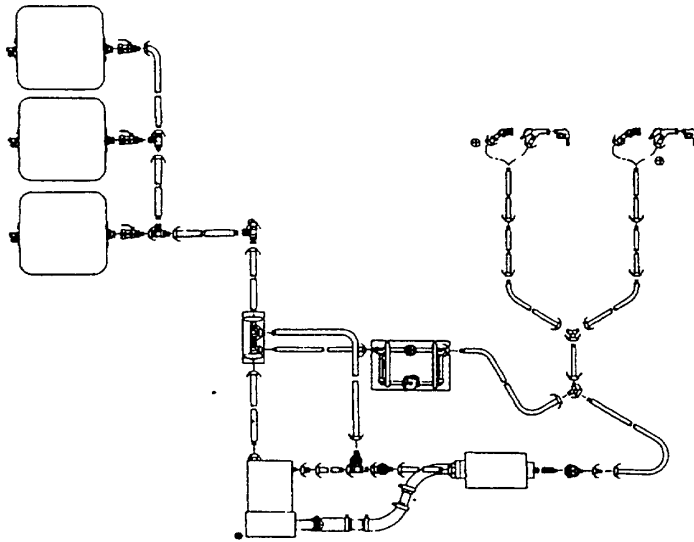


TECHNICAL MANUAL
 OPERATOR'S, UNIT AND DIRECT
 SUPPORT MAINTENANCE MANUAL
 FOR
 ARCTIC FORWARD AREA REFUELING
 EQUIPMENT (AFARE)
 MODEL AFARE100
 NSN: 4930-01-355-9581



HOW TO USE THIS MANUAL	iii
-------------------------------	------------

EQUIPMENT DESCRIPTION AND DATA	1-3
---------------------------------------	------------

OPERATION UNDER USUAL CONDITIONS	2-35
---	-------------

OPERATOR TROUBLESHOOTING PROCEDURES	3-1
--	------------

UNIT MAINTENANCE PROCEDURES	4-7
------------------------------------	------------

DIRECT SUPPORT MAINTENANCE PROCEDURES	5-1
--	------------

MAINTENANCE ALLOCATION CHART	B-1
-------------------------------------	------------

COMPONENTS OF END ITEM AND BASIC ISSUE ITEMS LIST	C-1
--	------------

EXPENDABLE/DURABLE SUPPLIES AND MATERIALS LIST	E-1
---	------------

ALPHABETICAL INDEX	Index-1
---------------------------	----------------

Distribution Statement A. Approved for public release; distribution is unlimited.

**OPERATOR'S, UNIT AND
DIRECT SUPPORT MAINTENANCE MANUAL
for
ARCTIC FORWARD AREA REFUELING EQUIPMENT (AFARE)
MODEL AFARE100
NSN: 4930-01-355-9581**

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 directly to: Commander, US Army Aviation and Troop Command, ATTN: AMSAT-I-MP, 4300 Goodfellow Blvd., St. Louis, Mo. 63120-1798. You may also submit your recommended changes by E-mail directly to <daf2028@st-louis-emh7.army.mil>. A reply will be furnished directly to you.

Distribution Statement A. Approved for public release; distribution is unlimited

TABLE OF CONTENTS

	PAGE
HOW TO USE THIS MANUAL	iii
CHAPTER 1. INTRODUCTION	
Section I. General Information	1-1
Section II. Equipment Description and Data	1-3
Section III. Principles of Operation	1-9
CHAPTER 2. OPERATING INSTRUCTIONS	
Section I. Description and Use of Operator's Controls and Indicators	2-2
Section II. Operator's Preventive Maintenance Checks and Services (PMCS).....	2-17
Section III. Operation Under Usual Conditions.....	2-35
Section IV. Operation Under Unusual Conditions.....	2-71
CHAPTER 3. OPERATOR MAINTENANCE INSTRUCTIONS	
Section I. Lubrication Instructions.....	3-1
Section II. Operator Troubleshooting Procedures	3-1
Section III. Operator Maintenance Procedures	3-18
CHAPTER 4. UNIT MAINTENANCE INSTRUCTIONS	
Section I. Repair Parts, Special Tools, Test, Measurement and Diagnostic Equipment (TMDE), and Support Equipment.....	4-2
Section II. Service Upon Receipt.....	4-3
Section III. Unit Preventive Maintenance Checks and Services.....	4-4
Section IV. Unit Troubleshooting Procedures.....	4-7
Section V. Unit Maintenance Procedures.....	4-7
Section VI. Preparation for Storage or Shipment	4-84

TABLE OF CONTENTS - cont

	PAGE
CHAPTER 5. DIRECT SUPPORT MAINTENANCE INSTRUCTIONS	
Direct Support Maintenance Procedures	5-1
 APPENDICES	
Appendix A. References.....	A-1
Appendix B. Maintenance Allocation Chart.....	B-1
Appendix C. Components of End Item and Basic Issue Items List	C-1
Appendix D. Additional Authorization List	D-1
Appendix E. Expendable and Durable Items List	E-1
Appendix F. Lubricating Instructions	F-1
Appendix G. Illustrated List of Manufactured Items.....	G-1
Appendix H. Torque Limits	H-1
Appendix J. Mandatory Replacement Parts	J-1
Alphabetical Index	Index 1

HOW TO USE THIS MANUAL

Be sure to read all Warnings before using your equipment.

This manual incorporates a quick reference tab feature that allows you to quickly locate the most often referenced subjects and topics appearing in this manual. The reference tab feature is comprised of the following components:

Cover Page Index

Index boxes are located on the right-hand edge of the cover page. Each index box contains a subject title, page number, and black index tab.

Table of Contents

The Table of Contents lists all the major subjects contained in this manual. Subjects that are surrounded by a black box correspond to those that appear on the cover page index.

Page Numbers and Index Tabs

Each page of this manual is identified with a page number. Pages that contain the subjects identified on the cover page index also contain a black tab on the right edge of the page that aligns with the cover page index tab.

To use the quick reference tab feature, select the title of the subject you are trying to find from the cover page index. You can turn to the indicated page number or bend the pages back and locate the page tab that aligns with the cover index tab.

If the cover page is lost or badly worn, page numbers and index tabs can be located by referring to the Table of Contents.

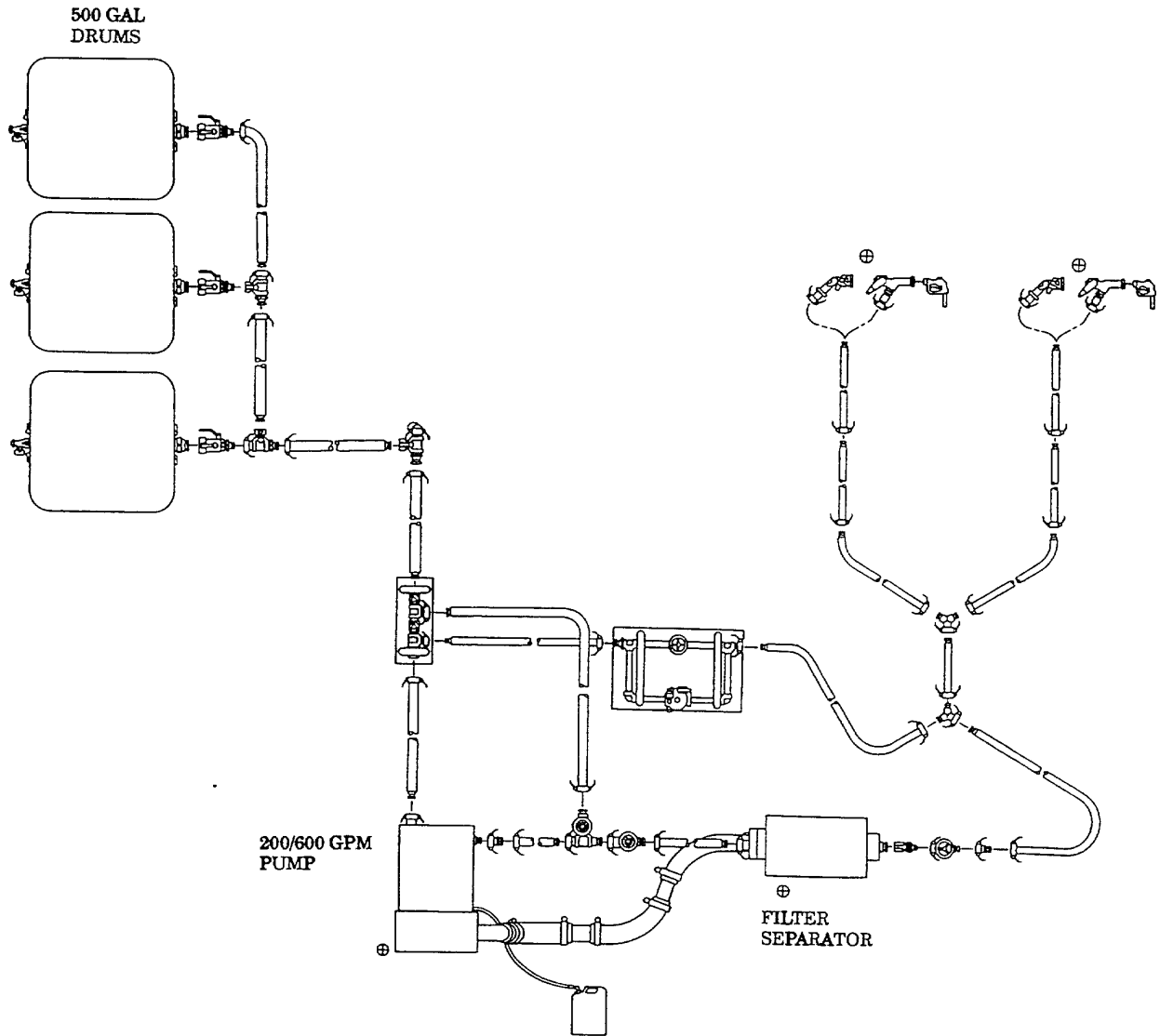


Figure 1-0. Arctic Forward Area Refueling Equipment (AFARE), Model AFARE 100.

CHAPTER 1
INTRODUCTION

Paragraph	Title	Page
Section I.	General Information	1-1
1-1	Scope	1-1
1-2	Maintenance Forms Records and Reports	1-1
1-3	Corrosion Prevention and Control (CPC)	1-1
1-4	Destruction of Army Materiel to Prevent Enemy Use	1-2
1-5	Reporting of Equipment Improvement Recommendations (EIR)	1-2
1-6	Nomenclature Cross Reference List	1-2
1-7	List of Abbreviations	1-2
1-8	Glossary	1-3
Section II.	Equipment Description and Data	1-3
1-9	Equipment Characteristics and Features	1-3
1-10	Location and Description of Major Components	1-4
1-11	Equipment Data	1-7
Section III.	Principles of Operation	1-9
1-12	System Technical Principles of Operation	1-9

SECTION I. GENERAL INFORMATION

1-1. SCOPE.

This manual contains operating instructions, Unit and Direct Support maintenance procedures required to operate and maintain the Arctic Forward Area Refueling Equipment (AFARE). The purpose of the AFARE is to refuel aircraft operating in all environments, including low arctic temperatures

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. CORROSION PREVENTION AND CONTROL.

- a. 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.

1-3. CORROSION PREVENTION AND CONTROL - cont.

- b. 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 the materials may be a corrosion problem.
- c. If a corrosion problem is identified, it can be reported using Standard Form 368, Product Quality Deficiency Report. Using key words such as "rust", "deterioration", or "cracking" will insure that the information is identified as a CPC problem. The form should be submitted to the address specified in DA Pam 738-750.

1-4. DESTRUCTION OF ARMY MATERIEL TO PREVENT ENEMY USE.

Methods and procedures for destruction of Army materiel to prevent enemy use are covered in TM 750-244-3.

1-5. REPORTING EQUIPMENT IMPROVEMENT RECOMMENDATIONS (EIRs).

If your AFARE 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 us at Commander, U S Army Aviation and Troop Command, ATTN **AMSAT-I-MDO**, 4300 Goodfellow Boulevard, St. Louis, MO 63120-1798. We'll send you a reply.

1-6. NOMENCLATURE CROSS REFERENCE LIST.

Common Name	Official Nomenclature
CCR Nozzle.....	Closed Circuit Refueling Nozzle
D1 Nozzle.....	Single Point Refueling Nozzle

1-7. LIST OF ABBREVIATIONS.

Abbreviation	Nomenclature
AFARE	Arctic Forward Area Refueling Equipment
Assy	Assembly
°C.....	Degrees Centigrade
DP	Differential Pressure
In.....	Inch
K	Kilo (Thousand)
°F	Degrees Fahrenheit
Ft.....	Feet or Foot
PSI.....	Pounds Per Square Inch
PSIG	Pounds Per Square Inch Gage
PMCS.....	Preventive Maintenance Checks and Services
TM.....	Technical Manual