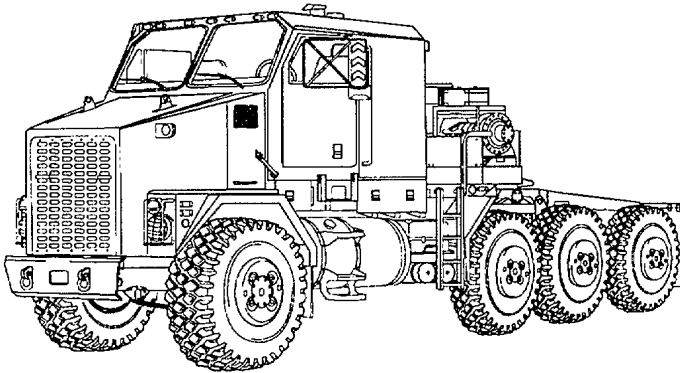


**TECHNICAL MANUAL
OPERATOR'S MANUAL**



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**TRUCK, TRACTOR, M1070, 8 X 8,
HEAVY EQUIPMENT TRANSPORTER (HET)
NSN 2320-01-318-9902
EIC: B5C**

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This copy is a reprint which includes current pages from Changes 1 through 3.

**HEADQUARTERS, DEPARTMENT OF THE ARMY
MARCH 1994**

OPERATOR'S MANUAL
TRUCK, TRACTOR, M1070, 8 X 8,
HEAVY EQUIPMENT TRANSPORTER (HET)
(NSN 2320-01-318-9902)
EIC:B5C

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 Tank-Automotive and Armaments Command, ATTN: AMSTA-IM-OPIT Warren, Michigan 48397-5000. A reply will be furnished to you.

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HOW TO USE THIS MANUAL

OVERVIEW

This technical manual (TM) is provided to help you operate and maintain the HET Tractor. It is divided into the following major sections in order of appearance:

- **WARNING SUMMARY.** Provides a summary of the most important warnings that apply throughout the manual.
- **TABLE OF CONTENTS.** Lists the chapters, sections, appendixes, and index with page number in order of appearance.
- **CHAPTER 1, INTRODUCTION.** Describes the HET Tractor and provides equipment data.
- **CHAPTER 2, OPERATING INSTRUCTIONS.** Describes operator's controls and indicators, preventive maintenance, and operating instructions.
- **CHAPTER 3, MAINTENANCE INSTRUCTIONS.** Provides instructions for troubleshooting and unscheduled maintenance.
- **APPENDIX A, REFERENCES.** Lists publications used with the HET Tractor.
- **APPENDIX B, COMPONENTS OF END ITEM AND BASIC ISSUE ITEMS LISTS.** Lists and illustrates components of end item (COEI) and basic issue items (BII) and their locations.
- **APPENDIX C, ADDITIONAL AUTHORIZATION LIST (AAL).** Lists additional authorized items.
- **APPENDIX D, EXPENDABLE AND DURABLE ITEMS LIST.** Lists expendable and durable items.
- **APPENDIX E, STOWAGE AND SIGN GUIDE.** Shows locations of stowage areas, signs, data plates, and stencils.
- **APPENDIX F, ON-VEHICLE EQUIPMENT LOADING PLAN.** Shows the location of personal and unit items of mission equipment.
- **ALPHABETICAL INDEX.** Lists important subjects in alphabetical order and gives the page numbers on which they are located.

FINDING INFORMATION

There are several ways to find the information you need in this manual. They are as follows:

- **TABLE OF CONTENTS.** Lists chapters, sections, appendixes, and index with page numbers in order of appearance.
- **CHAPTER INDEXES.** List paragraphs contained in the individual chapters with paragraph and page numbers in order of appearance.

FINDING INFORMATION (CONT)

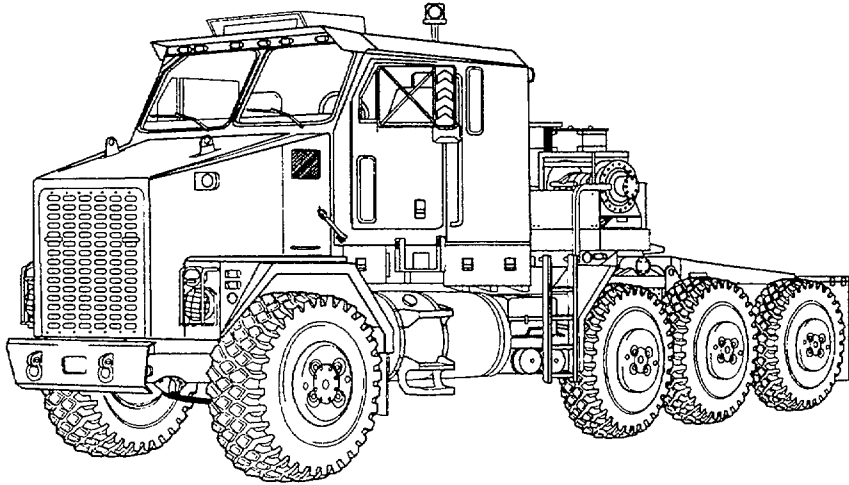
- **MALFUNCTION INDEX.** Lists malfunctions contained in the troubleshooting table with page numbers in order of appearance.
- **SUBJECT INDEX.** Lists all important topics with page numbers in alphabetical order.

TROUBLESHOOTING

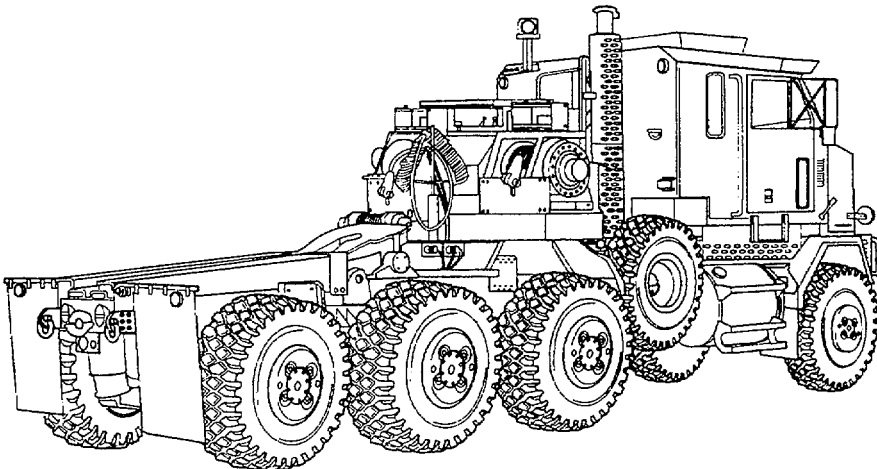
When you have a problem with the operation of your equipment, look at the Malfunction Index on page 3-2. Find the malfunction in the index. Turn to the page number listed for the malfunction in the troubleshooting table (table 3-1). Perform the steps required to correct the malfunction. If you can't find the malfunction, or the malfunction is not corrected, notify your supervisor.

OPERATION AND MAINTENANCE

- **OPERATION.** Before you operate the HET Tractor, familiarize yourself with the controls and indicators (chapter 2, section I). Perform your BEFORE preventive maintenance (chapter 2, section II). Read the operating instructions contained in chapter 2, sections III and IV. Always follow the WARNINGS and CAUTIONS. During operation, perform your DURING preventive maintenance, and after operation perform your AFTER preventive maintenance (chapter 2, section II).
- **MAINTENANCE.** When you perform maintenance, look over the entire procedure before starting. Make sure you have the necessary tools and materials at hand. Always follow the WARNINGS and CAUTIONS.



Left Front View



Right Rear View

**TRUCK, TRACTOR, M1070, 8 X 8,
HEAVY EQUIPMENT TRANSPORTER (HET)**

**CHAPTER 1
INTRODUCTION**

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Section I. GENERAL INFORMATION

1-1. SCOPE

a. Type of Manual. This manual provides instructions for operation and operator maintenance of the HET Tractor.

b. Name and Model. Truck, Tractor, M1070, 8 x 8, Heavy Equipment Transporter (HET).

c. Purpose of Equipment. The HET Tractor and the M1000 Trailer form the Heavy Equipment Transport System (HETS). HETS will be used to load, unload, and transport the M1 Series Main Battle Tank (MBT) during administrative and tactical operations.

d. Special Inclusions. A Sign Guide is included as appendix E to this manual. An On-Vehicle Equipment Loading Plan is included as appendix F to this manual.

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

The HET Tractor has a total service life of 20 years which allows for extended periods of operation in a corrosive environment. A corrosive environment includes exposure to high humidity, salt spray, road-deicing chemicals, gravel damage, and atmospheric contamination. No action beyond normal washing and repair of damaged areas is necessary to control corrosion. To prevent moisture accumulation, drain holes are provided on structural and sheet metal areas where necessary, and stowage boxes are provided with seals and baffled drains.

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

Command decision, according to the tactical situation, will determine when the using organization is to destroy a HET Tractor. A destruction plan will be prepared by the using organization, unless one has been prepared by a higher authority. For general HET Tractor destruction procedures, refer to TM 750-244-6, Procedures for Destruction of Tank-Automotive Equipment to Prevent Enemy Use (U.S. Army Tank-Automotive and Armament Command).

1-5. REPORTING EQUIPMENT IMPROVEMENT RECOMMENDATIONS (EIR)

If your HET Tractor 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 (Product Quality Deficiency Report). Mail to us at: Commander, U.S. Army Tank-Automotive and Armament Command, ATTN: AMSTA-QRT, Warren, MI 48397-5000. We'll send you a reply.

1-6. WARRANTY INFORMATION

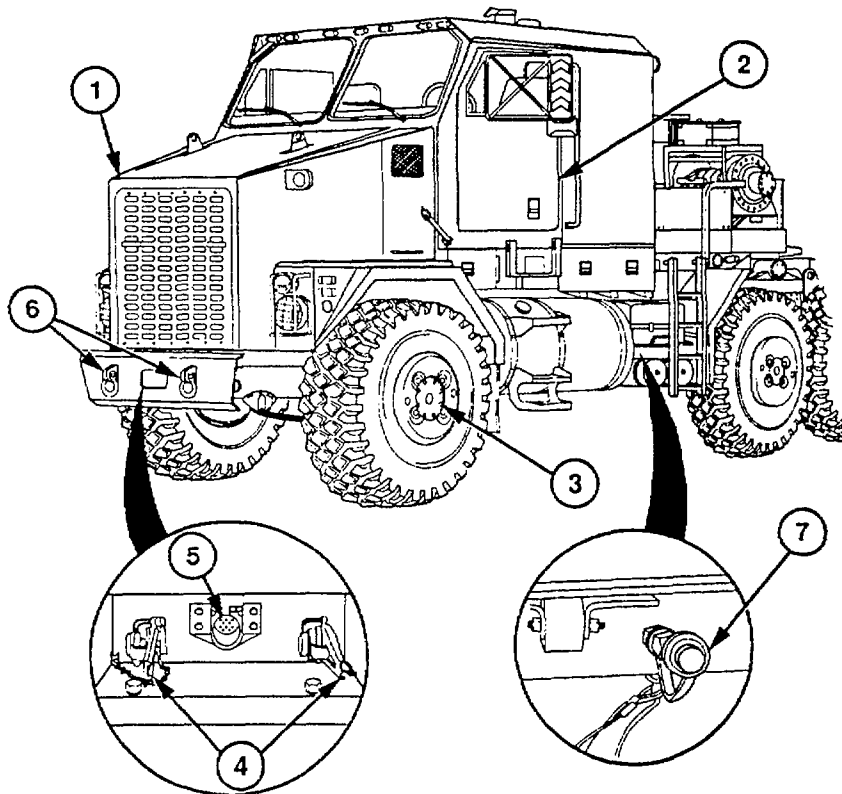
The HET Tractor is warranted by Oshkosh Truck Corporation for 12 months. For complete information covering this warranty, refer to TB 9-2320-360-14, Warranty Procedures for Truck, Tractor, M1070, 8 x 8, Heavy Equipment Transporter (HET).

1-7. NOMENCLATURE CROSS-REFERENCE LIST

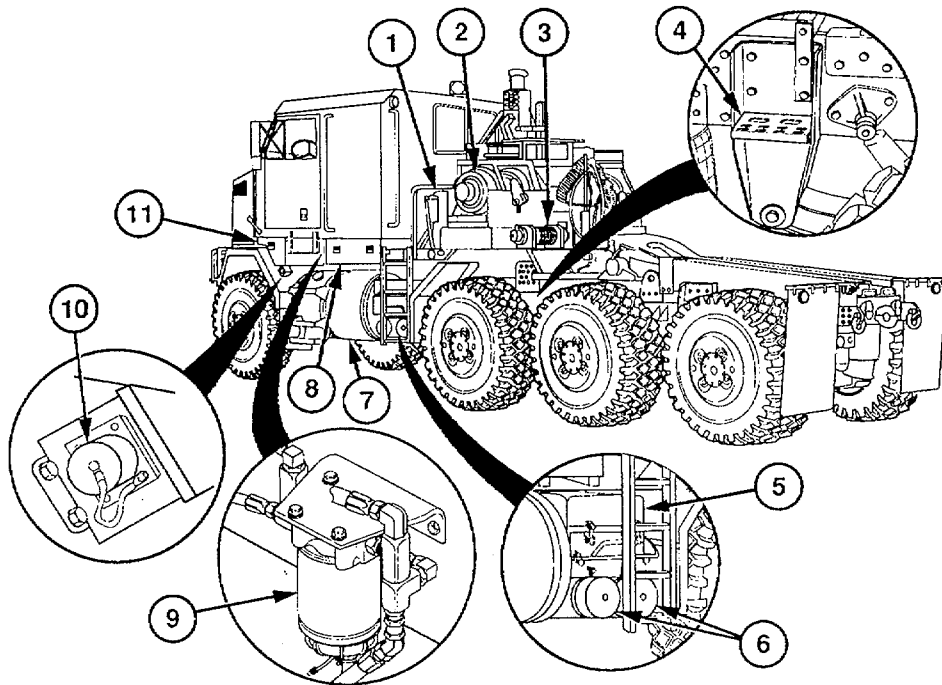
<u>Common Name</u>	<u>Official Nomenclature</u>
Cable	Wire rope
Cold Start System	Ether quick-start system
Engine Coolant	Antifreeze, ethylene glycol mixture
Gladhand	Quick-disconnect coupling
HET Tractor	Truck, Tractor, M1070, 8 x 8, Heavy Equipment Transporter (HET)

1-10. LOCATION AND DESCRIPTION OF MAJOR COMPONENTS

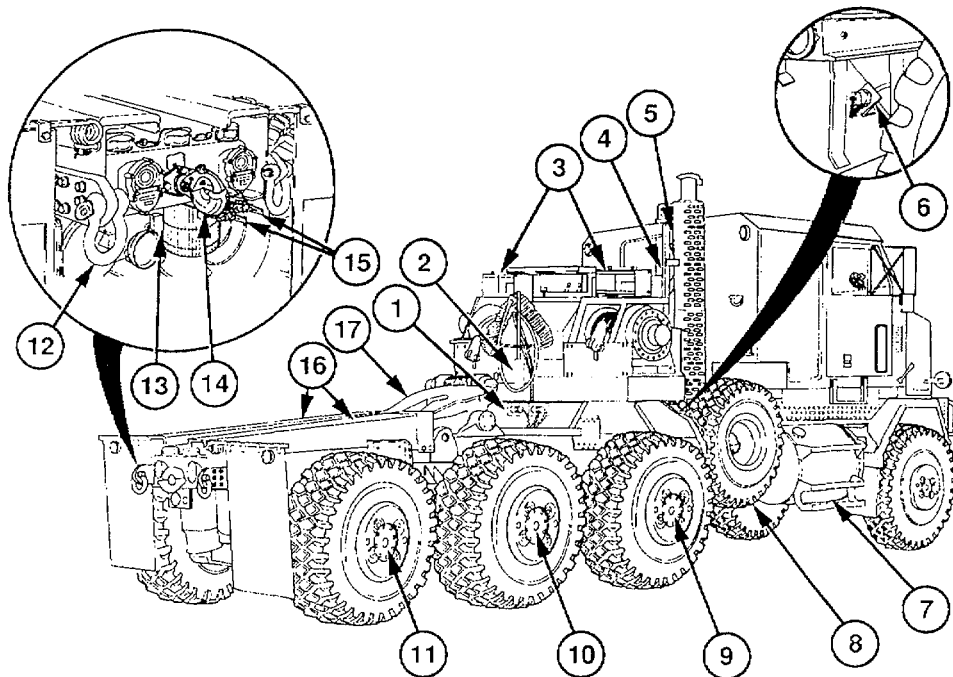
Major components and accessories found on the M1070 HET Tractor are illustrated and described below.



- 1 **HOOD.** Houses engine and components.
- 2 **PERSONNEL CAB.** Provides protection from weather for crew and contains controls, gages, and indicators. The cab has provisions to accommodate five fully-equipped personnel and sleeping provisions for two. It is equipped with a footrest, a sliding rear window, rifle mounts, and a stowage area under rear seat.
- 3 **NO. 1 DRIVING AXLE.** Controls direction of HET Tractor when in motion. When needed, transmits power to hubs to turn wheels.
- 4 **GLADHANDS.** Couples air supply from another vehicle during towing operations.
- 5 **ELECTRICAL CONNECTOR.** A 12-volt (7-pin) connector receives power from towing vehicle electrical system through intervehicular cable.
- 6 **TOW EYES.** Attachment points for towing operations.
- 7 **QUICK-DISCONNECT COUPLING.** Used to connect air hose from Bill to vehicle air system. Hose is used to manually inflate tires or power air wrench.



- 1 **HYDRAULIC OIL RESERVOIR.** Stores, cools, and filters oil used to operate main and auxiliary winches.
- 2 **MAIN WINCHES.** Two winches that operate independently of each other used to recover load, and unload heavy tracked and wheeled vehicles.
- 3 **AUXILIARY WINCH.** Pulls the main winch cables out to payload.
- 4 **FIFTH WHEEL ACCESS STEP.** Allows safe access to fifth wheel access platform.
- 5 **BATTERY BOX.** Contains four batteries and protects them from inclement weather. Pulls out for easier access to batteries.
- 6 **AIR RESERVOIRS.** Store compressed air for operation of brake, suspension, and central tire inflation systems.
- 7 **NO. 1 FUEL TANK.** A 150 gal (568 L) tank which stores fuel used to operate engine. Receives excess fuel not used by engine fuel injection system. Connects to fuel tank no. 2 with hose and shutoff valve.
- 8 **STORAGE BOX.** Used to stow basic issue items (BII), components of end item (COEI), and additional authorization list (AAL) items.
- 9 **DUEL/WATER SEPARATOR.** Removes water and contaminants from fuel before entering fuel pump. The unit incorporates a thermostatically activated electric heater to prevent gelling of fuel in cold weather operation.
- 10 **SLAVE RECEPTACLE.** A 24-volt receptacle used to slave start the HET Tractor.
- 11 **TOOL BOX.** Used to stow BII, COEI, and AAL items.

1-10. LOCATION AND DESCRIPTION OF MAJOR COMPONENTS (CONT)

- 1 **TRAILER ELECTRICAL CONNECTORS.** Two connectors (24-volt/12-pin and 12-volt/7-pin) supply power to trailer electrical system through intervehicular cable.
- 2 **TRAILER GLADHANDS.** Couples air supply to trailer.
- 3 **CHOCK BLOCKS STORAGE BOXES.** Used to stow wheel chocks.
- 4 **PERSONNEL LADDER.** Provides access to engine compartment when servicing engine and accessories. Mounts in holes in right or left side fenders when in use. Folds and mounts on exhaust stack for storage.
- 5 **TIRE DAVIT.** Raises and lowers spare tire.
- 6 **QUICK-DISCONNECT COUPLING.** Used to connect air hose from BII to vehicle air system. Hose is used to manually inflate tires or power air wrench.
- 7 **NO. 2 FUEL TANK.** A 100 gal (379 L) tank stores diesel engine operating fuel.
- 8 **SPARE TIRE.** Used to replace a damaged tire.
- 9 **NO. 2 AXLE.** Supports weight of HET Tractor and transmits power to hubs to turn rear wheels.
- 10 **NO. 3 AXLE.** Supports weight of HET Tractor and transmits power to hubs to turn rear wheels.

- 11 **NO. 4 AXLE.** Supports weight of HET Tractor and assists no. 1 axle in steering when in motion. Transmits power to hubs to turn rear wheels.
- 12 **TOW EYES.** Attachment points for towing operations.
- 13 **ELECTRICAL CONNECTOR.** A 12-volt (7-pin) connector supplies power to trailer or to towed vehicle electrical system through intervehicular cable.
- 14 **PINTLE HOOK.** Hitch used for towing trailer.
- 15 **GLADHANDS.** Couples air supply to another vehicle or trailer during towing or trailering operations.
- 16 **APPROACH RAMPS.** Raise the front end of trailer to guide kingpin into fifth wheel.
- 17 **FIFTH WHEEL.** Couples trailer to HET Tractor.