

STP 9-45G12-SM-TG

# SOLDIER'S MANUAL/ TRAINER'S GUIDE

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FIRE CONTROL SYSTEMS  
REPAIRER  
45G  
SKILL LEVEL 1/2



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## PREFACE

This soldier training publication (STP) is intended for soldiers holding MOS 45G, Skill Levels 1 and 2, their supervisors, trainers, and commanders. It contains an MOS Training Plan providing information needed to plan, conduct, and evaluate unit training, one of the most important jobs of military leaders. It includes standardized training objectives in the form of task summaries that can be used to train and evaluate soldiers on critical tasks supporting unit missions during wartime.

Soldiers holding MOS 45G should have access to this publication. Trainers and first-line supervisors should actively plan for soldiers' access, making it available in work areas, unit learning centers, and unit libraries. However, it is not intended for an individual copy to be provided to each MOS holder. The STP is obtainable on line from the Reimer Digital Library (RDL) at <http://www.adtdl.army.mil/atdls.htm>.

Tasks in this manual apply to both Active and Reserve Component soldiers.

The proponent of this publication is HQ TRADOC. Submit comments and recommendations on DA Form 2028 (Recommended Changes to Publications and Blank Forms) directly to: Department of the Army, Training Directorate, Ordnance Training Division, ATTN: ATCL-AO, 401 First Street, Suite 227, Fort Lee, VA 23801-1511.

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

## CHAPTER 1

### INTRODUCTION

1-1. General. This soldier training publication (STP) identifies individual MOS training requirements for soldiers holding MOS 45G. Commanders, trainers, and soldiers should use it to plan, conduct, and evaluate individual training in units. The STP is the primary MOS reference for supporting self-development, evaluating MOS proficiency, and training of 45G soldiers. Commanders employ two primary methods to evaluate soldiers' proficiency:

- Commander's evaluation. Commander's evaluations are local tests or assessments of soldiers' performance of MOS-specific and common tasks critical to the unit mission. They may be conducted year-round.
- Common task test (CTT). CTTs are hands-on tests used to evaluate proficiency on common tasks. Alternate written tests are provided if equipment is not available for hands-on testing.

This publication is the soldier's primary reference to prepare for a commander's evaluation of MOS-specific tasks. It contains task summaries for all critical tasks specific to the MOS and skill level (SL). Commanders and trainers will use this soldier's manual/trainer's guide (SM/TG) to plan and conduct training and commander's evaluations.

Chapter 2, Trainer's Guide, contains information needed to plan training requirements for this MOS. The trainer's guide

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

Use this STP along with STP 21-1-SMCT (Soldier's Manual of Common Tasks, Skill Level 1), STP 21-24-SMCT (Soldier's Manual of Common Tasks, Skill Levels 2-4), Army training and evaluation programs (ARTEPs), FM 25-4 (How to Conduct Training Exercises), FM 25-5 (Training for Mobilization and War), FM 25-100 (Training the

Force), and FM 25-101 (Battle-Focused Training) to establish effective training plans and programs that integrate soldier, leader, and collective tasks.

1-2. Task Summaries. Task summaries outline wartime performance requirements for each critical task in the STP. They provide both soldier and trainer with the information necessary to prepare, conduct, and evaluate critical task training. As a minimum, task summaries include information soldiers must know and skills they must perform to standard for each task. Following is the task summary format:

- Task number. The task number is a 10-digit number that identifies the task and skill level. Include the task number and title in any correspondence relating to the task.
- Task title. The task title identifies the action to be performed.
- Conditions. The task conditions statement describes the field or garrison conditions under which the task will be performed and identifies the equipment, tools, references, job aids, and supporting personnel that the soldier needs to perform the task in wartime.
- Standards. The task standards describe how well and to what level of proficiency the soldier must perform the task under wartime conditions. Standards are typically expressed in terms of accuracy, completeness, duration, sequence, speed, and tolerance.
- Performance measures. This section identifies specific actions that the soldier must accomplish to complete the task successfully. Performance measures appear in a GO/NO-GO rating format for easy evaluation. Some tasks may also include detailed training information in a Training Information Outline and an Evaluation Preparation Section. The Evaluation Preparation Section indicates necessary modifications to task performance in order to train and evaluate a task that can not be trained to the wartime standard under wartime conditions. It may also include special training and evaluation preparation instructions to accommodate these modifications and any instructions that should be given to the soldier before evaluation.
- References. This section identifies references that provide more detailed explanations of task performance requirements than are given in the task summary.
- Warnings. Warnings alert users to the possibility of immediate personal injury or equipment damage.
- Notes. Notes provide additional supportive explanations or tips relating to task performance.

1-3. Soldier's Responsibilities. Each soldier is responsible for performing individual tasks identified by the first-line supervisor based on the unit's mission-essential task list (METL). Soldiers must perform tasks to the standards included in the task summary. If soldiers have questions about tasks or which tasks in this manual they must perform, they are responsible for asking their first-line supervisor for clarification. First-line supervisors know how to perform each task or can direct soldiers to appropriate training materials, including current field manuals, technical manuals, and Army regulations. Soldiers are responsible for using these materials to maintain performance. They are also responsible for maintaining performance of all common tasks listed in the SMCTs at their current skill level and below.

Periodically, soldiers should ask their supervisor or another soldier to check their performance to ensure that they can perform the tasks.

1-4. NCO Self-Development and the STP. Self-development is a key component of leader development. Leaders follow planned, progressive, sequential self-development programs developed by the individual NCO and his or her first-line supervisor to enhance and sustain military competencies. Self-development consists of individual study, research, professional reading, practice, and self-assessment. The self-development concept requires NCOs, as Army professionals, to take responsibility for remaining current in all phases of their MOS. The STP is the NCO's primary source for maintaining MOS proficiency.

Another important resource for self-development is the Army Correspondence Course Program (ACCP). Refer to DA Pamphlet 351-20 (Army Correspondence Course Program Catalog) for detailed eligibility requirements and enrollment information. The catalog is available at local education centers or on line through the Army Institute for Professional Development (AIPD) web site, <http://www.atsc.army.mil/accp/aipd.htm>. The web site offers on-line enrollment.

1-5. Commander's Responsibilities. Commanders must ensure that their unit training plans prepare the unit for war by enabling soldiers to develop and sustain proficiency in their MOS and skill level tasks. Commanders should design unit training programs to provide individual training for all soldiers assigned to the unit and to evaluate soldier proficiency routinely as part of the commander's evaluation program. The unit training program should also integrate individual training with crew drills and other collective training. The MOS training plan provides information on which to base integration, cross-train, train-up, and sustainment training programs. Commanders should use the MOS training plan when developing unit training plans.

1-6. Trainer's Responsibilities. Training is the business of all unit leaders. First-line leaders are the principal trainers in the unit because they directly supervise soldiers and lead crews, squads, sections, and teams.

Trainers can use the MOS training plan to determine the critical tasks each soldier is responsible for. They should tell each soldier which tasks he or she must be able to



perform. Trainers should evaluate task performance to determine which tasks each soldier can or cannot perform to standard. Soldiers who cannot perform a task to standard need further training. This STP helps the trainer do what trainers get paid to do train. Developing effective training is explained in detail in FM 25-100 and FM 25-101.

Every task summary in this STP includes performance measures, which trainers may use year-round to determine if soldiers can perform critical tasks to the specified standards. The performance measures identify what the trainer needs to observe to score a soldier's performance. A blank space is provided for the trainer to check either the GO or NO-GO column for each performance measure. Some tasks require the trainer to watch the soldier perform them (evaluate the process). Other tasks call for the trainer to focus on the results of the soldier's performance (evaluate the product). Comments should not be written on the task summary.

Trainers can monitor the progress of their soldiers by recording task go/no-go results. Trainers may use DA Form 5164-R (Hands-On Evaluation) to record the performance measures a soldier passed or failed. The form, which may be locally reproduced, applies to all tasks in this STP. Trainers may have DA Form 5164-R overprinted with information unique to their training requirements before reproducing it. See Appendix A of this STP for a sample DA Form 5164-R with instructions.

- Trainers may use DA Form 5165-R (Field Expedient Squad Book) to record hands-on go/no-go results for a group of soldiers (for example, a crew, section, or squad) having the same MOS and skill level. This form supports conduct of commander's evaluations, and can be used to record training results gathered in the field during slack time for all MOSs and skill levels. Use of this form is optional. See Appendix B for a sample DA Form 5165-R with instructions. Trainers should work with each soldier until tasks can be performed to specific task summary standards.

1-7. Training Support. References have been identified for each task to assist in planning and conducting training. A consolidated list of references identified by type, publication number, and title and a comprehensive glossary of acronyms, abbreviations, and definitions are included in this STP.

## CHAPTER 2

### Training Guide

2-1. General. The MOS Training Plan (MTP) 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 MTP should be used as a guide for conducting unit training and not a rigid standard. The MTP consists of two parts. Each part is designed to assist the commander in preparing a unit training plan which satisfies integration, cross training, training up, and sustainment training requirements for soldiers in this MOS.

Part One of the MTP 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 used throughout the MTP. These subject areas are used to define the training requirements for each duty position within an MOS.

Section II identifies the total training requirement for each duty position within an MOS and provides a recommendation for cross training and train-up/merger training.

- **Duty Position column.** This column lists the duty positions of the MOS, by skill level, which have different training requirements.
- **Subject Area column.** This column lists, by numerical key (see Section I), the subject areas a soldier must be proficient in to perform in that duty position.
- **Cross Train column.** This column lists the recommended duty position for which soldiers should be cross trained.
- **Train-up/Merger column.** This column lists the corresponding duty position for the next higher skill level or MOSC the soldier will merge into on promotion.

Part Two lists, by general subject areas, the critical tasks to be trained in an MOS and the type of training required (resident, integration, or sustainment).

- **Subject Area column.** This column lists the subject area number and title in the same order as Section I, Part One of the MTP.
- **Task Number column.** This column lists the task numbers for all tasks included in the subject area.
- **Title column.** This column lists the task title for each task in the subject area.
- **Training Location column.** This column identifies the training location where the task is first trained to soldier training publications 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, by brevity code (ANCOC, BNCOC, etc.), the resident course where the task was taught. Figure 2-1 contains a list of training locations and their corresponding brevity codes.

<b>AIT</b>	Advanced Individual Training
<b>UNIT</b>	<b>Trained in the Unit</b>

Figure 2-1. Training Locations

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

<b>BA</b>	- Biannually
<b>AN</b>	- Annually
<b>SA</b>	- Semiannually
<b>QT</b>	- Quarterly
<b>MO</b>	- Monthly
<b>BW</b>	- Biweekly
<b>WK</b>	- Weekly

Figure 2-2. Sustainment Training Frequency Codes

- **Sustainment Training Skill Level column.** This column lists the skill levels of the MOS for which soldiers must receive sustainment training to ensure they maintain proficiency to soldier's manual standards.

2-2. Subject Area Codes.

**Skill Level 1**

- 1 LASER TASKS
- 2 FIRE CONTROL SYSTEMS TASKS
- 3 TELESCOPES, MOUNTS, AND QUADRANTS TASKS
- 4 TMDE, BDAR, AND SERVICES TASKS
- 5 M1A2 ASI 45G (ASIK4)

2-3. Duty Position Training Requirements.

<b>45G CAREER FIELD DUTY POSITIONS</b>			
<b>Duty Position</b>	<b>Subject Area</b>	<b>Cross Train</b>	<b>Train-up/Merger</b>
<b>Skill Level 1</b>			
Fire Control Repairer	1 - 4	NA	45G20/Fire Control Repairer
<b>Skill Level 2</b>			
Fire Control Repairer	1 - 4	NA	45K30/Armament Repairer Supervisor

2-4. Critical Tasks List.**MOS TRAINING PLAN  
45G12****CRITICAL TASKS**

<b>Subject Area</b>	<b>Task Number</b>	<b>Title</b>	<b>Training Location</b>	<b>Sust Tng Freq</b>	<b>Sust Tng SL</b>
<b>Skill Level 1</b>					
1. LASER TASKS	091-45G-2025	Correct Malfunctions of the Gunner's Primary Sight Assembly	AIT	SA	1/2
	091-45G-2026	Correct Malfunctions of the M1A1 Abrams Tank Auxiliary Sighting Components	AIT	SA	1/2
	091-45G-2027	Correct Malfunctions of the Bradley ISU	AIT	SA	1/2
	091-45G-2028	Correct Malfunctions of the Digital Command Guidance Electronics	AIT	SA	1/2
	091-45G-2029	Correct Malfunctions of the Bradley TOW Missile Launcher	AIT	SA	1/2
	091-45G-2030	Correct Malfunctions of the AN/PVS-6 MELIOS	AIT	SA	1/2
	091-45G-2031	Correct Malfunctions of the M1 Series Abrams Tank Fire Control System Laser Range Finder	AIT	SA	1/2
	091-45G-2032	Correct Malfunctions of Laser Designator (G/VLLD and LTD)	AIT	SA	1/2
2. FIRE CONTROL SYSTEMS TASKS	091-45G-2007	Correct Malfunctions of the Computer Control Panel	AIT	SA	1/2
	091-45G-2008	Correct Malfunctions of the Computer Electronics Unit	AIT	SA	1/2
	091-45G-2009	Correct Malfunctions of the Line of Sight Electronics Unit	AIT	SA	1/2
	091-45G-2010	Correct Malfunctions of the Thermal Imaging System	AIT	SA	1/2
	091-45G-2021	Correct Malfunctions of the Fire Control Quadrants	AIT	SA	1/2
	091-45G-2024	Perform Fire Control Alignment Procedures for Towed and Self-Propelled Howitzers	AIT	SA	1/2
3. TELESCOPES , MOUNTS, AND QUADRANTS	091-45G-2012	Correct the Malfunctions of the M117 Series Panoramic Telescopes	AIT	SA	1/2

## CRITICAL TASKS

Subject Area	Task Number	Title	Training Location	Sust Tng Freq	Sust Tng SL
TASKS	091-45G-2013	Correct Malfunctions of the M137 Series Panoramic Telescopes	AIT	SA	1/2
	091-45G-2015	Correct Malfunctions of the M2 Series Aiming Circles	AIT	SA	1/2
	091-45G-2016	Correct Malfunctions of the M1 Series Gunner's Quadrant	AIT	SA	1/2
	091-45G-2019	Correct Malfunctions of Telescope Mounts	AIT	SA	1/2
	091-45G-2020	Correct Malfunctions of Elbow Telescopes	AIT	SA	1/2
	091-45G-2022	Correct Malfunctions of the M1 Series Aiming Reference Collimator	AIT	SA	1/2
4. TMDE, BDAR, AND SERVICES TASKS	091-45G-2023	Operate Test, Measurement, and Diagnostic Equipment (TMDE)	AIT	SA	1/2
5. M1A2 ASI 45G (ASIK4)	091-45G-K4001	Operate M1A2 Software of Loader/Verifier(CTS III)	AIT	SA	1/2
	091-45G-K4003	Repair Commander's Integrated Display (CID)	AIT	SA	1/2
	091-45G-K4004	Repair Commander's Independent Thermal Viewer Electronic Unit (CITV-EU)	AIT	SA	1/2
	091-45G-K4005	Repair Commander's Independent Thermal Viewer Sight Assembly (CITV-SA)	AIT	SA	1/2
	091-45G-K4006	Repair Gunner's Control Display Panel (GCDP)	AIT	SA	1/2
	091-45G-K4007	Repair Gunner's Primary Sight/Dual Axis Head Assembly (GPS-DAHA)	AIT	SA	1/2
	091-45G-K4008	Repair Miniature Electronics Unit (MEU)	AIT	SA	1/2
	091-45G-K4009	Repair Thermal Receiver Unit (TRU)	AIT	SA	1/2
091-45G-K4010	Repair Fire Control Electronics Unit (FCEU)	AIT	SA	1/2	

**CHAPTER 3**  
**MOS/Skill Level Tasks**

Skill Level 1  
Subject Area 1: LASER TASKS

**Correct Malfunctions of the Gunner's Primary Sight Assembly**  
**091-45G-2025**

**Conditions:** In a field or garrison environment, given gunner's primary sight (GPS) assembly, electronic system maintenance tool kit, direct support electrical systems test set (DSESTS), break-out-box (BOB), power supply, multimeter, additional tools, TMDE, repair parts, equipment specified in TMs, applicable maintenance forms and technical publications, and supervision/assistance.

**Standards:** Correct malfunctions of the GPS IAW applicable technical publications. When the task is completed, the GPS must be fully mission capable.

<b>Performance Measures</b>	<u><b>GO</b></u>	<u><b>NO GO</b></u>
1. Select and use applicable technical publications.	—	—
2. Select and use applicable tools, TMDE, and equipment to correct malfunctions of the gunner's primary sight assembly.	—	—
3. Practice shop safety and maintenance discipline.	—	—
4. Perform initial inspection.	—	—
5. Troubleshoot the gunner's primary sight assembly.	—	—
6. Repair/replace the gunner's primary sight assembly components as required.	—	—
7. Perform a final operational test to verify fault(s) have been corrected.	—	—
8. Annotate corrective actions taken on the DA Form 5988-E.	—	—
9. Maintain tools and equipment.	—	—

**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 wrong and how to do it correctly.

**References**

**Required**

SC 4931-95-CL-A09  
SC 5180-95-B29  
TM 9-1200-206-34-2  
TM 9-1200-206-34-3  
TM 9-1200-206-34P  
TM 9-4931-586-12-2&P  
TM 9-4931-586-12-1&P

**Related**

DA PAM 738-750  
TM 9-243



**Correct Malfunctions of the M1A1 Abrams Tank Auxiliary Sighting Components  
091-45G-2026**

**Conditions:** In a field or garrison environment, given gunner's auxiliary sight (GAS) and/or commander's weapon station sight (CWSS), nitrogen purging and charging kit, nitrogen, lens paper, test stand/holding fixture, spanner wrench, electronic system maintenance tool kit, diptometer, power supply, multimeter, optical cleaning solution, additional tools, TMDE, repair parts, equipment specified in TMs, applicable maintenance forms and technical publications, and supervision/assistance.

**Standards:** Correct malfunctions of the M1A1 Abrams tank auxiliary sighting components IAW applicable technical publications. When the task is completed, the M1 A1 Abrams tank auxiliary sighting components must be fully mission capable.

<b>Performance Measures</b>	<u><b>GO</b></u>	<u><b>NO GO</b></u>
1. Select and use applicable technical publications.	—	—
2. Select and use applicable tools, TMDE, and equipment to correct malfunctions of the M1A1 Abrams tank auxiliary sighting components.	—	—
3. Practice shop safety and maintenance discipline.	—	—
4. Perform initial inspection.	—	—
5. Troubleshoot the GAS and/or CWSS.	—	—
6. Repair/replace the GAS and/or CWSS components as required.	—	—
7. Perform a final operational test to verify fault(s) have been corrected.	—	—
8. Annotate the corrective actions taken on DA Form 5988-E.	—	—
9. Maintain tools and equipment.	—	—

**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 wrong and how to do it correctly.

**References**

**Required**

- SC 4931-95-CL-A09
- SC 4931-95-J54
- SC 5180-95-B29
- TM 9-1200-206-34-2
- TM 9-1200-206-34-3
- TM 9-1200-206-34P
- TM 750-116

**Related**

- DA PAM 738-750
- TM 9-243

**Correct Malfunctions of the Bradley ISU  
091-45G-2027**

**Conditions:** In a field or garrison environment, given a Bradley integrated sight unit (ISU), DSESTS with ISU stand, power supply, electronic system maintenance tool kit, electro-static discharge (ESD) workstation, multimeter, additional tools, TMDE, repair parts, equipment specified in TMs, applicable maintenance forms and technical publications, and supervision/assistance.

**Standards:** Correct malfunctions of the Bradley ISU IAW applicable technical publications. When the task is completed, the Bradley ISU must be fully mission capable.

<b>Performance Measures</b>	<u><b>GO</b></u>	<u><b>NO GO</b></u>
1. Select and use applicable technical publications.	—	—
2. Select and use applicable tools, TMDE, and equipment to correct malfunctions of the Bradley ISU.	—	—
3. Practice shop safety and maintenance discipline.	—	—
4. Perform initial inspection.	—	—
5. Troubleshoot the ISU.	—	—
a. Basic sight assembly (BSA).		
b. Visual module.		
c. Unity cover transceiver.		
6. Repair/replace the ISU components as required.	—	—
7. Perform a final operational test to verify fault(s) had been corrected.	—	—
8. Annotate corrective actions taken on the DA Form 5988-E.	—	—
9. Maintain tools and equipment.	—	—

**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 wrong and how to do it correctly.

**References**

**Required**

- SC 4931-95-CL-A09
- SC 5180-95-B29
- TM 9-2350-284-10-2
- TM 9-2350-284-20-2-2
- TM 9-2350-284-20-2-3
- TM 9-2350-284-24P-2
- TM 9-2350-284-34-2
- TM 9-2350-284-34-3-2
- TM 9-4931-586-12-1&P
- TM 9-4931-586-12-3&P
- TM 9-4931-586-30&P

**Related**

- DA PAM 738-750
- TM 9-243

**Correct Malfunctions of the Digital Command Guidance Electronics  
091-45G-2028**

**Conditions:** In a field or garrison environment, given digital command guidance electronics (DCGE), ISU, DSESTS, power supply, electronic system maintenance tool kit, ESD workstation, multimeter, additional tools, TMDE, repair parts, equipment specified in TMs, applicable maintenance forms and technical publications, and supervision/assistance.

**Standards:** Correct malfunctions of the DCGE IAW applicable references. When the task is completed, the DCGE must be fully mission capable.

<b>Performance Measures</b>	<u><b>GO</b></u>	<u><b>NO GO</b></u>
1. Select and use applicable technical publications.	—	—
2. Select and use applicable tools, TMDE, and equipment to correct malfunctions of the digital command guidance electronics.	—	—
3. Practice shop safety and maintenance discipline.	—	—
4. Perform initial inspection.	—	—
5. Troubleshoot the DCGE.	—	—
6. Repair/replace the DCGE components, as required.	—	—
7. Perform a final operational test to verify fault(s) had been corrected.	—	—
8. Annotate corrective actions taken on the DA Form 5988-E.	—	—
9. Maintain tools and equipment.	—	—

**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 wrong and how to do it correctly.

**References**

**Required**

- SC 4931-95-CL-A09
- SC 5180-95-B29
- TM 9-2350-284-10-2
- TM 9-2350-284-20-2-2
- TM 9-2350-284-20-2-3
- TM 9-2350-284-24P-2
- TM 9-2350-284-34-2
- TM 9-2350-284-34-3-2
- TM 9-4931-586-12-1&P
- TM 9-4931-586-12-3&P

**Related**

- DA PAM 738-750
- TM 9-243

**Correct Malfunctions of the Bradley TOW Missile Launcher  
091-45G-2029**

**Conditions:** In a field or garrison environment, given Bradley TOW missile launcher, DCGE, ISU, DSESTS with stand, power supply, electronic system maintenance tool kit, ESD workstation, multimeter, additional tools, TMDE, repair parts, equipment specified in TMs, applicable maintenance forms and technical publications, and supervision/assistance.

**Standards:** Correct malfunctions of the Bradley TOW missile launcher IAW applicable technical publications. When the task is completed, the TOW missile launcher must be fully mission capable.

<b>Performance Measures</b>	<u><b>GO</b></u>	<u><b>NO GO</b></u>
1. Select and use applicable technical publications.	—	—
2. Select and use applicable tools, TMDE, and equipment to correct malfunctions of the Bradley TOW missile launcher.	—	—
3. Practice shop safety and maintenance discipline.	—	—
4. Perform initial inspection.	—	—
5. Troubleshoot the Bradley TOW missile launcher.	—	—
6. Repair/replace the Bradley TOW missile launcher components, as required.	—	—
7. Perform a final operational test to verify fault(s) had been corrected.	—	—
8. Annotate corrective actions taken on DA Form 5988-E.	—	—
9. Maintain tools and equipment.	—	—

**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 wrong and how to do it correctly.

**References**

**Required**

- TM 9-2350-284-10-2
- TM 9-2350-284-20-2-2
- TM 9-2350-284-20-2-3
- TM 9-2350-284-24P-2
- TM 9-2350-284-34-2
- TM 9-2350-284-34-3-2
- TM 9-4931-586-12-1&P
- TM 9-4931-586-12-3&P
- TM 9-4931-586-30&P
- SC 4931-95-CL-A09
- SC 5180-95-B-29

**Related**

- DA PAM 738-750
- TM 9-243

**Correct Malfunctions of the AN/PVS-6 MELIOS  
091-45G-2030**

**Conditions:** In a field or garrison environment, given AN/PVS-6 MELIOS, digital multimeter, battery charger, battery discharger/analyzer, Sensor Card IR 276-0099, electronic system maintenance tool kit, PS 2997 A/U 6625-01-227-9615 additional tools, TMDE, repair parts, equipment specified in TMs, applicable maintenance forms and technical publications, and supervision/assistance.

**Standards:** Correct malfunctions of the AN/PVS-6 MELIOS IAW applicable technical publications. When the task is completed, the AN/PVS-6 MELIOS must be fully mission capable.

<b>Performance Measures</b>	<u><b>GO</b></u>	<u><b>NO GO</b></u>
1. Select and use applicable technical publications.	—	—
2. Select and use applicable tools, TMDE, and equipment to correct malfunctions of the AN/PVS-6 MELIOS.	—	—
3. Practice shop safety and maintenance discipline.	—	—
4. Perform initial inspection.	—	—
5. Troubleshoot the AN/PVS-6 MELIOS.	—	—
6. Repair/replace the AN/PVS-6 MELIOS components as required.	—	—
7. Perform a final operational test to verify fault(s) had been corrected.	—	—
8. Annotate corrective actions taken on DA Form 5988-E.	—	—
9. Maintain tools and equipment.	—	—

**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 wrong and how to do it correctly.

**References**

**Required**

- SC 4931-95-CL-A09
- SC 5180-95-B29
- TM 11-5860-202-10
- TM 11-5860-202-23&P

**Related**

- DA PAM 738-750
- TM 9-243

**Correct Malfunctions of the M1 Series Abrams Tank Fire Control System Laser Range Finder  
091-45G-2031**

**Conditions:** In a garrison or field environment, given laser range finder, electronic system maintenance tool kit, instrument and fire control shop equipment, DC variable power supply, multimeter, dual trace oscilloscope, laser safety equipment, ESD workstation, expandable supplies and materials, additional tools, TMDE, repair parts, equipment specified in TMs, applicable maintenance forms and technical publications, and supervision/assistance.

**Standards:** Correct malfunctions of the M1 Series Abrams tank fire control system laser range finder IAW applicable technical publications. When the task is completed, the fire control system laser range finder must be fully mission capable.

<b>Performance Measures</b>	<u><b>GO</b></u>	<u><b>NO GO</b></u>
1. Select and use applicable publications.	—	—
2. Select and use applicable tools, TMDE, and equipment to correct malfunctions of the M1 series Abrams tank fire control system laser range finder.	—	—
3. Practice shop safety and maintenance discipline.	—	—
4. Perform an initial inspection.	—	—
5. Perform troubleshooting procedures.	—	—
6. Repair/replace the M1 series Abrams tank fire control system laser range finder components as required.	—	—
7. Adjust the laser range finder, as required.	—	—
8. Perform a final operational test to verify fault(s) had been corrected.	—	—
9. Annotate corrective actions taken on DA Form 5988-E.	—	—
10. Maintain tools and equipment.	—	—

**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 wrong and how to do it correctly.

**References**

**Required**

- SC 4931-95-CL-A09
- SC 4931-95-J54
- SC 5180-95-B29
- TM 750-116
- TM 9-1200-206-34-2
- TM 9-1200-206-34-3
- TM 9-1200-206-34P
- TM 9-2350-264-10-2
- TM 9-2350-264-20-2-2
- TM 9-2350-264-20-2-3
- TM 9-2350-264-24-2
- TM 9-2350-264-24P-2
- TM 9-4931-586-34-1&P
- TM 9-2350-264-34-2-2
- TM 9-4931-586-12-2&P

**Related**

- DA PAM 738-750
- TM 9-243

**References**

**Required**

TM 9-4931-586-30&P

**Related**

**Correct Malfunctions of Laser Designator (G/VLLD and LTD)  
091-45G-2032**

**Conditions:** In a field or garrison environment, given AN/PAQ-1 LTD, AN/TVQ-2 G/VLLD w/traversing unit, tripod, vehicle cable, power cable, EMI filters, ground support equipment, LTD test sets, electronics system maintenance tool kit, laser safety equipment, oscilloscope, digital multimeter, nitrogen purging and charging kit, nitrogen, ESD workstation, additional tools, TMDE, repair parts, equipment specified in TMs, applicable maintenance forms and technical publications, and supervision/assistance.

**Standards:** Correct malfunctions of the laser designator (G/VLLD and LTD) IAW applicable technical publications. When the task is completed, the laser designator must be fully mission capable.

<b>Performance Measures</b>	<u><b>GO</b></u>	<u><b>NO GO</b></u>
1. Select and use applicable publications.	—	—
2. Select and use applicable tools, TMDE, and equipment to correct malfunctions of the laser designator (G/VLLD and LTD).	—	—
3. Practice shop safety and maintenance discipline.	—	—
4. Perform an initial inspection.	—	—
5. Troubleshoot the electronic components of the LTD and identify malfunction(s).	—	—
6. Repair/replace the LTD components as required.	—	—
7. Test the electronic components of the LTD to verify fault(s) had been corrected.	—	—
8. Test the G/VLLD.	—	—
9. Troubleshoot the G/VLLD and identify malfunction(s).	—	—
10. Disassemble the G/VLLD.	—	—
11. Repair/replace the G/VLLD components as required.	—	—
12. Assemble the G/VLLD.	—	—
13. Perform a final operational test to verify fault(s) had been corrected..	—	—
14. Purge and charge as necessary.	—	—
15. Annotate corrective actions taken on DA Form 5988-E.	—	—
17. Maintain tools and equipment.	—	—

**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 wrong and how to do it correctly.

**References**

**Required**

- SC 4931-95-CL-A09
- SC 4931-95-J54
- SC 5180-95-B29
- TM 750-116
- TM 9-1260-477-12
- TM 9-1260-477-24P
- TM 9-1260-477-34

**Related**

- DA PAM 738-750
- TM 9-243



**References**

**Required**

TM 9-1260-477-34-2

**Related**

Subject Area 2: FIRE CONTROL SYSTEMS TASKS

**Correct Malfunctions of the Computer Control Panel  
091-45G-2007**

**Conditions:** In a field or garrison environment, given a computer control panel, electronic system maintenance tool kit, DSESTS, laser safety equipment, ESD workstation, power supply, multimeter, repair parts, additional tools, TMDE, equipment specified in TMs, applicable maintenance forms and technical publications, and supervision/assistance.

**Standards:** Correct malfunctions of the computer control panel IAW applicable technical publications. When the task is completed, the computer control panel must be fully mission capable.

<b>Performance Measures</b>	<u><b>GO</b></u>	<u><b>NO GO</b></u>
1. Select and use applicable technical publications.	—	—
2. Select and use applicable tools, TMDE, and equipment to correct malfunctions of the computer control panel.	—	—
3. Practice shop safety and maintenance discipline.	—	—
4. Perform an initial inspection.	—	—
5. Troubleshoot the computer control panel to isolate fault(s).	—	—
6. Repair/replace the computer control panel components, as required.	—	—
7. Perform a final operational test to verify faults(s) had been corrected.	—	—
8. Annotate corrective action taken on DA Form 5988-E.	—	—
9. Maintain tools and equipment.	—	—

**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 9-1200-206-34-1
- TM 9-1200-206-34-2
- TM 9-1200-206-34-3
- TM 9-1200-206-34P
- SC 4931-95-CL-A09
- SC 4931-95-J54
- TM 9-4931-586-12-1&P

**Related**

- DA PAM 738-750
- TM 9-243

**Correct Malfunctions of the Computer Electronics Unit  
091-45G-2008**

**Conditions:** In a field or garrison environment, given a computer electronics unit (CEU), electronic system maintenance tool kit, DSESTS, laser safety equipment, ESD workstation, power supply, multimeter, repair parts, additional tools, TMDE, equipment specified in TMs, applicable maintenance forms and technical publications, and supervision/assistance.

**Standards:** Correct malfunctions of the CEU IAW applicable technical publications. When the task is completed, the computer electronics unit must be fully mission capable.

<b>Performance Measures</b>	<u><b>GO</b></u>	<u><b>NO GO</b></u>
1. Select and use applicable technical publications.	—	—
2. Select and use applicable tools, TMDE, and equipment to correct malfunctions of the CEU.	—	—
3. Practice shop safety and maintenance discipline.	—	—
4. Perform an initial inspection.	—	—
5. Troubleshoot the CEU to isolate fault(s).	—	—
6. Repair/replace the CEU components, as required.	—	—
7. Perform a final operational test to verify fault(s) had been corrected.	—	—
8. Annotate corrective actions taken on the DA Form 5988-E.	—	—
9. Maintain tools and equipment.	—	—

**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 9-1200-206-34-2
- TM 9-1200-206-34-3
- TM 9-1200-206-34P
- SC 4931-95-CL-A09
- SC 4931-95-J54
- TM 9-4931-586-12-1&P

**Related**

- DA PAM 738-750
- TM 9-243

**Correct Malfunctions of the Line of Sight Electronics Unit  
091-45G-2009**

**Conditions:** In a field or garrison environment, given a line of sight electronics unit (LOS-EU), electronic system maintenance tool kit, DSESTS, laser safety equipment, ESD workstation, power supply, multimeter, repair parts, equipment specified in TMs, applicable maintenance forms and technical publications, and supervision/assistance.

**Standards:** Correct malfunctions of the LOS-EU IAW applicable technical publications. When the task is completed, the LOS-EU must be fully mission capable.

<b>Performance Measures</b>	<u><b>GO</b></u>	<u><b>NO GO</b></u>
1. Select and use applicable technical publications.	—	—
2. Select and use applicable tools, TMDE, and equipment to correct malfunctions of the LOS-EU.	—	—
3. Practice shop safety and maintenance discipline.	—	—
4. Perform an initial inspection.	—	—
5. Troubleshoot the LOS-EU to isolate fault(s).	—	—
6. Repair/replace the LOS-EU components as required.	—	—
7. Perform a final operational test to verify fault(s) have been corrected.	—	—
8. Annotate corrective actions taken on DA Form 5988-E.	—	—
9. Maintain tools and equipment.	—	—

**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 9-1200-206-34-2
- TM 9-1200-206-34-3
- TM 9-1200-206-34P
- SC 4931-95-CL-A09
- SC 5180-95-B29
- TM 9-4931-586-12&P

**Related**

- DA PAM 738-750
- TM 9-243

**Correct Malfunctions of the Thermal Imaging System  
091-45G-2010**

**Conditions:** In a field or garrison environment, given a power control unit (PCU), image control unit (ICU), thermal receiver unit (TRU), thermal electronics unit (TEU), DSESTS, power supply, electronic system maintenance tool kit, oscilloscope, multimeter, AN/TAM-3 collimator, repair parts, equipment specified in TMs, applicable maintenance forms and technical publications, and supervision/assistance.

**Standards:** Correct malfunctions of the thermal imaging system IAW applicable technical publications. When the task is completed, the thermal imaging system must be fully mission capable.

<b>Performance Measures</b>	<u><b>GO</b></u>	<u><b>NO GO</b></u>
1. Select and use applicable technical publications.	—	—
2. Select and use applicable tools, TMDE, and equipment to correct malfunctions of the thermal imaging system.	—	—
3. Practice shop safety and maintenance discipline.	—	—
4. Perform an initial inspection.	—	—
5. Troubleshoot the thermal imaging system components to isolate fault(s).	—	—
6. Repair/replace the thermal imaging system components, as required.	—	—
7. Perform a final operational test to verify fault(s) had been corrected.	—	—
8. Annotate corrective actions taken on DA Form 5988-E.	—	—
9. Maintain tools and equipment.	—	—

**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**

- SC 4931-95-CL-A09
- SC 5180-95-B29
- TM 9-1200-206-34-2
- TM 9-1200-206-34-3
- TM 9-1200-206-34P
- TM 9-4931-206-12-1&P
- TM 9-4931-586-12-2&P
- TM 9-4931-586-12-4&P
- TM 9-4931-586-30&P

**Related**

- DA PAM 738-750
- TM 9-243

**Correct Malfunctions of the Fire Control Quadrants  
091-45G-2021**

**Conditions:** In a field or garrison environment, given fire control quadrant, M1 series gunner's quadrant, cross leveling fixture and adapter, plumb line, fibrous cord, fabricated target, bench level, C clamp, M139 alignment device, electronic system maintenance tool kit, additional tools, TMDE, repair parts, equipment specified in TMs, applicable maintenance forms and technical publications, and supervision/assistance.

**Standards:** Correct malfunctions of fire control quadrant IAW applicable technical publications. When the task is completed, the fire control quadrant must be fully mission capable.

<b>Performance Measures</b>	<u><b>GO</b></u>	<u><b>NO GO</b></u>
1. Select and use applicable technical publications.	—	—
2. Select and use applicable tools, TMDE, and equipment to correct malfunctions of the fire control quadrants.	—	—
3. Practice shop safety and maintenance discipline.	—	—
4. Inspect the M17/M18 fire control quadrant.	—	—
5. Troubleshoot M17/M18 fire control quadrant.	—	—
6. Repair/replace the M17/M18 fire control quadrant components, as required.	—	—
7. Perform a final operational test to verify fault(s) had been corrected.	—	—
8. Annotate corrective actions taken on DA Form 5988-E.	—	—
9. Maintain tools and equipment.	—	—

**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 wrong and how to do it correctly.

**References**

**Required**

SC 4931-95-CL-A09  
 SC 5180-95-B29  
 TM 9-1240-375-34  
 TM 9-1240-375-34P

**Related**

DA PAM 738-750  
 TM 9-243

**Perform Fire Control Alignment Procedures for Towed and Self-Propelled Howitzers  
091-45G-2024**

**Conditions:** In a field or garrison environment, given a towed or self-propelled howitzer, BII, artillery and turret mechanic's tool kit, M1 series gunner's quadrant, instrument and fire control shop equipment, boresight target, additional tools, TMDE, repair parts, equipment specified in TMs, applicable maintenance forms and technical publications, and supervision/assistance.

**Standards:** Perform fire control alignment procedures for towed and self-propelled howitzer IAW applicable technical publications. When the task is completed, the howitzer fire control must be fully mission capable.

<b>Performance Measures</b>	<u><b>GO</b></u>	<u><b>NO GO</b></u>
1. Select and use applicable technical publications.	—	—
2. Select and use applicable tools, TMDE, and equipment to perform fire control alignment procedures of towed and self-propelled howitzers.	—	—
3. Practice shop safety and maintenance discipline.	—	—
4. Perform initial inspection.	—	—
5. Set up test equipment.	—	—
6. Perform boresight and synchronization procedures.	—	—
7. Perform a final test/inspection/alignment of components with the axis of the bore and correct boresight.	—	—
8. Annotate corrective actions taken on DA Form 5988-E.	—	—
9. Maintain tools and equipment.	—	—

**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 wrong and how to do it correctly.

**References**

**Required**

- SC 4931-95-CL-A09
- SC 5180-95-B29
- TM 9-1240-375-34
- TM 9-2350-311-10
- TM 9-2350-311-20-2
- TM 9-2350-311-24P-2
- TM 9-2350-311-34-2
- TM 9-2350-314-10
- TM 9-2350-314-20-2-1
- TM 9-2350-314-20-2-2
- TM 9-2350-314-24P-2
- TM 9-2350-314-34-2
- TM 9-1240-375-34P
- TM 9-1025-211-10
- TM 9-1025-211-20&P
- TM 9-1025-211-34
- TM 9-1025-211-34&P

**Related**

- DA PAM 738-750
- TM 9-243

Subject Area 3: TELESCOPES, MOUNTS, AND QUADRANTS TASKS

**Correct the Malfunctions of the M117 Series Panoramic Telescopes  
091-45G-2012**

**Conditions:** In a field or garrison environment, given M117 series panoramic telescope, electronic system maintenance tool kit, nitrogen, nitrogen purging and charging kit, torque adapter, dioptometer, cross leveling fixture and adapter, alignment device, additional tools, TMDE, repair parts, equipment specified in TMs, applicable maintenance forms and technical publications, and supervision/assistance.

**Standards:** Correct malfunctions of the M117 series panoramic telescope IAW applicable technical publications. When the task is completed, the telescope must be fully mission capable.

<b>Performance Measures</b>	<u><b>GO</b></u>	<u><b>NO GO</b></u>
1. Select and use applicable technical publications.	—	—
2. Select and use applicable tools, TMDE, and equipment to correct malfunctions of the M117 series panoramic telescopes.	—	—
3. Practice shop safety and maintenance discipline.	—	—
4. Perform troubleshooting procedures.	—	—
5. Repair/replace the M117 series panoramic telescope components, as required.	—	—
6. Adjust the M117 series panoramic telescope as required.	—	—
7. Service the M117 series panoramic telescope as required.	—	—
8. Perform a final operational test to verify fault(s) had been corrected.	—	—
9. Perform purging and charging as required.	—	—
10. Annotate corrective actions taken on DA Form 5988-E.	—	—
11. Maintain tools and equipment.	—	—

**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**

- SC 4931-95-CL-A09
- SC 5180-95-B29
- TM 9-1240-379-34
- TM 9-1240-4001-34&P
- TM 9-2350-311-10
- TM 9-2350-311-20-2
- TM 9-2350-311-24P-2
- TM 9-2350-311-34-2
- TM 9-2350-314-10
- TM 9-2350-314-20-2-2
- TM 9-2350-314-24P-2

**Related**

- DA PAM 738-750
- TM 9-243



**References**

**Required**

TM 9-2350-314-34-2

**Related**

**Correct Malfunctions of the M137 Series Panoramic Telescopes  
091-45G-2013**

**Conditions:** In a field or garrison environment, given M137 series panoramic telescope, electronic system maintenance tool kit, nitrogen, nitrogen purging and charging kit, dioptometer, telescope fixture, adapter, azimuth test fixture, test target, surface gauge, M1 series gunner's quadrant, plumb line, additional tools, TMDE, repair parts, equipment specified in TMs, applicable maintenance forms and technical publications, and supervision/assistance.

**Standards:** Correct malfunctions of the M137 series panoramic telescope IAW applicable technical publications. When the task is completed, the telescope must be fully mission capable.

<b>Performance Measures</b>	<u><b>GO</b></u>	<u><b>NO GO</b></u>
1. Select and use applicable technical publications.	—	—
2. Select and use applicable tools, TMDE, and equipment to correct malfunctions of the M137 series panoramic telescopes.	—	—
3. Practice shop safety and maintenance discipline.	—	—
4. Perform an initial inspection.	—	—
5. Disassemble the M137 series panoramic telescope.	—	—
6. Repair/replace the M137 series panoramic telescope components, as required.	—	—
7. Assemble the M137 series panoramic telescope.	—	—
8. Adjust the M137 series panoramic telescope.	—	—
9. Perform a final operational test to verify fault(s) had been corrected.	—	—
10. Annotate corrective actions taken on DA Form 5988-E.	—	—
11. Maintain tools and equipment.	—	—

**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**

- SC 4931-95-CL-A09
- SC 4931-95-J54
- SC 5180-95-B29
- TM 9-1240-375-34
- TM 9-1240-375-34P
- TM 9-1240-400-34&P
- TM 750-116

**Related**

- DA PAM 738-750
- TM 9-243

**Correct Malfunctions of the M2 Series Aiming Circles  
091-45G-2015**

**Conditions:** In a field or garrison environment, given M2 series aiming circle, ancillary equipment, lens tissue and optical lens cleaning compound, lubricant grease automotive and artillery (GIA), surface gauge, collimating telescope, azimuth test fixture, plumb line, M1 series gunner's quadrant, telescope with adapter fixture, tripod, electronic system maintenance tool kit, bar parallel, tubular wrench set, holder collimator, bench level, dioptometer, inch-ounce torque wrench with fabricated adapter, azimuth test fixture adapter fabricated, pinned tubular wrench fabricated, nitrogen, nitrogen purging and charging kit, additional tools, TMDE, repair parts, equipment specified in TMs, applicable maintenance forms and technical publications, and supervision/assistance.

**Standards:** Correct malfunctions of the M2 series aiming circle IAW applicable technical publications. When the task is completed, the aiming circle must be fully mission capable.

<b>Performance Measures</b>	<b><u>GO</u></b>	<b><u>NO GO</u></b>
1. Select and use applicable technical publications.	—	—
2. Select and use applicable tools, TMDE, and equipment to correct malfunctions of the M2 series aiming circles.	—	—
3. Practice shop safety and maintenance discipline.	—	—
4. Perform an initial inspection.	—	—
5. Perform troubleshooting procedures.	—	—
6. Disassemble the M2 series aiming circles.	—	—
7. Repair/replace the M2 series aiming circles components, as required.	—	—
8. Assemble the M2 series aiming circles.	—	—
9. Adjust the M2 series aiming circles, as required.	—	—
10. Perform purging and charging, as required.	—	—
11. Perform a final operational test to verify fault(s) had been corrected.	—	—
12. Annotate corrective actions taken on DA Form 5988-E.	—	—
13. Maintain tools and equipment.	—	—

**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**

- SC 4931-95-CL-A09
- SC 4931-95-J54
- SC 5180-95-B29
- TM 750-116
- TM 9-1290-262-10
- TM 9-1290-262-24&P

**Related**

- DA PAM 738-750
- TM 9-243

**Correct Malfunctions of the M1 Series Gunner's Quadrant  
091-45G-2016**

**Conditions:** In a field or garrison environment, given M1 series gunner's quadrant, cleaning and preserving materials, surface plate, bench level, electronic system maintenance tool kit, cross leveling fixture, inspection and support assembly, key socket head screw 0.035 inch wrench, additional tools, TMDE, repair parts, equipment specified in TMs, applicable maintenance forms and technical publications, and supervision/assistance.

**Standards:** Correct malfunctions on the M1 series gunner's quadrant IAW applicable technical publications. When the task is completed, the gunner's quadrant must be fully mission capable.

<b>Performance Measures</b>	<u><b>GO</b></u>	<u><b>NO GO</b></u>
1. Select and use applicable technical publications.	—	—
2. Select and use applicable tools, TMDE, and equipment to correct malfunctions of the M1 series gunner's quadrant.	—	—
3. Practice shop safety and maintenance discipline.	—	—
4. Perform an initial inspection.	—	—
5. Perform an end-for-end test.	—	—
6. Perform troubleshooting procedures.	—	—
7. Disassemble the M1 series gunner's quadrant.	—	—
8. Repair the M1 series gunner's quadrant, as required.	—	—
9. Assemble the M1 series gunner's quadrant.	—	—
10. Adjust the M1 series gunner's quadrant, as required.	—	—
11. Perform a final operational test to verify fault(s) had been corrected.	—	—
12. Annotate corrective actions taken on DA Form 5988-E.	—	—
13. Maintain tools and equipment.	—	—

**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**

SC 4931-95-CL-A09  
 SC 5180-95-B29  
 TM 9-1290-200-14&P

**Related**

DA PAM 738-750  
 TM 9-243

**Correct Malfunctions of Telescope Mounts  
091-45G-2019**

**Conditions:** In a field or garrison environment, given telescope mount, applicable telescope, M1 series gunner's quadrant, BII, cross leveling fixture, fabricated adapter, adapter plate, artillery and turret mechanic's tool kit, additional tools, TMDE, repair parts, equipment specified in TMs, applicable maintenance forms and technical publications, and supervision/assistance.

**Standards:** Correct malfunctions of the telescope mount IAW applicable technical publications. When the task is completed, the telescope mount must be fully mission capable.

<b>Performance Measures</b>	<u><b>GO</b></u>	<u><b>NO GO</b></u>
1. Select and use applicable technical publications.	—	—
2. Select and use applicable tools, TMDE, and equipment to correct malfunctions of telescope mounts.	—	—
3. Practice shop safety and maintenance discipline.	—	—
4. Inspect the telescope mounts.	—	—
5. Disassemble telescope mounts.	—	—
6. Repair/replace the telescope mounts, as required.	—	—
7. Assemble the telescope mounts.	—	—
8. Perform a final operational test to verify fault(s) had been corrected.	—	—
9. Annotate corrective actions taken on the DA Form 5988-E.	—	—
10. Maintain tools and equipment.	—	—

**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 wrong and how to do it correctly.

**References**

**Required**

- SC 4931-95-CL-A09
- SC 5180-95-B29
- TM 9-2350-311-10
- TM 9-2350-311-20-2
- TM 9-2350-311-24P-2
- TM 9-2350-311-34-2
- TM 9-2350-314-10
- TM 9-2350-314-20-2-2
- TM 9-2350-314-24P-2
- TM 9-2350-314-34-2
- TM 9-1240-400-34P
- TM 9-1240-375-34
- TM 9-1240-375-34P
- TM 9-1290-200-14&P

**Related**

- DA PAM 738-750
- TM 9-243

**Correct Malfunctions of the M1 Series Aiming Reference Collimator  
091-45G-2022**

**Conditions:** In a field or garrison environment, given M1 series aiming reference collimator, electronic system maintenance tool kit, cleaning materials, special tools, additional tools, TMDE, repair parts, equipment specified in TMs, applicable maintenance forms and technical publications, and supervision/assistance.

**Standards:** Correct malfunctions of the M1 series aiming reference collimator IAW applicable technical publications. When the task is completed, the aiming reference collimator must be fully mission capable.

<b>Performance Measures</b>	<u><b>GO</b></u>	<u><b>NO GO</b></u>
1. Select and use applicable technical publications.	—	—
2. Select and use applicable tools, TMDE, and equipment to correct malfunctions of the M1 series aiming reference collimator.	—	—
3. Practice shop safety and maintenance discipline.	—	—
4. Inspect the M1 series aiming reference collimator.	—	—
5. Troubleshoot the M1 series aiming reference collimator.	—	—
6. Repair/replace the M1 series aiming reference collimator components, as required.	—	—
7. Perform a final operational test to verify fault(s) had been corrected.	—	—
8. Annotate corrective actions taken on DA Form 5988-E.	—	—
9. Maintain tools and equipment.	—	—

**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 wrong and how to do it correctly.

**References**

**Required**

- SC 5180-95-B29
- SC-4931-95-CL-A09
- SC-4931-95-CL-A09
- SC-4931-95-J54
- SC-TM 750-116
- TM 9-1240-324-34&P

**Related**

- DA PAM 738-750
- TM 9-243

**Correct Malfunctions of Elbow Telescopes  
091-45G-2020**

**Conditions:** In a field or garrison environment, given M1 series gunner's quadrant, elbow telescope, nitrogen purging and charging kit, torque adapter, dioptometer, cross leveling fixture and adapter, M139 alignment device, electronic system maintenance tool kit, additional tools, TMDE, repair parts, equipment specified in TMs, applicable maintenance forms and technical publications, and supervision/assistance.

**Standards:** Correct malfunctions of elbow telescope IAW applicable technical publications. When the task is completed, the elbow telescope must be fully mission capable.

<b>Performance Measures</b>	<u><b>GO</b></u>	<u><b>NO GO</b></u>
1. Select and use applicable technical publications.	—	—
2. Select and use applicable tools, TMDE, and equipment to correct malfunctions of elbow telescopes.	—	—
3. Practice shop safety and maintenance discipline.	—	—
4. Perform initial inspection.	—	—
5. Troubleshoot elbow telescope for malfunctions.	—	—
6. Repair the elbow telescope malfunctions, as required	—	—
7. Perform a final operational test to verify fault(s) had been corrected.	—	—
8. Annotate corrective actions taken on DA Form 5988-E.	—	—
9. Maintain tools and equipment.	—	—

**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**

- SC 4931-95-CL-A09
- SC 5180-95-B29
- TM 9-1240-400-34P
- TM 9-1240-375-34
- TM 9-1240-375-34P
- TM 9-1290-200-14&P

**Related**

- DA PAM 738-750
- TM 9-243

Subject Area 4: TMDE, BDAR, AND SERVICES TASKS

**Operate Test, Measurement, and Diagnostic Equipment (TMDE)  
091-45G-2023**

**Conditions:** In a field or garrison environment, given multimeter, STE-M1/FVS, DSESTS, soldier's portable on system repair tool (SPORT), break-out-box (BOB), contact test set version 3 (CTS v.3), various electrical components, wiring diagram, DC power supply, equipment specified in TMs, applicable maintenance forms and technical publications, and supervision/assistance.

**Standards:** Set up, perform self-test procedures, and operate test, measurement, and diagnostic equipment (TMDE) IAW applicable technical publications.

<b>Performance Measures</b>	<u><b>GO</b></u>	<u><b>NO GO</b></u>
1. Select and use applicable technical publications.	—	—
2. Practice shop safety and maintenance discipline.	—	—
3. Set up, test, and operate the multimeter.	—	—
4. Set up, test, and operate STE-M1/FVS.	—	—
5. Set up, test, and operate DSESTS.	—	—
6. Set up, test, and operate SPORT.	—	—
7. Set up, test, and operate the BOB.	—	—
8. Set up, test, and operate CTS v.3.	—	—
9. Maintain equipment.	—	—

**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 wrong and how to do it correctly.

**References**

**Required**

- TM 11-6625-3052-24P
- TM 9-6625-2301-12
- TM 9-6625-2301-12
- TM 9-6625-2299-12&P
- TM 9-6625-2299-30&P
- TM 9-4931-506-12-1&P

**Related**

- DA PAM 738-750
- TM 9-243



Subject Area 5: M1A2 ASI 45G (ASIK4)

**Operate M1A2 Software of Loader/Verifier(CTS III)  
091-45G-K4001**

**Conditions:** In a classroom/lab environment and given Contact Test Set (CTS) AN/PSM 80 (V) 2, Fire Control Electronic Unit (FCEU), Commander's Integrated Display (CID), Gunner's Control Display Panel (GCDP), Electronic Toll Kit, CTS III V2 M1A2 Software Loader/ Verifier, technical publication, additional tools, TMDE, repair parts, equipment specified in TMs. applicable maintenance forms, and supervision/assistance.

**Standards:** Operate M1A2 Software Loader/Verifier (CTS III) IAW applicable publication. When task is complete, the M1A2 Software Loader/Verifier (CTS III) must be fully mission capable.

<b>Performance Measures</b>	<b><u>GO</u></b>	<b><u>NO GO</u></b>
1. Select and use applicable publications.	—	—
2. Select and use applicable tools, TMDE, and equipment	—	—
3. Practice shop safety and maintenance discipline.	—	—
4. Perform and initial inspection.	—	—
5. Identify components of the M1A2 SLV computer.	—	—
6. Download application software..	—	—
7. Download boot code.	—	—
8. Verify software.	—	—
9. Download test system software Direct Support Electrical System Test Set (DSESTS).	—	—
10. Operate CTS III.	—	—
11. Copy tank software to M1A2 SLV (upload SLV).	—	—
12. Copy software from CD-ROM. (not optical disk)	—	—
13. Verify copy of M1A2 software.	—	—
14. Copy test software from CD-ROM.	—	—
15. Verify copy of test software.	—	—
16. Copy test software to M1A2 SLV (perform maintenance function.	—	—
17. Set SLV time and date.	—	—
18. Download SLV test software.	—	—
19. Download reconfigured software.	—	—
20. Download Tank/LRU	—	—
21. Download complete tank	—	—

**Performance Measures****GO**    **NO GO**

22. Secure all tools and equipment.

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**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 steps, show what was done wrong and how to do it correctly.

**References****Required**

TM 9-2350-288-10-1

TM 9-2350-288-10-2

**Related**

DA PAM 738-750

TM 9-243

**Repair Commander's Integrated Display (CID)  
091-45G-K4003**

**Conditions:** In a classroom/lab environment given Commander's Integrated Display (CID), DSESTS M1A2 equipment support group, General Purpose Interface Assembly (GPIA), power supply, Anti-Static Work Mat w/Ground Strap, tool kit electronic, CTS III, technical publication, additional tools, TMDE, repair parts, equipment specified in TMs. applicable maintenance forms, and supervision/assistance.

**Standards:** Maintain the Commander's Integrated Display (CID) IAW applicable publication. When task is complete, the Commander's Integrated Display must be fully mission capable.

<b>Performance Measures</b>	<u><b>GO</b></u>	<u><b>NO GO</b></u>
1. Select and use applicable publications.	—	—
2. Select and use applicable tools, TMDE, and equipment	—	—
3. Practice shop safety and maintenance discipline.	—	—
4. Perform and initial inspection.	—	—
5. Test the CID.	—	—
6. Perform troubleshooting procedures for the (CID).	—	—
7. Repair the CID.	—	—
8. Check external connectors.	—	—
9. Check (DSESTS) message.	—	—
10. Perform corrective action for fault message received on (DSESTS).	—	—
11. Follow instructions in TM.	—	—
12. Verify CID repair	—	—
13. Repeat CID test IAW publication.	—	—
14. Perform final inspection	—	—
15. Secure all tools and equipment	—	—

**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 steps, show what was done wrong and how to do it correctly.

**References**

**Required**

- TM 9-1200-206-34-1
- TM 9-1200-206-34-2
- TM 9-1200-206-34P
- TM 9-2350-288-10-1
- TM 9-2350-288-10-2
- TM 9-4931-586-12-1&P
- TM 9-4931-586-12-5&P

**Related**

- DA PAM 738-750
- TM 9-243

**Repair Commander's Independent Thermal Viewer Electronic Unit (CITV-EU)  
091-45G-K4004**

**Conditions:** In a classroom/lab environment given Commander's Independent Thermal Viewer Electronics Unit (CITV-EU), DSESTS M1A2 equipment support group, General Purpose Interface Assembly (GPIA), power supply, Anti-Static Work Mat w/Ground Strap, tool kit, technical publication, additional tools, TMDE, repair parts, equipment specified in TMs. applicable maintenance forms, and supervision/assistance.

**Standards:** Repairer the Commander's Independent Thermal Viewer Electronic Unit (CITV-EU) IAW applicable technical publications. When task is complete, the CITV-EU must be fully mission capable.

<b>Performance Measures</b>	<u><b>GO</b></u>	<u><b>NO GO</b></u>
1. Select and use applicable publications.	—	—
2. Select and use applicable tools, TMDE, and equipment	—	—
3. Practice shop safety and maintenance discipline.	—	—
4. Perform and initial inspection.	—	—
5. Test the CITV-EU	—	—
6. Perform troubleshooting procedures for the CITV-EU.	—	—
7. Repair the CITV-EU.	—	—
8. Check external connectors.	—	—
9. Check (DSESTS) message.	—	—
10. Perform corrective action for fault message received on (DSESTS).	—	—
11. Follow instructions in TM.	—	—
12. Verify CITV-EU repair	—	—
13. Repeat CITV-EU test IAW publication.	—	—
14. Perform final inspection	—	—
15. Secure all tools and equipment	—	—

**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 steps, show what was done wrong and how to do it correctly.

**References**

**Required**

- TM 9-1200-206-34-1
- TM 9-1200-206-34-2
- TM 9-1200-206-34P
- TM 9-2350-288-10-1
- TM 9-2350-288-10-2
- TM 9-4931-586-12-1&P
- TM 9-4931-586-12-5&P

**Related**

- DA PAM 738-750
- TM 9-243

**Repair Commander's Independent Thermal Viewer Sight Assembly (CITV-SA)  
091-45G-K4005**

**Conditions:** In a classroom/lab environment given Commander's Independent Thermal Viewer Sight Assembly (CITV-SA), DSESTS M1A2 Equipment Support Group, Operator Interface Unit (OIU), General Purpose Interface Unit (GPIA) , DSESTS, power supply, Anti-Static Work Mat w/Ground Strap, CTS III V2 M1A2, Software Loader/Verifier, tool kit electronic, additional tools, TMDE, repair parts, equipment specified in TMs. applicable maintenance forms and technical publications, and supervision/assistance.

**Standards:** Repair the Commander's Independent Thermal Viewer Sight Assembly (CITV-SA), IAW applicable publication. When task is complete, the (CITV-SA) must be fully mission capable.

<b>Performance Measures</b>	<u><b>GO</b></u>	<u><b>NO GO</b></u>
1. Select and use applicable publications.	—	—
2. Select and use applicable tools, TMDE, and equipment	—	—
3. Practice shop safety and maintenance discipline.	—	—
4. Perform and initial inspection.	—	—
5. Test the CID	—	—
6. Perform troubleshooting procedures for the CID.	—	—
7. Repair the CID.	—	—
8. Check external connectors.	—	—
9. Check (DSESTS) message.	—	—
10. Perform corrective action for fault message received on (DSESTS).	—	—
11. Follow instructions in TM.	—	—
12. Verify CID repair	—	—
13. Repeat LRU test IAW publication.	—	—
14. Perform final inspection	—	—
15. Secure all tools and equipment	—	—

**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 steps, show what was done wrong and how to do it correctly.

**References**

**Required**

- TM 9-1200-206-34-1
- TM 9-1200-206-34-2
- TM 9-1200-206-34P
- TM 9-2350-288-10-1
- TM 9-2350-288-10-2
- TM 9-4931-586-12-1&P
- TM 9-4931-586-12-5&P

**Related**

- DA PAM 738-750
- TM 9-243

**Repair Gunner's Control Display Panel (GCDP)  
091-45G-K4006**

**Conditions:** In a classroom/lab environment given Gunner's Control Display Panel(GCDP), DSESTS M1A2 Equipment Support Group, General Purpose Interface Unit (GPIA), CTS III, Power Supply , Anti-Static Work Mat w/Ground Strap, tool kit electronic, additional tools, TMDE, repair parts, equipment specified in TMs, applicable maintenance forms, technical publications, and supervision/assistance.

**Standards:** Repair Gunner's Control Display Panel (GCDP) IAW applicable publication. When task is complete, the (GCDP) must be fully mission capable.

<b>Performance Measures</b>	<b><u>GO</u></b>	<b><u>NO GO</u></b>
1. Select and use applicable publications.	—	—
2. Select and use applicable tools, TMDE, and equipment	—	—
3. Practice shop safety and maintenance discipline.	—	—
4. Perform and initial inspection.	—	—
5. Test the CID	—	—
6. Perform troubleshooting procedures for the CID.	—	—
7. Repair the CID.	—	—
8. Check external connectors.	—	—
9. Check (DSESTS) message.	—	—
10. Perform corrective action for fault message received on (DSESTS).	—	—
11. Follow instructions in TM.	—	—
12. Verify CID repair	—	—
13. Repeat LRU test IAW publication.	—	—
14. Perform final inspection	—	—
15. Secure all tools and equipment	—	—

**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 steps, show what was done wrong and how to do it correctly.

**References**

**Required**

- TM 9-1200-206-34-1
- TM 9-1200-206-34-2
- TM 9-1200-206-34P
- TM 9-2350-288-10-1
- TM 9-2350-288-10-2
- TM 9-4931-586-12-1&P
- TM 9-4931-586-12-5&P

**Related**

- DA PAM 738-750
- TM 9-243

**Repair Gunner's Primary Sight/Dual Axis Head Assembly (GPS-DAHA)  
091-45G-K4007**

**Conditions:** In a classroom/lab environment given DSESTS M1A2 Equipment Support Group, Operator Interface Unit (OIU) & General Purpose Interface Unit (GPIA), Gunner's Primary Sight (GPS) and stand, Anti-Static Work Mat w/Ground Strap, power supply, tool kit electronic, additional tools, TMDE, repair parts, equipment specified in TMs. applicable maintenance forms and technical publications, and supervision/assistance.

**Standards:** Repair Gunner's Primary Sight/Dual Axis Head Assembly (GPS-DAHA) IAW applicable publication. When task is complete, the (GPS-DAHA) must be fully mission capable.

<b>Performance Measures</b>	<u><b>GO</b></u>	<u><b>NO GO</b></u>
1. Select and use applicable publications.	—	—
2. Select and use applicable tools, TMDE, and equipment	—	—
3. Practice shop safety and maintenance discipline.	—	—
4. Perform and initial inspection.	—	—
5. Test the CID	—	—
6. Perform troubleshooting procedures for the CID.	—	—
7. Repair the CID.	—	—
8. Check external connectors.	—	—
9. Check (DSESTS) message.	—	—
10. Perform corrective action for fault message received on (DSESTS).	—	—
11. Follow instructions in TM.	—	—
12. Verify CID repair	—	—
13. Repeat LRU test IAW publication.	—	—
14. Perform final inspection	—	—
15. Secure all tools and equipment	—	—

**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 steps, show what was done wrong and how to do it correctly.

**References**

**Required**

- TM 9-1200-206-34-1
- TM 9-1200-206-34-2
- TM 9-1200-206-34P
- TM 9-2350-288-10-1

**Related**

- DA PAM 738-750
- TM 9-243

**References**

**Required**

TM 9-2350-288-10-2  
TM 9-4931-586-12-1&P  
TM 9-4931-586-12-5&P

**Related**



**Repair Miniature Electronics Unit (MEU)  
091-45G-K4008**

**Conditions:** In a classroom/lab environment given DSESTS M1A1 equipment support group, Miniature Electronic Unit (MEU), DSESTS M1A2 equipment support group, Operator Interface Unit (OIU), General Purpose Interface Unit (GPIA) equipment, DSESTS M1A1 equipment support group, DSESTS M1A1 Thermal Imaging System (TIS) equipment support group, Anti-static work mat w/ground strap, power supply and tool kit electronic, additional tools, TMDE, repair parts, equipment specified in TMs. applicable maintenance forms, technical publications, and supervision/assistance.

**Standards:** Repair Miniature Electronic Unit (MEU) IAW applicable publication. When task is complete, the (MEU) must be fully mission capable.

<b>Performance Measures</b>	<u><b>GO</b></u>	<u><b>NO GO</b></u>
1. Select and use applicable publications.	—	—
2. Select and use applicable tools, TMDE, and equipment	—	—
3. Practice shop safety and maintenance discipline.	—	—
4. Perform and initial inspection.	—	—
5. Test the CID	—	—
6. Perform troubleshooting procedures for the CID.	—	—
7. Repair the CID.	—	—
8. Check external connectors.	—	—
9. Check (DSESTS) message.	—	—
10. Perform corrective action for fault message received on (DSESTS).	—	—
11. Follow instructions in TM.	—	—
12. Verify CID repair	—	—
13. Repeat LRU test IAW publication.	—	—
14. Perform final inspection	—	—
15. Secure all tools and equipment	—	—

**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 steps, show what was done wrong and how to do it correctly.

**References**

**Required**

- TM 9-1200-206-34-1
- TM 9-1200-206-34-2
- TM 9-1200-206-34P
- TM 9-2350-288-10-1

**Related**

- DA PAM 738-750
- TM 9-243

**References**

**Required**

TM 9-2350-288-10-2  
TM 9-4931-586-12-1&P  
TM 9-4931-586-12-4&P  
TM 9-4931-586-12-5&P

**Related**

**Repair Thermal Receiver Unit (TRU)  
091-45G-K4009**

**Conditions:** In a classroom/lab environment given Thermal Receiver Unit (TRU), TRU Alignment Fixture, DSESTS M1A2 equipment support group, Operator Interface Unit (OIU), Anti-Static work mat w/ground strap General Purpose Interface Unit (GPIA) equipment, DSESTS M1A1 equipment support group, power supply, tool kit electronic, additional tools, TMDE, repair parts, equipment specified in TMs. applicable maintenance forms, technical publications, and supervision/assistance.

**Standards:** Repair Thermal Receiver Unit (TRU). When task is complete, the (TRU) must be fully mission capable.

<b>Performance Measures</b>	<b><u>GO</u></b>	<b><u>NO GO</u></b>
1. Select and use applicable publications.	—	—
2. Select and use applicable tools, TMDE, and equipment	—	—
3. Practice shop safety and maintenance discipline.	—	—
4. Perform and initial inspection.	—	—
5. Test the CID	—	—
6. Perform troubleshooting procedures for the CID.	—	—
7. Repair the CID.	—	—
8. Check external connectors.	—	—
9. Check (DSESTS) message.	—	—
10. Perform corrective action for fault message received on (DSESTS).	—	—
11. Follow instructions in TM.	—	—
12. Verify CID repair	—	—
13. Repeat LRU test IAW publication.	—	—
14. Perform final inspection	—	—
15. Secure all tools and equipment	—	—

**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 steps, show what was done wrong and how to do it correctly.

**References**

**Required**

- TM 9-1200-206-34-1
- TM 9-1200-206-34-2
- TM 9-1200-206-34P
- TM 9-2350-288-10-1
- TM 9-2350-288-10-2
- TM 9-4931-586-12-1&P
- TM 9-4931-586-12-4&P

**Related**

- DA PAM 738-750
- TM 9-243

**Repair Fire Control Electronics Unit (FCEU  
091-45G-K4010**

**Conditions:** In a classroom/lab environment given DSESTS M1A2 equipment support group, Fire Control Electronic Unit (FCEU), General Purpose Interface Unit (GPIA) equipment, CTS III, Anti-Static work mat w/ground strap, power supply, tool kit electronic, additional tools, TMDE, repair parts, equipment specified in TMs. applicable maintenance forms, technical publications, and supervision/assistance.

**Standards:** Repair Fire Control Electronic Unit (FCEU) IAW applicable publication. When task is complete, the (FCEU) must be fully mission capable.

<b>Performance Measures</b>	<u><b>GO</b></u>	<u><b>NO GO</b></u>
1. Select and use applicable publications.	—	—
2. Select and use applicable tools, TMDE, and equipment	—	—
3. Practice shop safety and maintenance discipline.	—	—
4. Perform and initial inspection.	—	—
5. Test the CID	—	—
6. Perform troubleshooting procedures for the CID.	—	—
7. Repair the CID.	—	—
8. Check external connectors.	—	—
9. Check (DSESTS) message.	—	—
10. Perform corrective action for fault message received on (DSESTS).	—	—
11. Follow instructions in TM.	—	—
12. Verify CID repair	—	—
13. Repeat LRU test IAW publication.	—	—
14. Perform final inspection	—	—
15. Secure all tools and equipment	—	—

**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 steps, show what was done wrong and how to do it correctly.

**References**

**Required**

- TM 9-1200-206-34-1
- TM 9-1200-206-34-2
- TM 9-1200-206-34P
- TM 9-2350-288-10-1
- TM 9-2350-288-10-2
- TM 9-4931-586-12-1&P
- TM 9-4931-586-12-5&P

**Related**

- DA PAM 738-750
- TM 9-243

**APPENDIX A -****HANDS-ON EVALUATION (DA FORM 5164-R)  
INSTRUCTIONS  
(Excerpted from STP 21-24-SMCT, Appendix C)**

DA Form 5164-R (Hands-On Evaluation) allows the trainer to keep a record of the performance measures a soldier passes or fails on each task.

**Before evaluation:**

1. Obtain a blank copy of DA Form 5164-R, which you may locally reproduce on 8 ½" x 11" paper.
2. Enter the task title and 10-digit number from the STP task summary.
3. In Column a, enter the performance measure numbers from the task summary.
4. In Column b, enter the performance measure corresponding to the number in Column a (you may abbreviate this information if necessary).
5. Locally reproduce the partially completed form when evaluating more than one soldier on the task or when evaluating the same soldier more than once.

**During evaluation:**

1. Enter the date just before evaluating the soldier's task performance.
2. Enter the evaluator's name, the soldier's name, and the unit.
3. For each performance measure in Column b, enter a check in Column c (PASS) or Column d (FAIL), as appropriate.
4. Compare the number of performance measures the soldier passes (and, if applicable, which ones) against the task standards specified in the task summary. If the standards are met or exceeded, check the GO block under STATUS; otherwise, check the NO-GO block.

<b>HANDS-ON EVALUATION</b> For use of this form, see AR 350-57; the proponent agency is ODCSOPS		DATE	
TASK TITLE		TASK NUMBER	
ITEM a	PERFORMANCE STEP TITLE b	SCORE (Check One)	
		PASS c	FAIL d
		<input type="checkbox"/> P	<input type="checkbox"/> F
		<input type="checkbox"/> P	<input type="checkbox"/> F
		<input type="checkbox"/> P	<input type="checkbox"/> F
		<input type="checkbox"/> P	<input type="checkbox"/> F
		<input type="checkbox"/> P	<input type="checkbox"/> F
		<input type="checkbox"/> P	<input type="checkbox"/> F
		<input type="checkbox"/> P	<input type="checkbox"/> F
		<input type="checkbox"/> P	<input type="checkbox"/> F
		<input type="checkbox"/> P	<input type="checkbox"/> F
		<input type="checkbox"/> P	<input type="checkbox"/> F
		<input type="checkbox"/> P	<input type="checkbox"/> F
		<input type="checkbox"/> P	<input type="checkbox"/> F
		<input type="checkbox"/> P	<input type="checkbox"/> F
		<input type="checkbox"/> P	<input type="checkbox"/> F
EVALUATOR'S NAME		UNIT	
SOLDIER'S NAME		STATUS <input type="checkbox"/> GO <input type="checkbox"/> NO GO	

**APPENDIX B -****FIELD EXPEDIENT SQUAD BOOK (DA FORM 5165-R)  
INSTRUCTIONS  
(Excerpted from STP 21-24-SMCT, Appendix C)**

DA Form 5165-R (Field Expedient Squad Book) allows the trainer to keep a record of task proficiency for a group of soldiers.

**Before evaluation:**

1. Obtain a blank copy of DA Form 5165-R, which you may locally reproduce on 8 ½" x 11" paper.
2. Locally reproduce the partially completed form if you are evaluating more than nine soldiers.

**During evaluation:**

1. Enter the names of the soldiers you are evaluating, one name per column, at the top of the form.
2. Under STATUS, record (in pencil) the date in the GO block if the soldier demonstrated task proficiency to soldier's manual standards. Keep this information current by always recording the most recent date on which the soldier demonstrated task proficiency. Record the date in the NO-GO block if the soldier failed to demonstrate task proficiency to soldier's manual standards. Soldiers who failed to perform the task should be retrained and reevaluated until they can meet the standards. When the standards are met, enter the date in the appropriate GO block and erase the previous entry from the NO-GO block.

**After evaluation:**

1. Read down each column (GO/NO-GO) to determine the training status of an individual. This will give you a quick indication of which tasks a soldier needs training on.
2. Read across the rows for each task to determine the training status of all soldiers. You can readily see which tasks to focus training on.
3. Line through the STATUS column of any soldier who leaves the unit.

**GLOSSARY****Section I**  
**Abbreviations**

<b>A</b>	aliquot fraction of water extract used
<b>AIT</b>	advanced individual training
<b>AM</b>	amplitude modulation
<b>amp</b>	ampere
<b>AN</b>	annually
<b>ANCOC</b>	Advanced Noncommissioned Officers Course
<b>app</b>	appendix
<b>BA</b>	biannually
<b>BDAR</b>	battle damage assessment and repair
<b>BII</b>	basic issue items
<b>BOB</b>	break-out box
<b>BSA</b>	brigade support area
<b>BW</b>	biweekly
<b>CITV</b>	commander's independent thermal viewer
<b>CTS</b>	contact test set
<b>CWSS</b>	commander's weapon station sight
<b>DA</b>	Department of the Army
<b>DC</b>	direct current
<b>DCGE</b>	digital command guidance electronics
<b>DSESTS</b>	direct support electrical system test set
<b>EMI</b>	electromagnetic interference
<b>ESD</b>	estimated shipment date
<b>GAA</b>	grease, automotive, and artillery
<b>GPIA</b>	general purpose interface assembly
<b>GPS</b>	gunner's primary sight



<b>IAW</b>	in accordance with
<b>ISU</b>	integrated sight unit
<b>LOS-EU</b>	line of sight electronic unit
<b>LTD</b>	laser target designator
<b>M</b>	meter
<b>MELIOS</b>	mimi-eyesafe laser infrared observation set
<b>mm</b>	millimeter
<b>MO</b>	monthly
<b>MOS</b>	military occupational specialty
<b>MOSC</b>	military occupational specialty code
<b>MTP</b>	mission training plan
<b>MTP</b>	MOS training plan
<b>NA</b>	not applicable
<b>NBC</b>	nuclear, biological, and chemical
<b>PMCS</b>	preventive maintenance checks and services
<b>POL</b>	petroleum, oils, and lubricants
<b>PVS</b>	power visualization system
<b>QT</b>	quarterly
<b>SPORT</b>	soldier's portable on-system repair tool
<b>STE-M1/FVS</b>	simplified test equipment - M1 fighting vehicle system
<b>TEU</b>	thermal electronic unit
<b>TM</b>	technical manual
<b>TMDE</b>	test measurement and diagnostic equipment
<b>TOW</b>	tube-launched, optically tracked, wire-guided
<b>TR</b>	TRADOC regulation
<b>WK</b>	weekly

**Section II**

**Terms**

**BNCOC (Basic Noncommissioned Officers' Course)**

Training designed for sergeants to learn the duties of a staff sergeant and to prepare them for assuming duties and positions of greater responsibility.

**GO, NO GO**

A pass-fail grade you get when you are checked on how well you can do a task. You either pass or fail, that is, GO or NO GO.

**Procedure**

A standard and detailed course of action that describes how to perform a task.

**Skill level (SL)**

The level of proficiency in an MOS. It reflects the skills required to do the job at the grade the soldier holds.

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STP 9-45G12-SM-TG SOLDIER'S MANUAL AND TRAINER'S GUIDE, MOS 45G, FIRE CONTROL SYSTEMS REPAIRER 12 December 2000

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SC 4931-95-CL-A09 Set, Kits, and Outfit Components list for Tool Kits, Instrument and Fire Control System Repair: Field Maintenance (NSN 4931-00-947-8243) (LIN T15584) (24X Microfiche) 15 June 1983

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TM 750-116 General Procedures for Purging and Charging of Fire Control Instruments (Reprinted W/Basic Incl C1) (This Item is Included on EM 0063) 5 May 1993

TM 9-1200-206-34-1 Direct Support and General Support Maintenance Manual VOL 1 of 3, Tank, Combat, Full-Tracked, 105-MM Gun, M1(NSN 2350-01-061-2445) (EIC: AAA) and Tank, Combat, Full Tracked: 105-MM Gun, IPM1 (2350-01-136-8738) (EIC: AAC) 24 April 1996

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TM 9-1240-375-34 Direct Support and General Support Maintenance Manual for Quadrant, Fire Control: M17 (NSN 1290-01-037-3883), M18 (1290-01-037-7289); Mount, Telescope and Quadrant: M171(1240-01-039-7273); M172 (1240-01-037-7290); Telescope Panoramic : M137 26 September 1980

TM 9-1240-379-34 Direct Support and General Support Maintenance Manual for Tank Periscope: M32 (1240-00-766-4287); M32C (1240-00-762-9335); M32E1 (1240-01-016-2272); M32CE1 (1240-01-092-7910) (TM 04332A-34) (This Item is Included on EM 0063) 12 May 1988

TM 9-1240-400-34&P Direct Support and General Support Maintenance Manual (Including Repair Parts and Special Tools List) for Telescope, Panoramic: M115

	(NSN 1240-00-895-9186) Telescope, Elbow: M139 (1240-00-328-5631) Mount, Telescope: M138 (1240-00-896-2240) 8 October 1993
TM 9-1260-477-12	Operator and Organizational Maintenance Manual for Electro-Optical Target Designator Set, AN/TVQ-2 (G/VLLD) (NSN 1260-01-122-5234) (EIC: QLE), Equipment Set, Night Vision Sight Infrared, AN/UAS-12D (5855-01-316-6572) 23 January 1982
TM 9-1260-477-24P	Organizational and Intermediate Maintenance Repair Parts and Special Tools List (Including Depot Maintenance Repair Parts and Special Tools) for Electro-Optical Target Designator Set AN/TVQ-2 G/VLLD (NSN 1260-01-122-5234) and G/VLLD M113A1 31 August 1993
TM 9-1260-477-34-2	Direct and General Support Maintenance Manual for Target Designator Set, Electro-Optical, AN/TVQ-2 (G/VLLD) (NSN 1260-01-122-5234) and Vehicle Adapter Kit (1260-01-082-4981) (Reprinted W/Basic Incl C1-3) 23 February 1987
TM 9-1290-200-14&P	Operator's, Unit, Intermediate Direct Support and Intermediate General Support Maintenance Manual (Including Repair Parts and Special Tools List) for Quadrant, Fire Control Gunner's, M1A1, with M82 Carrying Case (NSN 1290-00-891-9999) 5 September 1988
TM 9-1290-262-24&P	Unit, Direct Support, and General Support Maintenance Manual (Including Repair Parts and Special Tools List) for Aiming Circle, M2A2, W/E (NSN 1290-01-067-0687) (EIC:3SC) (This Item is Included on EM 0041, EM 0065, EM 0117, and EM 0125) 22 September 1994
TM 9-2350-264-10-2	Operator's Manual for Unusual Conditions, Troubleshooting, and Maintenance VOL 2 of 2 Tank, Combat, Full-Track: 120-MM Gun, M1A1 (NSN 2350-01-087-1095) General Abrams (TM 08953-10/1-2)(Reprinted W/Basic Incl C1-11)(This Item is Included 25 September 1990
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### Related Publications

Related publications are sources of additional information. They are not required in order to understand this publication.

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**STP 9-45G12-SM-TG**  
**25 March 2001**

By Order of the Secretary of the Army:

**ERIC K. SHINSEKI**  
*General, United States Army*  
*Chief of Staff*

Official:

  
JOEL B. HUDSON  
*Administrative Assistant to the*  
*Secretary of the Army*  
0115606

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