

TM 10-3930-675-20-2

TECHNICAL MANUAL

ORGANIZATIONAL MAINTENANCE MANUAL

FOR

**ROUGH TERRAIN CONTAINER HANDLER (RTCH):
RT 240; 53,000 LB CAPACITY; 4 X 4
(NSN 3930-01-473-3998)**



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HEADQUARTERS, DEPARTMENT OF THE ARMY

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HOW TO USE THIS MANUAL

INTRODUCTION

1. This manual is designed to help you perform Organizational Maintenance and Troubleshooting on the RT 240 Rough Terrain Container Handler (RTCH).
2. The *Repair Parts and Special Tools List (RPSTL)*, TM 10-3930-675-24P, is to be used in conjunction with this manual, to locate and obtain the repair parts and special tools needed to maintain this equipment.
3. This manual is written in Work Package format:
 - a. Chapters divide the manual into major categories of information (e.g., *Introductory Information with Theory of Operation*, *Troubleshooting Procedures*, *Organizational Maintenance Instructions*, and *Supporting Information*).
 - b. Each Chapter is divided into Work Packages, which are identified by a 6-digit number (e.g. 0001 00, 0002 00, etc.) located on the upper right-hand corner of each page. The Work Package page number (e.g. 0001 00-1, 0001 00-2, etc.) is located centered at the bottom of each page.
 - c. If a Change Package is issued to this manual, added Work Packages use the 5th and 6th digits of their number to indicate new material. For instance, Work Packages inserted between WP 0001 00 and WP 0002 00 are numbered WP 0001 01, WP 0001 02, etc.
4. This manual is published in two volumes: Volume I covers Chapters 1 and 2, Work Packages 0001 00 thru WP 0047 00 and includes all troubleshooting. Volume II includes Chapters 3 and 4, WP 0048 00 thru 0205 00.
5. Scan thru this manual to become familiar with its organization and contents before attempting to maintain the equipment.

CONTENTS OF THIS MANUAL

1. A *Warning Summary* is located at the beginning of each volume of the manual. Become familiar with these warnings before operating or performing troubleshooting or maintenance on the vehicle.
2. A *Table of Contents* in Volume I lists the contents of Volumes I and II. The *Table of Contents* in Volume II lists the contents of Volume II only.
 - a. The Table of Contents also provides *Reporting Errors and Recommending Improvements* information and DA Form 2028 addresses, for the submittal of corrections to the manual.
 - b. If you cannot find what you are looking for in the Table of Contents, refer to the alphabetical *Index* at the back of the manual. The alphabetical Index for each volume lists only those Work Packages found in that volume.
3. Chapter 1, *Introductory Information with Theory of Information*, provides general information on the manual and the equipment.
4. Chapter 2, *Troubleshooting Procedures*, contains all applicable troubleshooting.
 - a. Before attempting to perform troubleshooting, carefully read the information in WP 0004 00, *Troubleshooting Introduction*. It explains how to perform both non-error code and error code-driven troubleshooting. Included at the end of this Work Package are locator diagrams of all electrical and hydraulic components that may be hard to locate.
 - b. The *Troubleshooting Symptom Index* in WP 0005 00 is divided into three sections. The first is an alphabetical listing, by system, of non error code-driven malfunctions. The second is a "Numerical Error Code Symptom Index". The third is an "Alphabetical Error Code Symptom Index".
 - c. The corrective action for certain malfunctions is to notify "SRA". Refer to Table 3 in the MAC (WP 0202 00) for further information about the Specialized Repair Activity for the RTCH.
5. Chapter 3 covers all *Organizational Maintenance Instructions*. Work Packages are organized in the same Functional Group Code (FGC) sequence as the Maintenance Allocation Chart (MAC) found in TM 10-3930-675-20-2.
6. Chapter 4 includes *Supporting Information: References, Expendable and Durable Items List, Tool Identification List* and a complete listing of *Error Codes* resident on the RTCH.
7. Following the alphabetical *Index* are *Foldouts* of the RTCH hydraulic systems.

FEATURES OF THIS MANUAL

1. WARNINGS, CAUTIONS, NOTES, subject headings, and other important information are highlighted in **BOLD** print as a visual aid.

WARNING

A WARNING indicates a hazard which may result in death or serious injury.

CAUTION

A CAUTION is a reminder of safety practices or directs attention to usage practices that may result in damage to equipment.

NOTE

A NOTE is a statement containing information that will make the procedures easier to perform.

2. Statements and words of particular interest may be printed in CAPITAL LETTERS to create emphasis.
3. Within a procedural step, reference may be made to another Work Package in this manual or to another manual. These references indicate where you should look for more complete information.
 - a. If you are told: "Replace engine ECU (WP 0078 00)", go to the first page of Work Package 0078 00 in Volume II of this manual for instructions on replacing the engine ECU. Be sure to read the "Initial Setup" on page 1 of the Work Package, to determine contents of Work Package as well as information regarding tools and equipment, spare parts, and personnel required, etc.
 - b. If you are told: "Check coolant level (TM 10-3930-675-10)", go to TM 10-3930-675-10 for complete instructions on checking the coolant level. Use the *Table of Contents* or alphabetical *Index* in TM 10-3930-675-10 to find procedure.
4. Illustrations are placed after, and as close to, the procedural steps to which they apply. Callouts placed on the art may be text or numbers, or both; whichever method is easier for the soldier.
5. Numbers located at lower right corner of art (e.g. 350-001; 350-002, etc.) are art control numbers and are used for tracking purposes. Disregard these numbers.
6. Dashed leader lines used in illustrations indicate that called out items are not visible in the view depicted (i.e. they are located within or behind the structure).
7. Technical instructions include metric units as well as standard units. For your reference, a *Metric Conversion Chart* is located on the inside back cover of the manual.

NOTE

If at any time you are unsure how to use this manual or you cannot locate the information you need, notify your supervisor.

CHAPTER 3

ORGANIZATIONAL MAINTENANCE INSTRUCTIONS

SERVICE UPON RECEIPT

0048 00**GENERAL**

1. When a new, used or reconditioned RT 240 RTCH is first received, determine whether it has been properly prepared for service and is in condition to perform its mission.
2. Follow the inspection and servicing instructions that follow.

INSPECTION INSTRUCTIONS

1. Read and follow all precautions and instructions on DD Form 1397.
2. Remove all packing and shipping material, such as tape, tie downs, protective covers, and shipping seals.
3. Inspect equipment for any damage incurred during shipment. Check if equipment has been modified.
4. Check equipment against packing slip to ensure that shipment is complete. Report any discrepancies on SF Form 364.
5. Remove all Basic Issue Item (BII), Additional Authorization List (AAL), and Components of End Item (COEI) equipment and stow in accordance with TM 10-3930-675-10.

SERVICING INSTRUCTIONS

1. Service the vehicle in accordance with TM 10-3930-675-10 and Organizational PMCS (WP 0050 00). Schedule the next PMCS on DA Form 5986-E.
2. Refer to TM 10-3930-675-10 and perform functional checks of all major vehicle systems.

END OF WORK PACKAGE

PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS) INTRODUCTION**0049 00****GENERAL**

1. To ensure that the RT 240 RTCH is ready for operation at all times, it must be lubricated and inspected on a regular basis so that defects may be found before they result in serious damage, equipment failure or injury to personnel.
2. Refer to LO 10-3930-675-12 for the types, amounts, and temperature ranges of the lubricants required for specified intervals.
3. Table 1 in WP 0050 00 contains systematic instructions on lubrications, inspections, adjustments, and corrections to be performed by Organizational Maintenance to keep the vehicles in good operating condition and ready for their primary mission.
4. Table 2 in WP 0050 00 lists PMCS mandatory replacement parts, by interval.

EXPLANATION OF TABLE ENTRIES

1. **Item Number (Item No.) Column.** Numbers in this column are for reference. When completing DA Form 5988-E (*Equipment Inspection and Maintenance Worksheet*), include the item number for the check/service indicating a fault. Item numbers also appear in the order you must perform checks and services for the interval listed.

NOTE

Lubrication intervals as indicated in LO 10-3930-675-12 take precedence over intervals indicated in this PMCS. For further information and final authority, refer to LO 10-3930-675-12.

2. **Interval Column.** This column tells you when you must perform the procedure in the procedure column. Intervals are based on calendar dates and hours (in parenthesis). Hours in interval column are those required by Lubrication Order (LO 10-3930-675-12).
 - a. *Quarterly* procedures must be done every three months.
 - b. *Semiannual* procedures must be done once every six months.
 - c. *Annual* procedures must be done once each year.
3. **Man-Hours Column.** This column identifies man-hour time required to complete all lubrication services.
4. **Item to Check/Service Column.** This column identifies the item to be checked or serviced.

NOTE

The WARNINGS and CAUTIONS appearing in your PMCS table should always be observed. WARNINGS and CAUTIONS appear before applicable procedures. These WARNINGS and CAUTIONS must be observed to prevent serious injury to yourself and others or to prevent your equipment from being damaged.

5. **Procedure Column.** This column gives the procedure you must perform to check or service the item listed in the Item to Check/Service column to know if the equipment is ready or available for its intended mission or for operation. You must perform the procedure at the time stated in the interval column.
6. **Equipment Not Ready/Available If: Column.** Information in this column tells you what fault will keep your equipment from being capable of performing its primary mission. If you perform check and service procedures that show faults listed in this column, the equipment is not mission-capable. Follow standard operating procedures for maintaining the equipment or reporting equipment failure.

GENERAL LUBRICATION PROCEDURES**NOTE**

Lubrication instructions contained in this PMCS are mandatory. For further information refer to LO 10-3930-675-12.

PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS) INTRODUCTION - CONTINUED
0049 00**GENERAL PMCS PROCEDURES**

1. Always perform PMCS in the same order so it gets to be a habit. Once you've had some practice, you'll spot anything wrong in a hurry. If any deficiency is discovered, perform the appropriate troubleshooting task in Chapter 2 of this manual. If any component or system is not serviceable, or if the given service does not correct the deficiency, notify your supervisor.
2. Before performing preventive maintenance, read all the checks required for the applicable interval and prepare all tools needed to make all checks. Have several clean rags (Item 22, WP 0203 00) handy. Perform ALL inspections at the applicable interval.
 - a. **Keep It Clean.** Dirt, grease, oil, and debris get in the way and may cover up a serious problem. Clean as you work and as needed. Use detergent (Item 11, WP 0203 00) and water when you clean.
 - b. **Rust and Corrosion.** Check metal parts for rust and corrosion. If any bare metal or corrosion exists, clean and apply a light coat of lubricating oil (Item 19, WP 0203 00). Report it to your supervisor.
 - c. **Bolts, Nuts, and Screws.** Check bolts, nuts, and screws for obvious looseness, missing, bent or broken condition. You can't try them all with a tool, but look for chipped paint, bare metal or rust around bolt heads. If you find one you think is loose, tighten it.
 - d. **Welds.** Look for loose or chipped paint, rust or gaps where parts are welded together. If you find a bad weld, report it to your supervisor.
 - e. **Electric Wires and Connectors.** Look for cracked or broken insulation, bare wires, and loose or broken connectors. Tighten loose connectors and ensure that wires are in good condition.
 - f. **Hydraulic Hoses and Lines.** Look for wear, damage, and signs of leaks. Ensure that clamps and fittings are tight. Wet spots indicate leaks, but a stain around a fitting or connector can also mean a leak. If a leak comes from a loose fitting or connector, tighten it. If something is broken or worn out, correct it if authorized by the Maintenance Allocation Chart (WP 0202 00). If not authorized, notify your supervisor.
 - g. **Fluid Leakage.** It is necessary for you to know how fluid leakage affects the status of your truck. The following are definitions of the types/classes of leakage you need to know to be able to determine the status of your truck. Learn and be familiar with them, and remember - when in doubt, notify your supervisor.

Leakage Definitions For PMCS

Class I	Seepage of fluid (as indicated by wetness or discoloration) not great enough to form drops.
Class II	Leakage of fluid great enough to form drops, but not enough to cause drops to drip from item being checked/inspected.
Class III	Leakage of fluid great enough to form drops that fall from item being checked/inspected.

CAUTION

Operation is allowable with Class I and Class II leakage. WHEN IN DOUBT, NOTIFY YOUR SUPERVISOR. When operating with Class I or Class II leaks, check fluid levels more frequently. Class III leaks must be reported immediately to your supervisor. Failure to do this will result in damage to vehicle and/or components.

PMCS INITIAL SETUP

1. **General.**
 - a. This paragraph lists tools, materials, and personnel required for PMCS and lubrication.
 - b. Mandatory replacement parts for PMCS and lubrication are listed after PMCS, in Table 2, WP 0050 00.

PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS) INTRODUCTION - CONTINUED 0049 00

PMCS INITIAL SETUP - CONTINUED

2. **Tools.**
 - a. General mechanic's tool kit
 - b. Common no. 1 shop set
3. **Materials.**
 - a. Antifreeze
 - b. AOAP sampling kit
 - c. Detergent
 - d. GAA grease
 - e. Lubricating oil, OE/HDO 10
 - f. Lubricating oil, OE/HDO 40
 - g. Lubricating oil, OE/HDO 15/40
 - h. Lubricating oil, OEA
 - i. Lubricating oil, GO 85/140
 - j. Rags
4. **Personnel.**
 - a. Driver/Operator
 - b. Organizational Maintenance Mechanic