

TECHNICAL MANUAL

**OPERATOR'S AND AVIATION UNIT
MAINTENANCE MANUAL
(Including Repair Parts and Special Tools List)**

FOR

**DISPENSER, GENERAL PURPOSE
AIRCRAFT: M130
PN 9311430 (1095-01-036-6886)**

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**HEADQUARTERS, DEPARTMENT OF THE ARMY
18 July 1995**

Operator's and Aviation Unit Maintenance Manual

For

**DISPENSER, GENERAL PURPOSE, AIRCRAFT: M130
PN 9311430 (1095-01-036-6886)**

Current as of July, 1994 for appendix C

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 the back of this manual direct to: Director, Armament and Chemical Acquisition and Logistics Activity, ATTN: AMSTA-AC-MAS, Rock Island, IL 61201-9948. A reply will be furnished to you.

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This manual along with TM 9-1095-206-30&P supersedes TM 9-1095-206-23&P dated 15 November 1988, with changes.

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HOW TO USE THIS MANUAL

This manual covers Operator's and Aviation Unit Maintenance (AVUM) levels maintenance support tasks for the M130 general purpose aircraft dispenser.

WHAT'S IN THE MANUAL - FRONT TO BACK

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SUMMARY OF WARNINGS AND FIRST AID

The list summarizes critical WARNINGS in this manual. They are repeated here to let you know how important they are. Study these WARNINGS carefully they can save your life and the lives of soldiers you work with.

WARNING

Personnel performing instructions involving operations, procedures, and practices which are included or implied in this technical manual shall observe the following instructions. Disregard of these warnings and precautionary information can cause serious injury or DEATH.

SUMMARY OF WARNINGS AND FIRST AID lists the warnings and first aid information in this manual. These warnings contain additional information about things that could hurt or kill personnel. The maintenance task may have a slightly different version of these warnings.

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TABLE OF CONTENTS lists the chapters, sections, and appendixes in this manual. It also lists the pages where chapters, sections, and appendixes can be found.

CHAPTER 1 covers general information and gives a quick review of major components and features of the M130 general purpose aircraft dispenser.

CHAPTER 2 contains information for Service Upon Receipt, PMCS, Troubleshooting, Loading and Unloading, Testing, Maintenance, and Preparation for Storage or Shipment authorized to be performed at the Operator's and Aviation Unit Maintenance (AVUM) level.

<p>APPENDIX A</p> <p>REFERENCES</p> <p>A-1. PURPOSE</p> <p>This appendix lists publications which apply to maintaining the Dispenser, General Purpose, Aircraft: M130.</p> <p>A-2. ARRANGEMENT</p> <p>The publications are arranged by type and then in alphanumeric order by publication number.</p> <p>TECHNICAL MANUALS (TM)</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 30%;">TM 9-1300-206</td> <td>Ammunition and Explosives Standards</td> </tr> <tr> <td>TM 9-1370-203-20&P</td> <td>Organizational Maintenance Manual (Including Repair Parts and Special Tools List) For Military Pyrotechnics</td> </tr> </table>	TM 9-1300-206	Ammunition and Explosives Standards	TM 9-1370-203-20&P	Organizational Maintenance Manual (Including Repair Parts and Special Tools List) For Military Pyrotechnics	<p>TM 9-1095-206-12&P</p>
TM 9-1300-206	Ammunition and Explosives Standards				
TM 9-1370-203-20&P	Organizational Maintenance Manual (Including Repair Parts and Special Tools List) For Military Pyrotechnics				

APPENDIX A lists references such as technical manuals and other publications to be used by personnel.

<p>APPENDIX B</p> <p>MAINTENANCE ALLOCATION CHART</p> <p>Section I. INTRODUCTION</p> <p>B-1. MAINTENANCE ALLOCATION CHART</p> <p>This section provides an explanation of all maintenance and repair functions authorized at various maintenance levels.</p> <p style="margin-left: 40px;">a. This maintenance allocation chart (MAC) assigns maintenance functions in accordance with the three levels of maintenance concept for Army aviation. These maintenance levels (categories) - Operator's and aviation unit maintenance (AVUM), aviation intermediate maintenance(AVIM) and depot maintenance - are depicted on the MAC as:</p>	<p>TM 9-1095-206-12&P</p>
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APPENDIX B provides an explanation of all maintenance and repair functions authorized at various maintenance levels.

TM 9-1095-206-12&P

APPENDIX C
OPERATOR'S AND AVIATION UNIT MAINTENANCE
REPAIR PARTS AND SPECIAL TOOLS LIST
SECTION I. INTRODUCTION

C-1. SCOPE
This RSPSTL lists and authorizes spares and repair parts special tools; special test, measurement, and diagnostic equipment (TMDE); and other special support equipment required for

APPENDIX C lists repair parts and special tools required for the operation and performance of operator's and aviation unit and aviation intermediate maintenance.

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APPENDIX D
EXPENDABLE/DURABLE SUPPLIES AND MATERIALS LIST
Section I. INTRODUCTION

D-1. SCOPE
This appendix lists expendable/durable supplies and materials you will need to operate and maintain the M130 general purpose dispenser.

APPENDIX D lists expendable/durable supplies and materials used to maintain or repair the system.

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APPENDIX E
ELECTRICAL WIRING/LOGICAL DIAGRAMS

E-1. PURPOSE
This appendix lists diagrams which could aid an experienced individual in troubleshooting methods to isolate uncommon electrical functional faults not covered by the test procedures of this manual for maintaining the Dispenser, General Purpose, Aircraft M130. These diagrams


APPENDIX E lists and provides electrical wiring/logical diagrams to aid in the troubleshooting of the M130 general purpose dispenser system.

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INDEX contains an alphabetical list of information. Usually each subject is presented in more than one way to make information easier to find.

RECOMMENDED CHANGES TO EQUIPMENT TECHNICAL PUBLICATIONS

SOMETHING WRONG WITH THIS PUBLICATION?



THEN JOT DOWN THE DOPE ABOUT IT ON THIS FORM CAREFULLY TEAR IT OUT FOLD IT AND DROP IT IN THE MAIL

FROM (PRINT YOUR UNITS COMPLETE ADDRESS)

DATE SENT

PUBLICATION NUMBER TM 9-1095-206-12&P		PUBLICATION DATE 28 Dec. 94		PUBLICATION TITLE Operator's and Aviation Unit Maintenance Man. w/RPSTL for M130 Dispenser	
BE EXACT		PIN-POINT WHERE IT IS		IN THIS SPACE TELL WHAT IS WRONG AND WHAT SHOULD BE DONE ABOUT IT	
PAGE NO	PARA GRAPH	FIGURE NO	TABLE NO		

DA FORM 2028-2 is used to recommend changes to the manual.

METRIC SYSTEM AND EQUIVALENTS provides information to convert between English and Metric equivalents.

THE METRIC SYSTEM AND EQUIVALENTS	
<p>LINEAR MEASURE</p> <p>1 Centimeter = 10 Millimeters = 0.01 Meters 0.3937 Inches 1 Meter = 100 Centimeters = 1000 Millimeters = 39.37 Inches 1 Kilometer = 1000 Meters = 0.621 Miles</p> <p>WEIGHTS</p> <p>1 Gram = 0.001 Kilograms = 1000 Milligrams = 0.035 Ounces 1 Kilogram = 1000 Grams = 2.2 Lb 1 Metric Ton = 1000 Kilograms = 1 Megagram = 1.1 Short Tons</p> <p>LIQUID MEASURE</p> <p>1 Milliliter = 0.001 Liters = 0.0338 Fluid Ounces</p>	<p>SQUARE MEASURE</p> <p>1 Sq Centimeter = 100 Sq Millimeters = 0.155 Sq Inches 1 Sq Meter = 10,000 Sq Centimeters = 10.76 Sq Feet 1 Sq Kilometer = 1,000,000 Sq Meters = 0.386 Sq Miles</p> <p>CUBIC MEASURE</p> <p>1 Cu Centimeter = 1000 Cu Millimeters = 0.06 Cu Inches 1 Cu Meter = 1,000,000 Cu Centimeters = 35.31 Cu Feet</p> <p>TEMPERATURE</p> <p>5/9 (°F - 32) = °C 212° Fahrenheit is equivalent to 100° Celsius</p>

USING YOUR MANUAL ON THE JOB

Like any tool, the best way to learn about this manual is to practice using it. Knowing how to use this manual will save both time and money.

To help you find the information you need, each chapter and section of this manual begins with an index which lists the contents of the chapter and/or section by title and page/paragraph.

Where do you start?

A malfunction is discovered in one of two ways: during normal operation; or during normal maintenance such as inspection, PMCS, or other scheduled testing. The symptoms of the malfunction may be common or unusual, but identification of fault symptoms is the first step in the troubleshooting process.

Entry into the troubleshooting process is based on observed fault symptoms. It is important that you identify the fault symptoms as accurately as possible and then use the Symptom Index as an aid to identify the item that needs repair or replacement. If you feel confident that you have defined the fault symptoms as well as you can, you can refer directly to the Symptom Index.

The Symptom Index describes the more common fault symptoms that you may encounter, specifies the actions to be taken, and references the places where these actions can be found.

SYMPTOM INDEX	
	Troubleshooting Procedure (Page)
DISPENSER CONTROL PANEL ASSEMBLY	
ARM lamp does not light when depressed	2-7
ARM lamp remains on when released	2-7
Panel lighting does not function	2-7
ARM LAMP does not light when Arm-Safe Switch is in the Arm Position	2-7

How do you fix the problem - A Quick Overview

1. Turn to the task referenced in the Symptom Index and read it carefully before starting. Pay attention to warnings and cautions. Get the equipment, supplies, and any other personnel needed. If a task requires part replacement, refer to the Repair Parts and Special Tools List (RPSTL), Appendix C.
2. Start with step 1 in the task and do each step in order. When the last step is done, the problem will be corrected.

Finding A Task

Using another manual could result in reference to a task in this manual. For example, you were referenced to this manual to find the task REPAIR OF FRONT AND REAR PANEL ASSEMBLY. To find where the task is located, refer to the Index at the back of this manual.

Using the INDEX

The Index lists each task under one or more headings. The task, REPAIR OF FRONT AND REAR PANEL ASSEMBLY could be found:

Under "F"
Front and rear panel assembly - Repair, 2-21

Turn to paragraph 2-21.

Beginning the Task

When you find paragraph 2-21, read the top half of the page. See the following example with its legend.

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① **2-21. REPAIR OF FRONT AND REAR PANEL ASSEMBLY**

② **DESCRIPTION**
 This task covers: Repair of the front and rear panel assembly.

INITIAL SETUP

③ Tool/Test and Support Equipment: Tool Kit, Electronic, Equipment TK-101/G	⑤ Personnel Required MOS 68N
④ Materials/Parts: Fuse (F02B32Y15A) Lamp (MS25237-327)	⑥ Equipment Conditions: REPAIR OF FRONT AND REAR PANEL ASSEMBLY remove/replace fuse or lamp

Legend to Example Above

- | | | |
|----|----------------------|--|
| 1. | Title | This is the paragraph/task number and name of the task. |
| 2. | Description | This describes the overall actions you will perform. |
| 3. | Tools | These are the tools and equipment you will need to complete the task. Tools found in the general electronic tool kit are not listed separately. |
| 4. | Materials | These are the consumable materials you will need to do the task. Consumable materials are listed in the Expendable/Durable Supplies and Materials List (Appendix D). Use the Repair Parts and Special Tools List (RPSTL) to order the parts you need for the task. |
| 5. | Personnel Required | This identifies the personnel and skill level needed to perform the task. |
| 6. | Equipment Conditions | This identifies the precondition functions that must be performed before you start the task. |

Using the Task Steps

Read through the task for step-by-step illustrated instructions. The numbered steps in capital letters tell WHAT to do and HOW to do it.

Below is the bottom half of the first page of the task, REPAIR OF FRONT AND REAR PANEL ASSEMBLY. As you read step 1, match each numbered part in the instructions with the same number in the illustration. It is important to do each step in the order given. Note the boxed word, REPAIR, in the top left corner. It labels the major actions for this task. In this and other tasks, you could also see boxed words like INSPECTION/REPAIR and ASSEMBLY.

REPAIR

1. UNSCREW INDICATOR LIGHT LENS (1) AND REMOVE LAMP (2) FROM INDICATOR LIGHT (3). ALSO INSPECT LAMP FOR CORROSION, BREAKS, AND DAMAGE.
2. UNSCREW FUSEHOLDER CAP (4) AND REMOVE FUSE (5) FROM FUSEHOLDER (6).
3. INSPECT FUSE FOR BROKEN ELEMENT AND DAMAGE.
4. REPAIR IS BY REPLACEMENT OF AUTHORIZED PARTS (APPX C) WHICH DO NOT MEET THE INSPECTION CRITERIA.

5. INSTALL NEW FUSE (5) AND FUSEHOLDER CAP (4) ON FUSEHOLDER (6).
6. INSTALL NEW LAMP (2) AND INDICATOR LIGHT LENS (1) ON INDICATOR LIGHT (3).

DEFINITION OF TASK TERMS

Warnings, Cautions, and Notes

Pay attention to all warnings and cautions within the task. Ignoring a warning could cause death or injury to personnel. Ignoring a caution could cause damage to equipment. Notes contain facts to make the task easier. Both warnings and cautions always appear before the steps to which they apply.

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WARNINGS: Call attention to conditions, practices, or procedures which could kill or injure personnel. Warnings are also listed in the front of the manual.



Ensure payload module assembly is not connected to dispenser assembly at any time during this test.

CAUTIONS: Call attention to conditions, practices, or procedures which could damage equipment.



On the M92 test set, do not press STRAY VOLTAGE SELF TEST switch during the following system not reset test.

NOTES: Contain essential information of special importance, interest, or aid in job performance to make the task easier

NOTE

Ensure that no cable or other object will block the flare simulator light from the flare sensor assembly.

Kinds of Tasks

"Repair"
Tasks which disassemble, inspect, repair, and assemble components.

". Test"
Tasks which test the functions of the armament subsystem for proper operation.

Comments on Tasks

The following comments apply to all tasks.

1. The term task or paragraph maybe used interchangeably.
2. Consumable materials are listed under materials.
3. Removed components must be cleaned, inspected, and reinstalled if found to be serviceable.
4. Cleaning and inspection must be done according to general maintenance instructions.
5. A new component must be installed if inspection indicates a removed component is unserviceable.
6. Disposition of unserviceable components must be handled in accordance with maintenance direction.

CHAPTER 1 INTRODUCTION

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Section I. GENERAL INFORMATION

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Destruction of Army Materiel to Prevent Enemy Use	1-3
Preparation for Storage or Shipment	1-4
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1-1. SCOPE

The scope of this manual is listed below.

1. **Type of Manual.** Operator's and Aviation Unit Maintenance (AVUM).
2. **Model Number and Equipment Name.** M130 general purpose aircraft dispenser.
3. **Purpose of Equipment.** Provides Army aircraft with effective countermeasure against hostile radarguided weapon systems and infrared-seeking missile threats.

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 Aviation (TAMMS-A).

1-3. DESTRUCTION OF ARMY MATERIEL TO PREVENT ENEMY USE

Refer to TM 750-244-1-5 for destruction of ammunition. Refer to TM 750-244-7 for destruction of the M130 general purpose dispenser.

1-4. PREPARATION FOR STORAGE OR SHIPMENT

Instructions for processing and packaging the M130 general purpose dispenser for storage or shipment are given in in chapter 2.

1-5. QUALITY ASSURANCE/QUALITY CONTROL (QA/QC)

Refer to applicable technical publications for all pertinent QA/QC information.

1-6. REPORTING EQUIPMENT IMPROVEMENT RECOMMENDATIONS (EIR'S)

If your M130 general purpose dispenser 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 direct to: Commander, Armament Research, Development and Engineering Center (ARDEC), ATTN: **AMSTA-AR-QAW (R)**, Rock Island, IL 61299-7300. We'll send you a reply.

1-7. CORROSION INFORMATION

Corrosion prevention and control (CPC) of Army materiel is a continuing concern. It is important that any corrosion problems with this item be reported so that the problem can be corrected and improvements can be made to prevent the problem in future items.

While corrosion is typically associated with rusting of metals, it can also include deterioration of other materials such as rubber and plastic. Unusual cracking, softening, swelling, or breaking of these materials may be a corrosion problem.

If a corrosion problem is identified, it can be reported using Standard Form 368, Quality Deficiency Report. Use of key words such as "corrosion", "rust", or "cracking" will assure that the information is identified as a CPC problem.

The form should be submitted to:

**Commander
U.S. Army Armament Research, Development and Engineering Center
AITN: AMSTA-AR-QAW (R)
Rock Island, IL 61299-7300**

Section II. EQUIPMENT DESCRIPTION AND DATA

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Location and Description of Major Components	1-9
Equipment Data	1-10
Safety, Care, and Handling	1-11

1-8. EQUIPMENT CHARACTERISTICS, CAPABILITIES, AND FEATURES

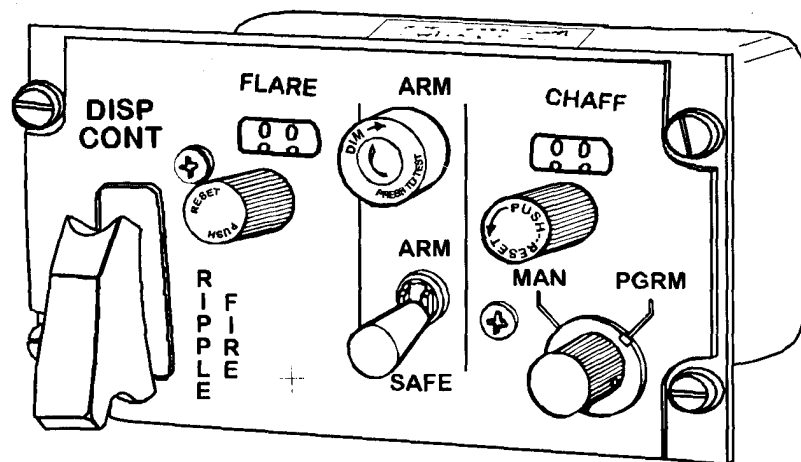
The characteristics, capabilities, and features of the M130 general purpose dispenser are listed below.

- 1. Characteristics.** Electrically-powered and constructed of modules for fast replacement.
- 2. Capabilities and Features.** Can disperse either thirty decoy flares or thirty chaff cartridges as applicable. Additional dispenser assembly and payload module assembly on specific aircraft will increase the capability of the system.

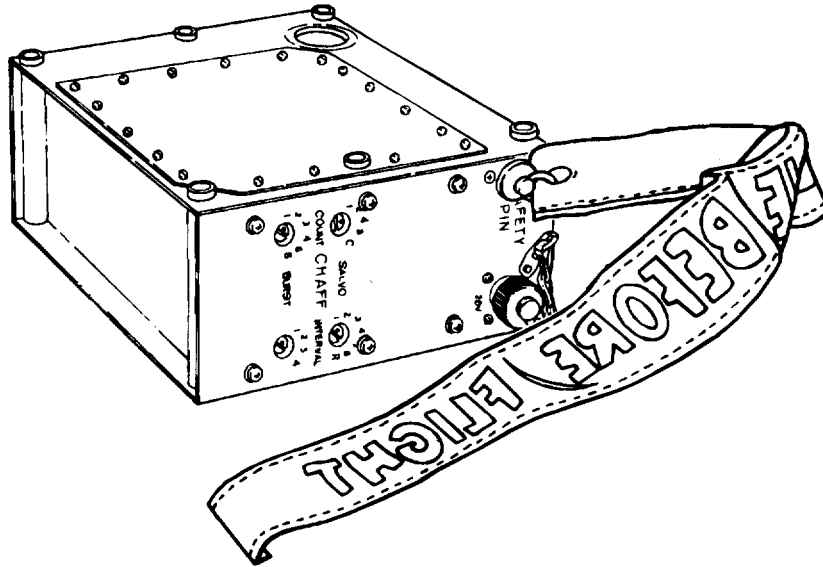
1-9. LOCATION AND DESCRIPTION OF MAJOR COMPONENTS

The M130 general purpose dispenser consists of the following major components.

- 1. Dispenser Control Panel Assembly (DCP).** Mounted inside the aircraft, it has the necessary controls to fire the chaff or flare in either programmed or manual modes. The counters indicate the number of chaffs or flares remaining in the payload module assembly. The counters are manually set prior to each mission to agree with the number of chaffs or flares loaded.



- 2. Electronics Module Assembly (EM).** Attached either internally or to the external surface of the aircraft, it contains a programmer and a cable assembly which includes a 28-volt supply receptacle and a safety pin with flag assembly. On some aircraft installations the 28-volt supply receptacles and the safety switch have been relocated in the aircraft cable and are therefore remote from the EM.



- 3. Dispenser Assembly.** Attaches to the electronics module assembly or the external surface of the aircraft. It contains the breech, flare sensor, selector switch (C and F) for chaff or flare, reset switch, and housing. The housing contains the sequencer assembly which furnishes impulses to fire (in sequential order) each of the impulse cartridges.

