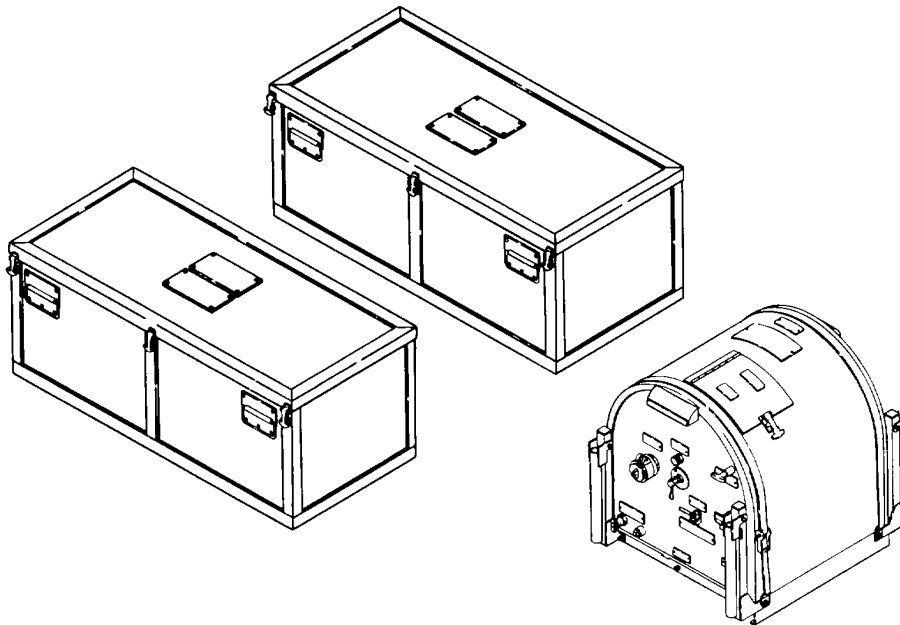


**OPERATOR'S, UNIT,
DIRECT SUPPORT AND GENERAL
SUPPORT MAINTENANCE MANUAL**



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**PUMPING ASSEMBLY, FLAMMABLE
LIQUID, BULK TRANSFER,
50 GPM, DIESEL-ENGINE DRIVEN,
MODEL M2D88
(NSN 4320-01-286-5181)**

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**HEADQUARTERS, DEPARTMENT OF THE ARMY
28 MAY 1993**

TECHNICAL MANUAL

No.10-4320-311 -14

HEADQUARTERS
DEPARTMENT OF THE ARMY
WASHINGTON D.C., 28 May 1993**OPERATOR, UNIT, DIRECT SUPPORT, AND
GENERAL SUPPORT MAINTENANCE MANUAL****FOR****PUMPING ASSEMBLY, FLAMMABLE LIQUID, BULK TRANSFER,
50 GPM, DIESEL-ENGINE DRIVEN
CAGE NO.76371, MODEL M2D88, NSN 4320-01-286-5181****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: Commander, U.S. Army Aviation and Troop Command, ATTN: AMSAT-I-MP, 4300 Goodfellow Boulevard, St. Louis, MO 63120-1798. A reply will be furnished directly to you.

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HOW TO USE THIS MANUAL

You must familiarize yourself with the entire maintenance procedures before beginning the maintenance task.

Access to the information contained in this technical manual is made easy by the use of front cover Index. This index lists the major divisions of the technical manual (i.e. chapters, appendices, glossary, and index) and relates each division title to the contents of that division by lining up heavy black margin marks on the cover with a corresponding heavy black margin mark on the right hand side of the first page of the related major division.

Personnel needing general information on the equipment should refer to Chapter 1.

Personnel tasked with operation of the equipment should refer to Chapters 2 and 3.

Personnel tasked with maintenance at unit, direct support, and general support maintenance echelons should refer to Chapters 4, 5, and 6, respectively. Higher maintenance echelon personnel may use lower echelon procedures as needed.

This technical manual contains operating instructions and information, and unit, direct support, and general support maintenance procedures for a diesel-engine driven, pumping unit.

A listing of general warnings associated with the equipment and the tasks covered in this technical manual is contained in the front of this technical manual. WARNINGS, CAUTIONS, and NOTES are used within the technical manual to alert the user to potential personnel hazards, equipment hazards, and helpful explanatory information.

A detailed table of contents is provided that will allow the user to locate specific chapters and sections within the technical manual.

The Instructions, Information, and procedures in this technical manual are divided into chapters and sections. Each chapter is specifically targeted to the intended user of that chapter, as described in the chapter titles. Examples of these chapter titles are: OPERATING INSTRUCTIONS, OPERATOR MAINTENANCE INSTRUCTIONS, and GENERAL SUPPORT MAINTENANCE INSTRUCTIONS. These chapters attempt to communicate to a user having specific skills and capabilities. Appendices contain supplementary information to support the user of this technical manual. The types of information contained in the appendices are:

- Appendix A, References, contains a listing of other documents that are related to the equipment covered in this technical manual.
- Appendix B, Maintenance Allocation Chart, provides a general explanation of all maintenance and repair functions authorized at various maintenance levels, designates overall responsibility for performance of maintenance functions, lists tools and test equipment needed for specific maintenance functions, and supplemental instructions and explanatory notes.
- Appendix C, Components of End Item (COEI) and Basic Issue Items (BII) Lists, provides information that will help using activities to inventory items required for safe and efficient operation of the equipment.
- Appendix D, Additional Authorization List, lists additional items the using activity is authorized for support of the equipment.
- Appendix Expendable/Durable Supplies and Materials List, provides information on supplies and materials required to operate and maintain the equipment.

A glossary is provided after Appendix G. It contains information on abbreviations used in this technical manual. Following the glossary is an alphabetical index to allow the user to easily find specific information contained in the technical manual.

Procedures and instructions contained in this technical manual are simply written and heavily illustrated to make them easy to understand and use.

With the exception of Chapters 1 and 2, the order of presentation of the instructions, information, and procedures contained within each chapter is in the order of the Maintenance Allocation Chart contained in Appendix B.

CHAPTER 1 INTRODUCTION

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Section I. GENERAL INFORMATION

1-1. Scope. This manual is for use by personnel responsible for operation and maintenance of the Pumping Assembly, Flammable Liquid, Bulk Transfer, 50 GPM, Diesel-Engine Driven, Model M2D88. This manual provides the operator with the necessary instructions to setup this equipment, operate it, and perform required operator maintenance in accordance with the Maintenance Allocation Chart (MAC) in Appendix B. Additionally, troubleshooting and maintenance instructions for unit, direct support, and general support maintenance echelons are provided. The Model M2D88 Diesel-Engine Driven, Flammable Liquid, Bulk Transfer, 50 GPM Pumping Assembly (hereafter referred to as the pumping unit) consists of a portable pump assembly (hereafter referred to as the pump assembly), two storage chests to contain the pump accessories, and the pump accessories (three suction hoses, three discharge hoses, Y-connectors, couplings, ground rod with attachments, drum suction stub unloader assembly, and two nozzle assemblies). The purpose of the pumping unit is to provide a method of safely pumping flammable liquid with self-contained and easily transportable equipment.

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, The Army Maintenance Management System (TAMMS).

1-3. Destruction of Army Materiel to Prevent Enemy Use. For destruction procedures for materiel refer to TM 750-244-3.

1-4. Preparation for Storage or Shipment. See unit maintenance Instructions for procedures developed to ensure safe storage and shipment of the pumping unit.

1-5. Safety, Care, and Handling. Observe all WARNINGS, CAUTIONS, and NOTES In this manual. This equipment can be dangerous or may be damaged If these Instructions are not followed.

1-6. Reporting Equipment Improvement Recommendations (EIR's). if your pumping unit 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 or performance. Put It on an SF 368 (Quality Deficiency Report). Mail it to, Commander, U.S. Army Troop Support Command, ATTN AMSTR-MOF, 4300 Goodfellow Blvd., St. Louis, MO 63120-1798 We'll send you a reply

1-7. Warranty. The pumping unit Is warranted for a period of two years. The warranty starts on the date found in block 23, DA Form 2408-9 in the logbook. Report all defects in material and workmanship to your supervisor, who will take the appropriate action.

General Requirements.

a. Supply the unit model number, serial number, date of failure, part number, description of the defective part, and description of failure.

b. Advance shipping approval must be obtained by contacting the MECO[®] Parts Department by letter, telex, or telephone, at which time the customer will receive a return authorization number.

Mechanical Equipment Co. (MECO[®])
861 Carondelet Street
New Orleans, LA 70130
504-523-7271

c. All parts or components returned to MECO[®] for inspection must be identified with the authorization number. The packing and return of the parts is the customer's responsibility. All freight and handling must be prepaid by the most economical routing. MECO[®] will ship the replacement parts prepaid to customer.

d. The general shipping requirements are as follows:

- (1) All parts should be returned In "as removed" condition. Do not clean prior to return.
- (2) Major components, such as pumps and meters, must show no sign of prior disassembly.
- (3) All fluids, such as water, fuel, acids, oil, or other chemical solutions, must be drained prior to shipment.
- (4) All parts and components should be properly packaged to avoid damage during shipment.