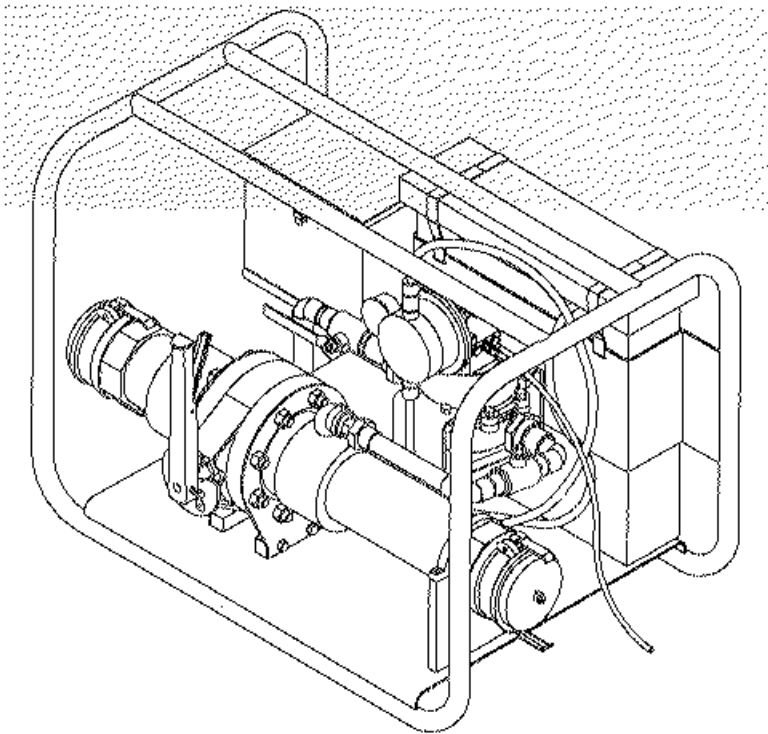


TECHNICAL MANUAL
OPERATOR, UNIT, AND DIRECT SUPPORT
MAINTENANCE MANUAL

HYPOCHLORINATION UNIT
NSN 4610-01-364-4485
Model AHY001



OPERATING INSTRUCTIONS
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HEADQUARTERS, DEPARTMENT OF THE ARMY
HEADQUARTERS, U. S. MARINE CORPS
15 DECEMBER 1993

TECHNICAL MANUAL
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HEADQUARTERS, DEPARTMENT OF THE ARMY,
AND HEADQUARTERS, U.S. MARINE CORPS
WASHINGTON D.C., 15 December 1993

**Operator, Unit, and Direct Support
Maintenance Manual**

For

**Hypochlorination Unit
NSN 4610-01-364-4485
Model AHY001**

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. Aviation and Troop Command, ATTN: AMSAT-I-MP, 4300 Goodfellow Blvd., St. Louis, MO 63120-1798, or Commanding General, Code 850, Marine Corps Logistics Base, 814 Radford Blvd., Albany, GA 31704-1128. A reply will be furnished to you.

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HOW TO USE THIS MANUAL

GENERAL. This technical manual provides you with the information needed to operate and maintain the hypochlorination unit. By properly using this manual, you will be able to identify any problem you may have in operating the hypochlorination unit and then locate the procedure needed to correct the problem.

MANUAL ORGANIZATION. This manual has been organized in a manner that groups together information that an operator or a maintenance technician will need to perform the required duties. The following list indicates how this information has been organized:

- | | |
|-----------|--|
| Chapter 1 | This chapter contains a complete description of the hypochlorination unit and includes such information as general equipment data, location/descriptions of major hypochlorination unit components, and general theory of operations of the hypochlorination unit. |
| Chapter 2 | Information needed to set up and operate the hypochlorination unit is included in this chapter. It includes assembly information, operator PMCS, and special instructions for unusual or emergency conditions. |
| Chapter 3 | All operator maintenance procedures are in this chapter. |
| Chapter 4 | If unit level maintenance is needed for the hypochlorination unit, required maintenance instructions can be found in this chapter. |
| Chapter 5 | This chapter contains maintenance instructions for direct support activities. |

AIDS TO FINDING INFORMATION. The following aids have been placed in this technical manual to help you quickly locate the information you may need:

- | | |
|-------------------------------|---|
| Front Cover Index | To provide you with a quick reference to the most used portions of this technical manual, an index of these areas has been placed on the front cover of this manual. |
| Bleeder Edges on Pages | On the right edge of the front cover index of this manual you will see a black box area that goes to the edge of the front cover page. If you hold this manual with your left hand and bend back the outer right edges of the pages with your right hand, you will find that there are pages inside the manual that also have black boxes on the right edges, and that these boxes line up with the boxes on the front cover index. By turning to the page in the manual that lines up with the box on the front cover, you will be able to quickly turn to the topic shown in the front cover index. |

Table of Contents And Boxed Titles	In the event that the front cover has been removed from this manual, the items that appear in the front cover index have also been placed in a box where they appear in the Table of Contents of this manual
Alphabetical Index	To assist you in locating any other information not found in the front cover index or the Table of Contents, an alphabetical index has been placed in the back of this manual.

GENERAL MAINTENANCE METHOD. Although your local standard operating and maintenance procedure may vary, a simple method of using this technical manual to operate and maintain the hypochlorination unit is shown in the following steps

WARNINGS AND CAUTIONS

Always Read, Understand, and Perform ALL WARNINGS and CAUTIONS Found in This Technical Manual BEFORE Performing the Step Immediately Following the WARNING or CAUTION.

Throughout this technical manual are certain procedures and operations that are hazardous to you or the hypochlorination unit. If you see a WARNING, pay special attention to the information stated in it, because **all WARNINGS provide you with data that will prevent serious injury to you or others around you.** When you see a CAUTION read it carefully because information given in it will keep you from damaging the hypochlorination unit and making it unable to fulfill its mission.

Equipment Set-Up and Operation. Unpack and set up the hypochlorination unit in accordance with procedures shown in Chapters 2 and 4.

Troubleshooting. If the hypochlorination unit does not operate properly, refer to the operating troubleshooting procedures in Chapter 3, the unit troubleshooting procedures in Chapter 4, or the direct support troubleshooting procedures in Chapter 5. The most likely hypochlorination unit malfunctions have been placed in these troubleshooting procedures and a test and/or repair procedure paragraph has been indicated to correct the malfunction found. If a repair is required, refer to maintenance shown in the troubleshooting procedure.

Maintenance Procedures. Complete repair procedures needed to correct a problem found with the hypochlorination unit have been included in Chapters 3, 4 and 5.

CHAPTER 1.
INTRODUCTION
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SECTION I. GENERAL INFORMATION.

1-1. SCOPE.

- a. Type of Manual. Operator, Unit, and Direct Support Maintenance Manual.
- b. Model Number and Equipment Name. Model AHYOO1 Hypochlorination Unit.
- c. Purpose of Equipment. The hypochlorination unit covered in this manual is to be used in water storage and distribution systems to chlorinate water.

1-2. MAINTENANCE FORMS AND PROCEDURES. 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) (Maintenance Management UPDATE).

1-3. CORROSION PREVENTION AND CONTROL (CPC). Corrosion Prevention and Control (CPC) of Army material 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 materials may be a corrosion problem.

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

1-4. DESTRUCTION OF ARMY MATERIAL TO PREVENT ENEMY USE. Refer to TM 750244-3, Procedures for Destruction of Equipment to Prevent Enemy Use.

1-5. REPORTING EQUIPMENT IMPROVEMENT RECOMMENDATIONS (EIR). If the hypochlorination unit needs improvement, let us know Send us an EIR. The user is the only one who can tell us how the equipment can be improved. Let us know why you do not like the design or operation Put it on an SF 368 (Product Quality Deficiency Report) Mail it to Commander, U.S Army Aviation and Troop Command ATTN AMSAT-I-NLDO, 4300 Goodfellow Blvd., St Louis, MO 63120-1798; or Commanding General, Code 850, Marine Corps Logistics Base, 814 Radford Blvd., Albany, GA 31704-1128. We will send you a reply.

1-6. WARRANTY INFORMATION. Warranty coverage is for a twelve-month period from date of issue not to exceed one year from date of delivery as shown on the Material Inspection and Receiving Report (DD Form 250) Report all defects in material or workmanship to your supervisor.

SECTION II. EQUIPMENT DESCRIPTION AND DATA.

1-7. EQUIPMENT CHARACTERISTICS, CAPABILITIES, AND FEATURES. The hypochlorination unit is designed to chlorinate water in a water supply line before or after storage, and is capable of feeding hypochlorite solution in direct proportion to water demand over a range of 2 gpm to 350 gpm. It can operate in a temperature range of 32° F to 140° F. It is a light weight, independent unit that can be carried by two men and has little maintenance. It is easily operated by one person who only needs to check unit periodically after start up. It is provided with quick connecting camlocks making it easy to install, secure, or replace for maintenance.

1-8. LOCATION AND DESCRIPTION OF MAJOR COMPONENTS. The hypochlorination unit consists of following major components:

1. **Accessory Box** is provided for storage and transportation of chlorine analysis kit and miscellaneous equipment.
2. **Ball Valves** are used to isolate proportioning pump for maintenance.
3. **Camlock Fittings** connect hypochlorination unit to hose from unchlorinated water supply on inlet side and to hose going to chlorinated water holding tank on discharge side.
4. **Chlorine Analysis Kit** is provided to test treated water for chlorine residual concentration and is stored in accessory box.
5. **Frame Assembly** supports individual components and allows for ease of transportation.
6. **Mainline Pipe** is pipe through which bulk of water flows during treatment.
7. **Proportioning Pump** is a chemical metering pump. It measures water flow and adds hypochlorite solution to water flow in direct proportion, and is completely water powered.
8. **Range Adjusting Valve** is a butterfly valve used to control amount of water sent through proportioning pump. This allows for a wide range of flow rates with greater accuracy.
9. **Solution Reservoir** holds hypochlorite solution to be drawn into proportioning pump.
10. **Y-Strainer** holds a screen that filters out particles and protects proportioning pump from damage or clogging.

1-8. LOCATION AND DESCRIPTION OF MAJOR COMPONENTS (Cont'd).

