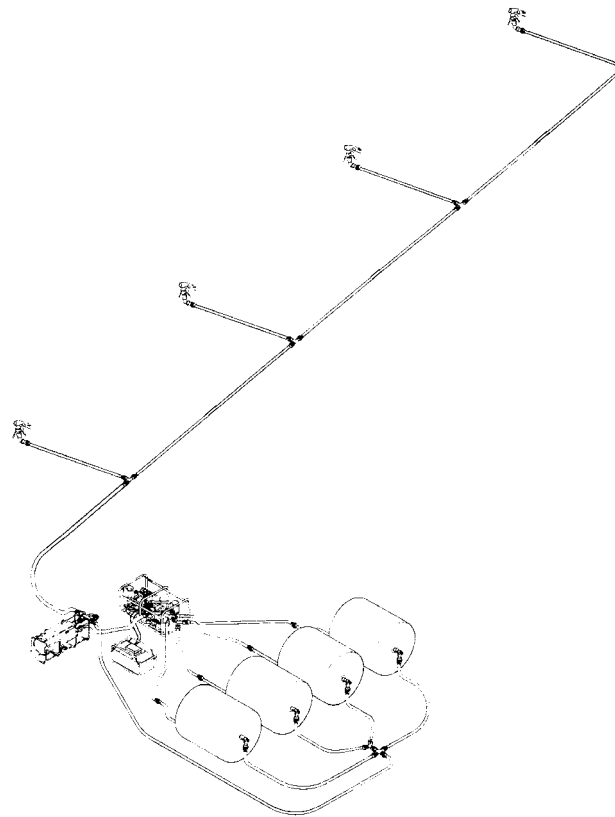


**TECHNICAL MANUAL**  
**OPERATOR'S, UNIT, DIRECT**  
**SUPPORT AND GENERAL SUPPORT**  
**MAINTENANCE MANUAL**  
**FOR**  
**ADVANCED AVIATION FORWARD AREA**  
**REFUELING SYSTEM (AAFARS)**  
**MODEL M100A1**

**NSN 4930-01-495-0024**



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HEADQUARTERS, DEPARTMENT OF THE ARMY  
JUNE 2004

HEADQUARTERS,  
DEPARTMENT OF THE ARMY  
WASHINGTON, D.C., 30 JUNE 2004

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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. Submit your DA Form 2028 (Recommended Changes to Equipment Technical Publications) through the Internet, on the Army Electronic Product Support (AEPS) website. The Internet address is <http://aeeps.ria.army.mil>. If you need a password, scroll down and click on "ACCESS REQUEST FORM". The DA Form 2028 is located in the ONLINE FORMS PROCESSING section of the AEPS. Fill out the form and click on SUBMIT. Using this form on the AEPS will enable us to respond quicker to your comments and better manage the DA Form 2028 program. You may also mail, fax or e-mail your letter or DA Form 2028 direct to AMSTA-LC-CI/TECH PUBS, TACOM-RI, 1 Rock Island Arsenal, Rock Island, IL 61299-7630. The e-mail address is [TACOM-TECH-PUBS@ria.army.mil](mailto:TACOM-TECH-PUBS@ria.army.mil). The fax number is DSN 793-0726 or Commercial (309) 782-0726.



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## HOW TO USE THIS MANUAL

This technical manual is composed of a series of work packages (WP). Each WP comprises an individual maintenance or operator task, general information section, description section, theory section, operating procedure(s), troubleshooting section, or supporting information section (e.g., Maintenance Allocation Chart, Expendable and Durable Items List, etc.). Each WP is identified by a unique WP number as illustrated. Work Packages are grouped in chapters as in a conventional technical manual (e.g., Chapter 1 – Description and Theory of Operation, Chapter 2 – Operator Instructions, etc.). The most obvious distinction is in the WP numbering and page numbering system.

In the example on the following page, 0015 00 in the upper right corner is the WP number. The first four digits are the WP sequence number, while the fifth and sixth digits indicate the change status of the WP; (00 indicates an original WP). The WP number is repeated at the bottom of the page with a – number (e.g., “-1” added to indicate the page number. Page numbers are sequential within a WP, WPs are sequential within a manual and grouped into chapters according to operation or maintenance level.

Supporting Information WPs at the rear of the manual serve the same function and contain the same information as appendices in older manuals.

### Figures and Tables

Figures in WPs are unnumbered and untitled unless there is more than one. If a WP includes more than one figure, the figures are sequentially numbered within the WP. In a Repair and Special Tools List (RPSTL), figures are numbered sequentially within each chapter.

Each table is numbered and titled within a WP.

### Unisex Couplings

AAFARS makes extensive use of dry break unisex couplings, both 2-inch and 3-inch. Rather than repeat repair/replacement procedures for each instance of use, this TM provides a single procedure for each task (e.g., “Replace Two-Inch Valved Unisex Coupling”) which applies to every occurrence of that task.

TM 10-4930-351-14

**OPERATOR MAINTENANCE**  
**ADVANCED AVIATION FORWARD AREA REFUELING SYSTEM MODEL M100A1**  
**REPLACE UNISEX COUPLING FACE SEAL/DUST CAP SEAL**

**INITIAL SET-UP:**

**Tools:**  
 None

**Materials/Parts Required:**  
 Rags, Wiping (WP 0114 00, Item 19)

This procedure applies to all AAFARS unisex couplings. All two-inch face seals are the same throughout the system, as are all three-inch face seals. The seal in the coupling face and the dust cap are identical, and may be interchanged as an emergency repair.

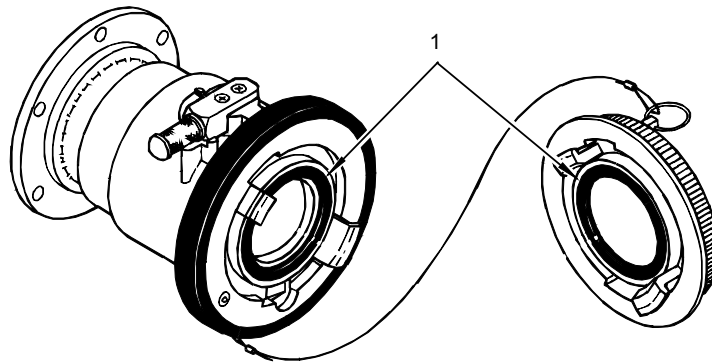
The face plate and dust cap of AAFARS unisex couplings employ a U-ring type seal which is designed to seat with pressure. The seal is slightly higher than the groove it sits in, so that the top protrudes above the surface. Pressurized fluid enters beneath this protrusion and expands the seal against the bottom of the seal groove and against the corresponding seal in the dust cap or other face plate. Special care must be taken during installation to ensure the seal is fully seated in the groove. If it is not, pressurized fluid will be forced under the seal and the coupling will leak.

**REMOVAL**

Remove seal (1) by hand.

**INSTALLATION**

1. Wipe seal groove clean.
2. Press seal (1) in groove with a smoothing motion of fingertips. Note that when fully seated, the outer lip of the seal protrudes slightly above the surface. Ensure the seal is not twisted or kinked.



**END OF WORK PACKAGE**

0015 00-1/2 blank



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**OPERATOR, UNIT, DIRECT SUPPORT AND GENERAL SUPPORT MAINTENANCE  
ADVANCED AVIATION FORWARD AREA REFUELING SYSTEM MODEL M100A1  
GENERAL INFORMATION**

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**SCOPE**

Type of Manual:	Operator's, Unit, Direct Support and General Support Maintenance
Model Number and Name:	Advanced Aviation Forward Area Refueling System (AAFARS)
Purpose of Equipment:	To provide a day or night, soldier-portable, four-point refueling system capable of providing filtered fuel at a rate of fifty-five gallons per minute to each of four nozzles separated by a distance of 100 feet (30.5 m), and to operate satisfactorily from 120° F (48.9° C) to -25° F (-31.7° C).

**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, Functional User's Manual for the Army Maintenance Management System (TAMMS) or AR 700-138, Army Logistics Readiness and Sustainability.

**ACCIDENT REPORTING**

Accidents involving injury to personnel or damage to material will be reported on DA Form 285 (Accident Report) in accordance with AR 385-40. Explosives and ammunition malfunctions will be reported in accordance with AR 75-1.

**CORROSION PREVENTION AND CONTROL (CPC)**

Corrosion Prevention and Control (CPC) of Army material is a continuing concern. It is important that any corrosion problem 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 SF 368, Product Quality Deficiency Report. Use of keywords such as "corrosion", "rust", "deterioration", or "cracking" will ensure that the information is identified as a CPC problem. The form should be submitted to the address specified in DA Pam 738-750, Functional User's Manual for the Army Maintenance Management System (TAMMS).

**OZONE DEPLETING SUBSTANCES**

No ozone depleting substances are required for operation or maintenance of AAFARS.

**SAFETY, CARE AND HANDLING**

The AAFARS liquid fuel filter-separator may be used to filter various fuels. It must be assumed that residual fuel and fuel vapors are present in the liquid fuel filter-separator at all times, even after draining or purging. Therefore the equipment must always be handled with the same degree of caution as actual fuel. One or more fully charged fire extinguishers must be present at all times, not only during operation. In addition, fuels may contain toxic additives. Rubber gloves should always be worn when handling components which are in regular contact with fuel.

A static electric charge is always present in all fuels. The charge increases when the fuel is being pumped, stirred, shook, or splashed. Any physical movement of the fuel will increase the static charge. If the charge is allowed to build sufficiently it will discharge, causing a spark which will ignite fuel vapors. The build up of static electric charge is controlled by bonding