

**SOLDIER'S MANUAL
AND TRAINING GUIDE**

**MOS 94R
AVIONICS AND SURVIVABILITY EQUIPMENT
REPAIRER**

SKILL LEVELS 1 AND 2

June 2014

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Soldier's Manual and Training Guide

MOS 94R, AVIONICS AND SURVIVABILITY EQUIPMENT REPAIRER, SKILL LEVELS 1 AND 2

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PREFACE

This publication is for skill level SL1, and SL2 soldiers holding military occupational specialty (MOS) MOS 94R and for trainers and first-line supervisors. It contains standardized training objectives, in the form of task summaries, to train and evaluate soldiers on critical tasks that support unit missions during wartime. Trainers and first-line supervisors should ensure soldiers holding MOS/SL MOS 94RSL1/SL2 have access to this publication. This STP is available for download from the Reimer Digital Library (RDL).

This publication applies to the Active Army, the Army National Guard (ARNG)/Army National Guard of the United States (ARNGUS), and the U.S. Army Reserve (USAR) unless otherwise stated.

The proponent of this publication is HQ, TRADOC. Send comments and recommendations on DA Form 2028 (Recommended Changes to Publications and Blank Forms) directly to Commander, CASCOM SCOE (ATCL-TDF), G-3 Training & Doctrine Development, SUITE 1036, 2221 Adams Ave, Fort Lee, VA 23801-2102.

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Chapter 1

Introduction

1.1 General

The soldier training publication (STP) identifies the individual military occupational specialty (MOS) training requirements for soldiers in various specialties, for example, Another source of STP task data is the General Dennis J. Reimer Training and Doctrine Digital Library at <http://www.adtdl.army.mil/atdls.htm>. Commanders, trainers, and soldiers should use the STP to plan, conduct, and evaluate individual training in units. The STP is the primary MOS reference to support the self-development and training of every soldier in the unit. It is used with the Soldier's Manual of Common Tasks, collective training products, and ADRP 7-0, Training Units and Developing Leaders, to establish effective training plans and programs that integrate soldier, leader, and collective tasks. This chapter explains how to use the STP in establishing an effective individual training program. It includes doctrinal principles and implications outlined in ADRP 7-0. Based on these guidelines, commanders and unit trainers must tailor the information to meet the requirements for their specific unit.

1.2 Training Requirement

Every soldier, noncommissioned officer (NCO), warrant officer, and officer has one primary mission — to be trained and ready to fight and win our nation's wars. Success in battle does not happen by accident; it is a direct result of tough, realistic, and challenging training.

a. Operational Environment.

(1) Commanders and leaders at all levels must conduct training with respect to a wide variety of operational missions across the full spectrum of operations. These operations may include combined arms, joint, multinational, and interagency considerations, and span the entire breadth of terrain and environmental possibilities. Commanders must strive to set the daily training conditions as closely as possible to those expected for actual operations.

(2) The operational missions of the Army include not only war, but also military operations other than war (MOOTW). Operations may be conducted as major combat operations, a small-scale contingency, or a peacetime military engagement. Offensive and defensive operations normally dominate military operations in war along with some small-scale contingencies. Stability operations and support operations dominate in MOOTW. Commanders at all echelons may combine different types of operations simultaneously and sequentially to accomplish missions in war and MOOTW. These missions require training since future conflict will likely involve a mix of combat and MOOTW, often concurrently. The range of possible

missions complicates training. Army forces cannot train for every possible mission; they train for war and prepare for specific missions as time and circumstances permit.

(3) One type of MOOTW is the Chemical, Biological, Radiological, Nuclear, and High-Yield Explosive (CBRNE) event. To assist commanders and leaders in training their units, CBERNE-related information is being included in AMEDD mission training plans (MTPs). Even though most collective tasks within an MTP may support a CBRNE event, the ones that will most directly be impacted are clearly indicated with a statement in the CONDITION that reads: "THIS TASK MAY BE USED TO SUPPORT A CBRNE EVENT." These collective tasks and any supporting individual tasks in this soldier's manual should be considered for training emphasis.

(4) Our forces today use a train-alert-deploy sequence. We cannot count on the time or opportunity to correct or make up training deficiencies after deployment. Maintaining forces that are ready now, places increased emphasis on training and the priority of training. This concept is a key link between operational and training doctrine.

(5) Units train to be ready for war based on the requirements of a precise and specific mission. In the process they develop a foundation of combat skills that can be refined based on the requirements of the assigned mission. Upon alert, commanders assess and refine from this foundation of skills. In the train-alert-deploy process, commanders use whatever time the alert cycle provides to continue refinement of mission-focused training. Training continues during time available between alert notification and deployment, between deployment and employment, and even during employment as units adapt to the specific battlefield environment and assimilate combat replacements.

b. How the Army Trains the Army.

(1) Training is a team effort and the entire Army — Department of the Army, major commands (MACOMs), the institutional training base, units, the combat training centers (CTCs), each individual soldier, and the civilian workforce — has a role that contributes to force readiness. Department of the Army and MACOMs are responsible for resourcing the Army to train. The Institutional Army, including schools, training centers, and NCO academies, for example, train soldiers and leaders to take their place in units in the Army by teaching the doctrine and tactics, techniques, and procedures (TTP). Units, leaders, and individuals train to standard on their assigned critical individual tasks. The unit trains first as an organic unit and then as an integrated component of a team. Before the unit can be trained to function as a team, each soldier must be trained to perform their individual supporting tasks to standard. Operational deployments and major training opportunities, such as major training exercises, CTCs, provide rigorous, realistic, and stressful training and operational experience under actual or simulated combat and operational conditions to enhance unit readiness and produce bold, innovative leaders. The result of this Army-wide team effort is a training and leader development system that is unrivaled in the world. Effective training produces the force — soldiers, leaders, and units — that can successfully execute any assigned mission.

(2) The Army Training and Leader Development Model (Figure 1-1) centers on developing trained and ready units led by competent and confident leaders. The model depicts an important dynamic that creates a lifelong learning process. The three core domains that shape the critical learning experiences throughout a soldier's and leader's time span are the operational, institutional, and self-development domains. Together, these domains interact using feedback and assessment from various sources and methods to maximize warfighting readiness. Each domain has specific, measurable actions that must occur to develop our leaders.

* The operational domain includes home station training, CTC rotations, and joint training exercises and deployments that satisfy national objectives. Each of these actions provides foundational experiences for soldier, leader, and unit development.

* The institutional domain focuses on educating and training soldiers and leaders on the key knowledge, skills, and attributes required to operate in any environment. It includes individual, unit and joint schools, and advanced education.

* The self-development domain, both structured and informal, focuses on taking those actions necessary to reduce or eliminate the gap between operational and institutional experiences.

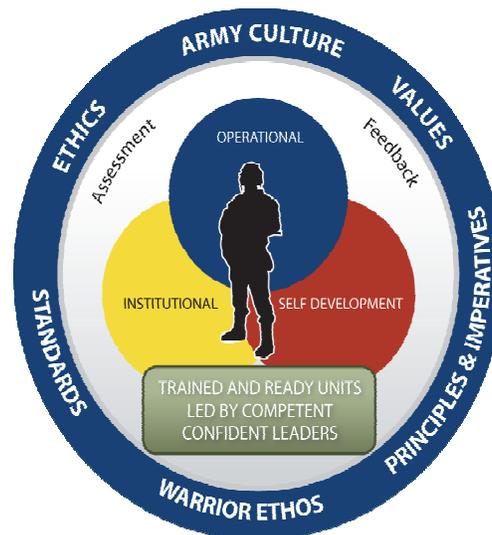


Figure 1-1. Army Training and Leader Development Model

(3) Throughout this lifelong learning and experience process, there is formal and informal assessment and feedback of performance to prepare leaders and soldiers for their next level of responsibility. Assessment is the method used to determine the proficiency and potential of leaders against a known standard. Feedback must be clear, formative guidance directly related to the outcome of training events measured against standards.

c. Leader Training and Leader Development.

(1) Competent and confident leaders are a prerequisite to the successful training of units. It is important to understand that leader training and leader development are integral parts of unit readiness. Leaders are inherently soldiers first and should be technically and tactically proficient in basic soldier skills. They are also adaptive, capable of sensing their environment, adjusting the plan when appropriate, and properly applying the proficiency acquired through training.

(2) Leader training is an expansion of these skills that qualifies them to lead other soldiers. As such, doctrine and principles of training require the same level of attention of senior commanders. Leader training occurs in the Institutional Army, the unit, the CTCs, and through self-development. Leader training is just one portion of leader development.

(3) Leader development is the deliberate, continuous, sequential, and progressive process, grounded in Army values, that grows soldiers and civilians into competent and confident leaders capable of decisive action. Leader development is achieved through the life-long synthesis of the knowledge, skills, and experiences gained through institutional training and education, organizational training, operational experience, and self-development. Commanders play the key role in leader development that ideally produces tactically and technically competent, confident, and adaptive leaders who act with boldness and initiative in dynamic, complex situations to execute mission-type orders achieving the commander's intent.

(4) A life cycle management diagram for soldiers is on page 1-5. You can find more information and check for updates at <http://das.cs.amedd.army.mil/ooc.htm> (scroll down to LIFE CYCLE MANAGEMENT, select ENLISTED, and find the appropriate tab along the bottom). This information, combined with the MOS Training Plan in chapter 2, forms the career development model for the MOS.

d. Training Responsibility. Soldier and leader training and development continue in the unit. Using the institutional foundation, training in organizations and units focuses and hones individual and team skills and knowledge.

(1) Commander Responsibility.

(a) The unit commander is responsible for the wartime readiness of all elements in the formation. The commander is, therefore, the primary trainer of the organization and is responsible for ensuring that all training is conducted in accordance with the STP to the Army standard.

(b) Commanders ensure STP standards are met during all training. If a soldier fails to meet established standards for identified MOS tasks, the soldier must retrain until the tasks are performed to standard. Training to standard on MOS tasks is more important than completion of a unit training event. The objective is to focus on sustaining MOS proficiency — this is the critical factor commanders must adhere to when training individual soldiers in units.

(2) NCO Responsibility.

(a) A great strength of the US Army is its professional NCO Corps who takes pride in being responsible for the individual training of soldiers, crews, and small teams. The NCO support channel parallels and complements the chain of command. It is a channel of communication and supervision from the Command Sergeant Major (CSM) to the First Sergeants (1SGs) and then to other NCOs and enlisted personnel. NCOs train soldiers to the non-negotiable standards published in STPs. Commanders delegate authority to NCOs in the support channel as the primary trainers of individual, crew, and small team training. Commanders hold NCOs responsible for conducting standards-based, performance-oriented, battle-focused training and providing feedback on individual, crew, and team proficiency. Commanders define responsibilities and authority of their NCOs to their staffs and subordinates.

(b) NCOs continue the soldierization process of newly assigned enlisted soldiers, and begin their professional development. NCOs are responsible for conducting standards-based, performance-oriented, battle-focused training. They identify specific individual, crew, and small team tasks that support the unit's collective mission essential tasks; plan, prepare, rehearse, and execute training; and evaluate training and conduct after action reviews (AARs) to provide feedback to the commander on individual, crew, and small team proficiency. Senior NCOs coach junior NCOs to master a wide range of individual tasks.

(3) Soldier Responsibility. 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, assistance, and guidance. 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 standard performance levels of all Soldier's Manual of Common Tasks 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.

1.3 Battle-Focused Training

Battle focus is a concept used to derive peacetime training requirements from assigned and anticipated missions. The priority of training in units is to train to standard on the wartime mission. Battle focus guides the planning, preparation, execution, and assessment of each organization's training program to ensure its members train as they are going to fight. Battle focus is critical throughout the entire training process and is used by commanders to allocate resources for training based on wartime and operational mission requirements. Battle focus enables commanders and staffs at all echelons to structure a training program that copes with

non-mission-related requirements while focusing on mission essential training activities. It is recognized that a unit cannot attain proficiency to standard on every task whether due to time or other resource constraints. However, unit commanders can achieve a successful training program by consciously focusing on a reduced number of METL tasks that are essential to mission accomplishment.

a. Linkage between METL and STP. A critical aspect of the battle focus concept is to understand the responsibility for and the linkage between the collective mission essential tasks and the individual tasks that support them. For example, the commander and the CSM/1SG must jointly coordinate the collective mission essential tasks and supporting individual tasks on which the unit will concentrate its efforts during a given period. This task hierarchy is provided in the task database at the Reimer Digital Library. The CSM/1SG must select the specific individual tasks that support each collective task to be trained. Although NCOs have the primary role in training and sustaining individual soldier skills, officers at every echelon remain responsible for training to established standards during both individual and collective training. Battle focus is applied to all missions across the full spectrum of operations.

b. Relationship of STPs to Battle-focused Training. The two key components of any STP are the soldier's manual (SM) and trainer's guide (TG). Each gives leaders important information to help implement the battle-focused training process. The trainer's guide relates soldier and leader tasks in the MOS and skill level to duty positions and equipment. It states where the task is trained, how often training should occur to sustain proficiency, and who in the unit should be trained. As leaders assess and plan training, they should rely on the trainer's guide to help identify training needs.

(1) Leaders conduct and evaluate training based on Army-wide training objectives and on the task standards published in the soldier's manual task summaries or in the Reimer Digital Library. The task summaries ensure that—

- * Trainers in every unit and location define task standards the same way
- * Trainers evaluate all soldiers to the same standards

(2) Table 1-1 shows how battle-focused training relates to the trainer's guide and soldier's manual:

- * The left column shows the steps involved in training soldiers.
- * The right column shows how the STP supports each of these steps.

Table 1-1. Relationship of Battle-Focused Training and STP

BATTLE-FOCUS	STP SUPPORT PROCESS
Select supporting soldier tasks	Use TG to relate tasks to METL
Conduct training assessment	Use TG to define what soldier tasks to assess
Determine training objectives	Use TG to set objectives
Determine strategy; plan for training	Use TG to relate soldier tasks to strategy
Conduct pre-execution checks	Use SM task summary as source for task performance
Execute training; conduct after action review	Use SM task summary as source for task
Evaluate training against established standards	Use SM task summary as standard for evaluation

1.4 Task Summary Format

Task summaries outline the wartime performance requirements of each critical task in the SM. They provide the soldier and the trainer with the information necessary to prepare, conduct, and evaluate critical task training. As a minimum, task summaries include information the soldier must know and the skills that he must perform to standards for each task. The format of the task summaries included in this SM is as follows:

- a. **Task Title.** The task title identifies the action to be performed.
- b. **Task Number.** A 10-digit number identifies each task or skill. This task number, along with the task title, must be included in any correspondence pertaining to the task.
- c. **Conditions.** The task conditions identify all the equipment, tools, references, job aids, and supporting personnel that the soldier needs to use to perform the task in wartime. This section identifies any environmental conditions that can alter task performance, such as visibility, temperature, or wind. This section also identifies any specific cues or events that trigger task performance, such as a chemical attack or identification of a threat vehicle.
- d. **Standards.** The task standards describe how well and to what level the task must be performed under wartime conditions. Standards are typically described in terms of accuracy, completeness, and speed.
- e. **Performance Steps.** This section includes a detailed outline of information on how to perform the task. Additionally, some task summaries include safety statements and notes. Safety statements (danger, warning, and caution) alert users to the possibility of

immediate death, personal injury, or damage to equipment. Notes provide a small, extra supportive explanation or hint relative to the performance steps.

f. Evaluation Preparation (when used). This subsection indicates necessary modifications to task performance in order to train and evaluate a task that cannot 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.

g. Performance Measures. This evaluation guide identifies the specific actions that the soldier must do to successfully complete the task. These actions are listed in a GO/NO-GO format for easy evaluation. Each evaluation guide contains an evaluation guidance statement that indicates the requirements for receiving a GO on the evaluation.

h. References. This section identifies references that provide more detailed and thorough explanations of task performance requirements than those given in the task summary description.

1.5 Training Execution

All good training, regardless of the specific collective, leader, and individual tasks being executed, must comply with certain common requirements. These include adequate preparation, effective presentation and practice, and thorough evaluation. The execution of training includes preparation for training, conduct of training, and recovery from training.

a. Preparation for Training. Formal near-term planning for training culminates with the publication of the unit training schedule. Informal planning, detailed coordination, and preparation for executing the training continue until the training is performed. Commanders and other trainers use training meetings to assign responsibility for preparation of all scheduled training. Preparation for training includes selecting tasks to be trained, planning the conduct of the training, training the trainers, reconnaissance of the site, issuing the training execution plan, and conducting rehearsals and pre-execution checks. Pre-execution checks are preliminary actions commanders and trainers use to identify responsibility for these and other training support tasks. They are used to monitor preparation activities and to follow up to ensure planned training is conducted to standard. Pre-execution checks are a critical portion of any training meeting. During preparation for training, battalion and company commanders identify and eliminate potential training distracters that develop within their own organizations. They also stress personnel accountability to ensure maximum attendance at training.

(1) Subordinate leaders, as a result of the bottom-up feed from internal training meetings, identify and select the individual tasks necessary to support the identified training objectives. Commanders develop the tentative plan to include requirements for preparatory training, concurrent training, and training resources. At a minimum, the training plan should include confirmation of training areas and locations, training ammunition allocations,

training simulations and simulators availability, transportation requirements, soldier support items, a risk management analysis, assignment of responsibility for the training, designation of trainers responsible for approved training, and final coordination. The time and other necessary resources for retraining must also be an integral part of the original training plan.

(2) Leaders, trainers, and evaluators are identified, trained to standard, and rehearsed prior to the conduct of the training. Leaders and trainers are coached on how to train, given time to prepare, and rehearsed so that training will be challenging and doctrinally correct. Commanders ensure that trainers and evaluators are not only tactically and technically competent on their training tasks, but also understand how the training relates to the organization's METL. Properly prepared trainers, evaluators, and leaders project confidence and enthusiasm to those being trained. Trainer and leader training is a critical event in the preparation phase of training. These individuals must demonstrate proficiency on the selected tasks prior to the conduct of training.

(3) Commanders, with their subordinate leaders and trainers, conduct site reconnaissance, identify additional training support requirements, and refine and issue the training execution plan. The training plan should identify all those elements necessary to ensure the conduct of training to standard. Rehearsals are essential to the execution of good training. Realistic, standards-based, performance-oriented training requires rehearsals for trainers, support personnel, and evaluators. Preparing for training in Reserve Component (RC) organizations can require complex pre-execution checks. RC trainers must often conduct detailed coordination to obtain equipment, training support system products, and ammunition from distant locations. In addition, RC pre-execution checks may be required to coordinate Active Component assistance from the numbered CONUSA, training support divisions, and directed training affiliations.

b. Conduct of Training. Ideally, training is executed using the crawl-walk-run approach. This allows and promotes an objective, standards-based approach to training. Training starts at the basic level. Crawl events are relatively simple to conduct and require minimum support from the unit. After the crawl stage, training becomes incrementally more difficult, requiring more resources from the unit and home station, and increasing the level of realism. At the run stage, the level of difficulty for the training event intensifies. Run stage training requires optimum resources and ideally approaches the level of realism expected in combat. Progression from the walk to the run stage for a particular task may occur during a one-day training exercise or may require a succession of training periods over time. Achievement of the Army standard determines progression between stages.

(1) In crawl-walk-run training, the tasks and the standards remain the same; however, the conditions under which they are trained change. Commanders may change the conditions, for example, by increasing the difficulty of the conditions under which the task is being performed, increasing the tempo of the task training, increasing the number of tasks being trained, or by increasing the number of personnel involved in the training. Whichever approach

is used, it is important that all leaders and soldiers involved understand in which stage they are currently training and understand the Army standard.

(2) An AAR is immediately conducted and may result in the need for additional training. Any task that was not conducted to standard should be retrained. Retraining should be conducted at the earliest opportunity. Commanders should program time and other resources for retraining as an integral part of their training plan. Training is incomplete until the task is trained to standard. Soldiers will remember the standard enforced, not the one discussed.

c. Recovery from Training. The recovery process is an extension of training, and once completed, it signifies the end of the training event. At a minimum, recovery includes conduct of maintenance training, turn-in of training support items, and the conduct of AARs that review the overall effectiveness of the training just completed.

(1) Maintenance training is the conduct of post-operations preventive maintenance checks and services, accountability of organizational and individual equipment, and final inspections. Class IV, Class V, TADSS, and other support items are maintained, accounted for, and turned-in, and training sites and facilities are closed out.

(2) AARs conducted during recovery focus on collective, leader, and individual task performance, and on the planning, preparation, and conduct of the training just completed. Unit AARs focus on individual and collective task performance, and identify shortcomings and the training required to correct deficiencies. AARs with leaders focus on tactical judgment. These AARs contribute to leader learning and provide opportunities for leader development. AARs with trainers and evaluators provide additional opportunities for leader development.

1.6 Training Assessment

Assessment is the commander's responsibility. It is the commander's judgment of the organization's ability to accomplish its wartime operational mission. Assessment is a continuous process that includes evaluating individual training, conducting an organizational assessment, and preparing a training assessment. The commander uses his experience, feedback from training evaluations, and other evaluations and reports to arrive at his assessment. Assessment is both the end and the beginning of the training management process. Training assessment is more than just training evaluation, and encompasses a wide variety of inputs. Assessments include such diverse systems as training, force integration, logistics, and personnel, and provide the link between the unit's performance and the Army standard. Evaluation of training is, however, a major component of assessment. Training evaluations provide the commander with feedback on the demonstrated training proficiency of soldiers, leaders, battle staffs, and units. Commanders cannot personally observe all training in their organization and, therefore, gather feedback from their senior staff officers and NCOs.

a. Evaluation of Training. Training evaluations are a critical component of any training assessment. Evaluation measures the demonstrated ability of soldiers, commanders, leaders, battle staffs, and units against the Army standard. Evaluation of training is integral to standards-based training and is the cornerstone of leader training and leader development. STPs describe standards that must be met for each soldier task.

(1) All training must be evaluated to measure performance levels against the established Army standard. The evaluation can be as fundamental as an informal, internal evaluation performed by the leader conducting the training. Evaluation is conducted specifically to enable the individual undergoing the training to know whether the training standard has been achieved. Commanders must establish a climate that encourages candid and accurate feedback for the purpose of developing leaders and trained soldiers.

(2) Evaluation of training is not a test; it is not used to find reasons to punish leaders and soldiers. Evaluation tells soldiers whether or not they achieved the Army standard and, therefore, assists them in determining the overall effectiveness of their training plans. Evaluation produces disciplined soldiers, leaders, and units. Training without evaluation is a waste of time and resources.

(3) Evaluations are used by leaders as an opportunity to coach and mentor soldiers. A key element in developing leaders is immediate, positive feedback that coaches and leads subordinate leaders to achieve the Army standard. This is a tested and proven path to develop competent, confident adaptive leaders.

b. Evaluators. Commanders must plan for formal evaluation and must ensure the evaluators are trained. These evaluators must also be trained as facilitators to conduct AARs that elicit maximum participation from those being trained. External evaluators will be certified in the tasks they are evaluating and normally will not be dual-hatted as a participant in the training being executed.

c. Role of Commanders and Leaders. Commanders ensure that evaluations take place at each echelon in the organization. Commanders use this feedback to teach, coach, and mentor their subordinates. They ensure that every training event is evaluated as part of training execution and that every trainer conducts evaluations. Commanders use evaluations to focus command attention by requiring evaluation of specific mission essential and battle tasks. They also take advantage of evaluation information to develop appropriate lessons learned for distribution throughout their commands.

d. After Action Review. The AAR, whether formal or informal, provides feedback for all training. It is a structured review process that allows participating soldiers, leaders, and units to discover for themselves what happened during the training, why it happened, and how it can be done better. The AAR is a professional discussion that requires the active participation of

those being trained. FM 7-1 provides detailed instructions for conducting an AAR and detailed guidance on coaching and critiquing during training.

1.7 Training Support

This manual includes the following information which provides additional training support information.

- a. Glossary. The glossary, which follows the last appendix, is a single comprehensive list of acronyms, abbreviations, definitions, and letter symbols.

- b. References. This section contains two lists of references, required and related, which support training of all tasks in this SM. Required references are listed in the conditions statement and are required for the Soldier to do the task. Related references are materials that provide more detailed information and a more thorough explanation of task performance.

Chapter 2

Trainer's 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 (ALC, SLC, etc.), the resident course where the task was taught. Table 2-1 contains a list of training locations and their corresponding brevity codes.

Table 2-1. Training Locations

Brevity Code	Training Locations
ASI/SD	Additional Skill Identifier/Special Duty
AIT	Advanced Individual Training
ALC	Advanced Leader Course
SLC	Senior Leader Course
Unit	Training in the Unit

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

Table 2-2. Sustainment Training Frequency Codes

Code	Meaning
BA	Biannually
AN	Annually
SA	Semi- annually
QT	Quarterly
BM	Bimonthly
MO	Monthly
BW	Biweekly
WK	Weekly
DA	Daily
HR	Hourly

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. Part One, Section I, Subject Area Codes.

Skill Level SL1

- 1 Countermeasures Systems
- 2 Radar Signal Detecting Systems
- 3 Transponder Systems
- 4 Aviation Night Systems
- 5 Aviation Laser Systems
- 6 Navigation Systems
- 7 Flight Control Systems/Avionics

Skill Level SL2

- 8 Avionic Shop Duties

2-3. Part One, Section II, Duty Position Training Requirements.

Table 2-3. Duty Position Training Requirements

SKILL LEVEL	DUTY POSITION	SUBJECT AREAS	CROSS TRAIN	TRAIN-UP/MERGER
SL1	AVIONIC AND SURVIVABILITY EQUIPMENT REP	1-7	NA	94R1 AVIONIC AND SURVIVABILITY EQUIPMENT REP
SL2	AVIONIC AND SURVIVABILITY EQUIPMENT REP	1-8	NA	94R2 AVIONIC AND SURVIVABILITY EQUIPMENT SUPV

2-4. Part Two, Critical Tasks List.

Table 2-4. MOS Training Plan, Critical Tasks List

MOS TRAINING PLAN MOS 94R				
CRITICAL TASKS				
Task Number	Title	Training Location	Sust Tng Freq	Sust Tng Sl
Skill Level SL1				
Subject Area 1 Countermeasures Systems				
091-94R-1120	Repair Infrared Countermeasures Set AN/ALQ-144 V(*)	AIT	SA	1
091-94R-1103	Repair Radar Countermeasures Test Set TS-3615/ALQ-136	UNIT	SA	1
091-94R-1100	Repair Radar Countermeasures Set AN/ALQ-136 V(*)	UNIT	SA	1
Subject Area 2 Radar Signal Detecting Systems				
091-94R-1202	Repair Signal Detecting Set AN/APR-39 V(*)	AIT	SA	1
Subject Area 3 Transponder Systems				
091-94R-1407	Repair AN/APX-118	AIT	SA	1
091-94R-1402	Repair Transponder Set AN/APX-100 V (*)	AIT	SA	1
091-94R-1404	Repair Test Set, Transponder AN/APM-421	UNIT	SA	1
Subject Area 4 Aviation Night Systems				
091-94R-1500	Repair the Aviator's Night Vision Imaging System AN/AVS-6	AIT	SA	1
091-94R-1502	Maintain the TS-3895A Night Vision Test Set	UNIT	SA	1
Subject Area 5 Aviation Laser Systems				
091-94R-1601	Repair Laser Detecting Set AN/AVR-2(*)	AIT	SA	1
091-94R-1602	Repair Laser Detecting Test Set TS-4321/AVR-2 (*)	UNIT	SA	1
Subject Area 6 Navigation Systems				
091-94R-1719	Repair GPS AN/ASN 128 (*)	AIT	SA	1
091-94R-1720	Repair Altimeter Set AN/APN-209 V(*)	UNIT	SA	1
091-94R-1721	Repair Navigation VOR-ILS	AIT	SA	1
Subject Area 7 Flight Control Systems/Avionics				
091-94R-1800	Repair the Advanced Flight Control System (AFCS)	AIT	SA	1
091-94R-1801	Repair the Advanced Flight Control System (AFCS) Test Set	AIT	SA	1
Skill Level SL2				
Subject Area 8 Avionic Shop Duties				
091-94R-2003	Conduct Safety Inspection of Electronic Maintenance Facility	UNIT	SA	2
091-94R-2004	Supervise Operation Of Avionics/Electronics Shop Shelter	UNIT	SA	2
091-94R-2002	Manage Shop/Section Calibration Program	UNIT	SA	2
091-94R-2001	Manage a Publication Library	UNIT	SA	2

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Chapter 3

MOS/Skill Level Tasks

Skill Level SL1

Subject Area 1: Countermeasures Systems

091-94R-1120

Repair Infrared Countermeasures Set AN/ALQ-144 V(*)

WARNING

HIGH VOLTAGE is used in the operation of this equipment.
DEATH ON CONTACT may result if personnel fail to observe safety precautions.

Never work on electronic equipment unless there is another person nearby who is familiar with the operation and hazards of the equipment and who is competent in administering first aid. When the technicians are aided by operators, they must be warned about dangerous areas.

Whenever possible, the power supply to the equipment must be shut off before beginning work on the equipment. Take particular care to ground every capacitor likely to hold a dangerous potential. When working inside the equipment, after the power has been turned off, always ground every part before touching it.

Be careful not to contact high-voltage connections or 115-Vac input connections when installing or operating this equipment.

Whenever the nature of the operation permits keep one hand away from the equipment to reduce the hazard of current flowing through the body.

Do not be misled by the term "low voltage." Potentials as low as 50 volts may cause death under adverse conditions.

Compressed air is dangerous and can cause serious bodily harm if protective means or methods are not observed to prevent a chip or particle (of whatever size) from being blown into the eyes or unbroken skin of the operator or other personnel. Compressed air shall not be used for cleaning purposes except where it is reduced to less than 30 pounds per square inch gauge (30 psig) and then only with effective chip guarding and personnel protective equipment (industrial safety glasses and full faceshield).

DO NOT use compressed air to dry parts when TRICHLOROTRIFLUOROETHANE has been used.

USE OF CLEANING SOLVENT

Trichlorotrifluoroethane, trichloroethane and similar chemical solvents will no longer be used for

ordinary cleaning of equipment. These substances threaten public health and the environment by destroying ozone in the earth's upper atmosphere. Suitable nonhazardous cleaning materials will be used instead, such as a clean cloth, water and mild detergent.

CAUTION

Always stop transmitter operation by placing the MTM system power switch to its OFF position or the OCU ON/OFF switch to its OFF position. NEVER stop operation by de-energizing your power source.

The A6, A7, A8 and A9 circuit card assembly contains parts and assemblies sensitive to damage by Electrostatic Discharge (ESD). Use ESD precautionary procedures when touching, removing, or inserting a card.

Conditions: You are in an Operational Environment (OE) with a non-mission capable Countermeasure Set AN/ALQ-144 V(*) that has been submitted to your Shop along with DA Form 2407, Maintenance Request and DA Form 2404, Equipment Inspection and Maintenance Worksheet. Your supervisor has assigned the work order to you for repair. At your workstation you have the following items: Countermeasure Test Set AN/ALM-178; Microwave Frequency Counter TD-1225A(V)2/U; Power Supply 28 V dc, 60-amp; Dual-trace Oscilloscope AN/USM-488; Digital Multimeter AN/PSM-45A; TK-100/G Tool Kit ; Torque Wrench PN F120015; Spanner Wrench PN AN/8514-1; Stopwatch, Type BTI; Vacuum Cleaner WC521; TM 11-5865-200-34-1; TM 11-5865-200-34-2; TM 11-5865-200-34P; DA Form 2404; DA Form 2407; Local SOP; and DA Pam 738-751, Functional Users Manual for the Army Maintenance Management System Aviation. NOTE: Substitutions for equipment may be made per Test Equipment Modernization (TEMOD) publications.

Standards: Restore the AN/ALQ-144 V(*) to fully mission capable condition per TM 11-5865-200-34-1, TM 11-5865-200-34-2 and TM 11-5865-200-34P. Complete DA Form 2407 per DA Pam 738-751 without error.

Special Condition: None

Special Standards: None

Special Equipment:

Cue: Your supervisor has directed you to repair a non-mission capable Infrared Countermeasures Set AN/ALQ-144 V(*) that was submitted to your shop. You are to correctly complete DA Form 2407.

Note : None

Performance Steps

1. Obtain all required tools, test equipment and reference materials.
2. Complete appropriate blocks on DA Form 2407 per DA Pam 738-751.
3. Perform visual inspection.
4. Set up test equipment per TM 11-5865-200-34-1.
5. Verify faults listed on DA Form 2407 using the appropriate troubleshooting chart per TM 11-5865-200-34-1.
6. Perform troubleshooting the AN/ALQ-144 V (*) using the troubleshooting chart in TM 11-5865-200-34-1.
7. Identify defective component (s) per TM 11-5865-200-34-1 and TM 11-5865-200-34P.
8. Replace defective component (s) per TM 11-5865-200-34-1 and TM 11-5865-200-34P.
9. Perform operational checks per TM 11-5865-200-34-1.
10. Complete appropriate blocks on DA Form 2407 per DA Pam 738-751.
11. Tag defective parts for turn-in per DA Pam 738-751.
12. Notify supervisor upon completion of task.

Evaluation Preparation:

Ensure all items required in the condition statement (or appropriate substitutions) are on hand and all safety requirements are met.

Performance Measures	GO	NO-GO
1. Obtained all required tools, test equipment, and reference materials.	_____	_____
2. Completed appropriate blocks on DA Form 2407 per DA Pam 738-751.	_____	_____
3. Performed visual inspection.	_____	_____

Performance Measures	GO	NO-GO
4. Set up test equipment per TM 11-5865-200-34-1.	_____	_____
5. Verified faults listed on DA Form 2407 using the appropriate troubleshooting chart per TM 11-5865-200-34-1.	_____	_____
6. Performed troubleshooting the AN/ALQ-144 V(*) using the troubleshooting chart in TM 11-5865-200-34-1.	_____	_____
7. Identified defective component (s) per TM 11-5865-200-34-1 and TM 11-5865-200-34P.	_____	_____
8. Replaced defective component (s) per TM 11-5865-200-34-1 and TM 11-5865-200-34P.	_____	_____
9. Performed operational checks per TM11-5865-200-34-1.	_____	_____
10. Completed appropriate blocks on DA Form 2407 per DA Pam 738-751	_____	_____
11. Tagged defective component (s) for turn-in per DA Pam 738-751.	_____	_____
12. Notified supervisor upon completion of task.	_____	_____

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

References

Required

- DA FORM 2404
- DA FORM 2407
- DA PAM 738-751
- TM 11-5865-200-12
- TM 11-5865-200-34-1

091-94R-1103**Repair Radar Countermeasures Test Set TS-3615/ALQ-136****WARNING**

Do not be misled by the term "low voltage". Potentials as low as 50 volts may cause death under adverse conditions.

Never work on electronic equipment unless there is another person nearby who is familiar with the operation and hazards of the equipment and who is competent in administering first aid. When the technician is aided by operators, he must warn them about dangerous areas. Whenever possible, the power supply to the equipment must be shut off before beginning work on the equipment. Take particular care to ground every capacitor likely to hold a dangerous potential. When working inside the equipment, after the power has been turned off, always ground every part before touching it. Be careful not to contact high-voltage connections or 115 volts ac input connections when installing or operating this equipment. Whenever the nature of the operation permits, keep one hand away from equipment to reduce the hazard of current flowing through the body.

Conditions: You are in an Operational Environment (OE), a non-mission capable Countermeasures Test Set TS-3615/ALQ-136 and a DA Form 2407, Maintenance Request have been submitted to your shop. Your supervisor has assigned the work order to you for repair. At your workstation you have the following items: Countermeasures Test Set TS-3615/ALQ-136; Dual-trace Oscilloscope AN/USM-488; Digital Multimeter, , AN/PSM-45A; Power Meter AN/USM-491; Microwave Frequency Counter TD-1225A(V)2/U; Frequency Meter HP-532A; Adapter HP-P281B/OPT 013 (two each); termination, 50-ohm (two each); termination, 100-ohm (two each); termination, 1000-ohm (two each); TK-105/G Tool Kit ; DA Form 2404 Equipment Inspection and Maintenance Worksheet; DA Form 2407; local SOP; TM 11-6625-2884-30; TM 11-6625-2884-30P and DA Pam 738-751, Functional Users Manual for the Army Maintenance Management System Aviation. NOTE: Substitutions for equipment may be made per test equipment modernization (TEMOD) publications.

Standards: Restore the Radar Countermeasures Test Set TS-3615/ALQ-136 to an operational status using TM 11-6625-2884-30 and TM 11-6625-2884-30P. Complete without error DA Form 2407, DA Pam 738-751.

Special Condition: None

Special Standards: None

Special Equipment:

Cue: Your supervisor has directed you to repair a non-mission capable Radar Countermeasures Test Set TS-3615/ALQ-136 that was submitted to your shop. You are to correctly complete DA Form 2407.

Note: None

Performance Steps

1. Obtain required tools, test equipment and reference materials.
2. Complete appropriate blocks on DA Form 2407 per DA Pam 738-751.
3. Perform visual inspection.
4. Set up test equipment per TM 11-6625-2884-30.
5. Verify faults on DA Form 2407 using troubleshooting chart in chapter 3, Section III of TM 11-6625-2884-30.
6. Troubleshoot the Radar Countermeasure Test Set TS-3615/ALQ-136 using the troubleshooting chart in chapter 3, Section III of TM 11-6625-2884-30.
7. Identify the defective part (s) per TM 11-6625-2884-30 and TM 11-6625-2884-30P.
8. Replace defective part (s) with operational ones per TM 11-6625-2884-30 and TM 11-6625-2884-30P.
9. Perform operational checks per TM 11-6625-2884-30.
10. Complete appropriate blocks on DA Form 2407 per DA Pam 738-751.
11. Tag defective part (s) for turn-in per DA Pam 738-751.
12. Notify supervisor upon completion of task.

Evaluation Preparation:

Ensure all items required in the condition statement (or appropriate substitutions) are on hand and all safety requirements are met.

Performance Measures

GO **NO-GO**

1. Obtained all required tools, test equipment, and reference materials. _____

Performance Measures

GO **NO-GO**

2. Completed appropriate blocks on DA Form 2407 per DA Pam 738-751.	_____	_____
3. Performed visual inspection.	_____	_____
4. Properly set up test equipment per TM 11-6625-2884-30.	_____	_____
5. Verified faults on DA Form 2407 using troubleshooting chart in chapter 3, Section III of TM 11-6625-2884-30.	_____	_____
6. Performed troubleshooting the Radar Countermeasure Test Set TS-3615/ALQ-136 using the troubleshooting chart in chapter 3, Section III of TM 11-6625-2884-30.	_____	_____
7. Identified the defective part(s) per TM 11-6625-2884-30 and TM 11-6625-2884-30P.	_____	_____
8. Replaced defective part (s) with operational ones per TM 11-6625-2884-30 and TM 11-6625-2884-30P.	_____	_____
9. Performed operational checks per TM 11-6625-2884-30.	_____	_____
10. Completed appropriate blocks on DA Form 2407 per DA Pam 738-751.	_____	_____
11. Tagged defective part (s) for turn-in per DA Pam 738-751.	_____	_____
12. Notified supervisor upon completion of task	_____	_____

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

References

Required

DA FORM 2404

DA FORM 2407

TM 11-6625-2884-30

TM 11-6625-2884-30P

091-94R-1100

Repair Radar Countermeasures Set AN/ALQ-136 V(*)

WARNING

HIGH VOLTAGE is used in the operation of this equipment. DEATH ON CONTACT MAY RESULT IF PERSONNEL FAIL TO OBSERVE SAFETY PRECAUTIONS. Never work on electronic equipment unless there is another person nearby who is familiar with the operation and hazards of the equipment and who is competent in administering first aid. When the technicians are aided by operators, they must be warned about dangerous areas. Whenever possible, the power supply to the equipment must be shut off before beginning work on the equipment. Take particular care to ground every capacitor likely to hold a dangerous potential. When working inside the equipment, after the power has been turned off, always ground every part before touching it. Be careful not to contact high-voltage connections or 115 volt ac input connections when installing or operating this equipment. Whenever the nature of the operation permits, keep one hand away from the equipment to reduce the hazard of current flowing through the body. Warning: Do not be misled by the term "low voltage." Potentials as low as 50 volts may cause death under adverse conditions.

CAUTION

Adequate ventilation should be provided while using Trichlorotrifluoroethane. Avoid prolonged breathing of vapor. The solvent should not be used near heat or flame; the products of decomposition are toxic and irritating. Since Trichlorotrifluoroethane dissolves natural oils, avoid prolonged contact with skin. The use of chemical gloves (solvent resistant), chemical splash goggles and full face shield are required when using Trichlorotrifluoroethane. DO NOT use compressed air to dry parts when Trichlorotrifluoroethane has been used.

Trichlorotrifluoroethane is an ozone-depleting substance.

CAUTION: Compressed air is dangerous and can cause serious bodily harm if protective means or methods are not observed to prevent a chip or particle (of whatever size) from being blown into the eyes or unbroken skin of the operator or other personnel. Compressed air shall not be used for cleaning purposes except where reduced to less than 30 pounds per square inch gauge (30 psig) and then only with effective chip guarding and personnel protective equipment (industrial safety glasses and full face shield). DO NOT use compressed air to dry parts when Trichlorotrifluoroethane has been used.

CAUTION: The Receiver-Transmitter weighs 69.5 pounds. A minimum of two soldiers is recommended for handling or lifting anything in excess of 40 pounds. Extreme care must be used in handling, to prevent injury to the individual or damage to equipment.

Conditions: You are in an Operational Environment (OE), with a non-mission capable Countermeasures Set AN/ALQ-136 V(*) that has been submitted to your Shop along with DA Form 2407, Maintenance Request and DA Form 2404, Equipment Inspection and Maintenance Worksheet. Your supervisor has assigned the work order to you for repair. At your workstation you have the following items: TS-3615/ALQ-136, Tool Kit TK-105/G; Dual-trace Oscilloscope AN/USM-488, Multimeter Digital PSM-45A, Countermeasures Set Test Set TS-3615(*), Power Meter AN/USM-491, termination 50-ohm (two each), Plenum Assembly

SM-C-920439, Torque Wrench T-8438, torque wrench NSN 5120-01-157-6919, Microwave Frequency Counter TD-1225A(V)2/U, Power Supply 28 V dc HP-6269B, Power Sensor 8481A, Test Set Radio Frequency Meter TS-3793/U (see note in MAC chart in -12 manual), RF adapters, TNC (female to SMA (female), N (female) to SMA (male); DA Form 2404; DA Form 2407; TM 11-5865-247-30-1; TM 11-5865-202-30P; and DA Pam 738-751, Functional Users Manual for the Army Maintenance Management System Aviation. NOTE: Substitutions for equipment may be made per test equipment modernization (TEMOD) publications.

Standards: Restore AN/ALQ-136 V(*) to full mission capable condition per TM 11-5865-247-30-1 and TM 11-5865-202-30P. Complete DA Form 2407 per DA Pam 738-751 without error.

Special Condition: None

Special Standards: None

Special Equipment:

Cue: Your supervisor has submitted a non-mission capable AN/ALQ-136 to your shop with DA Form 2407 for you to repair.

Note: None

Performance Steps

1. Obtain all required tools, test equipment and reference materials per TM 11-5865-274-30-1.
2. Complete appropriate blocks on DA Form 2407 per DA Pam 738-751.
3. Perform visual inspection.
4. Set up test equipment per TM 11-5865-247-30-1.
5. Verify faults listed on DA Form 2407 using appropriate troubleshooting chart per TM 11-5865-247-30-1.
6. Troubleshoot the AN/ALQ-136 using the troubleshooting chart in TM 11-5865-247-30-1.
7. Identify defective component (s) per TM 11-5865-247-30-1 and TM 11-5865-202-30P.
8. Replace defective component (s) with operational ones per TM 11-5865-247-30-1 and TM 11-5865-202-30P.

9. Perform operational checks per TM 11-5865-247-30-1
10. Complete appropriate blocks on DA Form 2407 per DA Pam 738-751.
11. Tag defective component (s) for turn-in per DA Pam 738-751.
12. Notify supervisor upon completion of task.

Evaluation Preparation:

Ensure all items required in the condition statement (or appropriate substitutions) are on hand and all safety requirements are met.

Performance Measures	GO	NO-GO
1. Obtained all required tools, test equipment and reference materials per TM 11-5864-247-30-1.	_____	_____
2. Completed appropriate blocks on DA Form 2407 per DA Pam 738-751.	_____	_____
3. Performed visual inspection.	_____	_____
4. Properly set up test equipment per TM 11-5865-247-30-1.	_____	_____
5. Verified faults listed on DA Form 2407 using appropriate troubleshooting chart per TM 11-5865-247-30-1.	_____	_____
6. Performed troubleshooting on the AN/ALQ-136 using the troubleshooting chart in TM 11-5865-247-30-1.	_____	_____
7. Identified defective component (s) per TM 11-5865-247-30-1 and TM 11-5865-202-30P.	_____	_____
8. Replaced defective component (s) per TM 11-5865-247-30-1 and TM 11-5865-202-30P	_____	_____
9. Performed operational checks per TM 11-5865-247-30-1.	_____	_____

Performance Measures

GO **NO-GO**

10. Completed appropriate blocks on DA Form 2407 per
DA Pam 738-751

11. Tagged defective component (s) for turn-in per DA Pam 738-751.

12. Notified supervisor upon completion of task.

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

References

Required

DA FORM 2404

DA FORM 2407

TM 11-5865-247-30-1

Subject Area 2: Radar Signal Detecting Systems
091-94R-1202
Repair Signal Detecting Set AN/APR-39 V(*)

WARNING

Control Unit PWR switch must be OFF before disassembling Processor to replace SRUs or to install Processor CCA extender.

Handle Indicator with extreme care. CRT implosion may result from careless handling.

Adequate ventilation shall be provided while using trichlorotrifluoroethane. Prolonged breathing of vapor shall be avoided.

The solvent shall not be used near heat or open flame; the products of decomposition are toxic and irritating. Since trichlorotrifluoroethane dissolves natural oils, prolonged contact with skin shall be avoided.

When necessary, use gloves which the solvent cannot penetrate. If the solvent is taken internally, consult a physician immediately.

DO NOT point the Simulator at another person.

DO NOT place the radome against any portion of your body while Simulator is radiating. Protect your eyes.

DO NOT look into radome while Simulator is radiating.

Conditions: In an Operational Environment (OE), a non-mission capable Signal Detecting Set AN/APR-39 V(*) has been submitted to your Shop along with DA Form 2407, Maintenance Request and DA Form 2404, Equipment Inspection and Maintenance Worksheet. Your supervisor has assigned the work order to you for repair. At your workstation you have the following items: AN/APR-39V(*), Dual-trace oscilloscope AN/USM-488, Digital Multimeter AN/PSM-45A, Tool kit TK-105/G; TM 11-5841-294-13&P and DA Pam 738-751, Functional Users Manual for the Army Maintenance Management System Aviation. NOTE: Substitutions for equipment may be made per test equipment modernization (TEMOD) publications.

Standards: Restore Signal Detecting Set AN/APR-39 V(*) to fully mission capable per TM 11-5841-294-13&P. Complete DA Form 2407 per DA Pam 738-751 without error.

Special Condition: None

Special Standards: None

Special Equipment:

Cue: Your supervisor has turned-in to your Shop DA Form 2407 and a non-mission capable AN/APR-39 V(*). You are to repair the equipment to full mission capable condition per TM 11-5841-294-13&P. Complete without error DA Form 2407 using DA Pam 738-751.

Note: None

Performance Steps

1. Obtain all required tools, test equipment and reference Materials.
2. Complete appropriate blocks on DA Form 2407 per DA Pam 738-751.
3. Perform visual inspection.
4. Set up test equipment per TM 11-5841-294-13&P.
5. Verify faults listed on DA Form 2407 using appropriate troubleshooting chart in per TM 11-5841-294-13&P.
6. Perform troubleshooting procedures on the AN/APR-39 V(*) using the troubleshooting chart in TM 11-5841-294-13&P.
7. Identify defective component (s)
8. Replace defective component (s)
9. Perform operational checks per TM 11-5841-294-13&P.
10. Complete appropriate blocks on DA Form 2407 per DA Pam 738-751.
11. Tag defective component (s) for turn in per DA Pam 738-751.
12. Notify supervisor upon completion of task.

Evaluation Preparation:

Ensure all items required in the condition statement (or appropriate substitutions) are on hand and all safety requirements are met.

Performance Measures	GO	NO-GO
1. Obtained all required tools, test equipment, and reference materials.	_____	_____
2. Completed appropriate blocks on DA Form 2407 per DA Pam 738-751.	_____	_____
3. Performed visual inspection.	_____	_____
4. Properly set up test equipment per TM 11-5841-294-13&P.	_____	_____
5. Verified faults listed on DA Form 2407 using appropriate troubleshooting chart in per TM 11-5841-294-13&P.	_____	_____
6. Performed troubleshooting procedures on the AN/APR-39 V(*) using the troubleshooting chart in TM 11-5841-294-13&P.	_____	_____
7. Identified the defective component (s) per TM 11-5841-294-13&P.	_____	_____
8. Replaced defective component (s) per TM 11-5841-294-13&P.	_____	_____
9. Performed operational checks per TM 11-5841-294-13&P.	_____	_____
10. Completed appropriate blocks on DA Form 2407 per DA Pam 738-751.	_____	_____
11. Tagged defective component (s) for turn-in per DA Pam 738-751.	_____	_____
12. Notified supervisor upon completion of task.	_____	_____

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

References

Required

DA FORM 2404

DA FORM 2407

DA PAM 738-751

TM 11-5841-294-13&P

Subject Area 3: Transponder Systems
091-94R-1407
Repair AN/APX-118

WARNING

If smoke or a hissing noise is coming from a battery compartment, DO NOT open the compartment or attempt to remove the battery. Leave the area until any smoke or odor has cleared. Once clear, make sure that the battery compartment is cool to the touch before removing the battery. If possible keep the battery in a cool, shaded area, out of direct sunlight.

When circuit breaker supplying the platform power to the transponder is on, power is present at the transponder and RCU. Ensure platform circuit breaker is in the off position prior to removing or replacing the transponder or RCU.

Care must be taken when connecting the battery harness connector to the chassis connector. If connectors are reversed, injury can occur and Mode 4 function will be adversely affected. Ensure correct polarity positioning of mating connectors prior to connecting battery harness connector to chassis connector.

CAUTION

This equipment contains electrostatic discharge (ESD) sensitive devices. Use ESD procedure to prevent damage to or destruction of these devices.

Do not use any type of detergent or solvent to clean the RCU display. Use only clean water to clean the display. Detergents will cause the RCU display to deteriorate.

The holes on the surface of the RF module are through holes. Ensure the Allen set screws are installed no deeper than flush with the top surface of the RF module to prevent screws from falling into the module.

The battery pack is held to the bottom of the battery cover with two compression clamps. A two-wire battery harness connects the battery pack (15) to a chassis connector. To prevent damage to the battery pack and/or harness assembly do not pull on the battery harness when removing the battery cover.

Do not attempt to turn the smaller diameter, back shell connector also located on the flexible coaxial cable. Doing so will disconnect the Sub-Miniature (SMA) RF connector from the cable.

Conditions: You are in an operational environment (EO), with a non mission capable AN/APX-118 that has been submitted to your Shop along with DA Form 2407, Maintenance Request and DA Form 2404, Equipment Inspection and Maintenance Worksheet. Your supervisor has assigned the work order to you for repair. At your workstation you have the following items: C-12664/APX-118(V); RT-1834(C)/APX-118; MK-2957/APX-118(V) Transponder Test Set; TK-105 Electronic Tool box or equivalent; 28VDC power supply at 2 amp minimum; APM-424(V)3 Portable Radar Test Set; DA Form 2404; DA Form 2407; TM 11-5895-1733-13&P and DA Pam 738-751, Functional Users Manual for the Army Maintenance Management System Aviation. NOTE: Substitutions for equipment may be made using equivalent equipment.

Standards: Restore Transponder Set AN/APX-118(V) to fully mission capable per TM 11-5895-1733-13&P. Complete without error DA Form 2407 using DA Pam 738-751

Special Condition: None

Special Standards: None

Special Equipment:

Cue: Your supervisor has given you a non-mission capable AN/APX-118 with DA Form 2407 that was submitted to your Shop. You are to repair the equipment and complete without error DA Form 2407 using DA Pam 738-751.

Note: None

Performance Steps

1. Obtain required tools, test equipment and reference materials.
2. Complete appropriate blocks on DA Form 2407 per DA Pam 738-751.
3. Perform visual inspection.
4. Set up test equipment per TM 11-5895-1733-13&P.
5. Verify faults listed on DA Form 2407 using appropriate troubleshooting chart in TM 11-5895-1733-13&P.
6. Perform troubleshooting procedures on the AN/APX-118 using the troubleshooting chart in TM 11-5895-1733-13&P.
7. Identify defective component (s) per TM 11-5895-1733-13&P.
8. Replace defective component (s) per TM 11-5895-1733-13&P.
9. Perform operational checks per TM 11-5895-1733-13&P.
10. Complete appropriate blocks on DA Form 2407 per DA Pam 738-751.
11. Tag defective component (s) for turn-in per DA Pam 738-751.
12. Notify supervisor upon completion of task.

Evaluation Preparation:

Ensure all items required in the condition statement (or appropriate substitutions) are on hand and all safety requirements are met.

Performance Measures	GO	NO-GO
1. Obtained required tools, test equipment and reference materials.	_____	_____
2. Completed appropriate blocks on DA Form 2407 per DA Pam 738-751.	_____	_____
3. Performed visual inspection.	_____	_____
4 .Properly set up test equipment per TM 11-5895-1733-13&P.	_____	_____
5. Verified faults listed on DA Form 2407 using appropriate troubleshooting chart in TM 11-5895-1733-13&P.	_____	_____
6. Performed troubleshooting procedures on the AN/APX-118 using the troubleshooting chart in TM 11-5895-1733-13&P.	_____	_____
7. Identified defective component (s) per TM 11-58985-1733-13&P.	_____	_____
8. Replaced defective component (s) per TM 11-5895-1733-13&P.	_____	_____
9. Performed operational checks per TM 11-5895-1733-13&P.	_____	_____
10. Completed appropriate blocks on DA Form 2407 per DA Pam 738-751.	_____	_____
11. Tagged defective component (s) for turn-in per DA Pam 738-751.	_____	_____
12. Notified supervisor upon completion of task.	_____	_____

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

References

Required

- DA FORM 2404
- DA FORM 2407
- TM 11-5895-1733-13&P

091-94R-1402

Repair Transponder Set AN/APX-100 V (*)

WARNING

Use of compressed air can create an environment of propelled foreign particles. Use compressed air only at the recommended pressure. Proper eye protection is required.

Isopropyl alcohol is flammable and toxic to skin, eyes, and respiratory tract. Avoid skin and eye contact. Good general ventilation is normally adequate. Keep away from open flames or other sources of ignition.

CAUTION

This equipment contains electrostatic discharge (ESD) sensitive devices. Use the procedures contained in TM 43-0158 (Army) or NAVAIR 01-1A-23 (Navy) to prevent damage to or destruction of these devices.

DO NOT APPLY 28 VOLT DC POWER TO THE CD-29/UPM-155 ANALOG CONTROL MULTIPLEXER (ACM) UNTIL DIRECTED TO DO SO BY THE AN/UPM-155 TEST SET.

DO NOT PRESS FUNCTION ENTER ON THE AN/UPM-155 TEST SET WHILE 28 VOLT DC POWER IS APPLIED TO THE CD-29/UPM-155 ANALOG CONTROL MULTIPLEXER (ACM).

Conditions: You are in an Operational Environment (OE), with a non mission capable Transponder Set AN/APX-100 V(*) that has been submitted to your Shop along with DA Form 2407 Maintenance Request and DA Form, 2404, Equipment Inspection and Maintenance Worksheet. Your supervisor has assigned the work order to you for repair. At your workstation you have the following items: Receiver-transmitter RT-1157A/APX-100(V); Transponder Test Set AN/APM-305A; Dual-trace Oscilloscope AN/USM-488; Digital Multimeter AN/PSM-45A; Tool Kit TK-100/G; DA Form 2404; DA Form 2407, TM 11-5895-1037-30&P; DA Pam 738-751, Functional Users Manual for the Army Maintenance Management System Aviation and local Standard Operating Procedure (SOP). NOTE: Substitutions for equipment may be made per test equipment modernization (TEMOD) publications.

Standards:

Restore the Transponder Set AN/APX-100 V(*) to fully mission capable per TM 11-5895-1037-30&P. Complete DA Form 2407 per DA Pam 738-751 without error.

Special Condition: None

Special Standards: None

Special Equipment:

Cue: Your supervisor has directed you to repair a non-mission capable Transponder Set AN/APX-100 V (*) submitted to your shop. Complete DA Form 2407 per DA PAM 738-751 without error.

Note: None

Performance Steps

1. Obtain all required tools, test equipment and reference materials.
2. Complete appropriate blocks on DA Form 2407 per DA Pam 738-751.
3. Perform visual inspection.
4. Set up test equipment per TM 11-5895-1037-30&P.
5. Verify faults listed on DA Form 2407 using appropriate troubleshooting chart in TM 11-5895-1037-30&P.
6. Perform troubleshooting procedure on the AN/APX-100 V (*) using the troubleshooting chart in TM 11-5895-1037-30&P.
7. Identify defective component (s) per TM 11-5895-1037-30&P.
8. Replace defective component (s) per TM 11-5895-1037-30&P.
9. Perform operational checks per TM 11-5895-1037-30&P.
10. Complete appropriate blocks on DA Form 2407 per DA Pam 738-751.
11. Tag defective component (s) for turn-in per DA Pam 738-751.
12. Notify supervisor upon completion of task.

Evaluation Preparation:

Ensure all items required in the condition statement (or appropriate substitutions) are on hand and all safety requirements are met.

Performance Measures

GO NO-GO

1. Obtained all required tools, test equipment, and reference materials. _____

Performance Measures	GO	NO-GO
2. Completed appropriate blocks on DA Form 2407 per DA Pam 738-751.	_____	_____
3. Performed visual inspection.	_____	_____
4. Properly set up test equipment per TM 11-5895-1037-30&P.	_____	_____
5. Verified faults listed on DA Form 2407 using appropriate troubleshooting chart per TM 11-5895-1037-30&P.	_____	_____
6. Performed troubleshooting procedures on the AN/APX-100 V (*) using the troubleshooting chart in TM 11-5895-1037-30&P.	_____	_____
7. Identified defective component (s) per TM 11-5895-1037-30&P.	_____	_____
8. Replaced defective component (s) per TM 11-5895-1037-30&P.	_____	_____
9. Performed operational checks per TM 11-5895-1037-30&P.	_____	_____
10. Completed appropriate blocks on DA Form 2407 per DA Pam 738-751.	_____	_____
11. Tagged defective component (s) for turn-in per DA Pam 738-751.	_____	_____
12. Notified supervisor upon completion of task.	_____	_____

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

References

Required

- DA FORM 2404
- DA FORM 2407
- DA PAM 738-751
- TM 11-5895-1037-30&P

091-94R-1404**Repair Test Set, Transponder AN/APM-421****WARNING**

The voltage is present on power cable W 1, inside the APM-421, and at pins 69 and 70 of TRANSPONDER jack on the AN/APM-421 front panel. When connecting or disconnecting W1 from the AN/APM-421, first set the 400-Hz power source off.

TOLUENE is toxic and flammable; use only in a well ventilated area away from any open flame or heat. Wear safety glasses and avoid prolonged or repeated skin contact or breathing of fumes.

CAUTION

This equipment contains electrostatic discharge (ESD) sensitive devices. Use the procedures contained in TM 43-0158 to prevent the destruction of these devices.

Conditions: You are in an Operational Environment (OE), with a non-mission capable Transponder Test Set AN/APM-421 that has been submitted to your Shop along with DA Form 2407, Maintenance Request and DA Form 2404, Equipment Inspection and Maintenance Worksheet. Your supervisor has assigned the work order to you for repair. At your workstation you have the following items: Transponder Test Set AN/APM-421; Receiver-transmitter RT-1157A/APX-100(V) or RT-(*)/APX-100(V); Control C-(*)/APX-100(*) (used with RT-1157A/APX-100(V)); Dual-trace Oscilloscope AN/USM-488; Digital Multimeter, AN/PSM-45A; Tool Kit TK-100/G; DA Form 2404; DA Form 2407; local SOP; TM 11-6625-3058-13&P; and DA Pam 738-751, Functional Users Manual for the Army Maintenance Management System Aviation. NOTE: Substitutions for equipment may be made per test equipment modernization (TEMOD) publications.

Standards:

Restore the Transponder Test Set AN/APM-421 to an operational status using TM 11-6625-3058-13&P. Complete without error DA Form 2407 using DA Pam 738-751.

Special Condition: None

Special Standards: None

Special Equipment:

Cue: Your supervisor has directed you to repair a non-mission capable Transponder Test Set AN/APM-421 that was submitted to your shop. You are to correctly complete DA Form 2407.

Note: None

Performance Steps

1. Obtain required tools, test equipment and reference materials.
2. Complete appropriate blocks on DA Form 2407 per DA Pam 738-751.
3. Perform visual inspection.
4. Set up test equipment per TM 11-6625-3058-13&P.
5. Verify faults on DA Form 2407 using troubleshooting chart in TM 11-6625-3058-13&P.
6. Troubleshoot the Transponder Test Set AN/APM-421 using the troubleshooting chart in TM 6625-3058-13&P.
7. Identify the defective component (s) per TM 11-6625-3058-13&P.
8. Replace defective component (s) with operational one (s) per TM 11-6625-3058-13&P.
9. Perform operational checks per TM 11-6625-3058-13&P.
10. Complete appropriate blocks on DA Form 2407 per DA Pam 738-751.
11. Tag defective component (s) for turn-in per DA Pam 738-751.
12. Notify supervisor upon completion of task.

Evaluation Preparation:

Ensure all items required in the condition statement (or appropriate substitutions) are on hand and all safety requirements are met.

Performance Measures	GO	NO-GO
1. Obtained all required tools, test equipment, and reference materials.	_____	_____
2. Completed appropriate blocks on DA Form 2407 per DA Pam 738-751.	_____	_____
3. Performed visual inspection.	_____	_____
4. Properly set up test equipment per TM 11-6625-3058-13&P.	_____	_____

Performance Measures

GO NO-GO

5. Verified faults on DA Form 2407 using troubleshooting chart in TM 11-6625-3058-13&P.	_____	_____
6. Performed troubleshooting the Transponder Test Set AN/APM-421 using the troubleshooting chart in TM 11-6625-3058-13&P.	_____	_____
7. Identified the defective component (s) per TM 11-6625-3058-13&P.	_____	_____
8. Replaced defective component (s) with operational one (s) per TM 11-6625-3058-13&P.	_____	_____
9. Performed operational checks per TM 11-6625-3058-13&P.	_____	_____
10. Completed appropriate blocks on DA Form 2407 per DA Pam 738-751.	_____	_____
11. Tagged defective component (s) for turn-in per DA Pam 738-751.	_____	_____
12. Notified supervisor upon completion of task.	_____	_____

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

References

Required

DA FORM 2404

DA FORM 2407

DA PAM 738-751

TM 11-6625-3058-13&P

Subject Area 4: Aviation Night Systems

091-94R-1500

Repair the Aviator's Night Vision Imaging System AN/AVS-6

WARNING

Failure to wear eye protection, while soldering, may result in severe eye injury.

The image intensifier's phosphor screen in each monocular contains toxic materials.

If an image intensifier assembly breaks, be extremely careful to avoid inhaling the phosphor screen material. DO NOT allow the material to come in contact with the mouth or open wounds on the skin.

If the phosphor screen material contacts your skin, wash it off immediately with soap and water.

If you inhale/swallow any phosphor screen material, drink plenty of water, induce vomiting, and seek medical attention as soon as possible.

CAUTION

DO NOT etch any information (i.e. S/N) anywhere into the ANVIS.

Keep the protective lens caps on the binocular when not in use. Operate the ANVIS only under dark conditions.

DO NOT use acetone to clean the lenses or any other components of the ANVIS.

Aviation Maintenance Company (AMCO) maintenance personnel are not authorized to open the ANVIS binocular.

The use of 3.6 volt AA Lithium Batteries, NSN 6135-01-301-8776, will destroy the intensifier tubes and is PROHIBITED.

Conditions: You are in an operational environment (OE), with a non-mission capable Aviator's Night Vision Imaging System AN/AVS-6 that has been submitted to your Shop along with DA Form 2407, Maintenance Request and DA Form 2404, Equipment Inspection and Maintenance Worksheet. Your supervisor has assigned the work order to you for repair. At your workstation you have the following items: Collimator Attachment Diopterscope; nitrogen, technical, purge adapter, purging kit; jeweler's screwdriver set; 25W-115W soldering iron; spanner wrench TS-3895/UV (or TS-3895A/UV) test set Aviator's Night Vision Imaging System (ANVIS); tube retainer tool or equivalent equipment; DA Form 2404; DA Form 2407; TM 11-5855-313-23&P and DA Pam 738-751, Functional Users Manual for the Army Maintenance Management System Aviation. NOTE: Substitutions for equipment may be made per test equipment modernization (TEMOD) publications.

Standards:

Restore the Aviator's Night Vision Imaging System AN/AVS-6 to operational status using TM 11-5855 313-23&P. Complete without error DA Form 2407 using DA Pam 738-751.

Special Condition: None

Special Standards: None

Special Equipment:

Cue: Your supervisor has directed you to repair a non-mission capable AN/AVS-6 Submitted to your shop.

Note: None

Performance Steps

1. Obtain all required tools, test equipment and references materials.
2. Complete appropriate blocks on DA Form 2407 per DA Pam 738-751.
3. Perform visual inspection.
4. Set up test equipment per TM 11-5855-313-23&P.
5. Verify faults listed on DA Form 2407 using appropriate troubleshooting chart in TM 11-5855-313-23&P.
6. Perform troubleshooting procedures on the AN/AVS-6 using the troubleshooting chart in TM 11-5855-313-23&P.
7. Identify defective part (s) per TM 11-5855-313-23&P.
8. Replace defective part (s) per TM 11-5855-313-23&P.
9. Perform operational checks per TM 11-5855-313-23&P.
10. Complete appropriate blocks on DA Form 2407 per DA Pam 738-751.
11. Tag defective part (s) for turn-in per DA Pam 738-751.
12. Notify supervisor upon completion of task.

Evaluation Preparation:

Ensure all items required in the condition statement (or appropriate substitutions) are on hand and all safety requirements are met.

Performance Measures	GO	NO-GO
1. Obtained all required tools, test equipment, and reference materials.	_____	_____
2. Completed appropriate blocks on DA Form 2407 per DA Pam 738-751.	_____	_____
3. Performed visual inspection.	_____	_____
4. Properly set up test equipment per TM 11-5855-313-23&P.	_____	_____
5. Verified faults listed on DA Form 2407 using appropriate troubleshooting chart in TM 11-5855-313-23&P.	_____	_____
6. Performed troubleshooting procedures on the AN/AVS-6 using the troubleshooting chart in TM 11-5855-313-23&P.	_____	_____
7. Identified defective part (s) per TM 11-5855-313-23&P.	_____	_____
8. Replaced defective part (s) per TM 11-5855-313-23&P.	_____	_____
9. Performed operational checks per TM 11-5855-313-23&P.	_____	_____
10. Completed appropriate blocks on DA Form 2407 per DA Pam 738-751.	_____	_____
11. Tagged defective part (s) for turn-in per DA Pam 738-751.	_____	_____
12. Notified supervisor upon completion of task.	_____	_____

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

References

Required

DA FORM 2404

DA FORM 2407

DA PAM 738-751

TM 11-5855-263-10

TM 11-5855-313-23&P

091-94R-1502

Maintain the TS-3895A Night Vision Test Set

WARNING

Remove all jewelry before beginning work on electric equipment.

Never work on electric equipment by yourself. Have another person nearby who knows operation and hazards of equipment, and can administer first aid. When technicians are aided by operators, they must be warned of dangers.

When possible, turn off power before starting work. Always ground equipment before touching it.

When possible, keep one hand out of contact with equipment. This prevents current from flowing through vital organs of body.

Conditions: You are in an operational environment (OE), a non-mission capable TS-3895A Night Vision Test Set with DA Form 2407, Maintenance Request has been submitted to your C & E shop. Your supervisor has assigned the work order to you for repair. At your workstation you have the following items; Collimation Attachment, Diopter Scope, Digital Multimeter, Radiometric Test Set, Torque Screwdriver 2-36 IN-LBS, 25 watt Soldering Iron; DA Form 2404 Equipment Inspection and Maintenance Worksheet, DA Form 2407, TM 11-5855-264-14 and DA PAM 738-751, Functional Users Manual for the Army Maintenance Management System Aviation. NOTE: Substitutions for equipment may be made per test equipment modernization (TEMOD) publications.

Standards:

Maintain the TS-3895A Night Vision Test Set per TM 11-5855-264-14 and TM 11-5855-264-24P to fully mission capable when the task is completed. Complete all DA Form 2407 and records per DA Pam 738-751 without error and ensure all safety precautions are observed without violation.

Special Condition: None

Special Standards: None

Special Equipment:

Cue: Your supervisor has directed you to troubleshoot and repair the TS-3895A Night Vision Test Set per TM 11-5855-264-14 and TM 11-5855-264-204P.

Note: None

Performance Steps

1. Obtain required tools, test equipment and references per TM 11-5855-264-14.
2. Complete appropriate blocks on DA Form 2407 per DA Pam 738-751.
3. Perform visual inspection.
4. Set up test equipment per TM 11-5855-264-14.
5. Verify faults listed on DA Form 2407 using the appropriate troubleshooting chart in TM 11-5855-264-14.
6. Troubleshoot the TS-3895A using the troubleshooting chart in TM 11-5855-264-14.
7. Identify the defective parts (s) per TM 11-5855-264-14 and TM 11-5855-264-24P.
8. Replace defective part (s) with operational ones per TM 11-5855-264-14 and TM 11-5855-264-24P.
9. Perform operational checks per TM 11-5855-264-14.
10. Complete appropriate blocks on DA Form 2407 per DA Pam 738-751.
11. Tag defective part (s) for turn-in per DA Pam 738-751.
12. Notify supervisor upon completion of task.

Evaluation Preparation:

Ensure all items required in the condition statement (or appropriate substitutions) are on hand and all safety requirements are met.

Performance Measures

	GO	NO-GO
1. Obtained required tools, test equipment and references per TM 11-5855-264-14.	_____	_____
2. Completed appropriate blocks on DA Form 2407 per DA Pam 738-751.	_____	_____
3. Performed visual inspection.	_____	_____

Performance Measures

	GO	NO-GO
4. Properly set up test equipment per TM 11-5855-264-14.	_____	_____
5. Verified faults listed on DA Form 2407 using the appropriate troubleshooting chart in TM 11-5855-264-14.	_____	_____
6. Troubleshoot the TS-3895A using the troubleshooting chart in TM 11-5855-264-14.	_____	_____
7. Identified the defective part(s) per TM 11-5855-264-14 and TM 11-5855-264-24P.	_____	_____
8. Replaced defective part(s) with operational ones per TM 11-5855-264-14 and TM 11-5855-264-24P.	_____	_____
9. Performed operational checks per TM 11-5855-264-14.	_____	_____
10. Completed appropriate blocks on DA Form 2407 per DA Pam 738-751.	_____	_____
11. Tagged defective part(s) for turn-in per DA Pam 738-751.	_____	_____
12. Notified supervisor upon completion of task.	_____	_____

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

References

Required

- DA FORM 2404
- DA FORM 2407
- PAM 738-751
- TM 11-5855-264-14
- TM 11-5855-264-24

Subject Area 5: Aviation Laser Systems
091-94R-1601
Repair Laser Detecting Set AN/AVR-2(*)

CAUTION

Do not be misled by the term low voltage. Potentials as low as 28 volts may cause death under adverse conditions.

Avoid viewing the laser source at close range. Since the emitted beam is not collimated, increasing the distance to the laser source greatly reduces the risk of over exposure.

MAKE SURE POWER IS OFF BEFORE REMOVING OR INSTALLING ANY COMPONENTS TO AVOID POSSIBLE PERSONNEL INJURY OR EQUIPMENT DAMAGE.

THE CIRCUIT CARD ASSEMBLIES IN THE AN/AVR-2 LASER DETECTING SET CONTAIN COMPONENTS SENSITIVE TO DAMAGE BY ELECTROSTATIC DISCHARGE. USE ELECTROSTATIC DISCHARGE PRECAUTIONARY PROCEDURES WHEN TOUCHING, REMOVING, OR INSERTING THE CIRCUIT CARD ASSEMBLIES.

Conditions: You are in an Operational Environment (OE), with a non-mission capable Laser Detecting Set An/AVR-2 (*) that has been submitted to your Shop along with DA Form 2407, Maintenance Request and DA Form 2404, Equipment Inspection and Maintenance Worksheet. Your supervisor has assigned the work order to you for repair. At your workstation you have the following items: Test Set TS-4321; Electronic Equipment Tool Kit TK-105/G; Oscilloscope AN/USM-488; Digital Multimeter, AN/PSM-45A; torque wrench, 1/4-inch drive, 0-25 inch-pounds; torque wrench, 1/4-inch drive, 0-32 inch-pounds; TM 11-5841-301-30-1 and TM 11-5841-301-23P; DA Form 2404; DA Form 2407; and DA Pam 738-751, Functional Users Manual for the Army Maintenance Management System Aviation. NOTE: Substitutions for equipment may be made per test equipment modernization (TEMOD) publications.

Standards:

Restore the Laser Detecting Set AN/AVR-2(*) to fully mission capable per TM 11-5841-301-30-1 and TM 11-5841-301-23P. Complete DA Form 2407 per DA Pam 738-751 without error.

Special Condition: None

Special Standards: None

Special Equipment:

Cue: Your supervisor has given you a non-mission capable AN/AVR-2(*) that was submitted to your C&E shop with a DA Form 2407 and directed you to repair and complete the form to standard.

Note: None

Performance Steps

1. Obtain all required tools, test equipment and reference materials.
2. Complete appropriate blocks on DA Form 2407 per DA Pam 738-751.
3. Perform visual inspection.
4. Set up test equipment per TM 11-5841-301-30-1.
5. Verify faults listed on DA Form 2407 using appropriate troubleshooting chart per TM 11-5841-301-30-1.
6. Perform troubleshooting on the AN/AVR-2(*) using the troubleshooting chart in TM 11-5841-301-30-1.
7. Identify defective component (s) per TM 11-5841-301-30-1 and TM 11-5841-301-23P.
8. Replace defective component (s) with operational ones per TM 11-5841-301-30-1 and TM 11-5841-301-23P.
9. Perform operational checks per TM 11-5841-301-30-1.
10. Complete appropriate blocks on DA Form 2407 per DA Pam 738-751.
11. Tag defective component (s) for turn-in per DA Pam 738-751.
12. Notify supervisor upon completion of task.

Evaluation Preparation:

Ensure all items required in the condition statement (or appropriate substitutions) are on hand and all safety requirements are met.

Performance Measures

	GO	NO-GO
1. Obtained all required tools, test equipment, and reference materials.	_____	_____
2. Completed appropriate blocks on DA Form 2407 per DA Pam 738-751.	_____	_____

Performance Measures	GO	NO-GO
3. Performed visual inspection per TM 11-5841-301-1.	_____	_____
4. Properly set up test equipment per TM 11-5841-301-30-1.	_____	_____
5. Verified faults listed on DA Form 2407 using appropriate troubleshooting chart in TM 11-5841-301-30-1.	_____	_____
6. Performed troubleshooting procedures on the AN/AVR-2(*) using the troubleshooting chart in TM 11-5841-301-30-1.	_____	_____
7. Identified defective component (s) per TM 11-5841-301-30-1 and TM 11-5841-301-23P.	_____	_____
8. Replaced defective component (s) per TM 11-5841-301-30-1 and TM 11-5841-301-23P.	_____	_____
9. Performed operational checks per TM 11-5841-301-30-1.	_____	_____
10. Completed appropriate blocks on DA Form 2407 per DA Pam 738-751.	_____	_____
11. Tagged defective component (s) for turn-in per DA Pam 738-751.	_____	_____
12. Notified supervisor upon completion of task.	_____	_____

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

References

Required

- DA FORM 2404
- DA FORM 2407
- DA PAM 738-751
- TM 11-5841-301-23 P
- TM 11-5841-301-30-1
- TM 11-5841-301-30-2

091-94R-1602**Repair Laser Detecting Test Set TS-4321/AVR-2 (*)****WARNING**

THE TS-4321/AVR-2 LASER DETECTING TEST SET WEIGHS APPROXIMATELY FORTY-FIVE POUNDS, THUS REQUIRES TWO-PERSON LIFT TO AVOID POSSIBLE PERSONNEL INJURY.

THE SM-815 LASER SIMULATOR CONTAINS CLASS III B LASER DIODES, SO ALWAYS POSITION THE SM-815 LASER SIMULATOR SO THAT THE WINDOWS ARE DIRECTED AWAY FROM PERSONNEL AND THERE IS NO POSSIBILITY OF THE BEAM BEING VIEWED.

ISOPROPYL ALCOHOL IS TOXIC TO SKIN, EYES, AND RESPIRATORY TRACT. SKIN AND EYE PROTECTION IS REQUIRED. AVOID PROLONGED CONTACT. GOOD GENERAL VENTILATION IS NORMALLY ADEQUATE.

DE-ENERGIZE THE SM-815 LASER SIMULATOR IMMEDIATELY WHEN IT IS NOT IN USE.

CAUTION

DO NOT PRESS ON THE WINDOW WHEN YOU ARE HANDLING THE SM-815 LASER SIMULATOR. THE GLASS IS FRAGILE AND COULD SCRATCH, CRACK, OR BREAK.

USE CARE IN INSTALLING OR REMOVING THE EQUIPMENT FROM THE COMBINATION CASE TO PREVENT DAMAGE.

THE CIRCUIT CARD ASSEMBLIES WITHIN THE TS-4321 /AVR-2 LASER DETECTING TEST SET CONTAIN COMPONENTS SENSITIVE TO DAMAGE BY ELECTROSTATIC DISCHARGE. USE ELECTROSTATIC DISCHARGE PRECAUTIONARY PROCEDURES WHEN TOUCHING, REMOVING. OR INSERTING THE CIRCUIT CARD ASSEMBLIES.

Conditions: You are in an Operational Environment (OE), with a non-mission capable Laser Detecting Test Set TS-4321/AVR-2(*) that has been submitted to your C&E Shop along with DA Form 2407, Maintenance Request and DA Form 2404, Equipment Inspection and Maintenance Worksheet. Your supervisor has assigned the work order to you for repair. At your workstation you have the following items: Electronic Equipment Tool Kit TK-105/G; Oscilloscope AN/USM-488; Digital Multimeter, AN/PSM-45A; torque wrench, 1/4-inch drive, 0-25 inch-pounds; torque wrench, 1/4-inch drive, 0-32 inch-pounds; torque wrench, 8.0 +/- 0.3 inch-pounds; TM 11-5841-301-30-1 and TM 11-6625-3233-23P; DA Form 2404; DA Form 2407; and DA Pam 738-751, Functional Users Manual for the Army Maintenance Management System Aviation. NOTE: Substitutions for equipment may be made per test equipment modernization (TEMOD) publications.

Standards: Restore the Laser Detecting Test Set, TS-4321/AVR-2 (*) to fully mission capable condition using TM 11-5841-301-30-1 and TM 11-6625-3233-23P. Use DA Pam 738-751 to

complete all DA Form 2407 and records, without error, and ensure all safety precautions are observed.

Special Condition: None

Special Standards: None

Special Equipment:

Cue: Your supervisor has directed you to troubleshoot and repair the Laser Detecting Test Set TS-4321/AVR-2(*) using TM 11-6625-3233-13-1 and TM 11-6625-3233-23P.

Note: None

Performance Steps

1. Obtain required tools, test equipment and references using TM 11-6625-3233-13-1.
2. Complete appropriate blocks on DA Form 2407 using DA Pam 738-751.
3. Perform visual inspection.
4. Set up test equipment using TM 11-6625-3233-13-1.
5. Verify faults listed on DA Form 2407 using the appropriate troubleshooting chart in TM 11-6625-32-22-13-1.
6. Troubleshoot the TS-4321/AVR-2(*) using the troubleshooting chart in TM 11-6625-3222-13-1.
7. Identify the defective component (s) using TM 11-6625-3233-13-1 and TM 11-6625-3233-23P.
8. Replace defective component (s) with operational ones using TM 11-6625-3233-13-1 and TM 11-6625-3233-23P.
9. Perform operational checks using TM 11-6625-3233-13-1.
10. Complete appropriate blocks on DA Form 2407, using DA Pam 738-751.
11. Tag defective component (s) for turn-in using DA Pam 738-751.
12. Notify supervisor upon completion of task.

Evaluation Preparation:

Ensure all items required in the condition statement (or appropriate substitutions) are on hand and all safety requirements are met.

Performance Measures	GO	NO-GO
1. Obtained required tools, test equipment and references using TM 11-6625-3233-13-1.	_____	_____
2. Completed appropriate blocks on DA Form 2407 per DA Pam 738-751.	_____	_____
3. Performed visual inspection.	_____	_____
4. Properly set up test equipment using TM 11-6625-3233-13-1.	_____	_____
5. Verified faults listed on DA Form 2407 using the appropriate troubleshooting chart in TM 11-6625-3233-13-1.	_____	_____
6. Performed troubleshooting on the TS-4321/AVR-2(*) using the troubleshooting chart in TM 11-6625-3233-13-1.	_____	_____
7. Identified the defective component (s) using TM 11-6625-3233-13-1 and TM 6625-3233-23P.	_____	_____
8. Replaced defective component (s) with operational ones using TM 11-6625-3233-13-1 and TM 11-6625-3233-23P.	_____	_____
9. Performed operational checks using TM 11-6625-3233-13-1.	_____	_____
10. Completed appropriate blocks on DA Form 2407, using DA Pam 738-751.	_____	_____
11. Tagged defective component (s) for turn-in using DA Pam 738-751.	_____	_____
12. Notified supervisor upon completion of task.	_____	_____

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

References

Required

DA FORM 2404

DA FORM 2407

DA PAM 738-751

TM 11-6625-3233-13-1

Subject Area 6: Navigation Systems

091-94R-1719

Repair GPS AN/ASN 128 (*)

WARNING

Radio frequency electromagnetic radiation can cause fatal burns. It can literally cook internal organs and flesh. If you feel the slightest warming effect while near the equipment. Do not stand in the direct path of the antenna when the power is on. Do not work on the antenna while the power is on.

CAUTION

MAKE CERTAIN EQUIPMENT IS POWERED DOWN. TOUCH GROUND PRIOR TO REMOVING ESD ITEMS.

Conditions: You are in an operational environment (OE), with a non-mission capable GPS AN/ASN 128 (*) that has been submitted to your Shop with DA Form 2407, Maintenance Request and DA Form 2404, Equipment Inspection and Maintenance Worksheet. Your supervisor has assigned the work order to you for repair. At your workstation you have the following items: DGNS Break Out Box; Tool Kit TK-101/G; RTA/SDC Test Console; Antenna Test Stand AND Card Extractor (CDU); TM 11-5841-305-23&P; DA Form 2404; DA Form 2407; DA Form 2407-1 Maintenance Request Continuation Sheet, local SOP and DA Pam 738-751, Functional Users Manual for the Army Maintenance Management System Aviation. NOTE: Substitutions for equipment may be made per test equipment modernization (TEMOD) publications.

Standards: Restore GPS AN/ASN 128 (*) to mission capable condition using TM 11-5841-305-23&P. Complete without error DA Forms 2407 and DA Form 2407-1 per DA Pam 738-751.

Special Condition: None

Special Standards: None

Special Equipment:

Cue: Your supervisor has directed you to repair a non-mission capable AN/ASN 128 (*) that was submitted to your Shop and complete without error DA Form 2407 per DA Pam 738-751.

Note: None

Performance Steps

1. Obtain all required tools, test equipment and reference materials.

Performance Steps

2. Complete appropriate blocks on DA Form 2407 per DA Pam 738-751.
3. Perform visual inspection.
4. Set up test equipment per TM 11-5841-305-23&P.
5. Verify faults listed on DA Form 2407 using appropriate troubleshooting chart in TM 11-5841-305-23&P.
6. Perform troubleshooting procedures on the AN/ASN 128 (*) using the troubleshooting chart in TM 11-5841-305-23&P.
7. Identify defective part (s) per TM 11-5841-305-23&P.
8. Replace defective part (s) per TM 11-5841-305-23&P.
9. Perform operational checks per TM 11-5841-305-23&P.
10. Complete appropriate blocks on DA Form 2407 per DA Pam 738-751.
11. Tag defective part (s) for turn in per DA Pam 738-751.
12. Notify supervisor upon completion of task.

Evaluation Preparation:

Ensure all items required in the condition statement (or appropriate substitutions) are on hand and all safety requirements are met.

Performance Measures	GO	NO-GO
1. Obtained all required tools, test equipment, reference and materials.	_____	_____
2. Completed appropriate blocks on DA Form 2407 per DA Pam 738-751.	_____	_____
3. Performed visual inspection.	_____	_____
4. Properly set up test equipment per TM 11-5844-305-23&P.	_____	_____

Performance Measures

GO **NO-GO**

- | | | |
|--|-------|-------|
| 5. Verified faults listed on DA Form 2407 using appropriate troubleshooting chart in TM 11-5844-305-23&P. | _____ | _____ |
| 6. Performed troubleshooting procedures on the AN/ANS 128(*) using the troubleshooting chart in TM 11-5844-305-23&P. | _____ | _____ |
| 7. Identified defective part (s) per TM 11-5844-305-23&P. | _____ | _____ |
| 8. Replaced defective part (s) per TM 11-5844-305-23&P. | _____ | _____ |
| 9. Performed operational checks per TM 11-5844-305-23&P. | _____ | _____ |
| 10. Completed appropriate blocks on DA Form 2407 per DA Pam 738-751. | _____ | _____ |
| 11. Tagged defective part (s) for turn-in per DA Pam 738-751. | _____ | _____ |
| 12. Notified supervisor upon completion of task. | _____ | _____ |

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

References

Required

- DA FORM 2404
- DA FORM 2407
- DA FORM 2407-1
- DA PAM 738-751

091-94R-1720
Repair Altimeter Set AN/APN-209 V(*)

WARNING

This equipment emits electromagnetic radiation at the waveguide output and within the directional pattern of the antenna. Do not work on the equipment or stand in the directional path of the antenna while the equipment is operating.

CAUTION

The devices of the AN/APN-209 V(*) Electronic Altimeter Set, with the exception of the antenna, contain electrostatic discharge sensitive (ESDS). These devices can be damaged during removal or repair. All work performed during removal or repair must be done in an ESD-protected area according to DOD-STD-1686 and DOD-HDBK-263. Tools and equipment that come in contact with ESDS devices must also be grounded.

Conditions: You are in an Operational Environment (OE), with a non-mission capable Altimeter Set, AN/APN-209 V(*) that has been submitted to your Shop along with DA Form 2407, Maintenance Request and DA Form 2404, Equipment Inspection and Maintenance Worksheet. Your supervisor has assigned the work order to you for repair. At your workstation you have the following items: Altimeter Set AN/APN-209V(*) ; TK-100/G tool kit; Oscilloscope AN/USM-281C; TM 11-5841-292-13&P, DA Form 2404; DA Form 2407; and DA Pam 738-751, Functional Users Manual for the Army Maintenance Management System Aviation. NOTE: Substitutions for equipment may be made per test equipment modernization (TEMOD) publications.

Standards: Restore the Altimeter Set, Electronic AN/APN-209 V (*) to fully mission capable condition using TM 11-5841-292-13&P. Use DA Pam 738-751 to complete DA Form 2407, without error, and ensure all safety precautions are observed.

Special Condition: None

Special Standards: None

Special Equipment:

Cue: Your supervisor has directed you to repair a non-mission capable AN/APN-209 V(*) using TM 11-5841-292-13&P.

Note: None

Performance Steps

1. Obtain all required tools, test equipment and reference materials using TM 11-5841-292-13&P.

Performance Steps

2. Complete appropriate blocks on DA Form 2407 per DA Pam 738-751.
3. Perform visual inspection.
4. Set up test equipment using TM 11-5841-292-13&P.
5. Verify faults listed on DA Form 2407 using appropriate troubleshooting chart in TM 11-5841-292-13&P.
6. Perform troubleshooting on the AN/APN-209 V (*) using the troubleshooting chart in TM 11-5841-292-13&P.
7. Identify defective component (s) using TM 11-5841-292-13&P.
8. Replace defective component (s) with operational ones using TM 11-5841-292-13&P.
9. Perform operational checks using TM 11-5841-292-13&P.
10. Complete appropriate blocks on DA Form 2407 per DA Pam 738-751.
11. Tag defective component(s) for turn in using DA Pam 738-751.
12. Notify supervisor upon completion of task.

Evaluation Preparation:

Ensure all items required in the condition statement (or appropriate substitutions) are on hand and all safety requirements are met.

Performance Measures

	GO	NO-GO
1. Obtained all required tools, test equipment and reference materials using TM 11-5841-292-13&P.	_____	_____
2. Completed appropriate blocks on DA Form 2407 using DA Pam 738-751.	_____	_____
3. Performed visual inspection.	_____	_____
4. Properly set up test equipment using TM 11-5841-292-13&P.	_____	_____

Performance Measures	GO	NO-GO
5. Verified faults listed on DA Form 2407 using appropriate troubleshooting chart in TM 11-5841-292-13&P.	_____	_____
6. Performed troubleshooting procedures on the AN/APN-209 V(*) using the troubleshooting chart in TM 11-5841-292-13&P.	_____	_____
7. Identified defective component(s) using TM 11-5841-292-13&P.	_____	_____
8. Replaced defective component (s) using TM 11-5841-292-13&P.	_____	_____
9. Performed operational checks using TM 11-5841-292-13&P.	_____	_____
10. Completed appropriate blocks on DA Form 2407 per DA Pam 738-751.	_____	_____
11. Tagged defective component (s) for turn-in using DA Pam 738-751.	_____	_____
12. Notified supervisor upon completion of task.	_____	_____

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

References

Required

- DA FORM 2404
- DA FORM 2407
- DA PAM 738-751
- TM 11-5841-292-13&P

091-94R-1721
Repair Navigation VOR-ILS

WARNING

WARNING High voltage is present during testing and troubleshooting of the Radio Test Set. Make sure unit is completely shut down and free of any power source before attempting any maintenance on the unit. Failure to comply can cause injury or death to personnel. **WARNING :** To prevent personnel injury or equipment damage, ensure all power is removed from the unit before the unit is installed or removed. **WARNING:** Never work on electrical equipment unless there is another person nearby who is familiar with the operation and hazards of the equipment and who is competent in administering first aid. When the technician is aided by operators, he must warn them about dangerous areas. **WARNING:** Whenever possible, the power supply to the equipment must be shut off before beginning work on the equipment. Take particular care to ground every capacitor likely to hold a dangerous potential. When working inside the equipment, after the power has been turned off, ground every part before touching parts. **WARNING:** A minimum of two persons must be used in handling or lifting anything more than 18.1 kg (40.0 lbs). Extreme care must be used in handling to prevent injury to individuals or damage to equipment.

CAUTION

Signal Generators can be a source of electromagnetic interference (EMI) to communication receivers. Some transmitted signals can cause disruption and interference to communications services out to a distance of several miles. Users of this equipment should scrutinize any operation that results in radiation of a signal (directly or indirectly) and should take necessary precautions to avoid potential communication interference problems. **CAUTION:** Devices such as CMOS, NMOS, VMOS, HMOS, thin-film resistors PMOS, and MOSFET used in many equipment can be damaged by static voltages present in most repair facilities. Most of the components contain internal gate protection circuits that are partially effective, but sound maintenance practice and the cost of equipment failure in time and money dictate careful handling of all electrostatic sensitive components.

Conditions: In an operational environment (OE), a non-mission capable Automatic Direction Finder/VHF Omni Range-Instrument Landing System VOR-ILS radio or controller has been turned into your shop for repair. Your supervisor has directed you to perform the troubleshooting and repair. At your workstation you have the following: equipment, manuals, and forms; Radio Test Set, AN/GRM-122; Tool Kit, Electronic Equipment TK-100/G; Tool Kit, TK-105/G; TM 11-6625-3300-10; DA Pam 738-751, Functional Users Manual for the Army Maintenance Management System Aviation; DA Form 2404 Equipment Inspection and Maintenance Worksheet; and DA Form 2407, Maintenance Request and DA Pam 738-751, Functional Users Manual for the Army Maintenance Management System Aviation. **NOTE:** Substitutions for equipment may be made per test equipment modernization (TEMOD) publications.

Standards: Repair and return the VOR-ILS to fully mission capable condition using TM 11-6625-3300-10.

Special Condition: None

Special Standards: None

Special Equipment:

Cue: Your supervisor has directed you to repair a non-mission capable VOR-ILS submitted to your avionics shop.

Note: None

Performance Steps

1. Obtain all required tools, test equipment and reference materials.
2. Complete appropriate blocks on DA Form 2407 per DA Pam 738-751.
3. Perform visual inspection.
4. Set up test equipment using TM 11-6625-3300-10.
5. Verify faults; perform operational check of the VOR-ILS using TM 11-6625-3300-10.

NOTE: The on-screen prompt may pop-up asking operator to enter operator ID (name) and LRU SSN. This is not required for testing. The on-screen prompt may ask operator to select UUT interface mode. Operator should only test in Front Panel or 1553 Mode (depending on UUT).

6. Proceed to step 10 if VOR-ILS passes operational check; if not, perform troubleshooting procedures.
7. Identify defective component(s).
8. Replace defective component(s).
9. Repeat operational checks to verify repair.
10. Complete appropriate blocks on DA Form 2407 using DA Pam 738-751.
11. Tag defective component (s) for turn in using DA Pam 738-751.
12. Notify supervisor upon completion of task.

Evaluation Preparation:

Ensure all items required in the condition statement (or appropriate substitutions) are on hand and all safety requirements are met.

Performance Measures	GO	NO-GO
1. Obtained all required tools, test equipment, and references.	_____	_____
2. Completed appropriate blocks on DA Form 2407 per DA Pam 738-751.	_____	_____
3. Performed visual inspection.	_____	_____
4. Set up test equipment per TM 11-6625-3300-10.	_____	_____
5. Verified faults; performed operational check of the VOR-ILS per TM 11-6625-3300-10.	_____	_____
6. Proceeded to step 10 if VOR-ILS passed operational check; if not, performed troubleshooting procedures.	_____	_____
7. Identified defective component(s).	_____	_____
8. Replaced defective component(s).	_____	_____
9. Repeated operational checks to verify repair.	_____	_____
10. Completed appropriate blocks on DA Form 2407 per DA Pam 738-751.	_____	_____
11. Tagged defective component(s) for turn-in per DA Pam 738-751.	_____	_____
12. Notified supervisor upon completion of task.	_____	_____

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

**References
Required**

- DA FORM 2404
- DA FORM 2407

STP 9-94R12-SM-TG

DA PAM 738-751

TM 11-5826-227-20

TM 11-5826-227-34

TM 11-6625-3300-23&P

Subject Area 7: Flight Control Systems/Avionics

091-94R-1800

Repair the Advanced Flight Control System (AFCS)

WARNING

- Under no circumstances should any person reach into the test set for the purpose of servicing or adjusting the equipment except in the presence of someone who is capable of rendering aid.
- HIGH voltage is used in the Line Test Set (LTS). Death on contact or severe injury can result if personnel fail to observe safety precautions. Learn the areas containing high voltage. Before working inside the LTS, turn off the LTS and disconnect all power at the source.

Conditions: In an operational environment, a user has submitted a Non-Mission Capable Advanced Flight Control System (AFCS) along with DA Form 2407, Maintenance Request to your Avionics Shop. Your supervisor has directed you to perform the troubleshooting and repair of the AFCS. At your workstation you have the following: AFCS control panel; AFCS Bench Test Set 145G0008-1; Digital Multimeter, AN/PSM-45A; Tool Kit, TK-105/(*)G; DA Form 2404, Equipment Inspection and Maintenance Worksheet; DA Form 2407; DA Pam 738-751, Functional Users Manual for the Army Maintenance Management System Aviation, TM 1-1520-240-23-1; TM 55-4920-430-13; TM 55-4920-430-30&P and Contact Insertion/Removal Tool M83723-31-20.

Standards:

Restore the Advanced Flight Control System (AFCS) to a fully mission capable status per TM 1-1520-240-23-1, and TM 55-4920-430-13. Complete DA Form 2407 per DA Pam 738-751 without error.

Special Condition: None

Special Standards: None

Special Equipment:

Cue: Your supervisor has tasked you to troubleshoot and repair a Non-Mission Capable AFCS Test set.

Note: TM 55-4920-430-13 is used for all paragraph References unless otherwise specified.

Performance Steps

1. Complete appropriate blocks on DA Form 2407 per DA Pam 738-751.
2. Obtain required tools, test equipment, and references listed in para 4-2.

Performance Steps

3. Perform Visual Inspection as described in para 4-7.
4. Perform operational checks per para 4-8. Skip to step 9 if unit passes operational checks, continue to next step if unit fails.
5. Verify faults listed on DA Form 2407.
6. Perform Trouble shooting procedures.
7. Identify defective component(s).
8. Replace/repair defective component(s).
9. Repeat operational checks to verify repair.
10. Complete appropriate blocks on DA Form 2407 per DA Pam 738-751.
11. Tag defective parts for turn in per DA Pam 738-751.
12. Notify supervisor upon completion of task.

Evaluation Preparation:

Ensure all items required in the condition statement (or appropriate substitutions) are on hand and all safety requirements are met.

Performance Measures

	GO	NO-GO
1. Completed appropriate blocks on DA Form 2407 per DA Pam 738-751.	_____	_____
2. Obtained required tools, test equipment, and references as listed in para 4-2.	_____	_____
3. Performed Visual Inspection as described in para 4-7.	_____	_____
4. Performed operational checks per para 4-8.	_____	_____
5. Verified faults listed on DA Form 2407.	_____	_____

Performance Measures

GO NO-GO

6. Performed Troubleshooting procedures.	_____	_____
7. Identified defective component(s).	_____	_____
8. Replaced/repaired defective component(s).	_____	_____
9. Repeated operational checks to verify repair.	_____	_____
10. Completed appropriate blocks on DA Form 2407 per DA Pam 738-751.	_____	_____
11. Tagged defective parts for turn in per DA Pam 738-751.	_____	_____
12. Notified supervisor upon completion of task.	_____	_____

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

References

Required

- DA FORM 2404
- DA FORM 2407
- DA PAM 738-751
- TM 1-1520-240-23&P
- TM 55-4920-430-13

091-94R-1801

Repair the Advanced Flight Control System (AFCS) Test Set

WARNING

HIGH VOLTAGE is used in this equipment. DEATH ON CONTACT or SEVERE INJURY can result if personnel fail to observe safety precautions.

Learn the equipment areas containing high voltage. Before working inside this equipment, turn off the equipment and disconnect all power at the source. Be careful not to touch high voltage connections when performing maintenance on this equipment.

CAUTION

During troubleshooting, observe the following precautions and procedures.

(1) Voltage measurements. This equipment has transistor and microcircuits. When you measure voltage, use tape or plastic sleeving (spaghetti) to insulate the entire test prod, except for the extreme tip. A momentary short can ruin a transistor or microcircuit. Use the same or equivalent digital multimeter specified in para 4-2.

(2) Resistance Measurements. Perform resistance and continuity checks with all electrical power off.

(3) When the test set is disconnected from external test connections, all grounds in the test set are not at the same potential. Chassis ground is at receptacle pin J7-B. DC common, logic ground, and AC signal ground are at TB1-3. AC neutral is at TB2-7.

(4) Use a card extender, where necessary, for making test measurements at card receptacles.

Conditions: In an Operational Environment (OE), a user has submitted a Non-Mission Capable Advanced Flight Control System (AFCS) Test Set along with DA Form 2407, Maintenance Request to your Avionics Shop. Your supervisor has directed you to restore the Advanced Flight Control System (AFCS) Test Set to a Fully Mission Capable Status. At your workstation you have the following items: AFCS Bench Test Set 145G0008-1; Digital Multimeter, AN/PSM-45A; Simulator, Aircraft Displacement AN/ASM-120; Table, Displacement Rate, 114E5998-1; Tester, Pilot-Static ,GA41004; Tool Kit, TK-105(*)/G; DA Form 2404, Equipment Inspection and Maintenance Worksheet; DA Form 2407; DA Pam 738-751, Functional Users Manual for the Army Maintenance Management System Aviation; TB 43-0127, Maintenance And Repair Of Printed Circuit Boards And Printed Wiring; TM 55-4920-430-13 and TM 55-4920-430-30P.

Standards: Restore the AFCS Test Set to an operational status per TM 55-4920-430-13 and TM 55-4920-430-30P. Complete DA Form 2407 per DA Pam 738-751 without error.

Special Condition: None

Special Standards: None

Special Equipment:

Cue: Your supervisor has directed you to restore the AFCS Test Set to a Fully Mission Capable Status.

Note: TM 55-4920-430-13 is used for all paragraph references in task steps unless otherwise specified.

Performance Steps

1. Complete appropriate blocks on DA Form 2407 per DA Pam 738-751.
2. Obtain required tools, test equipment, and references listed in para 4-2.
3. Perform Visual Inspection as described in para 4-7.
4. Perform operational checks per para 4-8. Skip to step 9 if unit passes operational checks, continue to next step if unit fails.
5. Verify faults listed on DA Form 2407.
6. Perform Trouble shooting procedures.
7. Identify defective component(s).
8. Replace/repair defective component (s).
9. Repeat operational checks to verify repair.
10. Complete appropriate blocks on DA Form 2407 per DA Pam 738-751.
11. Tag defective parts for turn in per DA Pam 738-751.
12. Notify supervisor upon completion of task.

Evaluation Preparation:

Ensure all items required in the condition statement (or appropriate substitutions) are on hand and all safety requirements are met.

Performance Measures

1. Completed appropriate blocks on DA Form 2407 per

GO	NO-GO
_____	_____

STP 9-94R12-SM-TG

DA Pam 738-751.

- | | | |
|---|-------|-------|
| 2. Obtained required tools, test equipment, and references as listed in para 4-2. | _____ | _____ |
| 3. Performed Visual Inspection as described in para 4-7. | _____ | _____ |
| 4. Performed operational checks per para 4-8. | _____ | _____ |
| 5. Verified faults listed on DA Form 2407. | _____ | _____ |
| 6. Performed Troubleshooting procedures. | _____ | _____ |
| 7. Identified defective component(s). | _____ | _____ |
| 8. Replaced/repaired defective component (s). | _____ | _____ |
| 9. Repeated operational checks to verify repair. | _____ | _____ |
| 10. Completed appropriate blocks on DA Form 2407 per DA Pam 738-751. | _____ | _____ |
| 11. Tagged defective parts for turn in per DA Pam 738-751. | _____ | _____ |
| 12. Notified supervisor upon completion of task. | _____ | _____ |

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

References

Required

- DA FORM 2404
- DA FORM 2407
- DA PAM 738-751
- TB 43-0127
- TM 1-1520-240-23&P
- TM 55-4920-430-13

Skill Level SL2

Subject Area 9: Avionic Shop Duties

091-94R-2003

Conduct Safety Inspection of Electronic Maintenance Facility

Conditions: In a operational environment, as supervisor of an electronics maintenance facility and given TB 385-4, Safety Requirements For Maintenance Of Electrical And Electronic Equipment; TB 43-0116, Identification Of Radioactive Items In The Army; AR 385-10, The Army Safety Program (*Rar 004, 10/04/2011); AR 750-1, Army Materiel Maintenance Policy and other required references, and standard office supplies. You will assist the commander in the unit's accident prevention program, ensuring that your assigned personnel adhere to established safe operating procedures. To do this, you must establish specific methodical procedures to eliminate the causes of accidents.

Standards: Identify and listed specific safety requirements, established an inspection schedule regarding what and how frequently to inspect, recorded deficiencies and recommended corrective action, and monitored progress reports. Conducted follow-ups to ensure deficiencies had been corrected.

Special Condition: None

Special Standards: None

Special Equipment:

Cue: Your supervisor has made you the NCOIC of the shop and directed you to conduct monthly safety and electronics maintenance inspections. Identify and complete the inspection to standard.

Note: None

Performance Steps

1. Prepare a priority listing of maintenance activities to be inspected and planned inspections so that all activities were covered periodically.
2. Schedule the inspection so that normal operations were disrupted as little as possible.
3. Develop a suitable checklist of things to be inspected.
4. Conduct the safety inspection using the checklist.
5. Ensure corrective actions were taken to eliminate all safety hazards and deficiencies.
6. Establish and maintained a file of all inspection results.

Evaluation Preparation:

Ensure all items required in the condition statement are on hand and all safety requirements are met.

Performance Measures	GO	NO-GO
1. Prepared a priority listing of maintenance activities to be inspected, and planned inspections so that all activities were covered periodically.	_____	_____
2. Scheduled the inspection so that normal operations were disrupted as little as possible.	_____	_____
3. Developed a suitable checklist of things to be inspected.	_____	_____
4. Conducted the safety inspection using the checklist.	_____	_____
5. Ensured corrective actions were taken to eliminate all safety hazards and deficiencies.	_____	_____
6. Established and maintained a file of all inspection results.	_____	_____

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

References

Required

- AR 385-10
- AR 750-1
- TB 385-4
- TB 43-0116

091-94R-2004

Supervise Operation of Avionics/Electronics Shop Shelter

Conditions: In an operational environment supervise operation of an Avionics/Electronics Shop Shelters AN/ASM-189, AN/ASM-190, AN/ASM-146 or AN/ASM-147, given TM 11-4940-209-15 and TM 11-4940-238-14-1.

Standards: Supervise the shelter was placed in an appropriate location, grounded properly, and capable of operating test equipment to meet mission requirements.

Special Condition: None

Special Standards: None

Special Equipment:

Cue: You are the supervisor and have been handed an OP order (operation procedure) to relocate your shops and shelter given the guidelines and location site. Move your shops and shelters in a safe manner to the new location to start normal operations again.

Note: None

Performance Steps

1. Verify the shelter was placed in a suitable location.
2. Verify chock blocks were placed, as necessary.
3. Verify shelter was grounded properly.
4. Verify power cables were connected properly.
5. Verify circuit breakers in shelter were operable.
6. Verify correct voltage power was applied to shelter.
7. Verify all tie-down bars and clamps that secured equipment and drawers during transit were removed.

Evaluation Preparation:

Ensure all items required in the condition statement (or appropriate substitutions) are on hand and all safety requirements are met.

Performance Measures	GO	NO-GO
1. Verified the shelter was placed in a suitable location.	_____	_____
2. Verified chock blocks were placed, as necessary.	_____	_____
3. Verified shelter was grounded properly.	_____	_____
4. Verified power cables were connected properly.	_____	_____
5. Verified circuit breakers in shelter were operable.	_____	_____
6. Verified correct voltage power was applied to shelter.	_____	_____
7. Verified all tie-down bars and clamps that secured equipment and drawers during transit were removed.	_____	_____

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

References

Required

TM 11-4940-209-15

TM 11-4940-238-14-1

091-94R-2002

Manage Shop/Section Calibration Program

Conditions: You are in an Operational Environment and given a shop/section calibration program, TB 43-180, Technical Bulletin Calibration and Repair Requirements for the Maintenance; DA Form 3758-R, Calibration and Repair Requirements Worksheet (LRA); DA Pam 738-751, Functional Users Manual For The Army Maintenance Management System Aviation; DA Label 163, US Army Limited or Special Calibration and DA Label 80, US Army Calibrated Instrument. This task can be performed in a garrison or field environment.

Standards: Identify and maintain a zero delinquency rate on all equipment requiring calibration per TB 43-180, local Test Measurement & Diagnostic Equipment (TMDE) support SOP and unit SOP and correctly completed all DA Form 2407, Maintenance Request, and records.

Special Condition: None

Special Standards: None

Special Equipment:

Cue: Your supervisor has assigned you as the sections calibration program NCO and directed you to identify and maintain the calibrated items in your shop per TB 43-180.

None

Performance Steps

1. Identify all equipment on hand that requires calibration, DA Label 80 or DA Label 163.
2. Determine which pieces of equipment, once identified were listed in TB 43-180.
3. Prepare DA Form 3758-R for new equipment requiring calibration but not listed in TB 43-180 that requires calibration.
4. Schedule equipment for calibration per local TMDE SOP and unit SOP.
5. Turn in or pick up equipment from the calibration facility.
6. Update calibration listings.
7. Maintain a temporary storage area for calibrate before use (CBU) equipment, separate from other calibrated equipment.

Evaluation Preparation:

Ensure all items required in the condition statement (or appropriate substitutions) are on hand and all safety requirements are met.

Performance Measures	GO	NO-GO
1. Identified all equipment on hand that requires calibration, DA Label 80 or DA Label 163.	_____	_____
2. Determined which pieces of equipment, once identified were listed in TB 43-180.	_____	_____
3. Prepared DA Form 3758-R for new equipment requiring calibration but not listed in TB 43-180 that requires calibration.	_____	_____
4. Scheduled equipment for calibration per local TMDE SOP and unit SOP.	_____	_____
5. Turned in or picked up equipment from the calibration facility.	_____	_____
6. Updated calibration listings.	_____	_____
7. Maintained a temporary storage area for calibrate before use (CBU) equipment, separate from other calibrated equipment.	_____	_____

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

References

Required

- DA FORM 2407
- DA FORM 3758-R
- DA LABEL 163
- DA LABEL 80
- DA PAM 738-751
- TB 43-180

091-94R-2001

Manage a Publication Library

Conditions: In an Operational Environment you are responsible for managing a publications library in a field or garrison environment, given publications and storage location, local and higher headquarters publications indexes and publications procedures, local SOP; AR 25-400-2, The Army Records Information Management System (ARIMS); DA Form 17, Requisition for Publications and Blank Forms; DA Form 17-1, Requisition for Publications and Blank Forms (Continuation Sheet); DA Pam 25-30, Consolidated Index Of Army Publications And Blank Forms; DA Pam 25-33, User's Guide For Army Publications And Forms; DA Pam 25-40, Army Publishing: Action Officers Guide and applicable forms and references.

Standards: Identify the required publications are on hand or ordered, publications were arranged and maintained properly, forms/records were properly managed, and changes were posted per applicable references AR 25-400-2 and local SOP.

Special Condition: None

Special Standards: None

Special Equipment:

Cue: Your supervisor has assigned you as the shop publication library manager and has directed you to verify that all manuals are up to date and up to local SOP standard.

Note: None

Performance Steps

1. Determine all publications required by the maintenance shop or section.
2. Review and updated publications library SOP, as needed.
3. Ensure that technical publications on hand or on order were the most current per DA Pam 25-30.
4. Ensure that doctrinal, training, and organizational publications on hand or on order were the most current per DA Pam 25-30 and local listings.
5. Ensure that administrative publications on hand or on order were the most current per DA Pam 25-30.

Performance Steps

6. Ensure that local and higher headquarters publications on hand or on order were the most current per DA Pam 25-30 and local listings.

7. Prepare DA Form 17 and DA Form 17-1 to request local or higher headquarters publication, per DA Pam 25-33 and local or higher headquarters publication requisitioning procedures.

8. Ensure that published changes were posted to applicable publications per DA Pam 25-40 and publication change instructions.

9. Remove obsolete, rescinded, or superseded publications from library per DA Pam 25-40 and publication change instructions.

10. Arrange publications in proper order and in a suitable location per DA Pam 25-40.

11. Notify personnel to return loaned publications to the library in a timely manner per SOP.

12. Label binders used for storing library publications per AR 25-400-2 and DA Pam 25-40.

13. Update the Army Publishing Directorate, local, and higher headquarters publications accounts as required per DA Pam 25-33 and local or higher headquarters publication account instructions.

Evaluation Preparation:

Ensure all items required in the condition statement are on hand.

Performance Measures

	GO	NO-GO
1. Determined all publications required by the maintenance shop or section.	_____	_____
2. Reviewed and updated publications library SOP, as needed.	_____	_____
3. Ensured that technical publications on hand or on order were the most current per DA Pam 25-30.	_____	_____
4. Ensured that doctrinal, training, and organizational publications on hand or on order were the most current per DA Pam 25-30 and	_____	_____

Performance Measures

GO NO-GO

local listings.

5. Ensured that administrative publications on hand or on order were the most current per DA Pam 25-30. _____

6. Ensured that local and higher headquarters publications on hand or on order were the most current per DA Pam 25-30 and local listings. _____

7. Prepared DA Form 17 and DA Form 17-1 to request local or higher headquarters publication, per DA Pam 25-33 and local or higher headquarters publication requisitioning procedures. _____

8. Ensured that published changes were posted to applicable Publications per DA Pam 25-40 and publication change instructions. _____

9. Removed obsolete, rescinded, or superseded publications from library per DA Pam 25-40 and publication change instructions. _____

10. Arranged publications in proper order and in a suitable location per DA 25-40. _____

11. Notified personnel to return loaned publications to the library in a timely manner per SOP. _____

12. Labeled binders used for storing library publications in accordance with AR 25-400-2 and DA Pam 25-40. _____

13. Updated the Army Publishing Directorate, local, and higher headquarters publications accounts as required per DA Pam 25-33 and local or higher headquarters publication account instructions. _____

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

References

Required

AR 25-400-2

DA FORM 17

DA FORM 17-1

DA PAM 25-30

DA PAM 25-33

DA PAM 25-40

Chapter 4

Duty Position Tasks

10-94R. MOS 94R—Avionics and Survivability Equipment Repairer (Avionics/Surv Eq Rep), CMF 94

a. Major duties. The avionics and survivability equipment repairer performs field level maintenance on avionic navigation flight control systems, stabilization systems, equipment which operates using radar principles, and aircraft survivability equipment. Duties for MOS 94R at each level of skill are:

(1) MOSC 94R10. Uses Test, Measurement, and Diagnostic Equipment (TMDE), Test Program Sets (TPS), and Interactive Electronic Technical Manuals (IETM) to determine the cause and location of malfunctions, extent of faults, and category of maintenance required. Inspects equipment for faults and completeness. Tests equipment to determine operational condition. Troubleshoots to determine location and extent of equipment faults. Repairs equipment by adjusting, aligning, repairing, or replacing defective components. Tests repaired equipment to ensure compliance with technical specifications. Evacuates equipment and components to higher level repair activities based on the Maintenance Allocation Chart (MAC). Prepares appropriate maintenance forms and records. Logs maintenance in accordance with The Army Maintenance Management System (TAMMS). Maintains authorized spare parts, supply stock, tool lists, technical manuals, and instructional material. Perform preventive maintenance checks and services (PMCS) on TMDE, vehicles, and power generators.

(2) MOSC 94R20. Performs duties shown in preceding skill level. Performs maintenance duties that are more complex and beyond the scope and experience of those encountered by the skill level one repairer. Provides technical assistance to both subordinates and supported users. Supervises the operation and proper use of TMDE. Schedules and performs user maintenance on TMDE, tools, and special test equipment. Performs final or quality control inspection of repaired equipment and maintenance documents. Provides shop supervisor with equipment repair status, priorities, and necessity for bench stock re-supply. Maintain maintenance facility technical library.

(3) MOSC 94R30. Performs duties shown in preceding skill level. Performs maintenance duties that are more complex and beyond the scope and experience of those encountered by the skill level two repairer. Supervises and leads sections or squads of electronic repairers. Establishes workload, work schedules, and repair priorities. Assigns priority of work for job requests. Supervises final or quality control inspection of repaired equipment and maintenance documents. Supervise calibration and shop safety programs.

b. Physical demands rating and qualifications for initial award of MOS. Avionics and survivability equipment repairer must possess the following qualifications:

(1) A physical demands rating of moderately heavy.

(2) A physical profile of 222221.

(3) Qualifying scores

(a) A minimum score of 100 in aptitude area EL in Armed Services Vocational aptitude Battery (ASVAB) tests administered prior to 2 January 2002.

(b) A minimum score of 98 in aptitude area EL on ASVAB tests administered on and after 2 January 2002.

(4) A security eligibility of SECRET.

(5) Formal training by completion of the MOS 94R Course conducted under the auspices of the U.S. Army Ordnance School (USAOS) is mandatory unless a waiver is granted by Commandant, U.S. Army Ordnance School (USAOS), Fort Lee, VA 23801.

(6) Alcohol and drug abuse as defined below will disqualify any Soldier or potential enlistee from this MOS. This disqualification will not be waived, even though the Soldier/potential enlistee satisfactorily completes the Army alcohol or drug abuse rehabilitation program or a civilian equivalent, except as specified below.

(a) A medically diagnosed history of alcohol abuse as defined in the substance use disorder section of the Diagnostic and Statistical Manual III, third edition, 1980 (DSM III) is disqualifying. Cdr, HRC may waive this disqualification after a Soldier/potential enlistee in this MOS successfully completes the Army Alcohol and Drug Abuse Prevention and Control Program (ADAPCP) Track I, II or III, or its civilian equivalent, based on the recommendations of the chain of command and the Cdr, U.S. Army Aeromedical Center. A Soldier/potential enlistee who completes any aspect of the ADAPCP program and is involved in an additional offense involving alcohol or alcohol abuse will be immediately reclassified or denied enlistment in this MOS as a high risk.

(b) Except as provided in (e) below, a wrongful or improper use of narcotic or other controlled substance, or dangerous drug as defined by 21 USC 801, et seq, is disqualifying.

(c) A positive result of urine test administered per AR 600-85 that leads to medical evaluation and a finding of "no diagnosis apparent, improper use" is disqualifying.

(d) Except as provided in (e) below, a documented instance of the use, sale, transfer, possession, or manufacture of any narcotic or other controlled substance or dangerous drug as defined by 21 USC 801, et seq, is disqualifying. A documented instance includes conviction by any courts martial or any civilian court. Convictions include juvenile adjudication, non-judicial punishment under Article 15, UCMJ, or voluntary confession after proper rights warning according to Article 31(b), UCMJ.

(e) A Soldier or potential enlistee will not be disqualified for teenage civilian experimentation with marijuana or other cannabinoids disclosed in voluntary confessions of drug experimentation documented solely by information obtained from DD Form 1966, Record of Military Processing - Armed Forces of the United States: DD Form 2808, Report of Medical Examination on page 4-2. Please correct the title for this form thru-out publication or DD Form 2807-2, Medical Prescreen of Medical History Report. (Experimentation is defined as one time use of casual use over a short period of time resulting from peer pressure.) The use

disclosed must have occurred prior to the individual's 18th birthday, and prior to enlistment in any armed force.

c. *Additional skill identifiers.* (Note: Refer to table 12-8 (Listing of universal ASI's associated with all MOS)).

d. *Physical requirements and standards of grade.* Physical requirements and SG relating to each skill level are listed in the following tables:

- (1) *Table 10-94R-1.* Physical requirements.
- (2) *Table 10-94R-2.* Standards of grade TOE/MTOE.
- (3) *Table 10-94R-3.* Standards of grade TDA.

Table 4-1. Physical Requirements

10-94R-1, Physical requirements for MOS 94R		
Skill Level	Task numbers	Tasks
1	1,2,3	1. Occasionally lifts 66 pounds 3 feet and carries 15 feet as part of a 2 Soldier team (prorated 33 pounds per Soldier). 2. Must possess normal color vision. 3. Must possess finger dexterity in both hands
2	1,2,3	
3	1,2,3	

Table 4-2. Standards of Grade

10-94R-2, Standards of Grade TOE/MTOE															
Line	Duty Position	Code	Grade	Number of positions										Explanatory notes	
				1	2	3	4	5	6	7	8	10			
1	AVIONICS/SURV EQ REP	94R10	E3		1	2	2	2	2						Grades of additional positions will be in same position
2	AVIONICS/SURV EQ REP	94R10	E4	1	1	1	1	2	3	3					
3	AVIONICS/SURV EQ REP	94R20	E5	1	1	1	1	1	2						
4	AVIONICS/SURV EQ SUPV	94R30	E6												Supervision Of 7 to 13 Repairers. Subsequent position authorized in sections with 14 to 26 repairers.
5	PLATOON SERGEANT	94R30	E6												Principal NCO in a platoon with platoon leader and nine or fewer enlisted subordinates.

Notes:

1. *Blank spaces in this column indicated not applicable.
2. Unless otherwise noted in explanatory notes, single lines provide grading for one position only.
3. When TOE/MTOE organizations are supported by an augmentation TDA, augmentation (A) and base paragraphs will be graded in the aggregate.
4. When no grading guidance is provided by this table for coding TOE/MTOE, TRADOC MSCs and Non-TRADOC specified proponent (TOE Combat Developers) will coordinate with the appropriate Branch Personnel Proponents (listed in chapter 15) to support additional grading of manpower requirements.

Table 4-3. Standards of Grade

10-94R-3, Standards of Grade TDA for MOS 94R															
Line	Duty Position	Code	Grade	Number of positions										Explanatory notes	
				1	2	3	4	5	6	7	8	10			
1	AVIONICS/SURV EQ REP	94R10	E3		1	2	2	2	2						Grades of additional positions will be in same position
2	AVIONICS/SURV EQ REP	94R10	E4		1	1	1	1	2	3	3				
3	AVIONICS/SURV EQ REP	94R20	E5		1	1	1	1	1	2					
4	AVIONICS/SURV EQ SUPV	94R30	E6												Supervision of 7 to 13 Repairers. Second position authorized in sections with 14 to 26 repairers.
5	PLATOON SERGEANT	94R30	E6												Principal NCO in a platoon with platoon leader and nine or fewer enlisted subordinates.
<p>Notes:</p> <ol style="list-style-type: none"> *Blank spaces in this column indicated not applicable. Unless otherwise noted in explanatory notes, single lines provide grading for one position only. When TDA organizations are supported with additional and/or line TDA positions, the additional line (s) and base paragraphs will be graded in the aggregate. When no grading guidance is provided by this table for coding TDA, MACOM Manpower Managers will coordinate with the appropriate Branch Personnel Proponents (listed in chapter 15) to support additional grading of manpower requirements. 															

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GLOSSARY

Section I

Acronyms & Abbreviations

AAR	After action review
AIT	Advanced Individual Training
ALC	Advanced Leaders Course
AMCO	Aviation Maintenance Company
AMEDD	Army Medical Department
ASI	Additional skill Identifier
AR	Army regulation
CTC	Combat Training Centers; Cluster Terminal Concentrator
DA FORM	Department of the Army Form
DA PAM	Department of the Army pamphlet
CBRNE	Chemical, Biological, Radiological, Nuclear, and high yield explosives
ESD	Electrostatic discharge
ETM	Electronic technical manual
IETM	Interactive Electronic Technical Manual
METL	Mission essential task list
MOOTW	Military operations other than war
MOS	Military occupational specialty
MTP	Mission Training Plan
RCU	Remote control unit
SOP	Standing Operating Procedure
SLC	Senior Leaders Course (This acronym replaces ANCOC Advanced Non Commissioned Officer Course)
SM	Soldier's manual
STP	Soldier Training Publication
TB	Technical Bulletin
TG	Trainer's Guide
TM	Technical Manual
TMDE	test, measurement, and diagnostic equipment
TTP	tactics, techniques, and procedures

Section II

Terms

Technical manual (TM)

A publication that describes equipment, weapons, or weapons systems with instructions for effective use. It may include sections for instructions covering initial preparation for use and operational maintenance and overhaul.

REFERENCES

Required Publications

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

Army Regulations

AR 25-1 Information Management Army Information Technology, 25 June 2013.

AR 25-400-2 The Army Records Information Management System (ARIMS), 2 October 2007.

AR 385-10 The Army Safety Program, 27 November 2013.

AR 750-1 Army Materiel Maintenance Policy, 12 September 2013.

AR 750-43 Army Test, Measurement, and Diagnostic Equipment, 24 January 2014.

Department of the Army Forms

Unless otherwise indicated, DA forms are available on the Army Publishing Directorate (APD) Web site (<http://www.apd.army.mil>).

DA FORM 17 Requisition for Publications and Blank Forms (This form is for local use only. Do not use for requisitions to U.S. Army publications).

DA FORM 17-1 Requisition for Publications and Blank Forms (Continuation Sheet) (This form is for local use only. Do not use for requisitions to U.S. Army AG Publications Centers).

DA FORM 2028 Recommended Changes to Publications and Blank Forms.

DA FORM 2404 Equipment Inspection and Maintenance Worksheet.

DA FORM 2407 Maintenance Request.

DA FORM 2407-1 Maintenance Request Continuation Sheet.

DA FORM 3758-R Calibration and Repair Requirements Worksheet (LRA).

Department of the Army Labels

Unless otherwise indicated, DA labels are available on the Army Publishing Directorate (APD) Web site (<http://www.apd.army.mil>).

DA LABEL 80 US Army Calibrated Instrument (Available through normal supply channels).

DA LABEL 163 US Army Limited or Special Calibration (Available through normal supply channels).

Department of Defense Forms

Unless otherwise indicated, DD forms are available on the Office of the Secretary of Defense (OSD) Web site (<http://www.dtic.mil/whs/directives/infomt/forms/index.htm>).

DD FORM 1966 Record of Military Processing – Armed Forces of the United States.

DD FORM 2807-2 Medical Prescreen of Report of Medical History.

DD FORM 2808 Report of Medical Examination.

Department of the Army Pamphlets

DA PAM 25-30 Consolidated Index of Army Publications and Blank Forms, 16 July 2009.

DA PAM 25-33 User's Guide for Army Publications and Forms, 15 September 1996.

DA PAM 25-40 Army Publishing: Action Officers Guide, 7 November 2006.

DA PAM 738-751 Functional User's Manual for the Army Maintenance Management System-Aviation (TAMMS-A), 28 February 2014.

Technical Bulletins

TB 385-4 Safety Requirements for Maintenance of Electrical and Electronic Equipment, 1 July 2008.

TB 43-0116 Identification of Radioactive Items in the Army, 1 April 1998.

TB 43-0127 Maintenance and Repair of Printed Circuit Boards and Printed Wiring, 7 October 1983.

TB 43-180 Technical Bulletin Calibration and Repair Requirements for the Maintenance of Army Materiel, 1 May 2014.

TB 750-25 Maintenance of Supplies and Equipment: Army Test, Measurement and Diagnostic Equipment (TMDE) Calibration and Repair Support (C&RS) Program, 1 May 2013.

Technical Manuals

TM 1-1520-240-23&P Interactive Electronic Technical Manual Field Maintenance for Helicopter, Cargo Transport CH-47D including Repair Parts and Special Tools List (NSN 1520-01-088-3669) (EIC: RCD) (This item is included on EM 0280), 20 February 2014.

TM 11-4940-209-15 Operator, Organizational, Direct Support, General Support, and Depot Maintenance Manual: Electronic Shops, Semitrailer Mounted, AN/ASM-189 and AN/ASM-190 (Reprinted W/Basic Incl C1-3), 29 January 1968.

TM 11-4940-238-14-1 Operator's, Organizational, Direct Support and General Support Maintenance Manual for Electronic Shops, Shelter Mounted, Avionics AN/ASM-146B (NSN 4940-00-435-7764) and AN/ASM-146C (4940-01-110-9560), AN/ASM-147B (4940-00-435-7765) and AN/ASM-147C (4940-01-224-4277) (Reprinted W/Basic Incl C1-6) (This item is included on EM 0171), 16 January 1978.

TM 11-5826-227-20 Organizational Maintenance Manual for Direction Finder Sets AN/ARN-89 (NSN 5826-00-790-6453) (EIC: N/A) AN/ARN-89A (5826-00-151-2685) (EIC: N/A) and AN/ARN-89B (5826-01-021-3289) (EIC: N/A) (Reprinted W/Basic Incl C1-7) (This item is included on EM 0151), 6 August 1968.

TM 11-5826-227-34 Direct Support and General Support Maintenance Manual: Direction Finder Sets AN/ARN-89 (NSN 5826-00-790-6453) and AN/ARN-89A (5826-00-151-2685), and AN/ARM-89B (5826-01-021-3289) (Reprinted W/Basic Incl C1-7) (This item is included on EM 0151), 7 January 1971.

TM 11-5841-283-24P Organizational, Direct Support, and General Support Maintenance Repair Parts and Special Tools Lists for Radar Signal Detecting Set AN/APR-39(V)1 (NSN 5841-01-023-7112) (This item is included on EM 0170), 29 September 1983.

TM 11-5841-292-13&P Operator's, Aviation Unit, and Aviation Intermediate Maintenance Manual (Including Repair Parts And Special Tools List) Altimeter Set, Electronic AN/APN-209A(V)1 (NSN 5841-01-098-4339), AN/APN-209A(V)2 (5841-01-099-1796), AN/APN-209A(V)3 (5841-01-114-6007), AN/APN-209B(V)1 (5841-01-141-8656), AN/APN-209B(V)2 (5841-01-147-1064), AN/APN-209B(V)3 (5841-01-145-9991), AN/APN-209B(V)4 (5841-01-156-0457), AN/APN-209B(V)5 (5841-01-216-9468), AN/APN-209B(V)6 (5841-01-245-9097), AN/APN-209B(V)7 (5841-01-245-9098), AN/APN-209C(V)1 (5841-01-248-7482), AN/APN-209C(V)2 (5841-01-245-9099), AN/APN-209C(V)3 (5841-01-245-9100), AN/APN-209C(V)4 (5841-01-245-9101), AN/APN-209C(V)5 (5841-01-245-9102), AN/APN-209C(V)6 (5841-01-245-9103), AN/APN-209D(V)1 (5841-01-245-9104), AN/APN-209D(V)2 (5841-01-245-9105), AN/APN-209D(V)3 (5841-01-245-9106), AN/APN-209D(V)4 (5841-01-245-9107), AN/APN-

STP 9-94R12-SM-TG

209D(V)5 (5841-01-245-9108), AN/APN-209D(V)6 (5841-01-245-9109), AN/APN-209D(V)7 (5841-01-247-1147), 1 July 1988.

TM 11-5841-301-23P Aviation Unit and Aviation Intermediate Maintenance Repair Parts and Special Tools List for Laser Detecting Set AN/AVR-2 (NSN 5841-01-110-6665) (EIC: KDW), 1 June 1992.

TM 11-5841-301-30-1 Aviation Intermediate Maintenance Manual for Laser Detecting Set AN/AVR-2 (NSN 5841-01-110-6665) (EIC: KDW), 1 November 1992.

TM 11-5841-301-30-2 Aviation Intermediate Maintenance Manual Classified Supplement (U) Laser Detecting Set AN/AVR-2(U) (NSN 5841-01-110-6665) (EIC: KDW), 15 May 1992.

TM 11-5841-305-23&P Field Maintenance Manual Including Repair Parts and Special Tools List for Doppler GPS Navigation Sets (DGNS) AN/ASN-128B (NSN 5841-01-399-5512)(EIC: N/A) AN/ASN-128D (NSN 5841-01-531-1512)(EIC: N/A), 30 September 2012.

TM 11-5855-263-10 Operator`s Manual for Aviator`s Night Vision Imaging System (ANVIS) AN/AVS-6(V)1 (NSN 5855-01-138-4749) (EIC: IPR) AN/AVS-6(V)2 (5855-01-138-4748) (EIC: IPQ) AN/AVS-6(V)1A (5855-01-439-1745) (EIC: IPW) (This item is included on EM 0163), 1 February 2004.

TM 11-5855-264-14 Operator`s, Aviation Unit, Direct Support and General Support Maintenance Manual for Test Set, Aviator`s Night Vision Imaging System TS-3895/UV (NSN 6625-01-134-7146) (EIC:IPP) and Test Set, Electronics System TS-3895A/UV (6625-01-301-6894) (EIC: N/A) (This item is included on EM 0181), 15 March 1993.

TM 11-5855-264-24P Aviation Unit, Intermediate Direct Support, and General Support Maintenance Repair Parts and Special Tools List (Including Depot Maintenance Repair Parts and Special Tools List) for Test Sets, Electronics System TS-3895/UV (NSN 5855-01-134-7146) (EIC: IPP) AND TS-3895A/UA (5855-01-301-6894) (This item is included on EM 0181), 15 May 1992.

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TM 11-5865-200-12 Operator`s and Aviation Unit Maintenance Manual for Aviation Unit Maintenance (AVUM) Countermeasures Sets, AN/ALQ-144A(V)1 (NSN 5865-01-299-5859) AND AN/ALQ-144A(V)3 (5865-01-299-5860) AN/ALQ-144C(V)1(5865-01-518-4005)AN/ALQ-144C(V)3(5865-01-518-7873), 1 May 2010.

TM 11-5865-200-34-1 Intermediate Direct Support and Intermediate General Support Maintenance Manual Aviation Intermediate Maintenance (AVIM) Countermeasures Sets AN/ALQ-144A(V)1 (NSN: 5865-01-299-5859) AN/ALQ-144A(V)3 (5865-01-299-5860) AB/ALQ-144C(V)1 (5865-01-518-4005) AN/ALQ-144C(V)3 (5865-01-518-7873), 1 May 2010.

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TM 11-5865-202-30P Aviation Intermediate Maintenance Repair Parts and Special Tools List (Including Depot Maintenance Repair Parts and Special Tools) for Countermeasures Set, AN/ALQ-136(V)1 (NSN 5865-01-127-6880) (This item is included on EM 0170), 30 March 1984.

TM 11-5865-247-30-1 Aviation Intermediate Maintenance Manual for Countermeasures Set AN/ALQ-136(V)2 (NSN 5865-01-186-9129) (EIC: KD5) (This item is included on EM 0170), 30 March 1984.

TM 11-5895-1037-30&P Intermediate Maintenance with Illustrated Parts Breakdown for Transponder Set AN/APX-100(V) Part Numbers 4036360-0507 thru 4036360-0510, 4036360-0512 thru 4036360-0517, 4036360-0519 thru 4036360-0520, 4036370-0502 thru 4036370-0503, 4038849-0501 thru 4038849-0504, 4038849-0506 thru 4038849-0507, and 4038850-0501 A3154406, A314416, A3154422, A3154517, and A3154519 (Reprinted w/basic incl C1-3) (This item is included on EM 0151), 15 August 1998.

TM 11-5895-1733-13&P Operator, Aviation Unit (AVUM) and Aviation Intermediate (AVIM) Maintenance Manual Including Repair Parts and Special Tools List (RPSTL) Transponder Set, AN/APX-118(V) Receiver-Transmitter, Radio, RT-1836(C)/APX-118(V) (NSN: 5895-01-504-0407) (EIC: N/A) (This item is included on EM 0140), 1 June 2004.

TM 11-6625-2884-30 Aviation Intermediate Maintenance Manual for Test Set, Countermeasures Set, TS-3615/ALQ-136(V) (NSN 6625-01-121-8984), 23 February 1984.

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TM 11-6625-3058-13&P Operator`s and Organizational Maintenance Manual (Including Repair Parts And Special Tools List) for Transponder Test Set AN/APM-421 (NSN 4920-01-078-0271), 1 September 1989.

TM 11-6625-3233-13-1 Operator`s, Aviation Unit Maintenance, and Aviation Intermediate Maintenance Manual for Laser Detecting Test Set TS-4321/AVR-2 (NSN 4931-01-280-9754) (EIC: N/A) (This item is included on EM 0181), 1 September 1996.

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TM 11-6625-3233-23P Aviation Unit and Aviation Intermediate Maintenance Repair Parts and Special Tools List for Laser Detecting Test Set TS-4321/AVR-2 (NSN 4931-01-280-9754) (EIC: N/A) (This item is included on EM 0181), 1 June 1992.

TM 11-6625-3300-10 Technical Manual Operator`s Manual for Plug-In Unit, Electronic Test Equipment PL-1536/GRM (NSN 6625-01-432-3819) Plug-In Unit, Electronic Test Equipment PL-1549/GRM (NSN 6625-01-565-7494) Plug-In Unit, Electronic Test Equipment PL-1550/GRM (NSN 6625-01-558-6903) Plug-In Unit, Electronic Test Equipment PL-1553/GRM (NSN 6625-01-570-5868) and Power Supply PP-8571/GRM (NSN 6130-01-573-0829) when used with Radio Test Set AN/GRM-122 (NSN 6625-01-309-2825) (This item is included on EM 0068), 30 March 2011.

TM 11-6625-3300-23&P Field and Sustainment Maintenance Manual (Including Repairs Parts And Special Tools List) for Test Adapter J-4843A/GRM (NSN: 6625-01-432-8368) Plug-In Unit, Electronic Test Equipment PL-1550-/GRM (6625-01-558-6903) and Power Supply PP-8468/ARM-204 (6130-01-454-4265) when used with Radio Test Set AN/GRM-122 (6625-01-432-8369) (This item is included on EM 0068), 15 October 2008.

TM 11-6940-213-12 Operator and Aviation Unit Maintenance Manual for Radar Signal Simulator Set SM-674A/UPM (NSN 6625-01-274-0836) (EIC: N/A) and Radar Signal Test Adapter MX-9848A/APR-39(V) (4920-01-279-5446)(EIC: N/A) (This item is included on EM 0181), 15 October 2004.

TM 11-6940-213-30-1 Aviation Intermediate Maintenance Manual for Radar Signal Simulator Set SM-674A/UPM (NSN 6625-01-274-0836) (EIC: N/A) and Radar Signal Test Adapter MX-9848A/APR-39(V) (4920-01-279-5446) (EIC: N/A) (This item is included on EM 0181), 15 March 2002.

TM 55-4920-430-13 Operator`s, Aviation Intermediate Maintenance and Illustrated Parts Breakdown for Test Set, Bench Advanced Flight Control System (AFCS), 145G0008-1 (NSN 4920-01-121-0602) (Reprinted w/basic incl C1-2) (This item is included on EM 0083), 20 September 1983.

TM 55-4920-430-30P Aviation Intermediate Maintenance Repair Parts and Special Tools List (Including Depot Maintenance Repair Parts and Special Tools List) for Advanced Flight Control System (AFCS) Bench Test Set (NSN 4920-01-121-0602) (Reprinted w/basic incl C1) (This item is included on EM 0083), 5 August 1987.

Related Publications

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

There are no entries in this section.

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16 June 2014

By order of the Secretary of the Army:

RAYMOND T. ODIERNO
General, United States Army
Chief of Staff

Official:

A handwritten signature in black ink, appearing to read "Gerald B. O'Keefe". The signature is fluid and cursive, with the first name "Gerald" being the most prominent.

GERALD B. O'KEEFE
Administrative Assistant to the
Secretary of the Army
1407207

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