

**TECHNICAL MANUAL**

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**AVIATION INTERMEDIATE MAINTENANCE MANUAL  
UNITS UNDER TEST  
FOR  
TARGET ACQUISITION DESIGNATION SIGHT (TADS) ASSEMBLY  
NIGHT SENSOR ASSEMBLY  
DAY SENSOR SUBASSEMBLY  
CONTROL PANEL ASSEMBLY  
INDIRECT VIEW DISPLAY ELECTRONICS ASSEMBLY  
SOLID STATE CAMERA ASSEMBLY-TADS FLIR, DAY TV  
TELEVISION SENSOR ASSEMBLY  
VISUAL MULTIPLEXER ASSEMBLY  
AND  
PILOT NIGHT VISION SENSOR (PNVS) ASSEMBLY  
NIGHT SENSOR ASSEMBLY  
SOLID STATE CAMERA ASSEMBLY-PNVS  
VISUAL RELAY/MULTIPLEXER ASSEMBLY**

\*This manual supersedes TM 9-6625-476-30 dated 1 December 1987; including all changes.

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**AH-64A ATTACK HELICOPTER**

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**HEADQUARTERS, DEPARTMENT OF THE ARMY  
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## HOW TO USE THIS MANUAL

If you cannot find the information you are looking for, you cannot properly do your job. Take a few minutes to look through this manual. You will find it easier to use once you have become familiar with it.

Each chapter and section is set up to lead you through it step by step. For example:

1. On the chapter page, you will see a listing of the sections in that chapter. Listed under the section titles is a listing of the tasks for that section. Find the task (by title) that you have been assigned. Now, look across from the task title and you will find the paragraph and page number for the task. Notice that the chapter number forms part of the page number.
2. Now that you have located the page number, turn to that page and review the task requirements before starting the procedures.
3. Did you notice that each task or job begins with an initial setup?
  - a. INITIAL SETUP lists the configuration, test equipment, tools and special tools, materials/parts, military occupational specialty (MOS), references, safety instructions, condition equipment should be in, and general instructions for you to complete the task. FOLLOWUP lists the procedures to be performed after you have completed the basic task.
  - b. Now, what exactly does INITIAL SETUP mean to you? The term "INITIAL SETUP" means, "DO THIS FIRST BEFORE STARTING THE TASK." Review one of the initial setup tables and become familiar with the requirements.
4. An explanation of the initial setup headings is presented below.
  - a. Tools and Special Tools. Special tools needed to perform the task. Be sure to acquire all the tools before you start the task.
  - b. Materials/Parts. Materials and parts needed to perform the task. Materials can be found in Appendix C. Next to the name of the material listed in the initial setup you will find an item number. This number matches the item number in column (1) of Appendix C. Be sure to acquire all the materials and parts before you start the task.
  - c. Personnel Required. MOS required to do the task. This will also tell you the number of persons needed to perform the task.
5. You can also use the table of contents on page i of this manual to locate page number for chapters, sections, and the appendixes.
6. Let's see if you understand how to find a specific task. Suppose your supervisor wants you to replace a part or assembly.

Here's how you would find it:

  - a. Obtain the correct TM for the task and look up the procedure in the chapter covering the type of task you are to perform.
  - b. For example: Replacement is a maintenance task you can find located in the maintenance chapter.

## HOW TO USE THIS MANUAL (cont)

- c. Looking at the section titles listed in the maintenance chapter index, you should have located the page number for the maintenance procedures. Going to that page you found the section index and located the paragraph and page number of the replacement task.
7. Another approach would be to look in the alphabetical index in the rear of the manual.

**CHAPTER 1**

**INTRODUCTION**

Subject	Para	Page
Scope.....	1-1	1-1
Maintenance Forms, Records, and Reports .....	1-2	1-1
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References.....	1-4	1-3
Effectivity .....	1-5	1-3

**1-1. SCOPE.**

a. Type of Manual. This manual provides aviation intermediate maintenance (AVIM) supplemental testing instructions for certain units under test (UUT) (figure 1-1) that are a part of the Target Acquisition Designation Sight (TADS) Assembly AN/ASQ-170 and the Pilot Night Vision Sensor (PNVS) Assembly AN/AAQ-11 equipment.

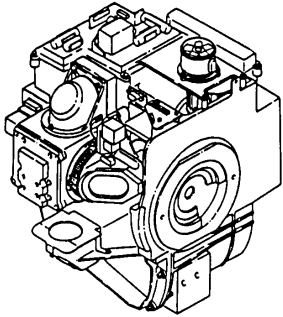
b. Equipment Names. The following items of equipment are covered (refer to appendix B for UUT and test program software part numbers):

<u>Equipment</u>	<u>End Item</u>
Night Sensor Assembly	TADS
Night Sensor Assembly	PNVS
Day Sensor Subassembly	TADS
Control Panel Assembly	TADS
Indirect View Display Electronics Assembly	TADS
Camera Assembly, Solid State - Day TV	TADS
Television Sensor Assembly	TADS
Camera Assembly, Solid State - TADS FLIR	TADS
Visual Multiplexer Assembly	TADS
Camera Assembly, Solid State - PNVS	PNVS
Visual Relay/Multiplexer Assembly	PNVS

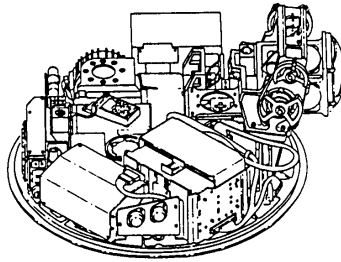
**1-2. MAINTENANCE FORMS, RECORDS, AND REPORTS.**

Department of the Army forms and procedures used for equipment maintenance will be those prescribed by DA PAM 738-751, The Army Maintenance Management System (TAMMS).

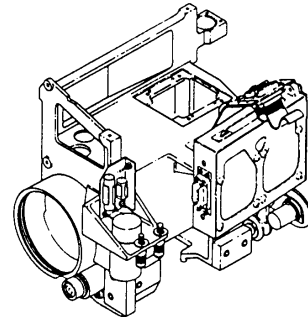
1-2. MAINTENANCE FORMS, RECORDS, AND REPORTS. (CONT)



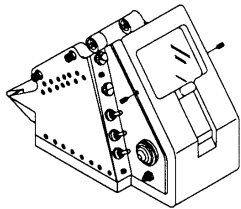
TADS NIGHT SENSOR ASSEMBLY



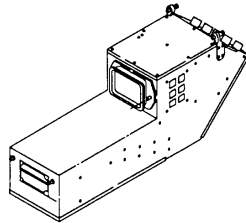
PNVS NIGHT SENSOR ASSEMBLY



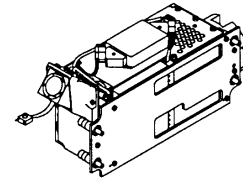
TADS DAY SENSOR SUBASSEMBLY



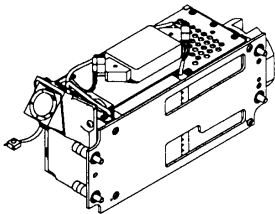
CONTROL PANEL ASSEMBLY



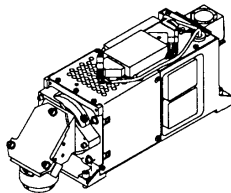
TADS INDIRECT VIEW DISPLAY  
ELECTRONICS ASSEMBLY



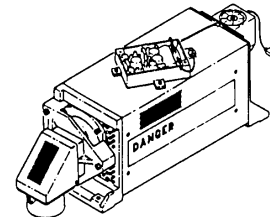
TADS CAMERA ASSEMBLY  
SOLID STATE DAY TV



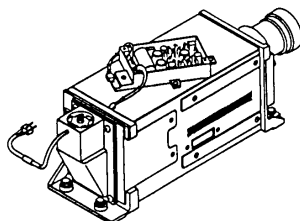
TELEVISION SENSOR ASSEMBLY



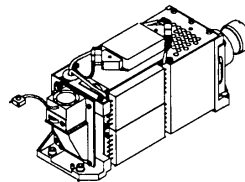
CAMERA ASSEMBLY  
SOLID STATE - TADS FLIR



VISUAL MULTIPLEXER  
ASSEMBLY



VISUAL RELAY/MULTIPLEXER  
ASSEMBLY



CAMERA ASSEMBLY  
SOLID STATE - PNVS

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Figure 1-1. Units Under Test

**1-3. OFFICIAL NOMENCLATURE, NAMES, AND DESIGNATIONS.**

Table 1-1 contains a listing of nomenclature cross-references used in this manual.

**1-4. REFERENCES.**

Refer to appendix A for a listing of all technical data referenced or used in conjunction with this manual.

**1-5. EFFECTIVITY.**

This manual replaces all test program instruction documents that were previously used during UUT testing of the seven covered test program sets.

Table 1-1. Official Nomenclature, Names, and Designations

Common Name	Official Nomenclature
EETF	Electronic Equipment Test Facility
E/O Bench Set	Test Dayside Test Bench 2A1
	Test Console Test Bench 2A2
	Nightside Test Bench 2A3
NSA	Night Sensor Assembly
PNVS	Pilot Night Vision Sensor Assembly
TADS	Target Acquisition Designation Sight Assembly

**CHAPTER 2**

**TADS NIGHT SENSOR ASSEMBLY**

	Section	Page
Preparation for Test .....	I	2-1
Description of Test .....	II	2-2
Test Prompted Procedures .....	III	2-6
Test Prompted References .....	IV	2-40

**Section I. PREPARATION FOR TEST**

Subject	Para	Page
Test Preparation .....	2-1	2-1
UUT Description .....	2-2	2-1
Precautions .....	2-3	2-1

**2-1. TEST PREPARATION.**

No special procedures are required to prepare the TADS Night Sensor Assembly (NSA) for test. Refer to the UUT/TPS/interface device matrix tables in appendix B to determine the correct UUT test program part number for the TADS NSA. Then refer to the UUT test program for a list of cables, test equipment, and test accessories required to test the TADS NSA.

**2-2. UUT DESCRIPTION.**

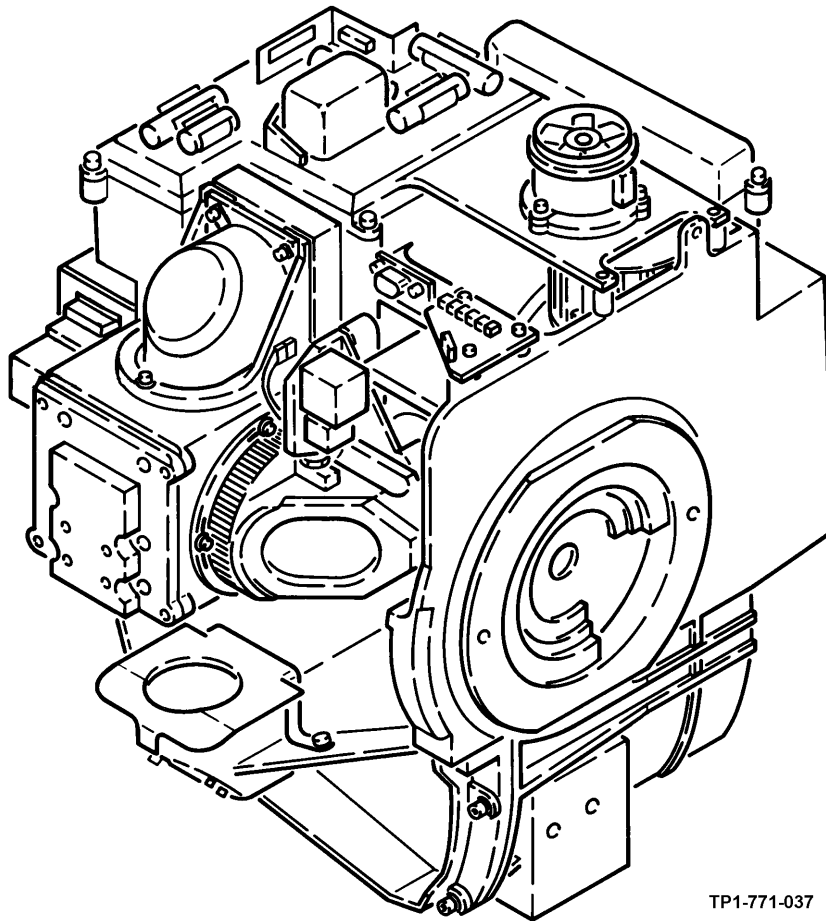
The TADS NSA (figure 2-1) is a forward looking infrared (FLIR) target imaging and designating assembly that converts IR image scenes into video to be used for target designating and tracking. It contains no operating controls or indicators. All components of the TADS NSA that are referenced during the UUT test are shown in the illustrations in Section IV.

**2-3. PRECAUTIONS.**

The TADS NSA is an electro-mechanical device containing delicate electro-optical components. Use extreme care when handling the TADS NSA to prevent damage to these components. Observe the following general guidelines when lifting or moving it.

- a. Weight. The TADS NSA weighs 55 pounds. Always get help when lifting or moving it.
- b. Optics. Do not touch optics assemblies with your bare hands. Do not use the optics assemblies for any purpose when lifting the TADS NSA. If you accidentally place any pressure or force on the optics assemblies, you could contaminate or damage them, or cause misalignment. Whenever possible, mount the TADS NSA onto its handling fixture when movement is necessary.

**2-3. PRECAUTIONS. (CONT)**



TP1-771-037

Figure 2-1. TADS Night Sensor Assembly

**Section II. DESCRIPTION OF TEST**

Subject	Para	Page
General .....	2-4	2-2
Test Concept .....	2-5	2-3
Test Description .....	2-6	2-3
Pretesting Data .....	2-7	2-5
Final Acceptance .....	2-8	2-6

**2-4. GENERAL.**

This section describes the UUT test for the TADS NSA. It includes an explanation of the way testing is accomplished and a description of the test.