

**PATRIOT LAUNCHING STATION
ENHANCED OPERATOR/MAINTAINER**



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SOLDIER'S MANUAL and TRAINER'S GUIDE

MOS 14T

**Patriot Launching Station Enhanced Operator/Maintainer
Skill Levels 1, 2, 3 and 4**

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PREFACE

This publication is for soldiers holding MOS 14T (Skill Levels 1 through 4) and their trainers or first-line supervisors. It contains standardized training objectives, in the form of task summaries, which trainers and supervisors should use to train and evaluate soldiers on critical tasks, which support unit missions during wartime. Soldiers holding MOS 14T must have access to this publication. It should be available in the soldier's work area, unit learning center, and unit libraries. Trainers and first-line supervisors will actively plan for soldiers to have access to this publication; however, it is not necessary for each soldier to have an individual copy.

The proponent for this publication is HQ, TRADOC. This manual applies to both Active and Reserve Component soldiers. We encourage you, the users, to recommend changes and submit comments to improve this publication. You should use DA Form 2028. Key your comments to the specific page, paragraph, and line of text in which you recommend the change. Provide reasons for each comment to ensure understanding and complete evaluation. Send the completed form to Commandant, United States Army Air Defense Artillery School, ATTN: ATSA-DT-WF, Fort Bliss, Texas 79916-3802.

Unless this publication states otherwise, the masculine nouns and pronouns do not refer exclusively to men.

CHAPTER 1

INTRODUCTION

GENERAL

This manual identifies the individual MOS training requirements for soldiers in MOS 14T. Commanders, trainers, and soldiers should use it to plan, conduct, and evaluate individual training in units. This manual is the primary MOS reference to support the self-development and training of every soldier.

Use this manual with the soldier's manuals of common tasks (STPs 21-1-SMCT and 21-24-SMCT), ARTEPs, and FM 25-101 to establish effective training plans and programs, which integrate soldier, leader, and collective tasks.

SOLDIER'S RESPONSIBILITIES

Each soldier is responsible for performing individual tasks, which the commander identifies, based on the unit's METL. The soldier must perform the task to the standards listed in the SM. If a soldier has a question about how to do a task or which tasks in this manual he must perform, it is the soldier's responsibility to ask the first-line supervisor for clarification. The first-line supervisor knows how to perform each task or can direct the soldier to the appropriate training materials.

NCO SELF-DEVELOPMENT AND THE SOLDIER'S MANUAL

Self-development is one of the key components of the leader development program. It is a planned, progressive, and sequential program followed by leaders to enhance and sustain their military competencies. It consists of individual study, research, professional reading, practice, and self-assessment. Under the self-development concept, the NCO, as an Army professional, has the responsibility to remain current in all phases of the MOS. The SM is the primary source for the NCO to use in maintaining MOS proficiency.

Another important resource for NCO self-development is the Army Correspondence Course Program (ACCP). Refer to DA Pamphlet 350-59 for information on enrolling in this program and for the list of courses, or write to: Army Institute for Professional Development, US Army Training Support Center, ATTN: ATIC-IPS, Newport News, VA 23628.

Unit learning centers are a valuable resource for planning out self-development programs. They can help access enlisted career maps, training support products, and extension training materials.

FEEDBACK

At the completion of each evaluation, score the soldier GO if he passes all performance measures. Score the soldier NO-GO if he fails any performance measures. Conduct an AAR with the soldier. If the soldier failed any performance measure, explain what he did wrong and how to do it correctly. If performance warrants, suggest a remedial training plan to correct the deficiency.

TRAINING SUPPORT

This manual includes the following appendixes and information, which provide additional training support information:

- Appendix A, DA Form 5164-R (Hands-On Evaluation) Instructions to the Trainer. The trainer may use this form to keep a record of the performance measures a soldier passes or fails. This form is applicable to all tasks in this SM. This appendix contains a sample of a completed DA Form 5164-R.

- Appendix B, DA Form 5165-R (Field Expedient Squad Book) Instructions to the Trainer. This appendix provides an overprinted copy of DA Form 5165-R for the tasks in this MOS. The NCO trainer can use this form to set up the leader book described in FM 25-101, Appendix B. The use of this form may help preclude writing the soldier tasks associated with the unit's mission-essential task list, and can become a part of the leader book.
- Glossary. The glossary, which follows the last appendix, combines acronyms, abbreviations, definitions, and letter symbols into a single comprehensive list.
- References. This section contains a list of references, which support training of all tasks in this SM.

CHAPTER 2

TRAINER'S GUIDE

The TG identifies the essential components of a unit training plan for individual training. Units have different training needs and requirements based on differences in environment, location, equipment, dispersion, and similar factors. Therefore, the TG is intended as a guide for conducting unit training and not as a rigid standard.

The TG provides information necessary for planning training requirements for the MOS. The TG—

- Identifies subject areas in which soldiers must be trained.
- Identifies the critical tasks for each subject area.
- Specifies where soldiers are initially trained on each task.
- Recommends how often to train each task to sustain proficiency.
- Recommends a strategy for cross-training soldiers.
- Recommends a strategy for training soldiers to perform higher-level tasks.

BATTLE-FOCUSED TRAINING

As described in FMs 25-100 and 25-101, the commander must first define the METL as the basis for unit training. Unit leaders use the METL to identify the collective, leader, and soldier tasks which support accomplishment of the METL. Unit leaders then assess the status of training and lay out the training objectives and the plan for accomplishing needed training. Once the long- and short-range plans are prepared, leaders then execute and evaluate training. Finally, the unit's training preparedness is reassessed and the training management cycle begins again. This process ensures that the unit has identified what is important for the wartime mission, that the training focus is applied to the necessary training, and that training meets established objectives and standards.

RELATIONSHIP OF SOLDIER TRAINING PUBLICATIONS TO BATTLE-FOCUSED TRAINING

The two key components of enlisted STPs are the trainer's guide and soldier's manual. The TG and SM give leaders important information to help in the battle-focused training process. The TG relates soldier and leader tasks in the MOS and skill level to duty positions and equipment. It provides information on where the task is trained, how often training should occur to sustain proficiency, and who in the unit should be trained. As leaders go through the assessment and planning stages, they should use the TG as an important tool in identifying what needs to be trained. The execution and evaluation of soldier and leader training should rely on the Armywide training objectives and standards in the SM task summaries. The task summaries ensure that soldiers in any unit or location have the same definition of task performance and that trainers evaluate the soldiers to the same standard.

Figure 2-1 shows the relationship between battle-focused training and the use of the TG and SM. The left-hand side of the diagram shows the process of soldier training taken from FM 25-101, while the right side of the diagram shows how the STP supports each step of this process.

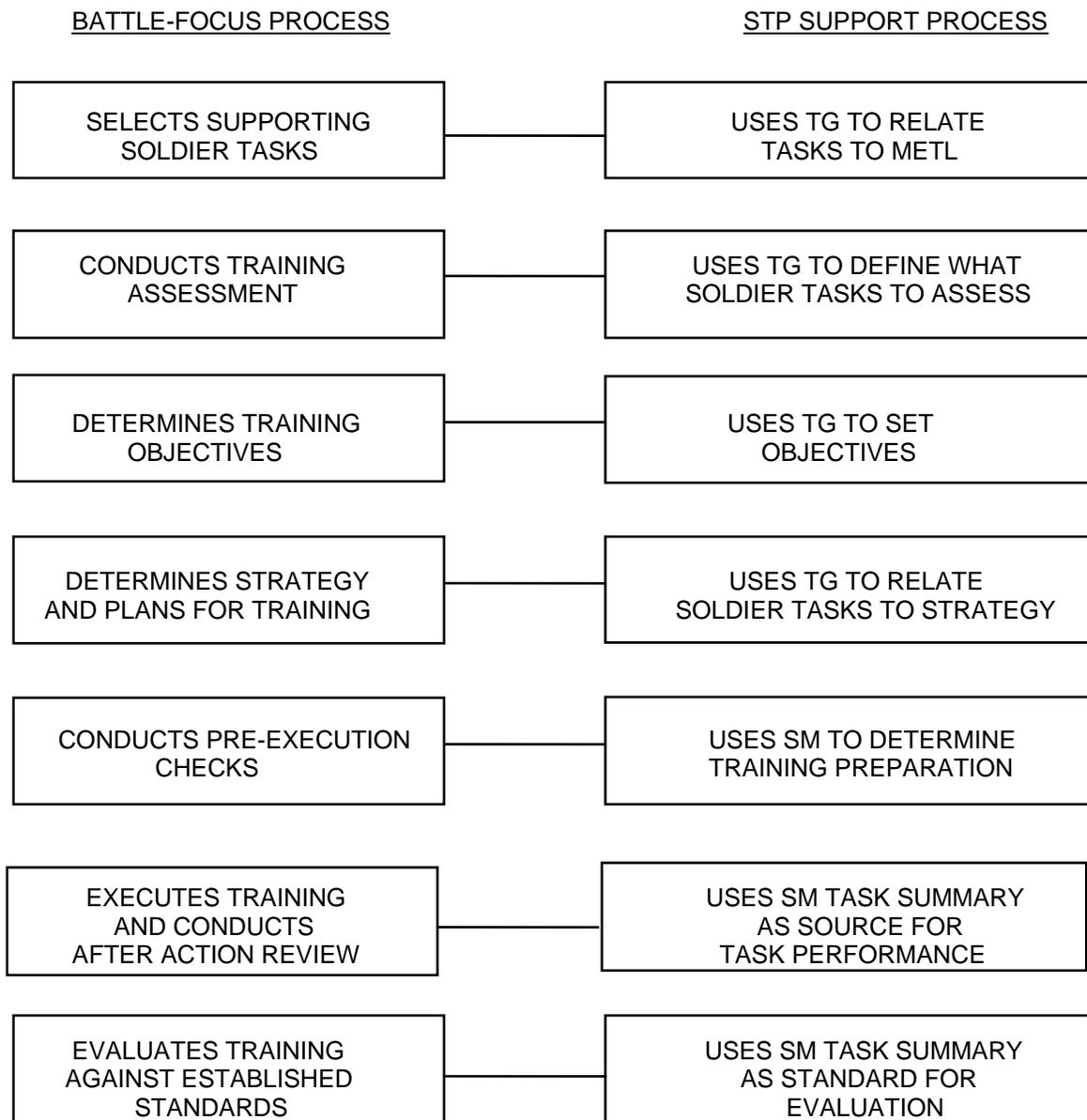


Figure 2-1. TG and SM battle-focused training relationships.

TRAINER'S RESPONSIBILITIES

Training soldier and leader tasks to standard and relating this training to collective mission-essential tasks is the responsibility of NCO trainers. Trainers use the steps below to plan and evaluate training:

- Identify soldier and leader training requirements. The NCO determines which tasks soldiers need to train on using the commander's training strategy. The unit's METL, ARTEP, and the MOS training plan in the TG are sources for helping the trainer define the individual training needed.

- Plan the training. Training for specific tasks can usually be integrated or conducted concurrently with other training or during "slack periods." The unit's ARTEP can assist in identifying soldier and leader tasks, which can be trained and evaluated concurrently with collective task training and evaluation.
- Gather the training references and materials. The SM task summary lists all references, which can assist the trainer in preparing for the training of that task.
- Determine risk assessment and identify safety concerns. Analyze the risk involved in training a specific task under the current conditions at the time of scheduled training. Ensure that your training preparation takes into account those cautions, warnings, and dangers associated with each task.
- Train each soldier. Show the soldier how the task is done to standard and explain step-by-step how to do the task. Give each soldier at least one chance to do the task step-by-step.
- Stress fratricide. Fratricide is an issue that every trainer must consider in all aspects of training and evaluation. Munitions do not distinguish between friend and foe. All trainers must train and stress procedures which must be followed to avoid fratricide. These procedures include IFF, weapon control status, vehicle and aircraft recognition, corridors, routes, zones, flight levels, and other considerations.
- Determine environmental impacts. Trainers must always be sensitive to the possibility of environmental contamination. They must ensure that troops, vehicles, equipment, and weapons for which they are responsible do not cause unnecessary contamination to the subsurface, surface, waterways, vegetation, and supersurface (air). Additionally, NBC usage must be limited to combat critical operations.
- Emphasize training in MOPP 4 clothing. Soldiers have difficulty performing even the very simple tasks in a nuclear and/or chemical environment. The combat effectiveness of the soldier and the unit can degrade quickly when trying to perform in MOPP 4. Practice is the best way to improve performance. The trainer is responsible for training and evaluating soldiers in MOPP 4 so that they are able to perform critical wartime tasks to standards under a nuclear and/or chemical environment.
- Check each soldier. Evaluate how well each soldier performs the tasks in this manual. Conduct these evaluations during individual training sessions or while evaluating soldier proficiency during the conduct of unit collective tasks. This manual provides an evaluation guide for each task to enhance the trainer's ability to conduct year-round, hands-on evaluations of tasks critical to the unit's mission. Use the information in the MOS training plan as a guide to determine how often to train the soldier on each task to ensure that soldiers sustain proficiency.
- Record the results. The leader book referred to in FM 25-101, Appendix B, is used to record task performance, and gives the leader total flexibility on the method of recording training. The trainer may use DA Forms 5164-R and 5165-R as part of the leader book. The forms are optional and locally reproducible. STP 21-24-SMCT contains a copy of these forms and instructions for their use. This STP also includes copies of these forms.
- Retrain and evaluate. Work with each soldier until he can perform the task to specific SM standards.

EVALUATION GUIDE

An evaluation guide exists for each task summary in the SM. Trainers use the evaluation guides year-round to determine if soldiers can perform their critical tasks to SM standards. Each evaluation guide contains one or more performance measures, which identify what the trainer needs to observe to score a soldier's performance. Each step is clearly identified by a P (Pass) and F (Fail), located under the Results column on each evaluation guide. Some tasks involve a process which the trainer must observe as the soldier performs the task. For other tasks, the trainer must evaluate an "end product" resulting from doing the task. The following are some general points about using the evaluation guide to evaluate soldiers:

- Review the guidance to become familiar with the information on which the soldier will be scored.
- Ensure that the necessary safety equipment and clothing needed for proper performance of the job are on-hand at the training site.
- Prepare the test site according to the Conditions section of the task summary. Some tasks contain special evaluation preparation instructions. These instructions tell the trainer what modifications must be made to the job conditions to evaluate the task. Reestablish the test site to the original requirements after evaluating each soldier to ensure that conditions are the same for each soldier.
- Advise each soldier of the information in the Brief Soldier section of the task summary before evaluating.
- Score each soldier according to the performance measures.
- Record the date and task performance (GO or NO-GO) in the leader book.

TRAINING TIPS FOR THE TRAINER

1. Prepare yourself:

- Get training guidance from your chain of command on when training must take place, which soldiers should be trained, availability of resources, and a training site.
- Get the training objective (task conditions and standards) from the task summary in this manual.
- Ensure you can do the task. Review the task summary and the references in the References section. Practice doing the task or, if necessary, have someone train you on the task.
- Choose a training method.
- Prepare a training outline consisting of informal notes on what you want to cover during your training session.
- Practice your training presentation.

2. Prepare the resources:

- Obtain the required resources identified in the Conditions statement for each task.
- Gather equipment and ensure it is operational.
- Coordinate the use of training aids and devices.

- Prepare the training site according to the Conditions statement and Evaluation Preparation section of the task summary, as appropriate.

3. Prepare the soldiers:

- Tell the soldier what task to do and how well to do it. Refer to the Standards statement and Evaluation Preparation section for each task, as appropriate.
- Caution soldiers about safety, environment, and security.
- Provide any necessary training on basic skills that soldiers must have before they can be trained on the task.
- Pretest each soldier to determine who needs training in what areas by having the soldier perform the task. Use DA Form 5164-R and the Evaluation Guide in each task summary to make this determination.

4. Train the soldiers who failed the pretest:

- Demonstrate how to do the task or the specific performance steps to those soldiers who could not perform to SM standards. Have soldiers study the appropriate materials.
- Have soldiers practice the task until they can perform it to SM standards.
- Evaluate each soldier using the Evaluation Guide.
- Provide feedback to those soldiers who fail to perform to SM standards, and have them continue to practice until they can perform to SM standards.

5. Record results in the leader book.

MILITARY OCCUPATIONAL SPECIALTY TRAINING PLAN

One of the key components of the TG is the MOS training plan. It has two parts to assist the commander in preparing a unit training plan, which satisfies integration, cross-train, train-up, and sustainment training requirements for soldiers in this MOS.

Part One shows the relationship of an MOS skill level between duty position and critical tasks. These critical tasks are grouped by task commonality into subject areas. Section I lists subject area numbers and titles. Section II identifies the total training requirement in terms of subject areas listed in Section I, for each duty position within an MOS. The subject areas define the training requirements for each duty position within an MOS, and provide a recommendation for cross-training and train-up/merger training:

- Duty Position column—contains the MOS duty positions, by skill level, which have different training requirements.
- Subject Area column—lists by subject area number, the subject areas in which the soldier must be proficient for that duty position.
- Cross-Train column—lists the recommended duty position for which soldiers should be cross-trained.
- Train-Up/Merger column—lists the corresponding duty position for the next higher skill level or MOS the soldier will merge into on promotion.

Part Two lists by subject area, the critical tasks to be trained in an MOS, task number, task title, training location, sustainment training frequency, sustainment training SL:

- Subject Area column—lists the subject area number and title in the same order as in the MOS training plan, Part One, Section I.
- Task Number column—lists the task numbers for all tasks included in the subject area.
- Title column—lists the task title.
- Training Location column—identifies the training location where the task is first trained to STP standards. If the task is first trained to standard in the unit, the word Unit will be in this column. If the task is first trained to standard in the training base, it will identify the resident course where the task was taught. Figure 2-2 contains a list of training locations and their brevity codes.

AIT	—	Advanced Individual Training
ANCOC	—	Advanced Noncommissioned Officers Course
BCT	—	Basic Combat Training
BNCOC	—	Basic Noncommissioned Officers Course
Unit	—	Trained in the Unit

Figure 2-2. Training locations.

- Sustainment Training Frequency column—indicates the recommended frequency at which tasks should be trained to ensure soldiers maintain task proficiency. Figure 2-3 identifies the frequency codes used in this column.

AN	—	annually
BM	—	bimonthly (once every two months)
MO	—	monthly
QT	—	quarterly
SA	—	semiannually

Figure 2-3. Sustainment training frequency codes.

- Sustainment Training Skill Level column—lists the skill levels of the MOS for which soldiers must receive sustainment training to ensure they maintain proficiency to SM standards.

<p>MOS TRAINING PLAN MOS 14T PART ONE. SUBJECT AREAS AND DUTY POSITIONS</p> <p>SECTION I. SUBJECT AREA CODES</p>	
<p>Skill Level 1</p> <ul style="list-style-type: none"> 1 Launching Station MO&E and PMCS 2 Perform Operator/Organizational Maintenance on LS 3 Road March and Vehicle Operations 4 Missile Reload 5 Communications Equipment Operations 6 Surviving to Operate (STO) Techniques 7 Patriot Support Maint Equip, MO&E, and PMCS <p>Skill Level 2</p> <ul style="list-style-type: none"> 8 Supervising Launching Station Operations 9 Supervising Patriot Support Maint Equip, MO&E, and PMCS <p>Skill Level 3</p> <ul style="list-style-type: none"> 10 Supervising Launching Section Operations <p>Skill Level 4</p> <ul style="list-style-type: none"> 11 Monitoring Launching Section Operations 12 Monitoring STO Procedures 13 Monitoring Patriot Support Maint Equip, MO&E, and PMCS 	

<p>MOS TRAINING PLAN MOS 14T PART ONE</p> <p>SECTION II. DUTY POSITION TRAINING REQUIREMENTS</p>				
SL	DUTY POSITION	SUBJECT AREAS	CROSS-TRAIN	TRAIN-UP/MERGER
SL1	Patriot Launcher Operator	1-7	Patriot Launcher Operator/Maintainer	Patriot Launcher Senior Operator
SL2	Patriot Launcher Senior Operator	8-9	NA	Patriot Launcher Section Chief
SL3	Patriot Launcher Section Chief	10	NA	Patriot Launcher Platoon Sergeant
SL4	Patriot Launcher/Maintenance Platoon Sergeant	11-13	Patriot Fire Control Platoon Sergeant	First Sergeant

PART TWO. CRITICAL TASKS					
SUBJECT AREA	TASK NUMBER	TITLE	TRAINING LOCATION	SUST TNG FREQ	SUST TNG SL
SKILL LEVEL 1					
1. Launching Station MO&E and PMCS	441-082-1100	Perform Launching Station (LS) Emplacement	AIT	QT	1-3
	441-082-1102	Perform Launching Station (LS) March Order	AIT	QT	1-3
	441-082-1104	Perform Operator Preventive Maintenance Checks and Services (PMCS)/Corrective Maintenance on Guided Missile Canister (GMC)	AIT	QT	1-3
	441-082-1105	Perform Operator/Organizational Preventive Maintenance Checks and Services (PMCS) on the Launching Station (LS)	AIT	QT	1-3
	441-084-1116	Prepare DA Form 2404 or DA Form 5988-E	AIT	QT	1-3
	441-084-1500	Operate Patriot Automated Logistics System (PALS)	AIT	QT	1-3
	441-084-1501	Perform Preventive Maintenance Checks and Services (PMCS) on Patriot Automated Logistics System (PALS)	AIT	QT	1-3
2. Perform Operator/Or ganizational Maintenance on LS	441-082-1000	Perform Operator/Organizational Maintenance on the Launching Station (LS) AC/DC Distribution System	AIT	QT	1-3
	441-082-1001	Perform Operator/Organizational Maintenance on the Launching Station (LS) Data Link Terminal Module (DLTM)	AIT	QT	1-3
	441-082-1002	Perform Operator/Organizational Maintenance on the Launching Station (LS) Launcher Electronics Module (LEM)	AIT	QT	1-3
	441-082-1003	Perform Operator/Organizational Maintenance on the Launching Station (LS) Launcher Mechanics	AIT	QT	1-3
	441-082-1004	Perform Operator/Organizational Maintenance on the Launching Station (LS) Launcher Missile Round Distributor (LMRD)	AIT	QT	1-3
	441-082-1005	Perform Operator/Organizational Maintenance on the Launching Station (LS) Missile Round Cable Test Set (MRCTS)	AIT	QT	1-3

PART TWO. CRITICAL TASKS (Continued)

SUBJECT AREA	TASK NUMBER	TITLE	TRAINING LOCATION	SUST TNG FREQ	SUST TNG SL
SKILL LEVEL 1					
2. Perform Operator/Organizational Maintenance on LS (cont)	441-082-1006	Perform Operator/Organizational Maintenance on the Launching Station Test Set (LSTS)	AIT	QT	1-3
	441-082-1007	Perform Operator/Organizational Maintenance on the Launching Station (LS) Enhanced Launcher Electronics System (ELES)	UNIT	QT	1-3
	441-082-1110	Perform Operator/Organizational Maintenance on the Launching Station Diagnostic Unit (LSDU)	UNIT	QT	1-3
	441-084-1422	Perform Preventive Maintenance Checks and Services (PMCS) on the Test, Measurement, and Diagnostic Equipment (TMDE)	UNIT	QT	1-2
3. Road March and Vehicle Operations	441-084-1108	Operate the HEMTT Series Vehicle	AIT	QT	1-3
	441-084-1574	Initialize the Remote Launch at the Communications Relay Group (CRG)	UNIT	QT	1-3
	441-084-1575	Relinquish the Remote Launch at the Communications Relay Group (CRG)	UNIT	QT	1-3
4. Missile Reload	441-082-1106	Load a Guided Missile Canister (GMC) onto the Guided Missile Transporter (GMT)	AIT	QT	1-2
	441-082-1107	Load a Guided Missile Canister (GMC) onto the Launching Station (LS)	AIT	QT	1-2
	441-082-1108	Remove a Guided Missile Canister (GMC) from the Launching Station (LS)	AIT	QT	1-2
	441-082-1109	Remove a Guided Missile Canister (GMC) from the Guided Missile Transporter (GMT)	AIT	QT	1-2
	441-084-1111	Operate Crane Mounted on a 10-Ton Vehicle	AIT	QT	1-3
	441-084-1112	Signal Crane Operator Using Standard Arm-and-Hand Signals	AIT	QT	1-2
5. Commo Equipment Operations	113-587-0058	Perform Operator's Troubleshooting on SINCGARS	AIT	QT	1-3
	113-587-2070	Operate SINCGARS Single Channel (SC)	AIT	QT	1-3
	113-587-2071	Operate SINCGARS Frequency Hopping (FH) (Net Members)	AIT	QT	1-3

PART TWO. CRITICAL TASKS (Continued)

SUBJECT AREA	TASK NUMBER	TITLE	TRAINING LOCATION	SUST TNG FREQ	SUST TNG SL
SKILL LEVEL 1					
5. Commo Equipment Operations (cont)	113-587-2075	Operate SINCGARS Data Devices	AIT	QT	1-3
6. Surviving to Operate (STO) Techniques	031-504-1008	Operate the M8A1 Alarm System	UNIT	QT	1-3
	052-192-1128	Locate Mines with an AN/PSS-12 Mine Detector	UNIT	QT	1-3
	441-084-1132	Perform Denial and Destruction (D2) of the Patriot System	UNIT	QT	1-3
	441-084-1513	Perform Battlefield Damage Assessment and Repair (BDAR) of Patriot Equipment	UNIT	QT	1-3
7. Patriot Support Maint Equip, MO&E, and PMCS	441-084-1400	Emplace the Battalion/Battery Maintenance Center (BMC)	UNIT	QT	1-2
	441-084-1402	Emplace the 15-KW Generator Set	UNIT	QT	1-2
	441-084-1411	March Order the Battalion/Battery Maintenance Center (BMC)	UNIT	QT	1-2
	441-084-1414	March Order the 15-KW Generator Set	UNIT	QT	1-2
	441-084-1419	Perform Operator Preventive Maintenance Checks and Services (PMCS) on the Patriot Support and Maintenance Equipment (PSME)	UNIT	QT	1-2
SKILL LEVEL 2					
8. Supervising Launching Station Operations	441-084-2000	Supervise Battlefield Damage Assessment and Repair (BDAR) of Patriot Equipment	UNIT	QT	1-3
	441-082-2054	Supervise Launching Station (LS) Emplacement	UNIT	QT	1-3
	441-082-2055	Supervise Launching Station (LS) March Order	UNIT	QT	1-3
	441-082-2056	Supervise Preventive Maintenance Checks and Services (PMCS)/Corrective Maintenance on Guided Missile Canister (GMC)	UNIT	QT	1-3

PART TWO. CRITICAL TASKS (Continued)

SUBJECT AREA	TASK NUMBER	TITLE	TRAINING LOCATION	SUST TNG FREQ	SUST TNG SL
SKILL LEVEL 2					
9. Supervising Patriot Support Maint Equip, MO&E, and PMCS	441-084-2100	Supervise Emplacement of the System Maintenance Section Equipment	UNIT	QT	1-3
	441-084-2101	Supervise March Order of the System Maintenance Section Equipment	UNIT	QT	1-3
	441-084-2104	Supervise Patriot System Operator/Organizational Maintenance	UNIT	QT	1-3
	441-084-2106	Supervise Maintenance of the Test, Measurement, and Diagnostic Equipment (TMDE)	UNIT	QT	1-3
SKILL LEVEL 3					
10. Supervising Launching Section Operations	441-082-3028	Supervise Missile Reload	BNCOC	QT	1-3
	441-082-3029	Supervise Operator/Organizational Preventive Maintenance Checks and Services (PMCS) on Launching Section Equipment	BNCOC	QT	1-3
	441-084-3026	Supervise Road March Procedures	BNCOC	QT	1-3
SKILL LEVEL 4					
11. Monitoring Launching Section Operations	441-082-4027	Monitor Launcher Platoon Emplacement	ANCOC	QT	1-4
	441-082-4028	Monitor Launcher Platoon March Order	ANCOC	QT	1-4
	441-082-4032	Monitor Preventive Maintenance Checks and Services (PMCS) on Launcher Platoon Equipment	ANCOC	QT	1-4

PART TWO. CRITICAL TASKS (Continued)

SUBJECT AREA	TASK NUMBER	TITLE	TRAINING LOCATION	SUST TNG FREQ	SUST TNG SL
SKILL LEVEL 4					
12. Monitoring STO Procedures	441-084-4027	Supervise Sustained Operations	ANCOC	QT	1-4
	441-084-4028	Monitor Denial and Destruction (D2) of Patriot Equipment	ANCOC	QT	1-4
	441-084-4029	Supervise Perimeter Defense	ANCOC	QT	1-4
13. Monitoring Patriot Support Maint Equip, MO&E, and PMCS	441-082-4020	Monitor Emplacement of Maintenance Platoon Equipment	ANCOC	QT	1-4
	441-082-4021	Monitor March Order of Maintenance Platoon Equipment	ANCOC	QT	1-4
	441-084-4022	Monitor Fault Isolation and Operator/Organizational Maintenance Procedures in the Patriot Fire Unit (FU)	ANCOC	QT	1-4
	441-084-4023	Monitor Preventive Maintenance Checks and Services (PMCS) on the Patriot System	ANCOC	QT	1-4
	441-084-4025	Monitor Road March Procedures	ANCOC	QT	1-4

CHAPTER 3

MOS/Skill Level Tasks

Skill Level 1

Subject Area 1: Launching Station MO&E and PMCS

PERFORM LAUNCHING STATION (LS) EMBLACEMENT

441-082-1100

Conditions: The LS arrived at the new location. As a launcher crew member you are directed by your section chief to emplace the LS. The following is available:

1. Adapter, torque wrench.
2. Aiming circle, M2, with equipment.
3. Extension, 1/2-inch drive, 30-inch long.
4. Extension, 1/2-inch drive, 36-inch long.
5. Pliers, slip-joint, 12-inch.
6. Quadrant, gunner's.
7. Screwdriver, flat-tip, 3-inch long.
8. Wrench, torque, 30 to 150 foot-pounds.
9. Socket, 3/4-inch, deep well, 1/2-inch drive.
10. Cloth, clean.
11. Pencil, grease.
12. Reel unit, RL-31 with attachments.
13. Cable assembly A5W34, fiber optic, as required.
14. Cable adapter, as necessary.

Standards: Emplace the LS per ARTEP 44-635-14-Drill. Perform all steps without causing injury to self or other personnel, with no damage to the equipment, and with minimal damage to the environment.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Positioned LS at prepared site.	—	—
2. Installed ground rod.	—	—
3. Extended work platforms and installed guard rails.	—	—

Performance Measures	<u>GO</u>	<u>NO GO</u>
4. Prepared modules and outriggers for operation.	—	—
5. Lowered outriggers and uncoupled tractor.	—	—
6. Leveled LS.	—	—
7. Started generator set A6.	—	—
8. Closed A6 circuit breaker.	—	—
9. Energized A2.	—	—
10. Energized A1.	—	—
11. Performed local BITE test at A1A14.	—	—
12. Verified torque value of tiedown bolts.	—	—
13. Removed travel lockpins.	—	—
14. Mated data link mast assembly.	—	—
15. Raised LS platform.	—	—
16. Prepared LS for location and alignment operations.	—	—
17. Disconnected and stowed electrical cables and air lines.	—	—
18. Determined emplacement requirements.	—	—
19. Verified A10 operational status.	—	—
20. Verified A9 operational status.	—	—
21. Unlocked GM torque tube handles on each canister.	—	—
22. Transferred LS control to ECS with A1A2 local/remote key.	—	—
23. Left site.	—	—

Evaluation Guidance: Score the soldier GO if he passes all the steps. Score the soldier NO-GO if he fails any step. If the soldier fails any step, show what he did wrong and how to do it correctly.

**References
Required**

Related
ARTEP 44-635-14-DRILL
TM 9-1440-600-10

**PERFORM LAUNCHING STATION (LS) MARCH ORDER
441-082-1102**

Conditions: As a launcher crew member you are directed by your section chief to march order the LS. The LS is emplaced and operational. Assistance from one other crew member and the following are available:

1. Adapter, torque wrench.
2. Extension, 1/2-inch drive, 30-inch long.
3. Extension, 1/2-inch drive, 36-inch long.
4. Socket, 3/4-inch, deep well, 1/2-inch drive.
5. Wrench, adjustable, 8-inch long.
6. Wrench, torque 30 to 150 foot-pounds.

Standards: March orders the LS per ARTEP 44-635-14-Drill. Performs all steps without causing injury to self or other personnel, and with no damage to the equipment.

Performance Measures

NOTE: Be extremely careful when working around the LS. Observe all dangers, warnings, and cautions per technical manuals and drills.

	<u>GO</u>	<u>NO GO</u>
1. Selected local mode.	___	___
2. Determined from unit TSOP if FOCA retrieval was required.	___	___
3. Rotated turntable to travel position.	___	___
4. Locked GM torque tube handles and disconnected GMs.	___	___
5. Positioned tractor for coupling to semitrailer.	___	___
6. Prepared A2 for roadmarch.	___	___
7. Lowered launcher platform.	___	___
8. Connected tractor air lines and electrical cables to semitrailer.	___	___
9. Stowed data link mast assembly.	___	___
10. Verified torque value of canister tie-down bolts.	___	___
11. Secured travel lockpins and roadside work platforms.	___	___
12. De-energized A1.	___	___
13. De-energized A2.	___	___
14. Set A1A3 MAIN POWER -AC-CB1 to off.	___	___
15. Secured A1 and A2 air inlet and air exhaust covers.	___	___
16. Opened A6 circuit breaker.	___	___

Performance Measures

	<u>GO</u>	<u>NO GO</u>
17. Shut down A6.	—	—
18. Raised rear outriggers.	—	—
19. Coupled tractor, performed jerk-test and raised front outriggers.	—	—
20. Prepared trailer for roadmarch.	—	—
21. Prepared tractor for roadmarch.	—	—

Evaluation Guidance: Score the soldier GO if he passed all the steps. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what he did wrong and how to do it correctly.

References

Required

Related

ARTEP 44-635-14-DRILL
TM 9-1440-1600-10
TM 9-1440-600-10

PERFORM OPERATOR PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS)/CORRECTIVE MAINTENANCE ON GUIDED MISSILE CANISTER (GMC)

441-082-1104

Conditions: Given DA Form 2404 or DA Form 5988-E showing a service is due or your section chief directs you to perform operator PMCS or corrective maintenance on the GMC. Assistance from a crew member and the following are available:

1. Tools and equipment listed per applicable service procedure(s).
2. TM 9-1410-600-14.

Standards: Performs the PMCS or corrective maintenance per procedures in TM 9-1410-600-14, Chapters 3 and 4. Completes DA Form 2404 or DA Form 5988-E per DA Pamphlet 738-750, and notifies the section chief if organizational maintenance support is required. Performs all steps without causing injury to self or other personnel, with no damage to the equipment, and with minimal damage to the environment.

Performance Measures

NOTE: Be extremely careful when working around the GMC. Observe all dangers, warnings, and cautions per technical manuals.

	<u>GO</u>	<u>NO GO</u>
1. Checked canister instrument panel for-	_____	_____
a. Humidity indicator damage.		
b. Excess humidity.		
c. Quick-release pin, chain, and plunger.		
d. Canister heater connector J2.		
e. Canister heater connector J2 cover and chain (notified BMO; if replacement was required).		
f. Canister electrical connector J1 (notified BMO if replacement was required).		
g. Canister ground terminal J3 (replaced J3 if required).		
2. Checked isolation frames for-	_____	_____
a. Resilient shock mount serviceability.		
b. Anchor shackles (presence and serviceability, replaced if required).		
c. Wood runners.		
3. Checked canister mainframes for-	_____	_____
a. Four eye bolt rings; two per mainframe.		
b. Four tiedown bolts; two per mainframe.		
c. Four shaft interlock fittings.		
d. Four alignment pins.		
4. Completed DA Form 2404 or DA Form 5988-E.	_____	_____
5. Notified section chief if an uncorrectable fault existed and higher echelon support was required.	_____	_____

Evaluation Guidance: Score the soldier GO if he passed all the steps. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what he did wrong and how to do it correctly.

References

Required

DA FORM 2404

DA FORM 5988-E

TM 9-1410-600-14

Related

DA PAM 738-50

PERFORM OPERATOR/ORGANIZATIONAL PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS) ON THE LAUNCHING (LS)

441-082-1105

Conditions: Given a launching station with local mode selected, a DA Form 2404 or DA Form 5988-E indicating a service is due, or your section chief directs you to perform PMCS on the LS. Assistance from another crew member and the following are available:

1. DA Pamphlet 738-750.
2. TM 9-6115-464-12.
3. TM 9-1440-600-10.
4. TM 9-1440-1600-10.
5. TM 9-2330-357-14&P.
6. LO 5-6115-464-12.
7. LO 9-1440-600-14.
8. Tools and equipment per applicable service procedure(s).

Standards: Performs the checks or services per procedures in TM 5-6115-464-12, TM 9-1440-600-10 (Section II), and TM 9-2330-357-14&P (Section II). Completes DA Form 2404 or DA Form 5988-E per DA Pamphlet 738-750. Notifies the section chief if an uncorrectable fault exists and if higher echelon support is required. Performs all steps without causing injury to self or other personnel, with no damage to the equipment, and with minimal damage to the environment.

Performance Measures

GO NO GO

Note: Be extremely careful when performing preventive maintenance checks and services. Observe all dangers, warnings, and cautions per technical manuals.

- | | | |
|---|---|---|
| 1. Identified PMCS procedure(s) outlined in PMCS table of each applicable manual. | — | — |
| 2. Performed appropriate PMCS procedure(s). | — | — |
| 3. Performed corrective action(s). | — | — |
| 4. Completed DA Form 2404(s) or DA Form 5988-E. | — | — |
| 5. Notified section chief if an uncorrectable fault existed and if higher echelon support was required. | — | — |

Evaluation Guidance: Score the soldier GO if he passes all the steps. Score the soldier NO-GO if he fails any step. If the soldier fails any step, show what he did wrong and how to do it correctly.

References

Required

- DA PAM 738-750
- LO 9-6115-464-12
- TM 9-1440-1600-10
- TM 9-1440-600-10
- TM 9-2330-357-14&P

Related

STP 44-14T14-SM-TG

References

Required

TM 9-6115-464-12

Related

**PREPARE DA FORM 2404 OR DA FORM 5988-E
441-084-1116**

Conditions: A fault is reported, or a fault is found during PMCS. The following are available:

1. DA Form 2404 or DA Form 5988-E.
2. Pencil.

Standards: Completes steps 1-19 for DA Form 2404 or steps 19-25 for DA Form 5988-E per DA Pamphlet 738-750 with complete accuracy.

Performance Measures	<u>GO</u>	<u>NO GO</u>
1. Entered name of the unit in block 1.	—	—
2. Entered nomenclature and model in block 2.	—	—
3. Entered serial or registration number, or NSN in block 3.	—	—
4. Entered number of miles in block 4a, if required.	—	—
5. Entered number of hours in block 4b, if required.	—	—
6. Entered rounds fired and hot starts in blocks 4c and 4d, if required.	—	—
7. Entered date in block 5, if required.	—	—
8. Entered type of inspection in block 6.	—	—
9. Entered TM number and date in block 7.	—	—
10. Entered signature in block 8a, if required.	—	—
11. Entered time in block 8b, if required.	—	—
12. Left block 9a blank.	—	—
13. Entered time in block 9b, if required.	—	—
14. Entered TM item number(s) in column 2.	—	—
15. Entered fault status symbol as prescribed in the applicable TM in column b.	—	—
16. Entered deficiencies and shortcomings in column c.	—	—
17. Entered corrective action(s) in column d.	—	—
18. Entered initials in column e, when applicable.	—	—
19. Entered item number, if required.	—	—
20. Entered fault date, if required.	—	—
21. Entered fault status symbol, as prescribed in the applicable TM.	—	—
22. Entered fault description, if required.	—	—
23. Entered corrective action, if required.	—	—
24. Entered hours and operator license number when fault is corrected, or when use is completed for that day.	—	—

Performance Measures

GO **NO GO**

25. Entered inspector's license number, signature, and time, when required.

Evaluation Guidance: Score the soldier GO if he passes all the steps. Score the soldier NO-GO if he fails any step. If the soldier fails any step, show what he did wrong and how to do it correctly.

References

Required

DA FORM 2404

DA FORM 5988-E

Related

DA PAM 738-750

**OPERATE PATRIOT AUTOMATED LOGISTICS SYSTEM (PALS)
441-084-1500**

Conditions: You have been directed by your section chief to prepare the PALS to perform corrective maintenance on a piece of Patriot equipment. Assistance from another crew member is available.

Standards: Operates the PALS without causing injury to self or other personnel , with no damage to the equipment, and with minimal damage to the environment.

Performance Measures	<u>GO</u>	<u>NO GO</u>
1. Performed PALS setup procedures.	—	—
2. Powered up PALS.	—	—
3. Used PALS to perform maintenance on Patriot equipment.	—	—
4. Powered down PALS.	—	—

Evaluation Guidance: Score the soldier GO if he passes all the steps. Score the soldier NO-GO if he fails any step. If the soldier fails any step, show what he did wrong and how to do it correctly.

References
Required

Related
TM 9-4935-606-12

**PERFORM PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS) ON PATRIOT
AUTOMATED LOGISTICS SYSTEM (PALS)**

441-084-1501

Conditions: Given DA Form 2404 or DA Form 5988-E showing services due on the PALS, perform PMCS on the PALS. Assistance and the following are available:

1. DA Form 2404 or DA Form 5988-E.
2. Tools and equipment listed per applicable service procedures.
3. TM 9-4935-606-12.

Standards: Completes the services on the PALS per TM 9-4935-606-12. Accurately completes DA Form 2404 or DA Form 5988-E and DD Form 314 per DA Pamphlet 738-750. Notifies section chief if an uncorrectable fault exists and if higher echelon support is required. Performs all steps with complete accuracy and within the time prescribed by local command directives without causing injury to self or other personnel, with no damage to the equipment, and with minimal damage to the environment.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Identified the procedure(s) in the appropriate PMCS table.	___	___
2. Performed applicable PMCS procedure(s).	___	___
3. Performed corrective actions as required.	___	___
4. Completed DA Form 2404 or DA Form 5988-E.	___	___
5. Notified section chief if an uncorrectable fault existed and if higher echelon support was required.	___	___

Evaluation Guidance: Score the soldier GO if he passes all the steps. Score the soldier NO-GO if he fails any step. If the soldier fails any step, show what he did wrong and how to do it correctly.

References

Required
DA FORM 2404
DA FORM 5988-E
TM 9-4935-606-12

Related
TM 9-6625-2298-12&P

Subject Area 2: Perform Operator/Organizational Maintenance on LS

**PERFORM OPERATOR/ORGANIZATIONAL MAINTENANCE ON THE LAUNCHING STATION (LS)
AC/DC DISTRIBUTION SYSTEM
441-082-1000**

Conditions: A fault is detected and preliminary fault assessment procedures have been performed. The BMO has decided to go off-line and correct the fault. Deactivation procedures have been performed. You are directed by the section chief to perform corrective maintenance. Assistance from a crew member and the following are available:

1. Spare BRU(s).
2. Tools and test equipment.
3. Maintenance record book.
5. Manuals:

TM 9-1440-600-10	TM 9-1440-1600-20-2
TM 9-1440-600-20-1	TM 9-1440-1600-20-3
TM 9-1440-600-20-2	
TM 9-1440-600-20-3	
TM 9-1440-1600-10	
TM 9-1440-1600-20-1	

Standards: Isolates the malfunction to the faulty BRU(s) and replaces the faulty BRU within the time prescribed by maintenance allocation chart. Notifies the operator to activate the system. Makes appropriate entries in the maintenance record book. Notifies the section chief if a fault is uncorrectable and if higher echelon support is required. Performs all steps without causing injury to self or other personnel, with no damage to the equipment, and with minimal damage to the environment.

Evaluation Preparation: Note: This task should be performed when faults are reported or detected in the system.

Setup: Simulate faults under training conditions.

Brief Soldier: Tell soldier to perform corrective maintenance. Assistance from a crew member is available. Accompany soldier.

Performance Measures	<u>GO</u>	<u>NO GO</u>
1. Confirmed the operator's hard copy of fault data.	—	—
2. Performed fault isolation procedures.	—	—
3. Performed diagnostic procedures, if required.	—	—
4. Analyzed diagnostic data, if required.	—	—
5. Took appropriate corrective measures. <ol style="list-style-type: none"> a. Replaced faulty BRU(s). b. Performed adjustments, if required. c. Notified section chief if an uncorrectable fault existed and if higher echelon support was required. 	—	—
6. Performed checks and verified fault was corrected.	—	—
7. Made appropriate entries of maintenance actions.	—	—

Performance Measures

GO NO GO

- a. Completed the data in the maintenance record book.
- b. Closed out DA Form 2404 or DA Form 5988-E.

8. Informed operator to activate system.

Evaluation Guidance: Score the soldier GO if he passes all the steps. Score the soldier NO-GO if he fails any step. If the soldier fails any step, show what he did wrong and how to do it correctly.

References

Required

- TM 9-1440-1600-10
- TM 9-1440-1600-20-1
- TM 9-1440-1600-20-2
- TM 9-1440-1600-20-3
- TM 9-1440-600-10
- TM 9-1440-600-20-1
- TM 9-1440-600-20-2
- TM 9-1440-600-20-3

Related

**PERFORM OPERATOR/ORGANIZATIONAL MAINTENANCE ON THE LAUNCHING STATION (LS)
DATA LINK TERMINAL MODULE (DLTM)**

441-082-1001

Conditions: A fault is detected and preliminary fault assessment procedures have been performed. The BMO has decided to go off-line and correct the fault. Deactivation procedures have been performed. You are directed by the section chief to perform corrective maintenance. Assistance from a crew member and the following are available.

1. Spare BRU(s).
2. Tools and test equipment.
3. Maintenance record book.
4. Manuals:

TM 9-1440-600-10	TM 9-1440-1600-20-2
TM 9-1440-600-20-1	TM 9-1440-1600-20-3
TM 9-1440-600-20-2	
TM 9-1440-600-20-3	
TM 9-1440-1600-10	
TM 9-1440-1600-20-1	

Standards: Isolates the malfunction to the faulty BRU(s) and replaces the faulty BRU within the time prescribed by local command directives. Notifies the operator to activate the system. Makes appropriate entries in the maintenance record book. Notifies the section chief if a fault is uncorrectable and if higher echelon support is required. Performs all steps without causing injury to self or other personnel, with no damage to the equipment, and with minimal damage to the environment.

Performance Measures	<u>GO</u>	<u>NO GO</u>
1. Confirmed the operator's fault data.	—	—
2. Performed fault isolation procedures.	—	—
3. Performed diagnostic procedures, if required.	—	—
4. Analyzed diagnostic data, if required.	—	—
5. Took appropriate corrective measures. <ol style="list-style-type: none"> a. Replaced faulty BRU(s). b. Performed adjustments, if required. c. Notified section chief if an uncorrectable fault existed and if higher echelon support was required. 	—	—
6. Performed checks and verified faults were corrected.	—	—
7. Made appropriate entries of maintenance actions. <ol style="list-style-type: none"> a. Completed the data in the maintenance record book. b. Closed out DA Form 2404 or DA Form 5988-E. 	—	—
8. Informed operator to activate system.	—	—

Evaluation Guidance: Score the soldier GO if he passes all the steps. Score the soldier NO-GO if he fails any step. If the soldier fails any step, show what he did wrong and how to do it correctly.

References

Required

- TM 9-1440-1600-10
- TM 9-1440-1600-20-1
- TM 9-1440-1600-20-2
- TM 9-1440-1600-20-3
- TM 9-1440-600-10
- TM 9-1440-600-20-1
- TM 9-1440-600-20-2
- TM 9-1440-600-20-3

Related

**PERFORM OPERATOR/ORGANIZATIONAL MAINTENANCE ON THE LAUNCHING STATION (LS)
LAUNCHER ELECTRONICS MODULE (LEM)**

441-082-1002

Conditions: A fault is detected and preliminary fault assessment procedures have been performed. The BMO has decided to go off-line and correct the fault. Deactivation procedures have been performed. You are directed by the section chief to perform corrective maintenance. Assistance from a crew member and the following are available:

1. Spare BRU(s).
2. Tools and test equipment.
3. Maintenance record book.
4. Manuals:
 TM 9-1440-600-10
 TM 9-1440-600-20-1
 TM 9-1440-600-20-2
 TM 9-1440-600-20-3

Standards: Isolates the malfunction to the faulty BRU(s) and replaces the faulty BRU(s) within the time prescribed by local command directives. Notifies the operator to activate the system. Makes appropriate entries made in the maintenance record book. Notifies the section chief if a fault was uncorrectable and if higher echelon support is required. Performs all steps without causing injury to self or other personnel, with no damage to the equipment, and with minimal damage to the environment.

Performance Measures	<u>GO</u>	<u>NO GO</u>
1. Confirmed the operator's fault data.	_____	_____
2. Performed fault isolation procedures.	_____	_____
3. Performed diagnostic procedures, if required.	_____	_____
4. Analyzed diagnostic data, if required.	_____	_____
5. Took appropriate corrective measures. <ol style="list-style-type: none"> a. Replaced faulty BRU(s). b. Performed adjustments, if required. c. Notified section chief if an uncorrectable fault existed and if higher echelon support was required. 	_____	_____
6. Performed checks and verified fault was corrected.	_____	_____
7. Made appropriate entries of maintenance actions. <ol style="list-style-type: none"> a. Completed the data in the maintenance record book. b. Closed out DA Form 2404 or DA Form 5988-E. 	_____	_____
8. Informed operator to activate system.	_____	_____

Evaluation Guidance: Score the soldier GO if he passes all the steps. Score the soldier NO-GO if he fails any step. If the soldier fails any step, show what he did wrong and how to do it correctly.

References

Required

- TM 9-1440-600-10
- TM 9-1440-600-20-1
- TM 9-1440-600-20-2
- TM 9-1440-600-20-3

Related

**PERFORM OPERATOR/ORGANIZATIONAL MAINTENANCE ON THE LAUNCHING STATION (LS)
LAUNCHER MECHANICS**

441-082-1003

Conditions: A fault is detected and preliminary fault assessment procedures have been performed. The BMO has decided to go off-line and correct the fault. Deactivation procedures have been performed. You are directed by the section chief to perform corrective maintenance. Assistance from a crew member and the following are available:

1. Spare BRU(s).
2. Tools and test equipment.
3. Maintenance record book.
4. Manuals:

TM 9-1440-600-10	TM 9-1440-1600-20-2
TM 9-1440-600-20-1	TM 9-1440-1600-20-3
TM 9-1440-600-20-2	
TM 9-1440-600-20-3	
TM 9-1440-1600-10	
TM 9-1440-1600-20-1	

Standards: Isolates the malfunction to the faulty BRU(s) and replaces the faulty BRU within the time prescribed by local command directives. Notifies the operator to activate the system. Makes appropriate entries in the maintenance record book. Notifies the section chief if a fault is uncorrectable and higher echelon support is required. Performs all steps without causing injury to self or other personnel, with no damage to the equipment, and with minimal damage to the environment.

Evaluation Preparation: Setup: This task should be performed when faults are reported or detected in the system. Simulate faults under training conditions.

Brief Soldier: Tell soldier to perform corrective maintenance. Assistance from a crew member is available. Accompany soldier.

Performance Measures	<u>GO</u>	<u>NO GO</u>
1. Confirmed the operator's fault data.	—	—
2. Performed fault isolation procedures.	—	—
3. Performed diagnostic procedures, if required.	—	—
4. Analyzed diagnostic data, if required.	—	—
5. Took appropriate corrective measures. <ol style="list-style-type: none"> a. Replaced faulty BRU(s). b. Performed adjustments, if required. c. Notified section chief if an uncorrectable fault existed and if higher echelon support was required. 	—	—
6. Performed checks and verified fault was corrected.	—	—
7. Made appropriate entries of maintenance actions. <ol style="list-style-type: none"> a. Completed the data in the maintenance record book. b. Closed out DA Form 2404 or DA Form 5988-E. 	—	—

Performance Measures

GO NO GO

8. Informed operator to activate system.

Evaluation Guidance: Score the soldier GO if he passes all the steps. Score the soldier NO-GO if he fails any step. If the soldier fails any step, show what he did wrong and how to do it correctly.

References

Required

- TM 9-1440-1600-10
- TM 9-1440-1600-20-1
- TM 9-1440-1600-20-2
- TM 9-1440-1600-20-3
- TM 9-1440-600-10
- TM 9-1440-600-20-1
- TM 9-1440-600-20-2
- TM 9-1440-600-20-3

Related

**PERFORM OPERATOR/ORGANIZATIONAL MAINTENANCE ON THE LAUNCHING STATION (LS)
LAUNCHER MISSILE ROUND DISTRIBUTOR (LMRD)**

441-082-1004

Conditions: A fault is detected and preliminary fault assessment procedures have been performed. The BMO has decided to go off-line and correct the fault. Deactivation procedures have been performed. You are directed by the section chief to perform corrective maintenance. Assistance from a crew member and the following are available:

1. Spare BRU(s).
2. Tools and test equipment.
3. Maintenance record book.
4. Manuals:
 - TM 9-1440-600-10
 - TM 9-1440-600-20-1
 - TM 9-1440-600-20-2
 - TM 9-1440-600-20-3

Standards: Isolates the malfunction to the faulty BRU(s) and replaces faulty BRU(s) within the time prescribed by local command directives. Notifies the operator to activate the system. Makes appropriate entries in the maintenance record book. Notifies the section chief if a fault is uncorrectable and if higher echelon support is required. Performs all steps without causing injury to self or other personnel, with no damage to the equipment, and with minimal damage to the environment.

Performance Measures	<u>GO</u>	<u>NO GO</u>
1. Confirmed the operator's fault data.	—	—
2. Performed fault isolation procedures.	—	—
3. Performed diagnostic procedures, if required.	—	—
4. Analyzed diagnostic data, if required.	—	—
5. Took appropriate corrective measures. <ul style="list-style-type: none"> a. Replaced faulty BRU(s). b. Performed adjustments, if required. c. Notified section chief if an uncorrectable fault existed and if higher echelon support was required. 	—	—
6. Performed checks and verified fault was corrected.	—	—
7. Made appropriate entries of maintenance actions. <ul style="list-style-type: none"> a. Completed the data in the maintenance record book. b. Closed out DA Form 2404 or DA Form 5988-E. 	—	—
8. Informed operator to activate system.	—	—

Evaluation Guidance: Score the soldier GO if he passes all the steps. Score the soldier NO-GO if he fails any step. If the soldier fails any step, show what he did wrong and how to do it correctly.

References

Required

TM 9-1440-600-10
TM 9-1440-600-20-1
TM 9-1440-600-20-2
TM 9-1440-600-20-3

Related

DA PAM 738-750

**PERFORM OPERATOR/ORGANIZATIONAL MAINTENANCE ON THE LAUNCHING STATION (LS)
MISSILE ROUND CABLE TEST SET (MRCTS)
441-082-1005**

Conditions: A fault has occurred in the MRCTS and your section chief directs you to perform corrective maintenance. The following are available:

1. TM 9-1440-600-20-1.
2. TM 9-1440-600-20-2.
3. MRCTS.
4. Tools required by the applicable maintenance procedure(s).
5. DA Form 2404 or DA Form 5988-E.

Standards: Isolates the malfunction to the faulty BRU(s) and replaces faulty BRU(s) within the time prescribed by local command directives. Checks MRCTS and verifies fault is corrected. Completes DA Form 2404 or DA Form 5988-E as required. Notifies section chief if a fault is uncorrectable and if higher echelon support is required. Performs all steps without causing injury to self or other personnel, with no damage to the equipment, and with minimal damage to the environment.

Performance Measures	<u>GO</u>	<u>NO GO</u>
1. Performed MRCTS A8 test and confirmed fault.	—	—
2. Isolated fault to BRU(s).	—	—
3. Replaced BRU(s).	—	—
4. Performed MRCTS A8 test and confirmed fault was corrected.	—	—
5. Completed DA Form 2404 or DA Form 5988-E as required.	—	—
6. Notified section chief if an uncorrectable fault existed and if higher echelon support was required.	—	—
7. Made appropriate entries of maintenance actions.	—	—
a. Completed the data in the maintenance record book.		
b. Closed out DA Form 2404 or DA Form 5988-E.		

Evaluation Guidance: Score the soldier GO if he passes all the steps. Score the soldier NO-GO if he fails any step. If the soldier fails any step, show what he did wrong and how to do it correctly.

References

Required	Related
DA FORM 2404	
DA FORM 5988-E	
TM 9-1440-600-20-1	
TM 9-1440-600-20-2	

**PERFORM OPERATOR/ORGANIZATIONAL MAINTENANCE ON THE LAUNCHING STATION TEST SET (LSTS)
441-082-1006**

Conditions: A fault has occurred in the LSTS and your section chief directs you to perform corrective maintenance. The following are available:

1. LSTS.
2. Spare BRU(s).
3. Tools required by the applicable maintenance procedures.
4. DA Form 2404 or DA Form 5988-E.
5. TM 9-4935-603-12.

Standards: Isolates the malfunction to the faulty BRU(s) and replaces faulty BRU within the time prescribed by local directives. Checks LSTS and verifies fault is corrected. Completes DA Form 2404 or DA Form 5988-E, as required. Notifies the section chief if a fault is uncorrectable and if higher echelon support is required. Performs all steps without causing injury to self or other personnel, with no damage to the equipment, and with minimal damage to the environment.

Performance Measures	<u>GO</u>	<u>NO GO</u>
1. Performed LSTS self-test and confirmed fault.	—	—
2. Isolated fault to BRU(s).	—	—
3. Replaced BRU(s).	—	—
4. Performed LSTS self-test and confirmed fault was corrected.	—	—
5. Completed DA Form 2404 or DA Form 5988-E, as required.	—	—
6. Notified section chief if an uncorrectable fault existed and if higher echelon support was required.	—	—
7. Made appropriate entries of maintenance action.	—	—
a. Completed the data in the maintenance actions.		
b. Closed out DA Form 2404 or DA Form 5988-E.		

Evaluation Guidance: Score the soldier GO if he passes all the steps. Score the soldier NO-GO if he fails any step. If the soldier fails any step, show what he did wrong and how to do it correctly.

References

Required
DA FORM 2404
DA FORM 5988-E
TM 9-4935-603-12

Related

**PERFORM OPERATOR/ORGANIZATIONAL MAINTENANCE ON THE LAUNCHING STATION (LS)
ENHANCED LAUNCHER ELECTRONICS SYSTEM (ELES)**

441-082-1007

Conditions: A fault is detected and preliminary fault assessment procedures have been performed. The BMO has decided to go off-line and correct the fault. Deactivation procedures have been performed. You are directed by the section chief to perform corrective maintenance. Assistance from a crew member and the following are available:

1. Spare BRU(s).
2. Tools and test equipment.
3. Maintenance record book.
4. DA Form 2404 or DA Form 5988-E.
5. Manuals:
 - TM 9-1425-601-12
 - TM 9-1440-1600-10
 - TM 9-1440-1600-20-1
 - TM 9-1440-1600-20-2
 - TM 9-1440-1600-20-3

Standards: Isolates the malfunction to the faulty BRU(s) and replaces faulty BRU(s) within the time prescribed by local command directives. Notifies the operator to activate the system. Makes appropriate entries in the maintenance record book. Notifies the section chief if a fault is uncorrectable and higher echelon support is required. Performs all steps without causing injury to self or other personnel, with no damage to the equipment, and with minimal damage to the environment.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Confirmed the operator's hard copy of fault data.	—	—
2. Performed fault isolation/bit procedures.	—	—
3. Performed diagnostic procedures including test launch, if required.	—	—
4. Performed stray/no voltage and continuity check procedures, if required.	—	—
5. Analyzed diagnostic data, if required.	—	—
6. Took appropriate corrective measures. <ul style="list-style-type: none"> a. Replaced faulty BRU(s). b. Performed adjustments, if required. 	—	—
7. Performed the appropriate software down load for the executive processor card, if required.	—	—
8. Performed checks and verified faults were corrected.	—	—
9. Notified section chief that an uncorrectable fault existed and if higher echelon support was required.	—	—
10. Made appropriate entries of maintenance actions. <ul style="list-style-type: none"> a. Completed the data in the maintenance record book. 	—	—

Performance Measures

GO NO GO

b. Closed out DA Form 2404 or DA Form 5988-E.

11. Informed operator to activate system.

Evaluation Guidance: Score the soldier GO if he passes all the steps. Score the soldier NO-GO if he fails any step. If the soldier fails any step, show what he did wrong and how to do it correctly.

References

Required

- DA FORM 2404
- DA FORM 5988-E
- TM 9-1425-601-12
- TM 9-1440-1600-10
- TM 9-1440-1600-20-1
- TM 9-1440-1600-20-2
- TM 9-1440-1600-20-3

Related

**PERFORM OPERATOR/ORGANIZATIONAL MAINTENANCE ON THE LAUNCHING STATION
DIAGNOSTIC UNIT (LSDU)**

441-082-1110

Conditions: A fault has been detected, and the preliminary fault assessment procedures have been performed. The BMO has decided to go off-line and correct the fault. Deactivation procedures have been performed. You are directed by the section chief to perform corrective maintenance. Assistance from a crew member and the following are available:

1. Spare BRU (s).
2. Tools and test equipment.
3. Maintenance record book.
4. Manuals:
 TM 9-1440-1600-10
 TM 9-1440-1600-20-1
 TM 9-1440-1600-20-2
 TM 9-1440-1600-20-3

Standards: Isolates the malfunction to the faulty BRU(s) and replace the BRU(s) within the time described by local directives. Notifies the operator to activate the system. Make appropriate entries in the maintenance record book. If fault is uncorrectable, notifies section chief that higher echelon support is required. Perform all steps without causing injury to self or other personnel, with no damage to the equipment, and with minimal damage to the environment.

Evaluation Preparation: Setup: Perform this task when faults are reported or detected in the system. Simulate faults under training conditions.

Tell soldier to perform corrective maintenance. Assistance from a CM is available. Accompany soldier.

Performance Measures	<u>GO</u>	<u>NO GO</u>
1. Analyzed and confirmed the operators fault data.	—	—
2. Performed fault isolation procedures.	—	—
3. Performed diagnostic procedures (if required).	—	—
4. Analyzed diagnostic data (if required).	—	—
5. Took appropriate corrective measures.	—	—
6. Performed checks to verify fault was corrected.	—	—
7. Took appropriate corrective measures.	—	—
8. Informed operator to activate system.	—	—

Evaluation Guidance: Score the soldier GO if he passes all the steps. Score the soldier NO-GO if he fails any step. If the soldier fails any step, show what he did wrong and how to do it correctly.

References

Required
 TM 9-1440-1600-10

Related

References

Required

TM 9-1440-1600-20-1

TM 9-1440-1600-20-2

TM 9-1440-1600-20-3

Related

**PERFORM PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS) ON THE TEST,
MEASUREMENT, AND DIAGNOSTIC EQUIPMENT (TMDE)**

441-084-1422

Conditions: Your section chief directs you to perform PMCS on specific item(s) of TMDE. The following are available:

1. Specific item(s) of TMDE.
2. Tools and equipment listed per applicable TM procedures.
3. DA Form 2404 or DA Form 5988-E.
4. Technical Manuals:
 - TM 9-1440-600-10
 - TM 9-4935-600-14
 - TM 9-4935-603-12
 - TM 11-6625-3015-14
 - TM 11-6625-3055-14

Standards: Completes the PMCS on the TMDE per applicable technical manual(s). Completes DA Form 2404 or DA Form 5988-E per DA Pamphlet 738-750 and notifies section chief if higher echelon support is required. Performs all steps without causing injury to self or other personnel, with no damage to equipment, and with minimal damage to the environment.

Performance Measures	<u>GO</u>	<u>NO GO</u>
1. Identified PMCS procedure(s) outlined in PMCS table.	_____	_____
2. Performed PMCS procedure(s).	_____	_____
3. Performed corrective actions, as required.	_____	_____
4. Completed DA Form 2404 or DA Form 5988-E.	_____	_____
5. Notified section chief if higher echelon support was required.	_____	_____

Evaluation Guidance: Score the soldier GO if he passes all the steps. Score the soldier NO-GO if he fails any step. If the soldier fails any step, explain what he did wrong and how to do it correctly.

References

Required

- DA FORM 5988-E
- TM 11-6625-3015-14
- TM 11-6625-3055-14
- TM 9-1440-600-10
- TM 9-4935-600-14
- TM 9-4935-603-12

Related

- DA PAM 738-750

Subject Area 3: Road March and Vehicle Operations

OPERATE THE HEMTT SERIES VEHICLE

441-084-1108

Conditions: Your section chief has directed you to drive a HEMTT series vehicle to another site location. PMCS has already been performed. Assistance from another crew member and the following are available:

1. HEMTT series vehicle.
2. Logbook containing-
 - DA Form 2404 or DA Form 5988-E.
 - DD Form 1970 or DA Form 5987-E.
 - Load plan and required local forms.
3. BII.
4. Valid license (OF Form 346).
5. TM 9-2320-279-10-1.

Standards: Operates the HEMTT series vehicle as required by road, weather, and traffic conditions per TM 9-2320-279-10-1. Performs all steps without causing injury to self or other personnel, with no damage to equipment, and with minimal damage to the environment.

Performance Measures

NOTE: If the tactical situation did not permit inspection of all lights on vehicle, soldier inspected blackout lights only.

	<u>GO</u>	<u>NO GO</u>
1. Performed appropriate PMCS before operation.	_____	_____
2. Inspected that all loads were properly secured and that no unsafe condition existed prior to travel.	_____	_____
3. Prepared to operate vehicle per TM 9-2320-279-10-1.	_____	_____
4. Started engine and inspected instrument panel gauges for proper indications per TM 9-2320-279-10-1.	_____	_____
5. Entered departure time from starting point on DD Form 1970.	_____	_____
NOTE: Assistant crew member removed chock blocks and stowed securely on vehicle.		
6. Prepared to set vehicle in motion. <ul style="list-style-type: none"> a. Applied service brake. b. Pushed parking and trailer brake control knob(s) in, if applicable. c. Set transfer case shift selector to proper range according to direction of travel. 	_____	_____
NOTE: If assistance was required to guide vehicle, soldier performed PM 7.		
7. Maneuvered vehicle according to ground guide's instructions.	_____	_____

Performance Measures	<u>GO</u>	<u>NO GO</u>
8. Drove vehicle and maintained safe operation according to road, weather, terrain, traffic conditions, and specific instructions issued by the convoy commander.	—	—
9. Operated vehicle in sand or mud per TM 9-2320-279-10-1.	—	—
10. Operated vehicle in cold environment per TM 9-2320-279-10-1.	—	—
11. Operated vehicle in forest or rocky terrain per TM 9-2320-279-10-1.	—	—
12. Forded water obstacle per TM 9-2320-279-10-1.	—	—
13. Operated vehicle in extreme heat per TM 9-2320-279-10-1.	—	—
14. Shut off engine per TM 9-2320-279-10-1.	—	—
15. Recorded time, odometer reading, hours, total operation time, miles, and fuel and oil added in appropriate blocks of DD Form 1970 or DA Form 5987-E .	—	—

Evaluation Guidance: Score the soldier GO if he passes all the steps. Score the soldier NO-GO if he fails any step. If the soldier fails any step, show what he did wrong and how to do it correctly.

References

Required

- DA FORM 2404
- DA FORM 5987-E
- DA FORM 5988-E
- DD FORM 1970
- OF FORM 346
- TM 9-2320-279-10-1

Related

INITIALIZE THE REMOTE LAUNCH AT THE COMMUNICATIONS RELAY GROUP (CRG)

441-084-1574

Conditions: You are directed to initialize remote launch at the CRG. The CRG is powered up and launchers are emplaced.

Standards: Initialize the remote launch at the CRG per TM 9-1430-604-10, WP0196. Performs all steps with complete accuracy within the time prescribed by local command directives without causing injury to self or other personnel, and with no damage to the equipment.

Performance Measures	<u>GO</u>	<u>NO GO</u>
1. Ensured A178 COMPUTER SELECT was set to REAR.	—	—
2. Set MODE SELECT to position 3.	—	—
3. Pressed ENTER key. The display appeared with 0 flashing.	—	—
4. Pressed 1 key to set LCS CONFIG to ON. The display with 1 flashing.	—	—
5. Pressed ENTER key. The display appeared with 0 flashing.	—	—
6. Determined LCS mode of operation.	—	—
a. If tactical operating mode was required:		
(1) Pressed 1 key. The key displayed with 1 flashing.		
(2) Went to step 7.		
b. If diagnostic mode was desired: Went to step 8.		
7. Pressed ENTER key. The display appeared with 1 flashing.	—	—
8. Pressed ENTER key. The display appeared with 1 flashing.	—	—
9. Set MODE SELECT to position 0.	—	—
10. Pressed ENTER key.	—	—

Evaluation Guidance: Score the soldier GO if he passes all the steps. Score the soldier NO-GO if he fails any step. If the soldier fails any step, show what he did wrong and how to do it correctly.

References

Required

Related

TM 9-1430-604-10

TM 9-1440-1600-10

**RELINQUISH THE REMOTE LAUNCH AT THE COMMUNICATIONS RELAY GROUP (CRG).
441-084-1575**

Conditions: You are directed to relinquish the remote launch at the CRG. Given a powered up CRG in LCA configuration.

Standards: Relinquishes the remote launch at the CRG per TM 9-1430-604-10, WP0197. Performs all steps with complete accuracy and within the time prescribed by local command directives without causing injury to self or other personnel, and with no damage to the equipment.

Performance Measures GO NO GO

- | | | |
|---|---|---|
| 1. Ensured A178 COMPUTER SELECT was set to REAR. | — | — |
| 2. Set MODE SELECT to position 3. | — | — |
| 3. Pressed ENTER key. The display appeared with 1 flashing. | — | — |
| 4. Pressed 0 key to set LCS CONFIG to OFF. 0 flashed. | — | — |
| 5. Pressed ENTER key. The display appeared with 0 flashing. | — | — |
| 6. Pressed 1 key to confirm choice. 1 flashed. | — | — |
| 7. Pressed ENTER key. | — | — |
| 8. Observed display. | — | — |
| a. If the display appeared- <ul style="list-style-type: none"> (1) The controlling PFP was still assigned and had not relinquished control of launchers. (2) Requested via voice communications the controlling PFP launcher control. (3) Went to step 9. | | |
| b. If LCS MODE = TERM appears then disappears: Go to step 10. | | |
| 9. LCS MODE = TERM appeared then disappeared. | — | — |
| Note: For each launcher in operate mode, the RLRIU generates a Launcher Action Message to command the launcher to standby mode. If any launchers commanded to standby mode are still in operate mode after three attempts by the RLRIU, termination was unsuccessful. | | |
| 10. Observed display. | — | — |
| a. If the display appeared- <ul style="list-style-type: none"> (1) Pressed ENTER. The display appeared with 1 flashing. (2) At least one launcher was not in local or standby mode. (3) Requested via voice communications the controlling PFP place all launchers in local or standby. (4) Returned to step 3. | | |
| b. If the display did not appear: Went to step 11. | | |

Performance Measures

- 11. Verified the display appeared with 0 flashing.
- 12. Set MODE SELECT to position 0.
- 13. Pressed ENTER key.

GO NO GO

____ ____
____ ____
____ ____

Evaluation Guidance: Score the soldier GO if he passes all the steps. Score the soldier NO-GO if he fails any step. If the soldier fails any step, show what he did wrong and how to do it correctly.

References

Required

Related

- TM 9-1430-604-10
- TM 9-1440-1600-10

Subject Area 4: Missile Reload

**LOAD A GUIDED MISSILE CANISTER (GMC) ONTO THE GUIDED MISSILE TRANSPORTER (GMT)
441-082-1106**

Conditions: Your section chief has directed you to load a GMC onto the GMT. The GMT is emplaced and the hoisting shackle is connected to the sling. The GMC is ready for off-loading. Assistance from other crew members and the following tools and equipment are available:

1. Adapter, torque wrench.
2. Extension, 1/2-inch drive, 30-inch long or 36-inch long.
3. Gloves, work.
4. Helmets.
5. Tag lines.
6. Wrench, torque 30 to 150 foot-pounds, with valid calibration certificate attached.
7. Socket, 3/4-inch, deep well, 1/2-inch drive.

Standards: Loads a GMC onto the GMT per TM 9-1440-600-10 Chapter 2. Performs all steps with complete accuracy and within the time prescribed by local command directives, without causing injury to self or other personnel, with no damage to the equipment, and with minimal damage to the environment.

Performance Measures

NOTE: Be extremely careful when performing reload. Observe all dangers, warnings, and cautions per technical manuals and drills.

	<u>GO</u>	<u>NO GO</u>
1. Performed all safety and equipment checks per TM 9-2320-279-10.	_____	_____
2. Guided sling over canister.	_____	_____
3. Connected sling and tag lines to canister.	_____	_____
4. Raised and guided canister onto GMT alignment pins.	_____	_____
5. Connected ground, disconnected sling and tag lines from canister.	_____	_____
6. Tightened four canister tie-down bolts to 60 foot-pounds.	_____	_____

Evaluation Guidance: Score the soldier GO if he passes all the steps. Score the soldier NO-GO if he fails any step. If the soldier fails any step, explain what he did wrong and how to do it correctly.

References

Required

Related

- FM 21-60
- TM 9-1440-600-10
- TM 9-2320-279-10-1
- TM 9-2320-355-10

LOAD A GUIDED MISSILE CANISTER (GMC) ONTO THE LAUNCHING STATION (LS)
441-082-1107

Conditions: You are directed by your section chief to load a GMC onto the LS. The GMT is emplaced and the hoisting sling is connected to the GMC. Assistance from other crew members and the following tools and equipment are available:

1. Adapter, torque wrench.
2. Extension, 1/2-inch drive, 30-inch long or 36-inch long.
3. Gloves, work.
4. Helmets.
5. Tag lines.
6. Socket, 3/4-inch, deep well, 1/2-inch drive.
7. Wrench, torque 30 to 150 foot-pounds with valid calibration certificate attached.
8. Test set, missile-round cable.

Standards: Loads a GMC onto the LS per TM 9-1440-600-10 or TM 9-1440-1600-10. Performs all steps with complete accuracy and within the time prescribed by local directives, without causing injury to self or other personnel, with no damage to the equipment, and with minimal damage to the environment.

Performance Measures

Be extremely careful when performing reload. Observe all dangers, warnings, and cautions per technical manuals and drills.

	<u>GO</u>	<u>NO GO</u>
1. Loosened four tie-down bolts on the GMC.	___	___
2. Performed all safety and equipment checks per TM 9-2320-279-10-1.	___	___
3. Connected sling and tag lines to the GMC.	___	___
4. Raised load to clear alignment pins.	___	___
5. Guided GMC onto the alignment pins of the LS.	___	___
6. Connected ground cable to the GMC and disconnected tag lines and sling.	___	___
7. Tightened four canister tie-down bolts to 60 foot-pounds.	___	___
8. Performed missile-round cable test or stray no voltage and test launch procedures.	___	___

Evaluation Guidance: Score the soldier GO if he passes all the steps. Score the soldier NO-GO if he fails any step. If the soldier fails any step, explain what he did wrong and how to do it correctly.

References

Required

Related

- FM 21-60
- TM 9-1440-1600-10
- TM 9-1440-600-10
- TM 9-2320-279-10-1

**References
Required**

Related
TM 9-2320-355-10

**REMOVE A GUIDED MISSILE CANISTER (GMC) FROM THE LAUNCHING STATION (LS)
441-082-1108**

Conditions: You have been directed by your section chief to remove a GMC from the LS. Given an LS and a GMC with the hoisting shackle connected to the sling. Assistance from other crew members and the following tools and equipment are available:

1. Adapter, torque wrench.
2. Extension, 1/2-inch drive, 30-inch long or 36-inch long.
3. Gloves, work.
4. Helmets.
5. Tag lines.
6. Socket, 3/4-inch, deep well, 1/2-inch drive.
7. Wrench, torque 30 to 150 foot-pounds, with valid calibration certificate attached.

Standards: Removes a GMC from the LS per TM 9-1440-600-10, Chapter 2. Performs all steps with complete accuracy and within the time prescribed by local command directives, without causing injury to self or other personnel, with no damage to the equipment, and with minimal damage to the environment.

Performance Measures

Be extremely careful when performing reload. Observe all dangers, warnings, and cautions per technical manuals and drills.

	<u>GO</u>	<u>NO GO</u>
1. Performed all safety and equipment checks per TM 9-2320-279-10-1 and FM 21-60.	___	___
2. Ensured GM canister torque handle was locked and no red paint was showing.	___	___
3. Disconnected guided missile cables.	___	___
4. Loosened four canister tie-down bolts and secured in the raised position.	___	___
5. Connected sling and tag lines to the GMC.	___	___
6. Raised load 6 inches to clear LS alignment pins.	___	___
7. Disconnected ground cable from the GMC.	___	___
8. Guided the GMC onto the ground.	___	___
9. Grounded the GMC.	___	___

Evaluation Guidance: Score the soldier GO if he passes all the steps. Score the soldier NO-GO if he fails any step. If the soldier fails any step, explain what he did wrong and how to do it correctly.

References

Required

Related

- FM 21-60
- TM 9-1440-600-10
- TM 9-2320-279-10-1

**References
Required**

Related
TM 9-2320-355-10

REMOVE A GUIDED MISSILE CANISTER (GMC) FROM THE GUIDED MISSILE TRANSPORTER (GMT)

441-082-1109

Conditions: You are directed by your section chief to remove a GMC from the GMT. The GMT is emplaced and the hoisting shackle is connected to the sling. Assistance from other crew members and the following tools and equipment are available:

1. Adapter, torque wrench.
2. Extension, 1/2-inch drive, and 30-inch long or 36-inch long.
3. Gloves, work.
4. Helmets.
5. Tag lines.
6. Socket, 3/4-inch, deep well, 1/2-inch drive.
7. Wrench, torque 30 to 150 foot-pounds, with valid calibration certificate attached.

Standards: Removes a GMC from the GMT per TM 9-1440-600-10, Chapter 2. Performs all steps with complete accuracy and within the time prescribed by local command directives, without causing injury to self or other personnel, with no damage to the equipment, and with minimal damage to the environment.

Performance Measures

Be extremely careful when performing reload. Observe all dangers, warnings, and cautions per technical manuals and drills.

	<u>GO</u>	<u>NO GO</u>
1. Performed all safety and equipment checks per TM 9-2320-279-10.	___	___
2. Checked GMC to ensure torque handle was locked and no red paint showed.	___	___
3. Loosened four canister tie-down bolts and secured in the raised position.	___	___
4. Positioned sling over canister and connected sling to canister.	___	___
5. Connected tag lines to canister.	___	___
6. Raised GMC approximately 6 inches to clear the alignment pins.	___	___
7. Disconnected ground cable from the GMC.	___	___
8. Guided the GMC to the ground using the tag lines.	___	___

Evaluation Guidance: Score the soldier GO if he passes all the steps. Score the soldier NO-GO if he fails any step. If the soldier fails any step, explain what he did wrong and how to do it correctly.

References Required

- Related**
 FM 21-60
 TM 9-1440-600-10
 TM 9-2320-279-10-1
 TM 9-2320-355-10

OPERATE CRANE MOUNTED ON A 10-TON VEHICLE

441-084-1111

Conditions: Your supervisor directs you to operate the crane. Given a 10-ton vehicle positioned with the crane in the stow position. Assistance of a signalman and two crew members is available.

Standards: Completes loading or unloading of cargo using the 10-ton vehicle (M977) per TM 9-2320-279-10-1 and FM 21-60. Performs all steps without causing injury to self or other personnel with no damage to the equipment, and with minimal damage to the environment.

Performance Measures	<u>GO</u>	<u>NO GO</u>
1. Cleared surrounding area of personnel, structures and equipment that crane could cause damage to.	—	—
2. Unstowed crane.	—	—
3. Moved outer boom control lever upward to raise boom off rest stop.	—	—
4. Moved inner boom control lever upward so that inner boom was at a 45-degree angle.	—	—
5. Moved outer boom control lever upward slowly until boom cleared outriggers.	—	—
6. Moved inner boom control lever downward slowly until snatch block was approximately 3 feet above the ground.	—	—
7. Moved hoist control lever downward slowly until the cable slackened.	—	—
8. Moved inner boom control lever upward so that boom was raised to the desired position.	—	—
9. Placed engine speed control ON/OFF switch to the ON position.	—	—
10. Inspected cable.	—	—
11. Exercised crane to ensure that crane was operating properly.	—	—
12. Stowed crane.	—	—
13. Stowed outriggers.	—	—

Evaluation Guidance: Score the soldier GO if he passes all the steps. Score the soldier NO-GO if he fails any step. If the soldier fails any step, show what he did wrong and how to do it correctly.

**References
Required**

Related
FM 21-60
TM 9-2320-279-10-1

**SIGNAL CRANE OPERATOR USING STANDARD ARM-AND-HAND SIGNALS
441-084-1112**

Conditions: Your supervisor informs you that the crane is to be used for loading or unloading of cargo. Given a 10-ton vehicle with crane and a crane operator.

Standards: Signals crane operator using standard arm and hand signals per FMs 5-434 and 21-60. Performs all steps without causing injury to self or other personnel, with no damage to the equipment, and with minimal damage to the environment.

Performance Measures	<u>GO</u>	<u>NO GO</u>
1. Cleared surrounding area of personnel, structures, and equipment that crane could cause damage to.	—	—
2. Checked crane to ensure all obstructions and personnel were clear of boom.	—	—
3. Ensured cargo handlers were aware of the destination of the load.	—	—
4. Verified that load was secured on hook.	—	—
5. Checked area before lowering load to ground.	—	—
6. Informed crane operator of weight changes.	—	—
7. Ensured crane operator was visible at all times.	—	—
8. Used standard arm-and-hand signals to control crane operations.	—	—

Evaluation Guidance: Score the soldier GO if he passes all the steps. Score the soldier NO-GO if he fails any step. If the soldier fails any step, show what was done wrong and how to do it correctly.

References
Required

Related
FM 21-60
FM 5-434

Subject Area 5: Communications Equipment Operations

**PERFORM OPERATOR'S TROUBLESHOOTING ON SINGARS
113-587-0058**

Conditions: Given a nonoperational SINGARS, TM 11-5820-890-10-3, DA Pam 738-750, power source, and DA Form 2404.

Standards: Standards are met when equipment defects have been resolved to the following degree and unit is restored to operation, or deferred to a higher maintenance level.

Performance Steps

1. Perform operator troubleshooting procedures in sequence IAW TM11-5820-890-10-3.

Performance Measures	<u>GO</u>	<u>NO GO</u>
1. Perform operator troubleshooting procedures in sequence IAW TM 11-5820-890-10-8.	—	—
2. Checks all cable connections to ensure that they are tight.	—	—
3. Makes sure antenna is properly connected and positioned.	—	—
4. Tries to verify that radio has line-of-sight with other stations.	—	—
5. Changes Position to see if communications improve.	—	—
6. If traffic is not heard in some time, performs passive late net entry.	—	—
7. Makes sure radio has adequate power (especially MANPACK).	—	—
8. Identifies any net station co-located in area (called co-site interference).	—	—
9. Determines if radio is being jammed by the enemy and if so, takes appropriate action.	—	—

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required	Related
DA PAM 738-750	
TM 11-5820-890-10-1	
TM 11-5820-890-10-3	

OPERATE SINCGARS SINGLE CHANNEL (SC)

113-587-2070

Conditions: Given an operational SINCGARS, KYK-13/TSEC with keys, distant station, TM 11-5820-890-10-1, TM 11-5820-890-10-3, ACP 125 US Suppl-1, DA Pam 738-750, FM 24-19, FM 24-18, and unit SOI.

Standards: The standards are met when a secure communications check is conducted in SC mode with a distant station.

Evaluation Preparation:

Performance Measures	<u>GO</u>	<u>NO GO</u>
1. Perform starting procedures.	—	—
2. Load traffic encryption key (TEK).	—	—
3. Enter net.	—	—
a. Use correct procedures.		
b. Conduct secure communications check.		
4. Exit net.	—	—
5. Perform stopping procedures.	—	—

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly. Have the soldier practice until he can correctly perform the task.

References

Required

TM 11-5820-890-10-1
TM 11-5820-890-10-3

Related

ACP 125 US SUPPLEMENT-1
DA PAM 738-750
FM 24-18
FM 24-19
SOI

OPERATE SECURE SINCGARS FREQUENCY HOPPING (FH) (NET MEMBERS)
113-587-2071

Conditions: Given an operational SINCGARS radio, ECCM fill device with FH data, KYK-13/TSEC with keys, distant net control station (NCS), unit SOI, DA Form 2404, TM 11-5820-890-10-1, TM 11-5820-890-10-3, ACP 125 US Suppl-1, DA Pam 738-750, FM 24-19, and FM 24-18.

Standards: The standards are met when FH communications is established using the cold start and CUE late entry methods and the radio check is successfully completed.

Evaluation Preparation:

Performance Measures	<u>GO</u>	<u>NO GO</u>
1. Perform starting procedures.	—	—
2. Perform net member CUE late net entry.	—	—
a. Use correct procedures.		
a. Use correct call signs.		
3. Perform net member cold start procedures.	—	—
a. Use correct call signs.		
b. Use correct procedures.		
4. Perform stopping procedures	—	—

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly. Have the soldier practice until he can correctly perform the task.

References

Required

TM 11-5820-890-10-1
 TM 11-5820-890-10-3

Related

ACP 125 US SUPPLEMENT-1
 DA PAM 738-750
 FM 24-18
 FM 24-19
 SOI

OPERATE SINGARS DATA DEVICES
113-587-2075

Conditions: Given a SINGARS operating in interconnected data device, TM 11-5820-890-10-1 or TM 11-5820-890-10-3.

Standards: Standard is met when data is sent and received over the net.

Performance Steps

NOTE: (Refer to TM 11-5820-890-10-1 or TM 11-5820-890-10-3 for Performance Measures 1 and 2).

1. Connect data device cable to RT audio/data connector.
2. Set FUNCTION switch to SQ ON.

NOTE: (Refer to appropriate data device TB for Performance Measures 3 and 4)

3. Set data rate switch.
4. Send and receive data.

Evaluation Preparation:

Performance Measures

NOTE: Refer to TM 11-5820-890-10-1 or TM 11-5820-890-10-3 and data device TM for PMs 1 and 2.

1. Connect data device cable to RT audio/data connector.
2. Set FCTN to SC ON.

NOTE: Refer to appropriate data device TB for PMs 3 and 4.

3. Set data rate switch.
4. Send and receive data.

5. Sends and receives TACFIRE DATA.

GO NO GO

_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required

- TM 11-5820-890-10-1
- TM 11-5820-890-10-3

Related

- ACP 125 US SUPPLEMENT-1
- DA PAM 738-750
- FM 24-18
- FM 24-19
- SOI
- TB 11-5820-890-10-10
- TB 11-5820-890-10-11
- TB 11-5820-890-10-12
- TB 11-5820-890-10-13
- TB 11-5820-890-10-14
- TB 11-5820-890-10-4
- TB 11-5820-890-10-5
- TB 11-5820-890-10-6
- TB 11-5820-890-10-7

**References
Required**

Related
TB 11-5820-890-10-8
TB 11-5820-890-10-9

Subject Area 6: Surviving to Operate (STO) Techniques

OPERATE THE M8A1 ALARM SYSTEM

031-504-1008

Conditions: Given an M8A1 alarm system, an M273 maintenance kit, BA3517/U and BA3030 batteries, a reel of field wire (WD-1/TT), a wire cutter, TM 3-6665-312-12&P, and a directive to employ the alarm in the fixed emplacement mode. This task can be performed in MOPP4.

Standards: Performed operator-level PMCS and operated the M8A1 alarm system per TM 3-6665-312-12&P, without causing damage to the equipment. Standards are not degraded due to performance in MOPP 4. NOTE: Uncorrected deficiencies must be recorded on DA Form 2404 per DA Pamphlet 738-750. However, this is not a performance measure of the task.

Performance Steps

NOTE: The cell module of the M43A1 detector contains a radioactive source, Americium-241. Before using the M43A1 detector, ensure the operator has had a radiation safety orientation IAW a Nuclear Regulatory Commission By-Product Materials License (BML 12-00722-13) issued to Department of the Army, US Army Armament, Munitions and Chemical Command, Rock Island, IL. This orientation (two hours) must address the following subjects:

1. Location of radioactive material in equipment.
2. Hazards associated with Americium-241 isotopes.
3. Hazards associated with the equipment; for example, gamma field and problems if ingested.
4. What to do in an emergency situation; for example, fire or destruction.
5. Keeping the NBC specialist or officer informed of problems and questions.
6. The maintenance procedures that may be done only by test measurement diagnostic equipment.
7. Packaging and shipment of equipment.

WARNING: The cell module of the M43A1 detector contains Americium-241, a radioactive source. If broken, the module is potentially dangerous. Do not attempt to remove the cell or pump modules.

8. Follow safety procedures for storage, shipment, and disposal IAW TM 3-6665-312-12&P, local regulations, and AR 11-9.

WARNING: If a cell or pump module is damaged, notify your NBC NCO. The NBC NCO must then notify the NBC officer and the radiation protection officer (RPO).

9. Wrap the M43A1 detector (with its damaged cell or pump module) in a plastic bag and ship in the original packing container, if available, to direct support maintenance for evaluation. If skin contact is made with any area thought to be contaminated, wash immediately with nonabrasive soap and water.

WARNING: Do not operate an M43A1 detector indoors without an outlet filter. Never operate an M43A1 detector inside a moving vehicle. WARNING: Do not dispose of a used outlet filter except under the supervision of the NBC NCO officer or the local RPO. You must wear disposable gloves. WARNING: High voltage is used in the operation of this equipment.

10. Death on contact may result if personnel fail to observe safety precautions when performing maintenance procedures on the M43A1 detector.
 - a. Disconnect power supplies before performing maintenance to prevent death or possible serious injury to personnel.
 - b. Disconnect the M10 or M10A1 power supply from the AC power outlet before removing the fuses to prevent possible death or serious injury to personnel.

Performance Steps

11. Perform operator-level PMCS on the M43A1 detector of the M8A1 alarm system.

- a. Detector exterior. Look at outside of M43A1 for dirt, corrosion, and broken or missing parts.

NOTE: Clean off dirt with water only. Do not use cleaner, soap, or detergent of any kind.

- b. Rain shield and adapter assembly. Unscrew rain shield from handle. Remove adapter from rain shield and check both for dirt and chips. Check preformed packing on adapter and nonmetallic washer on rain shield for cracks, cuts, or dirt. Check for missing parts. Return rain shield and adapter assembly to handle.
- c. Flowmeter. Unscrew flowmeter from handle. Check for missing parts, dirt, or cracks. Check nonmetallic washer and meter adapter for dirt or cracks. Return flowmeter to handle.
- d. Top case. Release four clamping catches and lift top case from bottom case. Lay top case on its side. Check J10 test connector for dirt or corrosion. Look at detector interior and inspect for broken, loose, or missing parts.
- e. Bottom case. Inspect bottom case for bent, broken, or corroded heater contacts. Inspect rubber seal for cuts or cracks. Set top case into bottom case and clamp four clamping catches.
- f. Operational check.
 - (1) Unscrew thumbscrew from air inlet. Remove rain shield and adapter from handle. Separate rain shield and adapter by pulling apart.
 - (2) Screw adapter into air inlet.
 - (3) Store rain shield in handle.
 - (4) Remove flowmeter from handle.
 - (5) Put flowmeter onto adapter.
 - (6) Attach BA3517/U battery. Tilt detector and insert strike catch on bottom of detector into metal strap on battery. Clamp detector to battery using clamping catch.
 - (7) Remove air outlet cap. Remove cover from 24 VDC input and connect power cable.

NOTE: If alarm sounds when battery is connected, allow the alarm to sound at least five times. Then press battery test and reset press button. This procedure may have to be repeated several times.

- (8) Press and hold battery test and reset press button. Read detector meter. Detector meter should read in black band. Release battery test and reset press button.
- (9) Flowmeter ball should read within green band of flowmeter.
- (10) Look at detector meter on top case. Meter should be in green band.

NOTE: If detector has not been in use for a long time, it may take 15 minutes for meter to reach green band.

- (11) Release side and rear clamping catches and detector will open just far enough to break air seal between top case and bottom case.
- (12) Observe flowmeter while closing off air outlet with air outlet cap. The flow rate should drop to zero when air outlet is capped. Remove cap from air outlet immediately after ball drops to zero. Attach clamping catches to detector.

NOTE: Do NOT run detector for more than 30 seconds with air outlet cap in place, or damage to equipment may result.

- (13) With voltage meter in green band, press and release bit press button. No flow will show on flowmeter and alarm horn will sound.
- (14) While alarm is sounding, turn horn volume knob to check volume changes from low to high.
- (15) Disconnect power cable from 24 VDC input.
- (16) Remove air filter plug from air filter port.
- (17) Remove air filter and touch to back of hand. It should be warm. Discard if dusty.
- (18) Obtain a test paddle from the M273 maintenance kit. Insert test paddle and install air filter plug. Connect power. Alarm may sound.
- (19) Press and release battery test and reset press button. Within two minutes alarm should sound.

NOTE: If alarm does not sound within two minutes, repeat test once more with a new test paddle. Discard old test paddle.

- (20) Remove air filter plug. Remove test paddle from air filter port. Install serviceable air filter. Reinstall air filter plug. Return test paddle to M273 kit.

Performance Steps

- (21) Allow alarm to sound at least five times. Then press and release battery test and reset press button. This procedure may have to be repeated several times. Alarm will not sound, pump will start to pump air again, and detector meter will read in green zone within five to ten minutes.
- (22) Remove flowmeter and store in handle.
- (23) Remove shield from handle and place it on the adapter.
- (24) Disconnect power from 24 VDC input connector.
- (25) Place protective cover on 24 VDC input connector.
- (26) Remove adapter from air inlet and rain shield from handle. Press adapter into rain shield and store in handle.
- (27) Screw thumbscrew into air inlet.
- (28) Put air outlet cap on air outlet.

NOTE: The detector is now ready for assembly and preparation for use.

12. Perform operator-level PMCS on the M42 alarm of the M8A1 alarm system.
 - a. M42 alarm exterior. Look at outside of M42 alarm for dirt, corrosion, and broken or missing parts.
 - b. Horn, light, and battery test.

NOTE: Notify personnel within hearing range that the M42 alarm will be tested.

- (1) Turn selector switch to test. Horn should sound and alarm-red light should flash.
- (2) If M42 alarm does not work, replace batteries as follows: Turn selector switch to horn off. Loosen four knurled screws and separate panel assembly from housing. Release spring-tension clip and open hinge cover of battery retainer. Remove batteries from battery retainer and discard. Obtain four BA3030 batteries. Install batteries in battery retainer; close hinged cover and secure it with spring-tension clip. Position panel assembly in housing. Secure by tightening four knurled screws. Repeat horn, light, and battery test. If retest fails, take unit to unit maintenance.

13. Assemble and prepare the M8A1 alarm for use in the fixed emplacement mode.

- a. M43A1 detector and BA3517/U battery.
 - (1) Insert strike catch on detector unit into slot of metal strap on battery.
 - (2) Engage and lock clamping catch onto catch on opposite side of detector unit.
 - (3) Remove thumbscrew from air inlet.
 - (4) Remove air outlet cap from air outlet.

NOTE: M43A1 is now ready for operation.

- b. M42 alarm.
 - (1) Use Figure 1 as a guide for connecting more than one M42 alarm to a M43A1 detector.
 - (2) Allowing about 1 foot of slack at the end of each cable, string WD-1/TT telephone cable between the detector unit (1) and the M42 alarms (2) shown.
 - (3) About 9 inches from the end of the telephone cable, tie each telephone cable to the D-ring (3) on its alarm.

Performance Steps

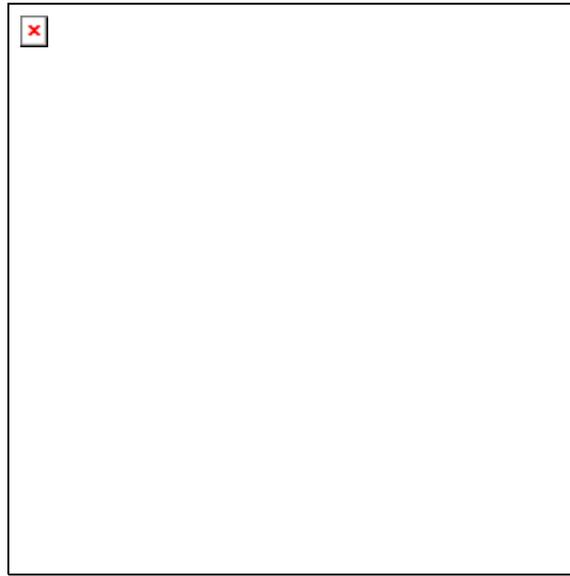


Figure 3-1. Connecting more than one M42 alarm to a M43A1 alarm.

NOTE: Maximum cable length must not exceed 400 meters from the detector to farthest alarm.

- (4) Strip about 1 inch of insulation from the end of each wire to be connected.
- (5) Connect wires to binding posts.
- (6) About 9 inches from detector end of telephone cable, tie each telephone cable to strap fastener loop on detector.
- (7) Strip about 1 inch of insulation from each wire to connector.
- (8) Connect wires to binding posts.
- (9) Turn selector switch to horn on position.

NOTE: The alarm is now ready for operation.

14. Perform operating procedures with the M8A1 alarm (M43A1 detector, BA3517/U battery, and M42 alarm) under usual conditions.
 - a. Remove rain shield and adapter from handle.
 - b. Remove thumbscrew from air inlet. (Remove air outlet cap from air outlet).
 - c. Install rain shield and adapter.
 - d. Remove 24 VDC input protective cover.
 - e. Connect battery cable into 24 VDC input on detector.
 - f. Press battery test and reset press button. Detector meter indicates battery voltage and should be in black band. Release.
 - g. Observe meter until needle returns to green band.

NOTE: The equipment is now operating.

15. Perform operating procedures with the M8A1 alarm (M43A1 detector, BA3517/U battery, and M42 alarm) under unusual conditions.
 - a. Operational alert.
 - (1) Immediately take protective measures and give alert according to local SOP.
 - (2) Disconnect power cable from detector 24 VDC input connector.
 - (3) Remove rain shield and adapter assembly from air inlet.
 - (4) Store rain shield and adapter assembly in handle.
 - (5) Screw thumbscrew on air inlet.

Performance Steps

- (6) Screw protective cover on 24 VDC input connector.
- (7) Press air outlet cap on air outlet of detector.
- (8) After a chemical agent attack, decontaminate rain shield and adapter assembly and outside surfaces of all alarm system components.
- (9) Replace M43A1 detector into operation as follows:
 - (a) Remove air outlet cap from air outlet.
 - (b) Remove thumbscrew from air inlet.
 - (c) Remove rain shield and adapter from handle and remove adapter from rain shield. Return rain shield to handle.
 - (d) Remove flowmeter from handle.
 - (e) Press adapter onto flowmeter.
 - (f) Screw flowmeter and adapter into air inlet.
 - (g) Remove protective cover from 24 VDC input connector.
 - (h) Connect power cable connector to 24 VDC input connector. Horn may sound. Adjust horn volume knob.
 - (i) Press battery test and reset press button. Detector meter must be in black band.
 - (j) Ensure ball in flowmeter floats within green band.
 - (k) Remove flowmeter from adapter.
 - (l) Store flowmeter in handle.
 - (m) Remove rain shield from handle and install on adapter.
 - (n) Observe detector meter until needle returns to green band.

NOTE: The equipment is now operating.

b. Operation in cold weather.

NOTE: Use the M253 winterization kit instead of BA3517/U battery during operation below 20°F (-7°C).

- (1) Make sure rain shield and adapter assembly is installed in detector air inlet.
- (2) Make sure air outlet cap is removed from air outlet.
- (3) Remove protective cap from BB501/U battery, and remove protective cap from M168 cable assembly connector.
- (4) Observe shape of BB501/U battery receptacle and M168 cable assembly connector for proper alignment, and connect them.
- (5) Remove protective cover from M168 cable assembly connector and 24 VDC input connector on detector.
- (6) Connect M1-68 cable connector to 24 VDC input connector on detector.
- (7) Press battery test and reset press button and observe detector meter. Meter indicates voltage; needle should be in black band. Release.
- (8) Observe meter until needle returns to green band.

NOTE: It may take as long as 50 minutes for needle to reach green band during cold weather. NOTE: The equipment is now operating.

c. Operation in blowing sand or dust. When operating the M43A1 detector in blowing sand or dust, replace the air filter according to Table 1.

d. Operation in rain, sleet, or snow. No special procedures are required in rain, sleet, or snow.

e. Forging. The M43A1 detector is NOT immersible. Keep above water if river crossing is required.

16. Conduct continuous-use checks and reservicing procedures with M43A1 detector and M42 alarm.
 - a. Store rain shield in handle.
 - b. Remove flowmeter from handle.
 - c. Put flowmeter onto adapter.
 - d. Press and hold battery test and reset press button. Read detector meter. Detector meter should read in black band. Release battery test and reset press button.
 - e. Flowmeter ball should read within green band of flowmeter.
 - f. Look at detector meter on top case. Meter should be in green band.
 - g. Press and release bit press button. No flow will show on flowmeter, and alarm horn will sound.
 - h. While alarm is still sounding; turn horn volume knob. Check to see that volume changes from low to high.

Performance Steps

- i. Disconnect power cable from 24 VDC input.
 - j. Remove air filter plug from air filter port.
 - k. Remove air filter and touch to back of hand. It should be warm. Discard if dusty.
 - l. Obtain a test paddle from M273 kit. Insert test paddle and install air filter plug. Connect power. Alarm may sound.
 - m. Press and release battery test and reset press button. Within two minutes alarm should sound.
 - n. Remove air filter plug. Remove test paddle from air filter port. Install serviceable air filter. Reinstall air filter plug. Return test paddle to M273 kit.
 - o. Allow alarm to sound at least five minutes. Then press and release battery test and reset press button.
 - p. Remove flowmeter and store in handle.
 - q. Remove rain shield from handle and place on adapter.
 - r. Conduct horn, light, and battery test on M42 alarm; replace batteries if necessary.
17. Reactivate M8A1 alarm after operational alert. Perform procedure provided at paragraph 5a above.

Evaluation Preparation: Setup: This task can be evaluated during a field exercise. Gather the necessary equipment and supplies identified in the conditions statement. Operational alert signals can be simulated by allowing smoke (except cigarette smoke) to come into contact with the M43A1 detector unit. Allow the soldier to use TM 3-6665-312-12&P. Brief Soldier: Tell the soldier to perform all procedures IAW TM 3-6665-312-12&P without causing damage to the equipment.

Performance Measures	<u>GO</u>	<u>NO GO</u>
1. Performed all operator-level PMCS.	—	—
2. Corrected all deficiencies or shortcomings correctable at operator level; reported all others to supervisor.	—	—
3. Performed assembly and preparation for use procedures.	—	—
4. Performed operating procedures under usual conditions OR Performed operating procedures under unusual conditions.	—	—
5. Conducted continuous-use checks and reservicing procedures.	—	—
6. Reactivateed alarm system following an operational alert.	—	—
7. Performed all performance measures without causing damage to equipment.	—	—
8. Observeed all safety precautions.	—	—

Evaluation Guidance: Score the soldier GO if all steps are passed (P). Score the soldier NO-GO if any step is failed (F). If any step is failed, show the soldier what was done wrong and how to do it correctly.

References

Required	Related
TM 3-6665-312-12&P	

LOCATE MINES WITH AN AN/PSS-12 MINE DETECTOR
052-192-1128

Conditions: As a combat engineer squad member in a field environment, given an operational and tuned AN/PSS-12 mine detector and an area with hidden metallic mines.

Standards: Locate mines using the AN/PSS-12 Mine Detector without overlooking mines or causing mine detonation.

Performance Steps

1. Search for mines in the standing position.

NOTE: This unit may require frequent adjustment of the sensitivity knob during operation.

- a. Adjust the handle to a comfortable position by loosening the knurl nut.

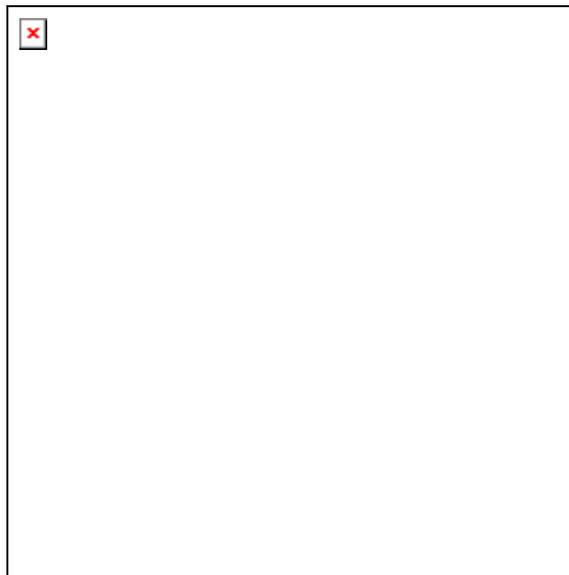


Figure 3-2. Adjusting the handle.

- b. Adjust the position of the search head so that it is parallel to the ground.
- c. Move the search head not more than 5 cm above the ground in a 2-meter path.
- d. Sweep at a rate of approximately one-meter per second.

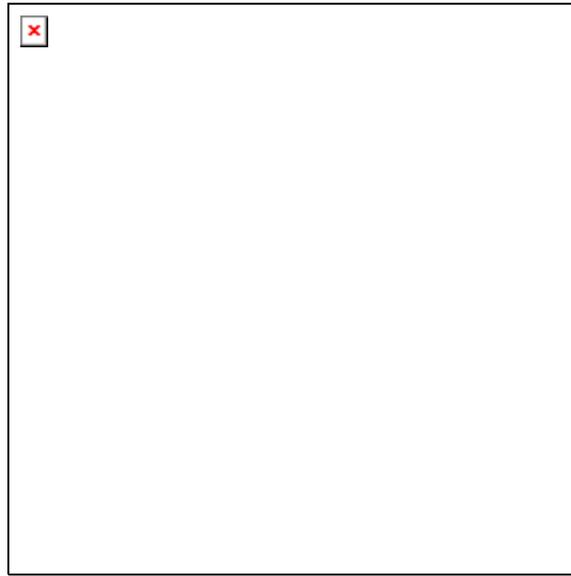
Performance Steps

Figure 3-3. Sweep procedure.

NOTE: The inner ring of the search head indicates metal objects by sounding a tone in the earphone. This tone depends on the size (metal content), shape, and position of the object and its depth under the ground surface.

- e. When you hear a tone move the search head above the object to locate its exact position.

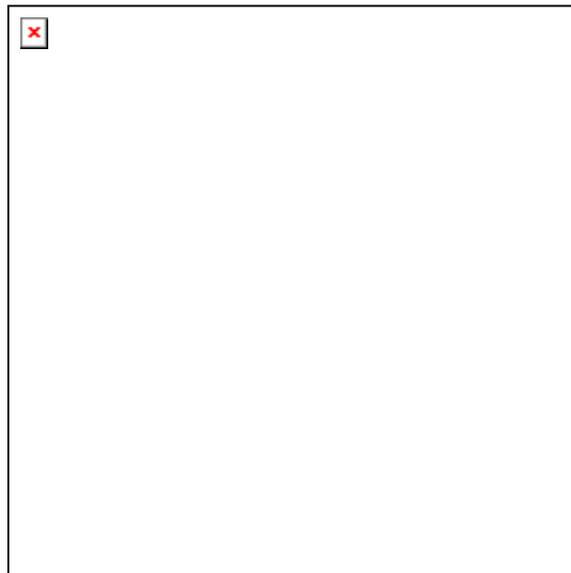


Figure 3-4. Locating the exact position.

Performance Steps

NOTE: Normally the tone will be highest when the search head is immediately above the object. For really tiny horizontal metal pins, the tone will be the highest nearer the inner ring of the search head than at the middle.

- f. To prevent interference during setting the searching, the distance between search heads should not be less than 2 meters.
2. Search for mines in the prone position.

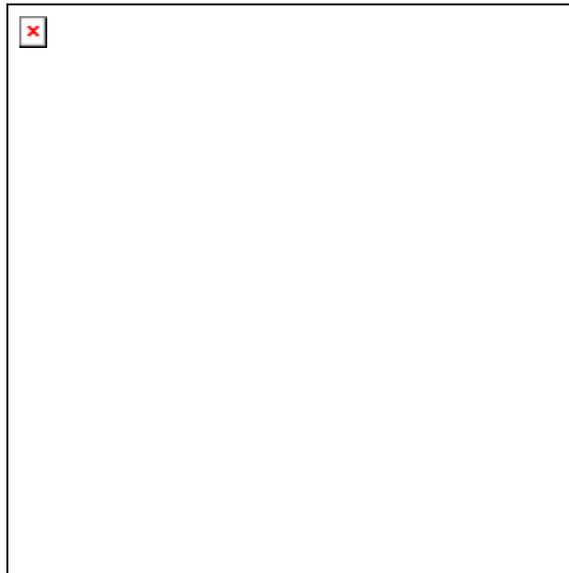


Figure 3-5. Operating the mine detector.

- a. When operating the mine detector in the prone position use only the inner part of the telescopic pole.
- b. Adjust the position of the search head so that it is parallel to the ground.

NOTE: If the indication lamp flashes, change the batteries as soon as possible and readjust the settings. If searching is continued, a constant tone in the headphone will be obtained after some time and will render further searching impossible. If the ticking checking tone disappears or its frequency decreases stop searching and readjust the setting.

Evaluation Preparation: Provide the soldier with the items listed in the conditions. Use an inert minefield when performing this task. Observe the soldier's performance for any improper procedures that may cause the mines to detonate, or cause the soldier to miss a mine in the search path.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Search for mines in the standing position.	—	—
2. Search for mines in the prone position.	—	—

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO GO if any step is failed. If the soldier fails any step, show the soldier what was wrong and how to correct it.

**References
Required**

Related
FM 20-32
STP 5-12B1-SM
TM 5-6665-298-10

**PERFORM DENIAL AND DESTRUCTION (D2) OF THE PATRIOT SYSTEM
441-084-1132**

Conditions: The enemy is moving toward your position. Your commander has directed that denial and destruction be performed. Your section chief directs you to perform denial and destruction of your section equipment. The following are available:

1. TM 43-0002-23.
2. FM 5-250.
3. Unit denial and destruction SOP.
4. Materials, tools, and equipment from tactical area(s).
5. Authorized demolition materials.
6. Section personnel.

Standards: Denies and destroys Patriot equipment by rendering it tactically useless to the enemy. Destruction prevents the enemy from restoring the equipment to a usable condition within the combat zone by repairs or cannibalization. Performs all steps, with no injury to self or friendly personnel, and with minimal damage to the environment.

Evaluation Preparation:

Setup: During peace time, training this task will be simulated orally. The evaluator will read each of the main steps and have the soldier state what would be done to satisfy the requirement. TM 43-0002-23 and FM 5-250 are to be on-hand for the soldier to use as a reference.

Brief the soldier: Tell the soldier that he is going to be asked a series of questions and that he is to explain what steps he would take to satisfy the question.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Destroyed mechanical components by improper operation.	—	—
a. Drained crankcase oil from equipment.		
b. Operated engine at high-idle speed.		
c. When time permitted, verified that considerable, if not permanent, damage had occurred.		
d. Performed remaining steps in destruction of other equipment.		
2. Destroyed system components by mechanical means.	—	—
a. Used priorities established in TM 43-0002-23.		
b. Disconnected equipment from power source.		
c. Removed and emptied all fire extinguishers.		
d. Destroyed equipment by smashing or cutting priority items.		
e. Used caution when destroying cathode ray tubes (flying glass and gases). Wore protective clothing if possible.		
f. Heaped cables and other equipment together so that piecing equipment together was difficult for the enemy.		
g. Employed other or additional destruction methods when directed, such as, fire or demolition.		
3. Destroyed system components by weapons fire.	—	—
a. Used priorities established in TM 43-0002-23.		

Performance Measures

GO NO GO

- b. Disconnected equipment from power source.
- c. Removed and emptied all fire extinguishers.
- d. Checked that firing distance was at least 275 meters without protective cover.
- e. Checked that firing distance was at least 460 meters without protective cover when firing on the guided missile.
- f. Verified that the area was free of friendly troops.
- g. Fired on equipment with machine gun, rifle grenade, or rocket launcher.
- h. Verified that 10 minutes of weapons fire had elapsed when firing on equipment unless several well placed hits occurred that started an intense fire.

4. Destroyed system components by fire.

Note: If destruction by fire was being used as a part of total destruction, the equipment was already subjected to mechanical and demolition methods.

- a. Used priorities established in TM 43-0002-23.
- b. Gathered solid flammable materials from around the site.
- c. Gathered rags, clothing, paper, petroleum products, safety fuse, or other ignition source(s) for igniting the fire(s).
- d. Checked the immediate area of demolition to locate any critical components blown away by the blast (when applicable).
- e. Piled parts as close to the center of the fire as possible (when applicable).
- f. Disconnected equipment from power source.
- g. Removed and emptied all fire extinguishers.
- h. Packed flammable materials under and around equipment to be destroyed.
- i. Soaked flammable materials with gas, oil, or diesel fuel.

Note: Perform PMs 4j and 4k when using incendiary grenades or PM 4l for safety fuse.

- j. Placed one incendiary grenade (when available) in each important component.
- k. Activated the incendiary grenades and evacuated the area immediately.
- l. Used a safety fuse long enough to permit evacuation to a safe area when incendiary grenades were not used.
- m. Evacuated area immediately.

5. Destroyed system components by demolition.

- a. Used priorities established in TM 43-0002-23.
- b. Disconnected equipment from power source.
- c. Removed and emptied all fire extinguishers.
- d. Placed a proper size explosive charge in area designated for the component(s) being destroyed per TM 43-0002-23.
 - (1) GM and LS.
 - (2) ECS or ICC.
 - (3) RS .
 - (4) PSME.
 - (5) Vehicles.
 - (6) EPP and generator sets.
 - (7) CRG.
 - (8) AMG.
 - (9) GM.
 - (10) Classified equipment and records.
- e. Followed procedures to prime charges and set up the type firing system(s) directed by the section chief.
- f. Evacuated the area immediately. For missile destruction by demolition, the minimum safe distance without protective cover is 460 meters (1500 feet).

6. Denied Patriot system components.

Performance Measures

GO NO GO

- a. Powered-down equipment denied.
- b. Removed vital equipment components.
- c. Concealed vital equipment or components by submerging underwater, concealing in caves, or by burying.
- d. Dispersed components or equipment into heavy underbrush when concealment was not possible.
- e. Recovered concealed items if the area was recaptured.

Evaluation Guidance: Score the soldier GO if he passes all the steps. Score the soldier NO-GO if he fails any step. If the soldier fails any step, explain what he did wrong and how to do it correctly.

References

Required

FM 5-250
TM 43-0002-23

Related

STP 17-19D1-SM
STP 7-11BCHM1-SM

**PERFORM BATTLEFIELD DAMAGE ASSESSMENT AND REPAIR (BDAR) OF PATRIOT
EQUIPMENT
441-084-1513**

Conditions: Your unit is recovering from an enemy attack. You are directed to perform BDAR on a major end item of the Patriot system. Assistance from other crew members and the following are available:

1. Patriot system.
2. Equipment technical publications.
3. FM 9-43-2.
4. Electronic tool kit.
5. BDAR repair kit.
6. DA Form 2404 or DA Form 5988-E.

Standards: Performs BDAR per FM 9-43-2 and applicable Patriot end item technical publications. Performs all steps without causing injury to self or other personnel, with no damage to the equipment, and with minimal damage to the environment.

Evaluation Preparation: Setup: Use actual equipment in a simulated field environment. Evaluator will use chalk or tags to indicate the simulated damage to the selected major end item. Ensure the end item, BDAR repair kit, and an additional CM is available.

Brief the soldier: Tell the soldier to perform BDAR procedures for the specific major end item.

Performance Measures	<u>GO</u>	<u>NO GO</u>
1. Ensured all safety precautions were observed.	—	—
2. Reported equipment manning status per applicable end item technical publications.	—	—
3. Reported initial equipment status per applicable end item technical publications.	—	—
4. Reported current enemy action.	—	—
5. Reported obvious hazards.	—	—
6. Performed PMCS on equipment.	—	—
7. Performed equipment self-test, functional test, and operational tests per applicable TM.	—	—
8. Restored selected functions/equipment to operation per applicable end item technical publications.	—	—
9. Reported status of repairs per applicable end item technical publications.	—	—

Evaluation Guidance: Score the soldier GO if he passes all the steps. Score the soldier NO-GO if he fails any step. If the soldier fails any step, explain what he did wrong and how to do it correctly.

References

Required

DA FORM 2404

DA FORM 5988-E

FM 9-43-2

Related

Subject Area 7: Patriot Support Maint Equip, MO&E, and PMCS

EMPLACE THE BATTALION/BATTERY MAINTENANCE CENTER (BMC)

441-084-1400

Conditions: The BMC is in the road march configuration and you are directed to emplace the BMC. The ground stakes are installed and the power distribution box is installed on an emplaced, operational generator. Assistance from another crew member and a wrench box/open end, 5/8 inch are available.

Standards: Emplaces the BMC per TM 9-4935-600-14 without causing injury to self or other personnel, with no damage to equipment, and with minimal damage to the environment.

Evaluation Preparation: Setup: Ensure an operational BMC with one additional crew member is available. Use actual equipment in a field (on- the- job) environment.

Brief Soldier: Ensure that soldiers are aware of all possible hazards associated with this task. Tell the soldiers to emplace the BMC.

Performance Measures	<u>GO</u>	<u>NO GO</u>
1. Positioned BMC as directed.	___	___
2. Lowered semitrailer landing gear.	___	___
3. Disengaged truck tractor from semitrailer.	___	___
4. Installed boarding ladder.	___	___
5. Unlocked shelter door.	___	___
6. Removed and installed adjustable ladder.	___	___
7. Secured exterior air conditioner cover.	___	___
8. Prepared shelter antennas for operation.	___	___
9. Grounded BMC.	___	___
10. Prepared shelter for energizing.	___	___
11. Energized BMC.	___	___
12. Installed Patriot Logistics System, per TM 9-4935-606-12.	___	___
13. Prepared for operation per unit SOP(s).	___	___

Evaluation Guidance: Score the soldier GO if he passes all the steps. Score the soldier NO-GO if he fails any step. If the soldier fails any step, show what he did wrong and how to do it correctly.

**References
Required**

Related
TM 9-4935-600-14
TM 9-4935-606-12

**EMPLACE THE 15-KW GENERATOR SET
441-084-1402**

Conditions: You have been directed by your section chief to emplace the Patriot support maintenance equipment generator set. The generator set is coupled to the LRPT. Assistance from another crew member and the following are available:

1. General mechanics tool kit.
2. One slide hammer.
3. Gloves, leather.

Standards: Emplaces the 15-kilowatt generator set, per TM 9-6115-464-12 or TM 5-6115-465-12, with no injury to self or other personnel and no damage to equipment, and with minimal damage to the environment.

Performance Measures	<u>GO</u>	<u>NO GO</u>
1. Guided LRPT with generator set to designated position.	—	—
2. Uncoupled trailer.	—	—
3. Placed fire extinguisher on the ground.	—	—
4. Installed generator set.	—	—
5. Installed power distribution box on the generator set.	—	—
6. Connected power cables for BMC and SRPT to power distribution box.	—	—
7. Started generator set and closed circuit breaker.	—	—

Evaluation Guidance: Score the soldier GO if he passes all the steps. Score the soldier NO-GO if he fails any step. If the soldier fails any step, explain what he did wrong and how to do it correctly.

**References
Required**

- Related**
 TM 5-6115-465-12
 TM 9-4935-600-14
 TM 9-6115-464-12

**MARCH ORDER THE BATTALION/BATTERY MAINTENANCE CENTER (BMC)
441-084-1411**

Conditions: You have been directed by the section chief to march order the BMC. The BMC is emplaced and operational. The truck tractor is positioned with the parking brake set and the transmission in neutral. The engine is running and the wheels have been chocked. Assistance from a crew member is available.

Standards: Prepares the BMC for travel per TM 9-4935-600-14. Performs all steps with complete accuracy within the time prescribed by local command directives, without causing injury to self or other personnel, with no damage to equipment, and with minimal damage to the environment.

Performance Measures	<u>GO</u>	<u>NO GO</u>
1. Secured shelter for road march.	—	—
2. De-energized maintenance center.	—	—
3. Secured antennas.	—	—
4. Secured air conditioner covers.	—	—
5. Secured extension ladder.	—	—
6. Secured power cable.	—	—
7. Secured interior sliding door.	—	—
8. Locked shelter access doors.	—	—
9. Stowed boarding ladder.	—	—
10. Connected air brake hoses and power cable to semitrailer.	—	—
11. Guided crew member in coupling tractor to trailer.	—	—
12. Stowed landing gear.	—	—
13. Stowed ratchet cranks.	—	—
14. Stowed and secured semitrailer chock blocks and support plates.	—	—
15. Inspected vehicle for safety and proper operation.	—	—

Evaluation Guidance: Score the soldier GO if he passes all the steps. Score the soldier NO-GO if he fails any step. If the soldier fails any step, show what he did wrong and how to do it correctly.

**References
Required**

- Related**
 TM 9-2320-272-10
 TM 9-4935-600-14
 TM 9-4935-606-12

MARCH ORDER THE 15-KW GENERATOR SET
441-084-1414

Conditions: Your section chief directs you to march order the trailer-mounted generator set. The generator set is emplaced and operational. The BMC and SRPT are de-energized. Assistance from a crew member and the following are available:

1. LRPT.
2. Ground stake extractor.
3. General mechanics tool kit.

Standards: March orders the 15-kilowatt generator set per TMs 9-6115-464-12 or 5-6115-465-12. Performs all steps with complete accuracy within the time prescribed by local command directives, without causing injury to self or other personnel, with no damage to equipment, and with minimal damage to the environment.

Performance Measures	<u>GO</u>	<u>NO GO</u>
1. De-energized generator set .	_____	_____
2. Disconnected BMC and SRPT power cables from distribution box.	_____	_____
3. Coupled generator set to prime mover.	_____	_____

Evaluation Guidance: Score the soldier GO if he passes all the steps. Score the soldier NO-GO if he fails any step. If the soldier fails any step, show what he did wrong and how to do it correctly.

References
Required

Related
TM 5-6115-465-12
TM 9-4935-600-14
TM 9-6115-464-12

PERFORM OPERATOR PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS) ON THE PATRIOT SUPPORT AND MAINTENANCE EQUIPMENT (PSME)

441-084-1419

Conditions: Given a DD Form 314 or DA Form 5988-E showing a service is due or your section chief directs you to perform PMCS on the PSME. Assistance from another crew member and the following are available:

1. TM 9-4935-600-14.
2. DA Form 2404 or DA Form 5988-E.
3. Tools and equipment listed per applicable service procedure(s).

Standards: Completes the PMCS per procedures in TM 9-4935-600-14. Completes DA Form 2404 or DA Form 5988-E per DA Pamphlet 738-750 and notifies section chief if higher echelon support is required. Performs all steps with complete accuracy within the time prescribed by local command directives, without causing injury to self or other personnel, with no damage to the equipment, and with minimal damage to the environment.

Performance Measures	<u>GO</u>	<u>NO GO</u>
1. Identified PMCS procedure(s) outlined in PMCS table.	—	—
2. Performed appropriate PMCS procedure(s).	—	—
3. Performed corrective actions as required.	—	—
4. Completed DA Form 2404 or DA Form 5988-E.	—	—
5. Notified section chief if higher echelon support was required.	—	—

Evaluation Guidance: Score the soldier GO if he passes all the steps. Score the soldier NO-GO if he fails any step. If the soldier fails any step, explain what he did wrong and how to do it correctly.

References

Required

- DA FORM 2404
- DA FORM 5988-E
- DD FORM 314
- TM 9-4935-600-14

Related

- DA PAM 738-750

Skill Level 2

Subject Area 8: Supervising Launching Station Operations

SUPERVISE BATTLEFIELD DAMAGE ASSESSMENT AND REPAIR (BDAR) OF PATRIOT EQUIPMENT

441-084-2000

Conditions: Your unit has just recovered from an enemy attack. You are directed to perform BDAR on an item of the Patriot missile system. Assistance from crew members and the following are available:

1. BDAR repair kit.
2. Electronic tool kit.
3. Applicable TMs.
4. DA Form 2404 or 5988-E.
5. FM 9-43-2

Standards: Inspects and assesses damaged equipment. Repairs battle damage to return equipment to combat capability or notifies the BDAR NCOIC of the inability to effect repair. Completes DA Form 2404 or 5988-E per DA Pamphlet 738-750. Performs this task per unit BDAR SOP within the time prescribed by local command directives, without injury to self or personnel, with no damage to equipment, and minimal damage to the environment.

Evaluation Preparation: Battle damage may be simulated for training purposes.

Performance Measures	<u>GO</u>	<u>NO GO</u>
1. Verified that equipment was approached without disrupting operations or exposing crew members to potential hazards.	—	—
2. Determined extent of damage and level of maintenance required.	—	—
3. Reported equipment status to BDAR NCOIC via FM radio.	—	—
Note: The BDAR NCOIC will report to the BDAR center. The system maintenance technician will evaluate and determine the priorities for equipment repair and will confirm level of maintenance required.		
4. Repaired equipment to combat capable conditions using the BDAR repair kit or any available items found in the tactical area.	—	—
5. Reported equipment status to BDAR NCOIC.	—	—

Evaluation Guidance: Score the soldier GO if he passes all the steps. Score the soldier NO-GO if he fails any step. If the soldier fails any step, explain what he did wrong and how to do it correctly.

References

Required

- DA FORM 2404
- DA FORM 5988-E
- FM 9-43-2

Related

SUPERVISE LAUNCHING STATION (LS) EMLACEMENT
441-082-2054

Conditions: Your launching station has arrived at new a new location. Given an LS in the march order configuration, two crew members, M983 tractor, and all associated BII.

Standards: Supervises LS emplacement per ARTEP 44-635-14-Drill, and TM 9-1440-600-10 or TM 9-1440-1600-10 within the time prescribed by local command directives, without injury to self or personnel, with no damage to equipment, and minimal damage to the environment.

Performance Measures	<u>GO</u>	<u>NO GO</u>
1. Ensured LS was positioned over maker stake.	—	—
2. Ensured that tractor was properly chocked.	—	—
3. Ensured ground rod was installed to proper depth.	—	—
4. Ensured that outriggers were deployed.	—	—
5. Ensured tractor was uncoupled and intervehicular light cable and airlines were stowed.	—	—
6. Ensured LS was level.	—	—
7. Ensured that louver covers were rolled up.	—	—
8. Ensured DLT antenna mast was connected.	—	—
9. Confirmed with crew member that canister tie-down bolts were torqued to correct value.	—	—
10. Ensured generator set, DLTM, and LEM were energized.	—	—
11. Ensured BITE test had been passed.	—	—
12. Verified that launcher platform had been raised.	—	—
13. Verified that LS had been synchronized.	—	—
14. Verified orientation and alignment of the LS.	—	—
15. Verified roll and cross roll.	—	—
16. Verified correct alignment of LS using the M2 aiming circle, if manually emplaced.	—	—
17. Notified ECS of missile heat time.	—	—
18. Verified torque tube handles were unlocked.	—	—
19. Verified no MISSILE HAZARD lights were on.	—	—
20. Ensured personnel were clear of LS.	—	—
21. Ensured LOCAL/REMOTE switch key was set to REMOTE.	—	—
22. Ensured location and alignment form was properly filled out and turned in to the ECS, if manually emplaced.	—	—

Evaluation Guidance: Score the soldier GO if he passes all the steps. Score the soldier NO-GO if he fails any step. If the solder fails any step, explain, what he did wrong and how to do it correct.

**References
Required**

Related
ARTEP 44-635-14-DRILL
TM 9-1440-1600-10
TM 9-1440-600-10

**SUPERVISE LAUNCHING STATION (LS) MARCH ORDER
441-082-2055**

Conditions: You have received the order to march order the LS. Given an emplaced and operational LS and two crew members, ARTEP 44-635-14-Drill, and TM 9-1440-600-10 or TM 9-1440-1600-10.

Standards: Supervises LS march order per ARTEP 44-635-14-Drill and TM 9-1440-600-10 or TM 9-1440-1600-10 within the time prescribed by local command directives, without injury to self or personnel with no damage to equipment, and minimal damage to the environment.

Performance Measures	<u>GO</u>	<u>NO GO</u>
1. Verified that LS was placed in LOCAL by ECS.	—	—
2. Verified that the LOCAL/REMOTE key was switched to LOCAL and removed.	—	—
3. Checked that the torque tube handle(s) on the GM(s) was locked and missiles were disconnected.	—	—
4. Ensured launcher platform was lowered and travel lockpins secured.	—	—
5. Ensured engagement control handle was set to ROAD MARCH.	—	—
6. Ensured airlines and power cables were connected to trailer.	—	—
7. Checked the LEM and DLTM-PDU to ensure they were de-energized.	—	—
8. Checked DLT mast to ensure mast was stowed properly.	—	—
9. Confirmed that canister tie-down bolts were at the correct torque value.	—	—
10. Verified generator set was powered down and all inlet and outlet covers were secured.	—	—
11. Checked that crew members properly performed a tractor and semitrailer jerk test.	—	—
12. Verified that outriggers were raised and secured.	—	—
13. Inspected tractor and semitrailer for safety violations and vehicle operations.	—	—

Evaluation Guidance: Score the soldier GO if he passes all the steps. Score the soldier NO-GO if he fails any step. If the soldier fails any step, explain what he did wrong and how to do it correctly.

References

Required	Related
ARTEP 44-635-14-DRILL	
TM 9-1440-1600-10	
TM 9-1440-600-10	

SUPERVISE PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS)/CORRECTIVE MAINTENANCE ON GUIDED MISSILE CANISTER (GMC)

441-082-2056

Conditions: Your crew members are performing PMCS or corrective maintenance on the GMC. Given a GMC, DA Form 2404 or DA Form 5988-E, two crew members, and TM 9-1410-600-14.

Standards: Supervises PMCS or corrective maintenance per TM 9-1410-600-14. Ensures task is completed without injury to self or personnel with no damage to equipment, and minimal damage to the environment.

Performance Measures	<u>GO</u>	<u>NO GO</u>
1. Checked that PMCS or corrective maintenance procedures were properly performed by crew members.	—	—
2. Inspected DA Form 2404 or DA Form 5988-E for uncorrected deficiencies and report them to higher echelon maintenance.	—	—
3. Coordinated equipment TAMMS actions with system maintenance section.	—	—

Evaluation Guidance: Score the soldier GO if he passes all the steps. Score the soldier NO-GO if he fails any step. If the soldier fails any step, explain what he did wrong and how to do it correctly.

References

Required
TM 9-1410-600-14

Related
DA FORM 2404
DA FORM 5988-E

Subject Area 9: Supervising Patriot Support Maint Equip, MO&E, and PMCS

**SUPERVISE EMPLACEMENT OF THE SYSTEM MAINTENANCE SECTION EQUIPMENT
441-084-2100**

Conditions: The system maintenance section has arrived at its new location in the road march configuration. You have directed the section personnel to emplace the section equipment. The following are available:

1. Section personnel.
2. 15-kw generator.
3. Battalion/battery maintenance center.
4. Large repair parts transporter.
5. Small repair parts transporter.

Standards: Supervises emplacement of the system maintenance section equipment, with complete accuracy and within the time prescribed by local command directives, without causing injury to self or personnel, with no damage to equipment, and minimal damage to the environment.

Performance Measures	<u>GO</u>	<u>NO GO</u>
1. Ensured drivers followed ground guides to assigned positions.	—	—
2. Ensured all equipment was camouflaged and toned down.	—	—
3. Ensured equipment was grounded and energized.	—	—
4. Directed the setup of system maintenance section operations.	—	—
5. Verified communications were established.	—	—
6. Ensured all safety precautions were observed.	—	—

Evaluation Guidance: Score the soldier GO if he passes all the steps. Score the soldier NO-GO if he fails any step. If the soldier fails any step, explain what he did wrong and how to do it correctly.

**References
Required**

- Related**
 TM 9-2330-205-14&P
 TM 9-4935-600-14
 TM 9-6115-464-12

**SUPERVISE MARCH ORDER OF THE SYSTEM MAINTENANCE SECTION EQUIPMENT
441-084-2101**

Conditions: The order to move to a new location has been received. You have been directed to have the system maintenance section march ordered. The section is emplaced and operational. The following are available:

1. Section personnel.
2. 15-kw generator.
3. Battalion/battery maintenance center.
4. Large repair parts transporter.
5. Small repair parts transporter.

Standards: Inspects the system maintenance section equipment to ensure it is in march order configuration within the time prescribed by local command directives, without causing injury to self or personnel, with no damage to equipment, and minimal damage to the environment.

Performance Measures	<u>GO</u>	<u>NO GO</u>
1. Ensured the section was briefed on the elements of the march order.	—	—
2. Ensured the section was prepared to move.	—	—
3. Checked that vehicles were loaded according to load plans.	—	—
4. Ensured vehicles were lined up according to unit march order instructions.	—	—
5. Observed march order safety precautions.	—	—

Evaluation Guidance: Score the soldier GO if he passes all the steps. Score the soldier NO-GO if he fails any step. If the soldier fails any step, explain what he did wrong and how to do it correctly.

**References
Required**

- Related**
 TM 9-2330-205-14&P
 TM 9-4935-600-14
 TM 9-6115-464-12

**SUPERVISE PATRIOT SYSTEM OPERATOR/ORGANIZATIONAL MAINTENANCE
441-084-2104**

Conditions: A fault report is received from the operators. Patriot equipment with an uncorrected fault and the following are available:

1. Section personnel.
2. Maintenance record book.
3. Spare BRU(s).
4. Tools and test equipment specified by procedures.
5. DA Form 2404 or DA Form 5988-E.
6. Applicable TMs.

Standards: Inspects the operator/organizational maintenance performed to return the system to an operational status and ensures that it is done without causing injury to self or other personnel, with no damage to the equipment, with minimal damage to the environment, and within the time prescribed by local command directives.

Performance Measures	<u>GO</u>	<u>NO GO</u>
1. Ensured that the fault was valid.	—	—
2. Assigned system mechanics to perform corrective maintenance.	—	—
3. Inspected (by spot-checking) use of corrective maintenance procedures and adherence to safety practices by maintainers.	—	—
4. Provided assistance to section members, as required.	—	—
5. Confirmed fault was corrected.	—	—
6. Coordinated with higher echelon if required.	—	—
7. Recorded appropriate entries in maintenance record book.	—	—
8. Completed DA Form 2404 or DA Form 5988-E, as required.	—	—

Evaluation Guidance: Score the soldier GO if he passes all the steps. Score the soldier NO-GO if he fails any step. If the soldier fails any step, explain what he did wrong and how to do it correctly.

References

Required

DA FORM 2404

DA FORM 5988-E

Related

DA PAM 738-750

**SUPERVISE MAINTENANCE OF THE TEST, MEASUREMENT, AND DIAGNOSTIC EQUIPMENT
(TMDE)**

441-084-2106

Conditions: Maintenance (corrective or preventive) is due as indicated on DA Form 314, DA Form 5988-E, or you have been directed by your section chief. Section personnel and the following are available:

1. Specific item(s) of TMDE.
2. Tools and equipment listed per applicable TM procedure.
3. DD Form 314 or DA Form 5988-E.
4. Technical Manuals:

- TM 11-6625-3015-14
- TM 11-6625-3055-14
- TM 9-1440-600-10
- TM 9-4935-600-14
- TM 9-4935-603-12

Standards: Inspects the maintenance performed by system mechanic(s) to ensure they are following correct procedures and safety rules. Inspects maintenance records and forms to ensure they are properly completed per DA Pamphlet 738-750. Perform these procedures per unit SOP(s) without injury to self or personnel with no damage to equipment, and minimal damage to the environment.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Identified equipment to be maintained using DD Form 314 or DA Form 5988-E.	___	___
2. Provided the correct technical manual and identified the correct procedures.	___	___
3. Ensured the technical manual was followed when performing maintenance procedures.	___	___
4. Provided assistance on maintenance of TMDE, when necessary.	___	___
5. Ensured any uncorrectable faults were correctly noted on DA Form 2404 or DA Form 5988-E.	___	___
6. Ensured faulty equipment was turned in for proper disposition.	___	___
7. Coordinated equipment TAMMS actions with system maintenance.	___	___
8. Coordinated with calibration lab, as required.	___	___

Evaluation Guidance: Score the soldier GO if he passes all the steps. Score the soldier NO-GO if he fails any step. If the soldier fails any step, explain what he did wrong and how to do it correctly.

References

Required

- DA FORM 2404
- DA FORM 5988-E
- DD FORM 314
- TM 11-6625-3015-14
- TM 11-6625-3055-14

Related

References

Required

TM 9-1440-600-10

TM 9-4935-600-14

TM 9-4935-603-12

Related

Skill Level 3

Subject Area 10: Supervising Launching Section Operations

SUPERVISE MISSILE RELOAD

441-082-3028

Conditions: You are directed to perform missile reload. Given a launching station emplaced and ready for off-load of GMC(s), a GMT, four crew members, and the following items are available:

1. Adapter, torque wrench.
2. Extension, 1/2-inch drive and 30 inches long or 36-inches long.
3. Gloves, work.
4. Socket, 3/4-inch, deep well, 1/2-inch drive.
5. Test set, missile-round cable.
6. Wrench, torque 30 to 150 foot-pounds with valid calibration certificate attached.
7. TM 9-1440-600-10 or TM 9-1440-1600-10.
8. ARTEP 44-635-14-Drill.
9. Helmets.

Standards: Supervises and completes missile reload operations per TM 9-1440-600-10 or TM 9-1440-1600-10 and ARTEP 44-635-14-Drill, without causing injury to self or other personnel, with no damage to the equipment, and with minimal damage to the environment within the time prescribed by local command directives.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Ensure that appropriate safety brief has been given and reload area was set up IAW local SOP.	—	—
2. Verified LOCAL/REMOTE switch was in LOCAL.	—	—
3. Verified unexpended missile(s) torque tube handle(s) is locked and that no red paint showed.	—	—
4. Checked that launcher platform was lowered with travel lockpins secured.	—	—
5. Verified GM cables were disconnected.	—	—
6. Directed GMT positioning to designated location.	—	—
7. Verified that the GMC(s) was safe and serviceable.	—	—
8. Verified torque tube handles on the GMT's guided missiles were locked and that no red paint showed.	—	—
9. Checked that sling was in the empty position.	—	—
10. Verified that the GMC on the LS was ready for off-load.	—	—

Performance Measures	<u>GO</u>	<u>NO GO</u>
11. Directed crane operator to center sling on the GMC to be off-loaded.	—	—
12. Verified sling was secured on GMC and in the correct EMPTY/LOADED position.	—	—
13. Directed crane operator to hoist and move the GMC safely to the temporary storage area.	—	—
14. Inspected LS alignment pins for serviceability.	—	—
15. Directed crane operator to center sling on the GMC to be loaded onto the LS from the GMT.	—	—
16. Verified sling was in the correct EMPTY/LOADED position.	—	—
17. Verified sling was secured on the GMC.	—	—
18. Directed signal operator to hoist and position GMC on the appropriate LS alignment pins.	—	—
19. Verified ground cable was connected to the GMC.	—	—
20. Verified that the GMC torque value was correct.	—	—
21. Directed LS crew members to perform missile round cable test or stray/no voltage and test launch procedures for PAC III GM(s).	—	—
22. Verified CM's connected GM cables to the GMC after successful testing.	—	—
23. Verified the proper connection of the GM cables to the GMC.	—	—
24. Verified LS was returned to full operation.	—	—

Evaluation Guidance: Score the soldier GO if he passes all the steps. Score the soldier NO-GO if he fails any step. If the soldier fails any step, explain what he did wrong and how to do it correctly.

References

Required

ARTEP 44-635-14-DRILL
 TM 9-1440-600-10

Related

TM 9-2320-355-10

SUPERVISE OPERATOR/ORGANIZATIONAL PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS) ON LAUNCHING SECTION EQUIPMENT

441-082-3029

Conditions: Your section is directed to perform PMCS on the launching section equipment. Given two crew members, an M901 launcher station mounted on an M860A1 trailer, an M983 HEMTT, generator set, and the following items are available:

1. DD 314 or DA Form 5988-E.
2. Oil and grease.
3. Trichloroethane.
4. Wrench, 3/4-inch open/box end.
5. Air filters.
6. TM 9-1440-600-10.
7. TM 9-1440-1600-10.
8. TM 9-2320-279-10-1.
9. TM 9-2330-357-14&P
10. TM 9-6115-464-12.
11. LO 9-6115-464-12.
12. TM 9-2330-357-14&P

Standards: Supervises operator PMCS on launching section equipment per TMs 9-1440-600-10, 9-1440-1600-10, 5-6115-464-12, 9-2330-357-14&P and 9-2320-279-10-1, without causing injury to self or other personnel, with no damage to equipment, and minimal damage to the environment.

Performance Measures	<u>GO</u>	<u>NO GO</u>
1. Ensured crew members observed safety cautions.	—	—
2. Inspected launching section equipment for equipment serviceability.	—	—
3. Coordinated equipment TAMMS actions with system maintenance section.	—	—
4. Ensured parts were installed and appropriate actions were indicated on the DA Form 2404 or DA Form 5988-E.	—	—

Evaluation Guidance: Score the soldier GO if he passes all the steps. Score the soldier NO-GO if he fails any step. If the soldier fails any step, explain what he did wrong and how to do it correctly.

References

Required

DA FORM 2404
DD FORM 314
LO 9-6115-464-12
TM 9-1440-1600-10
TM 9-1440-600-10
TM 9-2320-279-10-1
TM 9-2330-357-14&P
TM 9-6115-464-12

Related

SUPERVISE ROAD MARCH PROCEDURES
441-084-3026

Conditions: The order to move to a new location has been received. The equipment has been march ordered. Strip maps, section tactical equipment, and personnel are available.

Standards: Supervises road march procedures per FM 3-01.87 and unit SOP, without causing injury to self or other personnel, with no damage to the equipment, and with minimal damage to the environment.

Performance Measures	<u>GO</u>	<u>NO GO</u>
1. Inspected tractors and semitrailers for road march preparedness and safety violations.	—	—
2. Checked load plans, licenses, dispatches, and logbooks.	—	—
3. Verified that crew members had strip maps and that they understood routes of march.	—	—
4. Verified crew members knew convoy speeds and intervals.	—	—
5. Verified crew members understood actions to be taken upon vehicle breakdown.	—	—
6. Verified crew members understood actions to be taken upon a ground and air attack.	—	—
7. Verified crew members understood actions to be taken upon an NBC attack.	—	—

Evaluation Guidance: Score the soldier GO if he passes all the steps. Score the soldier NO-GO if he fails any step. If the soldier fails any step, explain what he did wrong and how to do it correctly.

References

Required
FM 3-01.87

Related

Skill Level 4

Subject Area 11: Monitoring Launching Section Operations

MONITOR LAUNCHER PLATOON EMPLACEMENT**441-082-4027**

Conditions: The fire unit has arrived. Marker stakes and ground rods are emplaced at a new field position. The launcher crews are ready and equipment is in a march order configuration.

Standards: Monitors crew members as they emplace the launcher platoon equipment per applicable TMs, FMs, and ARTEP 44-635-14-Drill without causing injury to self or other personnel, with no damage to the equipment, and with minimal damage to the environment, within the time prescribed by local command directives.

Performance Steps

1. Site Preparation. A site selection and evaluation team will select and mark the emplacement site. This team will position marker stakes for LS location and orientation. The LS crew members will position the LS exactly over these markers. Once the LS is positioned, it must be brought to operational status. To do this, monitor the following procedures:
 - a. Ensure all personnel use safety precautions during emplacement and site set up.
 - b. Ensure communications have been established with the ECS and the CP.
 - c. Ensure LS's are emplaced on a slope within tolerance of the limitations set forth in TM 9-1440-600-10 (10 degrees maximum).
 - d. Monitor proper use of the outrigger controls and leveling device.
 - e. Ensure the generator indicates the correct voltage and frequency been performed and passed.
 - f. Ensure at least two personnel mate and connect the DLT antenna before the platform is raised.
 - g. Ensure the LEM energized and the LOCAL/ REMOTE switch is set to LOCAL, and the key is removed.
 - h. Ensure that the MISSILE HAZARD lights are off and the MISSILE DISCONNECT lights are on. A BITE test should have been performed and passed.
 - i. If emplaced, make sure fiber-optic cables are being run at a 90-degree angle away from the launcher for at least 20 meters to avoid back-blast area damage.
 - j. Verify all launchers are remoted to the ECS and have begun auto-emplacement through the ECS. If manual emplacement is used, ensure all launcher data sheets are turned in to the ECS immediately.
 - k. Verify that the down-range area is evacuated except for essential personnel (Hot Crew).
 - l. Ensure site ground defense measures, NBC detection, and passive air defense measures (camouflage and tone down) are being initiated.
 - m. Ensure accountability of all personnel, weapons, and sensitive items are reported to the CP.
2. Orientation and Aligning. Accurate target firing data and successful range engagement largely depend on alignment of the fire unit. The LS is aligned after the RS has been oriented to a north reference. The preferred emplacement position for the LS is with its rear end toward the RS. The RS should be within 30 degrees and centered on the LS. If the proper procedures are not carefully followed, effective target engagement will be degraded. The fire unit is normally oriented so that north, east, south, and west coordinates are accurately displayed at the ECS. The north reference is necessary for radar location and orientation and for generating remote azimuth training commands. The LS is oriented with the fire unit by determining its position relative to the RS. To determine this position, the following angles must be measured with an aiming circle and recorded on the LOCATION/ALIGNMENT form:
 - a. Azimuth angle between the LS and RS.
 - b. Azimuth angle between the LS and north reference.

Performance Steps

- c. Elevation angle between the LS and RS.

Performance Measures

GO NO GO

- 1. Selected site for equipment emplacement and assured the following steps were accomplished:
 - a. Ensured all safety precautions were being adhered to.
 - b. Ensured a launcher hot crew was identified and communication was established with ECS.
 - c. Ensured personnel was cleared from downrange once LS was set to remote.
 - d. Ensured fiber-optic cables was emplaced per TM 9-1440-600-10 or TM 9-1440-1600-10.
 - e. Ensured site ground defense and NBC detection procedures were initiated (tonedown and camouflage).
 - f. Ensured accountability of all personnel, weapons, and sensitive items was reported to the CP.

— —

Evaluation Guidance: Score the soldier GO if he passes all the steps. Score the soldier NO-GO if he fails any step. If the soldier fails any step, explain, what he did wrong and how to do it correct.

**References
Required**

Related
ARTEP 44-635-14-DRILL
FM 44-85

**MONITOR LAUNCHER PLATOON MARCH ORDER
441-082-4028**

Conditions: The fire unit has been ordered to move to a new field position. The launcher platoon equipment is emplaced and operational. Crew members are available.

Standards: Monitors platoon personnel as they secure and stow equipment. All vehicles are in road march configuration. Communications equipment is operational, crew-served weapons inspected, and crew members are briefed within the time allotted by the current SOR and/or SOE without causing injury to self or other personnel, with no damage to the equipment, and minimal damage to the environment.

Performance Steps

1. The following preliminary actions must be completed prior to start time:
 - a. Confirms primary routes, alternate routes, and checkpoints with higher headquarters.
 - b. Identify tactical units through whose areas of responsibility the convoy will pass.
 - c. Identify potential trouble areas and ambush sites are identified.
 - d. If time permits, obtain additional information or details from previous convoy commanders, and/or reconnoiter the route by air or ground.
 - e. Determine whether the entire route is able to accommodate the height, width, and weight of the Patriot equipment.
2. Perform the following procedures during march order preparation:
 - a. Perform required checks and services to ensure all vehicles are operational.
 - b. Load vehicle with TOE, individual equipment, and supplies (unit load plan). Make sure all equipment and supplies are securely stowed for cross-country travel.
 - c. Inspect soldiers to make sure they comply with uniform and equipment requirements. Ensure personnel do not ride in or on a trailer or in a cargo space where heavy parts or equipment are carried.
 - d. Brief drivers on movement to include order of march, planned halts, and routes of march.
 - e. Inspect individual and crew-served weapons for serviceability and compliance with safety requirements. Ensure weapons dispersion provides adequate fire coverage for convoy protection.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Inspected operator checks and services on vehicles.	___	___
2. Ensured vehicles were loaded per unit load plan.	___	___
3. Inspected soldiers to ensure they complied with uniform and equipment requirements.	___	___
4. Spot-checked march order of equipment to ensure crew members were using the correct procedures and observing safety.	___	___
5. Ensured communications were established and all vehicles were in a road march configuration.	___	___
6. Ensured proper convoy brief was given and strip maps were distributed.	___	___
7. Conducted route recon (time permitting).	___	___
8. Ensured weapons were dispersed to provide proper coverage for the entire convoy.	___	___

Evaluation Guidance: Score the soldier GO if he passes all the steps. Score the soldier NO-GO if he fails any step. If the soldier fails any step, explain what he did wrong and how to do it correct.

References
Required

Related
ARTEP 44-635-14-DRILL
FM 44-85

**MONITOR PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS) ON LAUNCHER
PLATOON EQUIPMENT**

441-082-4032

Conditions: Given a tactical or non tactical environment, assigned equipment, personnel, authorized parts and material, and applicable technical manuals and forms.

Standards: Ensures maintenance is completed without injury to self or other personnel, with no damage to the equipment, and with minimal damage to the environment.

Performance Steps

1. Prior to personnel performing PMCS, ensure the supervisor has completed these checks:
 - a. Required publications are available.
 - b. Required tools and servicing material are available.
 - c. Test equipment is available and operational.
 - d. Safety precautions and procedures are reviewed.
2. When observing crew members in their performance of PMCS, ensure the supervisor focuses on the proper use of-
 - a. Publications.
 - b. Tools and test equipment.
 - c. Safety precautions and procedures.
3. Ensure maintenance logs and appropriate technical manual checklists are reviewed to ensure that all required maintenance is performed and is up to date.
4. When inspecting the launcher platoon equipment, ensure the supervisor should gives special attention to the following areas:
 - a. General inspection items are installed and serviceable.
 - b. Equipment is lubricated per the lubrication chart.
 - c. Equipment performance meets technical manual specifications.
5. Upon completion of PMCS, ensure the supervisor performs the following steps:
 - a. Uncorrected deficiencies are recorded on DA Form 2404 or DA Form 5988-E.
 - b. Faults that are beyond the scope of launcher crew members are reported to the maintenance supervisor.
 - c. Entries are made on equipment log forms.
 - d. Scheduled services are performed.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Monitored PMCS to ensure it is performed correctly.	—	—
2. Determined the correct PMCS interval to perform.	—	—
3. Monitored personnel to ensure they were following the correct procedure.	—	—
4. Ensured platoon personnel were resourced with TM'S, tools, test equipment, and expendable/durable items.	—	—

Evaluation Guidance: Score the soldier GO if he passes all steps. Score the soldier NO-GO if he fails any step. If the soldier fails any step, explain what he did wrong and how to do it correctly.

**References
Required**

Related
DA PAM 738-750
TM 9-1440-1600-10
TM 9-1440-600-10
TM 9-1440-600-20-1
TM 9-2320-279-10-1
TM 9-2320-280-10
TM 9-2320-280-10-HR
TM 9-2320-355-10
TM 9-2330-357-14&P
TM 9-6115-464-12

Subject Area 12: Monitoring STO Procedures

SUPERVISE SUSTAINED OPERATIONS

441-084-4027

Conditions: You are performing duties as a platoon sergeant in a Patriot fire unit that is actively engaged in tactical air defense operations. The following materials are available:

1. Assigned TOE equipment.
2. Assigned personnel.
3. Necessary logistics.

Standards: Coordinates operations that sustain the unit's tactical mission per the unit TSOP and applicable reference publications, without causing injury to self or other personnel, with no damage to the equipment, and with minimal damage to the environment. All sustainment must be accomplished within the time allowed by the unit's local command directives without degrading the tactical mission.

Performance Measures	<u>GO</u>	<u>NO GO</u>
1. Supervised sustainment operations.	—	—
a. Corrected and identified performance weaknesses and reinforced strengths.		
b. Ensured the required level of readiness was maintained.		
c. Sustained high performance and corrected areas of low proficiency.		
2. Maintained maximum combat power by sustaining combat forces.	—	—
a. Managed personnel, unit daily strength, and casualty feeder reports.		
b. Inspected platoon equipment for serviceability and operability. Ensured all equipment was concealed and camouflaged.		
c. Ensured area defense was established and crews were briefed and had the required equipment to perform duties.		
3. Coordinated with available personnel to support operations and maintain unit strength, and provided morale and welfare services to the individual soldier.	—	—
a. Personnel services.		
b. Chaplain services.		
c. Administrative services.		
d. Legal services.		
e. Health services.		
f. Comptroller and finance services.		
g. Morale and welfare support services.		
4. Coordinated small arms basic load operation.	—	—
5. Coordinated refueling operations.	—	—
6. Coordinated medical evacuation procedures.	—	—
7. Coordinated recovery and evacuation procedures.	—	—
8. Coordinated decontamination procedures.	—	—
9. Coordinated battlefield controlled exchange and cannibalization operations.	—	—

STP 44-14T14-SM-TG

Evaluation Guidance: Score the soldier GO if he passes all the steps. Score the soldier NO-GO if he fails any step. If the soldier fails any step, explain what he did wrong and how to do it correctly.

**References
Required**

Related
FM 3-01.87

MONITOR DENIAL AND DESTRUCTION (D2) OF PATRIOT EQUIPMENT

441-084-4028

Conditions: Capture of the unit by the enemy is imminent. Orders to deny and destroy the equipment have been received. The equipment is emplaced and operational, crew members, all required destruction materials, and TM 43-0002-23 are available.

Standards: Monitor crew members as they render the equipment tactically useless to the enemy, without causing injury to self or other personnel, and with minimal damage to the environment in the time prescribed by local command directives.

Performance Steps

1. Ensure only division or higher commanders have given the authority to order the denial or destruction of equipment. The denial or destruction of equipment will be reported through command channels.
2. Deny equipment or vital parts of equipment by concealment or dispersion. Take advantage of the surrounding area. Submerging equipment or repair parts underwater (oceans, lakes, rivers, swamps, ect.) is an effective denial measure. Conceal in caves or by burial. Where the surrounding area does not lend itself to such disposal, widely disperse material, preferably into heavy underbrush.
3. Destroy by using methods of destruction:
 - a. Destroy by improper operation. Destruction by improper or abusive operation is confined to the mechanical components of the system such as generator motors and the motors of other on-site vehicles. The crankcase oil should be drained and the equipment allowed to operate at a high-idle speed to cause considerable, if not permanent, damage.
 - b. Destroy by mechanical means. Use heavy-ended, long-handled tools such as sledgehammers or crowbars. Wire cutters, knives, or emptied fire extinguishers may also be used. Disconnect the equipment from its power source and empty all fire extinguishers. Destroy the parts by smashing or cutting those items considered to have a priority. After destruction has been accomplished, heap electrical cables and other items of equipment together.
 - c. Destroy by weapons fire. Disconnect the equipment from its power source and remove and empty fire extinguishers. Fire on the equipment with machine guns, with rifles using rifle grenades, with rocket launchers using antitank rockets, or with artillery. Allotted time is 10 minutes. Use several hits for its complete destruction. If, however, an intense fire is started, the equipment may be considered destroyed. Ensure destruction is accomplished in an area free of friendly troop concentrations.
 - d. Destroy by fire. If destruction by fire is authorized, many solid flammable materials may be found in and around the site. Discarded end pieces of wood from construction or wooden pallets are one example. Combustible materials such as rags, clothing, paper, and canvas should be used. Petroleum products such as gasoline, oil, or diesel fuel should also be used to augment the solid combustibles and to ensure rapid burning. A standard safety fuse may be used for ignition, or incendiary grenades, if available, may be used to start and spread fires. Disconnect equipment from its power source and remove and empty all fire extinguishers. Solid flammable material should be packed under and around the equipment to be destroyed. Proper concentration of equipment to be burned will provide a hotter, more destructive fire. Soak the material with a petroleum product. If using an incendiary grenade to start the fire, one grenade should be placed in each important component.

Performance Steps

- e. Destroy by demolition. Use the following equipment or material for effective demolition : TNT or equivalent, electrical blasting caps and wire (or nonelectrical blasting caps and safety fuses), and a blasting machine (for electrical blasting caps only). Disconnect equipment from its power source and remove and empty all fire extinguishers. Dual-prime the charges to minimize the possibility of misfire. Place recommended charge and primer for simultaneous detonation of charges. For nonelectrical blasting caps, allow at least 5 feet of safety fuse. Ignite the safety fuse and take cover immediately. For electrical blasting caps, take cover before firing, as detonating is simultaneous. When using explosives, the danger area is a minimum radius of 275 meters (900 feet). Without protective cover, the minimum safety distance is 460 meters (1,500 feet) for the guided missile.

WARNING: All radios and radars must be de-energized when working with electric blasting caps, as premature detonation by induced current from radio frequency signals is possible.

Note: Safety fuse burns at the rate of 1 foot in 30 to 40 seconds. Test a length of fuse before using it.

- 4. Destroy according to priority: Destroy equipment or documents in the order of precedence set forth by the SOP or commander's guidance.
- 5. Select a site that will cause the greatest obstruction to enemy movement and also prevent hazards to friendly troops from fragments and blasts that may occur incidental to destruction of equipment.
- 6. Ensure safety precautions are being adhered to and that the minimum number of personnel needed to destroy equipment will be used. Ensure Patriot system equipment containing radioactive components receives special handling during destruction in order to avoid accidental contamination of personnel.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Ensured proper authority granted permission to perform denial and destruction.	—	—
2. Denied equipment or vital parts of equipment by concealment or dispersion.	—	—
3. Ensured proper methods of destruction were employed.	—	—
4. Classified equipment to be destroyed or denied by precedence set forth by the commander.	—	—
5. Selected site to conduct denial and destruction operations.	—	—
6. Monitored safety of operations.	—	—

Evaluation Guidance: Score the soldier GO if he passes all the steps. Score the soldier NO-GO if he fails any step. If the soldier fails any step, explain what he did wrong and how to do it correctly.

References

Required
TM 43-0002-23

Related
FM 5-250

SUPERVISE PERIMETER DEFENSE

441-084-4029

Conditions: The fire unit has occupied a new field position and will be in position for an unspecified period of time. Required tools, equipment, and crew members are available.

Standards: The area defense plan is implemented. The plan includes a map overlay, crew member positions, weapon positions, and positions for observation and listening posts. Perform this task without causing injury to self or other personnel, with no damage to the equipment, and with minimal damage to the environment.

Performance Steps

1. Develop a meaningful plan by ensuring the following information is included:
 Note: Your unit SOP may require more detail. In other instances, a sketch without a target line may be acceptable. Areas of concern that should be considered when making the plan are dead space, prominent terrain features, the ability for rapid displacement, light and noise discipline, protection of critical supplies and personnel, communications, OP and LP positions.
 - a. Depict defensive positions for the entire section or platoon on an overlay.
 - b. Identify each crew's defensive position.
 - c. Each machine-gun position in the section and the final protective line or principle direction of fire is drawn on a range card.
 - d. Assign a primary and secondary sector of fire for each LAW or MK-19 grenade launcher.
 - e. Establish at least two target reference points.
 - f. Establish a suitable location for the mortar final protective fires no more than 200 meters in front of the section equipment.
 - g. Plot the location of major obstacles and antipersonnel mines in the section area.
 - h. Establish indirect fire target locations in front of or behind the section positions.
 - i. List assigned positions for Stinger weapons.
 - j. Plot positions for trip flares through the defense area and ensures they are properly placed.
2. Designate a quick reaction force for reaction to enemy attack on the perimeter that is under his control at all times.
3. Direct fire in the defense when under attack, keeping in mind the following objectives:
 - a. Control the opening of initial fire and maintains fire discipline to include rate and distribution.
 - b. Shift fires to the most dangerous targets.
 - c. Identify targets and requests indirect fire to suppress or destroy the enemy.
 - d. Shift crew members and weapons to threatened points as required.
 - e. Halt platoon fires as required.
 - f. Keep the commander informed.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Depicted positions for the section or platoon on an overlay.	_____	_____
a. Each crew's defensive position was identified.		
b. Each machine-gun position in the sector and the final protective line or principle direction of fire was drawn.		
c. Assigned a primary and secondary section of fire for each M203, LAW and land mine.		
d. At least two target reference points were established.		
e. Plotted position for trip flares through the defense area.		
f. Designated location of observation and listening posts.		
2. Designated a backup force for quick reaction to enemy attack.	_____	_____

Performance Measures

GO NO GO

- 3. Directed fire in the defense.
 - a. Controlled the opening of initial fire and maintained fire discipline to include rate and distribution.
 - b. Shifted fires to the most dangerous targets.
 - c. Identified targets and requested indirect fire to suppress or destroy the enemy.
 - d. Shifted crew members and weapons to threatened points as required.
 - e. Halted platoon fires as required.
 - f. Kept the commander informed.

_____ _____

Evaluation Guidance: Score the soldier GO if he passes all the steps. Score the soldier NO-GO if he fails any step. If the soldier fails any step, explain what he did wrong and how to do it correctly.

References

Required

Related

- FM 71-1
- FM 7-7
- FM 7-8

Subject Area 13: Monitoring Patriot Support Maint Equip MO&E, and PMCS

**MONITOR EMPLACEMENT OF MAINTENANCE PLATOON EQUIPMENT
441-082-4020**

Conditions: The fire unit has arrived at a new location. The maintenance platoon equipment is in a march order configuration. Marker stakes, ground rods, and platoon personnel are available.

Standards: Monitors to ensure that the maintenance platoon is emplaced and ready for operation per TMs and FMs in the time prescribed by local command directives, without causing injury to self or other personnel, with no damage to the equipment, and with minimal damage to the environment.

Performance Measures	<u>GO</u>	<u>NO GO</u>
1. Selected site location for equipment to be emplaced.	—	—
2. Monitored emplacement of maintenance platoon equipment.	—	—
a. Ensured vehicle operators were using ground guides.		
b. Ensured crew members were using the correct tools and equipment.		
c. Ensured crew members observed safety at all times.		
d. Ensured crew members worked in pairs when performing tasks in the dark.		
e. Ensured all tools and equipment were put away after use.		
f. Inspected the equipment for operability, camouflage, and concealment.		
g. Inspected local security to ensure perimeter defense was established.		

Evaluation Guidance: Score the soldier GO if he passes all the steps. Score the soldier NO-GO if he fails any step. If the soldier fails any step, explain what he did wrong and how to do it correctly.

**References
Required**

**Related
FM 44-85**

MONITOR MARCH ORDER OF MAINTENANCE PLATOON EQUIPMENT

441-082-4021

Conditions: The fire unit has received the order to move to a new location. The maintenance platoon equipment is emplaced and platoon personnel are available.

Standards: Monitors to ensure that the equipment is securely stowed and vehicles are in road march configuration. Communications equipment is operational and crew members are briefed within the time prescribed by local command directives, without causing injury to self or other personnel, with no damage to the equipment, and with minimal damage to the environment.

Performance Measures	<u>GO</u>	<u>NO GO</u>
1. Inspected operator checks and services on vehicles.	—	—
2. Ensured vehicles were loaded per unit load plan.	—	—
3. Inspected soldiers to ensure they complied with uniform and equipment requirements.	—	—
4. Spot-checked march order of equipment to ensure crew members used to correct procedures and observing safety.	—	—
5. Ensured communications were established and all vehicles were in a road march configuration.	—	—

Evaluation Guidance: Score the soldier GO if he passes all the steps. Score the soldier NO-GO if he fails any step. If the soldier fails any step, explain what he did wrong and how to do it correctly.

References
Required

Related
FM 44-85

**MONITOR FAULT ISOLATION AND OPERATOR/ORGANIZATIONAL MAINTENANCE PROCEDURES
IN THE PATRIOT FIRE UNIT (FU)**

441-084-4022

Conditions: A fault has been reported. The Patriot equipment is emplaced and energized. You are directed by the SMT to monitor the progress of fault isolation and operator maintenance. System maintenance section personnel, tools, test equipment, spare BRUs, and appropriate publications and forms are available.

Standards: Monitors fault isolation on the Patriot equipment to ensure that it is operational. The reported fault is corrected and entered into the maintenance record book and on DA Form 2404 or DA Form 5988-E. All deficiencies are noted and the SMT is briefed on the overall results. Performs this task without causing injury to self or other personnel, with no damage to the equipment, and with minimal damage to the environment.

Performance Measures	<u>GO</u>	<u>NO GO</u>
1. Monitored maintenance inspection.	_____	_____
a. Verified proper technical manual was being used.		
b. Verified safety measures were being observed.		
2. Reported the fault.	_____	_____
3. Monitored operator maintenance procedures.	_____	_____
a. Verified proper steps were performed.		
b. Verified proper tools were used.		
c. Verified appropriate entries were made in the maintenance record book and on the correct forms.		
4. Verified the fault was corrected.	_____	_____
5. Reported system status.	_____	_____

Evaluation Guidance: Score the soldier GO if he passes all the steps. Score the soldier NO-GO if he fails any step. If the soldier fails any step, explain what he did wrong and how to do it correctly.

**References
Required**

- Related**
- DA FORM 2404
 - DA FORM 5988-E
 - DA PAM 738-750
 - TM 9-1425-602-12-2
 - TM 9-1425-602-12-3
 - TM 9-1425-602-12-4
 - TM 9-1430-600-10-1
 - TM 9-1430-600-10-2
 - TM 9-1430-600-20-1
 - TM 9-1430-600-20-2
 - TM 9-1430-600-20-3
 - TM 9-1430-601-10-1
 - TM 9-1430-601-10-2
 - TM 9-1430-601-20-1
 - TM 9-1430-601-20-2
 - TM 9-1430-601-20-3
 - TM 9-1430-602-10-1

**References
Required**

Related

TM 9-1430-602-10-2
TM 9-1430-602-20-1
TM 9-1430-602-20-2
TM 9-1430-602-20-3
TM 9-1430-603-10
TM 9-1430-603-20-1
TM 9-1430-603-20-2
TM 9-1440-1600-10
TM 9-1440-1600-20-1
TM 9-1440-1600-20-2
TM 9-1440-1600-20-3
TM 9-1440-600-10
TM 9-1440-600-20-1
TM 9-1440-600-20-2
TM 9-1440-600-20-3

MONITOR PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS) ON THE PATRIOT SYSTEM

441-084-4023

Conditions: Patriot equipment is emplaced and the fire unit is deactivated and off-line. Scheduled PMCS is being, or has been, performed on the Patriot system. The following are available:

1. DA Form 2404 or DA Form 5988-E.
2. Applicable system TMs.

Standards: Ensures scheduled PMCS is being performed per applicable system TMs. Uncorrectable deficiencies or shortcomings are being recorded on DA Form 2404 or DA Form 5988-E and higher maintenance support is being initiated per DA Pamphlet 738-750.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Monitored PMCS to ensure checks and services were being performed correctly.	___	___
2. Determined the correct PMCS interval to perform.	___	___
3. Monitored personnel to ensure they followed the correct procedure.	___	___
4. Briefed section chief on overall results.	___	___

Evaluation Guidance: Score the soldier GO if he passes all the steps. Score the soldier NO-GO if he fails any step. If the soldier fails any step, explain what he did wrong and how to do it correctly.

References

Required

DA FORM 2404
DA FORM 5988-E

Related

DA PAM 738-750

MONITOR ROAD MARCH PROCEDURES

441-084-4025

Conditions: The Patriot fire unit's equipment and personnel have been loaded on their respective vehicles. The equipment is in a road march configuration and you have been issued movement orders.

Standards: Briefs personnel on road march objectives prior to start time and monitors road march procedures. Ensures all equipment and personnel are relocated to the predetermined point within the time prescribed by local command directives, without causing injury to self or other personnel, with no damage to the equipment, and with minimal damage to the environment.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Briefed all personnel on the following:	—	—
a. Known or estimated departure time.		
b. Road march objective and order of march.		
c. Action to be taken against ground or air enemy attack.		
d. Convoy speed and distance to be maintained between vehicles.		
e. Location of and required actions at planned halts.		
f. Management of vehicles in the event of breakdown.		
g. Location of start, release, and intermediate checkpoints.		
h. Correct method for using blackout lights for maintaining intervals.		
2. Distributed strip maps and other essential material required during the movement.	—	—
3. Organized the unit for movement.	—	—

Evaluation Guidance: Score the soldier GO if he passes all the steps. Score the soldier NO-GO if he fails any step. If the soldier fails any step, explain what he did wrong and how to do it correctly.

References

Required

Related

FM 3-01.87

APPENDIX A
DA FORM 5164-R (HANDS-ON EVALUATION) INSTRUCTIONS TO THE TRAINER

1. Enter the title and number of the task to be evaluated at the top of the form.
2. In column a, enter the number of each performance measure from the Evaluation Guide.
3. In column b, enter each performance measure from the Evaluation Guide that corresponds to the number in column a. (Information may be abbreviated, if necessary.)
4. If more than one soldier will be evaluated on the specific task, or if the same soldier will be evaluated more than once, you may locally reproduce the partially completed DA Form 5164-R.
5. Before evaluating a soldier, enter the date, the evaluator's name, and the soldier's name and unit.
6. For each performance measure evaluated, enter a check in column c (PASS) or column d (FAIL), as appropriate.
7. Check the status block GO or NO-GO, as appropriate, by referring to the Evaluation Guide for the task standard.
8. Figure A-1 provides an example of a completed DA Form 5164-R. Figure A-2 provides a blank copy.

Note to the trainer: Use of this form is optional. However, it allows you to maintain information on soldier proficiency at the performance and/or skill level.

APPENDIX B

DA FORM 5165-R
(FIELD EXPEDIENT SQUAD BOOK) INSTRUCTIONS TO THE TRAINER

1. Make all entries in pencil.
2. Enter the task number and short title in the appropriate column.
3. Record the date in the GO block if the soldier demonstrated task proficiency to soldier's manual standards. Keep this form current by always recording the most recent date on which the soldier demonstrated task proficiency.
4. Record the date in the NO-GO block if the soldier failed to demonstrate task proficiency to soldier's manual standards. Soldiers who fail to perform the task should be retrained and evaluated until they can do the task. Once the soldier performs the task correctly, enter the date in the GO block and erase the previous entry from the NO-GO block.
5. Read down each column (GO/NO-GO) to determine the training status of that individual. This will give the trainer a quick indication of tasks on which a soldier needs training or needs to be checked.
6. Read across the rows for each task to determine the training status of that individual. The trainer can readily see on which tasks training should be focused.
7. Add the names of newly assigned soldiers to one of the blank columns.
8. Line through the training status column of any soldier who departs from the unit.
9. Figure B-1 provides an example of a completed DA Form 5165-R.
10. Figure B-2 is a sample of a DA Form 5165-R with embedded critical tasks.

Note to the training manager: The training status of groups (that is, team, section, or platoon) can be maintained in key critical MOS tasks at any echelon by entering the echelon (that is, 1st Platoon, 2d Platoon, or 3d Platoon) in the column headings. Simply have trainers report the percentage of their soldiers who have (GO checks) and have not (NO-GO checks) demonstrated proficiency on each task, and record this information for each echelon.

Titles of subject areas and tasks have been abbreviated due to limited spacing on this form. See Chapters 2 and 3 for complete titles.

FIELD EXPEDIENT SQUAD BOOK For use of this form, see AR 350-57, the proponent agency is ODCSOPS		SHEET										1 OF 7	
		SOLDIER'S NAME											
USER APPLICATION 44-14T14-SM-TG MOS 14T Patriot Launching Station Enhanced Operation/Maintainer		STATUS											
TASK NUMBER AND SHORT TITLE		GO	NO-GO	GO	NO-GO	GO	NO-GO	GO	NO-GO	GO	NO-GO	GO	NO-GO
SL 1 Tasks SA1: LS MO&E and PMCS													
441-082-1100	Perf LS Empl												
441-082-1102	Perf LS MO												
441-082-1104	Perf Opr PMCS/Corr												
	Maint on GMC												
441-082-1105	Perf Opr/Org PMCS on LS												
441-084-1116	Prep DA Form 2404 (or 5988-E)												
441-084-1500	Opr PALS												
441-084-1501	Perf PMCS on PALS												
SA2: Perf Opr/Org Maint on LS													
441-082-1000	Perf Opr/Org Maint on the												
	LS AC/DC Distr Sys												
441-082-1001	Perf Opr/Org Maint on the												
	LS DLTM												
441-082-1002	Perf Opr/Org Maint on the												
	LS LEM												

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DA FORM 5165-R, SEP 85

Figure B-2. Overprinted Sample of DA Form 5165-R.

FIELD EXPEDIENT SQUAD BOOK		SHEET													
For use of this form, see AR 350-57, the proponent agency is ODCSOPS		2 OF 7													
USER APPLICATION 44-14T14-SM-TG MOS 14T Patriot Launching Station Enhanced Operation/Maintainer		SOLDIER'S NAME													
TASK NUMBER AND SHORT TITLE		STATUS													
		GO	NO-GO	GO	NO-GO	GO	NO-GO	GO	NO-GO	GO	NO-GO	GO	NO-GO	GO	NO-GO
SL 1 Tasks SA2: Perf Opr/Org Maint on LS															
441-082-1003 Perf Opr/Org Maint on LS Mech															
441-082-1004 Perf Opr/Org Maint on LS															
LMRD															
441-082-1005 Perf Opr/Org Maint on LS															
MRCTS															
441-082-1006 Perf Opr/Org Maint on LSTS															
441-082-1007 Perf Opr/Org Maint on ELES															
441-082-1110 Perf Opr/Org Maint on the															
LSDU															
441-084-1422 Perf PMCS on the TMDE															
SL 1 Tasks SA 3: Road March and Veh Ops															
441-084-1108 Opr the HEMTT Series Veh															
441-084-1574 Init the Remote Launch at the															
CRG															
441-084-1575 Reling the Remote Launch at															
the CRG															

DA FORM 5165-R, SEP 85

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Figure B-2. Overprinted Sample of DA Form 5165-R (continued).

FIELD EXPEDIENT SQUAD BOOK		SHEET												3 OF 7			
For use of this form, see AR 350-57, the proponent agency is ODCSOPS		SOLDIER'S NAME															
USER APPLICATION 44-14T14-SM-TG MOS 14T Patriot Launching Station Enhanced Operation/Maintainer																	
		STATUS															
TASK NUMBER AND SHORT TITLE		GO	NO-GO	GO	NO-GO	GO	NO-GO	GO	NO-GO	GO	NO-GO	GO	NO-GO	GO	NO-GO	GO	NO-GO
SA 4: Missile Reload																	
441-082-1106	Load GMC onto the GMT																
441-082-1107	Load GMC onto the LS																
441-082-1108	Remove GMC from the LS																
441-082-1109	Remove GMC from the GMT																
441-084-1111	Opr Crane Mounted on a 10-Ton Vehicle																
441-084-1112	Signal Crane Opr Using Std Arm-and-Hand Signals																
SA 5: Comm Equip Ops																	
113-587-0058	Perf Ops Tribisht on SINGGARS																
113-587-2070	Opr SINGGARS (SC)																
113-587-2071	Opr SINGGARS (FH) (Net Members)																
113-587-2075	Opr SINGGARS Data Devices																
SA 6: STO Techniques																	

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DA FORM 5165-R, SEP 85

Figure B-2. Overprinted Sample of DA Form 5165-R (continued).

FIELD EXPEDIENT SQUAD BOOK		SHEET																			
For use of this form, see AR 350-57, the proponent agency is ODCSOPS		4 OF 7																			
USER APPLICATION		SOLDIER'S NAME																			
44-14T14-SM-TG MOS 14T Patriot Launching Station Enhanced Operation/Maintainer																					
TASK NUMBER AND SHORT TITLE		STATUS																			
		GO	NO-GO	GO	NO-GO	GO	NO-GO	GO	NO-GO	GO	NO-GO	GO	NO-GO	GO	NO-GO	GO	NO-GO	GO	NO-GO	GO	NO-GO
SA 6: STO Techniques (cont)																					
031-504-1008	Opr the M8A1 Alarm Sys																				
052-192-1128	Locate Mines with an AN/PSS-12 Mine Detector																				
441-084-1132	Perf D2 of the Patriot Sys																				
441-084-1513	Perform BDAR of Patriot Equip																				
SA 7: Patriot Supt Maint Equip, MO&E, and PMCS																					
441-084-1400	Empl the Bn BMC																				
441-084-1402	Empl the 15-KW Gen Set																				
441-084-1411	MO the Bn BMC																				
441-084-1414	MO the 15 KW Gen Set																				
441-084-1419 Perf Opr PMCS on the PSME																					
SL 2 Tasks SA 8: Supv LS Ops																					
441-084-2000	Supv BDAR of Patriot																				

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DA FORM 5165-R, SEP 85

Figure B-2. Overprinted Sample of DA Form 5165-R (continued).

FIELD EXPEDIENT SQUAD BOOK		SHEET													
For use of this form, see AR 350-57, the proponent agency is ODCSOPS		5 OF 7													
USER APPLICATION 44-14T14-SM-TG MOS 14T Patriot Launching Station Enhanced Operation/Maintainer		SOLDIER'S NAME													
TASK NUMBER AND SHORT TITLE		STATUS													
		GO	NO-GO	GO	NO-GO	GO	NO-GO	GO	NO-GO	GO	NO-GO	GO	NO-GO	GO	NO-GO
SL 2 Tasks SA 8: Supv LS Ops (cont)															
Equip															
441-082-2054 Supv LS															
Emplacement															
441-082-2055 Supv LS															
March Order															
441-082-2056 Supv PMCS/Corr															
Maint on GMC															
SA 9: Supv Patriot Spt Maint Equip, MO&E, and PMCS															
441-084-2100 Supv Empl of the Sys Maint															
Sec Equip															
441-084-2101 Supv MO of the Sys Maint															
Sec Equip															
441-084-2104 Supv Patriot Sys Opr/Org															
Maint															
441-084-2106 Supv Maint of the TMDE															

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DA FORM 5165-R, SEP 85

Figure B-2. Overprinted Sample of DA Form 5165-R (continued).

GLOSSARY

Section I **Abbreviations**

AAR	after-action review
AC, ac	active component; assistant commandant; alternating current; aircraft
ADA	air defense artillery
AIT	advanced individual training
AMG	antenna mast group
AR	Army Regulation; Army Reserve
ARTEP	Army Training and Evaluation Program
BDAR	battlefield damage assessment and repair
BII	basic issue items
BITE	built-in test equipment
BMC	battalion/battery maintenance center
BMO	battery maintenance officer
bn, BN	battalion
BRU	battery replacement unit
CB	common battery; circuit breaker
CLP	cleaner lubricant preservative
cm, CM	crew member; cruise missile
comm (commo)	communications
cont	continued
CP	command post
CRG	communications relay group
CSS	combat service support
D	daily; demonstration
D2	denial and destruction
DA	Department of the Army

DAM	display aided maintenance
DC, dc	District of Columbia; direct current
DD	Department of Defense (form)
DLT	data link terminal
DLTM	data link terminal module
DLU	data link upgrade
ECCM	electronic counter-countermeasures
ECS	engagement control station
ELES	enhanced launcher electronic system
empl	emplacement
EPP	electric power plant
EPU	electric power unit
equip	equipment
FC	fire control
FH	frequency hopping
FM	field manual; frequency modulation
FOCA	fiber-optic cable assembly
FP	fire platoon; firing position; firing point
FPF	final protective fire
FU	fire unit
GM	guided missile
GMC	guided missile canister
GMT	guided missile transporter
GPS	gunner primary sight; Global Positioning System
HE	high explosive
HEMTT	heavy expanded mobility tactical truck
IAW	in accordance with
ICC	information and coordination central; information control center

indiv	individual
init	initialize
LAW	light antitank weapon
lchr	launcher
LCS	launcher control station
LCU	launcher control unit; lightweight computer unit
LE	launcher electronics; low explosive
LEM	launcher electronics module
LM	launcher mechanics
LMRD	launcher missile-round distributor
LO	lubrication order; low
LRPT	large repair parts transporter
LS	launching station; launching section
LSA	launching station area
LSDU	launching station diagnostic unit
LSTS	launching station test set
M	meter; monthly; MOPP
maint	maintenance
MG	machine gun
MO&E	march order and emplacement
MOPP	mission-oriented protective posture
MOS	military occupational specialty
MRCTS	missile round cable test set
msl, MSL	missile; mean sea level
N	neutral; north
N/A	not applicable
NBC	nuclear, biological, and chemical
NCO	noncommissioned officer

NCOIC	noncommissioned officer in charge
NCS	net control station
NSN	nonstandard number; national stock number
opr	operator
PAC	Patriot advanced capabilities; Personnel and Administration Center
PALS	Patriot automated logistics system
PCP	platoon command post; power control panel
PDU	power distribution unit
perf	perform
PPF	Patriot firing platoon
plt	platoon
PM	product manager; preventive maintenance; project manager; performance measure; post meridiem
PMCS	preventive maintenance checks and services
POL	petroleum, oils, and lubricants
prep	prepare
proc	procedures
PSME	Patriot support and maintenance equipment
qt	quarterly; quart
RBC	rifle bore cleaner
RLRIU	routing logic radio interface unit
RPO	radiation protection officer
RS	radar set; radio set
S1	Adjutant (US Army)
S4	Supply Officer (US Army)
SAW	squad automatic weapon
SC	single channel
sec	section
SINGARS	single-channel ground and airborne radio system

SL	squad leader; skill level; sea level
SM	soldier's manual
SMCT	soldier's manual of common tasks
SMT	system maintenance technician
SM-TG	soldier's manual and trainer's guide
SOI	signal operation instructions
SOP	standard operating procedure
SP	start point; self-propelled
spt	support
SRPT	small repair parts transporter
std	standard
STO	surviving to operate; surface-to-air missile tactical order
STP	soldier training publication
sys	system
TACFIRE	tactical fire
TAMMS	The Army Maintenance Management System
TB	technical bulletin
TEK	traffic encryption key
TG	trainer's guide
TM, tm	theater missile; team; technical manual
TMD	theater missile defense
TMDE	test, measurement, and diagnostic equipment
TNT	trinitrotoluene
TOE	table of organization and equipment
TSOP	tactical standing operating procedure
US	United States
vac	volts alternating current
vdc	volts direct current

veh

vehicle

REFERENCES

Required Publications

Required publications are sources that users must read in order to understand or to comply with this publication.

Army Training and Evaluation Program

ARTEP 44-635-14-DRILL Patriot Crew Drills for Launching Station and Missile Reload. 16 February 1999

Department of Army Forms

DA FORM 2404 Equipment Inspection and Maintenance Worksheet. 1 April 1979
 DA FORM 5987-E Motor Equipment Dispatch (EGA). 1 March 1991
 DA FORM 5988-E Equipment Inspection Maintenance Worksheet (EGA). 1 March 1991

Department of Army Pamphlets

DA PAM 738-750 Functional Users Manual for the Army Maintenance Management System (TAMMS) (Only available in electronic media). 1 August 1994

Field Manuals

FM 3-01.87 Patriot Tactics, Techniques, and Procedures. 26 September 2000
 FM 5-250 Explosives and Demolitions (Change 1, 30 June 1999). 30 July 1998
 FM 9-43-2 Recovery and Battlefield Damage Assessment and Repair (FMFRP 4-34; to 36-1-181). 3 October 1995

Lubrication Orders

LO 9-6115-464-12 Generator Set, Diesel Engine Driven, Tactical Skid Mounted, 15 KW, 3 Phase, 4 Wire, 120/208 and 240/416V. 17 April 1992

Other Product Types

DD FORM 1970 Motor Equipment Utilization Record. 1 April 1981
 DD FORM 314 Preventive Maintenance Schedule and Record. 1 December 1953
 OF FORM 346 US Government Motor Vehicle Operator's Identification Card. 1 November 1985

Technical Manuals

TM 11-5820-890-10-1 Operator's Manual for SINCGARS Ground Combat Net Radio, ICOM MANPACK Radio AN/PRC-119A (NSN 5820-01-267-9482)(EIC: L2Q) Short Range Vehicular Radio AN/VRC-87A (5820-01-267-9480). 1 September 1992
 TM 11-5820-890-10-3 Operator's Manual for SINCGARS Ground Combat Net Radio, Non-ICOM MANPACK Radio AN/PRC-119 (NSN 5820-01-151-9915) (EIC: L2A) Short Range Vehicular Radio AN/VRC-87 (5820-01-151-9916) (EIC: L2T). 1 September 1992
 TM 11-6625-3015-14 Operator's, Organizational, Direct Support and General Support Maintenance Manual for Radio Test Set, AN/PRM-34 (NSN 6625-01-094-5646)(EIC: KMG)(Change 4, 31 March 1995). 14 October 1983
 TM 11-6625-3055-14 Operator's, Organizational, Direct Support and General Support Maintenance Manual for Digital Multimeter, AN/USM-486/U (NSN 6625-01-145-2430)(Change 2, 15 August 1990). 30 July 1984

TM 3-6665-312-12&P	Operator's and Organizational Maintenance Manual Including Repair Parts and Special Tools List for M8A1 Automatic Chemical Agent Alarm (NSN 6665-01-105-5623) and Auxiliary Equipment M10 Power Supply (Change 3, 15 July 1991). 17 March 1985
TM 43-0002-23	Organizational and Intermediate Maintenance Manual for Destruction to Prevent Enemy Use Instructions (Patriot Air Defense Guided Missile System). 31 August 2000
TM 9-1410-600-14	Operator's, Organizational, and Intermediate Maintenance Manual for Guided Missile Intercept-Aerial: MIM-104, MIM-104A, MIM-104B, MIM-104C, MIM-104D, Trainer M37 (Patriot)(Only available in electronic media). 31 August 2000
TM 9-1425-601-12	Operator's and Organizational Maintenance Manual for Touch-up Painting Instructions for Color, Camouflage Patterns, and Marking of System Support Equipment (Patriot Air Defense Guided Missile System) (Only available in electronic media). 10 August 2001
TM 9-1440-1600-10	Operators Manual for Launching Station M902 Semitrailer Mounted (Config III Prelim). 1 September 1998
TM 9-1440-1600-20-1	Launching Station M902, Guided Missile System, Semitrailer Mounted Vol 1 (Config III Prelim). 1 September 1998
TM 9-1440-1600-20-2	Launching Station M902, Guided Missile System, Semitrailer Mounted Vol 2 (Config III Prelim). 1 September 1998
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