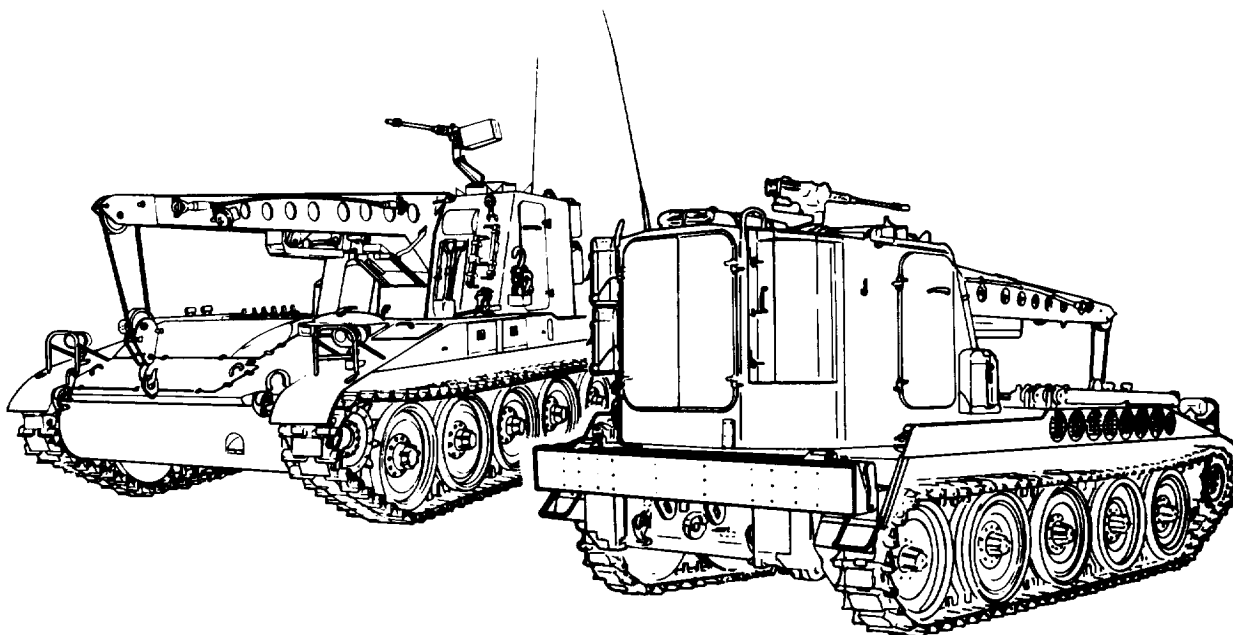


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dated 4 October
1982. See page i
for details.

TECHNICAL MANUAL DIRECT SUPPORT AND GENERAL SUPPORT MAINTENANCE MANUAL

CRANE (CAB) COMPONENTS
RECOVERY VEHICLE, FULL-TRACKED:
LIGHT, ARMORED, M578
(2350-00-439-6242) (EIC:3LA)

DIRECT SUPPORT TROUBLESHOOTING	PAGE 2-2	
DIRECT SUPPORT MAINTENANCE INSTRUCTIONS	PAGE 2-18	
GENERAL SUPPORT MAINTENANCE INSTRUCTIONS	PAGE 3-1	



DISTRIBUTION STATEMENT A. Approved for public release; distribution is unlimited.

TECHNICAL MANUAL
No. 9-2350-238-34-2

HEADQUARTERS
DEPARTMENT OF THE ARMY
Washington, DC 14 April 1992

DIRECT SUPPORT AND GENERAL SUPPORT MAINTENANCE MANUAL

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RECOVERY VEHICLE, FULL-TRACKED:
LIGHT, ARMORED, M578
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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. 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 Armament, Munitions and Chemical Command, ATTN: AMSMC-MAS, Rock Island, IL 61299-6000. A reply will be furnished to you.

Table of Contents

	Page
HOW TO USE THIS MANUAL,	ii
CHAPTER 1. INTRODUCTION	
Section I, General information	1-1
Section II, Equipment Description and Data	1-2
CHAPTER 2. DIRECT SUPPORT MAINTENANCE INSTRUCTIONS	
Section I. <u>Repair Parts, Special Tools, TMDE, and Support Equipment</u>	2-2
Section II. <u>Direct Support Troubleshooting</u>	2-2
Section III. <u>Maintenance of Hydraulic Lines and Fittings</u>	2-16
Section IV. <u>Direct Support Maintenance Instructions</u>	2-18
Section V, Preparation for Storage or Shipment	2-282
CHAPTER 3. <u>GENERAL SUPPORT MAINTENANCE INSTRUCTIONS</u>	3-1
APPENDIX A. REFERENCES	A-1
APPENDIX B. EXPENDABLE/DURABLE SUPPLIES AND MATERIALS LIST	B-1

*This manual supersedes TM 9-2350-238-34-2, dated 4 October 1982, including all changes.

TABLE OF CONTENTS (CONT)

APPENDIX C. ILLUSTRATED LIST OF MANUFACTURED ITEMS C-1

APPENDIX D. TORQUE VALUES D-1

APPENDIX E. SPECIAL TOOLS AND EQUIPMENT E1

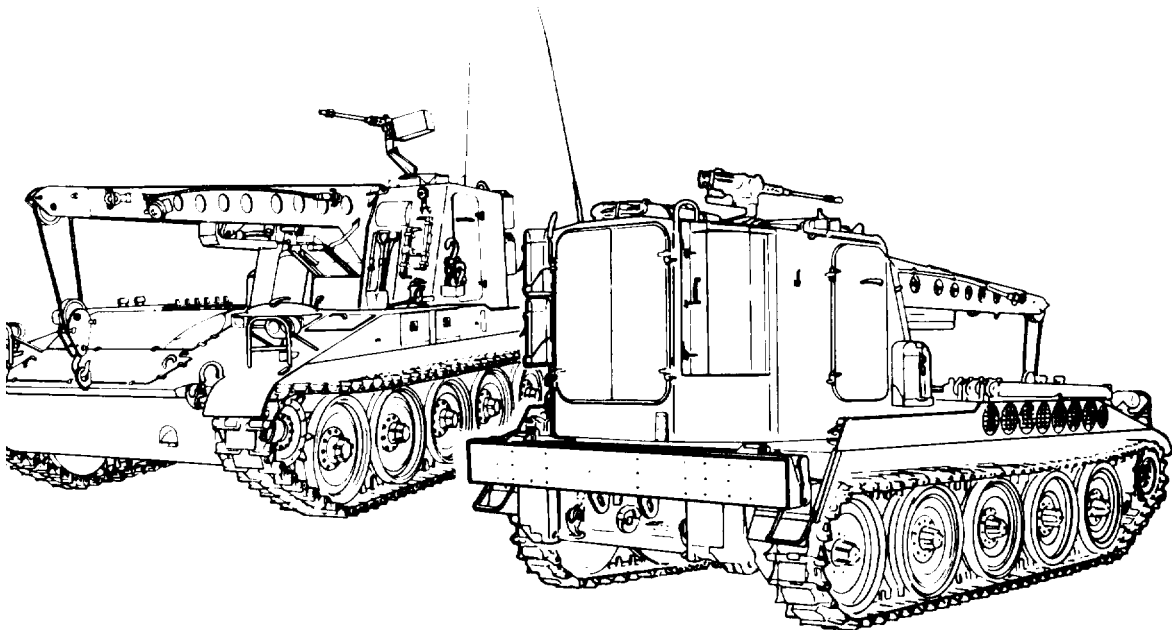
ALPHABETICAL INDEX Index 1

HOW TO USE THIS MANUAL

This manual (TM 9-2350-238-34-2) contains direct support and general support maintenance procedures for the crane (cab) components of the M578 Recovery Vehicle, This manual is to be used in conjunction with TM 9-2350 -238-20-2 and TM 9-2350-238-24P2. Chapter 1 contains general information and equipment description and data. Chapter 2 contains information concerning repair parts, special tools, TM DE, and support equipment; direct support troubleshooting; and direct support maintenance procedures and information concerning preparation for storage and shipment, Chapter 3 contains general support maintenance procedures and information concerning preparation for storage or shipment.

Be sure to read and understand maintenance instructions before beginning any maintenance task. Also, read and understand information in Chapter 1 and general maintenance procedures on page 2-16 before beginning any maintenance task,

M578 ARMORED, LIGHT, FULL-TRACKED RECOVERY VEHICLE



CHAPTER 1
INTRODUCTION

CHAPTER INDEX

	Page
Corrosion Prevention and Control.	1-2
Destruction of Army Materiel to Prevent Enemy Use	1-1
Equipment Characteristics, Capabilities, and Features	1-2
Equipment Data	1-3
Location and Description of Major Components	1-3
Maintenance Forms, Records, and Reports	1-1
Official Nomenclature, Names, and Designations	1-2
Preparation for Storage or Shipment	1-2
Reporting Equipment Improvement Recommendations (EIR)	1-2
Scope	1-1

Section 1. GENERAL INFORMATION

1-1. SCOPE.

- a. *Type of Manual.* Direct support and general support maintenance.
- b. *Model Number and Equipment Name.* M578 light armored, full-tracked recovery vehicle.
- c. *Purpose of Equipment.* The vehicle is provided with a boom, winches, and equipment to perform its recovery mission. Special purpose kits are provided to aid recovery operations in cold climates.

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. DESTRUCTION OF ARMY MATERIEL TO PREVENT ENEMY USE.

- a. *Tactical Situations.* For destruction of materiel to prevent enemy use, refer to TM 750-244-6. For complete details on use of demolition materials and methods of priming

and detonating demolition charges, refer to FM 5-25.

b. *Plans.*

(1) Plans for destruction of equipment must be adequate, uniform, and easily carried out in the field.

(2) Destruction must be as complete as the available time, equipment, and personnel will permit. Since complete destruction requires considerable time, priorities must be established so the more essential parts are destroyed first.

(3) The same essential parts must be destroyed on all like units to prevent the enemy from constructing a complete unit from undamaged parts.

(4) Spare parts and accessories must be given the same priority as parts installed on the equipment.

- c. *Methods.* To destroy equipment adequately and uniformly, all personnel of the unit must know the plan and priority of destruction and be trained in the methods of destruction.

1-3. DESTRUCTION OF ARMY MATERIEL TO PREVENT ENEMY USE (CONT).

d. *References.* Read TM 750-244-6 for information on destruction of mechanical equipment. Read TM 750-244- 5-1 for information on destruction of ammunition.

1-4. PREPARATION FOR STORAGE OR SHIPMENT. Administrative storage is restricted to 90 days and must not be extended. Refer to TM 9-2350 -238-20-2 for detailed instructions on administrative storage.

1-5. OFFICIAL NOMENCLATURE, NAMES, AND DESIGNATIONS.

Nomenclature Cross-Reference List.

<i>Common Name</i>	<i>Official Nomenclature</i>
Arbor press	Bench press
Lockwire	Nonelectrical wire

1-6. REPORTING EQUIPMENT IMPROVEMENT RECOMMENDATIONS (EIR). If your M578 Recovery Vehicle 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. Put it on an SF 368 (Product Quality Deficiency Report). Mail it to us at Commander, U.S. Army Armament,

Munitions and Chemical Command, ATTN: AMSMC-QAD, Rock Island, IL 61299-6000. We'll send you a reply.

1-7. CORROSION PREVENTION AND CONTROL (CPC).

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 the future.

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 these materials may be a corrosion problem.

c. If a corrosion problem is identified, it can be reported using SF 368, Product Quality Deficiency Report. Use of key words such as "corrosion, " "rust, " "deterioration, " or "cracking" will assure that the information is identified as a CPC problem.

d. The form should be submitted to: Commander, U.S. Army Armament, Munitions and Chemical Command, ATTN: AMSMC-QAS/ Customer Feedback Center, Rock Island, IL 61299-6000.

Section II. EQUIPMENT DESCRIPTION AND DATA

1-8. EQUIPMENT CHARACTERISTICS, CAPABILITIES, AND FEATURES.

a. *Purpose.* The M578 Recovery Vehicle is used to pick up or tow disabled mechanized equipment, as a crane at repair base, and as a carrying platform for spare parts and maintenance personnel.

b. *Capabilities and Features.***CAUTION**

Do not ford water which exceeds 42 in. (106.7 cm) in depth, Check for soft mud or sandy bottoms.

(1) The M578 Recovery Vehicle is a light, full-tracked, self-propelled, diesel-powered vehicle with a 30,000 lb (13,620 kg) boom winch and a 60,000 lb (27,240 kg) tow winch mounted in an armored cab. It is highly mobile and maneuverable and may be air transported. The vehicle is capable of long-range, high-speed operation on improved roads. It can travel over rough terrain, muddy or marshy ground, snow or ice, and can ford streams of a depth of 42 in. (106.7 cm).

(2) A hydraulic suspension lockout system and a spade assembly provide a stable platform and increase lifting and winching capabilities of the vehicle. Suspension lockout system, boom, winches, cab, and spade are hydraulically powered.

(3) A machine gun mount support is installed on the rigger/gunner cupola to accommodate a Browning M2.50 caliber machine gun.

(4) The cab can traverse 360 degrees using hydraulic power and travel up or down hills up to 30 percent grade.

1-9. LOCATION AND DESCRIPTION OF MAJOR COMPONENTS. Refer to TM 9-2350-238-20-2.

1-10. EQUIPMENT DATA. Necessary equipment data not furnished in this manual can be found in TM 9-2350-238-10 or TM 9-2350-238-20-2.

a. *Boom Winch.*

- (1) Rated Load Capacity

Full Drum	15,000 lb (6810 kg)
Bare Drum	30,000 lb (13,620 kg)
- (2) Hydraulic Motor to Drum Ratio
 - (a) Low 73.09 to 1
 - (b) High 16.64 to 1
- (3) Wire Rope Diameter 5/8 in. (1.59cm)
- (4) Wire Rope Length 220 ft (67m)
- (5) Wire Rope Breaking Strength. 33,200 lb (15,073 kg)
- (6) Wire Rope Spooling (line anchored) Line pull 7500 lb (3405 kg)
- (7) Drum Capacity
 - (a) Perfect Layup 356 ft (109m)
 - (b) Uneven Layup 329 ft (100m)
- (8) Line Pull
 - (a) Low Speed, Bare Drum 31,200 lb (14,165 kg)
 - (b) Low Speed, Full Drum 19,100 lb (8671 kg)
 - (c) High Speed, Bare Drum 7120 lb (3232 kg)
 - (d) High Speed, Full Drum 4360 lb (1979 kg)
- (9) Line Speed (approximate)
 - (a) Low Speed, Bare Drum..... 69 fpm (21 m/min)
 - (b) Low Speed, Full Drum 113 fpm (34 m/min)
 - (c) High Speed, Bare Drum 304 fpm (93 m/min)
 - (d) High Speed, Full Drum..... 496 fpm (151 m/min)

1-10. EQUIPMENT DATA (CONT).**b. Traversing System.****(1) Power Unit**

- (a) Weight123 lb (56 kg)
- (b) Dimensions. .17.25 x 16.50 x 14.50 in. (43.82 x 41.91 x 36.83 cm)
- (c) Traversing range of cab360 degrees

(2) Final Drive

- (a) Weight76 lb (35 kg)
- (b) Dimensions16.00 x 11.75 x 7.50 in. (40.64 x 29.85 x 19.05 cm)

c. Tow Winch.

- (1) Rated Load Capacity, Bare Drum. 60,000 lb (27,240 kg)

(2) Hydraulic Motor to Drum Ratio

- (a) Low 255 to 1
- (b) High63 to 1

- (3) Wire Rope Diameter 1.0 in. (2.5 cm)

- (4) Wire Rope Length230 ft (70 meters)

- (5) Wire Rope Breaking Strength 84,000 lb (38,136 kg)

- (6) Wire Rope Spooling (line anchored) Line pull 30,000 lb (13,620 kg)

- (7) Drum Capacity, Perfect Layup 325 ft (99 meters)

(8) Line Pull

- (a) Low Speed, Bare Drum 71,500 lb (32,461 kg)
- (b) Low Speed, Full Drum 45,500 lb (20,657 kg)
- (c) High Speed, Bare Drum..... 17,650 lb (8013 kg)
- (d) High Speed, Full Drum 11,250 lb (5108 kg)

(9) Line Speed (approximate)

- (a) Low Speed, Bare Drum 28.7 fpm (8.7 m/min)
- (b) Low Speed, Full Drum 45.0 fpm (13.7 m/min)
- (c) High Speed, Bare Drum 116.5 fpm (35.5 m/min)
- (d) High Speed, Full Drum 183.5 fpm (55.9 m/min)

d. Reservoir and Hydraulic System.

- (1) Reservoir Integral with cab weldment

- (2) Reservoir capacity 140 gal (530 l) refill, 165 gal (625 l) dry

- (3) System pressure 0 to 2000 psi (0 to 13,790 kPa)

(4) 8 GPM pump

- (a) Type Dual vane
- (b) Output (1350 to 1450 rpm) 7.6 gpm at 2000 psi
(28.8 l/min at 13,790 kPa)

(5) 80 GPM pump (dual section)

- (a) Type Dual vane
- (b) Output (each section at 1350 to 1450 rpm)

- 1 Maximum 52 gpm at 0 psi (197 l/min at 0 psi)
- 2 Minimum 42 gpm at 2000 psi (159 l/min at 13,790 kPa)