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FM 21-6

How to PREPARE and CONDUCT

MILITARY TRAINING

HEADQUARTERS, DEPARTMENT OF THE ARMY

NOVEMBER 1975

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"The best form of "Welfare" for the troops is first class training."

General Erwin Rommel

Preface

This field manual provides trainers with proven methods and techniques of preparing and conducting individual and collective training. The former FM 21-6, **Techniques of Military Instruction** (January 1967), was written primarily for instructors in service schools who traditionally relied on lectures, conferences, and demonstrations as their primary training methods. This manual focuses on training techniques and methods that are more efficient, more effective, and better suited to the needs of all trainers, particularly those in field units.

As you read this manual, you should consider the following:

The Critical Importance of Training

Military leaders have long recognized training as the most important unit activity in peacetime. Training is the one activity which enables a unit to accomplish its mission. A trainer must do his job properly if he is to meet his responsibilities to his subordinates and the other members of the unit.

Effective Training Solves Other Unit Problems

Preparing and conducting training properly is the peacetime leader's most difficult, but most important, job. He must constantly strive to provide training that will challenge his soldiers physically and mentally so they can derive a real sense of accomplishment and satisfaction. This sense of satisfaction helps overcome problems associated with low morale, poor discipline, and other nontraining matters.

Training is The Key to Professionalism

The core of professionalism is expertise. Expertise is acquired through a soldier's personal efforts and the training he receives. However, personal efforts and training can build a soldier's expertise only when he is working toward, or is being directed toward, standards of performance that he can understand. The true professional trainer insures his soldiers can meet established standards of performance.

Good Training Builds From the Basics

A well-trained unit is made up of individuals and subunits (teams, crews and squads) fully drilled in the fundamentals. Consequently, regardless of the level of training being conducted, the trainer should never forget that accomplishment of his unit's missions depends on how well his soldiers execute the fundamentals.

Field Manual
No. 21-6

FM 21-6*

HEADQUARTERS
DEPARTMENT OF THE ARMY
Washington, D.C., *3 November 1975*

HOW TO PREPARE AND CONDUCT MILITARY TRAINING

Table of Contents

*This manual supersedes FM 21-6, 20 January 1967, and TC 21-6-1, August 1974.

CHAPTER 1

Purpose and Scope

This manual explains how to prepare and conduct training. It applies to any unit regardless of strength, mission, organization or equipment. Before proceeding, it is important to understand the relationship between the trainer (for whom this manual has been written) and the training manager.

TRAINING MANAGERS are responsible for the planning, organization, conduct, and evaluation of training. Training managers include the commanders who develop a training program or who provide training guidance to other commanders. Under present Army policies (AR 350-1), battalion commanders and separate company commanders are the principal training managers. However, company commanders and the operations/training officers of commands developing training programs are also training managers. The manager's purpose is to employ limited resources (human, physical, financial, and time) in a manner that permits efficient and effective development of individuals and units so they can successfully accomplish their peacetime and wartime missions. Training Circular 21-5-1, "Training Management: An Overview," (April 1973), and TC 21-5-2,, "Performance-Oriented Training," (June 1974), have been written for those who manage training. Eventually, the doctrine expressed in these TCs will become part of the new FM 21-5, "The Management of Military Training."

TRAINERS are those whose duties include the requirement to prepare, conduct, and evaluate training (e.g., an infantry platoon sergeant who prepares, conducts, and evaluates mortar training for his fellow NCOs in the company).

Although the process that both the trainer and the training manager use to meet their responsibilities *appear* quite similar, it differs significantly in practice. Whereas the training manager *establishes* or selects the training objectives which are critical to the accomplishment of his mission, the trainer is responsible for *accomplishing* one or more of these objectives. Therefore, the trainer's scope is narrower, more concentrated, and more exacting.

Training is hard work. The trainer cannot afford substitutes or short cuts during preparation. As you read, study, and apply the principles and techniques contained in this manual to specific training situations in your unit, look for the answers to three questions:

1. WHERE AM I GOING—what must my soldiers do as a result of their training? *(The desired results of training.)*

2. WHERE AM I NOW—what can my soldiers do now compared to what I want them to be able to do as a result of training? *(Current level of training versus desired level of training.)*

3. HOW CAN I BEST GET FROM WHERE I AM TO WHERE I SHOULD BE—what techniques, training methods and organization offer the most effective and efficient use of available resources? *(How to conduct training.)*

Chapter 2 discusses the purpose of training. Training should prepare personnel for job performance. This purpose must guide the trainer as he prepares and evaluates training. Yet, perhaps because it is so obvious, this idea of *"training = preparation for performance"* is often forgotten, ignored, or lost. Such an approach requires the trainer to think in terms of *"what must my soldiers* do *as a result of training?"* It also facilitates—even forces—clear and precise thinking about training as preparation for job performance.

Chapter 3 describes a 3-step, backward planning process to prepare, conduct, and evaluate training of *individuals* to perform their duty assignment. The process begins by describing the desired results of training and continues with the preparation and conduct of training. Since a trainer's job does not end with the completion of training, chapter 3 also describes the post-training evaluation necessary to improve the preparation and conduct of future training.

Chapter 4 is an introduction to collective training which prepares soldiers to perform those team or unit tasks essential to the accomplishment of a unit's TOE or operational missions. Whereas chapters 2 and 3 discuss training fundamentals that apply to individual training, chapter 4 explains the fundamentals for two types of collective training: equipment-oriented collective training and tactical collective training.

Chapter 5 offers examples which show company level trainers how the fundamentals of collective training (chapter 4) are used to prepare and conduct equipment-oriented collective training (e.g., training for tank crews, artillery gun sections and batteries, engineer bridge companies, mortar platoons, etc.). Although the examples in chapter 5 pertain to infantry and armor equipment-oriented collective training, the process for preparing and conducting the training applies equally well to any combat, combat support, or combat service support team or unit which conducts equipment-oriented collective training.

Chapter 6 deals with the second type of collective training—tactical collective training. Unlike the equipment-oriented training discussed in chapter 5, tactical collective training does not focus on a piece of equipment, but rather on training tactical teams and units whose missions require them to seize terrain and kill or capture enemy soldiers.

To further assist the trainer, the six appendixes include information which amplifies and enhances the training process. The appendixes are:

- *Training Publications* ..... Appendix A
- *Practical Exercises in Writing Training Objectives* ..... Appendix B
- *Training Techniques, Aids and Devices* .. Appendix C
- *Evaluating (Inspecting) Training* ..... Appendix D
- *Tactical Exercises* ..... Appendix E
- *Training Trainers To Train* ..... Appendix F
- *Sample Lesson Plans* ..... Appendix G
- *Index and Glossary of Training Terms* ..... Appendix H

Next: performance-oriented training

CHAPTER 2

Performance-Oriented Training

This chapter explains what performance-oriented training is, shows why it is such an effective approach to training, and emphasizes establishing a properly prepared training objective as the key to the approach. This approach must be understood before it can be successfully applied.

THE PURPOSE OF TRAINING

The purpose of training is to prepare soldiers, teams, and units for job performance. This purpose should guide the trainer as he prepares, conducts, and evaluates training. Yet, perhaps because this purpose is so obvious, it is frequently forgotten, and "eye wash" takes over. Our lecture techniques, lesson plans, and skits—important as they may be—are secondary to what the soldier is to do during and at the end of training. How, then, are you to avoid getting bogged down in the "eye wash" and instead fix your sight on the objectives of your training?

The crucial, first step is to continually remember the *purpose* of training: **Preparation for performance.** The question, *"Does this training really prepare the soldiers to do their jobs?"* should become your guide as you prepare training.

The performance-oriented approach to training, as outlined throughout this chapter, facilitates—even forces—clear and precise thinking about training as preparation for job performance. This clarity and precision results from the structure and content of training objectives.

THE OBJECTIVE IS THE KEY

It is but a slight exaggeration to state that the performance-oriented approach begins and ends with the *training objective.* For a given skill, a properly structured and complete training objective is both the training and the test. Such an objective can also contribute to the evaluation of the training needed and the training conducted for that skill. This performance approach can be roughly described in an equation:

Training Objective = Training = Test = Evaluation

Keep this equation in mind as you continue to read chapter 2: its meaning will become clearer in the following paragraphs.

A properly constructed *training objective* consists of three elements: (1) **Task** to be performed, (2) **Conditions** of performance, (3) A **training standard** of acceptable performance.

Stated differently, a complete *training objective* answers three questions:

1. What skill do you want the soldiers being trained to acquire (**TASK** to be performed)?
2. Under what **CONDITIONS** do you wish these soldiers to demonstrate the skill to be acquired?
3. How well do you expect these soldiers to perform (**TRAINING STANDARDS**)?

For example, a commander is concerned with the ability of his noncommissioned officers (NCOs) to navigate cross-country using a map and compass. It has long been common practice to write an objective such as the following:

> *To insure that the NCOs are proficient in the use of map and compass for cross-country navigation.*

By contrast, a performance-oriented training objective would read as follows:

TASK: *Each NCO must be able to navigate cross country,*

CONDITION: *on foot, in daylight for 5,000 meters over hilly, wooded terrain, given a lensatic compass and 1:50,000 map which shows both the start point and the objective,*

TRAINING STANDARD: *to arrive within 250 meters of the objective in 3 hours or less (4 hours or less in extremely adverse weather) from the time the map and compass are provided at the start point.**

As stated earlier, a training objective can serve triple duty—for the conduct, testing, and evaluation of training. The map and compass example illustrates this point.

How should the map and compass training of the NCOs be conducted? For the most part, it should be in the form of practical exercises which progress in difficulty to the level of the **conditions** and **training standards** set forth in the objective.

How should these NCOs be tested? They should be required to navigate a map and compass course under **the conditions** and to the **standards** set forth in the objective.

How should the training needed be determined and the training conducted be evaluated? A pretraining test is one method of determining the amount of training needed. Using the map and compass training objective as a test will indicate those soldiers who already possess the desired level of proficiency. These soldiers can then assist in the conduct of the map and compass training or can be shifted to some other training or activity. The results of the pretraining test (using the training objective) will also provide a basis for establishing the level of complexity at which the map and compass training can profitably be taught. It will also assist you in determining the amount of time which will probably be needed to bring the NCOs up to the desired level of proficiency.

Finally, with the training structured in the form of practical exercises building up to full performance of the training objective, a continuous evaluation of the conduct of training is possible. If, at the end of scheduled training, a significant number of the NCOs do not meet **the training standards** of the objective, the map and compass training can hardly be judged successful. The trainer must then examine the correctness of the training objective, or determine how the training must continue to insure mastery. He should also determine what adjustments or modifications must be made to the training objective.

*Appendix B, Case 1, uses this example to describe *TASK, CONDITIONS* and *TRAINING STANDARDS.* For a complete discussion on this training objective, turn to page 86.

LEARNING AND MOTIVATION

Training *should* increase a soldier's knowledge and skill. If the training is to meet that purpose, certain conditions must be present. The soldier must:

1. Realize he needs training.
2. Understand what he is expected to learn.
3. Have an opportunity to practice what he has learned.
4. Get reinforcement that he is learning.
5. Progress through training presented in a logical sequence.
6. Be willing to learn.

If the first five conditions are present, an environment conducive to learning by motivated soldiers is created. The characteristics and advantages of performance-oriented training help to establish those conditions.

CHARACTERISTICS OF PERFORMANCE-ORIENTED TRAINING

Precise Training Objectives

Performance-oriented training is characterized by training objectives which state precisely what the soldier must be able to do upon completion of training. A properly structured training objective contains three elements:

1. **TASK** to be accomplished.
2. **CONDITIONS** under which the task is to be accomplished.
3. **TRAINING STANDARDS** of acceptable performance.

With the precise expression of task, conditions, and standards, the soldier understands that if he can already perform the task to acceptable standards, fine; if not, he knows what he must learn to achieve the standard. Thus, the first two conditions of learning are established through the use of training objectives. In addition, the training manager and trainer readily understand the purpose of training by the explicit nature of training objectives.

Job/Duty Related Training Objectives

Since training is preparation for job/duty performance, the training objectives must relate to the job/duty requirements of the soldiers being trained. For example, the objectives for first aid training of infantrymen would not be identical with the objectives established for medical personnel. Training objectives for medical personnel would probably require more difficult conditions and more sophisticated training standards.

Personnel Undergoing Training are Active in a Job/Duty Environment

In performance-oriented training, lectures and conferences are held to a minimum. The great bulk of training time is devoted to what could be referred to as **controlled practice of a task.** Such practice is designed to insure that soldiers being trained become capable of performing the tasks required by their jobs. Because the bulk of training time is devoted to soldier practice, the third condition of learning is better met. Further, because the training objectives relate to specific job of a soldier he will be better able to understand that he needs training.

Evaluation of Training is a Continuous Process

As a result of emphasis on "learning by doing" the trainer receives continuous feedback on the progress of those being trained and consequently on the efficiency of the training. This reduces the need to wait for the end of training test results. The very end of a training session is a poor time to discover that little or no learning has taken place. Just as important, by virtue of the active role, soldiers being trained receive a steady flow of indicators on how well they are progressing. Just like you, they need not wait until training is over to discover how well they can do something. Because each objective has a training standard, the soldier can receive immediate feedback and reinforcement that he has accomplished his objective, thus satisfying the fourth objective for learning and motivation. If the ultimate training objective is reached by a progression from simple to difficult tasks, the fifth condition is met.

ADVANTAGES OF PERFORMANCE-ORIENTED TRAINING

Training Objectives are Clear and Explicit

By having precise *training objectives,* the trainers and the soldiers being trained share an understandable, common focus for their efforts. This reduces to a minimum the varied, occasionally conflicting interpretations which arise when terms such as "proficiency," "familiarity," and "working know-

ledge" are used to describe the desired results of training.

Training Resources are Employed Efficiently

Because *training objectives* are written in precise, measurable terms, the trainers and those they train understand exactly what their training is designed to do. Thus, training resources (human, physical, and time) necessary to accomplish each *training objective* can be more accurately estimated and planned for. This factor becomes increasingly important as you prepare training, request training aids and devices, write lesson outlines and conduct rehearsals.

Training is Soldier-Oriented Rather than Trainer-Oriented

In performance-oriented training, soldiers perform job/duty related *tasks* under the *conditions* specified until they demonstrate the level of proficiency established by the *training standards*. Those personnel who quickly master a particular *training objective* can be shifted to help slower learners (a form of peer instruction) or continue their own skill development in other areas. The training focus is toward soldier performance rather than a trainer's ability to present instruction.

DIFFERENCES BETWEEN PERFORMANCE-ORIENTED AND CONVENTIONAL TRAINING

Conventional training relies on the lecture as its chief method of instruction. Performance training uses short demonstrations and "learning by doing" as its main means of instruction.

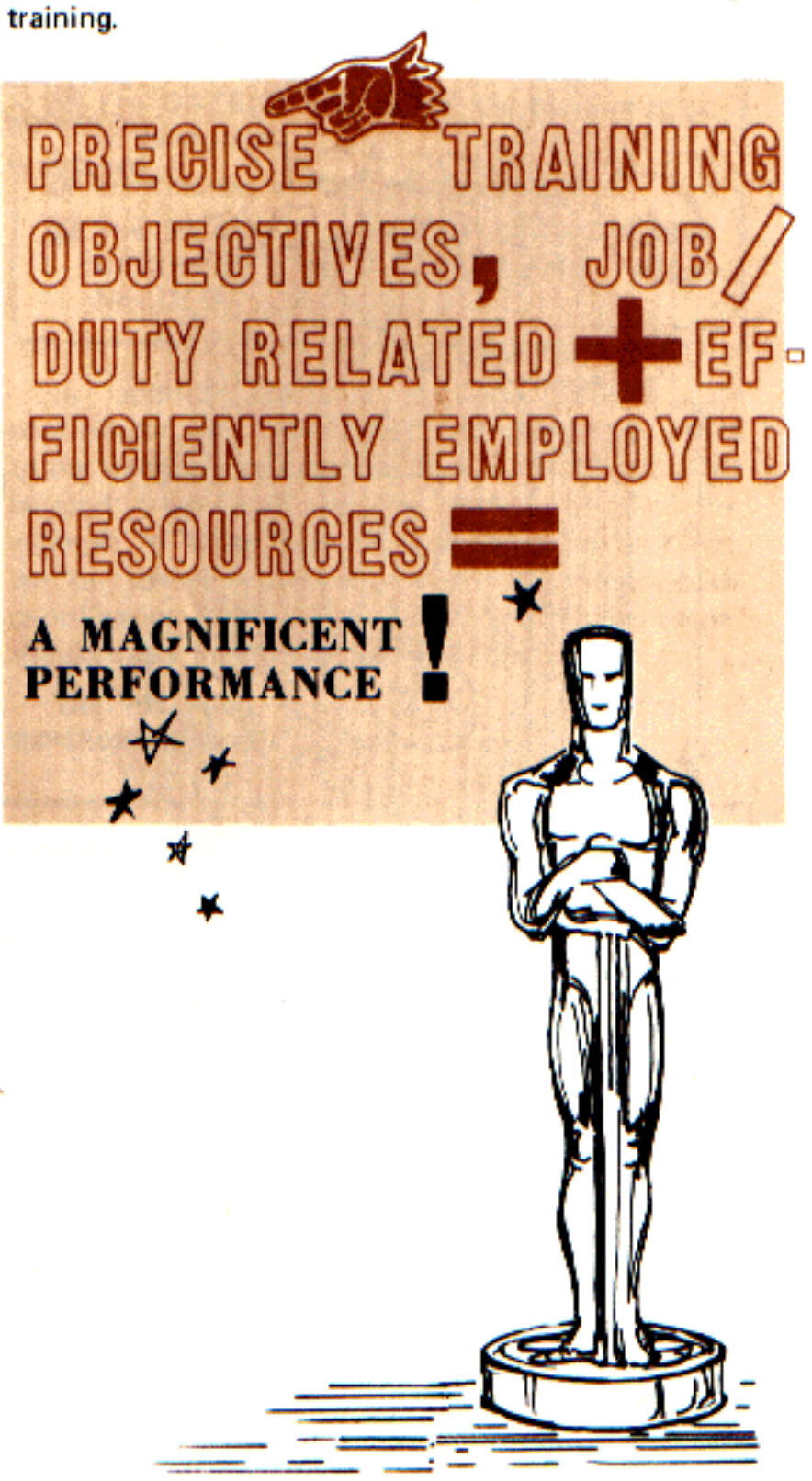
Conventional training places the instructor in the central active role. Performance training makes the soldier active and centers training around him—giving him the time and support he needs to learn.

Conventional training selects content in relation to what the instructor can present or cover in a certain amount of time. Performance training digests content into a set of high priority skills that are important for soldiers to learn in the time allotted for training.

Conventional training uses "grades" to rate what the soldier has learned. Performance training sets standards all soldiers must meet. When soldiers do not meet the standards, they practice until they can.

SUMMARY

The purpose of training is preparation for performance. Thus, training must relate to each soldier's job. Performance-oriented training requires precise training objectives, permits efficient use of resources, orients on the soldier, and creates an environment for faster learning. The key is a definitive training objective that specifies the task to be performed, the conditions under which it will be performed, and the standards for acceptable performance. Remember, training objectives serve as the basis for preparing, conducting, and evaluating training.

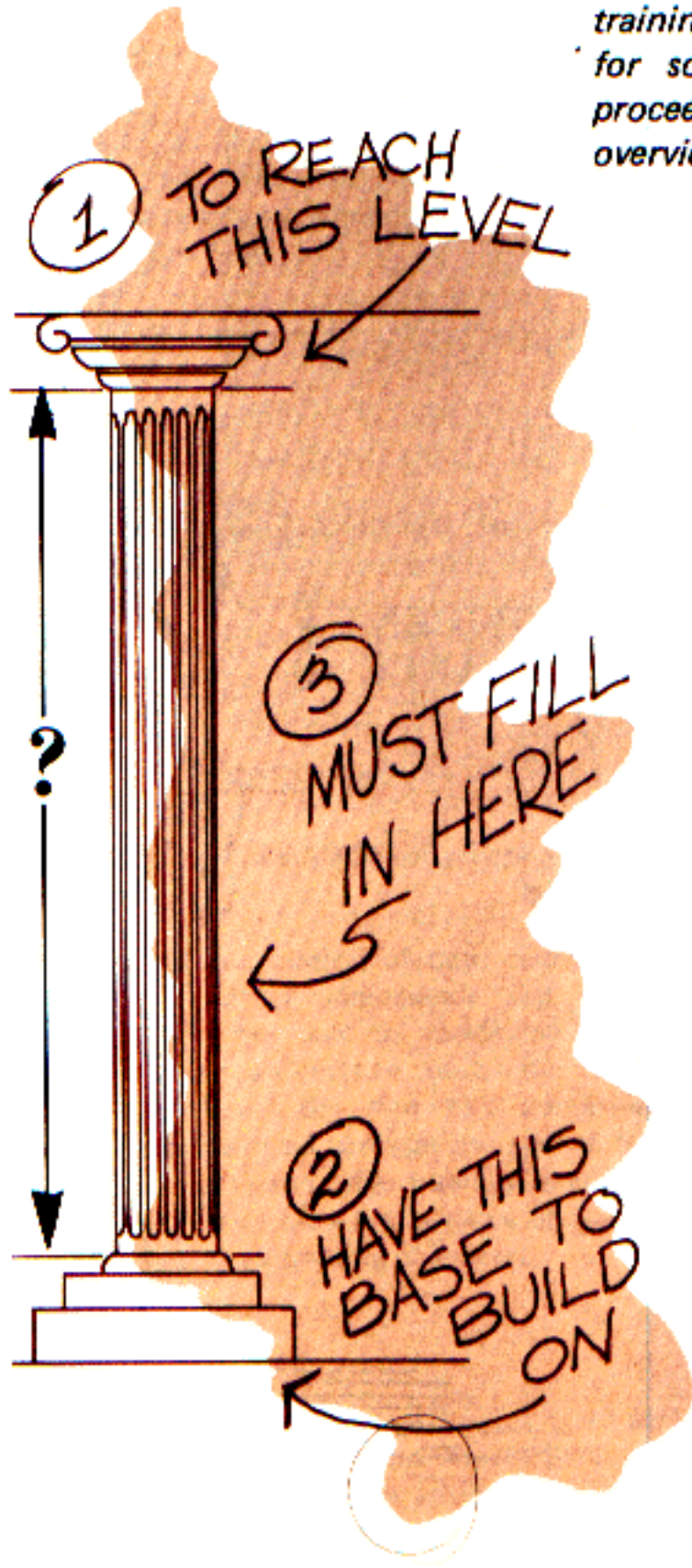


Next: how to prepare and conduct training

CHAPTER 3

How to Prepare and Conduct Individual Training

This chapter discusses a 3-step, backward planning process a trainer can use to insure he properly prepares and conducts individual training in the most effective and efficient manner. This 3-step process is based on the performance-oriented training concepts discussed in chapter 2 and stresses the need for soldiers to meet established training standards. Before proceeding with a detailed discussion of each step, a brief overview of the entire process should be helpful.



OVERVIEW OF THE THREE STEP BACKWARD PLANNING PROCESS

STEP 1:
Describe the Desired Results of Training

The trainer obtains the commander's guidance which describes precisely what the soldiers must be able to do at the *completion* of training (the commander's training objective). This guidance should include the standards of performance the soldiers must meet. If the commander's guidance is incomplete, the trainer must develop this information himself.

STEP 2:
Prepare to Conduct Training

The trainer develops those intermediate training objectives which his soldiers must perform if they are to accomplish the commander's training objective. These intermediate objectives are then organized in a logical, progressive sequence. Finally, all administrative requirements (lesson plans, rehearsals, etc.) are completed.

STEP 3:
Conduct Training to Standards

The trainer supervises, continuously monitors, and evaluates the conduct of training to insure his soldiers' performance meets the training standards established by the commander.

The overview should give you the big picture of the process. Now let's proceed with a detailed discussion of each step.

STEP 1: DESCRIBE THE DESIRED RESULTS OF TRAINING

Start With the Guidance Received

What is the starting point for preparing training? Normally, your job as a trainer begins with the commander's guidance, which is given to you in one of two ways:

1. **You receive one (or more) specific training objective(s) and other guidance from your commander to conduct formal training.**
2. **You receive a vaguely stated mission-type order to conduct formal training in a particular subject.**

Let's take the first situation, the case in which your commander gives you specific training guidance.

Specific training guidance should consist of the following elements:

- **THE COMMANDER'S TRAINING OBJECTIVE(s).**
- **To WHOM the training will be given.**
- **The DATE(S) AND TIME the training is to be conducted.**
- **WHERE the training will take place.**
- **The REASONS WHY THE COMMANDER DECIDED THAT TRAINING WAS NEEDED.**

In addition to this specific guidance, the commander may offer other information pertaining to the training resources you may need, but which are beyond your authority to obtain directly. For example, if troop support, training areas, facilities, and/or special equipment must be obtained by coordinating with other units, your commander should make the necessary initial coordination.

The following is an example of complete and specific commander's guidance:

The Commander's Training Guidance

TRAINING OBJECTIVE:

TASK: **Each squad leader will request and adjust 4.2 inch mortar fire,**

CONDITIONS: **as a ground observer, given a 1:50,000 map, a lensatic compass, binoculars, a radio, and a designated, observable point target** (targets may vary in range from 1,000 to 4,000 meters), **using the grid coordinates/direction method and the bracketing method of adjustment.**

TRAINING STANDARD: **The initial request for fire must be made within 3 minutes after the target has been designated. Adjustments must be made within 15 seconds after the round impacts. Observer must achieve effect on target within 4 adjustments after he obtains a positive range sensing.** (Note: Normally a 4.2 inch mortar round must land within 25 meters of a target to achieve effect on target.)

WHO: **Best estimate of number of soldiers to be trained—13 squad leaders.**

WHEN: **1300-1700 hours, 25 September** (three weeks from now).

WHERE: **Training Area K.**

Continued next page

REASONS FOR TRAINING: **During the platoon test, most of the squad leaders were unable to correctly call for and adjust indirect fire. Those who were able to correctly call for and adjust indirect fire were too slow.**

Additional Resources Obtained or Coordinated for by the Commander:

Equipment: **Fifteen 1:50,000 maps of Training Area K** (furnished by battalion S2).

Transportation: **Two 2-1/2 ton trucks** (from battalion S4 section).

Assistant Trainers: **SGT Baker, SGT Evans and SGT Holden from the forward observer section of the 4.2 inch mortar platoon. 4.2 inch platoon leader** (LT Smith) **will be the safety officer.**

Coordinating Instructions: **Pick up maps from battalion S2; coordinate with LT Smith, 4.2 inch mortar platoon leader, for mortar support requirements; tell the battalion S4 when and where you want the transportation; check with range control prior to conducting live fire of 4.2 inch mortars; have the company training NCO obtain a puff board from the training aids center; and see the company commo NCO for radio requirements.**

In this case, you can see the commander has properly discharged his training responsibility by telling you precisely what he wants the soldiers to be able to do at the completion of training. In addition, he has provided the minimum essential information **(who, when, where)** and made the necessary coordination for obtaining other resources (assistant instructors, troop support, equipment and transportation requirements) which are normally beyond your authority to obtain directly.

Analyze Guidance

Sometimes the commander may give you incomplete or vague guidance with respect to his training objective and the other minimum essential information **(who, when, where)**. For example, you may receive guidance like this:

> *I want you to conduct training for the NCOs in how to request and adjust indirect fire. The class is scheduled for the afternoon of 25 September. Let me know if there is anything you need.*

If you receive vague, mission-type guidance, STOP and think before charging off to prepare the training. Specifically, **you should analyze this guidance and then ask your commander some questions which will help both of you to focus on what he really wants the soldiers to be able to do at the completion of training.** These questions should include the following:

1. WHAT SPECIFIC TRAINING OBJECTIVE DO YOU WANT ACCOMPLISHED? The training objective should include the *task* that the soldiers must be able to perform, the *conditions* under which the soldiers must perform the task, and the *training standard* which specifies the proficiency the soldiers must attain.

2. TO WHOM WILL THE TRAINING BE GIVEN? (e.g., 13 squad leaders.)

3. WHEN WILL THE TRAINING TAKE PLACE? (e.g., 1300-1700 hours, 25 September, 3 weeks from now.)

4. WHERE WILL THE TRAINING TAKE PLACE? (e.g., Training Area K.)

5. WHY THE COMMANDER DECIDED TO CONDUCT THE TRAINING? What were his reasons for his decision?

If after asking the commander these questions, you still lack complete and specific guidance (or you wish to conduct informal refresher training for your soldiers), you must develop the specific training objectives and other information yourself. If you find yourself in this situation, don't panic! There are a number of publications which provide or describe how to develop performance-oriented training objectives. Among these publications are TC 21-5-1, **Training Management: An Overview,** April 1973; TC 21-5-2, **Performance-Oriented Training,** June 1974; and when completed, FM 21-5, **The Management of Military Training.** Several publications now under development will contain the complete objectives. Among these are Soldier's Manuals, a series of MOS-related pamphlets designed to provide each soldier with the specific performances required by his MOS skill level. Also the Training Extension Course (TEC), a series of multi-media self-paced instructional materials, is designed to teach a soldier specific tasks of his MOS. In addition, appendix B of this manual, together with the concepts presented in Step 2 of this chapter, will assist you in learning how to develop training objectives from scratch.

Remember, if you must develop training objectives, first determine precisely what the soldier must be able to do at the completion of training before you continue your preparation. Then show your commander what you plan to do. Your commander will then be able to evaluate each training objective and make any changes he feels is necessary. Further, he will acquire a better idea of what resources you will need.

Once the commander has approved the training objective and its performance standards, you can continue with the backward planning process, confident you understand precisely what your commander expects the soldiers to be able to do at completion of training.

STEP 2: PREPARE TO CONDUCT TRAINING

This step discusses in detail what the trainer must do and consider as he prepares to conduct training. The following outline is provided as an overview of what will be covered in this step.

PREPARE TO CONDUCT TRAINING

Establish Intermediate Training Objectives by:*

Developing tasks required to accomplish the commander's training objective.

Establishing the conditions under which each task must be accomplished.

Establishing a training standard of performance for each task.

Determine and Organize Training Required by:

Determining which intermediate training objectives the soldiers cannot successfully perform without further training.

Organizing the intermediate training objectives into a progressive sequence (simple to complex) consistent with the available resources.

Estimating the training resources, trainer techniques, aids and devices needed to accomplish each objective.

Completing administrative requirements (e.g., obtaining equipment, writing the lesson plan, rehearsing training, etc.).

Establish the Intermediate Training Objectives (ITO)

■ *What is an Intermediate Training Objective?* Like the commander's training objective, an intermediate training objective contains three elements:

1. A task statement describing the action to be performed.

2. A conditions statement describing under what conditions the task will be performed.

3. A training standards statement describing how well the task must be performed under the given conditions.

The intermediate training objective is determined and used by you, the trainer, to *prepare* and *conduct* the training which enables your soldiers to perform the commander's objective. In essence, intermediate objectives become your means to insure a soldier is capable of meeting established standards of performance.

■ *Why Must You Establish Intermediate Training Objectives?* Although you have a training objective describing what the commander expects the soldier to be able to do at the completion of training, you have not yet determined how you are going to train the soldiers to accomplish the objective. Nor have you

*Some commander's training objectives may be quite simple to perform and therefore, the trainer will not have to establish the intermediate objectives. In these cases, the trainer must complete only the remainder of Step 2, Prepare to Conduct Training.

determined what the soldiers must do, step by step, to reach that objective. Intermediate objectives are often needed to answer the how and the what of training.

■ *How to Establish Intermediate Objectives.* The need for intermediate objectives will depend on the complexity of the commander's objective. If his objective is simple, then how you train the soldiers is relatively easy to determine. But, if the commander's objective is complex, then what the soldiers must do, and how you will train them to do it, becomes far more difficult.

The need to develop intermediate objectives becomes obvious as you examine the commander's objective and ask yourself the following question: **"What must the soldiers do to successfully perform the commander's objective?"** By answering this question you can "talk" yourself through *how* to perform the objective, to include identifying the tasks necessary to accomplish the commander's objective. The number and complexity of these tasks will give you a sound basis for determining if intermediate objectives are required. Remember, you are not concerned, for the moment, with how to teach the subject matter inherent in this objective; you are only determining all the separate tasks a soldier must do to perform the commander's objective.

If you know how to perform the objective or if the objective is very simple, then talking yourself through it should not be too difficult. But, if there is any doubt how to perform the commander's objective, then you need to obtain the training literature appropriate to the objective. Admittedly, obtaining this literature is sometimes a problem. The manuals, circulars, and pamphlets available are so numerous that it is often difficult to find exactly what you need. Appendix A of this manual can help you find the appropriate training literature. From your knowledge, experience, and the appropriate references, you can determine the tasks required to accomplish the commander's objective, and thereby determine if intermediate objectives are required.

To illustrate the above, consider this commander's simple training objective:

> *TASK:* **Each soldier will don his protective mask,**
>
> *CONDITIONS:* **given the alarm, "Gas."**
>
> *TRAINING STANDARD:* **Each soldier must obtain a proper fit within 9 seconds after the alarm has been given.**

Your own experience will quickly confirm that this objective is relatively simple and does not require establishing any intermediate objectives.

Unfortunately, most commander's objectives are a great deal more complex. Recall the commander's training objective discussed in Step 1. That objective was stated:

> *TASK:* **Each squad leader will request and adjust 4.2 inch mortar fire,**
>
> *CONDITIONS:* **as a ground observer, given a 1:50,000 map, a lensatic compass, binoculars, a radio, and a designated, observable point target (targets may vary in range from 1,000 to 4,000 meters), using the grid coordinates/direction method and the bracketing method of adjustment.**
>
> *TRAINING STANDARD:* **The initial request for fire must be made within 3 minutes after the target has been designated. Adjustments must be made within 15 seconds after the round impacts. Observer must achieve effect on target within 4 adjustments after he obtains a positive range sensing.** (Note: Normally a 4.2 inch mortar round must land within 25 meters of a target to achieve effect on target.)

Based on your own experience, expertise, or study of FM 23-91, "Mortar Gunnery," (December 1971) (specifically, chapter 3, p. 3-2, chapter 5, pp. 5-1 through 5-4, and chapter 6, pp 6-1 through 6-11), you will discover that to accomplish this objective, a soldier must be able to apply skills and knowledge from several subject areas. These subject areas include: Map reading, land navigation, communications and indirect fire procedures. In other words, to request and adjust 4.2 inch mortar fire properly, a soldier must be able to perform several tasks. You would, therefore, need to establish intermediate training objectives for this commander's objective.

Develop the List of Tasks Required to Accomplish the Commander's Objectives

When your analysis of the commander's objectives indicates that intermediate objectives are needed, you must first identify the specific tasks required to accomplish the commander's objective. As previously mentioned, you can do this by using your own experience, expertise and/or by consulting the appropriate references. TC 21-5-4, Catalog of TEC Lessons, is a good start point. Then as an example, for the request and adjustment of mortar fire

objective, you could study FM 23-91. Based on your study of this reference, you should identify the following tasks:

TASK 1: **Each squad leader will determine the magnetic azimuth (direction) from his location (observer) to a target.***

TASK 2: **Each squad leader will estimate a target's grid coordinate location.***

TASK 3: **Each squad leader will make an initial fire request (call for fire).**

TASK 4: **Each squad leader will adjust 4.2 inch mortar fire.**

**For the purpose of this example, the target's location was determined by employing grid coordinates/direction method and omitted the shift from a known point and polar coordinates methods. This is in keeping with the conditions of the commander's training objective.*

In developing your task list, you must identify *only* those tasks essential to the soldier's accomplishment of the commander's training objective. Expertise in judging how detailed you should make the task list will improve with experience. The task list also relies on how well you know the subject, i.e., it should neither break down tasks excessively nor retain tasks which are too complex.

Establish the Conditions Under Which Each Task Must be Performed

The conditions element of a training objective is necessary to communicate clearly how soldiers must perform a task while on the job. Conditions specify the personnel, equipment, and procedures used, and the environment in which soldiers must work while performing a specific task. To better understand this, consider the following task: *Each soldier will splint a broken leg.* There are many different types of splints which could be used (e.g., plastic, inflatable, or traction splints). However, on the battlefield (or anywhere other than a medical facility), access to any of these splints is unlikely. In most cases the soldier would have to use field expedients (e.g., sticks, rifles, belts, and rifle slings). Therefore, the conditions for our task (splint a broken leg) should not only specify using field expedients, but should also specify which expedient splints are to be used. The conditions in your objective, then, should be as close as possible to those the soldiers undergoing the training are likely to find when required to perform the task on the job.

As a trainer, the conditions you develop should be consistent with those specified in the commander's objective. For example, the first task you developed for locating a target by the grid coordinates/direction method was: *Each squad leader will determine the magnetic azimuth (direction) from his location to a target.* The commander specified in his condition statement that each individual be provided a lensatic compass; therefore, this equipment should be provided to each squad leader when he performs your first intermediate objective. Finally, the commander's conditions specify that observable, point targets, varying in range from 1,000 to 4,000 meters, will be designated. This should also become part of your conditions for the first task (i.e., the squad leader should be required to determine the magnetic azimuth to a target located 1,000 to 4,000 meters from his position).

Establish a Training Standard for Each Task

The last element of the training objective which you must develop is the training standard. These are needed to insure that the soldiers undergoing training will be able to perform the commander's objectives (i.e., the soldiers must be able to meet or exceed the training standard established by the commander in his objective if training is to be termed successful).

Training standards are normally expressed in terms of measurement (e.g., time, distance, accuracy) or in terms of specific procedures which must be followed. The following examples illustrate these types of training standards:

MEASUREMENT

- Mortar rounds must impact *within 25 meters* of the target.
- The riflemen must hit *47 targets* with *50 rounds* fired within *15 minutes.*

PROCEDURES

The gunner must prepare the M72A2 LAW for firing following the sequence specified in ASubjScd 23-74, "66mm HEAT Rocket, M72A2," appendix B, pp. 18-19, (September 1973). *The sequence must be followed without error or omission.*

When developing training standards for your intermediate objectives, you should first examine the training standards established by the commander in his objective. This will insure that the standards you develop for your intermediate objectives will not be more relaxed, or conversely, more stringent than the training standard specified in the commander's objective. For example, if the commander specifies that the initial request for fire must be made *within 3 minutes,* it would be inappropriate to train the soldiers to perform this task in *more* than *3* minutes. Conversely, it would not be appropriate for you to specify a standard which would require the soldiers to perform the task in 2 minutes or less. To do so would require more practice for the soldiers undergoing training and therefore require additional training time, a resource which can be used more profitably to conduct other training.

Remember, you must develop training standards which will insure the soldiers are able to meet the commander's training standards.

With that in mind, let's return to the request and adjustment of mortar fire task list. Once again, you can establish conditions and training standards for these tasks by using your experience, expertise, and by consulting the appropriate references. The conditions and standards you add to your tasks should be consistent with those specified in the commander's objective. Take another look at TASK 1 and the commander's objective.

TASK 1: Each squad leader will determine the magnetic azimuth (direction) from his location (observer) to a target.

COMMANDER'S OBJECTIVE

TASK: **Each squad leader will request and adjust 4.2 inch mortar fire,**

CONDITIONS: **as a ground observer, given a 1:50,000 map, a lensatic compass, binoculars, a radio, and a designated, observable point target** (targets may vary in range from 1,000 to 4,000 meters), **using the grid coordinates/direction method and the bracketing method of adjustment.**

TRAINING STANDARD: **The initial request for fire must be made within 3 minutes after the target has been designated. Adjustments must be made within 15 seconds after the round impacts. Observer must achieve effect on target within 4 adjustments after he obtains a positive range sensing.** (Note: Normally a 4.2 inch mortar round must land within 25 meters of a target to achieve effect on target.)

Based on the conditions element of the commander's objective, you can identify three items suitable for inclusion in your conditions statement for **TASK 1.**

CONDITIONS: As a ground observer, given a designated, observable point target (range may vary from 1,000 to 4,000 meters), **and a lensatic compass.**

The training standards for this task are not so obvious, but the commander's objective does specify that the initial request for fire (one element of which requires the observer-target azimuth) must be made *within 3 minutes* after the target has been designated. It also specifies that the observer must hit the target *within 4 adjustments.* Therefore, measurement of the observer-target azimuth must be precise. Consequently, an appropriate training standard for this task should specify the maximum time in which the task must be completed (e.g., 30 seconds) and the accuracy of the magnetic azimuth (e.g., ± 3 degrees). By adding the standards to the task and the conditions you have already established, you have completed the first intermediate objective.

ITO 1

TASK: **Each squad leader will determine the magnetic azimuth (direction) from his location to a target.**

CONDITIONS: **as a ground observer, given a designated, observable point target** (range may vary from 1,000 to 4,000 meters), **and a lensatic compass.**

TRAINING STANDARD: **The correct magnetic azimuth (± 3 degrees) must be reported within 30 seconds after the target has been designated.**

Now compare **TASK 2** with the commander's objective.

TASK 2: Each squad leader will estimate a target's grid coordinate location.

Everything the squad leader needs to perform this task is already indicated in the commander's conditions statement; however, there are two items a soldier does not need to perform Task 2. He does not need a lensatic compass to perform Task 2 nor is he involved with the bracketing method of adjustment. Therefore the conditions statement for Task 2 would read:

CONDITIONS: As a ground observer, given a 1:50,000 map, binoculars, and a designated, observable point target (targets may vary in range from 1,000 to 4,000 meters).

Adding a standard to this task depends on several factors. First, the task is relatively simple to perform provided the observer can read a map. Second, the commander's objective specifies the initial fire request must be made *within 3 minutes.* Based on your experience with estimating a target's grid location, or based on your own performance of this task, you estimate 1 minute should be allotted to perform this task.

Third, your experience and the knowledge gained from studying an appropriate manual indicates two things: The target's location must be reported using 8-digit grid coordinates; the accuracy in estimating the target's location depends on the distance (1,000 to 4,000 meters) and the terrain between the observer and the target. The latter consideration suggests the need for a sliding scale within the standards. Specifically, you should not expect the soldier to estimate the target's location as accurately at 4,000 meters as you would at 1,000 meters. Furthermore, you should understand that although the target's location must be reported using 8-digit coordinates, this location is only an estimate. An 8-digit coordinate plotted on a 1:50,000 map means that a point on the map has been located within 10 meters of its actual position on the ground. In most situations it is unrealistic to expect a ground observer to locate a target within 10 meters of its actual location when observing from a distance of several thousand meters. Consequently, the training standard should read:

TRAINING STANDARD: An 8-digit coordinate location of the target must be reported within 1 minute after the target has been designated. Required accuracy is actual 8-digit location of target ±15 percent of the ground distance from the observer to the target (e.g., if target is 1,000 meters from the observer, the location must be reported within 150 meters of the actual location).

Adding conditions and training standards to Task 3 is relatively easy. All but one of the conditions in the commander's objective are appropriate for this task.

TASK 3: Each squad leader will make an initial fire request (call for fire).

CONDITIONS: as a ground observer, given a 1:50,000 map, a lensatic compass, radio, and a designated, observable point target (target may vary in range from 1,000 to 4,000 meters), **employing the grid coordinates/direction method.**

The training standards are combinations of several sources. The *time* standard is found in the commander's training standard, the *accuracy* standard has been established in Tasks 1 and 2, and the procedural standards are found in the appropriate publication (FM 23-91). The training standards for Task 3 have been annotated to indicate their sources as shown below:

TRAINING STANDARD FOR TASK 3

1. **Request for fire must be made within 3 minutes after the target has been designated** (Commander's objective).
2. **Request must include all six elements of the fire request** (FM 23-91, "Mortar Gunnery").
3. **Radio procedures must adhere to the correct procedures** (Specified in FM 23-91, "Mortar Gunnery," pages 5-1 through 5-4).
4. **Target location must be reported to the following accuracy: Actual 8-digit location of point target, ±15 percent of the ground distance from the observer to the target** (Training standards element of Task 2).
5. **Observed target magnetic azimuth** (direction) **must be reported within 3 degrees of the actual magnetic azimuth** (Training standards element of Task 1).

Task 4, like Task 3, is relatively simple because most of the conditions and all of the training standards for Task 4 can be lifted directly from the commander's objective. The only addition to the conditions is the requirement to give the observer a spotting round which has just impacted and which requires adjustment. Compare the completed intermediate training objective for Task 4 (figure 1 on next page) to the commander's original objective (page 9).

INTERMEDIATE TRAINING OBJECTIVE 4

TASK: Each squad leader will adjust 4.2 inch mortar fire,

CONDITIONS: as a ground observer, given a radio, binoculars, a designated target (target may vary from 1,000 to 4,000 meters), — FROM THE COMMANDER'S OBJECTIVE

and a spotting of a round which has just landed which requires adjustment, — FROM YOUR EXPERIENCE OR FROM THE MANUAL

employing the bracketing method of adjustment.

TRAINING STANDARD: Subsequent correction must be made within 15 seconds after the initial round lands (spotting). Observer must place effect on target (e.g., round must land within 25 meters of target) in not more than 4 adjustments after observer has obtained a positive range sensing. — FROM THE COMMANDER'S OBJECTIVE

FIGURE 1.

Determine and Organize Training Required

With the commander's training objective in hand, and the appropriate intermediate objectives established, your job is to translate them into orderly, progressive training. This is accomplished by (1) *determining how much* training is required, and (2) *organizing* the training required. This will enable the soldiers undergoing training to progress from easier to more difficult tasks in a manner which uses the available resources efficiently.

DETERMINE HOW MUCH TRAINING IS REQUIRED

The intermediate objectives you have established specify what the soldiers must be able to do to successfully perform the commander's objective. Now you should determine how well the soldiers can perform the intermediate objectives *prior* to beginning training. This determination will allow you to *(1)* select for training only those objectives which the soldiers cannot perform without further training, and *(2)* make a determination of *how much* training will be required to insure the soldiers can meet the standards of your intermediate training objectives (e.g., the soldiers may require only a brief "refresher/brush-up" or they may require extensive practice to become proficient). To determine how well the soldiers can perform each intermediate training objective (i.e., their *current* proficiency) you can obtain and evaluate past performance results or you can conduct diagnostic testing. Let's examine the first method, obtaining and evaluating past performance results.

You can obtain information about the past performance of the soldiers to be trained by examining the following sources of information:

- **The commander's evaluation of the current level of proficiency of the soldiers to be trained with respect to his training objective (i.e., the commander's reasons for assigning you the training objective).**
- **Discussions with unit leaders and other trainers.**

  Previous, related training.
- **Individual test results: Military Occupational Specialty (MOS) or Skill Qualification Test (SQT), Expert Infantry Badge (EIB), Expert Medical Badge (EMB), and Military Stakes.**
- **Unit test results: Army Training and Evaluation Program (ARTEP)* or Army Training Tests (ATT), Operational Readiness Training**

*NOTE: ARTEP replaces the applicable ATT and Army Training Programs (ATP) for TOE units. It is used as the basis for training and testing of all elements of a battalion from the crew/squad through battalion echelons.

Tests (ORTT), crew tests (mortar crew, TOW crew, etc.).

- **Personnel records.**
- **Weapons qualification records.**
- **Unit Training Records and Training After Action Reports.**

By consulting one or more of these sources of information, you may be able to decide whether your soldiers can already perform one or more of the intermediate training objectives or whether they need additional training.

When the information obtained from these sources appears unreliable (i.e., it is outdated, incomplete or inappropriate for consideration), you may use a second approach—*diagnostic testing.* A diagnostic test is designed to determine how well soldiers can perform a specified objective (task, conditions, and training standard) *prior* to the start of training. (TEC lessons, for example, contain a pretest which indicates a soldier's proficiency in each task.) This will assist a trainer in determining how much, if any, training is required to insure that soldiers can perform an intermediate objective and meet its training standard.

Intermediate training objectives may be used as a diagnostic test by randomly selecting a few of the soldiers you are to train and having them perform each intermediate training objective. The results will give you a good indication whether the soldiers can meet the established training standard or how close they are to meeting the training standard of each objective. Random selection means that you don't require all the soldiers to perform each objective; only a few of the soldiers are picked, in a manner similar to drawing names out of a hat. This will insure a valid cross section of the soldiers to be trained are evaluated rather than evaluating only the most proficient or least proficient. (Appendix B, Case 2, discusses diagnostic testing and random selection of soldiers in great detail.)

If most of the soldiers randomly selected can successfully perform an intermediate training objective, no further (or very little) formal training is required for the objective.

Conversely, if most of the soldiers fail to meet the training standard established for a particular objective, you will have determined a gap between current proficiency and desired proficiency. This gap represents the training required.

To illustrate how to apply these two methods—*past performance results* and *diagnostic testing*—the following examples use two intermediate training objectives developed for indirect fire training:

EXAMPLE 1: Obtaining and Evaluating Past Performance Results

ITO 1

TASK: **Each squad leader will determine the magnetic azimuth** (direction) **from his location to a target,**

CONDITIONS: **as a ground observer, given a designated, observable point target** (range may vary from 1,000 to 4,000 meters), **and a lensatic compass.**

TRAINING STANDARD: **The correct magnetic azimuth** (± 3 degrees) must be reported **within** 30 **seconds after the target has been designated.**

Past Performance Results: **Company training records indicate that land navigation training was conducted three weeks ago. One objective required all squad leaders to determine the magnetic azimuth from their location to a television tower and report the azimuth within ±3 degrees of the correct azimuth. All squad leaders met this training standard.**

Conclusion: **The land navigation training was very recently conducted with similar objectives. Because the squad leaders met the established training standard,** *no further training for ITO 1 is required at this time.* (However, this does not preclude a refresher course if time permits.)

FIGURE 2.

EXAMPLE 2: Using Diagnostic Testing (Pretraining Test)

ITO 3

TASK: **Each squad leader will make an initial fire request** (call for fire),

CONDITIONS: **as a ground observer, given a 1:50,000 map, lensatic compass, radio, and a designated, observable point target** (target may vary in range from 1,000 to 4,000 meters), **employing the grid coordinates/direction method.**

TRAINING STANDARD:

1. Request for fire must be made within 3 minutes after the target has been designated.

2. Request must include all six elements of the fire request.

3. Radio procedures must adhere to the procedures specified in FM 23-91, "Mortar Gunnery," (December 1971), pp. 5-1 through 5-4 ("The Call for Fire").

4. Target location must be reported to the following accuracy: Actual 8-digit location of point target, ±15 percent of the ground distance from the observer to the target.

5. Observed target's magnetic azimuth (direction) **must be reported within ±3 degrees of the actual magnetic azimuth.**

Procedures: **You randomly select four of the 13 squad leaders who are scheduled to receive the request and adjustment of mortar fire training and require them to perform the above objective.**

Results: **Only one of the four squad leaders could meet the established training standards for the objective. The other three NCOs demonstrated very low proficiency.**

Conclusion: **The training standard was deemed to be realistic** (neither too relaxed nor too stringent); **therefore,** *further training for this objective is required.*

FIGURE 3.

By using past performance results or diagnostic testing, you could similarly determine if the squad leaders required further training for intermediate training objectives two and four. Once this determination was made, you would next organize the training required.

ORGANIZE TRAINING REQUIRED

A trainer organizes training by:

- Determining the order in which the objectives are taught.
- Estimating the resources required and selecting the training techniques appropriate to the training for each objective.
- Completing administrative requirements (obtaining equipment, preparing lesson plan, rehearsing training, etc.).

Let's examine how you can accomplish each of the above.

1 Determine Order in Which the Intermediate Objectives are Taught

Once you have determined how much training is required, you are ready to arrange the intermediate training objectives into the order in which training will be conducted (i.e., a sequence which will result in an orderly, progressive training session).

Two overriding considerations must be taken into account as you determine how to organize training. The first consideration is expressed in the question: *"Is one or more of the intermediate objectives a prerequisite to beginning training in the others?"* If the answer is yes, that objective must be taught first. For example, intermediate training objective 2 (locate the target) must be completed before a squad leader can perform intermediate training objective 3 (initial request for fire). This is because the location of the target is one of the six elements of a request for fire. Therefore, you should complete training in intermediate training objective 2 prior to beginning training in intermediate training objective 3.

Occasionally, your arrangement of intermediate objectives will have no impact on the conduct of training. For example, if intermediate training objective 1 (determine observer-target azimuth) had required training, it would make little difference whether training was conducted for objective 1 before training began for objective 2 (locate target).

The second consideration is based on resource limitations: *Do your resources dictate how you must organize the intermediate training objectives?* For example, both intermediate training objective 3 (the request for fire) and intermediate training objective 4 (the adjustment of fire) require the use of radios. Although the order of training for these intermediate training objectives is not critical, the number of radios available may dictate that training be completed for intermediate training objective 4 before intermediate training objective 3 for some individuals. When this situation occurs, you can often divide the soldiers undergoing training into smaller groups based on the available resources. Each group would receive training in a different objective. When training for each objective is completed, the groups would rotate stations. For example, one group can receive training for intermediate training objective 2 while a second group, under one of your assistant trainers, can receive training for intermediate training objective 4. **(Note: ITO 2 is not a prerequisite to performing ITO 4.)** When training is completed, the groups rotate stations. The number of maps and lensatic compasses required to conduct training using this approach will be one-half of the amount required to train all the squad leaders to perform each intermediate training objective at the same time.

You can see, then, that as you complete the next step in organizing your training (estimating the resources required), you must keep the matter of available resources in mind because they may require you to modify the order in which the objectives are taught.

Before discussing the selection and allocation of resources, you should understand the performance-oriented approach to training lends itself to a training session (i.e., a class or block of instruction) consisting of three phases.

PHASE I: The trainer states the purpose of the training and explains or demonstrates how the objectives will be performed. Essentially, the trainer is transmitting information to the soldiers. Because this part of the training session is what the *trainer* does (not what the soldiers undergoing training must do), it should be as brief as possible. It should provide only essential information, thereby conserving time which can be better devoted to insuring that soldiers are able to perform the objectives and meet the established standards.

PHASE II: The soldiers *practice* the objectives to acquire the degree of proficiency required by the training standard. During this phase the soldier is acquiring skills through performance. Once these skills are acquired, the soldiers may need to continue practicing them in order to develop the necessary degree of proficiency. The trainer must provide sufficient time and other resources (training aids, devices, equipment, assistant trainers, etc.) to insure the soldiers *attain an acceptable level of proficiency* prior to moving into Phase III.

PHASE III: The soldiers are *tested* by performing the objective. The results show whether the soldiers can or cannot meet the established training standard.

Select Best Available Aids/Devices and Techniques for a Training Session: Allocate the Time Required for Each Phase of a Training Session

To select the best possible aids, devices, and techniques for each phase of a training session, the trainer must know what is available. Appendix C, "Training Techniques, Aids and Devices," has been written for this purpose. This appendix indicates what techniques, aids, and devices are available and how to obtain and use them.

From the training objectives, you know what needs to be practiced until the desired level of proficiency is reached, and finally, tested. You need only to select from the available techniques, aids, and devices those which best serve to accomplish this training.

Allocating the time for each phase is not easily explained in specific terms. This is because of the factors the trainer must consider while allocating the time. Although these factors can be categorized and listed, they remain *variable,* that is, they change with every training situation. These factors are:

- **The current proficiency of the soldiers to be trained.**
- **The complexity of the commander's training objective or your intermediate training objectives.**
- **The number of soldiers to be trained versus the aids, devices, and techniques available.**

Additionally, you should keep in mind the human element (motivation, intelligence, physical coordination, morale, etc.) when you are allocating the available training time.

The following chart (figure 4) portrays the three phases of a training session and their corresponding factors for consideration in allocating and selecting the resources required for training. Remember, these factors must be considered with respect to *your* training session.

Allocating the Amount of Time and Selecting the Resources Required for a Training Session

PHASES OF A PERFORMANCE-ORIENTED TRAINING SESSION	FACTORS FOR CONSIDERATION
PHASE I. The trainer states the training objective and *explains* or *demonstrates* (if necessary) how the objectives will be performed.	1. Current proficiency of soldiers—influences the time needed for explanation and demonstration. 2. Number and complexity of objectives—influences the time needed for explanation and demonstration. 3. Number of soldiers to be trained versus resources available—resources you are given or which you obtain include training aids, devices, equipment, facilities, number of assistant trainers.
PHASE II. The soldiers *practice* the objectives to acquire the degree of proficiency required by the training standards.	1. Current proficiency of soldiers with respect to the objective—influences the time he will need to learn the skill. Other factors, difficult to determine, which influence how quickly the soldiers learn are motivation, intelligence, physical coordination, morale, etc. 2. Number and complexity of objectives—influence the time necessary to acquire proficiency. How quickly soldiers acquire proficiency also depends on their current proficiency. 3. Number of soldiers to be trained versus resources available—how many soldiers can practice simultaneously depends on the ratio of available resources to the number of soldiers to be trained (e.g., one aid or device per man to practice with versus one aid or device per ten men). Resources include training aids, devices, facilities, equipment, and the number of assistant trainers.
PHASE III. The soldiers are *tested* by performing the objective to established training standards. The Objective Equals the Test.	1. Current proficiency of soldiers. 2. Complexity of objective. 3. Number of soldiers to be trained versus resources available.

FIGURE 4.

2 Estimate Resources Required & Select Appropriate Techniques

The resources in Phase I can be estimated and allocated relatively accurately because *you* are controlling most of the factors which influence the decision. Specifically, your intermediate objectives enable you to reduce a complex task to a logical series of smaller, simpler tasks. You are using the aids and devices and facilities. By rehearsing, you can determine the time you need to explain the objectives. You can even allow time for students' questions. And with diagnostic testing, you also have determined the current level of proficiency of the soldiers.

Determining the resources (to include time) in Phase II is the most difficult of the three phases. This is because the soldiers are performing (practicing). Because you have little control over these factors, the amount of time the soldiers need to learn and practice (Phase II) cannot be determined until after you have determined the time for Phase III.

The resources required for Phase III are relatively fixed because after sufficient practice, the soldiers should be able to perform the objective to the established training standards. Because the objective states what the soldier will use in performing the task, and usually the amount of time he must do it in, you can determine the resources accurately.

Based on this discussion you now have a relatively accurate method for estimating the amount of time for Phase I and III. To better estimate the amount of time for Phase II, do the following:

Start with the total amount of time provided by the commander for the training session. Subtract the estimated time required for your explanation (Phase I) and the testing (Phase III). You must also consider the administrative time required to conduct the training. Don't forget the time necessary to move troops between stations, rest or break periods, time delays peculiar to your training, and any other additional events that will keep your troops from training. The amount of time remaining will be the time available for Phase II (soldiers' practice).

If this amount of time is, in your judgment, too short, then you must consider the following:

1. Reduce the time expended in Phase I. One way to save time is to use homework assignments. These assignments should provide soldiers with the purpose of training (i.e., training objectives and reasons for the training), and explanation, if necessary, (i.e., procedures they are to follow during Phase II and III), and the knowledge they will use during Phase II and III (i.e., characteristics of a weapon—maximum effective range, minimum range, types of ammunition, etc.). *Caution—homework assignments may work well for training leaders, but may not be appropriate for troops.*

2. Acquire more aids, devices or equipment which will reduce the time for practice.

3. Return to your commander with your estimate and request more time and/or other training resources.

The overriding consideration is the realization that the soldiers should not be tested on the commander's objective until they have been properly trained to do all the intermediate objectives inherent in the commander's objective.

Once the resources have been estimated and allocated, you should take the following information to the commander who assigned you the training objective:

- **The intermediate training objectives you have developed to accomplish the commander's training objectives.**
- **The intermediate training objectives that need training and the justification for deletion of specific intermediate training objectives.**
- **The estimated training resources you need to accomplish the training, to include any shortages.**
- **The order in which the training will be conducted.**
- **The training methods and techniques you plan to use.**

Armed with this information, the commander can decide if your preparation has been adequate, if there

are problems he should solve, and if he can significantly improve the training by offering more resources (provided they are within his capabilities as a training manager).

3 Complete Administrative Requirements

Once your commander has approved your approach, you next develop a lesson plan.

The performance-oriented training approach indicates that the most useful lesson plan should contain the following elements:

- **The commander's training objective (or final training objective)**
- **The intermediate training objectives, if any**
- **When, where, to whom, and by whom the training is given**
- **Time-phased sequence of how training is to be conducted**
- **Safety restrictions and measures**

Other administrative information required by local SOPs

These elements should provide you, your commander, and other interested persons with the type of information required to evaluate the training. An example of a lesson plan is at appendix G.

There are still two things which you must do before you actually conduct your training—check the administrative support requirements and conduct your rehearsal.

With respect to administrative support requirements, a good rule of thumb is, "don't take anything for granted—check on everything." The number of administrative requirements varies with each training period. Most of the administrative support requirements should already have been taken care of by the commander, but don't feel restircted by his allocation of resources. If you need a chalkboard, then request it or make one yourself. This is not the time to be limited in your thinking and preparation.

The following checklist may be helpful in insuring that you do not overlook anything.

- ☐ **Check ranges or training facilities (arranged by commander)**
- ☐ **Obtain or make training aids**
- ☐ **Notify your assistant trainers**
- ☐ **Pass out word on uniform and equipment**
- ☐ **Reproduce handouts, if appropriate**
- ☐ **Coordinate for special items such as water trailers, aid vehicles, etc. (arranged by commander)**
- ☐ **Coordinate troop support for demonstrations or skits (arranged by commander)**

When possible you should conduct a rehearsal prior to actually conducting your training. A rehearsal provides a final check of your training preparations.

You may have already done a lot of work to properly plan and prepare your training, but the following areas can turn into real problems if you fail to rehearse:

- All skits or demonstrations.
- All practice periods which are controlled by your assistant trainers. You cannot afford to give this item just a quick once-over a few minutes prior to the start of your training. Your assistant trainers have to be real "experts." If they are not, you must train them before you begin training for the soldiers. Therefore, require your assistant trainers to rehearse. During rehearsal you can make necessary adjustments and corrections.
- All performance tests.
- All films or other audiovisual aids that are integrated into your training.

Just prior to the conduct of your training, but with sufficient time to take corrective action, personally check:

- ☐ **Arrangement of the classroom or training area.**
- ☐ **Arrival of special equipment such as lister bags, vehicles, etc.**
- ☐ **Cold or hot weather restrictions specified in local training SOP.**
- ☐ **Arrival of assistant trainers and support troops if required.**
- ☐ **Working order of projection and sound system (if needed).**

STEP 3: CONDUCT TRAINING TO STANDARDS

Step 3 consists of conducting, monitoring, and evaluating the training to insure the soldiers can perform the commander's objective.

The benefits of the hard work you have done in Steps 1 and 2 can be realized if you remember to:

Be an Effective Leader

If you want the soldiers to enthusiastically "get with" their training, you must approach the conduct of training in a professional manner. Your expertise in the subject, your bearing, appearance, manner, and the desire to help soldiers learn are extremely important to creating the kind of training environment that will cause soldiers to *want to learn.*

Insure that Established Standards Are Met

Training is the key to professionalism. You and your commander have taken great care to establish realistic, attainable training standards that the soldiers are expected to meet. You must be continually involved in the training, supervision and critiquing to insure the soldiers meet these standards. To assist you, *use the faster learners to help the slower learners.*

Make Sure the Soldiers Can Execute the Fundamentals

If the soldiers undergoing training cannot perform each intermediate objective and meet the established standards, it does little good to "press on" with the training. Only by insuring the soldiers are well drilled in the fundamentals can you insure they will be able to perform the commander's objective.

To illustrate how the actual conduct of training would look for the request and adjustment of 4.2 inch mortar fire that has been discussed in Steps 1 and 2, the following scenario (figure 5) is offered for your study and consideration. Note the special emphasis the trainer places on insuring established standards are met. In addition, compare the time the trainer would spend explaining the purpose of training and demonstrating how to perform each objective (15 minutes) versus the time devoted to having the soldiers practice each objective and testing them on their proficiency (225 minutes).

REQUESTING AND ADJUSTING 4.2" MORTAR FIRE

SEQUENCE	ACTIVITY	TIME	TRAINING STANDARDS
1	State the commander's training objective and then state the intermediate training objectives while demonstrating how to request and adjust 4.2 inch mortar fire. Point out each step and intermediate training objective in the process as you come to it.	15 min	*Demonstrator will meet the following standards:* (1) Make initial fire request within 3 minutes after the target has been designated. (2) Make adjustment within 15 seconds after the round impacts. (3) Achieve effect on target within 4 adjustments.
	Insure that students can determine target location. If not, practice this until they can.	15 min	*Squad leaders must meet the following standard* (1) Report the correct magnetic azimuth (±3 degrees) within 30 seconds after the target has been designated. (2) Report an 8-digit grid coordinate location of the target within 1 minute after the target has been designated and to the following accuracy: Actual 8-digit location of target ±15 percent of the ground distance from the observer to the target (e.g., if target is 1,000 meters from the observer, the location must be reported within 150 meters of the actual location).
2	Explain the elements of the call for fire. Then break class into three groups (maintain unit integrity if possible). Have each group master fire requests on chalkboards with the groups competing against each other by calling for fire on a radio to a simulated FDC.*	77 min	(1) Request fire within 3 minutes after the target has been designated. (2) Include all six elements of the fire request. (3) Adhere to radio procedures specified in FM 23-91, "Mortar Gunnery," (December 1971), pages 5-1 through 5-4 ("The Call for Fire"). (4) Report target location to the following accuracy: Actual 8-digit location of point target, ±15 percent of ground distance from the observer to the target. (5) Report observed target's magnetic azimuth (direction) within 3 degrees of the actual magnetic azimuth.
	Explain how to spot rounds and calculate corrections. Then break class into three groups. Have each group spot rounds, make range changes and correct deviations using a puff board.* Have the groups practice requesting and adjusting 4.2 inch mortar fire on a puff board until each NCO can meet the prescribed standards of the commander's training objective.	52 min	(1) Make subsequent corrections within 15 seconds after the initial round lands (spotting). (2) Place effect on target (e.g., round must land within 25 meters of target) in not more than 4 adjustments after observer has obtained a positive range sensing.
3	Test NCO's proficiency using live mortar fire. Once this has been accomplished, release the class or keep working on speed and precision.	70 min	(1) Make initial fire request within 3 minutes after the target has been designated. (2) Make adjustments within 15 seconds after the round impacts. (3) Achieve effect on target within 4 adjustments.
	Total movement time between concurrent stations.	11 min	
		240 min or 4 hours	

*Have the groups compete with each other once they have grasped the procedure.

FIGURE 5

Conduct Post-Training Evaluation

"How am I doing?" Both the trainer and the soldiers being trained need to know the answer to this question. Using the performance-oriented approach to training, this evaluation is fairly simple for the soldiers. Because the soldiers know what they must do, the soldiers have an established benchmark from which they can evaluate their performance throughout the training session.

Trainers must also supervise and evaluate training. Supervising training helps determine soldier performance of the intermediate training objectives. This is essential to insure that the soldiers can properly execute the fundamentals and meet the established standards before they perform the commander's objective.

Evaluation is more comprehensive and concerns two important aspects of the training process: **training effectiveness** and **training efficiency.**

Training effectiveness is concerned with how well the soldiers perform the commander's objective. *Training efficiency* is concerned with how well the trainer uses the available training resources.

If the soldiers can meet the training standard of the commander's objective, the effectiveness of training can be judged a success. If the soldiers fail to meet the established standard, the trainer must try to pinpoint the reasons.

To assist in evaluating the effectiveness and efficiency, see appendix D. The appendix contains many of the questions you should ask yourself to determine the efficiency and effectiveness of your training.

By answering those questions you can provide the commander with the information he needs to modify or continue the training program. Just as importantly, you will gain useful information of the "lessons learned" variety. With respect to lessons learned, it is recommended that you give the unit training NCO a copy of the commander's objectives, his other guidance, and the lesson plan (which includes the intermediate objectives you developed and the time-phased sequence of the training). Finally, you should provide the training NCO with the results of your training. A penciled, readable copy is sufficient; no need to make elaborate, "pretty" file copies. The important point is to save the objectives and other information you have so carefully prepared. With minor modification, this information can save a great deal of time and effort when you or other trainers are called upon to prepare and conduct similar training in the future.

In summary, trainers should evaluate training in terms of its effectiveness and efficiency. The evaluation process is not designed to assess blame. Its purpose is to continually improve training in the most constructive fashion possible. Therefore, each evaluation must be a candid and "eyes open" process which assists the commander and his trainers to discharge their critical training manager and trainer responsibilities.

Preparing Individual Training Using Soldier's Manuals

Now that you have read chapter 3, you may be asking yourself "If the Army wants performance-oriented training, why can't the service schools give us the kind of training literature that will make the preparation of training easier?" In fact, the service schools are hard at work to do just that. They are developing and field testing a new series of publications called Soldier's Manuals. Each Soldier's Manual specifies the critical performances essential to success in combat for a given MOS, duty position, and skill level. These performances are written in terms of a series of training and evaluation outlines. Each outline contains a training objective that specifies the task to be performed, the conditions of performance, and the standard of acceptable performance. You will, of course, recognize that this information largely completes Step 1, "Describe the desired results of training" for you.

To aid in the completion of Step 2, "Prepare to conduct training," each training and evaluation outline also includes helpful "how to" information and lists key references to simplify additional study. An example of one training and evaluation outline from the 11B Soldier's Manual is on pgs. 25-26. By consulting the Soldier's Manual for each MOS in your unit, the preparation and conduct of individual training will be greatly simplified. At this point, a word of caution is in order. The development of each Solidier's Manual takes time. Each manual must be written and field tested to insure it is valid and meets your needs. With the large number of MOS in the Army, it will take several years before all the Soldier's Manuals are completed. However, many of the performances listed in the initial group of Soldier's Manuals will apply equally to other career fields and duty positions. Among the first group of manuals being produced are those for the 11B, 11C, 11D,

11E, 13B, 13E, 16R, and 16P MOS. Look them over as they become available. It may save you a lot of time and effort, and help make your training more efficient and effective.

TRAINING AND EVALUATION OUTLINE

EVALUATION:

TASK: Construct individual defensive position.

CONDITIONS:

In daylight, given: (1) load bearing equipment w/bayonet, scabbard, entrenching tool, poncho and M16A1 rifle, (2) the specific location and sector of fire of the position to be constructed (NOTE: position should afford natural cover such as mounds of earth, stumps, trees, rocks, etc., and observation and fields of fire), (3) logs to construct overhead cover and (4) four hours to complete construction (NOTE: time may be adjusted when soil and weather conditions make construction of positions particularly difficult).

STANDARDS:

Within time specified, completed position must meet or exceed the following specifications:

(1) Cover - Affords protection from direct frontal small arms fire (e.g., a natural or man-made frontal parapet (earth) 1 helmet high and at least 1 M16A1 length deep or its equivalent) and from effects of indirect fire (shrapnel) (normally requires at lest 12 inches of dirt/log overhead protection).

(2) Concealment - Position cannot be easily detected from front (e.g., blends with surroundings well enough that approaching soldier approximately 35 meters to front (hand grenade range) who does not know position's location cannot detect it).

(3) Fields of Fire - Limiting stakes are emplaced and correctly define sector of fire. Occupant in firing position has observation in sector and fields of fire which have been cleared sufficiently, but which have not destroyed natural camouflage so that position can be detected as specified in para 2.

(4) Size/Shape - Position is armpit deep and at least shoulder wide (of occupant); provides a cave-like compartment with overhead cover big enough for occupant to get under.

(5) Optional - Position includes: (1) grenade sump, (2) sloping floor with shallow trench to facilitate drainage, (3) elbow holes to stabilize firing position and to lower silhouette when firing, (4) range card (5) night firing stakes:

TRAINING:

1. Recommended Construction Procedure. See figure. Construction of an individual defensive position should generally follow this sequence:

(a) Obtain position location and sector of fire from your squad leader. Put in sector of fire stakes.

(b) Partially clear fields of fire within your sector and dig a hasty hole for minimum protection. Be careful not to destroy natural camouflage around your position. Save grass clumps, etc., for camouflage later.

(c) Next dig in. Make hole armpit deep. If you have a natural frontal parapet carry away and camouflage dirt from hole, if not, make frontal parapet with the hole dirt as shown in figure .

(d) Complete clearing fields of fire. Clear only what is absolutely necessary. Get in firing position and check observation of fields of fire. Save any cut foliage, dirt, grass clumps, etc., for camouflage of position.

(e) Camouflage position using available materials (e.g., grass clumps, foliage, etc.). Make your position blend into surroundings. Check camouflage by moving 35 meters to front and observe position. If you can spot your position easily, you need more work on camouflage.

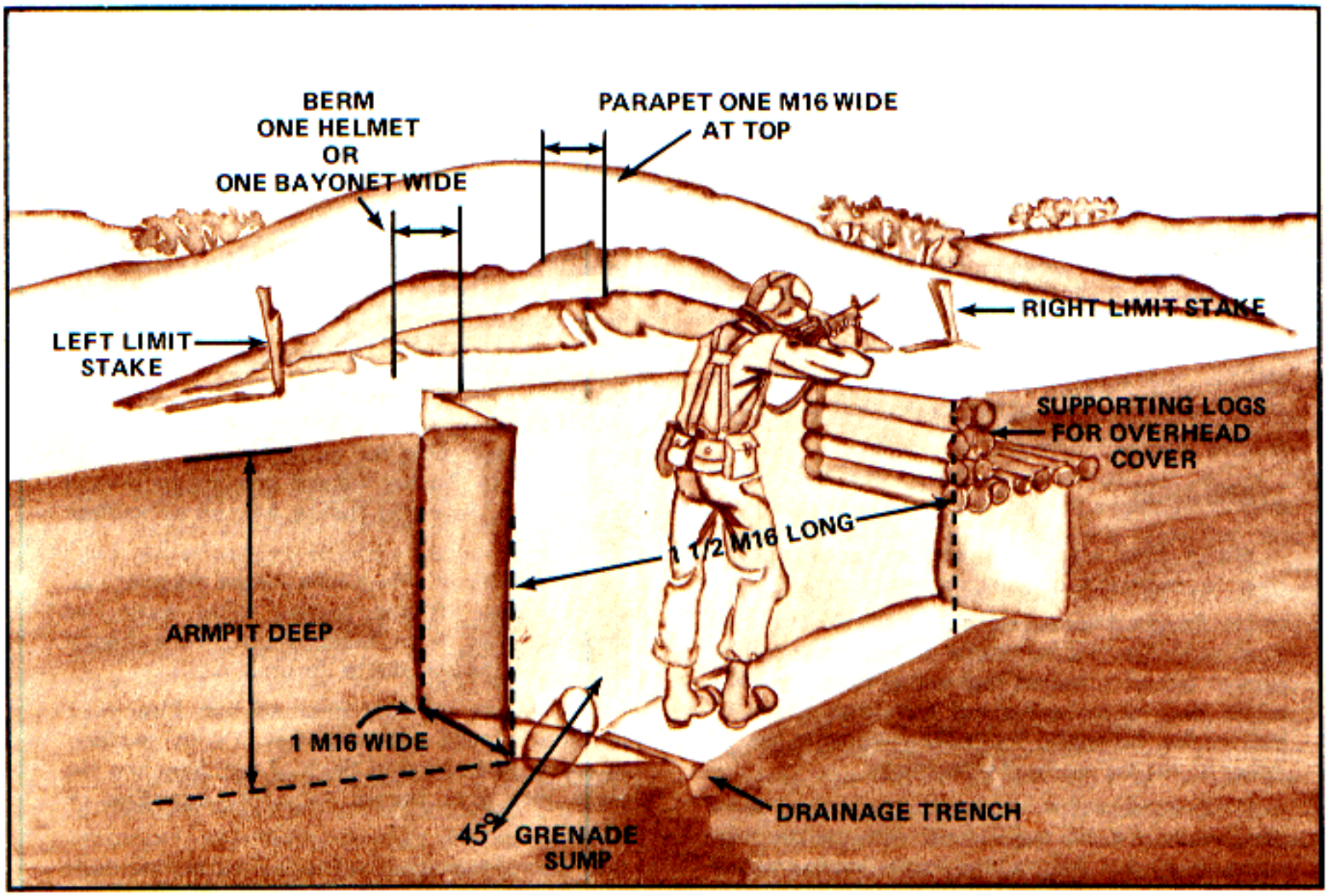
(f) Construct overhead cover. Use logs, planks, etc., which will support at least 12 inches of dirt. Dig cave-like area big enough to get under (see figure).

(g) Improve position. Dig grenade sump at 45 degree angle and at least 2 feet deep. Slope floor of foxhole and dig shallow trench to allow for drainage. Dig elbow holes to stabilize firing position and to

lower your firing silhouette. Put in night firing stakes and make a range card. Improve camouflage. Construct alternate and secondary positions as directed by your squad leader. Replace dead foliage as needed to maintain camouflage. Remember, you can always improve your position.

REFERENCE:

TC 7-50, "Fighting Positions for Infantry Soldiers."



Next: introduction to collective training

CHAPTER 4

Introduction to Collective Training

In chapters 2 and 3, you read how to prepare and conduct performance-oriented INDIVIDUAL training. The 3-step, backward planning process (describe desired results, prepare training, and conduct training to standards) is also applicable to collective training. Collective training refers to training teams (fire teams, crews, and sections) and units (squads, platoons, and companies). This chapter defines collective training and discusses fundamentals which will help you understand the concepts and examples shown in the following chapters.

Collective training prepares soldiers to perform those team or unit tasks essential to the accomplishment of a unit's TOE or operational mission. In many respects collective training for soldiers is like training a football team. In fact, many successful military trainers have recognized and made reference to the similarities between preparing a football team for a game, and training teams and units for combat.

Like a military team or unit, a football team is comprised of individuals who possess certain abilities. The coach (the training manager) and his assistants (the trainers) seek to develop those abilities through a combination of individual and collective training. They do this by understanding and stressing certain training fundamentals. Chapters 2 and 3 discussed training fundamentals that apply to *individual* training. The following paragraphs explain the fundamentals of *collective* training.

FUNDAMENTALS OF COLLECTIVE TRAINING

Develop Precise Training Objectives and Insure that Established Standards are Met

In collective training, as with individual training, the training objective is the key to conducting efficient and effective training. Collective training objectives specify:

1. **the TEAM OR UNIT task to be performed.**
2. **the CONDITIONS under which the task will be performed.**
3. **the TEAM OR UNIT TRAINING STANDARD that must be met.**

Only by having precise training objectives can the trainers and the team or unit clearly understand what they are expected to accomplish. *(If you do not understand what is meant by precise training objectives, reread chapters 2 and 3 and appendix B.)*

To further illustrate this point, consider how a successful coach trains a football team. Prior to the preseason practice period, the coach and his assistants carefully prepare the offensive and defensive plays which they feel will insure the team's ability to accomplish its mission (win football games). In effect, these plays are collective training *tasks*. For example, consider the passing play diagrammed in figure 6. This diagram describes how the offensive lineman will provide pass protection for the quarterback (i.e., it specifies the tasks to be performed by the lineman) and shows the patterns that the ends and backs will run to get the left set back (LSB) open so the pass can be completed (i.e., tasks to be performed by the ends and backs). Further, the play specifies the type of defense that the play will be run against *(conditions)*.

To complete the training objective for the pass play, the conditions and training standard must be established. Specifically, the conditions are: the rules of football (e.g., size of the field, number of players, infractions, etc.), the down, yardage required for a first down, the offensive team's field position, and

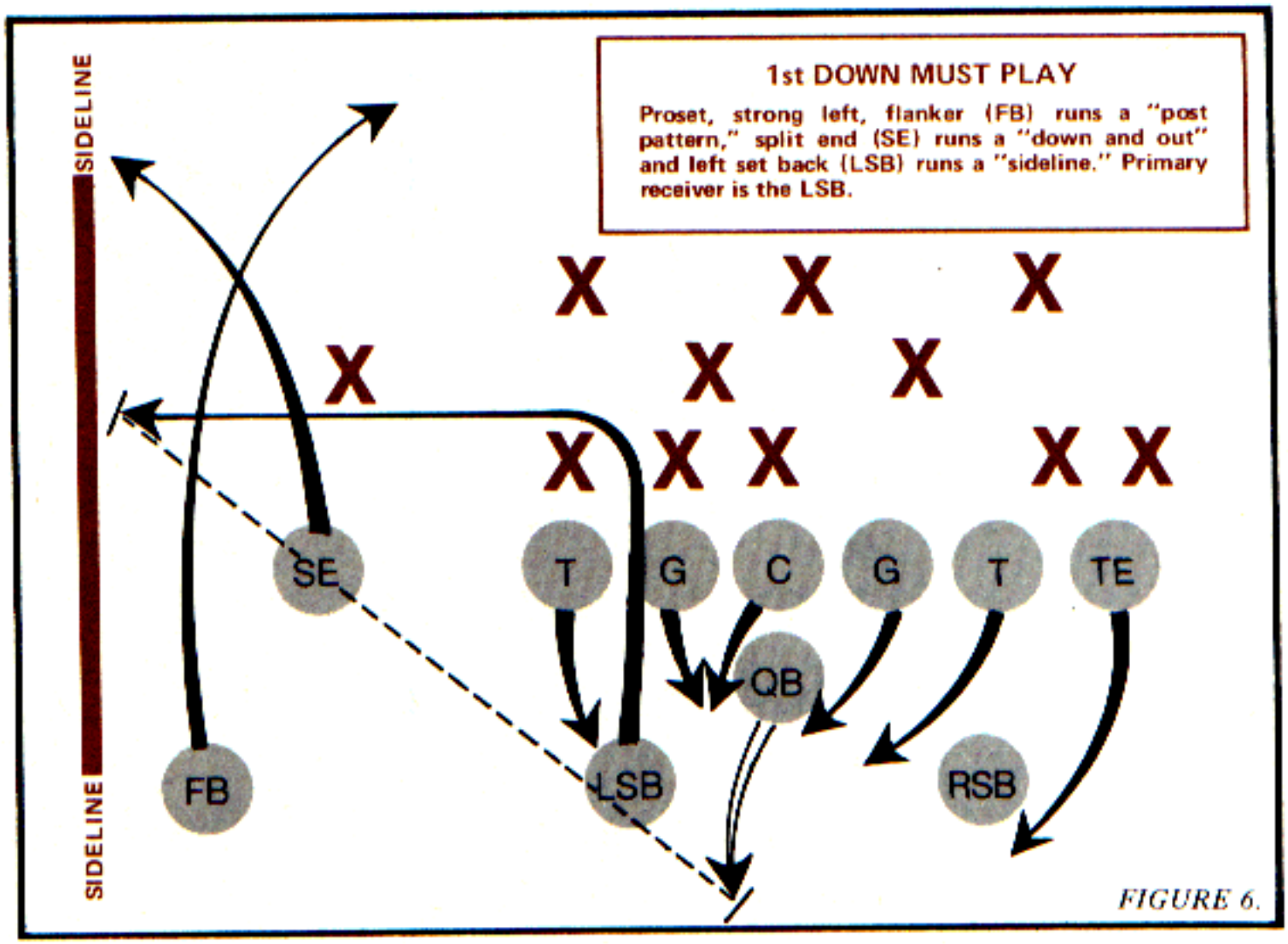


FIGURE 6.

the alinement of the defensive team. The team *training standard* is a completed pass which gains enough yardage for the first down. This standard specifies what the entire team must achieve.

The coaches are also concerned with how various elements of the offense perform. Did the line provide pass protection? Did the left set back catch the ball? Did the quarterback throw a good pass? The coaches would establish a training standard for these elements. To explain this point further, consider how the coaches develop a training standard for the offensive line in executing the pass play.

The coaches know through experience the quarterback needs about 3 seconds to set up and throw the ball. After that, the defensive line can be expected to break through the protection and tackle him. Therefore, the offensive line coach knows, before practice, that the offensive line must be able to provide pass protection to the quarterback for 3 seconds. The coach also knows that the success of this task depends on each lineman being able to perform properly certain critical individual tasks.

Insure Soldiers Can Perform Critical Individual and Subunit Tasks

The collective training objective is usually attained through successful performance of individual tasks. Trainers must insure that individuals can perform the tasks required to accomplish the commander's training objective. These critical tasks can be categorized as those performed by the *leader,* those performed by *other members* of the unit, and those performed by *subunits.*

CRITICAL TASKS PERFORMED BY LEADERS

Regardless of how well prepared the football team may be for the game, the quarterback must call the plays which will capitalize on his team's strengths and the opponent's weaknesses and result in his team putting points on the board. As a decision maker, the quarterback's play-calling role is critical. Specifically, should he fail to read the defense properly, the play he calls may result in no gain, an incomplete pass, or worse, an interception. The coaches (the trainers) recognize this and pay particular attention to preparing the quarterbacks for the game. Study sessions with game films, studying playbooks, and reading various defenses are favorite techniques used by coaches to prepare quarterbacks.

Military leaders also must make critical tactical decisions which can significantly affect how their teams or units perform. For example, a commander, with the mission to defend, selects terrain on which his men prepare defensive positions. *If the leader's decision is wrong (e.g., fails to orient on likely enemy avenues of approach or fails to locate his unit's weapons where they can engage targets effectively), the proficiency with which the individual members of the unit dig in, camouflage their positions, and engage targets may be of little consequence to the outcome of the battle.* Conversely, if the leader selects the optimum defensive positions, the individual soldiers will have a better chance of accomplishing their mission.

Again, team performance is significantly affected by the decisions and actions of its leaders. Training is more productive if leaders develop the necessary technical and tactical expertise *before* they train with their team or unit. Otherwise, the troops become little more than "training aids" for their leaders.

CRITICAL TASKS PERFORMED BY TEAM AND UNIT MEMBERS

Trainers must also insure that soldiers can perform the critical individual tasks inherent to the collective training objective. For example, in training the offensive line of a football team, the line coach insures that each lineman can execute properly one-on-one and two-on-one blocks *before* he trains the line to function as a team.

In military training, a trainer conducting 81mm mortar crew training insures each crew member can perform his critical duties (e.g., each gunner must be able to level the mortar) before the complete crew works on its speed and precision in setting up and firing the mortar.

CRITICAL TASKS PERFORMED BY SUBUNITS

The trainer concerned with tactical collective training must also insure his subunits can perform critical collective tasks. For example, if you are

preparing platoon-level tactical training you must insure that the rifle squads can perform critical collective tasks (i.e., if the platoon is conducting a daylight attack of a fortified position, the rifle squads must be capable of moving from the LD using the appropriate formations). This fundamental can also be applied to smaller units (e.g., fire teams practicing movement techniques before the entire squad attacks, or 4.2 inch mortar gun crews conducting crew drill while the FDC and FOs are training elsewhere.

Use Multi-Echelon Collective Training

To insure each training session uses the available time and other resources efficiently, football coaches use a multi-echelon training approach. This approach is designed to train **simultaneously** different elements of the football team *before* the entire team "puts it all together" in scrimmage or in a game.

Consider again the example of the pass play. After the coach is satisfied each player can perform critical individual tasks (e.g., linemen block, center snaps ball, quarterback throws ball, ends and backs run patterns and receive), he has the offensive line develop precision and teamwork by working against a defensive line. Concurrently, the quarterback may be watching films of opponents' games. In this way, the quarterback learns which defensive sets the opponent usually takes, depending on down, yardage, and field position. This multi-echelon approach to training leaders and team members separately but simultaneously, usually precedes the entire unit being drilled as a team.

There are a variety of ways in which military collective training can and should employ the multi-echelon approach. For example, leaders and staff officers can begin training in tactical operations by using one or more tactical exercises (e.g., command post exercises, terrain exercises, or terrain model exercises). In this manner *the leaders can learn and practice their tactical skills without wasting their soldiers' time.* Meanwhile, the soldiers can be learning how to perform their jobs under the direction of qualified officer and noncommissioned officer trainers or by using Training Extension Course (TEC) lessons.

The important point is to train leaders to perform their jobs without wasting the troops' time or other training resources. Once the leaders and soldiers individually are proficient, they train together effectively as a unit in field training exercises (FTX)

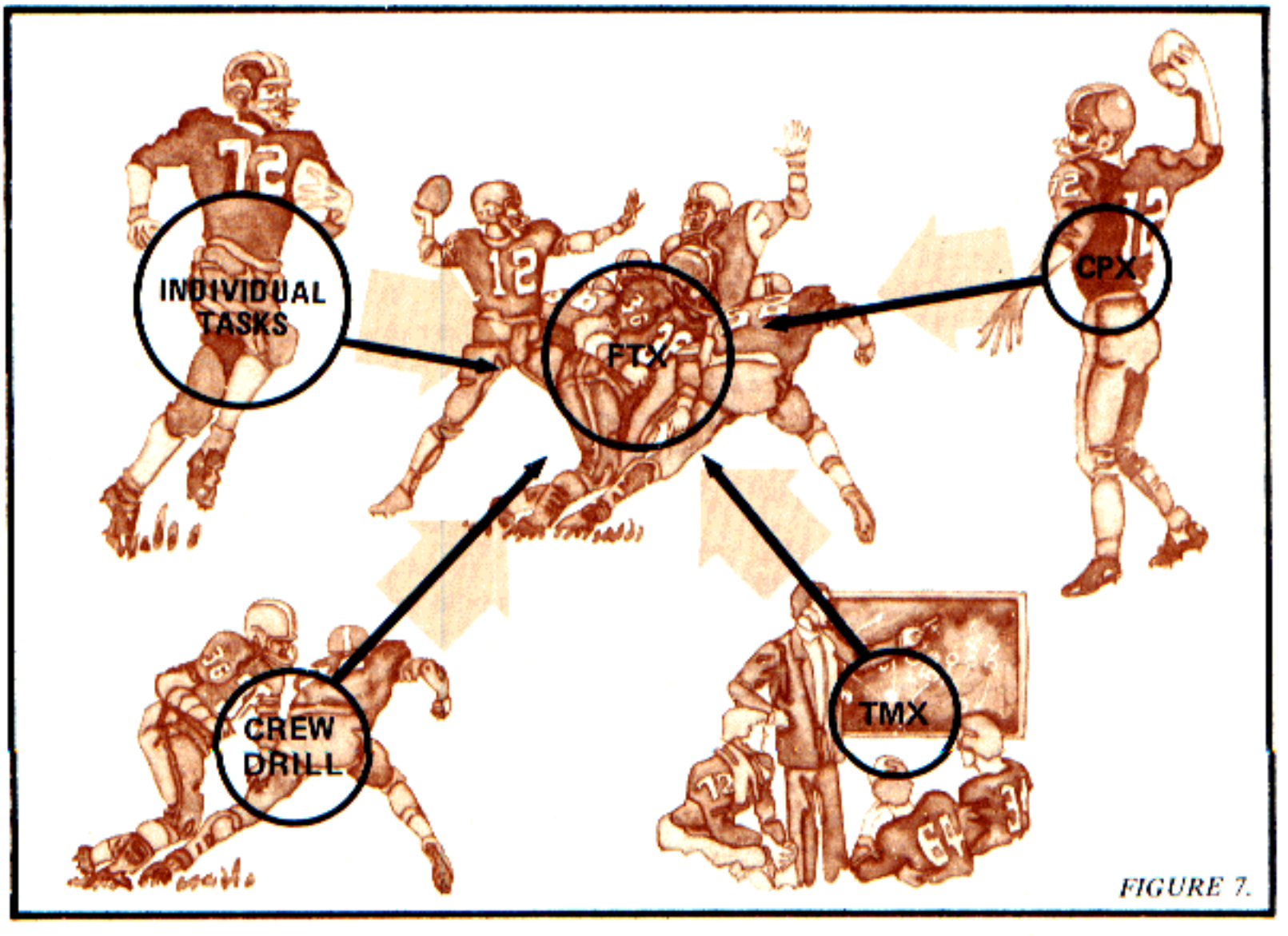


FIGURE 7.

TYPES OF COLLECTIVE TRAINING

There are two types of collective training: *equipment-oriented collective training* and *tactical collective training.*

Equipment-Oriented Collective Training

Equipment-oriented collective training is designed to prepare teams and units to employ crew-served equipment (e.g., a tank, artillery piece, tactical bridge, mortar, TOW weapons system, etc.). Equipment-oriented collective training objectives (i.e., *the tasks, conditions and training standards*) are developed in terms of how *the equipment* should be operated by the crew. This means the conditions and training standards are based primarily on the efficient operation of the equipment rather than the terrain or the enemy situation. For example, a mortar crew sets up and fires a mortar using essentially the same procedures regardless of the enemy situation or terrain. Similarly, the procedures used by an engineer company to construct a bridge do not change substantially from site to site. Chapter 5 explains how a trainer prepares and conducts equipment-oriented collective training.

Tactical Collective Training

Unlike equipment-oriented collective training, *tactical collective training is very much dependent on the enemy situation, the terrain, and other external factors (weather, visibility, etc.).* This means these training objectives cannot be stated in isolation from tactical situations. While statements of tactical tasks are relatively straightforward and constant (attack a fortified position, conduct a recon patrol, etc.), the conditions under which these tasks must be performed and the precise standards of acceptable performance must be developed in the context of a specified enemy situation for a particular piece of terrain. Therefore, in tactical training, *the trainer must be given, or he must develop, an appropriate enemy situation for the terrain on which the exercise is to be conducted.* Then he can develop **precise and complete** tactical collective training objectives. Chapter 6 discusses this concept in detail and explains how a trainer prepares and conducts tactical collective training.

Army Training and Evaluation Program (ARTEP)

Recall that Soldier's Manuals (discussed in chapter 3) are designed to assist the commanders and trainers to prepare and conduct **individual** training using the performance-oriented concepts emphasized in this manual. In similar fashion, service schools are developing ARTEPs to assist training managers and trainers in the preparation, conduct, and evaluation of **collective** training. Each ARTEP is comprised of a series of training and evaluation outlines. Each outline specifies for a particular element of a battalion/task force, or separate company, the following information:

a. The unit (i.e., crew, squad, platoon, company/team or battalion/task force) for which the outline is applicable.

b. The mission to be performed.

c. The general conditions (situation) under which the mission will be performed.

d. The primary training and evaluation standards upon which the unit will be evaluated as either satisfactory or unsatisfactory (GO/NO-GO).

e. The collective training objectives applicable in the performance of the mission; guidance for estimating support requirements necessary to conduct formal evaluations, and tips to trainers and evaluators.

This is the kind of information training managers and trainers will find useful in the preparation and conduct of collective training.

Chapter 5 includes a discussion of how ARTEP applies to equipment-oriented collective training. Chapter 6 includes a discussion of tactical collective training using ARTEP. Also included in Chapter 6 is a discussion of engagement simulation training techniques and equipment being incorporated into ARTEP and designed to realistically simulate, in tactical training, the lethality and casualty producing effects of modern weapons.

Next: equipment-oriented collective training

CHAPTER 5

Equipment-Oriented Collective Training

This chapter builds on the material contained in chapters 2, 3, and 4 to explain how company-level trainers can prepare and conduct equipment-oriented collective training (e.g., training for tank crews, artillery gun sections and batteries, engineer bridge companies, mortar platoons, etc.). If you have not read and understood chapters 2, 3, and 4, you should do so before reading this chapter. If you have already read and understood them, the following review of their contents should be sufficient.

In chapter 2, the performance-oriented approach to training was explained. It discussed why this approach was more effective and efficient than the traditional lecture, conference, demonstration training methods. Performance-oriented training stresses soldiers' performance and meeting established standards rather than emphasizing what trainers do. You will recall the basis of performance-oriented training is the training objective which states precisely what the soldiers must do *(task)*, the *conditions* under which the task must be performed and the *training standard* that the soldiers must meet.

Chapter 3 explained how a trainer can use a 3-step, backward planning process to prepare and conduct performance-oriented *individual training*. The three steps are:

STEP 1. Describe the desired results of training

STEP 2. Prepare to conduct training

STEP 3. Conduct training to standards

Chapter 4 explained the three fundamentals of training teams and units (i.e., collective training). You will recall that the fundamentals of collective training are:

- **Develop precise training objectives and insure established standards are met**
- **Insure soldiers can perform critical individual and subunit tasks**
- **Employ multi-echelon collective training**

This chapter explains how a trainer can apply these fundamentals by using the 3-step, backward planning process to prepare and conduct equipment-oriented collective training. To help you understand the material, the chapter contains two examples: **training a tank crew** and **training a 4.2 inch mortar platoon.**

Although these two examples pertain to armor and infantry equipment-oriented collective training, the process for preparing and conducting the training applies equally well to any combat, combat support, or combat service support team or unit which conducts equipment-oriented collective training. Here are some examples:

Training a Forward Signal Center Platoon to set up a radio relay terminal, AN/M46-69.

Training a medical company's Clearing Platoon to erect medium and large general purpose (GP) tents.

Training the gun squads of a Vulcan battery.

Training the Air Drop Platoon of the Quartermaster Air Equipment Support Company to rig vehicles for air drop.

Training the VTR crew of a Recovery Section to recover disabled track vehicles.

Training the 155mm (SP) Howitzer Section of a field artillery battery.

Training the Heavy Raft Sections of the bridge company of an engineer battalion.

These examples indicate that more than just armor and infantry trainers are concerned with equipment-oriented collective training. The following discusses how trainers can apply the 3-step, backward planning process to prepare and conduct tank crew and 4.2 inch mortar platoon training. Let's begin with the tank crew training.

NOTE: If you're not familiar with what tank crews do and how they do it, don't worry. Concentrate on understanding how the 3-step process is used to prepare and conduct equipment-oriented collective training and see how the fundamentals are stressed.

TRAINING A TANK CREW

STEP 1: Describe the Desired Results of Training

In Step 1, you are concerned with describing precisely the task a team or unit must perform, the conditions under which the task is performed, and the training standard that must be met at the completion of the training. *In short, you must establish a complete and precise collective training objective.* You will recall that this is one of the fundamentals of individual and collective training. To see how this is done, put yourself in the role of an armor platoon leader. The company commander wants you to prepare and conduct tank crew training. In his discussion and answers to your questions, the commander provides you with the following training guidance:

"LT O'NEAL, In **three weeks** I want you to train our **tank crews** to engage **stationary armor targets.** This will be followed by a training test conducted by battalion. Battalion has allocated us **twenty rounds** of HEAT ammunition per tank and sufficient **subcaliber** ammunition to conduct practice firing. We can use **Range 10, the subcaliber range,** and the battalion **driving course** anytime during the week of training. The actual test will be in one month beginning on Monday. LT Murphy will be the OIC for the testing phase.

"**FM 17-12** states crews must fire the first round within **15 seconds** or less after a target is identified. I think that our crews should hit at least **5 of the 7** targets with either first or second rounds (or both). Second rounds must be fired within **10 seconds** after the first round impacts. **Only two rounds** will be fired at each target.

"Because of our current strength, plan to train just the **15 crews** of the **three platoons.** In addition to the ranges, the company **classroom, motor pool areas,** and **maneuver area Alfa** are available if you need them. Coordinate with the S3 for the use of TEC lessons to support this training and as concurrent training on the ranges. **LT Evans, LT Jacks, SFC Oswald** and **SFC Lever** will be your assistant trainers. Coordinate with the **S4** for subcaliber ammo. You will recall that the range has **7 armor targets,** so be sure to save at least **14 rounds per tank** for the live fire. During the **week** of training I will schedule **8 hours** of maintenance and **2 hours** of physical training.

"As you know, our company has experienced a large personnel turnover. **The replacements** have not had much opportunity to **undergo crew training.** Most of the officers and NCOs feel we are **not up to speed** in employing the **main gun.** We have spent a great deal of time on **boresighting** and **zeroing** during the past two weeks. **Everyone** has passed the **preliminary gunner's examination** so they're all up to speed in the basics. **Crew performance** on the **subcaliber tables** was also satisfactory. Therefore, **don't spend any more time in those areas.**

"If you need any more guidance or resources, **let me know.** I would like to see the **intermediate training objectives** and your **plan** for conducting the training in **one week.** I will make out the weekly training schedule at that time."

ANALYZE GUIDANCE. With the commander's guidance, you analyze the guidance to insure you have a *complete* and *precise* training objective. Look at the commander's guidance again. Does it specify the *task, conditions,* and *training standard* each tank crew must meet at the completion of their training? How about the other elements of the commander's guidance (i.e., who, when, where, reasons for training and resources provided or coordinated for)? Using your notes, you could rewrite the commander's guidance in the format shown in figure 8.

Commander's Training Objective

TASK: **Tank crew will engage main gun targets,**

CONDITIONS: **given a complete crew, a fully operational M60A1 tank with 14 rounds of HEAT ammunition, operating on a range with 7 stationary armor targets varying in range from 800 to 1,500 meters from the firing positions. Crews may fire no more than 2 rounds at each target.**

TRAINING STANDARD: **Achieve hits on at least 5 out of 7 targets. First round must be fired within 15 seconds after the target has been identified. Second round must be fired within 10 seconds after the first round has impacted.**

Additional Commander's Guidance

WHO: Best estimate of the number of tank crews—15 crews.

WHEN: Three weeks from now, for one week except for 8 hours of maintenance and 2 hours of PT to be scheduled; live firing on Range 10 all day Friday.

WHERE: Company classroom, subcaliber range, battalion driving course, motor pool, maneuver area Alfa as trainer desires; Range 10 all day Friday.

REASONS FOR TRAINING: Company NCOs and officers feel that heavy personnel turnover has reduced crew proficiency below acceptable standards because most of the replacements have not had an opportunity to conduct crew training with other crew members.

ADDITIONAL RESOURCES OBTAINED OR COORDINATED FOR BY THE COMMANDER:

- **300 rounds of HEAT ammunition**
- **Obtain ammo (7.62mm) from battalion S4**

Assistant trainers: LT Evans, LT Jacks, SFC Oswald and SFC Lever

FIGURE 8.

By examining the guidance, you should find that it is sufficiently precise and complete for you to move to the next step: *Prepare to conduct training.*

STEP 2: Prepare to Conduct Training

ESTABLISH INTERMEDIATE TRAINING OBJECTIVES. In this step, you are concerned with two of the fundamentals of collective training: *Develop precise training objectives* and *insure soldiers can perform critical individual tasks.* In developing precise objectives, it is your job to identify the individual and collective tasks which describe what the personnel to be trained must do to meet the commander's training objective. Further, once these tasks are identified you must establish the conditions and training standards which complete the intermediate objectives. *Remember, successful collective training will depend largely on how well the members of the team or unit can perform* **critical individual tasks** (i.e., those individual tasks that must be performed to accomplish the commander's objective). Intermediate objectives can be established by using your own experience and the appropriate training literature (e.g., FMs, TCs, ARTEP 17-35, etc.). For example, by using FM 17-12, "Tank Gunnery," TC 17-12-2, "Training Tank and Sheridan Crews to Shoot," TC 17-12-5, "Tank Gunnery Training," and appropriate TEC lessons, you can identify the tasks shown in figure 9.. These are the critical tasks tank crew members must perform.

Look at the list of tasks again. Aren't all of the tasks *individual* tasks? The answer is obviously yes. Then where does collective training come in? The answer is in terms of the sequence, speed, and precision with which these tasks must be performed. If the crew is to meet the commander's objective, it must operate as a *team.* A collective training task is an aggregate of individual tasks. This is the essence of what equipment-oriented collective training is all about.

With the critical *tasks* identified, the next question to be answered is, under what *conditions* must the task be performed and to what *training standard?* By developing this information, you can establish complete and precise intermediate training objectives.

However, before you launch into this step to prepare your training, you should STOP and think about *how* you can prepare the training in the most *efficient* manner. Remember the assistant trainers the commander gave you? Take full advantage of their talent and experience in helping you to prepare the training. For example, you could break out the identified tasks among the assistant trainers and require them to develop appropriate conditions and training standards. Be sure to give them the commander's training objective, and the other information the commander has provided you in his training guidance. If they are not familiar with performance-oriented training, have them read this field manual and then talk over the material with them. By teaching your assistant trainers how to train, you will be fulfilling part of your job as a leader.

Critical Tasks Performed by Tank Crew Personnel

TANK COMMANDER must be able to:
- identify targets
- give correct fire commands
- lay the main gun
- range on target
- sense rounds
- adjust rounds using burst-on-target method
- supervise entire crew

GUNNER must be able to:
- identify target in gunner's periscope
- index ammunition in computer
- make final lay
- sense rounds
- adjust rounds (burst-on-target procedure)

DRIVER must be able to:
- drive the tank
- select a firing position and stop smoothly

LOADER must be able to:
- identify main gun ammunition by type
- load the main gun

FIGURE 9.

With the foregoing in mind, let's see how appropriate intermediate training objectives are developed for equipment-oriented collective training.

By using the references, the commander's objective, your expertise, and your assistant trainers, you can establish the conditions and training standards for each task you have identified. For example, by using TC 17-12-2, and specifically figure 10 which shows the sequence in which each task is performed to engage an armor target, you should be able to develop intermediate training objectives similar to those shown in figure 11.

Fold this page out to view figure 10, "CREW ACTIONS TO MEET OPENING TIME FOR MAIN GUN ENGAGEMENTS" and figure 11. "INTERMEDIATE TRAINING OBJECTIVES"

DETERMINE AND ORGANIZE TRAINING REQUIRED

Determine How Much Training is Required. With the intermediate objectives now established, you and your assistant trainers must now determine which objectives the appropriate crew personnel can already perform successfully and those for which the crew personnel will require further training. By making this determination, you will be able to insure that soldiers can perform critical individual and subunit tasks, a fundamental of collective training.

To determine training required, you and your assistants can use either of the methods described in chapter 3. You will recall these were (1) obtaining and evaluating past performance, and (2) conducting diagnostic testing. (Review chapter 3, pages 8-26, if you are not familiar with these methods.)

(NOTE: For the tank crew training example, consider that you and your assistants have used one or both methods and have determined that all of the intermediate objectives will require training. Crew proficiency with respect to all objectives is very low.)

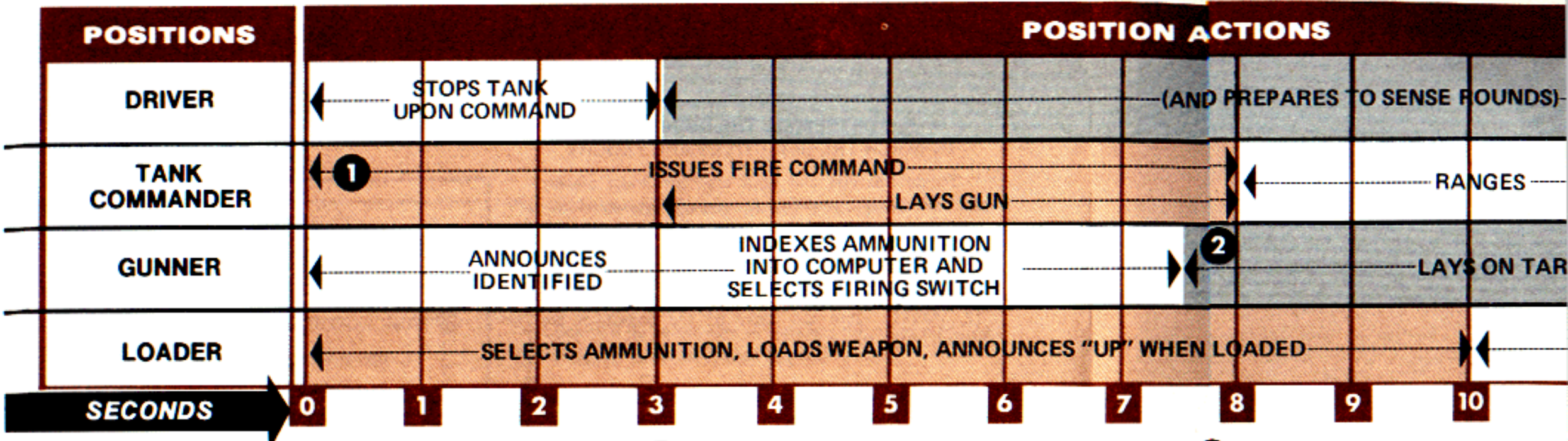
You and your assistant trainers are now ready to organize the training required.

Organize Training Required. A trainer organizes training required by:

- **Determining the order in which the objectives are taught**
- **Estimating the resources required and selecting the trainer techniques appropriate to conducting training for each objective**
- **Identifying individual periods of training and assigning assistant trainers**
- **Completing administrative requirements (e.g., obtaining equipment, preparing lesson plan, rehearsing training, etc.).**

Let's examine how trainers can accomplish each of the above using tank crew training as an example.

CREW ACTIONS TO MEET OPENING TIME FOR MAIN GUN ENGAG



1 *Tank Commander identifies target and commands Driver stop.*

2 *Gunner makes final precise lay after main gun is loaded.*

3 *Gunner announces "ON THE WAY", pau*

INTERMEDIATE TRAINING OBJECTIVES

TANK COMMANDER

1

TASK: Tank Commander (TC) will command "Driver, Stop"; issue initial fire command and rough lay the main gun,

CONDITIONS: during daylight, provided silhouette armor targets, in a fully operational M60A1 main battle tank (MBT).

TRAINING STANDARD: Give at least 4 of the 6 elements of the fire command without error (Note: direction and range may be omitted) and lay main gun enabling the gunner to identify the target within 3 seconds after TC identifies the target.

2

TASK: Tank commander will range on target,

CONDITIONS: during daylight, given a fully operational range finder and a series of known distance silhouette armor targets varying in range from 800 to 1500 meters. The TC will have received the response, "Identified," from the gunner.

TRAINING STANDARD: Must obtain the correct range (plus or minus 10 meters) within 5 seconds after laying the gun.

3

TASK: The tank commander will adjust rounds,

CONDITIONS: using the burst-on-target method during daylight in a fully operational M60A1 main battle tank (MBT), having fired the main gun at armor silhouette targets varying in range from 800 to 1500 meters.

TRAINING STANDARD: To insure a second round hit 90% of the time, within 3 seconds after the round has impacted.

GUNNER

4

TASK: Gunner will identify target,

CONDITIONS: given an initial fire command, during daylight in a fully operational M60A1 main battle tank using the gunner's periscope. The target is in the field of view of the gunner's periscope.

TRAINING STANDARD: Identify the target through periscope and state "Identified" within 3 seconds after receiving initial fire command.

5

TASK: Gunner will index ammunition into the computer,

CONDITIONS: given an initial fire command, during daylight, in a fully operational M60A1 main battle tank and with the target identified by the gunner.

TRAINING STANDARD: Type ammunition contained in fire command must be indexed within 3 seconds after fire command has been given.

6

TASK: Gunner will make final precise lay on target,

CONDITIONS: using the gunner's periscope in a fully operational M60A1 main battle tank during daylight, having received a fire command.

TRAINING STANDARD: Obtain sight picture with reticle layed on target's center of vulnerability within 5 seconds after announcing "Identified."

7

Gunner also performs intermediate objective 3.

LOADER

8

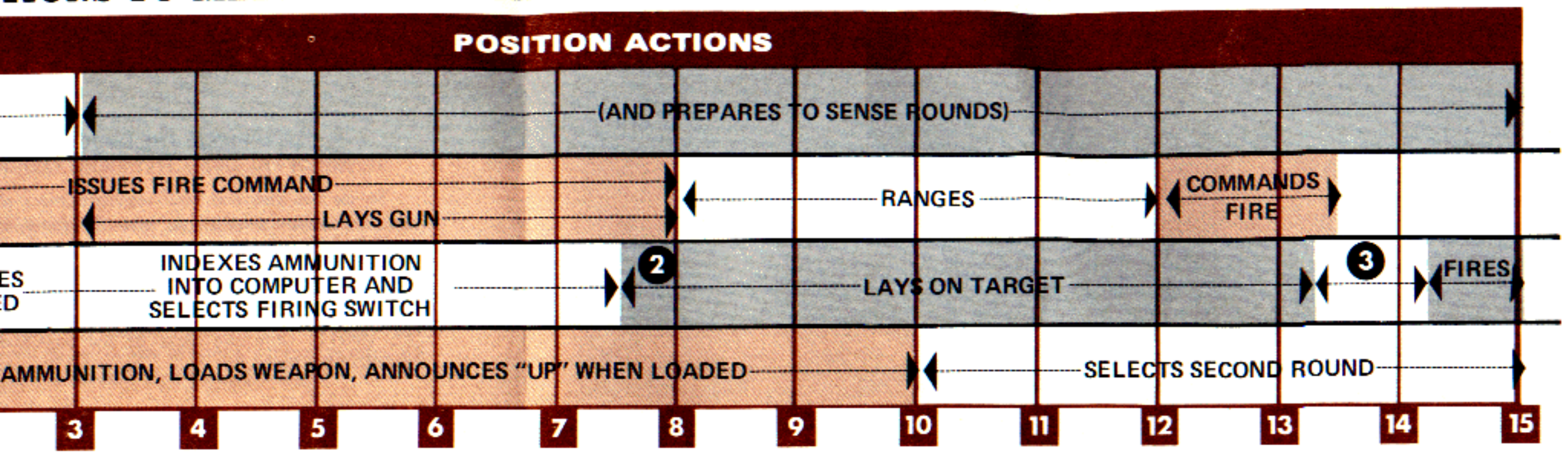
TASK: Loader will load main gun, of recoil and announce "Up,"

CONDITIONS: during daylight in operational M60A1 main battle tan received a complete fire command.

TRAINING STANDARD: Complet with 6 seconds.

NOTE: There are se training, such as the sensing. The training targets or night firing accomplish the comm objectives which req complete discussion o see TC 17-12-5.

TIONS TO MEET OPENING TIME FOR MAIN GUN ENGAGEMENTS



2 *Gunner makes final precise lay after main gun is loaded.*

3 *Gunner announces "ON THE WAY", pauses one second, and then fires.*

FIGURE 10.

INTERMEDIATE TRAINING OBJECTIVES

GUNNER

4

TASK: **Gunner will identify target,**

CONDITIONS: **given an initial fire command, during daylight in a fully operational M60A1 main battle tank using the gunner's periscope. The target is in the field of view of the gunner's periscope.**

TRAINING STANDARD: **Identify the target through periscope and state "Identified" within 3 seconds after receiving initial fire command.**

5

TASK: **Gunner will index ammunition into the computer,**

CONDITIONS: **given an initial fire command, during daylight, in a fully operational M60A1 main battle tank and with the target identified by the gunner.**

TRAINING STANDARD: **Type ammunition contained in fire command must be indexed within 3 seconds after fire command has been given.**

6

TASK: **Gunner will make final precise lay on target,**

CONDITIONS: **using the gunner's periscope in a fully operational M60A1 main battle tank during daylight, having received a fire command.**

TRAINING STANDARD: **Obtain sight picture with reticle layed on target's center of vulnerability within 5 seconds after announcing "Identified."**

7

Gunner also performs intermediate objective 3.

LOADER

8

TASK: **Loader will load main gun, clear path of recoil and announce "Up,"**

CONDITIONS: **during daylight in a fully operational M60A1 main battle tank, having received a complete fire command.**

TRAINING STANDARD: **Complete the task with 6 seconds.**

DRIVER

9

TASK: **Driver will stop the tank,**

CONDITIONS: **while moving at 18-20 kmph in an M60A1 MBT, during daylight, and given the command to "Stop."**

TRAINING STANDARD: **Within 3 seconds after "Stop" command has been given, stop the tank smoothly in hull defilade (when available), with front of tank facing the target.**

NOTE: There are several tasks that have been omitted from this training, such as the use of the gunner's telescope and other means of sensing. The training was further limited by not considering moving targets or night firing. This is because this training is not required to accomplish the commander's objective. He would establish additional objectives which require night and moving target firing. For a more complete discussion of tank gunnery training, including crew standards, see TC 17-12-5.

FIGURE 11.

DETERMINE THE ORDER IN WHICH THE OBJECTIVES ARE TAUGHT

To do this you and your assistants must answer the following question: *Is one (or more) intermediate objective(s) a prerequisite to beginning training in others?* If the answer is yes, that objective must be taught first. For the tank crew, the order in which the objectives will be taught is shown in figure 12. (NOTE: Only the tasks of the objectives are shown in the figure.)

There is a second consideration you and your assistants should make in determining the order in which the objectives are taught. This consideration concerns the amount of training resources available to conduct the training. In short, the available resources may force you to train in an objective which logically should come later if the proper order was maintained. To apply this consideration, you and your assistant trainers must estimate the training resources required to conduct the training.

ESTIMATE TRAINING RESOURCES REQUIRED

The most difficult resource to estimate is time. This is particularly true in collective training where trainers are concerned with insuring the soldier can perform critical individual tasks in addition to performing collective tasks. Remember, the time estimate is based on your judgment of how long it will take to accomplish each training objective (i.e., intermediate and commander's training objectives). Specifically, you must estimate how long it will take to conduct each training session.

To illustrate how past experience can be useful, consider figure 13 to see how you can estimate the time requirements for the critical individual tasks previously identified.

TEACHING ORDER FOR OBJECTIVES

CRITICAL INDIVIDUAL TASKS

- **TANK COMMANDER**
  1. Identify target
  2. Lay main gun
  3. Issue fire command
  4. Range on target
  5. Sense rounds
  6. Adjust rounds
  7. Supervise crew
- **DRIVER**
  1. Select firing position and stop smoothly
  2. Sense rounds
- **GUNNER**
  1. Operate direct fire control system
     a. Identify target in gunner's periscope
     b. Index ammo in computer
  2. Sense round
  3. Adjust round
- **LOADER**
  1. Identify main gun ammo
  2. Load main gun

COLLECTIVE TASK

Tank crew will engage a stationary target

FIGURE 12.

TIME ESTIMATE
FOR TRAINING TANK CREW MEMBERS
TO PERFORM CRITICAL INDIVIDUAL TASKS

TASKS	INDIV	TIME
Issue fire commands and rough lay main gun, Intermediate Training Objective 1 (ITO 1)	Tank Commander	2 hrs
Range on target	Tank Commander	2 hrs
Operate direct fire control system (ITOs 4, 5 and 6)	Gunner	4 hrs
Identify and load ammo (ITO 8)	Loader	4 hrs
Select position and stop smoothly (ITO 9)	Driver	4 hrs
Sense and adjust round (ITOs 3, 7)	TC/gunner Driver	4 hrs

FIGURE 13.

In addition to the individual training required, you must estimate the time it will take to explain, practice, and test the intermediate and commander's collective training objectives. *For the tank crew you have only one collective objective, the commander's.* This objective requires the crew to put it all together and engage a stationary armor target with the speed and precision necessary to meet the commander's training standard.

(**NOTE**: For the purpose of this example, you estimate it will take approximately 24 training hours. This includes crew drill: (1) *in a stationary tank,* (2) *in a tank moving over a course (nonfiring),* (3) *in a stationary tank firing subcaliber ammo,* and (4) *in a tank moving over a course firing main gun ammo at stationary armor targets).*

Once you and your assistants have made your time estimate, you must estimate the other resources you will need. To assist you in making this estimate, it is helpful to sketch out a tentative schedule of how the training will be conducted. Once this is completed, you will be better able to estimate the other resources required to conduct each training session.

One important point to remember in developing your schedule is to stress the third fundamental of collective training: **Employ Multi-Echelon Collective Training.** To illustrate this principle, consider the tank crew training. Most of the critical individual tasks are performed by only one person. Only two are performed by two of the crew members. Therefore, to use your training time more efficiently, you should conduct most of the required individual training simultaneously. For example, the tank commanders, under one of the assistant trainers, can learn to issue fire commands, while at another training location the drivers, under another assistant trainer, are learning to select firing positions and stop smoothly. A schedule of how the tank crew training might be conducted is shown in figure 14 (on next page). Remember, multi-echelon training is used to train soldiers and leaders to perform their respective jobs *before* you put them together to perform a collective objective as a team or unit. By using this concept you won't waste the soldiers' or leaders' time. More important, by first training the leaders and team or unit members to do their jobs, you can significantly increase the team or unit capability to successfully perform the commander's training objective.

With the schedule developed and training techniques identified, the remaining resources required to conduct the training can be estimated. A rough estimate of these resources is shown in figure 15 (page 41) for the tank crew training.

TENTATIVE SCHEDULE FOR TANK CREW TRAINING

DAY	SCHEDULE FOR AM	SCHEDULE FOR PM
MONDAY	**TANK COMMANDER** Issue fire commands (ITO 1) Range on target (ITO 2)(company classroom) **GUNNER** Operate direct fire control system (ITO 4, 5, & 6) (Station 1, conduct-of-fire trainer, motor pool) **LOADER** Identify ammo } ITO 8 Load ammo (Station 2, motor pool) **DRIVER** Select position and stop smoothly (ITO 9) (Battalion driving course)	Maintenance
TUES	**ENTIRE CREW** Sense and adjust rounds (ITO 3) (COF trainer, classroom—loader and driver included for additional skill development)	**ENTIRE CREW*** Crew drill (nonfiring). Crew practices engaging stationary armor targets from static positions. (in motor pool conduct-of-fire trainer)
WED	**ENTIRE CREW*** Crew drill (nonfiring). Crew practices engaging stationary armor targets in field environment. Crew requested to identify stationary target while moving. Emphasis on correct performance of tasks, to include proper sequence of performance learned Monday and Tuesday. (Field Area A)	Maintenance Physical Training
THURS	**ENTIRE CREW*** Crew drill (nonfiring). Crew practices engaging stationary armor targets in field environment. Crew requested to identify stationary target while moving. Emphasis on developing speed and precision in identifying, acquiring and engaging stationary armor targets. (Range 10)	**ENTIRE CREW*** Practice engaging stationary armor targets. Target identified and acquired from stationary tank. Emphasis on accuracy of fires. (Subcaliber range)
FRIDAY	**ENTIRE CREW*** Practice commander's training objective. Emphasis on speed and precision and accuracy of fires. Targets identified from moving tank. (Range 10 dry and live)	**ENTIRE CREW*** Pretest commander's training objective. Emphasis on speed precision and accuracy of fires; proficient crews help slower crews to acquire sufficient proficiency to meet commander's training standard. (Range 10, dry and live) Maintenance

*Indicates all critical tasks are being practiced by crew to develop speed, precision and teamwork.

NOTE: Refer to figure 11 for ITO numbers. Crew members initially work to develop proficiency in performing critical individual tasks; crew then works with conduct-of-fire trainer. This is followed by crew drill in motor pool, target acquisition, range and subcaliber firing. Training is culminated by practice and pretest live fire exercise on Range 10 to prepare crews for the actual test of the commander's objective on Monday.

FIGURE 14.

Additional Resources Required to Conduct Tank Crew Training

MONDAY: Four principal trainers, two classrooms; driving area; dummy ammunition; maps, chalkboard. If TF 17-3459, "Coincidence Rangefinder M17C," is to be used a 16mm projector will be needed.

TUESDAY: Two principal trainers; classroom; conduct of fire trainers.

WEDNESDAY: Three principal trainers and two assistant trainers; 15 tanks; armor silhouette targets; dummy ammunition; all types live ammunition; training area A; medics; VTR with crew; mechanics; stopwatches.

THURSDAY-FRIDAY: Range officers; safety officers; assistant trainers, ammunition trucks; and don't forget the noon meal on Thursday and Friday.

NOTE: Check TC 21-5-4 Catalog of TEC Lessons for TEC lessons to support training.

FIGURE 15.

Based on the schedule (figure 14) you and your assistant trainers have developed, and the rough estimate of the additional resources you will need (figure 15), you and your assistants should now identify the specific resources you will need for each period of training. This is also a good time to nail down who will be responsible for completing the preparation and actually conducting each training session. To illustrate how you can complete your resource estimate, consider figure 16. This chart identifies the time, activity, location, trainers, and resources required to conduct Wednesday's tank crew training. It also identifies support resources and designates the person responsible to obtain the support. In preparing your training, you and your assistants should sketch out (in pencil) a chart for each day or training session similar to figure 16. This will assist you in obtaining required resources, and more important, it will help your commander review your preparation efforts. In addition, your commander will be able to make out the unit's weekly training schedule in a manner that will minimize last minute changes.

Training for Wednesday

TIME	ACTIVITY	LOCATION	TRAINERS	RESOURCES
0800-1145	**Crew Drill**—all crews (nonfiring crew practice of commander's objective. Includes performance of ITOs 1, 2, 4, 5, 6 and 9)	Field Area A	LT Stewart (Principal Trainer) LT Evans (Assistant Trainer) SFC Oswald (Assistant Trainer)	5 tanks; 10 armor silhouette targets; 1 chalkboard; 1 sandtable; 2 stopwatches; commo track (CP); lesson plan and CP signs
	Concurrent Training 1. Identify and load ammo-loaders and drivers* (ITO 8)	Field Area A	SFC Laver	5 tanks; 10 rounds dummy ammo; 5 each type of live ammo; 1 stopwatch; lesson plan
	2. Range determination—TCs and gunners (ITO 2)	Field Area A	LT Jacks	5 tanks; 10 pair binoculars; 10 maps; 10 armor silhouette targets; chalkboard; stopwatch; lesson plan
	Training Support	Field Area A	LT Evans (responsible to obtain)	ADDITIONAL RESOURCES 1 water trailer and 3 lister bags; 1 turret mechanic; 1 track vehicle mechanic; 1 radio mechanic w/vehicles and equipment; 1 front line ambulance; one VTR w/crew

*Additional cross-training and skill development for drivers

Figure 16.

With the intermediate objectives established and the training required determined (including estimating resources), you and your assistants are now ready to complete the organization of your training. You have already developed the plan which specifies when and where each training session will be conducted. You and your assistants can now organize each of the training sessions.

In chapter 3, the three phases of performance-oriented training was discussed. A summary of these phases is shown in figure 17.

Three Phases of Performance-Oriented Training

PHASE I: The trainer states the purpose of the training and explains and demonstrates, if necessary, how the objective will be performed.

PHASE II: The individuals, teams, or units practice the objective until they acquire the desired proficiency.

PHASE III: The individuals, teams, or units are tested to determine if they can perform an objective and meet the established training standard.

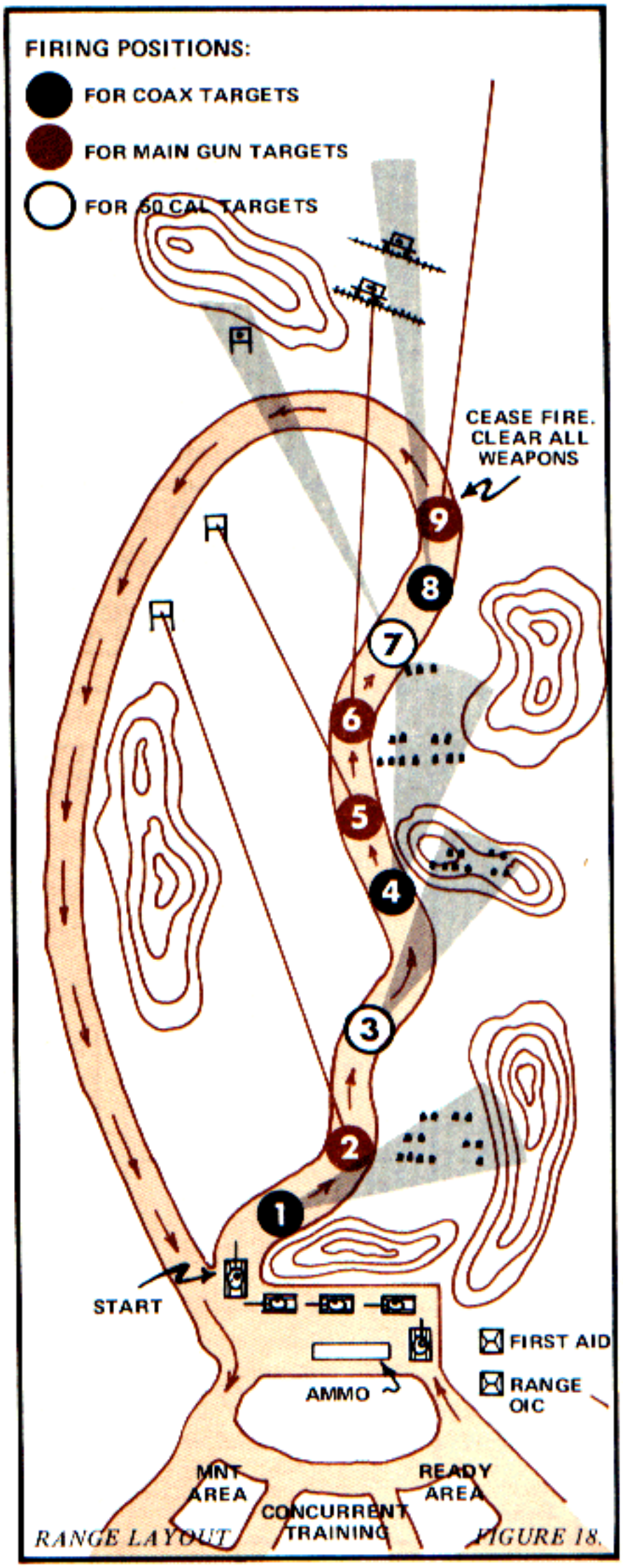
Figure 17.

To see how the three phases apply to equipment-oriented collective training, consider the training the tank crews will undergo on Friday. You will recall that on Friday the tank crews will practice and undergo a live fire pretest of the commander's training objective. The training session is the culmination of the crew training and it should result in the crew's ability to meet the commander's training standard (and therefore, insure that the crews will pass the actual test run by battalion on the following Monday).

With respect to organizing this tank crew training session, you should keep in mind the following:

In Phase I, a demonstration is not needed because the crews have been practicing the commander's objective for two days. Only one tank at a time will be on the live fire course. The crews waiting to make their run should continue practicing crew drill, getting a safety briefing, and performing necessary maintenance.

With these thoughts in mind, you could organize the tank crew training as shown in figures 18 and 19. **Note: The details are shown for Friday only; you would organize the other training sessions in similar fashion.**



RANGE LAYOUT *FIGURE 18.*

Organization of Tank Crew Training for Friday

Phase	Engaging Activity	Time	Training Standards
I	State the commander's training objective. Explain how the range is laid out and the concurrent training that will take place.	10 min	N/A
II	Have crews move to concurrent stations to:		(See training standards for ITOs 1, 2, 3, 4, 5, 6, 7 and 8)
	a. Practice (dry fire) the commander's training objective.	Varies with firing order (0 to 200 min)	
	b. Receive a safety and misfire procedures briefing.	25 min	
	c. Perform necessary maintenance.	As needed	
	d. Await orders to move to start point.	15 min	
III	Test crews' ability to perform the commander's objective (most proficient crew fires first with least proficient crew firing last). Critique each crew's performance.	15 min per crew	Hit 5 out of 7 targets with 14 rounds of HEAT ammunition. 1st round must be fired within 15 seconds after target is identified. Second round must be fired within 10 seconds after 1st round has impacted.
		Total Time—4 hours	

FIGURE 19.

Your assistant trainers should organize the training sessions for which they are responsible. When they have completed their organization, review their work. Once you and your assistants have completed organizing the training, take your training plan (i.e., the intermediate objectives, training schedule, resource requirements, and organization of the training) to your commander for his review. Be sure to discuss any resource problems you cannot solve. Once the commander approves your plan, you are ready to complete your preparation.

COMPLETE ADMINISTRATIVE REQUIREMENTS

Chapter 3 explains, in detail, the administrative requirements you and your assistants will complete prior to the actual conduct of the training. To reiterate what was said in chapter 3, **"don't take anything for granted."** The next thing is to check on everything early—the condition of the ranges, availability of training aids, capability of the mess sergeant to provide meals on the range in two weeks, etc. Don't quit now. One or two days prior to the actual training, check again. You will be amazed at how much has been forgotten or changed. For example, another unit may have used the range and left it in disrepair. This is the sort of thing that can happen. Check and double check

STEP 3: Conduct Training to Standards

The day finally arrives when all the planning and hard work you have been doing is put to the test. The purpose is to insure the tank crews can first perform the critical individual skills and then perform as a team. That is the way the training is structured.

During the first day and a half, they should have the intermediate training objective **stated** and **explained** to them, and told how to accomplish it, *demonstrated* if necessary. The majority of the time is spent having them *perform* the task until they can meet the standard. Finally, **test** them.

A specific example of this is for the training conducted Tuesday morning on sensing using the burst-on-target method. The trainer would **state and explain the** objective and the standard the crew must attain, that is, to sense the round in 3 seconds or less. Following this, the men will practice, using the conduct-of-fire trainer, until the individuals think they can meet the standard. Then test the individuals to insure they can accomplish the task in the time required. Use the fast learners to assist the slower individuals.

On Wednesday and Thursday, the skills of the individuals are practiced as a team on the tank, using the ranges and training areas to gain speed and accuracy for the accomplishment of the commander's training objective.

Whether you are dealing with individual or collective training, the responsibility to retrain those who fail their test belongs to the commander (training manager) unless you can conduct remedial training within the resources originally provided. If you have properly prepared the training, allowed sufficient time for practice, and supervised the practice by making on the spot corrections, most objectives should be performed satisfactorily. If a small percentage of individuals or crews fail, those who passed could be used to help train those who failed. However, rescheduling and programing for remedial training is the responsibility of the training manager. Your job is to prepare and conduct the best possible training with the resources provided and then report the results to your commander.

Because you are conducting performance-oriented training based on precise training objectives, you should be able to identify exactly which tasks were done incorrectly, too slowly, or out of sequence during the test. In reporting the test results to your commander, you should identify those who passed, those who failed, and which objectives were performed unsatisfactorily. With this data, your training manager can focus his retraining efforts directly on the objectives which were failed.

CONDUCT POST-TRAINING EVALUATION

In chapter 3 the post-training evaluation was discussed and those fundamentals also apply to equipment-oriented collective training. How effective and efficient was the training? To assist in evaluating the training, ask yourself the following questions.

- ☐ *Did the crews attain the training standard?*
- ☐ *Did the intermediate training objectives contain task, conditions, and training standard?*
- ☐ *Were the intermediate training objectives consistent with the commander's objective?*
- ☐ *Were intermediate training objectives selected that the individuals or crews could already perform?*
- ☐ *Did the instructors state the purpose of the training and explain or demonstrate without wasting resources?*
- ☐ *Were there sufficient training resources?*
- ☐ *Were the training standards realistic?*

When the evaluation is complete, write a short paper concerning the evaluation and lessons learned and give it to the training NCO. Include any supporting material and lesson outlines that would assist another trainer in conducting similar training.

TRAINING A MORTAR PLATOON

To further illustrate the process of designing equipment-oriented collective training, let's look at an outline of the 3-step, backward planning process and the fundamentals of collective training applied to the training of a 4.2 inch mortar platoon.

STEP 1: Describe the Desired Results of Training

FUNDAMENTALS

- **Develop precise training objectives**
- **Receive commander's guidance**

TASK: **The 4.2 inch mortar platoon will conduct a registration,**

CONDITIONS: **during the hours of daylight, given a complete platoon on a firing range.**

TRAINING STANDARDS: **Registration must be completed 15 minutes after position is occupied (round must hit within 50 meters of RP). Use no more than 4 rounds.**

- **Analyze the commander's guidance**
  - *What is the task?*
  - *What are the conditions?*
  - *What is the training standard?*
    - Who will be trained?
    - When?
    - Where?
    - Why?
  - *What training resources are available?*

STEP 2: Prepare to Conduct Training

FUNDAMENTALS

- **Develop precise intermediate training objectives**
- **Insure soldiers can perform critical individual and subunit tasks**
- **Employ multi-echelon training**
- **Determine individual and collective tasks**

Platoon Headquarters: select position; designate principal direction of fire; supervise.

Fire Direction Center: prepare firing charts; receive call for fire; compute data; send fire command to mortar crews.

Mortar Section: lay mortars; prepare ammo, settle base plates; place firing data on sights; base mortar fires.

Forward Observer: select and occupy position; select RP; send call for fire; sense and adjust round. (See figure 20 for the interrelationship of these tasks.)

	Principal Tasks Performed by 4.2 inch Mortar Platoon Personnel to Register Base Mortar			
	Platoon Headquarters	**Fire Direction Center**	**Mortar Section**	**Forward Observer Team**
1	Platoon Leader/Platoon Sgt selects firing position; designates principal direction of fire.			Selects and occupies observer team position
2	Supervises operation	Off load/set up equipment	Off load/lay mortars	Selects registration point
3		Computer chief issues chart data	Prepare ammo Prepare section sergeant's report	
4		Receives section sergeant's report	Crews fire two rounds to settle base plate	
5				Sends call for fire
6		Receives call for fire		
7		Computes data for registration; sends firing data to mortar crews		
8			All gunners place firing data on sights. Base mortar crew prepares ammo, fires one round	
9				Senses and adjusts round
10	FDC, base mortar crew, and FO team repeat (5) through (10) until base mortar splits a 50 meter bracket. Base mortar is now registered. When base mortar is registered, chief computer, FO teams and mortar section may adjust sheaf to improve accuracy.			

FIGURE 20.

● **Add the conditions and training standard**

Conditions: during daylight; with a puff board; with a pneumatic firing device; with the platoon and all equipment operational.

Standards: speed, accuracy, distance, percentage of accomplishment without error.

● **Determine and organize training needed**

● **Organize intermediate training objectives**

time

ranges

ammunition

training aids

trainers

NOTE: The development of intermediate training objectives and determining and organizing the training required by the principal trainer and his assistants would be completed in the same manner as discussed in the tank crew training example.

STEP 3: Conduct Training to Standards

FUNDAMENTALS

● **Insure soldiers can perform critical individual and subunit tasks**

● **Insure training standards are met**

Employing the 3-step, backward planning process insures that your forward observers, gun crews, and computers will learn the individual skills and then be capable of working together to accomplish the registration, under the conditions your commander specified, and meet the training standard. Your unit will be ready to accomplish its mission

Using ARTEP to Prepare and Conduct Equipment-Oriented Collective Training

By specifying the collective performances for each element of a unit, the ARTEP provides the basis for developing the unit's training program, and for preparing and conducting collective training. Units operating crew-served equipment will find the applicable ARTEP to be a rich source of equipment-oriented collective training objectives and other useful training information.

For example, consider the mortar platoon training previously discussed. On pages 47-50 is one training and evaluation outline, an extract from ARTEP 7-45, for the mechanized infantry battalion and combined arms task force. This outline specifies the minimum capabilities required of a combat-ready 4.2 inch mortar platoon/section. These capabilities are expressed in terms of the mission, primary training/evaluation standards and the associated collective training objectives. Attainment of these objectives would require the preparation and conduct of equipment-oriented collective training. Because the objectives are stated in performance terms, the first step of the backward planning process, "Describe the desired results of training" has been largely completed.

Further, that part of the training and evaluation outline that specifies "suggested support requirements" provides trainers with other information they will find useful in preparing and conducting training. This includes information pertaining to training resources, key references, and tips to trainers and evaluators concerning the conduct of training and formal evaluations. Obviously, the training and evaluation outline for the mortar platoon does not do all of a mortar platoon trainer's work. For example, some intermediate training objectives must be developed. Nonetheless, ARTEP provides a giant step forward in providing the kind of information you can really use. If an ARTEP has been completed for your unit, consult and use it frequently—particularly those training and evaluation outlines that apply to the soldiers you are responsible to lead or train.

TRAINING AND EVALUATION OUTLINE

UNIT: HEAVY MORTAR PLATOON

MISSION: PROVIDE INDIRECT FIRE SUPPORT

The following general conditions and primary training/evaluation standards apply:

a. **General Conditions.** The Bn/TF (simulated) being supported by the mortar platoon is preparing to conduct a tactical mounted move to an area defensive position. The mortar platoon leader has previously reconnoitered the new area and has selected primary and alternate firing positions. He has called his platoon forward to meet him at the primary position. The mission begins with the platoon on the move during daylight. A change in the tactical situation will require the platoon to make a blackout occupation of a second position.

b. **Primary Training/Evaluation Standards.** To receive a satisfactory rating, the platoon must:

(1) Meet the standards specified for the registration mission.

(2) Meet the standards specified in the two occupations of positions.

(3) Enters fire for effect (FFE) within the time and with the effects specified for 8 of the 11 fire missions.

TASK	CONDITIONS	TRAINING/EVALUATION STANDARDS	RATING	
			S	U
Occupy primary position.	During daylight: The position has been previously reconnoitered by the platoon leader.	Platoon is prepared to fire within 7 minutes after arrival at the designated position. (Time starts when the first carrier halts in the position and stops when all squads are ready to fire.) Platoon improves the position; i.e., camouflage, all around defense, individual protection, etc.		
Fire registration and adjust a parallel sheaf.	FO is directed to register using the base mortar and adjust the remaining 3 mortars parallel to the base mortar. FDC provided current metro message.	Platoon adjusts and records firing data within 12 minutes. Last adjusting round impacts within 50 meters of the desired registration point. Subsequently, parallel sheaf adjustments are completed within 12 minutes.		
Prevent enemy observation.	An area approximately 300 meters wide is assigned as an open area which the combat outpost (COP) force must cross en route to the COP position. The FO effects advance coordination with the FDC and plans a screening mission to conceal the movement of the COP. The FDC must obtain clearance to fire from the highest commander affected. One minute of obscuration is required for the COP to cross the open area.	Platoon establishes an effective screen within 12 minutes after the target is identified by the FO and maintains the screen for one minute.		
Engage an area.	An area target representing a squad sized enemy reconnaissance patrol is identified.	Within 3 minutes of target identification by the FO, the first adjusting round is fired. Platoon initiates FFE within 12 minutes after the target is identified. FFE volley is effective on the target area.		

TASK	CONDITIONS	TRAINING/EVALUATION STANDARDS	RATING S	RATING U
Shift fires to an area target. (Adjustment mission 2.)	Immediately after the above FFE rounds impact, a target representing a halted enemy scout team mounted in open vehicles is identified within 400 meters of the target previously engaged.	Platoon initiates FFE within 6 minutes after target identification. FFE is effective on the target area.		
Conduct reconnaissance of new position area.	Based on a changing tactical situation the platoon leader is directed to reconnoiter a new position area for night occupation.	A detailed, thorough reconnaissance is performed of the proposed position area and the route to the position.		
Compute and apply MET corrections.	Given a current MET message, FT 4.2-H-2, DA Form 3675, DA Form 2601-1, and the previous MET data from the initial registration.	Compute firing corrections to the nearest one mil deflection and 10 meters range. Apply the corrections to current firing data.		
Engage an area target. (Adjustment mission 3.)	A target representing a survey team is located within transfer limits of the registration point by the FO using polar plot method.	a. Adjusting rounds are fired within 3 minutes of target identification. b. FFE is entered within 12 minutes of target identification. c. FFE volley is effective on the target area.		
Conduct displacement.	During darkness: Based on the changing tactical situation, the mortar platoon is directed to displace by echelon to the new firing position.	First section displaces via blackout road march to new position. Designated position is occupied and section is layed and ready to fire within 7 minutes.		
Provide battlefield illumination.	Forward observer calls for and adjusts illumination over suspected movement.	Platoon adjusts and records firing within 12 minutes. Last adjusting round illuminates the target area and burns out above ground. Continuous illumination is maintained for 2 minutes.		
Fire illumination w/coordinated HE below it.	Same target as previous illumination mission. Enemy observed under illumination.	Section fires first illumination round within 2 minutes. Coordinated HE is fired beneath illumination. Unit goes into FFE within 5 minutes.		
Conduct displacement.	Second section displaces when first section is in position, layed and ready to fire.	Second section displaces via blackout road march.		
Fire emergency mission.	A target representing a mobile command post temporarily halted is identified by radar (simulated). Adjustment and FFE is controlled by radar (simulated by flash personnel or by an FO observing by illumination).	Adjustments are completed and final adjusting round impacts within 50 meters of assigned target. (Round(s) impacting within the simulated friendly unit location result in an unsatisfactory rating for this task.)		

Provide battlefield illumination.	FO requests illumination be shifted from last illumination mission to suspected movement.	Platoon adjusts illumination over new target within 5 minutes.
Fire final protective fire.	The evaluator, acting as the company commander (simulated), orders the FPF to be fired.	Within 2 minutes of the command, the first rounds are fired. FPF is effective on the target area.
Perform common task(s) as determined by the chief umpire.		See Appendix E-34(C).

SUGGESTED SUPPORT REQUIREMENTS (EVALUATION)

HEAVY MORTAR PLATOON: Provide Indirect Fire Support

1. **Administration:** Pre-fire ordnance checks should be accomplished prior to the evaluation.

2. **Minimum Evaluator(s):** 1 CPT (overall and FDC), 4 SSG's (1 with each of 3 FO's and 1 with armor positions).

3. **Aggressor:** Simulated.

4. **Support Troops:** 2-man target detail with transportation.

5. **Vehicle/Communication:** 1 vehicle with radio for chief evaluator. 1 AN/PRC-77 radio per FO evaluator.

6. **Maneuver Area:**

a. Portion of route of movement is in direct view of impact area.

b. 3 OP's, platoon firing positions, and 3 flash OP's.

7. **Firing Area:** Mortar or artillery impact area.

8. **Training Aids, Devices and Special Equipment:**

a. 2 each stop watches for evaluators.

b. 20 E-type targets.

c. 3 vehicle hulls to represent 3 enemy scout vehicles.

9. **Ammunition:** (All are complete rounds.)

a. Ctg, HE, 4.2" -- 120.

b. Ctg, smk, 4.2" -- 30.

c. Ctg, ill, 4.2" -- 35.

10. **Key References:** FM 23-91; FM 23-92; AR 385-63; TM 9-1300-203; TC 21-5-4, Catalog of Training Extension Course Lessons for TEC lessons appropriate.

11. **Tips for Evaluators/Trainers:** If sufficient support personnel are available, the flash method may be used to determine accuracy of mortar fire. The flash method requires the following additional requirements:

a. **Personnel:** 1 LT/NCO with 8 EM (1 LT/NCO and 2 EM for operation of flash base central; and 3 flash OP's with 2 EM each).

b. **Equipment:** 3 battery commander's telescopes or aiming circles; 1 flash plotting table or 2 fire direction plotting tables with 4.2" mortar plotting equipment; communication system linking flash OP's, flash base central and mortar platoon FDC evaluator.

a. Table 1. Accuracy of Observer's Initial Data (Distance observer's initial data plots from target).

Observer - Tgt Dist 3000m or less	OT Dist in excess of 3000m	Rating
0-400m	0-700m	Sat
over 400m	over 700m	Unsat

b. Table 2. Speed of Adjustment* (Minutes).

0-12	Sat
over 12	Unsat

*Speed of Adjustment:

a. Time begins when observer identifies target and stops when all guns are ready to fire for effect.

b. Time is determined by subtracting safety time and total time of flight for all volleys in adjustment from overall time.

c. Table 3. Reaction time for Final Protective Fire. Time after mission received at FDC (minutes).

0-2	Sat
over 2	Unsat

STANDARD OF GRADING TECHNICAL DATA

d. Table 4. TOT Firing Completed (Seconds).

0-5	Sat
over 5	Unsat
First round did not hit:	
TOT ± 5 seconds	Unsat

e. Table 5. Effects [1]: Accuracy of fire for effect will be graded on individual rounds landing inside the target rectangle as defined below:

Width (Perpendicular to the line of fire)	Platoon front or 120 meters (whichever is less) + 8 probable deflection errors + number of meters subtended by an angle of 3 mils at the mortar target range.[2]
Depth	30 meters + 8 probable range errors.

[1]On "adjust fire" missions it is possible for an observer to follow proper observed-fire procedures and still go into fire for effect up to 30 meters from the target. This is provided for as follows:

a. When the plotted center of impact plots less than 50 meters radial distance from the location of the target, the center of the rectangle is placed over the center of impact, keeping the rectangle oriented in the same relationship to the mortar target line.

b. When the center of impact falls more than 50 meters from the target, the center of the rectangle is placed on the center of impact line 50 meters from the surveyed location of the target, keeping the rectangle oriented in the same relationship to the mortar target line.

[2]This value compensates for the allowable error in laying the tubes and reading chart deflection.

f. Table 6. Rating for Rounds Inside Prescribed Rectangle.

	Number of Weapons Firing			
Rating	4	3	2	1
Sat	3	2	1	1
Unsat	Under 3	Under 2	Under 1	Under 1

g. Table 7. Speed of Occupation of Positions* (Minutes).

Ground Mount	SP	Rating
0-8	1-7	Sat
over 8	over 7	Unsat

*Time starts when the first vehicle halts in position and stops when adjusting squad is ready to fire its first round.

SUMMARY

It is not easy to prepare efficient and effective equipment-oriented collective training. You must use the training publications available and spend many planning hours to insure your soldiers and units receive realistic, mission-oriented training. The examples that have been used are intended to be illustrative and were not designed to solve all training problems or address all the skills a tank crew or mortar platoon must be capable of performing to be COMBAT READY. They were designed to provide you, the trainers, with the knowledge and fundamentals required to prepare, conduct, and evaluate equipment-oriented collective training.

Next: tactical collective training

CHAPTER 6

Tactical Collective Training

This chapter explains how trainers can prepare and conduct tactical collective training. Much of the material in this chapter is based on, and builds from, the material contained in chapters 2, 3, 4. If you have not read those chapters, you should do so before continuing. If you have read them, figure 21 will help refresh your memory.

THE NATURE OF TACTICAL COLLECTIVE TRAINING

Preparing and conducting effective tactical collective training is the most challenging and interesting training job a trainer faces. This is because of the nature of tactical collective training.

Consider for a moment a howitzer and its crew. The howitzer provides a tangible expression of the crew's purpose, its organization, and its very existence. It is around the howitzer that the crew devotes its energies in training and in combat. Further, what the crew must do *(tasks)*, the *conditions* under which they must perform these tasks, and the *training standards* they must meet are relatively easy to determine. Moreover, these tasks, conditions, and standards remain essentially fixed regardless of the enemy situation or terrain. In contrast, the members of a rifle squad, being a maneuver unit, do not have a piece of equipment which serves as the central focus for their energies. Rather, the rifle squad's organization and purpose is oriented on enemy and terrain. The tactics and the techniques used to accomplish the squad's missions are not fixed. As the enemy situation, terrain, and other environmental factors change, the squad must adapt to these changes. It must reach into its bag of tricks (the tactics and techniques it uses) and find the right combination which will permit it to accomplish its mission without sustaining excessive casualties. This does not mean trainers cannot use the 3-step, backward planning process (see figure 21 and chapter 3) to prepare and conduct tactical collective training; nor does it mean the fundamentals of collective training (see figure 21 and chapter 4) do not apply. Rather, the influence of the enemy and terrain on collective tactical operations means trainers must consider additional factors when they prepare and conduct tactical collective training.

Highlights of Chapters 2, 3, & 4

Chapter 2, "Performance–Oriented Training." The chapter stresses the need to establish training objectives which describe clearly the task to be performed, the conditions of performance, and the training standard to be met. It emphasizes soldier performance rather than what trainers do.

Chapter 3, "How to Prepare and Conduct Training." This chapter explains how trainers can use the 3-step, backward planning process to prepare and conduct performance-oriented *individual* training. The three steps are:

STEP 1. *Describe the Desired Results of Training*

STEP 2. *Prepare to Conduct Training*

STEP 3. *Conduct Training to Standards*

Chapter 4, "Introduction to Collective Training." This chapter explains the three fundamentals of training teams and units (collective training). The fundamentals are:

- *Develop precise training objectives and insure established standards are met*
- *Insure soldiers can perform critical individual and subunit tasks*
- *Employ multi-echelon collective training*

FIGURE 21.

Objective Versus Subjective Evaluation

For equipment-oriented training, the ability of trainers to establish complete and precise training objectives with task, conditions, and training standard is relatively easy. This is because the task and conditions revolve around operating the equipment, and therefore can be easily identified and established. Further, the training standard can be expressed in terms of measurement: *Time, distance, accuracy,* or in terms of procedures to be followed. For tactical collective training, however, *precise* conditions and training standards are far more difficult to develop. Trainers know the ultimate standard maneuver units must meet in conducting tactical operations is simply a yes answer to the following question: *Did the team or unit accomplish its mission without sustaining excessive casualties and loss of equipment?* Obviously, the answer is not one which lends itself to establishing completely objective evaluation criteria which can be universally applied. No process, no matter how systematic, can replace experienced trainers who can evaluate a team or unit's ability to perform a tactical collective task. However, as the discussion of how to prepare and conduct tactical collective training will demonstrate, it is possible to develop tactical collective training objectives which can provide trainers with the means to be far more objective in evaluating collective performance than many trainers would think possible.

Tactics Versus Techniques

In tactical collective training, trainers are concerned with two elements: The **tactics selected** and the **techniques employed** to accomplish a particular mission. The tactics specify *what* the team or unit does. Consequently, the selection of the tactics used is the responsibility of the leaders and it is reflected in the orders they prepare and issue. For example, in football, the quarterback's selection of a play involves tactics.

Techniques specify *how* the team or unit accomplishes a tactical task. The team or unit members are primarily concerned with the techniques they employ. For example, the result of the quarterback's play selection depends on how well the team members execute techniques.

Therefore, in tactical collective training, *the trainer must train the team or unit members to execute the fundamentals.* He does this by stressing techniques. However, the process does not stop there. The trainer must also insure his team or unit leaders can perform their jobs, i.e., he trains them to use the tactics (select the plays) appropriate for a given situation.

Results Versus Process

In tactical collective training, a team or unit can accomplish its mission without sustaining casualties or loss of equipment. While the results may be acceptable in training, the trainers must also be concerned with *how* the team or unit accomplished its mission. For example, in football it's possible for a quarterback to complete a pass for a touchdown (i.e., a successful result). However, the pass might have been completed, not because of proper execution by the offensive team, but because the defensive back covering the receiver fell down, allowing what would have been a sure interception to turn into a completed pass for a touchdown. Similarly, in tactical collective training, trainers must insure they stress how to perform tactical tasks properly. This means they must stress techniques.

Essential Role of Assistant Trainers

The need for competent assistant trainers is particularly great in preparing and conducting tactical collective training. This is because of two factors: (1) The complexity of tactical collective training and (2) The training techniques used to conduct and evaluate tactical collective training. As has been indicated, tactical collective training is the most difficult type of training to prepare properly. Trainers should use their assistant trainers to the maximum extent possible to assist in preparing tactical training. This includes the development of intermediate training objectives and determining and organizing the training required.

Assistant trainers also play an extremely important role in the conduct of tactical collective training. This is because tactical training is more difficult to control and evaluate than individual or equipment-oriented collective training. For example, if a rifle squad is undergoing training in the conduct of a daylight attack, *trainers should be located with both the attacking and defending forces.* For larger units, the control and evaluation problem becomes even more

acute. Consequently, the assistant trainers must know the tactics and techniques involved, as well as how to conduct tactical collective training.

This chapter explains how a trainer can stress the fundamentals of collective training by using the 3-step, backward planning process to prepare and conduct tactical collective training. Specifically, figure 22 shows each of the three steps and the fundamentals that are stressed for each step.

Applying the Fundamentals of Collective Training

STEP 1: Describe the Desired Results of Training

Fundamental That Is Stressed:

- **Develop Precise Training Objectives and Insure Established Standards are Met**

STEP 2: Prepare to Conduct Training

Fundamentals That Are Stressed:

- **Develop Precise Intermediate Training Objectives and Insure Established Standards Are Met**
- **Insure Soldiers Can Perform Critical Individual and Subunit Tasks**
- **Employ Multi-Echelon Collective Training**

STEP 3: Conduct Training to Standards

Fundamentals That Are Stressed:

- **Develop Precise Training Objectives and Insure Established Standards Are Met**
- **Insure Soldiers Can Perform Critical Individual and Subunit Tasks**
- **Employ Multi-Echelon Collective Training**

FIGURE 22.

To help you understand how the fundamentals of collective training are stressed within the 3-step process, an example of how to prepare and conduct reconnaissance patrol training for a rifle squad will be used. This example will show each of the three steps and the fundamentals inherent in each step. However, you should concentrate first on how the 3-step process is used to prepare and conduct tactical collective training. Then concentrate to see how and where the fundamentals are stressed. Once the process is understood, you will be able to prepare and conduct better tactical collective training for other team or unit missions (e.g., defense, attack or retrograde operations).

EXAMPLE: RECONNAISSANCE PATROL TRAINING

STEP 1: Describe the Desired Results of Training

In Step 1, you are concerned with describing precisely the tactical *task* a team or unit must perform, the *conditions* under which the task is performed, and the *training standard* that must be met at the completion of the training. In short, you **must establish a complete and precise collective training objective**. You will recall that developing precise objectives is one of the training fundamentals. Unlike developing objectives for most individual and equipment-oriented collective training, developing complete and precise tactical collective training objectives presents a unique challenge to training managers and trainers. This is because of the nature of tactical training.

Specifically, the number of tactical tasks for most maneuver units are relatively fixed (e.g., squads, platoons, companies attack, defend; squads conduct reconnaissance patrols, etc.). However, the conditions under which tactical tasks are performed and the training standard that must be met will change depending on the terrain, enemy situation, and to some extent other considerations; climate, visibility, deployment of friendly forces, etc. These factors acquire particular significance with respect to the type and degree of exactness of the training guidance a commander provides to trainers responsible for preparing and conducting tactical collective training.

You will recall from chapter 3 that the commander should provide guidance which includes the training objective the soldiers must accomplish at the completion of their training. *For tactical collective training, the commander's objective will often not be as complete and precise as those for individual or equipment-oriented training.* While it will specify the tactical task the team or unit must perform, the conditions and training standard will be stated in general terms. It becomes the trainer's job to refine and complete the objectives by selecting the

terrain on which the task will be performed and establishing the enemy situation (and other pertinent information), thereby refining the commander's objective. In short, only by establishing a specific tactical situation can a complete, precise, tactical collective training objective be developed.

Tactical collective training is **not** designed to fill up the training day. The objectives the commander establishes, and the intermediate objectives the trainers develop to accomplish the commander's objective, must be based on the capabilities the team or unit **requires** to perform successfully *in combat.* Commanders and trainers must keep this thought in mind as they prepare and conduct tactical collective training.

To illustrate the type of training guidance a company commander might give for the conduct of squad reconnaissance patrol training, consider the following commander's guidance:

COMMANDER'S TRAINING GUIDANCE

TRAINING OBJECTIVE:

TASK: Each rifle squad must be able to conduct a reconnaissance patrol,

CONDITIONS: dismounted, at night, given a reconnaissance patrol order which provides the information and guidance needed and the equipment to be carried by the squad members.

TRAINING STANDARDS:

a. Time: (1) Squad must leave within 5 minutes of the departure time specified in the patrol order.

(2) Squad must complete the reconnaissance patrol within the time specified in the patrol order.

b. Information: In a patrol *debriefing,* at least one-half of the squad personnel must report all the reconnaissance requirements stated in the patrol order. These reports must be accurate to the tolerance specified by the trainer.

c. Detection: Squad must complete its mission without sustaining excessive casualties (as judged by the evaluator).

WHO: Nine squads

WHEN: 27 Sep to 30 Sep *(total 26 hrs)* and 3 Oct to 6 Oct *(6 weeks from now)*

WHERE: Company area (27-30 Sep) and Training Area B (3-6 Oct)

REASON FOR TRAINING: We have had little or no reconnaissance patrolling for a year. Further, we have had a heavy turnover of personnel. Consequently, I doubt our squads' ability to conduct successful reconnaissance patrols.

ADDITIONAL RESOURCES OBTAINED OR COORDINATED FOR BY THE COMMANDER:

Equipment: Twenty 1:50,000 maps of Training Area B (furnished by battalion S2).

Transportation: The unit will be in Training Area B on Oct 3, 4, 5 and 6. Transportation requirements will be determined by the trainer.

Additional Support: The scout platoon under LT Bean will act as the aggressors because all companies of the battalion are conducting small unit training during the week of 3-6 Oct.

Assistant Trainers: All rifle platoon leaders and rifle platoon sergeants are available to be assistant trainers.

Coordinating Instructions: Pick up maps from Bn S2, coordinate with LT Bean for aggressor requirements. Logistics will be according to the company SOP. Coordinate with Headquarters Company for first aid and ambulance support. I want to see your plan for the training. This will permit me to evaluate your preparation prior to my making out the training schedule. Coordinate with LT Doan—he will conduct defense training concurrently in Area B.

FIGURE 23.

DETERMINING THE TRAINING STANDARD

Before going any further you should be aware of how the company commander determined the training standard. The first thing he did was identify the essential elements of the task by focusing on the purpose of the reconnaissance patrol. For a reconnaissance patrol, this purpose is to obtain, within a specified period of time, certain required information. Ideally, this would be accomplished without the patrol's detection by the enemy. Therefore, the essential elements or aspects to consider in developing a training standard for this type of patrol are **time, information,** and **detection.**

The company commander would then determine a workable means for evaluating proficiency for each of these three elements.

a

TIME A reconnaissance patrol is expected to depart when scheduled and return within a specified period. Thus, a portion of the training standard should establish time standards. In our example, the company commander established the following:

> **1. Squad must leave within five minutes of the departure time specified in the patrol order.**
>
> **2. Squad must complete the reconnaissance patrol within the time specified in the patrol order.**

b

INFORMATION The content of a squad's report is crucial. Because of the possibility of friendly casualties, the number of squad members who can render a satisfactory report is also important. An ideal performance would be one in which all squad members provide a complete and accurate report upon completion of the patrol. However, the company commander felt a more realistic standard should be developed.

The exact number of squad personnel who must render a satisfactory report, at least one-half of the squad in this case, is a matter for subjective judgement. Measurable criteria should also be established for evaluating the completeness and accuracy of their reports. Criteria for completeness would be a function of the reconnaissance requirement stated in the patrol order (e.g., size, activities, equipment, and locations of the enemy). These specifics must be developed as you develop the scenario. Tolerances for the accuracy of this information would be established as you refine the problem scenario with such things as location of the enemy forces must be reported within 100 meters of their exact location; size of the enemy forces must be reported within 10 of the actual number, etc. Thus, the company commander gave you a broad training standard for the squad reconnaissance patrol debriefing. It was stated in the following manner:

> **"In a patrol debriefing, at least one-half of the squad personnel must report all the requirements stated in the patrol order. These reports must be accurate to the tolerances specified in the problem scenario."**

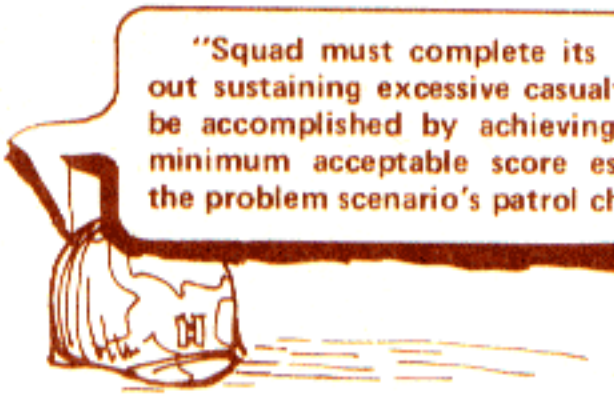
c

DETECTION The ideal reconnaissance patrol is one which completes its mission undetected. However, the company commander, in designing a realistic standard, determined criteria which answered the question: *If detected, would the squad have completed its mission in the time permitted and without sustaining excessive casualties?* Some of the considerations that could be used in developing these criteria are:

> **1. Where did the detection occur (en route, at, or returning from the objective)?**
>
> **2. Why did the detection occur (as a result of failure of the patrol—lack of security, poor noise discipline, etc.)?**
>
> **3. What were the actions of the patrol after they were detected?**
>
> **4. Did the patrol sustain excessive casualties as a result of being detected?**

Based on the criteria developed to answer these questions, a weighted checklist would be developed for use in evaluating the squads (e.g., if detection occurs en route to the objective, the squad is deducted 10 out of 100 points). Thus, the company commander stated the training standard for detection in the following way:

> **"Squad must complete its mission without sustaining excessive casualties. This will be accomplished by achieving at least the minimum acceptable score established for the problem scenario's patrol checklist."**



With the training standards for time, information, and detection established, the commander's objective for the squad reconnaissance patrol task is complete.

You should be aware of this process for two reasons. First, it gives you a better understanding of how the company commander's training objective was formed. Second, this process will also assist you in developing training standards for intermediate training objectives.

ANALYZE GUIDANCE AND DEVELOP THE TACTICAL SITUATION

Look at the commander's training objective (figure 23). You can see that the conditions and training standard are not precise. For example, one of the elements of the training standard concerns information the patrol must obtain in conducting a reconnaissance. The specific information (to include tolerances for accuracy) is not specified in the commander's objective. This does not mean the commander's objective is not useful. In fact, the commander has specified how he wants the reconnaissance patrols to be evaluated (i.e., in terms of time, information, and detection).

However, it is your job to develop the situation which includes the terrain on which the task will be performed, and the enemy and friendly situations which will permit you to refine the objective. By doing this you will be better able to develop intermediate training objectives and establish training standards which will permit you to evaluate objectively a squad's performance during its conduct of a reconnaissance patrol.

You know Training Area B (figure 24) has been designated by the commander as the location where the training will take place. By making a map and/or ground reconnaissance of this area, you can construct a tactical situation appropriate for the patrol training.

To develop an appropriate tactical situation, you should examine the commander's training objective and analyze the general conditions and training standards he has specified. Based on your analysis you can then develop an appropriate tactical situation. Let's see how this would be done for the reconnaissance patrol training.

Your commander's objective indicates there are three items in the training standards which must be tied to a tactical situation. These three items are *time, information,* and *detection.*

The first item concerns **time.** This includes the time the patrol must depart (e.g., within 5 minutes of the time specified in the patrol order) and return (e.g., patrol must complete its mission within the time specified in the patrol order). The second item concerns **information** about the enemy force and its activities which at least one-half of the squad's personnel must report. Acquiring this information and returning with it to friendly lines is the very purpose of the reconnaissance patrol. The third item is the squad's **detection** by the aggressor due to the squad's *inadequate security* or *careless movement* during the patrol's conduct.

With these points in mind, you should see the need for developing an enemy situation which allows for the patrol's acquiring information and avoiding detection within a specified period of time. Accordingly, you can construct a very simple tactical situation suitable for refining the commander's objective, yet within the resource capabilities provided (i.e., Training Area B and the scout platoon's ability to act as aggressors).

As you study Training Area B (figure 24) you will see that there are several possible tactical situations which could be developed to refine the commander's objective. For illustrative purposes, we shall use the situation depicted in figure 25.

NOTE: Conducting a reconnaissance of the training area enables the trainer to develop an appropriate tactical situation based on the type of terrain available. This, in turn, will enable the trainer to refine the commander's training objective. Consequently, the need to conduct a map and/or a ground reconnaissance depends on whether or not the trainer is familiar with the terrain. Specifically, if the trainer knows the training area (e.g., the available cover and concealment, distances, trafficability, etc.) he can refine the commander's objective without having to conduct a map or ground reconnaissance. Conversely, if the trainer is unfamiliar with the training area, he must make a map and/or ground reconnaissance of the training area to refine the commander's objective and assist in preparing the training. If the training area has not been designated, then the trainer should continue with his preparation, but he must recognize that he may have to modify the training objectives and organization of the training once the trainer can get on the ground.

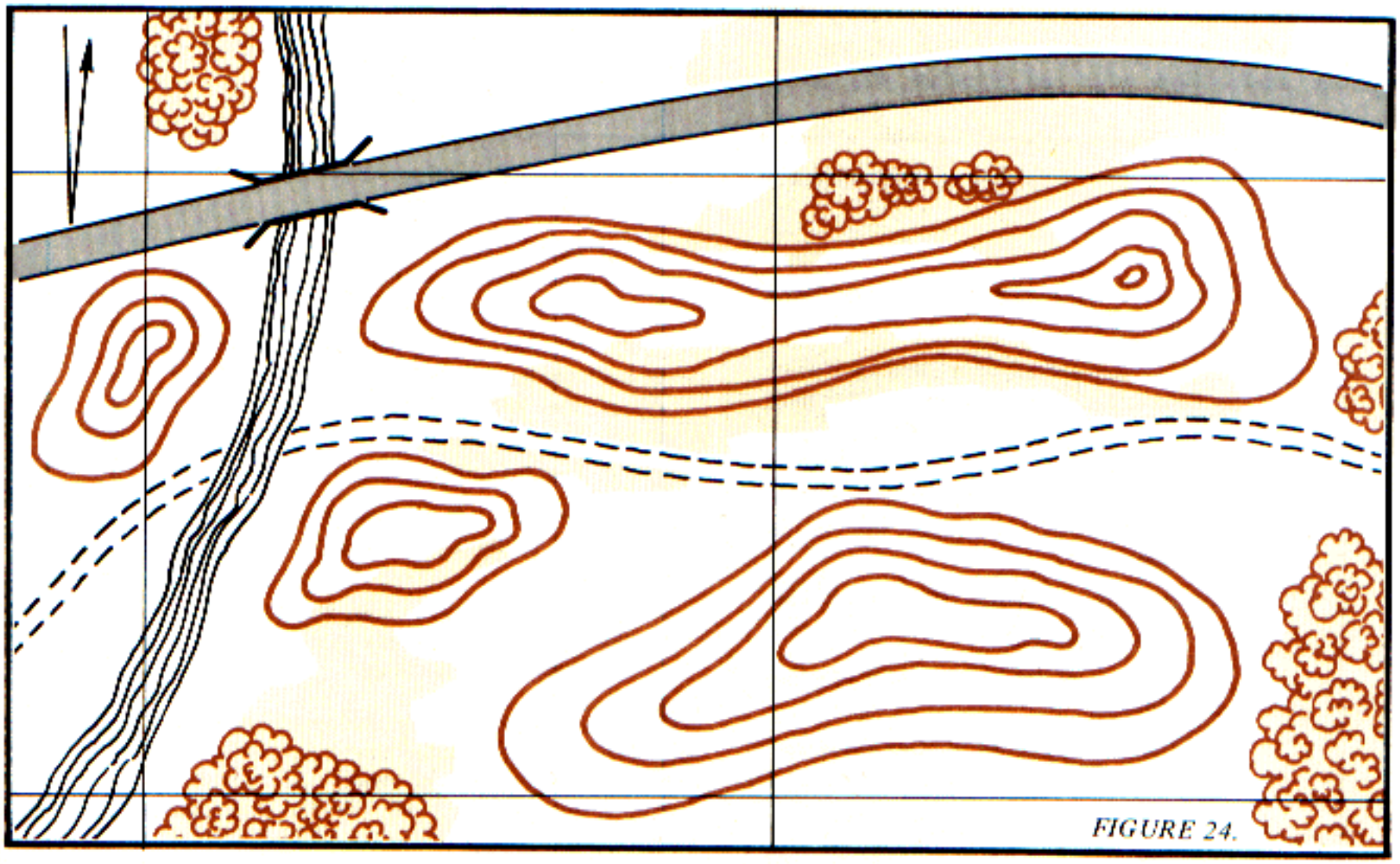


FIGURE 24.

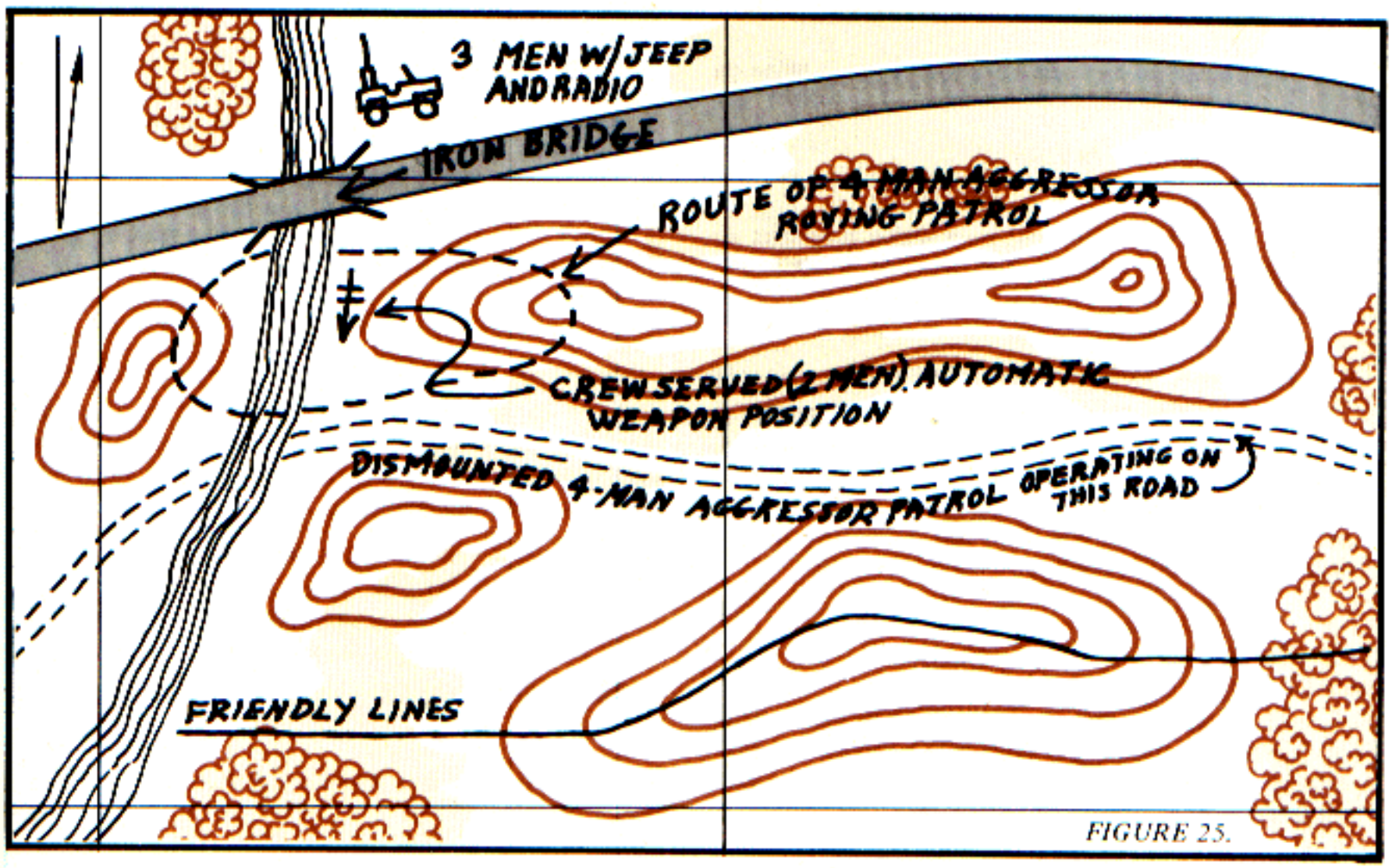


FIGURE 25.

With this tactical situation you can now refine the commander's training objective. The following example shows how you can translate the commander's vague objective into statements which further clarify conditions and establish standards which are measurable and observable.

Example of Refinement of Your Commander's Objective

The task remains unchanged.
TASK: **Each rifle squad must be able to conduct a reconnaissance patrol.**

The conditions element becomes clearer and more specific based on the tactical situation you have developed.
CONDITIONS: **Dismounted, at night, given a reconnaissance patrol order which provides:**

a. The location of the bridge site to be reconnoitered.

b. Elements of information about the bridge:

(1) Is the bridge intact?

(2) The size of the enemy force guarding the bridge.

(3) The activities of the force on the bridge.

(4) The type and location of enemy weapons, equipment, and fortifications.

c. Intelligence indicating active enemy, dismounted patrolling on the south side of the bridge and along the East-West road.

Based on the tactical situation you can refine the training standards insofar as information and detection.
TRAINING STANDARDS:

a. *Time:*

(1) Squad must leave within 5 minutes of the departure time specified in the patrol order.

(2) Squad must complete the reconnaissance patrol within the time specified in the patrol order.

b. *Information:* **During the patrol's debriefing, at least one-half of the squad's personnel must report the following items of information concerning the bridge site:**

(1) That the bridge is intact.

(2) That there is a crew-served automatic weapon position on the south side of the bridge.

(3) That there are at least 2 and not more than 5 men in or around a vehicle parked on the north side of the bridge.

NOTE: The above is the minimum essential information the squad must report. Conceivably a patrol could acquire and report the complete enemy situation (i.e., 2 men in the automatic weapons position, 3 men in a jeep with radio, the 4 man roving patrols, etc.).

c. *Detection:* **Squad must complete its mission without sustaining more than 2 casualties (as adjudged by an evaluator) which result because the squad failed to take adequate security measures during the conduct of the patrol. Casualties can be sustained if the patrol is detected by any of the aggressor forces (e.g., if detected by the aggressor 4 man patrol when crossing the east-west road or detected by the 4 man roving patrol on the south side of the bridge).**

FIGURE 26.

This completes the refinement of the commander's training objective. Having developed a precise training objective and having stated it in measurable terms, you have completed Step 1—you have described the desired results of training. You can now move on to Step 2 in which you prepare to conduct training.

STEP 2: Prepare to Conduct Training

In this step you will stress all of the fundamentals of collective training. You must establish the intermediate training objectives that specify the individual and collective tasks the squad must perform to accomplish the commander's objective, including the conditions under which the tasks are performed and the training standard that must be met. Training fundamentals:

- *Develop Precise Training Objectives and Insure Standards Are Met*
- *Insure Soldiers Can Perform Critical Individual and Subunit Tasks*
- *Employ Multi-Echelon Collective Training*

Let's see how this is done for the reconnaissance patrol training.

ESTABLISH INTERMEDIATE TRAINING OBJECTIVES

You will recall from chapter 3 that the first step in preparing training is to establish intermediate training objectives. You do this by first identifying the tasks to be performed using your experience, expertise, and by referring to the appropriate references. In this instance these references FM 21-50, **"Ranger Training and Ranger Operations,"** FM 21-75, **"Combat Training of the Individual Soldier and Patrolling,"** and your unit's tactical (field) SOP. For tactical collective training, it is extremely important that you identify the *critical individual* tasks as well as the collective tasks that must be performed.

Note that the list of tasks (figure 27) clearly separate those performed by the leader, by the patrol members, and by the collective effort of the patrol. In developing the list of tasks, don't get bogged down. Avoid becoming so engrossed in accounting for every action that could occur that you lose sight of the purpose of developing the list in the first place. The point is to identify those critical tasks which must be performed to accomplish the commander's objective. In developing the tasks for tactical collective training, you should identify three types:

1. **Critical Leader Tasks:** The tasks the leader must perform to accomplish the commander's objective.
2. **Critical Member Tasks:** The tasks the team or unit members must perform to accomplish the commander's objective.
3. **Collective Tasks:** The tasks that must be performed by two or more personnel to accomplish the commander's objective which require a high degree of teamwork. This includes critical tasks performed by subunits (e.g., critical tasks performed by a rifle squad to accomplish a platoon training objective).

Examples of these three types of tasks for the reconnaissance patrol training are shown in figure 27.

Critical Individual and Collective Tasks		
Individual Soldier Tasks	**Leader Tasks**	**Collective Tasks**
1. Compass man: Navigate cross country using a map and compass **2. Pace man:** Calculate distance traveled using pacing method **3. Radio Telephone Operator:** Place in operation and communicate over a PRC-25 radio **4. All Personnel:** a. Move at night b. Fire individual weapon c. Camouflage self and equipment d. Observe noise discipline	**PHASE I** *(Prior to departing)* 1. Issue oral warning order 2. Coordinate with fire support, friendly front lines (FFL) and for rehearsal area 3. Conduct reconnaissance 4. Write and issue patrol order 5. Rehearse conduct of patrol 6. Inspect patrol 7. Final coordination with FFL prior to passage	**PHASE I** Pass through FFL
	PHASE II *(en route)* 1. Establish rally points 2. Call halts 3. Issue orders (e.g., crossing danger areas, enemy control, etc.) 4. Supervise conduct of movement	**PHASE II** 1. Move in patrol file formation 2. Move through danger areas 3. Secure halt area
	PHASE III *(at objective)* 1. Locate and confirm objective rally point (ORP) 2. Modify patrol order as needed 3. Locate objective 4. Supervise conduct of reconnaissance	**PHASE III** 1. Security team secures the reconnaissance team and the ORP 2. Recon team recons objective 3. Recon team disseminates information
	PHASE IV *(return move)* 1. Use all tasks in Phase II 2. Contact FFL	**PHASE IV** All skills used in Phase I and II

*The recon and security teams must be trained to perform their critical subunit tasks. This is part of the training required to enable the reconnaissance patrol to accomplish the commander's training objective.

FIGURE 27.

As you can see from the list of critical individual tasks in the figure, you may have to conduct extensive individual training prior to "putting it all together" by concentrating on developing each squad's collective proficiency in reconnaissance patrolling. This is an important point to remember. *If the leader and his subordinates cannot perform critical individual tasks, your collective training efforts will be inefficient or ineffective.* In this respect you should stress the third fundamental of collective training: **Employ Multi-Echelon Collective Training.**

This means you should train the squad leaders to perform the tasks of the patrol leader separately. For example, the squad leader can be trained to prepare and issue a warning order and a patrol order without the presence of his subordinates. Concurrently, while the squad leader is learning to perform his duties, the squad members can be learning to perform their critical individual tasks (e.g., individual camouflage, night movement techniques, etc.).

Once the critical tasks have been identified, you should get the assistant trainers involved in preparing the training. If you have insufficient lead time or it is apparent the training will be especially complex and require a large number of intermediate training objectives to be developed, now is the time to get help. Break down the tasks in a logical manner **(simple** to **complex** or **individual** and **collective)** and have the assistant trainers develop the conditions and

training standards for them. You must let them know what the commander's objective is and what resources are available. By getting the assistant trainers involved at this point, you will use the time available to best advantage.

Remember, in preparing the training, both the trainer and his assistants should use the same 3-step process. If they are not familiar with how to prepare and conduct performance-oriented training, have them read this manual. Assist them when they need help and **check their work early enough to correct deficiencies.**

To complete the intermediate training objectives for the collective tasks, you and your assistants must now establish the conditions under which the tasks will be performed and the training standards met. To develop the conditions of the intermediate objectives, you and your assistants should examine the conditions of the commander's objective. This information together with a review of the appropriate literature will assist in developing the conditions for the collective tasks.

Similarly, the training standards can be developed by examining the training standard of the commander's objective and the appropriate references. To illustrate how this is done, consider the collective task for the reconnaissance patrol (figure 28).

Collective Tasks Performed by Recon Patrol

1. **The patrol will pass through (depart and reenter) friendly front lines.**
2. **The patrol will move in file formation.**
3. **The patrol will move through danger areas.**
4. **The patrol will secure halt area.**
5. **The security team will secure the recon team and ORP.**
6. **The recon team will recon the objective.**
7. **The recon team will disseminate information to the other patrol members.**

FIGURE 28.

By examining the conditions and training standard of the commander's objective and by using your combined experience, expertise, and the appropriate references, you and the assistant trainers should be able to develop intermediate training objectives similar to those shown in figure 29.

With the intermediate training objectives established, you are now ready to determine and organize the training required.

DETERMINE AND ORGANIZE TRAINING REQUIRED

Determine How Much Training is Required. You will recall from chapter 3, determining how much training is required depends on the current proficiency of the soldiers with respect to their ability to perform each intermediate training objective. In short, if the soldiers can perform an intermediate objective successfully, no further training is required. Conversely, if they cannot meet established standards, training is required.

To determine how much training is required, one or both of the methods described in chapter 3 can be used: (1) Obtaining and evaluating past performance results and (2) Employing pretraining diagnostics. For example, *determine if a squad can move in the patrol file formation by requiring them to perform intermediate training objective number 2.* If they meet the training standard, no training is required. If time and other resources preclude you from conducting a pretraining test, then subjectively evaluate past performance results to determine how much, if any, training is required. Once you have determined the training required, you are ready to organize the training.

Organize Training Required. To organize tactical collective training you must pay particular attention to the order in which critical individual tasks and collective tasks which require training are taught. By insuring that the soldiers (leaders and team or unit members) can perform their critical individual tasks, you can significantly improve the capability of the soldiers to function as a team or unit. **Remember, you should employ multi-echelon training to bring the leaders up to speed before they train with their subordinates.**

When the leaders and team or unit members have mastered the critical individual tasks, they are ready for collective training. If there are collective intermediate training objectives, the order in which these objectives are taught may be important. For example, the team or unit may have to learn to perform one collective objective before they can perform another. In addition, the available training resources may dictate that training in one objective must take place before training can begin in another. To do this, you must estimate the training resources required and select appropriate trainer techniques.

Intermediate Collective Training Objectives For Reconnaissance Patrol Training

1. *TASK:* The patrol will pass through (depart and reenter) friendly front lines (FFL),

   CONDITIONS: at night, given a patrol order which specifies a departure point and line of departure, the reentry point and a "not later than" time to reenter the FFL, and the availability of a guide to assist in conducting the initial passage.

   TRAINING STANDARD:

   Departure: (1) Depart within 5 minutes of the time specified in the patrol order, (2) complete passage of FFL without being detected by the enemy, and (3) complete passage with all patrol personnel.

   Reentry: (1) Coordinate reentry of FFL with friendly forces prior to approaching within 500 meters of the FFL, (2) complete passage of FFL with all patrol personnel accounted for and without being engaged by friendly forces, and (3) complete passage not later than the time specified in the patrol order.

2. *TASK:* The patrol will move in a file formation,

   CONDITIONS: at night, in hilly, semi-wooded terrain, given a patrol order which specifies the route to be followed, an objective to be reached, and a "not later than" time to reach the objective.

   TRAINING STANDARD: Move using the file formation specified in the Ranger Handbook (i.e., point man leads, followed by compass man, patrol leader, RTO, security element, recon element, assistant patrol leader and rear security). Patrol must arrive within the time specified. Patrol must maintain noise and light discipline (e.g., tape dog tags and rifle slings, "sock" canteens, camouflage face and hands, use red filter under poncho to read map, do not smoke, etc.)

3. *TASK:* The patrol will secure halt area,

   CONDITIONS: at night, moving in a file formation, given a patrol order and a requirement to halt the patrol.

   TRAINING STANDARD: Halt using silent signals with point man facing front, rear security guarding patrol rear, and other patrol members alternating facing left or right. Patrol must be able to detect approaching enemy before the enemy detects the patrol.

4. *TASK:* The security element will secure the recon element and the objective rally point (ORP),

   CONDITIONS: at night, given a patrol order which specifies an ORP and a point objective.

   TRAINING STANDARD: (1) Establish local security in the ORP, (2) move a security element into positions from which they can cover by fire the recon element (security element must be in place prior to the recon element beginning their reconnaissance), and (3) recon team must complete recon and move back to ORP prior to the security element being withdrawn.

5. *TASK:* The reconnaissance element will recon objective,

   CONDITIONS: at night, given 3-man recon element, a patrol order which specifies an objective, an ORP, and the type of information about the enemy forces occupying the objective that the recon element must obtain.

   TRAINING STANDARD: Obtain complete and correct information (within specified tolerances) without sustaining more than 1 casualty (as judged by the evaluator).

6. *TASK:* The reconnaissance element will disseminate information,

   CONDITIONS: at night, after returning from making a recon of a point objective occupied by an enemy force.

   TRAINING STANDARD: All of the patrol personnel must hear the information at the ORP and in a patrol debriefing at least 50% of the patrol members must report all of the information obtained by the recon element in the ORP.

FIGURE 29.

Estimate Resources Required and Select Training Techniques. The toughest resource to estimate, and the one that is usually the most limited, is time. This is particularly true for tactical collective training. The best method is to use past experience and your judgment of how long it will take to bring the team or unit from their current proficiency to a level of proficiency that will enable them to meet the training standard of a particular objective.

For example, for the reconnaissance patrol training, excluding training in critical individual tasks, your time estimate for the collective training might look like that shown in figure 30.

Time Estimate for Collective Reconnaissance Patrol Training

Collective Tasks	Team or Unit	Time
1. Pass through (depart and reenter) FFL	patrol	1 hour
2. Move in file formation	patrol	2 hours
3. Secure halt areas	patrol	1 hour
4. Secure recon element and objective rally point	security element	2 hours
5. Observe the objective	recon element	2 hours
6. Disseminate information	recon element	1 hour
7. Conduct practice recon patrol	all	4 hours
	TOTAL	13 hours

FIGURE 30.

When selecting appropriate trainer techniques, keep in mind the three phases of conducting performance-oriented training. These are:

PHASE 1: Trainer states purpose of training; explains and demonstrates, if necessary, the objective to be performed.

PHASE 2: Soldiers practice objective to acquire proficiency.

PHASE 3: Soldiers are tested on commander's objective.

To select the training techniques, you should be familiar with not only training aids (see chapter 3 and appendix C), but also with the types of tactical exercises. A brief discussion of the exercises normally used at company level will assist you in following the recon patrol example. There are five types of tactical exercises which are appropriate for this purpose.

They are the:

1

TERRAIN MODEL EXERCISE. This is a tactical exercise in which a sandtable or some other type of terrain model is substituted for the actual terrain. It is an excellent exercise for training leaders to plan and conduct a tactical operation and for demonstrating the concept of the operation to the entire unit.

2

TERRAIN EXERCISE. In this exercise, the disposition and movement of simulated troops are planned and discussed on a particular piece of ground. It is an excellent exercise for training squad and platoon leaders to analyze the terrain during the planning and simulated conduct of an operation.

3

COMMAND POST EXERCISE (CPX). This exercise involves only leaders planning operations for simulated units. It can be conducted in the field or as a map exercise at home station. The CPX allows the leaders to plan company-size operations and use troop leading procedures without involving the entire unit.

4

TACTICAL DRILL EXERCISE. This exercise is used to prepare a unit or team to execute tactical techniques. It can be conducted on a parade ground or over actual terrain. The key is to begin slowly by executing the particular action by-the-numbers. It allows the unit or team to progress step by step until they attain teamwork and can perform the task at normal speed.

5

FIELD EXERCISES. During this exercise, the entire unit conducts the tactical operation specified in its training objective under simulated combat conditions. The successful execution of the tactical operation depends greatly on actions taken during the preparation of your tactical training.

Figure 31 shows the manner in which the five types of tactical exercises defined above are related to one another.

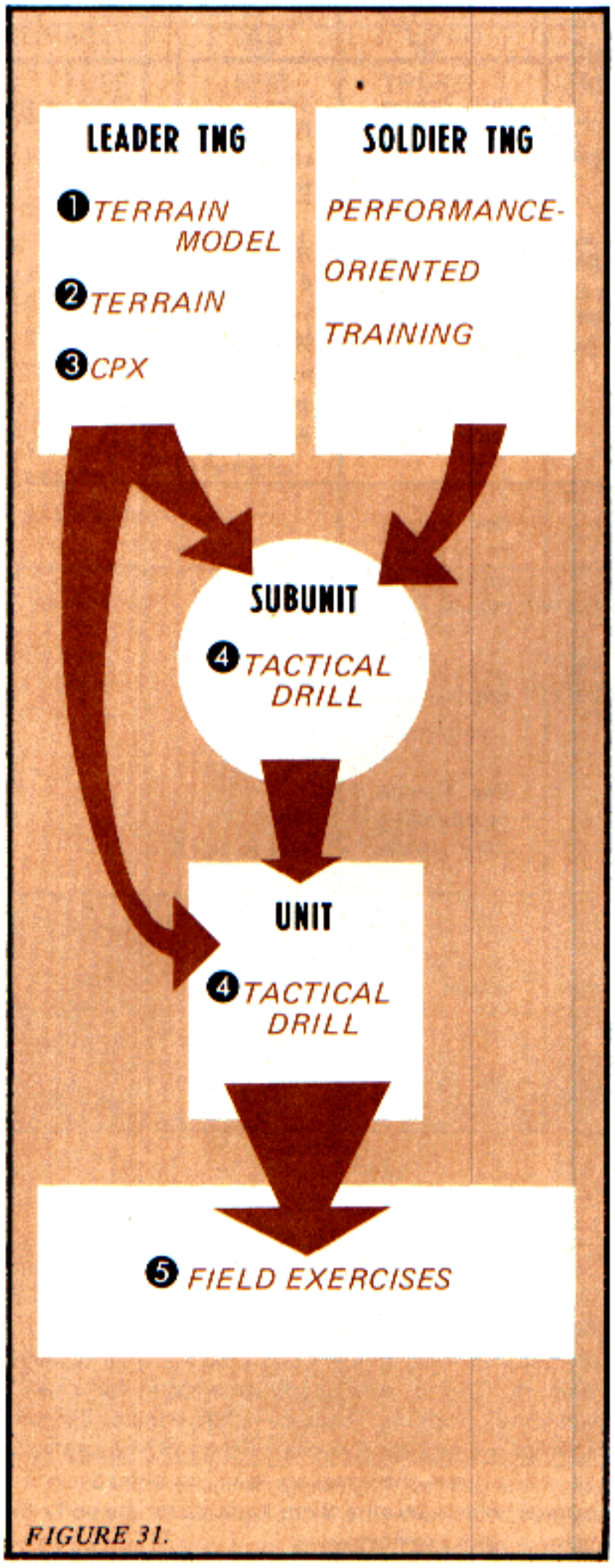


FIGURE 31.

A detailed discussion of these exercises, including when and how to use each, is found in appendix E.

To briefly illustrate when and how to use these exercises, we will examine a portion of the patrol training example and relate it to the techniques you can use (See figure 32).

Training Tasks	Who Receives	Technique
1. Prepare orders; select route, supervision of patrol	Patrol leaders	Individual Training (see chapter 3)
2. Select routes	Patrol leaders	Terrain Exercise
3. Conduct of recon patrol	Patrol leaders	Terrain Model Exercise
4. Security team	Team	Tactical Drill 1
5. Recon team	Team	Tactical Drill 2
6. Movement of recon patrol	Patrol	Tactical Drill 3
7. Execution of the patrol	Patrol	Field Exercise

FIGURE 32.

The patrol leaders will learn patrolling fundamentals and how to prepare patrol orders in item 1. Following this they can practice these skills using a terrain model exercise (item 3). Up to this point we have concentrated on the patrol leader by sharpening his skills. At the same time, the soldiers would also be receiving training in individual skills, thus applying the multi-echelon training concept previously discussed.

Multi-echelon training need not be limited to just individual tasks. It may also include collective tasks. While the squad leaders are being trained in issuing patrol orders, the patrol members can be practicing movement techniques (or techniques for crossing roads) under the supervision of the platoon leaders or squad leaders who are already proficient in the issuance of patrol orders. Items 4 and 5 in figure 32 could be conducted while leaders are working on items 2 and 3.

After completing the critical individual and subunit training, it is time to put the leaders back with the squads. In figure 32, item 6, a tactical drill is used first. This exercise is conducted by-the-numbers with sufficient repetition to insure everyone knows

exactly how to react when moving through friendly lines, conducting a security halt, or reconnoitering the objective. The key is *go slow* and *critique* every step. If the task is not done correctly now, it will not be executed properly either in the field exercise, or ultimately, in combat.

With a rough determination of the training time required for the collective tasks completed (figure 30), the next step is to estimate the time required for the field exercise.

The following facts will influence this determination.

1. **Nine squads must execute the patrol.**
2. **There is only enough room in the training area for three squads to perform the patrol on a given night.**
3. **The platoons will also be receiving training in the area defense during the week in which the patrol training will be conducted.**
4. **The squads that conduct the night patrol should receive compensatory time.**

You should coordinate with LT Doan to find out what his time estimate is for the defense training. The two of you would jointly develop an activity schedule that might look something like figure 33.

As the principal trainer, you need to return to the company commander with this schedule and your intermediate training objectives. **First,** to resolve the question marks in the schedule; **second,** to receive final approval for your intermediate training objectives. With the company commander's assistance, the completed training forecast would look like figure 34. (The total forecast was completed by combining figures 30, 32, and 33, and adding the commander's guidance.) With the training forecast developed and training techniques identified, the remaining training resources can be estimated. First, determine what training becomes separate training sessions assigned to assistant trainers as reflected in the forecast at figure 34. Or as we pointed out earlier, they may have assisted in the development of the intermediate objectives and therefore require only a minimum amount of guidance to continue working on a specific period of instruction. Your training guidance in either case should contain the same information as the guidance the commander provided to you *(i.e., the intermediate training objective to be accomplished, who, when, where, the training resources available, and the reasons for conducting the training).*

	DAY 1	DAY 2	DAY 3
AM	One Platoon preparing for recon patrol Defense Training (sandtable) (tactical drill)	Two Platoons compensatory time One Platoon: defensive training (tactical drill) Rotate same as Day 1	Same as Day 2
PM (Day)	One Platoon preparing defensive position One Platoon? One Platoon conducting recon patrol	Same as Day 1	
PM (Night)	One Platoon conducting defense One Platoon?		

FIGURE 33.

By providing this type of guidance to your assistants, they will be able to prepare their training session properly. Specifically, they will be able to take your guidance, and using the 3-step, backward planning process, prepare and conduct their assigned training. This is particularly important for tactical collective training because they must develop appropriate tactical situations which will enable them to refine your intermediate training objectives in a manner which permits them to evaluate properly the team or unit's performance.

Because you are responsible for what your assistant trainers do, have them bring their work to you for your evaluation.

TRAINING FORECAST

	27 TUES	28 WED	29 THURS	30 FRI	WEEK END	3 MON*	4 TUES*	5 WED*	6 THURS
AM	PATROL LDR TNG 1. Write orders 2. Select routes 3. Supervise conduct SOLDIER TNG 1. Movement techniques 2. Camouflage	PATROL LDR TNG Conduct of recon patrol sandtable exercise) SOLDIER TNG 1. Use of map and compass 2. RTO procedures	ALL** 1. Passage of lines 2. Patrol formation 3. Secure halt (tactical drill)	Compensatory Time Critique Makeup and Remedial Training		LEADERS Conduct area defense (sandtable) SOLDIERS Prepare fighting position (tactical drill)	1ST PLT Compensatory time 2D PLT Comp time & review recon techniques 3D PLT Conduct of defense (TOE drill) WPNS PLT FO procedures	1ST PLT Review Defensive (tactical drill) 2D PLT Comp Time 3D PLT Comp time & review of recon tech WPNS PLT RSOP	1ST PLT Comp time 2D PLT Maint 3D PLT Comp time WPNS PLT Range firing Critique
PM (Day)	Maintenance Physical Training	Maintenance ALL Recon patrol rehearsal (tactical drill)	1. Security TM actions 2. Recon team actions 3. Disseminate info (tactical drill)	Maintenance Organized Athletics		1ST PLT Prep for recon patrol 2D PLT Prepare defensive position 3D PLT Maintenance WPNS PLT Crew drill	1ST PLT Critique maintenance 2D PLT Prep for recon patrol 3D PLT Prep defense position WPNS PLT RSOP	1ST PLT Prep defense position 2D PLT Critique and maintenance 3D PLT Prep for recon patrol WPNS PLT Range firing	Elements that are successful return to Co area for tng holiday.*** Squads requiring additional tng prep for recon patrol.
PM (Night)			ALL Conduct of recon patrol (tactical drill)			1ST PLT Conduct patrol 2D PLT Conduct defense WPNS PLT Support 1st Plt	1ST PLT Stand down 2D PLT Conduct patrol 3D PLT Conduct defense WPNS PLT Support	1ST PLT Conduct defense 2D PLT Stand down 3D PLT Conduct recon patrol WPNS PLT Support	Open for Remedial Training

**Mon-Wed schedule developed from time estimate at figure 33.*

***Thursday schedule developed from time estimate at figure 30.*

****A training holiday is one approach. Trainer may wish to conduct other training or have faster learners help slower personnel.*

FIGURE 34.

COMPLETE ADMINISTRATIVE REQUIREMENTS

After providing the assistant trainers your training guidance, you should complete the administrative requirements. This includes obtaining equipment, making coordination and developing lesson plans as discussed in chapter 3. Sample lesson plans are included at appendix G. Remember, lesson plans should be used as a guide only. If it does not fit your local needs, develop your own format.

For complex tactical collective training like the reconnaissance patrol training, there are many things the trainer must do to complete the preparation of training. You will recall that in **Step 1, Describe the Desired Results of Training,** an appropriate tactical situation was developed that permitted the trainer to refine the commander's training objective. The trainer must now further develop the tactical situation by writing the administrative material that will be used to support the tactical training. For example, in testing each squad's capability to conduct a successful reconnaissance patrol, one of the items that must be developed would be the patrol briefing given to the squad leader. In addition, after evaluating the patrol leader's capability to prepare and issue a warning order and a patrol order, the trainer would provide a complete patrol order which specifies how the patrol would perform its mission. This would be done to insure that the conduct of the patrols would be controlled and evaluated in a uniform manner. An example of a patrol briefing based on the tactical situation developed in Step 1 is shown at figures 35 and 36.

With the administrative requirements completed you are ready for the most important part of the training process: The actual conduct of the training.

PATROL BRIEFING FOR A RECONNAISSANCE PATROL

Trainer Issues Briefing to Patrol Leader (figure 36 depicts the tactical situation)

MISSION: Your mission is to conduct a point reconnaissance of the bridge site (Loc YD 63943873) to determine:

a. The size of the enemy force guarding the bridge.

b. The type of enemy weapons and equipment, i.e., automatic weapons, other crew served weapons, radios, vehicles.

c. Location and type of fortifications.

ENEMY FORCES: Enemy has withdrawn to the north side of the river where they are preparing defensive positions on the high ground overlooking the river. We suspect that the enemy is fortifying the bridge and is conducting local patrols on the south side of the bridge and along the East-West road.

FRIENDLY FORCES: Our battalion has been attacking; our company (Co B) is the battalion reserve. The battalion is preparing to attack and cross the river tomorrow night.

LIGHT DATA: It will be dark at 2000 hours (EENT); the moon will rise at 2200 hours.
You will depart friendly lines at checkpoint 1 not later than 2000 hours. You must reenter friendly lines at checkpoint 4 not later than 2400 hours. You will coordinate with the CO, Co A, for departure and reentry of friendly lines. He will also provide you a guide to lead you to and from his lines and your assembly area if you request one.

You will select your own route between checkpoints. Report your arrival at each checkpoint using the following code words. CP1-blue; CP2-green; CP3-red; CP4-yellow.

Coordinate with the company forward observer for fire support. Coordinate with the supply sergeant for equipment and rations. Don't forget to obtain binoculars and starlite scopes.

The 1st Sergeant will arrange for early chow, test firing, and a rehearsal area, and upon return, hot chow. Coordinate with him directly for these items. I will debrief the patrol immediately after your return.

FIGURE 35.

STEP 3: Conduct Training to Standards

Step 3 of the 3-step process is conducting training in a manner which will insure that the individuals, teams, or units being trained can meet established standards. Again, the procedure for tactical collective training is the same as for individual training. Your intermediate training objectives have been established (and refined by the assistant trainers) and include the standards your training must achieve. When these have been performed successfully, the team or unit is ready to practice and be tested in performing the commander's objective.

Remember, during the actual conduct of training you should insure that leaders and team or unit members can perform their respective critical individual and subunit tasks before they train together to perform the commander's training objectives.

This would include all of the training which is indicated in figures 33 and 34. As the principal trainer, you will have to monitor this training very closely, especially at the critiques and during remedial training. A block of training such as this one, or more complex training such as attack or defense, will require close attention to coordination and supervision of the assistant trainers.

As a principal trainer, you are responsible for the training conducted by your assistants. As a leader, you must supervise their training and provide assistance where it is needed. In this respect, you should monitor the training and make adjustments in the schedule as needed. For example, if you observe incorrect procedures, techniques, or methods being used by a unit as it maneuvers against a fortified position, you should stop the training, explain what is wrong, and require the unit to start over again. To hammer this point home, consider the following examples of training being conducted (next page).

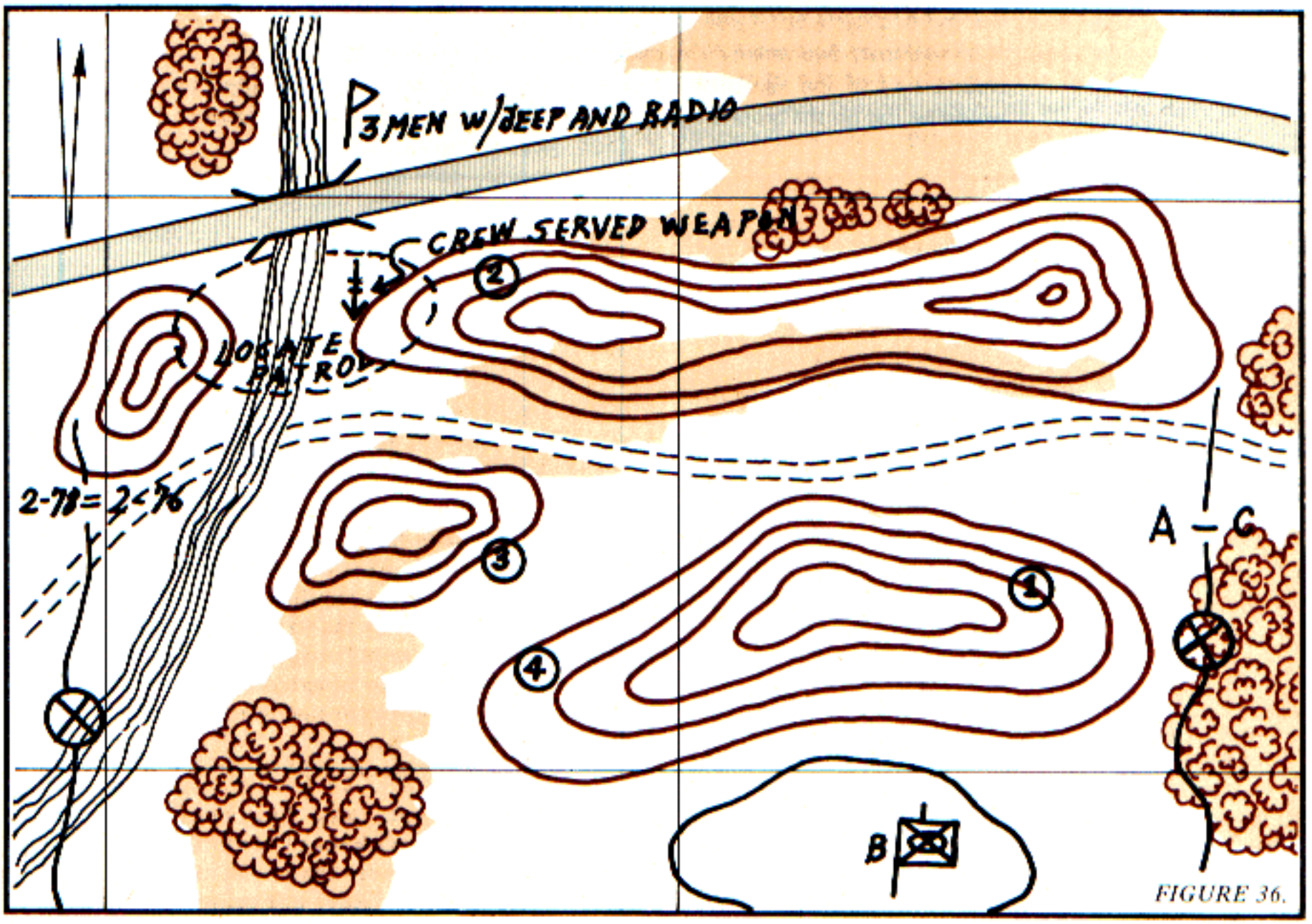
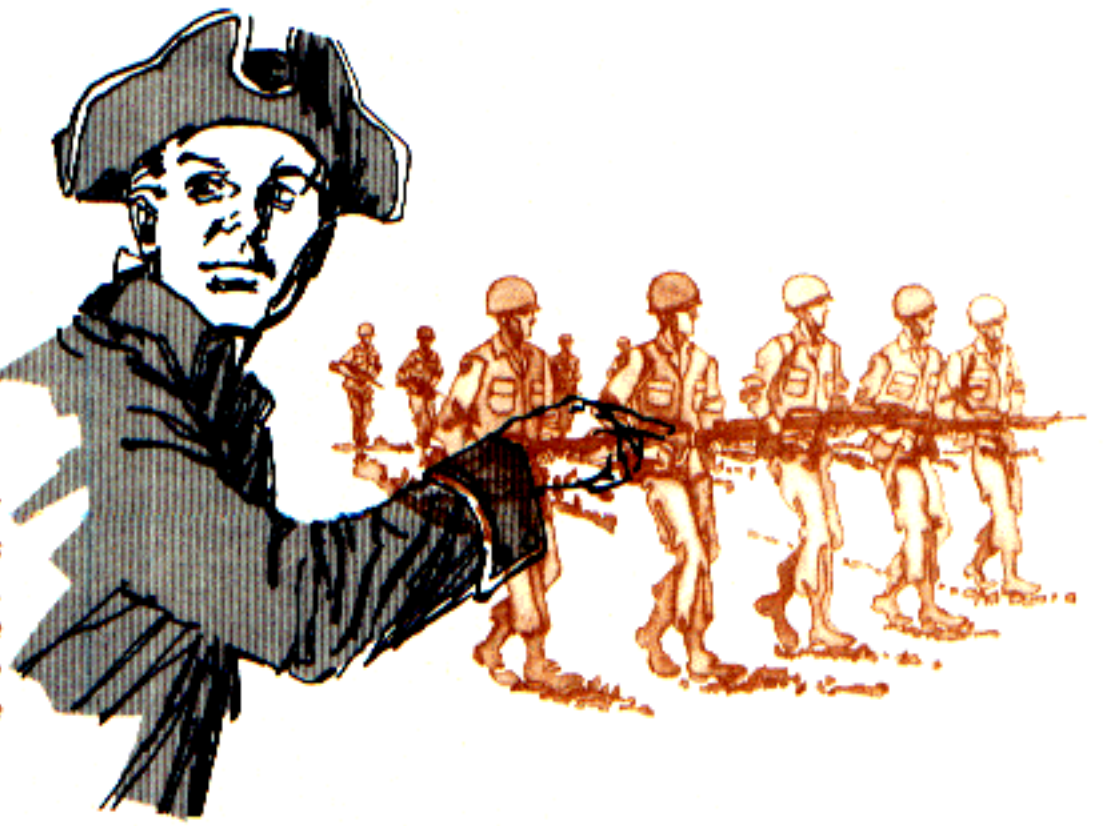


FIGURE 36.

SCENE 1

Visualize a piece of rolling, semi-wooded terrain on a sunny day. A rifle squad comes out of the woods and crosses the Final Coordination Line, moving on line. There is a 10-meter interval between the men and the squad leader is moving along behind the squad, talking on the radio. The supporting artillery is shifted from the objective. Immediately the riflemen move forward, rapidly firing aimed shots from the shoulder every time their left foot hits the ground. As they get within 30 meters of the objective, the rate of movement and fire increase. The riflemen are firing from the underarm position while the automatic riflemen are firing short bursts from the hip.



Isn't this a sight to warm the heart of every infantry leader? A line of infantry moving upright and courageously in the attack. Would this work in combat? **NO!**

It might have worked for Wellington or Napoleon, but it won't work for you. In fact, if you are training in this fashion, you and your men are *DEAD WRONG!*

In combat, two enemy riflemen, dug in, and firing well aimed shots would kill or wound half of the squad before they even reached the objective. The remaining men would be flat on the ground looking for some way out of their predicament.

SCENE 2

The view this time is of a bleacher site in a local training area. It is a nice day and about 90 men are sitting in the bleachers. A young lieutenant is just beginning a class on squad defense.

With the lieutenant are two NCOs wearing starched fatigues and shiny boots. Charts and other training aids are ready for use.

During the first hour, the lieutenant gets the subject well in hand, explaining the purpose of the area defense, security elements, final protective fires, and alternate positions.

One or two men nod, but for the most part everyone stays awake. The second hour begins and the lieutenant is now explaining how to dig foxholes, set out claymores and wire, and call for artillery fire. Several men are asleep now; the remainder, although their eyes are open, their minds are far away.

Unfortunately, these situations occur far too often in training. They occur because commanders and trainers have not done their "homework." They have not taken the time to properly prepare the training. Consequently, despite a lot of activity or talking, little or no training takes place. In fact, the soldiers are learning to do it wrong or not at all.

This is a situation unit leaders must not tolerate. They must establish training objectives and insure that established standards are met. The training must stress techniques. When significant errors are spotted, the trainer should **stop** the exercise and correct the deficiency before continuing. While, initially, the training may appear to progress slowly, the soldiers undergoing training will learn to do it right the first time and subsequent training will not have to continually cover "old ground."

This approach is best illustrated when one considers a successful football team. After a game, the deficiencies are identified and in next week's practice session, the coaches and the team work hard

to correct deficiencies. They don't merely identify problems, talk about them, and hope that in the following week's game the deficiencies will be somehow magically corrected. Likewise, in the practice sessions, when the coach spots a deficiency in executing a play he stops the session, explains to the team or player how the play should be executed, and then the team practices the play until they get it right. Similarly, good tactical collective training takes time, hard work, and the dedication of the leaders to do it right. They must require the soldiers undergoing training to practice a task **again, and again, and again** until they can perform it right. Without this attitude, chances are your training will fail.

SETTING REALISTIC STANDARDS

Training standards play an important role in training because they help insure that leaders, soldiers, teams and units can perform successfully in combat. Trainers must set realistic standards because *then soldiers know exactly what is expected of them.*

You conduct effective tactical training by clearly specifying the standards you expect your soldiers to meet in performing a task. You must then have the leaders, soldiers, team, or unit practice the task until they can meet successfully the standards you have established. Finally, you must hold the unit—particularly your subordinate leaders—accountable for insuring that your standards are met—just as your commander should hold you accountable for meeting his standards.

For example, if a platoon is undergoing training in the area defense and the task is to dig foxholes, it is the responsibility of the fire team leaders and squad leaders to walk from position to position insuring the holes are the proper size, have natural camouflage, provide protection from direct small arms fire, etc. It is essential that soldiers know the standards and are required to meet them.

Soldiers perform tasks in the manner you want only when they clearly understand the standards you expect from them. The same thing goes for your subordinate leaders in the unit. They will insure that their men comply with your standards once they clearly understand what your standards are and know you will check to see they are met.

It's your responsibility as a leader to establish these standards during the preparation of your training. It's also your responsibility as a leader to insure these standards are understood and complied with during the conduct of your training. This is not easy, but that's why you're paid to be a leader.

In order to train to standards, you must be sufficiently self-disciplined to stay with each task until it is mastered. This means that when the unit makes a mistake, you should stop and have them do it right. It's admittedly more fun to run over the objective or tear down the road in your tanks, but this is not how battles are won. They are won by going over the planning of the operation with the leaders until they can meet your standards, then going over the next task until its standards have been met, and so on. Only when each of the individual tasks has been mastered, do you move on to tactical exercises, and the field exercise. Once the unit can demonstrate it can meet your standards during a field exercise, you can continue to conduct as many field exercises as time and resources allow in order to permit the unit to improve its proficiency.

SUPERVISION AND CRITIQUES

Training to standards requires continuous supervision. For example, when a platoon leader has placed his platoon in its defensive positions, he should start walking across his platoon front. As he looks at each position, he checks to see if it takes advantage of the best natural cover, concealment, and fields of fire. As he gets to one end of the platoon, he turns back and checks each position again to see if the men are following the prescribed priority of work.

On his next swing along the line, he might check to see whether the natural camouflage has been maintained. He should also walk 200-300 meters out in front of the position to determine what the enemy would see as they approach.

In order for your training to be effective, it must involve *constant supervision and correction* of individual and unit performance. Everyone in the unit must be continuously informed of how close their performance is to the established standards. When squad field training exercises are being conducted, the company commander and all of the platoon leaders should be in the field with their men, actively supervising and correcting the training.

POST TRAINING EVALUATION

Because you have carefully prepared your training and established measurable training standards you will be able to evaluate tactical collective training using the techniques discussed in chapter 3. In addition, a handy checklist for evaluating your training is contained in appendix D. Remember, you should keep informal records of what the training accomplished (or failed to accomplish, and why) so

that the commander can make necessary adjustments to the training program. Also, future trainers will then have a record they can use to assist them in preparing the same or similar training.

USING ARTEP TO PREPARE AND CONDUCT TACTICAL COLLECTIVE TRAINING

As is the case with equipment-oriented collective training, ARTEP provides a great deal of useful information to commanders and trainers responsible for the planning, conduct, and evaluation of tactical collective training. Because ARTEP specifies the collective performances required of all elements of a unit, including the standards for performance that must be met, it is the basis for collective training and evaluation. Combat arms units will find the applicable ARTEP an excellent source of tactical collective training objectives and of other information that will aid in the preparation and conduct of tactical training.

To illustrate how ARTEP can be used, consider the training and evaluation outline extract from ARTEP 7-45 below. This training and evaluation outline specifies one of the combat capabilities required of a rifle squad to operate successfully as a point squad of an advance party conducting a movement-to-contact mission. The performances expected of the squad are expressed in terms of the mission, the primary training and evaluation standards, and the associated collective training objectives. These objectives require the preparation and conduct of tactical collective training. Because they are stated in performance terms, the first step of the backward planning process "Describe the desired results of training" is largely completed.

Further, information contained in the suggested support requirements will aid in estimating the training resources required to conduct training, and will point the trainer to the key references. Finally, the tips to trainers and evaluators provide additional information on how the exercise might be conducted.

As was the case with equipment-oriented collective training, the information contained in the training and evaluation outline does not do all the trainer's work. Where needed, training objectives must be refined, intermediate training objectives developed, and lesson plans completed. Nonetheless, ARTEP focuses commanders and trainers on the "desired results of training" and provides information commanders and trainers need and can use. If an ARTEP has been completed for your unit, consult and use it frequently.

TRAINING AND EVALUATION OUTLINE

UNIT: RIFLE SQUAD

MISSION: MOVEMENT TO CONTACT (MEETING ENGAGEMENT)

The following general conditions and primary training/evaluation standards apply:

a. **General Conditions.** For the past two days the enemy has been withdrawing and has succeeded in breaking contact. Latest intelligence reports indicate that the enemy has left behind sniper teams to harass friendly forces seeking to locate and fix the main enemy force. The squad being trained or evaluated is the point squad of the advance party of a larger force conducting a movement to contact mission in daylight. The squad is told to eliminate any enemy resistance that is within its capability. 81-mm mortar fire is available on request. Both friendly and enemy forces should use Squad Combat Operations Exercise (Simulation) (SCOPES) equipment when available, practice hand grenades, and 5.56 blank ammunition.

b. **Primary Training/Evaluation Standards.** To receive a satisfactory rating the squad must successfully meet these standards: Eliminates, within a reasonable time, a small enemy force (2 to 3 men armed with AK 47 automatic rifles) without sustaining excessive casualties and prepares to continue mission promptly after the enemy resistance has been eliminated.

NOTE 1: When SCOPES equipment is available, friendly and enemy casualties will be assessed in accordance with procedures specified in TC 7-2 (test edition), "Squad Combat Operations Exercise (Simulation)." When SCOPES equipment is not available, base friendly and enemy casualties on the evaluator's observations and judgment.

NOTE 2: It is emphasized that this is a movement to contact/meeting engagement and not just an attack problem.

TASK	CONDITIONS	TRAINING/EVALUATION STANDARDS	RATING	
			S	U
Use proper movement technique.	Dismounted in daylight, under the following conditions: a. Squad leader is given an oral platoon leader's frag order which provides: (1) Enemy and friendly situation and mission described in the general conditions. (2) Other necessary information (e.g., route, command and signal, etc). b. Squad personnel carry normal TOE weapons and equipment. c. Enemy and friendly personnel have SCOPES equipment, practice hand grenades, and 5.56mm blank ammunition. (NOTE: Personnel should be trained with SCOPES equipment and techniques before conducting this evaluation). d. Squad leader should have map, squad radio and lensatic compass.	Squad uses traveling when contact is not likely, traveling overwatch when contact is possible, and bounding overwatch when contact is expected. The squad's execution of these movement techniques optimizes the use of terrain to minimize its exposure and to maximize its ability to deliver suppressive fires from the best available overwatch positions. NOTE: When using SCOPES equipment, achievement of this standard is evaluated based on the casualties inflicted on the squad by the enemy. If SCOPES equipment is not available, determination is based on evaluator observation/judgment.		
Locate and report enemy.	Enemy engages the squad when its lead element is within small arms range (e.g., 200-300 meters).	Squad leader promptly reports contact to his platoon leader including location and estimated size of enemy.		
Eliminate enemy resistance.	Enemy force continues to engage the squad.	Within a reasonable time, squad eliminates enemy resistance using fire (organic/supporting) and maneuver without sustaining excessive casualties. NOTE: When using SCOPES equipment, achievement of this standard is evaluated, based on the casualties inflicted on the squad by the enemy.		
Prepare to continue mission.	Enemy resistance has been eliminated.	Promptly after elimination of enemy resistance, squad establishes local security and prepares to continue the mission.		

SUGGESTED SUPPORT REQUIREMENTS (EVALUATION)

RIFLE SQUAD: Movement to Contact (Meeting Engagement)

1. **Administration:**

a. TC 7-1 and TC 7-2 provide guidance necessary for the conduct of this evaluation.

b. Squads should receive at least 4 hours of SCOPES training prior to the evaluation.

c. A platoon leader's frag order must be prepared in advance by the evaluators for issue to the squad leader.

2. **Minimum Evaluator(s):** 1 LT, OIC; 3 NCO's (4 controllers are broken out as follows: 1 with aggressors, 2 with squad, and 1 as net control station/scorer.)

3. **Aggressors:** 2 or 3 men with rifles.

4. **Support Troops:** 1 driver.

5. **Vehicles/Communication:** 1 vehicle; 4 radios (AN/PRC-77).

6. **Maneuver Area:** Rolling, lightly wooded terrain that provides some concealment to the attacking squad. An area of at least 500 x 1000 meters is required.

7. **Firing Area:** None.

8. **Training Aids, Devices and Special Equipment:**

a. One six-power scope, scope adapter, adapter bolt, washer, and wing nut per squad member and each aggressor.

b. Identification numbers (4 of the same number) for affixing to helmet camouflage cover for each squad member and each aggressor (see App D, TC 7-2 for details).

9. **Ammunition:** Ctg blank 5.56mm, 100 rds per M-16 rifle; fuze practice grenade, 25 each; simulator ground burst projectile, 5 each.

10. **Key References:** TC 7-1, TC 7-2, FM 7-5 (TBP).

11. **Tips for Evaluators/Trainers:** When SCOPES equipment is used, evaluators will require prior orientation and training in SCOPES technique prior to conducting this evaluation. TC 7-2 provides extensive information/guidance for using the SCOPES techniques. When SCOPES equipment is not available, one evaluator should be located with the aggressor force. This will permit the evaluator to observe the tested squad's proficiency in using available cover and concealment and proper fire and maneuver techniques. One evaluator should act as the squad's platoon leader throughout the exercise.

ENGAGEMENT SIMULATION

Tactical collective training cannot be meaningful without a form of evaluation. The ARTEP provides the tasks, conditions, and standards from which training objectives are developed. There still remains a subjective judgmental process in determining if the standards were met, i.e., the ARTEP standards state that the task is to be accomplished "without excessive casualties." Determining what is excessive casualties is hard enough, but who the casualties are is even harder to define realistically. The term "engagement simulation" represents a family of techniques and equipment designed to realistically provide casualty assessment simulating the lethality of modern weapons in a two-sided, free-play tactical training exercise. What this means to trainers is that for the first time it is possible to effectively put "kill or be killed" realism into tactical training.

Live Fire Exercise Vs. Tactical Exercise

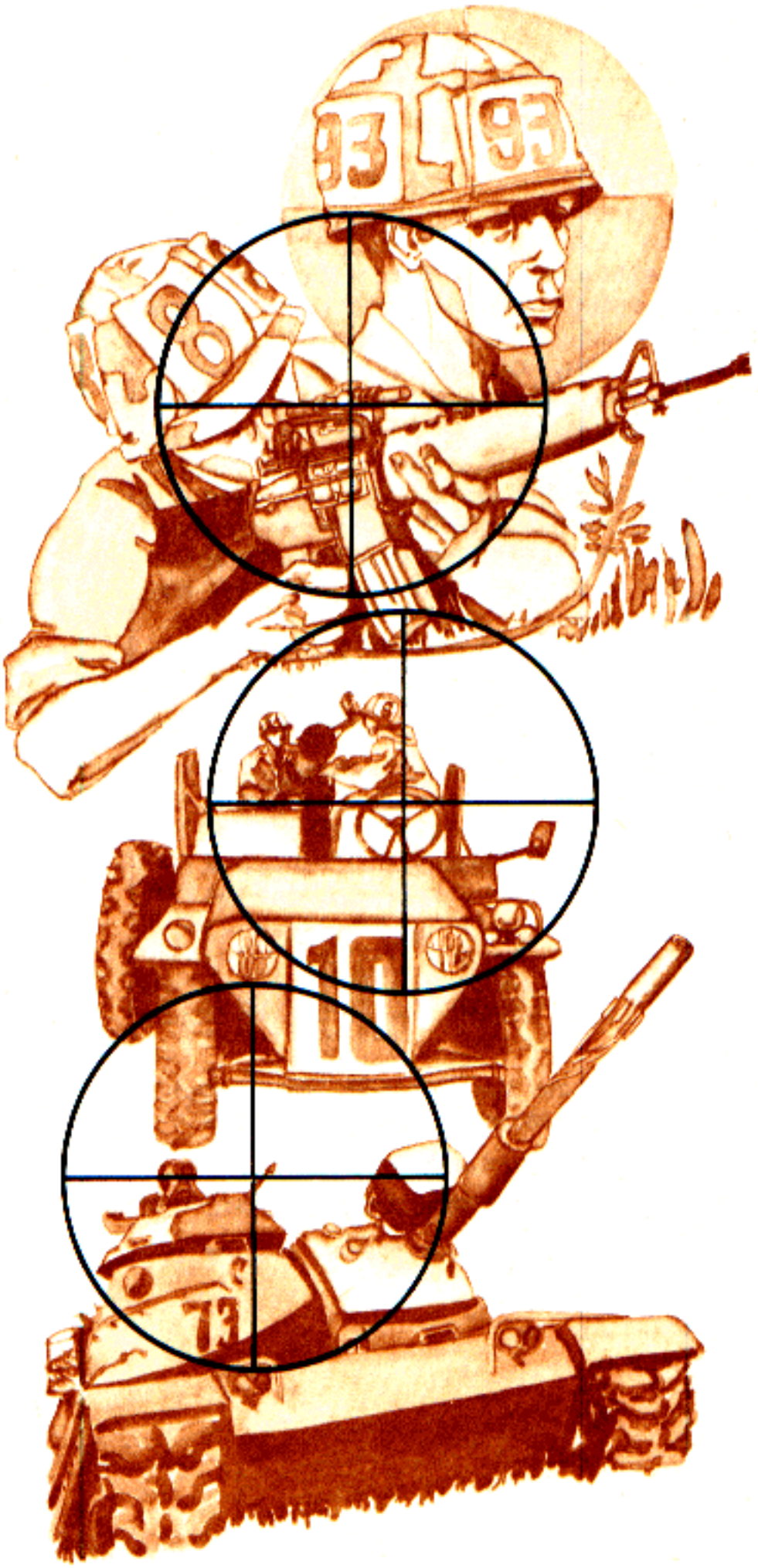
In the past, trainers had only two alternatives for training soldiers to fight. One method, the live fire exercise, has the advantage of permitting troops to maneuver while firing live ammunition. It has the disadvantage that the "enemy" cannot shoot back. In fact, the enemy must be simulated. The second method, tactical exercises, allows for the use of opposing forces, but not the use of live ammunition. The result, all too often, is that bad habits are developed and reinforced. For example, troops and vehicles moved around the "battlefield" as if they were immune to enemy fire. This sometimes led to employing tactical concepts and techniques that would prove disastrous if applied in combat. The stand-up assaults, common to tactical training exercises of the past, is one example.

Unfortunately, many efforts to solve tactical training problems by using blanks and artillery simulators alone have not produced the degree of combat realism needed to make soldiers and leaders understand just how vulnerable they are to enemy fire. To complicate matters further, in recent years, this vulnerability has increased. On the modern battlefield the lethality of weapons has advanced to the point that any target exposed for more than a few seconds, even at extreme ranges, can be killed or destroyed. Because potential adversaries possess large forces armed with modern weapons and equipment, even moderate casualty rates would be unacceptable to U.S. forces who must be able to fight outnumbered and win.

Two Systems of Realistic Engagement Simulation

For these and other reasons, research in finding techniques to improve tactical training has concentrated in the field of engagement simulation. Two such systems, SCOPES and REALTRAIN, have been developed and are soon to be in the units if not there already. These systems provide this realism to squad, gun crews, and platoons. Further, engagement simulation offers trainers the capability to achieve the degree of combat realism necessary to teach soldiers to:

- *Recognize the significance of the increased lethality of modern weapons.*
- *Make the maximum protective use of terrain.*
- *Utilize suppressive fires to cover movement.*
- *Stress in training and combat the use of combined arms.*



Scopes

The first development in engagement simulation training techniques and equipment was the Squad Combat Operations Exercise Simulation, or SCOPES. Briefly, this is how SCOPES works. Trainers first develop a tactical scenario based on specific training objectives to be accomplished (e.g., the rifle squad movement to contact mission and objectives in ARTEP 7-45). Each rifleman of both opposing forces mounts a 6X telescope on his M16A1 rifle. The telescopes are used to identify numbers worn on the helmets of all participants. When a number of an "enemy" soldier is identified, the soldier making the identification fires a blank round and calls out the number he sees. Controllers in the vicinity in turn pass the number over a radio net to controllers operating with the opposing force. If the number is correct, the controller immediately "kills" the man wearing the number seen.

In this manner, "battles" may be conducted with real outcomes. Depending on the tactics selected and the individual techniques used, it is possible to objectively determine "winners" and "losers".

After each engagement, troops on both sides are brought together for an after action review. The discussion is guided by the senior controller who reviews the battle chronologically with emphasis on each action in which casualties occurred. The soldiers themselves describe how they were able to engage and destroy a target or were "killed" themselves. In this manner, the correct techniques to avoid being "killed" can be brought out, learned, and practiced in subsequent engagements.

Realtrain

SCOPES techniques, originally designed for rifle squads and platoons, have been applied successfully to other weapons systems under a program called REALTRAIN. REALTRAIN permits the conduct of larger scale opposing forces tactical exercises (up to two platoons against a smaller force). Like SCOPES, REALTRAIN combines the advantages of a live fire exercise with those of a tactical exercise. To simulate the effects of other weapons systems, optical devices including telescopes and plastic sighting plates are mounted or used with LAWs, 106-mm RCLR, TOWs, tank main guns, DRAGON and 90-mm RCLR.

These devices are alined with the weapon's sights, thereby allowing controllers to see the same sight picture as the gunners. This permits them to verify a gunner's aim during a target engagement. Gunners "shoot" at targets by announcing the identification numbers worn by the soldiers or displayed on vehicles

when the target is alined in their sights. Each optical device is correlated with the maximum effective range of the particular weapons system with which it is used. In this manner controllers verify the aim, and award "hits" or "misses" reported over a casualty assessment net to controllers operating with the opposing force. Damage assessment is then made according to a set of REALTRAIN rules of engagement that are simple to learn and apply. Depending on which force engages first, controllers may be either on the shooting or receiving end of an engagement (or both). This permits casualties to be determined on a real time basis. REALTRAIN also simulates weapons signatures. Blank ammunition is used for rifles and machineguns. Backblast simulators are used for antitank weapons. Main gun simulators are used for tanks.

REALTRAIN also incorporates the play of indirect fire weapons. However, instead of randomly throwing simulators around, the participants must actually plan for, request and adjust all mortar and artillery fire. "Indirect Fire" markers, using a prepared grid system, place the simulators where actual rounds would land. If the request for fire and subsequent adjustments contain incorrect coordinates, magnetic azimuth etc., the resulting fires will prove ineffective (or in some cases highly embarrassing as rounds intended for the "enemy" land on the requester's own forces).

Field tests conducted, using SCOPES and REALTRAIN exercises, have proven that engagement simulation techniques are more than just another "training innovation." They work! Both soldiers and units reach higher levels of tactical proficiency more rapidly, and soldiers are motivated to train because the tactical exercises present a real challenge.

With engagement simulation, the element of competition is always present. Soldiers and their units are measured by their ability to fight against other units.

Soldiers develop respect for those men in their unit who contribute most to the unit's success. Peer pressure is placed on poor performers who are encouraged "to try harder". More important, the soldiers perceive that their contributions really do affect the outcome of a battle. When they have accomplished their mission, the resulting job satisfaction is high.

Engagement simulation has already been applied to some of the missions contained in some ARTEPS. The application of SCOPES to the squad movement to contact missions is one example.

Information on how to prepare and conduct tactical exercises using engagement simulation training techniques and equipment is contained in TC 71-5, "REALTRAIN," January 1975 and TC 7-2, "SCOPES." It includes weapons engagement rules, casualty assessment techniques and a discussion of the equipment and controller techniques used.

Additional research into engagement simulation equipment and techniques is continuing. For example, tactical gaming systems designed to improve leader training are being combined with SCOPES and REALTRAIN techniques. The resulting combination is a training program called EFFTRAIN which stresses the multi-echelon training approach emphasized in this chapter. When validated, EFFTRAIN will be made available to the field. While the research work continues, it should be emphasized that engagement simulation is available **now** in both the active Army and Reserve Components. Commanders and trainers responsible for preparation and conduct of tactical training should master the available techniques and employ them in the training of their units. Properly utilized, they can make a big difference in the results achieved, and in the morale and enthusiasm of the soldiers undergoing training.

SUMMARY

This chapter has described how trainers can prepare and conduct tactical collective training using the 3-step, backward planning process. These steps are:

1. **Describe the Desired Results of Training**
2. **Prepare to Conduct Training**
3. **Conduct Training to Standards**

Throughout this chapter the fundamentals of collective training have been stressed. These fundamentals are:

- **Develop Precise Training Objectives and Insure Established Standards are Met**
- **Insure Soldiers Can Perform Critical Individual and Subunit Tasks**
- **Employ Multi-Echelon Collective Training**

In addition, this chapter and appendix E discuss five types of tactical exercises that trainers can use to conduct tactical collective training. Trainers should learn when and how to conduct each of these exercises. These exercises can greatly assist commanders and trainers in correcting specific training deficiencies identified during the conduct of tactical training and training tests.

Tactical training is the most difficult type of training to prepare and conduct properly. It demands that commanders and their trainers become training experts. Trainers must learn to stress the fundamentals of collective training to insure training standards are established and met.

With the fundamentals in mind, what exactly has this chapter provided you, the trainer? First, it has given you a *training philosophy*. Although it was not stated as such, it is woven into all of the material in this chapter. It consists of getting your soldiers actively involved in performing a task which they must be able to perform in their job—in peacetime and most important, in combat.

For any type of training, the trainer must first identify the task or tasks which a leader, soldier, or unit must be able to perform. Tactical collective training is no exception. Your company commander may give you a training objective, but if he doesn't, then you determine what the soldiers must do.

Once the desired result of training has been specified (the commander's training objective), you must establish intermediate training objectives which will permit the training to be progressive (simple to complex). With the objectives established, you can then determine and organize the training required.

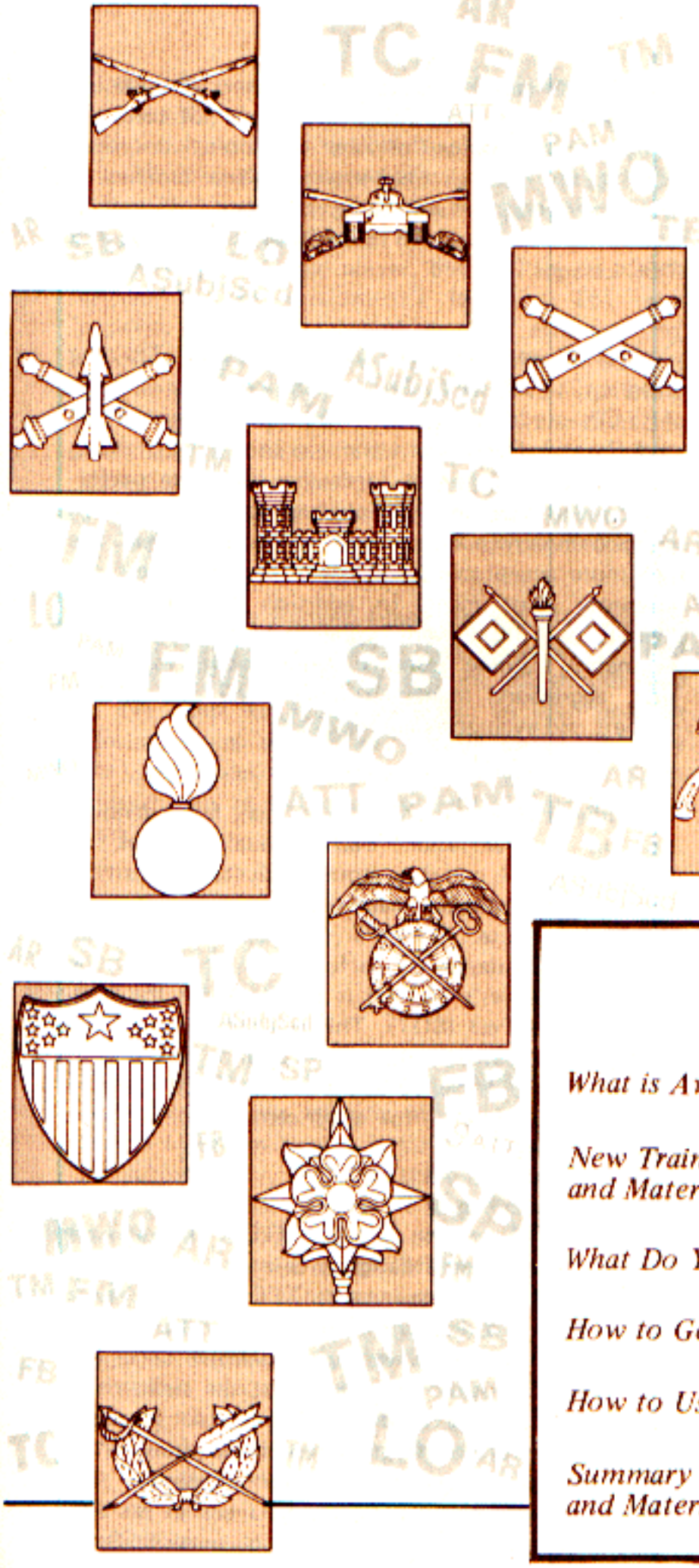
There is no simple solution to preparing training. Further, each unit faces different problems and constraints in conducting training. If it's to be done and done properly, it always has been and always will be a time-consuming process. Preparing training requires thinking, some reading and writing, and finally a lot of checking to insure that every aspect of the 1-hour period or 4-day exercise will accomplish the training objectives that were developed.

In the last step of the 3-step process, **Conduct Training to Standards,** your skill as a trainer and as a leader is really put to the test. No matter how carefully you have prepared your training, the real payoff is whether or not the leaders, soldiers, and units can perform successfully the training objectives (and, therefore, meet established standards) at the completion of their training.

Many people have considered themselves to be expert trainers. We can no longer afford the luxury of **thinking** we are experts; we must **be** experts if we are going to discharge our duties as professionals.

APPENDIX A

Training Publications



Almost every procedure, tactic, and technique for military training appears within the thousands of official and unofficial U.S. Army publications. These publications, (provided by Department of the Army, service schools, commands, and agencies) can:

- ☐ help you establish training objectives
- ☐ save you preparation time
- ☐ help you conduct training
- ☐ assist you in monitoring and evaluating training

But faced with the vast number of publications, how do you, as a trainer, know what is available, what you need, how to get what you need, and how to use the publications? These questions are answered in this appendix.

CONTENTS

What is Available?

When planning training, don't rely solely on your own knowledge of the subject. Review reference materials to refresh your memory, to insure you have the latest information, and to help you plan. These materials include field manuals (FM), training circulars (TC), Army regulations (AR), Army Subject Schedules (ASubjScd), Army Training and Evaluation Programs (ARTEP), Soldier's Manuals, Technical Manuals (TM), service schools' extension training materials, command publications, training aids, training devices and Training Extension Course (TEC) lessons. To help you find out what materials are available on a particular subject, the DA Pamphlet 310 series is a good starting point.

In DA Pam 310-1, "Index of Administrative Publications," you will find a listing of all DA regulations, circulars, and pamphlets including those on training. For example, AR 385-63 specifies safety precautions required for conducting range firing. Probably the most helpful index for training is DA Pam 310-3, "Index of Doctrinal, Training, and Organizational Publication." It contains a listing of most of the current training literature (e.g., FMs, TCs, and ARTEPs). If your subject is maintenance, DA Pam 310-4 lists technical manuals, supply bulletins and technical bulletins. All the pamphlets have an alphabetical index in the back to assist you in locating what you need.

Don't forget to look at DA Pam 310-12, "Index and Description of Army Devices" and DA Pam 108-1, "Index of Army Motion Pictures and Related Audio-Visual Aids." Training devices, movies, and graphic training aids (GTA) can be a big help in making training interesting and effective. Check also the catalog of your supporting TASO or training aids and audio-visual centers to see what they have that you can use.

Remember that service schools provide extension training materials including special texts, lesson plans, programed texts, and correspondence courses to trainers in the field. Review the service schools' catalogs to see what they have available.

New Training Publications and Materials

All service schools have increased their efforts to produce improved training literature and materials and provide greater assistance to trainers and training managers in the field. These efforts are not confined to periodic revision of the traditional doctrinal publications such as field manuals. New families of training literature are being developed and field tested. These include ARTEPs, Soldier's Manuals, and TEC Lessons.

ARTEP replaces the applicable Army Training Program (ATP) and Army Training Tests (ATT). ARTEPs are specifically designed for Active Army and Reserve Component training in today's training environment. They set forth the collective performances for the crew/squad through the battalion/separate company echelons and, more important, the minimum acceptable standards of performance these elements must meet. In addition to stating the "what" and "how well," other information such as estimated training resource requirements (ammunition, aggressors, maneuver areas, etc.) and tips to trainers and evaluators are included.

Soldier's Manuals provide the basis for individual training and evaluation. Each manual specifies, by MOS, skill level, and duty position cluster, the critical combat performances each soldier is expected to master. Because Soldier's Manuals include the minimum standards of performance that must be met, the Soldier's Manual is the basis for the Skill Qualification Test (SQT). This is a performance test administered periodically, which permits a soldier to demonstrate proficiency in his present MOS and skill level, and to qualify for advancement to the next higher skill level.

Training Extension Course (TEC) lessons are instructional material designed to enhance individual training and evaluation in units. TEC uses a variety of presentation media, including audio-visual, audio only, audio and workbook, programed texts and illustrated "job aids." For example, the audio-visual format includes a super 8 film cartridge, audio cassette, and lesson administrative instructions, which a soldier uses with a "Cue/See" projector. The "Cue/See" permits the soldier to work at his own pace, making responses to lesson requirements. Some

of the TEC lessons permit the soldier to acquire a full "mastery" of a particular skill. Others require additional individual or collective skill training before a satisfactory performance of a task can be attained. Other TEC formats (e.g., audio only) permit training on particularly large items of equipment. By using a portable cassette tape player, the TEC lesson can be carried to the equipment's location. TEC also provides an excellent vehicle for cross-training, refresher training, or for remedial training of soldiers who do not have necessary proficiency in a particular skill. Importantly, TEC was designed in conjunction with the development of ARTEP and Soldier's Manuals. Used properly, all provide the type of training literature and materials which will help make the training job in units more efficient and effective.

Because new training literature and materials are first distributed in limited "test editions" to field units for testing, comment, and use, you should keep an eye open for those applicable to your unit. In addition, some publications may be so new they are not yet included in DA Pam 310-3. Remember, check around first. It will save you a lot of time and hard work.

What Do You Need?

Well, obviously that depends on what your subject is and what your training objectives are. And the critical factor, as always, is time. If you can research the subject fully, then the training should be better than if you just throw it together. As already mentioned, good training results in satisfactory performance by the soldier. If the particular training topic is one that will be tested in a field exercise or a qualification course, then any literature on that topic might be helpful. If the training is specified by some regulation, that regulation should be read. And, doctrine on any tactic or technique is usually found in a field manual or training circular. Anyway, you've got the idea now—depending on the time factor, you should review as much material about the topic as possible.

How to Get What You Need

Your First Sergeant or training NCO should have the latest editions of DA Pam 310-series indexes and a copy of all ARs that you need. After looking through the indexes and deciding which publications might be helpful, check the unit library for the ones you need. (If your library is missing a lot of important items, you might make a few points by refreshing the training officer's memory about the Pinpoint System. It's covered in DA Pam 310-10). If the item is not available in your unit, try an adjacent unit or the S3 shop. If you still can't locate a needed item and you have the time, get your unit to order what you need by submitting a DA Form 17 to the appropriate AG Publications Center. Don't forget service school catalogs. A good unit library, however, will already have most of the things you need.

How to Use Training Publications

Your review of the DA Pam 310-series, service school catalogs, and the unit library should have revealed a list of numerous documents that could provide reference material for your subject. A note of caution: Most literature has not been revised to meet the performance approach to training, so use the references to guide you; don't expect all the training objectives to be spelled out for you. If your unit has an ARTEP or Soldiers' Manuals try them first. They're a great source of training objectives and other information pertaining to training. The TEC Lesson Administrative Instructions found in each company provide training objectives for individual skills. However, if your unit does not have an appropriate ARTEP or Soldier's Manual or if you will be conducting training in an area not included in them, you can use the "traditional" literature to develop good training objectives and to prepare your training. Recall the request and adjustment of 4.2 inch mortar fire training discussed in chapter 3. Let's review the specific steps you would use in extracting training objectives from the associated "traditional" literature.

You know from experience that field manuals are a good source of basic information. You look through DA Pam 310-3, *"Index of Doctrinal, Training, and Organizational Publications"* and find three FMs that might be of specific use in developing the objectives. There are others, but this is a good start. The FMs are:

FM 6-40, *"Field Artillery Cannon Gunnery"*

FM 6-135, *"Adjustment of Artillery Fire by the Combat Soldier"*

FM 23-91, *"Mortar Gunnery"*

You are in luck in that all three FMs are available in your training room. Now that you've got them, what do you do with them? Take the commander's training objective, figure 37, look through the indexes until the general subject is located, and then review the appropriate chapters of all three manuals.

Request and Adjustment of 4.2 inch Mortar Fire

TASK: **Each squad leader will request and adjust 4.2 inch mortar fire,**

CONDITIONS: **as a ground observer, given a 1:50,000 map, a lensatic compass, binoculars, a radio, and a designated, observable point target** (targets may vary in range from 1,000 to 4,000 meters), **using the grid coordinates/direction method and the bracketing method of adjustment.**

TRAINING STANDARD: **The initial request for fire must be made within 3 minutes after the target has been designated. Adjustments must be made within 15 seconds after the round impacts. Observer must achieve effect on target within 4 adjustments after he obtains a positive range sensing.** (Note: Normally 4.2 inch mortar round must land within 25 meters of a target to achieve effect on target.)

FIGURE 37.

After reviewing the FMs, you decide to use FM 23-91 as the basic reference with which to develop the intermediate training objectives. Why was this FM chosen? Since mortars are organic to an infantry battalion, sufficient copies of FM 23-91 should be located in the various training rooms should your Assistant Trainers need copies to study. Besides, the subject was the request and adjustment of 4.2 inch mortar fire.

Having selected FM 23-91 as the main reference, what are your actions? A suggestion would be to study carefully chapters 3, 4, 5, and 6 dealing with the "call for and adjustment" task. Next take a sheet of paper (or better still a blackboard) and list all the tasks you can think of that are inherent in your commander's objectives. This is a time-consuming chore, but one that is necessary to properly select tasks for the intermediate training objectives.

You may desire additional assistance and ask your assistant trainers to brainstorm the process with you. That would serve two purposes: **(1) help develop the training,** and **(2) help develop the assistant trainer's subject expertise.**

As a result of the work session, you will have a list of **both skills** and **knowledges.** Remember, skills are the performance items you desire to develop into tasks; knowledge items are those pieces of information the squad leader must learn.

Now put all the skill tasks together into your subtask list as described in chapter 3. In this case, four subtasks were defined:

TASK LIST

TASK 1: **Each squad leader will determine the magnetic azimuth** (direction) **from his location** (observer) **to a target.**

TASK 2: **Each squad leader will estimate a target's grid coordinate location.**

TASK 3: **Each squad leader will make an initial fire request** (call for fire).

TASK 4: **Each squad leader will adjust 4.2 inch mortar fire.**

Each of these tasks was derived from a detailed study of the following pages in FM 23-91:

Chapter 3—p. 3-2

Chapter 4—p. 4-3

Chapter 5—pp. 5-1 through 5-4

Chapter 6—pp. 6-1 through 6-11

Again, you must dig into the FMs to help determine what the conditions and standards should

Camouflage, Cover and Concealment

DA Pam 310-3

FM 5-15.....Field Fortifications

FM 5-20 .....Camouflage

FM 5-34.....Engineer Field Data

FM 21-75.....Combat Training of the Individual Soldier and Patrolling

TC 21-75 ..... Who's Watching You

TEC Lessons

937-061-0030-F.....Camouflaging Skin, Clothing, and Equipment; Covered and Concealed Position; Citing and Positioning of Personnel

937-061-0030-F.....Movement in Day and Night Operations

937-061-0032-F.....Camouflaging Vehicles and Protection from Detection Devices

DA Pam 108-1

TF 5-3881.....Individual Camouflage

TF 5-3882 ..... Small Unit Camouflage

FB 5-85 .....Camouflage Dummies and Decoys

T(GTA) 5-1 (1-44) ....Camouflage

U.S. Army Engineer School Correspondence Courses

Subcourse 55.....Camouflage and Concealment

Subcourse 65.....Field Fortifications

U.S. Army Engineer School Instructional Materials Catalog (lesson reference files)

A.140-BO-LR-003
(S.140-201).....Camouflage Techniques

A.140-OF-LR-002
(S.140-303).....Camouflage Materials

A.140-OF-LR-002
(S.140-314)..... ..Concealment of Vehicles

A.140-OF-LR-003
(S.140-315).....Concealment of Company Weapons

A.140-OF-LR-004
(S.140-357).....Cover and Deception

FIGURE 38.

be. The conditions element will depend primarily upon the training environment you will be training under, but the conditions must also be supported by the literature. FMs will provide guidelines to the standards. The standards will not be listed as such but will be reflected as measurable quantities (i.e., time, distance, accuracy). Use these measurements or standards as guidelines only—your commander may have set standards for his objective and you must set standards for the intermediate objectives.

The request and adjustment of 4.2 inch mortar fire training objective was used only as an example. The point being made is that, as a minimum, you must carefully study the basic reference literature in the development of subject expertise and the intermediate training objectives.

To give you an idea of the extent of existing training literature developed for a selected subject, here is what the list might look like (figure 38). However, you won't need all of them to prepare an effective camouflage, cover and concealment training session.

Summary of Training Publications and Materials

To give you a complete, concise picture of what training publications and materials are available the following chart (figure 39) has been constructed. This utilization chart should prove to be a handy reference for your publication requirements.

Service School addresses for extension training materials is at figure 40. The location and CONUS addresses of the TASOs/Training Aids Centers is at figure 41.

SUMMARY OF TRAINING PUBLICATIONS AND MATERIALS

DA Pam 310-1, Index of Administrative Publications	Army Regulations (AR)	Establishes policies and responsibilities and prescribes the administrative procedures necessary to implement policies. Does not contain historical information. Permanent publications and remain in effect until changed, replaced, or rescinded.
	Department of the Army Circulars (DA CIR)	Contains informational material or administrative instructions relating to one-time actions. Each circular is a temporary publication and becomes void 1 year after its publication date.
	Department of the Army Pamphlets (DA PAM)	Not directive, but contains informational or reference material of a continuing nature. Permanent publications and remain in effect until changed, replaced, or rescinded.
DA Pam 310-3, Index of Doctrinal Training and Organizational Publications	Field Manuals (FM) (Includes Soldier's Manuals*)	Used to promulgate military doctrine, tactics, and technique. Contains instructional information and reference material relative to military training and operations.
	Training Circulars (TC)	Used to disseminate info-mation of general interest and to publish instructions of a one-time or transistory nature which are Army-wide in application.
	Army Training Programs (ATPs)	Guide for the preparation of training programs and schedules during various formal phases of training. Assists in conduct of ORTT. Supported by an ASubjScds. Currently being phased out and replaced by ARTEP.
	Army Subject Schedules (ASubjScds)	Support ATPs. Contain information for the preparation and conduct of training. Issued to insure uniformity of training in each subject area.
	Army Training Tests (ATTs)	Tests related to specific ATPs. Administered to units at appropriate times during the formal ATP phases of training. Currently being phased out and replaced by ARTEP.
	Army Training and Evaluation Program (ARTEP)*	Publications currently being developed and validated which will, when approved, replace applicable ATP and ATT for Active Army and Reserve Component units. ARTEP provides a systematic listing of training and evaluation outlines containing a series of related training objectives pertaining to specific missions together with guidance in how to use this information. It is a reference document for training managers to develop training programs and to aid trainers in preparing training. When supplemented with appropriate directives, it is the basis for formal testing and use by evaluators to determine the readiness of a particular unit. *NOTE: Will be added to DA Pam 310-3 when approved by DA
	Soldier's Manuals* (Indexed as Field Manuals)	Publications currently being developed and validated which specify the critical combat performances, including standards, which each soldier is expected to master depending on his MOS, skill level, and duty position. Soldier's Manuals are the basis for the Skill Qualification Test (SQT) and for preparing and conducting that individual training necessary to insure qualification at the current and next higher skill level. *NOTE: Will be added to DA Pam 310-3 when approved by DA

DA Pam 310-3	TRADOC Bulletins*	Facts, technical data, and principles which help the commander understand the modern battlefield. *NOTE: Will be added to DA Pam 310-3 when distributed Army-wide
DA Pam 310-4	Technical Manuals (TM)	Detailed information on operation, handling, maintenance and repair of weapons & equipment.
	Supply Bulletins (SB)	Logistics management information.
	Technical Bulletins (TB)	Technical information on weapons, equipment and professional techniques.
DA Pam 310-12, Index and Description of Army Training Devices		Identification and description of training devices. Not used as an authorization for requisitioning, stockage, or issue of equipment.
DA Pam 108-1, Index of Army Motion Picture and Related Audio-Visual Aids		Catalogues official DA motion picture films and related audio-visual materials.
	Training Films (TF)	Doctrine.
	Film Bulletins (FB)	Information and guidance.
	Miscellaneous Films (MF)	Information and guidance.
	Film Strips (FS)	Doctrine, except adopted commercial filmstrips which are informational.
	Sound Film Strips (SFS)	Doctrine, except adopted commercial filmstrips which are informational.
	Transparencies, GTA	Doctrine, except adopted commercial transparency subjects which are information.
	Charts, Slides (TGS)	Information.
FORSCOM/TRADOC Pam 350-3		Information on TAMA/TASO training support including training aids and devices for Reserves, NG, ROTC and Active Army units and schools.
Miscellaneous Publications	Service School Catalogs	Extension training materials including special texts, correspondence courses.
	TASO Catalogs	Training aids, films, devices available in TASO System.
	Training Extension Course (TEC) Lessons	See TC 21-5-3, "TEC Management and Maintenance Instructions," May 1975 for information on TEC System (e.g., development of unit support structure for TEC, basis of issue of TEC equipment and materials, maintenance support structure and how to order lessons). See TC 21-5-4, "Catalog of Training Extension Course Lessons" for listing of what is available.

FIGURE 39.

SERVICE SCHOOL ADDRESSES

Superintendent
Academy of Health Sciences,
U.S. Army
ATTN: Correspondence Course
Branch, Extension Services
Division
Fort Sam Houston, TX 78234

Commandant
U.S. Army Air Defense School
ATTN: AWTSD
Fort Bliss, TX 79916

Commandant
U.S. Army Armor School
ATTN: DAWTS
Fort Knox, KY 40121

Commandant
U.S. Army Aviation School
ATTN: Dept of Army-Wide Tng Spt
Fort Rucker, AL 36360

Commandant
U.S. Army Chaplain School
ATTN: Dept of Army-Wide Tng Spt
Fort Wadsworth, NY 10305

Commandant
U.S. Army Command and General Staff
College
ATTN: Registrar, NRI
Fort Leavenworth, KS 66027

Commandant
U.S. Army Engineer School
ATTN: DAWTS
Fort Belvoir, VA 22060

Commandant
U.S. Army Field Artillery School
ATTN: AWTSD
Fort Sill, OK 73503

Commandant
U.S. Army Infantry School
ATTN: DAWTS, ATSH-AWTS
Fort Benning, GA 31905

Commandant
U.S. Army Institute of
Administration
ATTN: AWTSD
Fort Benjamin Harrison, IN 46216

Commandant
U.S. Army Institute for Military
Assistance
ATTN: Dept of Army-Wide Tng Spt
Fort Bragg, NC 28307

Commandant
U.S. Army Intelligence School
ATTN: AWTSD
Fort Huachuca, AZ 85613

Commandant
The Judge Advocate General's
School, U.S. Army
ATTN: DDNRI
Charlottesville, VA 22901

Commandant
U.S. Army Military Police School
ATTN: AWTSD
Fort McClellan, AL 36201

Commander
U.S. Army Missile and Munitions Center
and School
ATTN: Dept of Army-Wide Tng Spt
Redstone Arsenal, AL 35809

Commandant
U.S. Army Ordnance School
ATTN: DAWTS
Aberdeen Proving Ground, MD 21005

Commandant
U.S. Army Quartermaster School
ATTN: AWTSD
Fort Lee, VA 23801

Commandant
U.S. Army Sergeants Major Academy
ATTN: Dept of Army-Wide Tng Spt
Fort Bliss, TX 79916

Commandant
U.S. Army Signal School
ATTN: DAWTS
Fort Gordon, GA 30905

Commandant
U.S. Army Transportation School
ATTN: Dept of Army-Wide Tng Spt
Fort Eustis, VA 23604

TASO LOCATIONS (CONUS)

Eastern Region

Aberdeen Proving Grounds, MD 21005
Fort Belvoir, VA 22060
Fort Benning, GA 31905
Fort Bragg, NC 28307
Fort Campbell, KY 42223
Carlisle Barracks, PA 17013
Fort Devens, MA 01433
Fort Dix, NJ 08460
Fort Drum, NY 13601
Fort Eustis, VA 23604
Fort Gordon, GA 30905
Fort Hamilton, NY 11252
Indiantown Gap Military Reservation
Annville, PA 17003
Fort Jackson, SC 29207
Fort Lee, VA 23801
Fort McClellan, AL 36201
Fort McPherson, GA 30330
Fort Meade, MD 20755
Fort Monmouth, NJ 07703
Fort Monroe, VA 23651
Redstone Arsenal, AL 35809
Fort Rucker, AL 36360
Fort Stewart, GA 31313

Central Region

Fort Benjamin Harrison, IN 46216
Fort Chaffee, AR 72901
Fort Hood, TX 76544
Fort Knox, KY 40121
Fort Leavenworth, KS 66027
Fort Leonard Wood, MO 65473
Camp McCoy, WI 54656
Fort Polk, LA 71459
Fort Sam Houston, TX 78234
Fort Sheridan, IL 60036
Fort Sill, OK 73503

Western Region

Fort Bliss, TX 79916
Fort Carson, CO 80913
Fort Douglas, UT 84113
Fort Huachuca, AZ 85613
Fort Lewis, WA 98433
Fort MacArthur, CA 90731
Fort Ord, CA 93941
Fort Riley, KS 66442
Presidio of San Francisco, CA 94129

TASO LOCATIONS (OVERSEAS)

Fort Buchanan, Puerto Rico, APO NY 00934
Fort Amador, Panama Canal Zone, APO NY 09834
Schofield Barracks, Hawaii, APO SF 96557
Fort Richardson, Alaska, APO Seattle 98749

TRAINING AIDS CENTERS

Augsburg, West Germany
Rodelheim, West Germany
Seoul, Korea

FIGURE 41.

Practical Exercises in Writing Training Objectives

The importance of preparing the best possible training objectives cannot be overemphasized. Why you need training objectives, in terms of what they do for you, for the soldier, the commander, and the training manager, has been stated in chapters 2 and 3. But here's a quick review.

CONTENTS

Planning your training becomes a process of answering some tough questions: *(1) Where am I going—how well trained must my men be to perform their missions? (2) Where am I now in terms of how well my men are trained? (3) How am I going to get there—what training resources do I have and how may I best use them?* You **must** answer the first question if you are to write precise training objectives.

Properly planned and thoughtful training objectives strip away unnecessary training requirements by forcing you to define exactly what your soldiers must do. Teaching that which is not needed wastes training resources; not teaching what is needed can lead to failure of the unit's mission.

CASE 1

General Situation:

Co A is a TOE Rifle Company stationed in **CONUS** with a combat mission to be prepared to reinforce **NATO** forces. The unit's status of personnel and equipment is beginning to stabilize. The company is preparing for the rifle squad Operational Readiness Training Test **(ORTT).**

Special Situation:

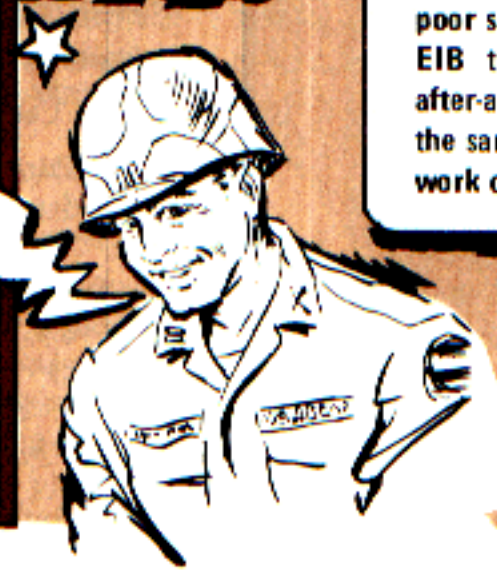
You are **SFC Larry Jones,** acting platoon leader of 1st Platoon, Co A. **CPT Wright,** the company commander, has called you into his office to discuss training in general and to provide you guidance to prepare a class.

"SFC Jones, I have been reviewing the test results of the squad reconnaissance patrol training last week and have found several areas we need to investigate for further training. As you remember, several of the squads had **trouble reaching their objective,** not because of a tactical deficiency, but because of their **becoming misoriented**— our **NCOs are weak in land navigation** and need refresher training.

"However, I suspect the problem is more basic than that, and I've been checking out the junior NCOs' ability to use a map and compass. It was startling to find some of them **unable to orient their maps** to the actual terrain. The 1st Sergeant ran a quick check for me and determined that most of the NCOs were low in the general category, which included **map proficiency,** during MOS testing. Another indicator of this weakness was the **poor showing** on the **land navigation** portion of the **EIB** test. The XO and I went through every after-action report of **FTXs** and **CPXs** and came to the same conclusion—our **junior leaders** need **more work on land navigation.**

"What I want is additional training in **land navigation** and I have selected you to be the principal trainer because of your past experience in the field and your Ranger training. Specifically, the training objective I want you to accomplish is:

Each NCO must be able to navigate cross-country, on foot, in daylight, for 5,000 meters over hilly, wooded terrain, given a compass and a 1:50,000 map which shows both the start point and the objective, to arrive within 250 meters of the objective in 3 hours or less (4 hours or less in extremely adverse weather) from the time the map and compass are provided at the start point.



"The best time for this training is **the 4 hours** on the afternoon of the **25th**. This will give you **2 weeks** to prepare the class. The **S2 will provide the 35 map sheets** we need. The platoon sergeants and squad leaders have their **issued compasses**, but the fire team leaders will have to draw them from supply. **Company B** will hand receipt some compasses to us if needed. The S3 has already given me **Training Area Zulu** on the 25th for the course, we have priority in the battalion TEC learning center. Although it is only **3,000 meters wide and 2,000 meters long**, it can provide you with enough space and varied terrain if you set up the course correctly. You will have to **make a reconnaissance** of the area to determine a **course layout** which meets the conditions of my **training objective**. I will take care of the transportation requirements to and from the range, and the medics and ambulance.

"We can only afford three assistant trainers—I recommend you take **SFC Warr** who is ranger qualified, **SSG Turner** who was on the Land Navigation Committee at Fort Benning, and perhaps **SSG Thomas** who did very well during the Expert Infantry Badge test. Because these men are already **proficient in land navigation**, they should be of considerable help to you in preparing and conducting the training.

"As I stated in the **training objective**, I want this to be **primarily** for the **noncommissioned officers**, but the officers and I will go through the training to sharpen our proficiency. I've gone over the company roster to determine how many personnel will be available. Allowing for all the men going to schools and on leave, it appears **30 people** will be available, not counting the officers and your instructors. One tip that might save you some training time, most of the NCOs I questioned knew their **pace length** and how to accurately measure it over a course, so I don't think that aspect of navigation is a real problem. If time permits, you might consider using a **homemade sandtable** to orient the troops to the problem area and **define its boundaries**; it may also prove useful during a critique."

You leave the company commander's office and check your notes. You quickly find he has provided you with four specific items of information which are critical if you are to do your job properly.

1. The **Training Objective**, complete with *TASK, CONDITION*, and *STANDARD*.

2. The **basic resources** you need—the training area, lensatic compasses, maps, the number of students, and the amount of time you will have, and the assistant trainers.

3. **Who**—the company's NCOs.

   When—the 25th of the month.

   Where—Training Area Zulu.

   What—Land navigation.

4. **The Purpose**—what caused the company commander to decide on giving the training? He stated: *"several squads had trouble reaching their objectives...the NCOs' inability to orient their maps to the actual terrain...the map proficiency portion of the MOS test results...and the poor showing on the land navigation portion of the EIB test."*

A check of DA Pam 310-3 in the training room indicates you should examine the following references.

1. FM 21-26, *"Map Reading,"* (January 1969).
2. TC 7-5, *"Land Navigation,"* (February 1973).
3. FM 21-31, *"Topographic Symbols,"* (June 1961).
4. ASubjScd 21-40, *"Land Navigation,"* (April 1974).
5. TC 21-5-4, *"TEC Catalog of Lessons."*

With these publications and your experience, you are now ready to begin the physical preparation for training.

Although you have been given a **training objective** and specific items of information from the company commander, there still remains a lot of work for you to do. You note the commander's training objective describes what he wants his soldiers to do as a *result* of the training. His training objective, as written and presented to you, remains a very complex, large "chunk" of training. As you read and think about his training objective, you recognize there are many smaller, less complex actions each squad leader must perform, step by step, to reach the commander's objective.

To do this, **you** must be able to write training objectives. Specifically, you must:

- **Given a training objective, be able to discriminate among the task, condition, and training standard.**
- **Write a task statement for an intermediate training objective when given a complete commander's training objective.**
- **Write the condition statement for an intermediate training objective, given a task, so the training condition describes a plausible learning environment and includes all equipment the student is given or denied.**
- **Write a measurable training standard for an intermediate training objective, given a properly written task and a condition statement.**

Why are these four items important to you as a trainer? In a systematic approach to the trainer's problems, you must consider that many training objectives your commander will give you will be quite complex. The commander's training objective describes *what he expects the trainee to be able to do at the completion of training.* It is your job, as a trainer, to provide the trainees, in a logical fashion, with the skills and knowledge they require to successfully meet the commander's objectives. Therefore, you will often be required to develop intermediate training objectives which contain a task, the conditions under which the task is to be accomplished, and a training standard of minimum acceptable proficiency. By learning how to do that, you will be better prepared to carry out your training responsibilities.

Upon completion of your work, make a quick review to see if the objectives for this exercise were realistic, precise, and measurable.

First Requirement —Acting as SFC Jones 1

In the following training objective, identify the three elements of a training objective. Write your answer on a separate sheet of paper in the following order: task, conditions, and training standard.

> **Each NCO must be able to navigate cross-country, on foot, in daylight, for 5,000 meters over hilly and wooded terrain, given a compass and a 1:50,000 map which shows both the start point and objective, to arrive within 250 meters of the objective in 3 hours or less (4 hours or less in extremely adverse weather) from the time the map and compass are provided at the start point.**

Once you have completed the exercise, turn to page 91 for the correct answer.

◆◆◆

If your answer was not exactly as the solution shown, go back and reread chapter 3.

Second Requirement 2

Write a list of tasks associated with the training objective provided by your company commander. In order to write this list, you should answer the following question:

What precisely must the soldier be able to do in order to accomplish the commander's training objective?

For example, one of the tasks is the following: **Determine a good route to the objective.**

At this time, jot down three other tasks required to accomplish the commander's objective. Normally

you would consult the appropriate training literature (e.g., TC 7-5, *"Land Navigation,"* February 1973) to develop a task list. However, to save time, **list three tasks** based on your own experience and expertise in land navigation.

When you are finished, compare your list with the one on page 91.

◆◆◆

How close were you? Don't worry if the wording is not exactly the same; the thought is what counts! If you are considerably off the mark, go back and reread the general and specific situations, or if you feel it is necessary, reread chapter 3.

As an example, we will now use the tasks listed in solution 2 to continue in the preparation of these intermediate objectives. Let's start with the second task, *"Measure the distance between two points on a map."* To write a complete training objective, you must now develop the **conditions** under which the task must be accomplished and the training standard of minimum acceptable proficiency.

3 Third Requirement

Write a condition statement of the designated task—*"Measure the distance between two points on a map."* To accomplish this requirement, you should consider the following questions as they relate to the **conditions** portion of a completed training objective.

1. Do the conditions state *exactly what the soldier will be provided* when he performs the task?
☐ YES ☐ NO

2. Do the conditions state any *restrictions* or *limitations* imposed on the soldier?
☐ YES ☐ NO

3. Do the conditions *identify the tools, equipment, or clothing* the soldier needs to perform the task?
☐ YES ☐ NO

4. Do the conditions include *any specific references* (FMs, TMs) *and job aids* necessary to perform the task?
☐ YES ☐ NO

5. Do the conditions describe any *special physical or environmental conditions* the soldier will perform under?
☐ YES ☐ NO

6. Do your conditions *approximate the conditions of the commander's objective?*
☐ YES ☐ NO

To answer these questions, you may wish to refer to TC 7-5, *"Land Navigation,"* (February 1973), pp. B-20 and B-21. This TC discusses methods used to measure distance on a map, specifically, using the "strip of paper" method and the map's graphic scale. With this information you can write a **condition** for your task.

Jot down a condition statement on a piece of scratch paper. Compare your answer with the condition statement on page 91.

◆◆◆

How close are you? If you had trouble, reread our questions or study chapter 3 of this text. If you grasped the concept, continue with the next requirement.

4 Fourth Requirement

The intermediate training objective is now two-thirds complete. All that remains is to write a measurable training standard statement appropriate for the task and its conditions. The following questions should be answered when developing training standards:

1. Are your standards *realistic and attainable,* based on your resource limitations?
☐ YES ☐ NO

2. Are they *job-related?*
☐ YES ☐ NO

3. Do they *clearly state the acceptable level* of achievements?
☐ YES ☐ NO


LIFT FLAP FOR
REQUIREMENT
SOLUTIONS

4. Have you used *precise words to express your standard?* If you have used words like "effective," "acceptable," "proper," or "averages," then you are on the wrong track—those words are imprecise.

☐ YES ☐ NO

5. Can you *measure the soldier's performance* based on your standards?

☐ YES ☐ NO

Jot down a training standard statement on your scratch paper. Compare your training standard with the one on the right.

◆◆◆

Note that this standard is stated in terms of how fast the task must be accomplished and how precisely. If *your* training standard is expressed in terms of how fast the task must be accomplished and to what accuracy (e.g., within 25 meters), then you've got the hang of it.

You have now completed one of the five intermediate training objectives determined and listed in the first requirement. The task was to measure the distance between two points on a map. If you feel the need for more practical work, complete the training objectives for tasks 3 and 4 and compare your answers with the objectives on the right.

SUMMARY

In case 1, your training manager did his job correctly because of the information he provided. Not only did he state precisely the training objective you were to achieve, but he provided information about **when** and **where** the training was to take place, the **target audience,** provided major **training resources** (time, area, assistant trainers, etc.), and most important, **his observations of soldier deficiencies in land navigation techniques.** Based on the company commander's guidance, you were able to complete this practical exercise. If his information had been sketchy or too general, your job would have been more difficult and perhaps the land navigation training you developed would not have met the real needs of the unit's NCOs. Remember, a complete training objective contains the following elements: The *task* to be accomplished, the *conditions* under which the task is to be accomplished, and a *training standard* which establishes acceptable proficiency.

SOLUTIONS FOR CASE 1

1

SOLUTION

TASK: Each NCO must be able to navigate cross-country,

CONDITIONS: on foot, in daylight, for 5,000 meters over hilly and wooded terrain, given a compass and a 1:50,000 map which shows the start point and objective.

TRAINING STANDARD: To arrive within 250 meters of the objective in 3 hours or less (4 hours or less in extremely adverse weather) from the time map and compass are provided at the start point.

2

SOLUTION

These are some of the tasks necessary to meet the commander's objective.

(1) Determine a good route to the objective (given).

(2) Measure the distance between two points on a map.

(3) Orient a map with a compass.

(4) Determine the magnetic azimuth between two points on a map.

(5) Determine the distance traveled on foot.

3

SOLUTION

Training Objective

TASK: Each NCO must measure the distance between two points on a map,

CONDITION: given a 1:50,000 map with a graphic scale, a strip of paper, a pencil, and the location of two points on a map.

4

SOLUTION

Training Objective

TASK: Each NCO must measure the distance between two points on a map,

CONDITION: given a 1:50,000 map with a graphic scale, a strip of paper, a pencil, and the location of two points on the map.

TRAINING STANDARD: Distance reported must be within 25 meters of the actual distance. This task must be accomplished within 2 minutes.

TASK 3

SOLUTION

Intermediate Training Objectives

TASK 3: Each NCO must orient a map with a compass,

CONDITIONS: given a 1:50,000 map with a declination diagram and a lensatic compass.

TRAINING STANDARD: The correct number of declination degrees (within 2 degrees) must appear under the black index line. The task must be completed in not more than 2 minutes.

TASK 4

SOLUTION

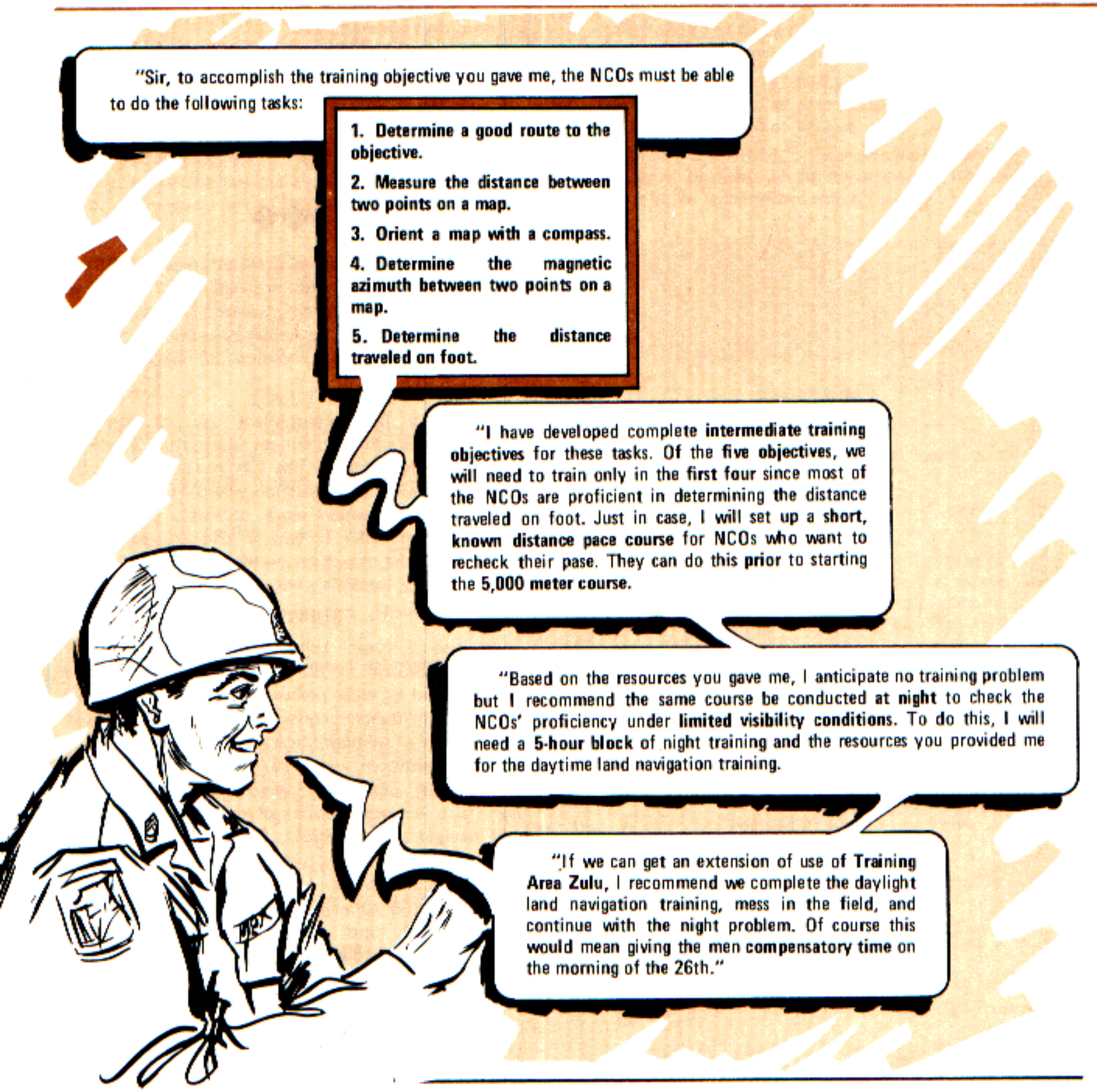
Training Objective

TASK 4: Each NCO must determine the magnetic azimuth between two points on a map,

CONDITIONS: given a 1:50,000 map and a lensatic compass.

TRAINING STANDARD: Azimuth must be reported within 2 degrees of the correct answer.

When the commander's guidance is complete and precise, you, the trainer, can more easily prepare the training. You can go back to your commander, confident that you have done your homework, and discuss your plans. At this time, you can show exactly how you think the training should proceed. You can also provide the commander with recommendations on which he can make training decisions.



CASE 2

The following exercise offers you a chance to prepare yet another training objective, this time a relatively simple one. It answers one more question—*what do you do when the training manager fails to give you sufficient guidance?* Recalling the first case, CPT Wright provided quite a bit of information to SFC Jones, specifically **(1) the training objective, (2) the basic who, when, where, and (3) the reasons the CO felt the training was needed.**

General Situation:

The situation remains generally the same as Case 1; the scene is Company A, a TOE Rifle Company stationed in **CONUS** with a combat mission to reinforce **NATO** forces. The company is preparing for the rifle platoon **Operational Readiness Training Test.** The one factor which has changed is that CPT Wright has completed his tour and has been replaced by CPT Wrong, who has been on the job for three weeks.

Special Situation:

You are **SFC Larry Jones,** Acting Platoon Leader of 1st Platoon, Co A. **CPT Wrong** has called you into his office to discuss training.

"Sergeant Jones, as you know, I am new on the job and have been busy accounting for property, studying unit SOPs, and generally learning my way around the battalion. This morning I inspected some of our training. I saw two of the platoons attacking fortified positions. The men appeared to know their jobs and the leaders were really pushed to make quick decisions in reaction to Co B's well-camouflaged aggressors.

"However, one thing displeased me. The aggressors popped yellow smoke as we maneuvered, and according to the new training SOP, yellow smoke simulates chemical agents. Some of the soldiers knew this, but most didn't. The point is that very few men reacted properly; none of them put on their protective masks fast enough. Some men didn't even have their masks in their carriers—they opened their carriers and soda pop cans and candy bars fell out. Boy, was I furious! If we had been in combat, our attack would have failed, the enemy would have gassed us during the assault, and we would have lost a lot of men.

"The next time I see these men out training and yellow smoke is popped, I don't want to see a repeat of the poor showing I saw today. They have all been through CBR training during BCT and should know better! You square them away, understand, Sergeant?"

"Yes sir!"

"Well?"

"Sir, I have a few questions."

"What are they?"

"Sir, I understand the need for the training, but do you have a training objective for me and a few specifics on resources?"

"Look, Sergeant Jones, I can't give you a whole lot of resources. You'll have to make do with our present training program. Furthermore, I don't know about any **'training objectives'**—but I do know about tactical objectives and that I gave you a **mission-type order**—that's all any good NCO needs! I say again, Sergeant, I don't want a repeat of today's antics with the protective masks!"

You leave the company commander's office and begin to analyze your "mission-type order." Questions which you must consider are:

1. What is my *training objective?*
2. What are my considerations of *who, when,* and *where* in *specific terms?*
3. What is the *purpose or need* for this training?

You check with the training officer* and a review of training records indicates that every man present in the company three months ago received CBR training. Based on the weekly training schedules found in the files, you can be relatively sure that three months ago the men were given training on masking procedures. Unfortunately, the training officer had no time available for scheduling another class on CBR and the gas chamber was unavailable to the battalion during the next two months. He also reminded you of a training restriction on using CS agent without specific approval of practically everyone on post. He did, however, provide you with two references: FM 21-41 on **CBR**, and TRADOC Pamphlet 600-4, **Soldier's Manual Army Testing (SMART)** for basic combat training. He also stated he didn't know the new **SOP** established the use of yellow smoke to simulate various chemical agents, and doubted the soldiers knew it either. The training officer showed you the training forecast which programmed platoon tactical training almost every morning (during prime time) for the next two weeks.

"Sergeant Jones, looking over these schedules, I suggest we plan to integrate CBR training by popping yellow smoke at several points during the tactical training."

You return to your desk and start studying the two references. Of the two, you find the **SMART Book** (TRADOC Pam 600-4) is better because it is concise and written in performance terms. The text reads:

PERFORMANCE MEASURE 1:

MASK

A. Stop breathing, place weapon between your legs, place your headgear on weapon muzzle. Open the carrier and remove the mask.

NOTE: The tester will not fail the trainee whose weapon or headgear may accidently fall to the ground.

B. Grasp the facepiece with both hands, sliding thumbs up inside facepiece under lower head harness straps. Seat the chin pocket of the facepiece firmly on your chin and bring the head harness over your head.

C. Clear the mask, closing the outlet valve by cupping your hand firmly over the opening and blowing hard to clear any agent from the headpiece.

D. Check the mask by blocking the air inlet valve assemblies with the palms of your hands, shutting off the air supply. Inhale so the facepiece will collapse.

NOTE: The trainee must complete Performance Measure 1 within 9 seconds...given the alarm, "GAS."

With this information you summarize what you have thus far found out and what you need to determine.

1. *What is my training objective?* You still don't have one, but you see the SMART Book has prescribed some **tasks**, indicated **conditions**, and has given you a **precise standard** of **9 seconds**. Furthermore, you have discovered that even the training officer didn't know the connection between yellow smoke and chemical agents—this is a "training" problem only in terms of knowledge.

2. *What are my specific training considerations?* The CO has not allocated any resources to this training—no AIs, no training areas, no time, and no special equipment. What resources do you have in the unit? Each man has a protective mask, a helmet and a weapon. If you can somehow integrate your training with previously planned training, you won't need additional training time, training areas, or special equipment. Yellow smoke can be obtained through supply.

*An additional duty assigned one of the platoon leaders.

3. *Specifics*

Who? Every officer, NCO, and soldier needs the training, and can be included, if they participate in the tactical exercise.

When and Where? Integrated with existing platoon tactical training at logical moments.

How? By popping yellow smoke during training, after the soldiers have been notified that it simulates chemical agents.

4. *Purpose*

You know soldiers in the unit 3 months ago received CBR related training and that everyone had similar training during BCT. The company commander told you two things which your own observations and experience confirm: **(1) Few men knew that yellow smoke simulated chemical agents, and (2) the men did not mask fast enough.**

Based on this analysis, you decide that the first point can be resolved by simply notifying the men that, during tactical training, yellow smoke simulates chemical agents and they should respond by masking. The second point requires practicing until this action can be performed within the 9-second time limit. But the SMART Book implied that the process was more involved than just putting on the mask. The book stated specifically *how to put the mask on, how to clear it of contaminated air and how to check the mask's fit.* Finally, the soldier gives the alarm, **"Gas."**

1 First Requirement

Before you can determine what training must be accomplished, you must have that all-important **training objective.** Based on the information provided in the narrative and that extracted from the SMART Book, write the training objective you would use. Jot down your complete training objective on a separate sheet of paper, then compare it with the solution found on the next page.

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Your training objective should be as specific as this solution. With this training objective, you must now answer this question, *"Can the soldiers of this unit complete this action in the specified sequence?"*

This point requires not only knowledge (the proper sequence), but practice as well, if the 9 second standard is to be reached. Based on your study of past training, you estimate that the men know the proper sequence to follow when masking. How do you confirm this estimation? Confirm it by randomly selecting a few men in the company or in a platoon who will give you a good cross-section of the unit and test them. For example, you might select two or three PFCs, two or three SP4s, and a few E5s. You can refine your selection by thinking of the quality of the men you pick. You don't want to take just the very best soldiers, nor do you want to pick the very worst—you want a cross-section of the unit. So mix the best and the worst, the old timers with the new, or try to take men who are "average" soldiers. Once you select 10 or 15 men, conduct a short test. Give them a protective mask and ask them to don it correctly and time them. How this sample group performs will serve as a useful evaluation, rather than a guess, of how well the rest of the unit can perform.

You conduct your random sample test and find that most of the men can indeed don their masks correctly on the first try. A few of the men remember the correct procedure with just a few words from you to prod their minds (e.g., *"You put it on correctly but you forgot to clear it," or, "You didn't check the seal by covering the intake valve and inhaling."*). You also noted that only two of the men masked properly **within** the 9 second time limit.

Second Requirement 2

Armed with the results of your study and research, you are now ready to prepare a **recommended course of action** to submit to CPT Wrong for his approval.

Use scratch paper and jot down your thoughts, then turn the page and compare your approach to ours. You will note that it is written in a dialogue form, but the **key points** are obvious for comparison.

◆◆◆

SOLUTIONS FOR CASE 2

1

SOLUTION

TRAINING OBJECTIVE: (Task) **Each soldier will don, clear, check his protective mask, and give the alarm, "Gas,"** *(conditions)* **given his protective mask in its carrier, wearing a helmet, carrying his individual weapon and given the alarm "Gas," or upon seeing yellow smoke,** *(standard)* **within 9 seconds.**

2

SOLUTION

You have entered CPT Wrong's office and are about to brief him on the training problem he had given you yesterday. His words are still echoing in your mind, *"Sergeant Jones, I don't want a repeat of today's antics with the protective masks!"*

"Sir, I have studied the training problem associated with the protective masks and have a few recommendations and related points to discuss with you. I need about five minutes of your time."

"Very well, Sergeant, you've got five minutes!"

"Sir, I studied your mission statement and the training problem which you identified. There are two points which kept cropping up as I tried to solve the problem.

"First, very few men know the new battalion training SOP establishes the use of yellow smoke to simulate chemical agents. This point is one of pure 'knowledge' or information and can be solved somewhat easily. I have made several posters which simply state: **'Yellow Smoke Equals Chemical Agents—If you see yellow smoke during training, mask and give the alarm, GAS!'**

"With your permission, I shall post these signs in the mess hall, in the motor pool, and the latrines. You, or the 1st Sergeant, could make an announcement about it at one of the company formations, or simply put it out through the chain of command.

"Second, I studied the training records and randomly selected men from the unit to test their masking proficiency. I tested them against a training objective which I believe is the desired level of proficiency if they are to do their job. That is:

TRAINING OBJECTIVES

"(Task) Each soldier will don, clear, check his protective mask, and give the alarm **'GAS!'** *(conditions)* given his protective mask in its carrier, wearing a helmet, carrying his individual weapon, and given the alarm, **'GAS!'** or upon seeing yellow smoke, *(standard)* within 9 seconds.

"The results of the tests and the records suggest that the men know the correct procedure for masking or will recall these procedures after one quick reminder or demonstration. After this, it is just a matter of practice to get them to mask in 9 seconds.

"This demonstration could be done in a minute at the company morning parade formation. I recommend you require the men to wear their protective mask carriers to the formation prior to field training. Give the alarm, **'GAS,'** and count off the seconds. Each platoon leader could make on the spot corrections and verify everyone has their masks—not drink cans or candy bars. Once we're in the field, it's too late to check each man for his equipment. This way we will know everyone has his mask prior to movement to the field.

"Since the men need constant practice in skills like this, and because we want to add realism to the training, I recommend we *plan* for the use of yellow smoke during our training. Here is the unit's training schedule for the next two weeks. I have circled in red those blocks of tactical training in which we could logically and realistically train in masking procedure. My recommendation is that you require the PIs to integrate this training into their scenarios."

SUMMARY

Case 2 has provided a different approach to the training problem. Four points stand out clearly in this exercise. First, the company commander did not properly execute his training manager's responsibilities by providing the required information and resources. Second, this training objective did not require a further development of sub-tasks or a task list and subsequent training objectives. Third, training deficiencies could be identified through the proper use of existing training literature. Fourth, such simple training objectives can be accomplished by the use of imagination and ingenuity, in integrated training.

If you, as a trainer, are faced with a requirement similar to the one just described, follow SFC Jones' sequence of thoughts and actions, or refer back to chapter 3 for more information on the subject.

Training Techniques, Aids and Devices

Introduction

The training techniques, aids, and devices described in this appendix have one common purpose—to simplify learning. This appendix initially focuses on "traditional methods of instruction" which trainers can use to present information to soldiers. This section is followed by a discussion of some new training techniques, aids, and devices that can make training more efficient, effective and enjoyable.

The Learning Process. The learning process (how people learn) is only partly understood. We do know, however, that learning only takes place when there is some mental/physical activity by the personnel undergoing training. Further, we cannot "see" the learning process, but we can observe its effects (i.e., whether, as a result of the training, the personnel can perform specified training objectives). Therefore, it is critically important for each trainer to identify precisely what is to be learned (the training objectives) and then choose those techniques, aids, and/or devices which will enable the soldiers undergoing training to perform the objectives successfully.

Performance-Oriented Training. The performance-oriented approach to training consistently produces learning results superior to those achieved

CONTENTS PAGE

using "traditional service school methods" that emphasize instructor presentation techniques rather than soldier learning. While many of the "traditional" tecnhniques are used in performance-oriented training, the relative emphasis is different. Recall that performance-oriented training generally follows a three-phased sequence:

- **Phase I:** The trainer *states* the training objective(s) to be accomplished and *explains* and *demonstrates* (if necessary) how to perform the objective(s).

- **Phase II:** The soldiers *practice* each training objective until they can meet the established training standards.

- **Phase III** (Test): The soldiers are *tested* on their ability to perform each training objective successfully (i.e., meet or exceed the established training standards).

During Phase I the trainer provides only the information necessary to permit the soldier to practice (Phase II). He wants to do this quickly so the soldier will have more time for practice.

He must do it effectively so the soldiers will have sufficient information to be able to practice the objective(s). Therefore, as you consider the various presentation techniques, remember they are only a part of the training process.

PRESENTATION TECHNIQUES

LECTURE

One of the presentation techniques used to convey information during Phase I of a training session is the lecture. The trainer does most of the talking. Through this "telling" method, soldiers are told the basic information principles, procedures, theories and relationships they must use in Phase II (practice). Essentially, the lecture is a one-way, oral explanation by the trainer to an audience. Soldier participation is limited to asking and answering questions. The most effective lecture is one in which the trainer knows his subject well enough to present the necessary information without using a prepared manuscript. The "off the cuff" telling method permits the trainer to be himself and to maintain better contact with the soldiers he is training.

Advantages of a Lecture:

- Provides an economical method of presenting information rapidly.
- The trainer can place emphasis where he wants it.
- The trainer can address any size group.

Limitations of a Lecture:

- When used by itself, the lecture is a very ineffective means of achieving the desired learning. Passive, uninvolved soldiers can become bored easily.
- The lecture does not permit active participation by the soldiers being trained.
- When used by itself, the rate and amount of learning cannot be evaluated easily. Check-up questions hit only a small portion of the audience.

Lecture Tips:

- Present only the information necessary to permit soldier practice.
- Avoid spending time on "nice to have" items—training time is always limited and can be better used during Phase II "Practice."
- Know your subject well enough to use the "off the cuff" method of presentation. Manuscripts that are read may be factually complete, but are rarely effective in achieving desired learning. If you have trouble remembering key points, jot them down as informal trainer notes. A quick glance to refresh your memory is better than reading a manuscript. It is better to miss a few words and be yourself while maintaining contact with the soldiers being trained.
- Practice your presentation techniques before conducting training. Rehearsals will give you the confidence you need to get through Phase I efficiently and effectively.

CONFERENCE

A conference is really a variation of a lecture. It is designed to permit and encourage greater soldier participation. The conference method provides a vehicle for group problem solving and decision making. It also provides a technique to stimulate soldier interest during Phase I. More important, the conference can take advantage of the ideas and experiences of the soldiers being trained.

When using the conference method, the trainer must initiate, stimulate and guide the discussion. When sufficient discussion has occurred, key concepts should be highlighted (reinforced) by the trainer.

These are the principles, procedures, etc., the soldier must learn.

Advantages of a Conference:

- Encourages the type of soldier involvement that will help them learn.
- Permits soldiers undergoing training to share their ideas and experiences. In some cases, the trainer may not be as "qualified" as one or more of the soldiers undergoing training.
- Permits more frequent opportunities to evaluate the rate and amount of learning (comprehension of the material being presented).
- Stimulates, when used properly, student interest in areas such as race relations and drug abuse.

Limitations of the Conference:

- The trainer must be skilled in guiding discussions. Too much trainer control inhibits student participation. Too little can allow the discussion to be "side tracked" into areas that contribute little to accomplishing the objectives of the training.
- The conference technique requires more time than other presentation methods.
- There is no assurance that the quality of soldier participation will permit training objectives to be accomplished.

Tips on Using Conference Technique:

- Use this technique only for those portions of your Phase I training that are extremely significant, controversial or difficult to learn or accept.
- The conference technique works best with small groups. As the size of the group increases, the effectiveness of the technique decreases.
- Be sure soldiers have some knowledge of subject being discussed before deciding to use the conference technique. Advance study assignments or information about the topics discussed can help.
- Prepare thought-producing questions to stimulate discussion and understanding beforehand. Then, consider and be prepared to discuss likely student responses by highlighting important points or by asking follow-up questions.
- Consider the use of training aids and devices to help stimulate discussion and understanding.
- Summarize discussion points and highlight "lessons learned." Insure all pertinent information has been covered to permit soldier practice of each objective covered. A good summarization will briefly point out ideas expressed, resolve conflicting points of view, and relate the ideas to the training objectives. If more than one training objective is to be covered, use sub-summaries to go from one objective to another.

DEMONSTRATION

Combined with the lecture/conference, the demonstration **shows** soldiers what they are expected to do and how to do it. When appropriate, the demonstration can be an extremely important part of Phase I. There are generally five forms of demonstration:

Procedural demonstration - Used to show the operation or function of equipment. This form of demonstration may be conducted indoors and outdoors and is widely used during basic and technical training.

Displays - Displays are planned so soldiers can view them quickly. This requires arranging the display materials so that each item can be seen by all the soldiers at one time. For large groups you can duplicate displays, or divide the soldiers into sections, with each section rotating from one display to another. This sometimes is known as the "county fair" method of demonstration.

Field demonstration (troop demonstration) - Field demonstrations are used widly in tactical training. Complicated demonstrations can be conducted and discussed in parts or at reduced speed. Later, the complete performance can be shown at normal speed.

Training Films and TV Tapes - Training films and TV tapes provide ready-made demonstrations performed by experts. They provide an opportunity to see internal workings of equipment, troops in combat, or other performances which cannot be presented live. Motion pictures and TV tapes provide an economical form of demonstration, but are sometimes used improperly because they do not relate to specific training objectives.

Skits - Principal trainers and assistants act out operations or procedures. This form of demonstration has proven to be an effective means for training staff procedures, military courtesy, leadership, race relations and other subject areas. However, skits must be carefully planned and smoothly presented, and usually require repeated rehearsal.

Advantages of Demonstration:

- Demonstrations save training time.

■ A brief demonstration on the proper method of performing a particular task will assist the learning process faster than lengthy discussions that have no visual impact. It is well known that showing how to accomplish a task is often simpler than just talking about it.

■ Demonstrations tend to stimulate soldier interest by providing the kind of realism in the training experience that other presentation techniques do not offer.

■ Demonstrations set the stage for student practice of the particular objectives to include visually explaining performance standards the soldiers must meet.

Limitations of the Demonstration:

■ By themselves, demonstrations do not provide for active student participation. This can be overcome, however, by permitting the soldiers to "walk through" the task either during or immediately after the demonstration.

■ Some tasks are too expensive or difficult to demonstrate. They require a large number of personnel, equipment, ammunition expenditures, etc.

■ Demonstrations can be adversely affected by weather conditions. Indoor substitutes are usually inferior and less effective.

Tips for Conducting Demonstrations:

■ When demonstrating something, consider the student's viewpoint. If possible, rehearse your demonstration in front of someone watching from where the soldiers will see it.

■ Carefully explain each step as you demonstrate it. You must plan the details of the demonstration carefully and in sequence. Start with the training objectives, then demonstrate one intermediate training objective at a time. Your soldiers should recognize distinct breaks between the steps of the performance being demonstrated. If it is necessary for your men to learn more than one way of performing an operation, a separate and distinct demonstration of the alternate method should be offered. If you have several intermediate training objectives, you should avoid demonstrating all of them at the same time. Demonstrate only the number necessary to complete a training session. Once the soldiers have practiced these, move on to additional intermediate objectives.

■ Emphasize key points during the demonstration. One way you can do this is by asking questions about key points. Obtain and use additional training aids that may further clarify your explanation.

■ Position yourself to one side, or behind your aid or device, so you won't obstruct the soldier's view. You want your men to watch the demonstration and listen to the explanation, so while demonstrating an item of equipment, speak to your men, not to the equipment. If you are explaining something while an assistant trainer demonstrates, direct the soldiers' attention to the demonstration.

■ Make sure all soldiers can see the demonstration and hear the explanation.

■ Require the soldiers to "walk through" the performance as soon after the demonstration as possible. This will help them learn faster and better.

Summary

Regardless of the presentation techniques you select, as a trainer you must learn as much about your subject as the available preparation time permits. If you are truly a "subject expert," that's great! But in most cases you aren't. The effective trainer combines study of the applicable references with his experiences and those of others. Learn to use training publications (see appendix A) and to seek assistance from those more knowledgeable than yourself. In this manner you will acquire expertise, the first requirement to be an effective trainer. Expertise will give you the confidence necessary to use presentation techniques properly and to conduct the kind of training that will insure the soldiers perform the training objectives successfully.

Communication Techniques

Effective trainers know when and how to use a variety of communication techniques. These techniques include:

DISPLAY POSITIVE ATTITUDE. An enthusiastic attitude is generally contagious. Soldiers reflect their interest when the trainer shows his enthusiasm for the subject. A bond of working together is created by applying a few guidelines (figure 42).

CONTROL YOUR NERVOUSNESS. Stage fright and "butterflies" are common occurrences for speakers. Don't worry about it—it usually just means you're concerned about doing a good job. Solid preparation and rehearsal gives you the confidence to overcome nervousness. Having your initial remarks well in mind

will help you get off to a good start. A military bearing (posture, poise, and appearance) displays confidence and self-control.

The best advice is just *be natural*. Relax. Let your hands and arms hang freely. Don't wring or twist your hands. Move briskly and purposely. As in everyday conversation, use gestures to reinforce your words. But shy away from distracting mannerisms such as remaining glued to one spot or jiggling your pocket change. During rehearsal, have an assistant note any distracting mannerisms so you can correct them.

SPEAK CLEARLY. Avoid a dull, boring monotone. Change the pitch of your voice for emphasis and to hold the soldiers' attention. This raising and lowering of your voice is called inflection. It should be natural, not forced.

You must speak loud enough for all to hear without difficulty. The proper volume is especially important when you are outdoors or in a building with poor acoustics. By watching the soldiers' reaction, you can often tell if they are having difficulty in hearing you. If you are uncertain, ask the soldiers if they can hear you, or have an assistant in the rear signal you to speak up. Don't speak too loudly; no one likes to be shouted at.

Your rate of speech should be governed by the thought, idea, or emotion you are trying to communicate. If you speak too rapidly, you may confuse soldiers; speaking too deliberately or slowly may irritate them. A delivery which is too fast or too slow (unnaturally fast or slow) is distracting to most people; soldiers stop paying attention to *what* is being said and pay more attention to *how* it is being said.

All of us pause during our speaking. Sometimes we pause for effect; sometimes we pause to take a breath. Pauses are to speaking what punctuation is to writing. The proper use of pauses allows the soldiers to absorb ideas and take notes; it allows you to add emphasis, meaning and interpretation to what you are saying.

Speak as clearly as possible. Concentrate on pronouncing or accenting each syllable distinctly and correctly. It may be necessary to speak more forcefully and deliberately when instructing a large group than it is when carrying on a normal conversation.

USE HUMOR. The proper use of humor can improve your rapport with the soldiers, but do not use it as a

DO	DON'T
1. Use humor (especially when it's directed at yourself).	1. Don't resort to sarcasm or belittle your soldiers as individuals or as a group.
2. Keep your cool (composure). Think positively—if you've done your homework in preparing the training you probably know more than anyone else in the class. Be proud of yourself; be confident that you've done as good a job as possible.	2. Don't get flustered if you make a mistake. Your audience probably didn't notice it. Or if they did, admit the error without apologizing, correct the error and continue with the training. When caught in an embarrassing mistake, you are, at least, in a position to laugh and direct some humor at yourself.
3. If you don't know the answer to a legitimate question, tell the soldier you'll find the answer—then do it and tell him the answer as soon as possible.	3. Don't bluff, bully or act pompous.
4. Be direct, honest, sincere, down-to-earth—be yourself.	4. Don't be vague or beat around the bush. Don't be a phony—soldiers can spot one faster than anyone else.
5. Speak clearly, concisely, simply, and use easily understood words. Use personal pronouns (i.e., I, we, you).	5. Don't use profanity, or "big words" when simple ones can be used. Don't mumble; don't shout to be heard. Once you've made your point, move to the next one—don't browbeat or "talk-down" to your soldiers.
6. Be friendly and as informal as your personality, your audience, and your subject allows.	6. Don't lose control of the class, don't let the soldiers intimidate you or get out of hand. Don't tolerate discourtesy, insubordination, or "wise guys."
7. Go as slowly as you must during an explanation to be sure the soldiers can understand you.	7. Don't lose patience with your soldiers. If, as a group, they don't understand, you tell, explain, or demonstrate what is to be done. If one or two don't understand, have an assistant trainer work with them. Don't make fun of them—they are not dumb or stupid *just* because they don't understand you. They may be younger, inexperienced, tired, or distracted.

FIGURE 42.

crutch. Jokes are not fillers; they should add interest and relate to the ongoing training. Don't waste valuable preparation time trying to think up a few good jokes for your training. You want the soldiers to remember the major points and not your stories. Above all, *don't use jokes that are in poor taste*, such as ethnic stories and crude jokes. A rule of thumb is, if a joke may offend someone in your audience, don't tell it. Spontaneous, witty, self-directed comments are often better than planned, contrived jokes. If the joke is on you, laugh and enjoy it with your troops. You will add a human touch to your training and increase your rapport with your soldiers.

ASK QUESTIONS. Asking and answering questions are important to communication. Questions stimulate thought, and encourage or force participation. They also help the trainer to adjust his presentation to his audience. Questions may reveal misunderstanding, allowing you to clarify something before practice sessions begin.

Questions and responses are often good indicators of your soldiers' interest and attitude toward the subject. Questions allow you to emphasize key points and involve the soldiers during your explanation.

Asking thought-provoking, meaningful questions is not easy to do; it requires preparation and knowledge of your subject. Questions should be asked for a specific reason, to elicit a specific response.

Phrasing the question. The question must have a purpose. Its purpose may be to emphasize a point, keep soldiers alert, check understanding of a key point, review material, or stimulate thought. The soldiers must understand the question. It should be direct, simply worded, and limited to one point or topic. Your questions should require a definite answer, but should be phrased so as to disallow a simple "yes or no" response. An incorrect answer may indicate that a soldier does not understand what you are explaining, or that your question was confusing.

Asking the question. Ask the question in a forceful tone, making sure it is heard by all. If you have the soldiers' attention and you ask the question loudly enough, there should be no excuse for a response such as, "I didn't hear the question," or "Would you please repeat the question?"

Address the question to the entire group before designating one particular soldier to answer. This technique requires each man to think, as he may be the one you call on for the answer. Pause briefly after asking the question to allow the soldier time to think about the question and formulate an answer. A simple rule for allowing enough time is to silently ask yourself the same question three times. After pausing, call on someone to answer. This is known as the **ask-pause-call (APC)** technique for asking questions.

Contrast this procedure to one in which a particular man is called on, asked the question, and allowed to answer. Once a man is selected to answer a question, the rest of the audience stops thinking and starts congratulating themselves for not having to answer. Distribute questions among the group for full soldier participation in the discussion. Avoid calling on your men in any set order or limiting questions to the most alert, the brightest, or the dimmest and the dumbest.

How you react to a response is important. Your attitude can be the deciding factor in maintaining rapport and in coaxing additional responses from the soldiers. Encourage the soldier to respond to the best of his ability even though he may be uncertain of his knowledge or ability to speak before a group. How do you do this? Avoiding questions which evoke a yes or no answer is the first step. Then insure the question is stated simply and heard by everyone. Do not accept "I don't know" without some effort to elicit a positive response. Rephrase the question if necessary.

Evaluate and respond to each answer according to its merit. If the answer is wrong, do not reinforce it by nodding your head in approval or falsely praising the answer. Do not infer that the soldier was dumb because his answer did not meet your expectations. If necessary, elaborate on his answer or have the soldier clarify a vague answer, or ask a follow-up question.

Sometimes a soldier will try to throw you off by answering your question with one of his own. Don't become sidetracked. Answer his question, but don't let him off the hook—he owes you an answer. In fact, you may call on someone else to answer his question and then return to him for an answer to your own. Don't bluff if you cannot answer the question. Tell the group that you will find the answer and give it to them later; then keep your promise.

Occasionally a soldier will attempt to embarrass the trainer with a question meant to place the trainer in an awkward situation. If such a question is asked, tactfully dismiss it or demand an explanation of the question's purpose or intent. If the question is relevant but "tricky" or sensitive, answer it to the best of your ability.

Rehearsals

The trainer should practice his presentation to insure everything is ready for training. Rehearsals should be complete and follow the same sequence of actual training. Ideally, the rehearsal will be conducted at the actual training site. If this is not possible, the rehearsal area should be as similar as possible to the actual training area.

Assistant trainers must perform their duties as they would during actual training. The trainer must give his assistants explicit instructions on their part in the training. Assistant trainers must know the subject and the training objectives, and be prepared to assist or correct soldiers during training. Assistants should practice their role during a demonstration and operate the training aids correctly.

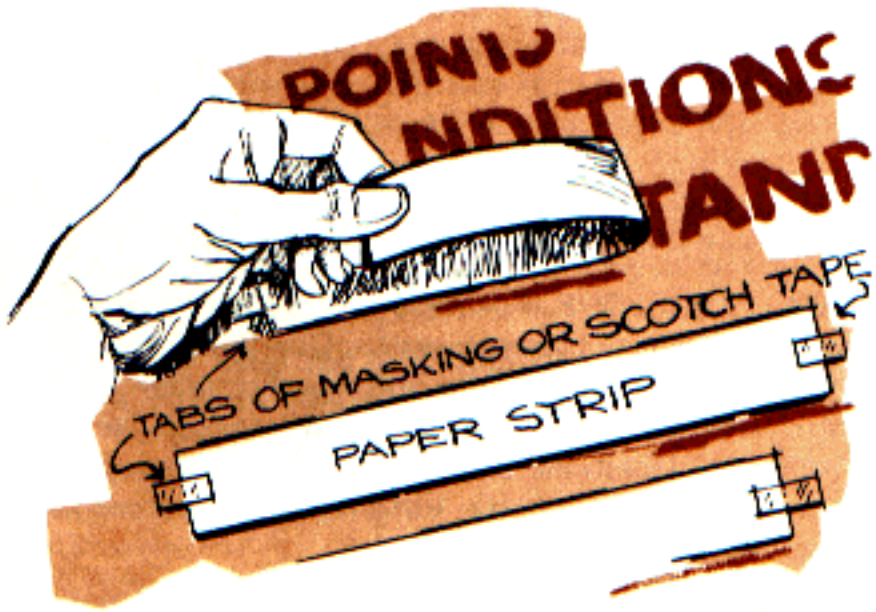
At least one observer should be present at rehearsals to critique the trainer, his assistants, and their aids and devices. The errors must then be corrected and the corrections rehearsed.

Using Aids and Devices

Training aids can assist you in presenting information clearly and evaluating soldier performance. The aid must fit the purpose of the training and usually a combination of various aids will help your soldiers meet the training objective.

Aids and devices are incorporated in all three phases of training. Because the proper use of aids and devices is so important during training, you must know what aids and devices are available and how to obtain them. But first, let's discuss a few guidelines.

The aids used to illustrate highly complicated and technical subjects are often elaborate. When first showing such an aid, briefly explain its purpose. Otherwise, your men will attempt to find their own explanation of the aid and may miss part of your presentation.



To avoid distracting your soldiers, **training aids should be hidden when not in use.** For example, large charts can be covered by stapling sheets of wrapping paper over them. If a chart contains lines of printing, strips of paper can be cut to cover each line and then removed when appropriate.

When using Army graphic training aids (GTAs) or throw-over charts, tab those pages that are to be used in the presentation with paper clips so you can quickly recognize the right charts. Another technique is to write lightly on each page the title of the next page to be used. Either technique will help smooth the transition from one point to another.

Machinery, weapons, or other aids can be covered with target cloth or similar material. Sheets of plain paper can be inserted into an Army graphic training aid portfolio to keep the pages covered until you are ready to use them.

You should display the aid **so all soldiers can see it.** Check the aid from the rear of the training area to make sure it is legible. Change the seating arrangement, if necessary, so your men can see better.

Some trainers become so involved with their training aids that they forget their troops. Even while disassembling a piece of equipment, maintain eye contact with your soldiers. When you explain a chart or chalkboard drawing, stand beside the aid if possible. This will reduce the tendency to talk to the aid rather than to the group.

A pointer is useful in focusing the soldiers' attention on a particular part of an aid or device. Point at the part of the aid you want your soldiers to observe. Hold the pointer in your hand nearest the aid; holding the pointer across the body tends to cause you to talk to the aid rather than to your men. When you have finished using the pointer, put it away. If you don't, you will probably wave it around, distracting your soldiers. If you do not need a pointer, don't use one—often your finger, a pencil, or a stick will serve just as well.

Training aids are used (1) to explain how a task is performed and (2) to allow soldiers to practice a task. For example, if you are training soldiers to adjust artillery fire, you might use a chalkboard, venetian blind, or a film to explain each task and the correct order for the standard call for fire. For practice in adjustment, you could employ a puff board, blanket board, or best of all, an artillery or mortar unit firing in support of the training.

There are many aids and devices available, ranging from hand-drawn charts to sophisticated, expensive devices. However, by no means should you use an aid just because it's available. Neither should you change your training to fit the aid. You know what your training is supposed to accomplish—**select aids which fit your purpose.**

Perhaps asking yourself some questions will help. First, ask what aids, if any, will help get the information across? What can I use to insure the soldiers understand the task or procedure? Second, ask what aids, if any, can simulate the conditions under which the task will be performed. Will the aid let me evaluate how well the soldiers perform? These and similar questions will help you select the proper aids.

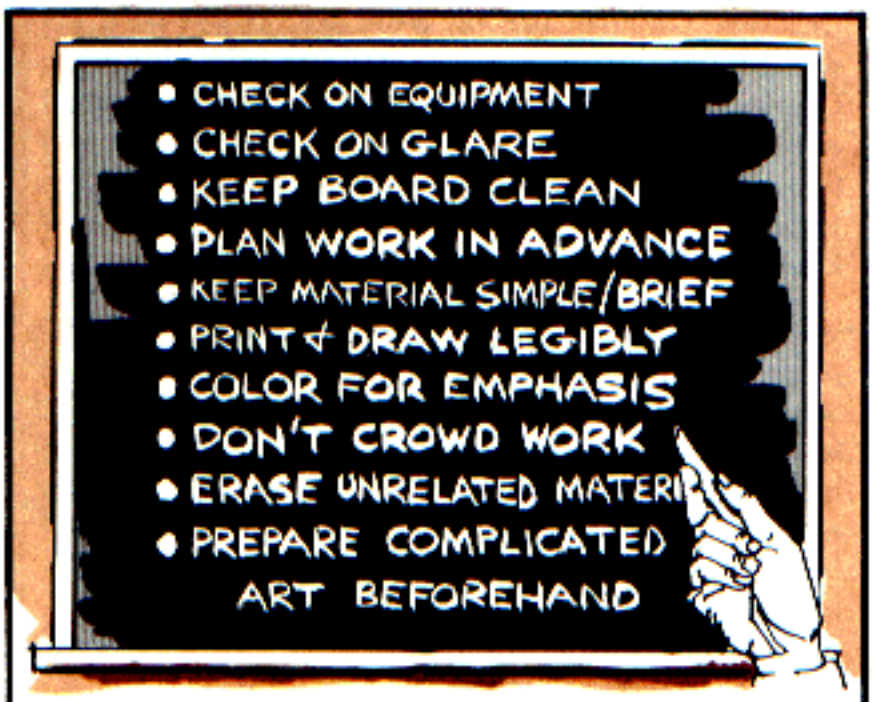
Selecting the correct training aid becomes somewhat easier when you realize what is available. Your own experience is a good starting point—what have you used before that was effective, what have other trainers used that did the job? Ask around to draw on other trainer's expertise. One thing you should always do is **check with the training NCO.** He should be aware of what aids are available and have been effective in training. Some aids will be on-hand right in the unit.

The Training Aids Services Offices (TASO), located at TRADOC and FORSCOM installations in CONUS, Alaska, Hawaii, Panama and Puerto Rico, are your central points of contact for obtaining all your training aids. The TASO is the single manager charged by each installation commander to provide training aids services to customers in his geographic area of support, including Reserve Components, Active Army units and schools. Other major commands receive similar support from their local training aids center.

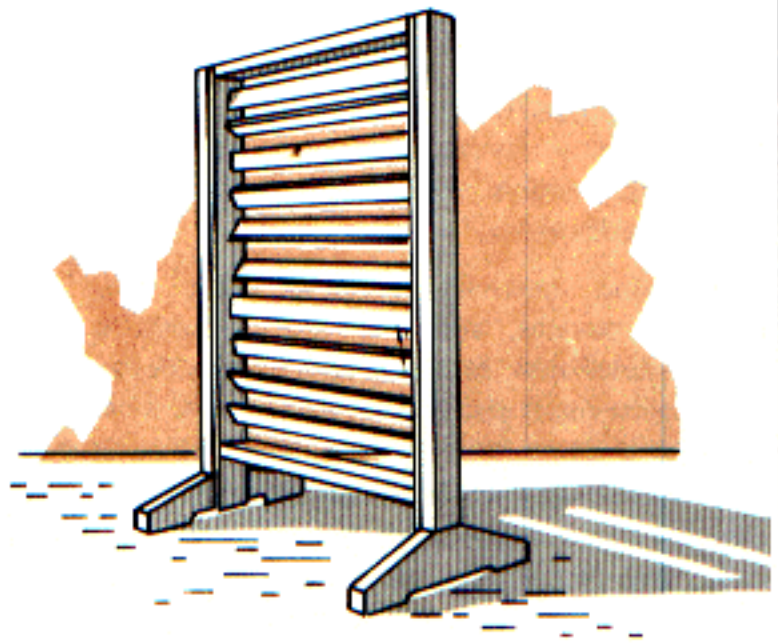
Training materiel available from the TASO includes devices, still and motion picture photography, television tapes, graphics, simulators, games, and audio-visual projection equipment. The TASO is also available to help trainers decide what type of aid would best suit their training requirements.

It is worth your time to scan DA Pam 310-12, Index and Description of Army Training Devices; DA Pam 108-1, Index of Army Motion Pictures and Related Audio-Visual Aids; TRADOC Pam 350-34, Education Video Tape Catalog; and the TAMA/TASO Training Materiel Catalog. The TASO has these publications as well as catalogs of items produced for local use. If your TASO does not have available the device or aid you need, he can obtain assistance from the Training Aids Management Agency in locating the item elsewhere in the TASO network or can produce an appropriate aid for you. Of course, there are many aids you can make yourself.

Now let's talk about some training aids you might use.



THE CHALKBOARD is a simple aid that can be used anywhere. It is easily carried to the field, to the motor pool, and to the company classroom. Some chalkboard techniques are shown above. With the chalkboard, the trainer can present outlines, sketches, problems, and explanations.

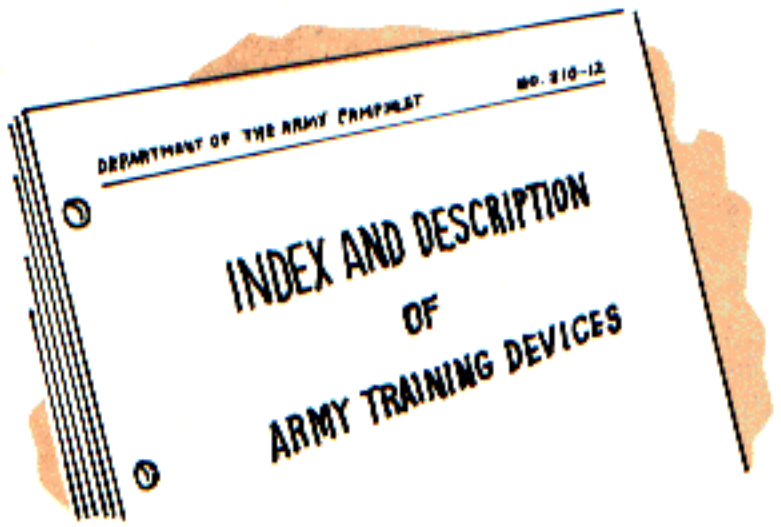


THE VENETIAN BLIND is an easy, portable aid for presenting information. Best used to outline information or present key points, the venetian blind can be prepared prior to training. One strip at a time can be exposed to focus on a particular item, or a sequence can be shown. The trainer is reminded of the important points to be made, the order in which to make them, and can make an acceptable summary of the training.

CHARTS can effectively present information. Outlines, sketches, graphs, and "pie" charts help the soldier understand how everything fits together. Chartmaking techniques apply to preparing almost any visual aid that contains written and drawn material. Charts can be produced by your TASO. However, it's not difficult to make visuals if you know a little about lettering and producing drawings.

Stencils are available to help you draw letters of proper size and spacing. However, freehand drawing is usually just as good. Words spelled with all capital letters are hard to read so use capitals for the first letter and lower case for the rest of the word. To be readable, capital letters should be 1-inch high and lower case letters 2/3-inch high. Make sure the work is printed as a unit and leave a space between words. Pencils (No. 1 and 2), crayons, and felt-tipped pens are suitable writing instruments.

Before you start drawing on a full-sized chart, make a letter-size model to check lay-out and design. Don't try to center titles—just begin on the left and use indentations for separate items under a heading. Use some color to highlight key points and make the chart attractive. *Don't clutter the chart*—place one or two main headings per chart; five to ten statements per heading; five to ten words per statement. These techniques also apply to transparencies, chalkboards or any other visual aids.



GRAPHIC TRAINING AIDS (GTAs) include charts, diagrams, graphs, sketches, cartoons, maps, and wall boards. Although you should be prepared to make your own GTAs, many attractive ones are already available. Check DA Pam 310-12 and your TASO to see what you can get. One way to use GTAs is to tie them in with a model or actual equipment, e.g., a cutaway chart showing the working parts of an engine could help mechanics understand what you are teaching them about an actual engine block.

MAGNETIC BOARDS are helpful in teaching organizations, formations, and tactics. The trainer can show the relationship of units to each other or illustrate the movements of a tactical maneuver. The magnetic board is an excellent device for explaining small unit tactics as well as enabling soldiers to demonstrate their understanding of the training.

If you can't get a magnetic board, make a blanket board as a substitute. This is easily done by stretching an Army blanket over a frame and backing cardboard cutouts with coarse sandpaper. When the cutouts are slapped against the blanket, they will stick. You could also put pressurized adhesive tape on the cutouts and they will hold to a chalkboard or other flat surface.

TRAINING FILMS cover a wide range of topics. Although everyone likes a good movie, and films can assist training, there are some pitfalls. First, films are usually produced for general audiences so the content may be more than you need for the planned training. *This means you should review the film and show only those portions which add to your purpose.* Films are quickly outdated so you must be able to tell the soldiers where the film is inaccurate. Introduce the film by emphasizing what to look for and how the key points relate to the training session. Films should not be a crutch for the ill-prepared trainer—that wastes training time. Remember also that when showing films, the classroom must be darkened, everyone should be able to see the screen, and you will need an assistant to operate the equipment and control the lights.

SLIDE SHOWS can help make training more interesting. If your unit does not have the equipment, the **TASO** can usually provide a 35mm projector, camera, film, and in some cases, prepared slides. You can make your own program and control the content and time span.

THE OVERHEAD PROJECTOR is widely used to project transparencies on a screen or wall. A variety of transparencies are already in the system. But, transparencies are easily made by writing on acetate with grease pencils. Some posts may have a reproduction machine that makes professional-looking transparencies. Check the **TASO** for assistance. Another tip for producing transparencies is using contact (or "combat") acetate. Simply cut a picture out of a magazine *(NOTE: The picture will be destroyed. The process won't work with newsprint; the surface must be "slick.")* Just peel the backing off the acetate and press the acetate over the picture. Smooth it and then soak the picture and acetate in cool water for 2-3 minutes until the paper separates. Clean the inked side of the acetate with wet cotton and rinse. Dry, spray on a plastic coating, mount the transparency on a cardboard frame—presto, you have an excellent transparency.

If you want to show illustrated material from textbooks, field manuals, magazines, newspapers or any printed source, you can use an **opaque projector.** This works well for projecting printed material on a screen or wall for everyone to see. However, the room must be completely darkened, so use it only for short periods of time so students may take notes.

ACTUAL EQUIPMENT is the most realistic training aid but it may not always be the best one. Selection of actual equipment depends on the size of the class, the size of the item, and the expense of using the real thing. Usually other aids are used in conjunction with actual equipment when training soldiers to understand the workings of mechanical parts.

MODELS (three-dimensional, scaled versions of actual equipment) are often used to replace or supplement the real item. For use in opposing force training, full-size plastic replicas of foreign weapons are available through the TASO. Training devices for use with actual equipment can reduce cost factors and permit training in classroom, armory and company dayroom environment as well as field or range training. Among these are the Tank In-Bore Laser System and the Rifle Laser Marksmanship System.

MOCKUPS can be used to represent items of equipment. For example, the TASO have patterns of various armored vehicles of other nations from which plywood silhouettes or even full-size, three-dimensional mobile canvas mock-ups can be fabricated. These are suitable for use in target acquisition training, for reinforcing vehicle identification training, and injecting realism into tactical training exercises.

An important aid is one which substitutes for terrain. The sandtable is an excellent example. These can range from a sketch in the dirt, to elaborate sandtables, to sophisticated terrain models. The sandtable is effectively used to train soldiers in combat techniques and to evaluate performance by the soldiers.

How to Prepare Sandtables

A light tray, 3 feet by 5 feet and 2 inches deep with sufficient sand to fill the tray (plus a little for hills), is all that is needed. A few strips of salvaged lumber may be used for the frame, with a section of wallboard or plywood nailed to the bottom of the frame. If the sandtable is to be used over a considerable period, it may be advisable to reinforce the bottom with several strips of wood (figure 43). The inside of the box is then painted blue. The paint will reduce absorption of water and serves to add realism by giving streams or lakes a characteristic color.

The tray should be placed on a trestle or on boxes and tilted to permit the class to see it while seated (figure 44). The amount of sand contained in two standard engineer sandbags, a sharpened stick, and a few small blocks of wood or pieces of soap are the only materials required for the construction of a satisfactory sandtable.

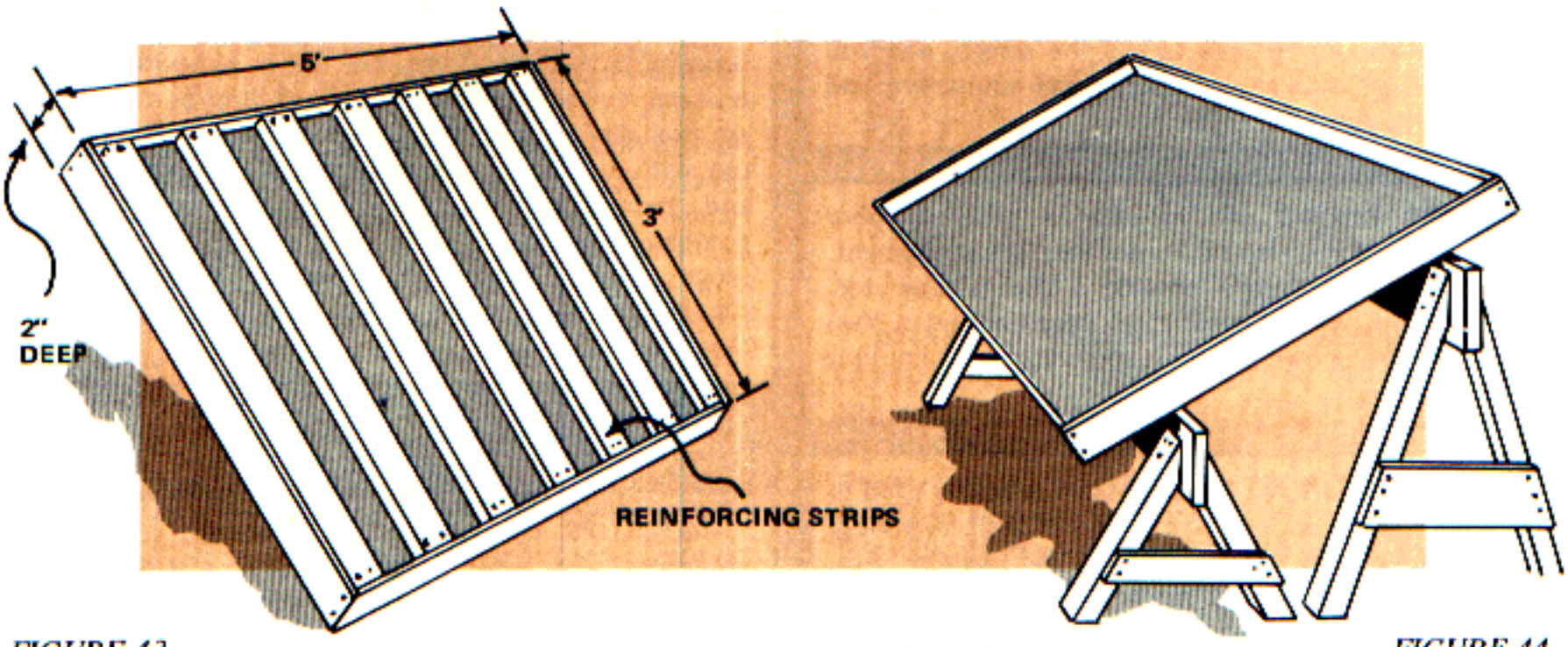


FIGURE 43.

FIGURE 44.

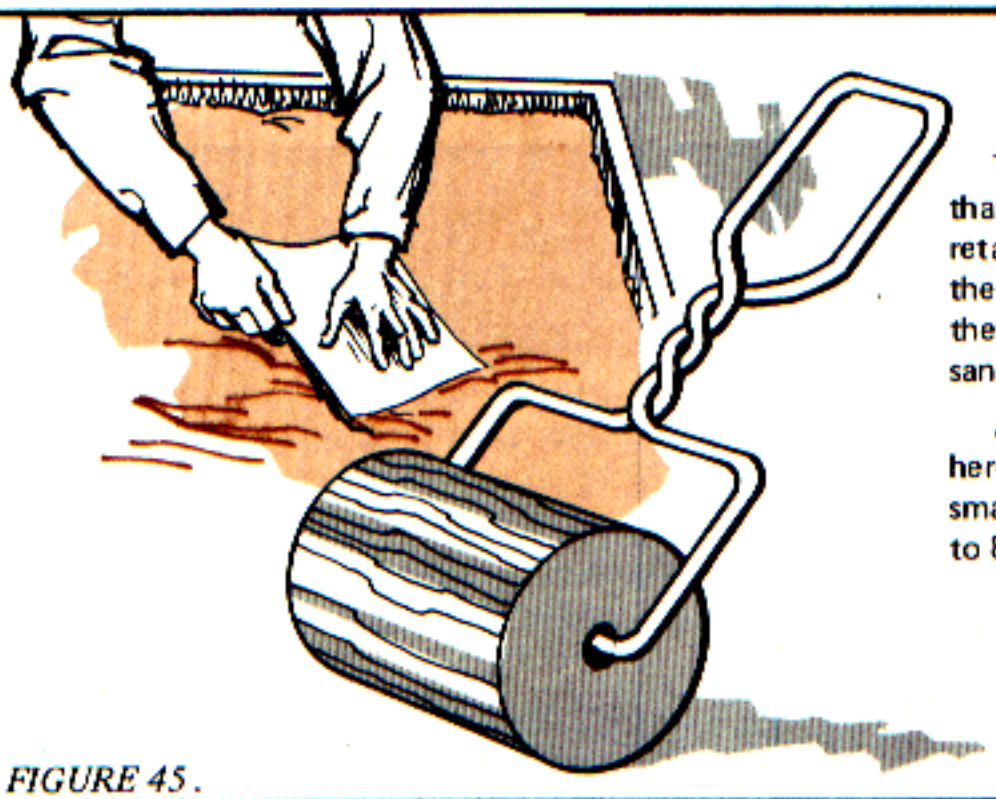


FIGURE 45.

The sand should first be moistened sufficiently so that, when a handful is grasped and released, it will retain its shape. One bag of sand is then dumped on the tray and smoothed. A piece of paper spread over the sand and rubbed with the hand will smooth the sand and reduce evaporation (figure 45).

Another device for smoothing the sand is shown here. It can be made by attaching a wire handle to a small rolling pin or a section of a round pole about 6" to 8" in length.

The principal stream line, when required, is then marked with the finger. If this is made deep enough to expose the bottom of the tray, the stream line will be emphasized, and the blue color will show through (figures 46 and 47). The sand pushed to the sides of the stream by this operation may be left to represent the trees or brush normally found along the banks of streams.

Pour additional sand onto the model to form hills in the desired places and then smooth off the hills and ridges (figure 47). Exact sizes are unnecessary—reasonable proportion estimated by eye will suffice.

Men, military units, vehicles, names of localities, and terrain features may be represented by lettered tabs on heavy paper. The tabs should be mounted on a pin or a straightened paper clip. These can be easily stuck in the appropriate places on the sand model. Sectors of fire can be represented by arrows cut out of the heavy paper.

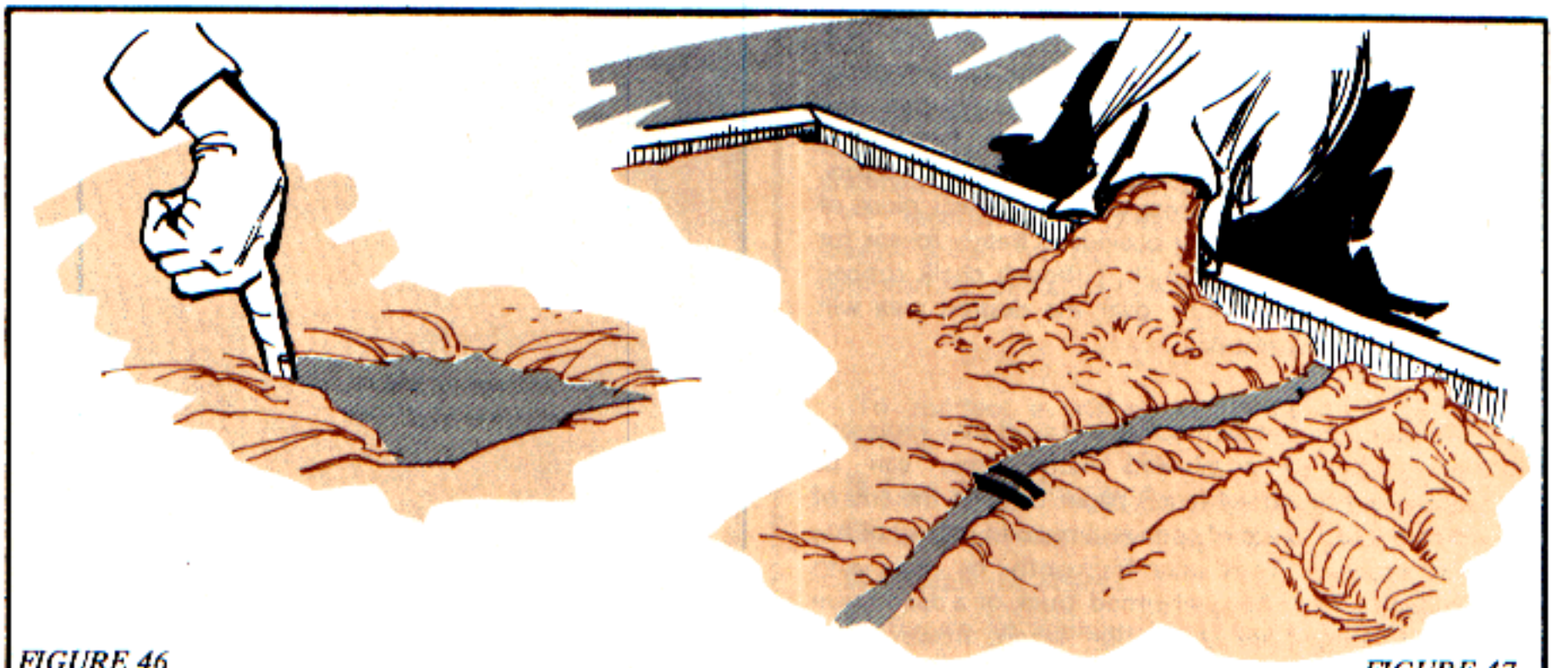


FIGURE 46.

FIGURE 47.

Roads may be drawn with a sharpened stick made by whittling the end of a strip of thin board, such as the lid of a cigar box, to form two points. A concave roller used to draw roads is shown here (A), and (B) a type of roller used for marking a railroad.

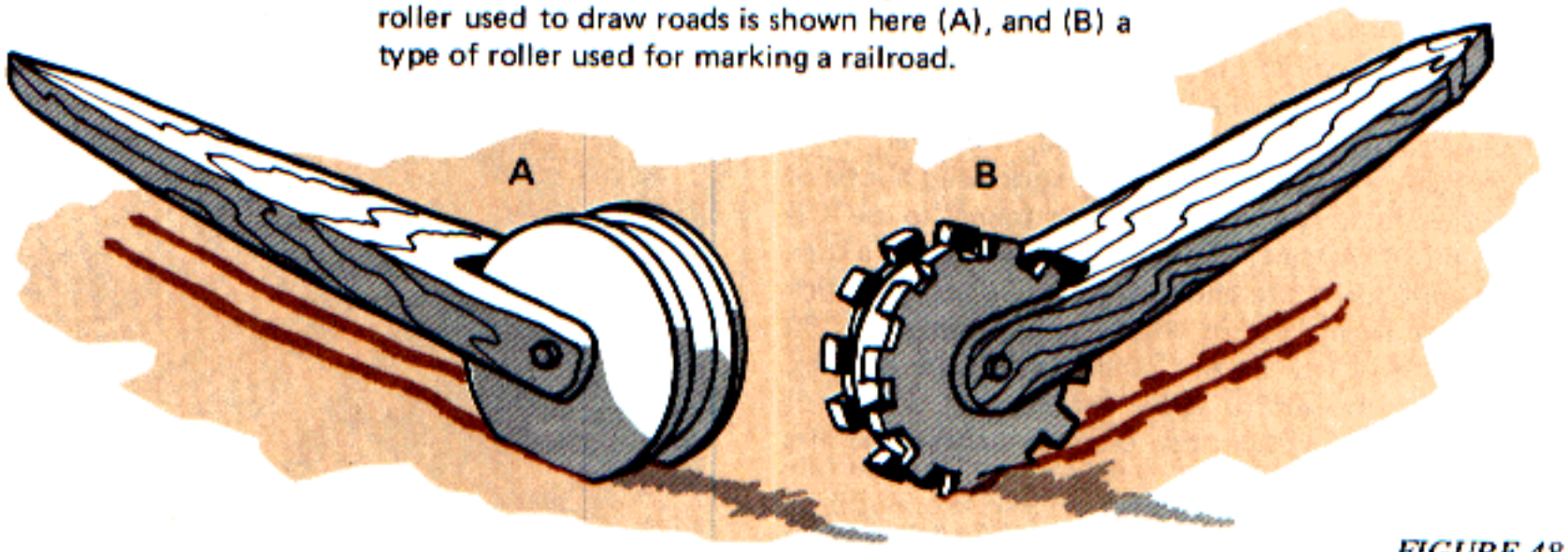


FIGURE 48.

Additional stream lines may be drawn, small blocks of wood or issue soap may be used to represent buildings, and flat pieces of wood may be placed across streams to represent bridges (figure 49). Small amounts of loose sand dropped onto smooth sand make an excellent representation of woods. Realism is added if the woods are sprinkled with powdered green chalk. Colored chalk, in powdered form, sprinkled over sections of the terrain may also be used to represent burned areas, foliage, farm crops, pastures, and similar features. Obtainable in all colors, stick chalk may be powdered with a small piece of screen wire. A salt shaker provides a handy means for applying the powdered chalk, although chalk rubbed on a screen held directly over the desired area will achieve the same result.

A sharp stick drawn across the sand may represent the furrow of a plowed field. Trees can be represented by straightened paper clips on the end of which a small piece of sponge dipped in green ink has been attached. Toys may frequently be used with excellent effect. An overturned truck or a dead horse adds interest. Care should be taken, however, to prevent such embellishments from becoming interest-distracting factors.

The measuring or laying off of distances on the model can be accomplished by assigning a scale. For example, a stick one foot in length may be arbitrarily taken to represent 50 yards. The scale in this instance would be 1 foot equals 150 feet. That is, one unit of measure (the stick) on the sandtable represents 150 feet of ground distance. That scale gives a representative fraction of 1:150. However, it is important to remember that the stick need not be of any specific length in order for the trainer to use it as the unit of measure. The trainer simply breaks a stick to a convenient size and tells the class that the stick (without regard for its exact length) represents 50 yards, 100 yards, or any other distance he chooses. He then proceeds to apply the stick as a unit of measure to represent the ground distance he has arbitrarily assigned to it.

Magnetic north is indicated by placing a cardboard arrow on the sand model.

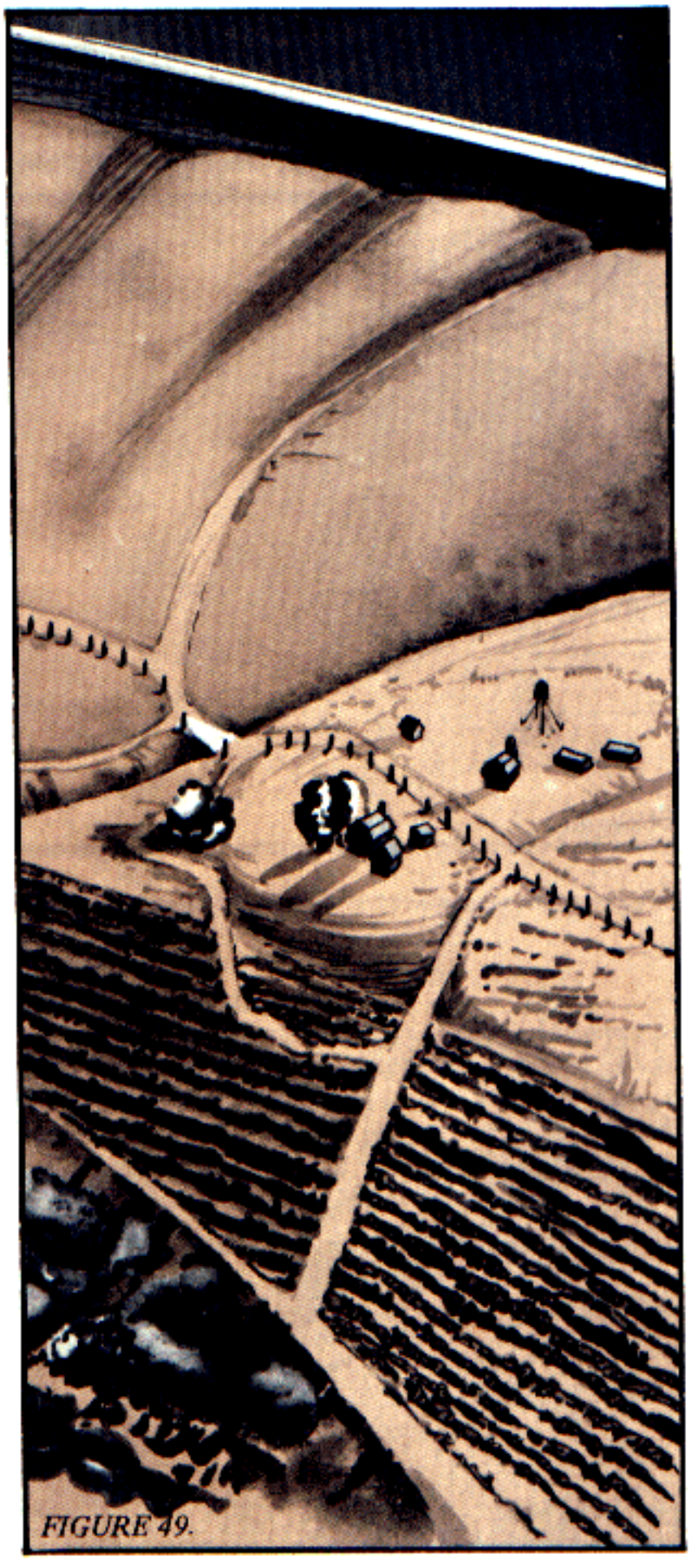
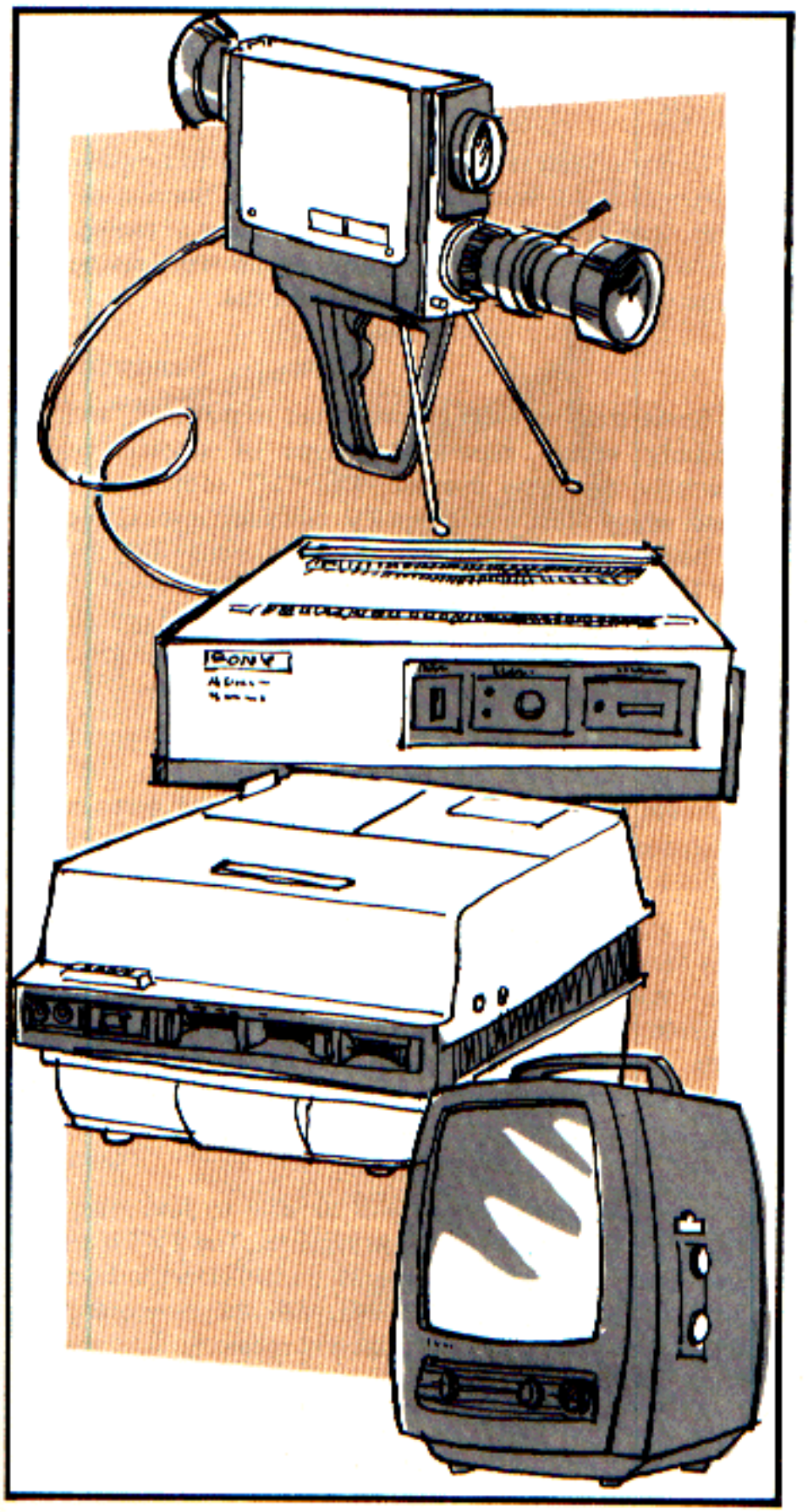


FIGURE 49.

USING YOUR TV TRAINER (TVT)



The following discussion is an introduction to using the TVT to improve individual and collective training in your unit. It provides you with some examples of actual and possible uses of the Sony Rover III Television Trainer (TVT).

The TVT is a lightweight television system composed of a camera, video recorder and playback unit, a TV monitor, and auxiliary equipment. Trainers can record individual and collective training and can "instant replay" the recorded actions. Soldiers undergoing training can see themselves on the playback unit and errors can be spotted and replayed as many times as necessary to insure understanding. The "instant replay" feature of the TVT, together with its ease of operation, makes it ideally suited for use in three areas: to critique, demonstrate, or standardize training.

Critique

To conduct a critique using the TVT, do the following:

- Tape the performance.
- Let the soldiers view their actions.
- Critique the actions.
- Return to training to correct deficiencies and practice correct procedures.

The critique may be done by the trainer or the soldiers themselves; the latter technique can be highly effective.

With a little imagination the critique technique can be adapted to nearly all training situations. Here are some examples:

One company commander placed his TVT on an objective two of his rifle platoons were about to assault. The TVT saw the attack exactly as the "enemy" would have. Following consolidation on the objective, the CO called for an administrative halt. Using the battery packed capability of the TVT monitor he allowed the men to view their attack. The TVT playback showed that the soldiers were too close together and that their movement techniques did not use the available cover and concealment. In addition, the soldiers did not use suppressive fire and overwatching techniques properly. Leaders could be observed clustered around radios. It was apparent

that many of the soldiers would have become casualties before they reached the objective. After the soldiers had an opportunity to observe their attack and discuss how they could have improved it, they were permitted to return to the LD and do it again.

A jumpmaster course used the TVT to tape soldiers as they exited a 34-foot tower. Instead of the soldier being confronted by a jumpmaster with his clipboard for a critique, each soldier watched himself on a TVT monitor at the base of the tower. After discussing his deficiencies with the jumpmaster, he returned to the tower for another exit. Periodically the position of the camera was changed to cover new teaching points, i.e., half-way down the cable for the "check canopy" sequence.

The TVT was boresighted to the Redeye Tracking Head Trainer, M49. In this position the trainer was able to record a soldier's ranging and sighting ability. Following the exercise, the trainer and soldier viewed the replay together, discussed mistakes, and actions for improvement. The soldier then repeated the exercise with the mistakes fresh in his mind.

Further examples of actual or probable uses are limitless, but the central points remain the same—nearly any training activity may be recorded with the TVT: convoy movements, artillery crews firing, LZ and DZ actions, time-lapsed taping of a unit camouflaging its position, tracking a patrol using the TVT's zoom lens as a sniper scope, taping small unit movement techniques, etc. Remember the critique steps: tape, view, critique, and repeat the training.

Demonstration

Use the TVT to tape selected activities that are difficult to demonstrate (e.g., size of equipment too small, activity too expensive to run frequently, etc.). The tape may be saved as long as necessary and shown as often as required. Here are some examples:

The size of the M16 bolt makes it hard to demonstrate its assembly and disassembly to more than one or two soldiers at a time. On tape, the procedure can be clearly demonstrated to several people at the same time and replayed as often as necessary. Similarly, the controls of a radio, the interior of a tank turret, a morning report form, or the butterfly valve of a carburetor all pose training problems because of size or space limitations. The TVT lends itself to solving these training problems.

One unit taped portions of its civil disturbance training in preparation for a civil disturbance mission. The proper use of a riot baton was shown to 1500 soldiers.

Opportunities requiring the use of TVT to simplify demonstrations will continually present themselves. With imagination, and the basic techniques of taping, the action can be preserved and shown later, saving valuable time and other training resources.

Standardization

Some training must be presented to different, and possibly widely separated groups of soldiers in precisely the same manner. The TVT satisfies this need when films and other TV tapes are unavailable or have not been produced. Taping training using the TVT means that standardization can be achieved at the unit level, inexpensively and promptly. Further, the tape may be reused and updated as necessary. Here are some examples:

A division G-3 had several tapes made on selected training objectives and distributed them to subordinate units to insure standardization. Such areas as maintenance, administrative support, and finance actions were handled in this manner.

A standard briefing for newly arrived personnel was taped and shown to groups of replacements. It was locally produced and required only one man to operate the TVT monitor. At the conclusion of the tape, the commander joined the group to add his personal remarks and to answer questions.

Summary

With imagination, you will be able to find many excellent uses for the TVT in training. The TVT is an innovative device requiring only a little effort to bear fruit for the user. Experiment with the device and adapt it to your unit's location and missions.

Today's soldier is a product of the electronic age—television and "instant replays." The TVT will neither surprise nor confuse him. Use the TVT to enhance the efficiency and effectiveness of your training.

Additional information on the TVT may be obtained by consulting the following:

-- The "Television Trainer Operator Instructions" distributed with the TVT.

-- Local TASO or AVSC (Europe or Korea).

USING TRAINING EXTENSION COURSE (TEC) LESSONS

WHAT IS TEC? TEC is a series of service school-produced lessons designed to provide Active Army and Reserve Component commanders with additional capability to upgrade individual training and MOS proficiency in their units. The lessons are self contained and concentrate on preparing soldiers to perform specific tasks required by their jobs.

WHOM IS TEC FOR? The initial TEC series is designed for soldiers in infantry, armor, field artillery and air defense units. Over 600 lessons are being developed for soldiers in MOS 11B, 11C, 11D, 11E, 13B, 13E, 16R, and 16P. Additional lessons are being prepared for soldiers in five critical duty positions: unit clerk, PLL clerk, TAMMS clerk, generator operator, and radio-teletypewriter operator. Because the initial series of TEC lessons cover a wide variety of skills required of many soldiers, they can also be used to train soldiers in other career fields. Subsequent lessons will be developed specifically for soldiers in combat support and combat service support units.

HOW DOES TEC WORK? TEC lessons are presented in one or more of the following formats: audio-visual (like a movie), audio only (like a radio), or printed materials (like a book).

Most of the lessons use the audio-visual format. Each of these lessons includes a super 8mm film cartridge, audio cassette and student instruction sheets. They are used with a Beseler Cue/See projector. The Cue/See permits each soldier to work at his own pace making responses to the lesson requirements.

An important feature of TEC is that each lesson includes a pretest. By taking the pretest, a soldier can determine *beforehand* whether he needs the lesson. This pretest feature permits soldiers to concentrate their time and effort only in those areas where they need further training. This permits soldiers to learn more efficiently. Because TEC permits soldiers to study at their own pace, it is an ideal system for soldiers who want to improve their MOS proficiency or to cross train in another MOS. It also provides an excellent system to conduct remedial or make-up training.

The Cue/See can also be used to train small groups. For example, a rifle squad leader could cover patrolling techniques with his squad prior to the conduct of field training.

The audio only format permits soldiers to conduct training using equipment too large to be moved to a

learning center. Adjusting track tension on a howitzer is one example.

TEC printed materials include programed texts and illustrated job aids. The specific selection of the TEC lesson format depends on the tasks to be taught. Accordingly, some subjects use a combination of TEC formats.

Where to Implement TEC

The flexibility of the TEC system allows effective implementation in units at several different levels. Experience indicates the battalion is a feasible level to manage the system for individual and group use. However, the mission and organization of the unit, as well as the physical facilities available and the desires of the commander will determine the actual level for the implementation of TEC within each unit. The impact of centralization should be considered in terms of:

- responsiveness to subordinate unit needs.
- accessibility to all members of the unit.
- duplication of facilities.
- availability of all training material required by members of the unit.
- sufficient devices to meet the expected demand.
- optimum utilization of training materials and devices.
- adequacy of maintenance and management personnel.

There are advantages and disadvantages of locating the learning center at various levels, company through brigade.

Learning Centers for TEC

A learning center in a unit? The name itself brings up visions of plush, air-conditioned rooms similar to those found in Army service schools or civilian educational establishments.

While that kind of learning center would be ideal, it may not be possible or necessary to establish one that complex in an Army battalion. Throughout the Army, more and more units are using learning centers as an important part of their training program.

A unit learning center assists the commander in the performance of his mission by providing an easily accessible, centralized facility for the storage and use of training materials. It also provides the environment required for individual training.

In the learning center the soldier can increase his skills and knowledge through an individualized approach to performance oriented training. If the major commander chooses to integrate GED educational materials and instructors, it provides the opportunity for the soldier to develop personally as well as professionally.

The concept of the learning center, as an aid to training in Army units, is founded on the realization that today's soldiers learn at different rates, and have reached maturity in an age of rapid mass communication. Soldiers have been exposed to audiovisual and other media presentations since childhood. Network television has affected young soldiers' thinking to the extent that they now regard audiovisual presentations as a normal approach to entertainment and learning.

Why Do You Want a Learning Center?

The objectives of successful learning centers such as those in some of our divisions are:

- to provide a place for remedial training for soldiers having difficulty with a particular subject.
- to provide a place for the upgrading of individual proficiency.
- to provide a place for reviewing training materials prior to MOS tests.
- to provide a place for pursuing GED programs.
- to provide a place to train trainers.
- to free unit commanders from spending training time on the preparation and conduct of certain portions of individual training where TEC programs exist.

How is it Organized?

The battalion learning center generally is organized into three parts, not necessarily in the same room:

Individual Study—This area uses most of the space in the center. In this area the soldier uses the variety of materials available in the learning center.

Group Study—This area provides space for small, supervised groups of up to 25 men and an instructor to use lesson material at the same time. The actual space provided may be part or all of the individual study area or it may be a dayroom, a squad bay or other large area.

Administrative—This area encompasses the record-keeping area of the learning center and a storage area for learning center equipment and materials. Preventive maintenance services are also accomplished here.

What is in the Learning Center?

While varying widely between units, the instructional material available in the center as a minimum has included audiovisual lessons and projectors, audio tapes and tape players, printed materials from the TEC program and game learning devices. The battalion television trainer and tape players may also be located in the learning center when not in use in the field.

How Does It Operate?

Successful learning centers have been an integral part of the battalion's training plan. Its use by small groups, such as squads and platoons is planned in advance and shown on the company training schedules.

The battalion S3 has been responsible for the overall operation and staffing of the learning center.

The day-to-day operation of the learning center has been the responsibility of a qualified NCO or the post education advisor. His responsibilities include:

- inspect equipment and lesson materials.
- issue and maintain accountability for equipment and lesson materials.
- maintain administrative and usage records.
- advise the soldier and the soldier's trainer on the program to follow to achieve individual and unit goals.
- assist trainers preparing group training sessions.
- assist soldiers having difficulty with subject matter.
- maintain a scheduling system to maximize center usage.
- request use of other facilities when needed.
- insure learning center is kept in a neat and clean condition.
- insure the learning center is secure at all times when not in use and manned when in use.

Battalion learning center hours are established to provide for maximum utilization by assigned personnel. Commanders have insured that hours of operation are posted throughout the unit and personnel are encouraged to use this facility. The hours are adjusted as required by usage factors. Additional time is available on request. Certain specified hours are available for use by small groups, when coordinated through battalion S3.

Procedures

Individuals using the learning center on a voluntary basis report to the learning center NCO to obtain the desired device and lesson materials and return them upon completion. The learning center NCO maintains a record of each individual's cbmpletion of lessons and data showing usage of the various materials.

To sum up, *the learning center is one of the most flexible, efficient tools the commander has to accomplish his individual training mission and increase unit effectiveness.*

HOW TO GET STARTED. First, be sure your unit has the equipment and lessons it is authorized. TC 21-5-3, "TEC Management Instructions," explains the basis of equipment issue and TC 21-5-4, "Catalog of Training Extension Course Lessons" lists the lessons which apply to your unit. In addition, your local TASO has TEC equipment and lessons for checkout.

Obtain the Lesson Administrative Instruction Book. The book has an index which lists the TEC lessons by subject (e.g., rifles, grenade launchers, etc.). For each lesson listed, a brief outline is provided. The outline contains the lesson objectives, skills a soldier should have before taking the lesson, and a pretest a soldier can take to determine if he needs the lesson. It also describes how the lesson is presented (e.g., audio-visual), and any equipment or materials required.

After checking out a lesson, a student instruction sheet found inside each lesson provides a handy reference of the tasks for training, equipment and materials needed, and the estimated time required to complete the lesson.

UNIT LEARNING CENTERS. Some units have organized their equipment and lessons into unit learning centers. The objective of these centers is to provide a place for training soldiers and for storing and securing equipment. Learning centers may be organized to permit individual study, small group study, or both. Depending on the facilities available, one large training center may be established centrally at the battalion level, or the battalion's equipment may be divided to permit each company to establish its own center. Organization at company level provides maximum flexibility for the commander who conducts the training and requires a smaller amount of space for hardware storage and learning area. It does, however, place an additional administrative burden on the company and breakdown of a single device can severely limit the center's capability. Finally, organization at company level does not insure maximum use of the equipment. Establishing a learning center at battalion level places TEC material in the hands of the manager who has the greatest impact on the training of his unit. The battalion center is normally fairly accessible to users and with proper management will insure a better utilization of the lessons and equipment. Organization at battalion level, however, does require a fairly large area.

Summary

However your unit organizes its TEC equipment and lessons, you should see for yourself the potential TEC offers. Effective trainers will use it to improve their own skills and those of the soldiers they lead.

APPENDIX D

Evaluating (Inspecting) Training

EVALUATING TRAINING

PURPOSE: This appendix provides a guide to training evaluation. It is written to help trainers conduct self evaluations of the training they have conducted and to assist personnel responsible for evaluating (inspecting) training conducted by others.

EVALUATION RESPONSIBILITIES: Every trainer has a major responsibility to evaluate training he has conducted, or that has been conducted by one of his assistant trainers. Training managers also have a responsibility to evaluate training. They must insure that training is of the highest possible quality and, most important, is accomplishing specified training objectives.

What does evaluating training mean? Training evaluation is concerned with the *effectiveness* and *efficiency* of training. Training effectiveness is determined by how well personnel undergoing training can meet or exceed established performance standards specified in the commander's training objective(s). Training efficiency is concerned with how well the trainer (and indirectly the training

CONTENTS

manager) used what was available (i.e., the training resources—time, personnel, facilities, equipment, funds, etc.) to train the soldiers.

Why is performance-oriented training easier to evaluate than "traditional training"? Performance-oriented training requires the development of precise training objectives. These include the task to be performed, the conditions of performance, and the training standards of minimum acceptable performance. The nature of the training objective contrasts markedly with "traditional" objectives which are normally vague, and nonmeasurable. Accordingly, in performance-oriented training, the trainer and training manager are able to focus on the important aspect of training—whether the soldiers undergoing training can perform the objectives and meet or exceed the training standards.

On what should training evaluation concentrate? There are many items in the preparation and conduct of training that can be evaluated. However, only two items are critical: (1) Have training objectives (the commander's and intermediate, if needed) been developed that specify task, conditions, and training standards? (2) As a result of the training, can soldiers perform the training objectives and meet or exceed training standards? If the answer to both questions is yes, everything else is largely secondary (e.g., the appearance of training, the presentation techniques used by the trainer(s), the format of the lesson plans, etc.). If training objectives have not been developed properly or have not been attained, the reasons for the failure may be identified by using the self-evaluation and/or training evaluation checklists included in this appendix.

How to Evaluate Your Own Training. The following checklist provides the items necessary to make a self-evaluation of how well the training was prepared and conducted. It will help make training more efficient and effective.

SELF-EVALUATION CHECKLIST

1. PREPARATION OF TRAINING	N/A	YES	NO
Were specific training objectives (intermediate and commander's) developed and stated in terms of task, conditions, and measurable training standards?	☐	☐	☐
Did the lesson plan contain the following minimum elements of information?	☐	☐	☐
The commander's training objective(s).	☐	☐	☐
All intermediate training objectives (if any) listed in sequence.	☐	☐	☐
Administrative instructions:			
When training will be conducted.	☐	☐	☐
Training location.	☐	☐	☐
Who will be trained.	☐	☐	☐
Principal and assistant trainers.	☐	☐	☐
Training aids/devices and equipment to be used.	☐	☐	☐
Key references.	☐	☐	☐
Training activity sequence and estimated time.	☐	☐	☐

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	N/A	YES	NO
Safety restrictions.	☐	☐	☐
Additional information required by local SOP.	☐	☐	☐
Did you discuss training with the commander before development of the weekly training schedule?	☐	☐	☐
Did you rehearse:	☐	☐	☐
All explanations, skits, and demonstrations (if any)?	☐	☐	☐
All practice periods controlled by your assistant trainers?	☐	☐	☐
All performance tests?	☐	☐	☐
All films or other audiovisual training aids integrated into the training?	☐	☐	☐
Before beginning training, did you check on the following:			
Arrangement of the classroom or training area?	☐	☐	☐
Arrival of special equipment and personnel such as lister bags, range guards, first aid vehicle and personnel, etc.?	☐	☐	☐
Cold or hot weather restrictions specified in local training SOP?	☐	☐	☐
Arrival of assistant trainers and support troops as required?	☐	☐	☐
Working order of projection and sound system (if any)?	☐	☐	☐
2. CONDUCT OF TRAINING			
a. Phase I - (Explanation and Demonstration)	☐	☐	☐
Did you:			
Tell the soldiers the training objectives including the performance standards they must meet?	☐	☐	☐
Give a reason for learning the skill?	☐	☐	☐
Demonstrate how to perform the objective from the soldiers' viewpoint?	☐	☐	☐
Give demonstrations in a location where all soldiers could see well?	☐	☐	☐
Demonstrate each step of the objective in the order performed?	☐	☐	☐

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	N/A	YES	NO
Give all information necessary for performance of each step?	☐	☐	☐
Where appropriate, require soldiers to perform each step immediately after your demonstration and explanation?	☐	☐	☐
Emphasize critical (key) points?	☐	☐	☐
Avoid giving unnecessary information?	☐	☐	☐
Pace demonstrations in accordance with the soldiers' learning ability?	☐	☐	☐
b. Phase II - (Practice)			
Walk-Through			
Did you:			
Correct soldiers if they made errors?	☐	☐	☐
Tell soldiers what to do when they needed that kind of help?	☐	☐	☐
Show soldiers what to do when they needed that kind of help?	☐	☐	☐
When coaching, always require soldiers to perform all the steps or parts of the steps you demonstrated?	☐	☐	☐
Individual Practice			
Did you:			
Tell soldiers when they were ready for skill practice?	☐	☐	☐
Prompt soldiers when necessary by asking questions, "How do you do such and such?" "What must you do now" or the like?	☐	☐	☐
Ask soldiers "smoke-out" questions to be sure they understood critical (key) points. "Why do you do that?" "What would happen if..." or the like?	☐	☐	☐

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	N/A	YES	NO
If task result varies with conditions, give soldiers practice situations that differed from each other and from demonstration and walk-through situations?	☐	☐	☐
c. Phase III - (Test)			
Did you:			
Explain/read testing instructions clearly and slowly to the soldiers being tested?	☐	☐	☐
Observe complete performance of soldiers being tested?	☐	☐	☐
Avoid correcting errors before test was finished?	☐	☐	☐
Arrange testing conditions so soldiers could not copy each other? (When computations and the like are required.)	☐	☐	☐
Explain error(s) for each "NO GO" item?	☐	☐	☐
If any soldier received a "NO GO", assign him to an assistant or peer trainer for remedial training, if time permitted?	☐	☐	☐
d. General			
Did you:			
Speak so soldiers could hear well?	☐	☐	☐
Use understandable words?	☐	☐	☐
Encourage soldier questions?	☐	☐	☐
Always answer relevant questions?	☐	☐	☐
Always defer irrelevant questions?	☐	☐	☐
Be patient with the soldiers?	☐	☐	☐
Reinforce correct soldier performance by saying "Good," "That's right," "Fine," or the like?	☐	☐	☐
Avoid giving soldiers unnecessary help?	☐	☐	☐
Create an environment which facilitated learning (e.g., minimized distractors, provided for evaluation/observer visits without disrupting training, etc.)?	☐	☐	☐

How to Evaluate (Inspect) Training. Evaluating training is more than just walking into the training area and reading a visitor's folder with its status report and lesson plan. A good evaluator is not overly impressed with the "eye wash" of training. He is concerned with the conduct of training. His evaluation should concentrate on whether complete performance-oriented training objectives have been developed and whether, as a result of the training, the soldiers undergoing training can perform the objective(s) and meet or exceed the established training standard(s). All other items are secondary, but by evaluating them, future training may be made more efficient. The following "Training Evaluation Report" is provided as a guide for developing one for a unit. Checking the items listed is relatively simple: they are either done (Yes), not being done (No), not applicable (N/A), or not observed. Remember, in performance-oriented training, the goal is for all the soldiers to successfully perform all the training objectives.

TRAINING EVALUATION REPORT

Unit _____ Date _____

Subject/Mission _____ Principal Trainer _____

Time Training Began _____ Soldiers Present for Training _____

Ended _____ Time Evaluator Arrived _____

Location _____ Departed _____

	YES	NO	N/A	Not Observed
1. Did the trainer have specific training objectives to accomplish? (i.e., Did all objectives (commander's and intermediate) specify the task(s) to be performed, the conditions of performance, and the training standard of acceptable performance?)	☐	☐	☐	☐
Comments:				
2. As a result of the training, did the soldiers perform successfully (i.e., meet or exceed the training standards) the commander's training objective(s)?	☐	☐	☐	☐
Comments:				
3. Were the resources adequate to accomplish the training?				
Time	☐	☐	☐	☐
Equipment	☐	☐	☐	☐
Training Area(s)/Classroom	☐	☐	☐	☐
Ammunition	☐	☐	☐	☐
Training Aids/Devices	☐	☐	☐	☐

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	YES	NO	N/A	Not Observed
Trainers (principal & assistants)	☐	☐	☐	☐
Comments:				
4. Did the training progress in a logical sequence toward meeting the commander's training objective(s)?	☐	☐	☐	☐
Comments:				
5. Did the soldiers undergoing training appear to be motivated?	☐	☐	☐	☐
Comments:				
6. Did the trainer:	☐	☐	☐	☐
a. Inform the soldiers of the training objective(s) to be accomplished and give reason(s) for the training?	☐	☐	☐	☐
b. Arrange training area so all could see and hear well?	☐	☐	☐	☐
c. Use understandable words?	☐	☐	☐	☐
d. Demonstrate how to perform the objective(s) (when appropriate)?	☐	☐	☐	☐

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	YES	NO	N/A	Not Observed
e. Give all necessary information?	☐	☐	☐	☐
f. Avoid giving unnecessary information?	☐	☐	☐	☐
g. Require "walk through" performance of the objective (if appropriate).	☐	☐	☐	☐
h. Encourage questions?	☐	☐	☐	☐
i. Exhibit adequate knowledge of subject matter?	☐	☐	☐	☐
j. Show interest in helping the soldiers learn?	☐	☐	☐	☐
k. Make acceptable use of training aids?	☐	☐	☐	☐
l. Use assistant trainers to best advantage?	☐	☐	☐	☐
m. Require practice until the training standards were achieved?	☐	☐	☐	☐
n. Test soldier's ability to perform the commander's training objective?	☐	☐	☐	☐
Comments:				
7. Would you consider this training adequate?	☐	☐	☐	☐
Specific recommendations:				

Tactical Exercises

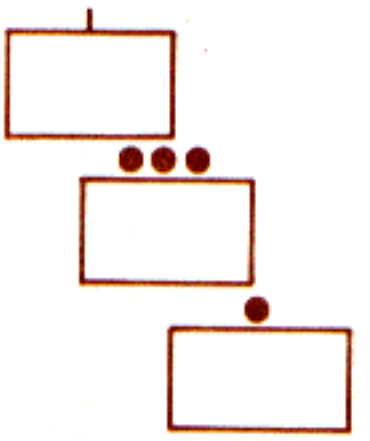
The purpose of this appendix is to discuss the five types of tactical exercises used primarily at company, platoon, and squad level. This appendix is designed to tell company level trainers what the exercise is and how to select the appropriate exercise to accomplish training objectives.

The five tactical exercises are:

TERRAIN MODEL EXERCISE. This exercise uses a sandtable or some other type of terrain model as a substitute for the actual terrain. It is used to train leaders to plan and conduct tactical operations.

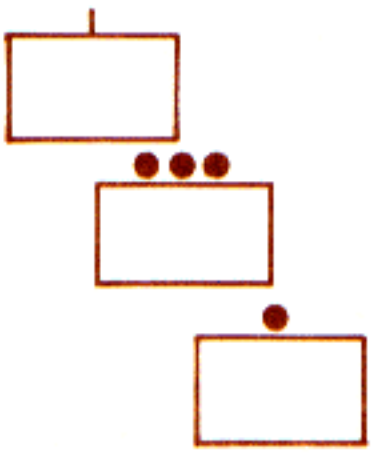
TERRAIN EXERCISE/TEWT. During this exercise, the disposition and movement of simulated troops is planned and discussed on a particular piece of ground. It is used to train leaders or individuals to make decisions based on their analysis of the terrain and the enemy situation.

TACTICAL DRILL EXERCISE. During this exercise, tactical operations or specific tasks are learned through progressive repetition. It is used to train small units to perform tasks requiring a high degree of teamwork, such as fire and maneuver, actions at danger areas, and counterambush techniques. Engagement simulation adds greatly to the training value.



COMMAND POST EXERCISE. This exercise involves only the unit leaders and communications personnel. It is used to train leaders to plan and conduct company-size operations, such as night attacks or withdrawals, which involve numerous troop leading procedures.

FIELD EXERCISE. A field exercise is a tactical exercise conducted under realistic combat conditions. It enables the unit to improve its teamwork and the tactical application of the various techniques involved in collective training. It is also used to test units to see if they can meet your training objectives. Engagement simulation adds measurably to the effectiveness of small unit field exercises.



CONTENTS

SELECTING AND SCHEDULING TACTICAL EXERCISES

In chapter 6, the 3-step, backward planning process for preparing and conducting tactical collective training was discussed in detail. Step 2 of that process is to *"Prepare to Conduct Training."* During this step, you first establish the intermediate training objectives (i.e., *tasks, conditions,* and *training standards)* which the leaders, soldiers, teams, and units must perform to accomplish the commander's training objective. You then determine how much training is required for the leaders, soldiers, teams, and units to perform the objective *successfully.* Finally, you estimate the training resources (time, facilities, equipment, etc.) and select the training techniques which will enable personnel undergoing training to meet the training standards.

Tactical exercises are a part of the training techniques available to the trainer. The selection of a particular type or a combination of tactical exercises is based on:

1. **The specific training objectives** (intermediate and the commander's) **to be accomplished.**
2. **The available resources** (e.g., time, training areas, etc.).

The trainer must keep in mind that the selection of a particular tactical exercise is made only when the training objective can best be accomplished by using that exercise. In short, trainers should avoid "drilling" the troops. The training objective, **not** the tactical exercise, drives the training. Further, you should select a tactical exercise that will get the job done with the least expenditure of resources. For example, *if the objective requires only the leaders to perform a tactical task, there is no need to have the soldiers present.* Therefore, don't select a field exercise. Use a terrain model exercise, terrain exercise or command post exercise.

In chapter 6, the major emphasis was on determining critical individual collective tasks. Let's review that process briefly to see where tactical exercises fit within the 3-step, backward planning process.

STEP 1:
DESCRIBE THE DESIRED RESULTS OF TRAINING

- **Receive company commander's training objective and guidance.**
- **Analyze the commander's guidance.**
  - **What is the task?**
  - **What is the training standard?**
  - **What resources are available?**

NOTE: It is at this point you must consider terrain for the tactical exercise that will fulfill the commander's training objective and will meet the conditions he specified. This can be accomplished by map or ground reconnaissance.

STEP 2:
PREPARE TO CONDUCT TRAINING

- **Establish intermediate training objectives.**
- **Add the conditions and training standard.**

NOTE: This can be done by using the tactical situation you developed in STEP 1.

- **Determine and organize training required.**

NOTE: You now select the specific tactical exercises (e.g., terrain exercise, tactical drill, terrain model exercise or field exercise) that will best accomplish each of the intermediate training objectives.

STEP 3:
CONDUCT TRAINING TO STANDARDS

- **Insure individuals, teams, and units meet the standards specified in your objective.**

To select the best type of tactical exercise to accomplish a particular training objective, you must first understand the purpose of the types of each tactical exercise.

The following chart shows how they are best employed.

TRAINING REQUIREMENT	TACTICAL EXERCISE
Training leaders to plan, conduct, and supervise a tactical operation	TERRAIN MODEL EXERCISE TERRAIN EXERCISE COMMAND POST EXERCISE
Training the unit and subunits to execute those actions which require a great deal of teamwork, such as advancing by fire and maneuver	TACTICAL DRILL EXERCISE
Training the individual soldiers in the unit to master the skills they contribute to the operation, such as constructing fighting positions or moving at night	INDIVIDUAL TRAINING (As discussed in chapter 3)

FIGURE 52.

The tactical exercises listed in the chart can be conducted almost anywhere and need not last more than an hour or two to be effective. All of the exercises may be conducted without necessarily going to the field. This does not mean you shouldn't go to the field whenever possible, but you should not overlook the potential of these exercises when you cannot go to the field. And, all of the exercises, except for tactical drill exercises, may be conducted with only leaders being present. These two factors—the suitability of these exercises for conducting effective tactical training when the unit cannot go to the field (or during those periods when the entire unit is not present) and using tactical exercises to train the leaders without the presence of their subordinates—should not be overlooked when you plan the use of your training time.

For example, terrain model, terrain, or reduced distance, command post exercises could be conducted for the leaders while the remainder of the unit is on post support or otherwise occupied. Tactical drill exercises could be conducted during those periods when the teams or units are available for training, but field training areas are not available. This will enable you to make the best use of the available resources.

To help you select the tactical exercises you will use in your training, answer these questions:

1. **Who will be trained** (i.e., leaders, soldiers, teams, or units)?
2. **What are the training objectives?**
3. **Which, if any, of the tactical exercises are suitable for each objective?**
4. **What are the available resources** (time, training areas, equipment, etc.)?
5. **Which of the tactical exercises** (or combination thereof) **will help meet the training objective consistent with the available training resources?**

By answering these questions, you can determine if a particular tactical exercise is appropriate for the training, and you can select the one best suited for your training consistent with your resources.

PREPARING AND CONDUCTING TACTICAL EXERCISES

Terrain Model Exercise

A terrain model exercise is a tactical exercise which employs a sandtable or some other type of terrain model as a substitute for the actual terrain.

Terrain model exercises provide an excellent means for training leaders to plan and conduct a tactical operation. They are relatively easy to prepare, provide ready access to all types of terrain and enemy situations, can be conducted inside during all types of weather, and need last no more than 30 to 40 minutes in order to be effective.

Terrain model exercises are extremely versatile. A company commander can use one to train his platoon leaders who can later use the same terrain model to train their squad leaders. And, squad leaders can also use terrain model exercises in training their soldiers.

In the organization of training described in chapter 6, you decided that a terrain model exercise was the best technique to accomplish the following objective.

SELECTION OF ROUTE FOR A PATROL

TASK: **Each platoon leader must be able to select the route for a reconnaissance patrol.**

CONDITIONS: **Patrol will be conducted at night over a distance of from 4 to 6 kilometers. The battalion SOP specifies that patrol routes will be determined by either the S2, company commander, or platoon leaders.**

STANDARDS: **The route must:**

- **Avoid enemy positions and obstacles.**
- **Offer the best available cover and concealment.**
- **Permit quiet movement at night.**
- **Take advantage of difficult terrain.**
- **Avoid use of trails.**
- **Avoid populated areas.**

Once you have completed Step 2 (as described in chapter 6), and have determined that training is needed and that a terrain model exercise will accomplish the objective, you can begin preparing the model. Draw a rough sketch of the type of terrain you will require (figure 53). Based on the training objective noted above, you would require terrain that included enemy positions, obstacles, areas with and without cover and concealment, difficult and open terrain, major trails, and populated areas. All of these features must be arranged in a manner which permits a platoon leader to select one or more routes which meet your standards.

The next step in the preparation of your exercise is the development of your scenario. This involves the preparation of a general situation, initial situation and requirement, subsequent situations and requirements, and a time schedule.

The **general situation** should identify the enemy and friendly units involved, the location of these units on the ground, and the activities which have taken place during the previous 24 hours. The following example illustrates the type of general situation you might develop for a terrain model exercise covering the preparation and conduct of a reconnaissance patrol.

GENERAL SITUATION

1-66 Inf has been defending for the past two days. A and B Companies are on the FEBA with C Co in reserve. Your company, C Co, has received the mission of conducting squad-size reconnaissance patrols to locate enemy positions and obstacles prior to the battalion resuming the attack. The enemy unit opposing your battalion is the 318 Mech Regiment. It is located generally along this ridgeline (point out location on sandtable).

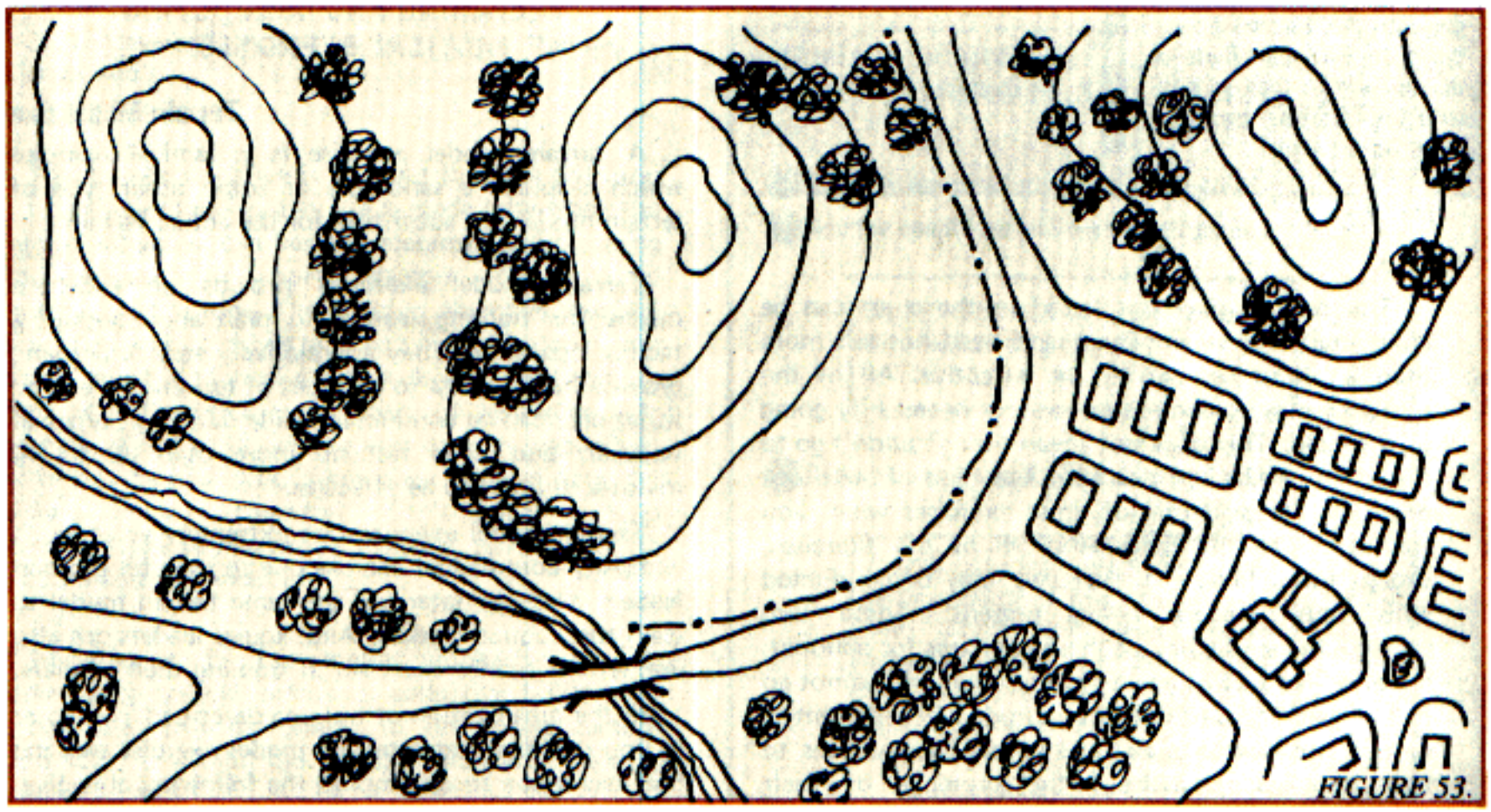


FIGURE 53.

The initial situation and requirement are derived from your first training objective.

TRAINING OBJECTIVE	INITIAL SITUATION AND REQUIREMENT
TASK: **Each platoon leader must be able to select the route for a reconnaissance patrol.** *CONDITIONS:* **Patrol will be conducted at night over a distance of from 4 to 6 kilometers. The battalion SOP specifies that patrol routes will be determined by either the S2, company commander, or platoon leaders.**	*SITUATION:* **"You are platoon leader of the 3d platoon which is in reserve. Your company commander has just given you the mission to send out a squad-size patrol at 1800 hours to conduct an area reconnaissance of this area** (outline the area with a piece of engineer tape on the terrain model)." *REQUIREMENT:* **"What route would you select for the patrol to move to the area and return?"**
STANDARDS: **The route must:** ● **Avoid enemy positions and obstacles.** ● **Offer the best available cover and concealment.** ● **Permit quiet movement at night.** ● **Take advantage of difficult terrain.** ● **Avoid use of trails.** ● **Avoid populated areas.**	*SOLUTION:* **The routes selected should:** ● **Avoid enemy positions and obstacles.** ● **Offer the best available cover and concealment.** ● **Permit quiet movement at night.** ● **Take advantage of difficult terrain.** ● **Avoid use of trails.** ● **Avoid populated areas.**

FIGURE 54.

Subsequent situations and requirements are then derived for each of your remaining training objectives.

TIME SCHEDULE

EVENT	TIME
Introduction	4 min
Terrain Orientation	2 min
General Situation	4 min
1st Situation and Requirement	15 min
2d Situation and Requirement	15 min
3d Situation and Requirement	20 min
Summary	5 min
	65 min

FIGURE 55.

Your **time schedule** (figure 55) should indicate the length of time you estimate will be required for each situation and requirement. The purpose of this schedule is to help insure you do not spend so much time on any one requirement that you run out of time before you have covered all of your training objectives.

Now, you are ready to prepare your terrain model based on the sketch you developed. Terrain models can vary from a stationary model occupying a complete room to a temporary diagram drawn in the dirt with a stick.

A temporary terrain model can be built in about 10 minutes using only the ground next to your barracks or your field positions.

Select a piece of ground large enough to suit your purpose. Use your **bayonet** or a **stick** to draw lines in the ground which mark the boundaries of the terrain model. Get a few shovelfuls of **dirt** to build whatever hills or high ground is necessary. Roads and trails can be traced in loose soil or **sand.** Rivers and streams can

be scratched out with a **stick**. Handfuls of **grass** make excellent forests. **Rocks** can be used to depict enemy armor, obstacles, buildings, or towns. **Small sticks** can represent soldiers or weapons. Do not be overly concerned about showing too much detail or making everything to scale. *Rough approximations are more than adequate.*

If you have time and want to build a more permanent terrain model, consider a sandtable. It can be used over and over, indoors or out, and requires no special skills to make. A description of how to construct a sandtable can be found in appendix C.

HOW TO CONDUCT A TERRAIN MODEL EXERCISE

You should begin your terrain model exercise with an introduction which explains the purpose of the exercise and tasks which will be covered.

This should be followed by an explanation of the various terrain features on the terrain model and its scale and orientation. The amount of explanation required will depend on how closely the model represents the terrain and manmade features involved.

You are now ready to read the **general situation, initial situation,** and **requirement.** As you do, you should point out the various terrain features and unit locations.

Following the presentation of the initial requirement, you should pause a few minutes before calling on someone to respond. This will cause everyone to develop a solution to the requirement.

The person you call on to present his solution should be asked to come forward and indicate his solution on the terrain model. In selecting a patrol route, he might mark the route he selected with a piece of engineer tape. Once he has done so, have him explain why he selected this particular solution. Then call upon the remainder of the class to critique the proposed solution. You may also call upon one or more other members of the class to give their solutions.

During the discussion of the various solutions, encourage suggestions, personal experiences, and complete participation from your soldiers. But *continually focus on the standards;* guide the discussion toward the standards so everyone has a clear understanding of what they are expected to be able to do.

At the conclusion of the discussion of each requirement, you should *review the standards* which must be met for the task involved. This can either be done verbally or you can list them on a chalkboard.

Once you have followed this procedure for all subsequent situations and requirements, you should conclude the exercise with a brief summary of the standards which must be met for each of the tasks which were covered.

Terrain Exercise/Tactical Exercise Without Troops (TEWT)

A terrain exercise, also known as a tactical exercise without troops **(TEWT),** is an exercise in which the leaders plan the maneuver or deployment of simulated troops on a specific piece of ground. They are relatively easy to prepare and can be conducted over almost any type of terrain. They permit you to spend a great deal more time with the leaders than would be possible if the entire unit were present. Terrain exercises can be conducted on foot or in vehicles. An example of a motorized terrain exercise would be an armored cavalry unit conducting a delay with the platoon leaders assembled in one vehicle.

For illustrative purposes, consider the following training objective which a rifle company commander might use to train his platoon leaders.

TASK: **Each platoon leader will plan the deployment of a rifle platoon in an area defense,**

CONDITIONS: **given an oral operations order, a map of the training area, and a location on the defensive sector (the sector will be approximately 400 meters long).**

NOTE: The operations order will specify that one TOW section and one 81mm mortar barrage be assigned to each platoon.

STANDARDS: **Each platoon leader must:**

- **select machinegun and TOW positions which maximize natural** (i.e. trees, rocks, brush) **cover and concealment while affording maximum fields of fire. For example, these positions should not be readily observable from 200 meters in front of the positions,** (concealment) **nor vulnerable to direct fire from the front** (cover).

- **determine principal directions of fire for machineguns which cover major avenues of enemy infantry approach into the defensive sector while providing interlocking fire across the platoon front.**

- **determine principal direction of fire for TOWs which will cover major enemy armor routes into the defensive sector.**
- **select supplementary positions for both machineguns and TOWs which have fields of fire that cover the same terrain as those of the primary positions and can be reached by a covered and concealed route.**
- **location of alternate positions which provide all around defense.**
- **clearly identify squad boundaries.**

The reconnaissance of the defensive sector and the plan must be completed within 1 hour after receipt of the operations order.

The first step in preparing a terrain exercise is to select the terrain. This is vital in a terrain exercise since its purpose is to teach tactics by causing decisions to be made using actual terrain. Once you have been given, or determined, your training objectives, you must find terrain which will enable you to meet these objectives. In selecting your terrain, look for ground that lends itself to tactical decisions. For example, stay away from single feature terrain such as open fields or heavily forested areas. Instead, look for areas that have a number of features of tactical importance—small woods, hills, or streams.

However, don't be misled into thinking you need to find ideal terrain. A terrain exercise can be conducted in almost any type of terrain and adequate terrain can frequently be found near your company area.

Based on your training objectives, you should begin the selection of your terrain by studying a map of the available terrain and tentatively select several suitable locations. Your final selection should be based on a ground reconnaissance. If you will be conducting offensive operations, examine the ground in terms of suitability for providing locations for an assembly area, line of departure, alternative routes to the objective, and the objective. If the exercise will be defensive, use the same technique (main battle area, security element locations, location for the reserve, etc.).

Using the training objective for the platoon in the defense (given above), you should look for a platoon sector that has definable boundaries, several potential locations for machineguns and anti-tank weapons, locations for supplementary and alternate positions, and some good and poor fields of fire. The sector should offer the leaders some choice in making their decisions and not lead to a readily apparent solution. Based on the time you have available, you might cover the same training objective at several locations. *Remember, once the basic techniques have been learned, their tactical application is best learned by having the leaders employ them in a wide variety of types of terrain and enemy situations.*

With the terrain selected you must now develop a scenario to be followed. The scenario for the terrain exercise includes a **general situation, initial situation and requirements, subsequent situations and requirements,** and a **time schedule.** The general situation describes the friendly and enemy units involved, their location on the ground and the significant activities for the previous 24 hours. Continuing the example of the platoon in the defense, the general situation, initial situation and requirement the company commander would give to his platoon leaders might look like figure 57.

Subsequent situations and requirements are derived from your remaining training objectives, if you have any.

Your **time schedule** should indicate the length of time you estimate will be required for each situation and requirement or at each location. The purpose of this schedule is to help insure that you do not spend so much time on any one requirement or at any one location that you run out of time before you have completed the entire exercise. The following example shows a time schedule for a terrain exercise which involves a single training objective which will be covered at two different locations.

TIME SCHEDULE

EVENT	TIME
Introduction	5 min
General Situation	2 min
Situation and Requirement (XT 532486)	60 min
Travel and Break	15 min
Situation and Requirement (XT 541491)	60 min
Summary	15 min
	2 hours 37 minutes

FIGURE 56.

GENERAL SITUATION

1-66 Infantry has recently been conducting offensive operations against the 318 Mech Infantry Regiment. Due to heavy casualties, the battalion has temporarily been forced to go into a defense. Your company, Co A, is the battalion left flank with 1-67 Infantry on its left and B Co on its right. During this exercise you will be the platoon leader of the first platoon.

The **initial situation and requirement** is derived from your first training objective:

INITIAL SITUATION AND REQUIREMENT

SITUATION: **The battalion is temporarily going into a defense to await replacements.**

Our mission is to defend by 1100 hours today. The company defensive sector is from the large tree on the left (point out) **to the corner of the woodline on the right** (point out).

The 1st platoon will be on the left from the large tree (point out) **to the stream** (point out). **The 2d platoon will defend from the stream to the corner of the woodline. The 3d platoon will be in reserve in the vicinity of the fork in the road to our rear.**

The company CP will be behind the 1st platoon. The time is now 1000. Are there any questions?

REQUIREMENT: **Conduct a reconnaissance and plan the deployment of your platoon. You have 30 minutes.**

SOLUTION: (STANDARDS) **The platoon leader must:**

- **select machinegun and TOW positions that take maximum advantage of cover and concealment.**
- **determine principal direction of fire for the machineguns.**
- **determine location and principal direction of fire for TOWs.**
- **identify squad boundaries.**
- **determine location of supplementary and alternate positions.**
- **complete reconnaissance and platoon plan within 1 hour.**

FIGURE 57.

NOTE: These standards are abbreviations of those found in the company commander's training objective.

With the time schedule developed, check to insure your scenario fits the terrain you selected. You should know enough about the terrain to anticipate all likely responses to your situations and requirements.

HOW TO CONDUCT A TERRAIN EXERCISE/TEWT

You should begin your terrain exercise with an **introduction** which explains the **purpose of the exercise and tasks** which will be covered.

This should be followed by the **general situation** and then the **initial situation and requirement.**

You should control the use of maps during the conduct of the exercise. This is because the leader's decisions should be derived from the actual terrain, not from a map. However, since leaders will have maps available in combat, they also should be accessible in training.

After allowing enough time for your leaders to become familiar with the terrain and prepare their solutions, ask for a solution. In the example of the platoon in the defense, you might ask one of the leaders to present his entire plan or vary the requirement by asking different leaders to present different portions of the plan, e.g., one leader could designate the squad sectors, while another locates the machineguns and anti-tank weapons, and yet another selects the alternate and supplementary positions. Each leader should be required to justify his particular solution to the other participants. During these discussions, you should point out those standards which are not met.

At the conclusion of the discussion of each requirement, you should review the standards which must be met for the task involved.

Once you have followed this procedure for all subsequent situations and requirements, you should conclude the exercise with a brief summary of the standards which must be met for each of the tasks which were covered.

Reserve Component Leader Training Using Terrain Exercises/TEWT

Considering the time, maneuver area, and other resource constraints that face Reserve Component units, the TEWT is a particularly appropriate training vehicle for preparing leaders and staff officers in these units. TEWTs have been conducted with great success in parks and even on municipal golf courses. With proper planning, the TEWT can be used to train leaders at virtually any echelon, crew/squad through

battalion/task force and higher. Some of the service schools offer additional information and examples of TEWTs through their catalogs of instructional material. For example, the Infantry School's Catalog for Reserve Component units includes the following:

- "Development of a TEWT," Instruction designed to enable you to prepare and conduct a TEWT. (Stock Number B75-5-b)
- "Techniques of Planning an Attack (TEWT)," Instruction using the TEWT to teach planning an attack. (Stock Number B75-5-a)
- "Attack TEWT (Non-nuclear)" TEWT employing a mechanized infantry brigade in the attack. (Stock Number B64-4-d)

A copy of these instructional packets may be obtained by submitting 2 copies of DA Form 17 listing title and stock number to:

United States Army Infantry School
Department of Army-Wide Training Support
ATTN: ATSH-AWD (sd)
Fort Benning, GA 31905

Tactical Drill Exercises

Tactical drill exercises are by-the-numbers exercises for developing teamwork. They can be conducted almost anywhere, are relatively easy to prepare, and need last only 30 to 40 minutes in order to be effective. A tactical drill exercise starts with a demonstration of the technique or formation involved and the unit then executes it under supervision until it is mastered. To illustrate how to prepare and conduct a tactical drill exercise, consider the following training objective.

In his organization of training described in chapter 6, the trainer determined that the tactical drill exercise was the best technique to teach the task listed below.

CONDUCT OF A SQUAD ATTACK

TASK: **Each rifle squad will attack and seize an enemy-held position.**

CONDITIONS: **Attack will be conducted in daylight over moderate terrain against an enemy force of less than squad size. Squad will move, expecting to encounter enemy resistance at any moment.**

STANDARDS: **When enemy contact is expected, fire teams will advance by bounds with one fire team always in prone firing positions ready to engage the most likely enemy positions.**

When contact with the enemy is initiated, fire teams will continue to advance by fire and maneuver until the enemy position is overrun.

Squad leaders will control their fire teams by use of short specific orders which tell the fire team leader where he should move his fire team and what it should do when it gets there, e.g., "Smith, move your fire team over to that clump of trees and lay down a base of fire on the small rise to the front."

Fire team leaders will move with their fire teams and lead by example. When they move, their fire team should move; when they fire, their fire team should fire. When necessary, control of the fire team may be augmented by brief specific orders similar to those noted above.

If the squad has little proficiency in conducting an attack, it is usually a good idea to begin squad training with a tactical drill exercise.

Various types of terrain are required for the different phases of a tactical drill exercise. You want to start off with open terrain which permits optimal control and supervision and then move on to more realistic terrain as proficiency is obtained. Your first requirement is for terrain which is suitable for demonstrating the techniques or formations involved. This should be a fairly open area, such as a parade ground, which will enable the unit to go through the techniques or formations by-the-numbers. And finally, you will require fairly ideal terrain similar to that over which the tactical operation will normally be conducted. The purpose of having fairly ideal terrain is to enable the unit to concentrate on the techniques or formations involved, rather than forcing it to make difficult tactical decisions with respect to how it employs the techniques or formations.

Only the final phase of tactical drill exercises require a scenario. Once you have completed your demonstration and the unit has mastered the techniques or formations involved on open terrain, you will need to develop a scenario for executing these techniques and formations during realistic combat situations over fairly ideal terrain.

When conducting tactical drill exercises for counterambush techniques, for example, you would first demonstrate the techniques, then have the unit practice them by-the-numbers, and finally have the unit execute them in various realistic ambush situations. The purpose of your scenario is to develop these situations.

The scenario for a tactical drill exercise includes a general situation, an initial situation and requirement, and a time schedule.

The general situation describes the enemy and friendly units involved, the location of the units, and the activity within the previous 24 hours. The following example illustrates the type of general situation you might develop for a tactical drill exercise in the conduct of a squad-size attack.

GENERAL SITUATION

A Co, 1-66 Infantry has been conducting offensive operations during the last several days. The enemy has been conducting a delay. Your platoon has been given the mission of continuing the attack.

The initial situation and requirement are derived from the training objective. For example,

INITIAL SITUATION AND REQUIREMENT

SITUATION: **Your squad is attacking as part of a platoon attack against Hill 347. Your squad is on the left flank and has reached this point** (point out area where unit now located). **Your squad boundaries are the large boulder on the right and the woodline on the left. Small arms fire just received by the squad on your right indicates enemy contact is imminent.**

REQUIREMENT: **Take 3 minutes to deploy your squad in the traveling formation you would have employed up to this point and continue the attack.**

Your **time schedule** should indicate the length of time you estimate will be required for each situation and requirement. The purpose of this schedule is to help insure you do not spend so much time on any one requirement that you run out of time before you have covered all of your training objectives.

TIME SCHEDULE

EVENT	TIME
Introduction	5 min
Demonstration and discussion	30 min
By-the-numbers drill	90 min
Break and move to individual squad training area	30 min
Situation and Requirement*	90 min
Break and move to new area	30 min
Situation and Requirement*	90 min
Reassemble and Critique	30 min

**Two tactical drill exercises are conducted simultaneously under the control of platoon leader and the platoon sergeant. The third squad is employed as fire team-size aggressor elements for each of the tactical drill exercises.*

FIGURE 58.

HOW TO CONDUCT A TACTICAL DRILL EXERCISE

You should begin your tactical drill exercise with an introduction which explains that the purpose of a tactical drill exercise is to promote unit teamwork. *Each soldier should understand how teamwork relates his job to the others in the unit.*

This should be followed by a demonstration of the technique or formation that will be covered in the tactical drill exercise. The demonstration should begin with a clearly observable simulation of the enemy action that would normally initiate the tactical drill. During the demonstration, point out the relative locations and actions of each member of the team and *insure all soldiers understand the standards associated with the tactical drill.* At the completion of the demonstration, you should resolve all questions.

Then each unit or subunit should be talked through the drill by-the-numbers. During this by-the-numbers portion of the exercise, the unit or subunit leaders should act as assistant trainers. This means the leaders should be briefed on their participation in the exercise.

Also, during this portion of the exercise, you should move from subunit to subunit to supervise the exercise. When the unit or subunit has mastered the techniques on open terrain, you should move to more realistic terrain.

This phase of the tactical drill exercise calls for the use of the scenario you have prepared. Each unit or subunit moves to its own area accompanied by an evaluator or assistant trainer. The scenario will place each unit or subunit in a situation where they will have to apply the techniques learned in open terrain to more realistic terrain. During this portion of the exercise, the evaluators or assistant trainers should

stop the exercise if they see the drill being done improperly. Errors should be corrected and the drill continued or begun again by the evaluator. Another technique to use in correcting mistakes is to place flags in positions vacated by the soldiers during the exercise. At its conclusion, all the members of the unit or subunit could assemble and critique themselves using the flags as guides to their actions.

When the unit or subunits are proficient in the tactical drill, your exercise is over. Application of the drill should now be reinforced in field exercises. If field exercises do not provide sufficient practice to maintain the standards expected in the tactical drill, additional tactical drill exercises should be planned. It may not be necessary to go back to the open terrain tactical drill; this will depend on the demonstrated proficiency of the unit or subunit. SCOPES can provide another way to accomplish this same training requirement.

First, outfit the personnel, both offensive and defensive units, with the SCOPES equipment.

Designate a controller for each squad and a senior controller. Insure each controller has a radio. The Senior Controller is the NCS.

Issue the respective orders for the offensive and defensive forces and allow the leader preparation time.

Monitor preparation activities.

Conduct the tactical drill exercise using the casualties assessment technique provided by SCOPES.

At the conclusion of the drill, determined by the attacking force taking the position or being repelled, conduct an after-action review. From the premise of learning from one's own mistakes, this phase of the training is the most important. It is now that the good and bad techniques and tactics will be identified. Troops will have been "killed" because of improper individual action, i.e., movement technique, use of terrain, camouflage; or improper tactics used by the leader, i.e., no suppressive fires plan, route of attack over open ground, defensive fires were not interlocked. It is the job of the controllers to bring out the reasons, through the participants, why the results occurred and then provide alternative solution to be tried in the next drill.

The repetition of the drill provides training through emphasizing corrective techniques and tactics identified in earlier iterations and by using different terrain.

The same sequence of units is applicable to a REALTRAIN exercise or an integrated SCOPES/REALTRAIN supported tactical drill. The more training conducted in the combined arms mode, the more realistic the training is.

Remember, (1) Provide a controller for each maneuver element or major crew-served weapon, all tied into the same radio net control station. (2) Preparation time may need to be increased with the increased number of units and various weapon systems used. (3) SCOPES and REALTRAIN methodology is applicable to forces no larger than a reinforced platoon.

Command Post Exercise

A **Command Post Exercise (CPX)** is a tactical exercise for the *command and communication personnel* of a unit. The purpose of a **CPX** is to permit leaders at all levels to go through the troop leading and the command and control procedures involved in a tactical operation in the same manner they would in a field exercise or in combat. Leaders can then concentrate in applying these procedures in a realistic manner without being distracted by having to supervise the soldiers under their command. A **CPX** should be conducted after the techniques which are to be utilized have been learned in earlier tactical exercises. A **CPX** is useful as a preparation for a field exercise and can even be used in lieu of a field exercise.

In the conduct of a **CPX**, the leaders respond to situations presented by controllers who represent all other personnel, enemy and friendly. The company commander is the chief controller and directs the other controllers who present the situations to the leaders in the form of messages. These controllers are personnel not directly involved in the **CPX**, e.g., XO, 1SG, supply sergeant, motor sergeant.

Once you have established your training objectives, you determine your terrain requirements. A **CPX** can be performed on a parade field or in a training area. Administrative requirements are reduced if the area is close to the company location. Realism is added if the **CPX** is held in the field under simulated tactical conditions. You may start with a reduced distance **CPX** on a parade ground area large enough to allow good dispersion, but not so large that the entire group cannot be addressed at once (with the aid of a bull horn). Subsequent efforts may be conducted under more realistic conditions.

The next step in the preparation of your exercise is the development of your scenario. This involves the preparation of a **general situation, initial situation and requirement, subsequent situations and requirements,** and a **time schedule.** The **general situation** should identify the enemy and friendly units involved, the location of these units on the ground, and the activities which have taken place during the previous 24 hours.

Since a **CPX** involves leaders practicing an operation, the *initial situation* should be an operations order of some sort and the initial *requirement* should be the issuance of an implementing order. *Subsequent situations and requirements* continue throughout the **CPX** by presenting changes in the tactical situation which cause the leaders to react. These changes are introduced in the form of messages from control personnel. Thus, the scenario is written in a form whereby controllers change the situation according to the training objectives of the **CPX.**

The *time schedule* of a **CPX** should indicate the length of time you estimate will be required for each situation. However, a feature of the **CPX** is that, since subordinate units are not present, real time or reduced time may be used. In a reduced-time **CPX,** training time is conserved by using a **time ratio.** For example, three hours of problem time equal one hour of clock time. In this way, the exercise moves much faster, since troop movements are simulated rather than actual.

Terrain preparation in a **CPX** is only necessary if the command post is to be set up prior to the exercise beginning. In such a case, the area may be prepared by setting up communications equipment and laying wire.

HOW TO CONDUCT A CPX

A well-written scenario and well-briefed controllers are necessary to conduct a successful **CPX.** The briefing for the controllers should be held prior to the **CPX** so questions may be resolved and changes, if necessary, may be incorporated into the exercise. The briefing should include the exercise training objectives, the duties of the controllers, what is expected of the leaders conducting the exercise, and how the controllers should evaluate the exercise.

The controllers should meet with the participants at a designated time and place, and *issue the general and initial situations.* Action will then continue according to how the situations are presented and how the leaders react to the situations. The company commander or chief controller might interrupt the **CPX** at times to offer a critique. The duration of the exercise will depend on its value in the eyes of the company commander. He may decide to shorten it if the interest of the junior leaders seems to be waning, or he may extend it if a lively participation ensues.

At the conclusion of the **CPX,** all the participants should gather to discuss the actions of the **CPX.** This review should be led by the company commander, and all leaders should be encouraged to participate.

Field Exercise

A well-conducted field exercise offers you two well-defined products. First, it will demonstrate your unit's ability to perform under simulated combat conditions, thereby identifying training requirements for future training. Second, it offers a test of those skills and techniques your previous tactical exercises have taught.

Field exercises are *two-sided exercises requiring control personnel.* They may or may not be free maneuver. At company level, controllers must be obtained from within company resources, e.g., headquarters and weapons platoon personnel.

When your field exercise includes training that was covered by earlier tactical exercises, your training objectives should already be determined. You should coordinate early in your preparation with others preparing training to insure your training objectives are complete. Since field exercises are two-sided, they will cover various kinds of operations. This means that you will have to organize your numerous training objectives into a **logical sequence.**

If your field exercise does not cover previous tactical exercises, you determine your training objectives by:

- **Listing the tasks you want the participants to perform during the exercise.**
- **Then, identifying the conditions under which these tasks will be performed.**
- **And finally, establishing standards for the performance of the tasks.**

Knowing your training objectives, you should be able to study a map of the available terrain and tentatively select a suitable location. *On the ground reconnaissance is necessary to verify your map study.*

Examine the ground in terms of the control measures usually used on operations overlays, e.g., objectives, Final CL, assault position, security element location, FEBA. Since your exercise will be two-sided, *look at the ground from an offensive and defensive point of view.*

Your job during the selection of the exercise area is to insure you select realistic terrain. During your recon, consider the ranges of weapons that will be used in the exercise and select the terrain accordingly.

Remember also that ideal terrain is only found in service school exercises; enemy forces don't always select ideal terrain.

The next step in the preparation of your exercise is the development of your scenario. This involves the preparation of a **general situation, initial situation and requirement, subsequent situations and requirements,** a **time schedule,** and a **control plan.** The *general situation* should identify the enemy and friendly units involved, the location of these units on the ground, and the activities which have taken place during the previous 24 hours. Since a field exercise is two-sided, the general situation should portray the opposing forces as **Red** and **Blue** rather than enemy and friendly.

The *initial situation* in a field exercise should be presented in the form of an **operations order** or a **frag order.** Since there are two opposing sides, *two operations orders must be prepared.* The initial situation must place the Red and Blue forces so one or the other moves tactically to gain contact. Because a field exercise is a free exercise where units can maneuver against each other, the first requirement should be a statement outlining the expected orders and actions of the participating units as a result of the conditions presented in the initial situation. The *subsequent situations* for both sides are taken from the training objectives and cause the exercise to develop logically. Their content is dependent on the type of operation involved in the exercise. Again, the requirements for the subsequent situations take the form of expected actions and orders which will be taken by the participating units. These requirements serve as a guide for the control personnel.

The *time schedule* is an estimate of the amount of time you feel will be required to perform the field exercise. This estimate should include administrative movement and a critique.

The *control plan* gives instructions to controllers. It should identify the number of controllers, their uniform and equipment, and an outline of their duties. Controllers should be familiar with the scenario because they must guide the exercise in accordance with the requirements.

The amount of terrain preparation required will depend upon the training objectives of the field exercise. For example, in a free play exercise, no terrain preparation is necessary; opposing units will prepare the terrain according to their missions. On the other hand, if attacking a fortified position is one of the objectives, the defending unit should be allowed time to properly prepare the position. In addition, demolition pits to simulate artillery might be prepared prior to the exercise.

HOW TO CONDUCT A FIELD EXERCISE

Successful conduct of a field exercise is dependent upon a complete scenario and the controllers. Red and Blue forces should be met at their respective detrucking points and moved to an assembly area where they are given an orientation on administrative requirements and exercise objectives. The *general situation* is issued to each side and the exercise becomes tactical. The *initial situation* is then issued and the exercise begins.

Controllers are required to observe the unit from this point on in order to exercise control and to evaluate. The company commander acts as the chief controller and controls the subsequent situations by transmitting orders to the Red and Blue forces that cause them to react according to the scenario. This requires that the company commander *set up three radio nets*—one for **Blue Forces,** one for **Red Forces,** and a **control net.**

During the exercise, the controllers must remain as tactical as the participants. They place themselves in positions to observe leaders and other members of the unit. Judgement must be exercised by the controllers in case a decision by a leader threatens to disrupt the exercise.

The exercise continues at the discretion of the company commander. He may halt it at any time to conduct a review or an analysis of how the exercise is progressing, or to cause a particular phase to be performed again. *Repetition is NOT detrimental in a field exercise.* The second time through will be better than the first; the third time better than the second. At the conclusion of the field exercise, all the participants should be brought together to review their actions during the exercise. During this review, the troops should be given a chance to exchange ideas. Did they or didn't they take the objective? If

not, why? Both Red and Blue forces can tell each other the good and the bad about their performance in the exercise. The review should be led by the company commander. The controllers should participate; however, they should not dominate. The troops who actually performed the actions should exchange information on what they did.

NOTE: SCOPES and REALTRAIN are applicable in Field Exercises as they are in Tactical Drills. The important things to remember are, (1) an after-action review keys on proper and improper techniques and tactics and (2) the size of the forces should not exceed a reinforced platoon.

After the exercise is over, the company commander should conduct a **post-exercise analysis.** He takes the information of the controllers, the review, and his own observations, and decides what to do next. He now can determine what kind of remedial training is necessary if individual or group skills need to be refreshed. Or, he may determine that some other types of tactical exercises should be planned to correct the training deficiencies.

APPENDIX F

Training Trainers to Train

INTRODUCTION: This appendix provides guidance on the training of trainers. Unless officers and noncommissioned officers receive the training that will enable them to prepare and conduct training properly, it is unlikely that training will be either efficient or effective. While most "trainers" have received some formal training in "methods of military instruction" many of them, as yet, have not received training in how to prepare and conduct performance-oriented training in accordance with the concepts and procedures emphasized in this manual.

To make your trainers' course logical and progressive, it is recommended that you break the training into two major parts. The first part should be designed to teach trainers how to **prepare** training; the second, how to **conduct** training. Two lesson plans designed to accomplish this are included in this appendix. Note that the first lesson plan (Training Trainers to Prepare Training) places great stress on individual study and work. It requires the trainer to read and study this manual and to complete the practical exercises in appendix A. Finally, the trainer must prepare a lesson plan which includes all of the elements contained in the sample lesson plans at appendix H. This is, of course, precisely what each trainer must do to prepare training.

The second lesson plan requires the trainers to actually conduct a short training session using the three phases of performance-oriented training.

The four-part TV tape described in this lesson plan is used to demonstrate how to (and how not to) conduct training. It has been distributed to all service schools, training centers and noncommissioned officer academies. Units and other Army agencies who desire to use it in their trainers' course may obtain a copy of the tape by submitting five copies of TRADOC Form 517-R, "Video Tape Dub Request" through their local TASO to:

Directorate of Educational Technology
ATTN: ATSH-DET-TASO
Fort Benning, GA 31905
(AUTOVON 835-4385/2559)

A one 60-minute blank 3/4 inch video cassette or two 30-minute 1/2 inch video cassettes must be inclosed with each request. The blank cassettes are normally furnished by the local TASO. (NOTE: The 1/2 inch tape may be played on the Sony TVT equipment which has been distributed to many Active Army and Reserve Component units). A completed tape dub request with the correct tape numbers and titles is at figure 59. A trainer's guide to using the four-part tape is included with the second lesson plan.

To facilitate understanding, the trainer should initially prepare an *individual* training session for relatively simple skills. As proficiency increases, training can progress to more complex trainer skills including the preparation and conduct of collective training.

By completing successfully the trainers' course specified in this appendix, each trainer will acquire the fundamental skills necessary to tackle more complex training problems. Unit commanders are encouraged to continue the development of their trainers particularly in those training techniques which will best accomplish the unit's training objectives. For example, combat arms trainers in the Reserve Component should master the techniques of preparing and conducting a tactical exercise without troops (TEWT) described in appendix E. This is because the TEWT is a highly effective technique for leader training and does not require extensive training resources to conduct. Similarly, engagement simulation techniques now available to many units can add the kind of realism that can make training exciting, fun, and more important, effective. Remember, however, these techniques will be understood and applied only after each trainer has learned the basic concepts and techniques used to prepare and conduct training properly.

VIDEO TAPE DUB REQUEST
TRADOC Pam 350-34

THRU	TO	FROM
Your local TASO	Directorate of Educational Technology ATTN: ATSH-DET-TASO Fort Benning, GA 31905 (AUTOVON 835-4385/2559	Your unit address

TRADOC NUMBER	TITLE	PURPOSE		
		P	T	O
071-0617	UTRAIN I		X	
071-0618	UTRAIN II		X	
071-0619	UTRAIN III		X	
071-0643	UTRAIN IV		X	

SPECIAL INSTRUCTIONS OR REMARKS:
Local TASO: Request approval of the above tape dub request. If approved furnish TASO Fort Benning with (1) 60-min color video cassette 3/4-inch or (2) 30 min color video cassettes 1/2-inch.
TASO Ft Benning: Request UTRAIN I-IV be dubbed on inclosed cassette and returned to unit.

Video tapes requested for preview and not incorporated into scheduled playback distribution will be returned to addressee within 30 days of receipt of tapes.

SIGNATURE OF REQUESTOR
Signature of unit commander

TYPED NAME, GRADE, AND TITLE
Unit Commander

TELEPHONE NO

DATE

TRADOC FORM 517-R

FIGURE 59

LESSON PLAN -- TRAINING TRAINERS TO PREPARE TRAINING

A. TRAINING OBJECTIVE

TASK: Each trainer will prepare an individual training session.

CONDITIONS: Given complete commander's training guidance that includes:
--A commander's training objective specifying the task to be performed, performance conditions and the training standard the soldiers must meet or exceed. (Note: The commander's objective should be complex enough to require the development of at least one intermediate training objective.)
--Who will receive the training.
--When the training will be conducted.
--Where the training will be conducted.
--Reasons for training.
--Coordinating instructions for resources to be obtained, if applicable.

TRAINING STANDARD: Trainer must complete a lesson plan which includes all elements of a lesson plan described in appendix G. All intermediate objectives must support the commander's objective and be written in performance terms (i.e., task, conditions, and training standard). The activity sequence and time estimates must provide for conducting all three phases of performance training (i.e., Phase I-State objective(s), explain and demonstrate, if necessary, how to perform objective(s); Phase II-Practice; Phase III-Test).

B. INTERMEDIATE TRAINING OBJECTIVES

Intermediate Training Objective 1

TASK: Each trainer will develop (write) one or more intermediate training objectives.

CONDITIONS: Given a complete commander's objective requiring the development of at least one intermediate training objective.

TRAINING STANDARD: Each intermediate training objective developed must contain the following elements:
--A task statement performed as a part of the commander's objective.
--A conditions statement that describes the conditions under which the task must be performed. The conditions must be consistent with the conditions of the commander's objective.
--A measurable training standard that clearly describes how well the soldiers to be trained must perform the objective. The training standard must be consistent (neither too relaxed nor stringent) with the training standard of the commander's objective.

Intermediate Training Objective 2

TASK: Each trainer will determine the training required.

CONDITIONS: Given: (1) a complete commander's training objective and its list of intermediate training objectives (each of which specify a task, conditions and measurable training standard), and (2) information about the past performance results for each intermediate training objective.

TRAINING STANDARD: Consistent with the information provided, trainer correctly selects all intermediate training objectives for which further training is needed.

Intermediate Training Objective 3

TASK: Each trainer will estimate the time the other resources needed to conduct training.

CONDITIONS: Given: (1) complete commander's training guidance, (2) the intermediate training objective(s) for which further training is needed; (3) information about the current proficiency of the soldiers to be trained with respect to the intermediate training objective(s); (4) information about the available training resources (e.g., time, equipment, facilities, assistant trainers, training aids and devices).

TRAINING STANDARD: Well enough to estimate the time and other resources required to:

(1) State the purpose of training and explain and demonstrate, if needed, how to perform each intermediate training objective and the commander's training objective.
(2) Permit the soldiers undergoing training to practice each objective to acquire the proficiency required to meet established training standard.
(3) Test the soldiers' ability to perform each objective and meet the established training standards.

C. ADMINISTRATIVE INSTRUCTIONS (To be completed by unit)

1. When training will be given:

2. Training location:

3. Who will be trained:

4. Principal and Assistant Trainers:

5. Training Aids and Equipment Used: One handout per student specifying complete commander's training guidance for an individual task.

6. References: FM 21-6, How to Prepare and Conduct Military Training.

D. SEQUENCE (of) ACTIVITY (and) ESTIMATED TIME

1. State the training objective and each intermediate training objective. Explain that each student trainer will learn how to perform the objectives largely through his own efforts. Specifically, each student, working at his own pace, will prepare a training session by developing a lesson plan that contains all elements of a lesson plan described in appendix G. To accomplish this, each student should:

a. Read and study Chapters 1, 2, & 3 and appendixes A, C, D, and G of FM 21-6.

	b. Complete practical exercise on writing training objectives at appendix B.	
	c. Based on commander's training guidance, research appropriate training literature (e.g., FMs, TCs, etc.) and develop a complete lesson plan.	
Indicate that if anyone has questions during his self-paced work, come and discuss with the principal trainer.		30 min
2. Each student is provided with complete commander's training guidance and is told to prepare training including a complete lesson plan. Each student works at his own pace studying FM 21-6 to learn how to prepare training. Each student then prepares a lesson plan for the training required by the commander's guidance.		Each student works at own pace. Approximately 8 hours spread over a 1 week period is recommended for planning purposes.
3. Each student meets individually with principal trainer. The trainer acting as the commander, evaluates the quality and completeness of the student's lesson plan. Depending on results of evaluation student meets training standard or, if not, is given additional work to complete to correct deficiencies.		30 min
	Total Time	1 hour with principal trainer and 8 hours over 1 week period of self-paced study and work.

E. SAFETY RESTRICTIONS: None

F. (Additional comments and information required by local SOPs). To be completed by the unit.

LESSON PLAN -- TRAINING TRAINERS TO CONDUCT TRAINING

A. TRAINING OBJECTIVE

TASK: Each trainer will conduct an individual training session.

CONDITIONS: Given: (1) a complete lesson plan containing all elements of a lesson plan described in appendix G of FM 21-6, (2) sufficient time to study the lesson plan and to rehearse the training, (3) any equipment and materiel necessary to conduct the training. (Note: For examples of lesson plans suitable for use in this training see inclosures 1 and 2 of this lesson plan.)

TRAINING STANDARD: Trainer must train soldiers undergoing training (other student trainers) to perform the commander's training objective successfully (i.e., meet or exceed training standard specified).

B. INTERMEDIATE TRAINING OBJECTIVES

Intermediate Training Objective 1

TASK: Each trainer will conduct Phase I (explanation and demonstration) of an individual training session.

CONDITIONS: Given (1) a complete lesson plan for an individual task, (2) sufficient time to study and rehearse the training and (3) any equipment and materials necessary to conduct the training.

TRAINING STANDARD: During Phase I, trainer accomplished the following:
--Told the soldiers the training objective(s) including the standards of performance that they must meet.
--Demonstrated, if applicable, how to perform the objective(s) from the soldiers point of view.
--Demonstrated, if applicable, in a location that allowed all soldiers to see well.

--Demonstrated, if applicable, each step of the objective in the order performed.
--Gave all information necessary for the performance of each step.
--Where appropriate, required soldier to perform each step immediately after showing and explaining how to do it.
--Avoided giving unnecessary information.
--Paced the demonstration, if applicable, in accordance with the soldiers' learning ability.

Intermediate Training Objective 2

TASK: Each trainer will conduct Phase II (practice) of an individual training session.

CONDITIONS: Given (1) a complete lesson plan for an individual task, (2) sufficient time to study and rehearse the training and (3) sufficient equipment and materials to permit all of the soldiers undergoing training to practice.

TRAINING STANDARD: During Phase II, trainer accomplished the following:
--If not conducted in Phase I, conducted a walk-through of each objective.
--Corrected soldiers if they made errors.
--Told soldiers what to do when they needed that kind of help.
--Showed soldiers what to do when they needed that kind of help.
--Told the soldiers when they were ready for individual skill practice.
--Used faster learners to help slower learners.
--Supervised practice to insure each soldier received sufficient practice to perform successfully the training objective(s).

Intermediate Training Objective 3

TASK: Each trainer will conduct Phase III (Test) of an individual training session.

CONDITIONS: Given: (1) a complete lesson plan for an individual task, (2) sufficient time to study and rehearse the training and (3) any equipment and materials necessary for the test.

TRAINING STANDARD: During Phase III, trainer accomplished the following:
--Explained/read testing instruction clearly and slowly to soldiers being tested.
--Observed complete performance of soldiers being tested.
--Avoided correcting errors of soldiers being tested until test was finished.
--Arranged testing conditions so soldiers could not copy each other.
--At completion of test explained error(s) committed, if any, and if any soldier did not meet standards specified, assigned him to an assistant or peer trainer for remedial training (time permitting).

Intermediate Training Objective 4

TASK: Each trainer will evaluate an individual training session.

CONDITIONS: Given an opportunity to observe an entire training session conducted by a student trainer.

TRAINING STANDARD: Well enough to determine if the training session was effective (i.e., whether each soldier undergoing training can meet or exceed the training standards specified in the training objective) and if they cannot, why not. (NOTE: To obtain answers to the latter, use the training standards of intermediate training objective 1, 2 and 3).

C. ADMINISTRATIVE INSTRUCTIONS: (To be completed by unit)

1. When training will be given.

2. Training location.

3. Who will be trained.

4. Principal and Assistant Trainers: (NOTE: This training is designed to be taught in small groups of about 10 students per trainer. This will permit organization of the training session so that one student conducts training while five students act as soldiers undergoing training and four students

evaluate the training conducted. Positions are rotated until each student has conducted one training session.)

5. Training Aids and Equipment Used:

a. 3/4-inch TV Tape player (e.g., Sony VP 1000), color TV, hook up cables and TV stand or Sony TVT 1/2-inch tape player, TV monitor and equipment.

b. Four-part TV tape, "UTRAIN 1 - IV either 3/4-inch or 1/2-inch depending on playback equipment to be used. (NOTE: instructions for obtaining four part tape is contained in appendix F, FM 21-6.)

c. One copy FM 21-6 per student.

d. Ten different complete lesson plans for individual tasks (relatively simple) which can be taught in 20-30 minutes. (NOTE: See inclosure 1 & 2 to this lesson plan for examples)

e. All equipment and materials listed in lesson plans to be used by student trainers (sufficent to conduct training for five soldiers).

6. References: FM 21-6, How to Prepare and Conduct Military Training.

D. SEQUENCE (of) ACTIVITY (and) ESTIMATED TIME

1. State the training objective. Explain that each student will conduct a short (20-30 min) training session in which he must meet the training standard specified. State each intermediate objective. Ask students to evaluate each of the four parts of TV tape (UTRAIN I-IV) with respect to training standards of the intermediate objectives. After showing each part of the TV tape, discuss how training was conducted in terms of

what was done correctly and what errors were made. (NOTE: Use guide to using TV tape at inclosure 3).	120 min (includes 10 min break)
2. Provide each student with a complete lesson plan (see inclosure 1 & 2 for examples) and all equipment and materials necessary to conduct the training required by the plan. Permit each student to rehearse (practice) his training session. Supervise practice, answer questions.	120 min
3. Test each student by requiring each to conduct the training required in the lesson plan. Use other students to act as soldiers undergoing training (approx five) and as training evaluators (approx four). Rotate positions until each student has conducted a training session. (NOTE: Have student evaluators use the training standards of the objectives to make these evaluations. Have students critique each session and then summarize. Give GO/NO GO rating in terms of commander's training objective.)	30 min per student and 10 min break each hour of 350 min
Total Time	9 hrs 50 min

E. SAFETY RESTRICTIONS: None

F. (Additional Comments and information required by local SOPs). To be completed by the unit.

Inclosure 1 to Lesson Plan: Training Trainers to Conduct Training

EXAMPLE LESSON PLAN FOR CONDUCT OF STUDENT TRAINING SESSION

A. TRAINING OBJECTIVE

TASK: Each soldier will apply an individual battle dressing.

CONDITIONS: Given an individual battle dressing, a subject individual (or practice dummy), and a narrative description of wound location.

TRAINING STANDARD:

1. Dressing must be applied within 2 minutes.

2. Dressing must be applied without touching (contaminating) sterile side of dressing.

3. Dressing must cover described wound.

4. Student must apply pressure to the wound either with the attached bandages or with the hand over the dressing, until it is determined by the trainer that bleeding has stopped.

5. The bandages must be wrapped around the dressing and the wounded limb and tied securely over the dressing.

B. INTERMEDIATE TRAINING OBJECTIVES: NONE

C. ADMINISTRATIVE INSTRUCTIONS: (to be completed by unit)

1. When training will be given:

2. Training location:

3. Who will be trained:

4. Principal and assistant trainers:

5. Training aids and equipment: one individual battle dressing per soldier.

6. Reference: FM 21-11, May 70, pages 24, 26, figure 13.

D. SEQUENCE (of) ACTIVITY (and)	ESTIMATED TIME
1. State training objective and reason for learning the task.	1 min
2. Demonstrate applying the dressing.	3 min
3. Conduct walk-through by having the students switch positions and apply the dressing step by step. Have each student go through a walk-through as the individual applying the dressing.	4 min
4. Conduct practice session until students feel they are ready to be tested.	3 min
5. Test students individually.	3 min
6. Retrain and retest students who are NO-GO.	1 min
TOTAL	15 min

E. SAFETY RESTRICTIONS: NONE

F. ADDITIONAL COMMENTS AND INFORMATION: NONE

Inclosure 2 to Lesson Plan: Training Trainers to Conduct Training

EXAMPLE LESSON PLAN FOR CONDUCT OF STUDENT TRAINING SESSION

A. TRAINING OBJECTIVE

TASK: Each soldier will conduct immediate action for an M72A2 light antitank weapon (LAW)

CONDITIONS: Given an expended M72A2 launcher, the direction of the target, and the following instructions: "Your LAW has just misfired. Take the appropriate action."

TRAINING STANDARD: Soldier performs the following in sequence without error or omission:

1. Keeping launcher trained on target soldier waits 10 seconds*, then places the safety on "SAFE" and removes launcher from his shoulder.

2. Soldier waits 1 minute*, then collapses launcher approximately 4 inches, re-extends the launcher, and attempts to fire.

3. If launcher does not fire (trainer indicates) soldier waits 10 seconds* and returns safety to "SAFE". Keeping launcher trained on target, he waits at least 1 minute and if LAW has not fired he discards LAW IAW unit SOP.

*times are approximate.

B. INTERMEDIATE TRAINING OBJECTIVES: NONE

C. ADMINISTRATIVE INSTRUCTIONS (To be completed by unit)

1. When training will be given:

2. Training location:

3. Who will be trained:

4. Principal and assistant trainers:

5. Training aids and equipment: one expended M72A2 launcher per soldier.

6. Reference: FM 23-33, Jul 70, page 11.

D. SEQUENCE (of) ACTIVITY (and)	ESTIMATED TIME
1. State training objective and reason for learning the task.	1 min
2. Demonstrate the immediate action drill, emphasizing key points.	3 min
3. Conduct walk-through, insuring each student performs each step fully.	3 min
4. Conduct practice until all students are ready to be tested.	3 min
5. Test students individually. Students not being tested may observe test in progress.	3 min
6. Retrain and retest students who are NO-GO.	2 min
TOTAL	15 min

E. SAFETY RESTRICTIONS: NONE

F. ADDITIONAL COMMENTS AND INFORMATION: NONE

Inclosure 3 to Lesson Plan: Training Trainers to Conduct Training

GUIDE TO DISCUSSION OF UTRAIN TV TAPES

During discussion of the UTRAIN TV tapes, these errors and teaching points should be brought out by either the students or the trainer. Errors are noted by an asterisk (*) and have been intentionally written into the TV scripts to promote discussion. Some errors are noted as technical errors. These are errors in doctrine which illustrate that performance-oriented trainers can effectively teach erroneous information. Technical accuracy on the part of the trainer should be emphasized. The items listed without asterisks do not include all of the things done properly by the trainer. UTRAIN IV is the best example of a properly conducted training session.

UTRAIN I (Lensatic Compass)

* training objective and task statement unclear.
* failed to demonstrate properly.

  (technical) improper holding of compass.
  (technical) improper night setting technique.

* gave extraneous information not associated with task accomplishment.
* failed to walk-through.
* failed to practice.
* failed to test.

UTRAIN II (M203 Grenade Launcher)

* did not state training objective in performance terms--(i.e., in terms of task, conditions and training standard)
* (technical) weapons improperly positioned with ejection ports down.
  varied conditions for performance.
* (technical) failed to clear M16A1 rifle before clearing M203.
* expressed impatience with student.
* used negative reinforcement (sarcasm).
* failed to coach.
* (technical) erroneously taught removal of handguard as daily maintenance.

* failed to return equipment to its original condition when coaching.
* used questions to check student understanding.
* used positive reinforcement.
* failed to walk through.
* failed to practice.
* failed to test.

UTRAIN III (M60 Machinegun)

gave complete orientation on conduct of training session.
emphasized key points and safety.
* (technical) failed to teach clearing the weapon.
* failed to return equipment to its original condition when coaching.
* failed to demonstrate from student viewpoint.
practiced during demonstration phase (illustrates flexibility).
checked individual performance and used positive reinforcement.
used questions to check student understanding.
varied conditions for performance (setting sights).
* (technical) told students to set sights at 550 meters (not possible).
* (technical) failed to ease bolt forward when clearing weapon.
students practiced at their own pace.
announced test conditions and standards.
* made correction during test.
announced NO-GO and identified student errors.
* failed to tell NO-GO students error(s) they made and to arrange for remedial training.

UTRAIN IV (Cal .45 Pistol)

stated training objective/reason for learning/conduct of class excellent.
* (technical) used slide/barrel and clockwise/counter-clockwise interchangeably.
* (technical) cleared weapons while pointing at each other.
answered relevant questions.
* failed to defer irrelevant questions--gave technically incorrect answer.

Sample Lesson Plans

The lesson plan is the trainer's game plan. It is developed during the preparation phase of training. Lesson plans are not designed to record every word of a trainer's presentation. Rather, the lesson plan provides a practical, economical aid to preparing training. The lesson plan, properly constructed, also provides a means to record the specific training conducted and to assist future trainers in preparing training. Lesson plans can be supplemented by informal trainer notes to assist the trainer in preparing the Phase I (explanation & demonstration) portion of a training session. Trainer notes may include important opening and closing statements, prompters, or other reminders (e.g., slide sequence) and key statements pertaining to safety. They are particularly helpful when conducting a rehearsal. Because trainer notes are designed to meet each individual trainer's specific needs, no particular format is recommended.

The following minimum information is recommended for inclusion in the lesson plans.

MINIMUM INFORMATION TO BE INCLUDED IN THE LESSON PLAN

- **The Commander's Training Objective(s).**
- **All Intermediate Training Objectives (if any) listed in the sequence to be taught.**
- **Administrative instructions.**
  - **When the training will be conducted.**
  - **Training location.**
  - **Who will be trained.**
  - **Principal and assistant trainers.**
  - **Training aids, devices and equipment to be used.**
  - **References.**
- **Training sequence and time estimate.**
- **Safety restrictions.**
- **Additional information required by local SOPs.**

Two examples of completed lesson plans are provided to assist your understanding. See appendix F for additional examples.

SAMPLE LESSON PLAN 1 -- MILITARY JUSTICE TRAINING FOR NCOs

A. TRAINING OBJECTIVES

Training Objective 1

TASK: Each NCO will advise a soldier of his basic legal rights under UCMJ (Article 31 and legal right to counsel).

CONDITIONS: Given a special situation and an extract of Article 31, UCMJ or Appendix D, DA Pam 27-14, March 1973, "Procedures for Interrogating Persons Accused of or Suspected of Committing a Criminal Offense."

TRAINING STANDARD: The reading/explanation of the rights must include the following: (1) a soldier is presumed innocent until proven in a court of law that he is guilty, (2) a soldier does not have to incriminate himself, (3) a soldier has a right to legal counsel.

NOTE: The soldier's rights must be fully explained to him to insure that any evidence obtained or statements made are admissable in a trial by court martial. This must be done before any questioning is conducted that may result in legal charges being brought against the soldier. The training standard will be met if the NCO uses either Appendix D, DA Pam 27-14, or a locally produced extract of Appendix D, containing all essential elements of information, and approved by a Judge Advocate General officer. The NCO need not memorize Appendix D, but he should read it, or the locally produced substitute, to the soldier verbatim.

Training Objective 2

TASK: Determine if a legal search is permitted.

CONDITIONS: Given a special situation in which a legal search may or may not be authorized, the Manual for Courts Martial, 1969, (Rev.), and DA Pam 27-14, March 1973.

TRAINING STANDARD: Based upon the situation presented, the NCO must determine if a legal search is authorized based on one of the following:

1. Search authorized by a commander based upon probable cause.

2. Search incident to apprehension of a soldier.

3. Individual consents to search.

4. Search to prevent a removal or destruction of criminal goods.

5. Pursuant to a warrant.

NOTE: It should be emphasized that the NCO will rarely if ever conduct a search. This training

objective is included primarily to give the NCO background information in order for him to make a recommendation to conduct a search or to prevent the destruction or removal of criminal goods.

Training Objective 3

TASK: Each NCO will advise an accused soldier of his rights under Article 15, UCMJ.

CONDITIONS: Given a special situation in which an accused soldier is offered an Article 15 by the commander and has asked the NCO for his advice, DA Pam 27-14, March, 1973, and the Manual for Courts Martial, 1969, (Rev.).

TRAINING STANDARD: The NCO's explanation of the soldier's rights under Article 15 must include the following:

1. The nature of the incident under UCMJ.

2. Right to demand trial by court martial.

3. Right to present evidence in extenuation, mitigation, and defense, together with the meaning of these terms.

4. Right to consult with a military lawyer.

5. Right to public hearing.

6. Types and severity of punishment.

7. Rights of appeal.

Training Objective 4

TASK: Each NCO will advise an accused soldier of the types of courts martial and the punishments permitted under each type.

CONDITIONS: Given DA Pam 27-14, March 1973, the Manual for Courts Martial, 1969, (Rev.) and a special situation in which the soldier is seeking information about courts martial and the punishments permitted under each type.

TRAINING STANDARD: The explanation will include the three types of courts martial and the maximum punishment which each may impose. These are:

1. Summary: one month confinement at hard labor, E-4 or below (no confinement for E-5 and above); reduction to lowest enlisted grade (one grade reduction for E-5 and above), and two-thirds forfeiture of one month's pay.

2. Special: Bad conduct discharge (if so designated), six months confinement at hard labor (if enlisted), reduction to lowest enlisted grade, and forfeiture of two-thirds pay for six months.

3. General: Dishonorable discharge or bad conduct discharge and confinement at hard labor depending on the offense. No punishment can exceed that designated by Congress as maximum punishment for this specific offense. See tables of maximum punishment, para 127, Manual for Courts Martial.

B. INTERMEDIATE TRAINING OBJECTIVES: NONE

C. ADMINISTRATIVE INSTRUCTIONS

1. When training will be given: 0800-1200 hrs, 1300-1400 hrs, 4 Sep 75.

2. Training location: Company classroom (Bldg 689).

3. Who will be trained: 13 NCOs.

4. Principal and Assistant Trainers: CPT Baker (CO) and SP6 Jones (Bn legal clerk).

5. Training Aids:

15 DA Pam 27-14
15 Manual for Courts Martial
15 Handout special situations/practical exercises

6. References: Manual for Courts Martial, Appendix D, DA Pam 27-14.

D. SEQUENCE (of) ACTIVITY (and) ESTIMATED TIME

1. State the first training objective. 20 min
Explain and demonstrate how to advise a soldier of his basic legal rights (Article 31 and legal right to counsel).

2. Give the NCOs a practical exercise which requires them to explain the basic legal rights to a soldier.	20 min
3. State the second training objective. Explain and demonstrate how and when the NCO would either conduct or recommend that a search be conducted.	30 min
4. Present a series of practical exercises that require the NCO to determine if a legal search is justified for the situation presented.	40 min
5. State the third training objective. Explain and demonstrate how a soldier is advised of his rights under Article 15, UCMJ.	10 min
6. Present a series of practical exercises in which an accused soldier is offered an Article 15 by the commander and has asked for the NCO's advice concerning the soldier's rights under Article 15.	40 min
7. State the fourth training objective. Explain and demonstrate how to advise a soldier about the types of courts martial.	10 min
8. Present a series of practical exercises in which the NCO advises a soldier about the types of courts-martial.	30 min
9. Test each NCO's ability to perform each of the four training objectives	50 min
	250 mins or 5 fifty min sessions.

E. SAFETY RESTRICTIONS: None

F. (Additional comments and information required by local SOPs).

SAMPLE LESSON PLAN 2 -- REQUESTING AND ADJUSTING 4.2 INCH MORTAR FIRE

A. TRAINING OBJECTIVE

TASK: Each squad leader will request and adjust 4.2 inch mortar fire,

CONDITIONS: as a ground observer, given a 1:50,000 map, a lensatic compass, binoculars, a radio, and a designated, observable point target (targets may vary in range from 1000 to 4000 meters), using the grid coordinates/direction method and the bracketing method of adjustment.

TRAINING STANDARD: Location of target and the initial request for fire must be made within 3 minutes after the target has been designated. Adjustments must be made within 15 seconds after the round impacts. Target must be hit (round must land within 25 meters of target) in not more than 4 adjustments.

B. INTERMEDIATE TRAINING OBJECTIVES

Intermediate Training Objective 1

TASK: Each squad leader will determine the magnetic azimuth (direction) from his location to a target,

CONDITIONS: as a ground observer, given a designated, observable point target (range may vary from 1000 to 4000 meters), and a lensatic compass.

TRAINING STANDARD: The correct magnetic azimuth (± 3 degrees) must be reported within 30 seconds after the target has been designated.

Intermediate Training Objective 2

TASK: Each squad leader will estimate a target's grid coordinate location,

CONDITIONS: as a ground observer, given a 1:50,000 map, binoculars, and a designated, observable point target (targets may vary in range from 1000 to 4000 meters).

TRAINING STANDARD: An 8-digit grid coordinate location of the target must be reported within 1 minute after the target has been designated and to the following accuracy: Actual 8-digit location of target is ± 15 percent of the ground distance from the observer to the target (e.g., if target is 1000 meters from the observer the location must be reported within 150 meters of the actual location).

Intermediate Training Objective 3

TASK: Each squad leader will make an initial fire request (call for fire),

CONDITIONS: as a ground observer, given a 1:50,000 map, a lensatic compass, radio, and a designated, observable point target (target may vary in range from 1000 to 4000 meters), employing the grid coordinates/direction method.

TRAINING STANDARD:

(1) Request for fire must be made within 3 minutes after the target has been designated.

(2) Request must include all six elements of the fire request.

(3) Radio procedures must adhere to the procedures specified in FM 23-91, "Mortar Gunnery," (December 1971), pages 5-1 through 5-4.

(4) Target location must be reported to the following accuracy: Actual 8-digit location of point target, ± 15 percent of the ground distance from the observer to the target.

(5) Observed target's magnetic azimuth (direction) must be reported within 3 degrees of the actual magnetic azimuth.

Intermediate Training Objective 4

TASK: Each squad leader will adjust 4.2 inch mortar fire,

CONDITIONS: as a ground observer, given a radio, binoculars, a designated target (target may vary from 1000 to 4000 meters), and a spotting round which has just landed and requires adjustment employing the bracketing method of adjustment.

TRAINING STANDARD: Subsequent correction must be made within 15 seconds after the initial round lands (spotting). Observer must place effect on target (e.g., round must land within 25 meters of target) in not more than 4 adjustments after observer has obtained a positive range sensing.

C. ADMINISTRATIVE INSTRUCTIONS

1. When training will be given: 1300-1700 hrs, 25 Sep 73.

2. Training location: Training Area K (Grid Reference XT 6837).

3. Who will be trained: 13 squad leaders.

4. Principal and Assistant Trainers: Lt Bolen (PT), SGT Baker, SGT Evans and SGT Holden.

5. Listing of all training aids used during the instruction. These must be coordinated against the equipment stated in the CONDITIONS element of the training objective.

6. References: FM 23-91, Mortar Gunnery, Dec 71

D. SEQUENCE (of) ACTIVITY (and) ESTIMATED TIME

1. State the commander's training objective and then state the intermediate training objectives while demonstrating how to request and adjust 4.2 inch mortar fire. Point out each step and the intermediate training objective in the process as you come to it. — 15 min

SEQUENCE (of) ACTIVITY (and)	ESTIMATED TIME
2. Insure that students can determine target locations and observer-target azimuths. If not, practice this until they can.	15 min
3. Explain the elements of the call for fire and then break class into three groups (maintain unit integrity if possible). Have each group master fire requests on chalkboards with the groups competing against each other by calling for fire on a radio to a simulated FDC.*	77 min
4. Explain how to spot rounds and calculate corrections and then break class into three groups. Have each group spot rounds, make range changes and correct deviations using a puff board.*	52 min
5. Have the groups practice requesting and adjusting 4.2 inch mortar fire on a puff board until each NCO can meet the prescribed standards of the commander's training objective. Then, test their performance using live mortar fire. Once this has been accomplished, release the class, or keep working on speed and precision.	70 min
6. Movement between concurrent stations.	11 min
	240 min or 4 hours

E. SAFETY RESTRICTIONS

Coordinate with range control, Bldg 39, for complete instructions on range fans. Area K requires: Range flag during firing, road guard at XT 681379, opening

*Have the groups compete with each other once they have grasped the procedure.

and closing of firing by an officer, and reporting of any malfunctioning rounds. Safety Officer will be present, in addition to the Principal Trainer.

F. (Additional comments and information required by local SOPs).

Index and Glossary of Training Terms

ARMY SUBJECT SCHEDULE (ASubjScd): A Department of Army publication that provides guidance to trainers for the preparation and scheduling of branch, general, or MOS training in a particular subject as outlined in ATPs. (p. 78)

ARMY TRAINING AND EVALUATION PROGRAM (ARTEP): Publications currently being developed and validated that will replace applicable Army Training Programs (ATP) and Army Training Tests (ATT) for Active Army and Reserve Component units when approved by appropriate authority. Each ARTEP provides a listing of training and evaluation outlines that contain minimum collective training objectives and guidance pertaining to specific missions. When supplemented with appropriate directives, it serves as the basis for formal evaluation by which the training readiness of a particular unit and diagnosis of future training requirements can be determined. (p. 16; purpose and organization - p. 31; using to prepare and conduct equipment oriented training - p. 47-50; using to conduct tactical collective training - p. 70-72; p. 78; p. 79)

ARMY TRAINING PROGRAM (ATP): A Department of Army publication outlining the minimum essential training for individuals and units in Active Army and Reserve Components who are undergoing a formal phase of training. ATPs are guides/references for units conducting Operational Readiness Training (ORT). ATPs prescribe the number of hours for training in specific subjects and they list the supporting Army Subject Schedules and/or related references and training aids. Because they are not written in performance terms, ATPs do not meet the peacetime training needs of the Active Army and Reserve Components. ATPs are being replaced by ARTEP. (p. 16; p. 78)

ARMY TRAINING TEST (ATT): A Department of Army publication which provides guidance for testing, under simulated combat conditions, of individuals and units up to and including battalions. ATTs are administered during and following the three formal phases of training: BCT, BUT, and AUT. In addition, ATTs can be used as a guide for writing an Operational Readiness Training Test (ORTT). Because they are not written in performance terms and are not suitable for peacetime Active Army and Reserve Component training, ATTs are being replaced by ARTEP. (p. 16; p. 78)

ASSISTANT TRAINER: Person or persons who help the principal trainer prepare and conduct an individual or collective training session. (essential role of - p. 52)

AUDIO-VISUAL: An adjective used to describe the technology, material, programing and activities related to photography; optical and electronic information presentation; television; sound reinforcement (public address); visual and audio recording and reproduction; and distribution and employment of these media. (use with TEC - App C)

BACKWARD PLANNING PROCESS: A 3-step process that will help trainers prepare and conduct individual and collective training properly. (applied to individual training - Ch 3; applied to equipment-oriented collective training - Ch 4; applied to tactical collective training - Ch 6)

COLLECTIVE TRAINING: Training, either in institutions or units that prepares a group of individuals (crews, teams, squads, platoons, etc.) to accomplish tasks required of the group as an entity. (introduction to - Ch 4; equipment-oriented - Ch 5; tactical collective - Ch 6)

COMBAT READINESS: Synonymous with operational readiness with respect to missions or functions performed in combat; capability of a unit to perform its assigned missions as derived through plans. The status of personnel, equipment, supplies, maintenance facilities, and training is considered in determining this capability.

COMMAND POST EXERCISE: This exercise is designed to train leaders and staff officers to plan and execute tactical operations without requiring the presence and participation of the soldiers in the unit. (p. 62; how to prepare and conduct - App E)

COMMANDER'S TRAINING GUIDANCE: Specific information a commander should provide a trainer to permit that trainer to prepare and conduct training properly. The guidance should include: the commander's training objective(s); to whom; when and where the training will be given; the reasons why the commander decided the training was needed. (described - p. 9; example of equipment-oriented collective training - p. 34; examples of tactical training guidance - p. 54)

COMMANDER'S TRAINING OBJECTIVE: An objective written in performance terms (i.e., task, condition and training standards) developed or selected, by a commander/training manager that specifies the terminal performance(s) the soldiers undergoing training must meet or exceed. (examples of - p. 9, p. 12-13, p. 35; examples of refinement - p. 58)

CONDITION(S): See Training Objective

CONFERENCE: One of the principle presentation techniques used during Phase I of a training session. It is, in effect, a variation of the lecture designed to permit and encourage greater soldier participation. The conference method provides a vehicle for group problem solving and decision making. The conference can take advantage of the ideas and experiences of soldiers being trained. (explained, advantages and limitations, and tips on conducting - p. 99-100)

CONVENTIONAL TRAINING: Instructor-oriented training approach that primarily relies on presentation techniques to teach skills and knowledge. Conventional training does not focus on soldier performance or training to specified standards. (differences with performance-oriented training - p. 7)

CORRESPONDENCE COURSES: See extension training materials. (service school furnished - p. 83)

DECENTRALIZED TRAINING: Decentralized training releases the authority and responsibility for the detailed planning, conduct, and internal evaluation of training to the battalion or separate company level. Brigade headquarters and above retain the responsibility for providing mission type guidance to their subordinate units, allocating training resources, coordination, and the broad supervision/evaluation of training. This term also applies to how training may be conducted at company, battery or troop level.

DEMONSTRATION: One of the principle presentation techniques used during Phase I of the training session. Demonstrations are designed to *show* soldiers what they are expected to do and how to do it. Demonstrations include: displays, field or troop demonstrations, training films, TV tapes and skits. (explained, advantages and limitations, and tips on conducting - p. 100-101)

DISPLAYS: A form of demonstration used to provide, through visual means, specific information to soldiers. (described and how to use - p. 100)

ENGAGEMENT SIMULATION: A family of training techniques and equipment designed to realistically simulate the lethality and casualty producing effects of modern weapons in two-sided, free play tactical training exercises. (described and explained - p. 73-75)

EQUIPMENT-ORIENTED COLLECTIVE TRAINING: Collective training designed to prepare crews, teams, and units to employ crew-served equipment (e.g., a tank, artillery piece, tactical bridge, mortar, TOW, etc.) (introduced - p. 31; how to prepare and conduct - Ch 5)

EVALUATION OF TRAINING: That process, which by objective and subjective means, seeks to determine the extent of learning progress of individuals and units. The purpose is to determine if a training objective(s) has been attained and how well the available resources have been used in order to provide the training manager with the information he needs to modify or update the training program, and to provide feedback to trainers and soldiers undergoing training. (p. 17; p. 24; p. 44; objective vs. subjective p. 52; p. 69; App D)

EXTENSION TRAINING MATERIALS: Service school developed materials including special texts; programed

texts, lesson plans, correspondence courses, instructional packets and training extension course (TEC) lessons designed for use by personnel of the Active Army and Reserve Components. (p. 78)

FIELD (TROOP) DEMONSTRATION: A form of demonstration used widely in tactical training to demonstrate concepts, operations and procedures. (described and how to use - p. 100)

FIELD EXERCISE: An exercise conducted in the field under simulated combat conditions in which the troops and armament of one side are actually present while those of the other side may be imaginary or partially or fully represented by a second force. (p. 62; how to prepare and conduct - App E)

FIELD MANUAL (FM); A manual containing instructional, informational, and reference material relative to military training and operations. It is the primary means of disseminating military doctrine, tactics and techniques. (p. 78)

FINANCIAL TRAINING RESOURCES: Those funds allocated to conduct training activities, to purchase training aids/devices, or to purchase other materials to be used for training. School TDY funds and adventure training funds are examples.

HANDS ON TRAINING: (See performance-oriented training).

HUMAN RESOURCES: All individuals who participate in training. It includes those who assist the commander in the planning, conduct, and evaluation of training and those individuals who receive the training.

INDIVIDUAL TRAINING: Training the individual officer, NCO or enlisted person receives, either in institutions or units, that prepares the individual to perform specified duties and tasks related to an assigned MOS and duty position. (how to prepare and conduct - Ch 3)

INSPECTING TRAINING: See Evaluation of Training

INSTITUTIONAL TRAINING: Training, either individual or collective, conducted in schools (Army service school, USAR school, NCO academy, unit school) or Army Training Centers.

INSTRUCTOR: (See Trainer)

INTERMEDIATE TRAINING OBJECTIVE: An objective written in performance terms (i.e., task, conditions, and training standard) that supports a specific commander's training objective and helps make training in that objective logical and progressive. (explanation of and how to establish - p. 11-12; examples of - p. 37; practical exercise in developing - App B; determining order in which taught - p. 18-19; developing and tactical collective training - p. 59; examples of - p. 61)

LEARNING: That process by which the necessary skill and knowledge is acquired to perform a specified task.

LECTURE: One of the principle presentation techniques designed to convey information during Phase I of the training session. During the lecture, the trainer uses verbal communication to provide soldiers with the knowledge necessary to permit them to enter Phase II (practice). Essentially, the lecture is a one way oral explanation by the trainer to an audience. Soldier participation is limited to asking and answering questions. (explained, advantages and limitations, and tips on conducting - p. 99; communication and techniques - p. 101-103)

LESSON PLAN: A practical, economical aid to: (1) preparing training, (2) providing a record of the specific training conducted and (3) assisting future trainers. Lesson plans are not designed to record every word of a trainer's presentation, but rather to specify the minimum information needed to conduct training. (p. 22; App G; training trainers to develop - App F; examples of - App G)

MAP MANEUVER: Exercises in which military operations with opposing sides are conducted on a map, the troops in the military establishments being represented by markers, or symbols, which are moved to represent the maneuvering of the troops on the ground.

MILITARY TRAINING: (See Training)

MISSION RELATED TRAINING: Individual or collective training that contributes directly to the accomplishment of the unit's mission. It includes a wide variety of activities and excludes such diversionary

activities as special duty, administrative appointments, general educational classes, honor guards, fatigue details and routine medical care.

MULTI-ECHELON TRAINING: An approach to individual and collective training in units designed to prepare simultaneously different elements of a battalion or separate company. An example would be for a company commander to conduct a TEWT with his platoon leaders, while the platoon sergeants and squad leaders are conducting reconnaissance patrol training for the rifle squads and crew drill for the mortar and TOW/106 crews. (discussed p. 30; p. 39; p. 45; p. 53; p. 59-61; p. 63)

OBJECTIVE: (See Training Objective)

ON THE JOB TRAINING (OJT): A training process whereby students or trainees acquire knowledge and skills through actual performance of duties under competent supervision in accordance with an approved plan program.

OPERATIONAL READINESS TRAINING: That phase of training undertaken by units that have completed the formal phases of training and are assigned responsibility for maintaining the highest possible state of combat proficiency in order to accomplish operational missions.

PEER TRAINING: A technique of using fast learners to help slower learners perform successfully one or more training objectives.

PERFORMANCE OBJECTIVE: (See Training Objective)

PERFORMANCE-ORIENTED TRAINING: A training strategy in which learning is accomplished through individual or collective performance of one or more tasks, under specified conditions, until the individual or team/unit can demonstrate the level of proficiency established by the training standard. The basis for conducting performance-oriented training is a training objective. (p. 3; purpose of - p. 4; characteristics - p. 6; advantages p. 6-7; compared with conventional training - p. 7)

PERFORMANCE-ORIENTED TRAINING OBJECTIVE: (See Training Objective)

PERFORMANCE TEST: An evaluation tool that requires performance of a task under test conditions and evaluated on a pass/fail (GO/NO-GO) basis using a specified test standard. Performance tests are developed from information contained in training objectives. (p. 22)

PRACTICAL EXERCISE: A technique used during Phase II (Practice) of training session that permits soldiers to acquire/practice the skills and knowledge necessary to perform successfully one or more training objectives.

PRE-TRAINING DIAGNOSTIC: Requiring all or selected number of soldiers to perform a specified objective to see whether or not further training is needed. (p. 17)

PRIME-TIME FOR TRAINING: An established period of time (hours, days or weeks) devoted entirely to mission-related training. It should be established at the lowest level possible, with the maximum number of personnel present for duty attending while maintaining unit integrity. Administrative absences should be limited to non-prime time periods, thereby increasing training effectiveness.

PRINCIPAL TRAINER: Person in charge of preparing and conducting an individual or collective training session.

REALTRAIN: Engagement simulation training techniques and equipment designed to realistically simulate the lethality and casualty producing effects of modern weapons in tactical training. REALTRAIN includes the SCOPES training techniques and equipment and its adaptation to tank and antiarmor weapons systems. (explained - p. 74-75)

SANDTABLE: (how to prepare - p. 108-110)

SELF PACED: A training technique which permits each soldier to learn at a rate consistent with his/her own ability.

SKILL QUALIFICATION TEST (SQT): A performance oriented test which evaluates individual proficiency with respect to the critical tasks essential to success in combat. Each test is structured to evaluate soldier's proficiency in his/her MOS and duty position at the current and next higher skill level. When field tested and validated, the

SQT will replace the MOS test. SQT results will be used in personnel decisions regarding promotion, assignment and retention. The basis for the SQT is the applicable Soldiers' Manual.

SKIT: A form of demonstration during which principal trainers and/or assistants act out operations or procedures. (described - App C; p. 22)

SOLDIER'S MANUAL: A Department of Army publication which specifies the critical performances essential to success in combat for a given MOS, duty position cluster and skill level. These performances are specified in terms of a series of training and evaluation outlines. Each outline specifies a training objective (the "what and how well") and includes helpful "how to" information. Because the Soldier's Manuals are written in performance terms, it is the basis for individual training and testing including the Skill Qualification Test (SQT). (p. 11; used to prepare individual training - p. 24; example of training and evaluation outline - p. 25-26; p. 78-79; p. 79)

SQUAD COMBAT OPERATIONS EXERCISE SIMULATED (SCOPES): An engagement simulation training technique used in individual and collective tactical training using inexpensive 6X power telescopes mounted on rifles and numbers on the helmets of the participants to provide a near real time method of casualty assessment. The "kill" or "be killed" feature of SCOPES adds realism to tactical training and reinforces techniques that permit success and survival on the modern battlefield. (explained - p. 74-75)

STANDARD: (See Training Objective)

SUPPLY BULLETIN (SB): Logistics management information. SB are listed in DA Pam 310-4. (p. 83)

TACTICAL COLLECTIVE TRAINING: Collective training designed to prepare teams, crews, squads, and units to employ properly those concepts and techniques appropriate for a given tactical situation (i.e., nature of enemy threat, terrain, visibility, weather, etc., are specified) (introduced - p. 31; how to prepare and conduct - Ch 6)

TACTICAL DRILL EXERCISE: An exercise used to prepare a unit or team to perform a tactical technique or procedure. It can be conducted on a parade ground or over actual terrain. The key is to begin slowly by executing the particular action-by-the-numbers. It allows the unit or team to progress step by step until they attain teamwork and can perform the task at normal speed. (p. 62; how to prepare and conduct - App E)

TACTICAL EXERCISE WITHOUT TROOPS (TEWT): See Terrain Exercise (how to prepare and conduct - App E; p. 130-134; use in Reserve Component training - p. 132)

TACTICAL EXERCISE: (App E)

TACTICAL TRAINING: Training of troops in all phases of combat operations related to offensive, defensive, and retrograde operations. (how to prepare and conduct - Ch 6; tactical exercises - App E)

TASK: See Training Objective

TECHNICAL MANUAL (TM): (p. 78)

TELEVISION TRAINER (TVT): Small battery operated portable TV equipment provided to many Active Army and Reserve Component units to be used to improve individual and collective training.

TERRAIN EXERCISE: A tactical exercise in which disposition and movement of simulated groups are planned and discussed on a particular piece of ground. It is an excellent exercise for training squad and platoon leaders to analyze terrain during the planning and simulated conduct of an operation. (p. 62; how to prepare and conduct - App E)

TERRAIN MODEL EXERCISE: A tactical exercise in which a sandtable or some other type of terrain model is substituted for the actual terrain. It is an excellent exercise for training leaders to plan and conduct a tactical operation and for demonstrating the conduct of an operation to the entire unit. (p. 62; how to prepare and conduct - App E)

TEST: See Performance Test

TRAINER: A person whose duties include the requirement to prepare, conduct and evaluate individual / collective training. (responsibilities - p. 2, training to train - App F)

TRAINER NOTES: Informal notes prepared by a trainer to supplement a lesson plan. Trainer notes may include important opening and closing statements, prompters, test instructions or other reminders (e.g., slide sequence) and key statements pertaining to safety. They are particularly helpful when conducting a rehearsal. (App G)

TRAINING: Formal activities designed to prepare individuals and teams/units for job/duty performance. (importance of · p. i; defined · p. 3; see also Performance-Oriented Training)

TRAINING AID: Any item which is developed and/or procured with the primary intent that it will assist in training and the process of learning. (selecting for training session · p. 19; description of, obtaining and using · App C; how to use · p. 104)

TRAINING AIDS SERVICES OFFICES (TASO): Located at 47 TRADOC and FORSCOM installations in CONUS, Alaska, Hawaii, Panama and Puerto Rico, the TASO is the single manager charged to provide training aids services to customers in its geographic area of support, including the Reserve Components, Active Army units and schools. Other major commands receive similar support from their local training aids center. (p. 83-85; p. 107; p. 112)

TRAINING CENTER: A center authorized and designated by HQ DA to conduct basic, individual training (BCT) advanced individual training (AIT) Combat Support Training (CST) and other specialized training.

TRAINING CIRCULAR (TC): Training literature which disseminates training directives, policies or information of an interim nature which requires revision too frequently for inclusion in permanent training literature. Also used to disseminate new training doctrine, tactics and/or techniques that requires immediate dissemination. (p. 78)

TRAINING DEVICE: Any three-dimensional object developed, fabricated, or procured specifically for improving the learning process. Training devices are categorized as systems devices or non-systems devices. Systems devices are designed for use with a material system or item of equipment including sub-assemblies or components (e.g., training devices for the TOW missile system, M60 series tank, etc.). Non-systems devices are designed to support general military training or training not directly related to a specific material system. (selecting for training session, p. 19; description of obtaining and using - App C; how to use - p. 104)

TRAINING EFFECTIVENESS: That part of the evaluation process that seeks to determine whether as a result of training the soldiers can perform all training objectives successfully (i.e., meet or exceed the established training standards). (explained and discussed - p. 24)

TRAINING EFFICIENCY: That part of the evaluation process that seeks to determine how well the trainer used the available training resources to accomplish the assigned training objectives. (explained and discussed - p. 24)

TRAINING EXTENSION COURSE (TEC): A series of service school produced lessons designed to provide Active Army and Reserve Components commanders with additional capability to upgrade the quality of individual training and MOS proficiency in their units. The lesson administrative instructions provide training objectives and diagnostic test. Lessons use an audio-visual, audio only, or written material formats or combination thereof and focus on preparing soldiers to perform specific tasks required by their jobs. (p. 78-79; explained, who for, how it works, how to get started and learning centers - p. 113-116)

TRAINING FILMS: An economical form of demonstration used when "live" demonstration is not practical. (p. 107 - see demonstration)

TRAINING GOAL: A broad statement of desired individual or unit proficiency with respect to a capability required for mission readiness/accomplishment.

TRAINING LITERATURE: That body of writing published for the primary purpose of informing all concerned as to the doctrine, tactics, techniques, and procedures adopted for use in training individuals and units of the United States Army. (App A; summary of - p. 82-83)

TRAINING MANAGEMENT: The art of employing limited resources (human, physical, financial and time) in a

manner that permits efficient and effective development of individuals and units so they can successfully accomplish their peace and wartime missions.

TRAINING MANAGER: A person responsible for the planning, organization, conduct, and evaluation of training, to include the development of the training program. Training managers include any commander who develops a training program or who provides guidance to commanders who do. Under present Army policies (AR 350-1), battalion and separate company commanders are the principal training managers. However, company commanders or the operations/training officers of commands developing training programs are also training managers. (responsibilities - p. 2)

TRAINING OBJECTIVE: A three-part statement that specifies (1) an individual or team/unit **Task**, (2) the **Condition(s)** under which the Task is accomplished, and (3) the **Training Standard(s)** required to demonstrate minimum acceptable proficiency. The following are the definitions of the three parts of a performance objective:

(1) **Task.** A statement that specifies an action to be performed by an individual or team/unit.

(2) **Condition(s).** Statement(s) that specify the circumstances under which a particular Task is to be performed, e.g., information/equipment provided or denied for the performance of the Task.

(3) **Training Standard.** A statement that specifies the minimum acceptable proficiency required of an individual or team/unit in the performance of a particular Task. (defined p. 4-5; examples of Ch 3, 4, 5, 6; practical exercise in writing - App B; training trainers to develop - App F; contained in lesson plans - App B)

TRAINING PROGRAM: The training document that outlines the general plan for the conduct of individual and collective training in an organization for specified periods of time. It is prepared and disseminated for the information of all personnel concerned with training.

TRAINING RECORDS: Informal records maintained at the unit level that includes information about the training and test results of individual, crews, teams and units. They assist training managers and trainers to develop training programs and to prepare and conduct training. With the exception of those special training records required by AR 350-1, "Army Training", unit training records will not be subject to formal inspection by any headquarters agency. (p. 17)

TRAINING RESOURCES: Training resources (human, physical, financial, and time) are those resources used to conduct or support training. They may be internally controlled by a unit or externally controlled by other headquarters who allocate their use to units as required. (allocating training time, selecting resources required for training session, p. 20; estimating resources required - p. 21 & 37)

TRAINING STANDARD: (See Training Objective)

TV TAPE: An economical form of demonstration used when a "live" demonstration is not practical. (described and how to use - p. 100-101)

UNIT TRAINING: Training, either individual or collective, conducted in a unit.

US ARMY COMBAT ARMS TRAINING BOARD (USACATB): Organized in January 1972, USACATB's mission is to provide training assistance to units, expedite the development and distribution of training literature and materials designed to improve training and training management, and to better link units and service schools. Individuals desiring to communicate with USACATB should address their correspondence to the President, US Army Combat Arms Training Board, Fort Benning, Georgia 31905.

UTRAIN: A course developed by Infantry School and HumRRO personnel to train trainers to *conduct* performance-oriented training. A modified version appropriate for training trainers in units is provided in appendix F, of FM 21-6. (p. 140)

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