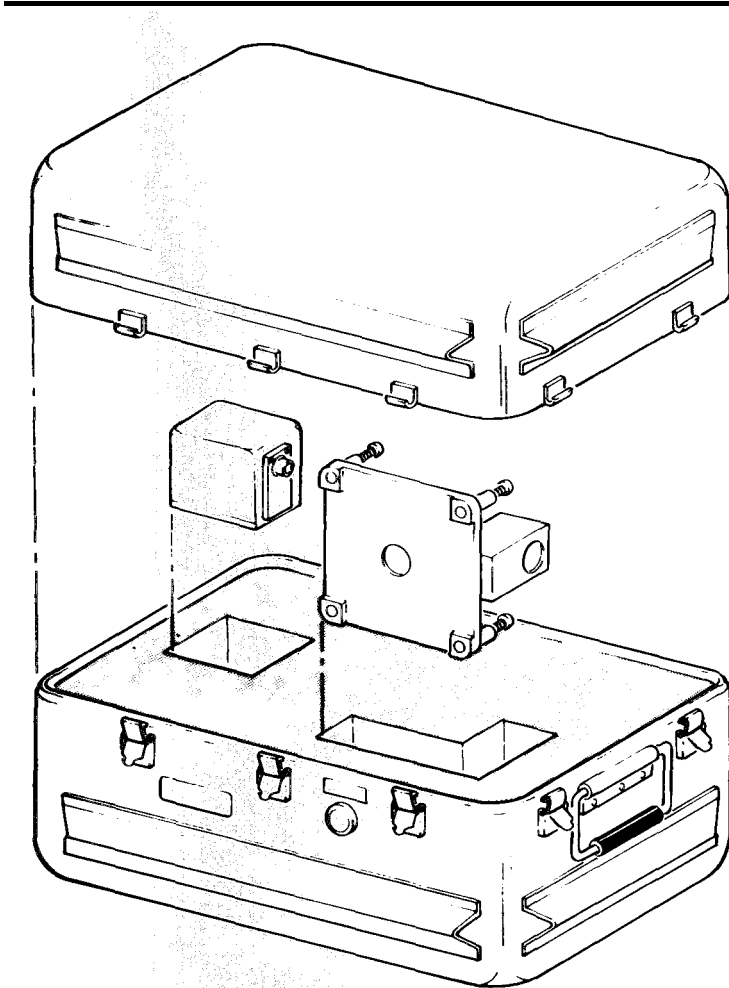


**TM 11-6625-2685-10**

**OPERATOR'S MANUAL**



**INTRODUCTION  
PAGE 1-1**

**OPERATING  
INSTRUCTIONS  
PAGE 2-1**

**AIRBORNE LASER TRACKER  
ALIGNMENT SET AN/AAM-56  
(NSN 5860-01-070-3843)**

**HEADQUARTERS, DEPARTMENT OF THE ARMY**

26 MARCH 1984





**WARNING**

The light source simulating reflected laser energy is an infrared emitting diode with a diffuse beam invisible to the naked eye. Personnel should not directly view the lens assembly. Otherwise, damage to eyes could result.

Refer to FM 21-11 for First Aid.



Technical Manual

HEADQUARTERS  
DEPARTMENT OF THE ARMY  
Washington, DC, 26 March 1984

No. 11-6625-2685-10

**OPERATOR'S MANUAL  
AIRBORNE LASER TRACKER ALIGNMENT SET,  
AN/AAM-56  
(NSN 5860-01-070-3843)**

**REPORTING ERRORS AND RECOMMENDING IMPROVEMENTS**

You can help improve this manual. If you find any mistakes or if you know of a way to improve the procedures, please let us know. Mail your letter, DA Form 2028 (Recommended Changes to Publications and Blank Forms), or DA Form 2028-2 located in back of this manual direct to: Commander, US Army Communications — Electronics Command and Fort Monmouth ATTN: DRSEL-ME-MP Fort Monmouth, New Jersey, 07703. A reply will be furnished to you.

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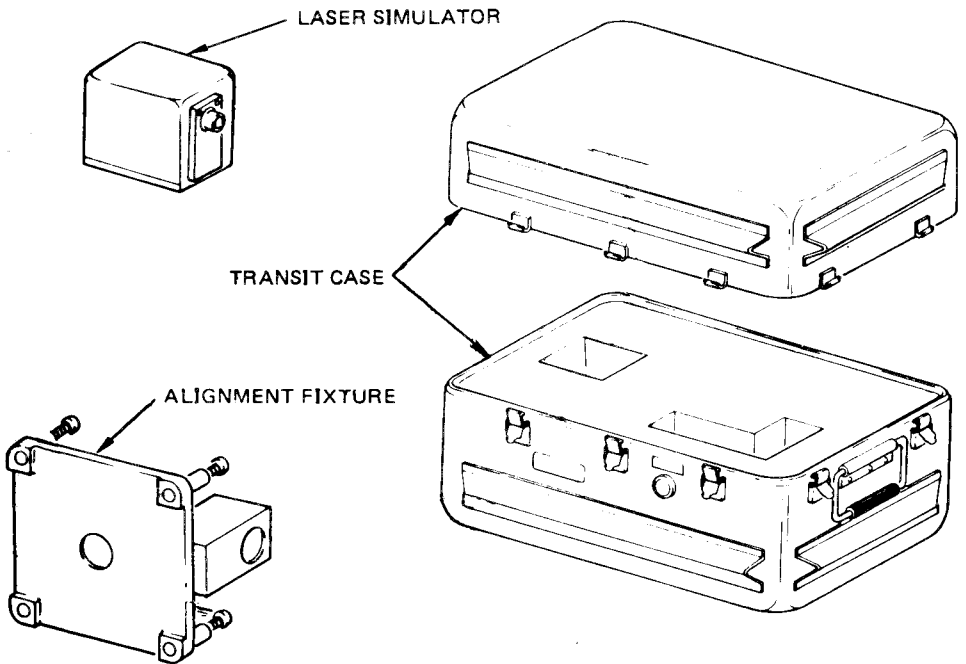
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## CHAPTER 1

## INTRODUCTION

---

**Section I. GENERAL INFORMATION**

EL8TU001

**Figure 1-1. Airborne Laser Tracker  
Alignment Set, AN/AAM-56.**

**1-1. Scope**

a. This manual contains operator information for the Airborne Laser Tracker (ALT) Alignment Set, AN/AAM-56.

b. The alignment set (fig. 1-1) is used to ensure that the ALT tracks with the Telescopic Sight Unit (TSU).

## 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 738-750 as contained in maintenance management update.

## 1-3. Reporting Equipment Improvement Recommendations (EIR)

If your alignment set needs improvement, let us know. Send us an EIR. You, the user, are the only one who can tell us what you don't like about your equipment. Let us know why you don't like the design. Put it on an SF 368 (Quality Deficiency Report). Mail it to Commander, US Army Communications - Electronics Command and Fort Monmouth, ATTN: DRSEL-ME-MP, Fort Monmouth, New Jersey 07703, We'll send you a reply.

## 1-4. Nomenclature Cross-Reference

Official and common nomenclature is listed in table 1-1.

**Table 1-1. Nomenclature Cross-Reference**

Official Nomenclature	Common Name
<b>Alignment Set, Airborne Laser Tracker AN/AAM-56</b>	<b>Alignment Set</b>
<b>Alignment Fixture, Receiver Tracker Mount MX-9624/AAM-56</b>	<b>Alignment Fixture</b>
<b>Simulator, Laser SM-706/AAM-56</b>	<b>Laser Simulator</b>
<b>Case, Alignment Set CY-7477/AAM-56</b>	<b>Transit Case</b>
<b>Airborne Laser Tracker AN/AAS-32</b>	<b>Airborne Laser Tracker</b>



## Section II. EQUIPMENT DESCRIPTION

### 1-5. Equipment Data

#### WEIGHTS

Laser Simulator	2.5 pounds
Alignment Fixture	6.5 pounds
Case	23.0 pounds

#### DIMENSIONS — CASE

Length	22.07 inches
Width	15.26 inches
Height	12.25 inches

#### DIMENSIONS — LASER SIMULATOR

Length	6.47 inches
Width	4.00 inches
Height	4.83 inches

#### DIMENSIONS — ALIGNMENT FIXTURE

Length	4.27 inches
Width	7.78 inches
Height	7.25 inches

#### POWER REQUIREMENTS

Battery	6.5 vdc
---------	---------

#### ENVIRONMENTAL OPERATING RANGES

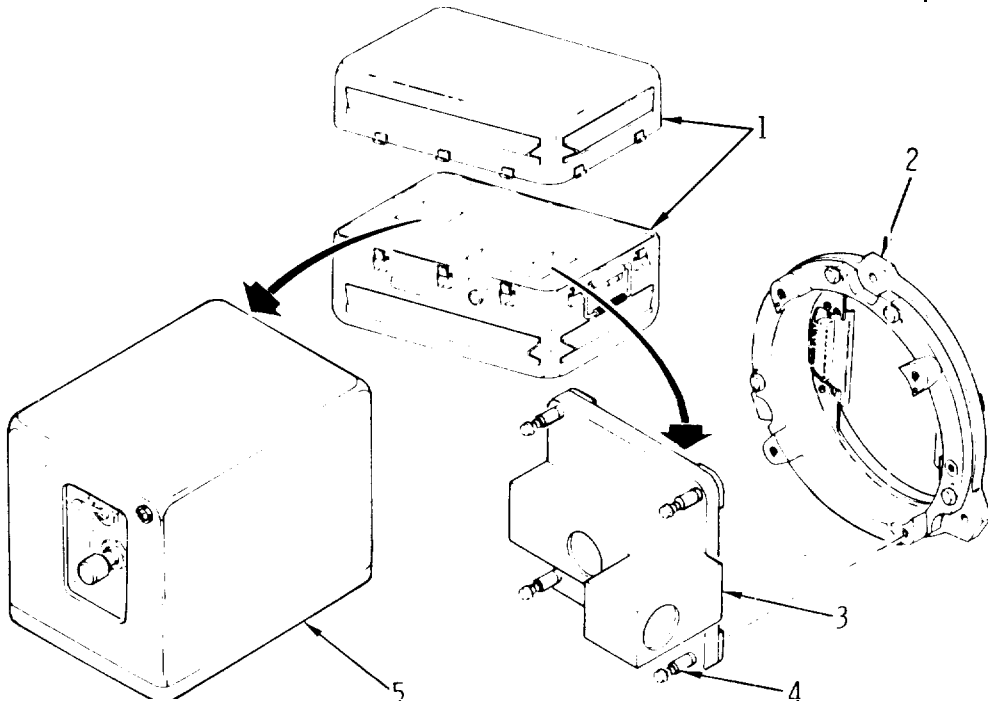
Temperature	-18° to + 55°C
Humidity	98% maximum
Altitude	10,000 ft. maximum

### 1-6. Functional Description of Components

Table 1-2 lists the components of the alignment set and is keyed to figure 1-2.

**Table 1-2. Alignment Set Component Functions**

Key	Name	Function
1	Transit Case	Provides protection and storage for laser simulator and alignment fixture.
2	Receiver Mount (not part of the alignment set)	The mount that attaches the ALT receiver to the aircraft. This is adjusted to align the ALT receiver.
3	Alignment Fixture	Attaches to the receiver mount.
4	Captive Screws	Attaches the alignment fixture to the receiver mount.
5	Laser Simulator	A battery-powered light-emitting device. It produces a pulsed light beam to simulate reflected laser energy.



**Figure 1-2. Alignment Set Components.**

EL8TU002

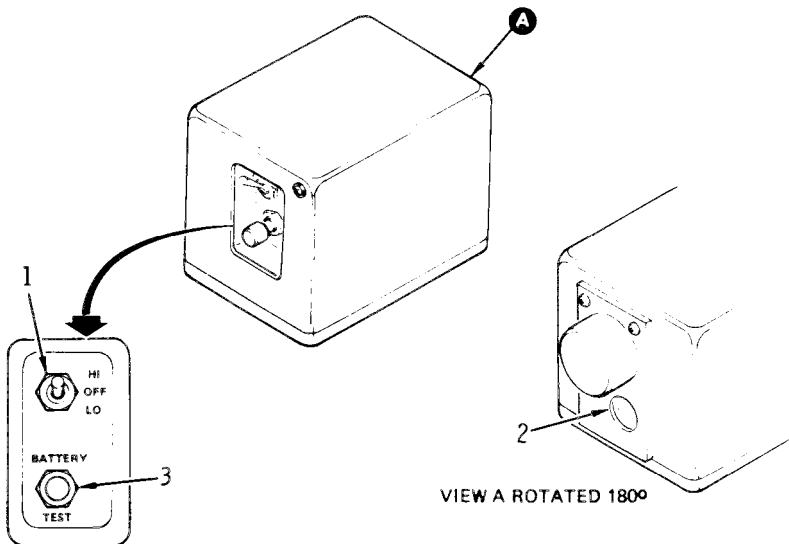
CHAPTER 2

OPERATING INSTRUCTIONS

Section I. DESCRIPTION AND USE OF OPERATOR'S CONTROLS AND INDICATORS (FIG. 2-1)

Table 2-1. Description of Operator's Controls and Indicators

Key	Control or Indicator	Function
1	<b>Mode Switch</b>	
	HI position	Selects the high pulse repetition frequency (PRF) code (light) output.
	OFF position	Removes power.
	LO position	Selects the low PRF code (light) output.
2	Lens	Light beam output lens. A diffused infrared light beam with a high or low PRF code corresponding to the position of the mode switch (1).
3	<b>BATTERY TEST indicator with dimmer</b>	Lights when pressed if battery is good. The mode switch must be in HI or LO positions. Open dimmer by turning lens counterclockwise (CCW).



FL 8TU003

Figure 2-1. Operator's Controls and Indicators.

## Section II. PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS)

### 2.1 General

To be sure that the alignment set is ready to operate, you must perform preventive maintenance checks and services (PMCS).

**a. Before you operate.** Always keep in mind the CAUTIONS and WARNINGS. Perform your before (B) PMCS.

**b. After you operate.** Be sure to perform your after (A) PMCS.

**c. If your equipment fails to operate.** Refer to higher category maintenance.

If anything looks wrong when doing your PMCS and you can't correct it yourself write it on your DA Form 2404, equipment inspection and maintenance worksheet. If you find something serious, notify organizational maintenance RIGHT NOW.

Table 2-2. Preventive Maintenance Checks and Services (PMCS)

B-Before Operation D-During operation A-After operation

ITEM No.	INTERVAL	ITEM TO BE INSPECTED	PROCEDURE	Equipment is NOT Ready/Available if:
	B			
1	X	Controls and Indicators	Place power switch to HI or LO position. BATTERY TEST indicator should light when pressed (dimmer open CCW). Place power switch to OFF position.	BATTERY TEST indicator does not light.
2	X	Lens	Check for broken lens.	Lens is broken.
3	X	Mounting	Check alignment fixture and laser.	Mounting surfaces have damage that could cause misalignment.
4	X	Captive screws	Check alignment fixture captive screws.	One or more screws are missing or damaged.

## **Section III. OPERATION UNDER USUAL CONDITIONS**

### **2-2. General**

Procedures for slewing the Telescopic Sight Unit (TSU) to the ALT are found in TM 11-5860-200-12. Before operating the laser simulator, perform the following procedure.

- a. Set power switch to HI or LO position.

#### **NOTE**

**If BATTERY TEST indicator does not light,  
notify higher category maintenance.**

- b. Press BATTERY TEST PRESS TO TEST indicator and verify lamp lights
- c. Set power switch to OFF

### **2-3. Unpacking and Preparation for Use**

The alignment set is contained in a transit case that does not require any special unpacking instructions.

### **2-4. Checking Unpacked Equipment**

- a. Inspect the equipment for damage. If the equipment has been damaged, report the damage on SF 364. The equipment should be placed in service even though a minor assembly or part that does not affect proper functioning is missing or damaged.

- b. Check to see whether the equipment has been modified. (Equipment which has been modified will have the MWO number on the front panel, near the nomenclature plate. ) Check also to see whether all current applicable MWO'S have been applied. (Current MWO'S applicable to the equipment are listed in DA Pam 310-1)

## APPENDIX A

### REFERENCES

---

#### A-1 . PUBLICATION INDEXES

Consult index for latest changes and revisions to the forms, records, and publications listed in this appendix.

Consolidated Index of Army Publications and Blank Forms . . . . . DA Pam 310-1  
 The Army Maintenance Management System (TAMMS) .. DA Pam 738-750

#### A-2. FORMS AND RECORDS

Recommended Changes to Publications . . . . . DA Form 2028  
 Report of Discrepancy (ROD) . . . . . SF 364  
 Quality Deficiency Report . . . . . SF 368

#### A-3. GENERAL PUBLICATIONS

Painting and Preservation Supplies Available for Field Use for  
 Electronics Command Equipment . . . . . SB 11-573  
 Federal Supply Codes for Manufacturers . . . . . SB 708-42

Field Instructions for Painting and Preserving Electronics  
 Command Equipment Including Camouflage Pattern Painting of  
 Electrical Equipment Shelter . . . . . TB 43-0118

Painting instructions for Field Use . . . . . TM 9-213

Operator’s Manual, Army Model AH-1S (PROD) AH-1S (ECAS),  
 and AH-1S (Modernized Cobra) Helicopters . . . . . TM 55-1520-236-10

Administrative Storage of Equipment . . . . . TM 740-0-1

Destruction of Army Electronics Materiel to Prevent  
 Enemy Use . . . . . TM 750-244-2





RECOMMENDED CHANGES TO EQUIPMENT TECHNICAL PUBLICATIONS

SOMETHING WRONG WITH THIS PUBLICATION?



THIN - JOT DOWN THE DOPE ABOUT IT ON THIS FORM. CAREFULLY TEAR IT OUT, FOLD IT AND DROP IT IN THE MAIL.

FROM (PRINT YOUR UNIT'S COMPLETE ADDRESS)  
 Commander  
 Stateside Army Depot  
 ATTN: AMSTA-US  
 Stateside, N.J. 07703

DATE SENT  
 10 July 1975

PUBLICATION NUMBER  
 TM 11-5840-340-12

PUBLICATION DATE  
 23 Jan 74

PUBLICATION TITLE  
 Radar Set AN/PRC-76

BE EXACT PIN POINT WHERE IT IS

PAGE NO	PARA GRAPH	FIGURE NO	TABLE NO
2-25	2-28		
3-10	3-3		3-1
5-6	5-8		

IN THIS SPACE TELL WHAT IS WRONG AND WHAT SHOULD BE DONE ABOUT IT:

Recommend that the installation antenna alignment procedure be changed throughout to specify a 2° IFF antenna lag rather than 1°.

REASON: Experience has shown that with only a 1° lag, the antenna servo system is too sensitive to wind gusting in excess of 25 knots, and has a tendency to rapidly accelerate and decelerate as it hunts, causing strain to the drive train. Hunting is minimized by adjusting the lag to 2° without degradation of operation.

Item 5, Function column. Change "2 db" to "3db."

REASON: The adjustment procedure for the TRANS POWER FAULT indicator calls for a 3 db (500 watts) adjustment to light the TRANS POWER FAULT indicator.

Add new step f.1 to read, "Replace cover plate removed step e.1, above."

REASON: To replace the cover plate.

Zone C 3. On J1-2, change "+24 VDC to "+5 VDC."

REASON: This is the output line of the 5 VDC power supply. +24 VDC is the input voltage.

PRINTED NAME GRADE OR TITLE AND TELEPHONE NUMBER  
 SSG I. M. DeSpirito 999-1776

SIGN HERE

DA FORM 2028-2  
 1 JUL 79

PREVIOUS EDITIONS ARE OBSOLETE.

PS -IF YOUR OUTFIT WANTS TO KNOW ABOUT YOUR RECOMMENDATION MAKE A CARBON COPY OF THIS AND GIVE IT TO YOUR HEADQUARTERS

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**SAMPLE**

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US Army Communications-Electronics Command  
and Fort Monmouth  
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PUBLICATION NUMBER

TM 11-6625-2685-10

PUBLICATION DATE

26 Mar 84

PUBLICATION TITLE Airborne Laser

Alignment Set AN AAM-56

BE EXACT PIN-POINT WHERE IT IS

PAGE NO.

PARA-GRAPH

FIGURE NO.

TABLE NO.

IN THIS SPACE TELL WHAT IS WRONG AND WHAT SHOULD BE DONE ABOUT IT:

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