

TECHNICAL MANUAL

**OPERATOR
AVIATION UNIT AND INTERMEDIATE
MAINTENANCE INSTRUCTIONS
WITH REPAIR PARTS AND
SPECIAL TOOL LISTS (RPSTL)
(INCLUDING DEPOT MAINTENANCE REPAIR PARTS
AND SPECIAL TOOL LIST)
FOR**

**TEST SET, FIRE AND FLIGHT AIR
DATA SUBSYSTEM: XM142
PN 95-112-02
NSN 4931-01-074-3322**

**PREPARED BY
MARCONI AVIONICS INC.**

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**HEADQUARTERS, DEPARTMENT OF THE ARMY
MAY 81**

Operator
Aviation Unit and Intermediate
Maintenance Instructions
with Repair Parts and
Special Tool Lists (RPSTL)
(Including Depot Maintenance Repair Parts
and Special Tool List)

For

TEST SET, FIRE AND FLIGHT AIR DATA SUBSYSTEM: XM142
Current as of 8 May 1981

REPORTING OF ERRORS

You can help improve this manual by calling attention to errors and by recommending improvements and stating your reasons for the recommendations. Your letter or DA Form 2028, Recommended Changes to Publications, should be mailed directly to Commander, US Army Armament Materiel Readiness Command, ATTN: DRSAR-MAS, Rock Island IL 61299. A reply will be furnished directly to You.

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CHAPTER 1 INTRODUCTION

Section I. GENERAL

1-1. Scope. This manual is for your use in operating and performing aviation unit maintenance (AVUM) and aviation intermediate maintenance (AVIM) of the Test Set, Fire and Flight Air Data Subsystem XM142.

1-2. Maintenance Forms and Records. Maintenance forms and records which you are required to use are listed and explained in TM 38-750.

1-3. Administrative Storage. Administrative storage procedures are contained in TM 740-90-1.

1-4. Destruction of Army Materiel to Prevent Enemy Use. Instructions for destruction of Army materiel to prevent enemy use will be as prescribed in TM 750-244-1-5.

1-5. Calibration. No calibration is required. Adjustment and alignment of the Test Set is covered in Chapter 6.

1-6. Quality Assurance/Quality Control (QA/QC). Information not available.

1-7. Reporting Equipment Improvement Recommendations (EIR). EIR's will be prepared on SF Form 368, Reporting Quality Deficiencies. Instructions for preparing EIR's are provided in TM 38-750, the Army Maintenance Management System. EIR's should be mailed directly to Commander, US. Army Armament Materiel Readiness Command ATTN: DRSAR-MAO, Rock Island, IL. 61229. A reply will be furnished directly to you.

Section II. DESCRIPTION AND TABULATED DATA

1-8. Purpose. The Test Set, Fire and Flight Air Data Subsystem: XM142, figure 1-1, supports AVIM tests of individual line replaceable units (LRU) of the Fire, and Flight Air Data Subsystem, Helicopter Armament XM 143 (Air Data Subsystem). The test set provides electrical simulation of all LRU input and output signals. All LRU input and output signals are monitored. When used with specified auxiliary equipment (refer to TM 9-1270-219-13&P), the test set can detect malfunctions and isolate the faults to a shop replaceable unit (SRU).

1-9. Description. The test set, figure 1-1, consists of the test set, Fixture, Checking and Kit, Pneumatic. The Fixture, Checking (checking fixture) and the Pneumatic Kit are stored inside the removable test set cover. Two power cables, one adapter, and three LRU interconnect cables (all part of the test set) and five four-foot lengths of tubing are also stored inside the cover. The front panel controls and indicators divide into two basic categories; those which control the electrical signals going out to the unit under test (UUT), and those which select or display the signals coming from the UUT, Figure 1-2 shows the test set with all loose equipment removed from the cover.

1-10. Differences Between Models. There are no differences between models.

1-11. Tabulated Data. Table 1-1 lists pertinent descriptive data.

Table 1-1. Tabulated Data

Dimensions:	Test Set, Fire and Flight Air Data Subsystem: XM142:	Length 19.0 in. Height 26.0 in. Width 22.0 in.
	Fixture, Checking:	Length 8.0 in. Height 9.0 in. Width 4.0 in.
Weight:	Test Set, Fire and Flight Air Data Subsystem: XM142:	100 lbs.
Input Power:	115 Vac, 50, 60 or 400 HZ, single phase, 100 volt-amperes maximum 28 Vdc, 100 watts maximum	
Test Set, Fire and Flight Air Data Subsystem: XM142 Assemblies:		
Test Set, Air Data Subsystem, Unit 1 Kit, Pneumatic		
Consisting of:		
Case Assembly		
Tubing, five 4-ft lengths.		
Fixture, Checking		

Table 1-1. Tabulated Data - Continued

Test Set, Air Data Subsystem Subassemblies:

Panel/Chassis Assy, Wired 1A5
Card Rack Assembly 1A5A1
Circuit Card Assembly, Display Driver 1A1
Circuit Card Assembly, Clock and Comparator 1A2
Circuit Card Assembly, Buffer and Oscillator 1A3
Circuit Card Assembly, Extender Board 1A4

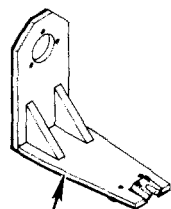
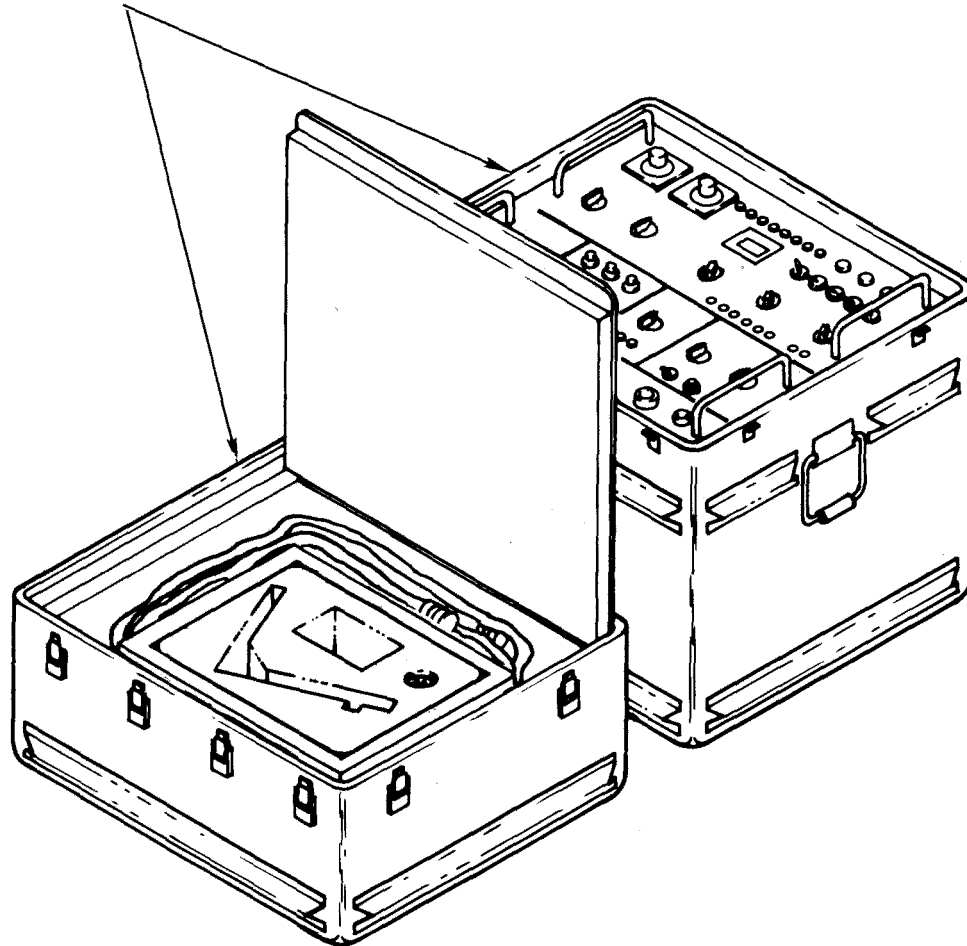
Test Set, Air Data Subsystem Loose Equipment:

Cable Assembly, AC Power W1
Cable Assembly, DC Power W2
Cable Assembly, LAI W3
Cable Assembly, EPU W4
Cable Assembly, AADS W5
Adapter Assembly W6

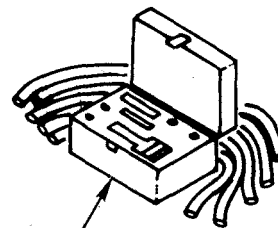
1-12. Special Tools and Equipment. Test cable (figure 1-3) is required for testing in Chapters 5 and 6.

1-13. Spares and Repair Parts. Spares and repair parts are listed and illustrated in Appendix E of this manual.

TEST SET, AIR DATA SUBSYSTEM



FIXTURE, CHECKING



KIT, PNEUMATIC

AR 918979

Figure 1-1. Test Set, Fire and Flight Air Data Subsystem: XM142