Rear Sight Cover).

TAIS No. 1009

MODULE MOS-CS

UNIT LAW

TEST ITEMS

TASK IDENTIFICATION: 9.0

TASK ELEMENTS: 9.1-9.10

CRITERION ITEM(S)	ENABLING ITEM(S)
	9.7.1 After the launcher is completely collapsed, what part must be closed before the Pull Pin can be inserted? a. Barrel detent b. Front cover c. Trigger safety handle * d. Rear cover 9.8.1 Once the rear cover has been returned to the closed position, he can insert the (pull pin). 9.9.1 Pick in the correct order the steps required to replace the Sling Assembly. a. Depress the front sight * b. Slide the clamp into place c. Depress the barrel detent * d. Place the front cover over the muzzle * e. Secure both strands of webbing of the sling assembly f. Place the launcher on your right shoulder * g. Place the launcher between the feet with the front cover pointing down. (enter the letters in a single line) (d, g, e, b)

TAIS No. 1009 MODULE MOS-CS

UNIT LAW

TEST ITEMS

TASK IDENTIFICATION: 9.0

TASK ELEMENTS: 9.1-9.10

CRITERION ITEM(S)	ENABLING ITEM(S)
	9.10.1 What is the condition of the launcher after it has been returned to a carrying configuration? (select a letter) a. No longer loaded * b. No longer watertight c. No longer closed d. No longer self-contained 9.10.2 How should the launcher be carried by the gunner when it is in a closed position? (select a letter) a. Rear end down b. Craddled c. Under non-firing arm * d. Forward end down

90MM RECOILLESS RIFLE

TAIS No. 1010 MODULE MOS-CS

UNIT 90MM

TRAINING ANALYSIS INFORMATION SHEET

1. TASK IDENTIFICATION: 1.0

2. TASK: State the characteristics of the 90MM Recoilless Rifle

3. CONDITIONS: Given constructed response test items on 90MM Recoilless Rifle characteristics, provide the correct response.

4. STANDARD: No errors

5. TASK ANALYSIS:

TASK ELEMENTS	PREREQUISITE KNOWLEDGE OR SKILL REQUIREMENTS	SUPPLEMENTAL TRAINING MATERIAL	REFERENCES
1.1 State lightweight	1.1 None	None	1. FM 23-11 para 2
1.2 State portable	1.2 None		2. Six Roads to Success Vol II para 2 pg 1
1.3 State crew-served	1.3 None		
1.4 State direct firing	1.4 None		3. UT-B-025 pg 3
1.5 State single-shot	1.5 None		

TAIS No. 1010

MODULE MOS-CS

UNIT 90MM

TEST ITEMS

TASK IDENTIFICATION: 1.0

TASK ELEMENTS: 1.1-1.5

CRITERION ITEM(S)	ENABLING ITEM(S)
1.1-1.5 The student is able to state the major characteristics of the 90MM Recoilless Rifle as being: a. Lightweight b. Portable c. Crew-served d. Direct firing e. Single shot	1.3.1 Fill in TANKS when asked what is the primary target of the 90MM Recoilless Rifle weapon system. 1.4.1 Supply DIRECT FIRING as being the type of firing for which the 90MM Recoilless Rifle is designed. 1.5.1 State SINGLE-SHOT when asked the rate of fire.

TAIS No. 1010

MODULE MOS-CS

UNIT 90MM

TEST ITEMS

TASK IDENTIFICATION: 1.0

TASK ELEMENTS: 1.1-1.5

CRITERION ITEM(S)	ENABLING ITEM(S)
1.1-1.5 Which of the following are considered to be major characteristics of the 90MM Recoilless Rifle? (select a letter) a. Single-shot, throw-away, crew-served * b. Lightweight, portable, single-shot c. Air-cooled, portable, indirect fire d. Automatic firing, crew-served, jeep mounted	1.3.1 The 90MM Recoilless Rifle is a crew-served weapon that is designed primarily for use against (Tanks). 1.4.1 The 90MM Recoilless Rifle is designed for (Direct/Indirect) firing. 1.5.1 Each time the 90MM Recoilless Rifle is fired, it must be loaded since it is a (Single) shot weapon.

TAIS No. 1011

MODULE MOS-CS

UNIT 90MM

TRAINING ANALYSIS INFORMATION SHEET

1. TASK IDENTIFICATION: 2.0

2. TASK: Identify the major component parts of the 90MM Recoilless Rifle

3. CONDITIONS: Given a picture of the 90MM Recoilless Rifle showing the left or right side of the weapon with arrows and associated letters pointing to major component parts, identify each major part by matching the letter with the correct name from a list of component parts.

4. STANDARD: Correctly identify at least 6 out of the 8 component parts presented.

5. TASK ANALYSIS:

TASK ELEMENTS	PREREQUISITE KNOWLEDGE OR SKILL REQUIREMENTS	SUPPLEMENTAL TRAINING MATERIAL	REFERENCES
2.1 Identify major component parts when shown a picture displaying the right side of the 90MM Recoilless Rifle	2.1 None	Right side picture of the 90MM Recoilless Rifle	1. FM 23-11 para 5-[illegible] 2. Six Roads to Success Vol II para 5-10 pgs 3-13 3. UT-B-025 pgs 4-5
2.2 Identify major component parts when shown a picture displaying the left side of the 90MM Recoilless Rifle	2.2 None	Left side picture of the 90MM Recoilless Rifle	

TAIS No. 1011

MODULE MOS-CS

UNIT 90MM

CRITERION AND ENABLING OBJECTIVES

TASK IDENTIFICATION: 2.0

TASK ELEMENTS: 2.1-2.2

CRITERION OBJECTIVE(S)	ENABLING OBJECTIVE(S)
2.1 Identify major component parts when given a right-side picture of the 90MM Recoilless Rifle. The component parts are indicated by arrows which are associated with letters. The student can identify the component part by matching the letter with the correct name when presented with a list of component parts. The letter and component part associations are as follows: a. Tube b. Neoprene sound suppressor ring c. Breechblock group d. Rear mounting bracket group e. Front mounting bracket group f. Firing cable	
2.2 Identify major component parts when given a left-side picture of the 90MM Recoilless Rifle. The component parts are identified as indicated above. The student can identify the component part by matching the letter with the correct name selected from a list of component parts. The letter and component associations are as follows: g. Face shield h. Sighting and control group	

TAIS No. 1011

MODULE MOS-CS

UNIT 90MM

TEST ITEMS

TASK IDENTIFICATION: 2.0

TASK ELEMENTS: 2.1-2.2

CRITERION ITEM(S)	ENABLING ITEM(S)
2.1-2.2 Using Figure 10, enter the letter which points to each of the following component parts. I will tell you how well you did after you answer all of the questions. The first one is: 1. Firing cable: The letter is ? (f) (enter the letter of your choice) 2. Tube: The letter is ? (a) 3. Breechblock group: The letter is ? (c) 4. Rear-mounting bracket group: The letter is ? (d) 5. Sighting and control group: The letter is ? (h) 6. Neoprene sound suppressor ring: The letter is ? (b) 7. Face shield: The letter is ? (g) 8. Front-mounting bracket group: The letter is ? (e)	

TAIS No. 1012

MODULE MOS-CS

UNIT 90MM

TRAINING ANALYSIS INFORMATION SHEET

1. TASK IDENTIFICATION: 3.0

2. TASK: Identify the types of ammunition used in the 90MM Recoilless Rifle, their effective range, and the basic load carried by the guncrew.

3. CONDITIONS: Given constructed response and multiple-choice questions concerning the types of ammunition and their effective range and the basic load carried by the guncrew for the 90MM Recoilless Rifle, provide correct responses.

4. STANDARD: No errors

5. TASK ANALYSIS:

TASK ELEMENTS	PREREQUISITE KNOWLEDGE OR SKILL REQUIREMENTS	SUPPLEMENTAL TRAINING MATERIAL	REFERENCES
3.1 State the types of ammunition used in the 90MM Recoilless Rifle	3.1 None	None	1. FM 23-11 para 18-22
3.2 State the effective range for each type of ammunition used in the 90MM Recoilless Rifle	3.2 None		2. Six Roads to Success Vol II para 18-22 pgs 15-17
3.3 State the basic load of ammunition carried by the guncrew for use in the 90MM Recoilless Rifle	3.3 None		3. UT-B-025 pgs 6-8

TAIS No. 1012

MODULE MOS-CS

UNIT 90MM

CRITERION AND ENABLING OBJECTIVES

TASK IDENTIFICATION: 3.0

TASK ELEMENTS: 3.1-3.3

CRITERION OBJECTIVE(S)	ENABLING OBJECTIVE(S)
3.1 The student is able to identify the types of ammunition used in the 90MM Recoilless Rifle as being: M371E1 HEAT and XM590E1 ANTIPERSONNEL.	3.1.1 Equate M371E1 with HEAT
3.2 The student is able to state the effective range of each type of ammunition used in the 90MM Recoilless Rifle: The pairings are: M371E1 HEAT 400 Meters XM590E1 ANTIPERSONNEL 300 Meters	3.2.1 State ANTITANK OR HEAT when asked what is the only standard round for destroying armored vehicles and field fortifications
3.3 The student can state the basic load of ammunition carried by the guncrew for use with the 90MM Recoilless Rifle as being: 5 ROUNDS	3.3.1 Supply 18 ROUNDS as being the total basic load of ammunition authorized for the 90MM Recoilless Rifle

TAIS No. 1012

MODULE MOS-CS

UNIT 90MM

TEST ITEMS

TASK IDENTIFICATION: 3.0

TASK ELEMENTS: 3.1-3.3

CRITERION ITEM(S)	ENABLING ITEM(S)
3.1 The types of ammunition which are authorized for use with the 90MM Recoilless Rifle are? a. M18 Heat * b. M371E1 Heat c. M90 Illumination d. M43A1 High Explosive * e. XM590E1 Antipersonnel (enter the letters on a single line) (b, e)	3.1.1 The M371E1 is also referred to as a: a. Smoke round * b. Heat round c. Canister d. Fragmentary round e. Incendiary round
3.2 Match the maximum effective range with the type of ammunition. a. 100 meters b. 200 meters c. 300 meters d. 400 meters e. 500 meters f. 600 meters 1. M371E1 heat - ? (d) (enter the letter of your choice) 2. XM590E1 antipersonnel canister - ? (c)	3.2.1 What is the only standard round designed to destroy armored vehicles as well as field installations? (anti-tank or heat)
	3.3.1 How many total rounds are in the basic load of ammunition authorized for the 90MM Recoilless Rifle? a. 10 rounds b. 15 rounds c. 24 rounds * d. 18 rounds e. 12 rounds

TAIS No. 1013

MODULE MOS-CS

UNIT 90MM

TRAINING ANALYSIS INFORMATION SHEET

1. TASK IDENTIFICATION: 4.0

2. TASK: Define the backblast area

3. CONDITIONS: Given a line drawing representation of the Backblast area with selected dimensional information omitted, provide correct responses to constructed response and multiple-choice questions.

4. STANDARD: No errors

5. TASK ANALYSIS:

TASK ELEMENTS	PREREQUISITE KNOWLEDGE OR SKILL REQUIREMENTS	SUPPLEMENTAL TRAINING MATERIAL	REFERENCES
4.1 Specify Backblast dimensions	4.1 None	Line drawing of the Backblast area	1. FM 23-11 para 62
4.2 Identify Backblast areas	4.2 None		2. Six Roads to Success Vol II para 62 pgs 39-40
4.3 Identify safety factors	4.3 None		3. UT-B-025 pgs 9-10

TAIS No. 1013

MODULE MOS-CS

UNIT 90MM

CRITERION AND ENABLING OBJECTIVES

TASK IDENTIFICATION: 4.0

TASK ELEMENTS: 4.1-4.3

CRITERION OBJECTIVE(S)	ENABLING OBJECTIVE(S)
4.1 Given a line drawing representation of the Backblast area with the overall length and width dimensions missing, the student can determine the length and width. The information to be supplied is: a. 43 meters (depth) b. 55 meters (width)	4.1.1 Select from a multiple-choice list the dimensions of the danger zone: 28 METERS DEEP AND 55 METERS WIDE 4.1.2 Fill in 15 METERS as being the depth of the Caution Zone 4.1.3 State 55 METERS when asked the width of the Danger and Caution Zones
4.2 The student can identify the two zones contained within the Backblast area as being: DANGER AND CAUTION	4.1.4 State 43 METERS when asked what is the total depth of the Backblast area
4.3 The student can state the area that must always be observed when firing the 90MM Recoilless Rifle as being the: DANGER ZONE	

TAIS No. 1013

MODULE MOS-CS

UNIT 90MM

TEST ITEMS

TASK IDENTIFICATION: 4.0

TASK ELEMENTS: 4.1-4.3

CRITERION ITEM(S)	ENABLING ITEM(S)
4.1 Using Figure 11 determine what the overall length and depth of the Backblast area is. (Subsumed by 4.1.3 and 4.1.4)	Refer to Figure 11 for questions 4.1.1 - 4.1.4.
4.2 What are the zones within the Backblast area called? (select a letter) a. Danger and neutral * b. Caution and Danger c. Caution and free d. Red and Yellow	4.1.1 What are the dimensions of the Danger Zone? (select a letter) * a. 28 meters deep by 55 meters wide b. 27.5 meters deep by 55 meters wide c. 55 meters deep by 28 meters wide d. 15 meters deep by 55 meters wide
4.3 From a safety standpoint, the area within the Backblast that must always be observed when firing the 90MM Recoilless Rifle is the (Danger) zone.	4.1.2 The Caution Zone is (15) meters deep? (enter the value) 4.1.3 The width of the Danger and Caution Zones is (55) meters. (enter the value) 4.1.4 The total depth of the Backblast area is (43) meters. (enter the value)

TAIS No. 1014

MODULE MOS-CS

UNIT 90MM

TRAINING ANALYSIS INFORMATION SHEET

1. TASK IDENTIFICATION: 5.0

2. TASK: State the two rates of fire for the 90MM Recoilless Rifle

3. CONDITIONS: Given constructed response and multiple-choice test items on the two rates of fire for the 90MM Recoilless Rifle, provide the correct responses.

4. STANDARD: No errors

5. TASK ANALYSIS:

TASK ELEMENTS	PREREQUISITE KNOWLEDGE OR SKILL REQUIREMENTS	SUPPLEMENTAL TRAINING MATERIAL	REFERENCES
5.1 Specify sustained rate 5.2 Specify rapid rate	5.1 None 5.2 None	None	1. FM 23-11 para 3 2. Six Roads to Success Vol II para 3 pg 2 3. UT-B-025 pg 10

TAIS No. 1014

MODULE MOS-CS

UNIT 90MM

CRITERION AND ENABLING OBJECTIVES

TASK IDENTIFICATION: 5.0

TASK ELEMENTS: 5.1-5.2

CRITERION OBJECTIVE(S)	ENABLING OBJECTIVE(S)
5.1-5.2 The student is able to state the rates of fire for the 90MM Recoilless Rifle as being: a. Sustained rate b. Rapid rate	5.1.1 Fill in ONE round per minute as the definition of the sustained rate of fire. 5.2.1 Select from a multiple-choice list the maximum rapid rate of fire: NOT TO EXCEED A TOTAL OF 5 ROUNDS WHEN FIRING ONE ROUND PER 6 SECONDS. 5.2.2 Pick 15 MINUTES from a list as the amount of cooling period that must elapse after firing the 90MM Recoilless Rifle at the rapid rate of fire.

TAIS No. 1014

MODULE MOS-CS

UNIT 90MM

TEST ITEMS

TASK IDENTIFICATION: 5.0

TASK ELEMENTS: 5.1-5.2

CRITERION ITEM(S)	ENABLING ITEM(S)
5.1-5.2 The rates of fire for the 90MM Recoilless Rifle are the (sustained) and (rapid). (enter both rates on a single line)	5.1.1 The definition of the sustained rate of fire is (1) round per minute. 5.2.1 The maximum rate of fire is defined as firing 5 or less rounds at a rate not to exceed? (select a letter) a. 1 round per half minute b. 1 round per 15 seconds * c. 1 round per 6 seconds d. 1 round per 3 seconds 5.2.2 How long a cooling period must occur after firing the 90MM Recoilless Rifle at the rapid rate of fire? (select a letter) a. 20 minutes * b. 15 minutes c. 10 minutes d. 5 minutes e. No cooling off period is required

TAIS No. 1015

MODULE MOS-CS

UNIT 90MM

TRAINING ANALYSIS INFORMATION SHEET

1. TASK IDENTIFICATION: 6.0

2. TASK: Identify the 90MM Recoilless Rifle gun crew personnel, their responsibilities and their relationship to the Weapons Squad Leader

3. CONDITIONS: Given a matching test on the responsibilities of the 90MM Recoilless Rifle gun crew and Weapons Squad Leader, match defined responsibilities to the proper personnel.

4. STANDARD: No errors

5. TASK ANALYSIS:

TASK ELEMENTS	PREREQUISITE KNOWLEDGE OR SKILL REQUIREMENTS	SUPPLEMENTAL TRAINING MATERIAL	REFERENCES
6.1 Identify 90MM Recoilless gun crew personnel	6.1 None	None	1. FM 23-11 para 34-36
6.2 Identify gunner responsibilities	6.2 None		2. Six Roads to Success Vol II para 34-36 pgs 24-25
6.3 Identify loader responsibilities	6.3 None		
6.4 Identify Weapons Squad Leader responsibilities	6.4 None		3. UT-B-025 pg 6

TAIS No. 1015

MODULE MOS-CS

UNIT 90MM

CRITERION AND ENABLING OBJECTIVES

TASK IDENTIFICATION: 6.0

TASK ELEMENTS: 6.1 - 6.4

CRITERION OBJECTIVE(S)	ENABLING OBJECTIVE(S)
6.1 Select from a list the crew of a 90MM Recoilless Rifle as being: THE GUNNER AND THE LOADER. 6.2-6.4 When given a list of statements of primary responsibilities, the student can match the appropriate statement with the appropriate personnel. The pairings are as follows: a. Gunner - carries, fires, and performs maintenance on the 90MM Recoilless Rifle - crew leader - makes adjustments to fire b. Loader - loads the 90MM recoilless Rifle - checks backblast area before each firing c. Weapons Squad Leader - command of the crew - calls for fire adjustments	6.2.1 State GUNNER as being the crew leader of the 90MM Recoilless Rifle gun crew 6.2.2 State GUNNER when asked who carries and fires the 90MM Recoilless Rifle 6.3.1 State the person who loads the 90MM Recoilless Rifle as the LOADER 6.4.1 Pick from a list the person who is directly in command of the 90MM Recoilless Rifle: WEAPONS SQUAD LEADER

TAIS No. 1015

MODULE MOS-CS

UNIT 90MM

TEST ITEMS

TASK IDENTIFICATION: 6.0

TASK ELEMENTS: 6.1-6.4

CRITERION ITEM(S)	ENABLING ITEM(S)
6.1 Pick the letters that identify the members of a 90MM Recoilless Rifle gun crew. a. Weapons Squad Leader * b. Loader c. Auxiliary carrier * d. Gunner e. Spotter (enter the letters in a single line) (b, d) 6.2-6.4 Match the personnel indicated with the letter(s) describing their primary responsibilities. Responsibilities a. Command of the crew b. Carries, fires and performs maintenance on the 90MM recoilless rifle c. Checks Backblast area before each firing d. Calls for fire adjustment e. Defuses Duds f. Makes adjustments to fire g. Loads the 90MM Recoilless Rifle h. Crew leader	6.2.1 The crew leader of the 90MM Recoilless Rifle gun crew is the (Gunner)? 6.2.2 The crew member who carries and fires the 90MM Recoilless Rifle is the (Gunner)? 6.3.1 Who places the round in the 90MM Recoilless Rifle? (The Loader) 6.4.1 Who is the person that is in direct command of the 90MM Recoilless Rifle gun crew? (select a letter) * a. Weapons Squad Leader b. 1st Sergeant c. Platoon Sergeant d. Platoon Leader

TAIS No. 1015

MODULE MOS-CS
UNIT 90MM

TEST ITEMS

TASK IDENTIFICATION: 6.0

TASK ELEMENTS: 6.1-6.4

CRITERION ITEM(S)	ENABLING ITEM(S)
Gunner's responsibilities are? (b,f,h) (enter letter(s) on a single line) Loaders responsibilities are? (c,g) Weapon Squad Leader's responsibilities are? (a,d)	

TAIS No. 1016

MODULE MOS-CS

UNIT 90MM

TRAINING ANALYSIS INFORMATION SHEET

1. TASK IDENTIFICATION: 7.0

2. TASK: Identify the function of the scales of the M103 Sight on the 90MM Recoilless Rifle

3. CONDITIONS: Given a line drawing representation of the M103 Sight Reticle with arrows associated with letters pointing to selected areas, identify the function of the scales when engaging a target with the 90MM Recoilless Rifle.

4. STANDARD: No more than one error when required to identify each scale of the M103 Sight and its function.

5. TASK ANALYSIS:

TASK ELEMENTS	PREREQUISITE KNOWLEDGE OR SKILL REQUIREMENTS	SUPPLEMENTAL TRAINING MATERIAL	REFERENCES
7.1 Identify Range Scale 7.2 Identify Lead Marks 7.3 Identify Stadia Lines 7.4 Identify Mil Scale	7.1-7.4 Know how to read various scales of measurement	Line drawing of M103 Sight Reticle	1. FM 23-11 para 4-7 2. Six Roads To Success Vol II para 4-7 pgs 3-5 3. UT-B-025 pgs 5-6

TAIS No. 1016

MODULE MOS-CS

UNIT 90MM

CRITERION AND ENABLING OBJECTIVES

TASK IDENTIFICATION: 7.0

TASK ELEMENTS: 7.1-7.4

CRITERION OBJECTIVE(S)	ENABLING OBJECTIVE(S)
7.1-7.4 When presented with a line drawing of the M103 Sight Reticle with arrows associated with letters pointing to selected areas of the sight, the student can match the scales with the correct function. The pairings are: a. (Vertical Range Line) Used to mark target range b. (Speed Lead Indicator) Used to estimate target speed c. (Stadia Lines) Used to estimate target range d. (Mil Scale) Not used	7.1.1 Select from a multiple-choice list the scale that represents range: VERTICAL BROKEN LINE. 7.2.1 Select from a list the function of the broken horizontal lines: SPEED-LEAD INDICATORS. 7.2.2 State 2 1/2 MPH when asked how much apparent speed does each lead mark represent. 7.3.1 State STADIA LINES when asked what the curved lines are called. 7.3.2 Select from a multiple-choice list the function of the Stadia Lines: ESTIMATE RANGE TO TARGETS OF KNOWN DIMENSIONS. 7.4.1 Pick NO LONGER USED when asked the function of the Mil Scale. 7.4.2 Select from a multiple-choice list the position the bubble in the cross-level vial should be in before firing: CENTERED.

TAIS No. 1016 MODULE MOS-CS

UNIT 90MM

TEST ITEMS

TASK IDENTIFICATION: 7.0

TASK ELEMENTS: 7.1-7.4

CRITERION ITEM(S)	ENABLING ITEM(S)
7.1-7.4 First match each letter in Figure 12 with its identifier. I will tell you how you did after you answer all the questions. * Identifier* 1. Mil Scale 2. Vertical Range Line 3. Stadia Lines 4. Speed-lead Indicators 1. Letter A is the - ? (2) (enter a number from the above list) 2. Letter B is the - ? (4) 3. Letter C is the - ? (3) 4. Letter D is the - ? (1) Now, match each type of scale with its function from the following list: 1. Used to estimate range 2. Not used 3. Used to adjust the sight picture for a moving target 4. Used to mark target range 1. Mil Scale: Its function is - ? (2) (enter a number from the above list) 2. Vertical Range Scale: Its function is - ? (4) 3. Stadia Lines: Their function is - ? (1) 4. Speed-lead Indicators: Their function is - ? (3)	Refer to Figure 12 for questions 7.1.1 - 7.4.2. 7.1.1 What type of scale does the vertical broken line (Letter A) represent? (select a letter) a. Size of target * b. Range to target c. Speed of target d. Armor of target 7.2.1 What is the function of the broken horizontal lines (Letter B)? (select a letter) a. Range indicator b. Size indicator * c. Speed-Lead indicator d. Angle indicator 7.2.2 How much apparent speed does each lead mark or space represent? (enter the value) (2.5) MPH 7.3.1 What are the curved lines called? (Letter C) (Stadia) Lines. 7.3.2 What is the function of the stadia lines? (select a letter) * a. Estimate range to targets of known dimensions b. Estimate apparent speed of target c. Estimate range to targets of unknown dimensions d. Estimate size of targets

TAIS No. 1016

MODULE MOS-CS

UNIT 90MM

TEST ITEMS

TASK IDENTIFICATION: 7.0

TASK ELEMENTS: 7.1-7.4

CRITERION ITEM(S)	ENABLING ITEM(S)
	7.4.1 What is the current function of the Mil Scale (Letter D)? (select a letter) a. Compute angles b. Computer height c. Computer range * d. No longer used 7.4.2 What position should the bubble in the cross vial (Letter E) be in before firing the 90MM Recoilless rifle? (select a letter) a. At the top * b. Centered c. At the bottom d. Tipped to the left

TAIS No. 1017

MODULE MOS-CS

UNIT 90MM

TRAINING ANALYSIS INFORMATION SHEET

1. TASK IDENTIFICATION: 8.0

2. TASK: Identify the techniques for determining range, speed and leads to a target

3. CONDITIONS: Given a series of drawings representing 90MM Recoilless Rifle sight pictures and target positions in relation to gun positions at various angles and attack speeds, state the procedures for determining range, and estimating speed and leads to a target.

4. STANDARD: No errors

5. TASK ANALYSIS:

TASK ELEMENTS	PREREQUISITE KNOWLEDGE OR SKILL REQUIREMENTS	SUPPLEMENTAL TRAINING MATERIAL	REFERENCES
8.1 Determine range 8.2 Estimate speed 8.3 Estimate leads	8.1 Use of M103 Sight 8.2 Use of M103 Sight 8.3 Use of M103 Sight	Line drawings of: M103 sight picture and targets at various ranges and attack angles to a gun position.	1. Ph 23-11 para 45, 72-75 2. Six Roads To Success Vol II para 45, 72-75 pgs 26-28, 42-45 3. UT-B-025 pg 10-12

TAIS No. 1017

MODULE MOS-CS

UNIT 90MM

CRITERION AND ENABLING OBJECTIVES

TASK IDENTIFICATION: 8.0

TASK ELEMENTS: 8.1-8.3

CRITERION OBJECTIVE(S)	ENABLING OBJECTIVE(S)
8.1-8.3 Given target range, speed, and direction of movement, student can select the correct sight picture for the 90MM Recoilless Rifle, or answer questions concerning sight pictures presented. The situations and sight picture pairings are as follows: Situation — Sight Picture 1. Target moving right to left, 5 m.p.h. at 400 meters — B 2. Target moving away from gunner. Range 250 meters at a 45 degree angle — E 3. Target moving directly toward the gunner at 15 m.p.h. range 200 meters — A 4. State NONE when asked the number of leads applied to sight picture C. 5. State 15 MPH as being the apparent speed the gunner has estimated for the target in sight picture D. 6. State F as being an incorrect sight picture and pick from a multiple-choice list the reason as being: THE VERTICAL RANGE LINE IS NOT LEADING THE TARGET'S CENTER OF MASS.	8.1.1 Select from a multiple-choice list the primary method of estimating range using the 90MM Recoilless Rifle: STADIA LINES IN THE M103 SIGHT. 8.1.2 Pick from a list two other means of estimating range to a target. Choices may be (a) using map distance, (b) estimating by eye, (c) firing other weapons, (d) using binoculars, (e) obtaining range from other units, (f) measuring ground distance. 8.1.3 State FULL STADIA PICTURE when asked the type of sight picture used when more of the target side than the front or rear is visible. 8.1.4 State HALF-STADIA PICTURE when asked the type of sight picture used when more of the front or rear of the target is visible. 8.1.5 Pick from a list where the vertical range line should be centered on a stationary target: CENTER OF MASS.

TAIS No. 1017

MODULE MOS-CA

UNIT 90MM

CRITERION AND ENABLING OBJECTIVES

TASK IDENTIFICATION: 8.0

TASK ELEMENTS: 8.1-8.3

CRITERION OBJECTIVE(S)	ENABLING OBJECTIVE(S)
8.2 Given a line drawing showing a series of targets at the same range but moving toward a gun position at different angles, the student can match a statement concerning apparent speed with the proper angle of target movement depicted. The pairings are: Target directly approaches gun position - No apparent speed Target moving at an oblique angle to gun position - Apparent speed is less than actual speed Target moving across gun position - Apparent speed equals actual speed	8.2.1 Fill in APPARENT SPEED as being the speed at which a target seems to move toward or away from the line of sight. 8.3.1 Select from a multiple-choice list when the gunner makes his lead estimate: AFTER ESTIMATING TARGET SPEED. 8.3.2 Make the following associations between lead and apparent speed of a target: ONE LEAD EQUALS 2 1/2 MPH OF APPARENT SPEED.

TAIS No. 1017

MODULE MOS-CS

UNIT 90MM

CRITERION AND ENABLING OBJECTIVES

TASK IDENTIFICATION: 8.0

TASK ELEMENTS: 8.1-8.3

CRITERION OBJECTIVE(S)	ENABLING OBJECTIVE(S)
8.1,8.3 Refer to Figure 15 which contains a series of sight pictures. For each of the following combat situations, select the appropriate sight picture a gunner would use to engage the target. (1) Target is moving directly toward the gunner at 15 MPH. Range is 200 meters. The sight picture would be - ? (A) (select a letter from Figure 15) (2) Target is moving right to left at 5 MPH. Range is 400 meters. The sight picture would be - ? (F) (3) Target is moving away from the gunner at a 45 degree angle. Range is 250 meters. The sight picture would be - ? (E) (4) How many leads have been applied to sight picture "C"? (0) leads (5) The apparent speed that the gunner has estimated for the target in sight picture "D" is? The apparent speed is - ? (15)	8.1.1 The M103 Sight has a built-in means by which the gunner can estimate range to a target. This is the: (select a letter) a. Mil scale in the M103 Sight * b. Stadia lines in the M103 Sight c. Vertical lines in the M103 Sight d. Horizontal lines in the M103 Sight 8.1.2 Two methods other than stadia lines that can be used to estimate range to a target are: * a. Using binoculars b. Using the mil scale on the M103 Sight * c. Using map distances d. Using rate of movement e. Using flash and sound (enter both letters on a single line) (a, c) 8.1.3 When more of the target side than the front or rear is visible, he uses a (full) stadia picture to estimate range.

TAIS No. 1017

MODULE MOS-CS

UNIT 90MM

CRITERION AND ENABLING OBJECTIVES

TASK IDENTIFICATION: 8.0

TASK ELEMENTS: 8.1-8.3

CRITERION OBJECTIVE(S)	ENABLING OBJECTIVE(S)
(6) The incorrect sight picture is incorrect because: (select a letter) a. Range was not estimated * b. The vertical range line is not leading the target's center of mass c. The estimated lead mark has been placed on the target's center of mass d. The target is not within the stadia lines	8.1.4 When more of the front or rear of the target is visible he uses a (half) stadia picture to estimate the range.

TAIS No. 1017

MODULE MOS-CS

UNIT 90MM

TEST ITEMS

TASK IDENTIFICATION: 8.0

TASK ELEMENTS: 8.1-8.3

CRITERION ITEM(S)	ENABLING ITEM(S)
8.2 Refer to Figure 14. For each target picture, select the letter from the following list that describes the target's apparent speed. I will tell you what you did after you answer the questions. a. Apparent speed equals actual speed b. Apparent speed is more than actual speed c. No apparent speed d. Apparent speed is less than actual speed e. Apparent speed is equal to 1/2 actual speed 1. Tank A - target directly approaches the gun position. The tank's apparent speed is - ? (c) (enter a letter from the above list) 2. Tank B - target is moving across the gun position. The tank's apparent speed is - ? (a) 3. Tank C - target is moving at an oblique angle to the gun position. The tank's apparent speed is - ? (d)	8.1.5 As picture A shows, the target is properly placed between the stadia lines and the vertical range line is placed on the: (select a letter) a. Front of the target b. Rear of the target c. Top of the target * d. Center of mass of the target e. Bottom of the target 8.2.1 The speed at which a target seems to move toward or away from the line of sight is the (Real/Apparent) speed? 8.3.1 The gunner makes his lead estimate? (select a letter) a. When he first spots the target * b. After estimating target speed c. Before he determines the range d. After he determines the armament of the target 8.3.2 The number of leads applied varies with the apparent speed. He must apply one lead for each (2.5) MPH of apparent speed.

TAIS No. 1018

MODULE MOS-CS

UNIT 90MM

TRAINING ANALYSIS INFORMATION SHEET

1. TASK IDENTIFICATION: 9.0

2. TASK: Identify the primary method of fire adjustment for the 90MM Recoilless Rifle during day or night firing

3. CONDITIONS: Given constructed response and multiple-choice test items concerning the primary method of adjusting fire for day or night firing with the 90MM Recoilless Rifle, provide correct responses.

4. STANDARD: Select in the correct order 4 out of 5 procedural steps from a scrambled list.

5. TASK ANALYSIS:

TASK ELEMENTS	PREREQUISITE KNOWLEDGE OR SKILL REQUIREMENTS	SUPPLEMENTAL TRAINING MATERIAL	REFERENCES
9.1 Identify burst-on-target procedures	9.1 Use of M103 Sight	None	1. FM 23-11 para 89 2. Six Roads To Success Vol II para 89 pgs 48-49 3. UT-B-025 pgs 13-14

TAIS No. 1018

MODULE MOS-CS

UNIT 90MM

CRITERION AND ENABLING OBJECTIVES

TASK IDENTIFICATION: 9.0

TASK ELEMENTS: 9.1

CRITERION OBJECTIVE(S)	ENABLING OBJECTIVE(S)
9.1 The student is able to identify the procedures the gunner should take after firing the 90MM Recoilless Rifle to adjust fire. The procedures are: a. Check sight picture b. Correct sight picture c. Note point of burst on sight reticle d. Move burst point on sight reticle onto center of mass of the target e. Fire again after reloading	9.1.1 Pick from a list when adjustment of fire is required: WHEN A TARGET IS NOT HIT BY THE FIRST ROUND. 9.1.2 State the primary method for adjusting fire with the 90MM Recoilless Rifle as being: BURST-ON-TARGET. 9.1.3 State GUNNER when asked who has complete control over the adjustment of fire for the 90MM Recoilless Rifle when using the Burst-On Target method.

TAIS No. 1018

MODULE MOS-CS

UNIT 90MM

TEST ITEMS

TASK IDENTIFICATION: 9.0

TASK ELEMENTS: 9.1

CRITERION ITEM(S)	ENABLING ITEM(S)
9.1 Put in the correct order the steps the gunner should take to adjust fire after firing the 90MM Recoilless Rifle: a. Move burst point on sight reticle onto center of mass of the target b. Check sight picture c. Fire again after reloading d. Note point of burst on sight reticle e. Correct sight picture The gunner fires the weapon. The first step he would take is ? (enter a letter from the above list) (b) Step 2 would be ? (e) Step 3 would be ? (d) Step 4 would be ? (a) Step 5 would be ? (c)	9.1.1 When is the adjustment of fire required? (select a letter) a. After a target is destroyed b. When used in support of armored vehicle advancements *c. When a target is not hit by the first round d. When determined by the loader 9.1.2 What is the primary method for adjusting fire with the 90MM Recoilless Rifle? (Burst-On Target). 9.1.3 Who has complete control over the adjustment of fire for the 90MM Recoilless Rifle when using the burst-on-target method? The (gunner). (enter the name of the person)

TAIS No. 1018

MODULE MOS-CS

UNIT 90MM

TEST ITEMS

TASK IDENTIFICATION: 9.0

TASK ELEMENTS: 9.1

CRITERION ITEM(S)	ENABLING ITEM(S)
9.1 Put in the correct order the steps the gunner should take to adjust fire after firing the 90MM Recoilless Rifle: a. Move burst point on sight reticle onto center of mass of the target b. Check sight picture c. Fire again after reloading d. Note point of burst on sight reticle e. Correct sight picture The gunner fires the weapon. The first step he would take is? (b) (enter a letter from the above list) Step 2 would be ? (e) Step 3 would be ? (d) Step 4 would be ? (a) Step 5 would be ? (c)	9.1.1 When is the adjustment of fire required? (select a letter) a. After a target is destroyed b. When used in support of armored vehicle advancements * c. When a target is not hit by first round d. When determined by the loader 9.1.2 What is the primary method for adjusting fire with the 90MM Recoilless Rifle? (Burst-On Target) method. 9.1.3 Who has complete control over the adjustment of fire for the 90MM Recoilless Rifle when using the burst-on target method? The (gunner) (enter the name of the person).

TAIS No. 1019

MODULE MOS-CS

UNIT 90MM

TRAINING ANALYSIS INFORMATION SHEET

1. TASK IDENTIFICATION: 10.0

2. TASK: State the procedural steps and proper sequence to initiate immediate action when a misfire occurs with the 90MM Recoilless Rifle

3. CONDITIONS: Given a list of procedural steps to correct a misfire condition, state the correct procedural steps and the order in which they should be performed for the following conditions: initial attempt to fire, after second attempt to fire.

4. STANDARD: No errors

5. TASK ANALYSIS:

TASK ELEMENTS	PREREQUISITE KNOWLEDGE OR SKILL REQUIREMENTS	SUPPLEMENTAL TRAINING MATERIAL	REFERENCES
10.1 Recock and attempt to fire weapon	10.1 Know procedures to recock and fire the weapon	None	1. FM 23-11 para 14, 62
10.2 Unload round	10.2 Know safety procedures for unloading a round		2. Six Roads to Success Vol II para 14, 62 pgs 14, 39-40
			3. UT-B-025 pg 10

TAIS No. 1019

MODULE MOS-CS

UNIT 90MM

CRITERION AND ENABLING OBJECTIVES

TASK IDENTIFICATION: 10.0

TASK ELEMENTS: 10.1-10.2

CRITERION OBJECTIVE(S)	ENABLING OBJECTIVE(S)
10.1-10.2 When presented with a list of procedures to correct misfire conditions, but with the procedures in a scrambled order, the student can state the correct order in which the procedures should be performed to overcome a series of consecutive misfires when attempting to fire the weapon. The sequence is as follows: First Misfire: a. Gunner releases pressure on trigger b. Gunner and loader call "misfire" c. Gun crew waits 1 minute d. Loader recocks the weapon e. Gunner attempts to fire Second Misfire: a. Gunner releases pressure on trigger b. Gunner and loader call "misfire" c. Gun crew waits 1 minute d. Loader removes round	10.1.1 Select from a multiple-choice list the first action the gunner takes after a misfire occurs: RELEASE PRESSURE ON THE TRIGGER 10.1.2 State MISFIRE when asked what is the command the gunner and loader call when an attempt to fire fails 10.1.3 Pick from a list 1 MINUTE as the time interval to wait after a misfire occurs 10.1.4 State RECOCKS THE WEAPON as the action the loader takes after the 1 minute waiting period has elapsed. 10.1.5 State UP as the command the loader calls after recocking the weapon 10.2.1 Select from a list the steps the crew should take when a second attempt to fire fails: (a) Gunner releases pressure on the trigger, (b) Gunner and loader call MISFIRE, (c) Wait 1 minute, (d) Loader opens breech, (e) Loader removes round 10.2.2 Given two sets of conditions the student is able to match the misfire condition with its probable cause. The pairings are: FAULTY ROUND - THE PRIMER HAS BEEN DENTED FROM ACTION BY THE FIRING PIN FAULTY WEAPON - THE PRIMER HAS NOT BEEN DENTED BY THE FIRING PIN

TAIS No. 1019

MODULE MOS--CS

UNIT 90MM

TEST ITEMS

TASK IDENTIFICATION: 10.0

TASK ELEMENTS: 10.1-10.2

CRITERION ITEM(S)	ENABLING ITEM(S)
10.1-10.2 Put in the proper order the procedures for correcting two consecutive misfire conditions. (Note: A procedure may be used more than once.) a. Gun crew waits 1 minute b. Gunner attempts to fire c. Gunner releases pressure on trigger d. Gunner and loader call "misfire" e. Loader recocks weapon f. Loader removes round The first misfire occurs: (c) (enter a letter from the above list) Step 2 is - ? (d) Step 3 is - ? (a) Step 4 is - ? (e) Step 5 is - ? (b) Second Misfire Occurs: Step 1 is - ? (c) (enter a letter from the above list) Step 2 is - ? (d) Step 3 is - ? (a) Step 4 is - ? (f)	10.1.1 What is the first action the gunner takes after a misfire occurs? (select a letter) a. Places the weapon on the ground b. Opens the breechblock c. Asks the loader for another round * d. Releases pressure on the trigger e. Resqueezes the trigger 10.1.2 What is the command that the gunner, followed by the loader, calls when an attempt to fire fails? The command is (Misfire)? 10.1.3 After calling misfire, how long should the gun crew wait before taking the next step? (select a letter) a. 10 seconds b. 30 seconds * c. 1 minute d. There is no need to wait e. Time interval is optional 10.1.4 The command (UP)is given after the loader (recocks) the weapon. 10.1.5 To inform the gunner that the rifle is ready to be fired again, the loader calls (UP)?

TAIS No. 1019

MODULE MOS-CS
UNIT 90MM

TEST ITEMS

TASK IDENTIFICATION: 10.0

TASK ELEMENTS: 10.1-10.2

CRITERION ITEM(S)	ENABLING ITEM(S)
	10.2.1 Select in the proper sequence the steps the gun crew should take when a second attempt to fire fails. a. Loader opens breech b. Gunner releases pressure on the trigger c. Wait 1 minute d. Loader removes round e. Gunner and loader call "Misfire" (enter the letters in a single line) (b, e, c, a, d) 10.2.2 Match the probable cause of the misfire condition with the correct statement a. The primer has not been dented by the firing pin b. The primer has been dented from action by the firing pin Faulty round: Caused by ? (b) (select a letter) Faulty weapon: Caused by ? (a)

M60 MACHINEGUN

TAIS No. 1020

MODULE MOS-CS

UNIT M60

TRAINING ANALYSIS INFORMATION SHEET

1. TASK IDENTIFICATION: 1.0

2. TASK: State the characteristics of the M60 machinegun

3. CONDITIONS: Given constructed response and multiple-choice questions on M60 machinegun characteristics, provide correct responses.

4. STANDARD: No errors.

5. TASK ANALYSIS:

TASK ELEMENTS	PREREQUISITE KNOWLEDGE OR SKILL REQUIREMENTS	SUPPLEMENTAL TRAINING MATERIAL	REFERENCES
1.1 State belt-fed	1.1 None	None	1. FM 23-67 para 3
1.2 State fires from open-bolt position	1.2 None		2. Six Roads To Success, Vol. II, para 3, pp. 180-183
1.3 State fixed headspace	1.3 None		3. UT-B-02', p. 3

TAIS No. 1020

MODULE MOS-CS

UNIT M60

CRITERION AND ENABLING OBJECTIVES

TASK IDENTIFICATION: 1.0

TASK ELEMENTS: 1.1-1.3

CRITERION OBJECTIVE(S)	ENABLING OBJECTIVE(S)
1.1-1.3 The student is able to state the major characteristics of the M60 machinegun as being: a. Belt-fed b. Fires from open bolt position c. Fixed headspace	1.1.1 Pick from a list the method used to feed the ammunition into the M60 machinegun: BELT-FED. 1.2.1 State OPEN when asked what is the position of the M60 machinegun bolt prior to firing. 1.3.1 Pick from a list the characteristics of the M60 machinegun which allows barrels to be switched quickly without major adjustments having to be made: FIXED HEADSPACE

TAIS No. 1020

MODULE MOS-CS

UNIT M60

TEST ITEMS

TASK IDENTIFICATION: 1.0

TASK ELEMENTS: 1.1-1.3

CRITERION ITEM(S)	ENABLING ITEM(S)
1.1-1.3 Which of the following are considered to be major characteristics of the M60 machinegun: (select a letter) * a. Fires from open-bolt position, belt-fed, fixed headspace b. Air cooled, fires from open-bolt position, adjustable headspace c. Fixed headspace, removeable sights belt-fed d. Gas operated, fires from open-bolt position, water-cooled	1.1.1 How is the ammunition fed into the M60 machinegun? (select a letter) a. Manually fed b. Piston fed * c. Belt fed d. Clip fed 1.2.1 Each time a round is fired the sequence of firing starts with the bolt in a/an (Open/Closed) position? 1.3.1 What characteristic of the M60 machinegun allows barrels to be switched quickly without major adjustments having to be made? (select a letter) a. Having more than one barrel b. The Bipod mount c. Automatic operation * d. Fixed headspace

TAIS No. 1021

MODULE MOS-CS

UNIT M60

TRAINING ANALYSIS INFORMATION SHEET

1. TASK IDENTIFICATION: 2.0

2. TASK: Identify the types of malfunctions which occur when operating the M60 machinegun and the corrective action required

3. CONDITIONS: Given constructed response and multiple-choice questions concerning the types of malfunctions when operating the M60 machinegun, identify the type of malfunction and corrective action required.

4. STANDARD: No errors.

5. TASK ANALYSIS:

TASK ELEMENTS	PREREQUISITE KNOWLEDGE OR SKILL REQUIREMENTS	SUPPLEMENTAL TRAINING MATERIAL	REFERENCES
2.1 Identify the types of malfunctions.	2.1 Know normal operation of M60 machinegun	1. None	1. FM 23-67, para 41
2.2 Identify corrective action for each type of malfunction.	2.2 Know component parts of the M60 machinegun and their function.	2. Pictures of various components of the M60 machinegun	2. Six Roads To Success Vol. II, para 41, p. 219
			3. UT-B-021, p. 12

TAIS No. 1021

MODULE MOS-CS

UNIT M60

TEST ITEMS

TASK IDENTIFICATION: 2.0

TASK ELEMENTS: 2.1-2.2

CRITERION ITEM(S)	ENABLING ITEM(S)
2.1 Subsumed under 2.11 and 2.1.2 2.2 When presented with a list of procedures to correct the two types of malfunction conditions, but with the procedures in a scrambled order, the student can state the correct order in which the procedures should be performed to correct each malfunction condition. The sequence for Sluggish Operation is as follows: a. Clean and lubricate the gun b. Inspect for burred parts c. Replace parts as necessary The sequence for Runaway Gun is as follows: a. Hold fire on target until feeding stops or ammunition is expended b. Disassemble gun c. Check sear and sear notch for excessive wear d. Check gas system e. Clean operating rod tube f. Replace parts as necessary	2.1.1 Fill in MALFUNCTION as the condition when the M60 machinegun fails to operate satisfactorily. 2.1.2 Pick from a list A GUN THAT CONTINUES TO FIRE AFTER THE TRIGGER HAS BEEN RELEASED as the definition of a runaway gun. 2.2.1 State that Sluggish Operation is usually due to excessive FRICTION caused by dirt or carbon. 2.2.2 Pick from a list the corrective action to take for sluggish operation. (a) Clean and lubricate the gun, (b) Inspect for burred parts, (c) Replace parts as necessary. 2.2.3 Select from a multiple-choice list the best corrective action to take for a Runaway Gun: HOLD THE FIRE ON THE TARGET UNTIL FEEDING STOPS OR THE AMMUNITION IS EXPENDED. 2.2.4 Deleted 2.2.5 Select from a multiple-choice list the actions to take after the gun has stopped firing: (a) Disassemble gun, (b) Check sear and sear notch for excessive wear, (c) Check the gas system, (d) Clean operating rod tube, (e) Replace parts as necessary.

TAIS No. 1021

MODULE MOS-CS

UNIT M60

CRITERION AND ENABLING OBJECTIVES

TASK IDENTIFICATION: 2.0

TASK ELEMENTS: 2.1-2.2

CRITERION OBJECTIVE(S)	ENABLING OBJECTIVE(S)
	2.2.6 Match the type of malfunction with the usual cause. The pairings are: SLUGGISH OPERATION - EXCESSIVE FRICTION SLUGGISH OPERATION - EXCESSIVE LOSS OF GAS RUNAWAY GUN - WORN SEAR AND WORN SEAR NOTCH RUNAWAY GUN - EXCESSIVE CARBON BUILDUP RUNAWAY GUN - LOSS OF GAS

TAIS No. 1021

MODULE MOS-CS

UNIT M60

TEST ITEMS

TASK IDENTIFICATION: 2.0

TASK ELEMENTS: 2.1-2.2

CRITERION ITEM(S)	ENABLING ITEM(S)
2.2 Let's determine if you can put into the proper order the procedures for correcting a malfunction. I will give you a scrambled list of procedures and then the type of malfunction. You put them in order. Note: A procedure may be used more than once. a. Inspect for burred parts b. Replace parts as necessary c. Hold fire on target until feeding stops or ammunition is expended d. Check gas system e. Clean operating rod tube f. Check sear and sear notch for excessive wear g. Clean and lubricate gun h. Disassemble gun The malfunction is sluggish operation: The first step is - ? (g) (enter a letter from the above list) The second step is - ? (a) The third step is - ? (b) Assume the malfunction is a runaway gun which is still firing. The first step is - ? (c) (enter a letter from the above list) The second step is - ? (h)	2.1.1 When the M60 machine gun fails to operate as it should, it is termed a (Malfunction). 2.1.2 A second type of malfunction is runaway gun. A runaway gun is: (select a letter) a. A gun that fires too quickly b. A gun that is vibrating excessively c. A gun with a broken Bipod mount * d. A gun that continues to fire after the trigger has been released 2.2.1 Assume a M60 Machinegun starts to operate in a sluggish manner. The gun crew would know that the usual cause of this malfunction is excessive (Friction). 2.2.2 Select those steps in the correct sequence from the list below that the gun crew should take to correct a sluggish operating M60 Machinegun. a. Raise cover * b. Inspect for burred parts c. Close cover * d. Clean and lubricate gun * e. Replace parts as necessary f. Sign supply sheet for parts (enter the letters in a single line) (d, b, e)

TAIS No. 1021

MODULE MOS-CS

UNIT M60

TEST ITEMS

TASK IDENTIFICATION: 2.0

TASK ELEMENTS: 2.1-2.2

CRITERION ITEM(S)		ENABLING ITEM(S)
The third step is - ?	(f)	2.2.3 The best method to stop the firing in a runaway gun condition is to: (select a letter)
The fourth step is - ?	(d)	a. Hold the fire on the target until it is destroyed
The fifth step is - ?	(e)	* b. Hold the fire on the target until feeding stops or the ammunition is expended
The sixth step is - ?	(b)	c. Release the trigger
		d. Stand back until the firing stops and then raise the cover
		2.2.4 Deleted
		2.2.5 From the following list of steps, let's see if you can indicate in the proper order the steps to make after the gun has stopped firing from a runaway gun condition.
		1. Check the gas system
		2. Check sear and sear notch for excessive wear
		3. Replace parts as necessary
		4. Disassemble gun
		5. Clean operating rod tube
		The first step is - ? (4) (enter the number 1, 2, 3, 4 or 5)
		The second step is - ? (2)
		The third step is - ? (1)
		The fourth step is - ? (5)
		And the last step is - ? (3)

TAIS No. 1021

MODULE MOS-CS

UNIT M60

TEST ITEMS

TASK IDENTIFICATION: 2.0

TASK ELEMENTS: 2.1-2.2

CRITERION ITEM(S)	ENABLING ITEM(S)
	2.2.6 Match the type of malfunction with its usual cause. (More than one condition may be correct.) a. Excessive friction b. Excessive carbon buildup c. Excessive loss of gas d. Worn sear e. Excessive length of belt f. Loss of gas 1. Sluggish operation = ? (a, c) (enter the letter(s) of your choice in a single line) 2. Runaway gun = : (b, d, f)

TAIS No. 1022

MODULE MOS-CS

UNIT M60

TRAINING ANALYSIS INFORMATION SHEET

1. TASK IDENTIFICATION: 3.0

2. TASK: Identify the immediate action required to correct stoppages

3. CONDITIONS: Given a list of procedural steps to apply immediate action to correct stoppages to the M60machinegun, identify the procedural steps and the order in which they should be performed.

4. STANDARD: Select in the correct order 6 out of 7 procedural steps from a scrambled list.

5. TASK ANALYSIS:

TASK ELEMENTS	PREREQUISITE KNOWLEDGE OR SKILL REQUIREMENTS	SUPPLEMENTAL TRAINING MATERIAL	REFERENCES
3.1 State how stoppages are classified.	3.1 Know cycle of functioning	Picture of M60 machinegun	1. FM 23-67, para. 42-43
3.2 Identify immediate action procedures	3.2 Know location and operation of M60 machinegun component parts		2. Six Roads to Success Vol. II, para. 42-43 pgs. 219-221
			3. UT-B-021, pg. 13

TAIS No. 1022

MODULE MOS-CS

UNIT M60

CRITERION AND ENABLING OBJECTIVES

TASK IDENTIFICATION: 3.0

TASK ELEMENTS: 3.1-3.2

CRITERION OBJECTIVE(S)	ENABLING OBJECTIVE(S)
3.1 The student can state a type of stoppage as being due to a failure to: FEED, CHAMBER, LOCK, FIRE, UNLOCK, EXTRACT, EJECT or COCK.	3.1.1 State faulty action of the GUN as being one cause of a stoppage, the other being faulty ammunition.
3.2 When presented with a list of procedures for applying immediate action to correct stoppages, but with the procedures in a scrambled order, the student can state the correct order in which the procedures should be performed. The procedures are: a. Wait 5 seconds b. Raise cover c. Remove ammunition belt and links from feedtray d. Pull cocking handle to rear e. Close cover immediately f. Return the cocking handle to its forward position g. Reload and Relay	3.1.2 Pick from a list the action taken to correct a stoppage without determining the cause: IMMEDIATE ACTION 3.1.3 State 10 seconds as being how fast immediate action must be accomplished when the barrel is hot enough to cause a cookoff. 3.1.4 Define COOKOFF as being the ignition of a round due to the excessive heat of the weapon. 3.1.5 State 150 ROUNDS when asked how many rounds in a 2 minute period might heat the barrel sufficiently to cause a cookoff. 3.2.1 Select from a list the first step in the immediate action sequence to correct a stoppage condition: WAIT 5 SECONDS

TAIS No. 1022

MODULE MOS-CS

UNIT M60

CRITERION AND ENABLING OBJECTIVES

TASK IDENTIFICATION: 3.0

TASK ELEMENTS: 3.1-3.2

CRITERION OBJECTIVE(S)	ENABLING OBJECTIVE(S)
	3.2.2 Select from a multiple choice list the steps to take to clear the weapon after a stoppage occurs and 5 seconds have elapsed: a. Raise cover b. Remove ammunition belt and links from feedtray c. Pull cocking handle to rear d. Close cover immediately e. Return the cocking handle to its forward position. 3.2.3 Pick from a list the steps to take after clearing the weapon: RELOAD AND RELAY. 3.2.4 Select from a multiple-choice list the action to take if the round is not extracted when the bolt is retracted: PULL THE TRIGGER.

TAIS No. 1022

MODULE MOS-CS

UNIT M60

TEST ITEMS

TASK IDENTIFICATION: 3.0

TASK ELEMENTS: 3.1-3.2

CRITERION ITEM(S)	ENABLING ITEM(S)
3.1 Stoppages are classified according to their relationship to the cycle of functioning. One possible stoppage could be the failure to: (feed, chamber, lock, fire, unlock, extract, eject, cock).	3.1.1 A stoppage is an interruption in the cycle of functioning that is caused by faulty ammunition or faulty action of th (gun).
3.2 Put in the correct order the procedures for applying immediate action to correct a stoppage condition to the M60 machinegun. a. Remove ammunition belt and links from feedtray b. Wait 5 seconds c. Reload and relay d. Pull cocking handle to rear e. Close cover immediately f. Return the cocking handle to its forward position g. Raise cover Step 1 is - ? (b) (enter a letter from the above list) Step 2 is - ? (g) Step 3 is - ? (a) Step 4 is - ? (d) Step 5 is - ? (e) Step 6 is - ? (f) And the last step is - ? (c)	3.1.2 When a stoppage occurs and sufficient time is not available to determine the cause, the action taken to reduce the stoppage is called? (select a letter) a. Delayed * b. Immediate c. Standard d. Emergency 3.1.3 How fast must "immediate action" be accomplished by the gunner when the barrel is hot enough to cause a cookoff? (10) seconds 3.1.4 When a round ignites due to the excessive heat of the weapon, this is termed a (Cookoff). 3.1.5 How many rounds in a 2-minute period might heat the barrel of the M60 machinegun sufficiently to cause a cookoff? (130) rounds 3.2.1 When a stoppage occurs what is the first step in the immediate action sequence that the gunner should do? (select a letter) a. Wait 10 seconds b. Wait 1 minute * c. Wait 5 seconds d. Wait 30 seconds

TAIS No. 1022

MODULE MOS-CS

UNIT M60

TEST ITEMS

TASK IDENTIFICATION: 3.0

TASK ELEMENTS: 3.1-3.2

CRITERION ITEM(S)	ENABLING ITEM(S)
	3.2.2 Put in the correct order the steps to take to "clear" the M60 machinegun after a stoppage occurs and 5 seconds have elapsed. (1) Close cover immediately (2) Pull cocking handle to rear (3) Raise cover (4) Remove ammunition belt and links from feedtray (5) Return cocking handle to its forward position The first step is - ? (3) (enter the number 1, 2, 3, 4 or 5) The second step is - ? (4) The third step is - ? (2) The fourth step is - ? (1) And the last step is - ? (5)
	3.2.3 Following the "clearing" of the weapon, the gunner should: (select a letter) a. Unload weapon b. Assume firing position c. Remove belt * d. Reload and relay

TAIS No. 1022

MODULE MOS-CS

UNIT M60

TEST ITEMS

TASK IDENTIFICATION: 3.0

TASK ELEMENTS: 3.1-3.2

CRITERION ITEM(S)	ENABLING ITEM(S)
	3.2.4 What action should the gunner take if the round is not extracted when the bolt is retracted? (select a letter) * a. Pull the trigger b. Open the cover c. Raise the lid d. Remove the belt

TAIS No. 1023

MODULE MOS-CS

UNIT M60

TRAINING ANALYSIS INFORMATION SHEET

1. TASK IDENTIFICATION: 4.0

2. TASK: Define the characteristics of fire

3. CONDITIONS: Given a matching test on characteristics of fire, match definition with characteristics

4. STANDARD: Correctly matches 4 out of 5 characteristics of fire with their definition

5. TASK ANALYSIS:

TASK ELEMENTS	PREREQUISITE KNOWLEDGE OR SKILL REQUIREMENTS	SUPPLEMENTAL TRAINING MATERIAL	REFERENCES
4.1 Define Trajectory	4.1 None	On-line representations depicting various characteristics of fire	1. FM 23-67, para. 68
4.2 Define Cone of Fire	4.2 None		2. Six Steps to Success Vol. II para. 68 pgs. 225-220
4.3 Define Beaten Zone	4.3 None		
4.4 Define Center of Impact	4.4 None		
4.5 Define Danger Space	4.5 None		3. UT-B-021, pgs. 13-14

TAIS No. 1023

MODULE MOS-CS

UNIT M60

CRITERION AND ENABLING OBJECTIVES

TASK IDENTIFICATION: 4.0

TASK ELEMENTS: 4.1-4.5

CRITERION OBJECTIVE(S)	ENABLING OBJECTIVE(S)
4.1-4.5 The student is able to match the characteristic of fire to the proper definition: The pairing are as follows: a. TRAJECTORY - PATH OF THE PROJECTILE IN ITS FLIGHT FROM THE WEAPON'S MUZZLE TO THE POINT OF INPACT b. CONE OF FIRE - PATTERN FORMED IN THE AIR BY MULTIPLE TRAJECTORIES OF EACH BURST OF FIRE c. BEATEN ZONE - AREA WHERE THE CONE OF FIRE STRIKES THE GROUND OR TARGET d. CENTER OF IMPACT - CENTER OF THE BEATEN ZONE e. DANGER SPACE - SPACE BETWEEN THE GUN AND TARGET WHERE THE TRAJECTORY DOES NOT RISE ABOVE THE AVERAGE HEIGHT OF A STANDING SOLDIER	

TAIS No. 1023

MODULE MOS-CS

UNIT M60

CRITERION AND ENABLING OBJECTIVES

TASK IDENTIFICATION: 4.0

TASK ELEMENTS: 4.1-4.5

CRITERION OBJECTIVE(S)	ENABLING OBJECTIVE(S)
4.1-4.5 From the following list, match the characteristics of fire with its definition: (a) Center of the beaten zone (b) Highest point in the trajectory (c) Path of the projectile (round) in its flight (d) Space between the gun and target where the trajectory does not rise above the average height of a standing soldier (e) Pattern formed in the air by multiple trajectories of each burst of fire (f) Area where the cone of fire strikes the ground or target (g) Area to rear of the weapon containing a danger and caution zone 1. Trajectory: Its definition is - ? (c) 2. Cone of Fire: Its definition is - ? (e) 3. Beaten Zone: Its definition is - ? (f) 4. Center of Impact: Its definition is - ? (a) 5. Danger Space: Its definition is - ? (d)	

TAIS No. 1024

MODULE MOS-CS

UNIT M60

TRAINING ANALYSIS INFORMATION SHEET

1. TASK IDENTIFICATION: 5.0

2. TASK: Identify the types of targets engaged by a M60 Machinegun

3. CONDITIONS: Given constructed response, multiple-choice and matching questions concerning the types of targets engaged by a M60 Machinegun, provide correct responses.

4. STANDARD: Correctly match target type with its characteriscis. Provide correct responses to 5 out of 6 questions concerning target type for on-line representations.

5. TASK ANALYSIS:

TASK ELEMENTS	PREREQUISITE KNOWLEDGE OR SKILL REQUIREMENTS	SUPPLEMENTAL TRAINING MATERIAL	REFERENCES
5.1 Identify types of targets 5.2 Identify target characteristics	5.1 None 5.2 Know target type	On-line presentations showing various types of targets	1. FM 23-67 para 80 2. Six Roads to Success Vol II para 80 pgs 241-242

TAIS No. 1024

MODULE MOS-CS

UNIT M60

CRITERION AND ENABLING OBJECTIVES

TASK IDENTIFICATION: 5.0

TASK ELEMENTS: 5.1 - 5.2

CRITERION OBJECTIVE(S)	ENABLING OBJECTIVE(S)
5.1 The student is able to match the target characteristics with target type. The pairings are: a. Point - Require a Single Aiming Point b. Linear - A Wide But Not Deep Target c. Linear With Depth - Wide and Deep (Oblique) d. Deep - Depth But Very Little Width e. Area - Considerable Width and Depth 5.2 Given representations of target types, the student is able to match the representation with the correct target type	5.1.1 Supply LINEAR as being a target which is wide but not very deep. 5.1.2 Supply DEEP as being a target which has depth but very little width 5.1.3 Fill in AREA as being a target which is both wide and deep.

TAIS No. 1024

MODULE MOS-CS

UNIT M60

TEST ITEMS

TASK IDENTIFICATION: 5.0

TASK ELEMENTS: 5.1-5.2

CRITERION ITEM(S)	ENABLING ITEM(S)
5.1 From the following list, let's see if you can match the target type with its definition. (a) Considerable width and depth (b) Requires a single aiming point (c) Wide and deep (oblique) (d) Depth but very little width (e) A wide but not deep target 1. Point Target: Its definition is - ? (b) 2. Linear Target: Its definition is - ? (e) 3. Linear Target with Depth: Its definiton is - ? (c) 4. Deep Target: Its definition is - ? (d) 5. Area Target: Its definition is - ? (a)	1.1 A target which is wide but not very deep is a (Linear) target. 1.2 A target which has depth but very little width is considered to be a (Deep) target. 1.3 A target which is both deep and wide is termed an (Area) target.

TAIS No. 1024

MODULE MOS-CS

UNIT M60

TEST ITEMS

TASK IDENTIFICATION: 5.0

TASK ELEMENTS: 5.1-5.2

CRITERION ITEM(S)	ENABLING ITEM(S)
5.2 Using the examples below, answer the following questions concerning target types: X Z X X ZZ X YYYYYYYYYY MM X YYYYYYYYYY Z MMM X X ZZ X (A) (B) (C) (D) 1. The point target is figure - ? (d) 2. The linear target is figure figure - ? (b) 3. The deep target is figure - ? (a) 4. The linear with depth target is figure - ? (c) 5. Which two targets have depth? (a,c) (enter both letters on a single line) 6. Is one of the figures an area target? (no) (enter "yes" or "no")	

TAIS No. 1025

MODULE MOS-CS

UNIT M60

TRAINING ANALYSIS INFORMATION SHEET

1. TASK IDENTIFICATION: 6.0

2. TASK: Identify the classes of fire with respect to ground, gun, and target.

3. CONDITIONS: Given constructed response, multiple-choice and matching items concerning classes of fire with respect to ground, gun, and target, provide correct responses.

4. STANDARD: Classes of fire with respect to ground - no errors. Correctly match 3 out of 4 classes of fire with respect to the target with their definition. Correctly select the most appropriate type of fire to engage 6 out of 7 presented target configurations.

5. TASK ANALYSIS:

TASK ELEMENTS	SUB ELEMENTS	SUPPLEMENTAL TRAINING MATERIAL	REFERENCES
6.1 Identify classes of fire with respect to ground 6.2 Identify classes of fire with respect to target 6.3 Identify classes of fire with respect to gun	6.1 Know characteristics of fire 6.2 Know operation of traversing and elevation mechanism 6.3 Know characteristics of fire	On-line representations showing various classes of fire with respect to ground, gun, and target	1. FM 23-67, para 69 2. Six Roads to Success, Vol. II, para 69, pgs. 226-230 3. UT-B-021, pg. 14

TAIS No. 1025

MODULE MCS-CS

UNIT M60

CRITERION AND ENABLING OBJECTIVES

TASK IDENTIFICATION: 6.0

TASK ELEMENTS: 6.1-6.3

CRITERION OBJECTIVE(S)	ENABLING OBJECTIVE(S)
6.1 Subsumed under 6.1.1 and 6.1.3	6.1.1 Pick from a list GRAZING as being fire in which the center of the cone of fire does not rise above one meter.
	6 .1.2 State 600 METERS as being the maximum range for grazing fire over level or uniformly sloping terrain.
6.2 The student is able to match the classes of fire with respect to the target. The pairings are:	6.1.3 Supply PLUNGING as being fire in which the danger space is practically confined to the beaten zone.
a. FRONTAL - LONG AXIS OF THE BEATEN ZONE IS AT A RIGHT ANGLE TO THE FRONT OF THE TARGET.	6.2.1 Pick from a list ENFILADE as being the most desirable type of fire with respect to a target.
b. FLANKING - FIRE DELIVERED AGAINST THE FLANK OF A TARGET.	
c. OBLIQUE - LONG AXIS OF THE BEATEN ZONE IS AT A NON-RIGHT ANGLE TO THE TARGET.	
d. ENFILADE - LONG AXIS OF THE BEATEN ZONE COINCIDES WITH THE LONG AXIS OF THE TARGET. FIRE CAN BE FRONTAL OR FLANKING.	

TAIS No. 1025

MODULE MOS-CS

UNIT M60

CRITERION AND ENABLING OBJECTIVES

TASK IDENTIFICATION: 6.0

TASK ELEMENTS: 6.1-6.3

CRITERION OBJECTIVE(S)	ENABLING OBJECTIVE(S)
6.3 Given a series of target configurations, the student is able to pick from a list the most appropriate type of fire to engage the target using the M60 Machine gun. The target configurations and types of fire pairings are as follows: Type of Fire — Target Configurations 1. Fixed Fire - A stationary target, A stopped truck 2. Traversing Fire - A wide but not deep target 3. Searching Fire - A deep but not very wide target 4. Traversing and Searching Fire - A target which has both width and depth 5. Swinging Traverse Fire - A target which is changing direction rapidly across a gunner's front 6. Free Gun Fire - An aerial target	6.3.1 State FIXED FIRE as being the type of fire used to engage point targets. 6.3.2 Select from a multiple-choice list the type of fire used to engage linear targets: TRAVERSING. 6.3.3 State SEARCHING as the type of fire used to engage deep targets. 6.3.4 Pick from a list TRAVERSING AND SEARCHING as the type of fire used to engage oblique targets. 6.3.5 Pick from a list SWINGING TRAVERSE as the type of fire used to engage a wide target or one which is moving rapidly across the gunner's front. 6.3.6 State FREE GUN as being the type of fire used to engage targets requiring rapid changes in direction and elevation.

TAIS No. 1025

MODULE MOS-CS

UNIT M60

CRITERION AND ENABLING OBJECTIVES

TASK IDENTIFICATION: 6.0

TASK ELEMENTS: 6.1-6.3

CRITERION OBJECTIVE(S)	ENABLING OBJECTIVE(S)
6.1 Subsumed under 6.1.1 and 6.1.3 6.2 Match the classes of fire with respect to a target with its definition. (a) The long axis of the beaten zone is at a non-right angle to the target (b) The long axis of the beaten zone is at a right angle to the front of the target (c) Fire delivered against the front of the target (d) The long axis of the beaten zone coincides with the long axis of the target (e) The long axis of the beaten zone coincides with the long axis of the target (f) Fire delivered against the side of a target 1. Frontal Fire: Its definition is - ? (b) (enter the letter of your choice) 2. Flanking Fire: Its definition is - ? (f) 3. Oblique Fire: Its definition is - ? (a) 4. Enfilade Fire: Its definition is - ? (e)	6.1.1 When the trajectory of the round stays close to the ground, the fire must be? (select a letter) a. Plunging * b. Grazing 6.1.2 What is the maximum range for grazing fire over level or uniformly sloping terrain? (600) 6.1.3 The type of fire in which the danger space is practically confined to the beaten zone must be (plunging). 6.2.1 The most desirable type of fire with respect to a target is: (select a letter) a. Frontal * b. Enfilade c. Oblique d. Flanking

TAIS No. 1025 MODULE MOS-CS

UNIT M60

TEST ITEMS

TASK IDENTIFICATION: 6.0

TASK ELEMENTS: 6.1-6.3

CRITERION ITEM(S)	ENABLING ITEM(S)
6.3 Pick from the list below the "most" appropriate type of fire to engage the target configuration. I will tell you how you did after you finish answering all the questions. a. Fixed b. Traversing c. Searching d. Traversing and Searching e. Swinging Traverse f. Free Gun 1. An aerial target: Type of fire is - ? (f) (enter a letter from the above list) 2. Target type is: X X X X X X X X X X . . . GUN Type of fire is - ? (b) 3. A target which is changing direction rapidly across a gunner's front: (assume the changes can be made with the traversing and elevating mechanism): Type of fire is - ? (e)	6.3.1 What type of fire is used to engage point targets? (Fixed) fire (enter the type) 6.3.2 The type of fire used to engage linear targets is? (select a letter) * a. Traversing Fire b. Searching Fire c. Fixed Fire d. Free Gun 6.3.3 Deep targets are engaged with what type of fire? (select a letter) a. Rapid Fire b. Traversing Fire c. Fixed Fire * d. Searching Fire 6.3.4 What type of fire is used to engage wide and deep targets? (select a letter) a. Traversing Fire b. Searching Fire * c. Traversing and Searching Fire d. Fixed Fire

TAIS No. 1025 MODULE MOS-CS

UNIT M60

TEST ITEMS

TASK IDENTIFICATION: 6.0

TASK ELEMENTS: 6.1-6.3

CRITERION ITEM(S)	ENABLING ITEM(S)
4. A stationary target: Type of fire is - ? (a) Target type is: X X X X . GUN	6.3.5 To engage a target which is moving rapidly across a gunner's front requires what type of fire? (select a letter) a. Fixed Fire * b. Swinging Traverse Fire c. Searching Fire d. Traverse Fire
5. Type of fire is - ? (c)	6.3.6 The type of fire used to engage targets requiring rapid changes in direction and elevation which are too rapid to be done with the traversing and elevating mechanism is (Free Gun) fire.
6. A target which has both width and depth: Type of fire is - ? (d)	
7. A stopped truck: Type of fire is - ? (a)	

TAIS No. 1026

MODULE MOS-CS

UNIT M60

TRAINING ANALYSIS INFORMATION SHEET

1. TASK IDENTIFICATION: 7.0

2. TASK: Identify the three elements used to designate targets being engaged with a M60 Machinegun

3. CONDITIONS: Given constructed response and multiple-choice items concerning the three elements used to designate targets, provide correct responses.

4. STANDARD: Correctly identifies methods used to indicate target direction. Correctly indicates for 4 out of 5 range values the proper method to announce the range. Correctly identifies the three elements used to designate a target.

5. TASK ANALYSIS:

TASK ELEMENTS	PREREQUISITE KNOWLEDGE OR SKILL REQUIREMENTS	SUPPLEMENTAL TRAINING MATERIAL	REFERENCES
1.1 Identify methods to indicate target direction. 1.2 State description 1.3 State range	1. Operation of M60 Machinegun 2. Fire commands 3. Know terrain features and terminology to describe them 4. Know measurement systems	Line drawing representation of sectors of fire	1. FM 23-67 para 74 2. Six Roads To Success Vol II para 67 pgs 235-237

TAIS No. 1026

MODULE MOS-CS

UNIT M60

CRITERION AND ENABLING OBJECTIVES

TASK IDENTIFICATION: 7.0

TASK ELEMENTS: 7.1-7.3

CRITERION OBJECTIVE(S)	ENABLING OBJECTIVE(S)
7.1 The student is able to identify the primary methods used to indicate target direction as being by: a. Oral command b. Firing the gun c. Pointing with an arm or laying the gun d. Reference points	7.1.1 State SECTOR OF FIRE as being the primary method of orally indicating the general direction to a target. 7.1.2 Select from a multiple-choice list the most accurate method of indicating target direction: FIRING THE GUN. 7.1.3 Pick from a list the main advantage of pointing with an arm or laying the gun versus firing the gun to indicate target direction: GUN POSITION IS NOT DISCLOSED. 7.1.4 Select from a multiple-choice list the reason reference points may be useful: TO LOCATE OBSCURE TARGETS. 7.1.5 Supply REFERENCE as the word that must precede a description of the reference point in the fire command.
7.3 Given a series of values, the student is able to identify the different methods of announcing the value of range. The options available are: a. Even hundreds b. Even thousands c. Individual digits The values are 350, 500, 1,000, 1,250, 10,000	7.2.1 Given sample descriptions of targets, the student is able to select the most appropriate description. The targets are a tank, truck and troops.
7.1-7.3 The student is able to identify the three elements used to designate targets as being: a. Direction b. Description c. Range	7.3.1 Select from a multiple-choice list the three options of giving range: EVEN HUNDREDS, EVEN THOUSANDS OR INDIVIDUAL DIGITS. 7.3.2 State METERS as being the the standard unit of measurement used in range determination.

CRITERION AND ENABLING OBJECTIVES

TASK IDENTIFICATION: 7.0

TASK ELEMENTS: 7.1-7.3

CRITERION OBJECTIVE(S)	ENABLING OBJECTIVE(S)
7.1 Pick from the following list the primary methods of indicating direction to a target. * a. Reference points b. Sextant * c. Oral command d. Sound reverberations * e. Pointing with an arm or laying the gun * f. Firing the gun g. Repositioning the gun (enter the letters on a single line) (a, c, e, f)	7.1.1 When direction to a target is given orally as: Left Flank The leader has used the (sectors) of fire method. 7.1.2 The most accurate method a leader can use to indicate target direction is: (select a letter) a. Pointing in the direction of the target * b. Firing his individual weapon c. Locating the target on a map d. Using triangulation techniques 7.1.3 The main advantage of laying the gun versus the leader firing his individual weapon to indicate target direction is because? (select a letter) * a. The squad position is not disclosed b. Ammunition is not wasted c. It is more accurate d. It can be done more quickly
7.3 Assume you are announcing range to a target. For each value given below, select the letter(s) that indicate all the ways the value could be announced as range. The forms are: a. Even hundreds b. Even thousands c. Individual digits For example: 100 = a This indicates that 100 is expressed as even hundreds (a). O.K., here are the values, you do the same for each. 1. 1,000 = ? (b) (enter the letter(s) in a single line)	

TAIS No. 1026

MODULE MOS-CS

UNIT M60

CRITERION AND ENABLING OBJECTIVES

TASK IDENTIFICATION: 7.0

TASK ELEMENTS: 7.1-7.3

CRITERION OBJECTIVE(S)	ENABLING OBJECTIVE(S)
2. 350 = ? (c) 3. 1,250 = ? (c) 4. 500 = ? (a) 5. 1,500 = ? (a) 7.1-7.3 Enter each element that is used to designate a target after you receive an asterisk (*). You will do this three times. Your first answer is - ? (enter your answer) (range direction description)	7.1.4 Reference points are useful in indicating direction to a target because: (select a letter) a. More people know them b. They are required by regulation * c. They can be used to locate obscure targets d. They are helpful in describing the target 7.1.5 To indicate direction to a partially hidden target, the leader might state: Left of bridge The word that must precede this command is: (reference) 7.2.1 Pick from the following list those descriptions of targets which are most appropriate: a. Olive-green tank b. 2 1/2 ton truck with canvas top * c. Tank * d. Troops e. Troops in front of tank * f. Machinegun g. 1973 Ford Truck (enter the letter(s) in a single line) (c, d, f)

TAIS No. 1026

MODULE MOS-CS

UNIT M60

TEST ITEMS

TASK IDENTIFICATION: 7.0

TASK ELEMENTS: 7.1-7.3

CRITERION ITEM(S)	ENABLING ITEM(S)
	7.3.1 Pick the methods of giving range values from the following list: * a. Even hundreds b. Even decimals * c. Individual digits * d. Even thousands e. Integers and fractions f. Combination of the above (enter the letter(s) in a single line) (a, c, d) 7.3.2 The standard unit of measurement when determining ranges is (meters).

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ADJUSTMENT OF INDIRECT FIRE

TAIS No. 1027

MODULE MOS-CS

UNIT Adj. Fire

TRAINING ANALYSIS INFORMATION SHEET

1. TASK IDENTIFICATION: 1.0

2. TASK: Identify the four methods of determining target location

3. CONDITIONS: Given a map with a target located at a predetermined position, identify the four methods of determining target location. Target location must be accurate to nearest 100 meters and given within a predetermined time interval.

4. STANDARD: No errors

5. TASK ANALYSIS:

TASK ELEMENTS	PREREQUISITE KNOWLEDGE OR SKILL REQUIREMENTS	SUPPLEMENTAL TRAINING MATERIAL	REFERENCES
1.1 Identify grid coordinate	1.1 Know map reading	Map containing target location	1. FM 23-91 para 110
1.2 Identify polar coordinate	1.2 Know map reading		2. UT-B-023 pgs 2-4
1.3 Identify shift	1.3 none		
1.4 Identify marking rounds	1.4 none		

TAIS No. 1027

MODULE MOS-CS

UNIT Adj. Fire

CRITERION AND ENABLING OBJECTIVES

TASK IDENTIFICATION: 1.0

TASK ELEMENTS: 1.1-1.4

CRITERION OBJECTIVE(S)	ENABLING OBJECTIVE(S)
1.1-1.2 Given one or more maps containing targets, the student is able to locate each of the targets using the Grid Coordinate and Polar Coordinate methods. 1.1-1.4 The student is able to identify the four methods of determining target location as being: a. Grid coordinate b. Polar coordinate c. Shift d. Marking rounds	1.1.1 State SIX DIGITS as being the number of digits contained in a Grid Coordinate used to locate a target. 1.1.2 Pick from a list the degree of accuracy that can be established when using 6 digits in a Grid Coordinate to locate a target: 100 METERS. 1.1.3 Select from a multiple-choice list the most important element in determining target location: DIRECTION FROM THE OBSERVER'S LOCATION TO THE TARGET LOCATION. 1.1.4 State OT stands for: OBSERVER-TARGET LINE. 1.1.5 State MILS as the unit of measurement to indicate the deviation from the observer to the center of the target. 1.1.6 State FDC stands for FIRE DIRECTION CENTER. 1.2.1 State POLAR COORDINATE as being the only method of locating a target in which the observer's location must be known to the FDC. 1.2.2 Select from a multiple-choice list the elements required when locating a target using the polar grid. DIRECTION TO THE CENTER OF THE TARGET is given and ESTIMATED DISTANCE must be selected. 1.3.1 Pick from a list SHIFT as being the fastest method of locating a target from a known point.

TAIS No. 1027

MODULE MOS-CS

UNIT Adj. Fire

CRITERION AND ENABLING OBJECTIVES

TASK IDENTIFICATION: 1.0

TASK ELEMENTS: 1.1-1.4

CRITERION OBJECTIVE(S)	ENABLING OBJECTIVE(S)
	1.3.3 Select from a multiple-choice list the sequence of steps to locate a target using the Shift Method: (a) Identify the reference point, (b) Give direction to target, (c) Give lateral and range shifts. 1.4.1 Select from a multiple-choice list a method to use when the observer does not know his position in relation to a target: MARKING ROUND. 1.4.2 Pick from a list the one element that must be given to the FDC regardless of the method used to locate the target: DIRECTION.

TAIS No. 1027

MODULE MOS-CS

UNIT Adj. Fire

TEST ITEMS

TASK IDENTIFICATION: 1.0

TASK ELEMENTS: 1.1-1.4

CRITERION ITEM(S)	ENABLING ITEM(S)
1.1-1.2 Refer to Figure ____. Assume you are functioning as an observer. Your position is indicated as _____. The targets are indicated by _____ and the Fire Direction Center is indicated by FDC. Locate target _____ by the Grid Coordinate method. Grid _____ Direction_____ Assume the FDC knows your location. Locate target _____ by the Polar Coordinate method. Direction_____ Distance_____ (note: this test item to be developed)	1.1.1 How many digits must the grid coordinate reference contain: At least (6). 1.1.2 What is the degree of accuracy in locating a target when 6 digits are used in the grid coordinate method? a. 10 meters * b. 100 meters c. 10 yards d. 100 yards 1.1.3 What is the most important element in determining target location? * a. Direction from the observer's location to the target location b. Direction from the FDC to the observer's location c. Direction from the FDC to the FPL d. Direction from observer to the FDC 1.1.4 OT stands for (Observer-target) line. 1.1.5 What is the unit of measurement used to indicate deviation from the observer to the center of the target? (Mils) 1.1.6 FDC stands for (Fire Direction Center) 1.2.1 What is the only method of locating a target that requires the FDC know where the observer is located? (Polar) coordinates
1.1-1.4 What are the four methods used to determine target location? * a. Shift b. Sextent * c. Grid coordinate * d. Marking rounds e. Burst-on-target * f. Polar coordinate (a, c, d, f)	

TAIS No. 1027

MODULE MOS-CS

UNIT Adj. Fire

TEST ITEMS

TASK IDENTIFICATION: 1.0

TASK ELEMENTS: 1.1-1.4

CRITERION ITEM(S)	ENABLING ITEM(S)
	1.2.2 What are the two elements required when locating a target using the polar grid? One is: Direction to the Center of the target, and the other is? a. Estimated height b. Estimated latitutde c. Map scale * d. Estimated distance 1.3.1 What is the fastest method of locating a target from a known point? (Shift) method. 1.3.3 Put the letters into the proper sequence to locate a target using the Shift Method. a. Give direction to target b. Identify the reference point c. Give lateral and range shifts (b, a, c) 1.4.1 What method should the observer use when he doesn't know his position in relation to the target? a. Shift b. Grid coordinate * c. Marking round d. Polar coordinate

TAIS No. 1027

MODULE MOS-CS

UNIT Adj. Fire

TEST ITEMS

TASK IDENTIFICATION: 1.0

TASK ELEMENTS: 1.1-1.4

CRITERION ITEM(S)	ENABLING ITEM(S)
	1.4.2 What is the one element that must be given to the FDC regardless of the method used by the observer to locate a target? (Direction)

TAIS No. 1028

MODULE MOS-CS

UNIT Adj. Fire

TRAINING ANALYSIS INFORMATION SHEET

1. TASK IDENTIFICATION: 2.0

2. TASK: Formulate an initial call for fire

3. CONDITIONS: Given a simulated combat situation, formulate an initial call for fire.

4. STANDARD: No errors for inclusion of elements within the initial call for fire, measurements may be within 100 meters.

5. TASK ANALYSIS:

TASK ELEMENTS	PREREQUISITE KNOWLEDGE OR SKILL REQUIREMENTS	SUPPLEMENTAL TRAINING MATERIAL	REFERENCES
2.1 Formulate identification element	2.1 Know proper call signs or code words	Line drawing representations of combat situations	1. FM 23-91 para 111
2.2 Formulate warning element	2.2 None		2. UT-B-023 pgs 5-8
2.3 Formulate location of target element	2.3 Know methods of locating a target		
2.4 Formulate description of target element	2.4 Know proper format		
2.5 Formulate method of engagement element	2.5 Know safety factors, classes of fire, types of sheafs		
2.6 Formulate method of fire and control element	2.6 Know techniques of fire control and adjustments		

TAIS No. 1028

MODULE MOS-CS

UNIT Adj. Fire

CRITERION AND ENABLING OBJECTIVES

TASK IDENTIFICATION: 2.0

TASK ELEMENTS: 2.1-2.6

CRITERION OBJECTIVE(S)	ENABLING OBJECTIVE(S)
2.1-2.6 Given a simulated combat situation, the student will formulate an initial call for fire containing the required elements in the proper sequence. The elements and the sequence is as follows: a. Identification b. Warning c. Location of target d. Description of target e. Method of engagement f. Method of fire and control	2.1.1 Supply 6 as the number of major elements in a call for fire. 2.1.2 State IDENTIFICATION as being the initial information the observer gives in the call for fire. 2.1.3 State the identification element contains the call sign of the FDC and the OBSERVER. 2.2.1 State FIRE MISSION as being the warning that is always given. 2.3.2 State DIRECTION must be given regardless of the method selected to locate the target. 2.4.1 Select from a list four possible descriptions an observer might relate to the FDC concerning the target. The types of descriptions are: (a) composition of target, (b) size, (c) target activity, (d) attitude of the target. 2.4.2 State ATTITUDE as being an azimuth parallel to the long axis of the target used to indicate target width or depth. 2.5.1 Pick from a list the distance targets are considered close when mortars are being used: 400 METERS OF FRIENDLY TROOPS. 2.5.2 Select from a multiple-choice list the command that must be included when the target is within 400 meters of friendly troops and mortar fire is to be used: DANGER CLOSE.

TAIS No. 1028

MODULE MOS-CS
UNIT Adj. Fire

TEST ITEMS

TASK IDENTIFICATION: 2.0

TASK ELEMENTS: 2.1-2.6

CRITERION ITEM(S)	ENABLING ITEM(S)
	2.6.3 When the observer is satisfied with the accuracy of his fire the command is? a. Cease fire * b. Fire for effect c. Hold fire d. Keep it coming 2.6.4 To control when the FDC fires, the observer uses the command? a. Not now b. At 1 minute intervals c. At your discretion * d. At my command 2.6.5 What is the command the FDC gives the observer when they are ready to fire? (Up). 2.6.6 What is the command given by the observer to the FDC to have them engage the target? (Fire).

TAIS No. 1028

MODULE MOS-CS

UNIT Adj. Fire

TEST ITEMS

TASK IDENTIFICATION: 2.0

TASK ELEMENTS: 2.1-2.6

CRITERION ITEM(S)	ENABLING ITEM(S)
	2.5.4 How does the observer indicate to the FDC the distribution of fire he wishes to have placed on the target? a. Specifies the target range * b. Specifies the type of sheaf c. Specifies the type of ammunition to use d. Specifies the type of trajectory required 2.5.5 If the observer is satisfied with the predetermined ammunition and fuze the FDC will use, the Method of Engagement may be (Omitted). 2.6.1 What is the last major element in the call for fire? * a. Method of fire and control b. Location of target c. Observer's identification d. Method of engagement 2.6.2 What is the command the observer uses when he is prepared to observe the bursts and make adjustments? a. At my command b. Fire on target * c. Adjust fire d. Fire two rounds

TEST ITEMS

TASK IDENTIFICATION: 2.0

TASK ELEMENTS: 2.1-2.6

CRITERION ITEM(S)	ENABLING ITEM(S)
	2.5.1 At what distance is a target considered close when mortars are being used? a. 100 meters of friendly troops b. 200 meters of friendly troops c. 300 meters of friendly troops * d. 400 meters of friendly troops e. None of the above 2.5.2 What command must be included in the call for fire when the target is within 400 meters of friendly troops and mortar fire is to be used? a. Watch it * b. Danger close c. Reduce fire power d. Danger 2.5.3 What is the action the FDC takes when the observer does not specify the type of ammunition and fuze. a. FDC requests observer to supply information b. FDC uses whatever they have most of * c. FDC determines the ammunition and fuze d. FDC does not fire

TEST ITEMS

TASK IDENTIFICATION: 2.0

TASK ELEMENTS: 2.1-2.6

CRITERION ITEM(S)	ENABLING ITEM(S)
2.1-2.6 Based upon the following information, formulate an initial call for fire. (note: information may be modified when material is developed) (Sample Conditions) a. You are an observer located at grid zero-three-six-seven-six. b. The FDC call sign is RED DOG ONE c. Your call sign is RED DOG TWO d. Warning is FIRE MISSION e. Use grid coordinate method-target located at zero-zero-five-seven-nine-five f. Direction to target is five-three-seven-zero g. Target is a platoon digging in (Call for Fire) RED DOG ONE, THIS IS RED DOG TWO FIRE MISSION GRID 005795 DIRECTION 5370 PLATOON DIGGING IN ADJUST FIRE, OVER	2.1.1 How many major elements (e.g., location of target) are in a call for fire? (6) 2.1.2 What is the first major piece of information the observer must give in the call for fire? (Identification) 2.1.3 The identification contains the call sign of the FDC and the (Observer). 2.2.2 What is the warning that is always given in combat situations? (Fire Mission) 2.3.1 What information concerning the target must be given regardless of the method used to determine target location? (Direction) 2.4.1 Pick in the correct sequence, four possible elements an observer might use to describe a target in the call for fire? * a. Size of target b. Color of target * c. Composition of target * d. Attitude of the target e. Origin of target * f. Activity of target (c, a, f, d) 2.4.3 An azimuth parallel to the long axis of the target indicating target width or depth is called the (Attitude) of the target.

TAIS No. 1028

MODULE MOS-CS

UNIT Adj. Fire

CRITERION AND ENABLING OBJECTIVES

TASK IDENTIFICATION: 2.0

TASK ELEMENTS: 2.1-2.6

CRITERION OBJECTIVE(S)	ENABLING OBJECTIVE(S)
	2.6.4 Pick from a list the command used by the observer to control the time of firing: AT MY COMMAND. 2.6.5 State UP as being the command issued by the FDC to the observer that they are ready to fire at his command. 2.6.6 State FIRE as being the command the observer announces to the FDC to have them engage the target.

TAIS No. 1028

MODULE MOS-CS

UNIT Adj. Fire

CRITERION AND ENABLING OBJECTIVES

TASK IDENTIFICATION: 2.0

TASK ELEMENTS: 2.1-2.6

CRITERION OBJECTIVE(S)	ENABLING OBJECTIVE(S)
	2.5.3 Select from a list the action taken by the FDC when the observer does not specify the type of ammunition and fuze: FDC DETERMINES AMMUNITION AND FUZE.
	2.5.4 Select from a multiple-choice list how the observer indicates the distribution of fire he desires to be placed on a target. SPECIFIES TYPE OF SHEAF.
	2.5.5 State that the Method of Engagement MAY BE OMITTED if the observer is satisfied with what is predetermined by the FDC.
	2.6.1 Pick from a list the last major element in the Call for Fire: METHOD OF FIRE AND CONTROL.
	2.6.2 Select from a multiple-choice list the command used when the observer is prepared to observe the bursts and make adjustments: ADJUST FIRE.
	2.6.3 Select from a multiple-choice list the command used when the observer is satisfied with the accuracy of his fire: FIRE FOR EFFECT.

TAIS No. 2029

MODULE MOS-T

UNIT PAT

CRITERION AND ENABLING OBJECTIVES

TASK IDENTIFICATION: 3.0

TASK ELEMENTS: 3.1-3.4

CRITERION OBJECTIVE(S)	ENABLING OBJECTIVE(S)
3.4-3.4 Given a list of control means, the student is able to identify those control methods which are appropriate to control a patrol when secrecy is not necessary	3.1.1 State ORAL ORDERS, RADIOS AND WHISTLE SIGNALS WHEN SECRECY IS NOT NECESSARY as the main methods of 'audibily' controlling the patrol. 3.2.1 State ARM AND HAND SIGNALS as being the control method most likely to be used when secrecy is necessary. 3.3.1 Pick from a list ALL PATROL MEMBERS when asked who assists the patrol leader and assistant patrol leader in maintaining control over the patrol. 3.3.2-3.3.3 Fill in PATROL MEMBER--PATROL LEADER when asked who can halt the patrol and who can signal to resume movement. 3.4.1-3.4.2 Pick from a list the method used to account for personnel while on patrol in a file formation: THE LAST MAN STARTS A COUNT. 3.4.2 Pick from a list when accounting for personnel while on patrol should occur as being after" CROSSING DANGER AREAS, ENEMY CONTACT AND HALTS.

PART 2

TACTICS DOCUMENTATION

Page

Section 1 - Content Development B-161

Section 2 - Individual Combat Training. B-179

TAIS 2001 deleted
TAIS 2002 deleted
TAIS 2003 & 2004 Not used
TAIS 2005
TAIS 2006
TAIS 2007
TAIS 2008
TAIS 2009

Individual Skills and Knowledge B-219

TAIS 2010
TAIS 2011

Squad Combat Formations B-231

TAIS 2012
TAIS 2013

Squad Battle Drill. B-243

TAIS 2014
TAIS 2015
TAIS 2016

Rifle Squad in the Attack (deleted from courseware development) B-259

TAIS 2017
TAIS 2018
TAIS 2019

Rifle Squad in Defense (deleted from courseware development) B-275

TAIS 2020
TAIS 2021
TAIS 2022
TAIS 2023
TAIS 2024
TAIS 2025
TAIS 2026

Page

Patrolling. B-307

TAIS 2027
TAIS 2028
TAIS 2029
TAIS 2030
TAIS 2031

Platoon Combat Formations (deleted from courseware development). B-339

TAIS 2032
TAIS 2033

Rifle Platoon in the Attack (deleted from courseware development) B-351

TAIS 2034
TAIS 2035

Rifle Platoon in Defense (deleted from courseware development). B-359

TAIS 2036
TAIS 2037
TAIS 2038

SECTION 1

CONTENT DEVELOPMENT

Subject Breakdown	General Task/Objective (TAIS)
Combat Training (Individual)	
1. Types of Cover and Concealment	1.0 Student will be able to define the types of cover and concealment.
a. Natural Cover	
b. Artificial Cover	
c. Natural Concealment	
d. Artificial Concealment	
2. Techniques for Concealing Yourself	2.0 Student will be able to identify the techniques for concealing yourself.
a. Avoid unnecessary movement	
b. Use all available concealment	
c. Stay low to observe	
d. Expose nothing that shines	
e. Keep off the skyline	
f. Alter familiar outlines	
g. Keep quiet	
3. and 4. Are not Used	3.0 and 4.0 Are not used.
5. Methods for Estimating Distance	5.0 Student will be able to identify the two methods of estimating distance.
a. Flash and sound (night)	
b. Appearance of objects (day)	
6. Observation and Listening Posts	6.0 Student will be able to state the requirements for selection and establishment of observation and listening posts.
a. Selection of an observation post	
b. Establishment and operation of an observation post	
c. Selection of a listening post	
d. Establishment and operation of a listening post	

Module MOS-T

Unit ICT

Content Development

Subject Breakdown	General Task/Objective (TAIS)
Combat Training (Individual)	
7. Proper Use of the Challenge and Password	7.0 Student will be able to identify the proper use of the challenge and password involving one stranger or a group of strangers.
a. Procedure for establishing identity of one person.	
b. Procedure for establishing identity of a group.	
8. Actions Under Flares	8.0 Student will be able to identify the actions prescribed when under ground or overhead flares.
a. Ground flares	
b. Overhead flares	
9. Crossing Danger Areas	9.0 Student will be able to identify the procedures for crossing danger areas.
a. Open areas	
b. Roads and trails	
c. Native villages	
d. Enemy positions	
e. Minefields	
f. Streams	
g. Barbed wire	

Module MOS-T

Unit ISK

Content Development

Subject Breakdown	General Task/Objective (TAIS)
Individual Skills and Knowledges	
1. Characteristics of Rifle, Automatic Rifle, and Grenade Launcher Fire	1.0 Student will be able to identify the characteristics of rifle, automatic rifle, and grenade launcher fire.
a. Trajectory	
(1) Rifle and automatic rifle	
(2) Grenade launcher	
b. Danger space	
c. Cone of fire	
d. Beaten zone	
e. Casualty radius	
2. Classes of Fire With Respect to the Target and the Ground	2.0 Student will be able to identify the classes of fire with respect to the target and the ground.
a. Frontal	
b. Flanking	
c. Oblique	
d. Enfilade	
e. Grazing	
f. Plunging	

Module MOS-T

Unit SCF

Content Development

Subject Breakdown	General Task/Objective (TAIS)
Combat Formations (Squad)	
1. Squad Dismounted Formations	1.0 Student will be able to identify the dismounted squad formations and proper arm and hand signals.
a. Squad file	
b. Squad column, fire teams in column	
c. Squad column, fire teams abreast	
d. Squad line	
e. Modified squad column, fire teams abreast	
ctical Considerations	2.0 Student will be able to identify the tactical considerations of the squad leader.
ontrol	
b. Fire power	
c. Utilization	

Module MOS-T

Unit SBD

Content Development

Subject Breakdown	General Task/Objective (TAIS)
Battle Drill (Squad)	
1. Fundamentals of Fire and Maneuver	1.0 Student will be able to identify the fire support element, maneuver element, and the mission of each.
a. Fire support element	
b. Maneuver element	
2. Types of Movement and Maneuver	2.0 Student will be able to identify the types of battle drill maneuvers and the appropriate arm and hand signals for the maneuvers.
a. Individual	
b. Fire teams	
c. Maneuver right	
d. Maneuver left	
e. Maneuver front	
3. Considerations of the Squad Leader	3.0 Student will be able to state and apply the factors the squad leader considers in tactical employment of the squad.
a. Control	
b. Dispersion	
c. Security	

Module MOS-T

Unit RSA

(Deleted)

Content Development

Subject Breakdown	General Task/Objective (TAIS)
Rifle Squad in the Attack	
1. Tactical Control Measures	1.0 Students will be able to identify the control measures used in daylight attack.
a. Assembly area	
b. Attack position	
c. Time of attack	
d. Line of departure	
e. Zone of action	
f. Axis of advance	
g. Direction of attack	
h. Final coordination line	
i. Phase line	
j. Checkpoint	
k. Objective	
2. Attack Order	2.0 Student will be able to identify the five main paragraphs of the squad attack order.
a. Situation	
b. Mission	
c. Execution	
d. Service Support	
e. Command and signal	
3. Firing Technique	3.0 Student will be able to state the firing techniques for riflemen and grenadiers during night assaults.
a. Underarm for rifleman	
b. Pointing for grenadier	

Module MOS-T

Unit RSD

(Deleted)

Content Development

Subject Breakdown	General Task/Objectives (TAIS)
Techniques for the Defense	
1. Fundamentals of Defense	1.0 Student will be able to identify the ten fundamentals of defense.
a. Use terrain properly	
b. Provide for security	
(1) Active	
(2) Passive	
c. Ensure mutual support	
d. Organize defense in depth	
e. Organize all-round defense	
f. Achieve flexibility	
g. Make maximum use of offensive actions	
h. Attain dispersic	
i. Use time available	
j. Integrate and coordinate defense measures	
2. Three Areas of Defense	2.0 Student will be able to identify the three areas of defense.
a. Security area	
b. Forward defensive area	
c. Reserve area	
3. Perimeter Defense	3.0 Student will be able to identify the weakest point of a perimeter defense.
Weakest points	

Content Development

Subject Breakdown	General Task/Objectives (TAIS)
Techniques for the Defense	
4. Steps in Priority of Work	4.0 Student will be able to identify the steps in the priority of work.
a. Establish local security	
b. Position squad	
c. Clear fields of fire	
d. Prepare open weapons emplacements and individual positions	
e. Establish communication	
f. Emplace mines and obstacles	
g. Select alternate and supplementary positions	
h. Improve primary positions	
i. Prepare alternate and supplementary positions	
5. Responsibilities of Squad Leader in Defense	5.0 Student will be able to identify the responsibilities of the Squad Leader in defense.
a. Coordinates with machine gun crews and 90mm crews within his sector of responsibility	
b. Supervises preparation of individual positions	
c. Supervises preparation of range cards	
d. Checks automatic weapons for grazing fire	
e. Supervises clearing fields of fire	
f. Ensures the preparation of alternate and supplementary positions	
g. Checks each position for camouflage and overhead cover	

Content Development

Subject Breakdown	General Task/Objectives (TAIS)
5. (Cont.)	
h. Checks battle sights and general functioning of each weapon	
i. Inspects each position for a basic load of ammunition and the removal of excess dirt or trash	
j. Draws a sketch of his sector for incorporation into the platoon leaders sector sketch	
k. Ensure that only selected paths are used for movement in and out of the position	
6. Elements of the Fire Command	6.0 Student will be able to identify the minimum necessary elements of a fire command.
a. Alert	
b. Direction	
c. Target description	
d. Range	
e. Method of fire	
f. Command to fire	
7. Limited Visibility Defense Techniques	7.0 Student will be able to identify the techniques for fire control during periods of limited visibility.
a. Opening fire	
b. Distributing fire	
c. Shifting and concentrating fire	
d. Ceasing fire	

Content Development

Subject Breakdown	General Task/Objective (TAIS)
Patrolling	
1. Patrol Steps (Troop Leading Procedures)	1.0 Student will be able to identify the steps in planning and preparing patrols.
a. Study the mission	
b. Plan use of time	
c. Study terrain and situation	
d. Organize the patrol	
e. Select men, weapons, equipment	
f. Issue warning order	
g. Coordinate (continuous throughout)	
h. Make reconnaissance	
i. Complete detailed plans	
j. Issue patrol order	
k. Supervise (at all times), inspect, rehearse	
l. Execute the mission	
2. Detailed Plan	2.0 Student will be able to identify the major elements in a detailed patrol plan.
a. Missions in the objective area	
b. Other missions	
c. Times of departure and return	
d. Primary and alternate routes	
e. Departure and re-entry of friendly areas	
f. Organization for movement	
g. Actions at danger areas	
h. Actions on enemy contact	

Content Development

Subject Breakdown	General Task/Objective (TAIS)
2. (cont.)	
i. Rallying points	
j. Actions in objective area	
k. Debriefing	
l. Other actions	
m. Rehearsals and inspections	
n. Rations	
o. Arms and ammunition	
p. Uniform and equipment	
q. Method of handling wounded, dead, and prisoners	
r. Signals	
s. Communication with higher headquarters	
t. Challenge and password	
u. Chain of command	
v. Locations of leaders	
3. Control of Patrols	3.0 Student will be able to identify the measures used for controlling a patrol.
a. Control by voice and other means	
b. Silent control measures	
c. Patrol members assist in control	
d. Accounting for personnel	

Content Development

Subject Breakdown	General Task/Objective (TAIS)
4. Raid Patrol	4.0 Student will be able to identify the purposes of a raid patrol.
a. Purposes	
(1) Destroy the position and installation	
(2) Destroy or capture personnel or equipment	
(3) Liberate personnel	
5. a. Types	5.0 Student will be able to identify the types of ambush, their purposes and fundamentals, and the advantages and disadvantages of various point ambushes.
(1) Point	
(2) Area	
(3) Hasty	
b. Purposes	
(1) Destruction	
(2) Harassment (secondary purpose)	
c. Fundamentals	
(1) Surprise	
(2) Coordinated fires	
(3) Control	
d. Advantages and Disadvantages of Various Point Ambush Formations	
(1) Advantages of line formation	
(a) Heavy flanking fire	
(b) Ease of control	
(2) Disadvantage of line formation	
Target may not be effectively covered	

Module MOS-T

Unit PAT

Content Development

Subject Breakdown — General Task/Objective (TAIS)

d. (cont.)

(3) Advantages of L-Shaped Formation

(a) Provides enfilade fire on target

(b) Prevents escape and reinforcement through the short side of the L

(4) Advantages of V-Formation

(a) Subjects target to both enfilade and interlocking fire

(b) Difficult for target to detect until well into the killing zone

(c) Can be used in both open terrain and jungle

(5) Disadvantages of V-Formation

(a) Difficult to control

(b) Fire from one leg may endanger the other leg

(c) Fewer sites favor its use

Module MOS-T

Unit PCF

(Deleted)

Content Development

Subject Breakdown	General Task/Objective (TAIS)
Combat Formations (Platoon)	
1. Basic Platoon Dismounted Formations	1.0 Student will be able to identify the five basic dismounted platoon formations and proper arm and hand signals.
a. Column	
b. Wedge	
c. Vee	
d. Line	
e. Echelon	
2. Tactical Considerations	2.0 Student will be able to identify the tactical considerations for dismounted platoon formations.
a. Control	
b. Firepower	
c. Utilization	

Module MOS-T

Unit RPA

(Deleted)

Content Development

Subject Breakdown	General Task/Objective (TAIS)
Offense (Platoon)	
1. Control Measures	1.0 Student will be able to identify the control measures used by the platoon in the attack which are in addition to the control measures used by the squad.
a. Boundaries	
b. Contact point	
c. Base platoon or squad	
d. Intermediate objectives	
2. Control Measures for Night Attack	2.0 Student will be able to identify the basic control measures for the platoon night attack which are different than daylight measures.
a. Release point	
b. Points of departure	
c. Routes	
d. Probable lines of deployment	
e. Limit of advance	

Module MOS-T

Unit RPD

(Deleted)

Content Development

Subject Breakdown	General Task/Objective (TAIS)
Defense (Platoon)	
1. Forms of Defense	1.0 Student will be able to identify the forms of defense.
a. Area	
b. Mobile	
2. Control Measures	2.0 Student will be able to identify the control measures used to establish coordination between units and their purpose.
a. Boundaries	
b. Coordinating points	
3. Daylight Defense	3.0 Student will be able to identify the proper defensive actions for conduct of the defense during daylight.
a. Actions when enemy approaches the FEBA	
b. Actions once the attack stops	
c. Actions if enemy continues his advance through the close defense fires	
d. Actions if enemy penetration of the FEBA is probable	
e. Actions if enemy assault reaches the defensive positions	
f. Actions if a platoon area is penetrated or threatened from the flanks or rear	

SECTION 2

TOPIC DOCUMENTATION FOR TACTICS

INDIVIDUAL COMBAT TRAINING

TAIS No. 2001

MODULE MOS-T

UNIT ICT

TRAINING ANALYSIS INFORMATION SHEET

1. TASK IDENTIFICATION: 1.0

2. TASK: Define cover and concealment

3. CONDITIONS: Given a list of definitions, match the types of cover and concealment with the correct definition.

4. STANDARD: No errors

5. TASK ANALYSIS:

TASK ELEMENTS	PREREQUISITE KNOWLEDGE OR SKILL REQUIREMENTS	SUPPLEMENTAL TRAINING MATERIAL	REFERENCES
1.1 Define natural cover	1.1 None	None	1. FM 21-75 para 6
1.2 Define artificial cover	1.2 None		2. Six Roads To Success Vol III para 6 pg 113
1.3 Define natural concealment	1.3 None		3. UT-B-047 pg 5
1.4 Define artificial concealment	1.4 None		

TAIS No. 2001

MODULE MOS-T

UNIT ICT

CRITERION AND ENABLING OBJECTIVES

TASK IDENTIFICATION: 1.0

TASK ELEMENTS: 1.1-1.4

CRITERION OBJECTIVE(S)	ENABLING OBJECTIVE(S)
1.1-1.4 The student is able to match the terms natural cover, artificial cover, natural concealment and artificial concealment to their proper definitions.	1.1.1-1.4.1 Given a statement, complete them from the list of terms given: Shadows is an example of NATURAL CONCEALMENT Nets is an example of ARTIFICIAL CONCEALMENT Stream beds is an example of NATURAL COVER Fox hole is an example of ARTIFICIAL COVER 1.2.1 State protection from fire is COVER. 1.3.1 State protection from observation is CONCEALMENT.

TAIS No. 2001 MODULE MOS-T

UNIT ICT

TEST ITEMS

TASK IDENTIFICATION: 1.0

TASK ELEMENTS: 1.1-1.4

CRITERION ITEM(S)	ENABLING ITEM(S)
1.1 Natural cover is: a. Protection from the fire of enemy weapons that has been placed on the terrain by man, such as foxholes, trenches and walls. b. Protection from the fire of enemy weapons by keeping quiet. c. Protection from enemy observation. * d. Protection from the fire of enemy weapons by use of existing terrain features, such as ravines, hollows and reverse slopes. 1.2 Artificial cover is: * a. Protection from the fire of enemy weapons that has been placed on the terrain by man, such as foxholes, trenches and walls. b. Protection from the fire of enemy weapons above the average height of a man. c. Protection from enemy observation. d. Protection from the fire of enemy weapons by use of existing terrain features, such as ravines, hollows, and reverse slopes.	1.1.1 Match the following statements on the left with the list of items given on the right. Shadows is an example of (c) Nets is an example of (i) Streambed is an example of (e) Foxhole is an example of (b) Protection from fire is (a) Protection from observation is (g) a. Cover b. Artificial cover c. Natural Concealment d. Tunnel e. Natural cover f. Cave g. Concealment h. Trench i. Artificial Concealment

TAIS No. 2001 (contd.)

MODULE MOS-T

UNIT ICT

TEST ITEMS

TASK IDENTIFICATION: 1.0

TASK ELEMENTS: 1.1-1.4

CRITERION ITEM(S)	ENABLING ITEM(S)
1.3-1.4 Select the letters from the following list that defines natural and artificial concealment. Natural concealment (d) Artificial concealment (c) a. Protection from enemy observatin that has been placed on the terrain by man, such as nets or branches of trees. b. Protection from the fire of enemy weapons using natural terrain features, such as gullys and streambeds. * c. Protection from the fire of enemy weapons that has been placed on the terrain by man, such as foxholes, trenches and walls. * d. Protection from enemy observation by use of existing terrain features, such as bushes, grass and shadows.	

TAIS No. 2002

MODULE MOS-T

UNIT ICT

TRAINING ANALYSIS INFORMATION SHEET

1. TASK IDENTIFICATION: 2.0

2. TASK: Identify the techniques for concealing yourself.

3. CONDITIONS: Giver a list of techniques and actions, identify the techniques for concealing yourself.

4. STANDARD: No errors.

5. TASK ANALYSIS:

TASK ELEMENTS	PREREQUISITE KNOWLEDGE OR SKILL REQUIREMENTS	SUPPLEMENTAL TRAINING MATERIAL	REFERENCES
2.1 Identify avoid unnecessary movement	2.1 Know definition of concealment	None	1. FM 21-75 para 7
2.2 Identify use all available concealment	2.2 Know definition of concealment		2. Six Roads To Success Vol III para 7 pgs 114-115
2.3 Identify stay low to observe	2.3 Know definition of concealment		
2.4 Identify expose nothing that shines	2.4 Know definition of concealment		
2.5 Identify keep off the skyline	2.5 Know definition of concealment		
2.6 Identify alter familiar outlines	2.6 Know definition of concealment		
2.7 Identify keep quiet	2.7 Know definition of concealment		

TAIS No. 2002

MODULE MOS-T

UNIT ICT

CRITERION AND ENABLING OBJECTIVES

TASK IDENTIFICATION: 2.0

TASK ELEMENTS: 2.1-2.7

CRITERION OBJECTIVE(S)	ENABLING OBJECTIVE(S)
2.1-2.7 Given a list of techniques, the student is able to identify the techniques for concealing yourself as being: 1. Avoid unnecessary movement 2. Use all available concealment 3. Stay low to observe 4. Expose nothing that shines 5. Keep off the skyline 6. Alter familiar outlines 7. Keep quiet	2.1.1 Select from a list those actions that will help you remain concealed: a. REMAIN STILL, MOVEMENT ATTRACTS ATTENTION b. WHEN CHANGING POSITIONS, MOVE CAREFULLY OVER A CONCEALED ROUTE TO THE NEW POSITION 2.1.2 Select from a list of actions how to to use all available concealment and blend with your background: SELECT TREES OR BUSHES WHICH BLEND WITH YOUR UNIFORM AND ABSORB THE OUTLINE OF YOUR FIGURE. 2.1.3 Select from a list of actions, how to stay low and observe: OBSERVE FROM A CROUCH, A SQUAT, OR THE PRONE POSITION. 2.1.4 Select from a list of actions why anything that shines should not be exposed: REFLECTION ATTRACTS ATTENTION AND CAN BE SEEN FOR A GREAT DISTANCE. 2.1.5 Select from a list of actions why you should keep off the skyline: FIGURES CAN BE SEEN FROM A GREAT DISTANCE EVEN AT NIGHT. 2.1.6 Select from a list of actions why familiar outlines should be altered: THE SHAPE OF MILITARY EQUIPMENT AND THE HUMAN BODY ARE RECOGNIZED BY ALL SOLDIERS.

TAIS No. 2002 (contd.)

MODULE MOS-T

UNIT ICT

CRITERION AND ENABLING OBJECTIVES

TASK IDENTIFICATION: 2.0

TASK ELEMENTS: 2.1-2.7

CRITERION OBJECTIVE(S)	ENABLING OBJECTIVE(S)
	2.1.7 Select from a list of actions why you should keep quiet: NOISE, SUCH AS TALKING, CAN BE PICKED UP BY ENEMY PATROLS OR LISTENING POSTS.

TAIS No. 2002

MODULE MOS-T

UNIT ICT

TEST ITEMS

TASK IDENTIFICATION: 2.0

TASK ELEMENTS: 2.1-2.7

CRITERION ITEM(S)	ENABLING ITEM(S)
2.1-2.7 Select from the list below, those items that identify the proper techniques and actions for concealing yourself: a. Observe from the standing position to get the best view * b. Avoid unnecessary movement * c. Use all available concealment d. Build log walls * e. Stay low to observe * f. Expose nothing that shines * g. Keep off the skyline * h. Alter familiar outlines * i. Keep quiet j. Dig in on the military crest k. All of the above (b, c, e, f, g, h, i)	2.1.1 What are the actions you would take to avoid giving away a concealed position? a. Remain still when you can see the enemy b. Once you have selected a position, do not change positions until dark * c. Remain still, movement attracts attention * d. When changing positions, move carefully over a concealed route to the new positions e. None of the above (c, d) 2.1.2 What are the actions you would take to use all available concealment? * a. Select trees or bushes which blend with your uniform and absorb the outline of your figure b. Dig a foxhole c. Select the highest hill in the area which has no trees or bushes d. All of the above

TEST ITEMS

TASK IDENTIFICATION: 2.0

TASK ELEMENTS: 2.1-2.7

CRITERION ITEM(S)	ENABLING ITEM(S)
	2.1.3 What are the actions you would take to stay low and observe? a. Observe from the standing position behind trees b. Observe from the modified standing position * c. Observe from a crouch, a squat, or the prone position d. Only b, c e. All of the above 2.1.4 You should not expose anything that shines because: a. The glare may cause a temporary loss of vision b. The men in your unit may be distracted * c. The reflection can be seen for a great distance d. All of the above 2.1.5 You should keep off the skyline because: * a. Figures on the skyline can be seen from a great distance even at night b. Of the danger of falling c. You may become separated from your unit d. None of the above

TAIS No. 2002 (contd.) MODULE MOS-T

UNIT ICT

TEST ITEMS

TASK IDENTIFICATION: 2.0

TASK ELEMENTS: 2.1-2.7

CRITERION ITEM(S)	ENABLING ITEM(S)
	2.1.6 The outline of military equipment and the human body should be altered because: a. Camouflage is a requirement b. The noise of movement is reduced * c. Familiar shapes are easy to pick out d. It makes them easier to see and follow 2.1.7 Keeping quiet is one of the techniques of concealment because: a. Noise, such as talking, may prevent you from hearing the approach of men or vehicles b. Noise, such as talking, may prevent you from hearing the fire of enemy weapons * c. Noise, such as talking, can be heard by enemy patrols or listening posts d. Noise, such as talking, may disturb other men in your unit

MODULE MOS-T

UNIT ICT

NOTE: TAIS 2003 and 2004 have been combined under TAIS 2001 and 2002.

TAIS No. 2005

MODULE MOS-T

UNIT ICT

TRAINING ANALYSIS INFORMATION SHEET

1. TASK IDENTIFICATION: 5.0

2. TASK: Identify the two methods of estimating distance.

3. CONDITIONS: Given constructed response and multiple choice questions concerning the two methods of estimating distance, provide the correct response.

4. STANDARD: No errors

5. TASK ANALYSIS:

TASK ELEMENTS	PREREQUISITE KNOWLEDGE OR SKILL REQUIREMENTS	SUPPLEMENTAL TRAINING MATERIAL	REFERENCES
5.1 Identify the elements of the flash and sound method of estimating distance.	5.1 None	None	1. FM 21-75 para 13 2. Six Roads To Success Vol III para 13 pgs 120-123
5.2 Determine the range using the flash and sound method of estimating distance.	5.2 None		
5.3 Identify the appearance of objects methods of estimating distance.	5.3 None		

TAIS No. 2005

MODULE MOS-T

UNIT ICT

CRITERION AND ENABLING OBJECTIVES

TASK IDENTIFICATION: 5.0

TASK ELEMENTS: 5.1-5.2

CRITERION OBJECTIVE(S)	ENABLING OBJECTIVE(S)
5.1 The student can select from a multiple-choice list, in the correct sequence the elements of the flash and sound method of estimating distance as being: a. When you see the flash, start your count at a rate of three counts per second. b. Stop when you hear the report. c. The number obtained is the approximate distance to the weapon in hundreds of meters. 5.2 The student can estimate the range given the tactical situation and the data observed. 5.3 The student can state that a suitable method for estimating distance during daytime is the APPEARANCE OF OBJECTS METHOD.	5.1.1 State a method of estimating distance particularly useful at night is the: FLASH AND SOUND method. 5.1.2 Pick from a list 3 COUNTS PER SECOND as being the rate you count when using the flash and sound method of estimating distance. 5.1.3 Supply 100 METERS as the distance for each number counted when using the flash and sound method to estimate distances. 5.1.4 State ONE is the next number after nine in the flash and sound method of estimating distance.

TAIS No. 2005

MODULE MOS-T

UNIT ICT

TEST ITEMS

TASK IDENTIFICATION: 5.0

TASK ELEMENTS: 5.1-5.2

CRITERION ITEM(S)	ENABLING ITEM(S)
5.1 Identify and place in the proper sequence, the elements of the flash and sound method of estimating distance: a. When you hear the report, start the count. b. Divide by two. * c. Stop when you hear the report. d. When you see the flash, start your count at a rate of 1 count per second. * e. The number obtained is the approximate distance in hundreds of meters. * f. When you see the flash, start your count at a rate of three counts per second. g. The number obtained is the approximate distance in miles. (enter the letters for the steps in a single line) (f,c,e)	5.1.1 A method of estimating distance which is particularly useful at night is the (Flash and Sound) (enter both answers on a single line) 5.1.2 When using the flash and sound method of estimating distance, what is the rate of counting to be used? (select a letter) a. 1 count per second * b. 3 counts per second c. 5 counts per second d. 9 counts per second 5.1.3 When using the flash and sound method of estimating distance, each number counted is equal to? (insert answer) (100 Meters) 5.1.4 When using the flash and sound method of estimating distance, what is the next number you count after nine? (One)
5.2 At night in the OP, you observe the flash of artillery fire at an azimuth of 260° and start counting at the rate specified. At the count of 7 you hear the sound of the round being fired. About how far away from you is the artillery piece that fired the round. (700 Meters)	

TAIS No. 2005

MODULE MOS-T

UNIT ICT

TEST ITEMS

TASK IDENTIFICATION: 5.0

TASK ELEMENTS: 5.1-5.2

CRITERION ITEM(S)	ENABLING ITEM(S)
5.3 The method for estimating distance that is based on your knowledge of the size of men and objects at various distances is called: a. Flash and sound b. Modified distance * c. Appearance of objects d. Eye ball method	

TAIS No. 2006

MODULE MOS-T

UNIT ICT

TRAINING ANALYSIS INFORMATION SHEET

1. TASK IDENTIFICATION: 6.0

2. TASK: State the requirements for the selection and establishment of observation and listening posts.

3. CONDITIONS: Given constructed response and multiple choice questions concerning the requirements for the selection and establishment of observation and listening posts, provide the correct responses.

4. STANDARD: No errors.

5. TASK ANALYSIS:

TASK ELEMENTS	PREREQUISITE KNOWLEDGE OR SKILL REQUIREMENTS	SUPPLEMENTAL TRAINING MATERIAL	REFERENCES
6.1 State the requirements for the selection and establishment of observation posts.	6.1 None	6.1 None	1. FM 21-75 para 14 2. Six Roads To Success Vol III para 14 pg 123
6.2 State the requirements for the selection and establishment of listening posts.	6.2 None	6.2 None	
6.3 Select the logical location for a listening post.	6.3 Task element 6.1 and 6.2.	6.3 On-line representation of a combat situation	

TAIS No. 2006

MODULE MOS-T

UNIT ICT

CRITERION AND ENABLING OBJECTIVES

TASK IDENTIFICATION: 6.0

TASK ELEMENTS: 6.1-6.2

CRITERION OBJECTIVE(S)	ENABLING OBJECTIVE(S)
6.1-6.2 When asked what should sites selected for observation or listening posts provide, the student can state: a. Maximum observation of the desired area b. Cover and concealment for the position c. Concealed routes to and from the position 6.3 Given a tactical situation, the student can select the best logical position for a listening post.	6.1.1 Select from a multiple choice list what the prime consideration for selecting an observation post is: OBSERVATION 6.1.2 Equate OP stands for Observation Post 6.1.3 Select from a multiple choice list the best location for an OP: ON OR NEAR THE MILITARY CREST OF A HILL 6.1.4 Select from a list the important considerations for establishing and operating an observation post: a. Insure that wire lines to the OP do not disclose its location to enemy observers b. Movement to and from the OP by personnel does not reveal the location to the enemy c. Separate routes to and from the OP are established d. OPs are operated by reliefs of two men changing tasks every 30 minutes, one observes, the other records 6.1.5 State TWO as being the minimum number of men assigned to an OP. 6.1.6 Pick from a multiple choice list the action taken to the OP when natural concealment is not adequate: CAMOUFLAGED

TAIS No. 2006

MODULE MOS-T

UNIT ICT

CRITERION AND ENABLING OBJECTIVES

TASK IDENTIFICATION: 6.0

TASK ELEMENTS: 6.1-6.2

CRITERION OBJECTIVE(S)	ENABLING OBJECTIVE(S)
	6.2.1 Select from a list the important considerations for establishing and operating a listening post: a. Positioned forward of and on exposed flanks of the unit position along probable avenues of enemy approach b. They are operated in reliefs except when movement to and from positions would reveal their locations to the enemy

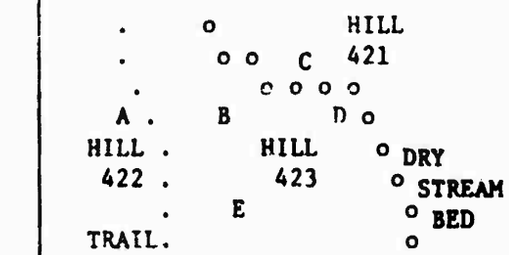
TAIS No. 2006 MODULE MOS-T

UNIT ICT

TEST ITEMS

TASK IDENTIFICATION: 6.0

TASK ELEMENTS: 6.1-6.2

CRITERION ITEM(S)	ENABLING ITEM(S)
6.1-6.2 What should the sites selected for an observation or listening posts provide? a. Cleared fields of fire b. Wind from enemy position * c. Maximum observation of the desired area * d. Cover and concealment for the position * e. Concealed routes to and from the position f. Access to retrograde areas	6.1.1 The first consideration for selecting an observation post is: (select a letter) a. Trees or other natural cover b. Cover and concealment * c. Observation of terrain d. To be within effective small arms range
6.3 ENEMY  Your squad, under cover of darkness, has just moved into position to defend Hill 423. Considering the map data given above, which location A, B, C, D or E, would be considered best for a listening post? (B)	6.1.2 OP stands for (Observation Post) 6.1.3 What is normally the best location for an OP? (select a letter) * a. On or near the military crest of a hill b. On the reverse slope of the hill c. In a tree or other high point d. On the banks of a river 6.1.4 What are the important considerations for establishing and operating a listening post? a. Positioned at the top of the highest terrain * b. Positioned forward of and on exposed flanks of the unit position along probable avenues of enemy approach * c. They are operated in reliefs except when movement to and from positions would reveal their locations

TAIS No. 2006

MODULE MOS-T

UNIT ICT

TEST ITEMS

TASK IDENTIFICATION: 6.0

TASK ELEMENTS: 6.1 - 6.2

CRITERION ITEM(S)	ENABLING ITEM(S)
	6.1.4 (cont.) d. They are operated by personnel permanently located at the listening post. (enter the letters alphabetically in a single line) (b, c) 6.1.5 The minimum number of men at an observation post is how many? (2) 6.1.6 When natural concealment of an observation post is not adequate, the OP is: (select a letter) a. Abandoned * b. Camouflaged c. Supported by artillery fire d. Relieved more often 6.2.1 What are the important considerations for establishing and operating an observation post? * a. Insure that wire lines to the OP do not disclose its location to enemy observers * b. Movement to and from the OP by personnel does not reveal the location to the enemy c. Drainage is adequate and flows to the west * d. Separate routes to and from the OP are established

TAIS No. 2006

MODULE MOS-T

UNIT ICT

TEST ITEMS

TASK IDENTIFICATION: 6.0

TASK ELEMENTS: 6.1 - 6.2

CRITERION ITEM(S)	ENABLING ITEM(S)
	6.2.1 (cont.) e. Heavy equipment as well as light arms can be supported in the area (enter the letter(s) in a single line in alphabetical order) (a, b, d) 6.2.2 Routes to and from a listening post are the (Same/Different).

TAIS No. 2007

MODULE MOS-T

UNIT ICT

TRAINING ANALYSIS INFORMATION SHEET

1. TASK IDENTIFICATION: 7.0

2. TASK: Identify the proper use of the challenge and password

3. CONDITIONS: Given a situation in which personnel are using the challenge and password for identification and with the procedures being used in a scrambled order, identify the correct order of the procedures. Given multiple-choice items, select the correct response.

4. STANDARD: No errors

5. TASK ANALYSIS:

TASK ELEMENTS	PREREQUISITE KNOWLEDGE OR SKILL REQUIREMENTS	SUPPLEMENTAL TRAINING MATERIAL	REFERENCES
7.1 Identify the proper use of the challenge and password involving one stranger.	7.1 None	None	1. FM 21-75 para 19
7.2 Identify the proper use of the challenge and password involving a group of strangers.	7.2 None		2. Six Roads To Success Vol III para 19 pgs 125-129

TAIS No. 2007

MODULE MOS-T

UNIT ICT

CRITERION AND ENABLING OBJECTIVES

TASK IDENTIFICATION: 7.0

TASK ELEMENTS: 7.1-7.2

CRITERION OBJECTIVE(S)	ENABLING OBJECTIVE(S)
7.1 Identify the correct order of the procedures for using the challenge and password involving one stranger when presented with the procedures in a scrambled order. The correct order is:	7.1.1-7.2.1 Pick from a list of items that personnel who do not know the challenge and password are: DETAINED TO BE BROUGHT TO THE ATTENTION OF THE COMMANDER.
a. Sentry halts stranger	7.1.2-7.2.1 Select from a multiple-choice list that the regular challenge and password is used: FOR RECOGNITION WITHIN FRIENDLY AREAS.
b. Sentry questions, stranger answers	
c. Stranger advances	
d. Sentry halts stranger	7.1.3-7.2.3 Select from a multiple-choice list that the challenge and password are normally changed every: 24 HOURS.
e. Sentry gives challenge, stranger gives password	
f. Sentry passes identified soldier	7.1.4-7.2.4 Pick from a list ODD when asked what type of pre-arranged total number should be used when a number system is established for the challenge - Password.
7.2 Identify the correct order of the procedures for using the challenge and password involving a group of strangers when the procedures are represented a scrambled order. The correct order is:	7.2.5 Pick from a list of items that when a group is challenged: THE LEADER GIVES THE PASSWORD AND IDENTIFIES EACH MAN IN THE GROUP or THE LEADER GIVES THE PASSWORD AND VOUCHES FOR THE OTHERS IN THE GROUP.
a. Sentry halts group	
b. Sentry questions, leader answers	
c. The leader advances	
d. Sentry halts leader	
e. Sentry gives challenge, leader gives password	
f. Method for identifying man in the group is established	
g. Each man is identified	

TAIS No. 2007

MODULE MOS-T

UNIT ICT

TEST ITEMS

TASK IDENTIFICATION: 7.0

TASK ELEMENTS: 7.1-7.2

CRITERION ITEM(S)	ENABLING ITEM(S)
7.1 Put the following procedures for using the challenge and password involving one stranger in the proper order: (Note: a sequence may be used more than once.) a. Sentry questions, stranger answers b. Sentry halts stranger c. Sentry gives challenge, stranger gives password d. Stranger advances e. Sentry passes identified soldier (b, a, d, b, c, e)	7.1.1-7.2.1 Personnel who do not know the challenge and password: (select a letter) a. Are turned back if in civilian clothes b. Are passed if they have satisfactory identification c. Are brought into your position and kept covered if they cannot identify themselves * d. Are detained and brought to the attention of the commander
7.2 Put the following procedures for using the challenge and password involving a group of strangers in the proper order: a. Sentry halts leader b. Sentry gives challenge, leader gives password c. The leader advances d. Method for identifying men in the group is established e. Sentry questions, leader answers f. Each man is identified g. Sentry halts group (g, e, c, a, b, d, f)	7.1.2-7.2.2 The regular challenge and password should be used: (select a letter) a. For recognition within patrols b. For recognition between patrols * c. For recognition within friendly areas d. For recognition between allied forces 7.1.3-7.2.3 The challenge and password are normally changed every: (select a letter) a. 6 hours b. 12 hours * c. 24 hours d. 48 hours

TAIS No. 2007

MODULE MOS-T

UNIT ICT

TEST ITEMS

TASK IDENTIFICATION: 7.0

TASK ELEMENTS: 7.1-7.2

CRITERION ITEM(S)	ENABLING ITEM(S)
	7.1.4-7.2.4 You are using a number system for the challenge and password. The pre-arranged total number used should be which of the following: (select a letter) a. ten b. even * c. odd d. any number 7.2.5 When a group is challenged for the password, which of the following are acceptable: (enter the letter(s) of your choice in a single line) a. Each man in the group gives the password in turn and is passed * b. The leader of the group gives the password and identifies each man in the group * c. The leader of the group gives the password and vouches for the others in the group d. The leader of the group identifies each man in the group (b, c)

TAIS No. 2008

MODULE MOS-T

UNIT ICT

TRAINING ANALYSIS INFORMATION SHEET

1. TASK IDENTIFICATION: 8.0

2. TASK: Identify the procedures prescribed when under the light of a ground or overhead flare.

3. CONDITIONS: Given situations describing a soldier caught under the light of a ground or overhead flare, provide the correct response

4. STANDARD: Correctly selects the best action to take for four out of five conditions when caught under the light of an overhead flare.

5. TASK ANALYSIS:

TASK ELEMENTS	PREREQUISITE KNOWLEDGE OR SKILL REQUIREMENTS	SUPPLEMENTAL TRAINING MATERIAL	REFERENCES
8.1 Identify the procedures prescribed when under the light of a ground flare	8.1 None	None	1. FM 21-75 para 27 2. Six Roads to Success Vol III para 27 pgs 138-139
8.2 Identify the procedures prescribed when under the light of an overhead flare	8.2 None		

TAIS No. 2008

MODULE MOS-T

UNIT ICT

CRITERION AND ENABLING OBJECTIVES

TASK IDENTIFICATION: 8.0

TASK ELEMENTS: 8.1-8.2

CRITERION OBJECTIVE(S)	ENABLING OBJECTIVE(S)
8.1 Given a situation of a soldier caught under the light of a ground flare, the student is able to select the prescribed actions as being: a. Move quickly out of the lighted area b. Keep moving until you are well away from the area, reorient yourself, and continue the mission	8.1.1 Select from a multiple-choice list the type of flare that would cause you to move quickly out of the lighted area and keep moving until you are well away from the area, reorient yourself, and continue the mission: GROUND FLARE
8.2 Given a situation of a soldier caught under the light of an overhead flare, the student is able to select the prescribed actions as being: a. If you set off an overhead flare or hear one fired, get down while it is rising and conceal yourself before it bursts	8.2.1 Pick from a list GET DOWN WHILE IT IS RISING AND CONCEAL YOURSELF BEFORE IT BURSTS as being the action you would take if you set off an overhead flare or hear one fired
b. If caught in the light of the burst where you blend well with your background, freeze in place until the flare burns out	8.2.2 Select from a multiple-choice list the action to take if caught in the light of the burst of an overhead flare where you blend well with your background: FREEZE IN PLACE UNTIL THE FLARE BURNS OUT
c. If among trees, quickly step behind one	8.2.3 Pick from a list STEP QUICKLY BEHIND ONE as the prescribed action if you are among trees when the light of an overhead flare bursts
d. If caught in the open, crouch low or hit the ground	8.2.4 Pick from a list CROUCH LOW OR HIT THE GROUND as being the prescribed action if caught in the open under the light of an overhead flare
e. If caught by a flare while crossing an obstacle, such as barbed wire, crouch low and stay still until the flare burns out	8.2.5 Select from a list CROUCH LOW AND STAY STILL UNTIL THE FLARE BURNS OUT as being the prescribed action if caught under the light of an overhead flare while crossing an obstacle such as barbed wire
f. If caught by a flare during an assult, continue the assault	

TAIS No. 2008

MODULE MOS-T

UNIT ICT

CRITERION AND ENABLING OBJECTIVES

TASK IDENTIFICATION: 8.0

TASK ELEMENTS: 8.1-8.2

CRITERION OBJECTIVE(S)	ENABLING OBJECTIVE(S)
	8.2.6 State CONTINUE THE ASSAULT as being the prescribed action if caught under the light of an overhead flare during an assault

TEST ITEMS

TASK IDENTIFICATION: 8.0

TASK ELEMENTS: 8.1-8.2

CRITERION ITEM(S)	ENABLING ITEM(S)
8.1 You are moving into an area and suddenly you are caught under the light of a ground flare. You would do which of the following: a. Crouch low or hit the ground * b. Move quickly out of the lighted area c. Freeze in place * d. Keep moving until you are well away from the area, reorient yourself, and continue the mission (insert the letter(s) in a single line in alphabetical order) (b,d)	8.1.1 To move quickly out of the lighted area and keep moving until you are well away from the area, reorient yourself and continue the mission are the prescribed actions if caught under the light of a/an: (select a letter) a. Overhead flare b. Searchlight *c. Ground flare d. Rocket flare
8.2 Assume you are moving into an area and suddenly you are caught under the light of an overhead flare. Pick from the following statements the best action to take depending on the situation: a. Crouch low and stay still until the flare burns out, then cross the obstacle b. Move quickly out of the area c. Get down while it is rising and conceal yourself before it bursts d. Move quickly over the obstacle and continue to move in a low crawl until the flare burns out e. Freeze in place until the flare burns out f. Crouch low or hit the ground g. Step quickly behind one	8.2.1 If you set off an overhead flare or hear one fired, when caught in the open, you would: (select a letter) * a. Get down while it is rising and conceal yourself before it bursts b. Move quickly out of the lighted area c. Freeze in place until the flare burns out d. None of the above 8.2.2 If you are caught in the light of the burst of an overhead flare where you blend well with your background, you would: (select a letter) a. Crouch low or hit the ground * b. Freeze in place until the flare burns out c. Move quickly out of the lighted area d. Move slowly away from the lighted area

TAIS No. 2008

MODULE MOS-T

UNIT ICT

TEST ITEMS

TASK IDENTIFICATION: 8.0

TASK ELEMENTS: 8.1-8.2

CRITERION ITEM(S)	ENABLING ITEM(S)
You set off or hear an overhead flare Action to take is - ? (c) (enter a letter from the above list)	8.2.3 If you are among trees when the light of an overhead flare bursts, what would you do? (select a letter)
You are caught in the light of a burst, but you blend well with your background. Action to take is - ? (e)	a. Continue your movement
You are among trees. Action to take is - ? (g)	b. Quickly climb one
You are caught in the open. Action to take is - ? (f)	c. Quickly dart from tree to tree
You are crossing an obstacle. Action to take is - ? (a)	* d. Step quickly behind one
	8.2.4 If you are caught in the open under the light of an overhead flare, you would:
	a. Freeze in place until the flare burns out
	b. Move quickly out of the lighted area
	*c. Crouch low or hit the ground
	d. Move out of the lighted area by using the low crawl
	8.2.5 If you are caught under the light of an overhead flare while crossing an obstacle such as barbed wire, you would: (select a letter)
	a. Move away from the area
	*b. Crouch low and stay still until the flare burns out
	c. Crouch low and crawl out of the lighted area
	d. Continue to cross the obstacle using it as a shield from the light

TAIS No. 2008

MODULE MOS-T

UNIT ICT

TEST ITEMS

TASK IDENTIFICATION: 8.0

TASK ELEMENTS: 8.1-8.2

CRITERION ITEM(S)	ENABLING ITEM(S)
	8.2.6 If caught under the light of an overhead flare during an assault: (select a letter) *a. Continue the assault b. Crouch low and stay still until the flare burns out c. Crouch low and use the high crawl to continue the assault d. Continue the assault by using the low crawl

TAIS No. 2009

MODULE MOS-T

UNIT ICT

TRAINING ANALYSIS INFORMATION SHEET

1. TASK IDENTIFICATION: 9.0

2. TASK: Identify the procedures for crossing danger areas.

3. CONDITIONS: Given constructed response and multiple-choice questions concerning danger areas, the student is able to identify the proper procedures for crossing each type.

4. STANDARD: Given a series of danger areas, select the proper procedure to cross six out of the seven danger areas presented.

5. TASK ANALYSIS:

TASK ELEMENTS	PREREQUISITE KNOWLEDGE OR SKILL REQUIREMENTS	SUPPLEMENTAL TRAINING MATERIAL	REFERENCES
9.1 Identify procedures for crossing open areas	9.1 None	On-line representations of crossing situations	1. FM 21-75 para 28
9.2 Identify the procedures for crossing roads and trails	9.2 None		2. Six Roads to Success Vol III para 28 pgs 139-140
9.3 Identify the procedures for crossing native villages	9.3 None		
9.4 Identify the procedures for crossing enemy positions	9.4 None		
9.5 Identify the procedures for crossing minefields	9.5 None		
9.6 Identify the procedures for crossing streams	9.6 None		
9.7 Identify the procedures for crossing barbed wire	9.7 None		

TAIS No. 2009

MODULE MOS-T

UNIT ICT

CRITERION AND ENABLING OBJECTIVES

TASK IDENTIFICATION: 9.0

TASK ELEMENTS: 9.1-9.7

CRITERION OBJECTIVE(S)	ENABLING OBJECTIVE(S)
9.1-9.7 Given a list of procedures, the student is able to identify the proper procedures for crossing the following types of danger areas: a. Open areas b. Roads and trails c. Native villages d. Enemy positions e. Minefields f. Streams g. Barbed wire	9.1.1 Select from a multiple-choice list the procedures for crossing open areas as being: CONCEAL YOURSELF ON THE NEAR SIDE AND CAREFULLY OBSERVE THE AREA. 9.2.1 Identify from an on-line representation the point where you would cross a road or trail. Crossing point selected should be NEAR A BEND WHERE THE ROAD IS NARROW SO THE ENEMY'S OBSERVATION IS LIMITED AND YOU WILL BE EXPOSED AS SHORT A TIME AS POSSIBLE. 9.3.1 Select from a multiple-choice list the route which best conforms to the procedures for passing native villages: PASS ON THE DOWNWIND SIDE, WELL AWAY FROM THE VILLAGE. 9.4.1 Select from a multiple-choice list the route which best conforms to the procedures for passing enemy positions: PASS ON THE DOWNWIND SIDE, BEING ALERT FOR TRIPWIRES AND WARNING DEVICES. 9.5.1 Pick from a list the procedures for crossing minefields as: USE YOUR HANDS TO DETECT TRIPWIRES AND PROBE GENTLY WITH YOUR BAYONET FOR BURIED MINES. 9.6.1 Identify from a multiple-choice list the procedure you would use to cross a stream: SELECT A SPOT WHERE THE STREAM IS NARROW AND THERE IS CONCEALMENT ON BOTH SIDES, CROSS RAPIDLY BUT QUIETLY.

TAIS No. 2009

MODULE MOS-T

UNIT ICT

CRITERION AND ENABLING OBJECTIVES

TASK IDENTIFICATION: 9.0

TASK ELEMENTS: 9.1-9.7

CRITERION OBJECTIVE(S)	ENABLING OBJECTIVE(S)
	9.7.1 Select from a multiple-choice list the proper procedures for crossing barbed wire: STAY LOW WHEN APPROACHING THE WIRE. SLIDE UNDER THE BOTTOM STRANDS ON YOUR BACK, PUSHING YOURSELF FORWARD WITH YOUR HEELS

TEST ITEMS

TASK IDENTIFICATION: 9.0

TASK ELEMENTS: 9.1-9.7

CRITERION ITEM(S)	ENABLING ITEM(S)
9.1-9.7 From the following list, match each danger area with the statement describing the correct procedures for crossing: a. Conceal yourself on the near side and carefully observe the area b. Cross at or near a bend where it is narrow c. Pass on the downwind side of a native village, well away from the village d. Use your hands to detect tripwires and probe gently with your bayonet e. Stay low when approaching, slide under on your back pushing yourself forward with your heels f. Select a spot where the stream is narrow and there is concealment on both sides g. Pass on the downwind side, being alert for tripwires and warning devices Native villages: the procedure is - ? (c) (enter a letter from the above list) Mine fields: the procedure is - ? (d) Barbed wire: the procedure is - ? (e) Roads and trails: the procedure is - ? (b) Enemy positions: the procedure is - ? (g) Open area: the procedure is - ? (a) Stream: the procedure is - ? (f)	9.1.1 When you come to an open area you would: (select a letter) a. Use your hand to detect tripwires and probe gently with your bayonet for buried mines b. Pass on the downwind side, avoid animals, especially dogs, which may betray your presence * c. Conceal yourself on the near side and carefully observe the area d. Stay low and avoid contact with the enemy 9.2.1 A B C D E F G H I J K L M (Road) N O If you were on patrol in enemy territory, at about what point (enter letter) would you cross on the road shown above. (i) 9.3.1 To pass a native village, you would: (select a letter) a. Use extreme caution as you enter the perimeter of the village b. Select a spot where there is concealment on both sides, pass rapidly but quietly c. Pass on the windward side of the village, being alert for animals * d. Pass on the downwind side, well away from the village

TAIS No. 2009

MODULE MOS-T

UNIT ICT

TEST ITEMS

TASK IDENTIFICATION: 9.0

TASK ELEMENTS: 9.1-9.7

CRITERION ITEM(S)	ENABLING ITEM(S)
	9.4.1 To pass enemy positions: (select a letter) a. Pass on the downwind side and use your hands to detect tripwires and probe gently with your bayonet for buried mines * b. Pass on the downwind side, being alert for tripwires and warning devices c. Each person passes at once on the double avoiding contact d. Select the narrowest spot and pass in single file 9.5.1 To cross minefields, you would: (select a letter) a. Set the mines off with grenades b. Set the mines off with automatic rifle fire c. Ask for a volunteer to clear the minefields, using metal detection devices * d. Use your hands to detect tripwires and probe gently with your bayonet for buried mines

2 January 1974

TAIS No. 2009

MODULE MOS-T

UNIT ICT

TEST ITEMS

TASK IDENTIFICATION: 9.0

TASK ELEMENTS: 9.1 - 9.2

CRITERION ITEM(S)	ENABLING ITEM(S)
	9.6.1 To cross a stream, you would: (select a letter) a. Select a spot where the stream is wide and shallow, cross rapidly but quietly b. Select a spot where the stream is narrow and deep, cross by swimming under water *c. Select a spot where the stream is narrow and there is concealment on both sides, cross rapidly but quietly d. Select a spot where the stream is narrow and shallow and wade quickly across 9.7.1 To cross barbed wire, you would stay low when approaching the wire and: (select a letter) a. Cut the top two strands and cross b. Cut the bottom strand and cross * c. Slide under the bottom strand on your back, pushing yourself forward with your heels d. Slide under the bottom strands on back, cut the lower three strands and cross

INDIVIDUAL SKILLS AND KNOWLEDGE

TAIS No. 2010

MODULE MOS-T

UNIT ISK

TRAINING ANALYSIS INFORMATION SHEET

1. TASK IDENTIFICATION: 1.0

2. TASK: Identify the characteristics of rifle, automatic rifle, and grenade launcher fire.

3. CONDITIONS: Given constructed response and multiple-choice questions concerning the characteristics of rifle, automatic rifle, and grenade launcher fire, provide correct response.

4. STANDARD: No errors.

5. TASK ANALYSIS:

TASK ELEMENTS	PREREQUISITE KNOWLEDGE OR SKILL REQUIREMENTS	SUPPLEMENTAL TRAINING MATERIAL	REFERENCES
1.1 Define the terms: trajectory, danger space, cone of fire, beaten zone, and casualty radius	1.1 None	On-line representation of the characteristics of fire.	1. FM 23-12 para 20 2. Six Roads to Success Vol III para 20 pgs 277-278 3. UT-B-022 pg 3
1.2 Identify the characteristics of rifle and automatic rifle fire in regard to trajectory, danger space, and beaten zone	1.2 None		
1.3 Identify the characteristics of grenade launcher fire in regard to trajectory and causualty radius	1.3 None		

TAIS No. 2010

MODULE MOS-T

UNIT ISK

CRITERION AND ENABLING OBJECTIVES

TASK IDENTIFICATION: 1.0

TASK ELEMENTS: 1.1-1.3

CRITERION OBJECTIVE(S)	ENABLING OBJECTIVE(S)
1.1 Given a list of definitions, the student is able to match the terms of trajectory, danger space, cone of fire, beaten zone, and casualty radius with the correct definition for each	1.1.1 Select from a multiple choice list the path of the projectile in its flight from the weapon's muzzle to the poir of impact as being called TRAJECTORY.
1.2 Given a list of questions concerning the characteristics of rifle and automatic rifle fire in regard to trajectory, danger space, and beaten zone, the student is able to provide the correct responses	1.1.2 Complete: The space between the weapon and the target when the trajectory does not rise above the average height (1.8 meters) of a standing man is called DANGER SPACE.
1.3 Given a list of questions concerning grenade launcher fire in regard to trajectory and casualty radius, the student is able to provide the correct responses	1.1.3 Complete: The pattern formed by successive projectiles from the same weapon in their flight through the air is called CONE OF FIRE.
	1.1.4 Complete: The area where the cone of fire strikes the ground or target is called BEATEN ZONE.
	1.1.5 Complete: The area around the projectile's point of impact where personnel would be killed or injured is called CASUALTY RADIUS.
	1.2.1 Pick from a multiple-choice list the ranges at which the trajectory of rifle and automatic rifle fire is almost flat: 300 METERS
	1.2.2 Complete: To engage targets at ranges greater than 300 meters, it is necessary for the riflemen and automatic riflemen to ELEVATE his weapon.

TAIS No. 2010

MODULE MOS-T

UNIT ISK

CRITERION AND ENABLING OBJECTIVES

TASK IDENTIFICATION: 1.0

TASK ELEMENTS: 1.1-1.3

CRITERION OBJECTIVE(S)	ENABLING OBJECTIVE(S)
	1.2.3 Pick from a list the range where the trajectory of rifle fire will create dead space higher than the height of a man (1.8 meters): 650 METERS. 1.3.1 Complete: When engaging targets with the grenade launcher at ranges greater than 150 METERS, the angle of elevation must be increased. 1.3.2 Complete: The casualty radius of the 40mm high explosive projectile is 5 METERS. 1.3.3 Given several target ranges, the student will select all targets that could be effectively engaged with the grenade launcher. The target ranges in meters are: 150, 250, 350, 450 and 550.

TAIS No. 2010 MODULE MOS-T

UNIT ISK

TEST ITEMS

TASK IDENTIFICATION: 1.0

TASK ELEMENTS: 1.1-1.3

CRITERION ITEM(S)	ENABLING ITEM(S)
1.2 Complete the following statements: The trajectory of rifle and automatic rifle fire is almost flat out to (300) meters At ranges greater than (300) meters it is necessary for the rifleman and automatic rifleman to elevate his weapon, thus raising the height of the trajectory. A high velocity bullet fired by a rifleman in the _____ position over level or uniformly sloping terrain at a target less than _____ meters away will not rise above the average height of a man. (choose a letter from below to complete the sentence) a. Prone, 350 meters * b. Prone, 650 meters c. Kneeling, 350 meters d. Kneeling, 650 meters	1.2.1 The trajectory of rifle and automatic rifle fire is almost flat at ranges (targets) out to: (select a letter) a. 100 meters b. 200 meters * c. 300 meters d. 400 meters 1.2.2 To engage targets at ranges greater than 300 meters, it is necessary for the rifleman and automatic rifleman to (select a letter) a. Elevate b. Lower the muzzle of his weapon (a) 1.2.3 At what range will the trajectory of rifle fire create dead space higher than the height of a man 1.8 meters tall when fired over level or uniform terrain? (select a letter) a. 350 meters b. 450 meters c. 550 meters * d. 650 meters

TAIS No. 2010

MODULE MOS-T

UNIT ISK

TEST ITEMS

TASK IDENTIFICATION: 1.0

TASK ELEMENTS: 1.1-1.3

CRITERION ITEM(S)	ENABLING ITEM(S)
1.1 Match each of the following terms with its definition. I will tell you how well you did after you have finished. a. The flight path from the weapon's muzzle to the point of impact b. The space between the weapon and the target when the trajectory does not rise above the height of a man (1.8 meters) c. The pattern formed by successive projectiles from the same weapon in their flight through the air d. The area where the cone of fire strikes the ground or target e. The area around the point of impact where personnel would be killed or injured Beaten zone = ? (d) (enter a letter from above list) Danger space = ? (b) Casualty radius = ? (e) Trajectory = ? (a) Cone of fire = ? (c)	1.1.1 The path of the projectile in its flight from the weapon's muzzle to the point of impact is called: (enter a letter from below) a. Perpendicular b. Horizontal c. Tragent * d. Trajectory 1.1.2 The space between the weapon and the target when the trajectory does not rise above the average height (1.8 meters) of a standing man is called (Danger Space) 1.1.3 The pattern formed by successive projectiles from the same weapon in their flight through the air is called the (Cone of Fire) 1.1.4 What is the area where the cone of fire strikes the ground or target called? (Beaten Zone) 1.1.5 The area around the projectile's point of impact where personnel would be killed or injured is called the (Casualty Radius)

TAIS No. 2010

MODULE MOS-CS

UNIT ISK

TEST ITEMS

TASK IDENTIFICATION: 1.0

TASK ELEMENTS: 1.1-1.3

CRITERION ITEM(S)	ENABLING ITEM(S)
1.3 Pick the correct characteristics of grenade launcher fire in regard to trajectory and casualty radius. (Enter the letter(s) of your choice in alphabetical order in a single line.) a. The trajectory of the grenade launcher projectile beyond 150 meters is flat * b. When engaging targets with the grenade launcher at ranges greater than 150 meters, the angle of elevation must be increased c. The casualty radius of the 40MM high explosive projectile is 10 meters * d. The casualty radius of the 40MM high explosive projectile is 5 meters e. The maximum effective range of the grenade launcher is 550 meters (b, d) F 4 G C2D3E (((WIND A 1 B (you) The four man patrol (numbered 1 to 4 above) is moving in diamond formation, 5 meters apart, walking toward your position. The wind is blowing right to left. At which of the above letters (A through G) would the grenade launcher most likely be pointed when fired? (b)	1.3.1 When engaging targets with the grenade launcher at ranges greater than (150) meters, the angle of elevation must be increased. 1.3.2 The casualty radius of the 40MM high explosive projectile is (5) meters. 1.3.3 Assume you are firing a grenade launcher. Pick from the following list of ranges all the targets that you could effectively engage. (Enter the letter(s) of your choice in alphabetical order in a single line.) * a. 150 meters b. 550 meters * c. 250 meters d. 450 meters * e. 350 meters (a, c, e)

TAIS No. 2011

MODULE MOS-T

UNIT ISK

TRAINING ANALYSIS INFORMATION SHEET

1. TASK IDENTIFICATION: 2.0

2. TASK: Identify the classes of fire with respect to the target and the ground.

3. CONDITIONS: Given instructions showing the relationship between the target and ground, identify the classes of fire with respect to the target and ground.

4. STANDARD: No errors.

5. TASK ANALYSIS:

TASK ELEMENTS	PREREQUISITE KNOWLEDGE OR SKILL REQUIREMENTS	SUPPLEMENTAL TRAINING MATERIAL	REFERENCES
2.1 Identify the classes of fire with respect to the target 2.2 Identify the most desirable type of fire with respect to the target 2.3 Identify the classes of fire with respect to the ground	2.1 None 2.2 None 2.3 None	On-line representations of the classes of fire	1. FM 23-12 para 21 2. Six Roads to Success Vol III para 21 pgs 278-282 3. UT-B-022 pgs 3-4

TAIS No. 2011

MODULE MOS-T

UNIT ISK

CRITERION AND ENABLING OBJECTIVES

TASK IDENTIFICATION: 2.0

TASK ELEMENTS: 2.1-2.3

CRITERION OBJECTIVE(S)	ENABLING OBJECTIVE(S)
2.1 When asked what are the classes of fire with respect to target the student is able to state: a. Frontal b. Flanking c. Oblique d. Enfilade	2.1.1 Complete: When rifle fire is delivered at a right angle to the front of the target it is called FRONTAL. 2.1.2 Complete: When rifle fire is delivered into the flank of the target it is called FLANKING. 2.1.3 Complete: When the long axis of the Beaten Zone is at an oblique to the long axis of the target it is called OBLIQUE FIRE. 2.1.4 Complete: When the long axis of the Beaten Zone coincides with the long axis of the target it is called ENFILADE FIRE.
2.2 When asked what is the most desirable type of fire with respect to the target, the student is able to state: Enfilade	2.2.1 Complete: The most desirable type of fire with respect to the target is ENFILADE.
2.3 When asked what are the classes of fire with respect to ground, the student is able to state: a. Grazing b. Plunging	2.3.1 State GRAZING as the type of fire where the center of the cone of fire does not rise above 1 meter from the ground. 2.3.2 Complete: When the angle of fall of the bullets with respect to the slope of the ground is such that the danger space is practically confined to the point of impact (Beaten Zone) it is called PLUNGING.
2.4 Given a tactical situation, locate the automatic riflemen to provide the most effective fire on target.	

TAIS No. 2011.

MODULE MOS-T

UNIT ISK

TEST ITEMS

TASK IDENTIFICATION: 2.0

TASK ELEMENTS: 2.1-2.3

CRITERION ITEM(S)	ENABLING ITEM(S)
2.1 What are the classes of fire with respect to a target? (select a letter) a. Frontal, flanking, oblique, defilade * b. Frontal, flanking, oblique, enfilade c. Oblique, enfilade, defilade, frontal d. Flanking, direct, indirect, enfilade	2.1.1 Rifle fire is called (Frontal) when it is delivered at a right angle to the front of the target 2.1.2 Rifle fire is called (Flanking) when it is delivered into the flank of the target 2.1.3 When the long axis of the beaten zone is at an angle other than a right angle to the direction the target is moving, it is called (Oblique) fire. 2.1.4 Rifle fire is called (Enfilade) fire when the long axis of the beaten zone coincides with the long axis of the target.
2.2 What is the most desirable type of fire with respect to the target? (Enfilade)	
2.3 The classes of fire with respect to ground are: (Grazing, Plunging)	2.3.1 When the center of the cone of fire does not rise above one meter from the ground, the fire is called (Grazing) fire. 2.3.2 When the angle of fall of the bullets with respect to the slope of the ground is such that the danger space is practically confined to the point of impact (beaten zone) the fire is called? (Plunging)
2.4 An enemy patrol, deployed as shown below, is approaching your concealed squad position and you have an opportunity to place your automatic rifles at any one of the following positions (A, B, C or D). Enemy Patrol 7 6 4 5 3 2 1 Direction of movement is toward the squad D A C B Squad (D)	

TAIS No. 2011

MODULE MOS-T

UNIT ISK

TEST ITEMS

TASK IDENTIFICATION: 2.0

TASK ELEMENTS: 2.1-2.3

CRITERION ITEM(S)	ENABLING ITEM(S)
To provide the most effective fire on the patrol, at what position would you locate the automatic riflemen? (Answer A, B, C, or D) (d) If the patrol were fired on from position A, what class of fire with respect to target would they be exposed to? (Oblique) If the patrol were fired on from position C, what class of fire with respect to target would they be exposed to? (Frontal) If the patrol were fired on from position D, what class of fire with respect to target would they be exposed to? (Oblique)	

SQUAD COMBAT FORMATIONS

TAIS No. 2012

MODULE MOS-T

UNIT SCF

TRAINING ANALYSIS INFORMATION SHEET

1. TASK IDENTIFICATION: 1.0
2. TASK: Identify the dismounted squad formations and proper arm and hand signals.
3. CONDITIONS: Given situations showing squad dismounted formations, and associated arm and hand signals, associate the correct formations and the proper arm and hand signals.
4. STANDARD: No errors.

5. TASK ANALYSIS:

TASK ELEMENTS	PREREQUISITE KNOWLEDGE OR SKILL REQUIREMENTS	SUPPLEMENTAL TRAINING MATERIAL	REFERENCES
1.1 Identify squad file	1.1 None	On-line representations of squad formations combined with figures showing arm and hand signals	1. FM 23-12 Appendix B pgs 78-89
1.2 Identify squad line	1.2 None		
1.3 Identify squad column, fire teams in column	1.3 None		2. FM 7-10 Appendix D pgs D-1 - D-4
1.4 Identify squad column, fire teams abreast	1.4 None		
1.5 Identify modified squad column, fire teams abreast	1.5 None		3. Six Roads To Success Vol III Appendix D pgs 80-82
1.6 Identify arm and hand signal for squad file	1.6 None		
1.7 Identify arm and hand signal for squad column fire teams in column	1.7 None		
1.8 Identify arm and hand signal for squad column fire teams abreast	1.8 None		
1.9 Identify arm and hand signal for squad line	1.9 None		
1.10 Identify arm and hand signal for modified squad column, fire teams abreast	1.10 None		

TAIS No. 2012

MODULE MOS-T

UNIT SCF

CRITERION AND ENABLING OBJECTIVES

TASK IDENTIFICATION: 1.0

TASK ELEMENTS: 1.1-1.10

CRITERION OBJECTIVE(S)	ENABLING OBJECTIVE(S)
1.1-1.10 When presented with a situation showing squad formations, the student can identify the correct formations and associated arm and hand signals.	1.1.1 Select from various squad formations: SQUAD FILE. 1.2.1 Select from various squad formations: SQUAD LINE. 1.3.1 Select from various squad formations: SQUAD COLUMN, FIRE TEAMS IN COLUMN. 1.4.1 Select from various squad formations: SQUAD COLUMN, FIRE TEAMS ABREAST. 1.5.1 Select from various squad formations: MODIFIED SQUAD COLUMN, FIRE TEAMS ABREAST. 1.6.1 Select from a number of arm and hand signals, the proper signal for: SQUAD FILE. 1.7.1 Select from a number of arm and hand signals, the proper signal for: SQUAD COLUMN, FIRE TEAMS IN COLUMN. 1.8.1 Select from a number of arm and hand signals, the proper signal for: SQUAD COLUMN, FIRE TEAMS ABREAST. 1.9.1 Select from a number of arm and hand signals, the proper signal for: SQUAD LINE. 1.10.1 Select from a number of arm and hand signals, the proper signal for: MODIFIED SQUAD COLUMN, FIRE TEAMS ABREAST. 1.10.2 Pick from a list those arm and hand signals that are supplemented by VOICE command.

TAIS No. 2012 MODULE MOS-T

UNIT SCF

TEST ITEMS

TASK IDENTIFICATION: 1.0

TASK ELEMENTS: 1.1-1.10

CRITERION ITEM(S)	ENABLING ITEM(S)
1.1-1.10 Look at Figure 6 in your handout. At the bottom are the arm and hand signals plus a statement as to whether they are supplemented by voice commands. Above these are the squad formations. To answer the following questions, first type the letter for the squad combat formation and then the letter for the arm and hand signal which are asked for. Type both letters on the same line. I will tell you how well you did after you have answered all the questions. Letter (c) represents the squad file formation and letter (w) represents the signal for squad file. (type both letters on the same line) Letter (a) represents the squad line formation and letter (x) represents the signal for squad line. (type both letters on the same line) Letter (d) represents the "squad column, fire teams in column" formation and letter (z) represents the signal for that formation. (type both letters on the same line) Letter (e) represents the "modified squad column, fire teams abreast" formation and letter (v) represents the signal for that formation. (type both letters on the same line) Letter (b) represents the "modified squad column, fire teams abreast" for-formation and letter (y) represents the signal for that formation. (type both letters on the same line)	1.1-1.2.1 X X X (A) X X))) Direction of X movement X X (B) X X X X X X X X X X))))) In this display, which figure represents a squad in squad line formation, A or B? (a) 1.3.1-1.5.1 Look at figure 2 titled "Squad Combat Formations" which shows various squad formations. Letter (b) is below the squad file formation and letter (e) is below the squad line formation. (enter both letters on the same line) Letter (a) is below the "squad column, fire teams abreast" formation. Letter (d) is below the "modified squad column fire teams abreast" formation.

TAIS No. 2012

MODULE MOS-T

UNIT SCF

TEST ITEMS

TASK IDENTIFICATION: 1.0

TASK ELEMENTS: 1.1 - 1.10

CRITERION ITEM(S)	ENABLING ITEM(S)
	1.6.1-1.10.1 Descriptions: A Raise the right arm to vertical position and swing it to the rear making a complete circle. Give voice commands only if Bravo team is to lead. B Raise both arms to the side until horizontal. Wave the arm that is on the side to which you want the trailing fire team to move. C Raise both arms to vertical and swing them to the rear making a complete circle. Give the voice command for the men in the center to move out toward the flanks. From these descriptions, type the correct letter (A, B or C) that matches the following. I will tell you the results after you finish. Letter (b) represents the signal for the squad line formation. (enter A, B or C) Letter (a) represents the signal for the "squad column, fire teams in column" formation. Letter (c) represents the signal for the "modified squad column, fire teams abreast" formation. Look at the next two descriptions and we'll do the same thing. A Raise both arms to the vertical position and swing them to the rear making a complete circle. B Raise the right arm to vertical and swing it to the right making a complete circle. Give a voice command.

TAIS No. 2012

MODULE MOS-T

UNIT SCF

TEST ITEMS

TASK IDENTIFICATION: 1.0

TASK ELEMENTS: 1.1-1.10

CRITERION ITEM(S)	ENABLING ITEM(S)
	Letter (b) represents the signal for squad file formation. (enter the letter A or B) Letter (a) represents the signal for "squad column, fire teams abreast" formation. 1.10.2 Which of the following formations requires voice commands, as well as arm and hand signals? a. Squad file b. Squad column, fire teams in column bravo team leading c. Modified squad column, fire teams abreast * d. All of the above

TAIS No. 2013

MODULE MOS-T

UNIT SCF

TRAINING ANALYSIS INFORMATION SHEET

1. TASK IDENTIFICATION: 2.0

2. TASK: Identify the tactical considerations for the dismounted squad formations.

3. CONDITIONS: Given various tactical considerations, select the appropriate basic squad formation.

4. STANDARD: No errors.

5. TASK ANALYSIS:

TASK ELEMENTS	PREREQUISITE KNOWLEDGE OR SKILL REQUIREMENTS	SUPPLEMENTAL TRAINING MATERIAL	REFERENCES
2.1 Identify the tactical considerations for the squad file.	2.1 Know the combat formations	List of Squad Combat Formations	1. FM 23-12 Appendix B pgs 78-79, 87-89
2.2 Identify the tactical considerations for the squad column, fire teams in column.	2.2 Know the combat formations		2. FM 7-10 Appendix D pgs D-1 - D-4
2.3 Identify the tactical considerations for the squad column, fire teams abreast.	2.3 Know the combat formations		3. UT-B-042
2.4 Identify the tactical considerations for the squad line.	2.4 Know the combat formations		
2.5 Identify the tactical considerations for the modified squad column, fire teams abreast.	2.5 Know the combat formations		

TAIS No. 2013

MODULE MOS-T

UNIT SCF

CRITERION AND ENABLING OBJECTIVES

TASK IDENTIFICATION: 2.0

TASK ELEMENTS: 2.1-2.5

CRITERION OBJECTIVE(S)	ENABLING OBJECTIVE(S)
2.1-2.5 Given various tactical considerations select the appropriate basic squad combat formation. The squad combat formations are: a. Squad file b. Squad column, fire teams in column c. Squad file, fire teams abreast d. Squad line e. Modified squad column, fire teams abreast	2.1.1 Select from a list the tactical considerations for the squad file: a. Lacks firepower to front and rear b. Maximum firepower to flanks c. Facilitates control and movement d. Commonly used in dense terrain and reduced visibility when speed and control are essential 2.2.1 Pick from a list, the tactical considerations for the squad column, fire teams in column: a. Provide all-round security b. Facilitates control c. Facilitates use of battle drill 2.3.1 Pick from a list the tactical considerations for squad column, fire team abreast: a. Provides all-round security b. Facilitates deployment of squad on each side of the road c. Is used most frequently on a road or trail

TAIS No. 2013

MODULE MOS-T

UNIT SCF

CRITERION AND ENABLING OBJECTIVES

TASK IDENTIFICATION: 2.0 (cont.)

TASK ELEMENTS:

CRITERION OBJECTIVE(S)	ENABLING OBJECTIVE(S)
	2.4.1 Select from a list the tactical considerations for the squad line: a. Difficult to control b. Maximum firepower to the front c. Used for the assault and to cross roads, trails, or short open areas 2.5.1 Pick from a list the tactical considerations for modified squad column, fire teams abreast: a. Provides all-round security b. Increased dispersion

TAIS No. 2013 MODULE MOS-T

UNIT SCF

TEST ITEMS

TASK IDENTIFICATION: 2.0

TASK ELEMENTS: 2.1-2.5

CRITERION ITEM(S)	ENABLING ITEM(S)
2.1-2.5 Look at Figure 7. It contains the titles of the combat formations we have studied plus some nonexistent formations thrown in to make it more interesting. What I am going to do is to describe five tactical situations to you and you are to pick the best formation to use in that situation. For instance, if after reading the description you think the squad column, fire teams abreast would be the best formation to use, you should enter the letter "f" as your answer. F is the letter next to that formation in Figure 7. There are some things you should know: 1. Each of the five formations we studied is the best answer for one of the situations. 2. No formation is used more than once. 3. You should enter the letter that is next to the formation you think is best. Do not spell out the formation. 4. Enter only one letter for each situation. 2.1 Your squad is in wooded terrain in the fog where the tactical situation requires control and speed. What squad combat formation would you use? (select letter from Figure 7) (h) 2.2 Your squad is moving across fairly open farm land with woods to your front and rear that could cover the maneuver of enemy troops running through it. What squad combat formation should you use? (e)	2.1.1 The tactical considerations for the squad file are which of the following: * a. Lacks firepower to front and rear * b. Maximum firepower to flanks c. Used most frequently on a road or trail d. Provide all-round security * e. Facilitates control and movement * f. Commonly used in dense terrain and reduced visibility when speed and control are essential. (enter the letter(s) of your choice on the same line) (a, b, e, f) 2.2.1 The tactical considerations for the squad column, fire teams in column are: (select a letter) a. Provides all-round security b. Facilitates control c. Facilitates use of battle drill * d. All of the above (d)

TEST ITEMS

TASK IDENTIFICATION: 2.0
TASK ELEMENTS: 2.1 - 2.5

CRITERION ITEM(S)	ENABLING ITEM(S)
2.3 Your squad is moving up a country road. The enemy situation is unknown but a fire fight is likely. What squad combat formation would you use? (f)	2.3.1 The tactical considerations for Squad Column, Fire Teams Abreast are: a. Provides all-round security b. Facilitates deployment of squad on each side of the road c. Used most frequently on a road or trail * d. All of the above (d)
2.4 Your squad is about to cross a small plowed field to gain the crest of a small rise which is your intermediate objective. There has been no enemy contact but contact is likely. What squad combat formation would you use? (a)	2.4.1 The tactical considerations for the squad line are: * a. Difficult to control * b. Maximum firepower to the front * c. Used for the assault and to cross roads, trails, or short open areas d. Facilitates use of battle drill e. Provides all-round security. (enter the letter(s) of your choice in a single line in alphabetical order.) (a, b, c)
2.5 Your squad is moving across open farmland which has a number of streams and irrigation ditches running through it. The area has been recently bombed and there are craters throughout the area. What squad combat formation would you use? (b)	2.5.1 The tactical considerations for the modified squad column, fire teams abreast are: a. Facilitates use of battle drill * b. Provides all-round security c. Provides maximum firepower to flanks * d. Increased dispersion (Enter the letter(s) of your choice in a single line) (b, d)

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SQUAD BATTLE DRILL

TAIS No. 2014

MODULE MOS-T

UNIT SBD

TRAINING ANALYSIS INFORMATION SHEET

1. TASK IDENTIFICATION: 1.0

2. TASK: Identify the fire support element, maneuver element and the mission of each

3. CONDITIONS: Given a tactical situation of a squad engaging the enemy, the student is able to identify the maneuver element, the fire support element and the mission of each.

4. STANDARD: No errors

5. TASK ANALYSIS:

TASK ELEMENTS	PREREQUISITE KNOWLEDGE OR SKILL REQUIREMENTS	SUPPLEMENTAL TRAINING MATERIAL	REFERENCES
1.1 Identify the fire support element and its mission	1.1 None	On-line representation of a tactical situation	1. FM 23-12 para 29-30
1.2 Identify the maneuver element and its mission	1.2 None		2. Six Roads To Success Vol III a. Appendix E para E-1 to E-11 b. para 29-30 pgs 284-286 3. FM 7-10 Appendix E para E-1 to E-11 4. UT-B-042 pg 11

TAIS No. 2014

MODULE MOS-T

UNIT SBD

CRITERION AND ENABLING OBJECTIVES

TASK IDENTIFICATION: 1.0

TASK ELEMENTS: 1.1-1.2

CRITERION OBJECTIVE(S)	ENABLING OBJECTIVE(S)
1.1-1.2 Given a tactical situation of a squad engaging the enemy, the student is able to identify the maneuver element and the fire support element.	1.1.1 Identify from a list, the mission of the fire support element: TO ASSIST THE MANEUVER ELEMENT IN ITS ADVANCE TOWARD THE ENEMY POSITION 1.2.1 Identify from a list, the mission of the maneuver element: TO CLOSE WITH AND DESTROY OR CAPTURE THE ENEMY.

TAIS No. 2014

MODULE MOS-T

UNIT SBD

TEST ITEMS

TASK IDENTIFICATION: 1.0

TASK ELEMENTS: 1.1-1.2

CRITERION ITEM(S)	ENABLING ITEM(S)
1.1-1.2 Consider the following tactical situation and the actions a squad might take. Assume a squad is in the attack and Alfa team has been fired upon with small arms fire from the objective. Bravo team is in position defilade in a creek bed. The situation can be viewed as follows: OBJECTIVE G R TL AR (ALFA TEAM) SL TL R AR (BRAVO TEAM) G R 1. Based upon this situation, in squad battle drill, what should ALFA team do? (select a letter) * a. Return fire immediately b. Open fire on command of the team c. Withdraw to the creek bed d. Take cover 2. Which of the two fire teams is performing the mission of the fire support element? (ALFA) team (enter its name) 3. Then (_____)team must be performing the function of the (_____) element. (enter both answers on a single line) (bravo, maneuver)	1.1.1 The mission of the fire support element in the attack is to: (select a letter) a. Close with and destroy or capture the enemy * b. Assist the maneuver element in its advance toward the enemy position c. Close with and destroy enemy forces, using fire and maneuver d. Prevent the withdrawal of enemy forces 1.2.1 The mission of the maneuver element is to: a. Assist the fire support element in its advance toward the enemy b. Achieve isolation of the killing zone to prevent escape or reinforcement c. Withhold all fire until the enemy has moved within the killing zone * d. Close with and destroy or capture the enemy

TAIS No. 2014 MODULE MOS-T

UNIT SBD

TEST ITEMS

TASK IDENTIFICATION: 1.0

TASK ELEMENTS: 1.1 - 1.2

CRITERION ITEM(S)	ENABLING ITEM(S)
4. In this situation the principle job of Alfa team is to: (select a letter) a. Take cover * b. Engage all known and suspected targets c. Determine enemy situation d. Close with and destroy the enemy 5. This means that Bravo team's principle job is to: (select a letter) a. Engage all known targets b. Maintain contact * c. Advance toward the enemy d. Provide Alfa team with ammo	

TAIS No. 2015 MODULE MOS-T

UNIT SBD

TRAINING ANALYSIS INFORMATION SHEET

1. TASK IDENTIFICATION: 2.0

2. TASK: Identify the types of battle drill squad maneuvers and the appropriate arm and hand signals.

3. CONDITIONS: Given a tactical situation where battle drill fire and maneuver is required, identify the appropriate arm and hand signals for the squad manuevers required.

4. STANDARD: No errors

5. TASK ANALYSIS:

TASK ELEMENTS	PREREQUISITE KNOWLEDGE OR SKILL REQUIREMENTS	SUPPLEMENTAL TRAINING MATERIAL	REFERENCES
2.1 Identify manuever right 2.2 Identify manuever left 2.3 Identify maneuver front left, (right) 2.4 Identify appropriate arm and hand signals for the types of maneuvers.	2.1 Know squad combat formations 2.2 Know squad combat formations 2.3 Know squad combat formations 2.4 Know squad combat formations	Figure showing arm and hand signals and on-line representations of tactical situations	1. FM 7-10 Appendix E para E4 to E6 2. Six Roads to Success Vol III a. Appendix E para E1 to E11 pgs 98-103 b. para 29-30 pgs 284-286 3. FM 23-12 para 29-30 4. UT-B-042 pgs 11-13

TAIS No. 2015

MODULE MOS-T

UNIT SBD

CRITERION AND ENABLING OBJECTIVES

TASK IDENTIFICATION: 2.0

TASK ELEMENTS: 2.1-2.4

CRITERION OBJECTIVE(S)	ENABLING OBJECTIVE(S)
2.1-2.4 When given a situation where fire and maneuver is required, select the appropriate arm and hand signals which depicts the type of maneuver required.	2.1.1-2.3.1 Select from a multiple-choice list the types of squad maneuvers: a. MANEUVER RIGHT b. MANEUVER LEFT c. MANEUVER FRONT, LEFT, (RIGHT) 2.4.1 When given fire and maneuver formations, select the appropriate arm and hand signals which depict: a. MANEUVER RIGHT FROM SQUAD COLUMN, FIRE TEAMS IN COLUMN b. MANEUVER FRONT (LEFT) FROM SQUAD COLUMN, FIRE TEAMS IN COLUMN c. MANEUVER LEFT, FROM SQUAD COLUMN, FIRE TEAMS ABREAST d. MANEUVER FRONT (RIGHT) FROM SQUAD COLUMN, FIRE TEAMS ABREAST

TAIS No. 2015

MODULE MOS-T

UNIT SBD

TEST ITEMS

TASK IDENTIFICATION: 2.0

TASK ELEMENTS: 2.1-2.4

CRITERION ITEM(S)	ENABLING ITEM(S)
2.1-2.4 Consider the following tactical situation. Assume the squad is in the attack and Alfa team has been fired upon with small arms fire from the objective. Bravo team is in position defilade in a creek bed. The situation is as follows: OBJECTIVE 6 2 4 3 5 1 G R TL AR (ALFA TEAM) SL TL R AR (BRAVO TEAM) C R 1. Bravo team is to move to position 1. What maneuver is this? Maneuver (front, left) 2. Refer to figure 8 in your handout. What command and signal would the SL give for this maneuver? The signal would be - ? (enter a letter) (d) 3. Instead of position 1, Bravo team is to move to position 4. What arm and hand signal in figure 8 would the SL give? (select a letter) (i) 4. When Bravo team has reached position 4, at which position will the squad leader normally be? Position - ? (5)	2.1.1-2.3.1 Which of the following types of maneuver can the squad leader indicate: a. Maneuver flank b. Maneuver oblique * c. Maneuver right d. Maneuver wedge * e. Maneuver left f. Maneuver rear * g. Maneuver front (enter the letter(s) in a single line) (c, e, g) 2.4.1 Match a description of the arm and hand signal with the proper fire and maneuver formation: a. A clenched fist thrust toward the right b. Rotating both arms vertically in full circles c. Raising both arms from the sides to a parallel position and then the right arms to a vertical position d. Rotating the right arm in a full circle e. A clenched fist thrust toward the left

TAIS No. 2015

MODULE MOS-T

UNIT SBD

TEST ITEMS

TASK IDENTIFICATION: 2.0

TASK ELEMENTS: 2.1-2.4

CRITERION ITEM(S)	ENABLING ITEM(S)
	f. Raising both arms from the sides to a parallel position and then the left arm to a vertical position g. Raising both arms to a vertical position 1. Maneuver right from squad column, fire teams in column. The signal would be - ? (a) (enter a letter from the above list) 2. Maneuver front (left) from squad column, fire teams in column. (SL has his back to front of squad). The signal would be - ? (f) 3. Maneuver left, from squad column, fire teams abreast. The signal would be - ? (e) 4. Maneuver front (right) from squad column, fire teams abreast. (SL has his back to front of squad). The signal would be - ? (c)

TAIS No. 2016

MODULE MOS-T

UNIT SBD

TRAINING ANALYSIS INFORMATION SHEET

1. TASK IDENTIFICATION: 3.0

2. TASK: State and apply the factors the squad leader considers in tactical employment of the squad.

3. CONDITIONS: Given squad combat formations and tactical situations, the student can determine the correct actions to be taken.

4. STANDARD: No errors

5. TASK ANALYSIS:

TASK ELEMENTS	PREREQUISITE KNOWLEDGE OR SKILL REQUIREMENTS	SUPPLEMENTAL TRAINING MATERIAL	REFERENCES
3.1 State control as the major consideration in tactical employment of the squad and apply control methods for given situations 3.2 State dispersion and security as two other considerations in tactical employment of the squad and apply dispersion and security methods for given situations	3.1 Knowledge of combat formations and battle drill for the squad 3.2 Knowledge of combat formations and battle drill for the squad	On-line representations of tactical situations	1. FM 23-12 pgs 78-79 2. FM 7-10 pgs D-2 and D-3 3. UT-B-042 pgs 7-8

TAIS No. 2016

MODULE MOS-T

UNIT SBD

CRITERION AND ENABLING OBJECTIVES

TASK IDENTIFICATION: 3.0

TASK ELEMENTS: 3.1-3.2

CRITERION OBJECTIVE(S)	ENABLING OBJECTIVE(S)
3.1 When given tactical situations requiring application of squad control methods, student can recognize what is required and respond correctly.	3.1.1 Fill in CONTROL as being the major factor the squad leader considers in determining his position in the squad when it is tactically employed.
3.2 When given tactical situations requiring application of squad security and dispersion methods, student can recognize what is required and respond correctly.	3.2.1 Fill in DISPERSION and SECURITY as two other factors the squad leader considers in the tactical employment of the squad. 3.2.2 Select from a multiple-choice list that terrain and visibility determine the dispersion of squad members. 3.2.3 Select from a multiple-choice list that distance between men is DECREASED in fog or darkness.

TAIS No. 2016 MODULE MOS-T

UNIT SBD

TEST ITEMS

TASK IDENTIFICATION: 3.0

TASK ELEMENTS: 3.1-3.2

CRITERION ITEM(S)	ENABLING ITEM(S)
3.1 Given the following information: DIRECTION OF ADVANCE (A) TL R AR (B) BRAVO TEAM G R (C) TL R (D) ALFA TEAM AR G 1. In which position, (A), (B), (C), or (D) would the squad leader normally be located? (B) 2. Fire team leaders position themselves in the squad combat formation according to which one of the following: (select a letter) a. Where they can control their fire team b. Where they can observe their area of responsibility * c. As specified by the squad leader d. According to unit SOP	3.1.1 The important thing is that the squad leader locates himself within the squad so that he can keep on top of the situation and (control) the squad.

TAIS No. 2016 MODULE MOS-T

UNIT SBD

TEST ITEMS

TASK IDENTIFICATION: 3.0

TASK ELEMENTS: 3.1-3.2

CRITERION ITEM(S)	ENABLING ITEM(S)
3.2 When changing from one combat formation to another, which squad member(s) should be moved the shortest distance? (select a letter) a. Squad leader b. Team leaders * c. Automatic riflemen d. Grenadiers 3.3 Consider the following squad formation: DIRECTION OF ADVANCE (9) R R (1) (8) AR AR (2) (7) TL TL (3) (6) G G (4) R (5) ALFA TEAM BRAVO TEAM	3.2.1 Besides controlling the squad, there are two other factors that a squad leader must consider during tactical employment. One is security, the other is (dispersion)? 3.2.2 The dispersion of the squad is dependent to a great extent upon which of the following: * a. Visibility b. Combat Load c. Fatigue * d. Terrain (enter the letter(s) of your choice) (a, d) 3.2.3 If the squad is being tactically employed in fog or darkness, the distance between squad members should be: (select a letter) a. Increased to provide greater safety b. Maintained so that control is not altered * c. Decreased for greater control

TAIS No. 2016

MODULE MOS-T

UNIT SBD

TEST ITEMS

TASK IDENTIFICATION: 3.0

TASK ELEMENTS: 3.1-3.2

CRITERION ITEM(S)	ENABLING ITEM(S)
1. In this squad formation, certain squad members violate one of the fundamentals of tactical employment of the squad in combat formations. Indicate which squad members (by number) should be changed to correct this situation. (2 and 4, or 6 and 8) **DIRECTION OF ADVANCE** (9) R R (1) (8) AR G (2)* (7) TL TL (3) (6) G AR (4)* R (5) **ALFA TEAM BRAVO TEAM** ***Indicates change** 2. In this corrected formation, who (by position number) is responsible for security to the rear? (5) 3. And who is responsible (by position number) for the security to the front? (1, 9)	

RIFLE SQUAD IN THE ATTACK

TAIS No. 2017 MODULE MOS-T

UNIT RSA

TRAINING ANALYSIS INFORMATION SHEET

1. TASK IDENTIFICATION: 1.0

2. TASK: Given a list of control measures used in the daylight attack, student is able to match each with the phrase and purpose that describes it and specify the sequence in which they occur

3. CONDITIONS: Given a list of control measures, match each with the phrase that describes it. Given the purpose, identify the control measure. Given a list of control measures, arrange them in the order they normally occur.

4. STANDARD: No errors

5. TASK ANALYSIS:

TASK ELEMENTS	PREREQUISITE KNOWLEDGE OR SKILL REQUIREMENTS	SUPPLEMENTAL TRAINING MATERIAL	REFERENCES
1.1 Match control measures with the phrase that describes them	1.1 None	None	1. FM 23-12 para 25
1.2 When given purpose, identify the control measure that is used	1.2 None		2. Six Roads To Success Vol III paras 3-9, 25 pgs 9-12, 283-284
1.3 Sequence a list of control measures in the order they normally occur	1.3 None		3. FM 7-10 paras 3-5, 3-9 4. UT-E-043 pgs 4-5

TAIS No. 2017

MODULE MOS-T

UNIT RSA

CRITERION AND ENABLING OBJECTIVES

TASK IDENTIFICATION: 1.0

TASK ELEMENTS: 1.1-1.12

CRITERION OBJECTIVE(S)	ENABLING OBJECTIVE(S)
1.1-1.11 When presented with a list of control measures, the student is able to match each control measure with the phrase and purpose which describes it. The control measures are: a. Assembly Area b. Attack position c. Time of attack d. Line of departure e. Zone of action f. Axis of advance g. Direction of attack h. Phase Line i. Checkpoint j. Final coordination line k. Objective	1.1.1 State ASSEMBLY AREA as being where preparation for an attack takes place. 1.2.1 Pick from a multiple-choice list the control measure that is the last covered and concealed position short of the line of departure: ATTACK POSITION 1.3.1 State TIME OF ATTACK as being when the leading elements of the rifle company are scheduled to cross the line of departure. 1.4.1 Pick from a list the control measure that is used to coordinate the beginning of an attack: LINE OF DEPARTURE 1.5.1 State ZONE OF ACTION is where the unit is to operate. 1.6.1-1.7.1 Match the following control measures with their definitions. The pairings are: Axis of Advance — Indicates the general direction of the attack Direction of Attack — A specific direction or route for the attacking unit
1.12 When presented with a list of control measures, student is able to identify the sequence in which they occur. a. Assembly area b. Attack position c. Line of departure d. Final coordination line e. Objective f. Phase line	

TAIS No. 2017

MODULE MOS-T

UNIT RSA

CRITERION AND ENABLING OBJECTIVES

TASK IDENTIFICATION: 1.0

TASK ELEMENTS: 1.1-1.12

CRITERION OBJECTIVE(S)	ENABLING OBJECTIVE(S)
	1.8.1 State PHASE LINES are used to control the forward movement of a platoon. 1.9.1 State CHECKPOINTS are used for reporting positions by a squad during an attack. 1.10.1 Pick from a multiple-choice list the control measure used to coordinate the lifting or shifting of supporting fires FINAL COORDINATION LINE. 1.10.2 Select from a multiple-choice list the distance from an objective that a Final Coordination Line is normally established as being: 100-150 METERS.

TAIS No. 2017 MODULE MOS-T

UNIT RSA

TEST ITEMS

TASK IDENTIFICATION: 1.0

TASK ELEMENTS: 1.1-1.12

CRITERION ITEM(S)	ENALLING ITEM(S)
1.1-1.11 Which of the following are used by the squad in a daylight attack? a. Release points * b. Attack position * c. Time of attack d. Routes e. Limit of advance * f. Direction of attack * g. Final coordination line (b, c, f, g) 1. Match the control measure with its definition. Zone of Action (e) a. Where preparation for Axis of Advance (f) an attack takes place Direction of Attack (h) b. A line running perpendicular to Check point (c) the direction Phase line (b) of the attack c. An identifiable point used for reporting positions d. H-hour	1.1.1 Preparation for an attack takes place in the (Assembly) Area. 1.2.1 What is the last covered and concealed position short of the line of departure? a. The observation post b. Axis of advance * c. Attack position d. Phase position 1.3.1 When the leading elements of the rifle company must cross the line of departure is called the (Time of Attack). 1.4.1 What is the control measure that is used to coordinate the beginning of an attack? a. Zone of action b. Phase line * c. Line of departure d. Time of attack 1.5.1 Where the unit is to operate is called the (Zone)of action.

TAIS No. 2017

MODULE MOS-T

UNIT RSA

TEST ITEMS

TASK IDENTIFICATION: 1.0

TASK ELEMENTS: 1.1-1.12

CRITERION ITEM(S)	ENABLING ITEM(S)
é. A specific area where the unit is to operate f. Indicates the general direction of the attack g. Usually 100-150 meters from the objective h. A specific route for the attacking unit 2. The time of attack is tied to which control measure (position) used in the daylight attack? (Line of Departure). 3. At what control point should your squad be at H-hour, the time of attack? a. Final coordination line b. Attack position c. Phase line d. Line of departure 4. Which control measure used in the daylight attack is the squad leader concerned with in terms of exposing his squad to friendly artillery fire. (Final Coordination Line).	1.6.1-1.7.1 Match the following control measures with their definition: Axis of advance (b) a. A specific direction of route for the attacking unit Direction of attack (a) b. Indicates the general direction of the attack 1.8.1 (Phase) Lines are used to control the forward movement of a platoon. 1.9.1 As an aid in reporting their position a squad will use (Checkpoints). 1.10.1 Lifting or shifting of supporting fires is the function of the: a. Phase line * b. Final coordination line c. Checkpoint d. Attack position 1.10.2 How far from the objective is the Final Coordination Line normally established? a. 50-100 meters * b. 100-150 meters c. 150-200 meters d. 200-250 meters

TAIS No. 2017 MODULE MOS-T

UNIT RSA

TEST ITEMS

TASK IDENTIFICATION: 1.0

TASK ELEMENTS: 1.1-1.12

CRITERION ITEM(S)	ENABLING ITEM(S)
1.12 Control measures used in the daylight attack occur in sequence as they affect the squad at different locations and times. Place the letters for the following control measures or points in the order they would normally take place or be reached. a. Attack position b. Final coordination line c. Line of departure d. Objective e. Phase line f. Assembly area (f, a, c, b, d, e)	

TAIS No. 2018 MODULE MOS-T

UNIT RSA

TRAINING ANALYSIS INFORMATION SHEET

1. TASK IDENTIFICATION: 2.0

2. TASK: Identify the five main paragraphs of the squad attack order and specify data that is included in each

3. CONDITIONS: Given a list of items, pick out and order the five main paragraphs of the squad attack order. Given examples, identify the paragraphs of the squad attack order in which it woudl be contained.

4. STANDARD: No errors

5. TASK ANALYSIS:

TASK ELEMENTS	PREREQUISITE KNOWLEDGE OR SKILL REQUIREMENTS	SUPPLEMENTAL TRAINING MATERIAL	REFERENCES
2.1 Identify and order the five main paragraphs of the squad attack order	2.1 None	None	1. UT-B-043 pgs 7-8 2. FM 7-10 Appendix B Vol II para B-5 pgs B-5 and B-6 3. Six Roads to Success Vol III 4. FM 23-12 para 26 pg 18
2.2 Identify for given examples, which paragraph of the squad attack order they would be included	2.2 None		

TAIS No. 2018

MODULE MOS-T

UNIT RSA

CRITERION AND ENABLING OBJECTIVES

TASK IDENTIFICATION: 2.0

TASK ELEMENTS: 2.1-2.2

CRITERION OBJECTIVE(S)	ENABLING OBJECTIVE(S)
2.1 Given a list of items, identify and order the five paragraphs of the squad attack orders.	2.1.1 Select from a multiple-choice list the second paragraph of the attack order: THE MISSION.
2.2 Given specific data from the squad attack order, the student can identify which of the five main paragraphs of the attack order where each should be included.	2.1.2 Pick from a multiple-choice list the paragraph in the squad attack order which specifies how the attack is to be accomplished: EXECUTION.
	2.2.1 Complete: SITUATION covers the enemy; his strengths, weaknesses and deployment, to include weather and terrain; friendly forces; and attachments and detachments.
	2.2.2 State MISSION as being what the squad is to accomplish in the squad attack order.
	2.2.3 State MISSION as the paragraph of the attack order that you would write the following information: SQUAD ATTACKS AT 190500 MAY TO SEIZE HILL 427 AND THE LEFT PORTION OF HILL 633.
	2.2.4 Complete: SERVICE SUPPORT gives information pertaining to supplies, rations, uniforms, equipment, arms, ammunition, transportation, medical evacuation, personnel, captured materials, and prisoners of war.
	2.2.5 State SERVICE SUPPORT as the paragraph of the attack order that would contain the following information: BREAKFAST AT 0429. PICK UP ONE INDIVIDUAL TYPE C-RATION. RIFLEMEN DRAW ONE EXTRA BANDOLEER OF AMMUNITION: SERVICE SUPPORT.

TAIS No. 2018

MODULE MOS-T

UNIT RSA

CRITERION AND ENABLING OBJECTIVES

TASK IDENTIFICATION: 2.0

TASK ELEMENTS: 2.1-2.2

CRITERION OBJECTIVE(S)	ENABLING OBJECTIVE(S)
	2.2.6 Complete: Command and Signal include any instructions about pyrotechnics, signals, challenge and password, code words, and any instructions pertaining to communication.

TAIS No. 2018

MODULE MOS-T

UNIT RSA

TEST ITEMS

TASK IDENTIFICATION: 2.0

TASK ELEMENTS: 2.1-2.2

CRITERION ITEM(S)	ENABLING ITEM(S)
2.1 Pick the five main paragraphs of the attack order in the correct order. *a. Situation b. The time of attack c. Chain of command *d. Mission e. Weapons, ammunication and equipment *f. Execution *g. Service support h. Uniform and equipment common to all *i. Command and signal (a, d, f, g, i)	2.1.1 The second paragraph of the attack order is: a. Situation b. Execution c. Command and Signal * d. Mission e. Service support 2.1.2 What paragraph of the squad attack order describes how the attack is to occur? a. Situation b. Mission * c. Execution d. Command and Signal

TAIS No. 2018

MODULE MOS-T

UNIT RSA

TEST ITEMS

TASK IDENTIFICATION: 2.0

TASK ELEMENTS: 2.1-2.2

CRITERION ITEM(S)	ENABLING ITEM(S)
2.2 Given the five main paragraphs of the squad attack order as: A Situation; B Mission; C Execution; D Service Support; E Command and Signal, in which paragraph of the squad attack order would the following be given: The company aid post will be located at the rear of Hill 539 (D) Each rifleman will draw one extra bandoleer of ammunition (D) A red star cluster will be used as the signal to lift support fires (E) Squad attacks at 120530 June (B) Estimated enemy rifle squad with attached machinegun section digging in on Hill 540 (A) ALFA team on the left, BRAVO on the right. BRAVO is the base team (C)	2.2.1 The paragraph of the attack order which covers the enemy, his strengths, weaknesses and deployment, to include weather and terrain; friendly forces; and attachments and detachments is called (Situation). 2.2.2 What the squad is to accomplish is which paragraph of the squad attack order? (Mission) 2.2.3 The information, SQUAD ATTACKS AT 190500 MAY TO SEIZE HILL 427 AND THE LEFT PORTION OF HILL 633, would be found in the paragraph of the attack order called (Mission). 2.2.4 The paragraph that gives information pertaining to supplies, rations, uniforms, equipment, arms, ammunition, transportation, medical evacuation, personnel, captured materials, and prisoners of war is the (Service Support). 2.2.5 What paragraph in the squad attack order would the following information be contained: BREAKFAST AT 0220. PICK UP ONE INDIVIDUAL TYPE C-RATION RIFLEMEN DRAW ONE EXTRA BANDOLEER OF AMMUNITION? (Service Support) 2.2.6 The paragraph that includes instructions about pyrotechnics, signals, challenge and password, code words, and communications is called (Command and Signal).

TAIS No. 2019

MODULE MOS-T

UNIT RSA

TRAINING ANALYSIS INFORMATION SHEET

1. TASK IDENTIFICATION: 3.0

2. TASK: State the firing techniques for riflemen and grenadiers during night assaults

3. CONDITIONS: Given constructed response questions concerning the firing techniques for night assaults, provide the correct responses.

4. STANDARD: No errors

5. TASK ANALYSIS:

TASK ELEMENTS	PREREQUISITE KNOWLEDGE OR SKILL REQUIREMENTS	SUPPLEMENTAL TRAINING MATERIAL	REFERENCES
3.1 State underarm for riflemen	3.1 None	None	1. FM 23-12 para 38
3.2 State pointing technique for grenadiers	3.2 None		

TAIS No. 2019

MODULE MOS-T

UNIT RSA

CRITERION AND ENABLING OBJECTIVES

TASK IDENTIFICATION: 3.0

TASK ELEMENTS: 3.1-3.2

CRITERION OBJECTIVE(S)	ENABLING OBJECTIVE(S)
3.1-3.2 When asked what are the firing techniques for riflemen and grenadiers during the night assault, the student can state: a. Underarm for riflemen b. Pointing technique for grenadiers	3.1.1 Complete: The UNDERARM firing position is used during the night assault by team leaders, riflemen and automatic riflemen. 3.2.1 Complete: The POINTING technique is used for firing during the night assault by grenadiers.

TAIS No. 2019

MODULE MOS-T

UNIT RSA

TEST ITEMS

TASK IDENTIFICATION: 3.0

TASK ELEMENTS: 3.1-3.2

CRITERION ITEM(S)	ENABLING ITEM(S)
3.1-3.2 What are the firing position techniques for riflemen and grenadiers during the night assault? (Underarm) for riflemen, (Pointing) for grenadiers	3.1.1 The firing position used during the night assault by team leaders, riflemen and automatic riflemen is called (Underarm) position. 3.2.1 The firing technique used during the night assault by grenadiers is called (Pointing) technique.

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RIFLE SQUAD IN DEFENSE

TAIS No. 2020

MODULE MOS-T

UNIT RSD

TRAINING ANALYSIS INFORMATION SHEET

1. TASK IDENTIFICATION: 1.0

2. TASK: Identify the purpose and/or time of application of the ten fundamentals of squad defense

3. CONDITIONS: Given squad tactical situations, student can identify the fundamentals of defense which apply, or when it is applied.

4. STANDARD: No errors

5. TASK ANALYSIS:

TASK ELEMENTS	PREREQUISITE KNOWLEDGE OR SKILL REQUIREMENTS	SUPPLEMENTAL TRAINING MATERIAL	REFERENCES
1.1 Identify the purpose and/or timing of the 10 fundamentals of squad defense a. Use terrain properly b. Provide for security c. Insure mutual support d. Organize defense in depth e. Organize all-round defense f. Achieve flexibility g. Make maximum use of offensive action h. Attain dispersion i. Use time available j. Integrate and coordinate defensive measures	1.1 None	None	1. FM 7-10 para 4-6 pgs 4-2 thru 4-3 2. UT-B-047 pgs 4-8 3. Six Roads to Success para 4-6 pgs 35-36
1.2 Identify how flexibility is achieved	1.2 None		

TAIS No. 2020

MODULE MOS-T

UNIT RSD

CRITERION AND ENABLING OBJECTIVES

TASK IDENTIFICATION: 1.0

TASK ELEMENTS: 1.1-1.2

CRITERION OBJECTIVE(S)		ENABLING OBJECTIVE(S)
1.1 Given squad tactical situations, identify which of the 10 fundamentals of defense apply or when it should apply.		1.1.1 Pick from a list MILITARY CREST OF THE HILL as where the squad leader would position the squad when both observation and fields of fire are major considerations in the defense
Fundamental of Defense	Tactical Situation	1.1.2 Select from a multiple-choice list that alternate positions in the squad's defensive area are normally manned WHEN ENEMY FIRE ON THE PRIMARY POSITION IS TOO INTENSE FOR EFFECTIVE RETURN FIRE.
a. Use terrain properly	The squad leader selects the military crest of a hill as his defensive position	1.1.3 Select from a multiple-choice list that alternate positions are normally those which PROVIDE THE SAME FIELDS OF FIRE AS THE PRIMARY POSITION.
	The squad leader covers tank obstacles with observation and fire	
b. Insure mutual support	The squad leader coordinates the fields of fire of his automatic rifles with those in adjacent positions to insure they overlap and interlock	
c. Organize defense in depth	The squad leader designates alternate positions for the squad fire teams	
d. Organize for all-around defense	The squad leader designates supplementary positions for his automatic rifles	

TAIS No. 2020

MODULE MOS-T

UNIT RSD

CRITERION AND ENABLING OBJECTIVES

TASK IDENTIFICATION: 1.0

TASK ELEMENTS: 1.1-1.2

CRITERION OBJECTIVE(S)	ENABLING OBJECTIVE(S)
Fundamental of Defense / Tactical Situation e. Use time available / The squad leader determines the priority of tasks in setting up the defense 1.2 Select from a multiple choice list that flexibility as a fundamental of defense is achieved by the squad leader during a fire fight in a squad defensive operation when SQUAD MEMBERS CAN MOVE QUICKLY TO THEIR ALTERNATE POSITIONS	

2 January 1974 B-280

TAIS No. 2020

MODULE MOS-T

UNIT RSD

TEST ITEMS

TASK IDENTIFICATION: 1.0

TASK ELEMENTS: 1.1-1.2

CRITERION ITEM(S)	ENABLING ITEM(S)
1.1 Given the 10 fundamentals of defense as: a. Use terrain properly b. Provide for security c. Insure mutual support d. Organize defense in depth e. Organize all-round defense f. Achieve flexibility g. Make maximum use of offensive action h. Attain dispersion i. Use time available j. Integrate and coordinate defensive measures Which of the above fundamentals of defense is achieved: a. When the squad leader selects the military crest of a hill as his defensive position (a) b. When the squad leader covers tank obstacles with fire and observation (a) c. When the squad leader coordinates his automatic rifle fields of fire with adjacent positions to insure they overlap and interlock (c) d. When the squad leader designates alternate positions for the squad fire teams (d)	1.1.1 When both observation and fields of fire are major considerations in the defense, the squad leader would usually position the squad in which one of the following: a. Topographical crest of the hill b. Flat, level terrain * c. Military crest of the hill d. Reverse slope of the hill 1.1.2 Alternate positions in the squad's defensive area are normally manned? a. By the team leaders to provide rear security b. At the same time as the primary position * c. When enemy fire on the primary position is too intense for effective return fire d. By the grenadiers to protect the flanks 1.1.3 Alternate positions are normally those which? a. Provide effective fields of fire against air attack * b Provide the same fields of fire as the primary position c. Provide fields of fire to the flanks d. Provide fields of fire to the rear

TAIS No. 2020 MODULE MOS-T

UNIT RSD

TEST ITEMS

TASK IDENTIFICATION: 1.0

TASK ELEMENTS: 1.1-1.2

CRITERION ITEM(S)	ENABLING ITEM(S)
e. When the squad leader designates supplementary positions for his automatic rifles (e)	
f. When the squad leader determines the priority of tasks in setting up the defense (i)	
1.2 Flexibility as a fundamental of defense is achieved by the squad leader during a fire fight in a squad defensive operation when:	
* a. Squad members can move quickly to their alternate positions	
b. Automatic riflemen can shift fire quickly from one target to another in their sector of fire	
c. Anti-tank weapons can effectively cover tank avenues of approach	
d. Claymore mines are used to deny avenues of approach to enemy personnel	

TAIS No. 2021

MODULE MOS-T

UNIT RSD

TRAINING ANALYSIS INFORMATION SHEET

1. TASK IDENTIFICATION: 2.0

2. TASK: Identify the three areas of defense and recognize the defense doctrine associated with each area

3. CONDITIONS: Given a drawing showing three areas, correctly identify the three areas of defense. When asked the purpose of the forces in each area, correctly identify their use in accordance with defense doctrine.

4. STANDARD: No errors

5. TASK ANALYSIS:

TASK ELEMENTS	PREREQUISITE KNOWLEDGE OR SKILL REQUIREMENTS	SUPPLEMENTAL TRAINING MATERIAL	REFERENCES
2.1 Identify security area and the defense doctrine associated with it	2.1 None	Line drawing representing areas of defense	1. FM 7-10 para 4-2 and 4-3 pg 4-1
2.2 Identify forward area and the defense doctrine associated with it	2.2 None		2. UT-B-047 pg 8
2.3 Identify reserve area and the defense doctrine associated with it	2.3 None		3. FM 7-10C1 para 4-2 and 4-3 pgs 4-1 and 4-2

TAIS No. 2021

MODULE MOS-T

UNIT RSD

CRITERION AND ENABLING OBJECTIVES

TASK IDENTIFICATION: 2.0

TASK ELEMENTS: 2.1-2.3

CRITERION OBJECTIVE(S)	ENABLING OBJECTIVE(S)
2.1-2.3 Given a line drawing depicting a security area, forward defense area and reserve area, the student is able to identify each area properly.	2.1.1 Pick from a list, SECURITY AREA as being the area of defense located forward of the squad's defensive position.
2.1-2.3 Given each of the three defense areas, the student can identify the defense doctrine associated with it.	2.1.1 Pick from a list that the FEBA 2.2.1 separates the SECURITY AREA AND FORWARD DEFENSE AREA.
	2.2.1 Pick from a list the area of defense in which the principal defensive positions of a company are located as being: FORWARD DEFENSE AREA.
	2.3.1 State RESERVE AREA as being the area located behind the forward defense area.

TEST ITEMS

TASK IDENTIFICATION: 2.0

TASK ELEMENTS: 2.1-2.3

CRITERION ITEM(S)	ENABLING ITEM(S)
2.1-2.3 Refer to Figure ___ which shows three areas. Indicate where the following areas would be located: Security area (A) Forward defense area (B) Reserve area (C)	2.1.1 The area located forward of the squad's defensive position is called the? a. Reserve area * b. Security area c. Forward defense area d. FEBA (b)
2.1 The doctrine of defense envisions the purpose of the forces in the security area as being: * a. To provide early warning of the enemy's advance b. To prevent incirclement of the battle area c. To block enemy penetrations of the battle area d. To conduct counterattacks	2.1.1 The FEBA separates which two of the 2.2.1 following areas? a. Assembly area * b. Forward defense area * c. Security area d. Reserve area (b, c)
2.2 The doctrine of defense envisions the purpose of forces in the forward defense area as being: a. To disorganize the enemy's attack * b. To repel the attacker c. To regain the initiative d. To provide early warning	2.2.1 Where are the principal defensive positions of a company located? a. Reserve area b. Security area c. Battle area * d. Forward defense area (d)
	2.3.1 The area located behind the forward defense area is called the (Reserve) area?

TAIS No. 2021

MODULE MOS-T

UNIT RSD

TEST ITEMS

TASK IDENTIFICATION: 2.0

TASK ELEMENTS: 2.1-2.3

CRITERION ITEM(S)	ENABLING ITEM(S)
2.3 The doctrine of defense envisions the purpose of forces in the reserve area as being: a. To provide permanent shelter and facilities * b. To block enemy penetrations of the FEBA * c. To conduct counterattacks d. To provide an area for training, rehearsals and inspection e. To protect against attack from the rear	

TAIS No. 2022

MODULE MOS-T

UNIT RSD

TRAINING ANALYSIS INFORMATION SHEET

1. TASK IDENTIFICATION: 3.0

2. TASK: Identify the weakest points of a perimeter defense

3. CONDITIONS: Given constructed response and multiple choice questions concerning the perimeter defense, provide the correct responses.

4. STANDARD: No errors.

5. TASK ANALYSIS:

TASK ELEMENTS	PREREQUISITE KNOWLEDGE OR SKILL REQUIREMENTS	SUPPLEMENTAL TRAINING MATERIAL	REFERENCES
3.1 Identify weak areas in a perimeter defense	3.1 None	None	1. UT-B-047 pgs 8-9 2. Six Roads to Success para 4-21 to 4-23 pgs 49-50 3. FM 7-10 para 4-21 to 4-23 pgs 4-16 to 4-17

TAIS No. 2022

MODULE MOS-T

UNIT RSD

CRITERION AND ENABLING OBJECTIVES

TASK IDENTIFICATION: 3.0

TASK ELEMENTS: 3.1

CRITERION OBJECTIVE(S)	ENABLING OBJECTIVE(S)
3.1 When asked, what are the the weakest points of a perimeter defense which deviates from a circle, the student is able to state: THE CORNERS	3.1.1 State a PERIMETER DEFENSE will normally be a circle or some modification of a circle. 3.1.2 Pick from a list that in dense terrain and during periods of limited visibility, areas between platoons occupying the perimter defense should be: OCCUPIED.

TAIS No. 2022

MODULE MOS-T

UNIT RSD

TEST ITEMS

TASK IDENTIFICATION: 3.0

TASK ELEMENTS: 3.1

CRITERION ITEM(S)	ENABLING ITEM(S)
3.1 What are the weakest points of a perimeter defense when the shape resembles a modified circle (e.g., a square or triangle)? a. Center b. Flanks c. Front * d. Corners	3.1.1 The type of defense which is normally a circle or some modification of a circle is called a (Perimeter) defense. 3.1.2 In dense terrain and during periods of limited visibility, areas between platoons occupying the defense perimeter should be: a. Backed up by reserve forces * b. Be occupied c. Fenced off with barbed wire d. Periodically lighted by flares to detect possible enemy infiltration

TAIS No. 2023

MODULE MOS-T

UNIT RSD

TRAINING ANALYSIS INFORMATION SHEET

1. TASK IDENTIFICATION: 4.0

2. TASK: Identify the priority of tasks the Squad Leader takes in the defense and the factors involved

3. CONDITIONS: Given a list of tasks pertaining to the defense, identify the usual sequence in which these tasks would occur and the factors involved.

4. STANDARD: No errors

5. TASK ANALYSIS:

TASK ELEMENTS	PREREQUISITE KNOWLEDGE OR SKILL REQUIREMENTS	SUPPLEMENTAL TRAINING MATERIAL	REFERENCES
4.1-4.9 Identify the priority of tasks of the squad leader and the factors involved: a. Establish local security b. Position crew-served weapons c. Clear fields of fire d. Prepare open weapons emplacements and individual positions e. Establish communication f. Emplace mines and obstacles g. Select alternate and supplementary positions h. Improve primary positions i. Prepare alternate and supplementary	4.1-4.9 None	None	1. FM 7-10 para 4-8 pg 4-3 2. UT-B-047 pg 9-13 3. Six Roads to Success Vol III para 4-8 pg 36 4. FM 7-10 C1 para 4-8 pgs 4-4 and 4-5

TAIS No. 2023

MODULE MOS-T

UNIT RSD

CRITERION AND ENABLING OBJECTIVES

TASK IDENTIFICATION: 4.0

TASK ELEMENTS: 4.1-4.9

CRITERION OBJECTIVE(S)	ENABLING OBJECTIVE(S)
4.1-4.9 When given a list of tasks, the student, as a squad leader, can identify the priority of tasks to be accomplished in occupying the squad's defensive position.	4.1.1 Select from a multiple-choice list the first task that the squad leader should do in occupying defensive positions: ESTABLISH LOCAL SECURITY 4.2.1 State the squad leader assigns squad members to specific locations so that their sectors of fire will OVERLAP. 4.2.2 Pick from a list that the selection of positions for crew-served weapons should strive for GRAZING FIRE. 4.2.3 Pick from a list that the SQUAD LEADER selects the exact firing position and sectors of fire for each grenadier. 4.2.4 Pick from a list the location of the squad leader in the defense as being: NEAR THE CENTER AND TO THE REAR OF THE SQUAD. 4.3.1 Pick from a list the minimum range that fields of fire should be cleared as being: HANDGRENADE RANGE. 4.4.1 State RANGE CARDS as being what riflemen should prepare after they have been assigned their position within the defensive area. 4.5.1 State WIRE as being the type of communication that is usually established in defensive operations because it is more secure. 4.6.1 State OBSERVATION AND FIRE as being how obstacles located within a squad's sector of responsibility should be covered.

TAIS No. 2023

MODULE MOS-T

UNIT RSD

CRITERION AND ENABLING OBJECTIVES

TASK IDENTIFICATION: 4.0

TASK ELEMENTS: 4.1-4.9

CRITERION OBJECTIVE(S)	ENABLING OBJECTIVE(S)
	4.7.1 Pick from a list the location where supplementary positions should be selected by the Squad Leader in relation to primary positions as being: TO THE REAR. 4.8.1 Pick from a list that improvement to primary positions can be through the use of CAMOUFLAGE AND OVERHEAD COVER. 4.9.1 Pick from a list the task that is usually accomplished last as being: PREPARING ALTERNATE AND SUPPLEMENTARY POSITIONS. 4.9.2 Pick from a list what must be planned as a means of reaching alternate and supplementary positions as being: COVERED ROUTES.

TAIS No. 2023 MODULE MOS-T

UNIT RSD

TEST ITEMS

TASK IDENTIFICATION: 4.0

TASK ELEMENTS: 4.1-4.9

CRITERION ITEM(S)	ENABLING ITEM(S)
4.1-4.5 Defensive operations must be established in an orderly and thorough manner. As a Squad Leader, arrange the following priority of tasks as they usually occur. a. Clear fields of fire b. Establish communication c. Establish local security d. Position squad e. Prepare open weapons emplacements and individual positions (c, d, a, e, b)	4.1.1 The first task that the Squad Leader does in occupying a defensive position is to: a. Establish communication b. Improve primary positions c. Construct range card * d. Establish local security (d)
4.6-4.9 You determine that the alternate positions will be critical to the defense of your sector of responsibility. You have already selected and prepared your primary positions. Now, select your next course of action from the following: a. Select an alternate position * b. Focus on preparing the alternate positions c. Have squad work on primary and alternate positions d. Prepare a supplementary position	4.2.1 The Squad Leader assigns squad members to specific locations so that their sector of fire will (Overlap). 4.2.2 What type of fire should positions selected for crew-served weapons permit? a. Plunging b. Indirect * c. Grazing d. Free gun (c) 4.2.3 The exact firing position and sectors of fire for each grenadier is selected by: a. The grenadier b. The team leader * c. The squad leader d. The mortar section leader

TAIS No. 2023

MODULE MOS-T

UNIT RSD

TEST ITEMS

TASK IDENTIFICATION: 4.0

TASK ELEMENTS: 4.1-4.9

CRITERION ITEM(S)	ENABLING ITEM(S)
	4.2.4 Where is the Squad Leader usually located in relation to his squad in the defense? a. At the OP b. On the left 10 meters to the rear c. Half the distance between the Security Area and Forward Battle Area * d. Near the center and to the rear of the squad (d) 4.3.1 As a general rule, fields of fire should be cleared beyond: a. The Reserve Area * b. Handgrenade Range c. The Listening Post d. The Attack Area (b) 4.4.1 Riflemen should prepare (Range Cards) after they have been assigned their position. 4.5.1 The type of communication that is usually established in defensive operations because it is more secure is (Wire). 4.6.1 Obstacles located within a squad's sector of fire should be covered by (Observation) and (Fire).

TAIS No. 2023 MODULE MOS-T

UNIT RSD

TEST ITEMS

TASK IDENTIFICATION: 4.0

TASK ELEMENTS: 4.1-4.9

CRITERION ITEM(S)	ENABLING ITEM(S)
	4.7.1 In relation to primary positions, where does the Squad Leader select supplementary positions to be located? * a.To the rear b. To the flank c. To the front d. Not selected in relation to primary positions (a) 4.8.1 Primary positions can be improved through the use of: a. Tripwires and mines * b. Camouflage and overhead cover c. Nets and olive green paint d. Drainage ditches and aiming stakes (b) 4.9.1 What is usually the last task accomplished in defensive operation? * a. Preparing alternate and supplementary positions b. Emplacing mines and obstacles c. Establishing communication d. Preparing range cards for individual positions (a)

TAIS No. 2023

MODULE MOS-T

UNIT RSD

TEST ITEMS

TASK IDENTIFICATION: 4.0

TASK ELEMENTS: 4.1-4.9

CRITERION ITEM(S)	ENABLING ITEM(S)
	4.9.2 What must be planned as a means of reaching alternate and supplementary positions? a. Transportation for squad members b. Trails outside the defensive perimeter c. Single file paths and accessible trails * d. Covered routes (d)

TAIS No. 2024 MODULE MOS-T

UNIT RSD

TRAINING ANALYSIS INFORMATION SHEET

1. TASK IDENTIFICATION: 5.0

2. TASK: Identify the responsibilities of the squad leader in the defense.

3. CONDITIONS: Given a list of responsibilities, select from the list the responsibilities of the squad leader in the defense.

4. STANDARD: No errors.

5. TASK ANALYSIS:

TASK ELEMENTS	PREREQUISITE KNOWLEDGE OR SKILL REQUIREMENTS	SUPPLEMENTAL TRAINING MATERIAL	REFERENCES
5.1 Identify coordinate with machinegun crews and 90mm crews within his sector of responsibility	5.1 None	None	1. FM 7-10 para 4-10 pgs 4-8, 4-9
5.2 Identify supervises preparation of individual positions	5.2 None		2. UT-B-047 pg 13
5.3 Identify supervises preparation of range cards	5.3 None		
5.4 Identify checks automatic weapons for grazing fire	5.4 None		
5.5 Identify supervises clearing fields of fire	5.5 None		
5.6 Identify insures the preparation of alternate and supplementary positions	5.6 None		
5.7 Identify checks each position for camouflage and overhead cover	5.7 None		

TAIS No. 2024 (Cont'd) MODULE MOS-T

UNIT RSD

TRAINING ANALYSIS INFORMATION SHEET

1. TASK IDENTIFICATION: 5.0

2. TASK:

3. CONDITIONS:

4. STANDARD:

5. TASK ANALYSIS:

TASK ELEMENTS	PREREQUISITE KNOWLEDGE OR SKILL REQUIREMENTS	SUPPLEMENTAL TRAINING MATERIAL	REFERENCES
5.8 Identify checks battle sights and general functioning of each weapon	5.8 None		
5.9 Identify inspects each position for a basic load of ammunition and the removal of excess dirt and trash	5.9 None		
5.10 Identify draws a sketch of his section for incorporation into the platoon leader's section sketch	5.10 None		
5.11 Identify insures that only selected paths are used for movement in and out of the position	5.11 None		

TAIS No. 2024

MODULE MOS-T

UNIT RSD

CRITERION AND ENABLING OBJECTIVES

TASK IDENTIFICATION: 5.0

TASK ELEMENTS: 5.1-5.11

CRITERION OBJECTIVE(S)	ENABLING OBJECTIVE(S)
5.1-5.11 When presented with a list of responsibilities, the student is able to identify the responsibilities of the squad leader in the defense as being: a. Coordinate with machinegun crews and 90mm crews within his sector of responsibility. b. Supervise preparation of individual positions. c. Supervises preparation of range cards. d. Checks automatic weapons for grazing fire. e. Supervises clearing fields of fire. f. Insures the preparation of alternate and supplementary positions. g. Checks each position for camouflage and overhead cover. h. Checks battle sights and general functioning of each weapon. i. Inspects each position for a basic load of ammunition and the removal of excess dirt and trash j. Draws a sketch of his sector for incorporation into the platoon leader's section sketch. k. Insures that only selected paths are used for movement in and out of the position.	

TAIS No. 2024

MODULE MOS-T

UNIT RSD

TEST ITEMS

TASK IDENTIFICATION: 5.0

TASK ELEMENTS: 5.1-5.11

CRITERION ITEM(S)	ENABLING ITEM(S)
5.1-5.11 What are the responsibilities of the squad leader in the defense? * a. Coordinate with machingun crews and 90mm crews within his sector of responsibility. * b. Supervises preparation of individual positions. * c. Supervises preparation of range cards. * d. Checks automatic weapons for grazing fire. * e. Supervises clearing fields of fire. * f. Insures the preparation of alternate and supplementary positions. * g. Checks each position for camouflage and overhead cover. h. Establish communication. i. Establish local security. j. Emplace mines and obstacles. * k. Checks battle sights and general functioning of each weapon. * l. Inspects each position for a basic load of ammunition and the removal of excess dirt and trash. * m. Draws a sketch of his sector for incorporation into the platoon leader's section sketch	

TAIS No. 2024 (Cont'd) MODULE MOS-T
UNIT RSD

TEST ITEMS

TASK IDENTIFICATION: 5.0

TASK ELEMENTS: 5.1-5.11

CRITERION ITEM(S)	ENABLING ITEM(S)
* n. Insures that only selected paths are used for movement in and out of the position. (a,b,c,d,e,f,g,k,l,m,n)	

TAIS No. 2025

MODULE MOS-T

UNIT RSD

TRAINING ANALYSIS INFORMATION SHEET

1. TASK IDENTIFICATION: 6.0

2. TASK: Identify the elements of and formulate the squad fire command.

3. CONDITIONS: Given target data, construct the fire command with the elements in their proper sequence.

4. STANDARD: No errors.

5. TASK ANALYSIS:

TASK ELEMENTS	PREREQUISITE KNOWLEDGE OR SKILL REQUIREMENTS	SUPPLEMENTAL TRAINING MATERIAL	REFERENCES
6.1 Identify alert	6.1 None	None	1. FM 23-12 para 54 pgs 35-41
6.2 Identify direction	6.2 None		
6.3 Identify target description	6.3 None		2. UT-B-022 pgs 6-8
6.4 Identify range	6.4 None		3. Six Roads to Success Vol III para 54 pgs 298-304
6.5 Identify method of fire	6.5 None		
6.6 Identify command to fire	6.6 None		

TAIS No. 2025

MODULE MOS-T

UNIT RSD

CRITERION AND ENABLING OBJECTIVES

TASK IDENTIFICATION: 6.0

TASK ELEMENTS: 6.1-6.6

CRITERION OBJECTIVE(S)	ENABLING OBJECTIVE(S)
6.1-6.6 Given target data, formulate a fire command with the elements in the correct order. The elements are: a. Alert b. Direction c. Target description d. Range e. Method of fire f. Command to fire The data are: a. Squad b. Right front c. Automatic weapon d. Five five zero e. Automatic rifles f. Fire	6.1.1 State ALERT is the element which brings the necessary men to a state of readiness to receive further instructions 6.2.1 Supply DIRECTION as being the element which indicates the general direction to the target 6.3.1 State TARGET DESCRIPTION informs the squad members of what type of target they are to engage in order to apply their fire properly 6.4.1 State RANGE tells the men how far to look to locate the target 6.5.1 Select from a multiple-choice list the element in the fire command that designates the members of the squad who are to fire and the ammunition allocation as being METHOD OF FIRE. 6.6.1 Pick from a list the fire command element that informs the squad when to open fire, on command or signal.

TAIS No. 2025

MODULE MOS-T

UNIT RSD

TEST ITEMS

TASK IDENTIFICATION: 6.0

TASK ELEMENTS: 6.1-6.6

CRITERION ITEM(S)	ENABLING ITEM(S)
6.1-6.6 You want the automatic rifles in your squad to engage an enemy automatic weapon in your right front at a range of 550 meters. a. The first element of your complete fire command would be: (Squad) b. The second element of your complete fire command would be: (Right Front) c. The third element would be: (Automatic Weapon) d. The fourth element would be: (Five Five Zero) e. The fifth element would be: (Automatic Weapon) f. The sixth element would be: (Fire)	6.1.1 What is the first element in the fire command? (Alert) 6.2.1 The element of the fire command which indicates where to look for the target is (Direction). 6.3.1 In order to apply their fire properly, which element of the fire command informs the squad members of what type of target they are to engage? (Target Description) 6.4.1 What element of the fire command tells the men how far to look to locate the target? (Range) 6.5.1 Designating the members of the squad who are to fire and the ammunition allocation is the fire command element a. Target description b. Direction c. Alert * d. Method of fire 6.6.1 The last element of a fire command is the: a. Method of fire b. Personnel who are to fire * c. Command to fire d. Target description

TAIS No. 2026

MODULE MOS-T

UNIT RSD

TRAINING ANALYSIS INFORMATION SHEET

1. TASK IDENTIFICATION: 7.0

2. TASK: Identify the techniques for fire control during periods of limited visibility.

3. CONDITIONS: Given constructed response and multiple choice questions concerning the techniques for fire control during periods of limited visibility, provide the correct responses.

4. STANDARD: No errors

5. TASK ANALYSIS:

TASK ELEMENTS	PREREQUISITE KNOWLEDGE OR SKILL REQUIREMENTS	SUPPLEMENTAL TRAINING MATERIAL	REFERENCES
7.1 Identify techniques for opening fire. 7.2 Identify techniques for fire distribution. 7.3 Identify techniques for shifting and concentrating fire. 7.4 Identify techniques for cease fire.	7.1 None 7.2 None 7.3 None 7.4 None	None	1. FM 23-12 para 58 2. Six Roads To Success Vol III para 5-8 pgs 307-308

TAIS No. 2026

MODULE MOS-T

UNIT RSD

CRITERION AND ENABLING OBJECTIVES

TASK IDENTIFICATION: 7.0

TASK ELEMENTS: 7.1-7.4

CRITERION OBJECTIVE(S)	ENABLING OBJECTIVE(S)
7.1-7.4 When asked to identify the techniques for fire control during periods of limited visibility, the student can identify the techniques for: a. Opening fire b. Fire distribution c. Shifting and concentrating fire d. Cease fire	7.1.1 Pick from a list each squad member should open fire WITHOUT COMMAND when he sees an appropriate target during periods of limited visibility. 7.1.2 State preplanned fire should be delivered ONLY ON ORDER by squad members during periods of limited visibility. 7.3.1 Pick from a list the techniques used by a squad when the enemy only hits certain portions of the squad front. SHIFTING AND CONCENTRATING FIRE 7.4.1 State CEASE FIRE should occur when visibility improves and targets are no longer detected.

TAIS No. 2026

MODULE MOS-T

UNIT RSD

TEST ITEMS

TASK IDENTIFICATION: 7.0

TASK ELEMENTS: 7.1-7.4

CRITERION ITEM(S)	ENABLING ITEM(S)
7.1-7.4 Pick the statement that matches a technique for fire control during periods of limited visibility. Opening Fire (f) Fire Distribution (b) Shifting and Concentrating Fire (e) Cease Fire (c) a. Each squad member opens fire when other members of the squad open fire. b. Each rifleman and team leader searches his sector and opens fire when an enemy appears or when ordered to deliver preplanned fires. c. Visibility improves so that targets can be detected. d. Fog settles into the area and fires are directed at suspected enemy positions. e. Enemy fire is not directed into a specific sector but is occurring in adjacent sectors. f. Each squad member opens fire without command when he sees an appropriate target.	7.1.1 During periods of limited visibility each squad member should open fire: a. Only at stationary objects b. Where they think the enemy is located * c. Without command when he sees an appropriate target d. Only on command by the squad leader 7.1.2 During periods of limited visibility preplanned fire should be delivered by squad members (Only On Order). 7.3.1 What is the technique used by a squad when the enemy only hits certain portions of the squad front? a. Squad members move to the zone under attack * b. Squad members shift and concentrate their fire as needed c. Squad members take cover in the attacked zone d. Squad members wait for orders in the zone not under attack 7.4.1 When visibility improves and targets are no longer detected the squad should (Cease Fire).

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PATROLLING

2 January 1974 B-309

TAIS No. 2027

MODULE MOS-T

UNIT PAT

TRAINING ANALYSIS INFORMATION SHEET

1. TASK IDENTIFICATION: 1.0

2. TASK: Identify the patrol steps and their purpose in planning and preparing patrols.

3. CONDITIONS: Given a list of the Patrol Steps for planning and preparing patrols, select the appropriate patrol step to meet the planning contingency.

4. STANDARD: No errors

5. TASK ANALYSIS:

TASK ELEMENTS	PREREQUISITE KNOWLEDGE OR SKILL REQUIREMENTS	SUPPLEMENTAL TRAINING MATERIAL	REFERENCES
1.1 Identify the Patrol Steps and their purpose in tentative planning for the patrol. a. Study the mission b. Plan use of time c. Study terrain and situation d. Make tentative plan	1.1 None	None	1. FM 21-75 para 117-130 pgs 89-109 2. Six Roads to Success Vol III para 117-130 pgs 177-197
1.2 Identify the Patrol Steps and their purpose in completing the detailed plan for the patrol. e. Organize the patrol and select men, weapons and equipment f. Issue warning order g. Coordinate h. Make reconnaissance i. Complete detailed plan	1.2 None		

TAIS No. 2027 MODULE MOS-T

UNIT PAT

TRAINING ANALYSIS INFORMATION SHEET

1. TASK IDENTIFICATION: 1.0 (cont'd)

2. TASK:

3. CONDITIONS:

4. STANDARD:

5. TASK ANALYSIS:

TASK ELEMENTS	PREREQUISITE KNOWLEDGE OR SKILL REQUIREMENTS	SUPPLEMENTAL TRAINING MATERIAL	REFERENCES
1.3 Identify the Patrol Steps and their purpose in finalizing the Patrol Steps for planning and preparation. j. Issue patrol order k. Inspect, rehearse, supervise			

TAIS No. 2027

MODULE MOS-T

UNIT PAT

CRITERION AND ENABLING OBJECTIVES

TASK IDENTIFICATION: 1.0

TASK ELEMENTS: 1.1-1.3

CRITERION OBJECTIVE(S)	ENABLING OBJECTIVE(S)
1.1-1.3 When presented patrol planning and preparation contingencies, the student is able to select the appropriate step to meet the contingency. The steps include: 1. Tentative planning a. Study the mission b. Plan use of time c. Study terrain and situation d. Make tentative plan 2. Completing planning e. Organize the patrol and select men, weapons, equipment f. Issue warning order g. Coordinate (continuous throughout h. Make reconnaissance i. Complete detailed plan 3. Finalizing Patrol Steps for planning and preparation j. Issue patrol order k. Supervise (at all times), inspect rehearse	1.1.1 Pick from a list the type of planning sequence the Patrol Leader uses to develop a time sequence: REVERSE PLANNING. 1.2.1 Select from a multiple-choice list the elements that a combat patrol usually requires as being: ASSAULT, SECURITY, SUPPORT, HEADQUARTERS. 1.2.2 Pick from a list the number of men selected by the Patrol Leader for the patrol as being: ONLY THE NUMBER NEEDED TO ACCOMPLISH THE MISSION. 1.2.3 State WARNING ORDER is issued by the patrol leader after he has formulated his tentative plan to provide the maximum preparation time possible. 1.2.4 Select from a multiple-choice list the initial rallying point for the patrol is selected in regard to the: POINT OF DEPARTURE 1.2.5 Pick from a list when the Patrol Leader usually completes his detailed plan as occurring: AFTER A RECONNAISSANCE IS MADE. 1.3.1 Pick from a list the elements that Reconnaissance and Combat Patrol have in common as being: HEADQUARTERS AND SECURITY ELEMENTS. 1.3.2 Pick from a multiple-choice list personnel within a patrol that need to know that the Security Element Leade is to take over the Reconnaissance Patrol if the Patrol Leader becomes a casualty as being: ALL PATROL MEMBERS

TAIS No. 2027

MODULE MOS-T

UNIT PAT

TEST ITEMS

TASK IDENTIFICATION: 1.0

TASK ELEMENTS: 1.1-1.3

CRITERION ITEM(S)	ENABLING ITEM(S)
1.1 Subsumed under 1.1.1	1.1.1 What type of planning sequence does the Patrol Leader use to develop a time schedule? (select a letter) a. Counter clockwise planning b. Time alternative planning * c. Reverse planning d. Coordinated planning
1.2 In studying the terrain and situation, the patrol leader determines that the patrol will be crossing a wide, deep stream in enemy territory. This fact will require the patrol leader to consider carefully which one of the following steps in patrol planning and preparation? (select the best answer) a. Study the mission b. Issue the warning order * c. Organize the patrol and select men, weapons, and equipment d. Establish passwords to be used	1.2.1 What elements does a combat patrol usually require? (select a letter) a. Headquarters, assault, reconnaissance, security * b. Assault, security, support, headquarters c. Reconnaissance, security, headquarters, support d. Headquarters, assault, support
1.3 You are on a reconnaissance patrol at night in a heavily wooded area. A possible use of prearranged supporting fire would be to: (select a letter) * a. Locate your position b. Pinpoint the objective c. Support the assault element d. Conceal your position	1.2.2 The number of men selected by the Patrol Leader for the patrol should: (select a letter) a. Provide for a 10% casualty back-up * b. Be only the number needed to accomplish the mission c. Be the men in his squad plus augmented forces d. Be only the men in his platoon
	1.2.3 After he has formulated his tentative plan for the patrol, the patrol leader, in order to provide the maximum preparation time possible, issues a (warning order)?

TEST ITEMS

TASK IDENTIFICATION: 1.0

TASK ELEMENTS: 1.1-1.3

CRITERION ITEM(S)	ENABLING ITEM(S)
	1.2.4 The initial rallying point for the patrol is selected in regard to which of the following: (select a letter) a. Phase line b. Final coordination line c. Objective * d. Point of departure 1.2.5 After which one of the following patrol steps is the complete detailed plan for the patrol usually completed by the patrol leader. (select a letter) * a. After the reconnaissance is made b. After the warning order is issued c. After the mission is received d. After the operation order is issued 2.3.1 (Identified as N71 within the instructional material) Which of the following elements or functions do reconnaissance and combat patrols have in common? a. Assault element b. Headquarters element c. Reconnaissance element d. Security element e. Support element (enter the letter(s) in a single line) (b, d)

TAIS No. 2027

MODULE MOS-T

UNIT PAT

TEST ITEMS

TASK IDENTIFICATION: 1.0

TASK ELEMENTS: 1.1 - 1.3

CRITERION ITEM(S)	ENABLING ITEM(S)
	1.3.2 (Identified as N72 within the instructional material) Who needs to know that the security element leader is to take over the reconnaissance patrol if you, the patrol leader, are a casualty? (select the best answer) a. Reconnaissance element leader b. Security element leader * c. All patrol members d. Members of the security element e. Patrol headquarters element

TRAINING ANALYSIS INFORMATION SHEET

1. TASK IDENTIFICATION: 2.0

2. TASK: Identify the location of data within and the purpose for the major elements of the complete detailed plan for the patrol

3. CONDITIONS: Given examples of data to be included in the complete detailed plan of the patrol, associate them with the major element. Given a situation or consideration, select the purpose for which it is used.

4. STANDARD: No errors

5. TASK ANALYSIS:

TASK ELEMENTS	PREREQUISITE KNOWLEDGE OR SKILL REQUIREMENTS	SUPPLEMENTAL TRAINING MATERIAL	REFERENCES
2.1 Identify the location of data within and the purpose of the major elements of the complete detailed plan of the patrol in regard to execution. a. Missions in the objective area b. Other missions c. Times of departure and return d. Primary and alternate routes e. Departure and re-entry into friendly areas f. Organization and movement g. Actions at danger areas h. Actions on enemy contact	2.1 None	None	1. FM 21-75 para 127 pgs 98-106 2. Six Roads to Success Vol III para 127 pgs 186-194

TAIS No. 2028

MODULE MOS-T

UNIT PAT

TRAINING ANALYSIS INFORMATION SHEET

1. TASK IDENTIFICATION: 2.0

2. TASK:

3. CONDITIONS:

4. STANDARD:

5. TASK ANALYSIS:

TASK ELEMENTS	PREREQUISITE KNOWLEDGE OR SKILL REQUIREMENTS	SUPPLEMENTAL TRAINING MATERIAL	REFERENCES
i. Rallying points and actions at rallying points			
j. Actions in objective area			
2.2 Identify the location of data within and the purpose for the major elements of the complete detailed plan for the patrol in regard to administration and logistics	2.2 None		
k. Debriefing			
l. Other actions			
m. Rehearsals and inspections			
n. Rations			
o. Arms and ammunition			
p. Uniform and equipment			

TAIS No. 2028

MODULE MOS-T

UNIT PAT

TRAINING ANALYSIS INFORMATION SHEET

1. TASK IDENTIFICATION: 2.0

2. TASK:

3. CONDITIONS:

4. STANDARD:

5. TASK ANALYSIS:

TASK ELEMENTS	PREREQUISITE KNOWLEDGE OR SKILL REQUIREMENTS	SUPPLEMENTAL TRAINING MATERIAL	REFERENCES
q. Method of handling wounded, dead and prisoners			
2.3 Identify the location of data within and the purpose for the major elements of the complete detailed plan for the patrol in regard to command and signal	2.3 None		
r. Signals			
s. Communication with higher headquarters			
t. Challenge and password			
u. Chain of command			
v. Locations of leaders			

TAIS No. 2028

MODULE MOS-T

UNIT PAT

CRITERION AND ENABLING OBJECTIVES

TASK IDENTIFICATION: 2.0

TASK ELEMENTS: 2.1-2.3

CRITERION OBJECTIVE(S)	ENABLING OBJECTIVE(S)
2.1-2.3 Given examples of data content that can appear as elements in a detailed patrol plan, the student can identify in which element the data would be included.	2.1.1 Pick from a list the primary element in a detailed patrol plan as being: MISSIONS IN THE OBJECTIVE AREA. 2.1.2 State OTHER MISSIONS as being tasks outside the objective area that must be included in the detailed patrol plan by the Patrol Leader. 2.1.3 Select from a list those time elements which the Patrol Leader must consider in developing TIMES OF DEPARTURE AND RETURN in the detailed plan. The elements are times required to (a) reach the objective, (b) accomplish essential tasks in the objective area, (c) return to friendly areas. 2.1.4 Select from a multiple-choice list that the main purpose of breaking up the primary and alternate routes into legs as being: TO MAKE IT EASIER TO STAY ORIENTED. 2.1.5 Select from multiple-choice list that the procedures for departure and reentry of friendly areas: MUST BE COORDINATED WITH THE UNITS NEAR OR THROUGH WHOSE AREAS THE PATROL WILL MOVE. 2.1.6 Pick from a list the most important consideration in organizing for movement as being THE ACTION TO TAKE DUE TO ENEMY CONTACT. 2.1.7 State CLOCK SYSTEM as being a method to break chance contact with the enemy. 2.1.8 Select from a multiple-choice list that the selection of rallying points by the Patrol Leader must include: INITIAL AND OBJECTIVE RALLYING POINTS.

TAIS No. 2028

MODULE MOS-T

UNIT PAT

TEST ITEMS

TASK IDENTIFICATION: 2.0

TASK ELEMENTS: 2.1-2.3

CRITERION ITEM(S)	ENABLING ITEM(S)
2.1A Below are elements from the complete detailed plan. For each of the examples that follow, select one of the elements (by letter) which would cover the example. a. Missions in the objective area b. Other missions c. Times of departure and return d. Primary and alternate routes e. Departure and re-entry of friendly areas f. Organization for movement Security during movement. (Which of the above elements covers this. Enter a letter from the above list.) (b) Actions to take in the event of enemy contact. (f) The road to use to get from point A to point B. (d)	2.1.1 What is the primary element in a detailed patrol plan the Patrol Leader must consider? (select a letter) a. Mission in the retreat area b. Number of personnel available for the mission * c. Missions in the objective area d. Number of enemy personnel 2.1.2 Planning for tasks outside the objective area are considered (Other) missions. 2.1.3 When planning for Times of Departure and Return, the Patrol Leader should consider which of the following: Time to * a. Reach the objective b. Request troop replacements * c. Accomplish essential tasks in the objective area * d. Return to friendly area e. Debrief commander upon return f. Order equipment (enter letter(s) in alphabetical order) (a, c, d)

TAIS No. 2028

MODULE MOS-T

UNIT PAT

TEST ITEMS

TASK IDENTIFICATION: 2.0

TASK ELEMENTS: 2.1-2.3

CRITERION ITEM(S)	ENABLING ITEM(S)
2.1B These are more elements from the complete detailed plan for the patrol. For each of the examples that follow, select one of the elements which would cover the example. a. Actions on enemy contact b. Rallying points and actions at rallying points c. Actions in the objective area d. Debriefing e. Other actions f. Rehearsals and inspections g. Action at danger areas Where patrol elements are to meet enroute. (enter a letter from the above list) (b) Plans to use the "clock" system (a) Plans for aerial resupply (e) How river is to be crossed (g)	2.1.4 One of the main purposes of breaking up the primary and alternate routes of the patrol into legs is: (select a letter) * a. To make it easier to stay oriented b. To provide rest stops for the patrol c. To determine exit and re-entry points into friendly areas d. To check on equipment and personnel 2.1.5 The procedures for the departure and re-entry of friendly areas must be coordinated: (select a letter) a. With the S-3 * b. With the units through whose areas the patrol will move c. Only with those units who also are involved with the objective area d. Only re-entry need be coordinated with units near the objective area 2.1.6 What is the most important factor that must be considered when planning the movement (not route) of the patrol to and from the objective area? (select a letter) a. When must the patrol reach the objective b. What type of control should be used * c. Actions to take if enemy contact occurs d. What type of terrain must be crossed
2.1C The one overriding consideration of the Patrol Leader in the complete detailed plan of the patrol is: (select a letter) a. Primary and alternate routes b. Organization for movement * c. Missions in the objective area d. Actions on enemy contact	

TAIS No. 2028

MODULE MOS-T

UNIT PAT

TEST ITEMS

TASK IDENTIFICATION: 2.0

TASK ELEMENTS: 2.1-2.3

CRITERION ITEM(S)	ENABLING ITEM(S)
2.1D Given the following situation, using the "clock system" indicate (by letter) where the Patrol Leader would expect the patrol members to be after executing the command "6 o'clock - 100". Enemy Position (A) (L) (B) (K) (C) (J) PATROL (D) (I) (E) ...Direction (H) (F) of March (G) Ans. (J)	2.1.7 Chance contact with the enemy may be broken by use of the (Clock) System. 2.1.8 Rallying points which the Patrol Leader must always select include: a. At least three enroute points b. Initial and objective points c. Objective points and re-entry points into friendly areas d. Danger areas and enemy contact points
2.1E The "clock system" is used by the Patrol Leader to: (select a letter) a. Set up a hasty ambush b. Provide security for the patrol c. Protect against air attack * d. Break contact with the enemy	
2.1F Enroute rallying points in the complete detailed plan of the patrol are used for the purpose of: (select a letter) a. Reconnoitering the objective * b. Reassembling the patrol after enemy contact c. Departing and re-entering friendly areas d. Establishing points of aerial resupply	

TAIS No. 2028

MODULE MOS-T

UNIT PAT

TEST ITEMS

TASK IDENTIFICATION: 2.0

TASK ELEMENTS: 2.1-2.3

CRITERION ITEM(S)	ENABLING ITEM(S)
2.2-2.3 Following are additional elements from a complete detailed plan for the patrol. For each of the examples that follow, select one of the elements below which would cover the example. a. Rations b. Arms and ammunition c. Uniforms and equipment d. Method of handling e. Command and signal f. Actions on enemy contact Where the patrol leader will be located (enter the letter of your choice) (e) Plan for changes to the challenge and password (e) Food will be needed to be carried by patrol members (a) How communication with higher headquarters is to occur (e)	

TAIS No. 2028

MODULE MOS-T

UNIT PAT

TEST ITEMS

TASK IDENTIFICATION: 2.0

TASK ELEMENTS: 2.1-2.3

CRITERION ITEM(S)	ENABLING ITEM(S)
1. Equipment carried by the patrol members in carrying out the patrol is: (select a letter) a. Specified by Unit SOP b. Specified by individual patrol member c. Specified by the S-4 * d. Specified by the Patrol Leader 2. One of the primary purposes of the rehearsal conducted by the Patrol Leader before carrying out a patrol is to: (select a letter) * a. Verify patrol equipment is suitable b. Provide for inspection by the S-3 c. Determine the patrol's mental state of readiness d. Insure radio frequencies are correct	

TAIS No. 2029

MODULE MOS-T

UNIT PAT

TRAINING ANALYSIS INFORMATION SHEET

1. TASK IDENTIFICATION: 3.0

2. TASK: Identify the measures used for controlling a patrol

3. CONDITIONS: Given a list of control measures, state the measures used for controlling a patrol.

4. STANDARD: Correctly identifies from a list four out of five control measures as being appropriate for controlling a patrol.

5. TASK ANALYSIS:

TASK ELEMENTS	PREREQUISITE KNOWLEDGE OR SKILL REQUIREMENTS	SUPPLEMENTAL TRAINING MATERIAL	REFERENCES
3.1 Identify use of voice and other audible means	3.1 None	None	1. FM 21-75 para 132 pgs 110-111
3.2 Identify use of silent control measures	3.2 None		2. Six Roads to Success Vol III para 132 pgs 198-199
3.3 Identify use of patrol members to assist in control	3.3 None		
3.4 Identify use of the method of accounting for personnel	3.4 None		

TAIS No. 2029

MODULE MOS-T

UNIT PAT

CRITERION AND ENABLING OBJECTIVES

TASK IDENTIFICATION: 3.0

TASK ELEMENTS: 3.1 - 3.4

CRITERION OBJECTIVE(S)	ENABLING OBJECTIVE(S)
3.1-3.4 Given a list of control means, the student is able to identify those control methods which are appropriate to control a patrol when secrecy is not necessary.	3.1.1 State ORAL ORDERS, RADIOS, AND WHISTLE SIGNALS WHEN SECRECY IS NOT NECESSARY as the main methods of 'audibility' controlling the patrol. 3.2.1 State ARM AND HAND SIGNALS as being the control method most likely to be used when secrecy is necessary. 3.3.1 Pick from a list ALL PATROL MEMBERS when asked who assists the patrol leader and assistant patrol leader in maintaining control over the patrol. 3.3.2-3.3.3 Fill in PATROL MEMBER--PATROL LEADER when asked who can halt the patrol and who can signal to resume movement. 3.4.1-3.4.2 Pick from a list the method used to account for personnel while on patrol in a file formation: THE LAST MAN STARTS A COUNT. 3.4.2 Pick from a list when accounting for personnel while on patrol should occur as being after: CROSSING DANGER AREAS, ENEMY CONTACT AND HALTS.

TAIS No. 2029

MODULE MOS-T

UNIT PAT

TEST ITEMS

TASK IDENTIFICATION: 3.0

TASK ELEMENTS: 3.1-3.4

CRITERION ITEM(S)	ENABLING ITEM(S)
3.1-3.4 For the following statements relating to control of the patrol when secrecy is not necessary by voice and other audible means, indicate if the statements are true or false. 1. Oral order shouted so all members can hear (true or false) 2. Use of a radio if it is a large patrol (true or false) 3. Use of a whistle (true or false) 4. Use of a megaphone (true or false) 5. Using other sound signals that are easily understood (true or false)	3.1.1 Using only three words, type the three main methods of "audibly" controlling a patrol. (enter all three words in a single line) (radio, orally, whistle) 3.2.1 When secrecy is necessary, the control method most likely to be used is: (arm) and (hand) signals 3.3.1 Who assists the patrol leader and assistant patrol leader in maintaining control? (select a letter) a. The point man b. Company commander c. The last man in the patrol * d. All patrol members e. None of the above 3.3.2 Who gives the signal to halt the Patrol? (any patrol member can) 3.3.3 Who gives the signal to resume movement after a halt? (only the patrol leader) 3.4.1 When in single file, what does the patrol leader say to the man directly behind him when he desires to know how many members are present? (select a letter) a. Start the count * b. Send up the count c. Sound off d. Number 1

TAIS No. 2029

MODULE MOS-T

UNIT PAT

TEST ITEMS

TASK IDENTIFICATION: 3.0

TASK ELEMENTS: 3.1-3.4

CRITERION ITEM(S)	ENABLING ITEM(S)
	3.4.2 The count is taken: 1. After passing a danger area 2. After contact with the enemy and 3. After a (halt)

TAIS No. 2030

MODULE MOS-T

UNIT PAT

TRAINING ANALYSIS INFORMATION SHEET

1. TASK IDENTIFICATION: 4.0

2. TASK: Identify the purposes, elements, and actions of a raid patrol

3. CONDITIONS: Given constructed response and multiple-choice questions concerning the purposes for patrols, and elements comprising a patrol, provide correct responses. Given statements of actions and functions in the objective area, indicate which element in the raid patrol usually performs the action or function.

4. STANDARD: No errors

5. TASK ANALYSIS:

TASK ELEMENTS	PREREQUISITE KNOWLEDGE OR SKILL REQUIREMENTS	SUPPLEMENTAL TRAINING MATERIAL	REFERENCES
4.1 Identify purposes of raid patrol	4.1 None	None	1. FM 21-75 para 150-152 pgs 131-133
4.2 Identify elements of a raid patrol	4.2 Know organizational structure of a patrol		2. Six Roads to Success Vol III para 150-153 pgs 219-221
4.3 Identify actions and functions with proper raid patrol element	4.3 Know organizational structure of a patrol		
4.4 Identify position of raid patrol elements to take an objective	4.4 Know function and purpose of raid patrol elements		

TAIS No. 2030

MODULE MOS-T

UNIT PAT

CRITERION AND ENABLING OBJECTIVES

TASK IDENTIFICATION: 4.0

TASK ELEMENTS: 4.1-4.3

CRITERION OBJECTIVE(S)	ENABLING OBJECTIVE(S)
4.1 When presented with a list of purposes for patrols, select the purposes of a raid patrol, as being: a. Destroy the position and installation b. Destroy or capture personnel or equipment c. Liberate personnel 4.2 Subsumed under 4.2.1-4.2.2. 4.3 Given statements concerning actions or conditions in the objective area, the student will select the raid patrol element that would normally perform the action or function. 4.4 Given a tactical situation, the student can correctly position the assault and support elements and the security teams of a raid patrol in taking an objective.	4.1.1 State SURPRISE when asked what is the most important factor of a successful raid. 4.2.1 The student can identify the elements of a raid patrol as being: a. Patrol Headquarters and Security Element b. Assault Element c. Support Element 4.2.2 State ASSAULT ELEMENT as being where special purpose teams such as demolition, or search are located within a patrol when they are not directly controlled by the Patrol Leader.

TAIS No. 2030 MODULE MOS-T

UNIT PAT

TEST ITEMS

TASK IDENTIFICATION: 4.0

TASK ELEMENTS: 4.1-4.3

CRITERION ITEM(S)	ENABLING ITEM(S)
4.1 Which of the following are purposes of a raid patrol? a. Provide back-up support * b. Destroy the position or installation c. Assault the attack area * d. Destroy or capture personnel or equipment * e. Liberate personnel (Type letters in alphabetical order.) (b, d, e)	4.1.1 What is the most important factor of a successful raid? (Surprise) 4.2.1 Pick the elements that are found in a raid patrol. * a. Support element b. Reconnaissance element * c. Security element d. Search element * e. Assault element (Type letters in alphabetical order.) (a, c, e) 4.2.2 Special purpose teams such as demolition, or search are part of the (Assault) element.
4.3 For each of the following statements concerning actions in the objective area, pick the element in the raid patrol that would normally perform the action or function. A. Patrol Headquarters B. Security Element C. Assault Element D. Support Element 1. Secure the objective rallying point (select a letter from above) (B) 2. Will perform immediate assult if detected by the enemy (select a letter) (C) 3. Seizes and secures the objective (select a letter) (C) 4. Prevents enemy entry into or escape from objective area (B) (select a letter)	

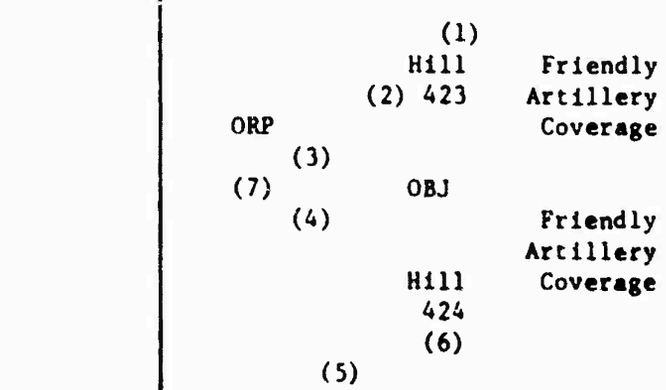
TAIS No. 2030 MODULE MOS-T

UNIT PAT

TEST ITEMS

TASK IDENTIFICATION: 4.0

TASK ELEMENTS: 4.1-4.3

CRITERION ITEM(S)	ENABLING ITEM(S)
5. Directs and controls the assault (select a letter) (A) 6. Covers the withdrawal of the assault element (select a letter) (D) 7. Covers withdrawal of the patrol to the objective rallying point (select a letter) (B) 8. Protects special team as they work (select a letter) (C)	
4.4 The mission of the raid patrol is to take the objective between Hills 423 and 424.  The patrol is now at the ORP (7). 1. In this situation where (by number) would the two assault elements be positioned? (3, 4) 2. In this situation where (by number) would the three security teams be positioned? (1, 5, 6) 3. In this situation where (by number) would the support element be positioned? (2)	

TAIS No. 2031

MODULE MOS-T

UNIT PAT

TRAINING ANALYSIS INFORMATION SHEET

1. TASK IDENTIFICATION: 5.0

2. TASK: Identify the types, purposes, and fundamentals of successful ambushes

3. CONDITIONS: Given constructed response, multiple-choice questions and various situations concerning the types, purposes, and fundamentals of successful ambushes, provide the correct response.

4. STANDARD: Correctly selects the ambush formation to engage a target for 4 out of 5 situations.

5. TASK ANALYSIS:

TASK ELEMENTS	PREREQUISITE KNOWLEDGE OR SKILL REQUIREMENTS	SUPPLEMENTAL TRAINING MATERIAL	REFERENCES
5.1 Identify ambush types	5.1 None	None	1. FM 21-75 para 155 pgs 134-149
5.2 Identify purposes of ambushes	5.2 None		
5.3 Identify fundamentals of successful ambushes	5.3 None		2. Six Roads to Success Vol III para 155 pg 222
5.4 Identify types of ambush formations to engage targets under various situations	5.4 None		

2 January 1974 B-333

TAIS No. 2031

MODULE MOS-T

UNIT PAT

CRITERION AND ENABLING OBJECTIVES

TASK IDENTIFICATION: 5.0

TASK ELEMENTS: 5.1-5.4

CRITERION OBJECTIVE(S)	ENABLING OBJECTIVE(S)
5.1 The student is able to identify the types of ambush as being: a. Point b. Area c. Hasty	5.1.1 Complete: POINT ambush as being where forces are deployed to support the attack of a single killing zone. 5.1.2 Fill in: AREA ambush as being where forces are deployed as multiple related point ambushes. 5.1.3 Define: HASTY ambush as an immediate action drill.
5.2 When presented with a list of purposes for ambush patrols, the student is able to select the purposes of an ambush as being: a. Destruction b. Harassment	5.2.1 Complete: DESTRUCTION as the primary purpose of ambush. 5.2.2 State: HARASSMENT as a secondary purpose of ambush.

TAIS No. 2031

MODULE MOS-T

UNIT PAT

CRITERION AND ENABLING OBJECTIVES

TASK IDENTIFICATION: 5.0

TASK ELEMENTS: 5.1-5.4

CRITERION OBJECTIVE(S)	ENABLING OBJECTIVE(S)
5.3 The student is able to identify from a list the fundamentals of successful ambushes as being: a. Surprise b. Coordinated fires c. Control	5.3.1 State SURPRISE as being what distinguishes an ambush from other types of attack 5.3.2 Pick from a list COORDINATED FIRES as being when all weapons and fires are directed toward a specific target 5.3.3 State CONTROL as being the one element that must be maintained at all times during an ambush.
5.4 Given various situations requiring the use of ambush formations, select the appropriate formation. The ambush formations to be considered are: 1. Line formation 2. L-shaped formation 3. V-formation	5.4.1 Select from a list the advantages of the line ambush formation: a. HEAVY FLANKING FIRE b. EASE OF CONTROL 5.4.2 Select from a list the disadvantage of the line ambush formation as being: THE TARGET MAY NOT BE EFFECTIVELY COVERED 5.4.3 Select from a list the advantages of the L-shaped ambush formation: a. PROVIDES ENFILADE FIRE ON TARGET b. PREVENTS ESCAPE AND REINFORCEMENT THROUGH THE SHORT LEG OF AMBUSH

TAIS No. 2031

MODULE MOS-T

UNIT PAT

CRITERION AND ENABLING OBJECTIVES

TASK IDENTIFICATION: 5.0

TASK ELEMENTS: 5.1-5.4

CRITERION OBJECTIVE(S)	ENABLING OBJECTIVE(S)
	5.4.4 Pick from a list the advantages of the V-formation a. SUBJECTS TARGET TO BOTH ENFILADE AND INTERLOCKING FIRE b. DIFFICULT TO DETECT UNTIL WELL INTO THE KILLING ZONE 5.4.5 Select from a list the disadvantages of the V-formation a. DIFFICULT TO CONTROL b. FIRE FROM ONE LEG MAY ENDANGER THE OTHER c. FEWER SITES FAVOR ITS USE

TAIS No. 2031

MODULE MOS-T

UNIT PAT

TEST ITEMS

TASK IDENTIFICATION: 5.0

TASK ELEMENTS: 5.1-5.4

CRITERION ITEM(S)	ENABLING ITEM(S)
5.1 What are the types of ambushes? (select a letter) a. Envelopment, area, diamond * b. Point, area, hasty c. Point, hasty, circle d. Diamond, line, square	5.1.1 Where forces are deployed to support the attack of a single killing zone is called a/an (Point) ambush. 5.1.2 Where forces are deployed as multiple related point ambushes is called a/an (Area) ambush. 5.1.3 An immediate action drill is called a/an (Hasty) ambush.
5.2 What are the purposes of an ambush? (select the letters from this list) * a. Destruction * b. Harassment c. Reconnaissance d. To capture enemy soldiers (a, b)	5.2.1 The primary purpose of an ambush is 5.2.2 (Destruction) and the secondary purpose is (Harassment).
5.3 What are the fundamentals of successful ambushes? (select the letters) * a. Surprise b. Superior numbers * c. Coordinated fires * d. Control e. Ready reserves (a, c, d)	5.3.1 What element makes an ambush different from other forms of attack? (Surprise) 5.3.2 Directing all weapons and fires toward a specific target is termed? (select a letter) a. Field fires b. Directed weapons c. Controlled fires * d. Coordinated fires 5.3.3 What is the one element that must be maintained at all times during an ambush? (Control)

TAIS No. 2031 MODULE MOS-T

UNIT PAT

TEST ITEMS

TASK IDENTIFICATION: 5.0

TASK ELEMENTS: 5.1-5.4

CRITERION ITEM(S)	ENABLING ITEM(S)
5.4 For each of the following situations, select the point ambush formation you would use to engage the target. The ambush formations to be considered are: LN Line formation L L-shaped formation V V-formation Situation 1. You are to ambush a target that is moving through fairly open terrain and your forces are to be employed on both sides of the target route. The ambush formation you should establish is? LN L V (V) (Enter the letter(s) of your choice in a single line.) Situation 2. You are to ambush a target that must move through open terrain. A river will restrict movement of the target on one flank. To take advantage of this natural obstacle and deliver heavy flanking fire into the target, which ambush formation should you select? (select a letter) (LN) Situation 3. What formation would you select if you wished to engage the target's front as well as its flank? (L) Situation 4. The ambush formation in which interlocking fire can be delivered onto a target is which formation? (V)	5.4.1 What are the advantages of the line formation for the ambush? (select letters) * a. Heavy flanking fire b. Enfilade fire on target * c. Ease of control d. Interlocking fire on target (a, c) 5.4.2 What is the disadvantage of the line formation? (select a letter) a. Difficult to control b. Fewer sites favor its use c. Cannot be used in the jungle * d. Target may not be effectively covered 5.4.3 What are the advantages of the L-shaped formation for the ambush? (select letters) * a. Provides enfilade fire on target b. Heavy flanking fire c. Ease of control d. Can be used in open terrain * e. Prevents escape and reinforcement through the short leg of ambush (a, e)

TAIS No. 2031

MODULE MOS-T

UNIT PAT

TEST ITEMS

TASK IDENTIFICATION: 5.0

TASK ELEMENTS: 5.1-5.4

CRITERION ITEM(S)	ENABLING ITEM(S)
Situation 5. You are to engage a target where a sharp bend in a trail occurs. In addition to delivering flanking fire onto the target, you wish also to prevent possible escape or reinforcements. Which ambush formation would you establish? (L)	5.4.4 What are the advantages of the V-formation for the ambush? (select letters) a. Subjects target to heavy flanking fire b. Prevents withdrawal action by the target * c. Subjects target to both enfilade and interlocking fire * d. Difficult for target to detect until well into the killing zone (c, d) 5.4.5 What are the disadvantages of the V-formation for the ambush? (select letters) * a. Difficult to control * b. Fire from one leg may endanger the other * c. Fewer sites favor its use d Killing zone may not be effectively covered e. Cannot be used in the jungle (a, b, c)

PLATOON COMBAT FORMATIONS

TAIS No. 2032

MODULE MOS-T

UNIT PCF

TRAINING ANALYSIS INFORMATION SHEET

1. TASK IDENTIFICATION: 1.0

2. TASK: Identify the five basic dismounted platoon formations and the proper arm and hand signals.

3. CONDITIONS: Given situations showing platoon dismounted formations and associated arm and hand signals, associate the correct formations with the proper arm and hand signals.

4. STANDARD: No errors.

5. TASK ANALYSIS:

TASK ELEMENTS	PREREQUISITE KNOWLEDGE OR SKILL REQUIREMENTS	SUPPLEMENTAL TRAINING MATERIAL	REFERENCES
1.1 Identify platoon column	1.1 Know squad combat formations	None	1. FM 7-10 Appendix D pgs D5-D9
1.2 Identify platoon wedge	1.2 Know squad combat formations		2. Six Roads to Success Vol III Appendix D pgs 80-82
1.3 Identify platoon Vee	1.3 Know squad combat formations		
1.4 Identify platoon line	1.4 Know squad combat formations		
1.5 Identify platoon echelon	1.5 Know squad combat formations		
1.6 Identify arm and hand signal for platoon column	1.6 Know squad combat formations		
1.7 Identify arm and hand signal for platoon wedge	1.7 Know squad combat formations		
1.8 Identify arm and hand signal for platoon Vee	1.8 Know squad combat formations		
1.9 Identify arm and hand signal for platoon line	1.9 Know squad combat formations		
1.10 Identify arm and hand signal for platoon echelon	1.10 Know squad combat formations		

TAIS No. 2032 MODULE MOS-T

UNIT PCF

CRITERION AND ENABLING OBJECTIVES

TASK IDENTIFICATION: 1.0

TASK ELEMENTS: 1.1-1.10

CRITERION OBJECTIVE(S)	ENABLING OBJECTIVE(S)
When presented with situations showing platoon formations, the student can identify each platoon formation and the proper arm and hand signal	1.1.1 Select from various formations: PLATOON COLUMN 1.2.1 Select from various formations: PLATOON WEDGE 1.3.1 Select from various formations: PLATOON VEE 1.4.1 Select from various formations: PLATOON LINE 1.5.1 Select from various formations: PLATOON ECHELON 1.6.1 Select from representative arm and hand signals the signal for: PLATOON COLUMN 1.7.1 Select from representative arm and hand signals the signal for: PLATOON WEDGE 1.8.1 Select from representative arm and hand signals the signal for: PLATOON VEE 1.9.1 Select from representative arm and hand hand signals the signal for: PLATOON LINE 1.10.1 Select from representative arm and hand signals the signal for: PLATOON ECHELON

TAIS No. 2032

MODULE MOS-T

UNIT PCF

TEST ITEMS

TASK IDENTIFICATION: 1.0

TASK ELEMENTS: 1.1-1.10

CRITERION ITEM(S)	ENABLING ITEM(S)
1.1-1.10 Refer to figure _____ which shows various formations and a verbal description of arm and hand signals. Select the letter beside the correct formation and description of the associated arm and hand signal. The pairings are: a. Platoon Column, letter _____ b. Platoon File, letter _____ c. Platoon Wedge, letter _____ d. Platoon Column, fire teams abreast, letter _____ e. Platoon Vee, letter _____ f. Platoon Line, letter _____ g. Platoon Echelon, letter _____	1.1.1-1.2.1 Refer to figure _____ which shows various Platoon formations. Letter _____ is beside the Platoon Column formation and letter _____ is beside the Platoon wedge formation 1.3.1-1.5.1 Refer to figure _____ which shows various Platoon formations. Letter ___ is beside the Platoon Vee formation. Letter _____ is beside the Platoon Line formation, and letter _____ is beside the Platoon Echelon formation 1.6.1-1.10.1 Refer to figure _____ which lists verbal descriptions of various arm and hand signals. Letter _____ represents the arm and hand signal for the Platoon Column formation. Letter _____ represents the arm and hand signal for the Platoon Wedge formation. Letter _____ represents the arm and hand signal for the Platoon Vee formation. Letter ____ represents the arm and hand signal for the Platoon Line formation. Letter _____ represents the arm and hand signal for the Platoon Echelon formation.

TAIS No. 2033 MODULE MOS-T

UNIT PCF

TRAINING ANALYSIS INFORMATION SHEET

1. TASK IDENTIFICATION: 2.0

2. TASK: Identify the tactical considerations for dismounted platoon formations.

3. CONDITIONS: Given various basic platoon formations, select the tactical considerations which apply to each.

4. STANDARD: No errors.

5. TASK ANALYSIS:

TASK ELEMENTS	PREREQUISITE KNOWLEDGE OR SKILL REQUIREMENTS	SUPPLEMENTAL TRAINING MATERIAL	REFERENCES
2.1 Identify the tactical considerations for the platoon column	2.1 Know squad combat formations.	None	1. FM 7-10 Appendix D pgs D-5 - D-9
2.2 Identify the tactical considerations for the platoon wedge	2.2 Know squad combat formations.		2. Six Roads To Success Vol III Appendix D pgs 83-87
2.3 Identify the tactical considerations for the platoon vee	2.3 Know squad combat formations.		
2.4 Identify the tactical considerations for the platoon line	2.4 Know squad combat formations.		
2.5 Identify the tactical considerations for the platoon echelon	2.5 Know squad combat formations.		

TAIS No. 2033

MODULE MOS-T

UNIT PCF

CRITERION AND ENABLING OBJECTIVES

TASK IDENTIFICATION: 2.0

TASK ELEMENTS: 2.1-2.5

CRITERION OBJECTIVE(S)	ENABLING OBJECTIVE(S)
2.1-2.5 Given various tactical considerations, select the appropriate platoon formations as being: a. Platoon column b. Platoon wedge c. Platoon vee d. Platoon line e. Platoon echelon	2.1.1 Select from a list the tactical considerations for the platoon column: a. Facilitate control b. Favors action to flanks c. Formation is flexible d. Used when speed and control are governing factors such as through woods, fog, smoke, and along roads and trails 2.2.1 Pick from a list the tactical considerations for the platoon wedge: a. Facilitate control b. Provides all-round security c. Formation is flexible d. Used when enemy situation is obscure and terrain and visibility require dispersion 2.3.1 Pick from a list the tactical considerations for the platoon vee: a. Facilitate movement into platoon line b. Provides excellent firepower to front and flanks c. Used when the enemy is to the front and his strength and location are known, may be used when crossing large open areas

TAIS No. 2033

MODULE MOS-T

UNIT PCF

CRITERION AND ENABLING OBJECTIVES

TASK IDENTIFICATION: 2.0

TASK ELEMENTS: 2.1-2.5

CRITERION OBJECTIVE(S)	ENABLING OBJECTIVE(S)
	2.4.1 Select from a list the tactical considerations for the platoon line: a. Difficult to control b. Maximum firepower to front c. Used during the assult, mopping-up, and crossing short open areas 2.5.1 Select from a list the tactical considerations for the platoon echelon: a. Difficult to control b. Movement is slow, especially under conditions of reduced visibility c. Provides heavy firepower to front and in direction of echelon d. Used to protect an open or exposed flank

TAIS No. 2033

MODULE MOS-T

UNIT PCF

TEST ITEMS

TASK IDENTIFICATION: 2.0

TASK ELEMENTS: 2.1-2.5

CRITERION ITEM(S)	ENABLING ITEM(S)
2.1 Your platoon will be moving through a wooded area and also along roads and trails. Your platoon would normally use the (Platoon Column) formation.	2.1.1 The tactical considerations for the platoon column are: * a. Facilitate control * b. Favors action to flanks c. Difficult to control d. Used when the enemy is to the front and his strength and location are known, may be used when crossing large open areas * e. Formation is flexible * f. Used when speed and control are governing factors such as through woods, fog, smoke, and along roads and trails (a, b, e, f)
2.2 Your platoon will be moving into an area where the enemy situation is obscure and terrain and visibility require dispersion. Your platoon would normally use the (Platoon Wedge) formation.	2.2.1 The tactical considerations for the platoon wedge are: a. Facilitate movement into platoon line b. Difficult to control * c. Facilitate control * d. Provides all-round security * e. Formation is flexible * f. Used when enemy situation is obscure and terrain and visibility require dispersion (c, d, e, f)
2.3 Your platoon will be required to provide excellent firepower to the front and flanks. The location and strength of the enemy is known. Your platoon would normally use the (Platoon Vee) formation.	
2.4 Your platoon will be required to provide maximum firepower to the front. Your platoon would normally use the (Platoon Line) formation.	
2.5 Your platoon will be required to provide heavy firepower to the front and in the direction of echelon. Your platoon is also required to protect an open or exposed flank. Your platoon would use the (Platoon Echelon) formation.	

TAIS No. 2033

MODULE MOS-T

UNIT PCF

TEST ITEMS

TASK IDENTIFICATION: 2.0

TASK ELEMENTS: 2.1-2.5

CRITERION ITEM(S)	ENABLING ITEM(S)
	2.3.1 The tactical considerations for the platoon vee are: * a. Facilitate movement into platoon line * b. Provides excellent firepower to front and flanks c. Maximum firepower to front d. Facilitate control * e. Used when the enemy is to the front and his strength and location are known, may be used when crossing large open areas (a, b, e) 2.4.1 The tactical considerations for the platoon line are: * a. Difficult to control * b. Maximum firepower to front * c. Used during the assault, mopping-up, and crossing short open areas. d. Provides excellent firepower to front and flanks (a, b, c)

TAIS No. 2033

MODULE MOS-T

UNIT PCF

TEST ITEMS

TASK IDENTIFICATION: 2.0

TASK ELEMENTS: 2.1-2.5

CRITERION ITEM(S)	ENABLING ITEM(S)
	2.5.1 The tactical considerations for the platoon echelon are: * a. Difficult to control * b. Movement is slow, especially under conditions of reduced visibility * c. Provides heavy firepower to front and in direction of echelon * d. Used to protect an open or exposed flank (a, b, c, d)

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RIFLE PLATOON IN THE ATTACK

TAIS No. 2034

MODULE MOS-T

UNIT RPA

TRAINING ANALYSIS INFORMATION SHEET

1. TASK IDENTIFICATION: 1.0

2. TASK: Identify the control measures used by the platoon in the attack which are in addition to the control measures used by the squad.

3. CONDITIONS: Given a list of control measures, identify the control measures which are unique to the platoon.

4. STANDARD: No errors.

5. TASK ANALYSIS:

TASK ELEMENTS	PREREQUISITE KNOWLEDGE OR SKILL REQUIREMENTS	SUPPLEMENTAL TRAINING MATERIAL	REFERENCES
1.1 Identify boundaries	1.1 Know control measures used by the squad	None	1. FM 7-10 para 3-9 pgs 3-5 - 3-8
1.2 Identify contact point	1.2 Know control measures used by the squad		2. Six Roads to Success Vol III para 3-9 pgs -12
1.3 Identify base platoon	1.3 Know control measures used by the squad		
1.4 Identify intermediate objectives	1.4 Know control measures used by the squad		
1.5 Identify communications (type)	1.5 Know control measures used by the squad		

TAIS No. 2034

MODULE MOS-T

UNIT RPA

CRITERION AND ENABLING OBJECTIVES

TASK IDENTIFICATION: 1.0

TASK ELEMENTS: 1.1-1.5

CRITERION OBJECTIVE(S)	ENABLING OBJECTIVE(S)
1.1-1.5 When presented with a list of control measures, the student is able to identify the control measures which are unique to the platoon as being: a. Boundaries b. Contact point c. Base platoon d. Intermediate objectives e. Communications (type)	1.1.1 Complete: BOUNDARIES as being lines to control the fires and lateral maneuver of advancing and adjacent units 1.2.1 State CONTACT POINT is where two or more units are required to make physical contact 1.3.1 Supply BASE PLATOON as being the attacking element upon which the remaining units of the company relate their movement 1.4.1 Match the reasons why an intermediate objective may be assigned to a platoon as being: (a) Its occupation by the enemy will interfere with the progress of the attack (b) It is anticipated that prolonged and difficult combat on or about it it will be necessary before the company can proceed to its final objective (c) Seizing it would facilitate control of subordinate units where observation is limited or where, for any other reason, difficulty in control can be anticipated (d) It is needed for positioning subordinate units and weapons to ensure close coordination of an attack by more than one platoon against a strong enemy position 1.5.1 State RADIOS AND MESSAGES are the methods used to a maximum extent for communication during the attack

TAIS No. 2034

MODULE MOS-T

UNIT RPA

TEST ITEMS

TASK IDENTIFICATION: 1.0

TASK ELEMENTS: 1.1-1.5

CRITERION ITEM(S)	ENABLING ITEM(S)
1.1-1.5 What are the control measures that are unique to the platoon? *a. Boundaries b. Attack position *c. Contact point *d. Base platoon e. Line of departure *f. Intermediate objectives *g. Communications (type) (a, c, d, f, g)	1.1.1 Lines to control the fires and lateral maneuver of advancing and adjacent units are called (Boundaries). 1.2.1 Where two or more units are required to make physical contact is called a (Contact Point). 1.3.1 The attacking element upon which the remaining units of the company relate their movement is called a (Base Platoon). 1.4.1 Pick the reason(s) why an intermediate objective may be assigned to a platoon: *(a) Its occupation by the enemy will interfere with the progress of the attack *(b) It is anticipated that prolonged and difficult combat on or about it will be necessary before the company can proceed to its final objective *(c) Seizing it would facilitate control of subordinate units where observation is limited or where, for any other reason, difficulty in control can be anticipated *(d) It is needed for positioning subordinate units and weapons to ensure close coordination of an attack by more than one platoon against a strong enemy position (e) Seizing it would separate the enemy from its main body and reduce the enemy's effectiveness (a, b, c, d) 1.5.1 What communication methods are used to a maximum extent during an attack? (Radios and Messages)

TAIS No. 2035

MODULE MOS-T

UNIT RPA

TRAINING ANALYSIS INFORMATION SHEET

1. TASK IDENTIFICATION: 2.0

2. TASK: Identify the basic control measures for the platoon night attack which are different than daylight measures

3. CONDITIONS: Given a list of control measures, identify the control measures for the platoon night attack which are different than daylight measures.

4. STANDARD: No errors

5. TASK ANALYSIS:

TASK ELEMENTS	PREREQUISITE KNOWLEDGE OR SKILL REQUIREMENTS	SUPPLEMENTAL TRAINING MATERIAL	REFERENCES
2.1 Identify Release point	2.1 Know control measures used by the squad	None	1. FM 7-10 para 3-37 pgs 3-20 3-21
2.2 Identify point(s) of departure	2.2 Know control measures used by the squad		2. Six Roads To Success Vol III para 3-37 pgs 24-26
2.3 Identify routes	2.3 Know control measures used by the squad		
2.4 Identify probably line of deployment	2.4 Know control measures used by the squad		
2.5 Identify limit of advance	2.5 Know control measures used by the squad		

TAIS No. 2035

MODULE MOS-T

UNIT RPA

CRITERION AND ENABLING OBJECTIVES

TASK IDENTIFICATION: 2.0

TASK ELEMENTS: 2.1-2.5

CRITERION OBJECTIVE(S)	ENABLING OBJECTIVE(S)
2.1-2.5 When presented with a list of control measures, the student is able to identify the control measures for the platoon night attack which are different than daylight measures as being: a. Release Point b. Point(s) of departure c. Routes d. Probably line of deployment e. Limit of advance	2.1.1 State RELEASE POINT is a point at which a higher commander releases control of a subordinate unit to a commander (leader). 2.2.1 Fill in POINT(S) OF DEPARTURE as being what the company commander normally selects along the LD where the platoons will cross. 2.3.1 State ROUTE as being what the company commander selects to be used from the company RP to the platoon RP; as well as what the platoon leader selects from the platoon RP to the squad RP. 2.4.1 Complete PROBABLE LINE OF DEPLOYMENT as the location on the ground where the final deployment is completed prior to moving out with platoon on line. 2.5.1 Define LIMIT OF ADVANCE as being a terrain feature which is easily recognized in the dark and beyond which attacking elements will not advance.

TAIS No. 2035

MODULE MOS-T

UNIT RPA

TEST ITEMS

TASK IDENTIFICATION: 2.0

TASK ELEMENTS: 2.1-2.4

CRITERION ITEM(S)	ENABLING ITEM(S)
1.1-1.5 What are the control measures for the platoon night attack that are different than the daylight measures? *a. Release point b. Zone of action c. Contact point d. Axis of advance *e. Point(s) of departure *f. Routes *g. Probably line of deployment *h. Limit of advance (a,e,f,g,h)	2.1.1 A point at which a higher commander releases control of a subordinate unit to a commander (leader) is called a (Release Point). 2.2.1 The company commander normally selects the (Point(s) Of Departure) along the LD where the platoons will cross. 2.3.1 What does the company commander selects from the company RP to the platoon RP and the platoon leader selects from the platoon RP to the squad RP? (Route) 2.4.1 The location on the ground where the final deployment is completed prior to moving out with platoon on line is called (Probable Line Of Deployment). 2.5.1 What is the terrain feature which is easily recongized in the dark and beyond which attacking elements will not advance called? (Limit Of Advance).

RIFLE PLATOON IN DEFENSE

TAIS No. 2036

MODULE MOD-T

UNIT RPD

TRAINING ANALYSIS INFORMATION SHEET

1. TASK IDENTIFICATION: 1.0

2. TASK: State the forms of defense

3. CONDITIONS: Given constructed response and multiple choice questions concerning the forms of defense, provide the correct responses.

4. STANDARD: No errors

5. TASK ANALYSIS:

TASK ELEMENTS	PREREQUISITE KNOWLEDGE OR SKILL REQUIREMENTS	SUPPLEMENTAL TRAINING MATERIAL	REFERENCES
1.1 State area defense 1.2 State mobile defense	1.1 None 1.2 None	None	1. FM 7-10 para 4-4 pgs 4-1 4-2 2. Six Roads To Success Vol III para 4-4 pgs 34-35

TAIS No. 2036

MODULE MOS-T

UNIT RPD

CRITERION AND ENABLING OBJECTIVES

TASK IDENTIFICATION: 1.0

TASK ELEMENTS: 1.1-1.2

CRITERION OBJECTIVE(S)	ENABLING OBJECTIVE(S)
1.1-1.2 When asked what are the forms of defense, the student can state: a. Area b. Mobile	1.1.1 State AREA DEFENSE as being oriented toward the retention of specific terrain which if penetrated, causes all available resources to be used to destroy or eject the enemy. 1.2.1 State MOBILE DEFENSE as being normally conducted by division and higher echelons.

TAIS No. 2036

MODULE MOS-T

UNIT RPD

TEST ITEMS

TASK IDENTIFICATION: 1.0

TASK ELEMENTS: 1.1-1.2

CRITERION ITEM(S)	ENABLING ITEM(S)
1.1-1.2 What are the forms of defense? (Area and Mobile)	1.1.1 What form of defense is oriented toward the retention of specific terrain and if the area is peneterated, all available resources are used to destroy or eject the enemy? (Area) 1.2.1 What form of defense is normally conducted by division and higher echelon? (Mobile)

TAIS No. 2037

MODULE MOS-T

UNIT RPD

TRAINING ANALYSIS INFORMATION SHEET

1. TASK IDENTIFICATION: 2.0

2. TASK: Identify the control measures used to establish coordination between units in the defense and their purpose.

3. CONDITIONS: No errors

4. STANDARD:

5. TASK ANALYSIS:

TASK ELEMENTS	PREREQUISITE KNOWLEDGE OR SKILL REQUIREMENTS	SUPPLEMENTAL TRAINING MATERIAL	REFERENCES
2.1 Identify boundaries	2.1 None	None	1. FM 7-10 para 4-9 pgs 4-3 4-4
2.2 Identify purposes of boundaries	2.2 None		
2.3 Identify coordinating points	2.3 None		2. Six Roads To Success Vol III para 4-9 pgs 36-37
2.4 Identify purposes of coordinating points	2.4 None		

TAIS No. 2037

MODULE MOS-T

UNIT RPD

CRITERION AND ENABLING OBJECTIVES

TASK IDENTIFICATION: 2.0

TASK ELEMENTS: 2.1-2.4

CRITERION OBJECTIVE(S)	ENABLING OBJECTIVE(S)
2.1-2.4 When asked what are the control measures used to establish coordination between units in the defense and their purpose, the student can select from a list of choices: a. Boundaries - to indicate area of responsibility b. Coordination points - to indicate the general trace of the FEBA and the COP, and points on the ground where adjacent commanders coordinate defensive plans to insure mutual support	2.1.1-2.2.1 State BOUNDARIES to indicate the area of responsibility for the company and each rifle platoon. 2.3.1-2.4.1 State COORDINATING POINTS are used to indicate the general trace of the FEBA and the COP and to designate places on the ground where adjacent company commanders coordinate defensive plans to insure mutual support.

TAIS No. 2037

MODULE MOS-T

UNIT RPD

TEST ITEMS

TASK IDENTIFICATION: 2.0

TASK ELEMENTS: 2.1-2.4

CRITERION ITEM(S)	ENABLING ITEM(S)
2.1-2.4 What are the control measures and purposes used to establish coordination between units in the defense? a. COP - to initiate conduct of the defense b. Release point - to release control of a subordinate unit to its commander by a higher commander *c. Boundaries - to indicate area of responsibility *d. Coordination points - to indicate the general trace of the FEBA and the COP; and points on the ground where adjacent commander coordinate defensive plans to insure mutual support (c, d)	2.1.1-2.2.1 What control measure has as its purpose to indicate area of responsibility? (Boundaries) 2.3.1 2.4.1 What control measure has as its purpose to indicate the general trace of the FEBA and the COP; and points on the ground where adjacent commanders coordinate defensive plans to insure mutual support? (Coordination Points)

TAIS No. 2038

MODULE MOS-T

UNIT RPD

TRAINING ANALYSIS INFORMATION SHEET

1. TASK IDENTIFICATION: 3.0

2. TASK: Identify the proper actions for conduct of the defense during daylight

3. CONDITIONS: Given tactical situations concerning the proper defensive actions, provide the proper responses.

4. STANDARD: No errors

5. TASK ANALYSIS:

TASK ELEMENTS	PREREQUISITE KNOWLEDGE OR SKILL REQUIREMENTS	SUPPLEMENTAL TRAINING MATERIAL	REFERENCES
3.1 Identify when rate of fire increases	3.1 None	None	1. FM 7-10 para 4-17 pgs 4-14
3.2 Identify when enemy is pursued	3.2 None		2. Six Roads To Success Vol III para 4-17 pg 47
3.3 Identify when to call for FPF	3.3 None		
3.4 Identify when to move Reserve platoon	3.4 None		
3.5 Identify when to use every means to repel enemy	3.5 None		
3.6 Identify when to adjust defenses	3.6 None		

TAIS No. 2038

MODULE MOS-T

UNIT RPD

CRITERION AND ENABLING OBJECTIVES

TASK IDENTIFICATION: 3.0

TASK ELEMENTS: 3.1-3.6

CRITERION OBJECTIVE(S)	ENABLING OBJECTIVE(S)
3.1-3.6 The student is able to identify the proper actions for conduct of the defense during daylight as being: a. As the enemy approaches the FEBA, the rate of fire increases b. Once the attack is stopped, the enemy is pursued using all available fire c. The platoon leader calls for his FPF, if the enemy continues his advance through the close defensive fires d. If it appears that a penetration of the FEBA is probable, the company commander may move the reserve platoon to supplementary positions to block penetrations e. If the enemy assault reaches the defensive positions, repel him using every means available f. If a platoon area is penetrated or if it is threatened from the flanks or rear, the platoon leader may adjust his defenses by moving men and weapons from the least engaged area into supplementary positions to meet the threat	

TAIS No. 2038

MODULE MOS-T

UNIT RPD

TEST ITEMS

TASK IDENTIFICATION: 3.0

TASK ELEMENTS: 3.1-3.6

CRITERION ITEM(S)	ENABLING ITEM(S)
3.1-3.6 What are the proper defensive actions for conduct of the defense during daylight? a. As the enemy approaches the COP, call for FPF b. If the enemy assault reaches the defensive positions, initiate withdrawal actions c. If it appears that a penetration of the FEBA is probable, reconnaissance patrols may be assigned to determine the enemy's strength * d. As the enemy approaches the FEBA, the rate of fire increases * e. Once the attack is stopped, the enemy is pursued using all available fire * f. The platoon leader calls for his FPF, if the enemy continues his advance through the close defensive fires * g. If it appears that a penetration of the FEBA is probable, the company commander may move the reserve platoon to supplementary positions to block penetrations * h. If the enemy assault reaches the defensive positions, repel him using every means available	

TAIS No. 2038

MODULE MOS-T

UNIT RPD

TEST ITEMS

TASK IDENTIFICATION: 3.0

TASK ELEMENTS: 3.1-3.6

CRITERION ITEM(S)	ENABLING ITEM(S)
* i. If a platoon area is penetrated or if it is threatened from the flanks or rear, the platoon leader may adjust his defenses by moving men and weapons from the least engaged area into supplementary positions to meet the threat (d, e, f, g, h, i)	

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APPENDIX C

REVIEW INSTRUCTIONS AND RATING MATERIALS FOR MOS AI TRAINING ANALYSIS RESULTS

APPENDIX CONTENTS

This Appendix contains sample instructions and rating sheets that were developed by SDC for use by subject matter experts from The Infantry School, Fort Benning, Georgia in performing a review of the SDC MOS AI Training Analysis Results.

Although duplication of some instructions occurred, two independent sets of instructions and rating sheets were prepared to facilitate the review of the two major areas of the MOS AI Training Analysis Results. One set of instructions and rating sheets pertained to Crew Served Weapons materials, and a second to Tactics materials. However, to reduce redundance only a single example of instructions that were included in each of the above sets is included in this Appendix. Specifically,

Figure No.	Title	Page
C-1	Instructions for review of Working Paper--Automated Instruction Training Analysis Results (Applies to Crew Served Weapons and Tactics).	4
C-2	Background Data Information Sheet, Subject Matter Experts, TIS (Applies to Crew Served Weapons and Tactics).	5
C-3	Instruction Sheet for Ranking Subject Matter Area--Crew Served Weapons	6
C-4	Instruction Sheet for Ranking Subject Matter Areas--Tactics	7
C-5	Subject Matter Areas Rating Sheet--Crew Served Weapons	8-9
C-6	Subject Matter Areas Rating Sheet-Tactics	10-12
C-7	Instructions for Ranking Crew Served Weapons	13
C-8	Instructions for Ranking Tactics Areas	14
C-9	Instructions for Review of Training Analysis Data (Applies to Crew Served Weapons and Tactics).	

INTRODUCTION

We are working on a project to determine the feasibility of using Army Tactical Computers for training and education. As part of this project we are developing automated instruction courses. These courses are aimed at preparing 11B40s to take the MOS Proficiency Tests.

In the amount of computer time on-console we have, we cannot cover everything that should be in these courses, so we are trying to determine those areas which are of value to 11B40 personnel in preparing for the MOS Proficiency Tests. Consequently, we are asking you, in PART 1, to evaluate each area in terms of the scale furnished.

In PART 2, we are trying to determine which subjects should be given priority for inclusion. Consequently, we are asking you to rank order the subjects.

In PART 3, training analysis data has been developed which consists of: (1) breakdown of subject areas and task statements, (2) the Training Analysis Information Sheets (TAISs), (3) the Criterion and Enabling Objectives, and (4) the Test Items. These are for those tasks which can be reasonably implemented in a CAI mode of presentation. We are asking you to review these materials for coverage and adequacy.

A set of directions for each part is included. Please record your comments on the pages where they apply. Also, if you have suggestions or ideas which occur to you as you go through the material, please record these where they apply. Use the back of the page if you need to.

Plans are for the training analysts developing the automated instruction courses to meet with you in the near future and discuss the subject matter which should be included.

Before you start, please fill out the next sheet showing your name and other data. On subsequent sheets, when you come to them, please fill in your name where indicated.

Figure C-1. Instruction for Review of Working Paper--Automated Instruction Training Analysis Results.

1. _____ 2. _____
Name Social Security No.

3. _____ 4. _____
Rank Organization

5. _____ 6. _____
Primary MOS Duty MOS

7. _____
What is your current job title and what do you do?

_____

_____

_____

8. Weapons qualified on (fired for record):

Cal .50 Machine Gun _____ Rating _____

M60 Machine Gun _____ Rating _____

M72A2 Rocket (LAW) _____ Rating _____

Rifle 90MM _____ Rating _____

Figure C-2. Background Data Information Sheet, Subject Matter Experts, TIS.

Name

PART 1. DETERMINING THE IMPORTANCE OF SUBJECT MATTER AREAS

Enclosed is a breakdown for each weapon. Please indicate whether coverage of each of the items would be of value to 11B40 personnel in an automated instruction course given on the computer. The descriptions for each of the four values are:

1. Must be included
2. Should be included
3. Borderline
4. Minimum value

Place a 1, 2, 3, or 4 on the line (e.g., 2) to the left of each item. Evaluate each item by itself and do not relate one item to another item.

Figure C-3. Instruction Sheet for Ranking Subject Matter Areas--Crew Served Weapons.

Name

PART 1. DETERMINING THE IMPORTANCE OF SUBJECT MATTER AREAS

Enclosed is a breakdown for Tactics. Please indicate whether coverage of each of the items would be of value to 11B40 personnel in an automated instruction course given on the computer. The descriptions for each of the four values are:

1. Must be included
2. Should be included
3. Borderline
4. Minimum value

Place a 1, 2, 3, or 4 on the line (e.g., 2) to the left of each item. Evaluate each item by itself and do not relate one item to another item.

Figure C-4. Instruction Sheet for Ranking Subject Matter Areas--Tactics.

MOS CREW SERVED WEAPONS

M72A2 LAW

___ Characteristics
___ Component Parts
___ Capabilities/Limitations
___ Inspection
___ Prepare for Fire
___ Backblast Area
___ Aiming
___ Firing Positions
___ Malfunctions and Immediate Action
___ Restore to Carry Configuration
___ Decontamination
___ Destruction

90MM Recoilless Rifle

___ Characteristics
___ Component Parts
___ Disassembly/Assembly
___ Ammunition
___ Firing Positions
___ Backblast Area
___ Rates of Fire
___ Boresight Techniques
___ Misfire Procedures
___ Techniques of Fire
___ Fire Adjustment
___ Mechanical Training
___ Maintenance
___ Lubrication
___ Gun Crew Responsibility
___ Decontamination/Destruction

Figure C-5. Subject Matter Areas Rating Sheet--Crew Served Weapons. (Sheet 1 of 2)

MOS CREW SERVED WEAPONS

M60 Machinegun

___ Characteristics
___ Nomenclature
___ Disassemble
___ Assemble
___ Maintenance
___ Cycle of Function
___ Malfunctions
___ Stoppages
___ Characteristics of Fire
___ Classes of Fire
___ Laying the Gun
___ Range Cards

Caliber .50 Machinegun

___ Target Designation
___ Target Engagement
___ Characteristics
___ Disassemble
___ Assemble
___ Headspace and Timing
___ Operation
___ Functioning
___ Malfunctions and Immediate Action
___ Maintenance

Adjustment of Indirect Fire

___ Target Location
___ Call for Fire
___ Adjust Fire
___ Mortar Employment
___ Forward Observer

Figure C-5. Subject Matter Areas Rating Sheet--Crew Served Weapons. (Sheet 2 of 2)

TACTICS

Individual Combat Training

___ General
___ Day and Night Combat
___ Day Combat
___ Night Combat
___ Night Vision

Individual Skills and Knowledge

___ Introduction
___ Range Determination
___ Characteristics of Rifle, Automatic Rifle and Grenade Launcher Fire

Squad Combat Formations

___ General
___ Dismounted Squad Formations

Squad Battle Drill

___ General
___ Squad Teams
___ Fire Support Element
___ Maneuver Element
___ Squad Battle Drill
___ Battle Drill from Squad Column (Fire Teams Abreast)
___ Considerations of the Squad Leader

Rifle Squad in the Attack

___ Introduction
___ Daylight Attack
___ Night Attack
___ Assault Techniques (Day and Night)
___ Sniper Detection and Engagement

Figure C-6. Subject Matter Areas Rating Sheet--Tactics. (Sheet 1 of 3)

TACTICS

Rifle Squad in Defense

___ Introduction
___ Rifle Squad Defensive Positions
___ Day Defensive Positions
___ Limited Visibility Defense
___ Aerial Target Engagement
___ Fundamentals of Defense

Patrolling

___ Patrol Planning and Preparation
___ Conduct of Patrols
___ Raid Patrols
___ Ambush and Ambush Patrols
___ Use of Scout Dogs with Patrols

Platoon Combat Formations

___ Dismounted Platoon Formations

Rifle Platoon in the Attack

___ Introduction
___ Planning the Attack
___ Conduct of the Attack
___ Employment of Attached Tanks
___ Mechanized Infantry Rifle Company in the Attack
___ Night Attacks
___ Infiltration
___ Movement to Contact
___ Reserve Role

Figure C-6. Subject Matter Areas Rating Sheet--Tactics. (Sheet 2 of 3)

TACTICS

Rifle Platoon in Defense

___ Introduction
___ Planning the Defense
___ Conduct of the Defense
___ Perimeter Defense
___ Reverse Slope Defense
___ Combat Outpost
___ Rifle Company in the Reserve Role

Retrograde Movement

___ Introduction
___ Withdrawal
___ Delaying Actions
___ Retirement

Figure C-6. Subject Matter Areas Rating Sheet-Tactics. (Sheet 3 of 3)

Name

PART 2. RANKING THE WEAPONS

It may be that all five weapons cannot be included in the amount of time scheduled for the course. We would like to know which ones should be. To do this, we would like you to rank the weapons. Put a 1 on your first choice to be included; a 2, on the second; a 3, for the third; a 4, for the fourth, and a 5, for the last one to be included. (Note: If you can't choose between two weapons, give them both the same number.)

CREW SERVED WEAPONS

___ M72A2 LAW

___ 90MM Rifle

___ M60 Machine Gun

___ Caliber .50 Machine Gun

___ Adjustment of Indirect Fire

Figure C-7. Instructions for Ranking Crew Served Weapons.

Name _____

PART 2. RANKING THE TACTICS AREAS

It may be that all tactics areas cannot be included in the amount of time scheduled for the course. We would like to know which ones should be. To do this, we would like to rank the tactics areas. Put a 1 on your first choice to be included; a 2, on the second; a 3, for the third; a 4, for the fourth, and so on through the eleven areas given. (Note: If you can't choose between two areas, give them both the same number.)

TACTICS

___ Individual Combat Training
___ Individual Skills and Knowledge
___ Squad Combat Formations
___ Squad Battle Drill
___ Rifle Squad in the Attack
___ Rifle Squad in Defense
___ Patrolling
___ Platoon Combat Formations
___ Rifle Platoon in the Attack
___ Rifle Platoon in Defense
___ Retrograde Movement

Figure C-8. Instructions for Ranking Tactics Areas.

Name

PART 3. TRAINING ANALYSIS DATA

PART 3 has an overview which is a breakdown of the general subject areas and general task/objective statements. This is followed by the training analysis data for each task which consists of: (1) the Training Analysis Information Sheets (TAISs), (2) the Criterion and Enabling Objectives, and (3) the Test Items. The header information at the top of each form identifies which of the three it is and the TAIS number in the upper left corner provides an audit trail between the three forms.

Would you generally review and comment on the training analysis data for coverage and adequacy, placing your comments on the sheets where they apply. Please note additional items that need to be included and where the nomenclature and wording is either not clear or needs to be improved.

Figure C-9. Instructions for Review of Training Analysis Data.

APPENDIX D

MOS AI COURSE ADJUNCT MATERIALS

APPENDIX CONTENTS

This Appendix contains the adjunct materials that were developed by SDC to support the Crew Served Weapons and Tactics AI materials. The figures for each course are numbered in ascending order, with those figures pertaining to a specific module being bound separately as handouts for student use. The contents of each of five handouts are itemized below.

CREW SERVED WEAPONS:

Module	Figure	Title
M72A2 LAW	1	M72A2 LAW
	2	M72A2 LAW Extended Position
	3	Backblast Area - M72A2 LAW
	4	M72A2 LAW - Closed Position
	5	Extending the M72A2 LAW
	6	Moving Safety Handle to ARM Position and Aiming Weapon
	7	M72A2 LAW - Front Sight
	8	Full and Half-Stadia Picture - M72A2 LAW
	9A	M72A2 LAW - Sight Picture
	9B	M72A2 LAW - Sight Picture
	9C	M72A2 LAW - Sight Picture
90MM Recoilless Rifle	10	90MM Recoilless Rifle Viewed from the Right and Left Side
	11	Backblast Area - 90MM Recoilless Rifle
	12	90MM Recoilless Rifle - Sight Reticle
	13	Determining Range
	14	Apparent Speed
	15	90MM Recoilless Rifle - Sight Pictures
	16	Burst-on-Target Method
M60 Machinegun	17	Areas Where Malfunctions Can Occur
	18	Sectors of Fire

TACTICS:

Squad Combat Formations	1	Rifle Squad Organization
	2	Squad Combat Formations
	3	Arm and Hand Signals (page 1 of 3)
	4	Arm and Hand Signals (page 2 of 3)
	5	Arm and Hand Signals (page 3 of 3)
	6	Squad Combat Formations and Signals
	7	Squad Combat Formations List
Squad Battle Drill	8	Command and Signals for Maneuvers

APPLICATION OF TACTICAL DATA SYSTEMS FOR TRAINING

MOS AI PACKAGE

Course: CREW SERVED WEAPONS
Module: M72A2 LAW

Off-Line Course Exhibits

System Development Corporation
20 July 1973

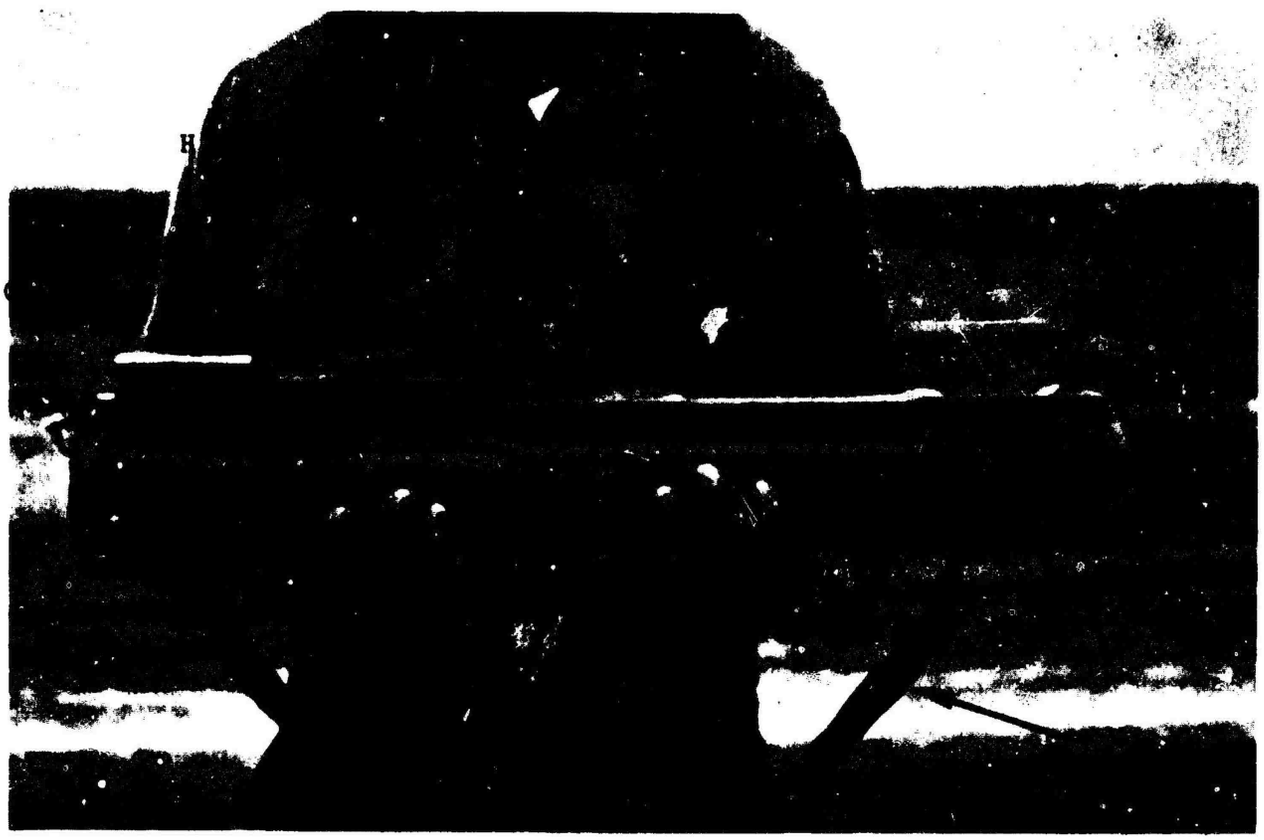


Figure 1. M72A2 LAW

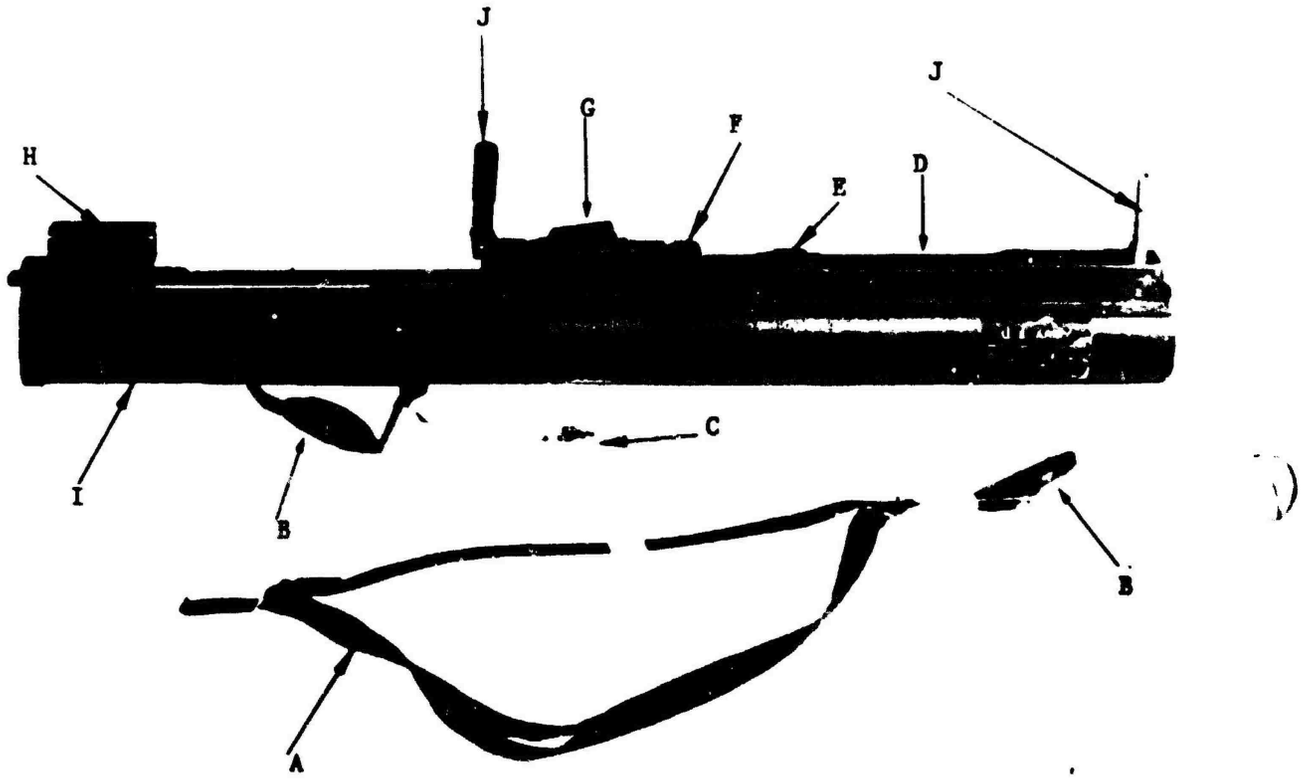


Figure 2. M72A2 LAW Extended Position

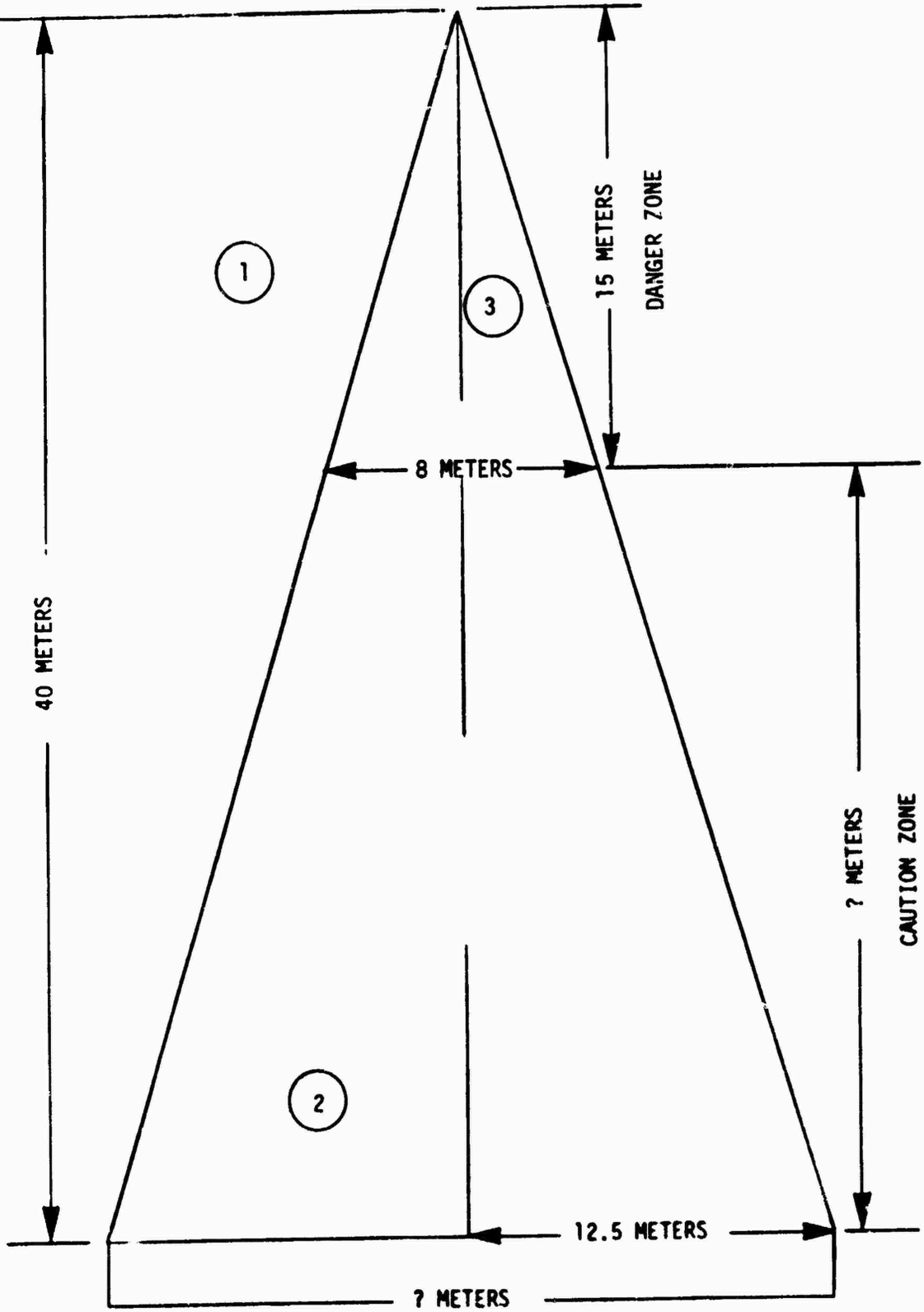


Figure 3. Backblast Area - M72A2 LAW

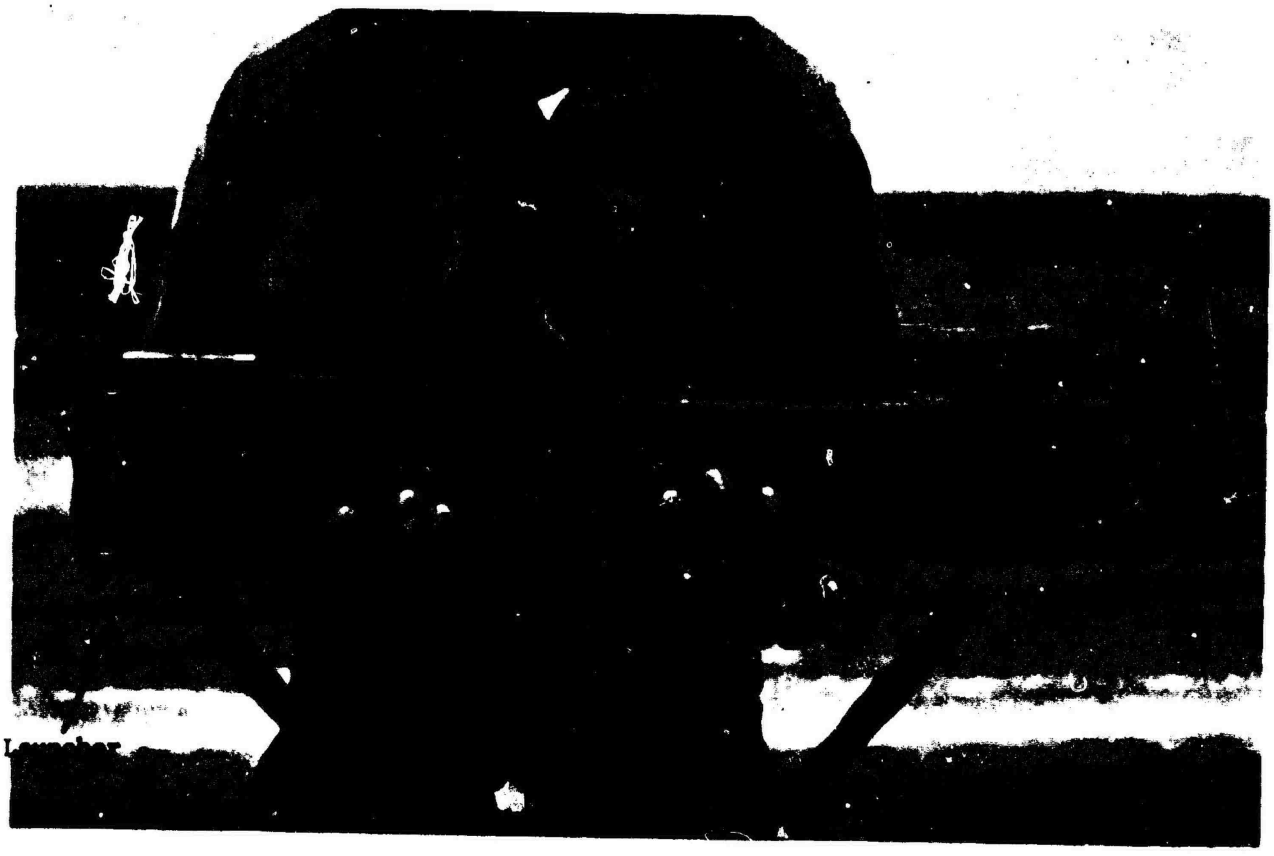


Figure 4. M72A2 LAW - Closed Position

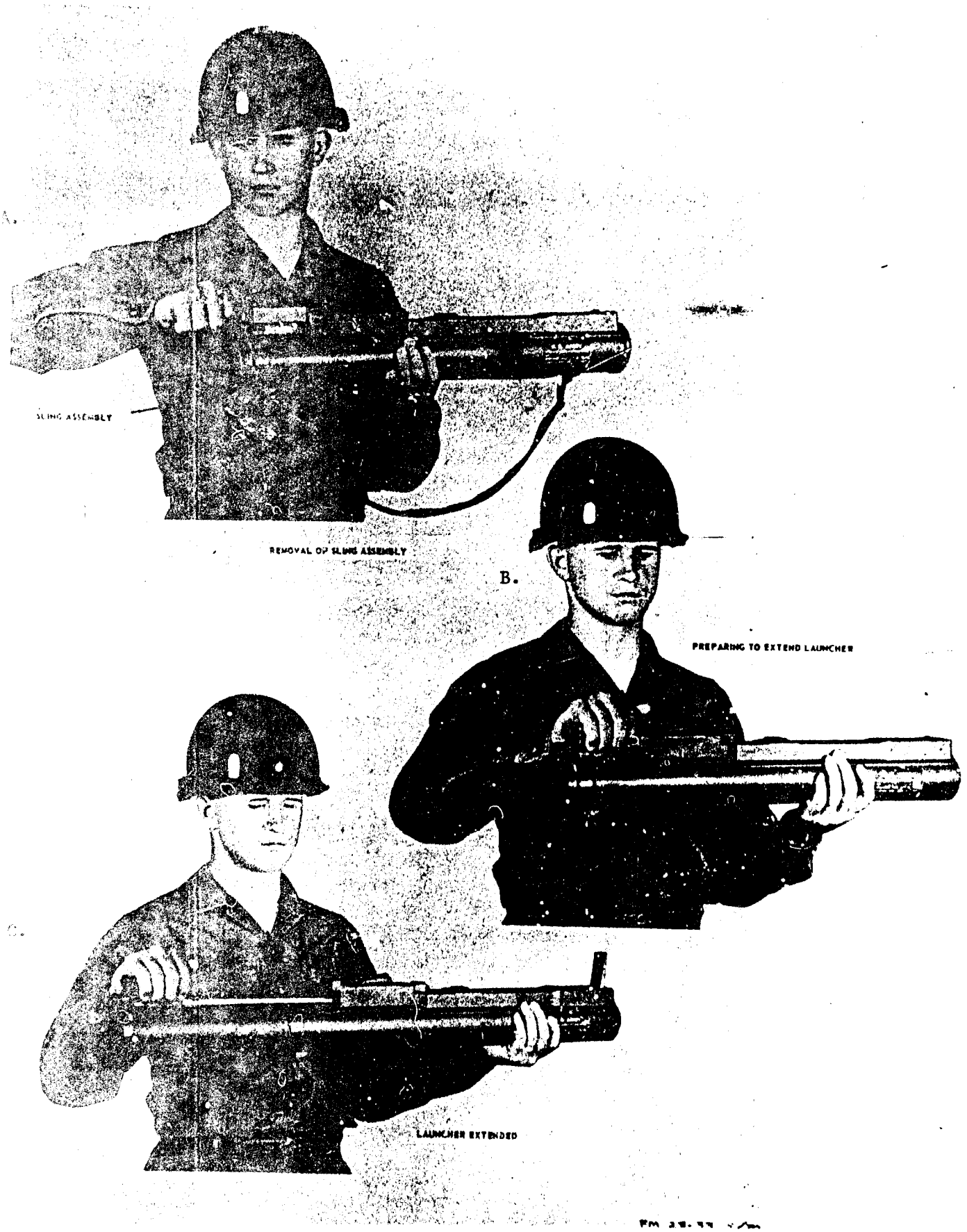


Figure 5. Extending the M72A2 LAW

BEST AVAILABLE COPY

A.



B.



Figure 6. Moving safety handle to ARM position and aiming weapon

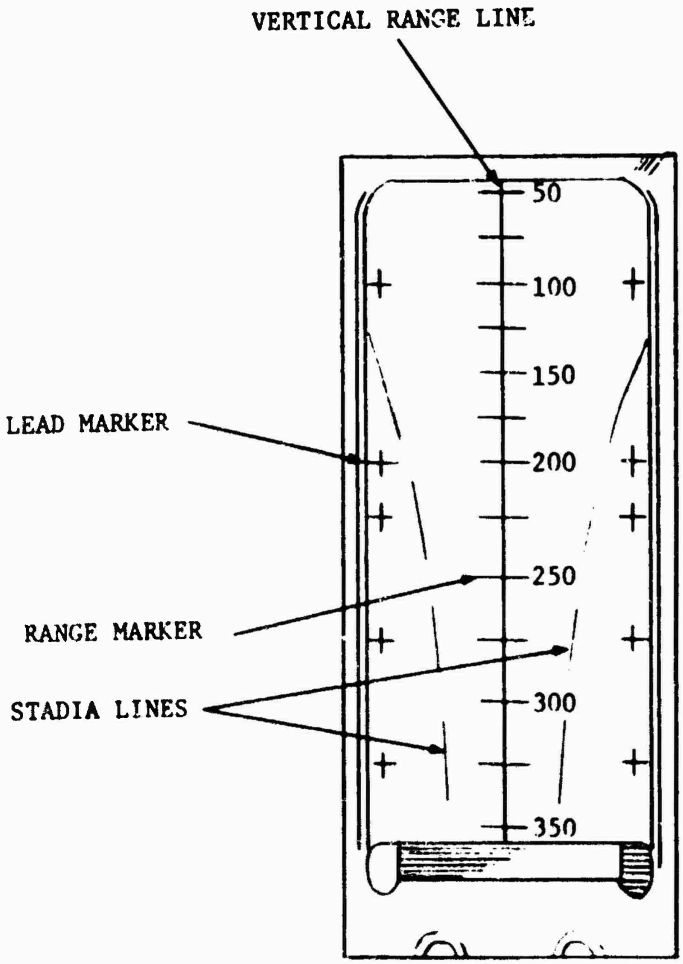


Figure 7. M72A2 LAW - Front Sight

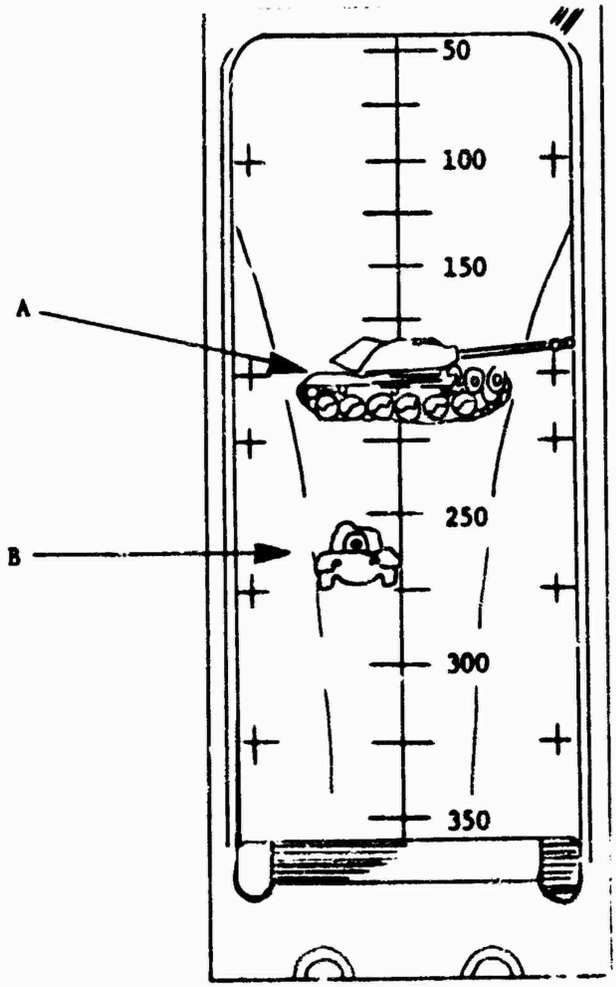


Figure 8. Full and Half-Stadia Picture - M72A2 LAW

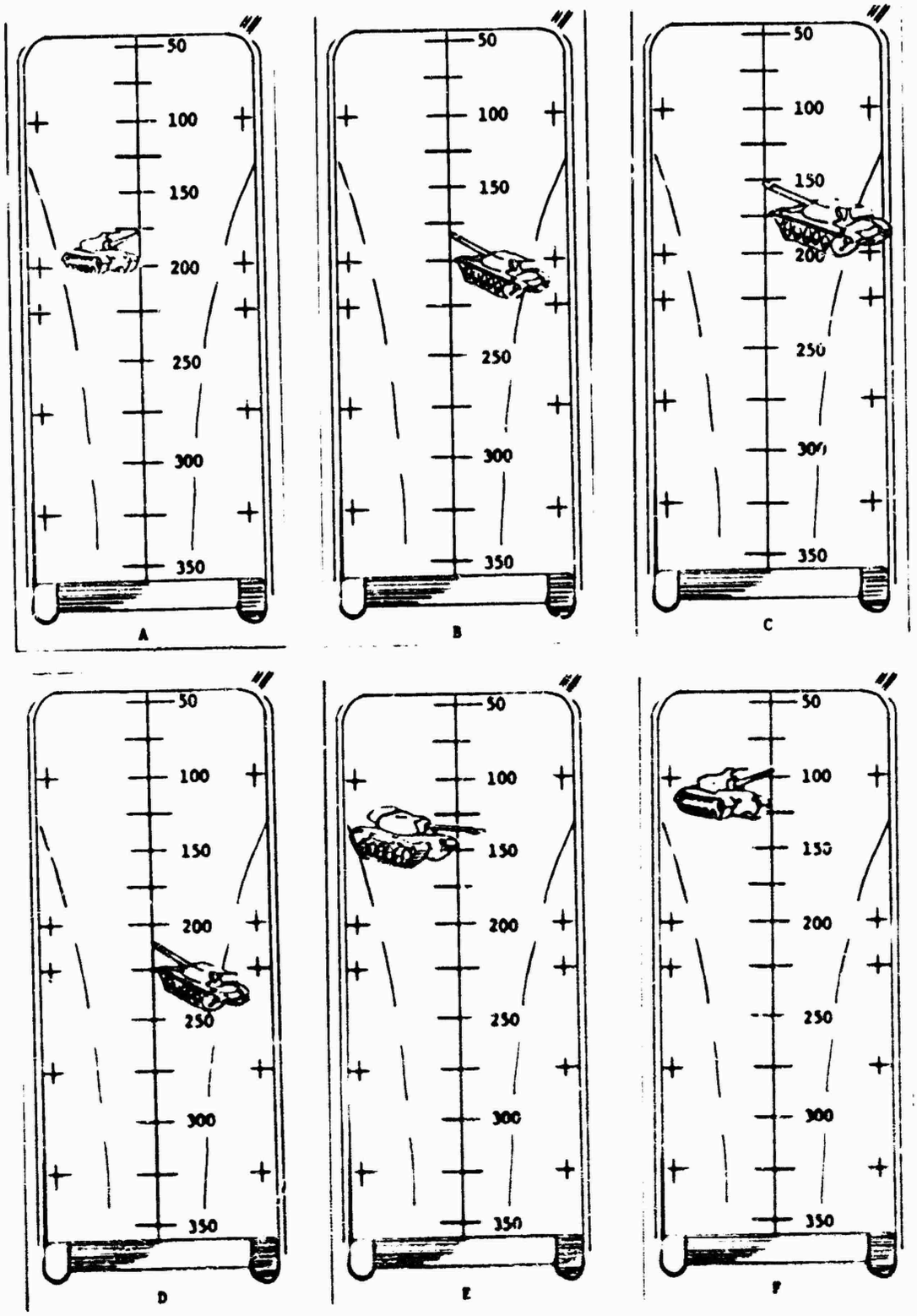


Figure 9A. M72A2 LAW - Sight Picture

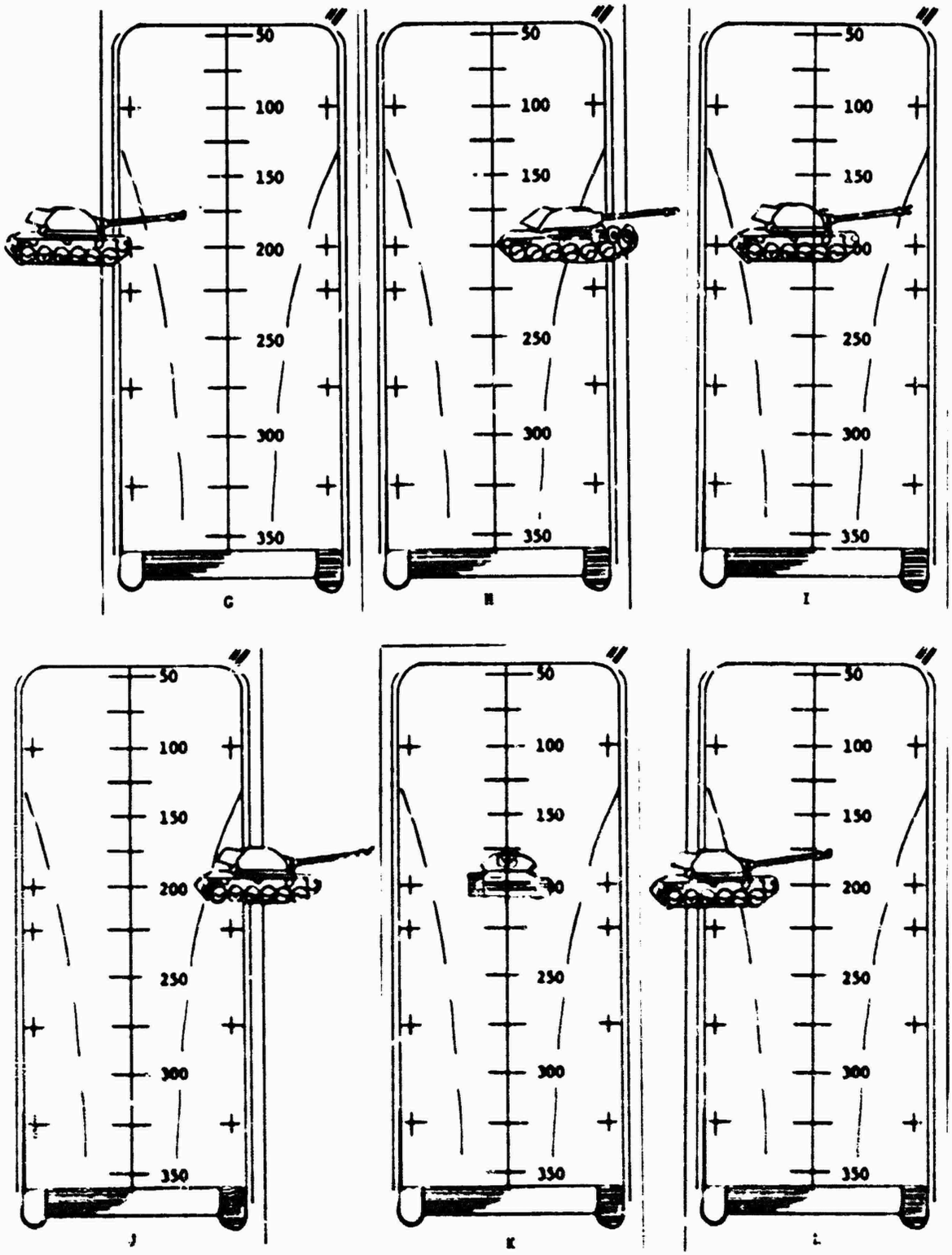


Figure 9B. M72A2 LAW - Sight Picture

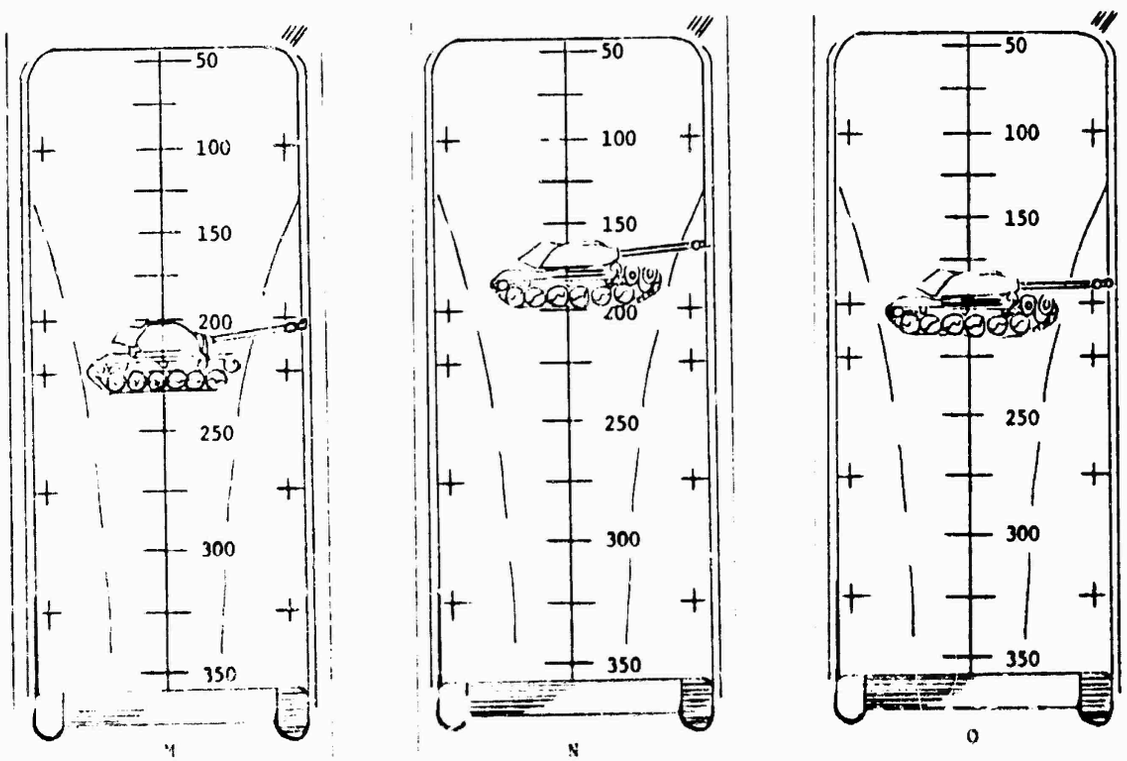


Figure 9C. M72A2 LAW - Sight Picture

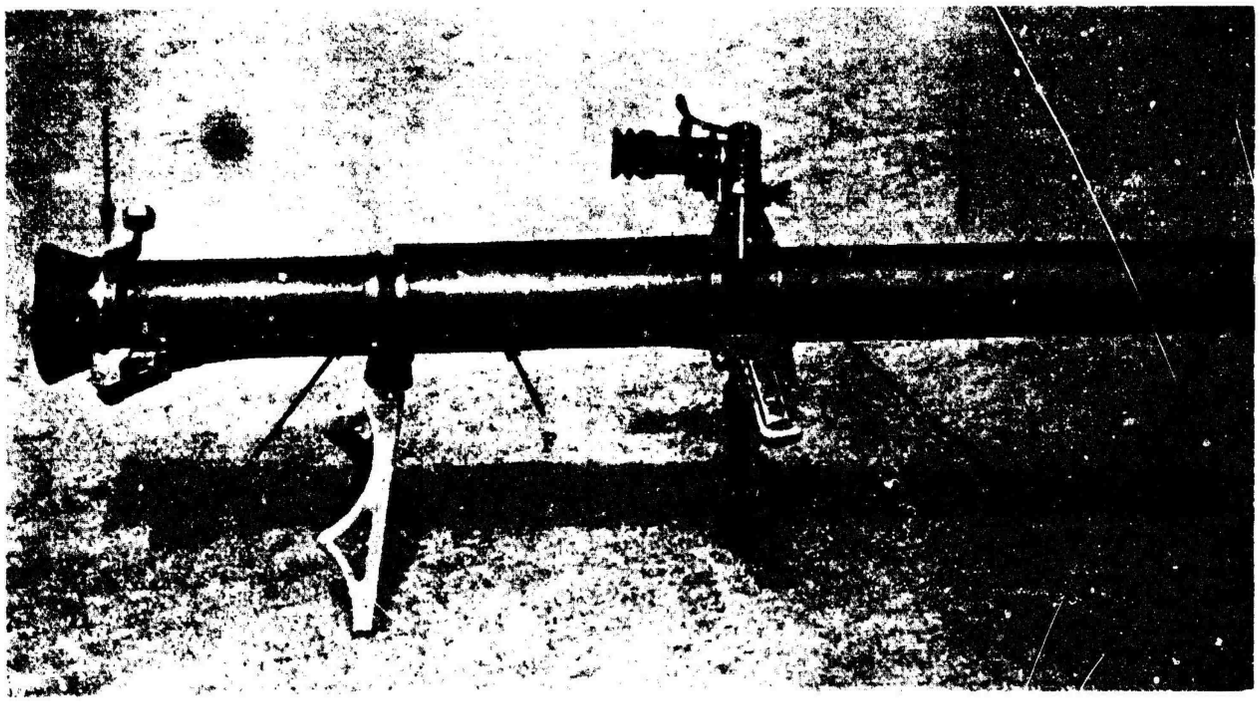
APPLICATION OF TACTICAL DATA SYSTEMS FOR TRAINING

MOS AI PACKAGE

Course: CREW SERVED WEAPONS
Module: 90MM Recoilless Rifle

Off-Line Course Exhibits

System Development Corporation
20 July 1973



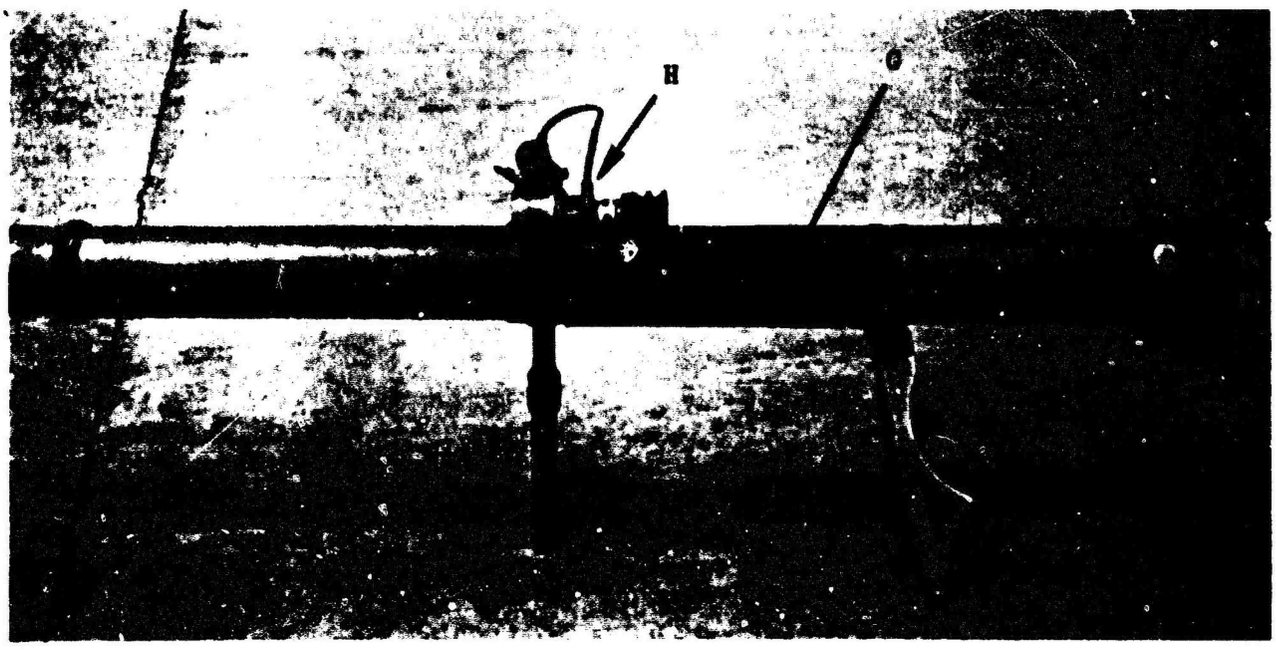


Figure 10. 90MM Recoilless Rifle Viewed From The Right and Left Side

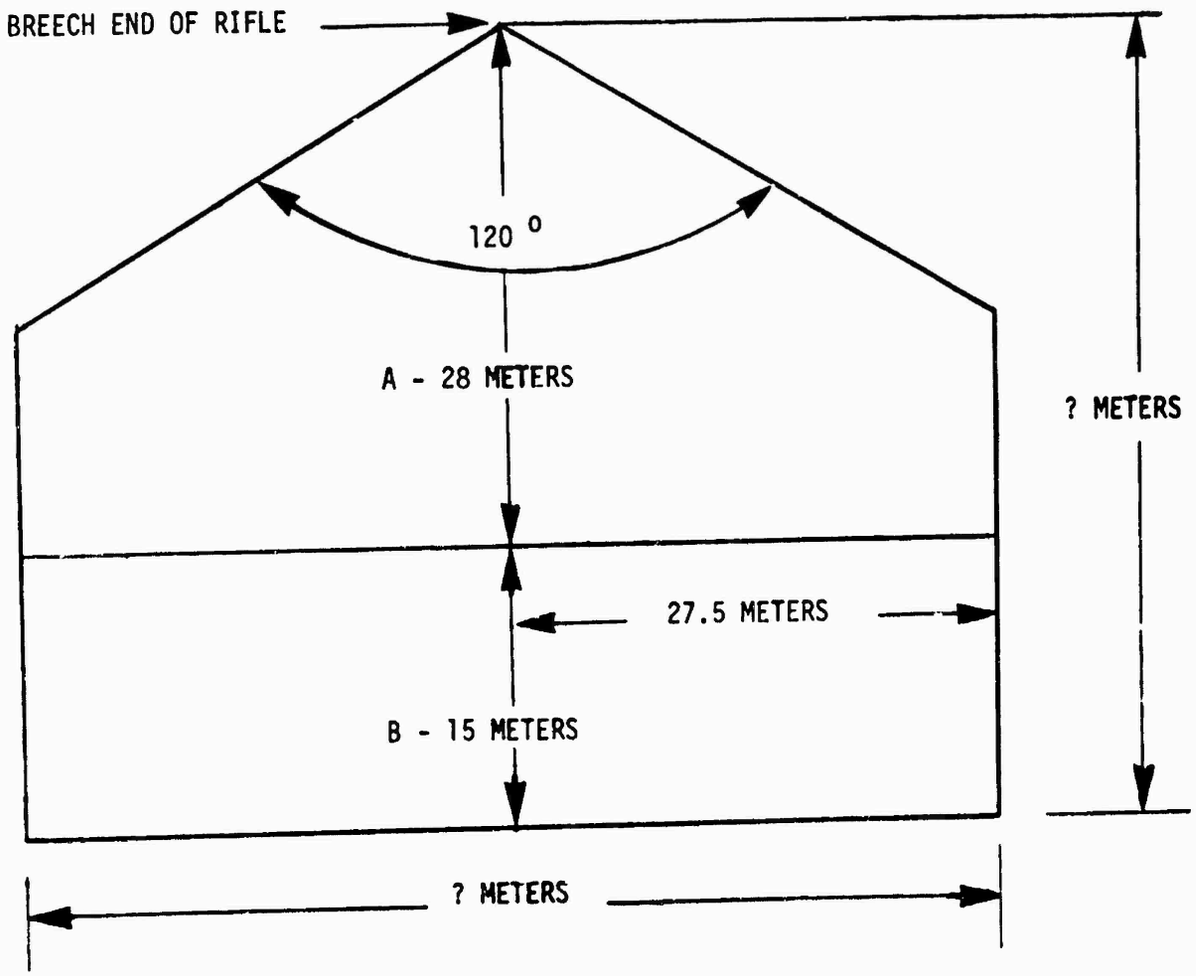


Figure 11. Backblast Area - 90MM Recoilless Rifle

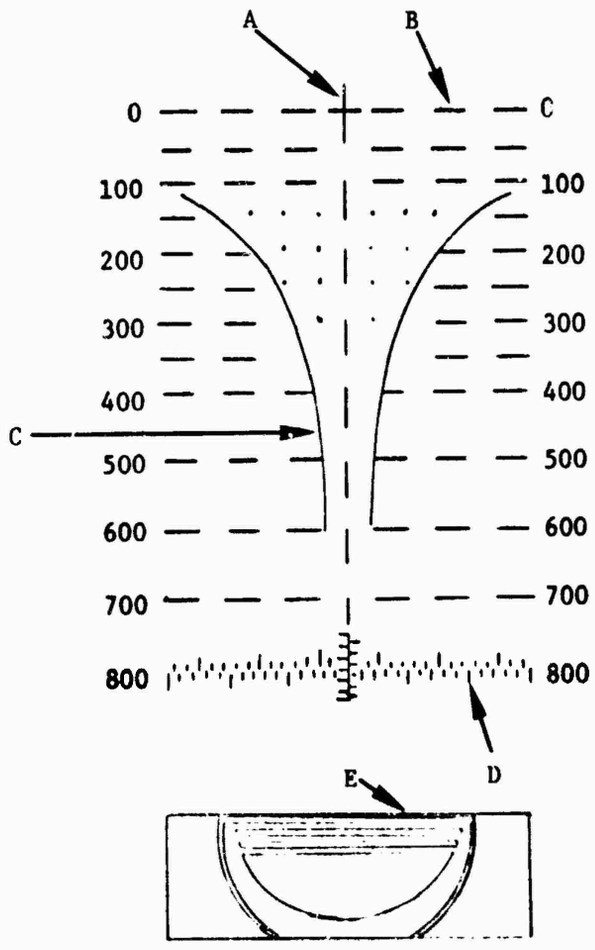


Figure 12. 90MM Recoilless Rifle-Sight Reticle

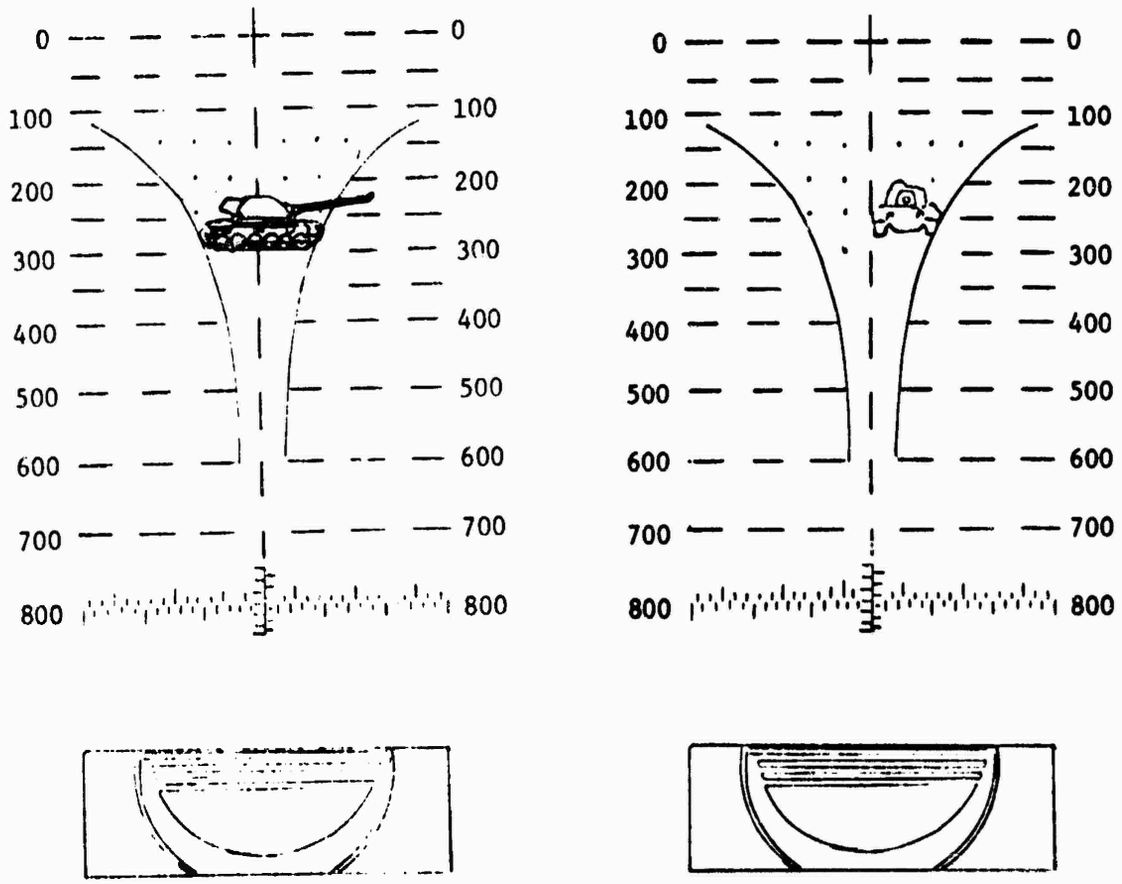


Figure 13. Determining Range

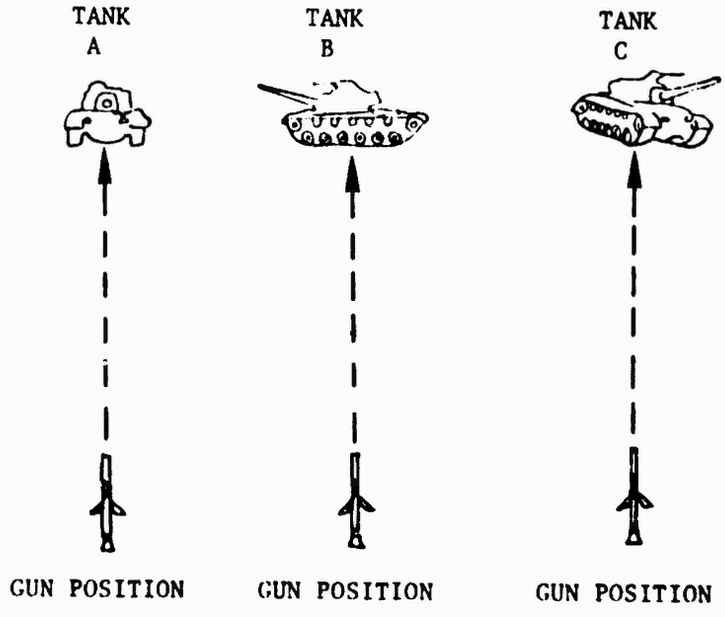


Figure 14. Apparent Speed

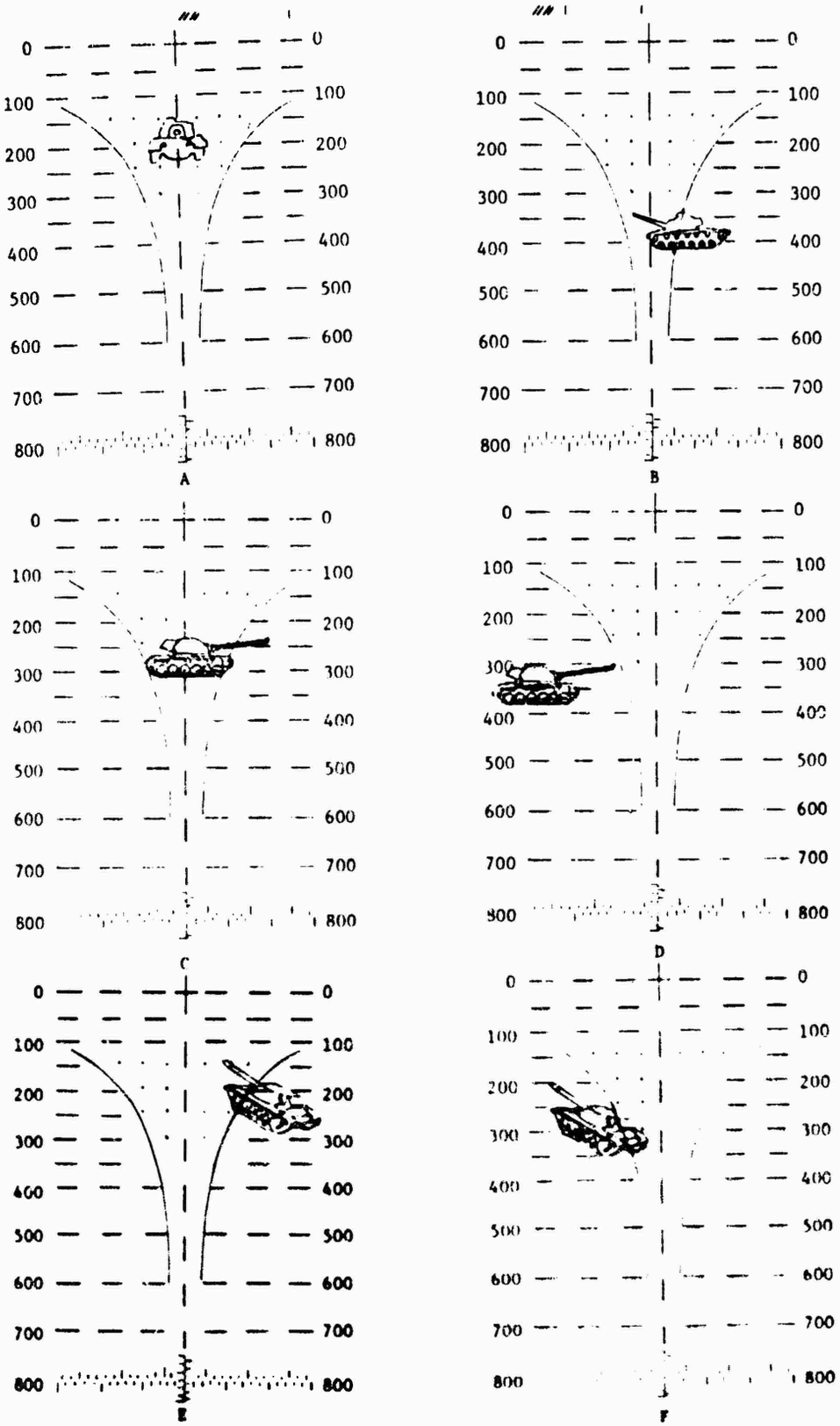


Figure 15. 90mm Recoilless Rifle - Sight Pictures

APPLICATION OF TACTICAL DATA SYSTEMS FOR TRAINING

MOS AI PACKAGE

Course: CREW SERVED WEAPONS
Module: M60 Machinegun

Off-Line Course Exhibits

System Development Corporation

20 July 1973

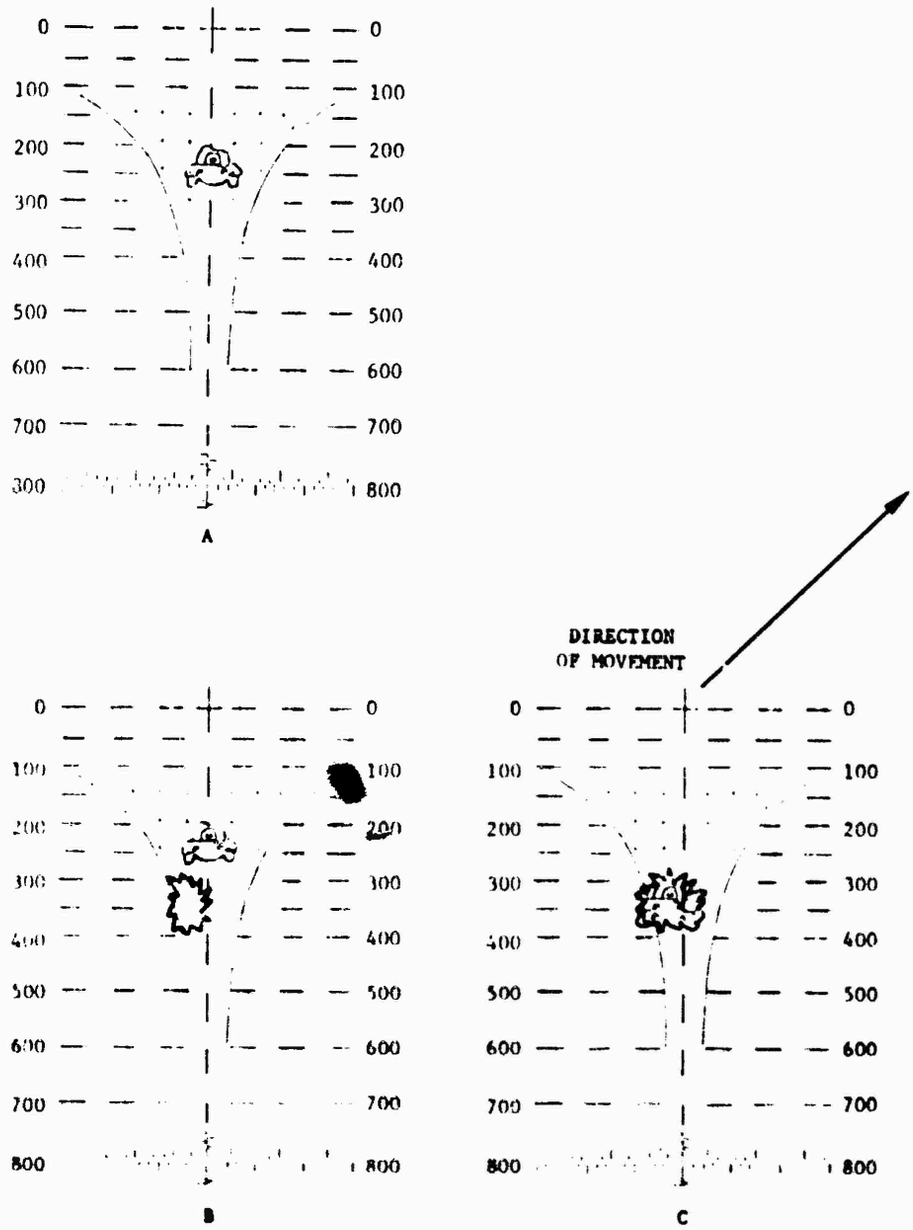
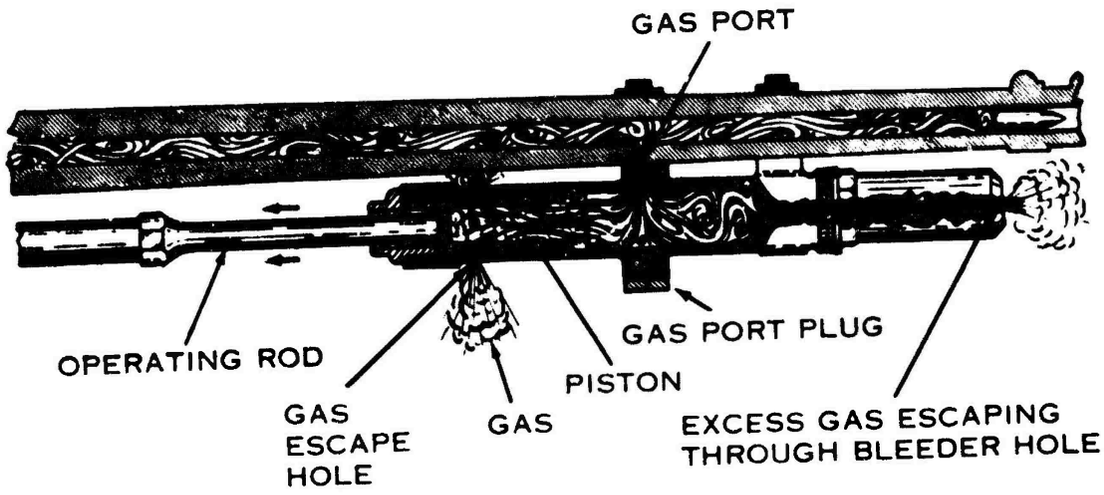
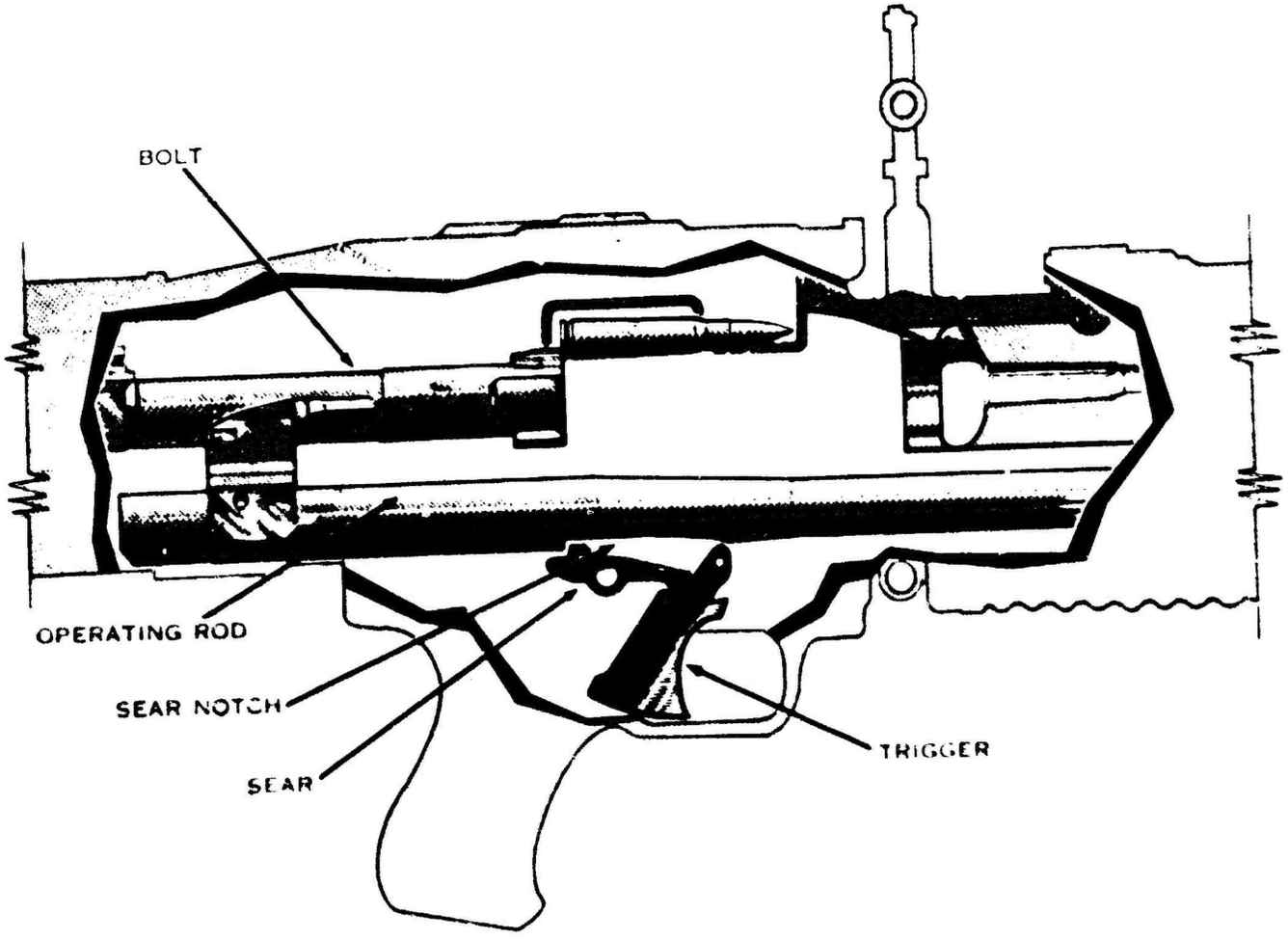


Figure 16. Burst-On-Target Method



A. Gas System



B. Sear Disengaging From Sear Notch

Figure 17 Areas Where Malfunctions Can Occur

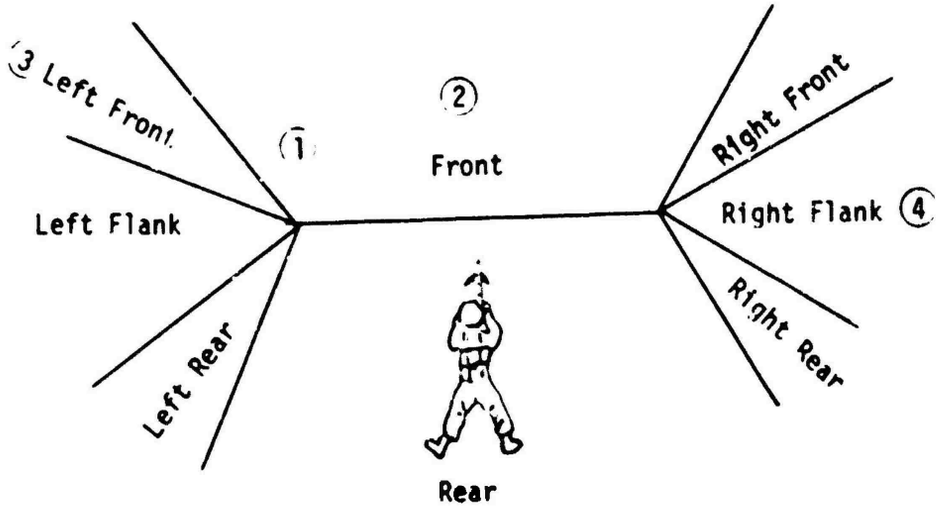


Figure 18. Sectors of Fire

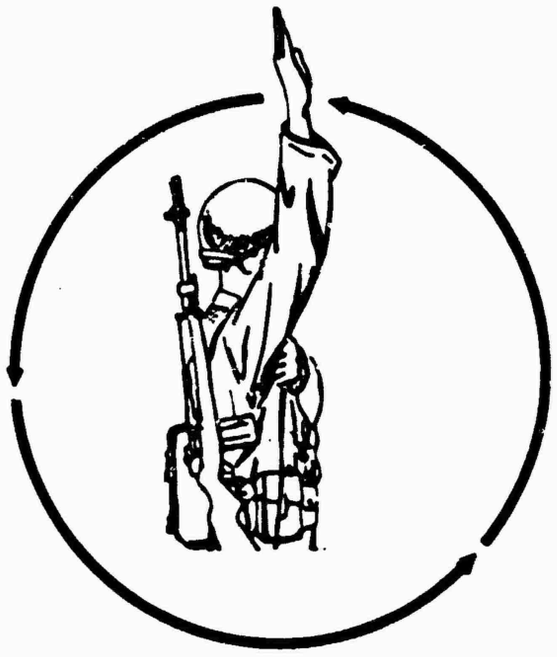
APPLICATION OF TACTICAL DATA SYSTEMS FOR TRAINING

MOS AI PACKAGE

Course: TACTICS
Module: Squad Combat Formations

Off-Line Course Exhibits

System Development Corporation
25 July 1973



C.

Figure 4. Arm and Hand Signals (page 2 of 3)

	Squad Member Title	Squad Member Initials
	Squad Leader	SL
ALPHA TEAM	Team Leader	TL
	Automatic Rifleman	AR
	Grenadier	G
	Rifleman	R
BRAVO TEAM	Team Leader	TL
	Automatic Rifleman	AR
	Grenadier	G
	Rifleman	R
	Rifleman	R

Figure 1. Rifle Squad Organization

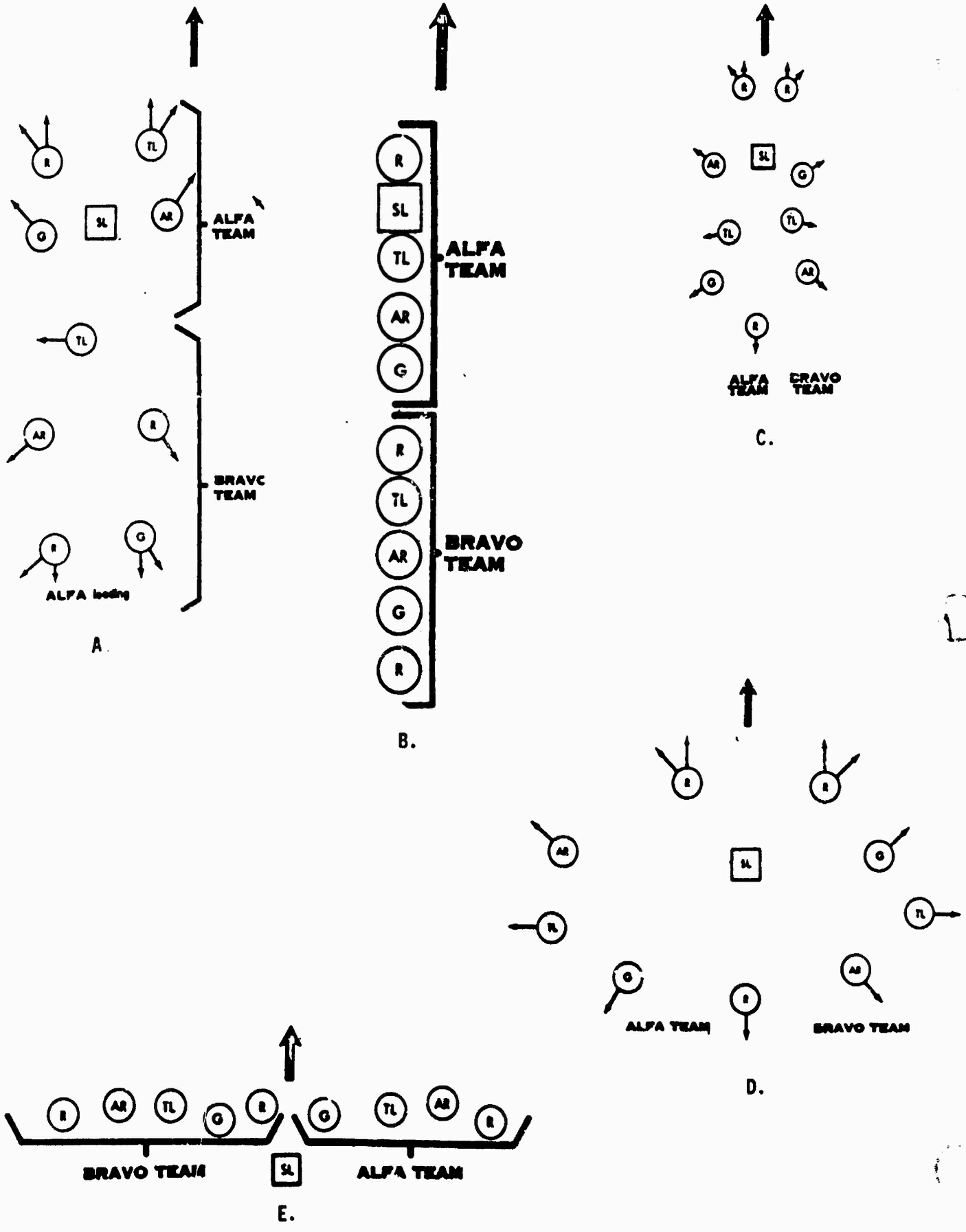
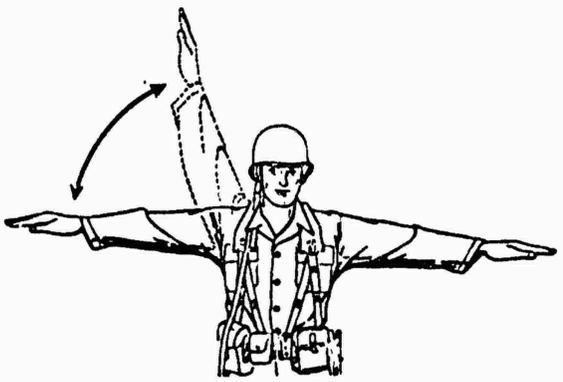
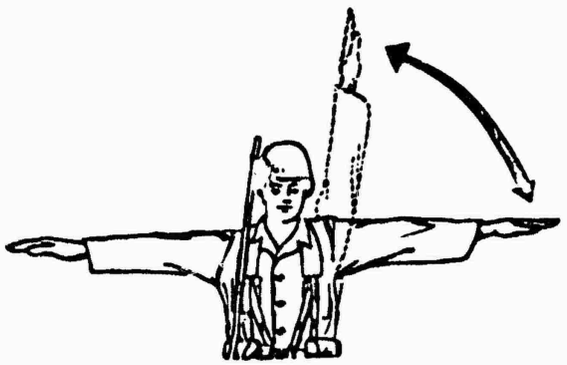


Figure 2. Squad Combat Formations

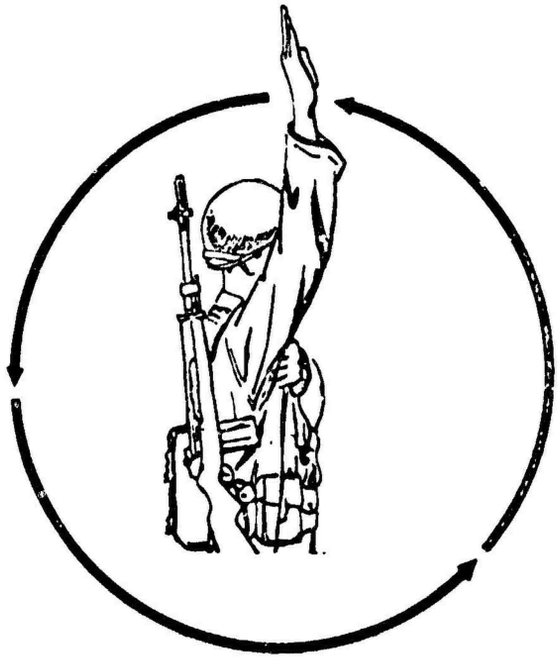


A.



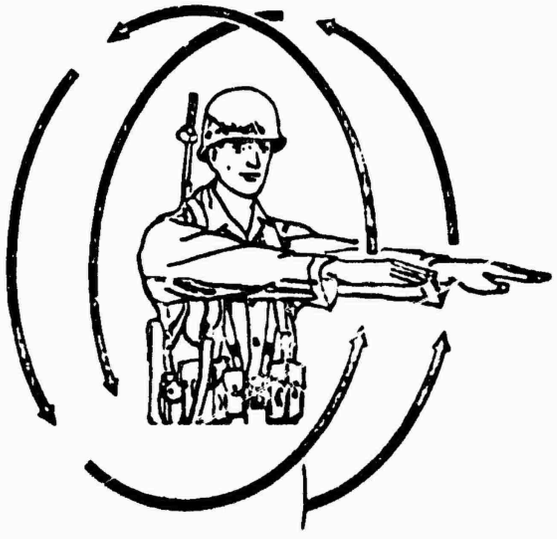
B.

Figure 3. Arm and Hand Signals (page 1 of 3)



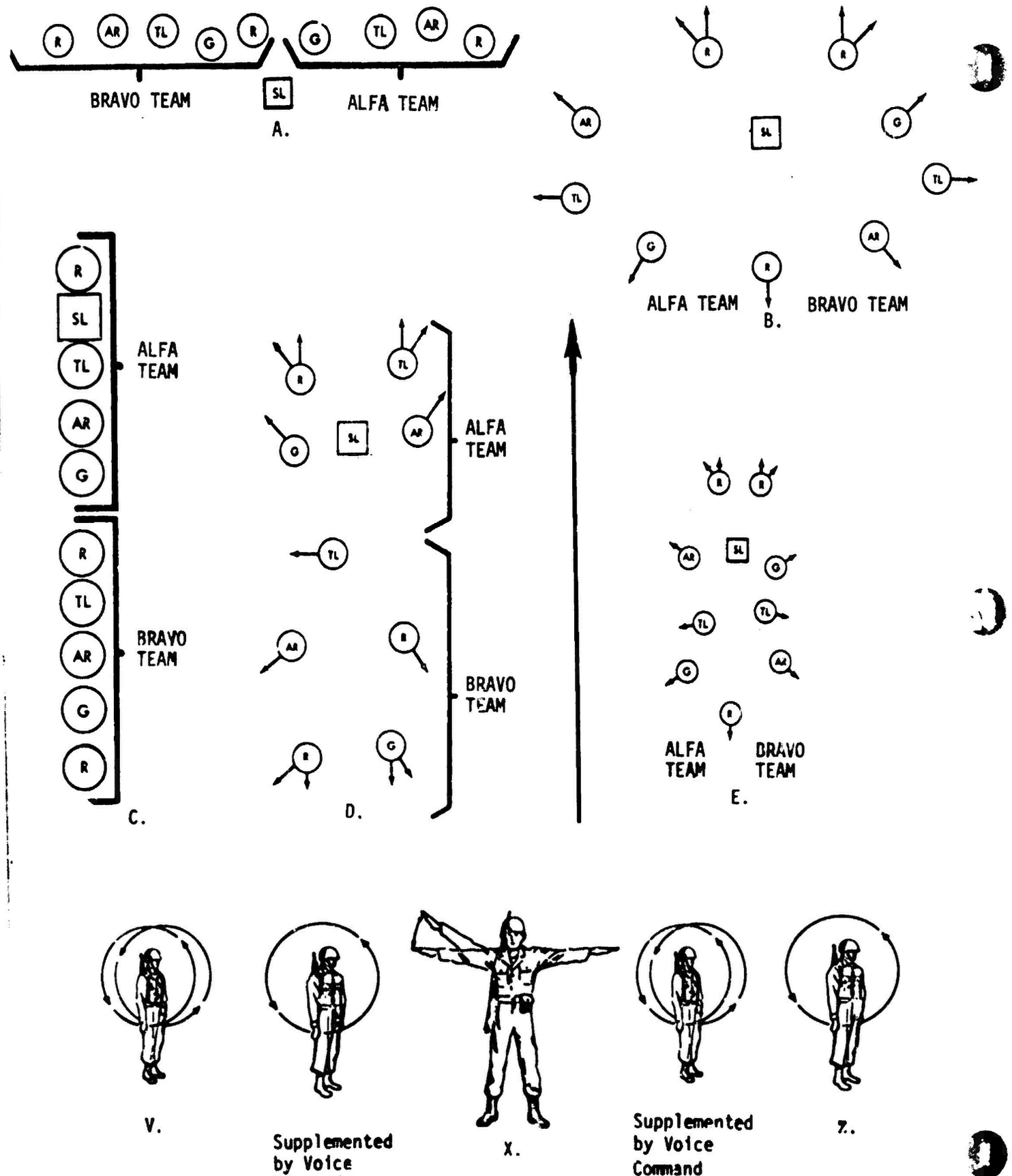
C.

Figure 4. Arm and Hand Signals (page 2 of 3)



D.

Figure 5. Arm and Hand Signals (page 3 of 3)



V. W. X. Y. Z.

Supplemented by Voice Command

Supplemented by Voice Command

Figure 6
Squad Combat Formations and Signals

A. Squad Line

B. Modified Squad Column, Fire Teams Abreast

C. Squad Box

D. Squad Diamond

E. Squad Column, Fire Teams In Column

F. Squad Column, Fire Teams Abreast

G. Squad Diamond, Fire Teams In Point

H. Squad File

Figure 7. Squad Combat Formations List

APPLICATION OF TACTICAL DATA SYSTEMS FOR TRAINING

MOS AI PACKAGE

Course: TACTICS
Module: Squad Battle Drill

Off-Line Course Exhibit

System Development Corporation
25 July 1973

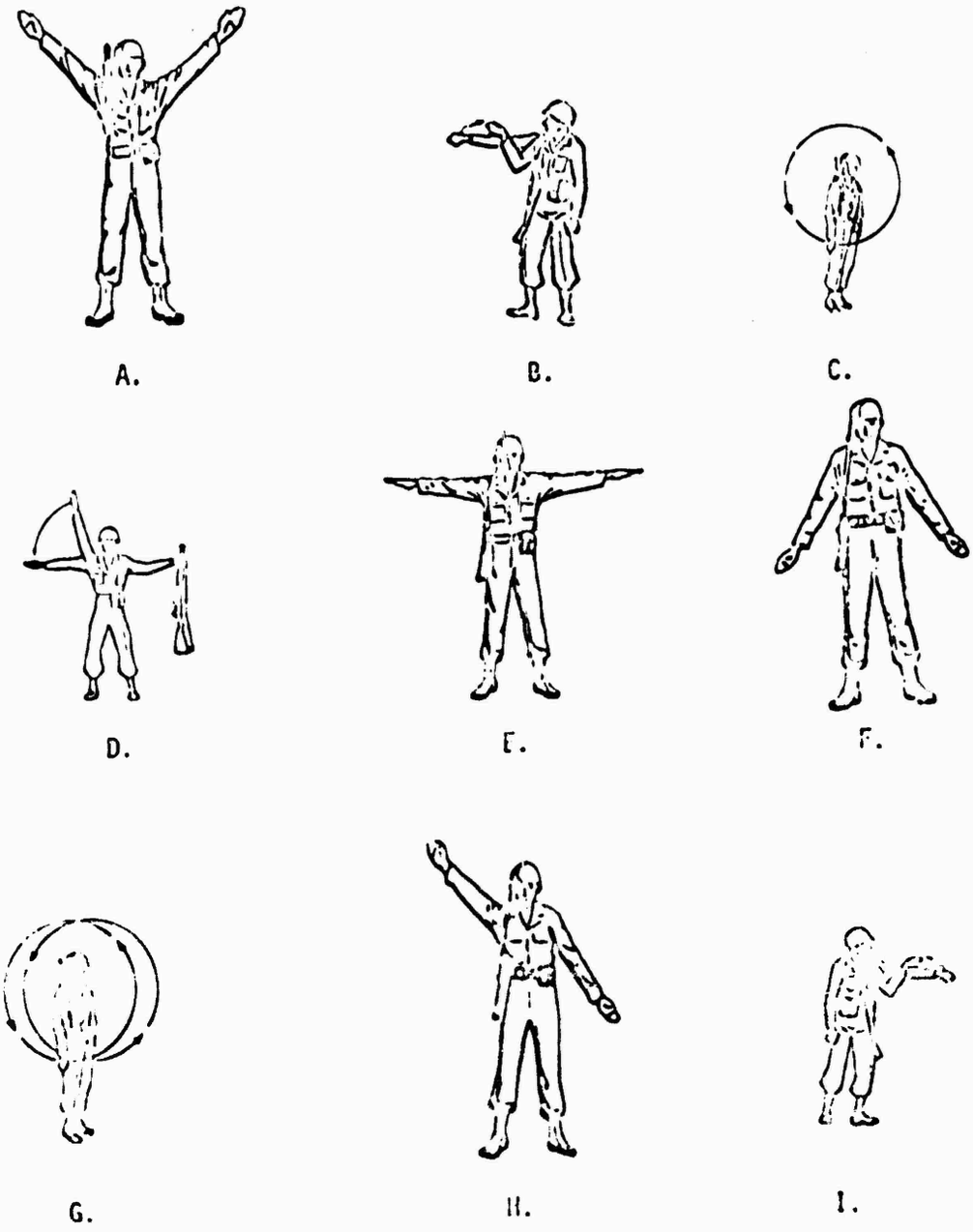


Figure 8. Command and Signals for Maneuvers

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APPENDIX E

INTRODUCTORY LESSON FOR THE AI GROUP

APPENDIX CONTENTS

This Appendix contains a listing of the introductory lesson that was developed to familiarize AI subjects with the types of questions being asked in the courses and the various methods of responding.

```
1 #00 0
2THIS IS AUTOMATED INSTRUCTION BROUGHT TO YOU BY
2THE U. S. ARMY RESEARCH INSTITUTE AND THE
2SYSTEM DEVELOPMENT CORPORATION. BEFORE WE BEGIN
2THERE ARE A FEW RULES OR CONVENTIONS TO LEARN SO
2THAT YOU CAN TALK TO THE COMPUTER WHICH WILL
2MONITOR YOUR PROGRESS. PROVIDE ADDITIONAL
2INSTRUCTION WHEN NECCESSARY AND KEEP TRACK OF HOW
2WELL YOU ARE DOING.
2YOU WILL SEE THE WORDS (TYPE #GO# TO CONTINUE)
2AT THE BOTTOM OF THE SCREEN. SIMPLY TYPE THE
2LETTERS #G# AND #O# (GO) ON YOUR KEYBOARD AND
2THEN PRESS THE BLACK KEY MARKED #SEND# ON THE TOP
2RIGHT SIDE OF THE KEYBOARD. PRESS IT ONLY ONCE.
2ALSO MAKE SURE YOU TYPE THE LETTER #O# NOT THE
2NUMBER #0# (ZERO).
2      (TYPE #GO# TO CONTINUE)
30 WAIT 45
3R GO
3A GO
4 CISET TOTEN CISET SAV=0 CISET SAV=TIME
4A FIFINE. HERE'S THE NEXT ITEM.
4B FIYOU TYPED LETTER #G#, NUMBER #0# (ZERO). TRY
4FIAND BE MORE CAREFUL WHEN YOU ARE TAKING THE
4FILESSONS.
4--FIPLEASE TYPE #GO# AND PRESS THE BUTTON
4MARKED #SEND# ON YOUR KEYBOARD.
1 2.0C M
2YOU WILL BE ASKED VARIOUS KINDS OF QUESTIONS
2THROUGHOUT YOUR COURSE. ONE OF THESE WILL BE
2MULTIPLE CHOICE QUESTIONS. HERE YOU ARE EXPECTED
2TO TYPE IN THE LETTER WHICH HAS THE RIGHT ANSWER
2AND PRESS THE SEND KEY. FOR THE FOLLOWING
2QUESTION, DO THIS.
2WHAT NUMBER COMES AFTER FOUR>
3  A. 3
3  B. 2
3  C. 5
3  D. 6
4A KIND. 3 COMES BEFORE 4. WHAT COMES AFTER 4>
4B KIND. TRY AGAIN.
4C RIGHT. LETS GO ON.
4END KIND. YOU SHOULD HAVE ENTERED THE
4FILLITEM #C# TO INDICATE THE ANSWER WAS.
1 3.0C
2ANOTHER TYPE QUESTION WILL GIVE YOU THE CHOICE OF
2ANSWERS IN PARENTHESES. LETS TAKE THE SAME
2QUESTION AND ASK IT LIKE THIS. THE NUMBER THAT
2COMES AFTER FOUR IS (THREE) (FIVE). HERE YOU ARE
2EXPECTED TO TYPE THE CORRECT ANSWER, THREE OR
2FIVE AND THEN PRESS THE SEND KEY. PLEASE DO
2THIS NOW.
3 GOTO
3M DOG.0
3.0.5
```

```
30 3
31.5
32 3
4A FIGREAT. LETS GO ON.
4ARC? F:YOU TYPED IN THE ANSWER O.K.. BUT NOT
4F:IPE RIGHT ONE. ENTER THE WORD THREE OR
4P:IFIVE THIS TIME.
4-F:PLEASE TYPE IN #THREE# OR #FIVE# AS YOUR
4R:RESPONSE. DO THIS NOW.
4C: F:YOU HAVE THE #RIGHT# NUMBER BUT WE WANTED
4F:YOU TO ENTER THE WORD--FIVE.
4-FIND. WE WANTED YOU TO ENTER THE WORD #FIVE#.
1 4.00 R
2THIS ONE IS MORE DIFFICULT TO DO. WE WILL GIVE
2YOU A SCRAMBLED LIST AND ASK YOU TO PUT THEM IN
2THE RIGHT ORDER. THE QUESTION MIGHT BE: PLACE
2THE FOLLOWING IN NUMERICAL ORDER FROM THE LOWEST
2TO THE HIGHEST
2  A. 4
2  B. 3
2  C. 9
2YOU WOULD TYPE IN YOUR ANSWER AS FOLLOWS: B A C
2AND THEN PRESS THE SEND KEY. PLEASE DO THIS NOW.
3A.W A C
3B.BAC
3C.B.A.C
3C.B. A. C
4A FIGREAT. LETS GO ON
4R F:IYOU TYPED IT IN O.K.. BUT MUST LEAVE THE
4R:SPACE BETWEEN THE LETTERS. TRY AGAIN.
4C WRONG COMMAS PLEASE. TRY AGAIN.
4-F:TYPE THREE LETTERS TO SHOW THE ORDER OF THREE
4R:NUMBERS. LOWEST TO HIGHEST.
4P:INO. YOU SHOULD HAVE ENTERED THE LETTERS--B A C
1 9.00 M
2IF YOU HAVE TROUBLE DURING THE COURSE, JUST RAISE
2YOUR HAND AND SOMEONE WILL HELP YOU.
2READ THE QUESTIONS CAREFULLY AND ANSWER THEM ONLY
2IN THE WAY YOU ARE ASKED TO DO SO.
2NOW TO GET STARTED WITH THE LESSONS. ENTER THE
2LETTER THAT MATCHES THE CHOICE TO WHICH YOU HAVE
2BEEN ASSIGNED.
2    A. CRUSHED WEAPONS (LAW)
2    B. TACTICS
2    C. RED WARM
4A F:HERE IS YOUR FIRST LESSON. GIVE TUTORIAL-SAV
4  E:DUTO LAW)
4M F:HERE IS YOUR FIRST LESSON. GIVE TUTORIAL-SAV
4  E:DUTO INSTR)
4C FITHERE ARE SEVERAL OTHER THINGS TO MOVE BEFORE
4B:WE START THE MATH LESSONS.
1 5.50 O
2I'M A MATH LESSONS A D IS OFTEN USED TO TELL
2  ... TO RESPONSE WITH A NUMBER  LIKE...Y
                5 1/4 OR .5  DECIMAL
```

```
[illegible] TO GIVE THE DECIMAL NUMBER FOR 5 1/4.
2   FOR  5 1/4 = .  YOU WOULD ANSWER  5.25
2(TYPE #GO# TO CONTINUE)
3A GO
4=A SOMETIMES THE HELP GIVEN YOU ON A MATH
4PROBLEM OR EXAMPLE WILL BE BRIEF.  LIKE....
1 5.50 Q
2                10/5 = 2 * 100 =200  v
2MEANS...        TO DIVIDED BY 5 GIVES 2
2  AND...         2 TIMES 100 GIVES 200
2v(TYPE #GO# WHEN READY)
33 WAIT 240
3A GO
4=A FITHERE ARE TWO ADDITIONAL THINGS TO BE
4PTCAREFUL ABOUT IN THE MATH LESSONS.
1 6.00 Q
2IT IS VERY IMPORTANT THAT YOU USE THE NUMBER
2ZERO (0) WHEN YOU ARE TYPING NUMBERS AND NOT THE
2LETTER O.  ONE WAY TO TELL THE  ZERO (0) KEY IS
2THAT THE ZERO (0) HAS A SLASH (/) THROUGH IT.
2LIKE THIS--0.  WHEREAS THE LETTER O DOESN'T.
2ALSO, YOU MUST BE CAREFUL NOT TO USE THE COMMA
2(,) WHEN YOU MEAN TO USE THE DECIMAL POINT OR
2PERIOD (.)   NOTE THAT THESE TWO KEYS ARE NEAR
2TO EACH OTHER.  SO, WHEN ENTERING NUMBERS MAKE
2SURE THAT THE DECIMAL POINT AND COMMA IS IN THE
2CORRECT PLACE.  FOR EXAMPLE:
2            6.100.05 OR JUST 6100.05 ARE CORRECT
2BUT NOT     6.100,05 v
2       (NOW TYPE #GO# TO START THE LESSONS)
38 WAIT 240
 A GO
1
2=A CLEET TO=TIME=SAV CLWO;O DFCI
4=B:TYPE #GO# TO CONTINUE:
$$$$$$
```

APPENDIX F

ORIENTATION BRIEFING FOR MASSTER TEST 122

APPENDIX CONTENTS

This Appendix contains the orientation briefing given each test day to those subjects who were participating in MASSTER Test 122.

ORIENTATION - MASSTER TEST 122

GOOD MORNING, GENTLEMEN. I'M GOING TO GIVE A GENERAL ORIENTATION TO MASSTER TEST 122. THE OFFICIAL TITLE OF THE TEST IS THE INTEGRATED BATTLEFIELD CONTROL SYSTEM AUTOMATED INSTRUCTION TEST.

THE ARMY HAS SEVERAL EFFORTS UNDERWAY TO IMPROVE ITS OVERALL TRAINING PROGRAM. IT HAS ALREADY BEEN DECIDED THAT IN THE FUTURE MORE OF THE TRAINING WILL BE DONE THROUGH TRAINING PROGRAMS AT THE UNIT OR INDIVIDUAL LEVEL.

THE ARMY ALSO HAS UNDERWAY SEVERAL EFFORTS TO DEVELOP AND FIELD COMPUTERIZED TACTICAL DATA PROCESSING SYSTEMS. ONE SUCH COMPUTERIZED SYSTEM - CALLED DEVTOS IS LOCATED IN THE COMPOUND TO THE REAR OF THIS PORTACAMP. IT SEEMS LIKELY THAT WHEN SUCH SYSTEMS ARE NOT BEING USED TO SUPPORT TACTICAL OPERATIONS THEY COULD BE USED TO PROVIDE UNIT AND INDIVIDUAL TRAINING PROGRAMS. ONE OF THE OBJECTIVES OF THIS PROJECT IS TO CHECK OUT THIS IDEA OF USING TACTICAL COMPUTERS FOR INDIVIDUAL TRAINING.

THE PROJECT HAS SEVERAL OBJECTIVES. IN ORDER TO MEET THESE OBJECTIVES YOU WILL BE DIVIDED LATER ON INTO THREE GROUPS. THE FIRST GROUP WILL HELP US OBTAIN INFORMATION ABOUT HOW WELL THE STANDARD METHOD OF INSTRUCTION GETS THE MATERIAL ACROSS TO THE STUDENT. THE SECOND GROUP WILL HELP US DETERMINE IF TACTICAL DATA PROCESSING EQUIPMENT CAN BE USED TO GET THE SAME INFORMATION ACROSS. THE THIRD GROUP WILL LEARN A NEW TYPE OF CODE AND OPERATE A NEW DATA INPUT DEVICE. THIS DEVICE IS DESIGNED TO PERMIT YOU (FOR EXAMPLE, WHILE OUT ON PATROL) TO INPUT CRITICAL INFORMATION DIRECTLY INTO COMPUTERS THAT ARE LOCATED SOME DISTANCE AWAY. THE HARDWARE ITSELF HAS BEEN DESIGNED AND CHECKED OUT, BUT WE DON'T HAVE ANY PERFORMANCE DATA. WE WANT TO FIND OUT HOW MUCH TRAINING IS NEEDED FOR PEOPLE TO LEARN TO INPUT BATTLEFIELD MESSAGES IN A TIMELY MANNER AND WITH FEW OR NO ERRORS.

THESE ARE THE OBJECTIVES YOU WILL BE HELPING US TO ACHIEVE DURING THIS STUDY. I WANT TO ASSURE YOU THAT THE DATA WHICH WILL BE COLLECTED WILL BE HELD IN STRICTEST CONFIDENCE. IT WILL NOT BE USED IN ANYWAY TO INFLUENCE YOUR MILITARY CAREER. THE RESULTS WILL BE POOLED AND USED ONLY TO AID THE ARMY IN MAKING FUTURE DESIGN DECISIONS. YOUR COOPERATION AND BEST EFFORT ARE REQUIRED IF MEANINGFUL RESULTS ARE TO COME OUT OF THIS PROJECT.

SHORTLY YOU WILL BE GIVEN SPECIFIC INSTRUCTIONS IN TERMS OF THE PARTICULAR JOB YOU WILL HAVE TO DO. HOWEVER, THERE ARE SOME ADMINISTRATIVE MATTERS I'D LIKE TO MENTION.

FIRST, THE LATRINES - THE PORTABLE YELLOW COLORED VARIETY - ARE LOCATED TWENTY METERS TO THE REAR OF THIS PORTACAMP.

SECOND, IF YOU ARE WORKING IN THE RESTRICTED AREA--THE DEVTOS COMPOUND--CERTAIN AREAS ARE OFF-LIMITS. WHEN YOU ARE ASSIGNED THAT AREA THE FIRST THING YOUR TEST TEAM ESCORT WILL DO WILL BE TO POINTOUT TO YOU THE AREAS INTO WHICH YOU CANNOT GO.

THIRD, A FOOD VENDOR TRUCK COMES INTO THIS AREA BETWEEN 11:00 AND 11:30. WE BREAK FOR LUNCH THEN. LUNCH WILL BE EATEN IN THESE VANS OR OUTSIDE, IF YOU PREFER. THERE ARE MESS HALLS AT MASSTER FOR THOSE WHO MAY HAVE REASON TO WANT TO EAT THERE. IF, FOR EXAMPLE, YOU HAVE A MEAL TICKET. TO MEET THAT REQUIREMENT WE WILL NEED TO ARRANGE FOR TRANSPORTATION. IS THERE ANYONE HERE WHO WANTS TO EAT AT THE MESS HALL RATHER THAN BUY HIS FOOD FROM THE TRUCK.

FINALLY, WE WANT YOU TO KNOW WHAT TO EXPECT. SHORTLY YOU WILL BE GIVEN A TEST ON SOME SUBJECT AREA IMPORTANT TO ARMY ACTIVITIES, IN THIS CASE THE SUBJECT WILL BE MATHEMATICS. WHILE THESE ARE BEING SCORED YOU WILL BE GIVEN A BREAK. COFFEE WILL BE AVAILABLE TO YOU IN PORTACAMP NUMBER 6. AFTER THAT YOU WILL BE ASSIGNED TO ONE OF THE THREE GROUPS I HAVE JUST DESCRIBED. AT THE END OF THE

DAY YOU WILL BE GIVEN ANOTHER TEST....AFTER WHICH YOU WILL BE INTERVIEWED TO GET YOUR REACTIONS....COMMENTS....AND SUGGESTIONS. THEN YOU WILL BOARD THE BUS - AROUND 1600 - 1615 HOURS - AND BE RETURNED TO YOUR UNIT.

BEFORE WE BEGIN THE NEXT STEP IN THIS OPERATION ARE THERE ANY QUESTIONS?

THANK YOU, I SHALL NOW TURN YOU OVER TO SGT. SHAW.

APPENDIX G

INSTRUCTIONS FOR THE SELF-STUDY GROUPS

CSW, TACTICS, GED

APPENDIX CONTENTS

This Appendix contains the sets of instructions that were given to subjects assigned to the Self-study Groups for CSW, Tactics and GED. In addition to instructions for GED self-study subjects, adjunct materials were created to parallel the on-line instruction contained in the decimal word problem lesson (DEC4).

INSTRUCTIONS

You are being given a study period to study the LAW.

During this period, please cover the following in regard to the LAW:

1. Characteristics
2. Component Parts
3. Capabilities and Limitations
4. Maintenance and Inspection
5. Preparation for Firing
6. Aiming the LAW and vulnerability of armor
7. Firing positions
8. Malfunctions and immediate action
9. Restore LAW to carrying configuration

The above topics are covered in FM 23-33, paragraphs 1-13, 18-19, 24-29, 34. (See Study Reference Manual, Vol. II, Crew Served Weapons, pages 51-59, 64, 65-79, 80.)

Work at your own pace. Take breaks when you need them.

The monitor will let you know when the period is over.

INSTRUCTIONS

Tactics is one of the subtests on the 11B40 MOS Proficiency Test. You are being given a study period to study tactics.

During this period, please cover the following Tactics subjects:

	Area	Topic
1.	Individual Combat Training	Estimating Distance OPs and LPs
2.	Individual Skills and Knowledge	Characteristics of rifle, automatic rifle and grenade launcher fire. Classes of fire with respect to target and ground.
3.	Squad Combat Formations	Dismounted squad formations and arm and hand signals. Tactical considerations for the dismounted squad formations.
4.	Squad Battle Drill	Fire support and maneuver elements and mission of each. Types of battle drill squad maneuvers and appropriate arm and hand signals. Factors in tactical employment of the squad.

The above topics are covered in:

1. Individual Combat Training:
   FM 21-75, paragraph 13, 14, pages 12-15
   (Study Reference Manual (SRM), Vol. III Combat Techniques and Tactics, paragraphs 13 and 14, pages 139-142.)

2. Individual Skills and Knowledge:
   FM 23-12, Appendix B, paragraphs 19, 20, 21, pages 11-16.
   (SRM, Vol. III, paragraphs 19, 20, 21, pages 332-337.)

3. Squad Combat Formations:
   FM 23-12, Appendix B, paragraphs 1-6, pages 78-89.
   (SRM, Vol. III, pages 371, 373, and 374, figures 53, 54, 61, 63)
   FM 7-10, Appendix D, pages D-1 through D-4.
   (SRM, Vol. III, paragraphs D-1 and D-2, pages 98-101)

4. Squad Battle Drill:
   FM 23-12, paragraphs 29, 30, pages
   (SRM Vol. III, paragraph 29, 30, pages 339, 340 and 341)

   FM 7-10, Appendix E, paragraph E-1 to E-11, pages
   (SRM Vol. III, Appendix E. E-1 through E-9, pages 117 through 122)

   FM 23-12, Appendix D, pages 78-89.
   (SRM Vol. III, pages 371, 373, 374, figures 53, 54, 61, 63)

   FM 7-10, pages D-2 and D-3
   (SRM, Vol. III, paragraphs D-2, pages 99-101)

If you do not have the above references, please raise your hand and the monitor will give them to you.

Work at your own pace. Take breaks when you need them.

The monitor will let you know when the period is over.

GED MATH

PROCEDURES

1. Put your textbook and Study Guide side-by-side and open them to:

Study Guide	Textbook
Lesson 11 pages 40-42	Chapter 4 pages 170-185

   Use your bookmark if it helps you with the textbook.

2. Read the Study Guide, page 40, down to "Study Notes", then begin reading pages 170-185 in the Textbook.

3. In the Study Guide there are Study Notes and calculation examples for textbook pages 171, 172, 173 and so forth. After reading a page in the textbook, look for a study note or example in the Study Guide. If there is one, do what the study note says.

4. Now, beginning on page 171 of the textbook and page 40 of the Study Guide . . . .

   a. Topic: Decimal Notation

      Textbook Pages 171-176

      Study Guide Pages 40, 41

   Read the textbook pages. Do the Developmental Exercises, and the Exercises. Read all notes and examples in the Study Guide.

   b. Topic: Operations with Decimal Fractions

      Textbook Pages 177-180 (top)

      Study Guide Page 41

   Read the textbook pages. Do Developmental Exercises and Exercises in textbook. See the example in the Study Guide.

   c. Topic: Expressing Common Fractions in Decimal Form

      Textbook Pages 180-182 (top)

      Study Guide Pages 41, 42

   Do Developmental Exercises and Exercises in textbook. Use the Study Guide notes and examples.

GED MATH

PROCEDURES (CONTINUED)

d. Topic: Rounding Numbers

Textbook Pages 182-185 (mid-page)

Study Guide Page 42 (top)

Read all pages up to "Error and Precision in Measurement". Do Developmental Exercises and Exercises. Refer to the exercise example in Study Guide.

e. Self-Examination Exercises

Study Guide Pages 42, 70-72

Textbook Do all exercises listed in the Study Guide, page 42.

Check your answers using the "key" on pages 70-72 of the Study Guide.

f. Review Exercises

Textbook Page 207 Exercises 1-22

GED ADJUNCT MATERIALS

WORD PROBLEMS

HOW TO SOLVE IT

THE VERY FIRST THING TO DO TOWARD SOLVING A PROBLEM IS TO READ IT VERY CAREFULLY. AFTER YOU'VE READ THE PROBLEM CAREFULLY, SEE IF YOU CAN ANSWER THESE BASIC QUESTIONS:

1. WHAT DOES THE PROBLEM TELL?

SOMETIMES FACTS OR DATA ARE INCLUDED WHICH YOU WILL NOT NEED TO SOLVE THE PROBLEM. WE CALL SUCH UNNECESSARY INFORMATION IRRELEVANT.

EXAMPLE MARY WEIGHED 148 LBS.
SHE WAS MUCH TOO FAT.

HOW MUCH MARY WEIGHS MATTERS; BUT NOT AN OPINION OF HOW FAT SHE WAS. WHILE WE WANT TO CHOOSE WHAT MATTERS, WE WANT ALSO TO IGNORE USELESS OR IRRELEVANT INFORMATION.

2. WHAT DOES THE PROBLEM ASK?

LOOK FOR KEY WORDS IN THE PROBLEM THAT CLUE YOU IN ON WHAT IS WANTED. HERE ARE SOME OF THEM:

THE WORD FIND
- FIND THE DISTANCE TRAVELLED.
- FIND THE NET AMOUNT MR. RALSON PAID.
- FIND THE AVERAGE NUMBER OF POINTS SCORED.

THE WORD WHAT
- WHAT IS THE PERCENT INCREASE IN POPULATION?
- WHAT IS HIS SCHOOL TAX?

THE WORDS HOW MUCH
- HOW MUCH WEIGHT DID HE LOSE?
- HOW MUCH WAS THE CARRYING CHARGE ON MR. ANGEL'S TV SET?

THE WORDS HOW MANY
- HOW MANY GALLONS OF GAS DOES SHE NEED?
- HOW MANY MUST I SELL TO MAKE A PROFIT OF $35?

THE WORDS HOW LONG
- HOW LONG WILL IT TAKE HIM TO PAY OFF HIS MORTGAGE?
- HOW LONG WILL IT TAKE TO GET THERE?

OR THE WORDS HOW FAR
- HOW FAR IS IT FROM CITY A TO CITY B?
- HOW FAR DID THE PLANE FLY?

(page G-12 blank)

WHEN YOU KNOW WHAT IS GIVEN AND WHAT YOU'RE LOOKING FOR THEN YOU'RE READY TO FIGURE OUT HOW YOU CAN USE WHAT YOU KNOW TO FIND THE ANSWER. SO THE THIRD QUESTION TO ASK YOURSELF IS:

3. HOW TO SOLVE IT?

HOW CAN I USE WHAT I KNOW TO FIND THE ANSWER?

OFTEN IT IS VERY HELPFUL TO DECIDE WHAT OPERATION IS CALLED FOR.

ADD?

$$\begin{array}{r} 9 \\ +3 \\ \hline 12 \end{array}$$

SUBTRACT?

$$\begin{array}{r} 9.68 \\ -5.31 \\ \hline 4.37 \end{array}$$

MULTIPLY?

$$\begin{array}{r} 3.50 \\ \times\ .02 \\ \hline .0700 \end{array}$$

DIVIDE?

$$\begin{array}{r} 11.3 \\ 13\overline{)146.9} \\ 13 \\ \hline 16 \\ 13 \\ \hline 39 \\ 39 \end{array}$$

ON THE FOLLOWING PAGES ARE THREE EXAMPLES OF HOW TO SOLVE WORD PROBLEMS.

APPENDIX H

INSTRUCTIONS FOR THE ALPHA DOT CODE STUDY

APPENDIX CONTENTS

This Appendix contains the instructions and sample worksheets for the Alpha Dot Code study. Subjects of MASSTER Test 122 assigned to the Control Group served as subjects for this unrelated project.

NAME_____

DATE___ ___ ___

The purpose of this project is to get data about a new type of code. The code is shown below.

This code is designed to make it possible for people to input messages directly into a computer. The code uses a character set of letters and numbers that are printed in a special way so that each character touches a different combination of the 6 dots. Your job is to learn to print the letters and number so that each character touches only the proper dots.

The following sheets contain practice messages. At the top of each sheet is an example of the character set. You are to try to learn the complete character set as quickly as possible. Later you will be asked to write messages without seeing the character set so try to memorize the special shape of each letter and number as quickly as you can.

STOP TIME
A B C D E F G H I J K L M N O P Q R S T U
V W X Y Z 1 2 3 4 5 6 7 8 9 0
Period
Slash
PRINT ALL OF THE ABOVE LETTERS, DIGITS, PERIODS AND SLASH. MARK YOUR START AND STOP TIMES!

START TIME
STOP TIME
ABCDEFGHIJKLMNOPQRSTU
VWXYZ0123456789.
Period
Slash
THE QUICK BROWN FOX JUMPED OVER THE LAZY DOGS BACK. /1234567890.

APPENDIX I

AI DEBRIEFING QUESTIONNAIRES

PART I

CAI DEBRIEFING QUESTIONS

(SECOND VERSION)

CAI DEBRIEFING QUESTIONS

NAME AND GRADE_____ SSAN_____

UNIT_____ SUBJECT STUDIED_____

INTERVIEWER_____

(Var. No.)

(57) 1. What did you think of the computer-assisted learning situation that you went through today?

_____

_____

(58) 1b. My attitude toward the CAI was that I . . .

(1) disliked it very much

(2) disliked it

(3) neither liked nor disliked it

(4) liked it

(5) liked it very much

(59) 2. Instructions for using the equipment were. . .

(1) very difficult to understand

(2) difficult to understand

(3) borderline

(4) easy to understand

(5) very easy to understand

(60) 3. Did you have any problems or difficulties in using the equipment or interacting with the computer?

(2) yes (1) no

4. (If "yes" to item 3) please describe your most serious problem or difficulty.

_____

_____

_____

(Var. No.)

(61) 5. I estimate that I understood _____% of the instructional material (lesson content) presented.

(62) 6. I estimate the number of incorrect reponses I made to questions about the lesson content was _____#.

7. Rank the following factors as causes of your incorrect responses.

Rank	Factor
(63) _____	Didn't know the correct answer
(64) _____	Didn't know how to input the correct answer
(65) _____	Slips of the fingers; i.e., bad typing
(66) _____	Didn't pay enough attention

8a. Describe any part of the lesson content that was particularly good, and tell why.

_____

_____

8b. Describe any part of the lesson content that was particularly bad, and tell why.

_____

_____

(67) 9. I think that this method of instruction/learning is...

(5) very effective

(4) effective

(3) borderline

(2) ineffective

(1) very ineffective

(Var. No.)
(68) 10. For satisfactory understanding of the subject being studied, the amount of time provided was:

(1) much too long

(3) fairly long

(5) about right

(4) fairly short

(2) much too short

(69) 11. For satisfactory understanding of the subject being studied, the amount of material (information) provided was:

(1) much too large

(3) fairly large

(5) about right

(4) fairly small

(2) much too small

(70) 12. The technical detail provided was:

(5) very satisfactory

(4) satisfactory

(3) borderline

(2) unsatisfactory

(1) very unsatisfactory

(71) 13. The organization of the material presented was:

(5) very satisfactory

(4) satisfactory

(3) borderline

(2) unsatisfactory

(1) very unsatisfactory

(Var. No.)

(72) 14. My understanding of the material presented was:

(5) very satisfactory

(4) satisfactory

(3) borderline

(2) unsatisfactory

(1) very unsatisfactory

(73) 15. The quantity of supplemental pictures and diagrams provided was:

(5) very satisfactory

(4) satisfactory

(3) borderline

(2) unsatisfactory

(1) very unsatisfactory

(74) 16. Were any of the pictures and diagrams inaccurate?

(1) yes (2) no

If yes, please describe: _____

_____

(75) 17. Were any of the pictures and diagrams irrelevant or unnecessary?

(1) yes (2) no If yes, which? _____

_____

(76) 18. Can you think of any picture or diagram that should be added to the set?

(1) yes (2) no If yes, please describe: _____

_____

(Var. No.)

(77) 19. If you were to take your MOS test in the near future, would your test score be significantly improved by your study today?

(3) yes (1) no (2) don't know

Comment:_____

_____

_____

(78) 20. How would you compare this computer method of instruction against Army classroom instruction on the same subject?

(3) computer method is more effective

(1) classroom method is more effective

(2) the two methods are about equal

Why?_____

_____

_____

(79) 21. How would you compare this computer method of instruction against self-study of TM's and FM's?

(1) self-study is more effective

(3) computer method is more effective

(2) the two methods are about equal

Why?_____

_____

_____

22. Describe any problems connected with self-studying TMs and FMs for your MOS proficiency test.

_____

_____

(Var. No.) (80) 23. How would you compare this computer method of instruction against the U-Tech classroom and/or U-Tech self-study method?

(3) computer method is more effective

(1) U-Tech is more effective

(2) the two methods are about equal

( ) not familiar with U-Tech.

Why?_____

_____

(81) 24. Describe any problems connected with U-Tech classroom or U-Tech self-study.

_____

_____

(82) 25. Should computer courses like these covering the 11B40 skills and knowledge areas be made available to 11B40 personnel?

(3) yes (1) no (2) undecided

Comment:_____

_____

_____

(83) 26a. Suppose that the Army set-up a computer learning facility in your battalion area. Would you voluntarily go there to take CAI in preparation for an MOS proficiency test?

(3) yes (1) no (2) undecided

(84) 26b. Would you voluntarily go there to take CAI to maintain your skills and knowledge as a 11B40?

(3) yes (1) no (2) undecided

(Var. No.)

(85) 26c. If yes to 26a or to 26b, what time of day would you prefer for the CAI to be available?

(4) during duty hours

(3) during off-duty hours

(2) during both on and off-duty hours

(1) don't know

(86) 27. Should CAI study be mandatory or voluntary for all 11B40s?

(3) mandatory

(1) voluntary

(2) some combination

Why?_____

_____

_____

(87) 28. If you were not placed in a combat situation with a LAW, how well could you ready it for operation?

(5) very effectively

(4) effectively

(3) borderline

(2) ineffectively

(1) very ineffectively

(88) 29. If you were not placed in a combat situation with a LAW, how well could you estimate target range?

(5) very accurately

(4) accurately

(3) borderline

(2) inaccurately

(1) very inaccurately

(Var. No.)

(89) 30. If you were now placed in a combat situation with a LAW, how well could you fire it at a target?

(5) very effectively

(4) effectively

(3) borderline

(2) ineffectively

(1) very ineffectively

(90) 31a. Have you now learned enough about the LAW that you are ready to go out to the range to fire it?

(2) yes (1) no

31b. If "no", what more do you need to be ready to fire the LAW?

_____

_____

_____

(91) 32. Have you ever had experience using a computer before?

(2) yes (1) no

(92) 33. If yes, to 32, have you ever taken a CAI course before?

(2) yes (1) no

(93) 34. Have you ever heard of CAI before (e.g., in TV, Magazines, etc.)?

(2) yes (1) no

(94) 35a. Do you think new things in training like this would make Army instruction better?

(2) yes (1) no

(Var. No.)

(95) 35b. Do you think new things in training like this would make Army instruction more interesting?

(2) yes (1) no

(96) 36. What have you heard about this project before coming over here?

_____

_____

_____

_____

EXPERIENCE

(Var. No.)

(98) 1. Total time in military _____

(97) 2. Total time in infantry _____

3. Time at Fort Hood _____

4. Have you had:

a. M72a2 LAW

(1) Years/months_____(2) MOS_____

(3) Location_____(4) Job Title_____

(5) What did you do and how many months for each job?

_____

_____

b. Rifle Squad Tactics Experience

(1) Years/months_____ (2) MOS_____

(3) Location_____ (4) Job Title _____

(5) What did you do and how many months for each job?

_____

_____

(99) 5. What is your ETS (Expiration of Term of Service) date?_____

(100) 6. Are you due for transfer from Fort Hood within the next three months?

(101) (1) Yes (2) No Date (If yes) _____

PART II

AI QUESTIONNAIRE

(FIRST VERSION)

AI QUESTIONNAIRE

NAME_____SSN_____

UNIT_____SUBJECT STUDIED_____

1. Instructions for using the equipment were...

   ( ) very easy to understand

   ( ) easy to understand

   ( ) borderline

   ( ) difficult to understand

   ( ) very difficult to understand

2. Did you have any problems or difficulties in using the equipment or interacting with the computer?

   ( ) yes ( ) no

3. (If "yes" to item 2) Please describe your most serious problem or difficulty.

   _____

   _____

   _____

4. (If "yes" to item 2) Describe any problem or difficulties that you were able to overcome:_____

   _____

   _____

   _____

5. I estimate that I understood____% of the instructional material presented.

6. I estimate the number of incorrect responses I made to questions about the subject was_____.

7. Of these incorrect responses, what per cent was caused by:

   a. not knowing the correct response:_____%

   b. confusion as to how to enter or provide the correct response:_____%

   c. slips of the fingers; that is, a lack of typing skill: _____%

   NOTE: These estimated percentages should total to 100%.

8. In general, my attitude toward this computer-assisted instruction/learning was that I

   ( ) liked it very much

   ( ) liked it

   ( ) neither liked nor disliked it

   ( ) disliked it

   ( ) disliked it very much

9. Describe any instructional sequences that you liked, and tell why._____

   _____

   _____

10. Describe any instructional sequences that you disliked, and tell why._____

    _____

    _____

11. I think that this method of instruction/learning is...

( ) very effective

( ) effective

( ) borderline

( ) ineffective

( ) very ineffective

12. For satisfactory understanding of the subject being studied, the amount of time provided was:

( ) much too long

( ) fairly long

( ) about right

( ) fairly short

( ) much too short

13. For satisfactory understanding of the subject being studied, the amount of material (information) provided was:

( ) much too large

( ) fairly large

( ) about right

( ) fairly small

( ) much too small

14. The technical detail provided was:

( ) very satisfactory

( ) satisfactory

( ) borderline

( ) unsatisfactory

( ) very unsatisfactory

15. The teaching approach used was :

( ) very satisfactory

( ) satisfactory

( ) borderline

( ) unsatisfactory

( ) very unsatisfactory

16. The organization of the material presented was:

( ) very satisfactory

( ) satisfactory

( ) borderline

( ) unsatisfactory

( ) very unsatisfactory

17. My understanding of the material presented was:

( ) very satisfactory

( ) satisfactory

( ) borderline

( ) unsatisfactory

( ) very unsatisfactory

18. The quantity of supplemental pictures and diagrams provided was:

( ) very satisfactory

( ) satisfactory

( ) borderline

( ) unsatisfactory

( ) very unsatisfactory

19. The relevance and accuracy of the pictures and diagrams provided was:

( ) very satisfactory

( ) satisfactory

( ) borderline

( ) unsatisfactory

( ) very unsatisfactory

Comment:_____

_____

20. If you were to take your MOS test in the near future, would your test score be significantly improved by your study today?

( ) yes ( ) no ( ) don't know

Comment:_____

_____

_____

21. How would you compare this computer method of instruction against classroom instruction on the same subject?

( ) Computer method is better

( ) Classroom method is better

( ) The two methods are about equal

Why?_____

_____

_____

22. If these courses were available during off-duty hours at computer consoles in your battalion area, would you voluntarily use them to study for your MOS proficiency test?

( ) yes ( ) no ( ) undecided

Why?_____

_____

_____

23. If these courses were made available during off duty hours at computer consoles in your battalion area, would you voluntarily use them to maintain your skills and knowledge as an 11 B 40?

( ) yes ( ) no ( ) undecided

24. If these courses were available during duty hours on a volunteer basis, would you want to use them to study for your MOS proficiency tests?

( ) yes ( ) no ( ) undecided

25. Should computer courses like these covering the 11 B 40 skills and knowledge areas be made available to 11 B 40 personnel?

( ) yes ( ) no ( ) undecided

Comment:_____

_____

_____

26. Was it easy for you to learn using this computer method of instruction?

( ) yes ( ) no

Why? _____

_____

_____

27. Comparing this computer method of instruction with Army classroom instruction, check one of the following:

( ) Computer method is better

( ) The two are about the same

( ) Classroom is better

Why?_____

_____

_____

28. Comparing this computer method of instruction with Army classroom instruction, check one of the following:

( ) Like computer method better

( ) Like them both about the same

( ) Like classroom better

( ) Don't like either

Why?_____

_____

29. Comparing the computer method of instruction with classroom instruction, on which is it easier to learn?

( ) Easier to learn on the computer method

( ) About the same

( ) Easier to learn in the classroom

Why?_____

_____

_____

30. Which method makes you learn more (or more thoroughly)?

( ) The computer method

( ) The classroom method

( ) Both about the same

30. (Cont'd)

Why?_____

_____

_____

31. Comparing this method with classroom instruction, on which do you learn more in a given period of time?

( ) Learn more by computer method

( ) Learn about the same on both

( ) Learn more in the classroom

Why?_____

_____

_____

32. Comparing the computer method of instruction with self-study of TMs and [illegible]ch do you prefer? (Check one)

( ) ( ) Both about same ( ) Prefer self-study

Why?_ _____

_____

_____

33. Do you feel you learn more in a given period of time using the computer method or by self-study? (Check one)

( ) Learn more by computer method

( ) Learn about the same with both

( ) Learn more by self-study

Why?_____

_____

_____

34. Is it easier to learn using the computer method of instruction or by self-study?

( ) Computer method is easier

( ) About the same

( ) Self-study is easier

Why?_____

_____

_____

35. Self-study, using TMs and FMs , is the current way you have studying for the MOS Proficiency tests. What are the problems with this method of study?

_____

_____

_____

_____

37. If you were now placed in a combat situation with a LAW, how well could you ready it for operation?

( ) very effectively

( ) effectively

( ) borderline

( ) ineffectively

( ) very ineffectively

38. If you were now placed in a combat situation with a LAW, how well could you estimate target range?

( ) very accurately

( ) accurately

( ) borderline

( ) inaccurately

( ) very inaccurately

39. If you were now placed in a combat situation with a LAW, how well could you fire it at a target?

( ) very effectively

( ) effectively

( ) borderline

( ) ineffectively

( ) very ineffectively

40a Have you now learned enough about the LAW that you are ready to go out to the range to fire it?

( ) yes ( ) no

40b If "no", what more do you need to be ready to fire the LAW?

_____

_____

_____

41. Have you ever had experience using a computer before?

Yes_____ No _____

42. Have you ever taken a CAI Course before?

Yes_____ No _____

43. Have you ever heard of CAI before? (e.g. in TV, Magazines, etc.)? Yes_____ No _____

44. Do you think new things in training like this would make Army instruction better?

Yes_____ No _____

More interesting? Yes_____ No _____

45. What procedure is used in your organization now to prepare for the MOS proficiency test.

_____

_____

_____

_____

_____

46. What have you heard about this projec before coming over here?

_____

_____

_____

_____

APPENDIX J

COMMENTS OF AI SUBJECTS

PART I

CSW PERSONNEL

During the course of the interviews many of the AI subjects volunteered a number of reasons why they liked automated instruction. Some of these sound like they were out of a textbook expounding the principles of CAI. For CSW personnel, these included:

1. Give individual attention to the student.
2. He can really work at his own pace.
3. Teaches you and tests you as you go along. If you are wrong, it corrects you. Everything is clear in your mind as you go to the next part of the subject. Each phase you understand before you go to the next one. Teaches you very well.
4. Have to stay alert with machine or you blow it for you.
5. Easy way of teaching (learning). It tells the student more what he is going to study, it gives him a chance to have questions asked that might not be asked, gives him something like a test as it goes along, if you are wrong, goes back, tells you your mistakes. Think it is a pretty good system. I enjoyed it.
6. It went back and showed me where I made my mistakes and let me study again and let me go back over questions again and let me make my corrections.
7. Student has more quiet, he has a chance to go back and review.
8. Immediate feedback.

Other reasons given included:

1. Didn't find it difficult at all.
2. Provided everything you need.
3. Would not be any deadheads in class oom. This way everyone is working and getting first hand knowledge of it.
4. Have to teach to slowest student in classroom.
5. Easy to learn. Anybody knows ABCs and can spell, no problem.
6. Computer makes you learn more or more thoroughly.
7. If you made a mistake up there, went right back over it immediately and really drills it back into you.
8. In classroom, you may not have enough time allotted to keep reviewing it.

9. Made on the spot corrections.
10. If you made the wrong answer, came right back to you and reviewed material covered.
11. Learn more in a given period of time by computer method.
12. All your notes right there and everything right there.
13. Rather shine boots than study FMs.
14. In a given period of time, learn easier with computer method.
15. More interesting because new to me.
16. First time in three weeks that by noon I had not been bored asleep.
17. Not typing, is not a problem.
18. Computer far superior to classroom. Nothing in classroom could keep me interested for six hours. Hard for me to listen to an instructor for an hour.
19. I have been taught the weapon, started in 1966, first time learned how to sight the weapon.
20. Been in 10 years, just now finding out about it. Attended three dozen classes on LAW and never picked up half the information I picked up here.
21. Fired about 8000 LAW. Instructed LAW in Germany. Did not think computer would come out with some things it came out with. I thought I really knew the weapon. It really brought out some good points for me.
22. Interesting, doesn't bore you, would continue to interest you.
23. I could not cover all the material in four hours. I think a guy walks away from the computer knows the whole subject. I could pull LAW out right now and fire it right now and I haven't played with the LAW. Could arm it before, but do not think could hit target, but could handle it very well now.
24. With computer, have to pay attention if you want to get out of there--have to stay with machine or it will review for you.
25. An instructor jumps around, miss certain details. Computer covers everything.
26. You get more out of a computer like this than you do an instructor.
27. You don't have somebody standing over you. You better pay attention or I'll put a boot in your rump.
28. In classroom, not given extended period of instruction like that.

29. Learn more on the weapon like this, than you do in a classroom. I have not heard that much in a classroom given on anything.
30. You are studying yourself, you can apply yourself better.
31. See your mistakes, there in front of you. You punch a button for an answer and if it is wrong, the computer will tell you it is wrong and give you the opportunity to try again. While in the classroom, if you don't get it right, the instructor will shrug you off and call on somebody else, and you don't get a second chance.
32. With FMs and TMs, you overlook the things you really need to study and you might not bring it out to yourself the way it is shown on the computer and you might lack an understanding of it.
33. Builds up morale to use a sophisticated method of instruction.
34. Like to be guided step by step.
35. More or less on an individual basis. Yourself giving it to you. Your mind using your own voice to give instruction. . . participating in it. Stays on your mind longer. No trouble because didn't type. Computer doesn't argue with you, comes at you straight. Lots of people may need help. Don't get anything out of it after hour after hour (classroom). More or less of a challenge. In classroom, some people don't want to learn anything. Annoys people who want to learn. Some people have faster pace. I can learn more at my own pace. Computer refreshes you more or less.
36. Should be used, especially for MIT--would improve 50% on personnel getting today. Would improve morale of troops coming in, acceptance of service more.
37. If I had all my subjects given on the computer, I would max the tests and draw pro pay every year.
38. Should be made available to MPs, who have the LAW, and expanded to MP subjects--used between shifts.
39. Use (course) as a guideline if you were having to give a class yourself.
40. Comprehension better than instructor. Chance to review the material. Primarily because of the language difficulty (Spanish). Easier to reread for comprehension. Diagrams were useful . . . too shy to ask

questions in class. Can review material easily on computer. Answers are clearer on computer.

41. Makes you stop and think. Makes you use your head. Organized real good. Had what you needed. Computer more of a debate study between you and the computer. On LAW before, covered a longer period of time - a week versus computer today (four hours).

PART II

TACTICS PERSONNEL

During the course of the interviews many of the AI subjects volunteered a number of reasons why they liked automated instruction. Some of these sound like they were out of a textbook expounding the principles of CAI. For Tactics personnel, these included:

1. If you did not know answer, helped you. When I did make mistake, computer told me. Computer is better, gave you a good breakdown, work at your own speed.
2. Easier to learn on computer. Gives you right and wrong answers. Have to read it, not just listening. Computer makes you learn in spite of yourself. Doesn't take "no" for an answer. Not aware up there four hours.
3. You can see your mistakes.
4. Problems with self study is too much material, not to the point and repetitive.
5. A lot more material than classroom. Dependent on instructor in class. Computer depends on what the can can get out of it. Just working the computer itself is enough to keep your attention. In classroom, hard to pay attention.
6. Thought it very valuable, more so if I could have paid more attention to it. Got off work at 6:00 a.m. Enjoyed it. Got a lot out of it. Would be beneficial to any soldier. Easy way of learning.
7. Tactics is a weak subject for me, good to bone up for propay score. Classroom - not totally interested, boring. This is better.
8. On computer, put on a lesser scale, less material, gets right to the point. Holds attention of personnel. Pretty simple to operate. Instruction is easy.
9. Learned more than sitting in classroom (slow reader). Keeps your attention, on computer. Computer has a better breakdown and more thorough (than classroom).
10. Computer is private. Not afraid to ask questions.
11. CAI at own rate. Covers remedial, provides feedback, is faster.

12. No problems whatsoever. Brought out good points. Best method seen for picking up things. Put you on your toes. Time to think. Makes you think more.
13. Been having classes. Learned more on Tactics today than two weeks in company. All self-explanatory, easily understood. Individual study. Learning using computer goes into your mind. Computer is quiet.
14. Enjoyed entire day. Computer sinks in, absorb more. Don't like to listen to somebody jazzed. Lot easier than classroom. Like a teacher there helping you study.
15. Computer doesn't let you cheat. Keeps you interested. Doesn't let you go to sleep. If I learn this quick, learn (other things) a lot quicker. Machine doesn't have personality problems.
16. Get more involved with a computer.
17. Need outstanding study habits for FMs and TMs. Computer is quiet, can concentrate on it.
18. Would like more training by this machine.