

1

AD-A172 416

DTIC FILE COPY

Research Product 85-08

**A Rapid Train-Up Program
for M60A3 Armor Force
Mobilization or Reconstitution**

**ARI Field Unit at Fort Knox, Kentucky
Training Research Laboratory**

February 1985

DTIC
ELECTE
SEP 24 1986

E

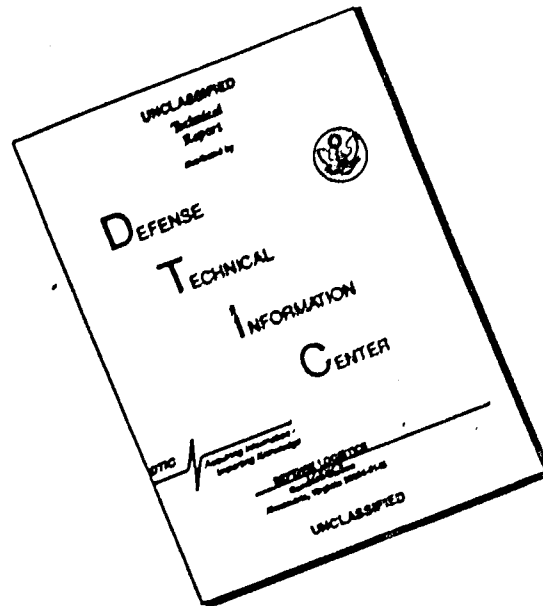


86 9 24 001

U. S. Army Research Institute for the Behavioral and Social Sciences

Approved for public release; distribution unlimited.

DISCLAIMER NOTICE



THIS DOCUMENT IS BEST QUALITY AVAILABLE. THE COPY FURNISHED TO DTIC CONTAINED A SIGNIFICANT NUMBER OF PAGES WHICH DO NOT REPRODUCE LEGIBLY.

UNCLASSIFIED

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM
1. REPORT NUMBER ARI Research Product 85-08	2. GOVT ACCESSION NO. AD-6172416	3. RECIPIENT'S CATALOG NUMBER
4. TITLE (and Subtitle) A RAPID TRAIN UP PROGRAM FOR M60A3 ARMOR FORCE MOBILIZATION OR RECONSTITUTION		5. TYPE OF REPORT & PERIOD COVERED 10/83-10/84 Final Report
		6. PERFORMING ORG. REPORT NUMBER
7. AUTHOR(s) Ronald E. Kraemer, Michael R. Anderson, Donald M. Kristiansen, & Jared B. Jobe		8. CONTRACT OR GRANT NUMBER(s) --
9. PERFORMING ORGANIZATION NAME AND ADDRESS U.S. Army Research Institute for the Behavioral and Social Sciences, 5001 Eisenhower Avenue, Alexandria, VA 22333		10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS 2Q263743A794
11. CONTROLLING OFFICE NAME AND ADDRESS U.S. Army Research Institute for the Behavioral and Social Sciences, 5001 Eisenhower Avenue, Alexandria, VA 22333		12. REPORT DATE February 1985
		13. NUMBER OF PAGES 222
14. MONITORING AGENCY NAME & ADDRESS (if different from Controlling Office) --		15. SECURITY CLASS. (of this report) Unclassified
		15a. DECLASSIFICATION/DOWNGRADING SCHEDULE
16. DISTRIBUTION STATEMENT (of this Report) Approved for public release; distribution unlimited.		
17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report) --		
18. SUPPLEMENTARY NOTES Related report is RP 85-09.		
19. KEY WORDS (Continue on reverse side if necessary and identify by block number) Armor Training, M60A3 Tank Tank Crew Training, Rapid Train-Up Armor Force Mobilization Sustainment Training, Training Materials Trainer's Guide Training Modules Unit Training Armor Force Reconstitution Training Management.		
20. ABSTRACT (Continue on reverse side if necessary and identify by block number) Research was conducted to develop a rapid train-up program for M60A3 Armor Force mobilization or reconstitution. The training products developed consist of a set of training modules for use in preparing tank commanders, gunners, drivers, and loaders for combat; a Trainer's Guide that provides the trainer with "how to train" information; and a Training Manager's Guide that tells the company commander how to manage the rapid train-up program. Also, these training materials can be used to train non-armor personnel as a tank loader, sustainment-train armor crewmen in their duty position, and to cross-train them in other duty positions. <i>See records</i>		

DD FORM 1 JAN 73 1473

EDITION OF 1 NOV 65 IS OBSOLETE

UNCLASSIFIED

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

U. S. ARMY RESEARCH INSTITUTE FOR THE BEHAVIORAL AND SOCIAL SCIENCES

A Field Operating Agency under the Jurisdiction of the
Deputy Chief of Staff for Personnel

EDGAR M. JOHNSON
Technical Director

L. NEALE COSBY
Colonel, IN
Commander

Technical review by

Theodore Blasche, Research & Development Coordinator, ARI Fort Knox Field Unit
Susan L. Burroughs



Accession For	
NTIS GRA&I	☒
DTIC TAB	☐
Unannounced	☐
Justification	
By _____	
Distribution/ _____	
Availability Codes	
Dist	Avail and/or Special
A-1	

NOTICES

FINAL DISPOSITION: This Research Product may be destroyed when it is no longer needed. Please do not return it to the U.S. Army Research Institute for the Behavioral and Social Sciences.

NOTE: This Research Product is not to be construed as an official Department of the Army document in its present form.

Research Product 85-08

**A Rapid Train-Up Program
for M60A3 Armor Force
Mobilization or Reconstitution**

**Ronald E. Kraemer, Michael R. Anderson,
Donald M. Kristiansen, and Jared B. Jobe**

**ARI Field Unit at Fort Knox, Kentucky
Donald F. Haggard, Chief**

**Training Research Laboratory
Harold F. O'Neill, Jr., Director**

**U.S. ARMY RESEARCH INSTITUTE FOR THE BEHAVIORAL AND SOCIAL SCIENCES
5001 Eisenhower Avenue, Alexandria, Virginia 22333-5600**

**Office, Deputy Chief of Staff for Personnel
Department of the Army**

February 1985

**Army Project Number
2Q263743A794**

**Small Unit Performance Training
Methods (Adv Dev)**

Approved for public release; distribution unlimited.

ARI Research Reports and Technical Reports are intended for sponsors of R&D tasks and for other research and military agencies. Any findings ready for implementation at the time of publication are presented in the last part of the Brief. Upon completion of a major phase of the task, formal recommendations for official action normally are conveyed to appropriate military agencies by briefing or Disposition Form.

FOREWORD

Armor forces throughout the U.S. Army must be prepared to rapidly mobilize in case of war or reconstitute following a major loss of crew personnel during combat. Specifically, since individual tank crews must be fully manned with trained, qualified soldiers at all duty positions, a standard operating procedure must be positioned for assigning armor and non-armor personnel to fill vacated crew positions. More importantly, transition-type training materials that can be used to rapidly prepare experienced and novice soldiers for armor combat must be present for immediate implementation. Failure to meet these basic requirements constitutes a serious threat to unit combat readiness. Specific training programs for conducting rapid armor force mobilization or reconstitution training are non-existent.

To assist the U.S. Army, particularly the U.S. Army Armor Center (USAARMC), the U.S. Army Research Institute for the Behavioral and Social Sciences (ARI) developed a rapid train-up program for M60A3 armor units. The training program consists of seventy-nine (79) separate training modules, each designed to prepare tank commanders, gunners, drivers, and loaders in their basic individual tank gunnery skills required for armor combat. Each module identifies administrative and training resource requirements to conduct training, provides a training needs assessment approach complete with evaluation instruments, and suggests a best method/approach to maximize training outcomes. Also included are separate chapters on how to use the training modules, how-to-train, and a methodology for managing a rapid train-up program.



EDGAR M. JOHNSON
Technical Director

A RAPID TRAIN-UP PROGRAM FOR M60A3 ARMOR FORCE
MOBILIZATION OR RECONSTITUTION

CONTENTS

	Part
TRAINING MANAGER'S GUIDE	1
TRAINER'S GUIDE	2
TANK COMMANDER TRAINING MODULES	3
TANK GUNNER TRAINING MODULES	4
TANK DRIVER TRAINING MODULES	5
TANK LOADER TRAINING MODULES	6

PART 1
TRAINING MANAGER'S GUIDE

TABLE OF CONTENTS

	Page
INTRODUCTION	1
The Training Program	1
Training Management	1
CHAPTER 1: DESCRIPTION OF TRAINING MODULES	2
Tasks Covered by Training Modules	2
How to Use a Training Module	2
Training Description	2
Training Pretest	3
Training Prescription	4
Training Progress	5
Training Assessment	6
CHAPTER 2: HOW TO TRAIN	8
Prepare for Training	8
Conduct the Training	9
CHAPTER 3: HOW TO MANAGE TRAINING	12
Planning Training	12
Training Responsibilities	12
Training Needs Assessment	13
Training Remediation	14
Controlling Training	15
Performance Assessment	15
Program Monitoring	16
APPENDIXES	
A. Tank Commander Training Modules	17
B. Tank Gunner Training Modules	18
C. Tank Driver Training Modules	19
D. Tank Loader Training Modules	20
E. Platoon Training Record	21

LIST OF TABLES

Table 1. Rapid Train-up Responsibilities of Instructional Personnel by Platoon Crew Positions	13
2. Test Requirement Decision Matrix for Determining Tank Commander Training Needs	13
3. Tank Commander Training Syllabus	14

INTRODUCTION

The criticality of training to mission success demands an active, effective planning and quality control system to ensure that established training goals are met. This is important during peacetime, but extremely important when tank crews must be rapidly prepared for combat during armor force mobilization or reconstitution. As a Company Commander, managing such a rapid train-up program will be one of your major responsibilities. This guide will help you achieve that goal.

THE TRAINING PROGRAM

A rapid train-up program for M60A3 armor force mobilization or reconstitution has been developed to prepare tank crewmen for combat. The program has two parts:

- Training Modules - - compact, ready made instructional units that provide a best method approach on how to train and evaluate tank crewmember job task performances.
- Training Guidance - - sound, learning-based guidance on how soldiers acquire knowledge and skills and what trainers can do to increase their training effectiveness.

The noncommissioned officers (NCOs) within the company are responsible for training the tank crews in their individual skills using the training modules. They are also responsible for keeping a record of who was trained on what tasks, and for providing that information on a daily basis to their respective platoon leader.

TRAINING MANAGEMENT

As a Company Commander you have two major training management responsibilities:

- Planning training. You, in conjunction with the battalion S-3 and platoon leaders must select the time and place for conducting training and obtaining the required training resources.
- Controlling training. You, in coordination with your platoon leaders and NCOs, must control the training process by assessing the product or results of training and monitoring the overall efficiency of the training program.

How to best accomplish each of these responsibilities is presented in Chapter 3 of this guide. Before referring to this chapter read Chapter 1, which describes a training module and how to use it, and the training guidance presented in Chapter 2.

CHAPTER 1

DESCRIPTION OF TRAINING MODULES

This chapter describes the training modules developed for training tank commanders (TCs), gunners (GNRs), drivers (DVRs), and loaders (LDRs). It also describes the contents of a training module and how to use it.

TASKS COVERED BY TRAINING MODULES

Separate training modules have been developed for training TC, GNR, DVR, and LDR tasks. The tasks covered by TC training modules are listed in Appendix A, Table A-1. Tasks covered by GNR, DVR, and LDR training modules are listed in Appendix A, Table A-2, A-3, and A-4 respectively. Collectively, these tasks represent the basic skills required by M60A3 armor crewmen to engage and defeat the enemy.

The number of tasks that can be trained during force mobilization or reconstitution will vary depending on each unit's personnel training needs and amount of available training time and resources. Nevertheless, the order in which the tasks are listed in the tables should be the order in which they are trained. On inspection, you will find that those tasks presented at the top of each table contain the knowledges and skills that a soldier must possess to perform all subsequent tasks.

HOW TO USE A TRAINING MODULE

Each training module consists of a single page. The front side presents the administrative and training requirements, pretest procedure, training prescription, and training progress decision flow chart. The back side contains the task details needed for practice and evaluation.

To teach you how to use a training module, we will use TRAINING MODULE NO. 1 developed for the tank commander. Since the format of all training modules is the same, you should have no difficulty in using those developed for all other tasks.

Training Description

CREW POSITION: TANK COMMANDER	TRAINING MODULE NO: 1
TASK: CLEAR THE M85 MACHINEGUN.	TIME: 10 MINUTES
PREREQUISITE TASKS: NONE.	
TRAINING REFERENCES: TM 9-2350-253-10; TM 9-1005-231-10.	
SUPPORT REQUIREMENTS: 1 M85 MACHINEGUN; 1 BELT OF CALIBER .50 DUMMY AMMO (10 ROUNDS).	

(continued)

This is the first section on the front side of a training module. It is used to describe both administrative and training requirements. Starting with the first line at the top left are the words CREW POSITION. This tells you for whom the module is intended. This will be either the Tank Commander, Gunner, Driver, or Loader. In this sample module it is TANK COMMANDER.

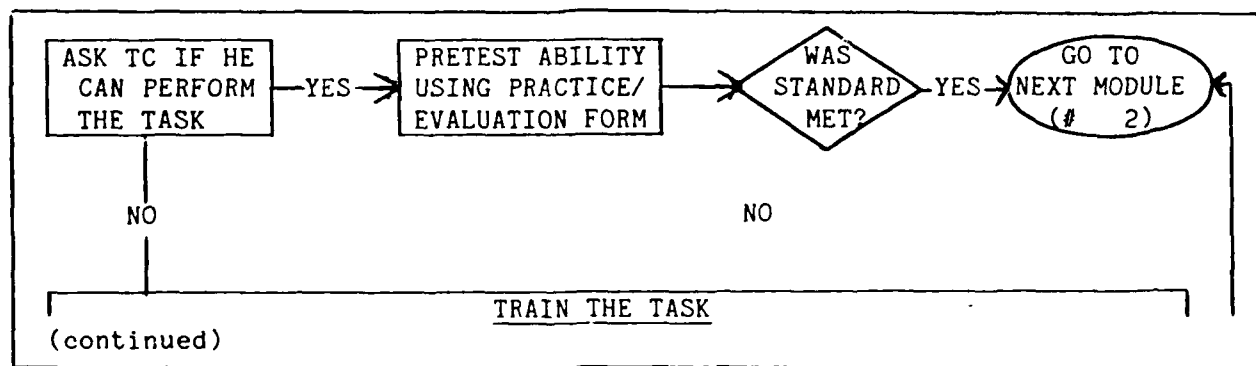
Straight across from CREW POSITION is the number of the training module: TRAINING MODULE NO: 1. This number simply helps keep track of the 22 separate modules developed for the TC position. The second line contains the title of the TASK and the TIME allocated to train it. In this sample module the TC will be trained to CLEAR THE M85 MACHINEGUN. The time allowed to train the task is 10 minutes.

The next line contains the title PREREQUISITE TASKS. These are tasks that should be trained prior to training on the present module. In this sample module there are NONE.

The fourth line contains a listing of TRAINING REFERENCES (literature, tapes, film, etc.) that describe how to perform the task. In the sample module, two Training Manuals (TMs) are cited; TM9-2350-253-10 and TM 9-1005-231-10.

The last line in the training description specifies the SUPPORT REQUIREMENTS (equipment, materials, ranges, etc.) needed for conducting the training. The sample module requires an M85 machinegun, and a 10 round belt of .50 caliber dummy ammunition.

Training Pretest



This section of a training module is used to determine whether there is a need for training. To make this decision, start with the first box on the left that contains the words ASK TC IF HE CAN PERFORM THE TASK. If the TC answers "NO", then follow the arrow down to the box that contains the words TRAIN THE TASK. (How to do that is covered in the next section). If the TC answers "YES", then follow the arrow to the right to the box that contains the words PRETEST ABILITY USING PRACTICE/EVALUATION FORM. Even though he says he can do it, you need to pretest him because people commonly overestimate their ability to perform tasks. (How to do that is covered in the last section). After giving the pretest go to the diamond figure to the right of the pretest box and answer the question "WAS STANDARD MET?" If the

answer is "NO", follow the arrow down to the box that contains the words TRAIN THE TASK. If the answer is "YES", follow the arrow to the right to the oval figure that contains the words GO TO NEXT MODULE (# 2). In short, if the TC says he can perform the task and "passes" the pretest, there is no need to train him in that task.

Training Prescription

TRAIN THE TASK

INTRODUCE

1. State performance task and training standards in your own words.
2. Emphasize safety requirements (warnings).

DEMONSTRATE

1. Position yourself in TC seat with TC observing from outside hatch.
2. Place the M85 safety in "S" position (dummy ammo loaded).
3. Walk through the clearing procedure (use Practice/Evaluation Form).
4. Repeat procedure for clearing the M85 machinegun, without interruption.

PRACTICE

1. Have the TC perform each step in clearing the M85 procedure as you announce them (use Practice/Evaluation form).
2. Provide prompts/cues to guide performance while reinforcing correct responses.
3. Critique performance while reinforcing correct responses.
4. Have the TC clear the M85 Machinegun, without prompting.
5. Repeat Steps 1-4 until satisfied with TC's performance.

EVALUATE

1. Instruct TC on performance evaluation procedure and standards.
2. BEGIN EXERCISE as provided on Practice/Evaluation Form.
3. Test to Standard: Clears the M85 Machinegun correctly and without delay.

(continued)

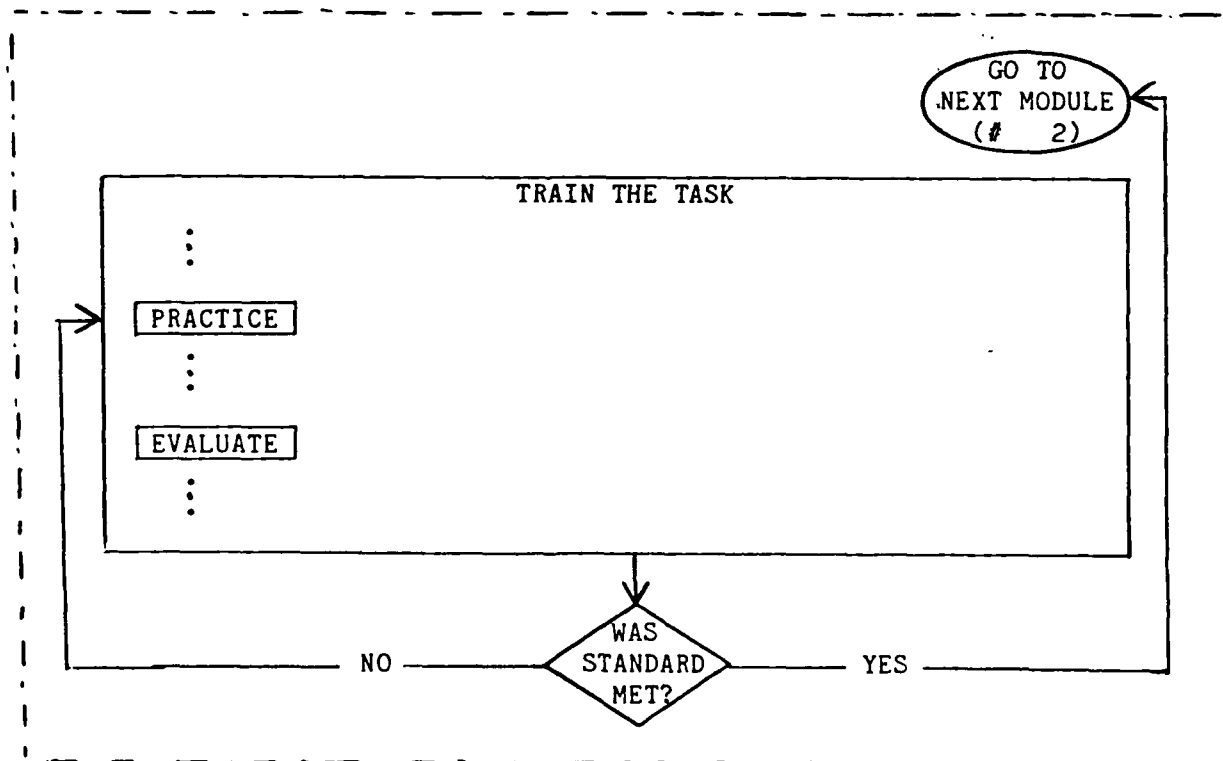
This section, which is on the front side of a training module, is used for conducting performance oriented training. To begin training, start with the box labeled INTRODUCE. In this sample training module, state the training requirement (step 1) and emphasize safety regulations (step 2). Do this in your own words, adding whatever additional comments, remarks, or descriptions you think would best introduce the training that will take place. If necessary ask questions to ensure the soldier (TC) understands what and how training is to be conducted.

Next, go to the box labelled DEMONSTRATE. This describes how to demonstrate the task. It doesn't tell you how to perform the task. How to perform the task is shown on the PRACTICE/EVALUATION FORM (this is covered in the last section). It is always assumed that the person conducting the training knows how to perform the task. In the DEMONSTRATION component, you are told how to prepare yourself and the TC (step 1), how to set up the equipment (step 2), and how to demonstrate the task using the crawl-walk-run training approach (steps 3-4).

After demonstrating the task to the soldier (TC), you should proceed to the box labelled PRACTICE. This lists how the practice is best conducted. In the sample training module you are told to have the soldier (TC) perform each task step as you announce them (step 1), provide prompts/cues to guide his performance (step 2), critique and reinforce correct responses (step 3), have the TC perform the task without prompting (step 4), and to repeat the procedure until you're satisfied with his performance.

The last phase in conducting training is identified by the box labeled EVALUATE. The evaluation is the soldier's final examination on the task. In carrying out this phase of training you will always inform the soldier (TC) on how the evaluation will be conducted and the testing standard (step 1). Do this in your own words. To begin testing, follow the procedure shown on the PRACTICE/EVALUATION FORM (step 2). After the evaluation, determine whether or not the soldier (TC) met the test standard (step 3).

Training Progress



This final section on the front of a training module controls the soldier's progress through the training program. To begin, follow the arrow down to the diamond figure and answer the question "WAS THE STANDARD MET?". If the answer is "NO", follow the arrow to the left to the box inside the TRAIN THE TASK section that contains the word PRACTICE and resume training. If the answer is "YES", follow the arrow to the right to the oval figure that contains the words GO TO NEXT TRAINING MODULE (# 2).

Training Assessment

PRACTICE/EVALUATION FORM			
<u>INSTRUCTOR</u>		<u>TC</u>	
BEGIN EXERCISE:		GO NO GO	
1. With the M85 machinegun safety in "F", cupola power switch in ON, and gun safety switch in "ON", announce "CLEAR THE M85 MACHINEGUN," and observe performance (Steps 1-9).		1. Sets gun safety switch to "OFF".	
:		2. Sets cupola power switch to "OFF".	
:		3. Sets machine gun safety to "S".	
:		:	
2. Score total performance.		9. Closes cover and cradle access door.	
GO NO GO			

This is on the back of a training module, and is used for both training and evaluation purposes. When demonstrating a task, it can be used as an instructional job aid or memory "jogger". When practicing a task, it can be used to direct the soldier's initial performance (as in the sample module) or to check-out the soldier's training progress.

The PRACTICE/EVALUATION FORM is self-explanatory. Whether for practice or evaluation purposes, follow the requirements under the title labelled INSTRUCTOR (for the GNR, DVR and LDR training modules, this title is labelled TC). Set-up the equipment conditions, instruct the soldier to perform the task, and observe the performance steps listed under the title TC. (Or GNR, DVR and LDR in their separate training modules). Simultaneously, check (X) whether the soldier (TC) performs each step correctly, "GO", or incorrectly, "NO GO". After the task is completed, check the appropriate GO or NO GO

boxes at the bottom center of the training module to score the soldier's overall or total performance.

To "pass" an evaluation a soldier should receive a GO on each of the individual performance steps. If in your judgment the error(s) or NO GOs are not critical and can be easily corrected without additional training, then feel free to "pass" the soldier. It's your decision. You establish the standards. If you are willing to go to combat with the men you have trained, then they are considered trained.

That's it. Since the training modules all follow the same format you should quickly get the "hang" of it. If you don't, simply refer back to this chapter and review the section(s) with which you are having difficulty.

CHAPTER 2

HOW TO TRAIN

This chapter provides you with some training techniques and guidance to help you prepare for and conduct performance oriented training. Learning how to apply these techniques when using the training materials will increase your effectiveness as a trainer.

PREPARE FOR TRAINING

To train a soldier to perform a task for the first time, you must know what you are talking about, be able to perform the task yourself, and be capable of handing off those task knowledges and skills to the soldier. The more you know about the task, the more the soldier being trained is going to know about the task, if you do your job right. The same holds true for the skill components of the task. However, the one quality that makes it all come together in the most effective and efficient manner is your ability to prepare for and conduct training.

To prepare for training, follow the training techniques and guidance presented below.

- Review the subject matter task. Obtain whatever training materials are available concerning the task and use them to learn all there is to know about the subject matter. Don't take the easy way out! The more materials you review, the more knowledgeable you will become about the task. Then, when debatable or questionable points surface during training, you can quickly support the correct position with facts. Moreover, you will be able to direct your men to the best training materials available for learning more about the task, whether for remedial self-instruction or job enrichment.

- Perform the task. Obtain whatever equipment is involved and perform the task yourself. Don't assume that you can perform a task if you have not performed it for some time. Tasks left unpracticed tend to be forgotten. The more difficult or complex the task procedure, the more likely this will occur, and in a shorter period of time. Performing the task will help you remember the procedures so that you can perform them correctly when required to do so during training. It will also help you remember specific teaching points that need special emphasis during training, and those "tricks of the trade" that you have gained over the years which can significantly improve the task performance of your men.

- Dry-run the training module. Not knowing how to train a task or simply doing it "off the top of your head," will seriously reduce your effectiveness as a trainer. Such "training" wastes time, permits errors to occur that interfere with learning, reduces learner motivation, and increases the risk of personal injury and/or equipment damage. Don't leave training to chance! Rehearse the training module so that you can introduce and demonstrate the task professionally. Learn how to conduct the practice session using the tools provided, and how to determine training success through performance evaluation.

CONDUCT THE TRAINING

To conduct training effectively you must understand what's taking place when you train someone. First, a person who is being trained is committing certain things to memory. For example, he memorizes the names and locations of specific controls, the steps in a procedure, the sequence in which those steps are performed, and the physical movements he must make to execute the task. If he does this well enough, then he can recall these things and use them to perform the task later on. Second, a person cannot be expected to perform a task to standard the very first time he attempts it. A person learns a little bit at a time. With each practice, he learns more, combines it with what he learned previously, and builds on his knowledge and skills.

To conduct training, follow the training techniques and guidance presented below.

● Introduce the task. Before you train, brief the soldier on what task will be trained, how it will occur, and what level of performance they must attain. This will give him an idea of what to expect. Keep the briefing short—two minutes at the most. Try to cover the following points:

- State the task and training standards, in your own words.
- Describe prerequisite tasks he should know to perform the task. Review the tasks if he needs the familiarization.
- Describe what training materials, equipment, or other resources he will use during training.
- Emphasize the appropriate safety warnings and the dangers he should be aware of when training.
- Explain that you will conduct training by demonstrating the task, having him practice it, then evaluating his performance.
- Provide enough information that he has a general idea of how training will occur and what's expected of him.
- Ask for questions, addressing those you can answer briefly but deferring those that can be answered during or after training.

● Demonstrate the task. This is where your knowledge and skill in performing the task becomes extremely important. It's also where what you do and how you do it affects the soldier's ability to learn the task. Each training module will contain specific instructions for demonstrating the task. Follow it and the training guidance presented below:

- Explain what you are doing as you do it. Soldiers will learn more if you support your actions with words that describe clearly what you are doing.

- Make certain that you demonstrate the task from the soldier's viewpoint. It does no good if what you are doing cannot be seen by the soldier.
 - Name and describe the pieces of equipment you are working with during the demonstration, even if he knows what they are. A brief description and purpose of each will help the soldier learn more effectively.
 - Ask questions as you demonstrate the task to make the soldier think, not just sit there watching you.
 - Repeat the total task performance without interruption to establish the standard you expected him to achieve as a result of training.
- Practice the task. Specific instructions are provided in each training module for practicing a task. Follow these instructions and the "crawl-walk-run" training technique presented below:
- Guide the soldier's performance step by step. Work on part of the task rather than the whole task. Have him perform the task parts slowly and correctly as you provide the prompts and cues to direct his actions. When he learns a part or step, train him on another, until you have covered all the steps.
 - Have the soldier perform the total task without regards to "time" standards and with cues/prompts when needed. As learning occurs, speed things up. Remove all prompts and cues, but continue to reinforce correct performance until you achieve the training standards.
- Evaluate soldier performance. Although the soldier receives feedback while practicing the task, you still want to evaluate his performance under more formal, test-like conditions. He still needs to know how well he performs the task and where his strengths and weaknesses lie. Specific instructions for evaluating a soldier's performance on a task are presented in each training module. Follow its directions, and keep in mind the following guidance:
- Soldiers who are learning a new task are not very good at evaluating their own performance. Someone must tell them what they are doing right and wrong. Mistakes can then be corrected and learning will occur.
 - Make feedback brief and specific. If errors are made, tell him what he did wrong and how to do it right. Show him and let him do it again, as time permits.
 - Don't be judgmental. Avoid the use of emotion-laden terms such as profanity or slang. These interfere with learning and are often counter-productive.

- Keep the evaluation impersonal. Talk about the task and what the soldier did correctly and incorrectly. Don't talk about the soldier. Talk instead about what he did that should not have been done.

Applying the training techniques and guidance presented in this chapter will make you a more effective and efficient trainer. How successful you become will depend not only on your ability to apply this information, but on your attitude towards training in general. In short, the more serious you are about training, the more effective you and your men will become.

CHAPTER 3

HOW TO MANAGE TRAINING

This chapter provides you with a methodology for managing a rapid train-up program developed for M60A3 armor force mobilization or reconstitution. It also provides you with the supporting materials for assessing training needs, planning training remediation, and recording both individual and tank crew training progress.

PLANNING TRAINING

The overall responsibility for individual skills training in the U.S. Army resides at the battalion level and below. Generally, personnel at the battalion level (S-3) support company level commanders' training activities by providing training resources and coordinating training activities among companies. The responsibility for actually conducting training is normally entrusted to company commanders who subsequently delegate the day-to-day training task to the lowest supervisory level i.e., tank commanders.

Several assumptions have been made about armor force mobilization or reconstitution training. First, it's assumed that the rapid train-up of armor and non-armor personnel will be managed at the company level. Company commanders, in coordination with the battalion (S-3) and platoon leaders, will schedule what, when, and where training is to take place. More importantly, they will provide the command emphasis and leadership required of commanders to instill an attitude of excellence among all personnel. Secondly, training will be carried out by noncommissioned officer (NCO) personnel using basically the tank itself to get the job done. As other training resources become available (instructors, devices, training aids, facilities, etc.), they can be substituted to accomplish the training objectives. Lastly, when tank crews are reorganized to fill vacancies created by personnel turbulence or combat attrition, tank gunners will be trained-up for the tank commander position. Tank drivers or loaders, based on an assessment of their gunnery potential, will be trained-up as gunners. Loaders will be trained-up to fill vacated driver's positions and, if applicable, new or non-armor personnel will be trained as loaders. Since the loader's position is least critical within a tank crew, such inexperience will be less of a drawback in overall crew effectiveness.

Training Responsibility

Table 1 below depicts the rapid train-up responsibilities of instructional personnel by platoon crew positions. As shown, the company's master gunner is responsible for all tank commander training. The three NCO tank commanders within the platoon are then responsible for the separate group training of all gunners, loaders, and drivers. For example, one tank commander will train all four gunners, while another trains all four loaders. Which NCO tank commander trains what group is the platoon leader's decision, and should be based on the master gunner's assessment of each tank commander's individual expertise and training preference.

TABLE 1

Rapid Train-up Responsibilities of Instructional Personnel
by Platoon Crew Positions

Platoon Crew Positions	Instructional Personnel			
	Master Gunner	NCO Tank Commanders		
		1	2	3
Tank Commander	x			
Gunner		x		
Loader			x	
Driver				x

Training Needs Assessment

Since tank commanders function as both trainer and trainee, the initial part of the rapid train-up program is dedicated to assessing their individual training needs. This assessment should be conducted by trained personnel who are themselves proficient in the task performances. Within a tank company this would most likely be the master gunner and platoon sergeants. To ensure that they are qualified, it is recommended that they test each other on each tank commander task and remediate training deficiencies, if any, before testing of tank commanders begins.

Table 2 below presents a test requirement decision matrix for determining tank commander training needs. As shown, not all tank commander task performances are tested. Prerequisite tasks, tasks which must be accomplished in order to perform higher-order tasks, may preclude additional task testing. For example, if the tank commander cannot perform task number one, a prerequisite task for performing task number two and three, then he would be tested next on task number four. In addition, all three task numbers would be identified (circled) as training needs.

TABLE 2

Test Requirement Decision Matrix for Determining
Tank Commander Training Needs

Test Requirement (Module No.)	Decision	Training Need (circle)			
Test #1,2, then 3.	If TC NO GOs on any one of these tasks, test #4.	1	2	3	
Test #4,5,6, then 7.	If TC NO GOs on any one of these tasks, test #8.	4	5	6	7
Test #8,9,10, then 11. (continued)	If TC NO GOs on any one of these tasks, test #14.	8	9	10	11

Test #12,13, then 14.	If TC NO GOs on any one of these tasks, STOP.	12 13 14
Test #15 then 16	If TC NO GOs on any one of these tasks, test #18.	15 16
Test #17	If TC NO GOs on this task, test #18.	17
Test #18	If TC NO GOs on this task, test #19.	18
Test #19	If TC NO GOs on this task, test #20	19
Test #20	If TC NO GOs on this task, test #21	20
Test #21	If TC NO GOs on this task, test #22	21
Test #22	If TC NO GOs on this task, STOP	22

The training needs of the tank gunners, drivers, and loaders within the platoon could be assessed in a similar manner. However, since they do not have a responsibility to conduct training, it's unnecessary. For mobilization or reconstitution, these crewmembers should be tested on a task and then provided immediate remedial instruction if they cannot perform it.

Training Remediation

In most cases, the pretesting of a task performance itself will provide the remedial type instruction necessary to train-up experienced tank commanders to an acceptable performance level. Where additional training is necessary, as in the case of gunners being trained-up for the position, training should be scheduled so that subject-matter related tasks are taught within a single block of instruction (See TABLE 3). Also, tank commanders who have successfully performed all job tasks should be used to peer-instruct those tank commanders who require additional training. Whenever possible, master gunner or platoon sergeant personnel should be used to train-up platoon leaders.

TABLE 3

Tank Commander Training Syllabus

Block of Instruction	Tasks	Training Module No
• M85 Machinegun	Clear, Install, Load, Boresight, Prep-to-fire, Remove.	1,2,5,6, 7,21.
• M36E1 Periscope	Remove-Install.	3.
• Cdr's Station	Prepare, Power-down, Secure.	4,22.

- | | | |
|----------------------|---|---------------------|
| • Laser Rangefinder | Self-test, Logic-test, Firing test, Boresight, Operate, Multiple Returns. | 8,9,10,11
12,13. |
| • Fire Commands | Issue, Subsequent. | 14,15. |
| • Target Engagements | Prep-to-fire, Direct-Normal Mode, Engage from Cdr's Station, Range Card, M85. | 16,17,18,
19,20. |

After tank commanders are trained and qualified in their duty position, the remainder of the rapid train-up time is used to train tank gunners, drivers, and loaders in their respective duty positions. This training should be conducted by individual NCO tank commanders using the training modules and the how-to-train techniques and guidance presented in chapters 1 and 2.

Since all personnel cannot be trained simultaneously, it is recommended that tank commanders train-up the more experienced soldiers in the crew position first. The remaining soldiers should monitor the training, mentally rehearsing the task performance, so that they can be better prepared to perform it when being trained. For example, gunners trained-up on a task should be used to prepare the new or inexperienced gunners to perform the task. This "coaching along the sidelines" will significantly reduce the amount of training time required to train-up crewmembers in their duty positions. It will also provide the amount of overlearning that increases task proficiency and enhances retention for both "coach" and "player."

CONTROLLING TRAINING

Controlling the training process ensures that the goals established for the rapid train-up program are being achieved, and if they are not, that immediate corrective actions can be taken to do so. Performance assessment and program monitoring are two ways to control training. Performance assessment evaluates the level of task proficiency being achieved by tank crewmembers, while program monitoring continuously evaluates the training efficiency of the overall program. Combined they provide both training developers and management personnel with the data needed to maintain and improve the quality of training.

Performance Assessment

Performance assessment is the responsibility of the master gunner or NCO tank commander conducting the rapid train-up of tank crewmembers. As designed, each trainer establishes the level of proficiency required for each task. This approach is based on the rationale that neither the trainer nor the soldier being trained will intentionally avoid being fully prepared for combat. For that reason, no additional testing for quality controlling training is considered necessary.

To assess performance, it is recommended that the following actions be taken by the platoon leader on a daily basis.

- (a) Have each tank commander provide you with information on who was trained and on what tasks.
- (b) Record these data on the attached Platoon Training Record (Appendix E) and continuously update it as training progresses.
- (c) Monitor tank crewmember training to verify and maintain adherence to the rapid train-up program, and provide training guidance.
- (d) Determine what changes, if any, are required to improve the training and management of the program, and present them to your company commander.

Program Monitoring

Program monitoring ensures that the rapid train-up taking place in the unit is both effective and efficient. Tank crews must be observed to evaluate training success, identify potential problems or additional training needs, and determine what changes or improvements, if any, can be made in the training process.

To accomplish this effort, it is recommended that the following actions be taken by the company commander and master gunner every other day.

- (a) Randomly select at least two tank crews from each tank platoon in the company to verify the training results reported on the Platoon Training Record (Appendix E).
- (b) Select six different task performances on which various tank crewmembers have been successfully trained.
- (c) Obtain the training modules developed for these six tasks and, using the appropriate Practice/Evaluation Forms, have each crewmember demonstrate his task proficiency.
- (d) Gross deviations in task proficiency is indicative of "something very wrong." Meet immediately with the respective platoon leaders and determine what is wrong and what corrective measures are necessary to remedy the problem.

APPENDIX A

TANK COMMANDER TASKS COVERED IN TRAINING MODULES

Module No.	Task	Check When Completed	Date
1	Clear the M85 Machinegun.	_____	_____
2	Install M85 Machinegun.	_____	_____
3	Remove/Install M36E1 Periscope, Daylight Body, and Passive Elbow.	_____	_____
4	Prepare Station for Operation.	_____	_____
5	Load the M85 Machinegun.	_____	_____
6	Boresight M85 Machinegun & M36E1 Periscope.	_____	_____
7	Perform M85 Machinegun Prepare-to-Fire Checks.	_____	_____
8	Conduct LRF Self Test.	_____	_____
9	Conduct LRF Logic Test.	_____	_____
10	Conduct LRF Firing Test.	_____	_____
11	Boresight the LRF.	_____	_____
12	Operate the LRF.	_____	_____
13	Respond to Multiple Range Returns.	_____	_____
14	Issue Fire Commands.	_____	_____
15	Issue Subsequent Fire Commands.	_____	_____
16	Perform Prepare-to-Fire Checks.	_____	_____
17	Direct Main Gun Engagements-Normal Mode.	_____	_____
18	Engage Main Gun Targets from TC Station.	_____	_____
19	Direct Main Gun Engagement Using Range Card Data.	_____	_____
20	Engage Targets with M85 Machinegun.	_____	_____
21	Remove the M85 Machinegun.	_____	_____
22	Power Down and Secure Tank Commander's Station.	_____	_____

APPENDIX B

GUNNER TASKS
COVERED IN TRAINING MODULES

<u>Module No.</u>	<u>Task</u>	<u>Check When Completed</u>	<u>Date</u>
1	Operate M28E2 Azimuth Indicator.	_____	_____
2	Operate M1A1 Gunner's Quadrant.	_____	_____
3	Test and Adjust M13A3 Elevation Quadrant.	_____	_____
4	Perform a Zero Pressure Check.	_____	_____
5	Place the TTS into Operation.	_____	_____
6	Perform a Computer Self-test.	_____	_____
7	Prepare to Boresight the 105-MM Main Gun with M26 Muzzle Boresight Device.	_____	_____
8	Boresight Daylight Channels of TTS.	_____	_____
9	Adjust/Refer Thermal Channel of TTS for Boresight.	_____	_____
10	Adjust/Refer M105D Telescope for Boresight.	_____	_____
11	Apply Computer Correction Factors.	_____	_____
12	Perform Prepare-to-Fire-Checks.	_____	_____
13	Track Targets Using the Power Control Handles.	_____	_____
14	Apply Auto and Manual Lead.	_____	_____
15	Engage Stationary Main Gun Targets in Normal Mode.	_____	_____
16	Engage Moving Main Gun Targets in Normal Mode.	_____	_____
17	Engage Main Gun Target Using the M105D Telescope.	_____	_____
18	Adjust Fire for Main Gun Engagements.	_____	_____
19	Perform Main Gun Misfire Procedures.	_____	_____
20	Power Down and Secure Gunner's Station.	_____	_____

APPENDIX C

DRIVERS TASKS
COVERED IN TRAINING MODULES

<u>Module No.</u>	<u>Task</u>	<u>Check When Completed</u>	<u>Date</u>
1	Perform Before/During/After Operation PMCS.	_____	_____
2	Drive Tank Across Varied Terrain.	_____	_____
3	Perform Hull Down/Turret Down Movement.	_____	_____
4	Drive Tank Using Cover and Concealment.	_____	_____
5	Drive Tank in Stabilized Mode.	_____	_____
6	Maneuver Tank Using Smoke Generator.	_____	_____
7	Drive Tank Using Evasive Action Techniques.	_____	_____
8	Install Night Vision Device AN/VVS-2.	_____	_____
9	Place AN/VVS-2 Night Vision Device into Operation.	_____	_____
10	Drive the Tank at Night Using AN/VVS-2 Night Vision Device.	_____	_____
11	Remove and Stow the AN/VVS-2 Night Vision Device.	_____	_____

APPENDIX D

LOADER TASKS COVERED IN TRAINING MODULES

Module No.	Task	Check When	
		Completed	Date
1	Identify Friendly and Threat (OPFOR) Vehicles.	_____	_____
2	Acquire Targets.	_____	_____
3	Operate Tank Intercom Set 2298/VRC.	_____	_____
4	Identify Main Gun Ammunition.	_____	_____
5	Operate Ammo Stowage Racks.	_____	_____
6	Stow Main Gun and Coax Ammunition.	_____	_____
7	Open/Close 105-mm Main Gun Breech Manually.	_____	_____
8	Load/Unload the 105-mm Main Gun.	_____	_____
9	Apply Loader Misfire Procedures to 105-mm Main Gun.	_____	_____
10	Responding to Battlesight Fire Commands.	_____	_____
11	Respond to Precision Fire Commands Requiring a First round Ammo Change.	_____	_____
12	Respond to Precision Fire Commands Requiring a Second Round Ammo Change.	_____	_____
13	Load the M240 7.62-mm Coax Machinegun.	_____	_____
14	Clear the M240 7.62-mm Coax Machinegun.	_____	_____
15	Mount/Dismount the M240 7.62-mm Coax Machinegun.	_____	_____
16	Boresight the M240 7.62-mm Coax Machinegun.	_____	_____
17	Take Immediate Action on M240 7.62-mm Coax Machinegun Stoppage.	_____	_____
18	Disassemble/Assemble M240 7.62-mm Coax Machinegun.	_____	_____
19	Perform Loader's Prepare-to-Fire Checks.	_____	_____
20	Perform Before/During/After Operation PMCS.	_____	_____
21	Remove/Install 105-mm Main Gun Breechblock.	_____	_____
22	Disassemble/Assemble the 105-mm Main Gun Breechblock.	_____	_____
23	Put on and Wear the M25A1 Protective Mask.	_____	_____
24	Operate the Gas-Particulate Filter Unit.	_____	_____

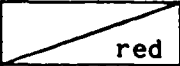
APPENDIX E

Platoon Training Record Instructions

1. ADMINISTRATIVE

- a. Complete the information requested at top of training record.
- b. Identify the tank number and print the names of each tank crewmember in the crew.
- c. Repeat step b for all tank crews.

2. PRETEST

- a. Draw a diagonal line in a Training (Task) Module box () after the pretest has been administered to a tank crewmember.
- b. If the crewmember "passed" the pretest, color in the upper half of the box () using a green pencil or ink to highlight "GO" result.
- c. If the crewmember "failed" the pretest, color in the bottom half of the box () using a red pencil or ink to highlight "NO GO" result.

3. TRAINING/REMEDIATION

- a. After a crewmember has been trained to standard, color in the upper half of the box () using a green pencil or ink to highlight "GO" result.
- b. When a tank crewmember has successfully completed training, color in the box under the word TOTAL using a green pencil or ink to highlight the crew's training readiness status.

PLATOON TRAINING RECORD

Tank Plt _____ Unit _____ Plt Leader _____ Plt Sergeant _____

Tank No.		Training Modules																								Total			
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24				
1	TC																												
	GR																												
	LR																												
	DR																												
2	TC																												
	GR																												
	LR																												
	DR																												
3	TC																												
	GR																												
	LR																												
	DR																												
4	TC																												
	GR																												
	LR																												
	DR																												

PART 2
TRAINER'S GUIDE

TRAINER'S GUIDE

**A RAPID TRAIN-UP PROGRAM
FOR M60A3 ARMOR FORCE MOBILIZATION
OR RECONSTITUTION**

Prepared by:
U.S. Army Research Institute for
the Behavioral and Social Sciences
Ft Knox Field Unit
Ft Knox, Kentucky 40121

September, 1984

TABLE OF CONTENTS

	Page
INTRODUCTION	1
The Training Program	1
Training Management	1
THE TRAINER'S GUIDE	2
Purpose	2
Organization	2
CHAPTER 1: DESCRIPTION OF TRAINING MODULES	3
Tasks Covered by Training Modules	3
How to Use a Training Module	3
Training Description	3
Training Pretest	4
Training Prescription	5
Training Progress	6
Training Assessment	7
CHAPTER 2: HOW TO TRAIN	9
Prepare for Training	9
Conduct the Training	10
APPENDIXES	
A. Tank Commander Training Modules	13
B. Tank Gunner Training Modules	14
C. Tank Driver Training Modules	15
D. Tank Loader Training Modules	16

INTRODUCTION

One of the most important responsibilities of non-commissioned officers (NCOs) during force mobilization or reconstitution is to rapidly prepare soldiers to perform their jobs to the highest possible standards. To accomplish this task NCOs must know how to train effectively and efficiently, i.e., to produce the most qualified men with the least amount of time and resources. This training program and guide for conducting rapid train-up will help you achieve this goal.

THE TRAINING PROGRAM

This training program is designed primarily for training M60A3 armor crewmembers during a rapid train-up period, that is, force mobilization or reconstitution; a time when armor and non-armor personnel may be assigned to a new crew or job position. It also can be used for cross-training and sustainment training purposes.

When a tank crew is reorganized, the tank gunner will be trained-up for the tank commander's position. Tank commanders may select either the driver or loader to fill a vacated gunner's position, based on their personal assessment of each individual's gunner potential. The loader will be trained-up to fill the driver's position, and a new or non-armor soldier will be trained as a loader. This is the least critical position within a tank crew and such inexperience will be less of a draw back in overall crew effectiveness.

The rapid train-up program contains a total of 79 individual M60A3 armor tasks with separate training modules or units developed for each crew position. Each training module has five parts:

- TRAINING DESCRIPTION. This part describes who to train, what to train, where, and the time and resources needed by you to carry out the training.

- TRAINING PRETEST. This part presents a flow charted procedure that can be used to determine whether a task should be trained.

- TRAINING PRESCRIPTION. This part prescribes how to conduct training for a specific task. It tells you how to introduce the task for training, how to demonstrate it to the soldier, how to conduct the required practice, and how to determine training success through task evaluation.

- TRAINING PROGRESS. This part presents a flow charted procedure for controlling a soldier's progress through the training program.

- TRAINING ASSESSMENT. This part specifies the task detailing you will need for practicing and/or evaluating training success.

TRAINING MANAGEMENT

The rapid train-up program is managed at the company level by the company commander and platoon leader. Together, they will schedule what, when and where training is to take place. NCO tank commanders will conduct the training and evaluate soldier performance. In doing so, they will keep track (records) of who was trained and on what tasks, and provide that information on a regular basis to their platoon leader.

THE TRAINER'S GUIDE

PURPOSE

The purpose of the trainer's guide is to (a) familiarize tank commanders (trainers) with the M60A3 rapid train-up program and (b) serve as a training reference document.

To familiarize yourself with the training program, carefully read Chapters 1-2. These chapters will describe the training modules and tell you how to prepare and conduct the training. Then review each crewmember's task inventory in Appendix A-D to identify the training tasks; tasks for which training modules were developed. After that, refer to the trainer's guide as often as necessary.

ORGANIZATION

The trainer's guide consists of two Chapters and four Appendices. The chapters contain descriptive and "how-to" information concerning training. The Appendices contains the training modules developed for each armor crew position. The contents of each Chapter and Appendix are described below.

Chapter 1, Description of Training Modules, introduces you to the training modules. It tells you what tasks are covered and how to use a training module.

Chapter 2, How to Train, describes how to prepare for and conduct training. It describes the performance-oriented training method, and provides training steps to help make you a better trainer.

Appendix A, Tank Commander Training Modules, lists the tasks to be trained, preferably by the master gunner for the TC position.

Appendix B, Tank Gunner Training Modules, lists the tasks to be trained by the tank commander for the gunner position.

Appendix C, Tank Driver Training Modules, lists the tasks to be trained by the tank commander for the driver position.

Appendix D, Tank Loader Training Modules, lists the tasks to be trained by the tank commander for the loader position.

CHAPTER 1

DESCRIPTION OF TRAINING MODULES

This chapter describes the training modules developed for training tank commanders (TCs), gunners (GNRs), drivers (DVRs), and loaders (LDRs). It also describes the contents of a training module and how to use it.

TASKS COVERED BY TRAINING MODULES

Separate training modules have been developed for training TC, GNR, LDR, and DVR tasks. The tasks covered by TC training modules are listed in Appendix A, Table A-1. Tasks covered by GNR, LDR, and DVR training modules are listed in Appendix A, Table A-2, A-3, and A-4 respectively. Collectively, these tasks represent the basic skills required by M60A3 armor crewmen to engage and defeat the enemy.

The number of task that can be trained during force mobilization or reconstitution will vary depending on each unit's personnel training needs and amount of available training time and resources. Nevertheless, the order in which the tasks are listed in the tables should be the order in which they are trained. On inspection, you will find that those tasks presented at the top of each table contain the knowledges and skills that a soldier must possess to perform all subsequent tasks.

HOW TO USE A TRAINING MODULE

Each training module consists of a single page. The front side presents the administrative and training requirements, the pretest procedure, the training prescription, and the training progress decision flow chart. The back side contains the task details needed for practice and evaluation.

To teach you how to use a training module, we will use TRAINING MODULE NO. 1 developed for the tank commander. Since the format of all training modules is the same, you should have no difficulty in using those developed for all other tasks.

Training Description

CREW POSITION: TANK COMMANDER	TRAINING MODULE NO: 1
TASK: CLEAR THE M85 MACHINEGUN.	TIME: 10 MINUTES
PREREQUISITE TASKS: NONE.	
TRAINING REFERENCES: TM 9-2350-253-10; TM 9-1005-231-10.	
SUPPORT REQUIREMENTS: 1 M85 MACHINEGUN; 1 BELT OF CALIBER .50 DUMMY AMMO (10 ROUNDS).	

(continued)

This is the first section on the front side of a training module. It is used to describe both administrative and training requirements. Starting with the first line at the top left are the words CREW POSITION. This tells you for whom the module is intended. This will be either the Tank Commander, Gunner, Driver, or Loader. In this sample module it is TANK COMMANDER.

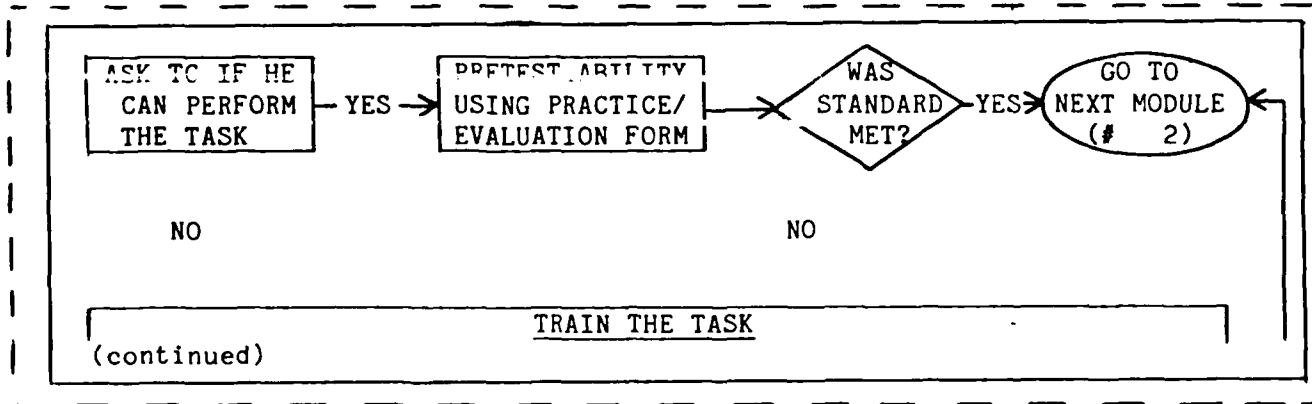
Straight across from CREW POSITION is the number of the training module: TRAINING MODULE NO: 1. This number simply helps keep track of the 22 separate modules developed for the TC position. The second line contains the title of the TASK and the TIME allocated to train it. In this sample module the TC will be trained to CLEAR THE M85 MACHINEGUN. The time allowed to train the task is 10 minutes.

The next line contains the title PREREQUISITE TASKS. These are tasks that should be trained prior to training on the present module. In this sample module there are NONE.

The fourth line contains a listing of TRAINING REFERENCES (literature, tapes, film, etc.) that describe how to perform the task. In the sample module, two Training Manuals (TMs) are cited; TM 9-2350-253-10 and TM 9-1005-231-10.

The last line in the training description specifies the SUPPORT REQUIREMENTS (equipment, materials, ranges, etc.) needed for conducting the training. The sample module requires an M85 machinegun, and a 10 round belt of .50 caliber dummy ammunition.

Training Pretest



This section of a training module is used to determine whether there is a need for training. To make this decision, start with the first box on the left that contains the words ASK TC IF HE CAN PERFORM THE TASK. If the TC answers "NO", then follow the arrow down to the box that contains the words TRAIN THE TASK. (How to do that is covered in the next section). If the TC answers "YES", then follow the arrow to the right to the box that contains the words PRETEST ABILITY USING PRACTICE/EVALUATION FORM. Even though he says he can do it, you need to pretest him because people commonly overestimate their ability to perform tasks. (How to do that is covered in the last section). After giving the pretest go to the diamond figure to the right of the pretest box and answer the question "WAS STANDARD MET?" If the

answer is "NO", follow the arrow down to the box that contains the words TRAIN THE TASK. If the answer is "YES", follow the arrow to the right to the oval figure that contains the words GO TO NEXT MODULE (# 2). In short, if the TC says he can perform the task and "passes" the pretest, there is no need to train him in that task.

Training Prescription

TRAIN THE TASK

INTRODUCE

1. State performance task and training standards in your own words.
2. Emphasize safety requirements (warnings).

DEMONSTRATE

1. Position yourself in TC seat with TC observing from outside hatch.
2. Place the M85 safety in "S" position (dummy ammo loaded).
3. Walk through the clearing procedure (use Practice/Evaluation Form).
4. Repeat procedure for clearing the M85 machinegun, without interruption.

PRACTICE

1. Have the TC perform each step in clearing the M85 procedure as you announce them (use Practice/Evaluation form).
2. Provide prompts/cues to guide performance while reinforcing correct responses.
3. Critique performance while reinforcing correct responses.
4. Have the TC clear the M85 Machinegun, without prompting.
5. Repeat Steps 1-4 until satisfied with TC's performance.

EVALUATE

1. Instruct TC on performance evaluation procedure and standards.
2. BEGIN EXERCISE as provided on Practice/Evaluation Form.
3. Test to Standard: Clears the M85 Machinegun correctly and without delay.

(continued)

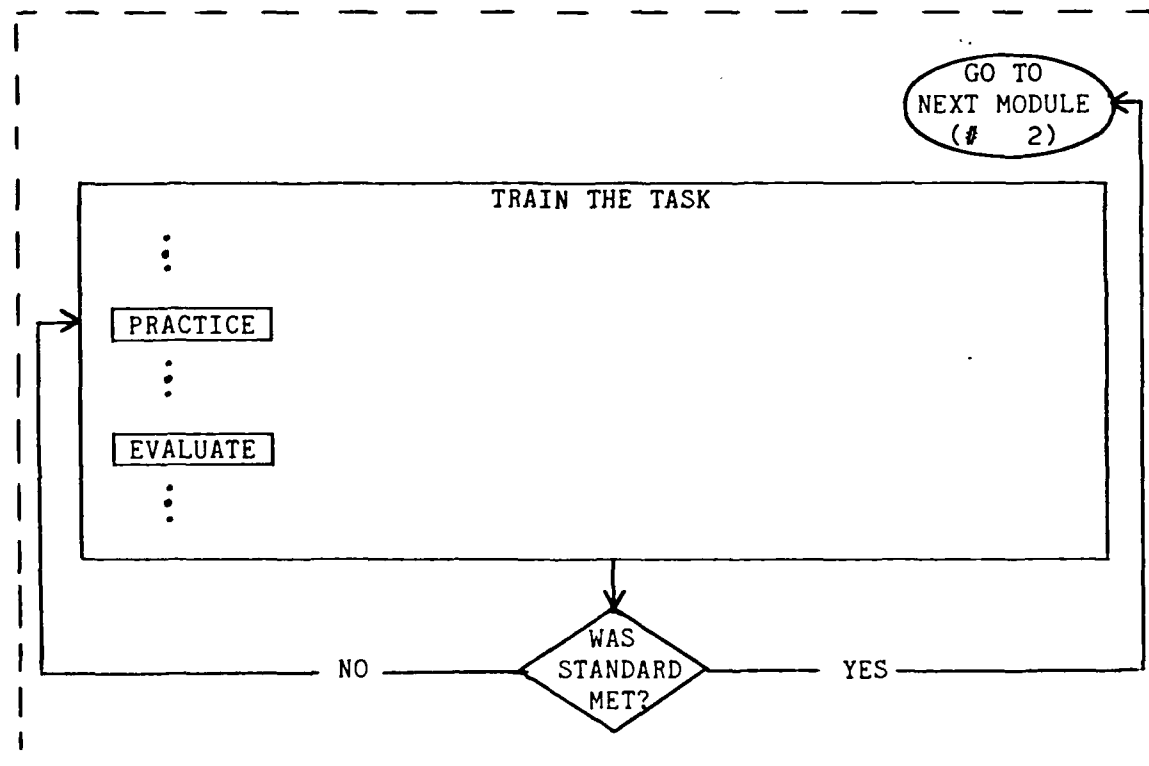
This section, which is on the front side of a training module, is used for conducting performance oriented training. To begin training, start with the box labeled INTRODUCE. In this sample training module, state the training requirement (step 1) and emphasize safety regulations (step 2). Do this in your own words, adding whatever additional comments, remarks, or descriptions you think would best introduce the training that will take place. If necessary ask questions to ensure the soldier (TC) understands what and how training is to be conducted.

Next, go to the box labelled DEMONSTRATE. This describes how to demonstrate the task. It doesn't tell you how to perform the task. How to perform the task is shown on the PRACTICE/EVALUATION FORM (this is covered in the last section). It is always assumed that the person conducting the training knows how to perform the task. In the DEMONSTRATION component, you are told how to prepare yourself and the TC (step 1), how to set up the equipment (step 2), and how to demonstrate the task using the crawl-walk-run training approach (steps 3-4).

After demonstrating the task to the soldier (TC), you should proceed to the box labelled PRACTICE. This lists how the practice is best conducted. In the sample training module you are told to have the soldier (TC) perform each task step as you announce them (step 1), provide prompts/cues to guide his performance (step 2), critique and reinforce correct responses (step 3), have the TC perform the task without prompting (step 4), and to repeat the procedure until you're satisfied with his performance.

The last phase in conducting training is identified by the box labeled EVALUATE. The evaluation is the soldier's final examination on the task. In carrying out this phase of training you will always inform the soldier (TC) on how the evaluation will be conducted and the testing standard (step 1). Do this in your own words. To begin testing, follow the procedure shown on the PRACTICE/EVALUATION FORM (step 2). After the evaluation, determine whether or not the soldier (TC) met the test standard (step 3).

Training Progress



This final section on the front of a training module controls the soldier's progress through the training program. To begin, follow the arrow down to the diamond figure and answer the question "WAS THE STANDARD MET?". If the answer is "NO", follow the arrow to the left to the box inside the TRAIN THE TASK section that contains the word PRACTICE and resume training. If the answer is "YES", follow the arrow to the right to the oval figure that contains the words GO TO NEXT TRAINING MODULE (# 2).

Training Assessment

PRACTICE/EVALUATION FORM			
<u>INSTRUCTOR</u>	<u>TC</u>		
BEGIN EXERCISE:		GO	NO GO
1. With the M85 machinegun safety in "F", cupola power switch in ON, and gun safety switch in "ON", announce "CLEAR THE M85 MACHINEGUN," and observe performance (Steps 1-9).	1. Sets gun safety switch to "OFF".	☐	☐
.	2. Sets cupola power switch to "OFF".	☐	☐
.	3. Sets machine gun safety to "S".	☐	☐
.	.		
2. Score total performance.	9. Closes cover and cradle access door.	☐	☐
GO ☐ NO GO ☐			

This is on the back of a training module, and is used for both training and evaluation purposes. When demonstrating a task, it can be used as an instructional job aid or memory "jogger". When practicing a task, it can be used to direct the soldier's initial performance (as in the sample module) or to check-out the soldier's training progress.

The PRACTICE/EVALUATION FORM is self-explanatory. Whether for practice or evaluation purposes, follow the requirements under the title labelled INSTRUCTOR (for the GNR, DVR and LDR training modules, this title is labelled TC). Set-up the equipment conditions, instruct the soldier to perform the task, and observe the performance steps listed under the title TC. (Or GNR, DVR and LDR in their separate training modules). Simultaneously, check (X) whether the soldier (TC) performs each step correctly, "GO", or incorrectly, "NO GO". After the task is completed, check the appropriate GO or NO GO

boxes at the bottom center of the training module to score the soldier's overall or total performance.

To "pass" an evaluation a soldier should receive a GO on each of the individual performance steps. If in your judgment the error(s) or NO GOs are not critical and can be easily corrected without additional training, then feel free to "pass" the soldier. It's your decision. You establish the standards. If you are willing to go to combat with the men you have trained, then they are considered trained.

That's it. Since the training modules all follow the same format you should quickly get the "hang" of it. If you don't, simply refer back to this chapter and review the section(s) with which you are having difficulty.

CHAPTER 2

HOW TO TRAIN

This chapter provides you with some training techniques and guidance to help you prepare for and conduct performance oriented training. Learning how to apply these techniques when using the training materials will increase your effectiveness as a trainer.

PREPARE FOR TRAINING

To train a soldier to perform a task for the first time, you must know what you are talking about, be able to perform the task yourself, and be capable of handing off those task knowledges and skills to the soldier. The more you know about the task, the more the soldier being trained is going to know about the task, if you do your job right. The same holds true for the skill components of the task. However, the one quality that makes it all come together in the most effective and efficient manner is your ability to prepare for and conduct training.

To prepare for training, follow the training techniques and guidance presented below.

- Review the subject matter task. Obtain whatever training materials are available concerning the task and use them to learn all there is to know about the subject matter. Don't take the easy way out! The more materials you review, the more knowledgeable you will become about the task. Then, when debatable or questionable points surface during training, you can quickly support the correct position with facts. Moreover, you will be able to direct your men to the best training materials available for learning more about the task, whether for remedial self-instruction or job enrichment.

- Perform the task. Obtain whatever equipment is involved and perform the task yourself. Don't assume that you can perform a task if you have not performed it for some time. Tasks left unpracticed tend to be forgotten. The more difficult or complex the task procedure, the more likely this will occur, and in a shorter period of time. Performing the task will help you remember the procedures so that you can perform them correctly when required to do so during training. It will also help you remember specific teaching points that need special emphasis during training, and those "tricks of the trade" that you have gained over the years which can significantly improve the task performance of your men.

- Dry-run the training module. Not knowing how to train a task or simply doing it "off the top of your head," will seriously reduce your effectiveness as a trainer. Such "training" wastes time, permits errors to occur that interfere with learning, reduces learner motivation, and increases the risk of personal injury and/or equipment damage. Don't leave training to chance! Rehearse the training module so that you can introduce and demonstrate the task professionally. Learn how to conduct the practice session using the tools provided, and how to determine training success through performance evaluation.

CONDUCT THE TRAINING

To conduct training effectively you must understand what's taking place when you train someone. First, a person who is being trained is committing certain things to memory. For example, he memorizes the names and locations of specific controls, the steps in a procedure, the sequence in which those steps are performed, and the physical movements he must make to execute the task. If he does this well enough, then he can recall these things and use them to perform the task later on. Second, a person cannot be expected to perform a task to standard the very first time he attempts it. A person learns a little bit at a time. With each practice, he learns more, combines it with what he learned previously, and builds on his knowledge and skills.

To conduct training, follow the training techniques and guidance presented below.

● Introduce the task. Before you train, brief the soldier on what task will be trained, how it will occur, and what level of performance they must attain. This will give him an idea of what to expect. Keep the briefing short—two minutes at the most. Try to cover the following points:

- State the task and training standards, in your own words.
- Describe prerequisite tasks he should know to perform the task. Review the tasks if he needs the familiarization.
- Describe what training materials, equipment, or other resources he will use during training.
- Emphasize the appropriate safety warnings and the dangers he should be aware of when training.
- Explain that you will conduct training by demonstrating the task, having him practice it, then evaluating his performance.
- Provide enough information that he has a general idea of how training will occur and what's expected of him.
- Ask for questions, addressing those you can answer briefly but deferring those that can be answered during or after training.

● Demonstrate the task. This is where your knowledge and skill in performing the task becomes extremely important. It's also where what you do and how you do it affects the soldier's ability to learn the task. Each training module will contain specific instructions for demonstrating the task. Follow it and the training guidance presented below:

- Explain what you are doing as you do it. Soldiers will learn more if you support your actions with words that describe clearly what you are doing.

- Make certain that you demonstrate the task from the soldier's viewpoint. It does no good if what you are doing cannot be seen by the soldier.
- Name and describe the pieces of equipment you are working with during the demonstration, even if he knows what they are. A brief description and purpose of each will help the soldier learn more effectively.
- Ask questions as you demonstrate the task to make the soldier think, not just sit there watching you.
- Repeat the total task performance without interruption to establish the standard you expected him to achieve as a result of training.

● Practice the task. Specific instructions are provided in each training module for practicing a task. Follow these instructions and the "crawl-walk-run" training technique presented below:

- Guide the soldier's performance step by step. Work on part of the task rather than the whole task. Have him perform the task parts slowly and correctly as you provide the prompts and cues to direct his actions. When he learns a part or step, train him on another, until you have covered all the steps.
- Have the soldier perform the total task without regards to "time" standards and with cues/prompts when needed. As learning occurs, speed things up. Remove all prompts and cues, but continue to reinforce correct performance until you achieve the training standards.

● Evaluate soldier performance. Although the soldier receives feedback while practicing the task, you still want to evaluate his performance under more formal, test-like conditions. He still needs to know how well he performs the task and where his strengths and weaknesses lie. Specific instructions for evaluating a soldier's performance on a task are presented in each training module. Follow its directions, and keep in mind the following guidance:

- Soldiers who are learning a new task are not very good at evaluating their own performance. Someone must tell them what they are doing right and wrong. Mistakes can then be corrected and learning will occur.
- Make feedback brief and specific. If errors are made, tell him what he did wrong and how to do it right. Show him and let him do it again, as time permits.
- Don't be judgmental. Avoid the use of emotion-laden terms such as profanity or slang. These interfere with learning and are often counter-productive.

- Keep the evaluation impersonal. Talk about the task and what the soldier did correctly and incorrectly. Don't talk about the soldier. Talk instead about what he did that should not have been done.

Applying the training techniques and guidance presented in this chapter will make you a more effective and efficient trainer. How successful you become will depend not only on your ability to apply this information, but on your attitude towards training in general. In short, the more serious you are about training, the more effective you and your men will become.

APPENDIX A

TANK COMMANDER TASKS COVERED IN TRAINING MODULES

Module No.	Task	Check When Completed	Date
1	Clear the M85 Machinegun.	_____	_____
2	Install M85 Machinegun.	_____	_____
3	Remove/Install M36E1 Periscope, Daylight Body, and Passive Elbow.	_____	_____
4	Prepare Station for Operation.	_____	_____
5	Load the M85 Machinegun.	_____	_____
6	Boresight M85 Machinegun & M36E1 Periscope.	_____	_____
7	Perform M85 Machinegun Prepare-to-Fire Checks.	_____	_____
8	Conduct LRF Self Test.	_____	_____
9	Conduct LRF Logic Test.	_____	_____
10	Conduct LRF Firing Test.	_____	_____
11	Boresight the LRF.	_____	_____
12	Operate the LRF.	_____	_____
13	Respond to Multiple Range Returns.	_____	_____
14	Issue Fire Commands.	_____	_____
15	Issue Subsequent Fire Commands.	_____	_____
16	Perform Prepare-to-Fire Checks.	_____	_____
17	Direct Main Gun Engagements-Normal Mode.	_____	_____
18	Engage Main Gun Targets from TC Station.	_____	_____
19	Direct Main Gun Engagement Using Range Card Data.	_____	_____
20	Engage Targets with M85 Machinegun.	_____	_____
21	Remove the M85 Machinegun.	_____	_____
22	Power Down and Secure Tank Commander's Station.	_____	_____

APPENDIX B

GUNNER TASKS
COVERED IN TRAINING MODULES

<u>Module No.</u>	<u>Task</u>	<u>Check When Completed</u>	<u>Date</u>
1	Operate M28E2 Azimuth Indicator.	_____	_____
2	Operate M1A1 Gunner's Quadrant.	_____	_____
3	Test and Adjust M13A3 Elevation Quadrant.	_____	_____
4	Perform a Zero Pressure Check.	_____	_____
5	Place the TTS into Operation.	_____	_____
6	Perform a Computer Self-test.	_____	_____
7	Prepare to Boresight the 105-MM Main Gun with M26 Muzzle Boresight Device.	_____	_____
8	Boresight Daylight Channels of TTS.	_____	_____
9	Adjust/Refer Thermal Channel of TTS for Boresight.	_____	_____
10	Adjust/Refer M105D Telescope for Boresight.	_____	_____
11	Apply Computer Correction Factors.	_____	_____
12	Perform Prepare-to-Fire-Checks.	_____	_____
13	Track Targets Using the Power Control Handles.	_____	_____
14	Apply Auto and Manual Lead.	_____	_____
15	Engage Stationary Main Gun Targets in Normal Mode.	_____	_____
16	Engage Moving Main Gun Targets in Normal Mode.	_____	_____
17	Engage Main Gun Target Using the M105D Telescope.	_____	_____
18	Adjust Fire for Main Gun Engagements.	_____	_____
19	Perform Main Gun Misfire Procedures.	_____	_____
20	Power Down and Secure Gunner's Station.	_____	_____

APPENDIX C

DRIVERS TASKS
COVERED IN TRAINING MODULES

<u>Module No.</u>	<u>Task</u>	<u>Check When Completed</u>	<u>Date</u>
1	Perform Before/During/After Operation PMCS.	_____	_____
2	Drive Tank Across Varied Terrain.	_____	_____
3	Perform Hull Down/Turret Down Movement.	_____	_____
4	Drive Tank Using Cover and Concealment.	_____	_____
5	Drive Tank in Stabilized Mode.	_____	_____
6	Maneuver Tank Using Smoke Generator.	_____	_____
7	Drive Tank Using Evasive Action Techniques.	_____	_____
8	Install Night Vision Device AN/VVS-2.	_____	_____
9	Place AN/VVS-2 Night Vision Device into Operation.	_____	_____
10	Drive the Tank at Night Using AN/VVS-2 Night Vision Device.	_____	_____
11	Remove and Stow the AN/VVS-2 Night Vision Device.	_____	_____

APPENDIX D

LOADER TASKS COVERED IN TRAINING MODULES

Module No.	Task	Check When	Date
		Completed	
1	Identify Friendly and Threat (OPFOR) Vehicles.	_____	_____
2	Acquire Targets.	_____	_____
3	Operate Tank Intercom Set 2298/VRC.	_____	_____
4	Identify Main Gun Ammunition.	_____	_____
5	Operate Ammo Stowage Racks.	_____	_____
6	Stow Main Gun and Coax Ammunition.	_____	_____
7	Open/Close 105-mm Main Gun Breech Manually.	_____	_____
8	Load/Unload the 105-mm Main Gun.	_____	_____
9	Apply Loader Misfire Procedures to 105-mm Main Gun.	_____	_____
10	Responding to Battlesight Fire Commands.	_____	_____
11	Respond to Precision Fire Commands Requiring a First round Ammo Change.	_____	_____
12	Respond to Precision Fire Commands Requiring a Second Round Ammo Change.	_____	_____
13	Load the M240 7.62-mm Coax Machinegun.	_____	_____
14	Clear the M240 7.62-mm Coax Machinegun.	_____	_____
15	Mount/Dismount the M240 7.62-mm Coax Machinegun.	_____	_____
16	Boresight the M240 7.62-mm Coax Machinegun.	_____	_____
17	Take Immediate Action on M240 7.62-mm Coax Machinegun Stoppage.	_____	_____
18	Disassemble/Assemble M240 7.62-mm Coax Machinegun.	_____	_____
19	Perform Loader's Prepare-to-Fire Checks.	_____	_____
20	Perform Before/During/After Operation PMCS.	_____	_____
21	Remove/Install 105-mm Main Gun Breechblock.	_____	_____
22	Disassemble/Assemble the 105-mm Main Gun Breechblock.	_____	_____
23	Put on and Wear the M25A1 Protective Mask.	_____	_____
24	Operate the Gas-Particulate Filter Unit.	_____	_____

PART 3

TANK COMMANDER TRAINING MODULES

TABLE OF CONTENTS
TANK COMMANDER TRAINING MODULES

Module No.	Task	Page No.
1	Clear the M85 Machinegun.	1
2	Install M85 Machinegun.	3
3	Remove/Install M36E1 Periscope, Daylight Body, and Passive Elbow.	5
4	Prepare Station for Operation.	7
5	Load the M85 Machinegun.	9
6	Boresight M85 Machinegun & M36E1 Periscope.	11
7	Perform M85 Machinegun Prepare-to-Fire Checks.	13
8	Conduct LRF Self Test.	15
9	Conduct LRF Logic Test.	17
10	Conduct LRF Firing Test.	19
11	Boresight the LRF.	21
12	Operate the LRF.	23
13	Respond to Multiple Range Returns.	25
14	Issue Fire Commands.	27
15	Issue Subsequent Fire Commands.	29
16	Perform Prepare-to-Fire Checks.	31
17	Direct Main Gun Engagements-Normal Mode.	33
18	Engage Main Gun Targets from TC Station.	35
19	Direct Main Gun Engagement Using Range Card Data.	37
20	Engage Targets with M85 Machinegun.	39
21	Remove the M85 Machinegun.	41
22	Power Down and Secure Tank Commander's Station.	43
	ATTACHMENT (BATTLEFIELD SCENARIOS)	45

CREW POSITION: TANK COMMANDER
TASK: CLEAR THE M85 MACHINEGUN.

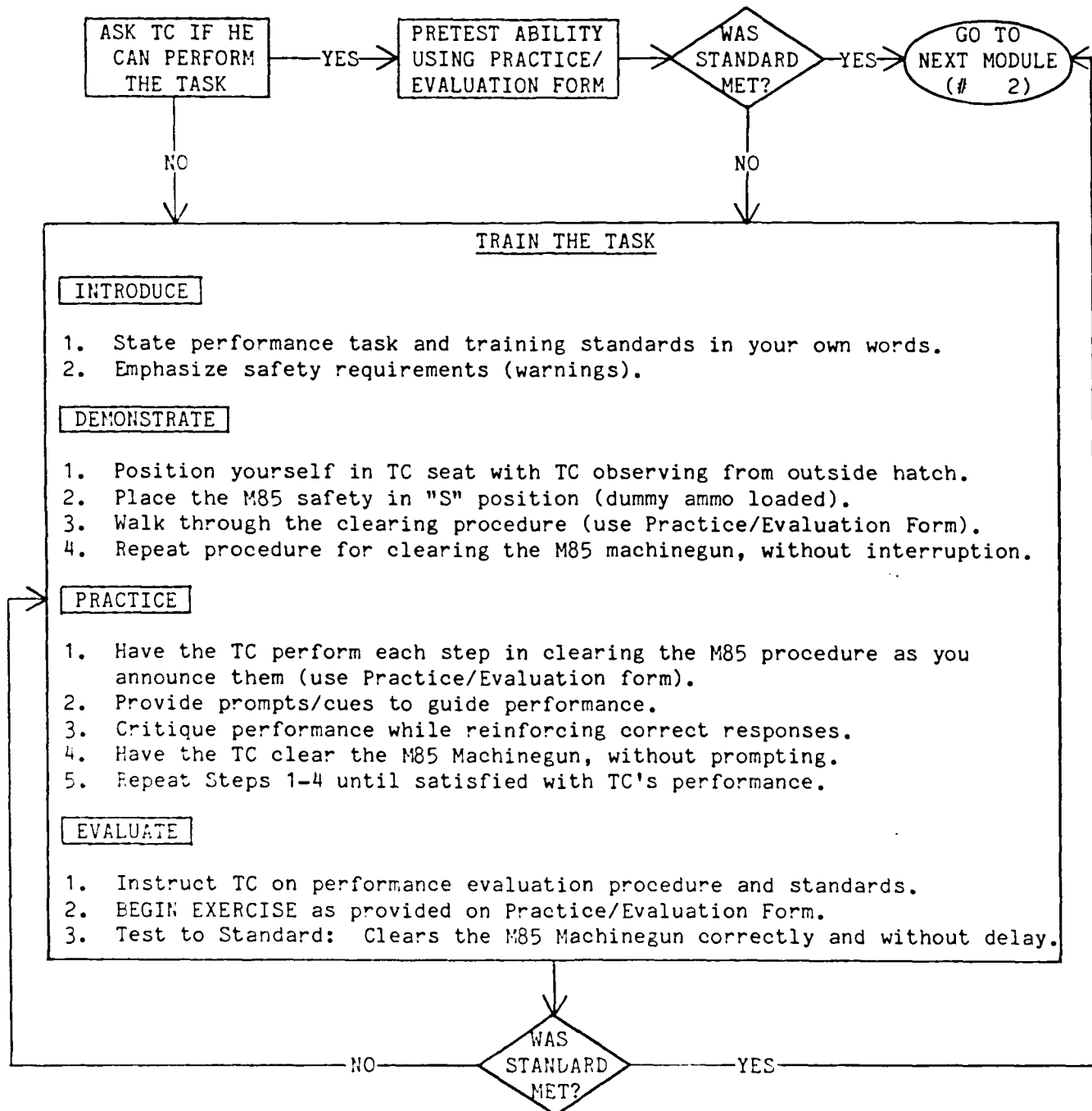
TRAINING MODULE NO: 1

TIME: 10 MINUTES

PREREQUISITE TASKS: NONE.

TRAINING REFERENCES: TM 9-2350-253-10; TM 9-1005-231-10.

SUPPORT REQUIREMENTS: 1 M85 MACHINEGUN; 1 BELT OF CALIBER .50
DUMMY AMMO (10 ROUNDS).



PRACTICE/EVALUATION FORM

INSTRUCTOR

TC

BEGIN EXERCISE:

1. With the M85 machinegun safety in "F", cupola power switch in ON, and gun safety switch in "ON", announce "CLEAR THE M85 MACHINEGUN," and observe performance (Steps 1-9).

1. Sets gun safety switch to "OFF".
2. Sets cupola power switch to "OFF".
3. Sets machine gun safety to "S".
4. Opens cradle access door and secures with hold/close latch.
5. Opens machinegun cover and removes ammunition.
6. Places safety to "F", pulls bolt rearward, places safety to "S".
7. Checks chamber for ammunition. Removes any chambered round.
8. Sets safety to "F". Pulls charger handle to rear, holds, pulls manual trigger, and lets bolt go forward slowly.
9. Closes cover and cradle access door.

GO	NO GO
☐	☐
☐	☐
☐	☐
☐	☐
☐	☐
☐	☐
☐	☐
☐	☐
☐	☐

2. Score total performance.

GO	☐	NO GO	☐
----	--------------------------	-------	--------------------------

CREW POSITION: TANK COMMANDER

TRAINING MODULE NO: 2

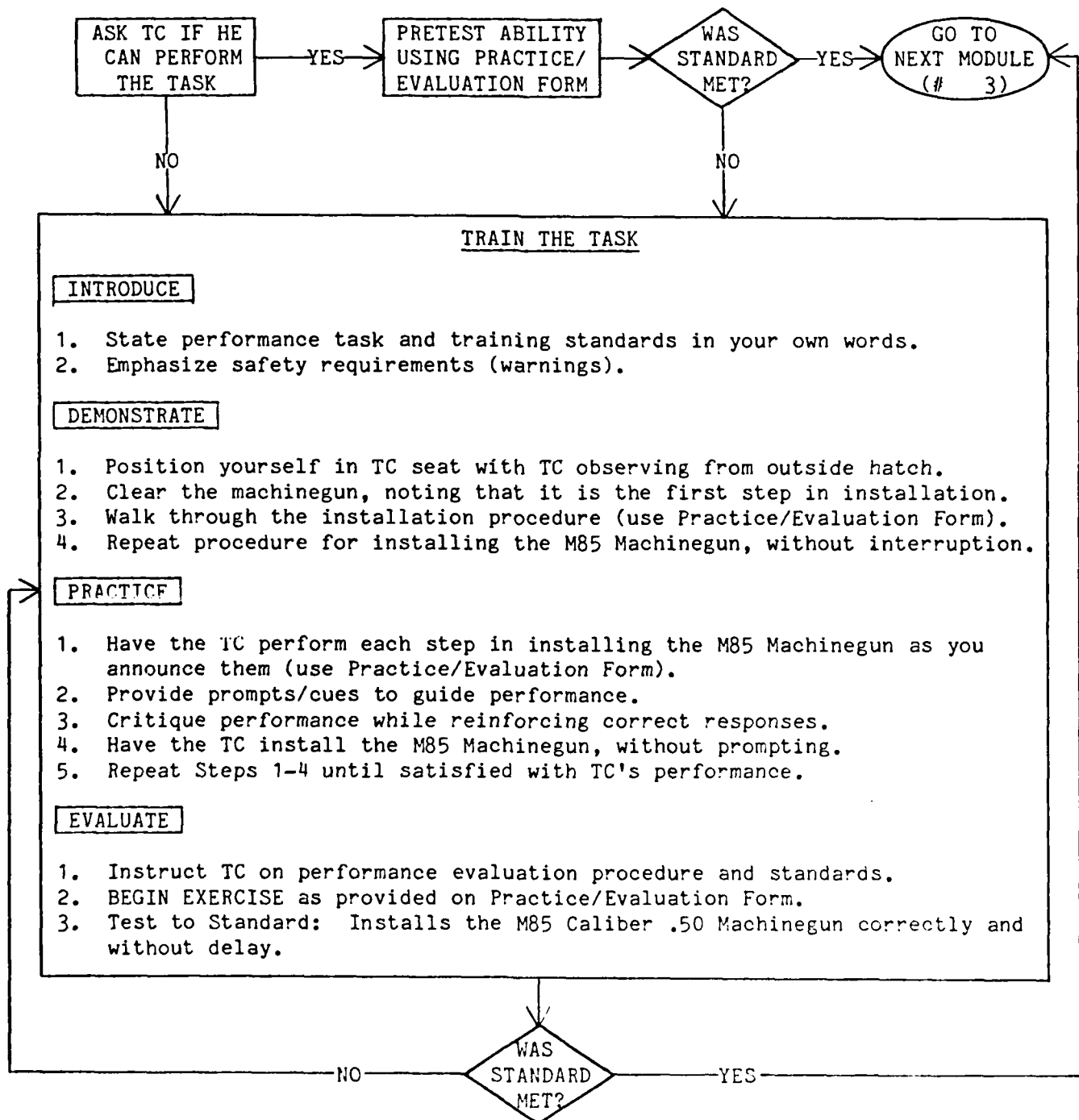
TASK: INSTALL M85 MACHINEGUN.

TIME: 30 MINUTES

PREREQUISITE TASKS: CLEAR THE M85 MACHINEGUN.

TRAINING REFERENCES: TM 9-2350-253-10; TM 9-1005-231-10.

SUPPORT REQUIREMENTS: 1 M60A3 OR TURRET TRAINER; 1 M85 MACHINEGUN.



PRACTICE/EVALUATION FORM

INSTRUCTOR

TC

BEGIN EXERCISE:

1. Announce "INSTALL M85 CALIBER .50 MACHINEGUN," and observe performance (Steps 1-9).

1. Clears the machinegun.
2. Elevates machinegun cradle.
3. Slides machinegun into cradle and secures with rear mounting pin.
4. Disconnects clamp from adjusting arm and connects to hangar.
5. Checks fixed feed chute attached to cradle is aligned with feedway of machinegun.
6. Opens cradle access door, inserts barrel and rotates 1/4 turn.
7. Attaches adjusting link assembly to periscope elevation adjustment arm.
8. Connects solenoid lead connector to end plate.
9. Installs deflection plate.

GO	NO GO
----	-------

--	--

--	--

--	--

--	--

--	--

--	--

--	--

--	--

--	--

2. Score total performance.

GO	☐	NO GO	☐
----	--------------------------	-------	--------------------------

CREW POSITION: TANK COMMANDER

TRAINING MODULE NO: 3

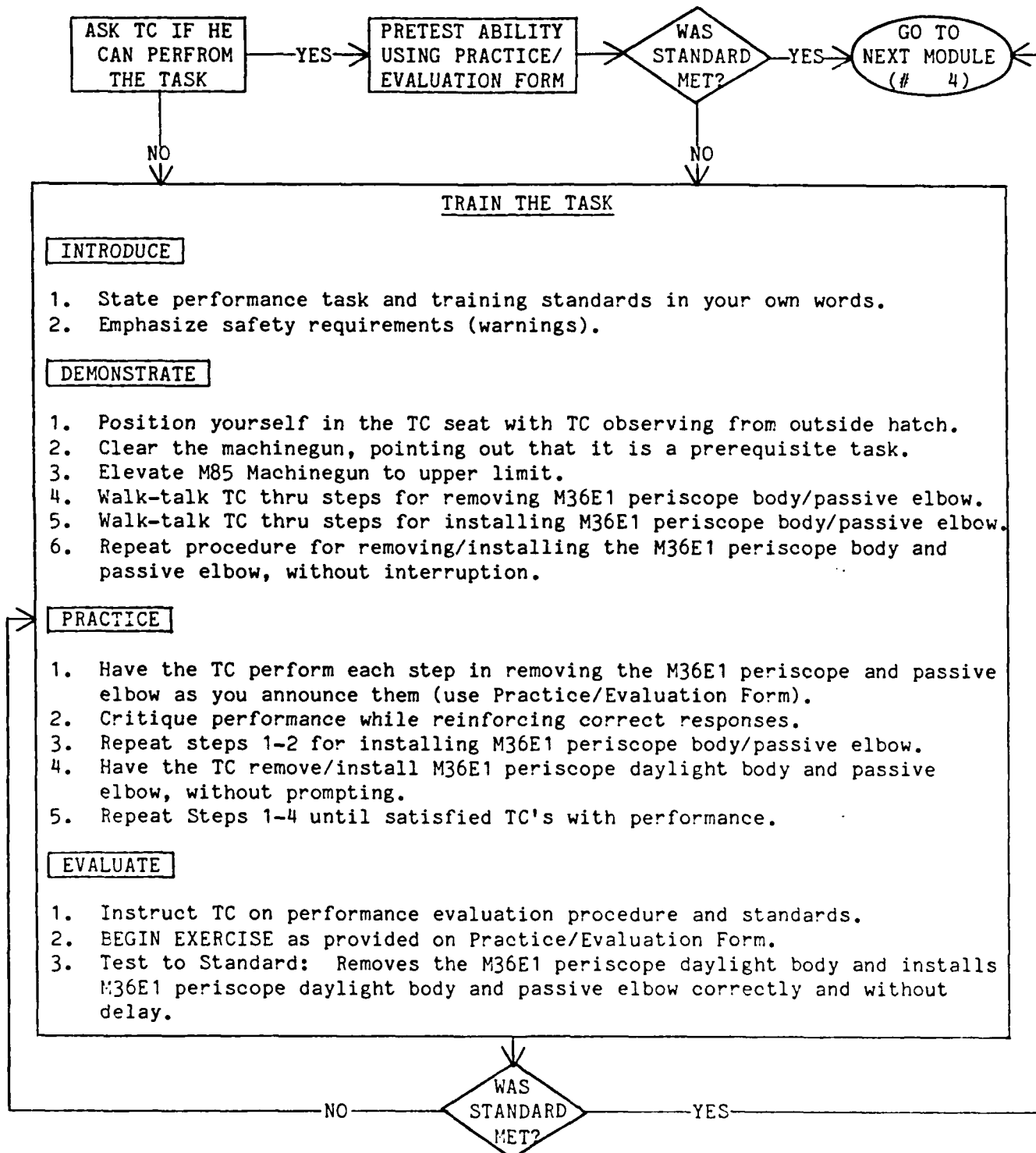
TASK: REMOVE/INSTALL M36E1 PERISCOPE,
DAYLIGHT BODY, AND PASSIVE ELBOW.

TIME: 30 MINUTES

PREREQUISITE TASKS: INSTALL M85 MACHINEGUN; CLEAR M85 MACHINEGUN.

TRAINING REFERENCES: TM 9-2350-253-10.

SUPPORT REQUIREMENTS: 1 M60A3 TANK OR TURRET TRAINER;
1 M85 MACHINEGUN.



PRACTICE/EVALUATION FORM

INSTRUCTOR

TC

BEGIN EXERCISE:

		GO	NO GO
1. Announce "REMOVE THE M36E1 PERISCOPE BODY AND PASSIVE ELBOW," and observe TC's performance (Steps 1-8).	1. Clears the machinegun.	☐	☐
	2. Elevates machinegun to upper limit.	☐	☐
	3. Disconnects quick-disconnect clamp from elevation arm assembly and connects to stowage hanger.	☐	☐
	4. Disconnects electrical connector from cupola.	☐	☐
	5. Disconnects lamp housing from daylight body slot and connects to light source control.	☐	☐
	6. Disconnects M30 light from passive elbow.	☐	☐
	7. Supports passive elbow, releases front and rear latches and lowers elbow.	☐	☐
	8. Supports daylight body and releases latches on both sides, lowers body from head.	☐	☐
2. Announce "INSTALL THE M36E1 PERISCOPE DAYLIGHT BODY AND PASSIVE ELBOW," and observe TC's performance (Steps 9-14).	9. Clears the machinegun.	☐	☐
	10. Supports daylight body and slides into head assembly and engages front and rear latches.	☐	☐
	11. Supports passive elbow and slides into head assembly and engages latches on both sides.	☐	☐
	12. Connects electrical connector to cupola.	☐	☐
	13. Disconnects quick-disconnect clamp from stowage hanger and connects to elevation arm assembly.	☐	☐
3. Announce "STOP", and score total task performance.	14. Connects M30 instrument light to passive elbow.	☐	☐

GO ☐	NO GO ☐
-----------------------------	--------------------------------

CREW POSITION: TANK COMMANDER

TASK: PREPARE STATION FOR OPERATION.

PREREQUISITE TASKS: OPERATE THE CUPOLA.

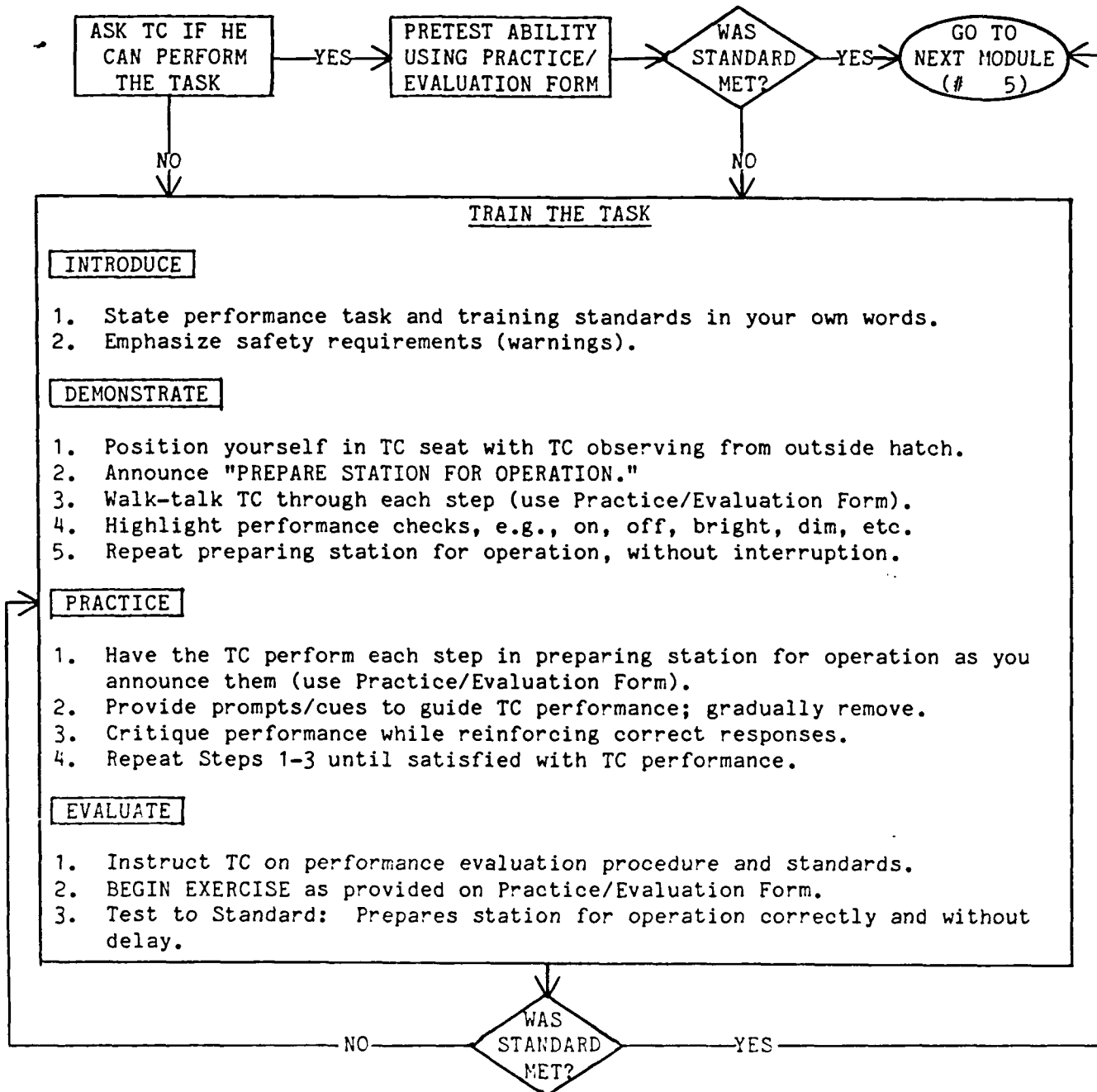
TRAINING REFERENCES: TM 9-2350-253-10.

SUPPORT REQUIREMENTS: 1 M60A3 TANK OR TURRET TRAINER;

1 CVC HELMET.

TRAINING MODULE NO: 4

TIME: 15 MINUTES



PRACTICE/EVALUATION FORM

INSTRUCTOR

TC

BEGIN EXERCISE:

1. Announce "PREPARE STATION FOR OPERATION," and observe performance (Steps 1-10).

1. Checks vision blocks (clean, clear).

2. Secures cupola hatch.

3. Adjusts seat and platform.

4. Checks cupola for operation (rotates left, right).

5. Checks M85 mount for operation (elevates, depresses).

6. Places cupola azimuth lock in UP position.

7. Sets cupola power switch to ON and gun safety switch to OFF.

8. Checks operation of AM-1780/VRC intercom set.

9. Adjusts LRF and TTS sights.

2. Score total performance.

10. Adjusts M36E1 Periscope sight.

GO	NO GO
----	-------

--	--

--	--

--	--

--	--

--	--

--	--

--	--

--	--

--	--

--	--

GO

☐

NO GO

☐

CREW POSITION: TANK COMMANDER

TRAINING MODULE NO: 5

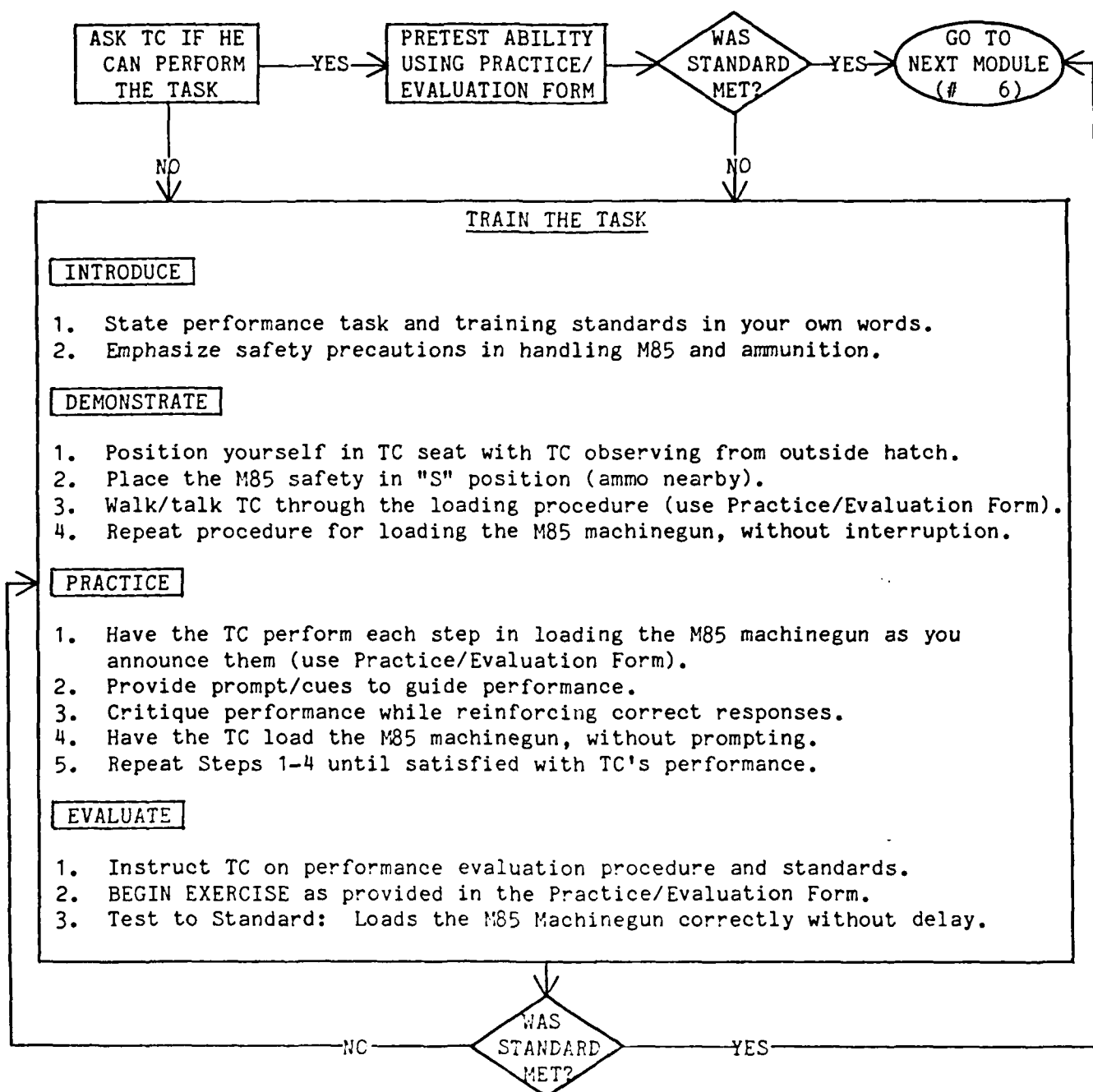
TASK: LOAD THE M85 MACHINEGUN.

TIME: 10 MINUTES

PREREQUISITE TASKS: INSTALL M85 CAL .50 MACHINEGUN.

TRAINING REFERENCES: TM 9-2350-253-10; TM 9-1005-231-10.

SUPPORT REQUIREMENTS: 1 M85 MACHINEGUN; 1 BELT OF CALBIER .50
DUMMY AMMO (10 ROUNDS).



PRACTICE/EVALUATION FORM

INSTRUCTOR

TC

BEGIN EXERCISE:

1. With safety in "F", announce "LOAD THE M85 MACHINEGUN," and observe performance (Steps 1-7).

1. Places safety in "S" position, unlatches and opens cover assembly. (Holds open with hold open latch on cradle access door).

2. Pulls charger handle fully rearward.

3. Keeps tension on charger handle, pulls trigger extension handle and allows bolt to close slowly.

4. Places leading edge of belt on tray.

5. Closes cover, sets safety to "F".

6. Charges weapon.

2. Score total performance.

7. Sets safety to "S".

GO	NO GO
----	-------

--	--

--	--

--	--

--	--

--	--

--	--

--	--

GO		NO GO	
----	--	-------	--

CREW POSITION: TANK COMMANDER

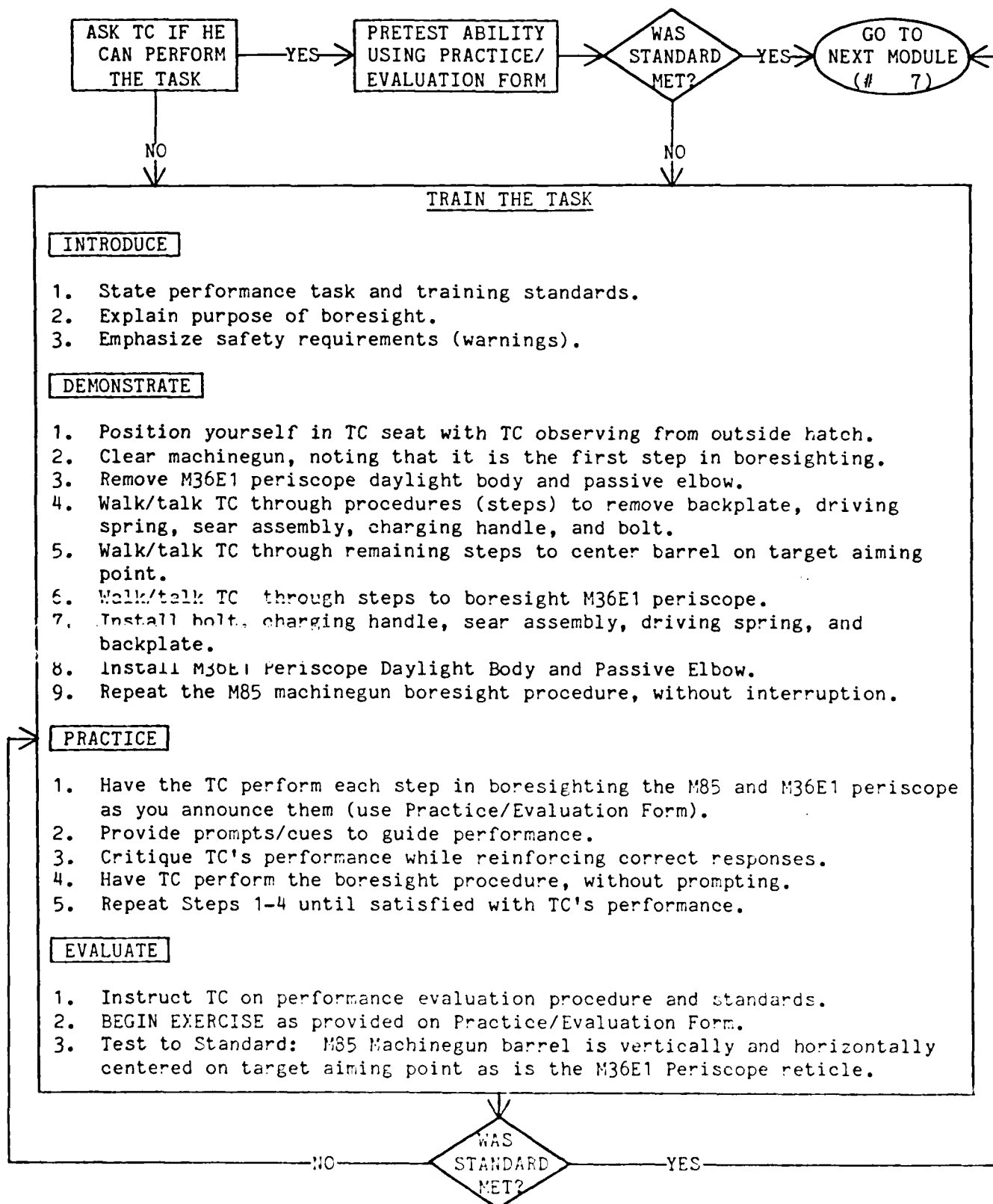
TRAINING MODULE NO: 6

TASK: BORESIGHT M85 MACHINEGUN & M36E1 PERISCOPE. TIME: 30 MINUTES

PREREQUISITE TASKS: INSTALL M85 MACHINEGUN, REMOVE/
INSTALL M36E1 PERISCOPE DAYLIGHT BODY AND
PASSIVE ELBOW, CLEAR THE M85 MACHINEGUN.

TRAINING REFERENCES: TM 9-2350-253-10; FM 17-12-3.

SUPPORT REQUIREMENTS: 1 M60A3 TANK OR TURRET TRAINER; TARGET
W/CLEARLY DEFINED RIGHT ANGLE AT 500 METERS;
1 M85 MACHINEGUN.



PRACTICE/EVALUATION FORM

INSTRUCTOR

TC

BEGIN EXERCISE:

		GO	NO GO
1. Announce "BORESIGHT M85 MACHINEGUN BARREL," and observe performance (Steps 1-10).	1. Clears the machinegun.	☐	☐
	2. Removes M36E1 daylight body and passive elbow.	☐	☐
	3. Disconnects solenoid lead connector.	☐	☐
	4. Lifts backplate group from receiver.	☐	☐
	5. Removes bolt buffer group.	☐	☐
	6. Removes sear.	☐	☐
	7. Removes charger handle.	☐	☐
	8. Removes bolt assembly.	☐	☐
	9. Sights through machinegun bore aligning center on target aiming point by manually elevating and traversing cupola.	☐	☐
2. Look through machinegun barrel and determine if M85 is boresighted.	10. Unlocks Azimuth Lock and uses azimuth adjustment knob for precise adjustments.	☐	☐
3. Announce "BORESIGHT M36E1," and observe performance (Steps 11-15).	11. Installs M36E1 daylight body and passive elbow.	☐	☐
	12. Sights through daylight body eyepiece.	☐	☐
	13. Disengages and rotates elevation and deflection boresight knobs.	☐	☐
	14. Places Boresight Reticle on target aiming point.	☐	☐
4. Look through M36E1 to determine if daylight body is boresighted.	15. Rotates slip scales to 4 & 4.	☐	☐
5. Score total performance.			

GO ☐ NO GO ☐

CREW POSITION: TANK COMMANDER

TRAINING MODULE NO: 7

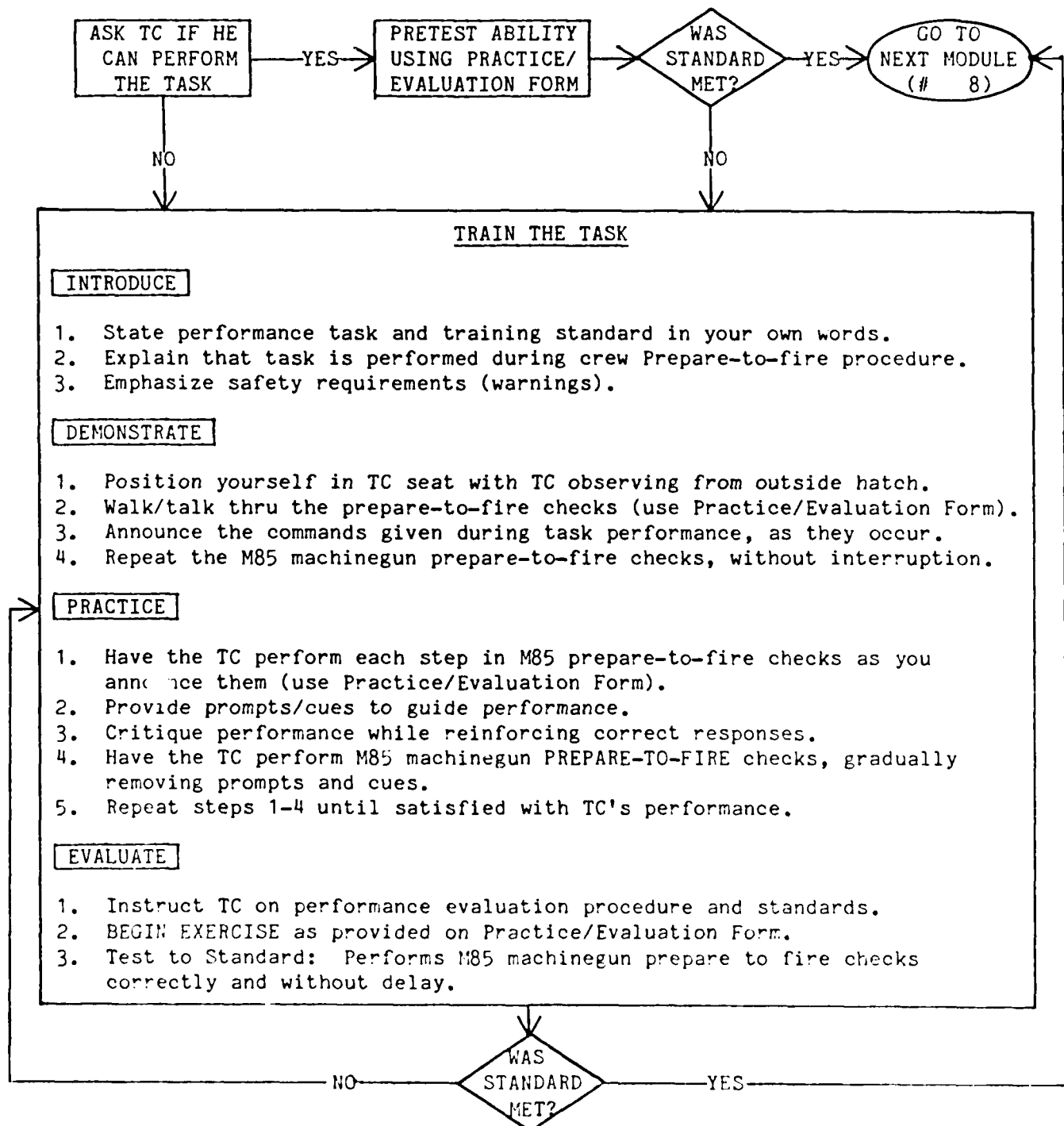
TASK: PERFORM M85 MACHINEGUN PREPARE-TO-FIRE CHECKS.

TIME: 15 MINUTES

PREREQUISITE TASKS: INSTALL M85 MACHINEGUN, LOAD THE M85 MACHINEGUN; CLEAR M85 MACHINEGUN.

TRAINING REFERENCES: TM 9-2350-253-10; TM 9-1005-231-10.

SUPPORT REQUIREMENTS: 1 M85 CALIBER .50 MACHINEGUN; 1 BELT OF CALIBER .50 DUMMY AMMO (10 ROUNDS).



PRACTICE/EVALUATION FORM

INSTRUCTOR

TC

BEGIN EXERCISE:

1. With the M85 Machinegun loaded, the safety in "S", and Master Battery and Ventilator Blower switches in ON, announce "PERFORM M85 MACHINEGUN PREPARE TO FIRE CHECKS," and observe performance (steps 1-9).

2. Announce "MANUAL FIRE."

3. Announce "FIRE M85 ELECTRICALLY."

4. Score total performance.

1. Sets gun safety to "F" with bolt forward.

2. Sets rate of fire selector switch in proper position for target.

3. Raises forward interrupter (searchlight mounted tanks only).

4. Pulls trigger extension handle.

5. Sets Cupola Power switch to ON.

6. Sets Gun Safety switch to ON.

7. Sets Last Round Override switch to OFF.

8. Checks Gun Ready Light.

9. Depresses firing trigger.

GO	NO GO
----	-------

--	--

--	--

--	--

--	--

--	--

--	--

--	--

--	--

--	--

GO

--

NO GO

--

CREW POSITION: TANK COMMANDER

TRAINING MODULE NO: 8

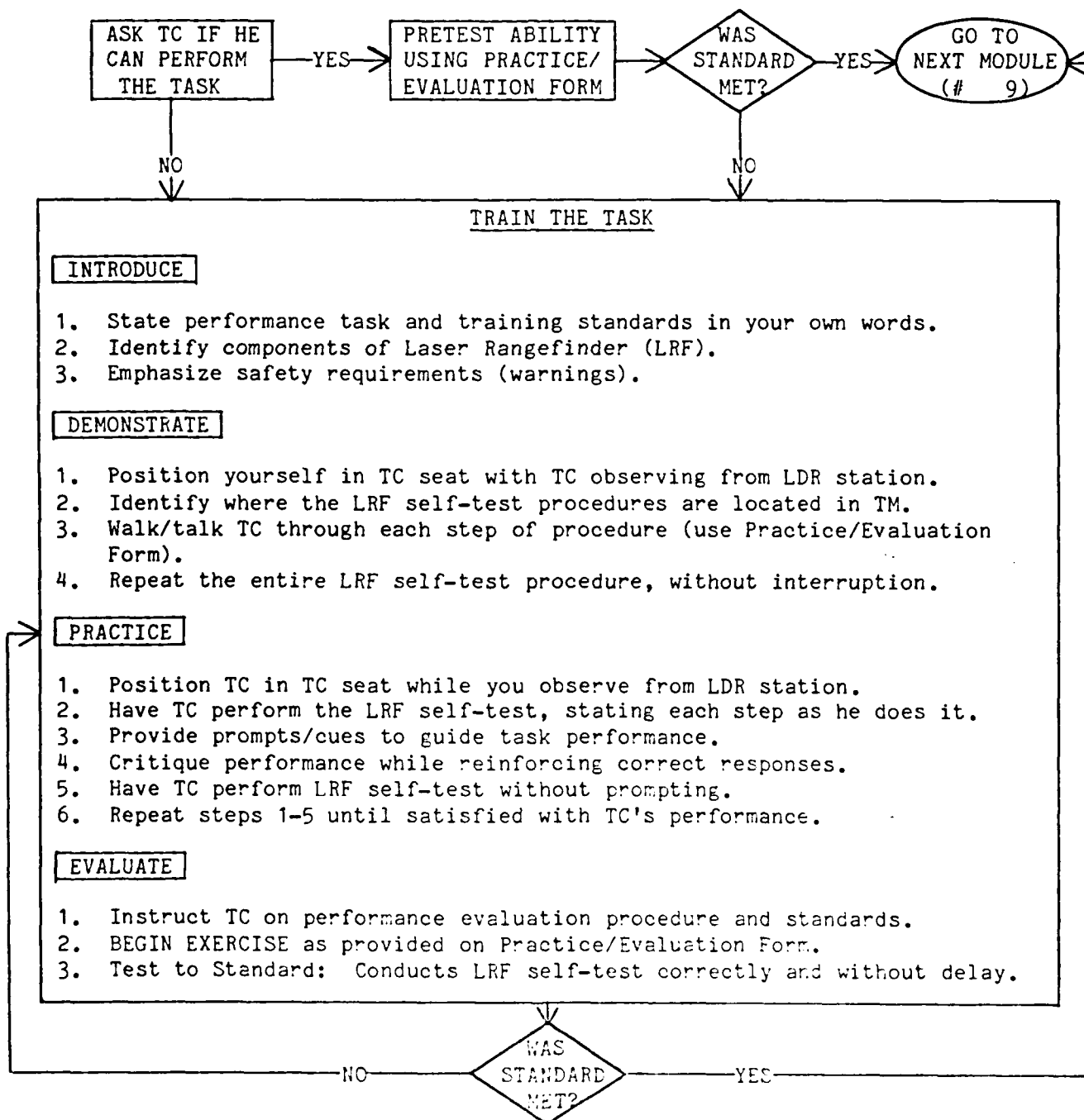
TASK: CONDUCT LRF SELF TEST.

TIME: 45 MINUTES

PREREQUISITE TASKS: CONDUCT LRF LOGIC TEST;
CONDUCT LRF FIRING TEST.

TRAINING REFERENCES: TM 9-2350-253-10.

SUPPORT REQUIREMENTS: 1 M60A3 TANK; LASER SAFE RANGE AREA.



PRACTICE/EVALUATION FORM

INSTRUCTORTC

BEGIN EXERCISE:

GO

NO GO

- | | | | |
|---|---|---|--|
| <p>1. Announce "CONDUCT LRF SELF TEST," and observe performance (Steps 1-9).</p> <p>2. CAUTION - LRF WILL FIRE IF RANGE SWITCH OR THUMB SWITCHES ARE PRESSED.</p> <p>3. Score total task performance.</p> | <p>1. Makes initial switch settings and checks indicators and displays:</p> <p>a. MODE to TEST; POWER illuminates.</p> <p>b. MASTER BATTERY to ON; 8888 displayed.</p> <p>c. POWER to ON; RETURNS displays 8.</p> <p>2. Checks LIGHT/DIM/TEST switch and indicators:</p> <p>a. TEST; all illuminate.</p> <p>b. LIGHT/DIM; RANGE, RESET, FEED, BATL RNG, LAST, TEST illuminate and RANGE (METERS) and RETURNS display 0000 and 0.</p> <p>3. Sets MODE to ON then to AUTO; each illuminate and RANGE flashes within 4 sec.</p> <p>4. Sets MANUAL/RANGEFINDER to MANUAL; RANGE should not flash.</p> <p>5. Sets MODE to TEST, EMER POWER to ON then XMTR TEST; all indicators remain on.</p> <p>6. Sets EMER POWER to OFF and depresses/holds RANGE pushbutton; RANGE (METERS) displays 0002 and MALF illuminates.</p> <p>7. Releases RANGE and depresses BATL RNG; BATL RNG illuminates.</p> <p>8. Performs each step in LRF logic test (Table 2-1 of Operator's Manual).</p> <p>9. Perform LRF Firing Test (if authorized lasing area is available).</p> | <table border="1"> <tr> <td style="width: 50px; height: 20px;"></td> <td style="width: 50px; height: 20px;"></td> </tr> <tr> <td style="width: 50px; height: 20px;"></td> <td style="width: 50px; height: 20px;"></td> </tr> <tr> <td style="width: 50px; height: 20px;"></td> <td style="width: 50px; height: 20px;"></td> </tr> <tr> <td style="width: 50px; height: 20px;"></td> <td style="width: 50px; height: 20px;"></td> </tr> <tr> <td style="width: 50px; height: 20px;"></td> <td style="width: 50px; height: 20px;"></td> </tr> <tr> <td style="width: 50px; height: 20px;"></td> <td style="width: 50px; height: 20px;"></td> </tr> <tr> <td style="width: 50px; height: 20px;"></td> <td style="width: 50px; height: 20px;"></td> </tr> <tr> <td style="width: 50px; height: 20px;"></td> <td style="width: 50px; height: 20px;"></td> </tr> <tr> <td style="width: 50px; height: 20px;"></td> <td style="width: 50px; height: 20px;"></td> </tr> <tr> <td style="width: 50px; height: 20px;"></td> <td style="width: 50px; height: 20px;"></td> </tr> </table> | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

GO

NO GO

CREW POSITION: TANK COMMANDER

TASK: CONDUCT LRF LOGIC TEST.

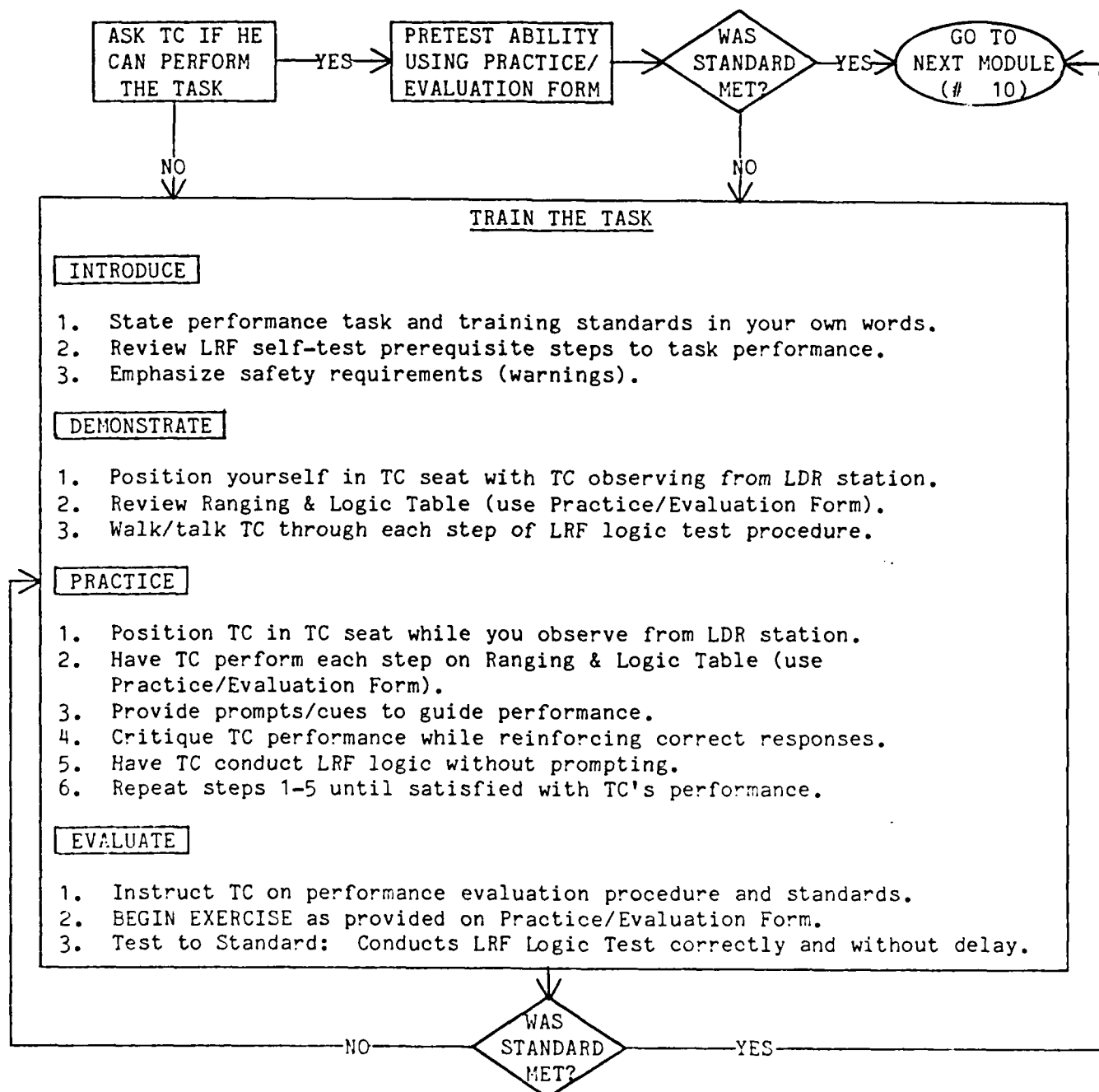
PREREQUISITE TASKS: CONDUCT LRF SELF-TEST
(STEPS 1-7).

TRAINING REFERENCES: TM 9-2350-253-10.

SUPPORT REQUIREMENTS: 1 M60A3 TANK; TABLE 2-1 OPERATOR'S MANUAL (RANGING
AND LOGIC TABLE).

TRAINING MODULE NO: 9

TIME: 10 MINUTES



PRACTICE/EVALUATION FORM

INSTRUCTOR

TC

BEGIN EXERCISE:

GO

NO GO

- Hand TC the Ranging & Logic Table (attached), and observe performance (Steps 1-22).

- Performs each of the steps listed below in Ranging & Logic Table.

Ranging and Logic Table

Inputs			Indications			
Step	Press and Release	Selector Lights	RETURNS Display	RANGE (METERS) Display (+ 15)*	SEL Light	GO Light
Set MODE switch to TEST						
1	RESET	LAST	0	0000	OFF	OFF
2	RANGE	LAST	1	850	OFF	ON
3	BATL RNG	LAST	0	0000	OFF	OFF
4	RANGE	LAST	1	850	OFF	ON
5	1	LAST	1	850	OFF	ON
6	2	LAST	1	850	OFF	ON
7	RANGE	LAST	2	1850	OFF	ON
8	RANGE	LAST	3	2850	OFF	ON
9	RANGE	LAST	4	2850	ON	OFF
10	1	1	4	850	ON	OFF
11	2	2	4	1850	ON	OFF
12	LAST	LAST	4	2850	ON	OFF
13	2	2	4	1850	ON	OFF
14	FEED	2	4	1850	OFF	ON
15	RESET	LAST	0	0000	OFF	OFF
16	2	2	0	0000	OFF	OFF
17	RANGE	2	1	9995**	ON	OFF
18	FEED	2	1	9995	ON	OFF
19	RANGE	2	2	1850	ON	OFF
20	FEED	2	2	1850	OFF	ON
21	RANGE***	LAST	0	0000	OFF	OFF
22	RESET	LAST	0	0000	OFF	OFF

*Last digit of range display must always be 0 or 5.

**If RANGE (METERS) displays 0000, go back to step 15.

***Set ELEV/TRAV POWER switch to ON position and range from gunner's handles.

Set ELEV/TRAV POWER switch to OFF position.

- Score total performance.

GO

NO GO

CREW POSITION: TANK COMMANDER

TRAINING MODULE NO: 10

TASK: CONDUCT LRF FIRING TEST.

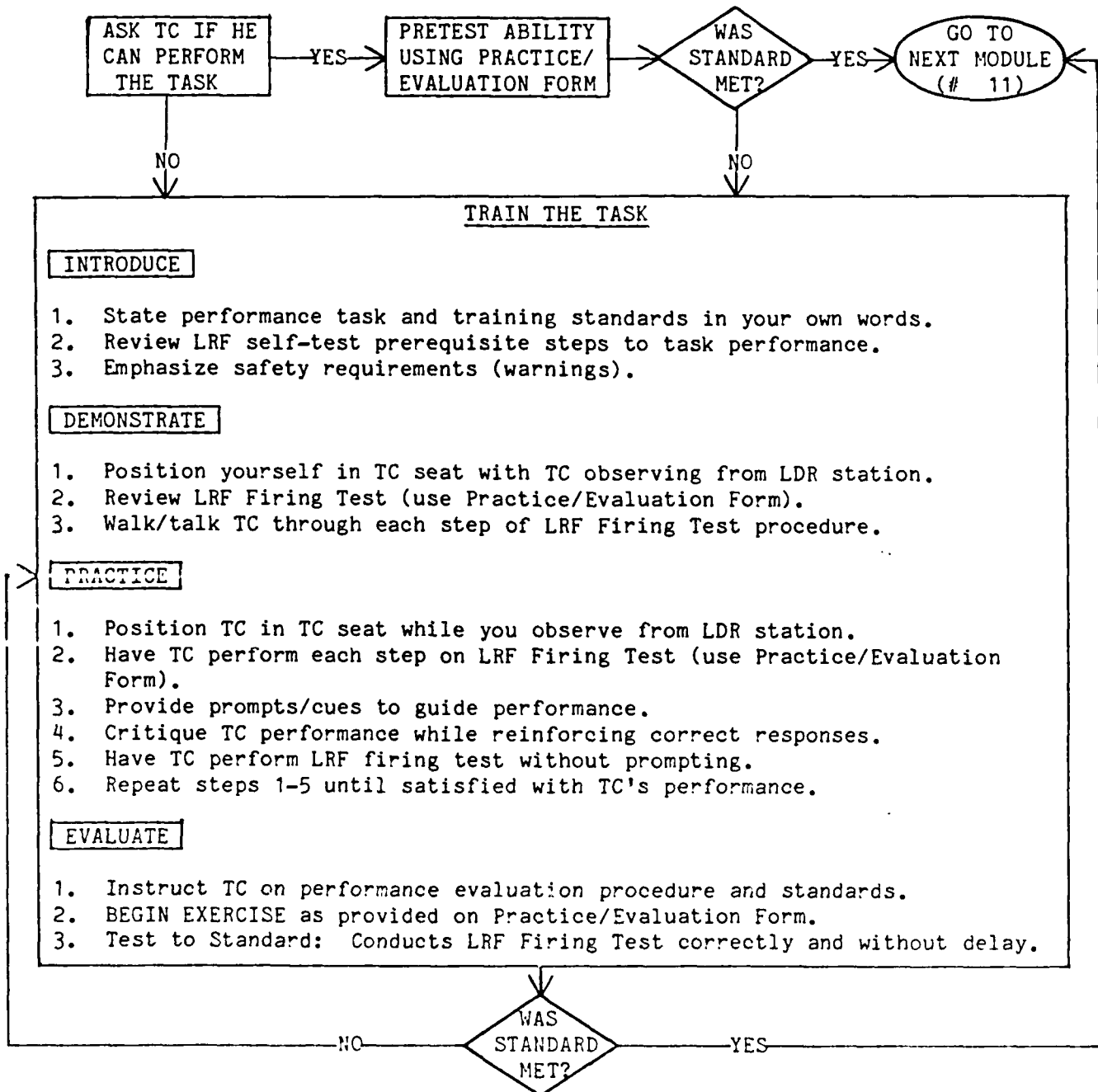
TIME: 10 MINUTES

PREREQUISITE TASKS: CONDUCT LRF SELF-TEST

(Steps 1-7); CONDUCT LRF LOGIC TEST.

TRAINING REFERENCES: TM 9-2350-253-10.

SUPPORT REQUIREMENTS: 1 M60A3 TANK; LASER SAFE RANGE AREA.



PRACTICE/EVALUATION FORM

INSTRUCTORTC

BEGIN EXERCISE:

GO

NO GO

1. Hand TC the LRF Firing Test 1. Performs each of the (attached) and observe steps listed below performance (steps 1-6). in LRF Firing Test.

LRF Firing Test

Inputs			Indications			
Step	Press and Release	Selector Lights	RETURNS Display	RANGE (METERS) Display (+ 15)**	SEL Light	GO Light
1	RESET	LAST	0	0000	OFF	OFF
2	2	2	0	0000	OFF	OFF
3	RANGE	2	1	9995*	ON	OFF
4	1	1	1	Target Range****	ON	OFF
5	FEED	1	1	Target Range	OFF	ON
6	Range***	LAST	1	Target Range	ON	OFF

*If RANGE (METERS) displays 0000, press RESET and repeat test sequence.

**Last digit of range display must always be 0 or 5.

***Set ELEV/TRAV POWER switch to ON position and range from gunner's station.

Set ELEV/TRAV POWER switch to OFF position.

****If RANGE (METERS) displays 9995, set EMER POWER to OFF and repeat steps 1-4.

2. Score total performance.

GO

NO GO

CREW POSITION: TANK COMMANDER

TRAINING MODULE NO: 11

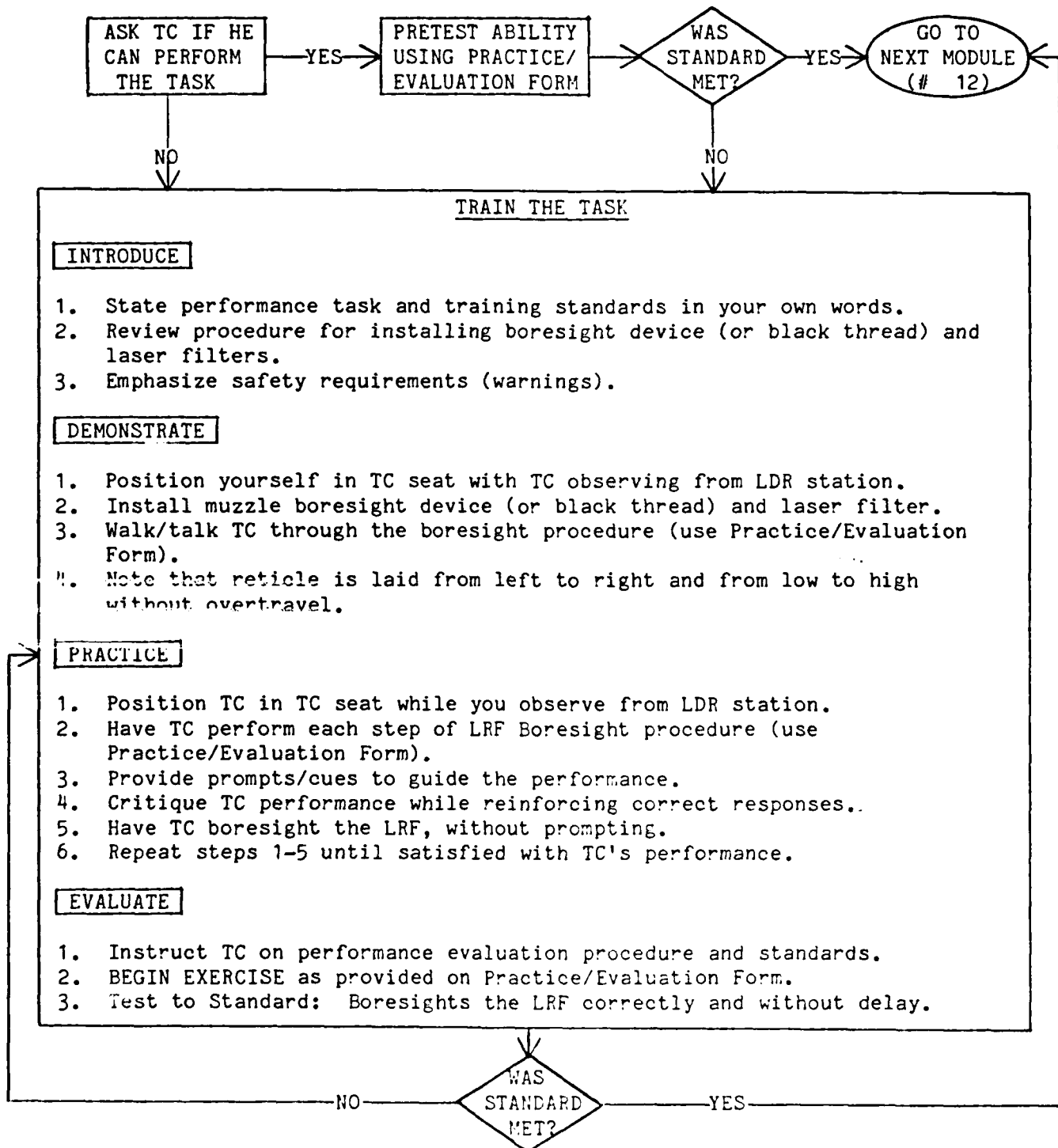
TASK: BORESIGHT THE LRF.

TIME: 30 MINUTES

PREREQUISITE TASKS: CONDUCT LRF SELF-TEST.

TRAINING REFERENCES: TM 9-2350-253-10.

SUPPORT REQUIREMENTS: 1 M60A3 TANK; 1 MUZZLE BORESIGHT DEVICE OR BLACK THREAD; LASER SAFE RANGE AREA.



PRACTICE/EVALUATION FORM

INSTRUCTOR

TC

BEGIN EXERCISE:

1. Install muzzle boresight device (or black thread), announce "BORESIGHT THE LRF," and observe performance (Steps 1-9).

1. Places MANUAL/RANGE-FINDER switch in RANGEFINDER and adjusts reticle brightness.

2. Places MODE switch in ON.

3. Presses BATL RNG push-button.

4. Places 6X/12X switch in 12X.

5. Adjusts DEFLECTION and ELEVATION controls to lay reticle on aiming point (left to right; low to high).

6. Ensures periscope reticle is on target aiming point then slips scales to 4 and 4.

7. Presses RANGE, 1 or 2, then determines if RANGE (METERS) indicator displays correct range (If not, repeats steps 5-7).

8. Presses FEED and places MODE switch in TEST.

2. Score total performance.

9. Ensures periscope reticle is still on target (If not, repeats steps 5 and 6).

GO	NO GO
----	-------

--	--

--	--

--	--

--	--

--	--

--	--

--	--

--	--

--	--

GO

--

NO GO

--

CREW POSITION: TANK COMMANDER

TRAINING MODULE NO: 12

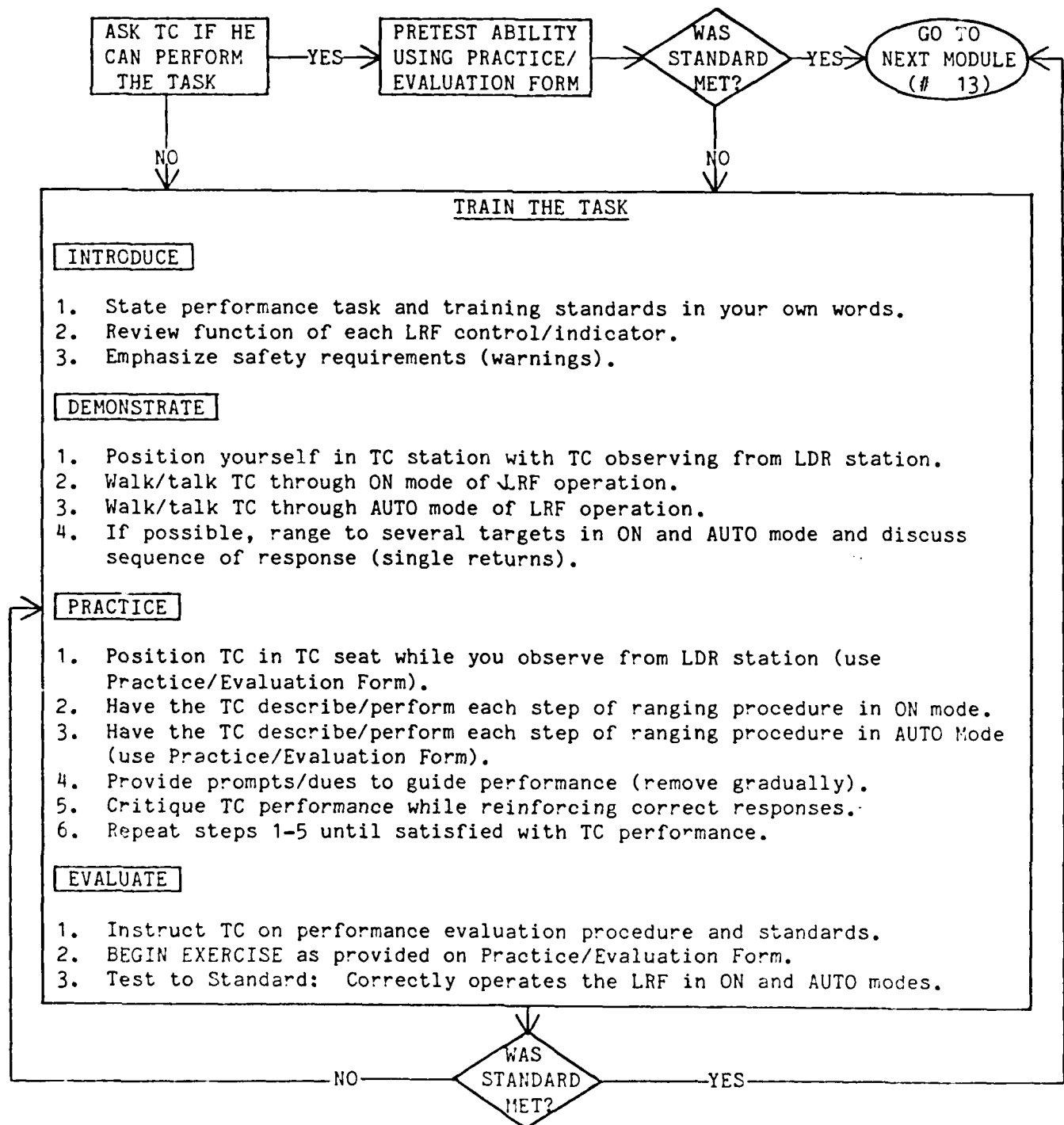
TASK: OPERATE THE LRF.

TIME: 30 MINUTES

PREREQUISITE TASKS: NONE.

TRAINING REFERENCES: FM 17-12-3; TM 9-2350-253-10.

SUPPORT REQUIREMENTS: 1 M60A3 TANK; LASER SAFE RANGING AREA.



PRACTICE/EVALUATION FORM

INSTRUCTOR

TC

BEGIN EXERCISE:

		GO	NO GO
1. Announce "RANGE TO TARGET (specify) IN ON MODE," and observe performance (steps 1-6).	1. Places MODE switch in ON.	☐	☐
	2. Lays gun on target.	☐	☐
	3. Positions aiming point slightly below target center of mass.	☐	☐
	4. Presses RANGE button.	☐	☐
	5. Presses 1, 2, or LAST return button for correct range.	☐	☐
	6. Presses FEED button to transfer selected range.	☐	☐
2. Announce "RANGE TO TARGET (specify) in AUTO MODE," and observe performance (steps 7-12).	7. Presses BATL RNG and RESET buttons.	☐	☐
	8. Places MODE switch in AUTO.	☐	☐
	9. Lays gun on target.	☐	☐
	10. Positions aiming point slightly below target center of mass.	☐	☐
	11. Presses RANGE button.	☐	☐
3. Announce "SAFE THE LRF," and score total performance.	12. Places MODE switch in TEST.	☐	☐

GO

☐

NO GO

☐

CREW POSITION: TANK COMMANDER

TRAINING MODULE NO: 13

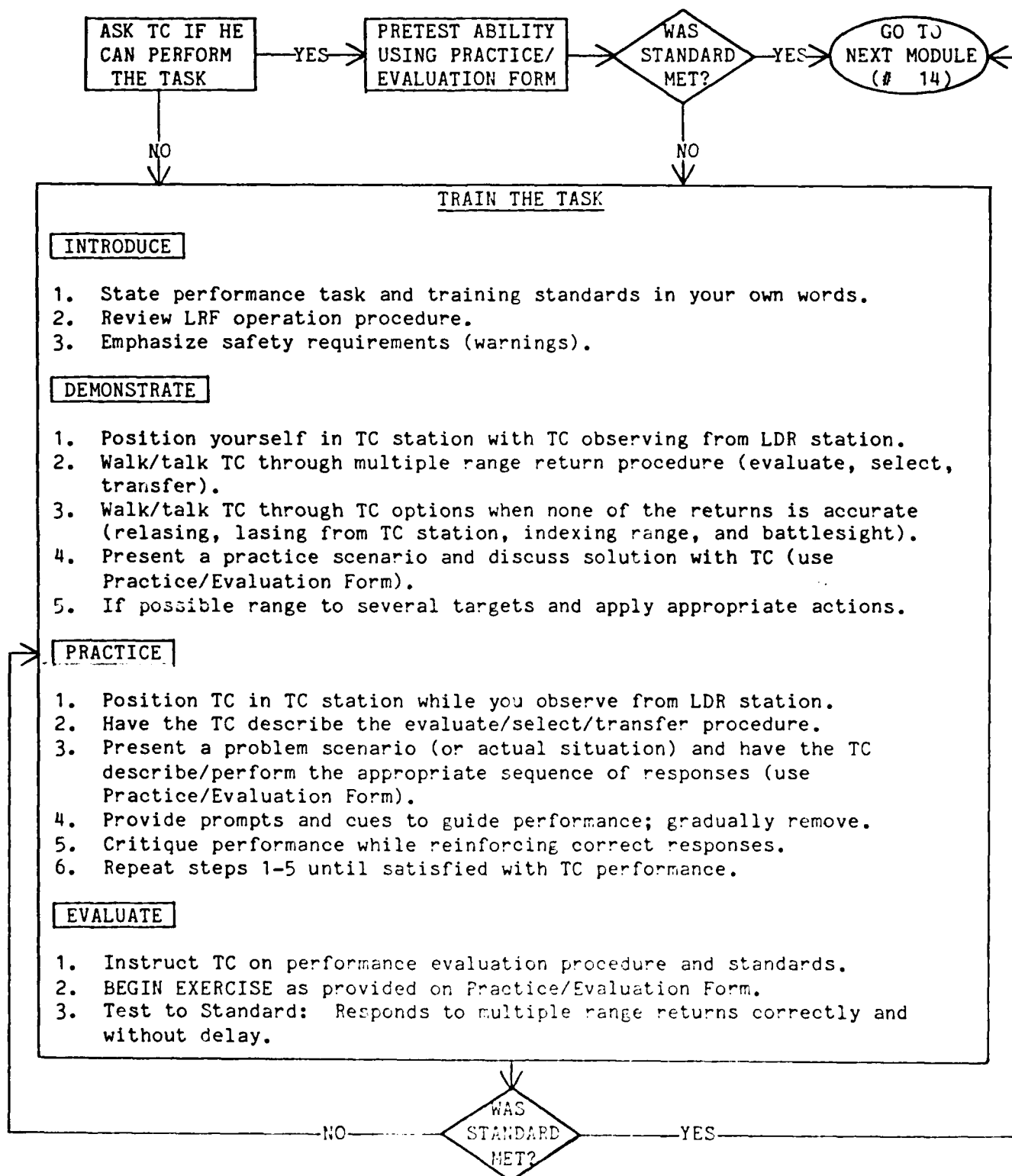
TASK: RESPOND TO MULTIPLE RANGE RETURNS.

TIME: 30 MINUTES

PREREQUISITE TASKS: OPERATE THE LRF.

TRAINING REFERENCES: FM 17-12-3; TM 9-2350-253-10.

SUPPORT REQUIREMENTS: 1 M60A3 TANK; LASER SAFE RANGE AREA.



PRACTICE/EVALUATION FORM

INSTRUCTORTC

BEGIN EXERCISE:

GO

NO GO

- | | | | |
|--|--|----------------------|----------------------|
| 1. Randomly select one of PRACTICE or EVALUATION SCENARIOS, read it aloud to TC and score performance. | 1. Describes/performs the correct sequence of responses for each of the following scenario problems. | <input type="text"/> | <input type="text"/> |
| 2. Repeat step 1 for the remaining scenarios then score total performance. | | | |

PRACTICE SCENARIOS

- | | | |
|--|----------------------|----------------------|
| 1. You have ranged on a target and the SELECT light goes on. What are the appropriate TC actions? | <input type="text"/> | <input type="text"/> |
| 2. You have ranged on a target and the SELECT light goes on. RANGE 1 is 500 m, RANGE 2 is 1000 m, and RANGE LAST is 1480 m. You estimate the target to be about 1500 m distance. What is the appropriate response? | <input type="text"/> | <input type="text"/> |
| 3. You have ranged on a target and the SELECT light goes on. RANGE 1, RANGE 2, and RANGE LAST are all very different from your estimation of range. What is one appropriate TC response? | <input type="text"/> | <input type="text"/> |
| 4. You have ranged on a target a number of times and continue to receive inaccurate LRF returns. The target is about 1200 m away. What is the appropriate TC response? | <input type="text"/> | <input type="text"/> |

EVALUATION SCENARIOS

- | | | |
|---|----------------------|----------------------|
| 1. You have ranged on a target and the SELECT light goes on. What are the appropriate TC actions? | <input type="text"/> | <input type="text"/> |
| 2. You have ranged on a target and receive multiple LRF returns. RANGE 2 is quite close to your estimated range. What is the appropriate TC response? | <input type="text"/> | <input type="text"/> |
| 3. You have ranged on a target and receive multiple LRF returns. None of the three ranges displayed is close to your estimated target range. What are the appropriate steps to release? | <input type="text"/> | <input type="text"/> |
| 4. You have ranged on a target and receive multiple LRF returns. The LAST return is close to your estimated range. What is the appropriate TC response? | <input type="text"/> | <input type="text"/> |
| 5. You have ranged on a target numerous times and continue to receive inaccurate multiple LRF returns. What are the TC steps for manually indexing an estimated range? | <input type="text"/> | <input type="text"/> |
| 6. You have ranged on a target and the SELECT light goes on. RANGE 1 agrees with your estimated range; RANGE 2 and RANGE LAST do not. What is the appropriate TC response? | <input type="text"/> | <input type="text"/> |
| 7. You have ranged on a target and receive multiple LRF returns. The first range is close to your estimated range. What is the appropriate TC response? | <input type="text"/> | <input type="text"/> |

GO

NO GO

CREW POSITION: TANK COMMANDER

TRAINING MODULE NO: 14

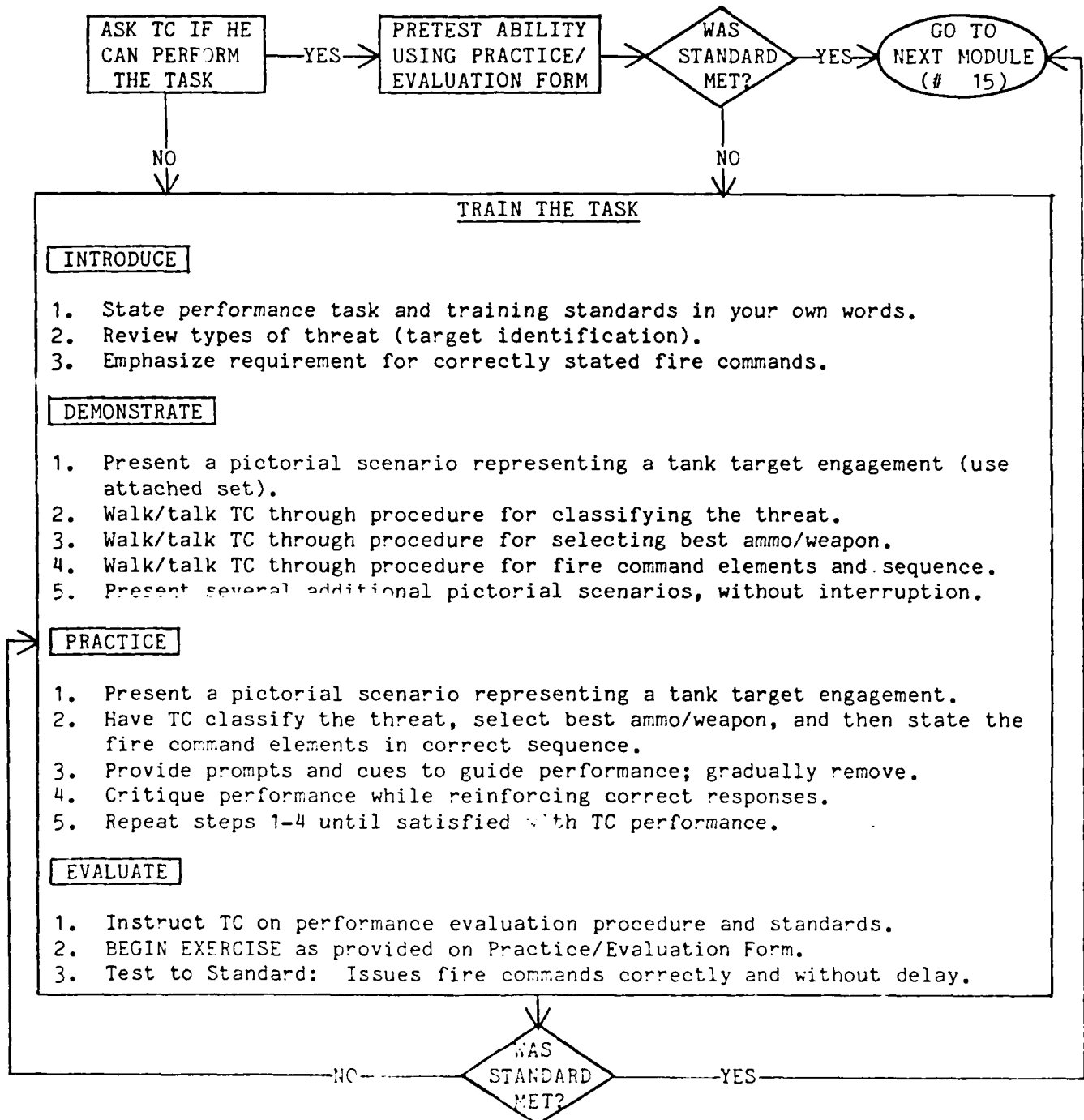
TASK: ISSUE FIRE COMMANDS.

TIME: 60 MINUTES

PREREQUISITE TASKS: IDENTIFY TARGETS.

TRAINING REFERENCES: FM 17-12-3; TEC TAPE 020-171-5359 (E,F).

SUPPORT REQUIREMENTS: 1 SET OF BATTLEFIELD SCENARIOS (ATTACHED).



PRACTICE/EVALUATION FORM

INSTRUCTOR

TC

BEGIN EXERCISE:

1. Randomly select a pictorial scenario of a battlefield situation, announce "CLASSIFY THE THREAT," and score performance.

1. Classifies each threat as MOST DANGEROUS, DANGEROUS, or LEAST DANGEROUS.

GO NO GO

2. Announce "SELECT THE BEST WEAPON AND AMMUNITION," and score performance.

2. Selects the best weapon/ammunition to defeat the threat.

3. Announce "STATE THE FIRE COMMAND ELEMENTS IN SEQUENCE," and score performance.

3. Issues fire command elements in sequence.

4. Repeat steps 1-3 using two other randomly selected scenarios, then score total performance.

SCENARIO
#1

SCENARIO
#2

SCENARIO
#3

GO NO GO

GO NO GO

GO NO GO

CREW POSITION: TANK COMMANDER

TRAINING MODULE NO: 15

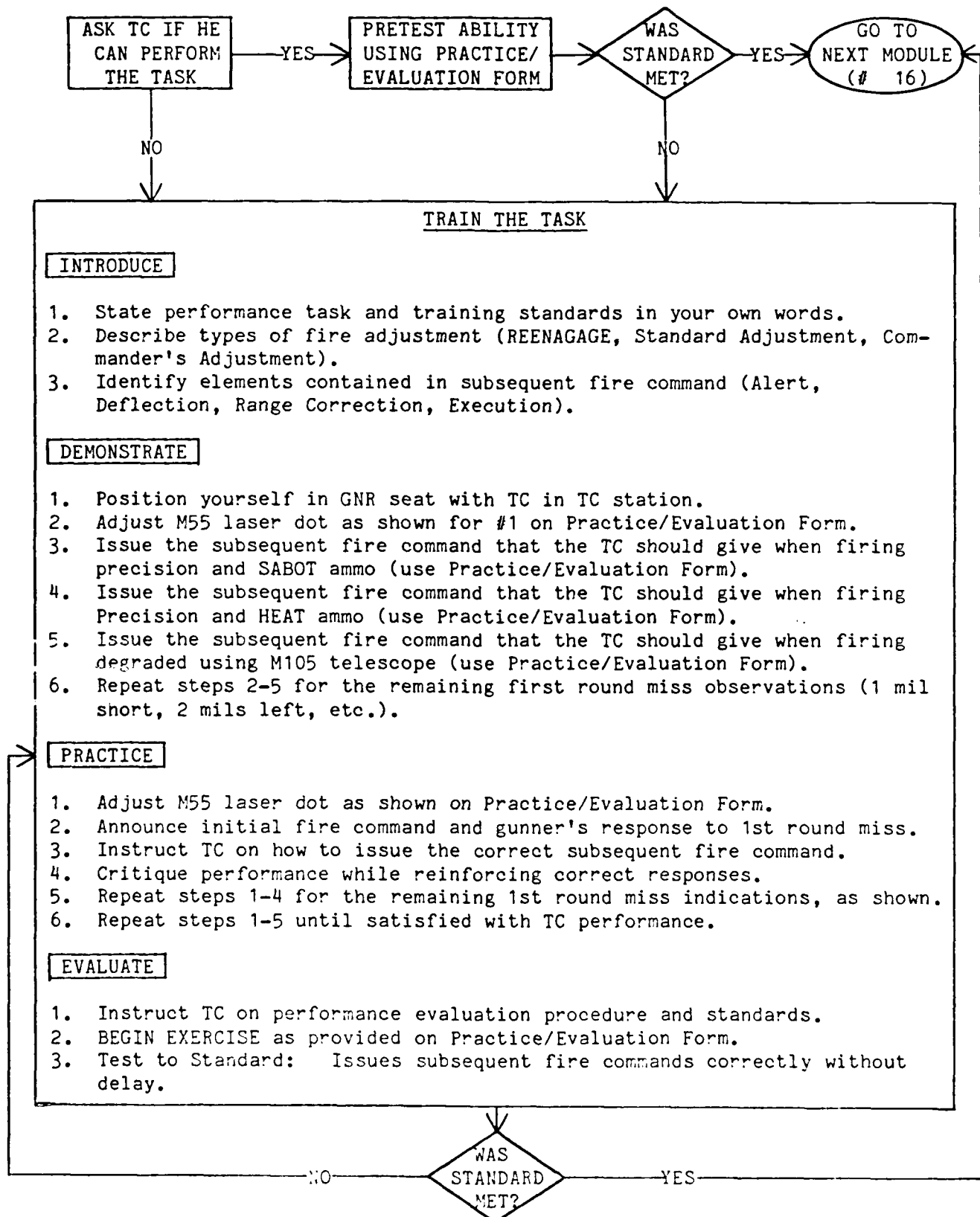
TASK: ISSUE SUBSEQUENT FIRE COMMAND.

TIME: 60 MINUTES

PREREQUISITE TASKS: ISSUE FIRE COMMANDS.

TRAINING REFERENCES: FM 17-12; FM 17-12-3; FM 17-19E3.

SUPPORT REQUIREMENTS: 1M60A3 TANK OR TURRET TRAINER; 1 M55 LASER (OPTIONAL).



PRACTICE/EVALUATION FORM

INSTRUCTOR

TC

BEGIN EXERCISE:

GO

NO GO

1. Lay gun on target, instruct TC to announce GUNNER-SABOT-TANK, and then to issue a subsequent fire command for each of the following:

M55 LASER GNR(Instructor)

- 1 mil high REENGAGING
- 1 mil short REENGAGING
- 2 mils left REENGAGING
- 1 mil right REENGAGING
- (Nothing) LOST

2. Instruct TC to announce GUNNER-HEAT-TANK and issue a subsequent fire command for each of the following:

M55 LASER GNR(Instructor)

- 1 mil high DROP THREE...
- 1 mil short ADD THREE...
- 2 mils left LOST...
- 1 mil right RIGHT ONE...
- (Nothing) LOST...

3. Instruct TC to announce GUNNER-SABOT-TANK-ONE NINE HUNDRED and issue a subsequent fire command for each of the following:

M55 LASER GNR(Instructor)

- 1 mil high DROP ONE...
- 1 mil short REENGAGING...
- 2 mils left LOST...
- 1 mil right RIGHT ONE...
- (Nothing) LOST...

4. Score total performance.

1. Issues a subsequent fire command, where applicable, as follows:

TC:

- GUNNER-DROP ONE-FIRE
- GUNNER-ADD ONE-FIRE
- GUNNER-RIGHT TWO-FIRE
- GUNNER-LEFT ONE-FIRE
- GUNNER-REENGAGE or
- Remain Silent

2. Issues a subsequent fire command, where applicable, as follows:

TC:

- GUNNER-ADD ONE-FIRE
- GUNNER-DROP ONE-FIRE
- GUNNER-RIGHT TWO-FIRE
- GUNNER-LEFT ONE-FIRE
- GUNNER-REENGAGE or
- Remain Silent

3. Issues a subsequent fire command, where applicable, as follows:

TC:

- GUNNER-DROP TWO HUNDRED-FIRE
- GUNNER-ADD TWO HUNDRED-FIRE
- GUNNER-LEFT TWO-FIRE
- GUNNER-LEFT ONE-FIRE
- GUNNER-DROP TWO HUNDRED-FIRE or
- Remain Silent

GO

NO GO

CREW POSITION: TANK COMMANDER

TRAINING MODULE NO: 16

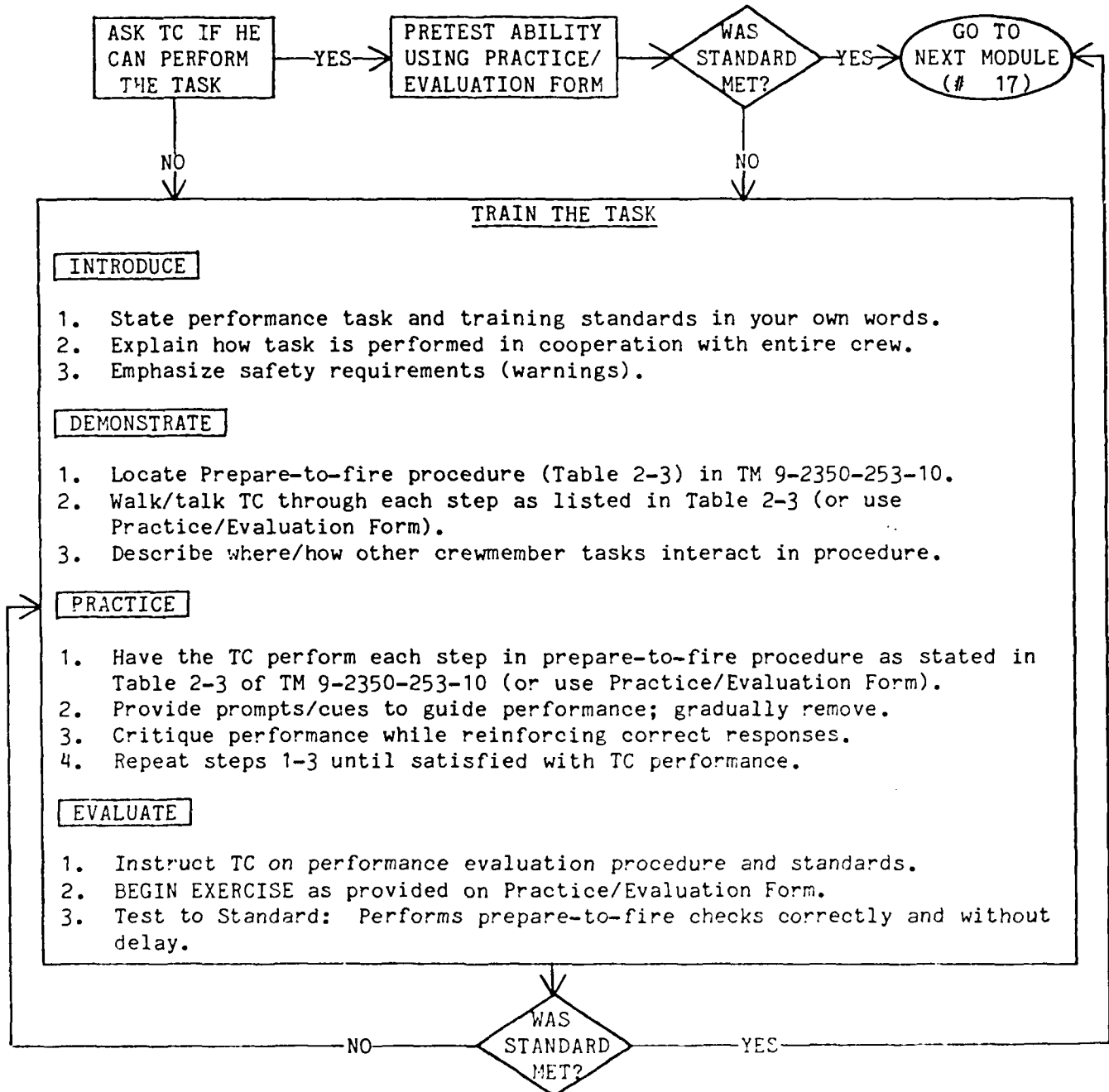
TASK: PERFORM PREPARE-TO-FIRE CHECKS.

TIME: 30 MINUTES

PREREQUISITE TASKS: PERFORM LRF SELF-TEST; BORE-SIGHT THE LRF; BORESIGHT THE M85 MACHINEGUN; LOAD THE M85 MACHINEGUN.

TRAINING REFERENCES: TM 9-2350-253-10 (TABLE 2-3).

SUPPORT REQUIREMENTS: 1 M60A3 TANK.



PRACTICE/EVALUATION FORM

INSTRUCTORTC

BEGIN EXERCISE:

		GO	NO GO
1. Announce "PERFORM TC PRE-PARE-TO-FIRE CHECKS," and observe performance (steps 1-17).	1. Clears turret/cupola exterior lenses and vision devices.	☐	☐
	2. Checks instrument lights.	☐	☐
	3. Checks periscope ballistic shield operation.	☐	☐
	4. Checks LRF for MALF light.	☐	☐
	5. Insures LRF blister cover is locked open-cleans lens.	☐	☐
(Performed during TC command "CHECK FIRING SWITCHES".)	6. Checks firing trigger on control handle.	☐	☐
(Performed during TC command "CHECK GUN CONTROLS").	7. Checks control handle for power elevation/traverse.	☐	☐
(Performed during TC command "CHECK GUN STABILIZATION").	8. Checks override and function in STAB mode.	☐	☐
	9. Checks STAB SHUT-OFF switch.	☐	☐
	10. Turns CUPOLA POWER and GUN SAFETY switches to ON.	☐	☐
	11. Checks Cal. 50 machine gun mount operation and controls.	☐	☐
(Steps 12, 13, 15, and 17 are optional, since previously trained).	12. Performs LRF self-test.	☐	☐
	13. Boresights LRF.	☐	☐
	14. Sets established zero into computer control unit.	☐	☐
	15. Boresights Cal. 50.	☐	☐
	16. Loads Cal. 50.	☐	☐
2. Score total performance.	17. Ensures crew prepare-to-fire checks are completed i.e. REPORT...GNR, LDR, DRV READY.	☐	☐

GO

☐

NO GO

☐

CREW POSITION: TANK COMMANDER

TRAINING MODULE NO: 17

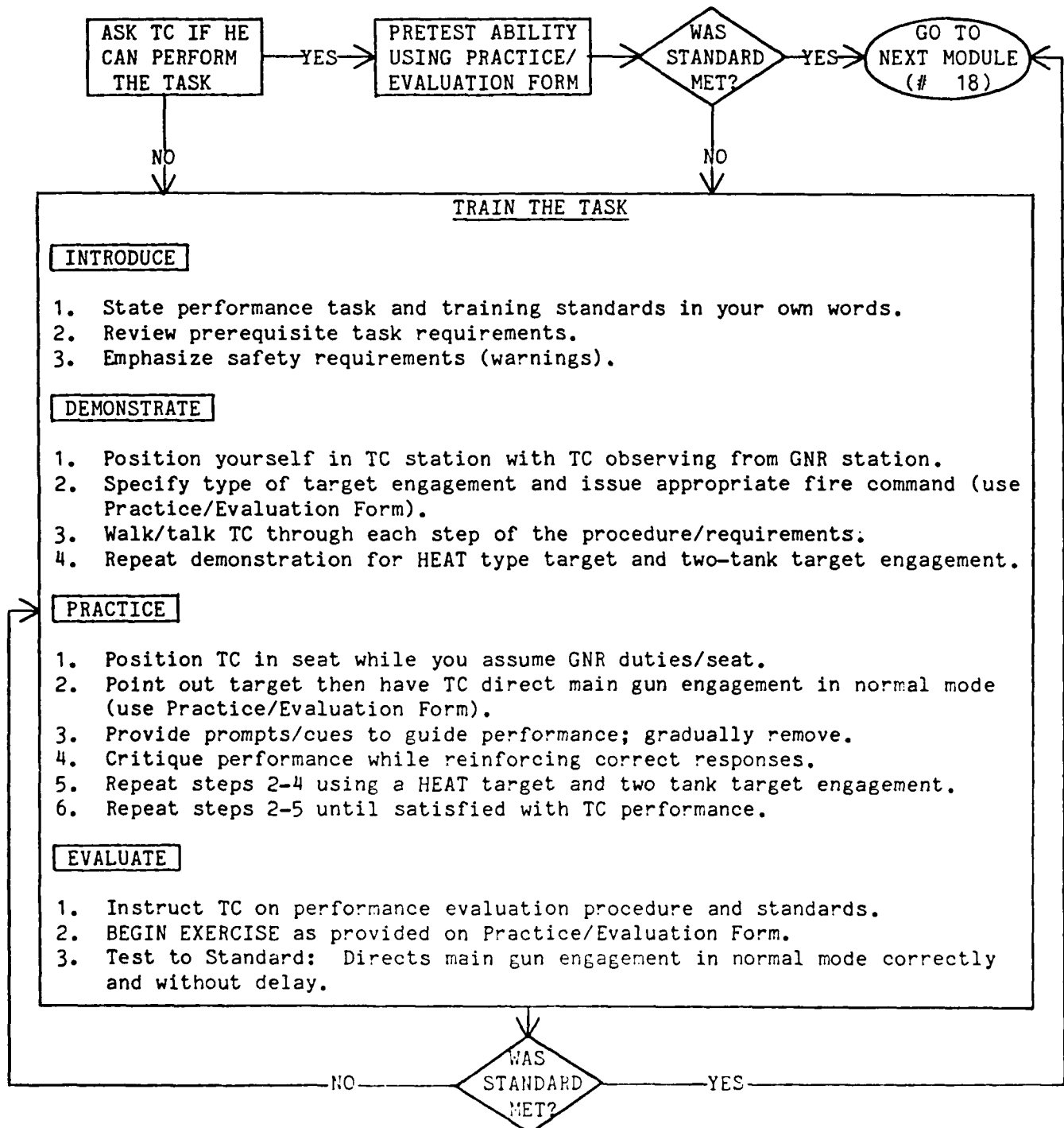
TASK: DIRECT MAIN GUN ENGAGEMENTS-NORMAL MODE.

TIME: 30 MINUTES

PREREQUISITE TASKS: ISSUE FIRE COMMANDS; OPERATE THE LRF;
RESPOND TO MULTIPLE RANGE RETURNS.

TRAINING REFERENCES: FM 17-12-3; TM 9-2350-253-10.

SUPPORT REQUIREMENTS: 1M60A3 TANK; LASER SAFE RANGE AREA.



PRACTICE/EVALUATION FORM

INSTRUCTOR

TC

BEGIN EXERCISE:

1. Position yourself in GNR seat, identify target(s), announce DIRECT MAIN GUN ENGAGEMENT IN NORMAL MODE," and observe performance (Steps 1-5).
2. Announce "UP" and "IDENTIFIED".
3. Lay slightly below target center of mass, announce "LASING", and range to target.
4. Relay on target center of mass, announce "ON THE WAY, fire, and announce observation ("TARGET-REENGAGING").
5. Score total performance for Trial 1, repeat steps 1-4 using a HEAT target engagement.
6. Score total performance for Trial 2, repeat steps 1-4 using two tank target engagement.
7. Score total performance for Trial 3.

1. Commands:
 - "GUNNER-SABOT-TANK"
 - "GUNNER-HEAT-BMP"
 - "GUNNER-SABOT-2 TANKS-RIGHT TANK"
2. Lays the main gun for direction (target(s) appears in GNR field of view).
3. Releases turret override control on hearing "IDENTIFIED".
4. Verifies range, arming of main gun (UP), then commands "FIRE".
5. Commands:
 - "CEASE FIRE"
 - "CEASE FIRE"
 - "LEFT TANK" (then 3-5)

GO	NO GO
----	-------

--	--

--	--

--	--

--	--

--	--

Trial 1

GO	NO GO

Trial 2

GO	NO GO

Trial 3

GO	NO GO

CREW POSITION: TANK COMMANDER

TRAINING MODULE NO: 18

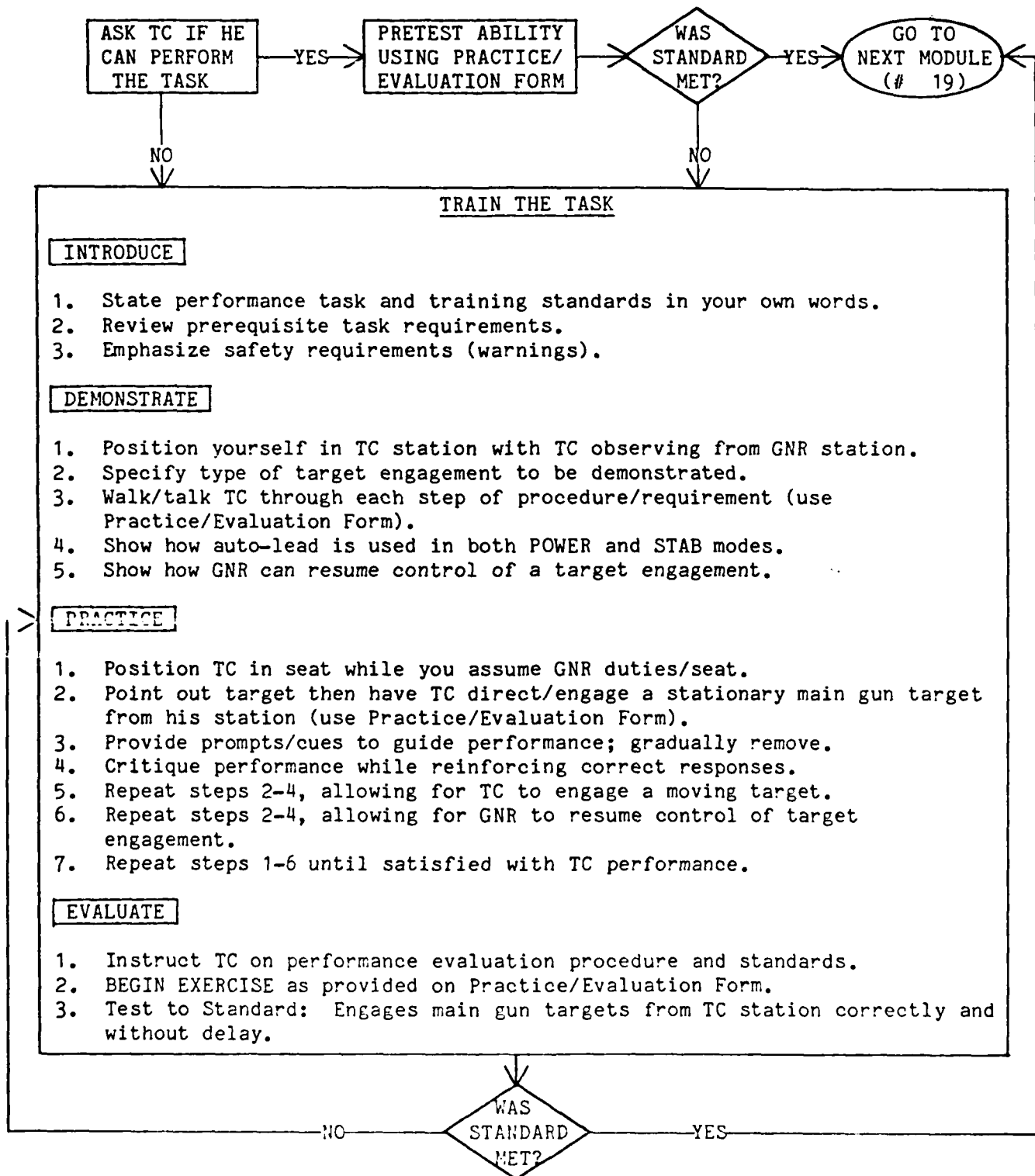
TASK: ENGAGE MAIN GUN TARGETS FROM TC STATION.

TIME: 30 MINUTES

PREREQUISITE TASKS: ISSUING FIRE COMMANDS; OPERATE THE LRF; RESPONDING TO MULTIPLE RANGE RETURNS.

TRAINING REFERENCES: FM 17-12-3; TM 9-2350-253-10.

SUPPORT REQUIREMENTS: 1 M60A3 TANK; LASER SAFE RANGE AREA.



PRACTICE/EVALUATION FORM

INSTRUCTORTC

BEGIN EXERCISE:

1. Position yourself in GNR seat, identify target, and announce "DIRECT MAIN GUN ENGAGEMENT IN NORMAL MODE," and observe performance (Steps 1-13).

2. Announce "UP" and "CANNOT IDENTIFY".

3. Announce "UP".

4. Score total performance for Trial 1, then repeat steps 1-3 for a moving target engagement.

5. Score total performance for Trail 2, repeat steps 1-3, then announce "IDENTIFIED" following TC observation.

6. Lay slightly below target center of mass, announce "LASING," and range to target.

7. Relay on target center of mass, announce "ON THE WAY," fire, and announce observation i.e., "TARGET-REENGAGING".

8. Score total performance for Trial 3.

1. Issues fire command:
 • GUNNER-SABOT-TANK
 • GUNNER-SABOT-MOVING TANK
 • GUNNER-HEAT-TANK

2. Lays the main gun for direction (target appears in GNR field of view).

3. Command "FROM MY POSITION".

4. Lays slightly below target center of mass.

5. Tracks target for 1.5 sec, if applicable.

6. Ranges using LRF RANGE button.

7. Establishes lead, if applicable.

8. Relays on target center of mass.

9. Announces "ON THE WAY" and squeezes trigger.

10. Relays onto target aiming point and announces round observation i.e., "TARGET-CEASE FIRE." for Trial 1 and 2, but "SHORT-REENGAGING" for Trial 3.

NOTE: Instruct TC before Trial.

11. Returns control of main gun to GNR by releasing TC override.

12. Verifies range, arming of main gun ("UP"), then commands "FIRE".

13. Commands "CEASE FIRE" to end engagement.

GO	NO GO
----	-------

--	--

--	--

--	--

--	--

--	--

--	--

--	--

--	--

--	--

--	--

--	--

--	--

--	--

Trial 1

GO	NO GO

Trial 2

GO	NO GO

Trial 3

GO	NO GO

CREW POSITION: TANK COMMANDER

TRAINING MODULE NO: 19

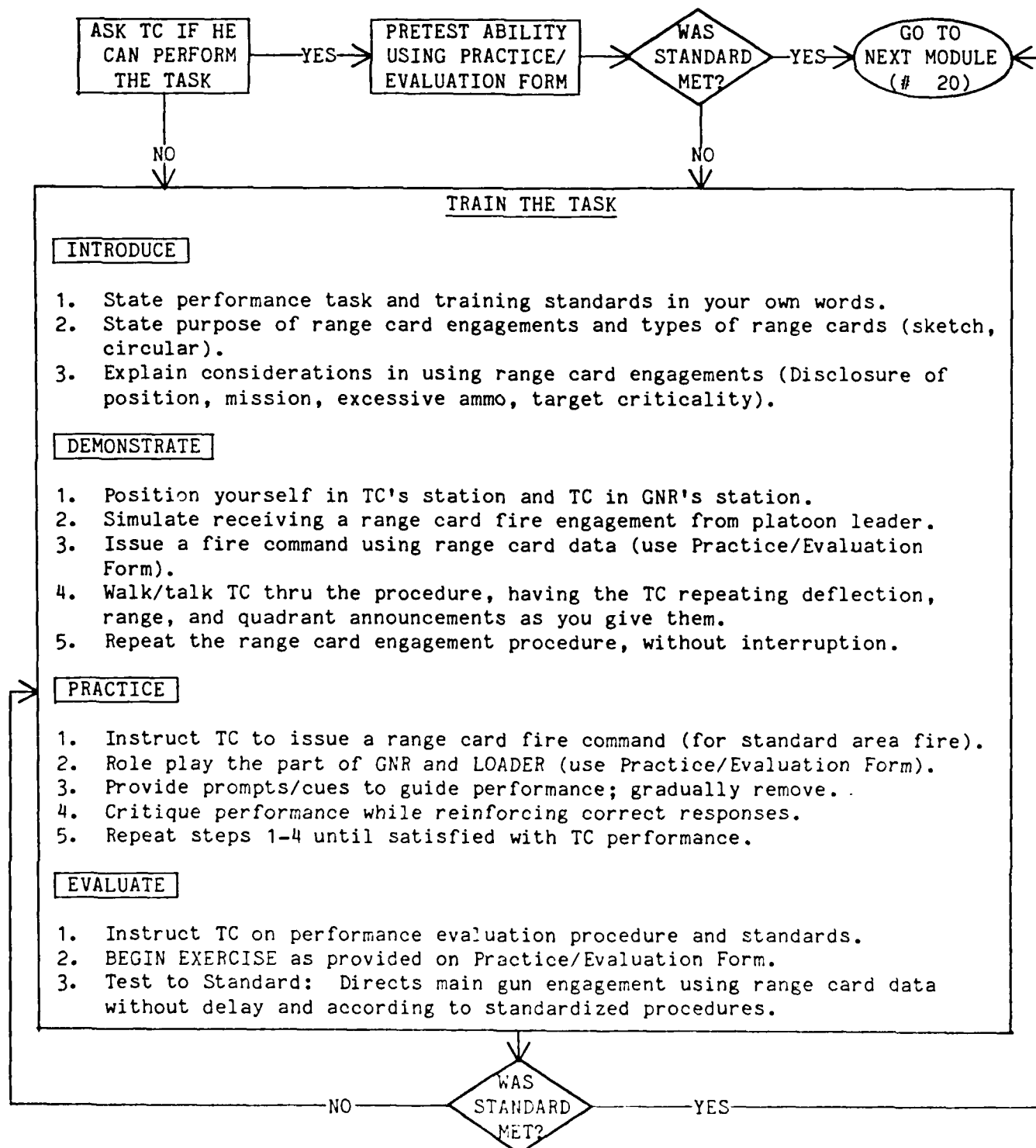
TASK: DIRECT MAIN GUN ENGAGEMENT USING RANGE
CARD DATA.

TIME: 30 MINUTES

PREREQUISITE TASKS: ISSUE FIRE COMMANDS.

TRAINING REFERENCES: FM 17-12; FM 17-12-3; FM 17-19E1/2; TC 17-15-13.

SUPPORT REQUIREMENTS: 1 M60A3 TANK OR TURRET TRAINER; 1 M55 LASER
(OPTIONAL); 1 RANGE CARD (DATA COMPLETED).



PRACTICE/EVALUATION FORM

INSTRUCTOR

TC

BEGIN EXERCISE:

GO	NO GO
----	-------

- | | | |
|--|--|--|
| <p>1. Specify the task conditions, hand TC range card data, and answer questions.</p> <p>2. Announce "BEGIN," role play part of GNR (LDR), and observe performance (Steps 2-4).</p> <ul style="list-style-type: none"> • Repeat deflection reading • Repeat range • Repeat quadrant reading • "ON THE WAY" <p>3. Perform GNR-LDR tasks, announcing "ON THE WAY" and "UP" for each firing.</p> <p>4. Score performance.</p> | <p>1. Asks questions to clarify evaluation procedures.</p> <p>2. Issues fire command:</p> <ul style="list-style-type: none"> • Alert (GUNNER) • Ammunition (HEAT) • Target description (AREA FIRE) • "DEFLECTION _____" (EIGHT FIVE ONE LEFT) • Range ("ONE EIGHT HUNDRED") • "QUADRANT _____" (PLUS ONE FIVE) • Execution (FIRE) <p>3. Issues subsequent fire commands, in order:</p> <ul style="list-style-type: none"> • ADD ONE . . . FIRE • DROP TWO . . . FIRE • ADD ONE, RIGHT . . . TEN . . . FIRE • LEFT TWENTY . . . FIRE <p>4. Announces CEASE FIRE.</p> | <table border="1" style="width: 100px; height: 20px; margin-bottom: 10px;"></table> <table border="1" style="width: 100px; height: 20px; margin-bottom: 10px;"></table>
<table border="1" style="width: 100px; height: 20px; margin-bottom: 10px;"></table> <table border="1" style="width: 100px; height: 20px; margin-bottom: 10px;"></table>
<table border="1" style="width: 100px; height: 20px; margin-bottom: 10px;"></table> <table border="1" style="width: 100px; height: 20px;"></table> |
|--|--|--|

GO		NO GO	
----	---	-------	---

CREW POSITION: TANK COMMANDER

TRAINING MODULE NO: 20

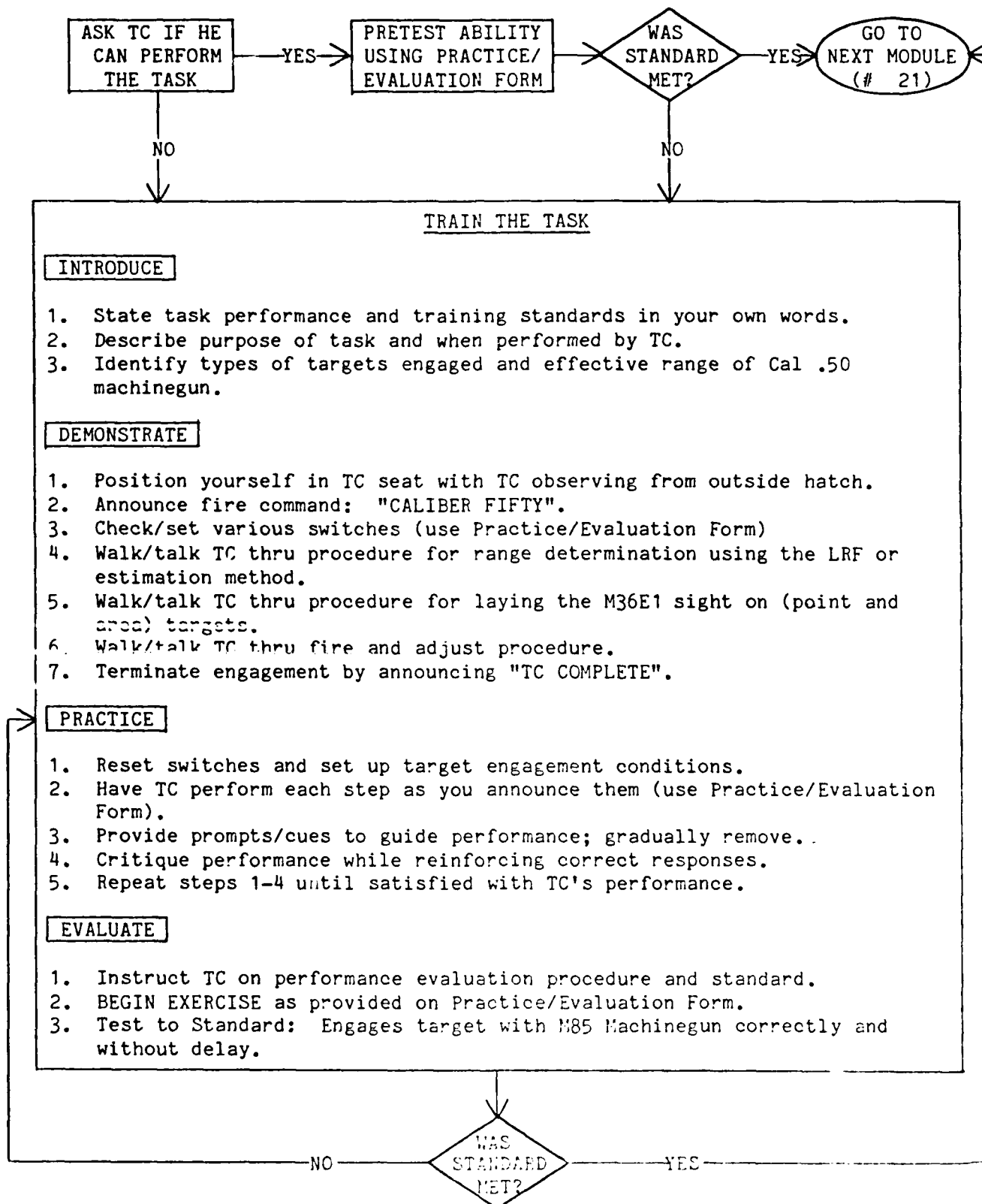
TASK: ENGAGE TARGETS WITH M85 MACHINEGUN.

TIME: 30 MINUTES

PREREQUISITE TASKS: PERFORM M85 MACHINEGUN PREPARE TO FIRE CHECKS.

TRAINING REFERENCES: FM 17-12; FM 17-12-3; FM 17-19E3; TM 9-2350-253-10.

SUPPORT REQUIREMENTS: 1 M60A3 TANK OR TURRET TRAINER; VARIOUS
STATIONARY AND MOVING TARGETS OR REPRESENTATIONS.



PRACTICE/EVALUATION FORM

INSTRUCTOR

TC

BEGIN EXERCISE:

GO	NO GO
----	-------

1. Specify the task conditions, preset switches, and answer TC questions.
2. Identify target, announce "BEGIN," and observe TC performance (steps 2-10).

1. Asks questions to clarify engagement procedures.
2. Announces "CALIBER FIFTY" and lays gun in direction of target.
oContinues to move when engaging area targets.
oHalts briefly when engaging aerial or point targets. ("DRIVER STOP")
3. Checks/sets gun safety and last round override switches to ON.
4. Checks/sets mechanical safety on gun to F.
5. Checks/sets rate of fire selector to desired rate, H or L.
6. Estimates range to target (or use LRF if time/situation permits).
7. Lays corresponding range line of M36E1 sight on target (and applies lead if needed).
8. Fires using electrical trigger or trigger extension handle.
9. Adjust fire (if applicable).
10. Stops firing and announces "TC COMPLETE."

--	--

--	--

--	--

--	--

--	--

--	--

--	--

--	--

--	--

3. Score total performance.

GO		NO GO	
----	--	-------	--

CREW POSITION: TANK COMMANDER

TRAINING MODULE NO: 21

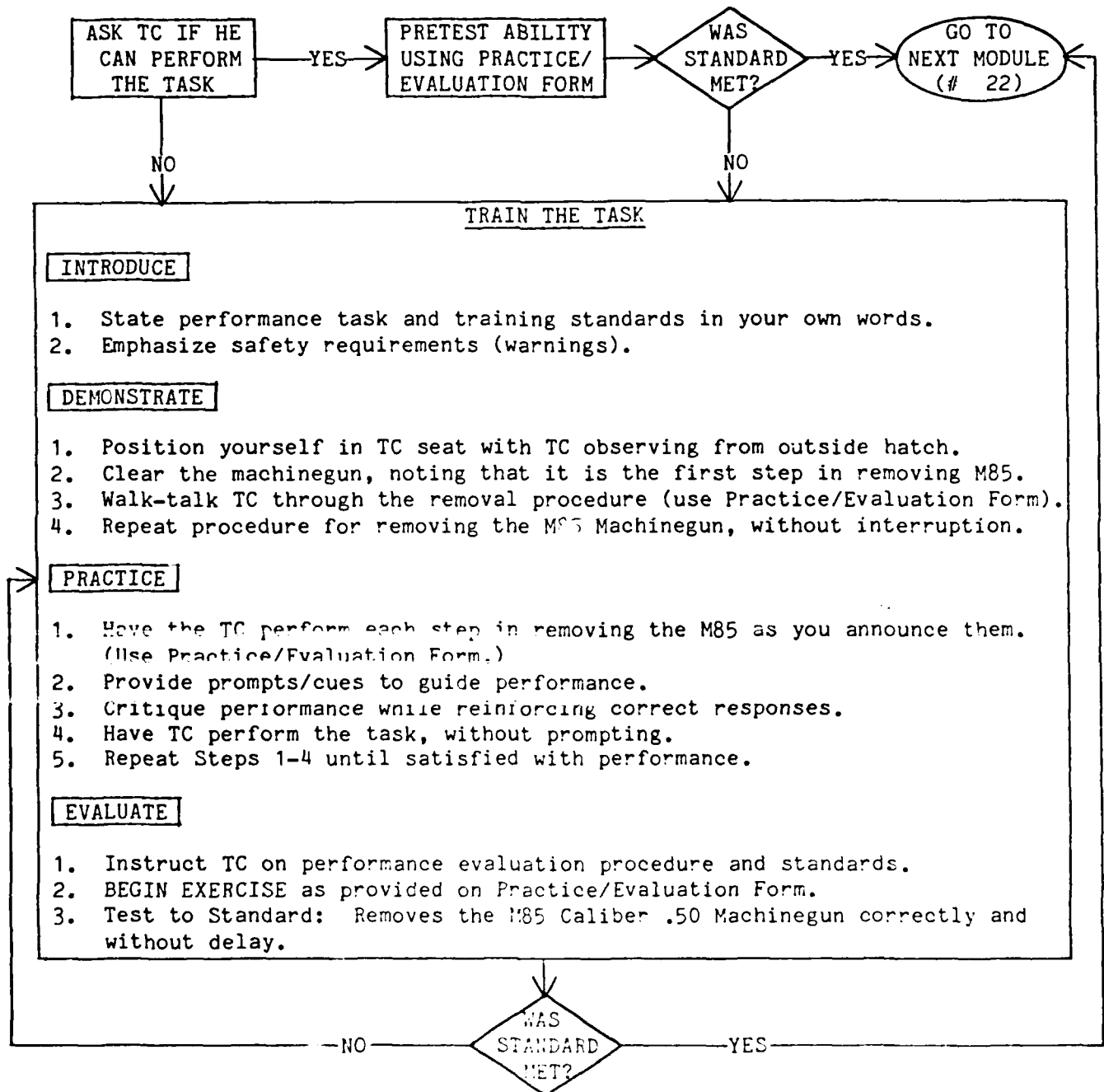
TASK: REMOVE THE M85 MACHINEGUN.

TIME: 15 MINUTES

PREREQUISITE TASKS: INSTALL M85 CALIBER .50 MACHINEGUN.

TRAINING REFERENCES: TM 9-2350-253-10, TM 9-1005-231-10.

SUPPORT REQUIREMENTS: 1 M60A3 OR M30A1 TURRET TRAINER;
1 M85 CALIBER .50 MACHINEGUN.



PRACTICE/EVALUATION FORM

INSTRUCTOR

TC

BEGIN EXERCISE:

1. Set Master Battery switch to OFF. Announce "REMOVE M85 CALIBER .50 MACHINE-GUN," and observe performance (Steps 1-9).

1. Clears the machinegun.
2. Disconnects solenoid lead connector from end plate.
3. Opens cradle access door, presses down on barrel latches, rotates barrel 1/4 turn, and removes.
4. Elevates machinegun.
5. Compresses quick-disconnect clamp to disconnect adjusting link from periscope elevation adjustment arm.
6. Connects quick-disconnect clamp to stowage hanger.
7. Removes rear mounting pin.
8. Slides machinegun from cradle.
9. Removes deflection plate.

2. Score total performance.

GO	NO GO
----	-------

--	--

--	--

--	--

--	--

--	--

--	--

--	--

--	--

--	--

GO		NO GO	
----	--	-------	--

CREW POSITION: TANK COMMANDER

TRAINING MODULE NO: 22

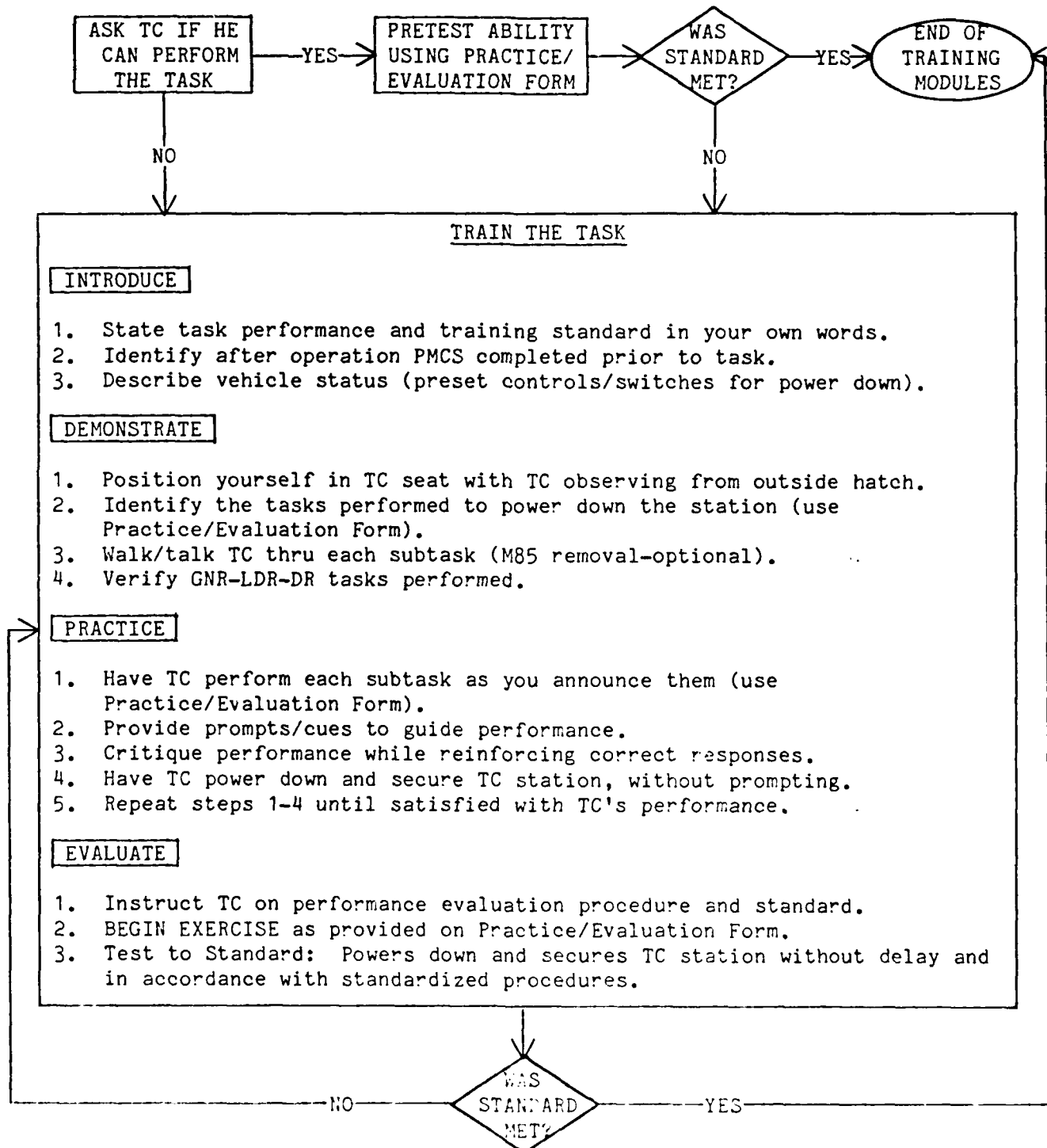
TASK: POWER DOWN AND SECURE TANK COMMANDER'S STATION.

TIME: 15 MINUTES

PREREQUISITE TASKS: REMOVE THE M85 MACHINEGUN.

TRAINING REFERENCES: FM 17-19E3; TM 9-2350-253-10.

SUPPORT REQUIREMENTS: 1 M60A3 TANK OR TURRET TRAINER.



PRACTICE/EVALUATION FORM

INSTRUCTOR

TC

BEGIN EXERCISE:

	GO	NO GO
1. Announce "POWER DOWN AND SECURE TC'S STATION," and observe performance (steps 1-7).	☐	☐
1. Sets electrical switches to OFF: - o Cupola power - o M85 gun safety - o M36E1 power - o AM-1780 power	☐	☐
2. Places LRF in TEST MODE	☐	☐
3. Checks/engages cupola azimuth interlock.	☐	☐
2. (Optional)		
4. Removes M85 machinegun: - o Clears - o Unloads - o Stows	☐	☐
5. Ensures GNR-LDR-DR tasks are completed: - o Weapon safed - o Turret power OFF - o Computer power OFF - o Turret LOCKED - o Ballistic shield CLOSED - o Master battery OFF - o DR hatch secured	☐	☐
3. (Optional)		
6. Remove/stow CVC helmet	☐	☐
7. Exit/secure LDR's hatch	☐	☐
4. Score total performance.		

GO

☐

NO GO

☐

(ATTACHMENT)
BATTLEFIELD SCENARIOS



THE SITUATION

Scenario No. 1

- You are in a bounding overwatch, halted, and fully operational.
- Round loaded is SABOT.
- A T-72 is off to your left, range 1,700 meters. It has seen you.
- A 12-mm self-propelled howitzer is to your right, range 2,500 meters. It has not seen you.

QUESTIONS

1. What is the MOST DANGEROUS and what is the DANGEROUS threat?
2. What is the best ammunition for engaging the MOST DANGEROUS and DANGEROUS threat?
3. What is the appropriate initial fire command for this threat scenario?



THE SITUATION

Scenario No. 2

- You are stopped in a bounding overwatch position and fully operational.
- Round loaded is HEAT.
- A dismounted SAGGER crew at 2000 meters is preparing to fire at you.

QUESTIONS

1. What type of threat is the SAGGER crew?
2. Based on the conditions, what is the appropriate ammunition/equipment to use against the threat?
3. What is the fire command for this threat scenario?



THE SITUATION

Scenario No. 3

- You are temporarily stopped during an advance and fully operational.
- Round loaded is SABOT.
- A self propelled howitzer is identified at 2,000 meters directly in front of you. It has not seen you.

QUESTIONS

1. What type of threat is the self-propelled howitzer?
2. Based on the conditions, what is the appropriate ammunition/weapon to use against the threat?
3. What is the fire command for this scenario?



THE SITUATION

Scenario No. 4

- You are turret down, well concealed, and fully operational.
- Round loaded is HEAT.
- A HIND-A helicopter is seen at 3,000 meters. It does not see you.
- A T-72 appears at 2,000 meters. It does not see you.

QUESTIONS

1. Is the HIND-A helicopter a MOST DANGEROUS, DANGEROUS, or LEAST DANGEROUS threat?
2. Is the T-72 a MOST DANGEROUS, DANGEROUS, or LEAST DANGEROUS threat?
3. Based on the conditions, what is the appropriate fire command?



THE SITUATION

Scenario No. 5

- You are moving in a traveling overwatch mode and fully operational.
- Round loaded is SABOT.
- You see a BMP with SAGGER at 1500 meters. It apparently has not seen you.
- A man pack SAGGER team is straight ahead at 750 meters. You have been seen.

QUESTIONS

1. Is the man-pack SAGGER team MOST DANGEROUS, DANGEROUS, or LEAST DANGEROUS?
2. Is the BMP with SAGGER a MOST DANGEROUS, DANGEROUS, or LEAST DANGEROUS threat?
3. What is the appropriate initial fire command?



THE SITUATION

Scenario No. 6

- You are in a deliberate attack and have penetrated the enemy's forward defensive position. You are fully operational.
- Round loaded is SABOT.
- You see the threat troops at about 2,500 meters.
- You see a BM-21 mounting a 122-mm rocket launcher to your right at 1,000 meters. It has seen you.

QUESTIONS

1. Is the BM-21 a MOST DANGEROUS, DANGEROUS, or LEAST DANGEROUS threat?
2. Are the troops a MOST DANGEROUS, DANGEROUS, or LEAST DANGEROUS threat?
3. What is the appropriate initial fire command?



THE SITUATION

Scenario No. 7

- You are in a defensive position and are under heavy attack.
- Troops with an RPG are on your left at 750 meters. They have not seen you.
- A T-72 at 4,000 meters is approaching. It has not seen you.
- A HHP-E helicopter mounting SWATTER antitank guided missile is hovering 1,000 meters away and aims at you.

QUESTIONS

1. What are the threat classifications of the RPG, the T-72, and the HHP-E?
2. What is an appropriate initial fire command?



THE SITUATION

Scenario No. 8

- You are fully operational and in a hasty defense.
- Two RPG teams are directly in front at 500 meters. One of them is aimed at you.
- A man pack SAGGER team, about 800 meters away, is behind the RPG's and has not seen you.
- An ASU-85 assault gun, about 2,500 meters away, is moving to your right. It has not seen you.
- An MI-6 heavy lift helicopter is flying away to the right.

QUESTIONS

1. What are the DANGEROUS threats in the situation?
2. What is the appropriate initial fire command?



THE SITUATION

Scenario No. 9

- You are fully operational and in a hasty defense.
- A BRDM mounting SAGGERS is 1,000 meters to your left. It is moving and not aimed at you.
- 152-mm howitzers, at 3,500 meters, are giving indirect fire.
- Dug-in troops are directly in front at 1,500 meters. The troops see you but have not fired.
- A PT-76 at 1,200 meters to your right is stopped and aiming at you.

QUESTIONS

1. Which target(s) is (are) MOST DANGEROUS, DANGEROUS, LEAST DANGEROUS?
2. What is the appropriate initial fire command?



THE SITUATION

Scenario No. 10

- You are in a traveling overwatch and are fully operational.
- Round loaded is SABOT.
- A T-72 comes out of the woods to your left about 1,200 meters away. He apparently does not see you.
- An RPG appears to your right at 600 meters and is aiming at you.
- An SP-122 is giving indirect fire. He is about 2,500 meters in front of you but does not see you.

QUESTIONS

1. Which target is MOST DANGEROUS?
2. What is the appropriate ammunition/weapon to use against the most dangerous target?
3. What is the appropriate initial fire command?



THE SITUATION

Scenario No. 11

- You are in a deliberate attack, moving through woods and fully operational.
- Machineguns (7.62-mm) in foxholes are on your left and right at about 500 meters. They are firing at you.
- Three T-12A antitank guns are directly in front at about 1,000 meters. One T-12A brings its gun to aim at you.

QUESTIONS

1. Which target is MOST DANGEROUS?
2. What is the most appropriate ammunition/weapon to use against the MOST DANGEROUS target?
3. What is the appropriate initial fire command?



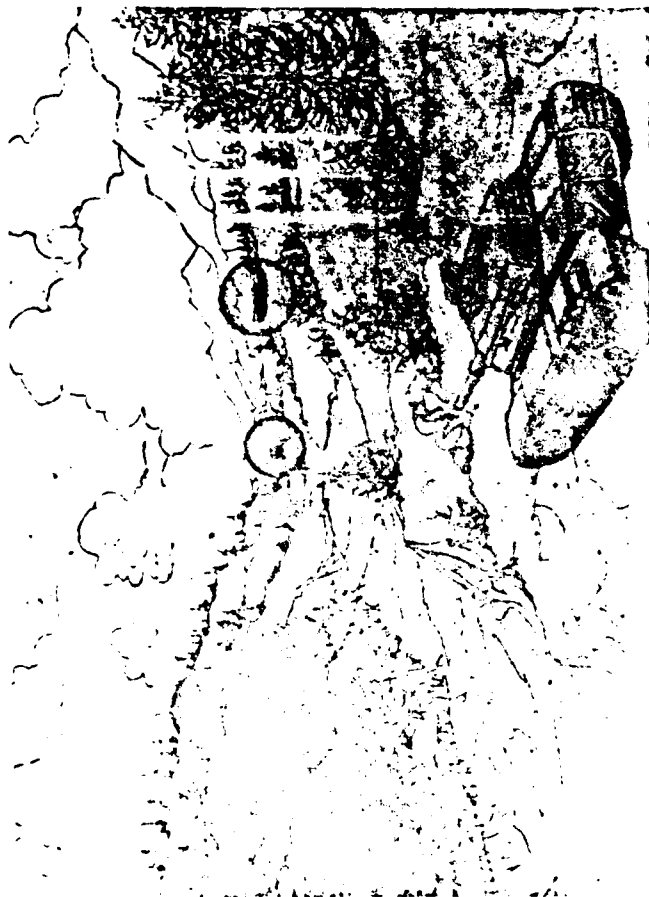
THE SITUATION

Scenario No. 12

- You are in a hasty defensive position, poorly concealed, but fully operational.
- Round loaded is SABOT.
- There are three SPC-9 (recoilless gun) teams to your left at 2,000 meters. They apparently have not seen you.
- A BRDM mounting SAGGERS is directly ahead at 1,500 meters. It has stopped and looks like it is preparing to fire at you.

QUESTIONS

1. Which targets are DANGEROUS threats?
2. What ammunition/weapon should be used against the MOST DANGEROUS threat?
3. What is the appropriate initial fire command?



THE SITUATION

Scenario No. 13

- You are in a bounding overwatch, halted, and fully operational.
- A T-72 is off to your left, range 1,700 meters. It has seen you.
- Almost directly in front is a T-12A antitank gun, range more than 3,000 meters. It has not seen you.
- A 122-mm self-propelled howitzer is to your right, range 2,500 meters. It has not seen you.

QUESTIONS

1. Which target is MOST DANGEROUS?
2. What is the appropriate ammunition/weapon for use against the MOST DANGEROUS threat?
3. What is the appropriate initial fire command?



THE SITUATION

Scenario No. 14

- You are in a deliberate attack, moving, and fully operational.
- Round loaded is SABOT.
- A T-12 antitank unit is providing area fire. The unit is located more than 3,000 meters from you.
- There is a T-62 directly in front of you, range 1,400 meters. It apparently has not seen you.
- A dismounted SAGGER is off to your right, range 750 meters. It is preparing to launch at you.

QUESTIONS

1. Which targets are DANGEROUS threats?
2. What is the appropriate ammunition/weapon to use against the MOST DANGEROUS target?
3. What is the appropriate initial fire command?



THE SITUATION

Scenario No. 15

- You are in a deliberate attack, moving, and fully operational.
- Round loaded is SABOT.
- There are two T-72 tanks off to your right, range 1,800 meters. They have not seen you.

QUESTIONS

1. Are these targets **MOST DANGEROUS, DANGEROUS, or LEAST DANGEROUS?**
2. What is the appropriate ammunition/weapon to use against the targets?
3. What is the appropriate initial fire command?



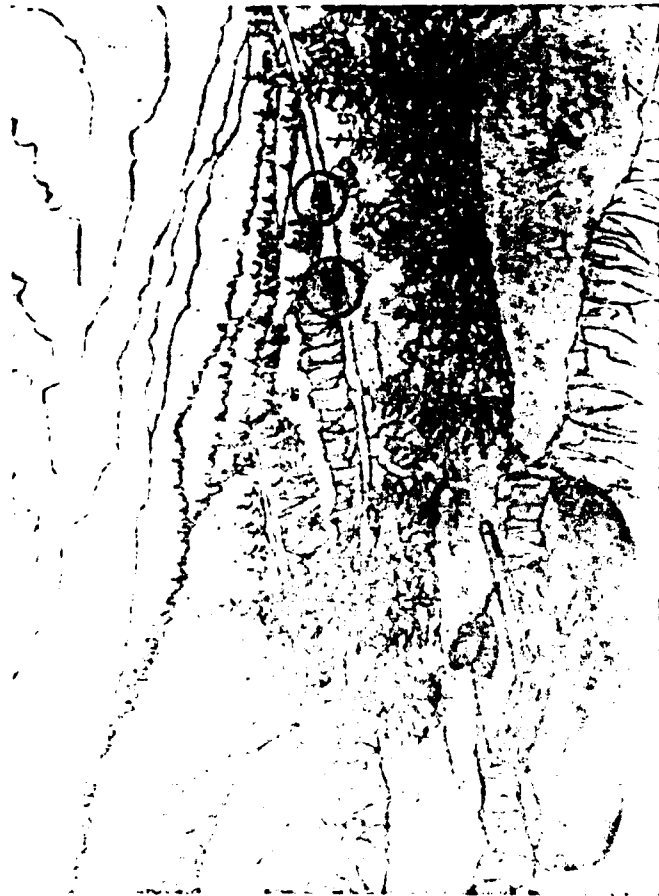
THE SITUATION

Scenario No. 16

- You are in a defensive position and fully operational.
- Round loaded is HEAT.
- A HIND-D helicopter with SAGGER ATGM mounted on rails comes over the tree line, sees you, and lines up for a launch.
- A 73-mm recoilless antitank gun is off to your right at about 1,000 meters. It has not seen you.
- A T-12 is coming through the woods off to your left, over 3,000 meters away. It has not seen you.

QUESTIONS

1. What is the **MOST DANGEROUS** threat?
2. What is the appropriate initial fire command?



THE SITUATION

Scenario No. 17

- You are turret down and fully operational.
- Round loaded is SABOT.
- Two trucks appear moving down the road about 800 meters away.

QUESTIONS

1. Are the trucks MOST DANGEROUS, DANGEROUS, or LEAST DANGEROUS threats?
2. What is the appropriate ammunition/weapon to use against the trucks?
3. What is the appropriate initial fire command?



THE SITUATION

Scenario No. 18

- You are attacking and have penetrated the outer ring of enemy defenses.
- Your Laser Rangefinder has failed.
- Round loaded is HEAT.
- A T-72 approaches your direct front, range 1,000 meters. It has seen you.
- Off to your right, at a range of about 900 meters, you see a 122-mm self-propelled howitzer. It does not see you.

QUESTIONS

1. Which target is the MOST DANGEROUS threat?
2. Under the circumstances, what is the most appropriate initial fire command?



THE SITUATION

Scenario No. 19

- You are the lead element in a bounding overwatch.
- The LRF has failed.
- Round loaded is HEAT.
- You see a T-72 directly in front at 1,000 meters. It has seen you.
- There is a T-12A antitank gun, right front, at 1,000 meters. It has not seen you.

QUESTIONS

1. Which target is the DANGEROUS threat?
2. What is the appropriate initial fire command?



THE SITUATION

Scenario No. 20

- You have penetrated enemy's security zone, moving at 5-8 mph, and fully operational.
- Round loaded is HEAT.
- Two T-72s are coming straight at you at 1,500 meters.
- The lead tank is turning to fire at you.

QUESTIONS

1. Is the second tank a MOST DANGEROUS, DANGEROUS, or LEAST DANGEROUS threat?
2. What is the appropriate initial fire command?

ANSWERS FOR QUESTIONS WITH PICTORIAL SCENARIOS
(TC Module #14)

SCENARIO	QUESTION 1	QUESTION 2	QUESTION 3
1.	MOST DANGEROUS: T-72 DANGEROUS: SELF- PROPELLED HOWITZER	SABOT	"GUNNER, SABOT, TANK, FIRE"
2.	MOST DANGEROUS	HEAT	"GUNNER, HEAT, ANTITANK, FIRE"
3.	DANGEROUS	HEAT	"GUNNER, HEAT, TANK, FIRE"
4.	DANGEROUS	DANGEROUS	"GUNNER, SABOT, TANK, FIRE"
5.	MOST DANGEROUS	DANGEROUS	"GUNNER, COAX, ANTITANK, FIRE"
6.	MOST DANGEROUS	LEAST DANGEROUS	CAL.50
7.	RPG AND T-72 DAN- GEROUS. HIP-E MOST DANGEROUS	"GUNNER, SABOT, CHOPPER, FIRE"	
8.	MAN PACK SAGGER, RPG	"GUNNER, COAX, TROOPS, FIRE"	
9.	MOST DANGEROUS: PT-76 AND HOWITZERS. DAN- GEROUS: BRDM. LEAST DANGEROUS: TROOPS	"GUNNER, SABOT, TANK, FIRE"	
10.	RPG	CAL.50	CAL.50
11.	T-12A AIMED AT YOU	HEAT	"GUNNER, HEAT, ANTITANK, FIRE"
12.	SPG-9	CAL.50	CAL.50
13.	T-72	SABOT	"GUNNER, SABOT, TANK, FIRE"
14.	T-12, T-62	COAX	"GUNNER, COAX, ANTITANK, FIRE"
15.	DANGEROUS	SABOT	"GUNNER, SABOT, TWO TANKS, LEFT TANK, FIRE"
16.	HIND-D	"GUNNER, SABOT, CHOPPER, FIRE"	
17.	LEAST DANGEROUS	COAX	"GUNNER, COAX, TWO TRUCKS, FIRE"
18.	T-72	"GUNNER, BATTLELIGHT, TANK, FIRE, FIRE SABOT"	
19.	T-12A	"GUNNER, BATTLELIGHT, TANK, FIRE, FIRE SABOT"	
20.	DANGEROUS	"GUNNER, HEAT, TWO TANKS, FRONT TANK, FIRE, FIRE SABOT"	

PART 4

TANK GUNNER TRAINING MODULES

TABLE OF CONTENTS
GUNNER TRAINING MODULES

Module No.	Task	Page No.
1	Operate M28E2 Azimuth Indicator.	1
2	Operate M1A1 Gunner's Quadrant.	3
3	Test and Adjust M13A3 Elevation Quadrant.	5
4	Perform a Zero Pressure Check.	7
5	Place the TTS into Operation.	9
6	Perform a Computer Self-test.	11
7	Prepare to Boresight the 105-MM Main Gun with M26 Muzzle Boresight Device.	13
8	Boresight Daylight Channels of TTS.	15
9	Adjust/Refer Thermal Channel of TTS for Boresight.	17
10	Adjust/Refer M105D Telescope for Boresight.	19
11	Apply Computer Correction Factors.	21
12	Perform Prepare-to-Fire-Checks.	23
13	Track Targets Using the Power Control Handles.	25
14	Apply Auto and Manual Lead.	27
15	Engage Stationary Main Gun Targets in Normal Mode.	29
16	Engage Moving Main Gun Targets in Normal Mode.	31
17	Engage Main Gun Target Using the M105D Telescope.	33
18	Adjust Fire for Main Gun Engagements.	35
19	Perform Main Gun Misfire Procedures.	37
20	Power Down and Secure Gunner's Station.	39

CREW POSITION: GUNNER

TRAINING MODULE NO. 1

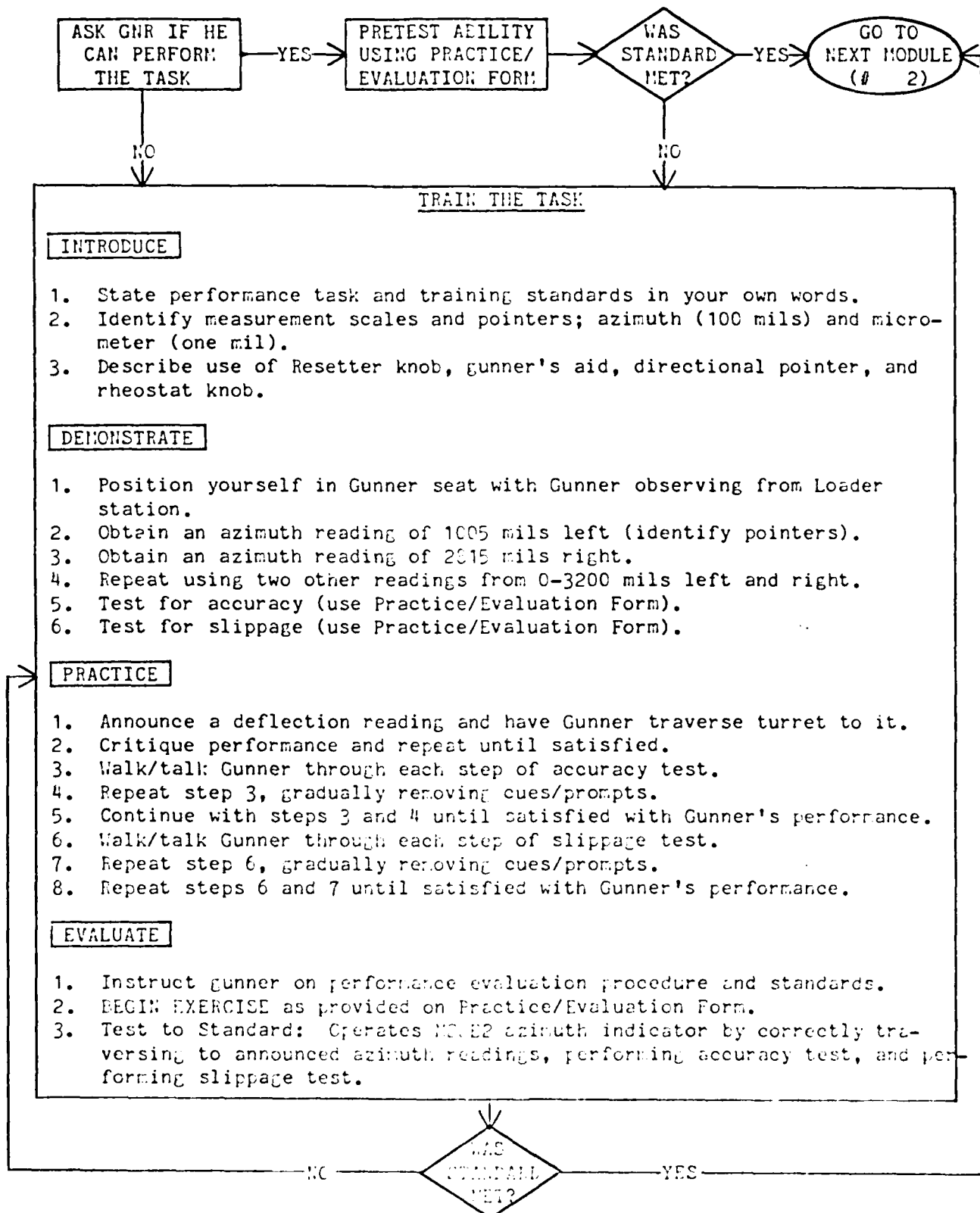
TASK: OPERATE M28E2 AZIMUTH INDICATOR.

TIME: 30 MINUTES

PREREQUISITE TASKS: TRAVERSE TURRET USING POWER AND
MANUAL CONTROLS.

TRAINING REFERENCES: TM 9-2350-253-10; FM 17-12-3; FM 17-19E1/2.

SUPPORT REQUIREMENTS: 1 M60A3 TANK OR TURRET TRAINER; 1 M28E2
AZIMUTH INDICATOR.



PRACTICE/EVALUATION FORM

INSTRUCTORGUNNER

BEGIN EXERCISE:

GO	NO GO
----	-------

1. Have gunner illuminate azimuth indicator scales and adjust to desired brightness.
2. Announce "PERFORM ACCURACY TEST," and observe performance (Steps 2-5).

1. Places master battery switch in ON. Rotates rheostat knob on azimuth indicator to desired brightness.
2. Places crosswind auto/manual switch to MANUAL.
3. Places head in head-rest and lays aiming dot of direct-fire sight on defined aiming point.
4. Zeros the azimuth indicator using resetter knob.

--	--

--	--

--	--

--	--

--	--

NOTE: Pointers should be within 0.5 mil of zero.

5. Keeping head in head-rest, traverses manually 6,400 mils, without over-running aiming point.

3. Announce "PERFORM SLIPPAGE TEST," and observe performance (Steps 6-13).

6. Places crosswind auto/manual switch to MANUAL.

--	--

--	--

7. Lays aiming dot of direct-fire sight on defined aiming point.

--	--

8. Zeros azimuth indicator using resetter knob.

--	--

9. Places turret in power operation.

--	--

10. Traverses rapidly clockwise several times in power and stops.

--	--

11. Turns off turret power.

--	--

NOTE: Both pointers should align at zero within 0.5 mil.

12. Manually traverses counterclockwise to original aiming point without overrunning it.

--	--

13. Repeats the procedure in opposite direction.

--	--

4. Announce "DEFLECTION _____," reading, (as given in a range card fire command) and observe performance (step 14).

14. Traverses turret to the announced deflection and repeats the deflection reading back to the TC.

--	--

5. Score total performance.

GO

☐

NO GO

☐

CREW POSITION: GUNNER

TRAINING MODULE NO. 2

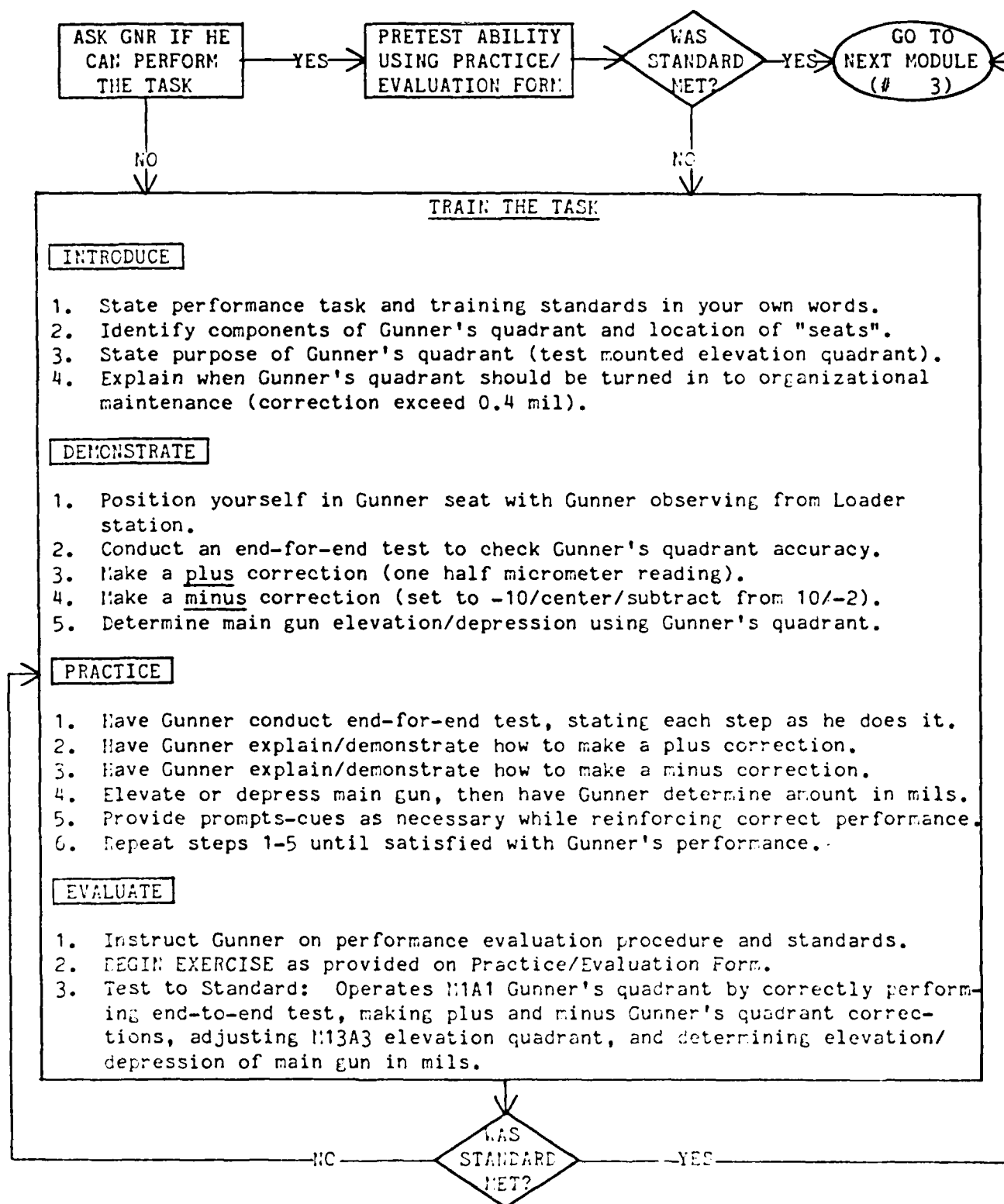
TASK: OPERATE M1A1 GUNNER'S QUADRANT.

TIME: 15 MINUTES

PREREQUISITE TASKS: ELEVATE/DEPRESS MAIN GUN USING
POWER AND MANUAL CONTROLS.

TRAINING REFERENCES: FM 17-12-3.

SUPPORT REQUIREMENTS: 1 M60A3 TANK OR TURRET TRAINER;
1 M1A1 GUNNER'S QUADRANT.



PRACTICE/EVALUATION FORM

INSTRUCTOR

GUNNER

BEGIN EXERCISE:

1. Announce "PERFORM: END-FOR-END TEST OF GUNNER'S QUADRANT," and observe performance (Steps 1-4).

2. Announce "DEMONSTRATE AND EXPLAIN A PLUS CORRECTION TO GUNNER'S QUADRANT," and observe performance (Steps 5-8).

3. Announce "DEMONSTRATE AND EXPLAIN A MINUS CORRECTION TO GUNNER'S QUADRANT," and observe performance (Steps 9-14).

4. Elevate or depress main gun, then announce "DETERMINE AMOUNT OF ELEVATION OR DEPRESSION USING THE GUNNER'S QUADRANT," and observe performance (Steps 15-18).

5. Score total performance.

1. Sets index arm and micro scale at zero.
2. Places quad shoes on scribed quad seats of breech ring; black arrow pointed toward muzzle.
3. Centers bubble by elev/depress gun.
4. Turns the quad end-for-end (180°).
(Bubble should center)
5. Tries to center bubble by turning micro knob.
6. Divides micro read by 2 and sets value on micro scale.
7. Centers the bubble.
8. Turns quadrant end-for-end to verify.
(Bubble should center)
9. Drops elev index to -10.
10. Rotates micro knob until bubble centers.
11. Subtracts micro read from -10 and divides by 2.
12. Places this value on the micrometer knob.
13. Centers bubble.
14. Turns quadrant end-for-end to verify.
(Bubble should center)
15. Places quad shoes on scribed marks.
16. Presses index plunger and moves index arm until bubble is almost centered.
17. Centers bubble in vial by turning micro knob.
18. Adds together value on elev scale and micro scale.

GO	NO GO
----	-------

--	--

--	--

--	--

--	--

--	--

--	--

--	--

--	--

--	--

--	--

--	--

--	--

--	--

--	--

--	--

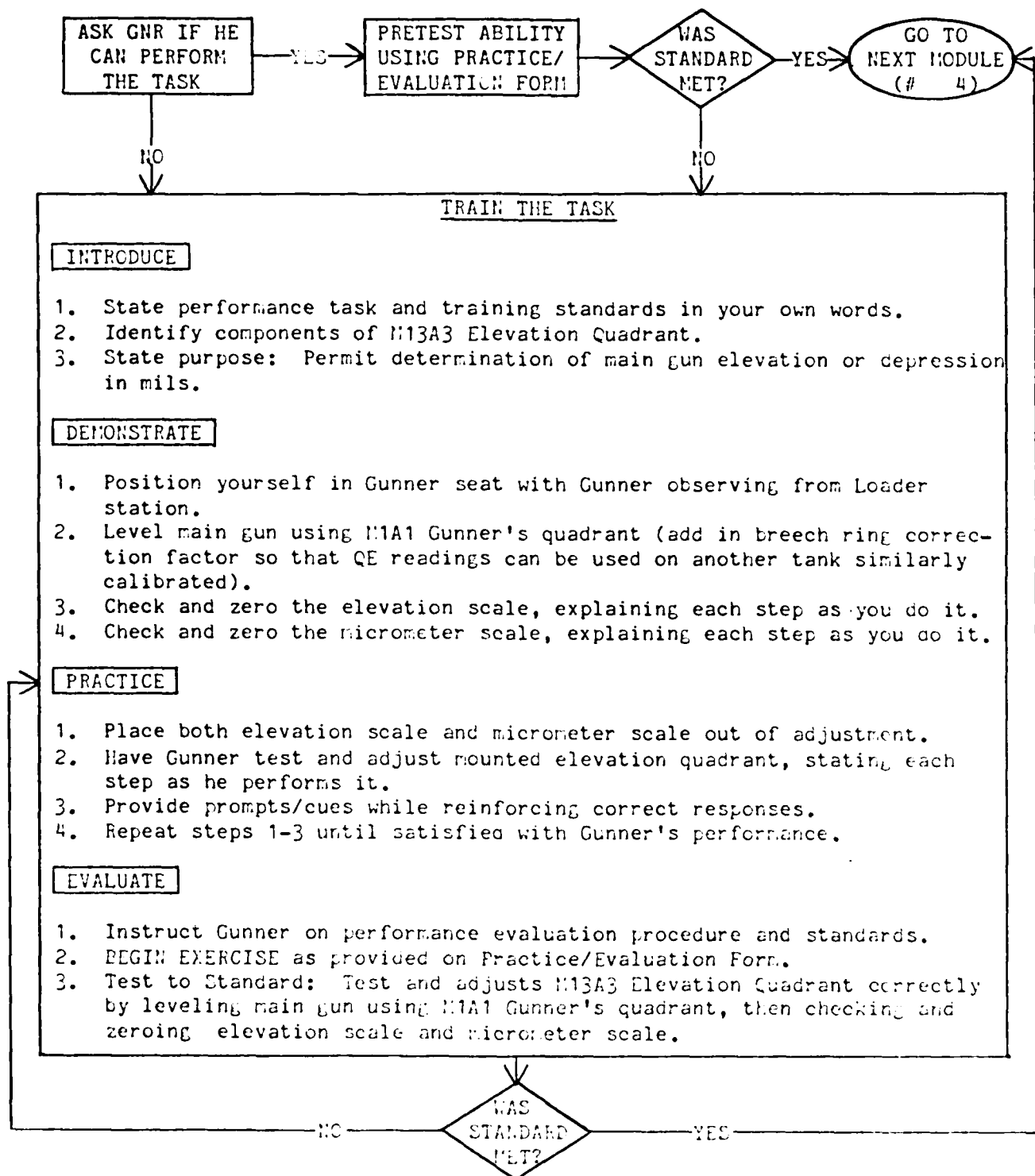
--	--

--	--

--	--

GO		NO GO	
----	--	-------	--

CREW POSITION: GUNNER
 TASK: TEST AND ADJUST M13A3 ELEVATION QUADRANT. TIME: 15 MINUTES
 PREREQUISITE TASKS: OPERATE M1A1 GUNNER'S QUADRANT.
 TRAINING REFERENCES: FM 17-12-3.
 SUPPORT REQUIREMENTS: 1 M60A3 TANK OR TURRET TRAINER; 1 M1A1 GUNNER'S QUADRANT; 1 PHILLIPS SCREWDRIVER.



PRACTICE/EVALUATION FORM

INSTRUCTOR

GUNNER

BEGIN EXERCISE:

1. Announce "TEST AND ADJUST M13A3 ELEVATION QUADRANT," and observe performance (Steps 1-5).

2. Preset to ensure scale is not at zero so that GNR will demonstrate the procedure.

3. Preset to ensure scale is not at zero.

4. Score total performance.

1. Levels main gun using M1A1 gunner's quadrant, adding in breech ring correction factor without disturbing lay of gun, centers bubble in leveling vial by rotating micrometer knob.

2. Checks elevation scale. If not at zero, loosens screw at each end of scale, slips it until zero is indexed, and tightens screws.

3. Checks micrometer scale. If not at zero, loosens 3 screws on elevation knob and slips the scale to zero.

4. Checks the bubble in leveling vial to insure it is still centered, then tightens 3 screws on elevation knob.

5. If bubble is not centered, repeats the above procedure.

GO	NO GO
----	-------

--	--

--	--

--	--

--	--

--	--

GO		NO GO	
----	--	-------	--

CREW POSITION: GUNNER

TRAINING MODULE NO. 4

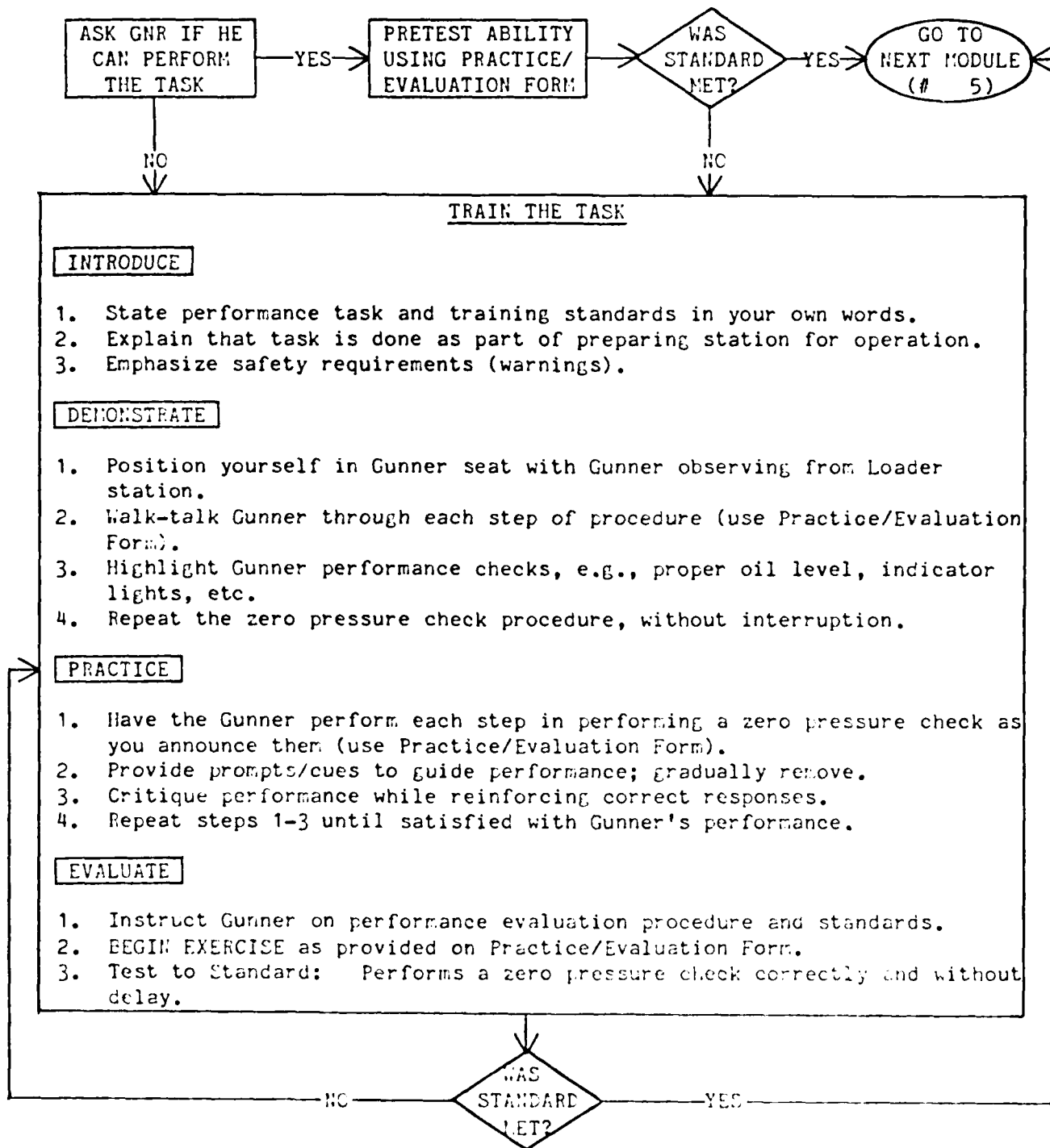
TASK: PERFORM A ZERO PRESSURE CHECK.

TIME: 30 MINUTES

PREREQUISITE TASKS: TRAVERSE TURRET USING POWER AND MANUAL CONTROLS;
ELEVATE/DEPRESS MAIN GUN USING POWER AND MANUAL CONTROLS.

TRAINING REFERENCES: TM 9-2350-253-10; FM 17-12-3.

SUPPORT REQUIREMENTS: 1 M60A3 TANK, OR TURRET TRAINER.



PRACTICE/EVALUATION FORM

INSTRUCTOR

GUNNER

BEGIN EXERCISE:

GO	NO GO
----	-------

1. Make sure engine is running, announce "PERFORM ZERO PRESSURE CHECK," and observe performance (steps 1-9).

(Provide assistance by performing LDR duties.)

1. Announces POWER to alert the crew.
2. Checks oil in reservoir:
 - a. Ensures turret power is off.
 - b. LOCKS turret (LDR).
 - c. Presses in/holds power solenoid plunger.
 - d. Moves power control handle left or right until accumulator pressure gage reads zero.
 - e. Watches gages slowly descend to 525 psi ($\pm$ 25 psi), then rapidly go to zero.
 - f. Removes dipstick and checks for proper oil level.

--	--

--	--

(Provide assistance by performing LDR duties).

3. Unlocks turret (LDR).
4. Elevates/traverses turret manually.
5. Announces "POWER," and turns ELEV/TRAV/POWER control to ON.
6. Elevates/traverses turret in power.
7. Turns on STAB POWER switch and waits 15 seconds.
8. Announces "STAB," and turns on STAB switch.
9. Nulls elevation and/or traverse drift.

--	--

--	--

--	--

--	--

--	--

--	--

--	--

2. Score total performance.

GC		NO GC	
----	--	-------	--

CREW POSITION: GUNNER

TASK: PLACE THE TTS INTO OPERATION.

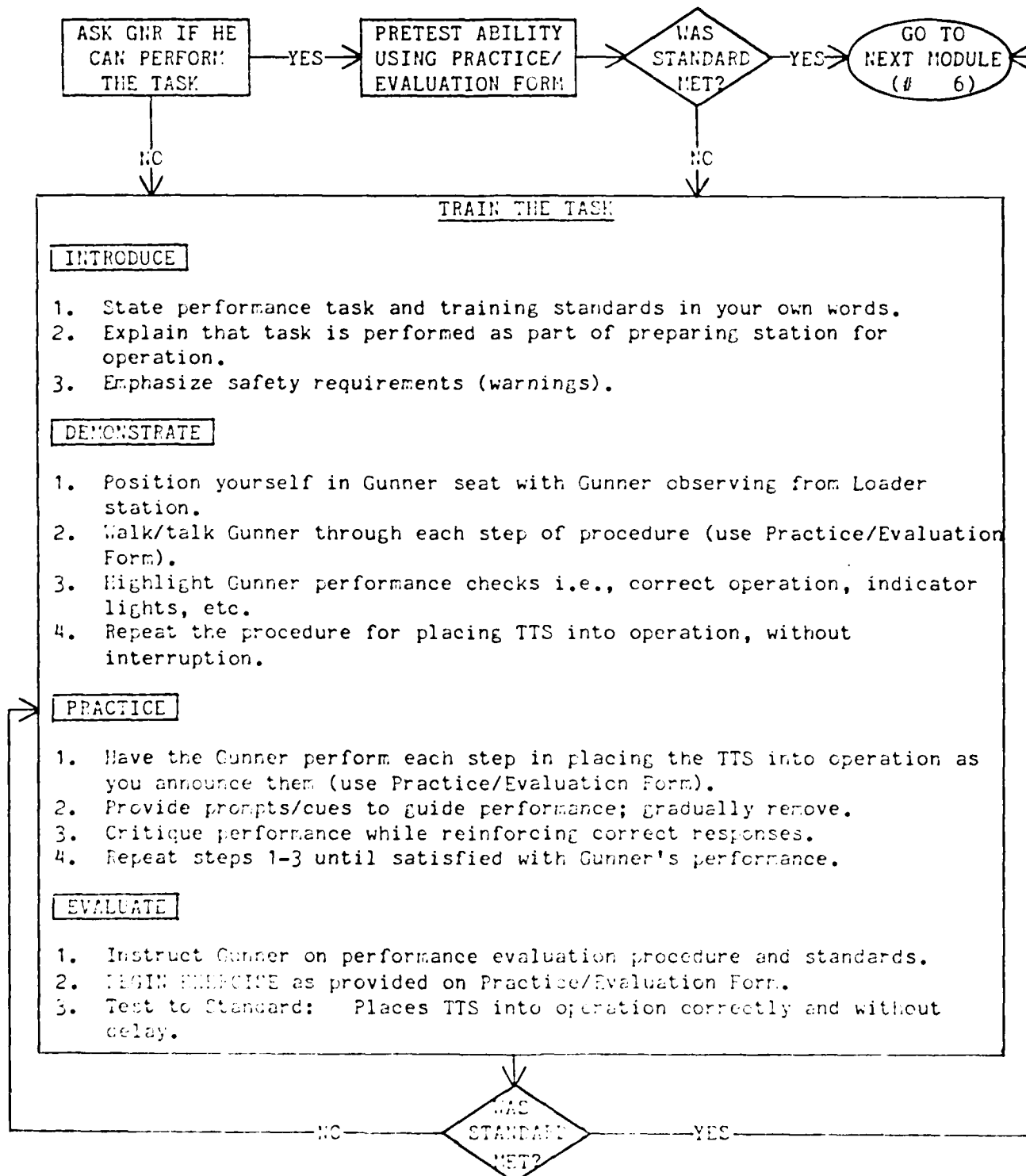
PREREQUISITE TASKS: NONE.

TRAINING REFERENCES: TM 9-2350-253-10; FM 17-12-3.

SUPPORT REQUIREMENTS: 1 M60A3 TANK OR TURRET TRAINER.

TRAINING MODULE NO. 5

TIME: 30 MINUTES



PRACTICE/EVALUATION FORM

INSTRUCTORGUNNER

BEGIN EXERCISE:

1. Announce "PLACE THE TTS INTO OPERATION," and observe performance (steps 1-14).

(Done when COOL lamp goes out)

2. Score total performance.

1. Sets switches:
- MASTER BATTERY to ON.
 - LRF MODE to TEST.
 - Computer POWER to ON.
 - 4CB1 set to ON.
 - TTS MODE to STBY.
2. Opens ballistic shield cover.
3. Adjusts daylight channel headrest.
4. Ensures unity power window view is clear and adjusts RTCL.
5. Ensures day channel view is clear and adjust RTCL.
6. Selects desired filter color.
7. Places:
- TTS MODE to ON.
 - BITE to LAMP TEST.
 - (All 6 lights "ON").
 - BITE to SYS TEST (All 6 lights "OFF").
 - FIELD OF VIEW to NAR.
 - GUNNER/CMDR to GUNNER.
8. Manually trav/elevates to selected target.
9. Adjusts:
- BRIGHT AND CONTRASTS.
 - THERMAL CHANNEL RANGE FOCUS.
 - POLARITY.
 - NAR reticle.
10. Verifies that changing POLARITY causes WHT or ELK HOT lamp to light.
11. Moves FIELD OF VIEW to WIDE. (If necessary, readjusts BRIGHT and CONTRASTS controls).
12. Verifies that WFCV is visible. (If necessary, adjusts RTCL control).
13. Looks thru commander's eyepiece for same display.
14. Places:
- GUNNER/CMDR to CMDR and checks controls.
 - GUNNER/CMDR to GUNNER.
 - TTS MODE to STBY.

GO ☐ NO GO ☐☐ ☐☐ ☐☐ ☐☐ ☐☐ ☐☐ ☐☐ ☐☐ ☐☐ ☐☐ ☐☐ ☐☐ ☐☐ ☐☐ ☐GO ☐NO GO ☐

CREW POSITION: GUNNER

TRAINING MODULE NO. 6

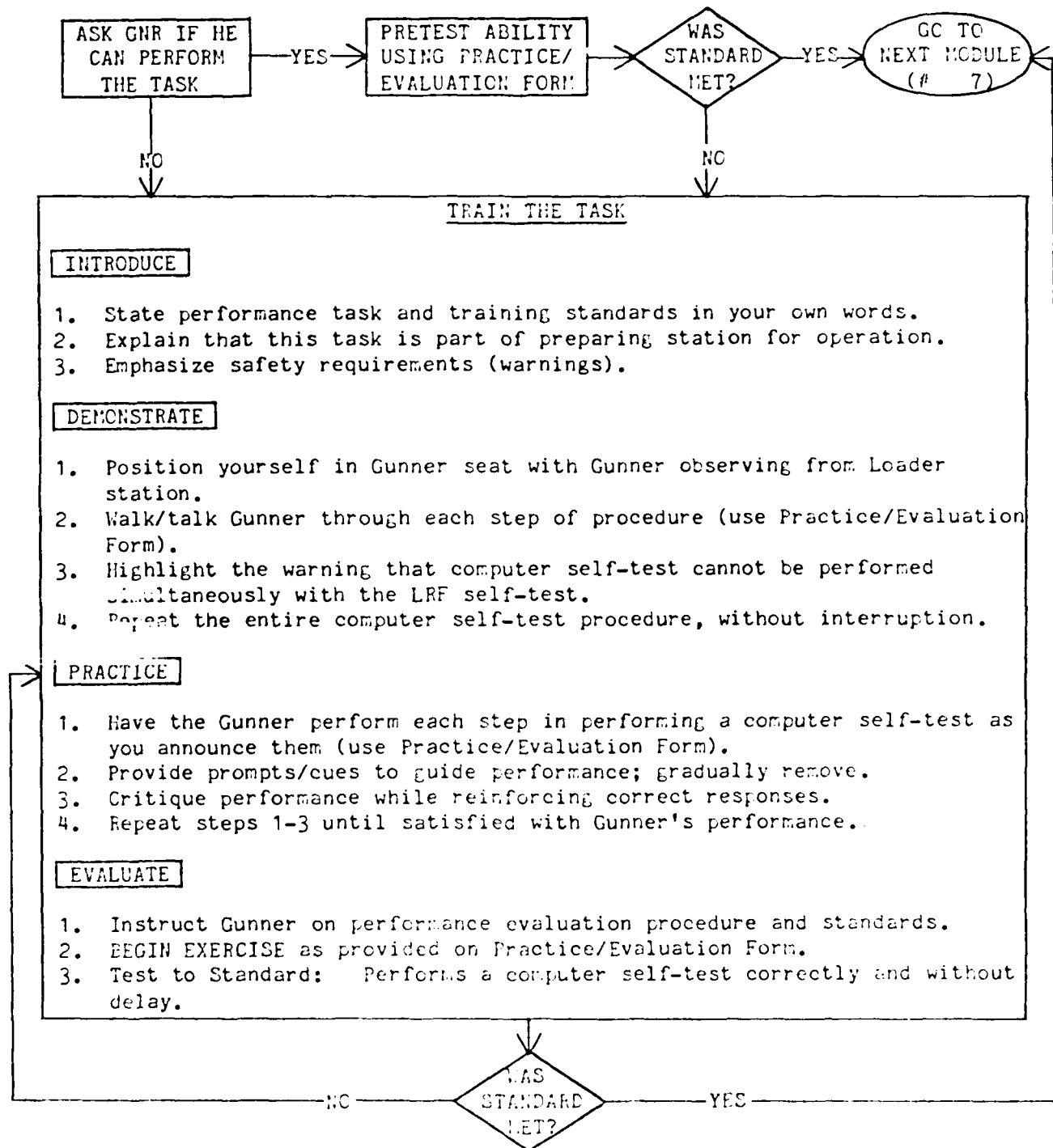
TASK: PERFORM A COMPUTER SELF-TEST.

TIME: 30 MINUTES

PREREQUISITE TASKS: NONE.

TRAINING REFERENCES: TM 9-2350-253-10; FM 17-12-3.

SUPPORT REQUIREMENTS: 1 M60A3 TANK OR TURRET TRAINER.



PRACTICE/EVALUATION FORM

INSTRUCTORGUNNER

BEGIN EXERCISE:

1. Announce "PERFORM COMPUTER SELF-TEST," and observe performance (steps 1-17).

1. Places MODE switch to TEST.
2. Places MASTER BATTERY switch to ON.
3. Places POWER switch to ON (light illuminates).
4. Adjusts LIGHTS control to normal brightness.
5. Verifies operation of BRIGHT/DIM control on ASU.
6. Turns/holds LAMP/NORMAL/SYSTEM switch to LAMP until all SELF-TEST and SENSOR FAIL indicators light.
7. Places MANUAL/RANGE-FINDER to MANUAL.
8. Turns/holds LAMP/NORMAL/SYSTEM switch to SYSTEM until CH indicator lights.
9. Verifies the STATIONARY or MOVING is illuminated on each ASU.
10. Places MOVING/STATIONARY on GNP's ASU to STATIONARY (both units light).
11. Places MOVING/STATIONARY on TC's ASU to MOVING (both units light).
12. Presses each of four GNP's ASU switches (each becomes brighter).
13. Presses each of four TC's ASU switches.
14. Places MANUAL/RANGE-FINDER to RANGE-FINDER.
15. Turns/holds LAMP/NORMAL/SYSTEM to SYSTEM until CH indicator lights.
16. Verifies that RANGE and ALTITUDE display 1000 ± 1 and 0.
17. Repeats steps 15 and 16 for remaining 3 areas.

GO	NO GO
☐	☐
☐	☐
☐	☐
☐	☐
☐	☐
☐	☐
☐	☐
☐	☐
☐	☐
☐	☐
☐	☐
☐	☐
☐	☐
☐	☐
☐	☐
☐	☐
☐	☐
☐	☐
☐	☐
☐	☐
☐	☐

2. Score total performance.

GO ☐	NO GO ☐
-----------------------------	--------------------------------

CREW POSITION: GUNNER

TRAINING MODULE NO. 7

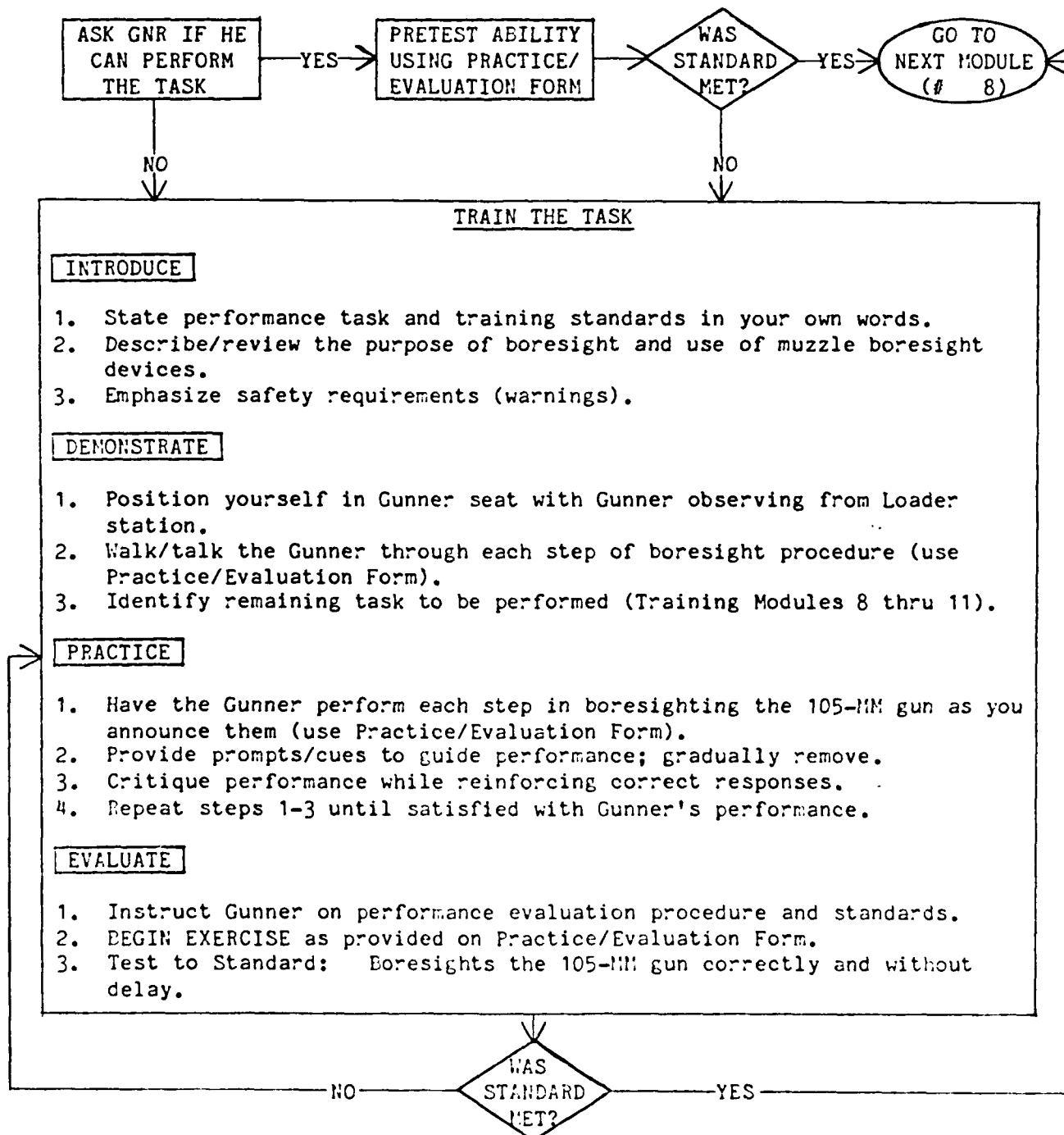
TASK: PREPARE TO BORESIGHT THE 105-MM MAIN GUN
WITH M26 MUZZLE BORESIGHT DEVICE.

TIME: 15 MINUTES

PREREQUISITE TASKS: PERFORM LRF SELF-TEST (TC); PERFORM COMPUTER
SELF-TEST; PERFORM PREPARE-TO-FIRE CHECKS.

TRAINING REFERENCES: TM 9-2350-253-10; FM 17-12-3; TRADOC TT 17-12-1.

SUPPORT REQUIREMENTS: 1 M60A3 TANK; 1 M26 MUZZLE BORESIGHT DEVICE;
BORESIGHT PANEL.



PRACTICE/EVALUATION FORM

INSTRUCTOR

GUNNER

BEGIN EXERCISE:

1. Announce "PREPARE TO BORE-SIGHT 105MM MAIN GUN WITH M26 MUZZLE BORESIGHT DEVICE," and observe performance (steps 1-19).
(Perform LDR task.)
(Perform DRV task.)

1. Ensures prepare-to-fire checks are completed, tank is level (DRV).
2. Ensures computer and LRF self-test completed.
3. Opens breech.
4. Ensures engine is off and MASTER BATTERY switch is ON.
5. Selects 1200 meter target (or known tank to target range).
6. Ensures Ballistic Drive Coupling is LOCKED.
7. Ensures FILTER SELECT lever is LOCKED.
8. Sets POWER switch on GCU to ON.
9. Sets ELEV/TRAV switch to OFF.
10. Set OFF/STAB switch to OFF.
11. Manually depresses gun to maximum depression (firm resistance is felt).
12. Sets MANUAL/RANGEFINDER switch to MANUAL.
13. Dials known tank-to-target RANGE X100 dial (or ranges using LRF).
14. Sets LRF MODE switch to TEST (Range display shows 0000).
15. Sets NORMAL/BORESIGHT switch to BORESIGHT.
16. Sets AZIMUTH/ELEVATION knob to 0.
17. Sets Crosswind Sensor switch to MANUAL.
18. Sets crosswind MPH dial to 0.
19. Insert M26 in gun (with locating block at 12 o'clock position).

(Perform TC task.)

(Perform LDR task.)

2. Score total performance.

GO	NO GO
----	-------

GO

NO GO

CREW POSITION: GUNNER

TRAINING MODULE NO. 8

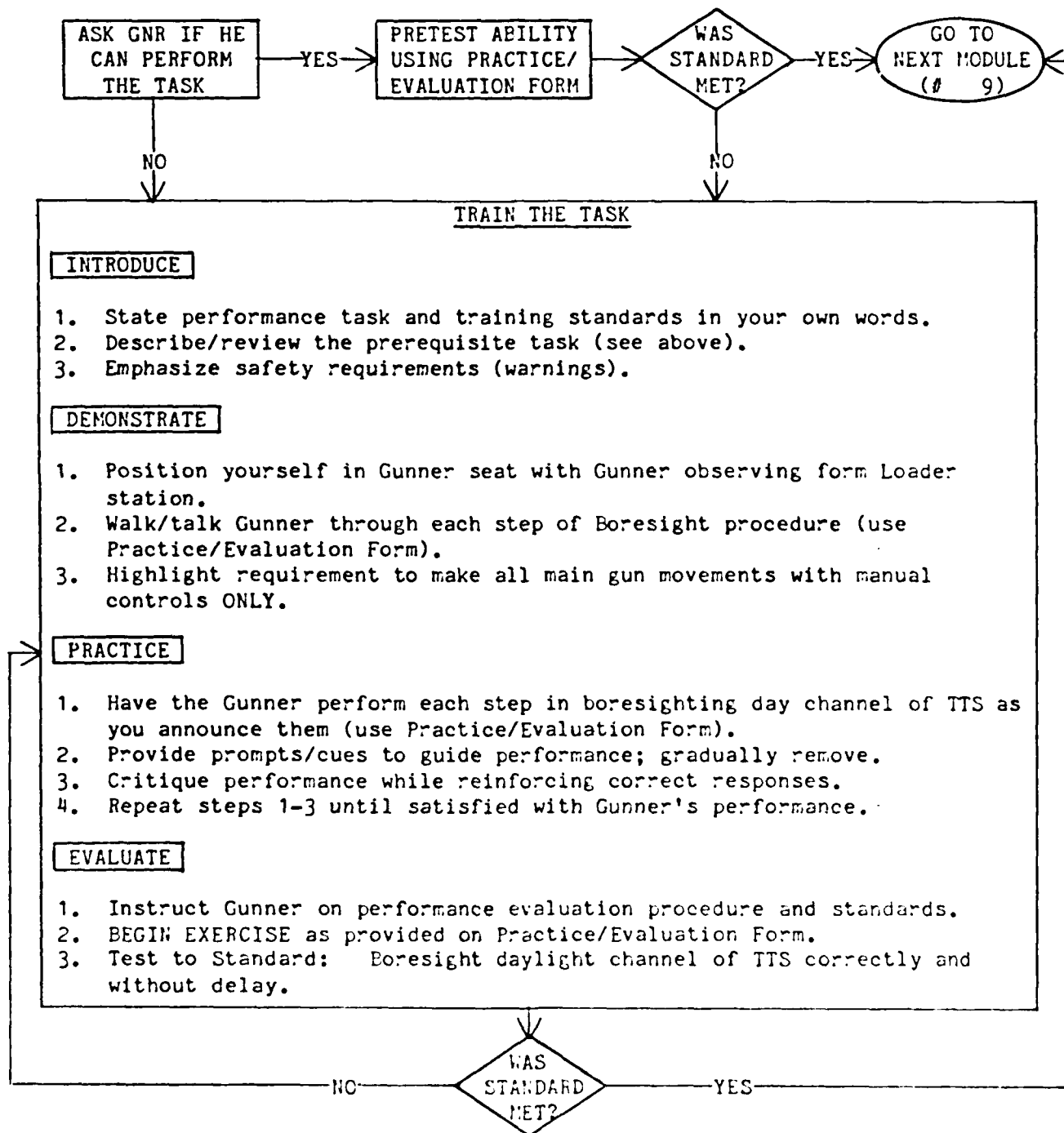
TASK: BORESIGHT DAYLIGHT CHANNEL OF TTS.

TIME: 15 MINUTES

PREREQUISITE TASKS: PREPARE TO BORESIGHT 105-MM MAIN GUN WITH M26 MUZZLE BORESIGHT DEVICE.

TRAINING REFERENCES: TM 9-2350-253-10; FM 17-12-1; TRADOC TT 17-12-1.

SUPPORT REQUIREMENTS: 1 M60A3 TANK; 1 M26 MUZZLE BORESIGHT DEVICE;
1 BORESIGHT PANEL.



PRACTICE/EVALUATION FORM

INSTRUCTOR

GUNNER

BEGIN EXERCISE:

1. Announce "BORESIGHT THE DAYLIGHT CHANNEL OF TTS," and observe performance (steps 1-12).

(Perform LDR task.)

2. Ensure reticle lay is from left to right, low to high. (Have GNR repeat steps 1-4 if boresight dot is not on target aiming point).

(Perform LDR task.)

3. (Perform LDR task.) Reticle dot should align. If not, show/tell GNR how to perform M26 boresight non-alignment procedures.

4. Score total performance.

1. Rotates RTCL control until reticle is visible.

2. Adjusts FOCUS diopter ring.

3. Has LDR look into M26 while manually elevating/traversing to align M26 boresight dot on defined target aiming point.

4. Sights thru eyepiece while pulling/rotating day channel EL/AZ knobs to lay reticle on target aiming point.

5. Ensures boresight knobs are seated then slips EL/AZ scales to 4 and 4.

6. Has LDR ensure M26 boresight dot is on target aiming point.

7. Manually traverses/depresses off target then traverses/elevates onto target using sight reticle aiming dot.

8. Has LDR check M26 for gunner lay error, if any.

9. Has LDR remove/rotate M26 to 6 o'clock position.

10. Without moving boresight knobs, slips scales to 4 and 4.

11. Ensures sight reticle aiming dot has not moved.

12. Removes the M26.

GO

NO GO

GO

NO GO

CREW POSITION: GUNNER

TRAINING MODULE NO. 9

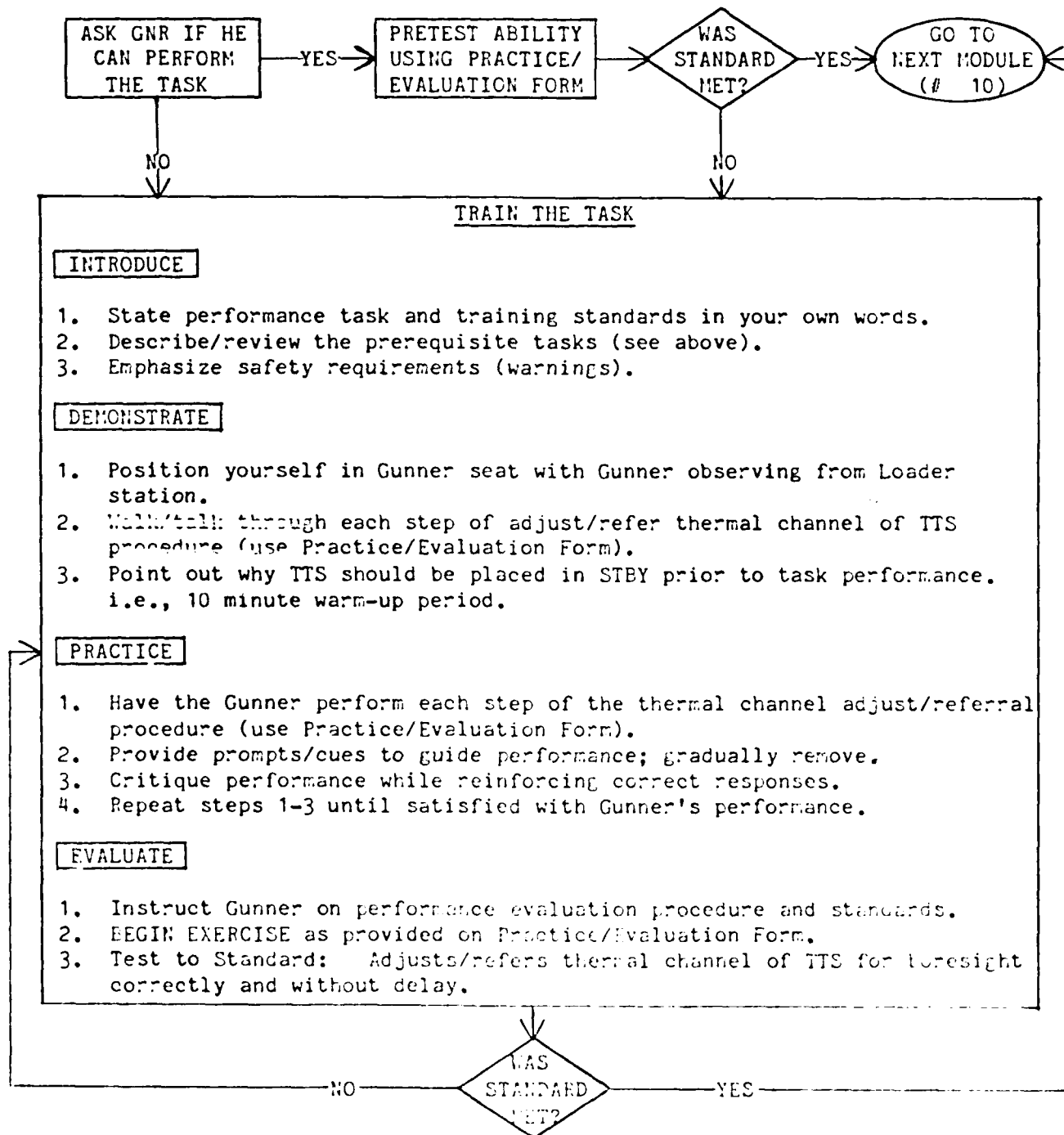
TASK: ADJUST/REFER THERMAL CHANNEL OF TTS FOR BORESIGHT.

TIME: 10 MINUTES

PREREQUISITE TASKS: PREPARE TO BORESIGHT 105-MM MAIN GUN WITH M26 MUZZLE BORESIGHT DEVICE; BORESIGHT DAYLIGHT CHANNEL OF TTS; ADJUST/REFER M105D TELESCOPE FOR BORESIGHT.

TRAINING REFERENCES: TM 9-2350-253-10; FM 17-12-3.

SUPPORT REQUIREMENTS: 1 M60A3 TANK.



PRACTICE/EVALUATION FORM

INSTRUCTOR

GUNNER

BEGIN EXERCISE:

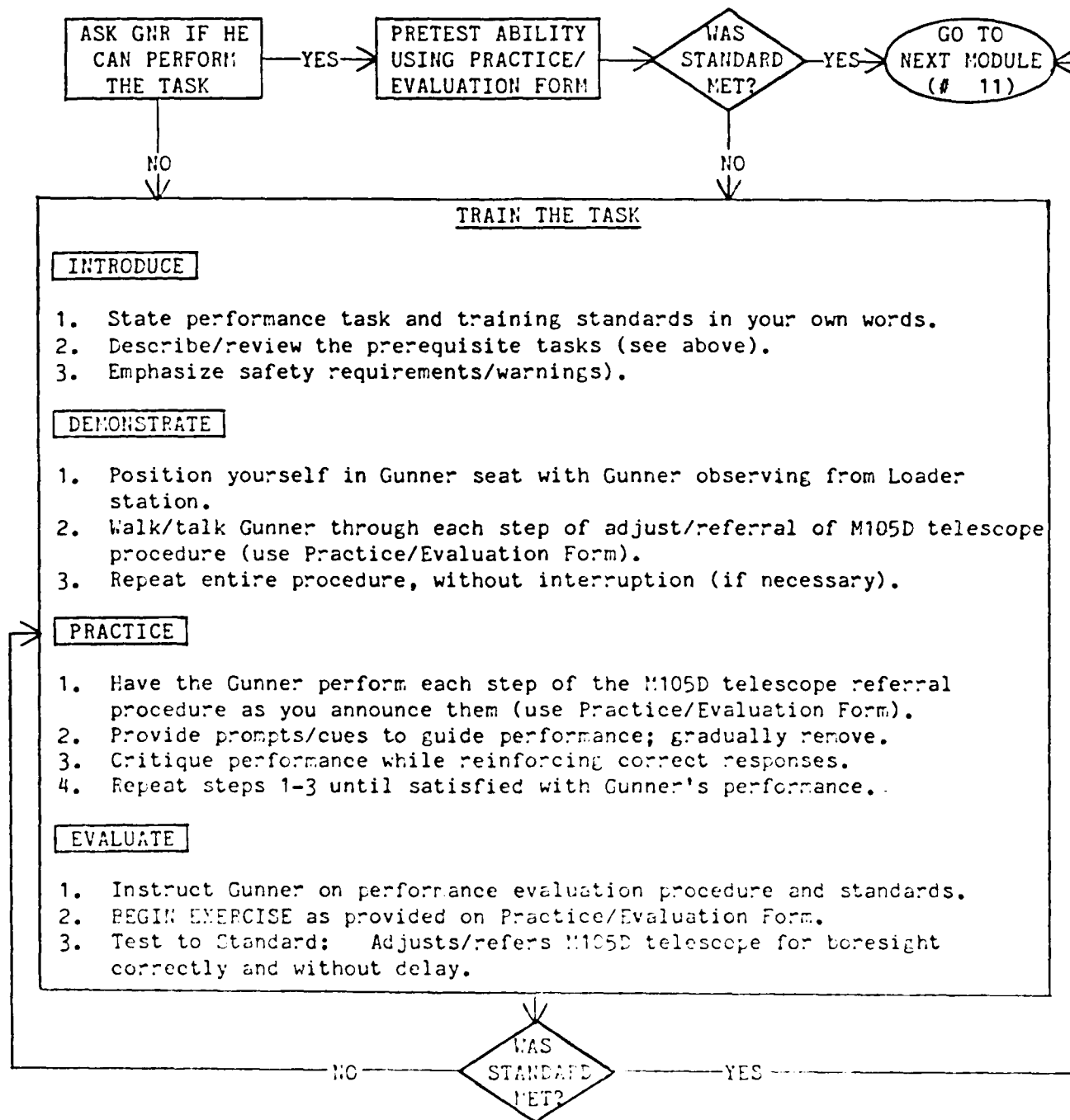
1. Announce "ADJUST/REFER THERMAL CHANNEL OF TTS," and observe performance (steps 1-10). (Omit GNR Step 2 if performed following practice.)
2. Score total performance.

1. Ensures daylight channel reticle is on defined target aiming point.
2. Sets TTS MODE switch to ON; when COOL light goes OFF, system is operational.
3. Adjusts RTCL control until reticle is visible.
4. Sets thermal channel range FOCUS for sharpest view.
5. Sets BRIGHT/CONTRASTS controls for normal scene.
6. Sets POLARITY switch for best field of view.
7. Sets TTS field of view to MAR.
8. Moves sight reticle aiming point using thermal channel bore-sight EL/AZ knobs.
9. Slips scales to 4 and 4.
10. Ensures TTS sight reticle aiming dot has not moved.

GO	NO GO
☐	☐
☐	☐
☐	☐
☐	☐
☐	☐
☐	☐
☐	☐
☐	☐
☐	☐
☐	☐

GO ☐	NO GO ☐
-----------------------------	--------------------------------

CREW POSITION: GUNNER	TRAINING MODULE NO. 10
TASK: ADJUST/REFER M105D TELESCOPE FOR BORESIGHT.	TIME: 10 MINUTES
PREREQUISITE TASKS: PREPARE TO BORESIGHT THE 105-MM MAIN GUN WITH M26 MUZZLE BORESIGHT DEVICE; BORESIGHT DAYLIGHT CHANNEL OF TTS.	
TRAINING REFERENCES: TM 9-2350-253-10; FM 17-12-3.	
SUPPORT REQUIREMENTS: 1 M60A3 TANK.	



PRACTICE/EVALUATION FORM

INSTRUCTOR

GUNNER

BEGIN EXERCISE:

		GO	NO GO
1. Announce "ADJUST/REFER the M105D TELESCOPE," and observe performance (steps 1-7).	1. Ensures daylight channel reticle is on defined target aiming point.	☐	☐
	2. Moves M105D reticle selector knob to the full left or right position.	☐	☐
	3. Unlocks M105D telescope boresight knobs.	☐	☐
	4. Moves boresight cross on target aiming point using M105D telescope ELEV/TRAV boresight knobs.	☐	☐
	5. Locks M105D telescope boresight knobs.	☐	☐
	6. Slips scales to 3 and 3.	☐	☐
2. Score total performance.	7. Ensures M105D telescope boresight cross has not moved off target aiming point.	☐	☐

GO	☐	NO GO	☐
----	--------------------------	-------	--------------------------

CREW POSITION: GUNNER

TRAINING MODULE NO. 11

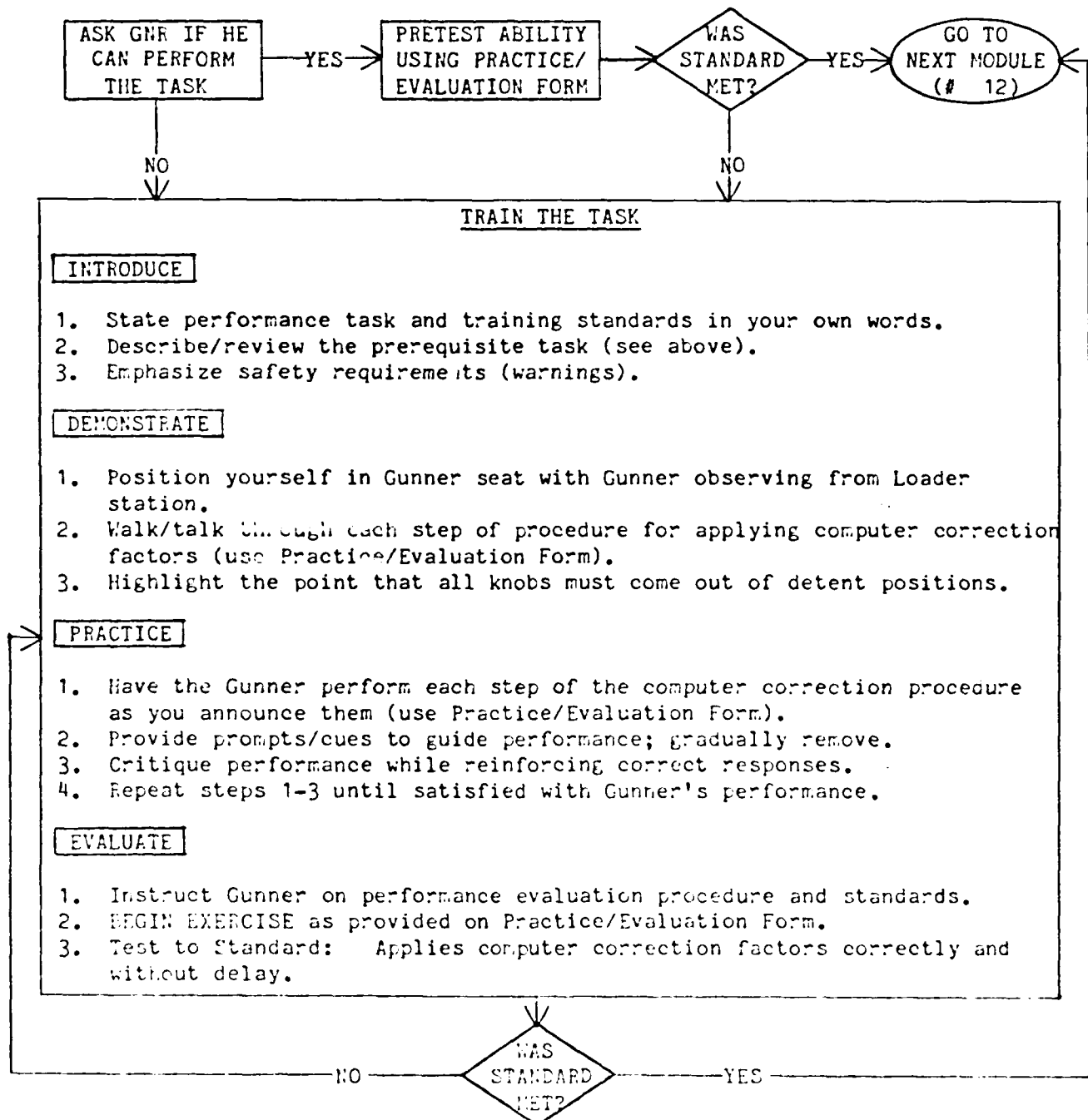
TASK: APPLY COMPUTER CORRECTION FACTORS.

TIME: 10 MINUTES

PREREQUISITE TASKS: PREPARE TO BORESIGHT THE 105-MM MAIN GUN WITH M26 MUZZLE BORESIGHT DEVICE; BORESIGHT DAYLIGHT CHANNEL OF TTS; ADJUST/REFER M105D TELESCOPE FOR BORESIGHT; ADJUST/REFER THERMAL CHANNEL OF TTS FOR BORESIGHT.

TRAINING REFERENCES: TM 9-2350-253-10; FM 17-12-3.

SUPPORT REQUIREMENTS: 1 M60A3 TANK; 1 COMPUTER CORRECTIONS FACTORS TABLE.



PRACTICE/EVALUATION FORM

INSTRUCTORGUNNER

BEGIN EXERCISE:

1. Announce "APPLY COMPUTER CORRECTION FACTORS," and observe performance (steps 1-12).

1. Sets NORMAL/ECRESIGHT switch to NORMAL.
2. Sets ELEV/TRAV switch to OFF.
3. Opens hydraulic press dump valve for 10 seconds then closes.
4. Sets ELEV/TRAV knobs to -3.5 then +3.5 and back to "0" without overtravel.
5. Indexes an ammo (select one type).
6. Lays daylight channel sight reticle aiming point on target using manual controls.
7. Makes mental notation of M105D reticle position and aiming point.
8. Sets appropriate ammo zero knob to -3.5 then to +3.5.
9. Applies the correction factors in Table (below) for each type of ammo.
10. Checks aiming dot to ensure it has moved up for a minus elevation correction, down for a plus elevation correction.
11. Checks M105D reticle to ensure it has not moved.
12. Repeats steps 5-11 for each type of ammo.

GO	NO GO
☐	☐
☐	☐
☐	☐
☐	☐
☐	☐
☐	☐
☐	☐
☐	☐
☐	☐
☐	☐
☐	☐
☐	☐

(Note: If reticle has moved, the procedure must be repeated until fault has been corrected.)

2. Score total performance.

GO ☐NO GO ☐COMPUTER CORRECTION FACTORS TABLE

<u>ZERO KNOB</u>	<u>AZIMUTH</u>	<u>ELEVATION</u>
Common Zero	0	0
APDS (M392A2/M728)	0	-.3
APDS (when firing TPDS (M724) ²	0	0
FSDS (M735)	0	-.2
FSDS (M774)	0	-.8
HEP (M393A2)	0	+1.0

¹Correction factors do not apply to M105D

²APDS rotary switch is set to M392

CREW POSITION: GUNNER

TRAINING MODULE NO. 12

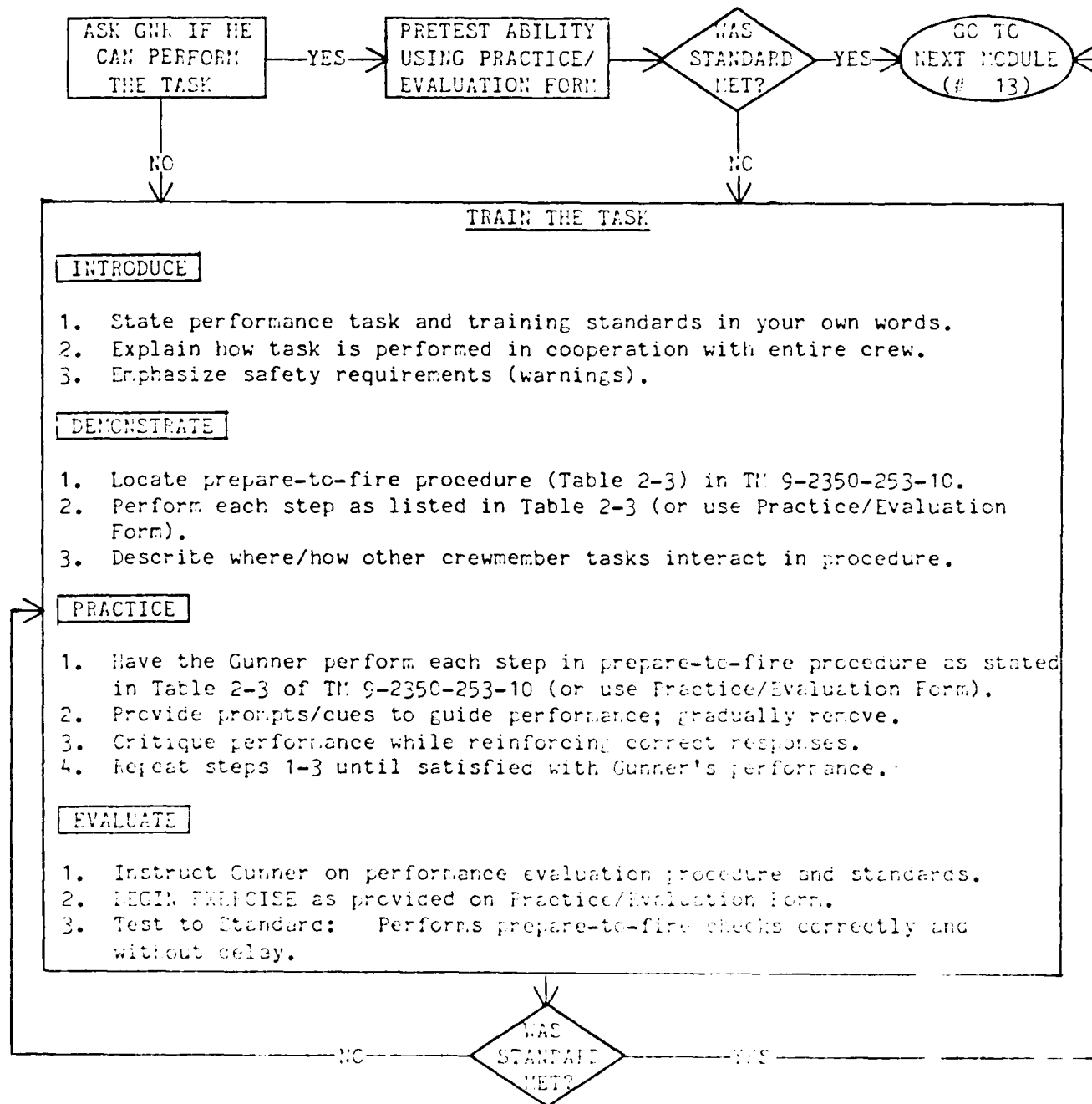
TASK: PERFORM PREPARE-TO-FIRE CHECKS.

TIME: 30 MINUTES

PREREQUISITE TASKS: PERFORM COMPUTER SELF-TEST; BORESIGHT TTS AND TELESCOPE; OPERATE M1A1 GUNNER'S QUADRANT; OPERATE M28E2 AZIMUTH INDICATOR; TEST AND ADJUST M13A3 ELEVATION QUADRANT.

TRAINING REFERENCES: TM 9-2350-253-10 (TABLE 2-3).

SUPPORT REQUIREMENTS: 1 M60A3 TANK; TM 9-2350-253-10 (TABLE 2-3).



PRACTICE/EVALUATION FORM

INSTRUCTORGUNNER

BEGIN EXERCISE:

		GO	NO GO
1. Announce "PERFORM PREPARE-FIRE-CHECKS," and observe performance (steps 1-3).	1. Cleans/inspects interior sights.	☐	☐
(Turn MASTER BATTERY to ON)	2. Checks operation of ballistic shield.	☐	☐
2. Announce "CHECK FIRING SWITCHES," start engine, insert circuit tester, and observe performance (step 4).	3. Checks instrument lights.	☐	☐
3. Announce "CHECK GUN CONTROLS," and observe performance (steps 5-12).	4. Checks all firing triggers, and announces on firing "ON THE WAY."	☐	☐
(Unlock turret)	5. Announce POWER to alert crew.	☐	☐
	6. Checks oil in power control system.	☐	☐
	7. Unlocks turret, turns ELEV/TRAV/ POWER to ON.	☐	☐
	8. Checks power elev/trav and magnetic brake/elev shut off valve.	☐	☐
(Steps 10 and 12 are optional since previously trained)	9. Rechecks oil in power control system.	☐	☐
	10. Checks azimuth indicator for accuracy/slippage.	☐	☐
	11. Turns ELEV/TRAV/POWER switch to OFF.	☐	☐
	12. Checks elevation quadrant.	☐	☐
4. Announce "CHECK GUN STAB," turn ON circuit breakers, and observe performance (steps 13-18). (If operational, GNR answers "CURRENT STABILIZED.")	13. Ensures STAB ELECT and POWER PACK BLOWER MOTOR CBs, and CUPOLA POWER switch is ON.	☐	☐
	14. Turns ELEV/TRAV/POWER to ON, sets POWER to ON, then after 15 sec sets STAB to ON.	☐	☐
	15. Nulls traverse and/or elevation drift.	☐	☐
	16. Checks function of power control handles.	☐	☐
5. Depress emergency STAB SHUT-OFF switch.	17. Ensures STAB ON is not lit, turns STAB ON to OFF.	☐	☐
	18. Turns POWER to OFF and announces "STAB OFF."	☐	☐
6. Command "CHECK FIRE CONTROL," and observe performance step 19. (Note Step 19 and 20 are optional).	19. Performs computer self-test, then boresights (passive) periscope or TTS and telescope.	☐	☐
7. Announce "INDEX SELECT."	20. Presses SAFETY on ASU.	☐	☐
8. Announce "SET TO STATIONARY."	21. Sets control to STATIONARY.	☐	☐
9. Provide data (optional) and score total performance.	22. Enters ballistic data in computer.	☐	☐

GO ☐ NO GO ☐

CREW POSITION: GUNNER

TRAINING MODULE NO. 13

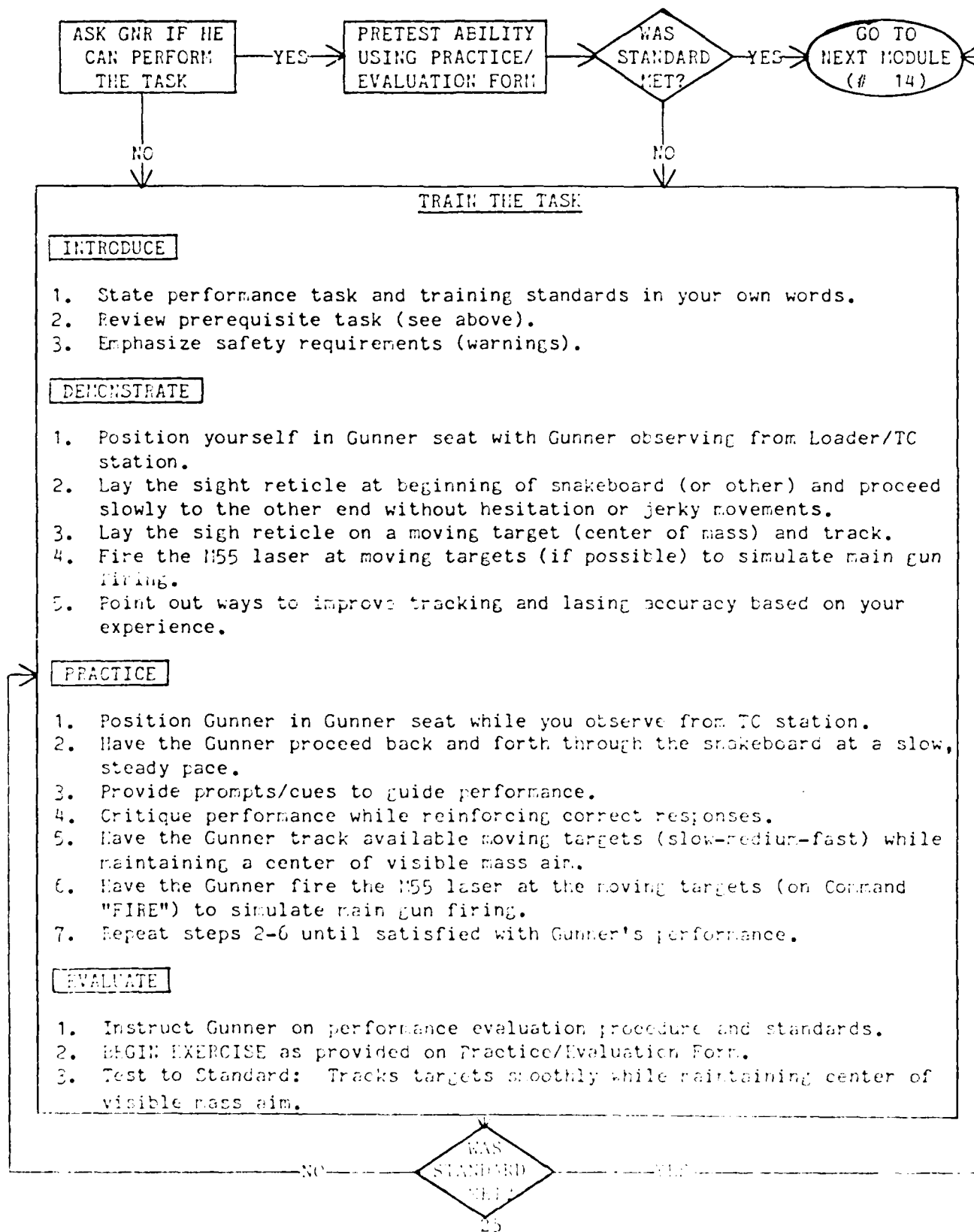
TASK: TRACK TARGETS USING THE POWER CONTROL HANDLES.

TIME: 30 MINUTES

PREREQUISITE TASKS: TRAVERSE TURRET USING POWER AND MANUAL CONTROLS; ELEVATE/DEPRESS THE MAIN GUN USING POWER AND MANUAL CONTROLS.

TRAINING REFERENCES: FM 17-12-3; TM 9-2350-253-10.

SUPPORT REQUIREMENTS: 1 M60A3 TANK OR TURRET TRAINER; 1 SNAKE BOARD OR OR SIMILAR TRAINING AID; MOVING TARGETS (CARS, TRUCKS, ETC.); 1 M55 LASER.



PRACTICE/EVALUATION FORM

INSTRUCTOR

GUNNER

BEGIN EXERCISE:

1. Position the sight reticle at start of snakeboard, announce "GO," and observe performance (steps 1-4).

1. Engages palm switches on power control handles.

2. Manipulates power control handles left/right, forward/back while advancing through the snakeboard.

3. Traverses through the snakeboard at a steady rate without jerky movements or stopping.

4. Maintains sight reticle inside snakeboard outline or on center of target visible mass.

2. Command "FIRE" and observe M55 laser dot (laser dot strikes target).

5. Announces "ON THE WAY," squeezes the trigger(s) to fire M55 laser, and "hits" the moving target (center of visible mass).

3. Repeat steps 1-2 for three separate trials and score total performance.

6. Repeats steps 1-5 above.

GO	NO GO
----	-------

--	--

--	--

--	--

--	--

--	--

TRIAL 1

GO	NO GO

TRIAL 2

GO	NO GO

TRIAL 3

GO	NO GO

CREW POSITION: GUNNER

TRAINING MODULE NO. 14

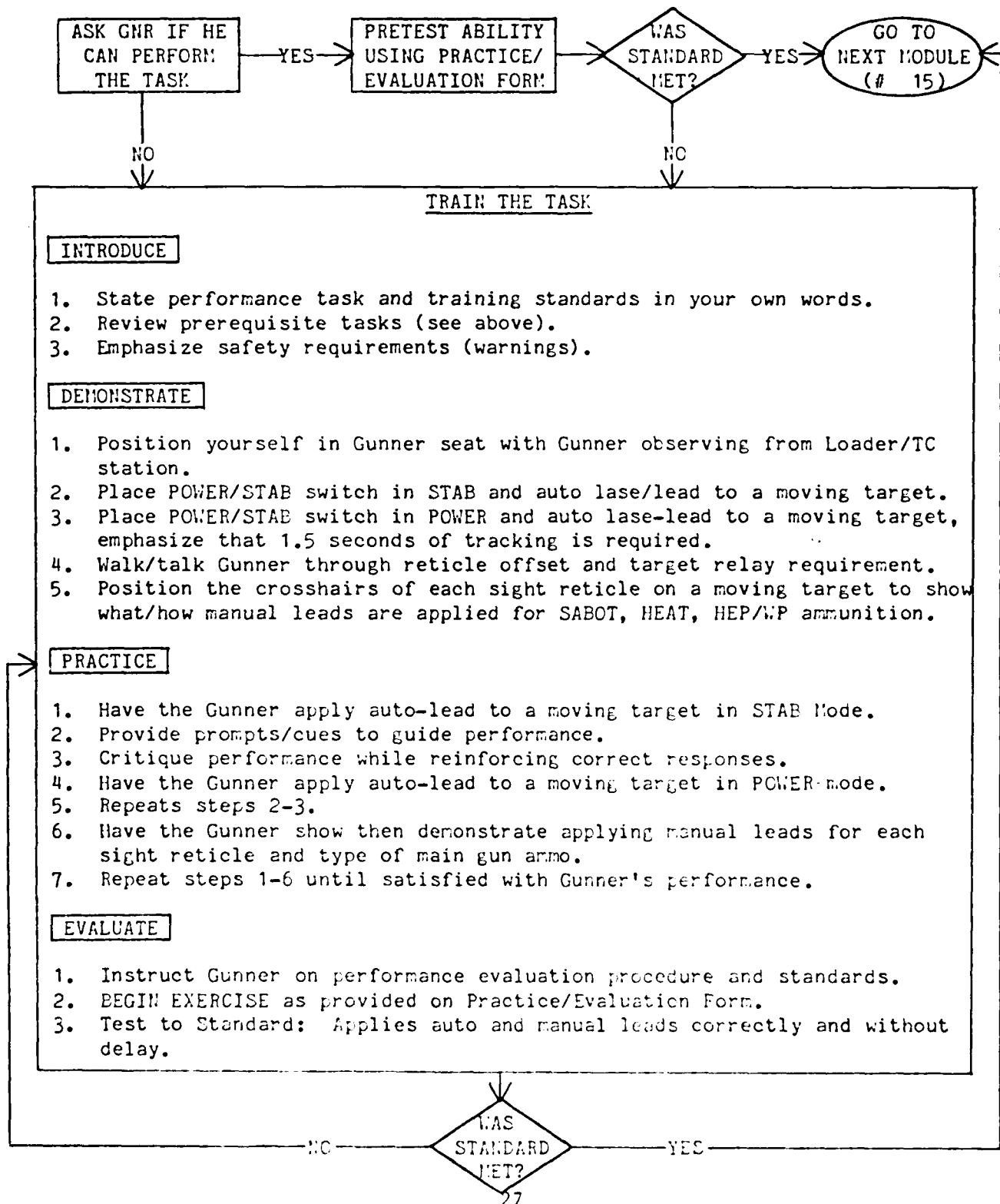
TASK: APPLY AUTO AND MANUAL LEAD.

TIME: 30 MINUTES

PREREQUISITE TASKS: TRACK TARGETS USING THE POWER CONTROL HANDLES.

TRAINING REFERENCES: FM 17-12-3; TM 9-2350-253-10.

SUPPORT REQUIREMENTS: 1 M60A3 TANK OR TURRET TRAINER; LASER SAFE RANGE AREA; MOVING TARGET.



PRACTICE/EVALUATION FORM

INSTRUCTOR

GUNNER

BEGIN EXERCISE:

1. Place POWER/STAB switch in STAB, lay gun on moving target, announce "APPLY AUTO LEAD," and observe performance (steps 1-5).

2. Place POWER/STAB switch in POWER, lay gun on moving target, announce "APPLY AUTO LEAD," and observe performance (steps 1-5).
3. Lay gun on moving target, announce "APPLY MANUAL LEAD FOR SABOT (THEN HEAT, HEP/WP)," and observe performance (steps 7-9).

4. Repeat step 3 above for M105D telescope reticle.

5. Score total performance.

1. Grasps power control handles while viewing through sight.

2. Lays aiming cross slightly below center of visible mass, using G-pattern.

3. Tracks target smoothly for at least 1.5 seconds.

4. Announces "LASING," and depresses LASE/LEAD button.

5. Lays aiming cross on center of target visible mass.

6. Repeats steps 1-5 above, correcting for reticle offset.

7. Grasps power control handles while viewing through sight.

8. Lays aiming cross on center of target visible mass, using G-pattern.

9. Applies 2 1/2 mil lead for APDS, 5 mils for HEAT, and 7 1/2 mils for HEP/WP regardless of target speed.

10. Repeats steps 7-9 above, correcting for reticle differences.

GO	NO GO
----	-------

--	--

--	--

--	--

--	--

--	--

--	--

--	--

--	--

--	--

--	--

GO		NO GO	
----	--	-------	--

CREW POSITION: GUNNER

TRAINING MODULE NO. 15

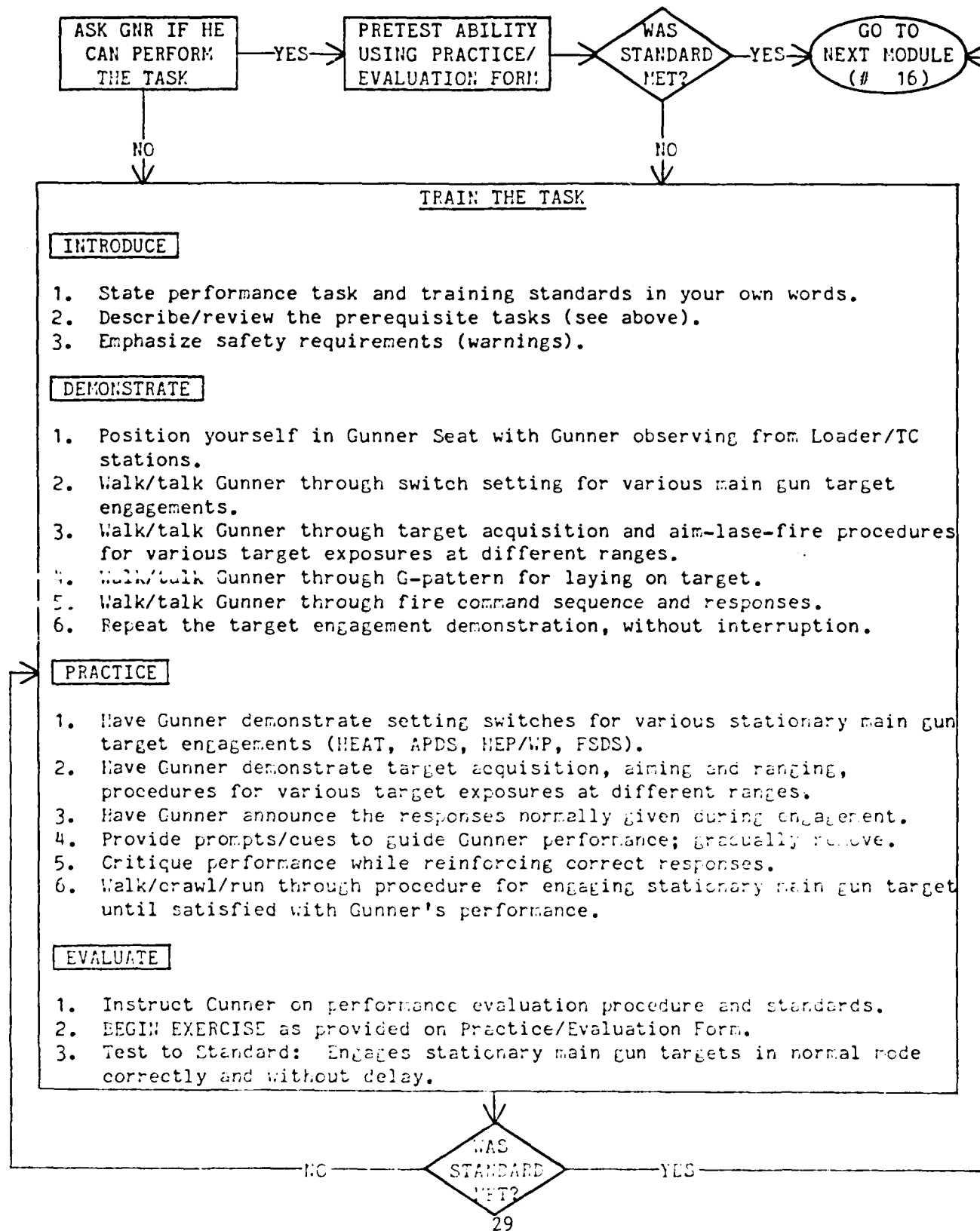
TASK: ENGAGE STATIONARY MAIN GUN TARGETS IN
NORMAL MODE.

TIME: 30 MINUTES

PREREQUISITE TASKS: TRAVERSE TURRET USING POWER AND MANUAL CONTROLS;
ELEVATE/DEPRESS MAIN GUN USING POWER AND MANUAL
CONTROLS.

TRAINING REFERENCES: FM 17-12-3; TC 17-15-13.

SUPPORT REQUIREMENTS: 1 M60A3 TANK; SEVERAL STATIONARY TARGETS AT VARIOUS
RANGES; LASER SAFE RANGE AREA.



PRACTICE/EVALUATION FORM

INSTRUCTOR

GUNNER

BEGIN EXERCISE:

GO	NO GO
----	-------

1. SWITCH SETTING

- Command "GUNNER-SABOT-TANK," (then HEAT, HEP/WP, FSDS) and observe performance (steps 1-2).

1. Selects ammo announced in fire command.
2. Places MAIN GUN switch in ON.

--	--

--	--

2. TARGET ACQUISITION

- Lay main gun for direction (on and off target), and observe performance (steps 3-5).

3. Grasps power control handles while viewing through unity window to detect target.

--	--

4. Looks through sight to recognize/identify target.

--	--

5. Announces "IDENTIFIED," and squeezes palm switch or "CANNOT IDENTIFY".

--	--

3. AIM-LASE-FIRE

- Lay main gun on differently exposed targets at various ranges and observe performance (step 6-10).
- Command "RELEASE" occasionally and observe performance.

6. Using a G-pattern, lays aiming cross slightly below center of target visible mass.

--	--

- Command "FIRE" and "AT MY COMMAND...FIRE," and observe performance.

7. Announce "LASING," and depresses LASE/LEAD button.

--	--

8. Relays on center of target visible mass.

--	--

9. Announce "ON THE WAY," and squeezes firing trigger(s).

--	--

- Command "CEASE FIRE" or "TARGET CEASE FIRE," to terminate engagement.

10. Relays on target aiming point, and announces observation.

--	--

4. Issue a complete fire command for a stationary main gun target engagement, then observe/score total performance (steps 1-10).

11. Performs steps 1-10 in sequence.

--	--

GO		NO GO	
----	--	-------	--

CREW POSITION: GUNNER

TRAINING MODULE NO. 16

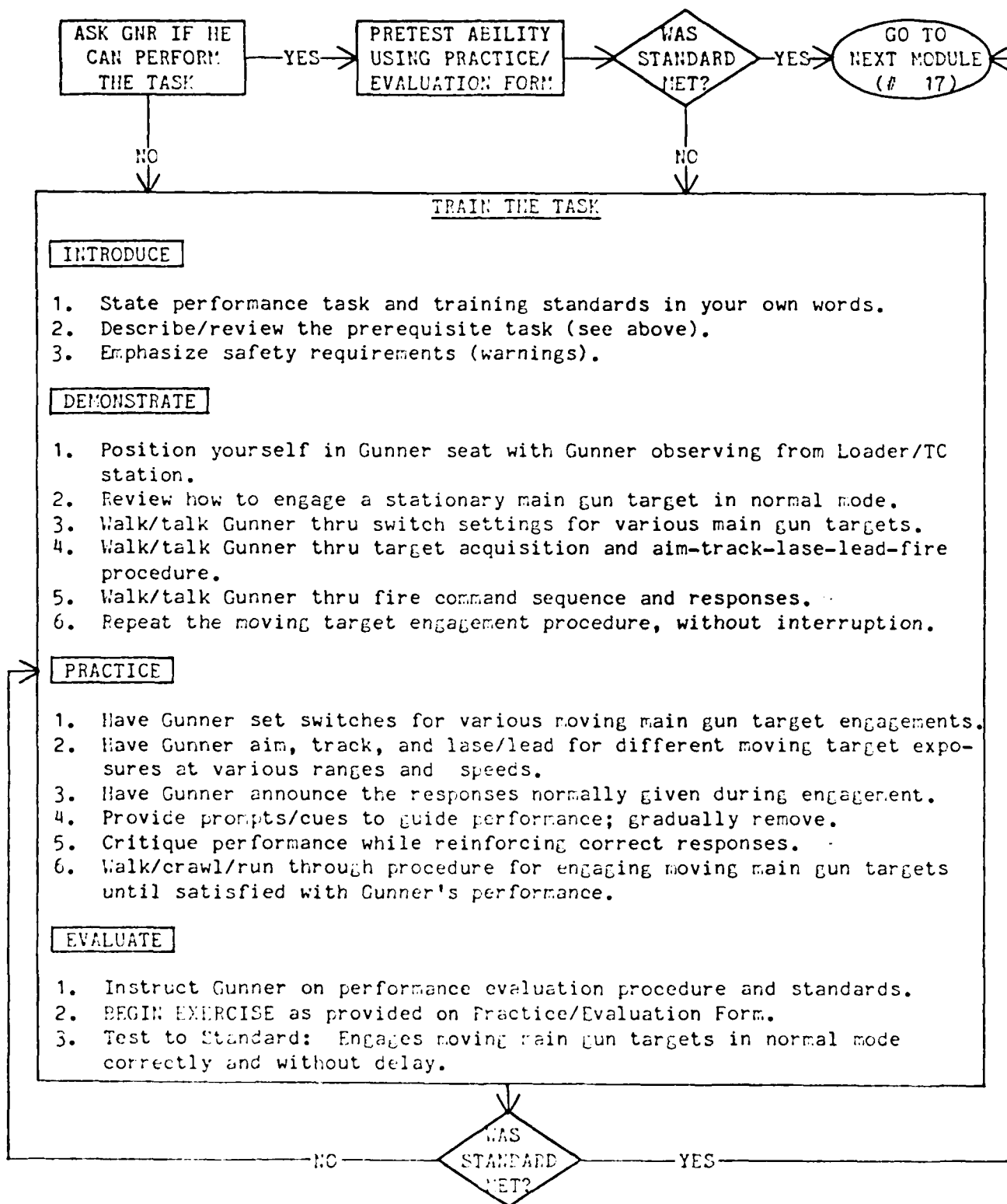
TASK: ENGAGE MOVING MAIN GUN TARGETS IN NORMAL MODE.

TIME: 30 MINUTES

PREREQUISITE TASKS: ENGAGE STATIONARY MAIN GUN TARGETS IN NORMAL MODE; TRACK TARGETS USING POWER CONTROL HANDLES; APPLY AUTO AND MANUAL LEAD.

TRAINING REFERENCES: FM 17-12-3; TC 17-15-13.

SUPPORT REQUIREMENTS: 1 M60A3 TANK; SEVERAL MOVING TARGETS AT VARIOUS RANGES; LASER SAFES RANGE AREA.



PRACTICE/EVALUATION FORM

INSTRUCTOR

GUNNER

BEGIN EXERCISE:

GO NO GO

1. SWITCH SETTING

- Command "GUNNER-SABOT-MOVING TANK," (then HEAT, HEP/WP, FSDS) and observe performance (steps 1-3).

1. Selects ammo announced in fire command.
2. Places MAIN GUN switch in ON.
3. Sets POWER/STAB switch in STAB position.

☐ ☐
☐ ☐
☐ ☐

2. TARGET ACQUISITION

- Lay main gun for direction (on and off target) and observe performance (steps 4-6).

4. Grasps power control handles while viewing through unity window to detect target.
5. Looks through sight to recognize/identify target.
6. Announces "IDENTIFIED," and squeeze palm switches or "CANNOT IDENTIFY."

☐ ☐
☐ ☐
☐ ☐

3. AIM-TRACK-LASE-LEAD-FIRE

- Lay main gun on differently exposed moving targets at various ranges and speeds and observe performance (steps 7-12).

7. Lays aiming cross slightly below center of visible mass, while tracking, using G-pattern.
8. Tracks target smoothly for 1.5 seconds (minimum).
9. Announces "LASING," and depresses LASE/LEAD button.
10. Lays aiming cross on center of target visible mass.
11. Announces "ON THE WAY," and squeezes firing trigger(s).

☐ ☐
☐ ☐
☐ ☐
☐ ☐
☐ ☐

- Command "RELEASE" occasionally and observe performance.

- Command "FIRE" or "AT MY COMMAND...FIRE" and observe performance.

- Command "CEASE FIRE" or "TARGET CEASE FIRE," to terminate engagement.

4. Issue a complete fire command for a moving main gun target engagement, then observe/score total performance (steps 1-12).

12. Relays on target aiming point and announces observation.

☐ ☐
☐ ☐

GO

☐

NO GO

☐

CREW POSITION: GUNNER

TRAINING MODULE NO. 17

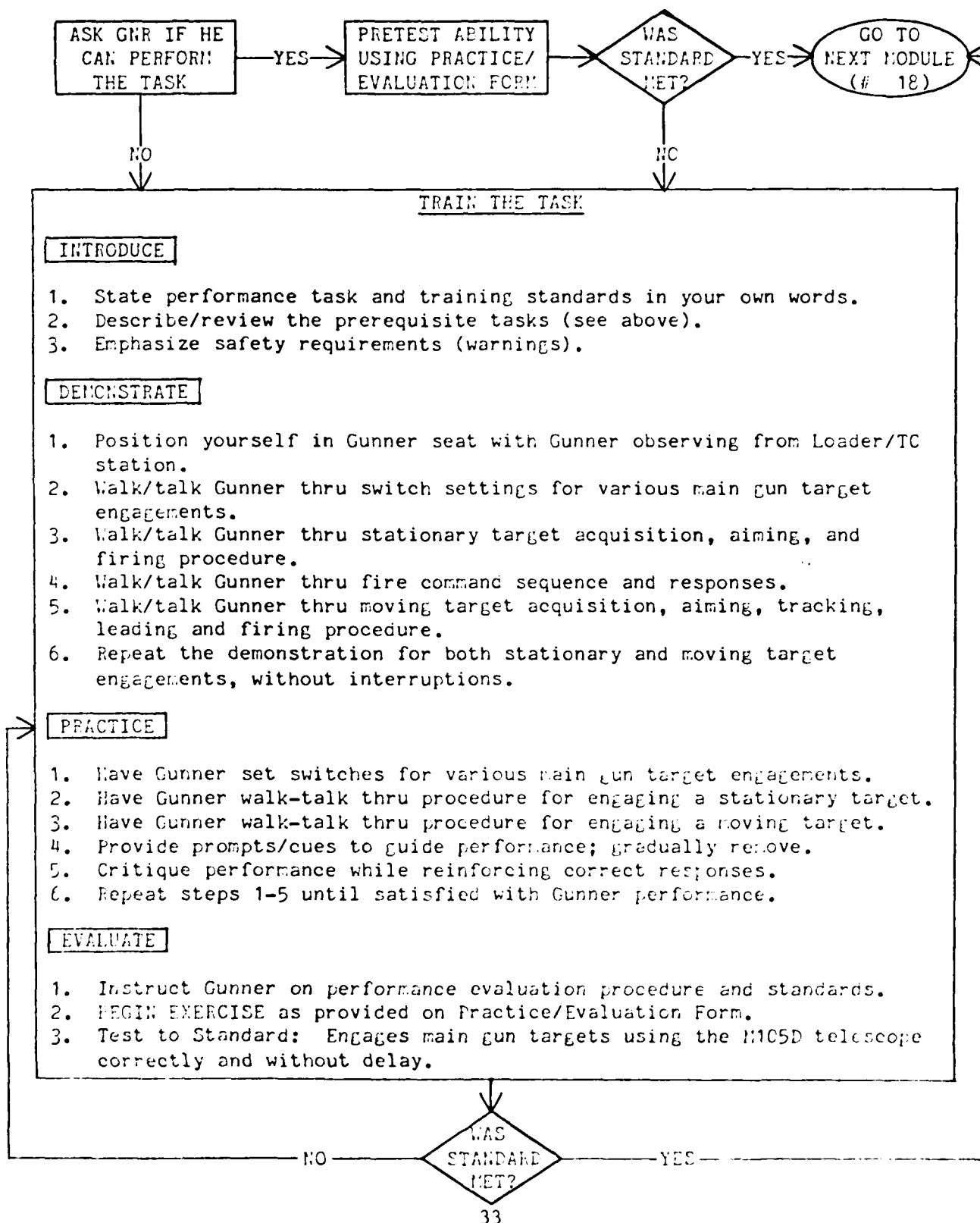
TASK: ENGAGE MAIN GUN TARGET USING THE M105D
TELESCOPE.

TIME: 30 MINUTES

PREREQUISITE TASKS: ENGAGE STATIONARY MAIN GUN TARGETS IN NORMAL MODE;
ENGAGE MOVING MAIN GUN TARGETS IN NORMAL MODE;
TRACK TARGETS USING POWER CONTROL HANDLES; APPLY
AUTO AND MANUAL LEAD.

TRAINING REFERENCES: FM 17-12-3; TC 17-15-13.

SUPPORT REQUIREMENTS: 1 M60A3 TANK OR TURRET TRAINER; SEVERAL STATIONARY/
MOVING TARGETS AT VARIOUS RANGES; LASER SAFE RANGE
AREA.



PRACTICE/EVALUATION FORM

INSTRUCTOR

GUNNER

BEGIN EXERCISE:

GO

NO GO

1. SWITCH SETTINGS

- Command "GUNNER-SABOT-(HEAT- HEP/WP) (MOVING)-TANK-(TRUCK) ONE FIVE HUNDRED," and observe performance (steps 1-2).

1. Selects reticle for ammo announced.

2. Places MAIN GUN switch in ON.

2. TARGET ACQUISITION

- Lay main gun for direction (on and off target) and observe performance (steps 3-5).

3. Grasps power control handles while viewing through unity window to detect target.

4. Looks through telescope to recognize/identify target.

5. Announces "IDENTIFIED," and squeezes palm switches or "CANNOT IDENTIFY."

3. AIM-(TRACK/LEAD)-FIRE

Announce range to differently exposed targets (moving and stationary) at various distances and observe performance (steps 6-9).

6. Lays announced range line on center of target visible mass using a G-pattern.

7. If target is moving, applies standard lead for ammo.

- Command "FIRE" or "AT MY COMMAND...FIRE," and observe performance.

8. Announces "ON THE WAY," and squeezes firing trigger(s).

- Command "CEASE FIRE" or "TARGET CEASE FIRE," to terminate the engagement.

9. Relays on target aiming point and announces observation.

4. Issue a complete fire command for a stationary (then moving main gun target engagement, then observe/score total performance (steps 1-10).

10. Performs steps 1-10 in sequence.

GO

NO GO

CREW POSITION: GUNNER

TRAINING MODULE NO. 18

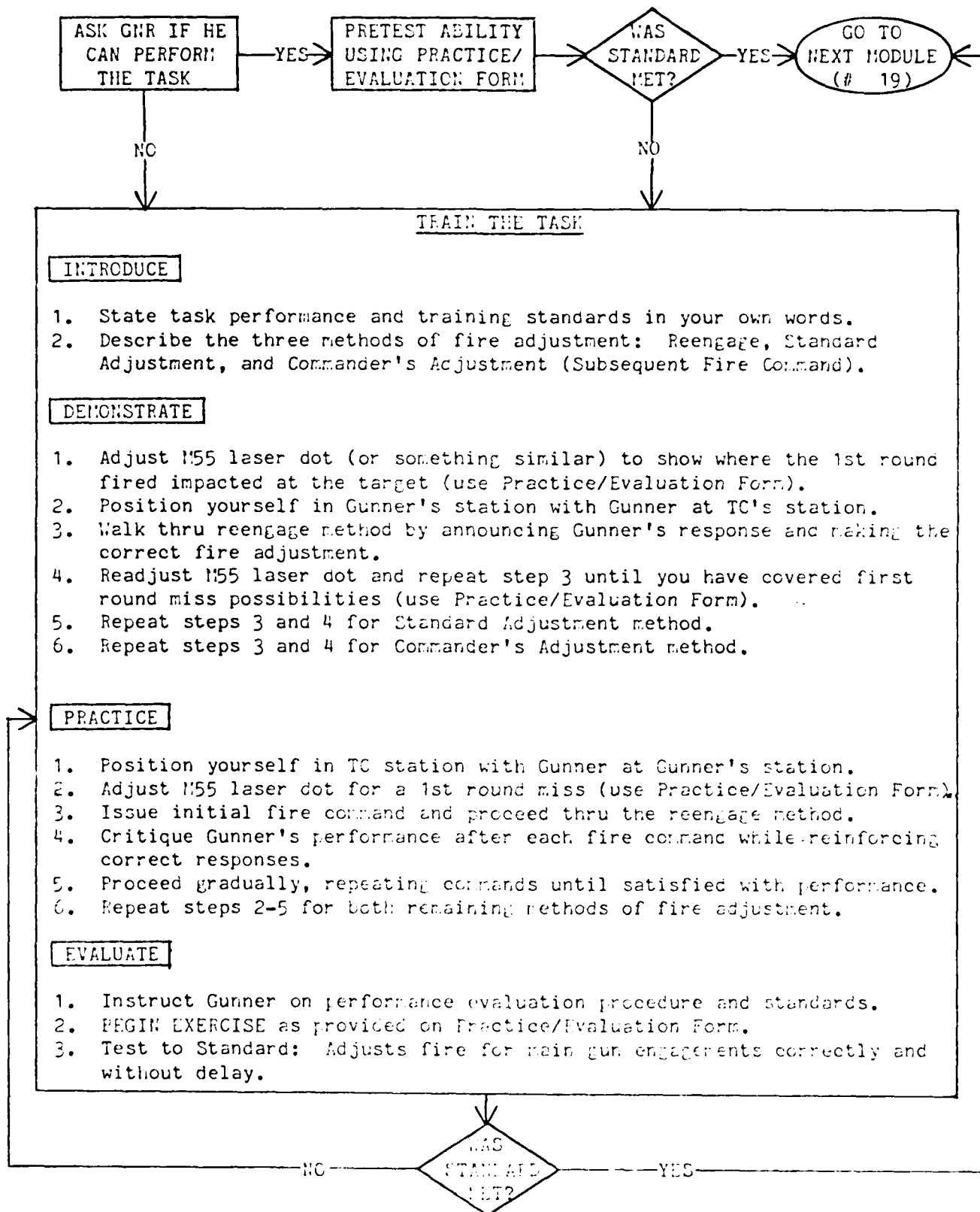
TASK: ADJUST FIRE FOR MAIN GUN ENGAGEMENTS.

TIME: 30 MINUTES

PREREQUISITE TASKS: ENGAGE STATIONARY (MOVING) MAIN GUN TARGETS IN NORMAL MODE; ENGAGE MAIN GUN TARGETS USING THE M105D TELESCOPE.

TRAINING REFERENCES: FM 17-12-3; FM 17-19E1/2.

SUPPORT REQUIREMENTS: 1 M60A3 TANK OR TURRET TRAINER; STATIONARY AND MOVING TARGETS; 1 M55 LASER.



PRACTICE/EVALUATION FORM

INSTRUCTOR

GUNNER

BEGIN EXERCISE:

1. Adjust position of M55 laser dot (see below), then issue appropriate fire command (with or without range element) while laying main gun.
2. On hearing the gunner announce "LASING," announce "FIRE."
3. Score performance on each method and total as follows:

1. Sets fire control switches, announces "IDENTIFIED," lays on center of target's visible mass, announces "LASING," and awaits TC commands.
2. Makes final lay, announces "ON THE WAY," and fires.
3. Relays on target aiming point, announces observation, pauses for possible subsequent command, and adjusts fire as follows:

GO ☐ NO GO ☐

☐ ☐
(OPTIONAL)

☐ ☐
(OPTIONAL)

☐ ☐
(OPTIONAL)

GNR-SABOT-TANK

- a. (short)
- b. (over)
- c. (right)
- d. (left)
- e. (any combination)

REENGAGE METHOD

- Relays on target center of mass, announces "LASING," pauses momentarily, then announces "ON THE WAY."

GNR-HEAT-TANK

- a. (short)
- b. (over)
- c. (right)
- d. (left)
- e. (any combination)

STANDARD ADJUSTMENT

- ADD ONE...ON THE WAY
- DROP ONE...ON THE WAY
- LEFT ONE...ON THE WAY
- RIGHT ONE...ON THE WAY
- (correct announcement)

GNR-HEAT(SABOT)-(RANGE)-TANK

- a. ADD ONE (200), FIRE
- b. DROP ONE (200), FIRE
- c. LEFT ONE (200), FIRE
- d. RIGHT ONE (200), fire
- e. GUNNER REENGAGE

COMMANDER'S ADJUSTMENT

- Positions aiming cross based on TC's announced correction and issues gunner's responses.

4. Score total performance.

GO ☐ NO GO ☐

CREW POSITION: GUNNER

TRAINING MODULE NO. 19

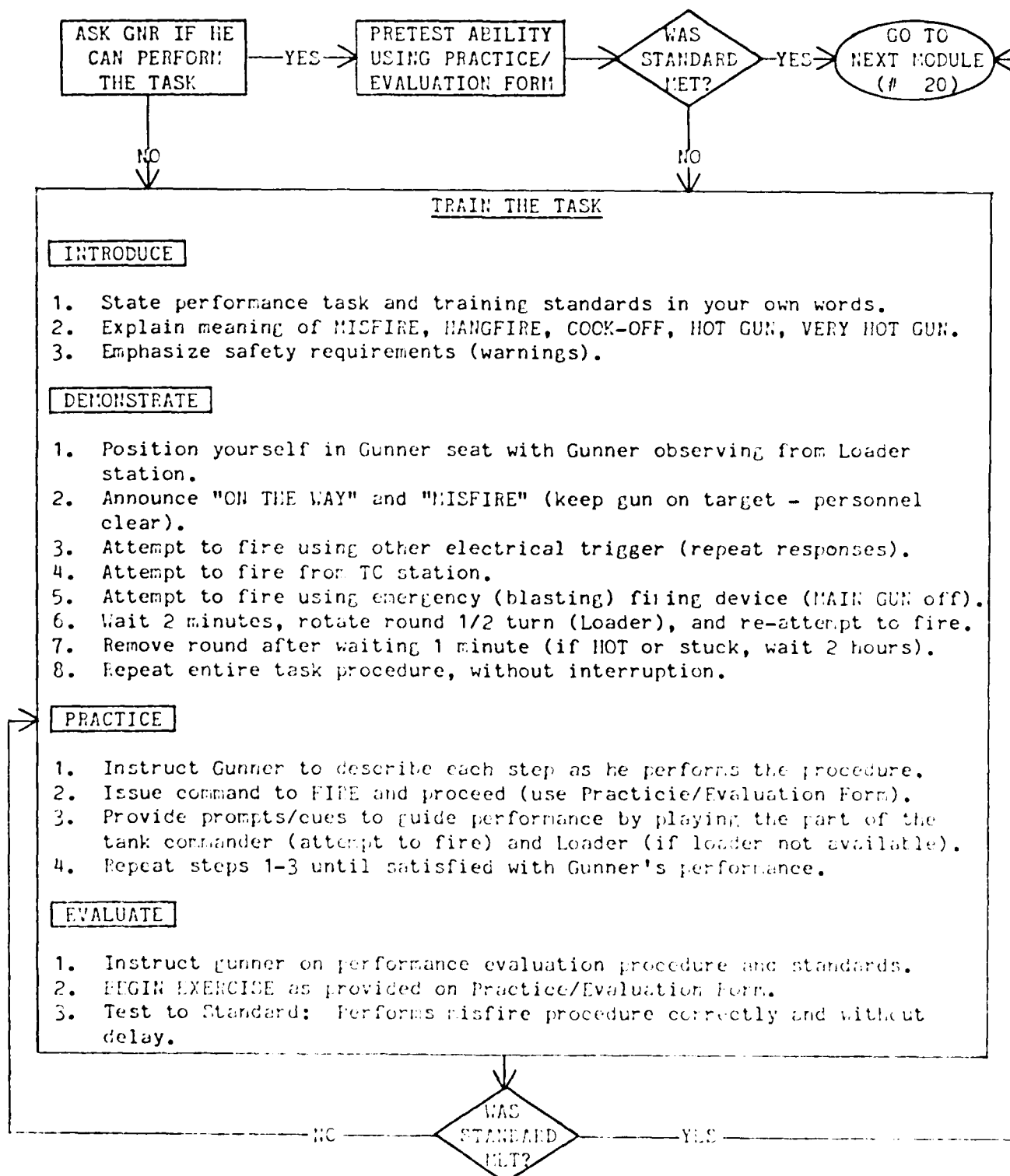
TASK: PERFORM MAIN GUN MISFIRE PROCEDURES.

TIME: 30 MINUTES

PREREQUISITE TASKS: ENGAGE STATIONARY (MOVING) MAIN GUN TARGETS IN NORMAL MODE; ENGAGE MAIN GUN TARGETS USING THE M105D TELESCOPE.

TRAINING REFERENCES: FM 17-19E1/2; TM 9-2350-253-10.

SUPPORT REQUIREMENTS: 1 M60A3 TANK OR TURRET TRAINER.



PRACTICE/EVALUATION FORM

INSTRUCTORGUNNER

BEGIN EXERCISE:

1. Instruct gunner to simulate failure of main gun to fire. With main gun trained on a target, command "FIRE," and observe task performance (Steps 1-9)

2. Simulate attempt to fire from TC station by announcing "ON THE WAY" and "MISFIRE."

3. In actual procedure, the TC would release override switch after GNR has placed main gun switch in OFF position.

4. Place loader's switch in SAFE position. Wait 2 minutes, open breech, rotate the round 1/2 turn and close breech. Place loader's switch in FIRE position and announce "UP."

5. Place loader's safety switch in SAFE position.

6. Announce "STOP," and score total performance.

1. Attempts to fire using trigger on power control handle. Announces "ON THE WAY" and "MISFIRE."

2. Attempts to fire using trigger on GNR's control handle that was not used initially. Announces "ON THE WAY" and "MISFIRE."

3. Attempts to fire using trigger on manual elevating handle. Announces "ON THE WAY," and "MISFIRE."

4. Waits for commander to attempt to fire from his position.

5. Places MAIN GUN switch in OFF position.

6. Attempts to fire using manual firing device (blasting machine). Announces "ON THE WAY" and "MISFIRE."

7. Observes/ensures the loader carries out his misfire procedures.

8. Attempts to fire using an electrical trigger. Announces "ON THE WAY" and "MISFIRE."

9. Observes/ensures loader places main gun safety in SAFE.

GO

NO GO

GO

NO GO

CREW POSITION: GUNNER

TRAINING MODULE NO. 20

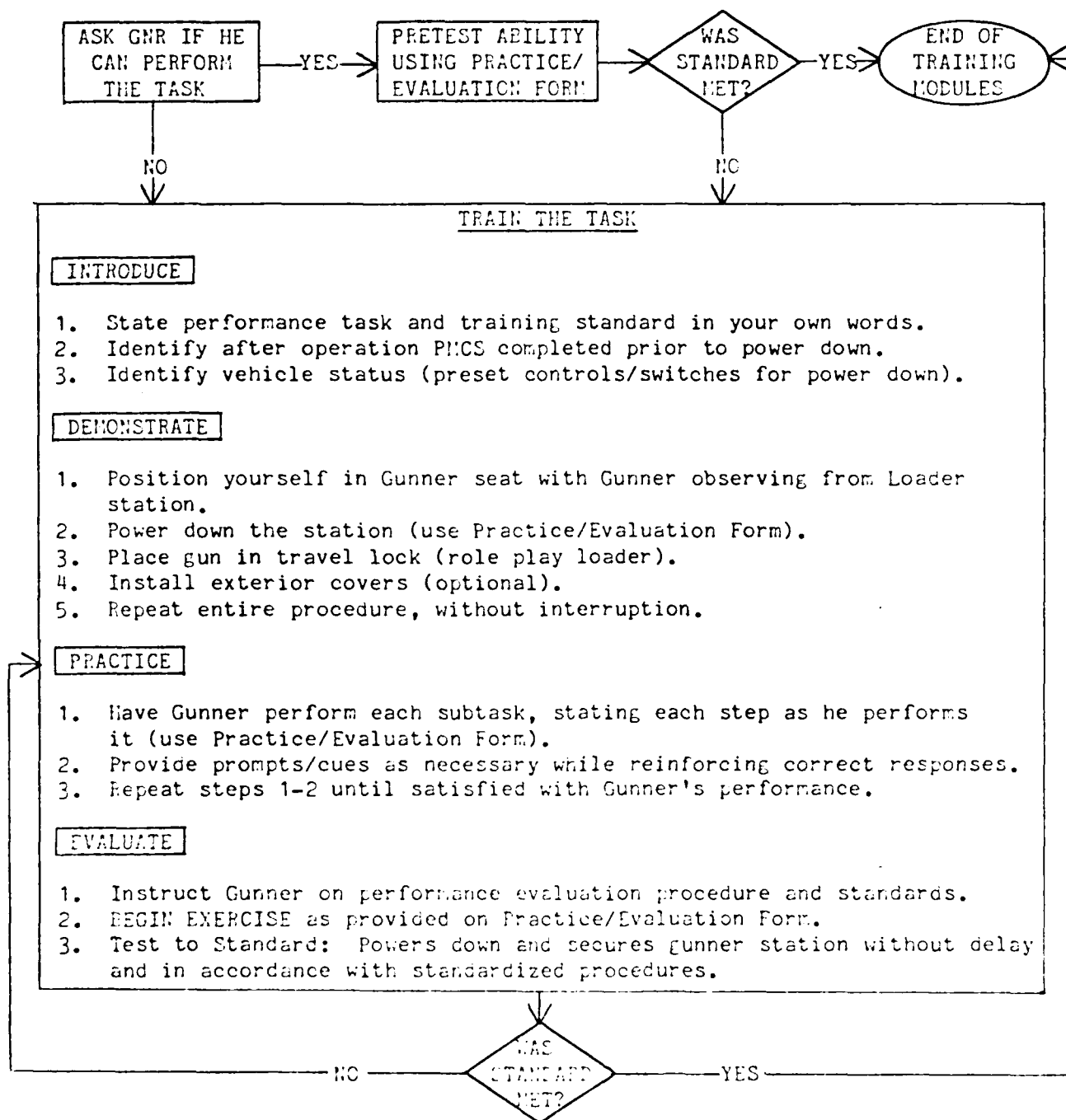
TASK: POWER DOWN AND SECURE GUNNER'S STATION.

TIME: 15 MINUTES

PREREQUISITE TASKS: TRAVERSE TURRET USING POWER AND MANUAL CONTROLS.

TRAINING REFERENCES: FM 17-19E1/2; TM 9-2350-253-10.

SUPPORT REQUIREMENTS: 1 M60A3 TANK OR TURRET TRAINER.



PRACTICE/EVALUATION FORM

INSTRUCTOR

GUNNER

BEGIN EXERCISE:

1. Announce "POWER DOWN AND SECURE GUNNER'S STATION," and observe performance (Steps 1-9).

2. Provide instruction as necessary.

3. (Optional)

4. Score total performance.

1. Sets gun switches to OFF.

- main gun
- machinegun

2. Sets TTS MODE switch to OFF.

3. Closes ballistic shield.

4. Sets computer POWER switch to OFF.

5. Sets STAB switch to OFF.

6. Traverse turret to place main gun in travel lock (with loader).

7. Sets ELEV/TRAV POWER switch to OFF.

8. Removes-stows CVC helmet.

9. Installs exterior covers.
 - machinegun
 - telescope
 - main gun muzzle

GO	NO GO
----	-------

☐	☐
--------------------------	--------------------------

☐	☐
--------------------------	--------------------------

☐	☐
--------------------------	--------------------------

☐	☐
--------------------------	--------------------------

☐	☐
--------------------------	--------------------------

☐	☐
--------------------------	--------------------------

☐	☐
--------------------------	--------------------------

☐	☐
--------------------------	--------------------------

☐	☐
--------------------------	--------------------------

GO ☐	NO GO ☐
-----------------------------	--------------------------------

PART 5

TANK DRIVER TRAINING MODULES

TABLE OF CONTENTS
DRIVER TRAINING MODULES

<u>Module No.</u>	<u>Task</u>	<u>Page No.</u>
1	Perform Before/During/After Operation PMCS.	1
2	Drive Tank Across Varied Terrain.	3
3	Perform Hull Down/Turret Down Movement.	5
4	Drive Tank Using Cover and Concealment.	7
5	Drive Tank in Stabilized Mode.	9
6	Maneuver Tank Using Smoke Generator.	11
7	Drive Tank Using Evasive Action Techniques.	13
8	Install Night Vision Device AN/VVS-2.	15
9	Place AN/VVS-2 Night Vision Device into Operation.	17
10	Drive the Tank at Night Using AN/VVS-2 Night Vision Device.	19
11	Remove and Stow the AN/VVS-2 Night Vision Device.	21

CREW POSITION: DRIVER

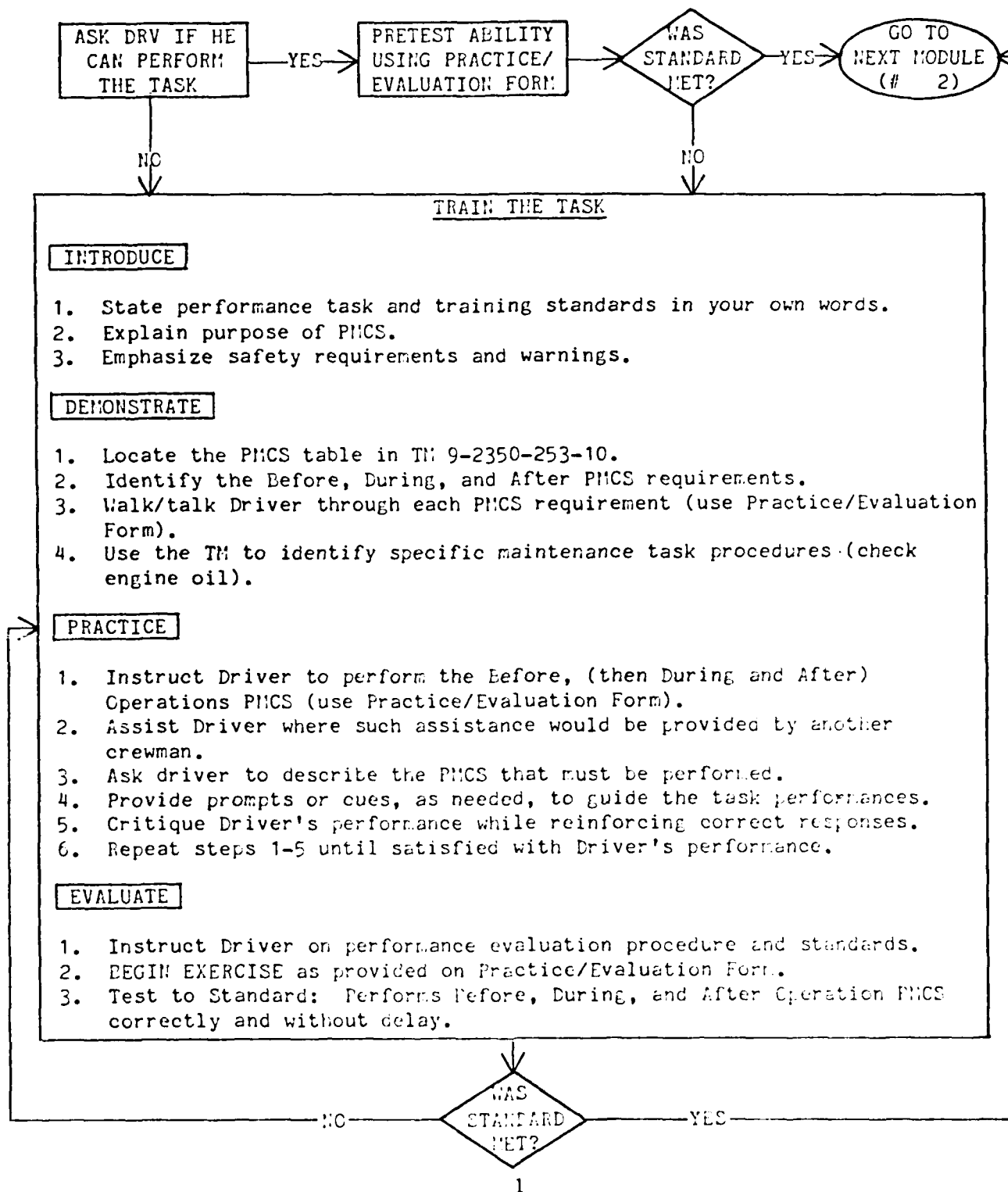
TRAINING MODULE NO. 1

TASK: PERFORM BEFORE/DURING/AFTER OPERATION PMCS. TIME: 120 MINUTES

PREREQUISITE TASKS: NONE.

TRAINING REFERENCES: TM 9-2350-253-10.

SUPPORT REQUIREMENTS: 1 M60A3 TANK; 1 TM 9-2350-253-10.



PRACTICE/EVALUATION FORM

BEGIN EXERCISE:

DRIVER

1. Announce "Perform BEFORE (THEN DURING, AFTER) OPERATION FMCS," then observe performance using the following summary sheet.

LOCATION	SYSTEM	EQUIPMENT	ADJUST	CLEAN	CLAR	DAMAGE	IN PLACE	LEAKS	OPERATION	POSITION	PRESSURE	SECURE	STATUS	LEVEL	MISSING PARTS	WEAR	CRACKING	SEPARATING	HEAT
DRIVER'S STATION	DRIVER'S HATCH	DRIVER'S HATCH							B	B									
	DRIVER'S SEAT	DRIVER'S SEAT							B										
		BACKREST							B										
		DUMP LEVER							B										
	DRIVER'S ESCAPE HATCH	ESCAPE HATCH					E												
		FLANGE BOLTS								B									
		MANUAL CONTROL LEVER							B	B									
	FIRE EXTINGUISHER SYSTEM	HANDLE SEAL				F	F												
		CYLINDERS					F												
		LEAD SEAL				F	F												
		INDICATOR				B	B												
	HYDRAULIC BRAKE SYSTEM	SHIFTING LEVER							F										
		PRESSURE GAGE									B								
		BRAKE PEDAL							B	B									
		MASTER CYLINDER						B											
	INDICATOR LAMPS	MASTER BATTERY							BO	B									
		POWER PLANT WARNING							BO										
	IDLE SPEED, ACCELERATOR CONTROL	ENGINE SPEED AT IDLE											B						
		ACCELERATOR CONTROL							B										
		ENGINE SPEED AFTER ACCELERATION											R						
	GAGES	POWER PLANT WARNING LIGHT											PO						
		BATTERY-GENERATOR																	
		ENGINE OIL PRESSURE																	
		ENGINE OIL TEMPERATURE											ED						
	GAGES	TRANSMISSION OIL PRESSURE											PO						
		TRANSMISSION OIL TEMPERATURE											PO						
	CONTROLS	STEERING CONTROL							BO										
		SHIFTING CONTROL							BO										
		BRAKE PEDAL							BO										
	INTERCOM/RADIO	INTERCOM/RADIO							F										
EXTERIOR TRACK	TORSION BARS	TORSION BARS				B				B				E					
	FINAL DRIVE	FINAL DRIVE/ SPROCKET BOTTOM MOUNTING STUDS						DA											
		SPROCKETS				DA													
	ROADWHEELS AND HUBS	ROADWHEELS						DA											
		HUBS																	
		INSIDE WHEEL RIMS						DA											
	ROADWHEEL ARMS	ROADWHEEL ARM				DA	DA												
	SHOCK ABSORBERS	SHOCK ABSORBER						DA											
	TRACK SUPPORT	TRACK SUPPORT																	
	ROLLERS AND HUBS	ROLLERS				DA	DA												
		SUPPORT ROLLER HUBS																	
	TRACK END CONNECTORS AND WEDGES	END CONNECTORS				DA	DA												
		RODS				DA	DA												
		WEDGES					DA												
	TRACK CENTER GUIDES	TRACK CENTER GUIDES				DA	DA												
	TRACK	TRACK PADS																	
		TRACK SPINES				DA													
		TRACK PINS				DA													
	COMPENSATING IDLER WHEEL AND HUBS	INSIDE WHEEL RIMS						DA											
	TRACK ADJUSTING LIPS	LYNCH ASSEMBLY				F	A												
		COTTER PIN																	
	WELL	SAFETY WIRE-TIE				P	P												
	EXHAUST PIPE EX- TINGUISHED HANDLES	SEALS												P					

2. Observe performance BEFORE FMCS

DURING FMCS

AFTER FMCS

CREW POSITION: DRIVER

TRAINING MODULE NO. 2

TASK: DRIVE TANK ACROSS VARIED TERRAIN.

TIME: 60 MINUTES

PREREQUISITE TASKS: PERFORM BEFORE, DURING, AFTER OPERATIONS PMCS.

TRAINING REFERENCES: VIDEO

TEC:

MANUALS:

FK-ARS-42-74

945-171-0100-F

TC-17-10, FI: 17-19E1/2

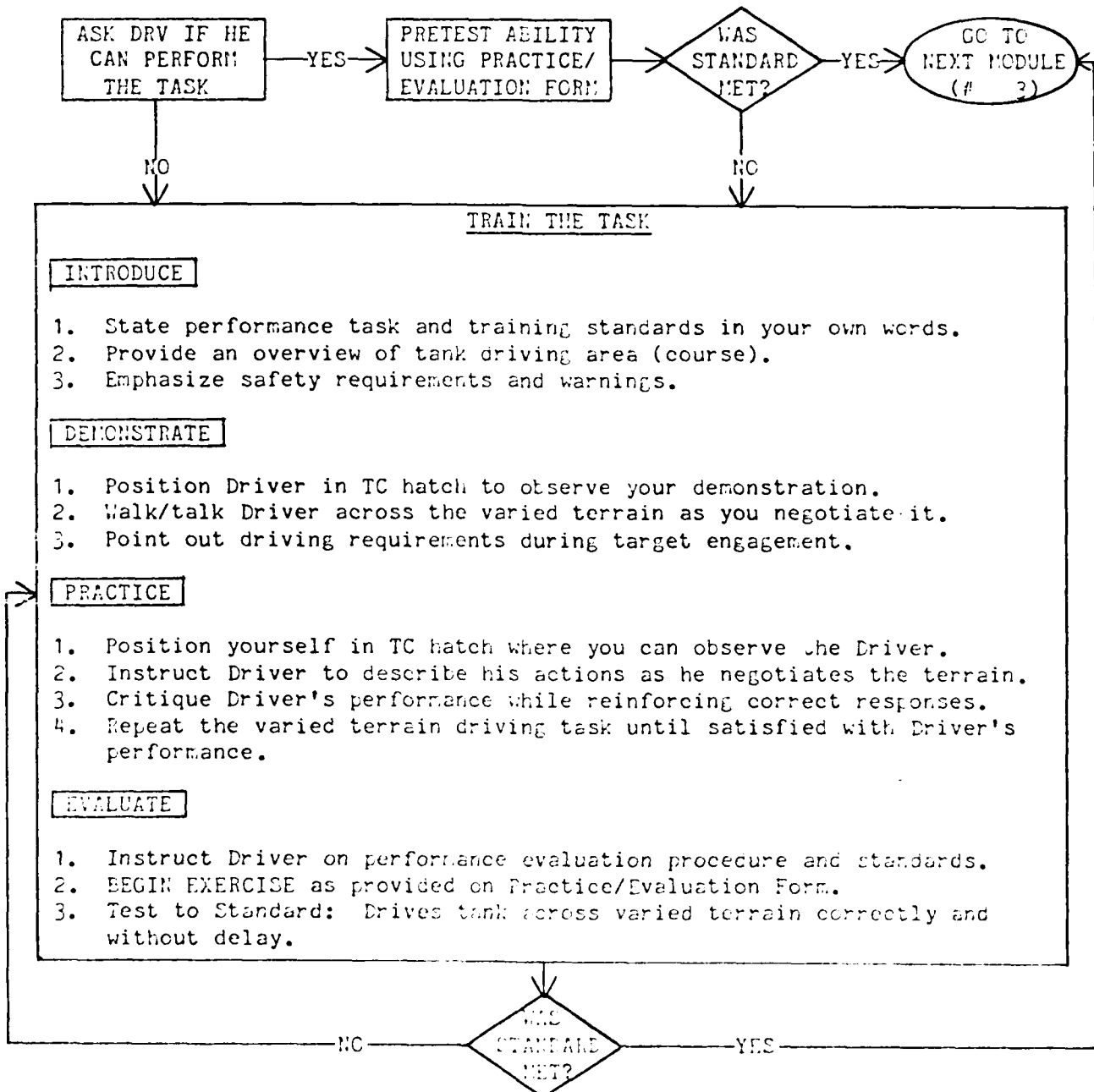
FK-ARC-17-73

020-171-1553-B

FI: 21-17, FI: 21-306

TH: 9-2350-253-10.

SUPPORT REQUIREMENTS: 1 M60A3 TANK; VARIED TERRAIN AREA.



PRACTICE/EVALUATION FORM

TC

DRIVER

BEGIN EXERCISE:

1. Select terrain to negotiate, announce "DRIVER MOVE OUT," and observe performance (steps 1-9).

1. Selects proper gear for terrain conditions.

2. Accelerates and decelerates smoothly.

3. Avoids sudden and unnecessary braking.

4. Approaches manmade and natural obstacles correctly.

5. Crosses manmade and natural obstacles correctly.

6. Accelerates smoothly to move away from manmade and natural obstacles.

7. Ascends and descends slopes correctly.

8. Maintains control when crossing a side slope.

2. Announce "DRIVER STOP," and score total performance.

9. Stops smoothly upon command.

GC	NO GO
----	-------

--	--

--	--

--	--

--	--

--	--

--	--

--	--

--	--

--	--

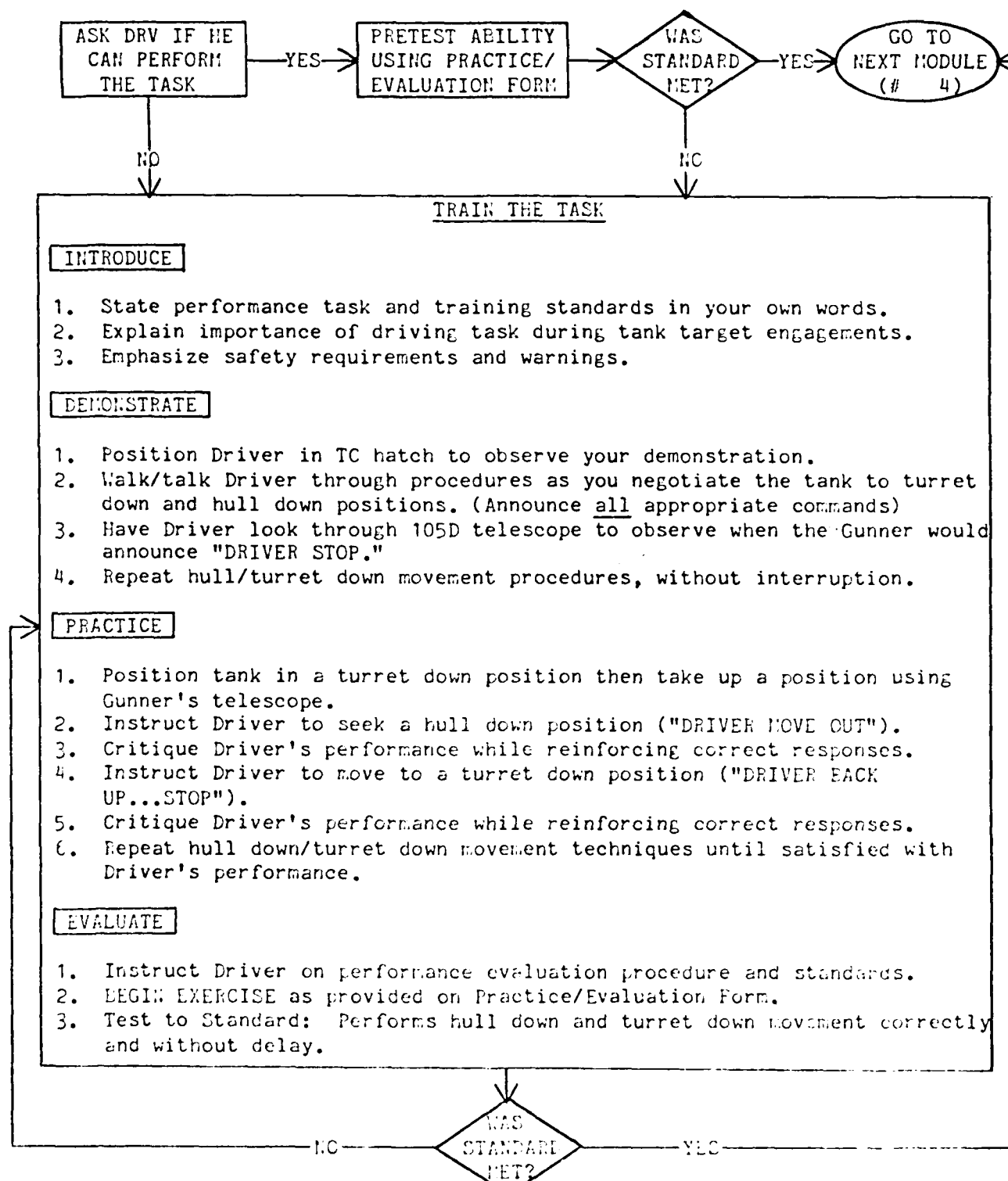
GC

--

NO GO

--

CREW POSITION: DRIVER TRAINING MODULE NO. 3
TASK: PERFORM HULL DOWN/TURRET DOWN MOVEMENT. TIME: 30 MINUTES
PREREQUISITE TASKS: PERFORM BEFORE, DURING, AND AFTER OPERATION PMCS;
 VARIED TERRAIN DRIVING.
TRAINING REFERENCES: FM 17-12-3; FM 17-13-3; VIDEO ARS-9-77.
SUPPORT REQUIREMENTS: 1 M60A3 TANK; VARIED TERRAIN AREA.



PRACTICE/EVALUATION FORM

TC

DRIVER

BEGIN EXERCISE:

1. Position tank in turret-down position, take up position in 105-D telescope, announce "GUNNER-SABOT-TANK, DRIVER MOVE OUT, GUNNER TAKE OVER," and observe performance (steps 1-2).

2. Announce "DRIVER STOP," when gun clears terrain, and observe performance (steps 3-4).

3. Announce "DRIVER BACK-UP... STOP," and observe performance (steps 5-6).

4. Score total task performance.

1. Selects proper gear for movement.

2. Moves tank quickly and steadily without excessive rocking or stalling engine.

3. Stops tank on command without excessive rocking.

4. Shifts to "R" while keeping brake depressed.

5. Releases brake and moves quickly and steadily backwards.

6. Stops tank on command without excessive rocking and shifts to proper gear.

GO

NO GO

☐
☐
☐
☐
☐
☐
☐
☐
☐
☐
☐
☐

GO

☐

NO GO

☐

CREW POSITION: DRIVER

TRAINING MODULE NO. 4

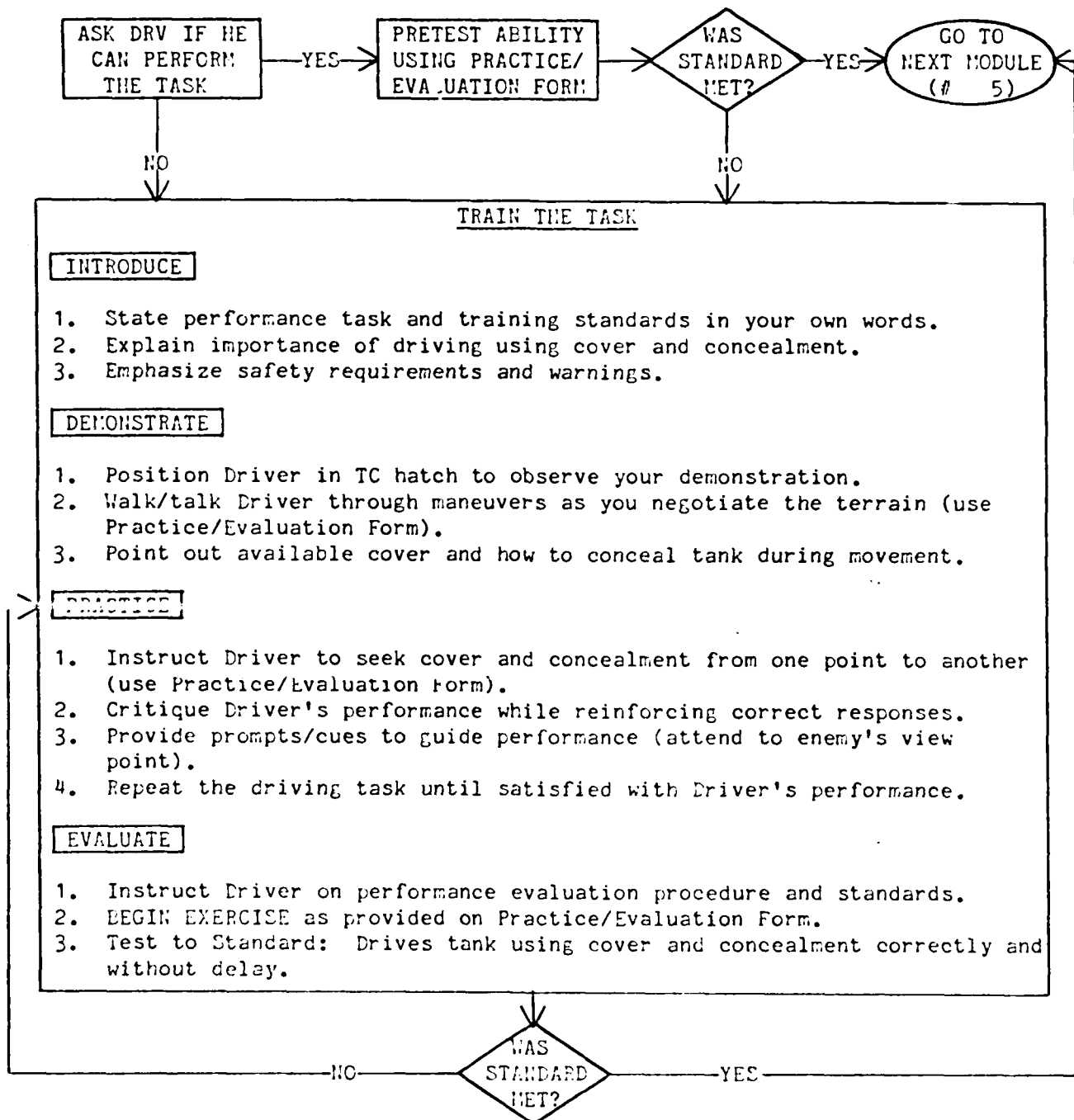
TASK: DRIVE TANK USING COVER AND CONCEALMENT.

TIME: 60 MINUTES

PREREQUISITE TASKS: VARIED TERRAIN DRIVING.

TRAINING REFERENCES: FM 17-12-3; TM 21-306.

SUPPORT REQUIREMENTS: 1 M60A3 TANK; VARIED TERRAIN AREA.



PRACTICE/EVALUATION FORM

TC

DRIVER

BEGIN EXERCISE:

1. Select a destination, announce "DRIVER MOVE OUT USING COVER AND CONCEALMENT," and observe performance (steps 1-11).

1. Selects proper gear for terrain.
2. Selects shortest/levellest route.
3. Avoids exposing sides and rear of tank to threat.
4. Selects route that allows for full fields of fire for main gun.
5. Selects route that obscures tank from view.
6. Avoids skylighting tank.
7. Stays close to wooded areas.
8. Selects cross-country route rather than trail.
9. Selects cover common to area.
10. Avoids shortcuts that expose vehicle.
11. Advises crew of obstacles.

GO	NO GO
----	-------

--	--

--	--

--	--

--	--

--	--

--	--

--	--

--	--

--	--

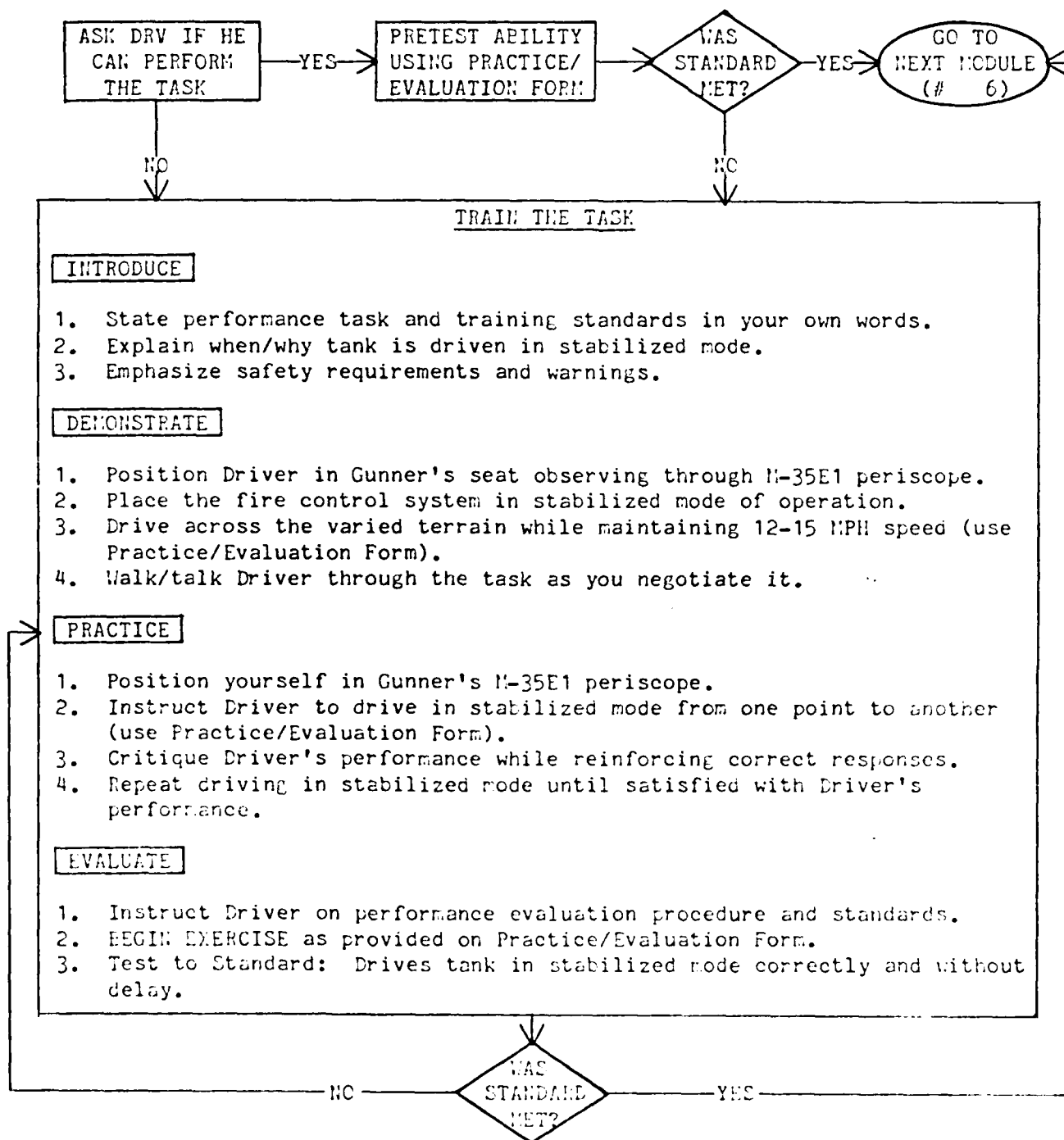
--	--

--	--

2. Score total performance.

GO		NO GO	
----	--	-------	--

CREW POSITION: DRIVER	TRAINING MODULE NO. 5
TASK: DRIVE TANK IN STABILIZED MODE.	TIME: 60 MINUTES
PREREQUISITE TASKS: VARIED TERRAIN DRIVING.	
TRAINING REFERENCES: TM 9-2350-253-10; FM-17-13-3.	
SUPPORT REQUIREMENTS: 1 M60A3 TANK; VARIED TERRAIN AREA.	



PRACTICE/EVALUATION FORM

TC

DRIVER

BEGIN EXERCISE:

1. Announce "DRIVER MOVE OUT. DRIVE TANK IN STABILIZED MODE," and observe performance (steps 1-2).

2. Issue various driving commands (step 3).

3. Announce "GUNNER-SABOT-TANK-DIRECT FRONT - AT MY COMMAND," and observe performance (steps 4-7).

4. Score total performance.

1. Selects proper gear for terrain.

2. Accelerates and decelerates smoothly, without rocking the tank.

3. Follows driving commands.

4. Maintains a 12-15 MPH speed.

5. Maintains a steady firing platform.

6. Maintains steady direction.

7. Alerts crew of obstacles.

GO	NO GO
----	-------

--	--

--	--

--	--

--	--

--	--

--	--

--	--

GO		NO GO	
----	--	-------	--

CREW POSITION: DRIVER

TRAINING MODULE NO. 6

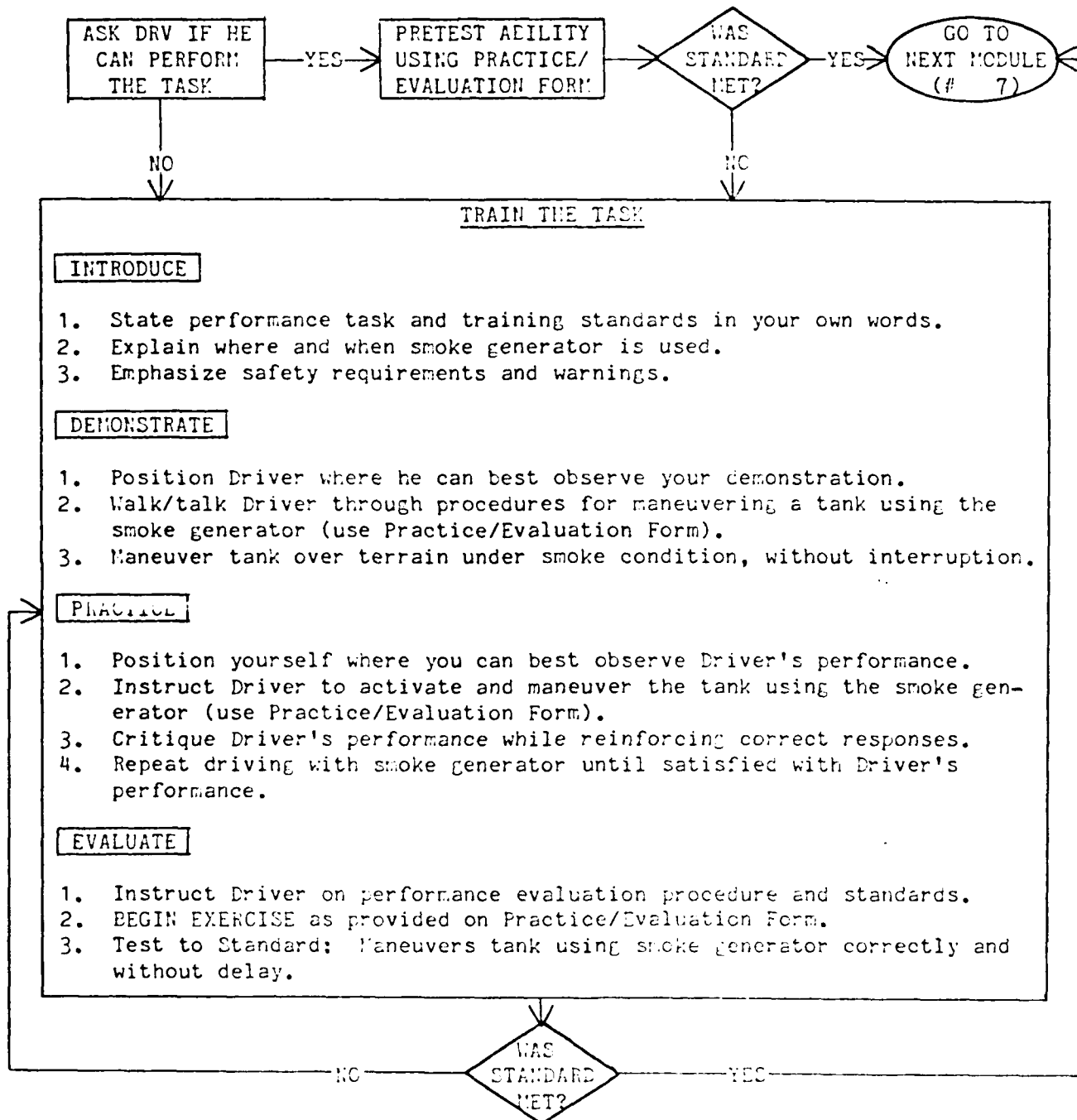
TASK: MANEUVER TANK USING SMOKE GENERATOR.

TIME: 30 MINUTES

PREREQUISITE TASKS: VARIED TERRAIN DRIVING.

TRAINING REFERENCES: TM 9-2350-253-10; FM 17-12-3.

SUPPORT REQUIREMENTS: 1 M60A3 TANK; VARIED TERRAIN AREA.



PRACTICE/EVALUATION FORM

TC

DRIVER

BEGIN EXERCISE:

1. Announce "DRIVER-ACTIVATE SMOKE GENERATOR," and observe performance (step 1).
2. Announce "DRIVER-MOVE OUT AND MAINTAIN CONCEALMENT," and observe performance (step 2).
3. Announce "DRIVER-TURN SMOKE GENERATOR OFF," and score task performance.

1. Lifts cover and places smoke generator switch in ON.
2. Maneuvers tank to keep it concealed by smoke.
3. Sets smoke generator switch to OFF.

GO	NO GO
----	-------

--	--

--	--

--	--

GO		NO GO	
----	--	-------	--

CREW POSITION: DRIVER

TRAINING MODULE NO. 7

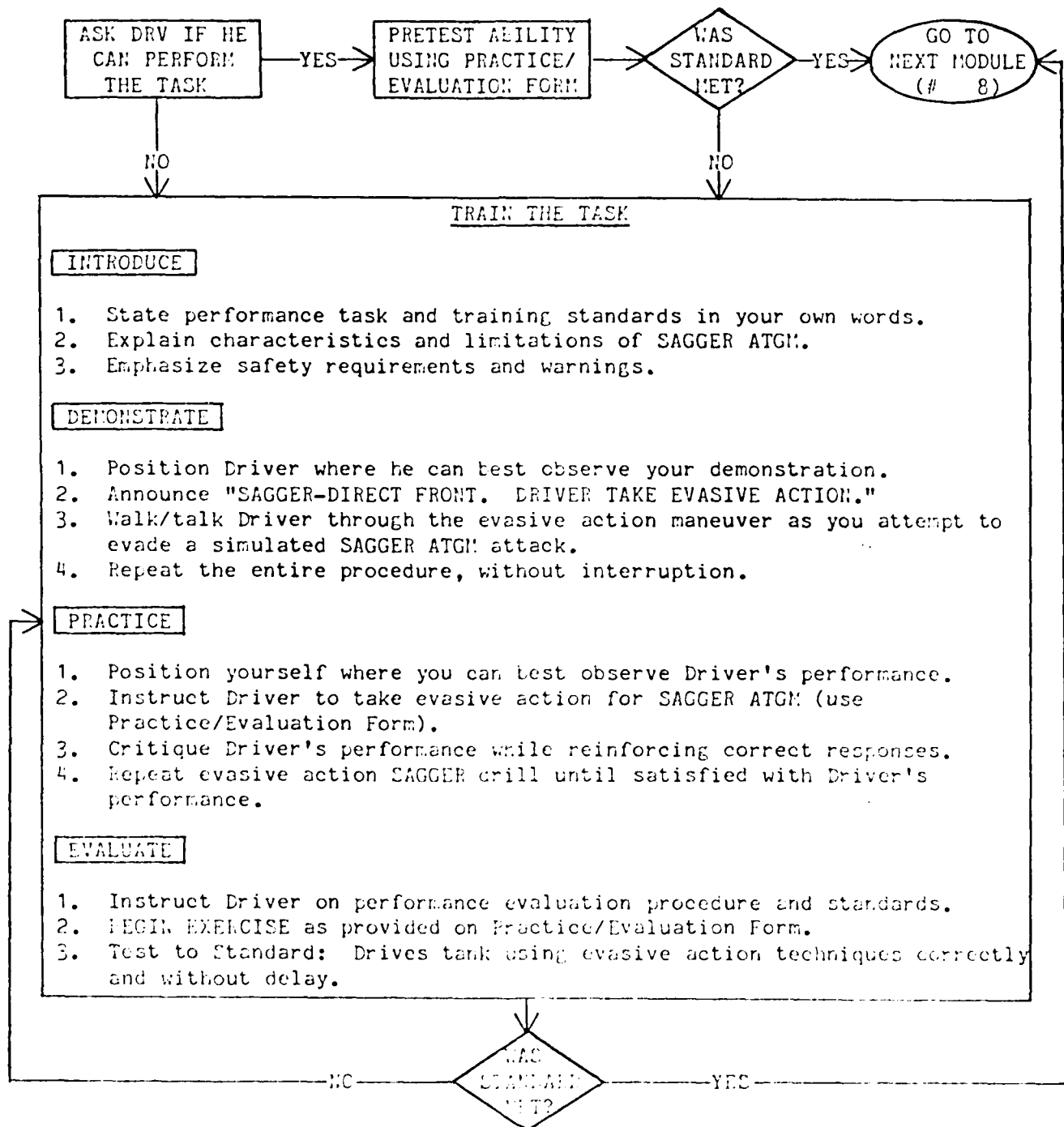
TASK: DRIVE TANK USING EVASIVE ACTION TECHNIQUES.

TIME: 30 MINUTES

PREREQUISITE TASKS: VARIED TERRAIN DRIVING; DRIVE TANK USING SMOKE GENERATOR.

TRAINING REFERENCES: FM 17-12-3, FM 17-13-3, FM 71-1.

SUPPORT REQUIREMENTS: 1 M60A3 TANK; VARIED TERRAIN AREA.



PRACTICE/EVALUATION FORM

TC

DRIVER

BEGIN EXERCISE:

		GO	NO GO
1. Announce "DRIVER MOVE OUT."	1. Selects proper gear for terrain.	☐	☐
2. When ready, announce "SAGGER, DIRECT FRONT. DRIVER TAKE EVASIVE ACTION," and observe performance steps 2-5).	2. Acquires/Identifies target.	☐	☐
	3. Orients front of tank in direction of SAGGER attack.	☐	☐
	4. Drives tank making abrupt left/right oblique turns.	☐	☐
3. Announce "DRIVER STOP."	5. Moves into a hide position, if available.	☐	☐
4. Score total performance.			

GO ☐	NO GO ☐
-----------------------------	--------------------------------

CREW POSITION: DRIVER

TRAINING MODULE NO. 8

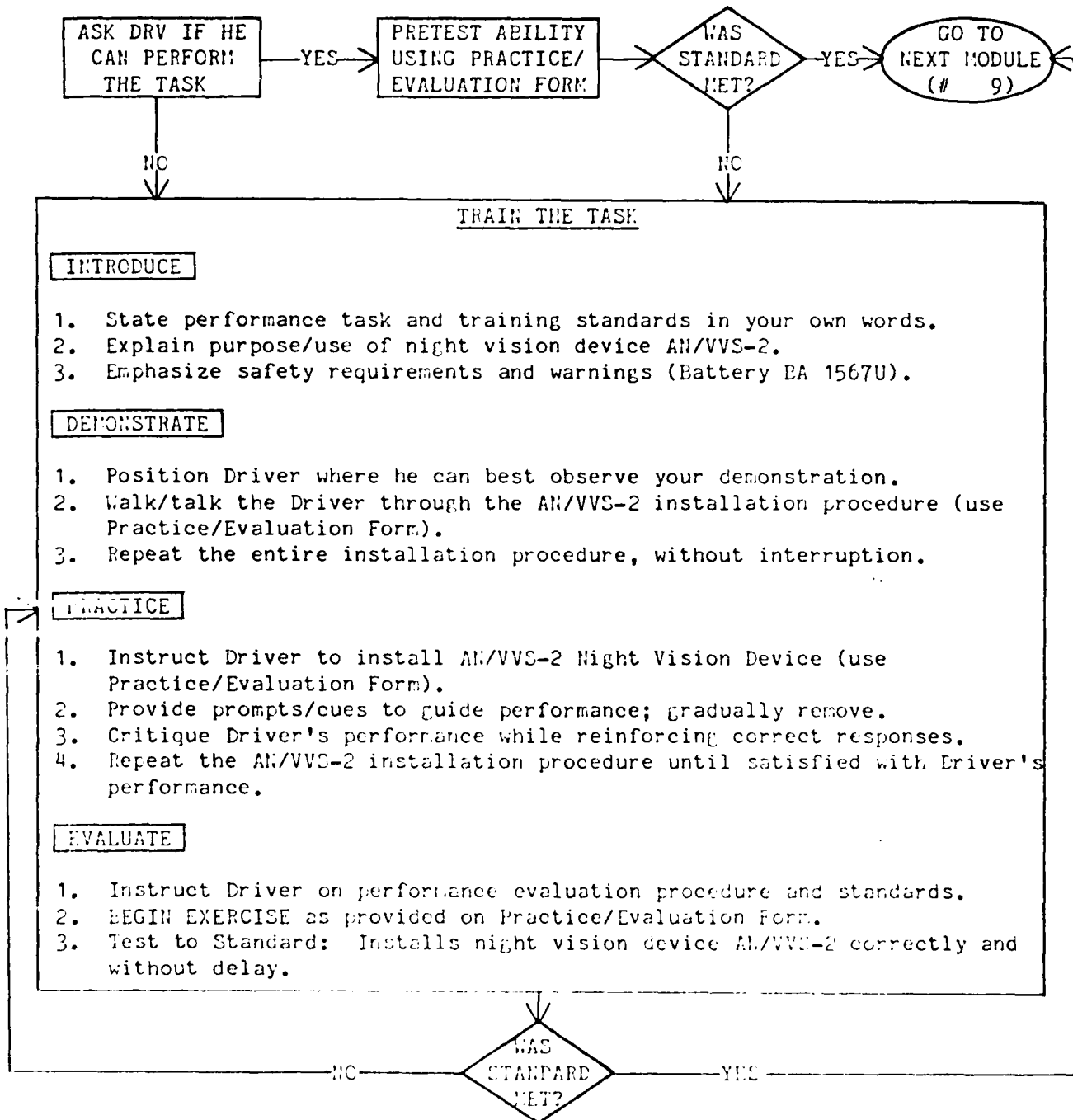
TASK: INSTALL NIGHT VISION DEVICE AN/VVS-2.

TIME: 10 MINUTES

PREREQUISITE TASKS: NONE.

TRAINING REFERENCES: TM 9-2350-253-10; TM 11-5855-249-10.

SUPPORT REQUIREMENTS: 1 M60A3 TANK OR TURRET TRAINER



PRACTICE/EVALUATION FORM

TC

DRIVER

BEGIN EXERCISE:

1. Announce "INSTALL NIGHT VISION DEVICE," and observe performance (steps 1-11).

1. Places MASTER BATTERY switch in OFF.
2. Closes driver's hatch.
3. Pulls the periscope lid handle down, depresses the lid latch, and opens lid.
4. Removes the periscope from storage box under the 105mm gun.
5. Releases and pivots elevation adjustments lever.
6. Loosens jam nut on elevation adjustment lever.
7. Positions the periscope in its holder and pushes up to lock it in place before releasing periscope.
8. Tightens adjustment screw on elevation clamp until clamp is firmly seated, then tightens jam nut.
9. Pushes elevation adjustment lever forward.
10. Unscrews dust cap from power receptacle, then removes power cable from stowage box and connects it to periscope receptacle.
11. Reports "DRIVER COMPLETE."

2. Score total performance.

GO	NO GO
----	-------

--	--

--	--

--	--

--	--

--	--

--	--

--	--

--	--

--	--

--	--

--	--

GO

--

NO GO

--

CREW POSITION: DRIVER

TRAINING MODULE NO. 9

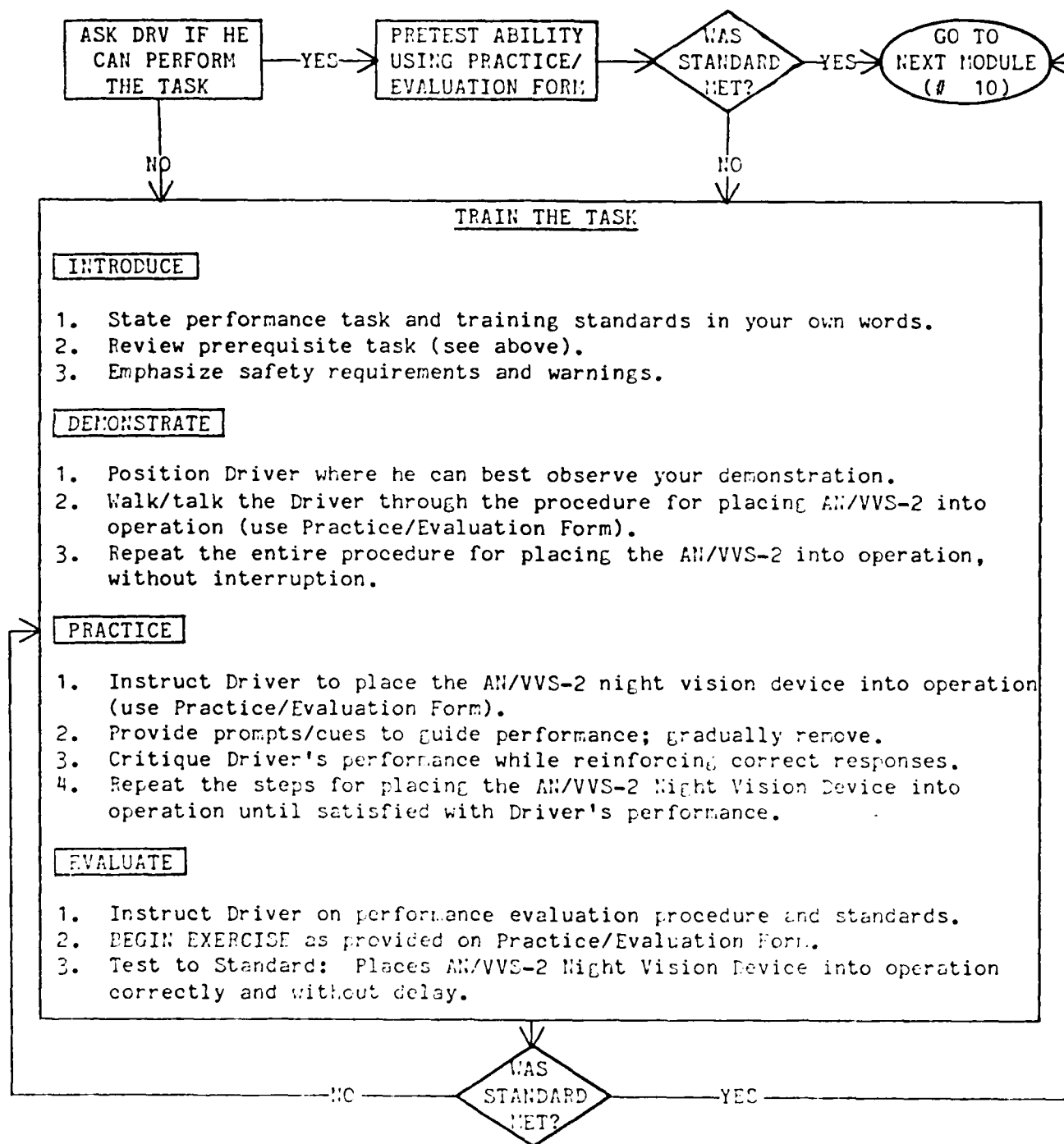
TASK: PLACE AN/VVS-2 NIGHT VISION DEVICE INTO OPERATION.

TIME: 10 MINUTES

PREREQUISITE TASKS: INSTALL NIGHT VISION DEVICE AN/VVS-2.

TRAINING REFERENCES: TM 9-2350-253-10, TM 11-5855-249-10.

SUPPORT REQUIREMENTS: 1 M60A3 TANK OR TURRET TRAINER.



PRACTICE/EVALUATION FORM

TC

DRIVER

BEGIN EXERCISE:

1. Announce "PLACE THE AN/VVS-2 NIGHT VISION DEVICE INTO OPERATION," and observe performance (steps 1-6).

1. Turns vehicle MASTER BATTERY switch to ON.
2. Turns night vision switch to ON.

3. Rotates the OFF/ERIGHT knob to full bright.

4. Adjusts driver's seat so that viewing distance is 6" to 10" from lens.

5. Adjusts the OFF/ERIGHT knob until the image is sharp and clear.

2. Score total performance.

6. Reports "DRIVER COMPLETE."

GO	NO GO
----	-------

--	--

--	--

--	--

--	--

--	--

--	--

GO

--

NO GO

--

CREW POSITION: DRIVER

TRAINING MODULE NO. 10

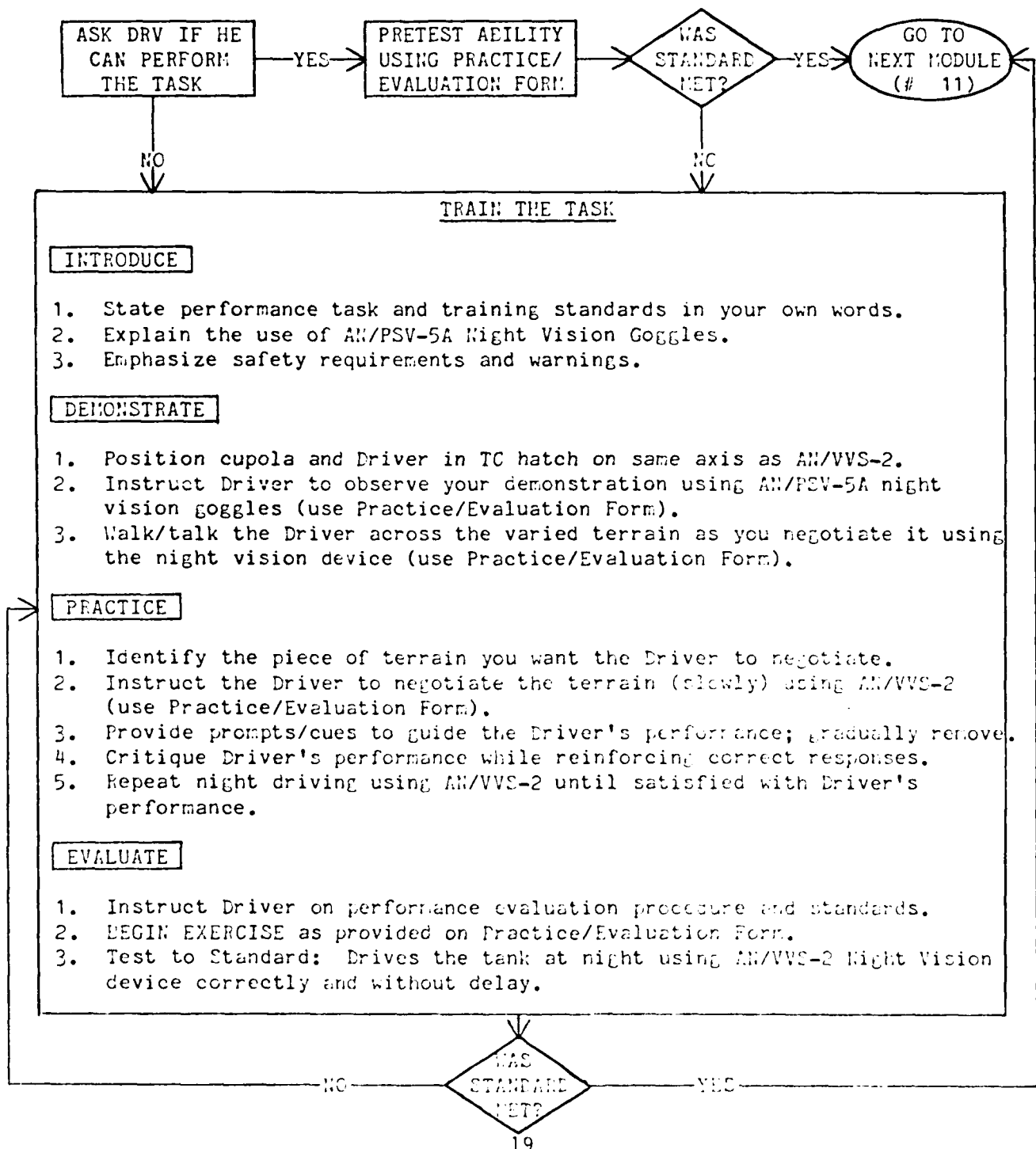
TASK: DRIVE THE TANK AT NIGHT USING AN/VVS-2
NIGHT VISION DEVICE.

TIME: 90 MINUTES

PREREQUISITE TASKS: INSTALL NIGHT VISION DEVICE AN/VVS-2; PLACE AN/VVS-2
NIGHT VISION DEVICE INTO OPERATION; VARIED TERRAIN
DRIVING.

TRAINING REFERENCES: TM 9-2350-253-10; TM 11-5855-249-10; FM 21-306;
FM 17-19E1/2.

SUPPORT REQUIREMENTS: 1 M60A3 TANK; VARIED TERRAIN AREA; 1 PAIR AN/PSV-5A
NIGHT VISION GOGGLES.



PRACTICE/EVALUATION FORM

TC

DRIVER

BEGIN EXERCISE:

		GO	NO GO
1. Announce "DRIVER MOVE OUT," and observe performance (steps 1-10).	1. Selects proper gear for terrain conditions.	☐	☐
	2. Accelerates and decelerates smoothly.	☐	☐
	3. Avoids sudden and unnecessary braking.	☐	☐
	4. Approaches manmade and natural obstacles correctly.	☐	☐
	5. Crosses manmade and natural obstacles correctly.	☐	☐
	6. Accelerates smoothly to move away from manmade and natural obstacles.	☐	☐
(Provide assistance as required.)	7. Requests assistance whenever unable to recognize terrain features or judge distance.	☐	☐
	8. Ascends and descends steep slopes correctly.	☐	☐
	9. Maintains control when crossing a side slope.	☐	☐
2. Announce "DRIVER STOP," and score total performance.	10. Stops smoothly and alertly on command.	☐	☐

GO ☐	NO GO ☐
-----------------------------	--------------------------------

CREW POSITION: DRIVER

TRAINING MODULE NO. 11

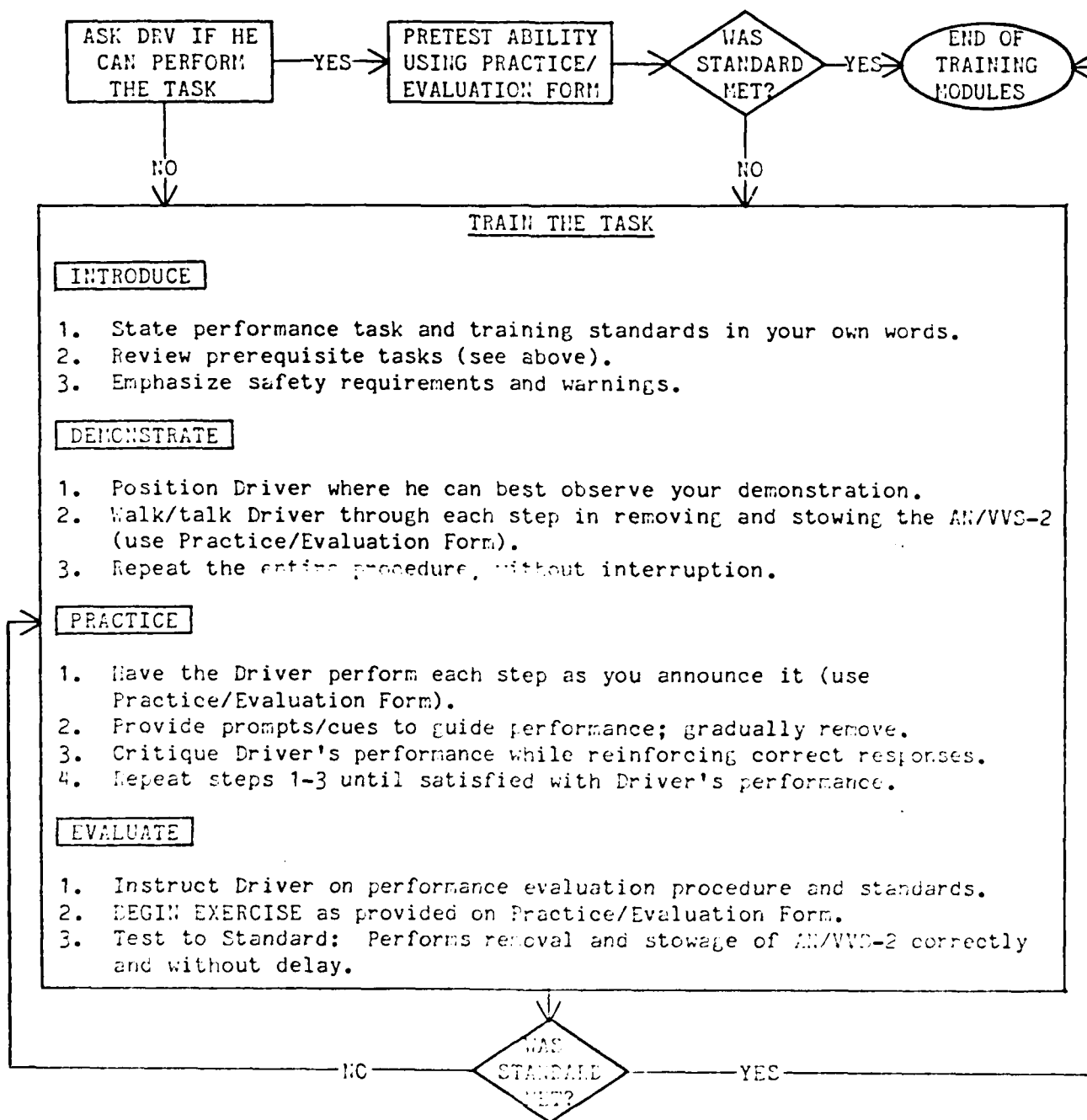
TASK: REMOVE AND STOW THE AN/VVS-2 NIGHT VISION DEVICE.

TIME: 30 MINUTES

PREREQUISITE TASKS: INSTALL THE AN/VVS-2 PERISCOPE; PLACE THE AN/VVS-2 PERISCOPE INTO OPERATION.

TRAINING REFERENCES: TM 9-2350-253-10; TM 11-5855-249-10.

SUPPORT REQUIREMENTS: 1 M60A3 TANK OR TURRET TRAINER.



PRACTICE/EVALUATION FORM

TC

DRIVER

BEGIN EXERCISE:

1. Announce "REMOVE AND STOW THE AN/VVS-2 PERISCOPE," and observe performance (steps 1-13).

1. Sets night vision switch to OFF.
2. Rotates OFF/BRIGHT switch knob to OFF.
3. Disconnects power cable from viewer and connects to receptacle.
4. Installs connector cap.
5. Positions viewer in straight forward position.
6. Installs eyepiece cover.
7. Installs lens cover.
8. Presses lever and pulls handle rearward until locked in place.
9. Lowers rear on viewer until it clears locking plunger.
10. Slides viewer rearward until clear of forward mount and lowers from hatch.
11. Stows viewer in stowage box.
12. Presses locking lever and rotates down and forward. Pushes handle up until lever locks in place.

2. Score total task performance.

13. Reports "DRIVER COMPLETE."

GO	NO GO
----	-------

☐	☐
--------------------------	--------------------------

☐	☐
--------------------------	--------------------------

☐	☐
--------------------------	--------------------------

☐	☐
--------------------------	--------------------------

☐	☐
--------------------------	--------------------------

☐	☐
--------------------------	--------------------------

☐	☐
--------------------------	--------------------------

☐	☐
--------------------------	--------------------------

☐	☐
--------------------------	--------------------------

☐	☐
--------------------------	--------------------------

☐	☐
--------------------------	--------------------------

☐	☐
--------------------------	--------------------------

☐	☐
--------------------------	--------------------------

GO ☐	NO GO ☐
-----------------------------	--------------------------------

PART 6

TANK LOADER TRAINING MODULES

TABLE OF CONTENTS
LOADER TRAINING MODULES

Module		Page
<u>No.</u>	<u>Task</u>	<u>No.</u>
1	Identify Friendly and Threat (OPFOR) Vehicles.	1
2	Acquire Targets.	3
3	Operate Tank Intercom Set 2298/VRC.	5
4	Identify Main Gun Ammunition.	7
5	Operate Ammo Stowage Racks.	9
6	Stow Main Gun and Coax Ammunition.	11
7	Open/Close 105-mm Main Gun Breech Manually.	13
8	Load/Unload the 105-mm Main Gun.	15
9	Apply Loader Misfire Procedures to 105-mm Main Gun.	17
10	Responding to Battlesight Fire Commands.	19
11	Respond to Precision Fire Commands Requiring a First round Ammo Change.	21
12	Respond to Precision Fire Commands Requiring a Second Round Ammo Change.	23
13	Load the M240 7.62-mm Coax Machinegun.	25
14	Clear the M240 7.62-mm Coax Machinegun.	27
15	Mount/Dismount the M240 7.62-mm Coax Machinegun.	29
16	Zero the M240 7.62-mm Coax Machinegun.	31
17	Take Immediate Action on M240 7.62-mm Coax Machinegun Stoppage.	33
18	Disassemble/Assemble M240 7.62-mm Coax Machinegun.	35
19	Perform Loader's Prepare-to-Fire Checks.	37
20	Perform Before/During/After Operation PHCS.	39
21	Remove/Install 105-mm Main Gun Breechblock.	41
22	Disassemble/Assemble the 105-mm Main Gun Breechblock.	43
23	Put on and Wear the M25A1 Protective Mask.	45
24	Operate the Gas-Particulate Filter Unit.	47

CREW POSITION: LOADER

TASK: IDENTIFY FRIENDLY AND THREAT (OPFOR)
VEHICLES.

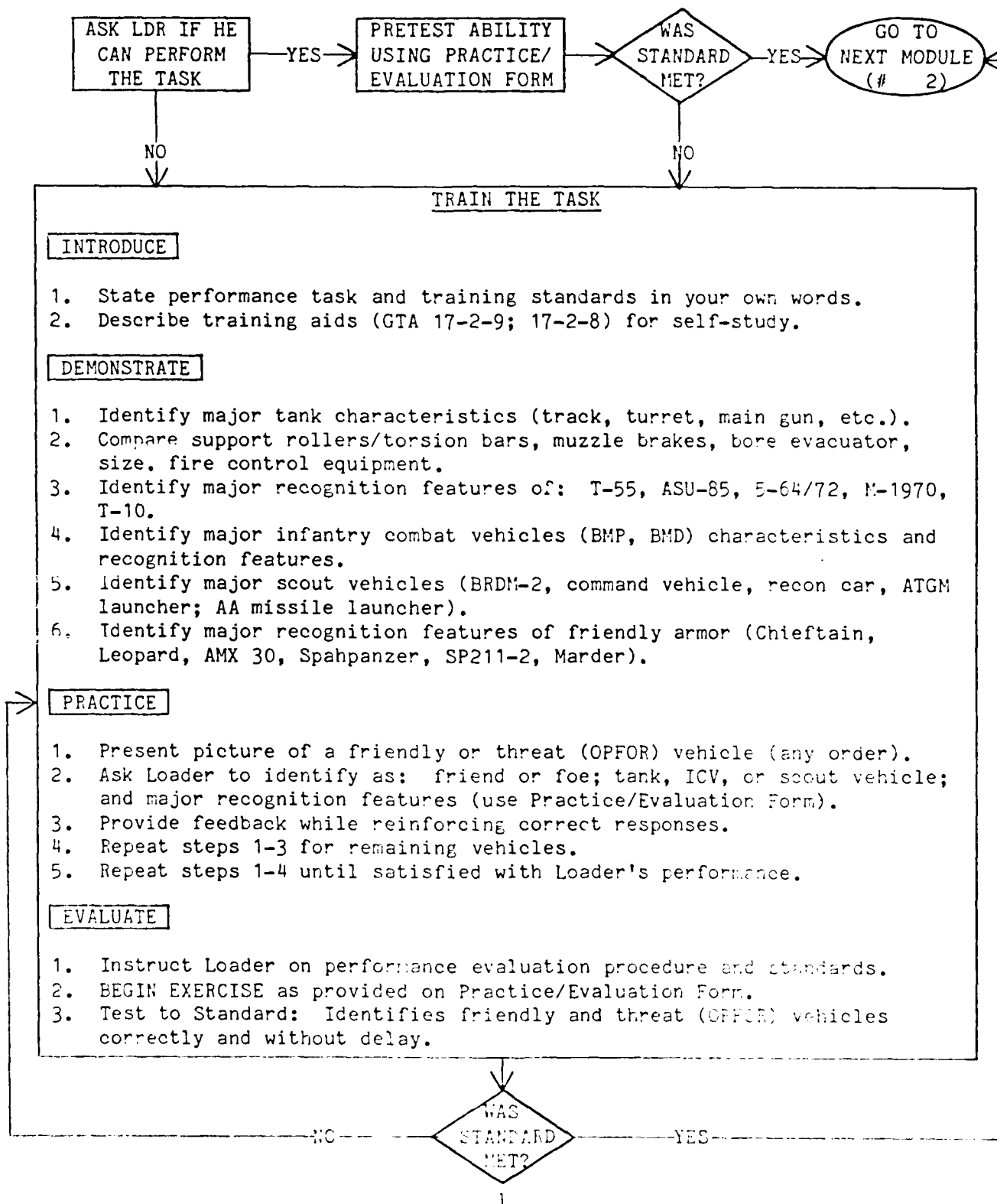
TRAINING MODULE NO: 1

TIME: 30 MINUTES

PREREQUISITE TASKS: NONE.

TRAINING REFERENCES: FM 17-19 E1/2; FM 17-12-3; GTA 17-2-9; GTA 17-2-8,
DDB 1100-313-82.

SUPPORT REQUIREMENTS: XEROX PICTURES FROM TASK SUMMARY 071-331-0814 (FM
17-19 E1/E2) OR COPIES OF SAME VEHICLES FROM GTA
17-2-8.



PRACTICE/EVALUATION FORM

TC

LOADER

BEGIN EXERCISE:

GO	NO GO
----	-------

1. Announce "IDENTIFY THE FOLLOWING VEHICLES AS FRIEND OR FOE," present pictures, and score response.

1. Announces FRIEND or FOE as each of the following vehicles are presented:

- a. T-55 Tank
- b. Chieftain
- c. T-10 Tank
- d. AMX 30
- e. T-64/T-72 Tank
- f. MARDER
- g. BMP
- h. Leopard I
- i. ASU-85
- j. Spahpanzer-2
- k. BRDM-2
- l. T-62 Tank
- m. SPz 11-2
- n. BMD
- o. M1970 Tank

(Each vehicle should be identified within eight seconds.)

2. Score total task performance.

GO	☐	NO GO	☐
----	--------------------------	-------	--------------------------

CREW POSITION: LOADER

TASK: ACQUIRE TARGETS.

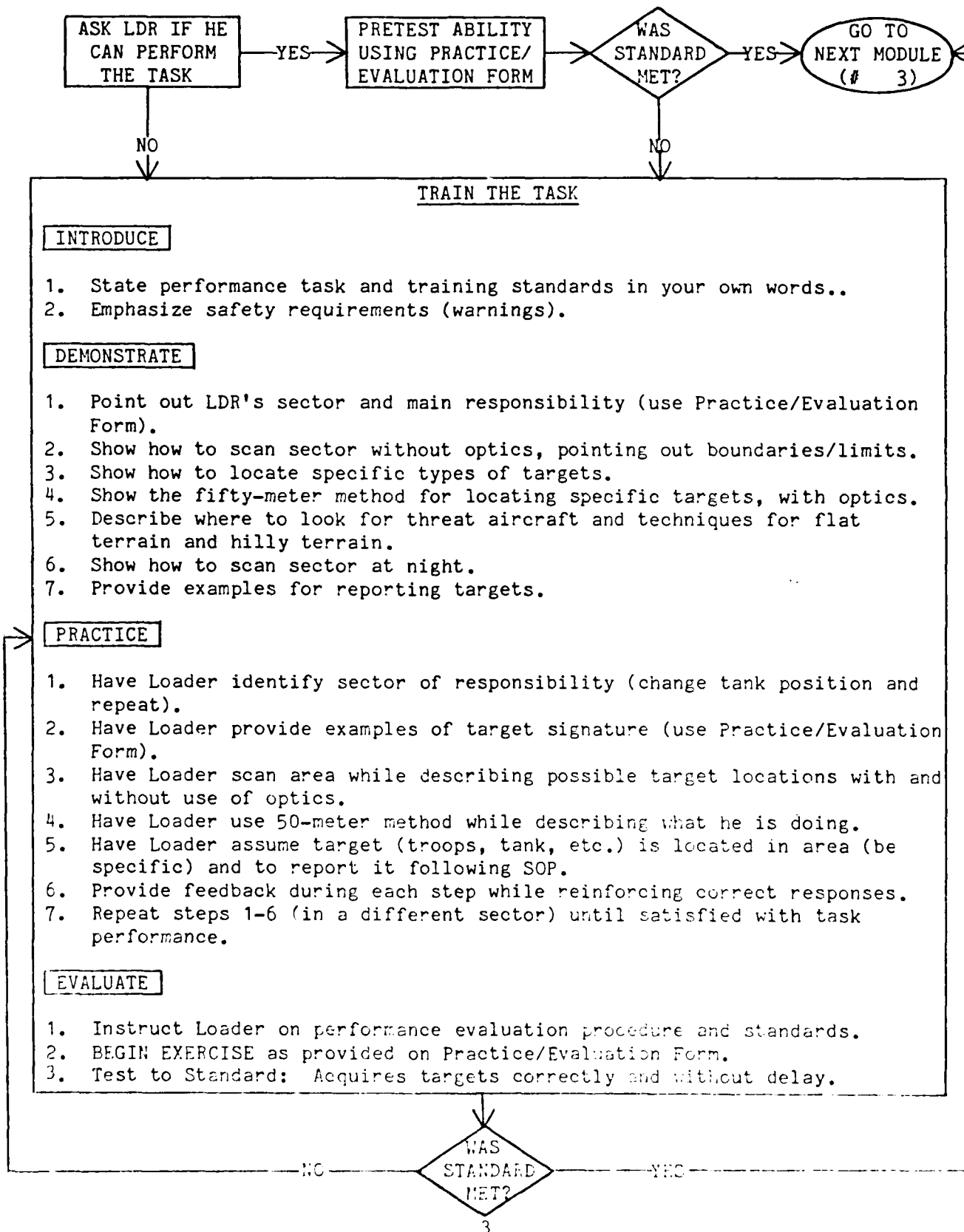
PREREQUISITE TASKS: IDENTIFY FRIENDLY AND THREAT
(OPFOR) VEHICLES.

TRAINING REFERENCES: FM 17-19 E1/2; FM 17-12-3; TC 17-15-5.

SUPPORT REQUIREMENTS: 1 M60A3 TANK; FIELD ENVIRONMENT WITH ALL POSSIBLE
TARGET SIGNATURES; PREARRANGED TARGET(S)
(VEHICLES, TROOPS, ETC.); 1 SET OF BINOCULARS.

TRAINING MODULE NO: 2

TIME: 30 MINUTES



PRACTICE/EVALUATION FORM

TC

LOADER

BEGIN EXERCISE:

GO

NO GO

- | | | | |
|---|--|----------------------|----------------------|
| 1. Ask "What is your sector or responsibility?" | 1. Answers: | | |
| | a. Sector is from left corner of gun mantelet to right rear corner of turret. | <input type="text"/> | <input type="text"/> |
| | b. Main responsibility is air guard. | <input type="text"/> | <input type="text"/> |
| 2. Ask: "What are two examples of (a thru f) signatures?" | 2. Answers: | | |
| a. soldier | a. foxholes, trash, torn out vegetation used for camouflage, fires, and odors. | <input type="text"/> | <input type="text"/> |
| b. track vehicle | b. tank tracks on ground, engine noise, smoke, dust clouds. | <input type="text"/> | <input type="text"/> |
| c. antitank | c. swishing sound, long thin wires, tracers, sharp crack of AT guns. | <input type="text"/> | <input type="text"/> |
| d. artillery | d. grayish white smoke cloud, bright orange flash, black smoke from airbursts, rushing noise before impact. | <input type="text"/> | <input type="text"/> |
| e. aircraft | e. noise, glare from rotor blades canopies, vapor trails, moving foliage/dust from helicopters (masked areas). | <input type="text"/> | <input type="text"/> |
| f. obstacles and mine | f. loose/disturbed dirt in a regular pattern. | <input type="text"/> | <input type="text"/> |
| 3. Ask: "Describe the 50-meter method, both day and night." | 3. Answers: | | |
| | a. Search a strip 50m deep - right to left. | <input type="text"/> | <input type="text"/> |
| | b. Search another strip - left to right - farther out and overlapping the the first strip. | <input type="text"/> | <input type="text"/> |
| | c. Repeat a&b until sector is covered. | <input type="text"/> | <input type="text"/> |
| | d. When suspicious spot is detected, stop and search it thoroughly. | <input type="text"/> | <input type="text"/> |
| | e. At night, look to side of target using short, abrupt, irregular movements. (Dim reticle.) | <input type="text"/> | <input type="text"/> |
| 4. Ask: "Give an example of reporting a possible target." | 4. Answers: Describes type of target, distance, and location (i.e., tank, 1000 meters direct front). | <input type="text"/> | <input type="text"/> |
| 5. Instruct loader to acquire/report target(s) on command "BEGIN" and observe/ score performance. | 5. Acquires and reports target(s) as prepared. | <input type="text"/> | <input type="text"/> |

GC

NO GO

CREW POSITION: LOADER

TASK: OPERATE TANK INTERCOM SET 2293/VRC.

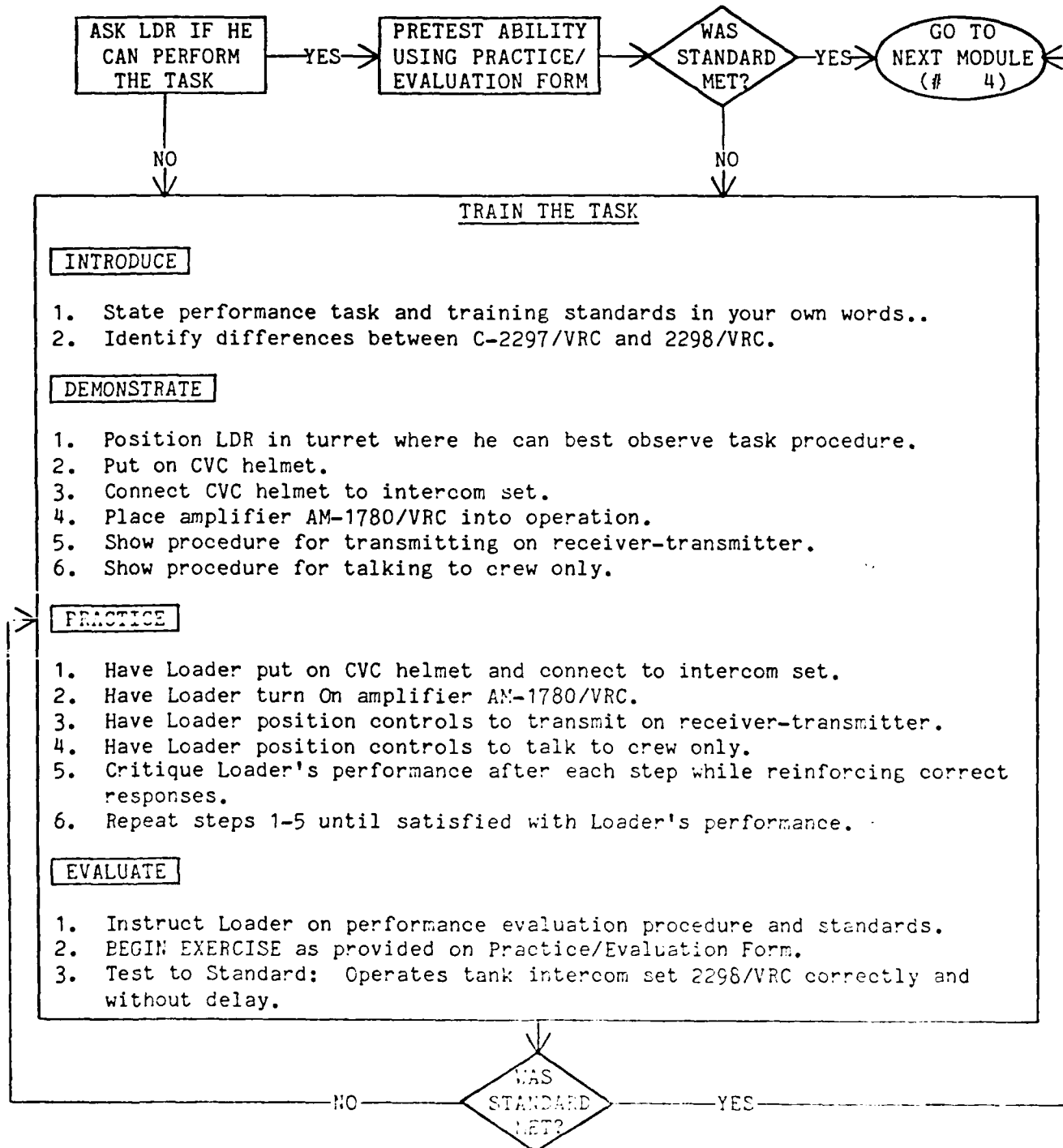
PREREQUISITE TASKS: NONE.

TRAINING REFERENCES: TM 902350-253-10.

SUPPORT REQUIREMENTS: 1 M60A3 TANK OR TURRET TRAINER WITH AMPLIFIER AM-1780/VRC; INTERCOM SET 2298/VRC; 1 CVC HELMET.

TRAINING MODULE NO: 3

TIME: 5 MINUTES



PRACTICE/EVALUATION FORM

TC

LOADER

BEGIN EXERCISE:

1. Announce "PUT ON CVC HELMET AND CONNECT TO INTERCOM SET," and observe performance (Step 1).
2. Announce "POSITION INTERCOM CONTROLS TO RECEIVER-TRANSMITTER," and observe performance (steps 2-3).
3. Announce "POSITION INTERCOM CONTROLS TO TALK TO CREW ONLY," and observe performance (steps 4-5).
4. Score total task performance.

1. Puts on CVC helmet and connects to intercom set 2298/VRC.
2. Moves MONITOR switch to ALL, A, or B.
3. Adjusts VOLUME knob to desired level.
4. Moves MONITOR switch to INT ONLY.
5. Adjusts VOLUME knob to desired level.

GO	NO GO
----	-------

--	--

--	--

--	--

--	--

--	--

GO		NO GO	
----	--	-------	--

CREW POSITION: LOADER

TRAINING MODULE NO: 4

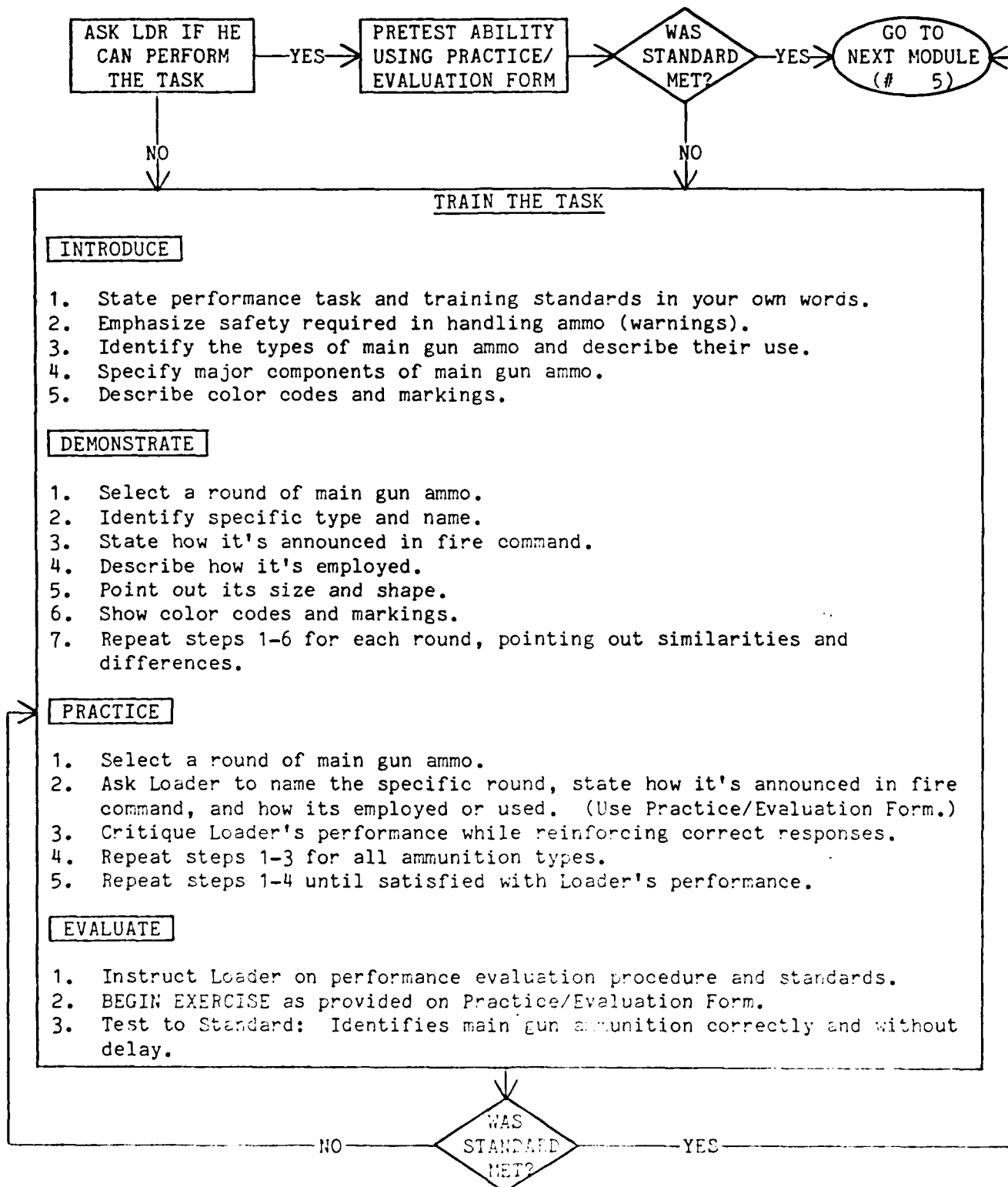
TASK: IDENTIFY MAIN GUN AMMUNITION.

TIME: 15 MINUTES

PREREQUISITE TASKS: NONE.

TRAINING REFERENCES: FM 17-12-3; TEC 020-171-5331F; TEC 2E-171-0067-B;
FK-AR-47-68; FK-ARS-39-74; FM 9-13.

SUPPORT REQUIREMENTS: 1 M60A3 TANK WITH BASIC LOAD OR CLASSROOM/MOTOR POOL;
1 DUMMY ROUND OF EACH AMMO OR COLOR PICTURES OF EACH
ROUND.



PRACTICE/EVALUATION FORM

TC

LOADER

BEGIN EXERCISE: ☐ GO ☐ NO GO ☐ GO ☐ NO GO ☐ GO ☐ NO GO

IDENTIFIES
ROUND

PRONOUNCES
NAME

STATES
EMPLOYMENT

1. Point (display) ☐ ☐ ☐ ☐ ☐ ☐
APDS round
2. Point (display) ☐ ☐ ☐ ☐ ☐ ☐
HEAT round
3. Point (display) ☐ ☐ ☐ ☐ ☐ ☐
HEP round
4. Point (display) ☐ ☐ ☐ ☐ ☐ ☐
APERS round
5. Point (display) ☐ ☐ ☐ ☐ ☐ ☐
SMOKE round
6. Score total
task performance.

GO ☐ NO GO ☐

CREW POSITION: LOADER

TRAINING MODULE NO: 5

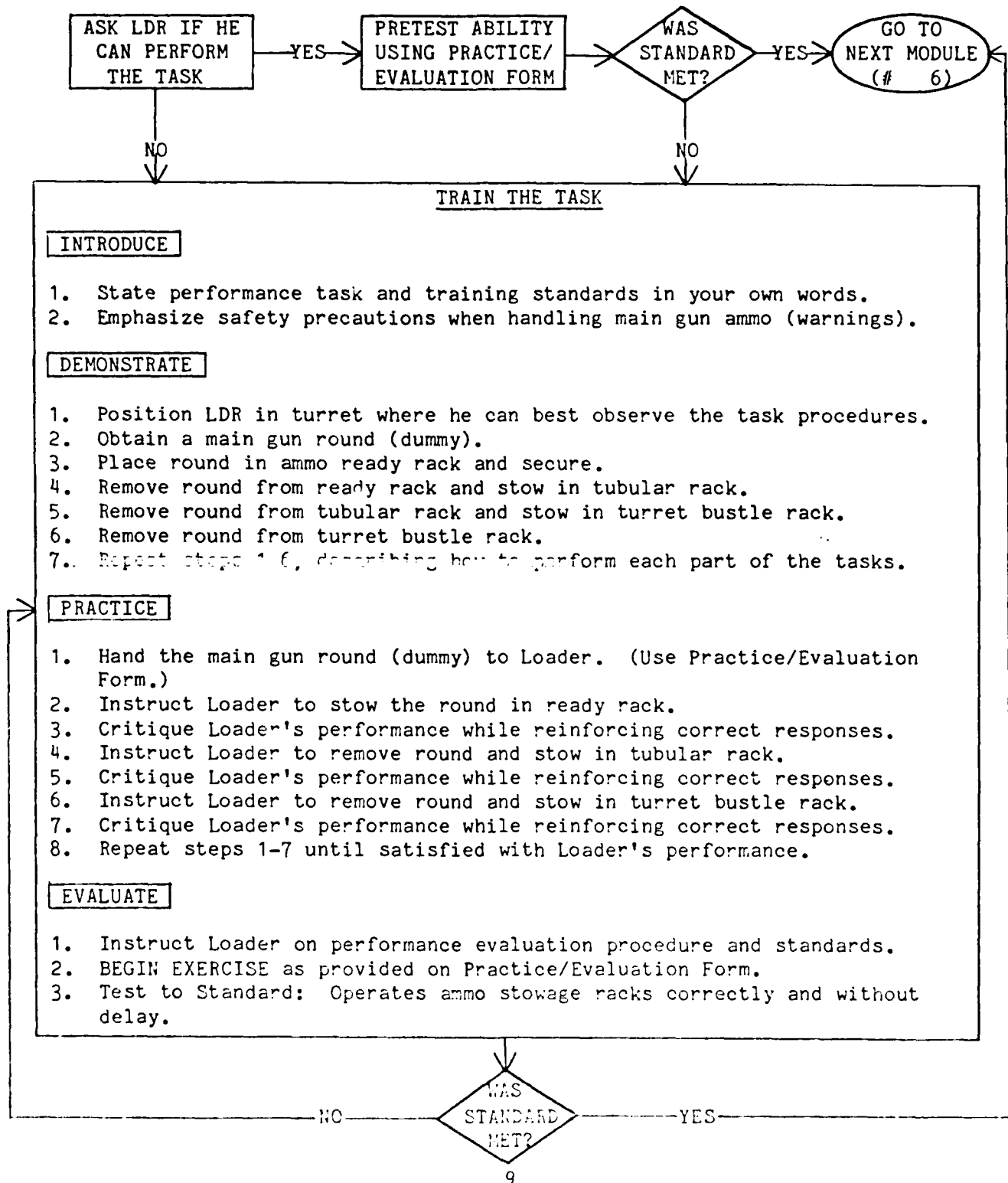
TASK: OPERATE AMMO STOWAGE RACKS.

TIME: 10 MINUTES

PREREQUISITE TASKS: IDENTIFY MAIN GUN AMMUNITION.

TRAINING REFERENCES: FM 17-12-3; TM 9-2350-253-10.

SUPPORT REQUIREMENTS: 1 M60A3 TANK; 3 MAIN GUN ROUNDS (DUMMY).



PRACTICE/EVALUATION FORM

TC

LOADER

BEGIN EXERCISE:

1. Hand loader main gun round, announce "STOW ROUND IN READY RACK AND REMOVE," and observe performance (steps 1-5).
2. Announce "STOW ROUND IN TUBULAR RACK AND REMOVE," and observe performance (steps 6-9).
3. Announce "STOW ROUND IN TURRET BUSTLE RACK AND REMOVE," and observe performance (steps 10-14).
4. Score total performance.

1. Places primer end of round down into rack.
2. Swings hinge of holder up and to the left.
3. Pulls out spring loaded knob.
4. Slides hinge slot over rod behind knob and releases.
5. Removes round.
6. Pushes round in tubular rack nose first.
7. Swings handle lock over primer-end of round.
8. Rotates handle lock securely in place.
9. Removes round.
10. Seats round in turret bustle rack with nose toward inside of turret.
11. Swings hinge up and to the left.
12. Pulls up clamp and slotting hinge below clamp.
13. Pulls clamp down to secure round.
14. Removes round.

GO	NO GO
☐	☐
☐	☐
☐	☐
☐	☐
☐	☐
☐	☐
☐	☐
☐	☐
☐	☐
☐	☐
☐	☐
☐	☐
☐	☐
☐	☐
☐	☐

GO	☐	NO GO	☐
----	--------------------------	-------	--------------------------

CREW POSITION: LOADER

TRAINING MODULE NO: 6

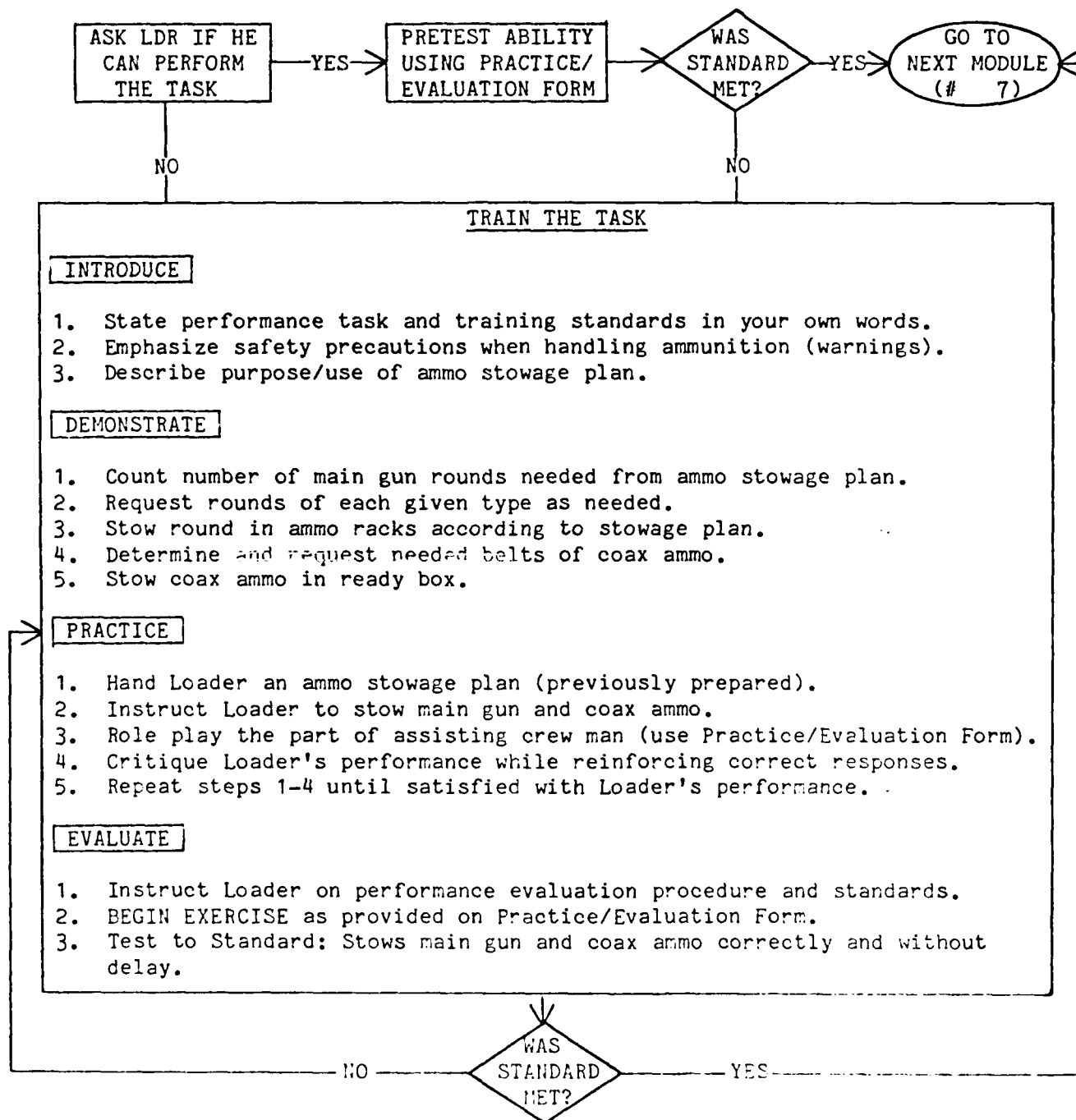
TASK: STOW MAIN GUN AND COAX AMMUNITION.

TIME: 15 MINUTES

PREREQUISITE TASKS: IDENTIFY MAIN GUN AMMUNITION;
OPERATE AMMO STOWAGE RACKS.

TRAINING REFERENCES: FM 17-12-3; TM 9-2350-253-10.

SUPPORT REQUIREMENTS: 1 M60A3 TANK WITH OR WITHOUT BASIC LOAD (PARTIAL);
LIVE OR DUMMY MAIN GUN AMMUNITION; 1 BELT OF COAX
AMMUNITION; AMMO STOWAGE PLAN (AT LEAST THREE).



PRACTICE/EVALUATION FORM

TC

LOADER

BEGIN EXERCISE:

- | | | GO | NO GO |
|---|--|--------------------------|--------------------------|
| 1. Acting as assisting crew member, hand loader copy of ammo stowage plan (prepared in advance), announce "STOW MAIN GUN AND COAX AMMUNITION," and observe performance (steps 1-6). | 1. Determines exact number of main gun rounds and coax ammunition needed to satisfy ammo stowage plan. | ☐ | ☐ |
| | 2. Requests one type of main gun round at a time. | ☐ | ☐ |
| 2. Hand a round primer-end first and determine performance. | 3. Insists that rounds be handed nose down into turret. | ☐ | ☐ |
| | 4. Protects nose and primer-end of ammo being stowed. | ☐ | ☐ |
| | 5. Stows correct number of rounds of each type in ready, tubular, and turret bustle racks. | ☐ | ☐ |
| | 6. Removes round from coax belt, links belts together, and folds in coax ready box. | ☐ | ☐ |
| 3. Score total task performance. | | | |

GO	☐	NO GO	☐
----	--------------------------	-------	--------------------------

CREW POSITION: LOADER

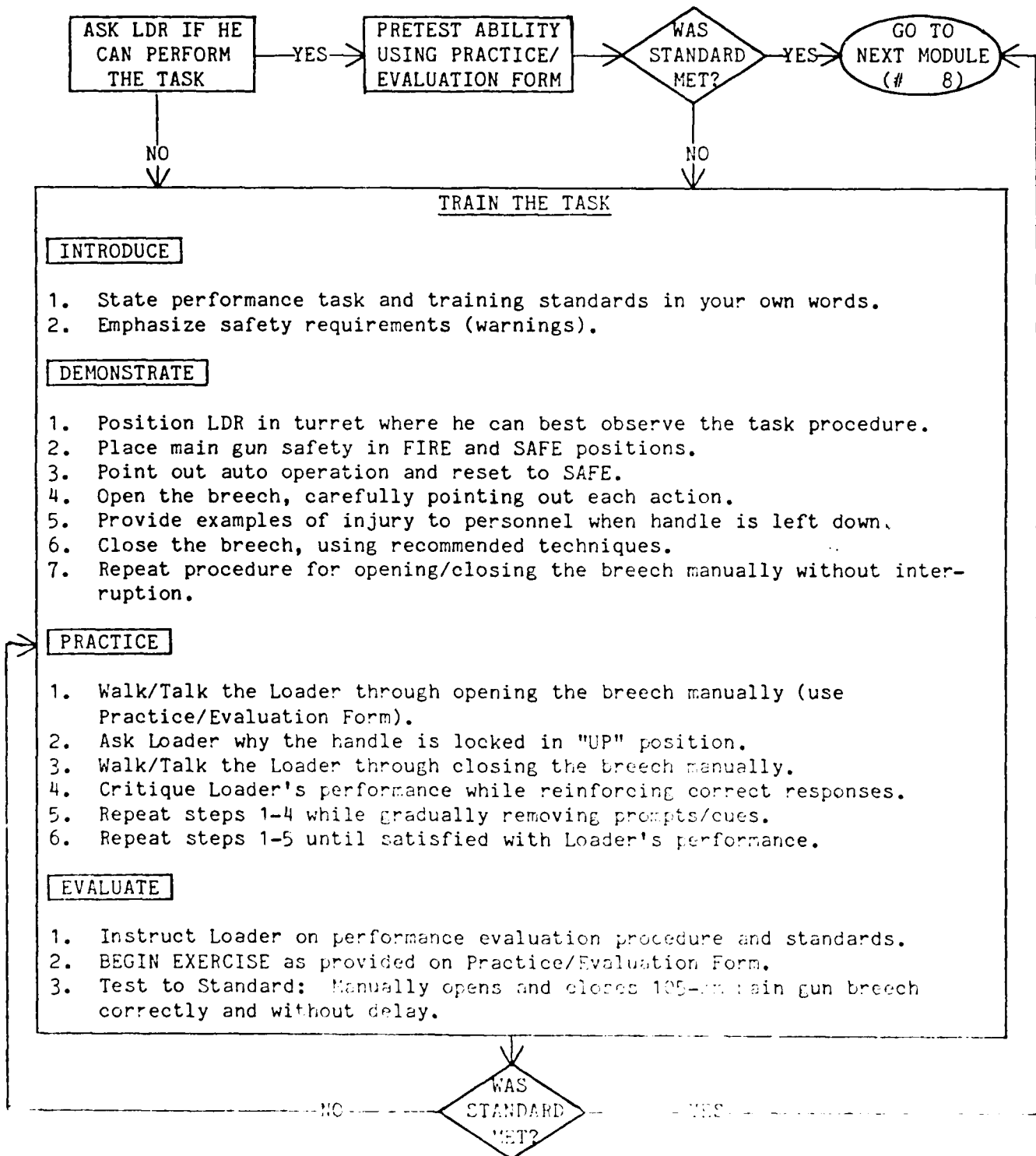
TRAINING MODULE NO: 7

TASK: OPEN/CLOSE 105-MM MAIN GUN BREECH MANUALLY. TIME: 15 MINUTES

PREREQUISITE TASKS: NONE.

TRAINING REFERENCES: TM 9-2350-253-10.

SUPPORT REQUIREMENTS: 1 M60A3 TANK/TURRET TRAINER; 4X6-INCH WOOD BLOCK.



PRACTICE/EVALUATION FORM

TC

LOADER

BEGIN EXERCISE:

1. Place Main Gun Safety in SAFE, close breech, then announce "OPEN THE BREECH MANUALLY," and observe performance (steps 1-4).

1. Insures SAFETY in SAFE position.

2. Depresses plunger to release breech operating handle.

3. Pulls handle down until extractors lock in position.

4. Returns handle to fully "UP" and secured position.

2. Announce "CLOSE THE BREECH MANUALLY," and observe performance (steps 5-9).

5. Insures SAFETY in SAFE position.

6. Depresses plunger to release breech operating handle.

7. Holds operating handle down firmly while pushing forward on extractors, releasing them one at a time.

8. Gradually releases downward pressure on operating handle, allowing breech to close slowly.

9. Places handle in fully "UP" and secured position.

3. Score total task performance.

GO	NO GO
----	-------

--	--

--	--

--	--

--	--

--	--

--	--

--	--

--	--

--	--

GO		NO GO	
----	--	-------	--

CREW POSITION: LOADER

TRAINING MODULE NO: 8

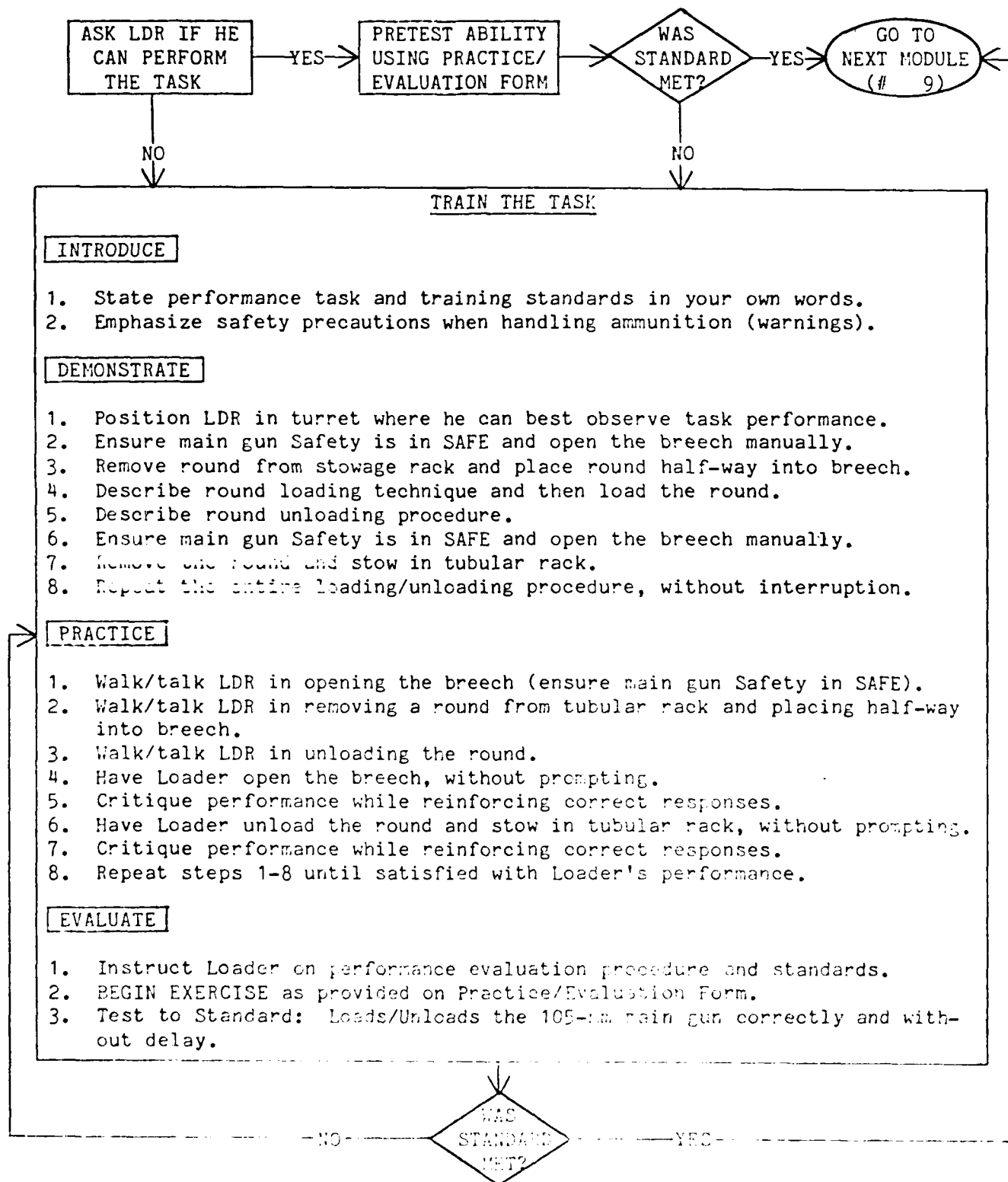
TASK: LOAD/UNLOAD THE 105-MM MAIN GUN.

TIME: 15 MINUTES

PREREQUISITE TASKS: IDENTIFY MAIN GUN AMMUNITION;
STOW MAIN GUN AND COAX AMMUNITION; OPEN/CLOSE MAIN
GUN BREECH MANUALLY.

TRAINING REFERENCES: FM 17-19 E1/2; TM 9-2350-253-10.

SUPPORT REQUIREMENTS: 1 M60A3 TANK OR TURRET TRAINER; 1 ROUND OF SABOT
AMMUNITION (DUMMY).



PRACTICE/EVALUATION FORM

TC

LOADER

BEGIN EXERCISE:

GO	NO GO
----	-------

1. Place Main Gun Safety in SAFE, open breech, then announce "LOAD THE MAIN GUN," and observe performance (steps 1-4).

1. Insures main gun Safety in SAFE.

--	--

2. Removes round from tubular stowage rack.

--	--

3. Places round into breech about one-half way.

--	--

4. Pushes round into chamber with heel of fist, swinging arm up and away from closing breech.

--	--

2. Announce "UNLOAD THE MAIN GUN," and observe performance (steps 5-7).

5. Insure main gun Safety in SAFE.

--	--

6. Opens the breech manually, keeping round from falling on turret floor.

--	--

7. Removes round, protecting primer-end and avoiding contact to nose-end of round.

--	--

8. Places round in tubular rack and stows securely.

--	--

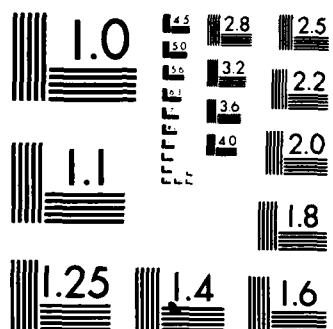
3. Repeat above procedure for three separate trials, scoring total task performance after each trial.

LOADING

UNLOADING

TRIAL 1	TRIAL 2	TRIAL 3
GO NO GO	GO NO GO	GO NO GO

TRIAL 1	TRIAL 2	TRIAL 3
GO NO GO	GO NO GO	GO NO GO



MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A

CREW POSITION: LOADER

TASK: APPLY LOADER MISFIRE PROCEDURES TO
105-MM MAIN GUN.

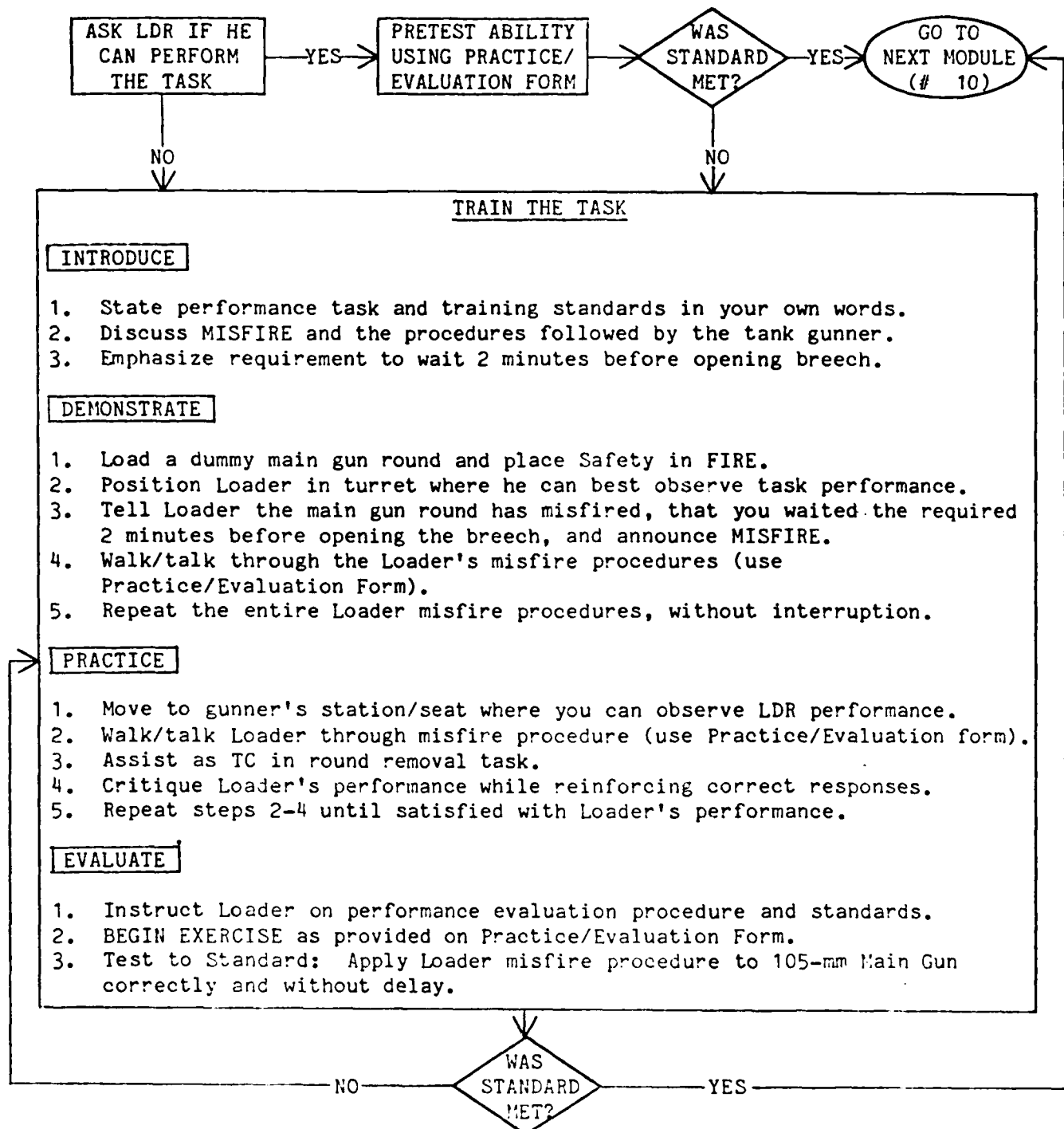
TRAINING MODULE NO: 9

TIME: 10 MINUTES

PREREQUISITE TASKS: LOAD/UNLOAD THE MAIN GUN; IDENTIFY MAIN
GUN AMMO; OPERATE AMMO STOWAGE RACKS.

TRAINING REFERENCES: TM 9-2350-215-10; TEC 020-171-5347-F; FM 17-19 E1/2.

SUPPORT REQUIREMENTS: 1 M60A3 TANK OR TURRET TRAINER; 1 ROUND OF MAIN GUN
AMMUNITION (DUMMY).



PRACTICE/EVALUATION FORM

TC

LOADER

BEGIN EXERCISE:

1. Place main gun safety in FIRE, instruct LDR that SABOT is preloaded, announce "MISFIRE," and observe performance (steps 1-7).

2. Announce "MISFIRE," assist in round removal (TC), and observe performance (steps 8-10).

3. Score total task performance.

1. Places main gun firing safety switch in SAFE position.
2. Opens breech slowly enough to extract round half-way.
3. Rotates round one-half turn.
4. Pushes round into chamber with heel of fist, swinging arm up-and-away from closing breech.
5. Moves clear of path of recoil.
6. Places main gun firing safety switch in FIRE position.
7. Announces "UP".
8. Place main gun firing safety switch in SAFE position.
9. Open the breech slowly while the TC catches the ejecting round.
10. Assist TC in removing round from task.

GO	NO GO
----	-------

☐	☐
--------------------------	--------------------------

☐	☐
--------------------------	--------------------------

☐	☐
--------------------------	--------------------------

☐	☐
--------------------------	--------------------------

☐	☐
--------------------------	--------------------------

☐	☐
--------------------------	--------------------------

☐	☐
--------------------------	--------------------------

☐	☐
--------------------------	--------------------------

☐	☐
--------------------------	--------------------------

☐	☐
--------------------------	--------------------------

GO

☐

NO GO

☐

CREW POSITION: LOADER

TRAINING MODULE NO: 10

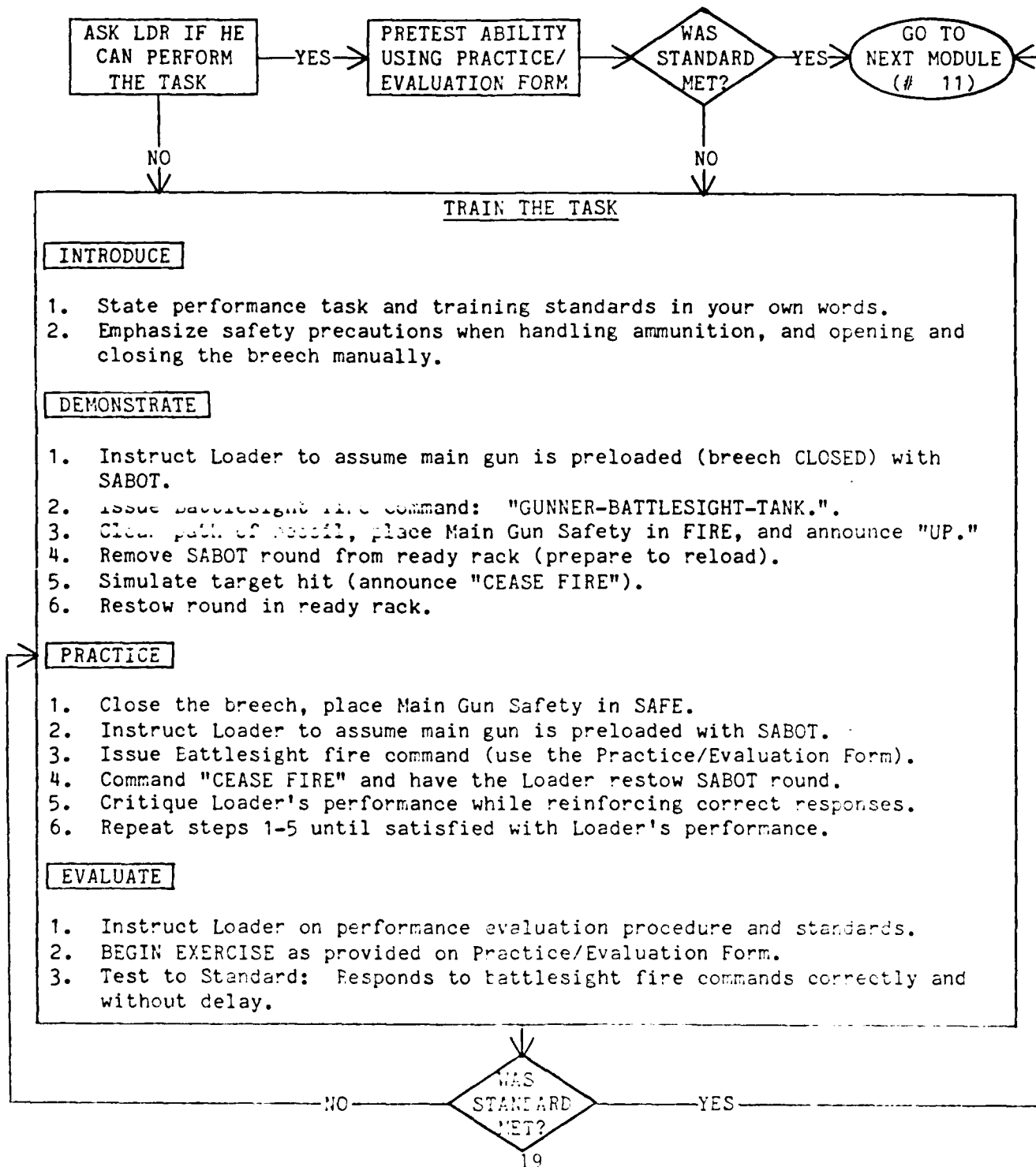
TASK: RESPONDING TO BATTLESIGHT FIRE COMMANDS.

TIME: 10 MINUTES

PREREQUISITE TASKS: OPEN/CLOSE 105-MM MAIN GUN BREECH MANUALLY; STOW MAIN GUN AND COAX AMMUNITION; IDENTIFY MAIN GUN AMMUNITION; LOAD AND UNLOAD THE 105-MM MAIN GUN; OPERATE AMMO STOWAGE RACKS.

TRAINING REFERENCES: TM 9-2350-253-10; FM 17-12-3.

SUPPORT REQUIREMENTS: 1 M60A3 TANK OR TURRET TRAINER; 1 ROUND OF SABOT AMMUNITION (DUMMY).



PRACTICE/EVALUATION FORM

TC

LOADER

BEGIN EXERCISE:

1. Place Main Gun Safety in SAFE, instruct LDR that SABOT is loaded (breech closed), command "GUNNER-BATTLESIGHT-TANK," and observe performance (steps 1-4).

2. Command "CEASE FIRE" and score performance trial.

3. Repeat steps 1-3 for two more trials.

1. Clears path of recoil.

2. Places Main Gun Safety in FIRE.

3. Announces "UP."

4. Removes SABOT round from stowage and waits to reload.

(Restow SABOT round in stowage rack.)

GO	NO GO
----	-------

--	--

--	--

--	--

--	--

TRIAL 1

GO	NO GO

TRIAL 2

GO	NO GO

TRIAL 3

GO	NO GO

CREW POSITION: LOADER

TRAINING MODULE NO: 11

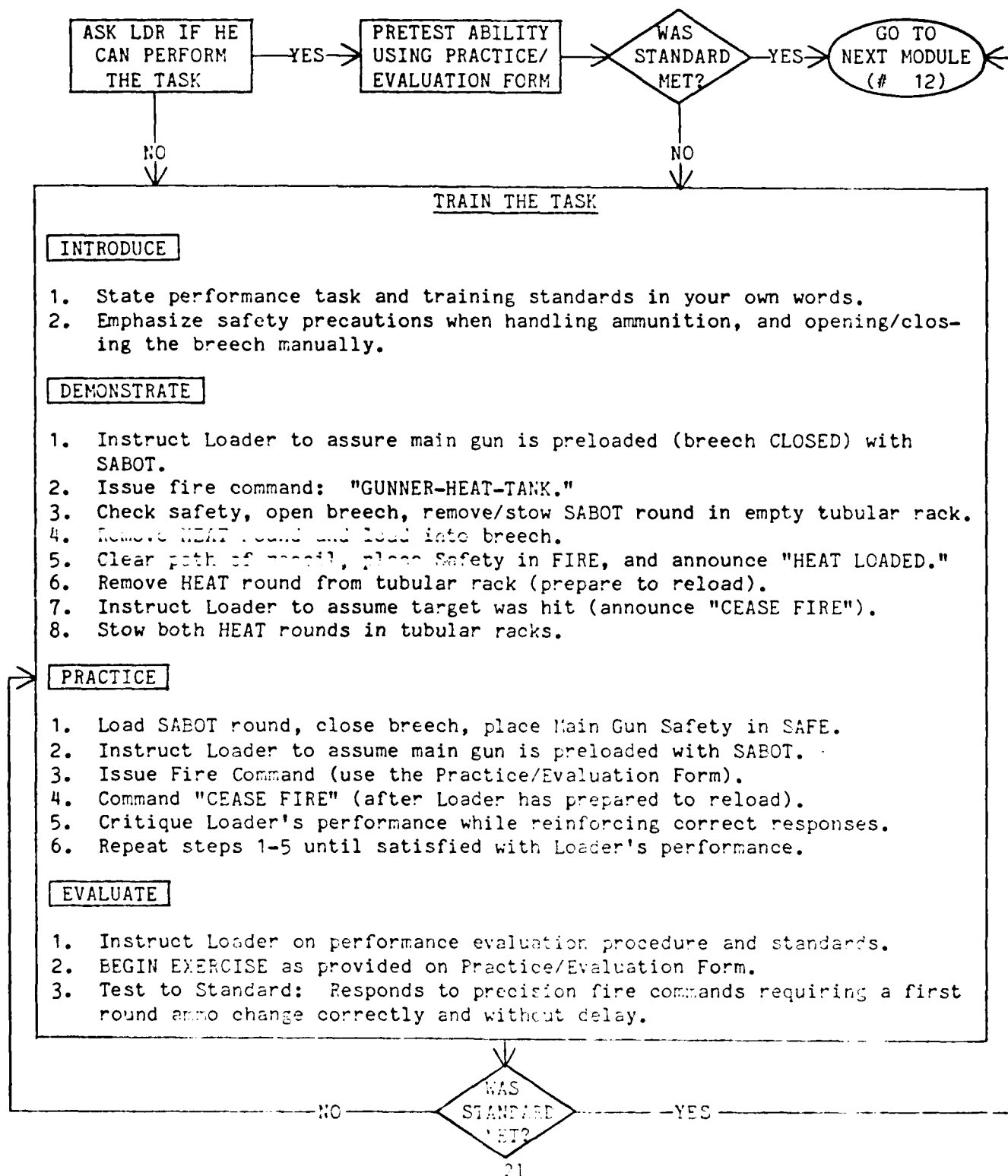
TASK: RESPOND TO PRECISION FIRE COMMANDS
REQUIRING A FIRST ROUND AMMO CHANGE.

TIME: 15 MINUTES

PREREQUISITE TASKS: OPEN/CLOSE 105-MM BREECH MANUALLY; STOW MAIN GUN AND COAX AMMUNITION; IDENTIFY MAIN GUN AMMUNITION; LOAD/UNLOAD THE 105-MM MAIN GUN; OPERATE AMMO STOWAGE RACKS.

TRAINING REFERENCES: TM 9-2350-253-10; FM 17-12-3.

SUPPORT REQUIREMENTS: 1 M60A3 TANK OR TURRET TRAINER; 1 ROUND OF SABOT AND 2 ROUNDS OF HEAT AMMUNITION (DUMMY).



PRACTICE/EVALUATION FORM

TC

LOADER

BEGIN EXERCISE:

1. Place Main Gun Safety in SAFE, instruct LDR that SABOT is preloaded (breech closed), command "GUNNER-HEAT-TANK," and observe performance (steps 1-6).
2. Command "CEASE FIRE" and score performance trial.
3. Repeat steps 1-3 for two more trials.

1. Insures Main Gun Safety in SAFE.
2. Opens breech manually.
3. Removes round and stows in tubular ammo rack.
4. Removes HEAT round from tubular ammo rack and loads in main gun.
5. Clears path of recoil, places Main Gun Safety in FIRE, and announces "HEAT LOADED."
6. Removes HEAT round from tubular ammo rack and waits to reload.

(Restow HEAT rounds in ammo stowage racks.)

GO	NO GO
----	-------

--	--

--	--

--	--

--	--

--	--

--	--

TRIAL 1

TRIAL 2

TRIAL 3

GO	NO GO

GO	NO GO

GO	NO GO

CREW POSITION: LOADER

TRAINING MODULE NO: 12

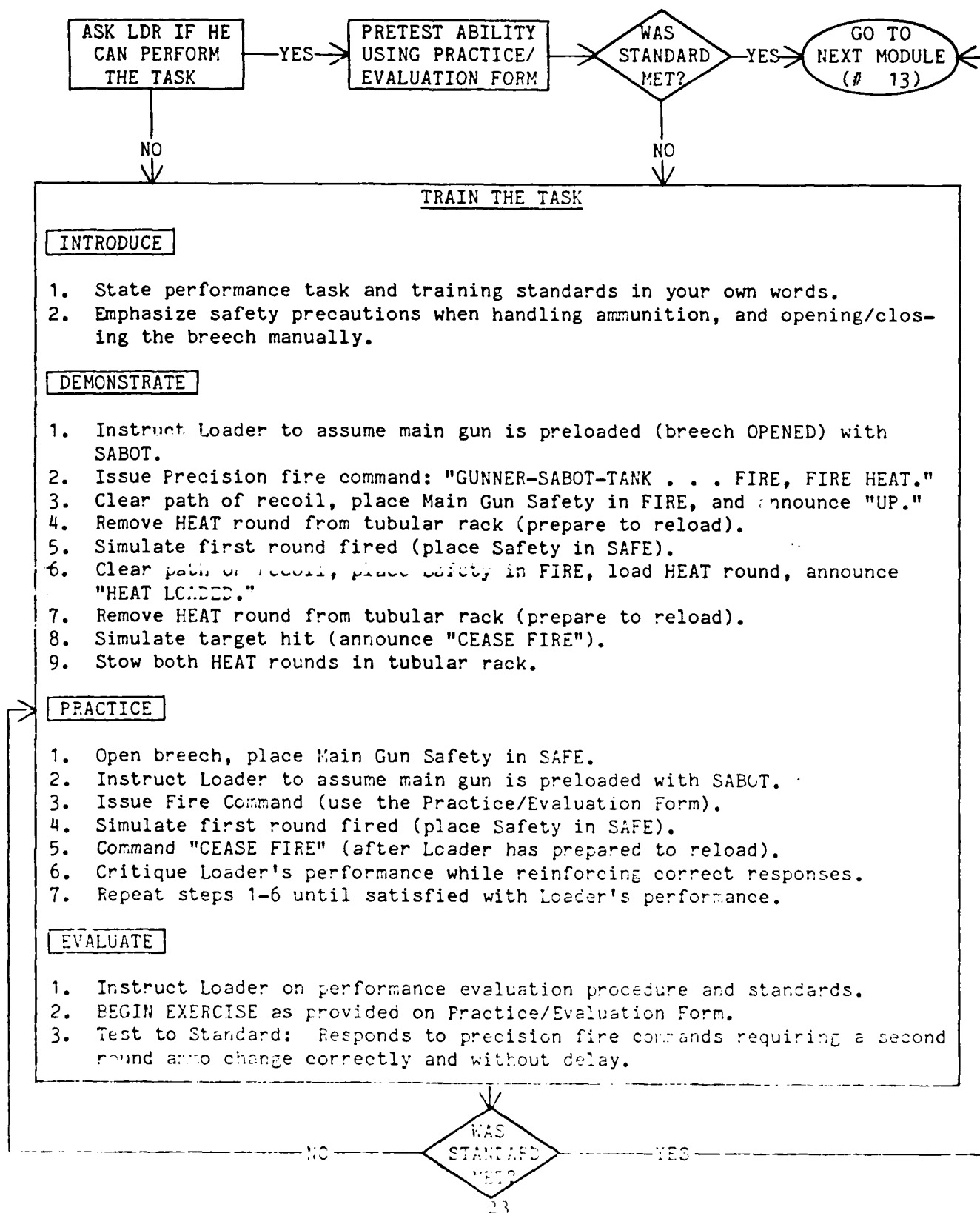
TASK: RESPOND TO PRECISION FIRE COMMANDS
REQUIRING A SECOND ROUND AMMO CHANGE.

TIME: 15 MINUTES

PREREQUISITE TASKS: OPEN/CLOSE 105-MM MAIN GUN BREECH MANUALLY; STOW MAIN GUN AND COAX AMMUNITION; IDENTIFY MAIN GUN AMMUNITION; LOAD/UNLOAD THE MAIN GUN; OPERATE AMMO STOWAGE RACKS.

TRAINING REFERENCES: TM 9-2350-253-10; FM 17-12-3.

SUPPORT REQUIREMENTS: 1 M60A3 TANK OR TURRET TRAINER; 2 ROUNDS OF HEAT AMMUNITION (DUMMY).



PRACTICE/EVALUATION FORM

TC

LOADER

BEGIN EXERCISE:

1. Place Main Gun Safety in SAFE, instruct LDR that SABOT is preloaded (breech closed), command "GUNNER-SABOT-TANK . . . FIRE, FIRE HEAT," and observe performance (steps 1-4).

2. Command "CEASE FIRE," and score performance trial.

3. Repeat steps 1-3 for three trials.

1. Clears path of recoil.
2. Places Main Gun Safety in FIRE.
3. Announces "UP."
4. Removes HEAT round from tubular ammo rack and waits to reload.

(Restow HEAT round in ammo stowage rack.)

GO	NO GO
----	-------

☐	☐
--------------------------	--------------------------

☐	☐
--------------------------	--------------------------

☐	☐
--------------------------	--------------------------

☐	☐
--------------------------	--------------------------

GO	NO GO
☐	☐

GO	NO GO
☐	☐

GO	NO GO
☐	☐

CREW POSITION: LOADER

TASK: LOAD THE M240 7.62-MM COAX MACHINEGUN.

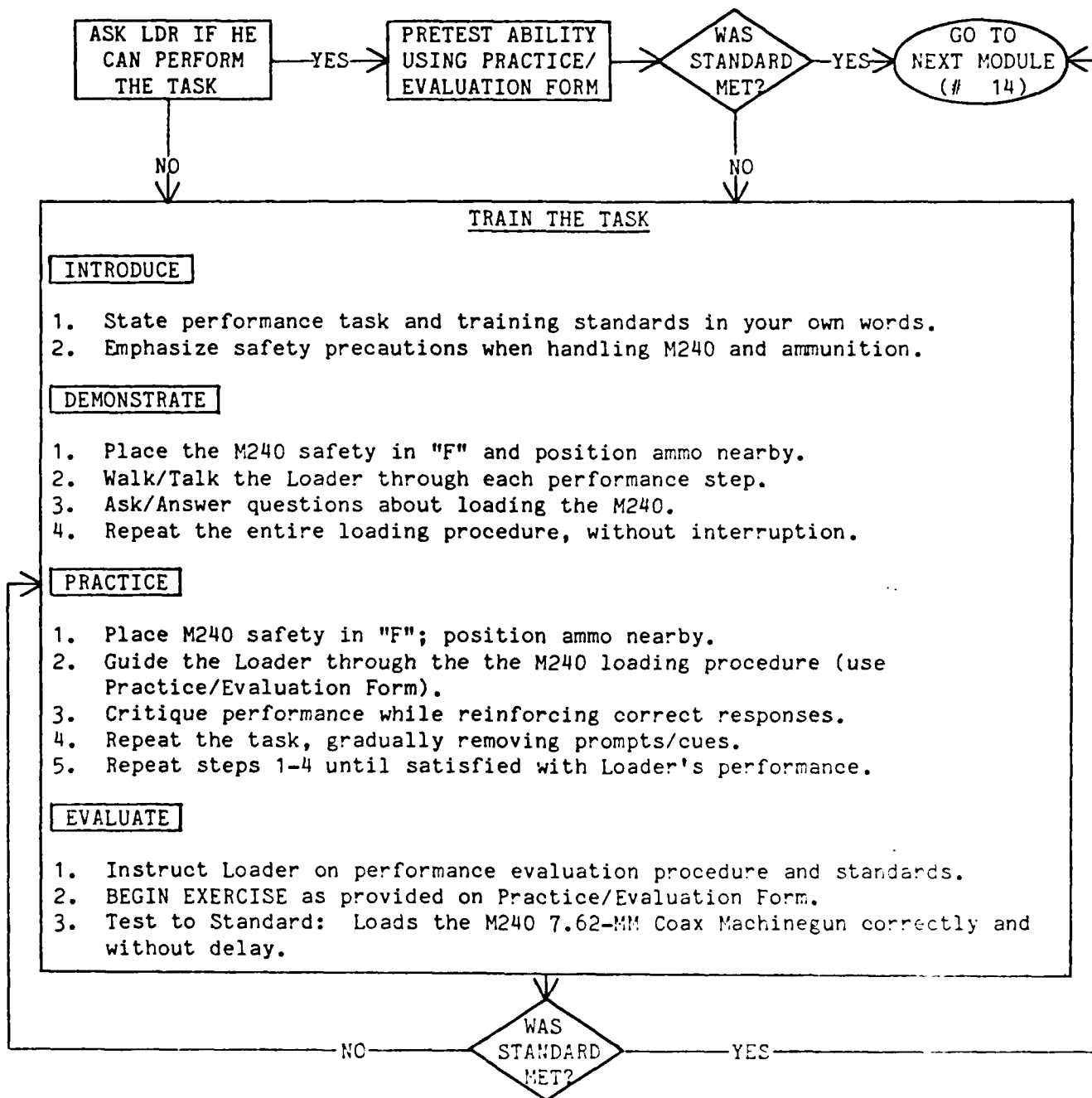
PREREQUISITE TASKS: NONE.

TRAINING REFERENCES: TM 9-2350-253-10; FKG-23-10-1.

SUPPORT REQUIREMENTS: 1 M240 MACHINEGUN; 1 BELT OF 7.62 DUMMY AMMO (10 ROUNDS).

TRAINING MODULE NO: 13

TIME: 10 MINUTES



PRACTICE/EVALUATION FORM

TC

LOADER

BEGIN EXERCISE:

1. Place safety in "F", position ammo nearby, announce "LOAD THE M240 MACHINEGUN," and observe performance (steps 1-7).

2. Check that open slot on links is facing down into slot on feed tray

3. Score total task performance.

1. Insures safety is in "F" and charges the coax.

2. Places safety in "S."

3. Opens cover and raises feed tray.

4. Physically inspects the chamber for ammo.

5. Lower feed tray.

6. Places link belt in feed tray; first round against cartridge stop.

7. Closes cover assembly.

GO	NO GO
----	-------

--	--

--	--

--	--

--	--

--	--

--	--

--	--

GO		NO GO	
----	--	-------	--

CREW POSITION: LOADER

TRAINING MODULE NO: 14

TASK: CLEAR THE M240 7.62-MM COAX MACHINEGUN.

TIME: 10 MINUTES

PREREQUISITE TASKS: LOAD THE M240 7.62-MM COAX MACHINEGUN.

TRAINING REFERENCES: TM 9-2350-253-10; FKG 23-10-1.

SUPPORT REQUIREMENTS: 1 M240 MACHINEGUN; 1 BELT OF 7.62-MM DUMMY AMMO (10 ROUNDS).

ASK LDR IF HE
CAN PERFORM
THE TASK

YES

PRETEST ABILITY
USING PRACTICE/
EVALUATION FORM

WAS
STANDARD
MET?

YES

GO TO
NEXT MODULE
(# 15)

NO

NO

TRAIN THE TASK

INTRODUCE

1. State performance task and training standards in your own words.
2. Emphasize safety precautions when handling M240 and ammunition.

DEMONSTRATE

1. Load the M240 machinegun and place safety in "S".
2. Walk/Talk the Loader through each performance step.
3. Ask/Answer questions about clearing the M240.
4. Repeat the entire clearing procedure, without interruption.

PRACTICE

1. Load the M240 machinegun and place safety in "S".
2. Guide the Loader through clearing the M240 machinegun (use Practice/Evaluation Form).
3. Critique performance while reinforcing correct responses.
4. Repeat the task, gradually removing prompts/cues.
5. Repeat steps 1-4 until satisfied with Loader's performance.

EVALUATE

1. Instruct Loader on performance evaluation procedure and standards.
2. BEGIN EXERCISE as provided on Practice/Evaluation Form.
3. Test to Standard: Clears the M240 7.62-MM Coax Machinegun correctly and without delay.

NO

WAS
STANDARD
MET?

YES

PRACTICE/EVALUATION FORM

TC

LOADER

BEGIN EXERCISE:

1. Load coax, position safety in "F", announce "CLEAR THE COAX," and observe performance (steps 1-8).

1. Insures safety is in "F" and charges the coax.
2. Places safety in "S."
3. Opens cover and removes ammo belt.
4. Raises feed tray and physically checks chamber for ammo.
5. Lowers feed tray.
6. Places safety in "F" and charges the coax.
7. Depresses trigger, allowing recoiling parts to ease forward.
8. Closes the cover.

GO	NO GO
☐	☐
☐	☐
☐	☐
☐	☐
☐	☐
☐	☐
☐	☐
☐	☐

2. Score total task performance.

GO ☐	NO GO ☐
-----------------------------	--------------------------------

CREW POSITION: LOADER

TRAINING MODULE NO: 15

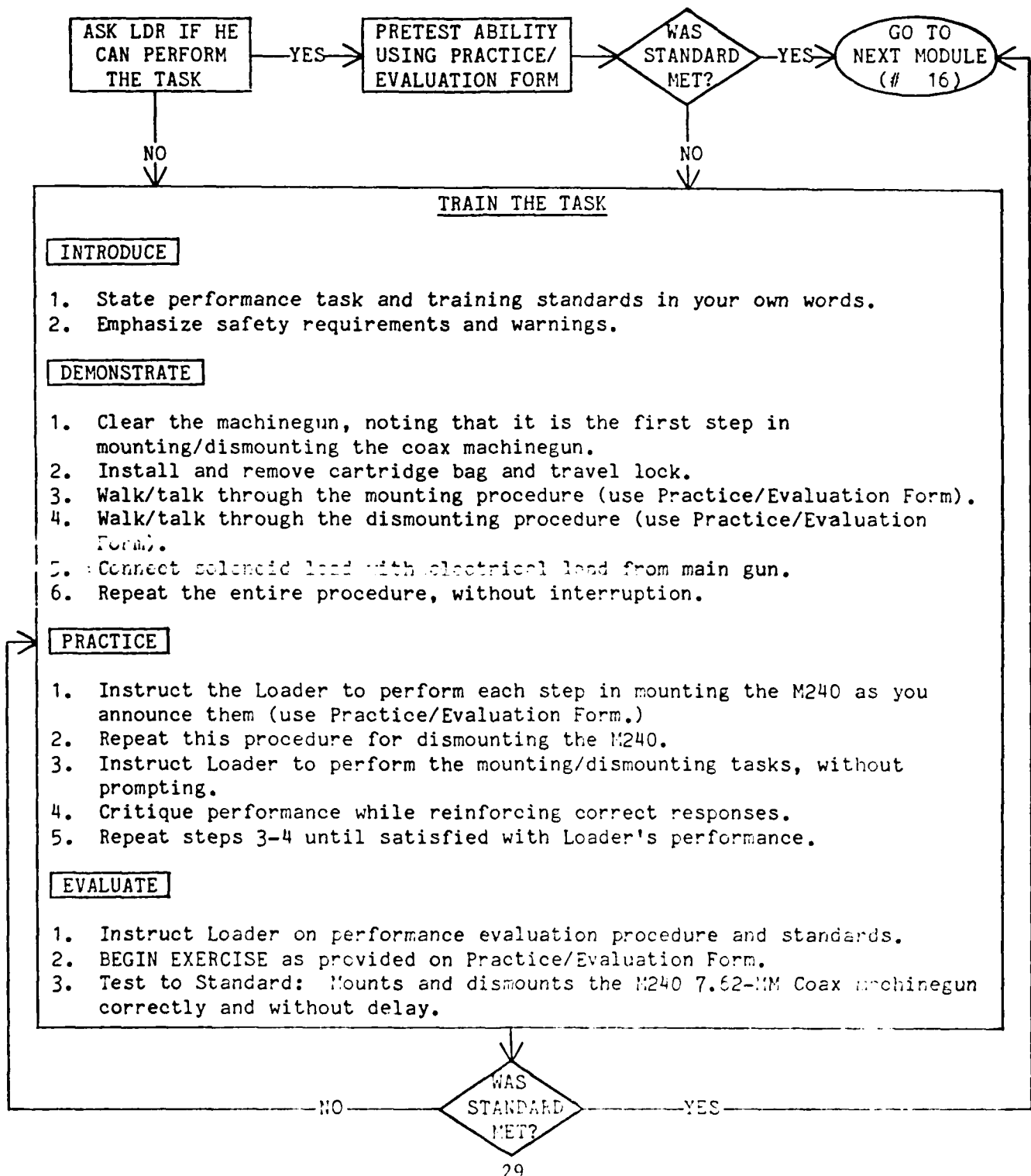
TASK: MOUNT/DISMOUNT THE M240 7.62-MM COAX
MACHINEGUN.

TIME: 10 MINUTES

PREREQUISITE TASKS: CLEAR THE M240 7.62-MM COAX MACHINEGUN.

TRAINING REFERENCES: TM 9-2350-253-10; FM 17-19E 1/2; FKG 17/42-2.

SUPPORT REQUIREMENTS: 1 M240 7.62-MM MACHINEGUN; CARTRIDGE BAG; TRAVEL
LOCK; 1 M60A3 TANK OR TURRET TRAINER.



PRACTICE/EVALUATION FORM

TC

LOADER

BEGIN EXERCISE:

1. Announce "Mount the M240 7.62-MM Coax Machinegun," and observe loader's performance (steps 1-5).

1. Clears the machinegun.
2. Places cartridge bag on bag support and secures with snap fasteners.
3. Removes travel lock and stores in oddment tray.
4. Slides machinegun into mount, pushing front and rear pin assemblies until they snap into detents.

5. Checks electrical connection.

2. Announce "STOP. Dismount the M240 7.62-MM Coax Machinegun," and observe performance (steps 1-5).

6. Clears the machinegun.
7. Pulls front and rear pin assembly out from one detent to the next.
8. Lifts base of machinegun and then pulls it to rear to remove.
9. Installs the travel lock in place of machinegun.
10. Releases snap fasteners and removes cartridge bag from bag support.

3. Announce "STOP," and score total task performance.

GO	NO GO
----	-------

--	--

--	--

--	--

--	--

--	--

--	--

--	--

--	--

--	--

--	--

GO		NO GO	
----	--	-------	--

CREW POSITION: LOADER

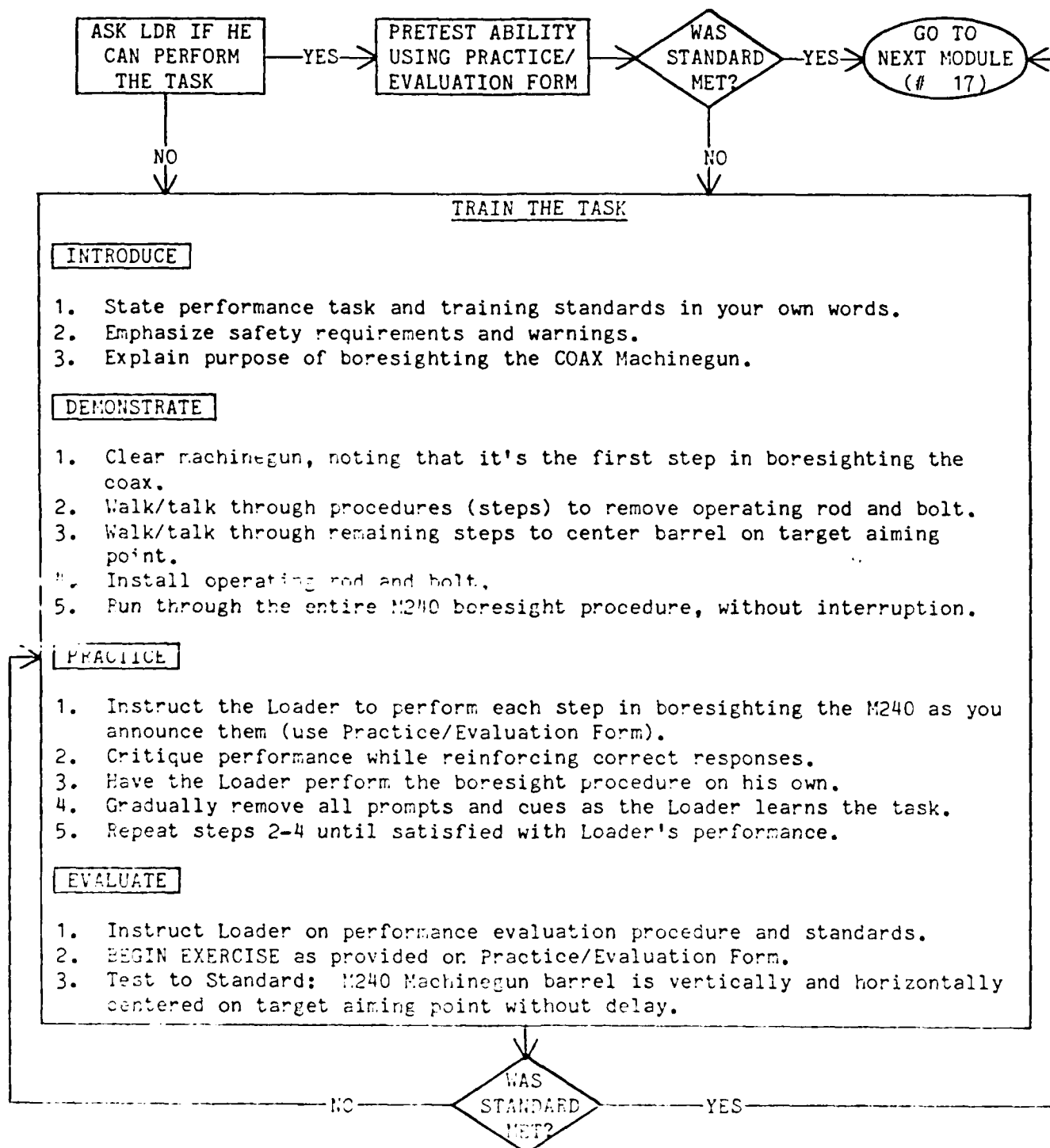
TRAINING MODULE NO: 16

TASK: BORESIGHT THE M240 7.62-MM COAX MACHINEGUN. TIME: 15 MINUTES

PREREQUISITE TASKS: CLEAR THE M240 7.62-MM COAX MACHINEGUN.

TRAINING REFERENCES: TM 9-2350-253-10; FM 17-19E 1/2; FKG 17-30-1.

SUPPORT REQUIREMENTS: 1 M240 7.62-MM MACHINEGUN; 1 M60A3 TANK; TARGET PANEL A 1200 METERS, AND 1 M17A1 BINOCULARS.



PRACTICE/EVALUATION FORM

TC

LOADER

BEGIN EXERCISE:

1. Announce "BORESIGHT THE M240 7.62-MM COAX MACHINE-GUN," and observe performance (steps 1-12).

1. Clears the machinegun.
2. Removes buffer.
3. Removes driving spring.
4. Raises cover and feed tray.
5. Pulls charger handle back, removing operating rod and bolt.
6. Loosens front adjustment nut.
7. Sights through barrel bore using one side of M17A1 binoculars.
8. Uses horizontal bore-sight knob to center barrel on target aiming point.
9. Uses vertical boresight knob to center barrel on target aiming point.
10. Tightens adjustment nut (until tension is felt), then tightens additional 1/3 turn.
11. Rechecks lay of machinegun.
12. If error exists, repeats steps 6 through 11.

GO	NO GO
----	-------

☐	☐
☐	☐
☐	☐
☐	☐
☐	☐
☐	☐
☐	☐
☐	☐
☐	☐
☐	☐
☐	☐
☐	☐

2. Score total task performance, looking through M17A1 binoculars to determine if M240 is boresighted.

GO ☐	NO GO ☐
-----------------------------	--------------------------------

CREW POSITION: LOADER

TRAINING MODULE NO: 17

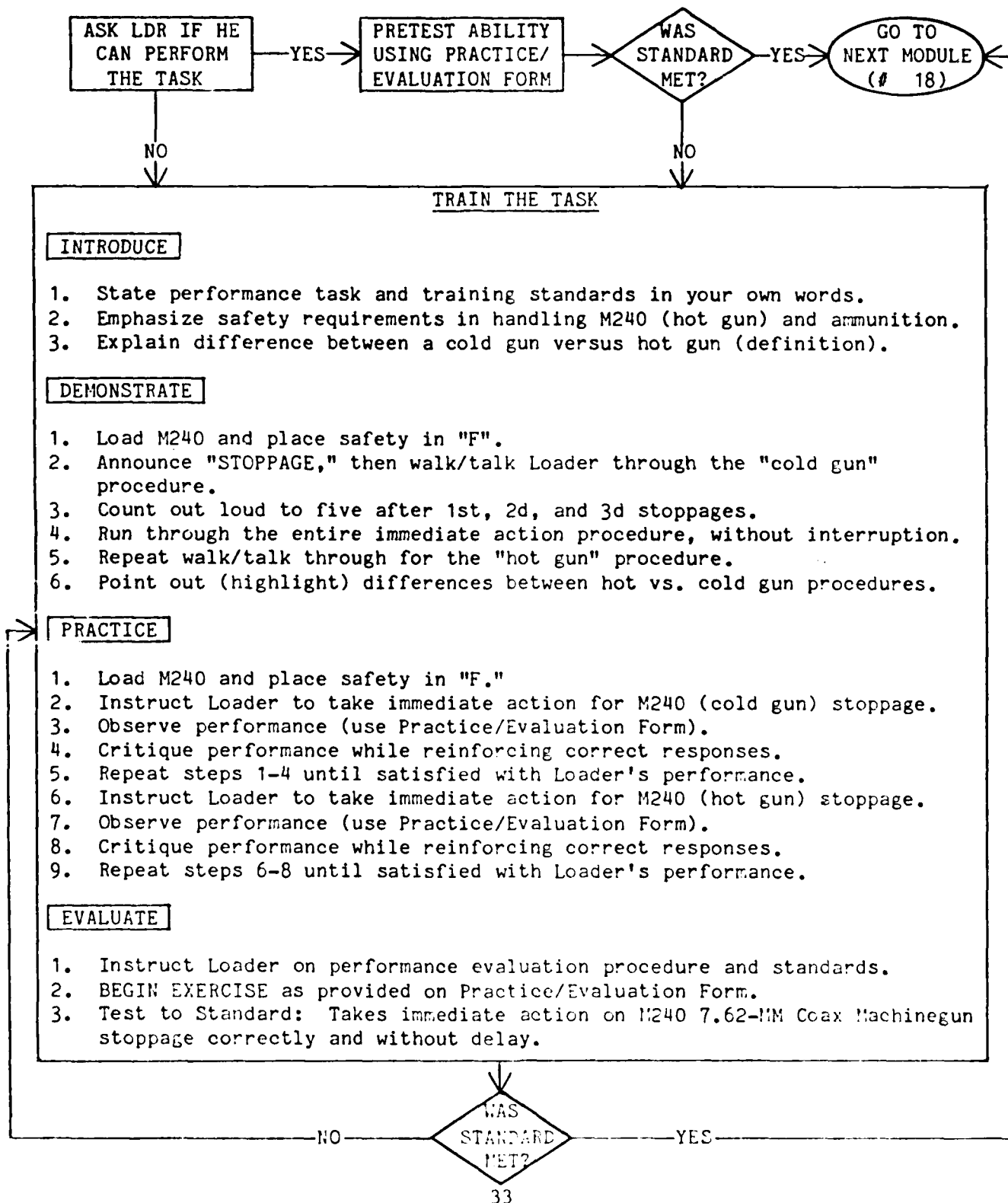
TASK: TAKE IMMEDIATE ACTION ON M240 7.62-MM COAX MACHINEGUN STOPPAGE.

TIME: 10 MINUTES

PREREQUISITE TASKS: LOAD M240 MACHINEGUN; CLEAR M240 MACHINEGUN.

TRAINING REFERENCES: TM 9-2350-253-10; FKG 23-10-1.

SUPPORT REQUIREMENTS: 1 M240 MACHINEGUN; 1 BELT OF 7.62-MM DUMMY AMMO (10 ROUNDS).



PRACTICE/EVALUATION FORM

TC

LOADER

BEGIN EXERCISE:

		GO	NO GO
1. Load M240, place safety in "F", announce "GUN IS COLD. STOPPAGE," and observe performance (steps 1-9).	1. Waits five second (by counting 1-5 out loud) for a hangfire.	☐	☐
	2. Charges weapon and announces "UP."	☐	☐
2. Announce "STOPPAGE."	3. Waits five seconds (by counting 1-5 out loud).	☐	☐
	4. Clears the M240.	☐	☐
	5. Hand functions M240.	☐	☐
	6. Reloads and announces "UP."	☐	☐
3. Announce "STOPPAGE."	7. Waits five seconds (by counting 1-5 out loud).	☐	☐
	8. Clear weapon.	☐	☐
	9. Indicates he would investigate cause of stoppage.	☐	☐
4. Load M240, place safety in "F", announce "GUN IS HOT. STOPPAGE," and observe performance (steps 10-17).	10. Waits five seconds (by counting 1-5 out loud) for a hangfire.	☐	☐
	11. Charges weapon and announces "UP."	☐	☐
5. Announce "STOPPAGE."	12. Waits five seconds (by counting 1-5 out loud).	☐	☐
	13. Charges the M240.	☐	☐
	14. Places safety in "S" and opens cover.	☐	☐
6. Inform loader that a round is still chambered.	15. Closes cover and places safety in "F."	☐	☐
	16. Depresses trigger, allowing recoiling parts to go forward.	☐	☐
	17. Indicates he would leave M240 pointed down range for 15 minutes.	☐	☐
7. Score total task performance.			

GO	☐	NO GO	☐
----	--------------------------	-------	--------------------------

CREW POSITION: LOADER

TRAINING MODULE NO: 18

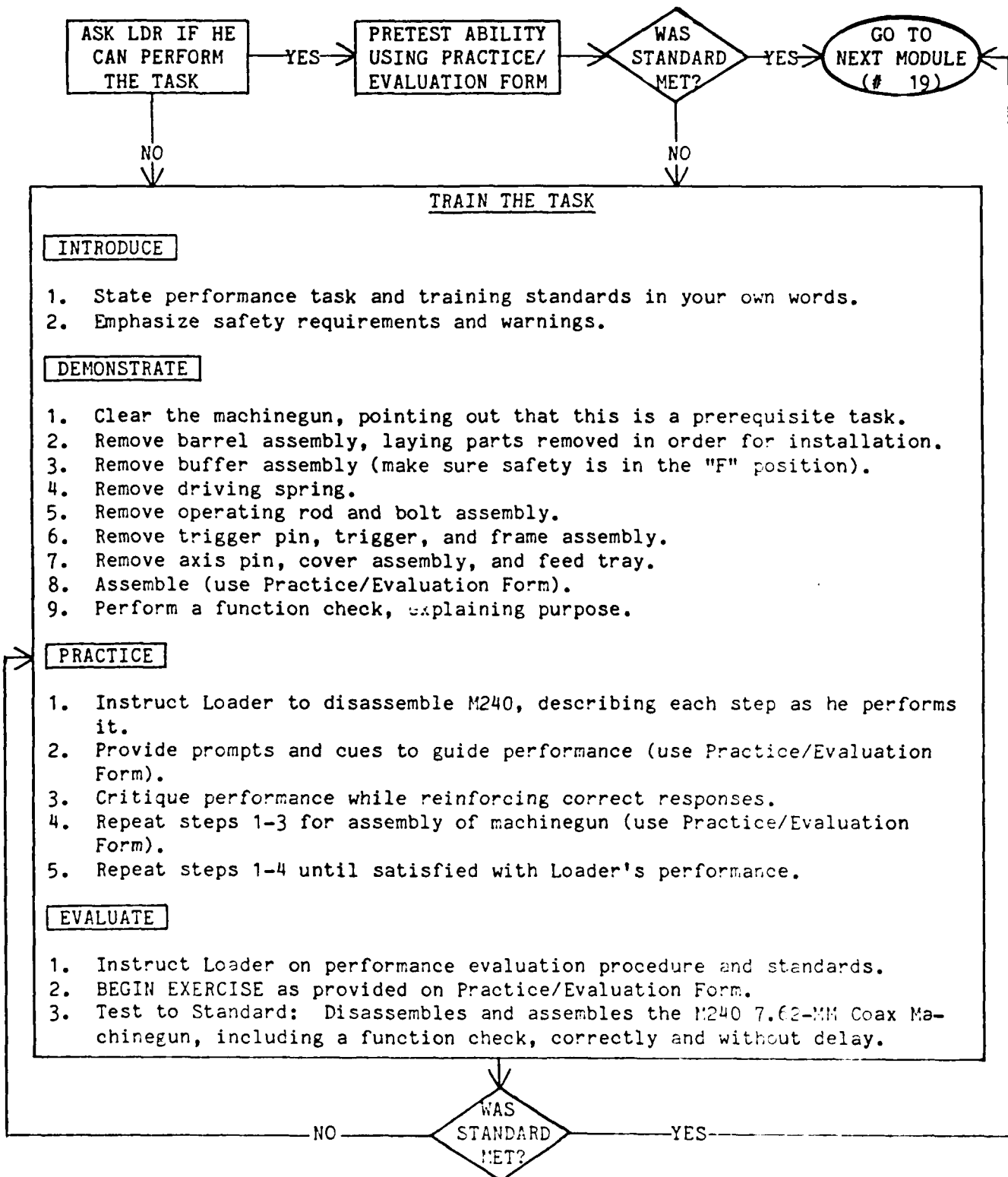
TASK: DISASSEMBLE/ASSEMBLE M240 7.62-MM COAX MACHINEGUN.

TIME: 30 MINUTES

PREREQUISITE TASKS: CLEAR THE M240 7.62-MM COAX MACHINEGUN.

TRAINING REFERENCES: TM 9-2350-253-10; FM 17-19E1/2; TM 9-1005-313-10; TEC 9-020-171-1141-F.

SUPPORT REQUIREMENTS: 1 M240 7.62-MM COAX MACHINEGUN.



PRACTICE/EVALUATION FORM

TC

LOADER

BEGIN EXERCISE:

		GO	NO GO
1. Announce "Disassemble M240 7.62-MM Coax Machinegun," and observe performance (steps 1-9).	1. Removes barrel.	☐	☐
	2. Checks safety is in F.	☐	☐
	3. Removes buffer assembly.	☐	☐
	4. Removes driving spring.	☐	☐
	5. Removes operating rod and bolt assembly.	☐	☐
	6. Removes trigger pin.	☐	☐
	7. Removes trigger and frame assembly.	☐	☐
	8. Removes the axis pin.	☐	☐
	9. Removes cover assembly and feed tray.	☐	☐
2. Announce "STOP. Assemble M240 7.62-MM Coax Machinegun," and observe performance (steps 10-18).	10. Installs feedtray and cover assembly.	☐	☐
	11. Installs axis pin.	☐	☐
	12. Installs trigger and frame assembly.	☐	☐
	13. Installs trigger pin.	☐	☐
	14. Installs operating rod and bolt assembly.	☐	☐
	15. Installs driving spring.	☐	☐
	16. Installs buffer assembly.	☐	☐
	17. Installs barrel.	☐	☐
	18. Performs function check by pulling charger handle to rear, and depressing trigger while easing bolt assembly forward.	☐	☐
3. Score total task performance.			

GO	☐	NO GO	☐
----	--------------------------	-------	--------------------------

CREW POSITION: LOADER

TRAINING MODULE NO: 19

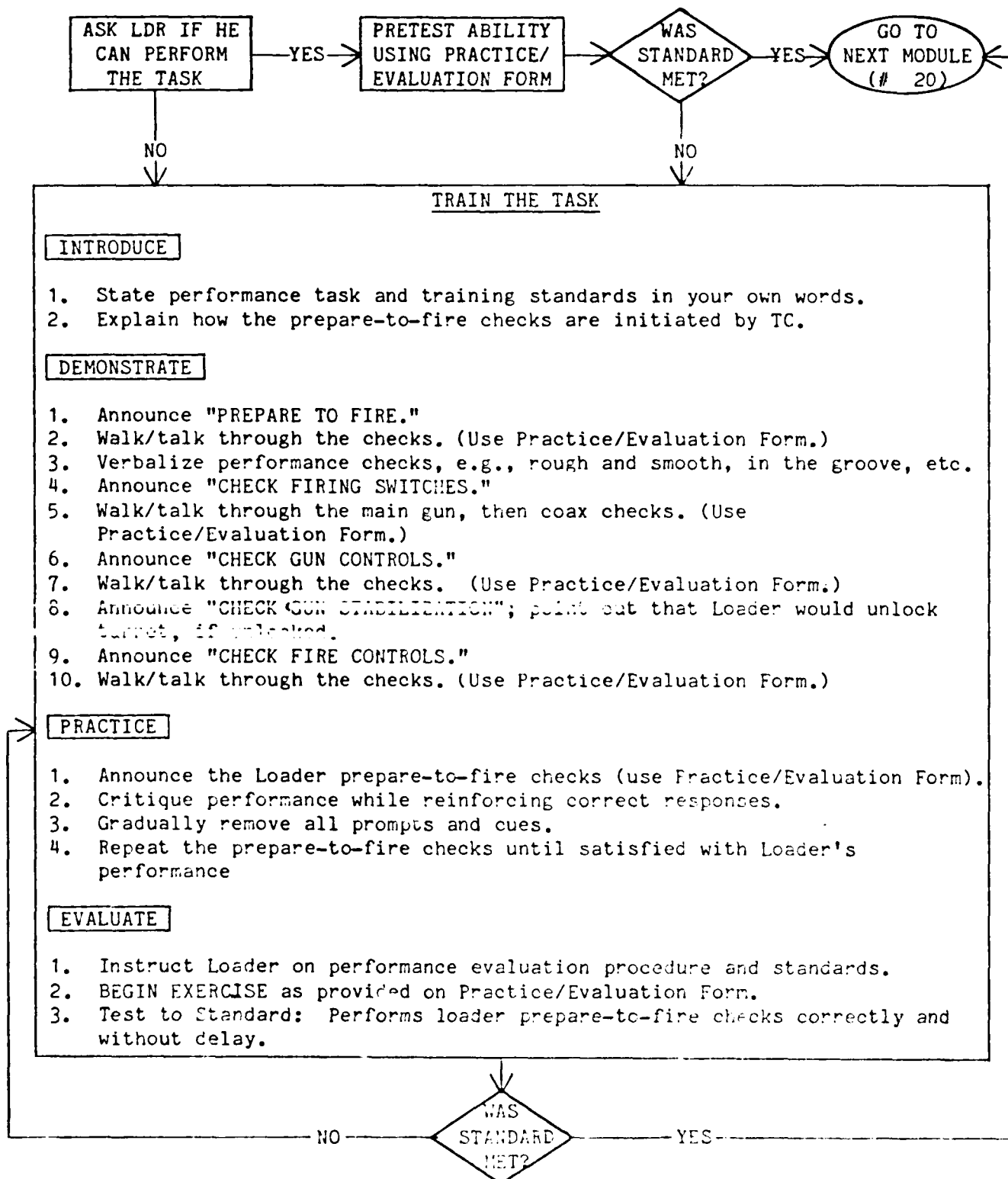
TASK: PERFORM LOADER'S PREPARE-TO-FIRE CHECKS.

TIME: 20 MINUTES

PREREQUISITE TASKS: CHECK REPLENISHER TAPE; OPEN/CLOSE BREECH MANUALLY; IDENTIFY MAIN GUN AMMUNITION; OPERATE AMMO STORAGE RACKS; CONDUCT FIRING CIRCUIT TEST; CLEAR COAX MG; LOAD COAX MG; LOAD MAIN GUN; LOCK/UNLOCK TURRET.

TRAINING REFERENCES: TM 9-2350-253-10; FKG 17-29-1.

SUPPORT REQUIREMENTS: 1 MAIN GUN ROUND (DUMMY); FIRING CIRCUIT TESTER; 1 M60A3 TANK OR TURRET TRAINER.



PRACTICE/EVALUATION FORM

TCLOADER

BEGIN EXERCISE:

		GO	NO GO
1. Announce "PREPARE TO FIRE" and observe performance (steps 1-5).	1. Checks recoil oil by feeling replenisher indicator tape.	☐	☐
	2. Checks that breechblock crank stop is in rearward position.	☐	☐
	3. Opens breech, inspects tube and chamber for obstructions and cleanliness, and closes breech.	☐	☐
	4. Checks coaxial machinegun mount for tightness.	☐	☐
	5. Inspects <u>all</u> turret stowed ammo for completeness, type and serviceability.	☐	☐
2. Announce "CHECK FIRING SWITCHES" and observe performance (steps 6-12).	6. Places main gun safety switch in FIRE position.	☐	☐
	7. Inserts firing circuit tester.	☐	☐
	8. Announces "NO FIRE" if bulb fails to light.	☐	☐
	9. Place safety in SAFE and has TC/GNR pull trigger.	☐	☐
	10. Cocks the coax and has the TC/GNR check their triggers.	☐	☐
	11. Recocks coax after each check, announcing "NO FIRE" as appropriate.	☐	☐
	12. Removes and stows circuit tester.	☐	☐
3. Announce "CHECK GUN CONTROLS" and observe performance (steps 13-15).	13. Checks for traverse obstruction.	☐	☐
	14. Unlocks turret.	☐	☐
	15. Checks hull-stowed ammo for completeness, type, and serviceability (in coordination with gunner).	☐	☐
4. Announce "CHECK GUN STABILIZATION" and observe performance (step 16).	16. Unlocks turret (if locked).	☐	☐
5. Announce "CHECK GUN CONTROLS" and observe performance (steps 17-19).	17. Performs boresight/zero tasks, if applicable.	☐	☐
	18. Loads main gun with battlesight ammo, if applicable.	☐	☐
	19. Loads coax machinegun, if applicable.	☐	☐
6. Announce "REPORT."	20. Reports "LOADER READY."	☐	☐
7. Score total task performance.			

GO ☐NO GO ☐

CREW POSITION: LOADER

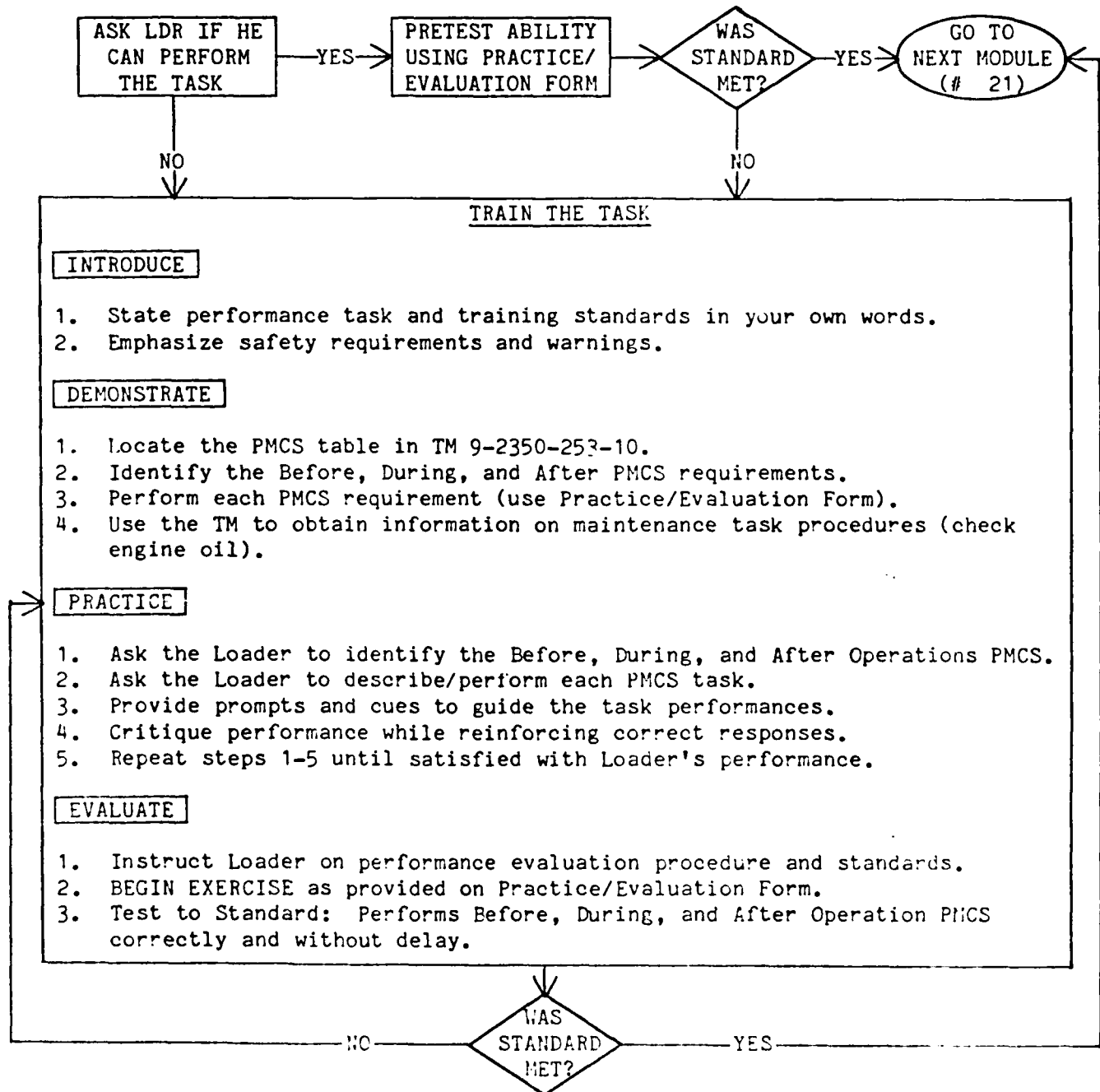
TRAINING MODULE NO: 20

TASK: PERFORM BEFORE/DURING/AFTER OPERATION PMCS. TIME: 2 HOURS

PREREQUISITE TASKS: NONE.

TRAINING REFERENCES: TM 9-2350-253-10.

SUPPORT REQUIREMENTS: 1 M60A3 TANK; 1 TM 9-2350-253-10.



PRACTICE/EVALUATION FORM

BEGIN EXERCISE:

LOADER

1. Announce "PERFORM (specify) OPERATION PMCS," and observe performance.

TC			ADJUST	CLEAR	DAMAGE	IN PLACE	LEAKS	OPERATION	POSITION	PRESSURE	SECURE	STATUS	LEVEL	MISSING PARTS	WEAR	CHUCKING	SEPARATING	HEAT
LOCATION	SYSTEM	EQUIPMENT																
TURRET	LOADER AND TC HATCH	HATCHES			B	B		B										
		HOLD-OPEN LOCKING HANDLES			B	B		B										
	TRAVEL LOCK	TRAVEL LOCK				B		B										
LOADER'S STATION	TURRET LOCK	TURRET LOCK						B	B									
HULL	AIR CLEANER HOUSINGS AND DOORS	DOOR			B	B					A			A				
		DOOR FASTENERS			B	B								A				
		HOUSING			B	B								A				
		DOOR HINGES			B	B		B						A				
		DRAIN PLUG			B	B												
		INSPECTION PLUGS			B	B												
	ENGINE AND TRANSMISSION OIL LEVEL	ENGINE OIL (STOPPED)					B						B					
		TRANSMISSION OIL (STOPPED)					B						B					
		ENGINE OIL (IDLING)					B						B					
		TRANSMISSION OIL (IDLING)					B						B					
	AIR CLEANER ELBOWS, HOSES, AND CLAMPS	INTAKE HOSE			B	B	B				B							
		OUTLET HOSE			B	B	B				B							
		INTAKE HOSE ELBOW			B	B	B				B							
		OUTLET HOSE ELBOW			B	B	B				B							
		INTAKE HOSE CLAMPS			B	B	B				B							
	AIR CLEANER BLOWER MOTORS	OUTLET HOSE CLAMPS			B	B	B				B							
		AIR CLEANER BLOWER MOTORS						B										
	RESTRICTION INDICATORS	RESTRICTION INDICATORS			B	B												
		PIPE PLUG			B	B												
	AMMUNITION STORAGE RACKS/AMMUNITION READY RACKS	WINDOW		B														
		STORAGE RACK TUBES AND RETAINERS			B/D	B/D												
		READY RACK LOCKS			B/D	B/D												
		CUSHIONING PADS			B/D	B/D												
	INTERCOM	AMPLIFIER	D					D										

2. Score task performance.

BEFORE PMCS

DURING PMCS

AFTER PMCS

GO	NO GO

GO	NO GO

GO	NO GO

CREW POSITION: LOADER

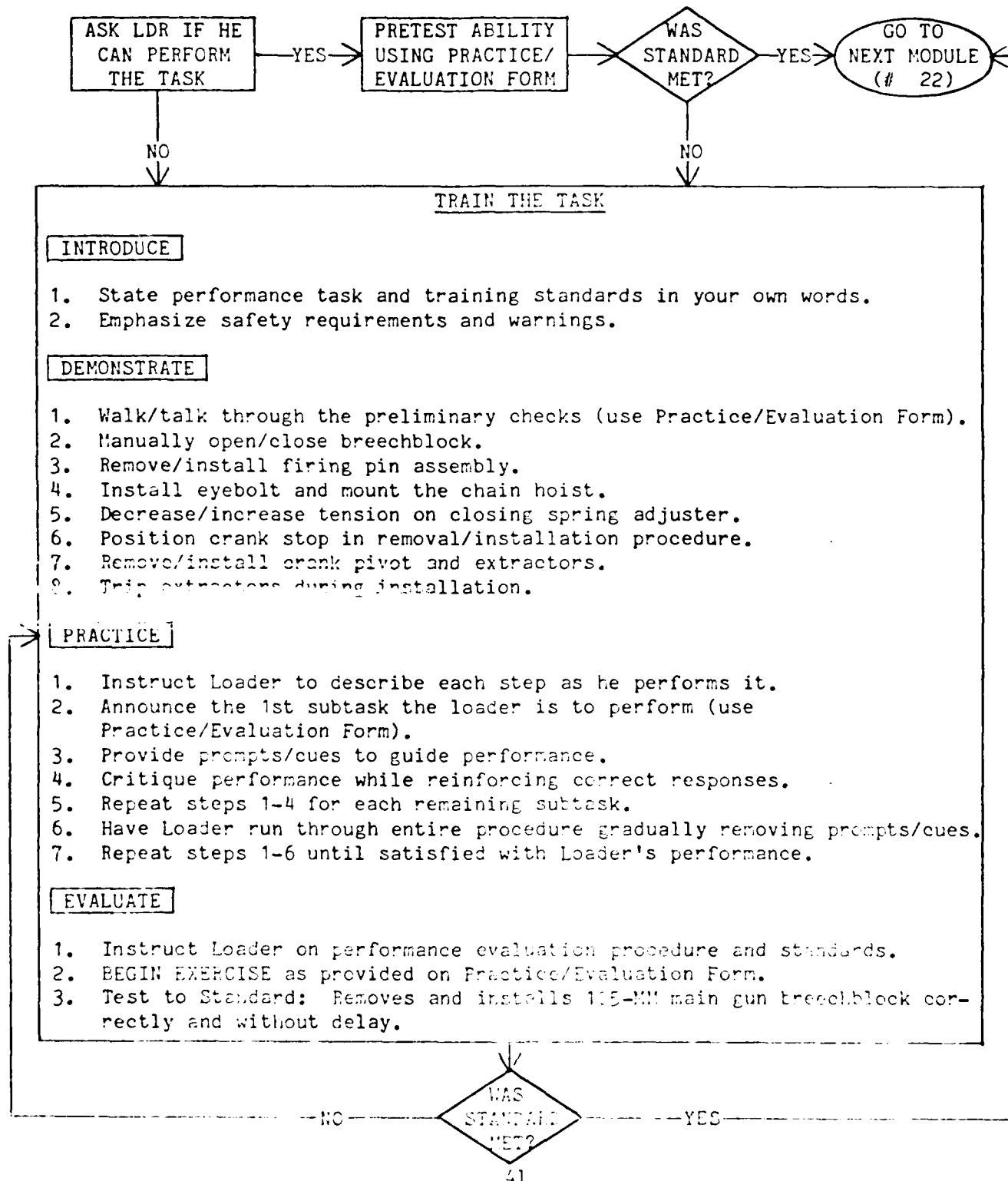
TRAINING MODULE NO: 21

TASK: REMOVE/INSTALL 105-MM MAIN GUN BREECHBLOCK. TIME: 30 MINUTES

PREREQUISITE TASKS: OPEN/CLOSE 105-MM MAIN GUN BREECHBLOCK MANUALLY.

TRAINING REFERENCES: TM 9-2350-253-10; FM 17-19 E1/2; FK-ARS-15-79 (020-171-9043B); FK 14-79 (020-171-9044B).

SUPPORT REQUIREMENTS: 1 M60A3 TANK OR TURRET TRAINER; 1 CHAIN HOIST; 4X6 INCH WOOD BLOCK; 1 EYEBOLT; 1 SPANNER-WRENCH; 1 SCREWDRIVER.



PRACTICE/EVALUATION FORM

TC

LOADER

BEGIN EXERCISE:

1. Announce "REMOVE THE BREECHBLOCK," and observe task performance (steps 1-9).

1. Conducts preliminary safety checks
 - a. MASTER BATTERY and MAIN GUN switches are OFF.
 - b. Crank stop is fully rearward.

2. Opens/Closes breech.

3. Removes firing pin assembly.

4. Installs eyebolt and mounts chain hoist.

5. Releases ALL tension on Closing Spring Adjuster.

6. Positions Crank stop fully forward.

7. Removes Crank Pivot from T-slot.

8. Removes Extractors.

9. Lowers breechblock and removes chain hoist.

2. Announce "STOP. INSTALL THE BREECHBLOCK," and observe performance (steps 10-20).

10. Mounts chain hoist to breechblock.

11. Installs extractors in breechblock.

12. Raises breechblock into breech ring.

13. Installs crank pivot in T-slot.

14. Trips the extractors.

15. Raises breechblock to fully closed position.

16. Positions crank stop fully rearward.

17. Applies tension to closing spring adjuster.

18. Removes eyebolt and chain hoist.

19. Installs firing pin assembly.

20. Checks operation of breechblock.

3. Score total task performance.

GO	NO GO
----	-------

☐	☐
--------------------------	--------------------------

☐	☐
--------------------------	--------------------------

☐	☐
--------------------------	--------------------------

☐	☐
--------------------------	--------------------------

☐	☐
--------------------------	--------------------------

☐	☐
--------------------------	--------------------------

☐	☐
--------------------------	--------------------------

☐	☐
--------------------------	--------------------------

☐	☐
--------------------------	--------------------------

☐	☐
--------------------------	--------------------------

☐	☐
--------------------------	--------------------------

☐	☐
--------------------------	--------------------------

☐	☐
--------------------------	--------------------------

☐	☐
--------------------------	--------------------------

☐	☐
--------------------------	--------------------------

☐	☐
--------------------------	--------------------------

☐	☐
--------------------------	--------------------------

☐	☐
--------------------------	--------------------------

☐	☐
--------------------------	--------------------------

☐	☐
--------------------------	--------------------------

☐	☐
--------------------------	--------------------------

☐	☐
--------------------------	--------------------------

GO

☐

NO GO

☐

CREW POSITION: LOADER

TRAINING MODULE NO: 22

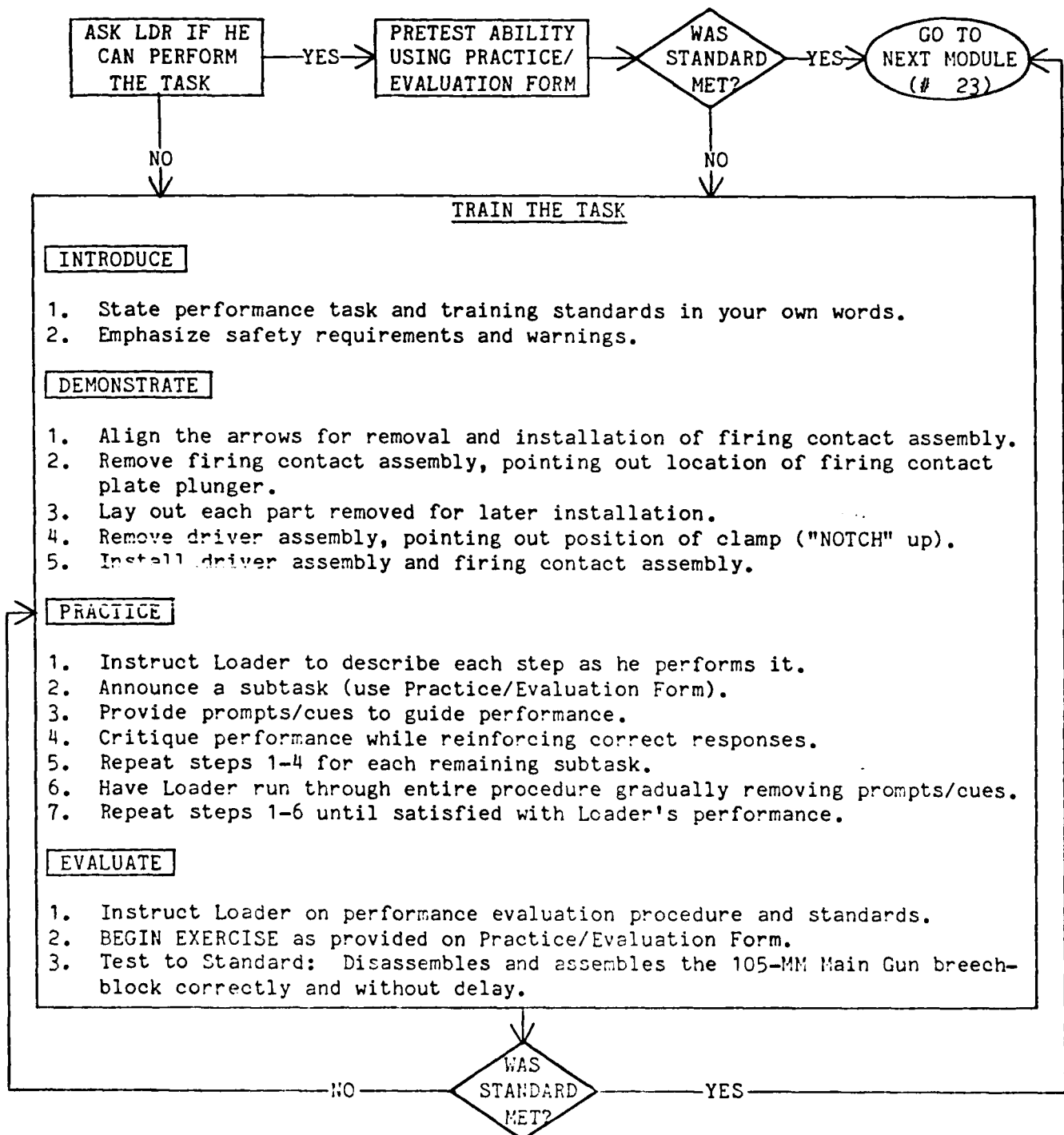
TASK: DISASSEMBLE/ASSEMBLE THE 105-MM MAIN GUN BREECHBLOCK.

TIME: 30 MINUTES

PREREQUISITE TASKS: REMOVE 105-MM MAIN GUN BREECHBLOCK.

TRAINING REFERENCES: TM 9-2350-253-10; FM 17-19 E1/E2; DAMP/TVPP #10959
TF 17-4651 USATRADOC.

SUPPORT REQUIREMENTS: 1 M60A3 TANK OR TURRET TRAINER; 1 BREECHBLOCK MECHANISM; 1 STOPWATCH; 1 SCREWDRIVER.



PRACTICE/EVALUATION FORM

TC

LOADER

BEGIN EXERCISE:

GO	NO GO
----	-------

1. Announce "Disassemble Breechblock," and observe task performance (steps 1-2).

1. Removes Firing Contact Assembly:

--	--

- a. Depresses plunger.
- b. Turns plate CCW until arrows are aligned.
- c. Removes plate, plunger, spring, washer, firing contact, and sleeve.

2. Removes Driver Assembly:

--	--

- a. Removes screw with two lockwashers, and clamp securing driver to breechblock.
- b. Removes driver from shaft and spring from breechblock.

2. Announce "STOP. Assemble breechblock," and observe task performance (steps 3-4).

3. Installs Driver Assembly:

--	--

- a. Installs spring, driver shaft, and driver.
- b. Secures driver to breechblock with screw, two lockwashers, and clamp ("NOTCH" up).

4. Installs Firing Contact Assembly:

--	--

- a. Inserts firing contact sleeve, firing contact, and plastic washer.
- b. Inserts spring and firing contact plunger.
- c. Positions firing contact plate in breechblock. Depresses and rotates CW until plunger engages locking notch in plate.

3. Score total task performance.

GO	☐	NO GO	☐
----	--------------------------	-------	--------------------------

CREW POSITION: LOADER

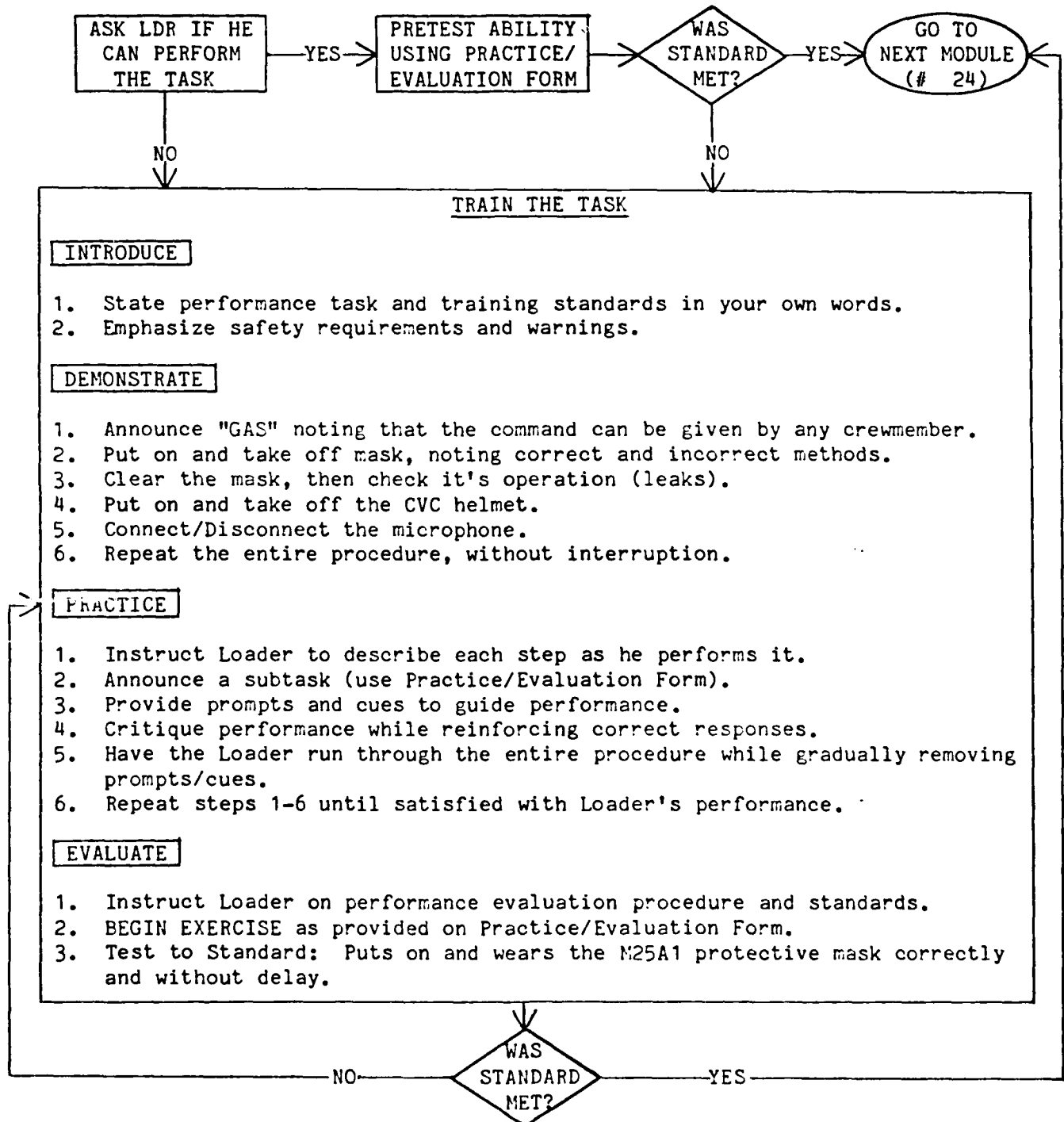
TRAINING MODULE NO: 23

TASK: PUT ON AND WEAR THE M25A1 PROTECTIVE MASK. TIME: 30 MINUTES

PREREQUISITE TASKS: NONE.

TRAINING REFERENCES: FM 17-19 E1/2; TM 3-4240-280-10.

SUPPORT REQUIREMENTS: 1 M25A1 PROTECTIVE MASK; 1 STOPWATCH, 1 M60A3 TANK OR TURRET TRAINER; 1 CVC HELMET.



PRACTICE/EVALUATION FORM

TC

LOADER

BEGIN EXERCISE:

1. Announce "PUT ON AND WEAR THE M25A1 PROTECTIVE MASK," and observe performance (steps 1-9).

1. Stops breathing (momentarily).
2. Removes CVC helmet and places it between knees.
3. Removes mask from carrier.
4. Opens face piece by placing thumbs under (and little fingers over) neck strap -- separates hands.
5. Puts chin in mask pocket and lifts hands over head.
6. Slips head harness over head while pulling mask up onto face.
7. Smooth edges, head harness straps, and pad against face.
8. Clears mask by placing palm over bottom of outlet valve cover.
9. Checks mask for leaks and tightens straps, if necessary.

GO	NO GO
☐	☐
☐	☐
☐	☐
☐	☐
☐	☐
☐	☐
☐	☐
☐	☐
☐	☐

2. Score total task performance.

GO ☐	NO GO ☐
-----------------------------	--------------------------------

CREW POSITION: LOADER

TRAINING MODULE NO: 24

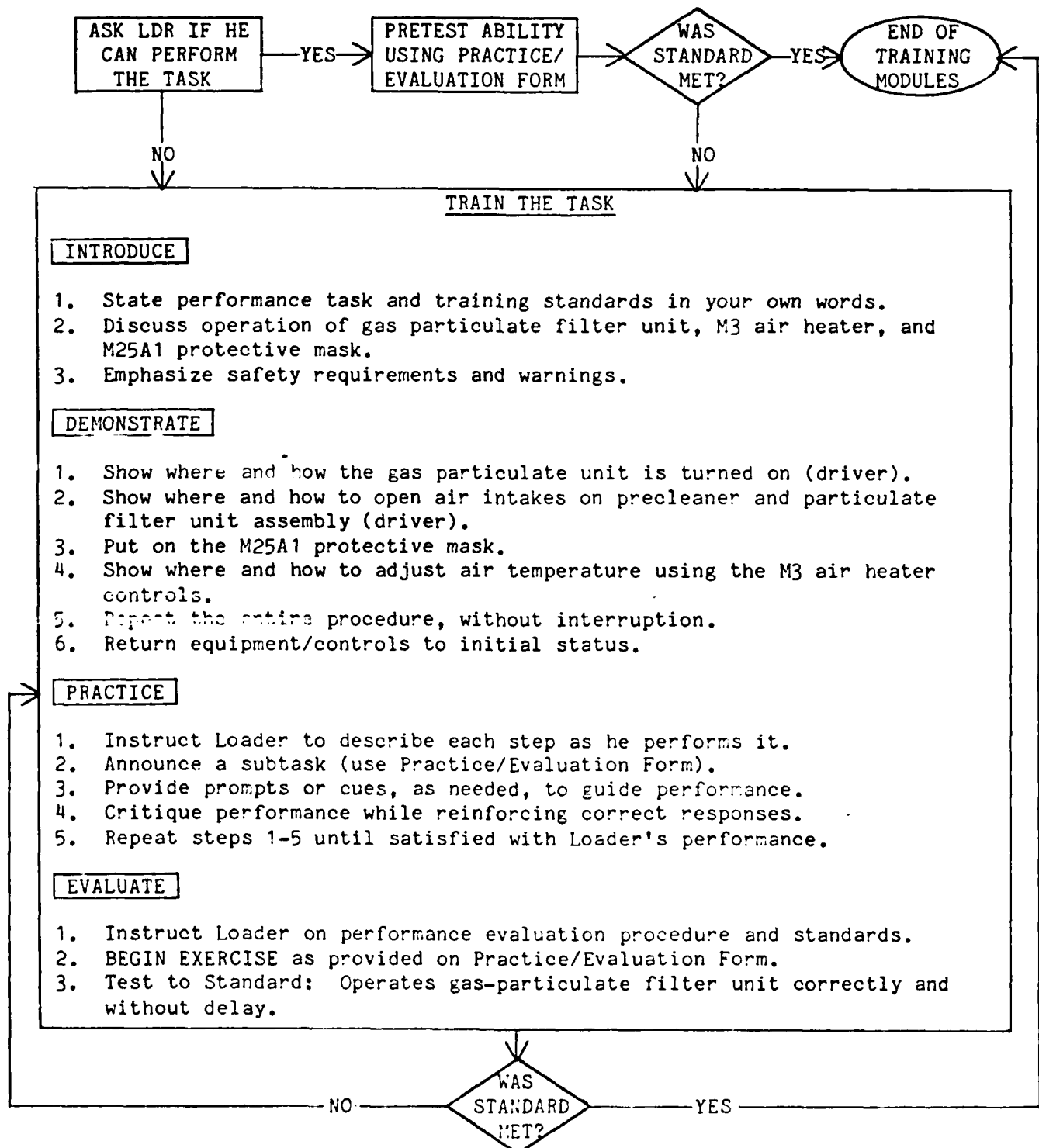
TASK: OPERATE THE GAS-PARTICULATE FILTER UNIT.

TIME: 15 MINUTES

PREREQUISITE TASKS: PUT ON AND WEAR THE M25A1 PROTECTIVE MASK.

TRAINING REFERENCES: TM 9-2350-253-10.

SUPPORT REQUIREMENTS: 1 M60A3 TANK OR TURRET TRAINER; 1 M25A1 PROTECTIVE MASK.



PRACTICE/EVALUATION FORM

TC

LOADER

BEGIN EXERCISE:

1. Announce "Operate the Gas-Particulate Filter Unit," and observe performance (steps 1-4).

2. Announce "STOP. RETURN EQUIPMENT TO INITIAL CONDITION," and observe performance (steps 5-7).

3. Score total task performance.

1. Puts on and adjusts M25A1 protective mask.

2. Disconnects hose from connector.

3. Connects hose to M25A1/ protective mask canister.

4. Turns M3 air heater knob from OFF until indicator lights and adjusts air temperature.

5. Turns M3 air heater knob to OFF.

6. Disconnects hose from M25A1 protective mask canister and couples to connector.

7. Removes M25A1 protective mask and stows in carrier.

GO	NO GO
----	-------

--	--

--	--

--	--

--	--

--	--

--	--

--	--

GO

☐

NO GO

☐