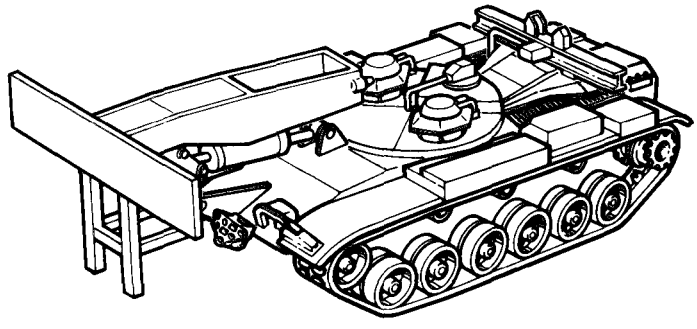
TM5-5420-202-20-1

TECHNICAL MANUAL

ORGANIZATIONAL MAINTENANCE



M60A1 TANK CHASSIS, TRANSPORTING: FOR BRIDGE, ARMORED-VEHICLE-LAUNCHED; SCISSORING TYPE, CLASS 60

(5420-00-889-2020)

HEADQUARTERS, DEPARTMENT OF THE ARMY

25 OCTOBER 1985

Technical Manual
No. 5-5420-202-20-1

HEADQUARTERS
DEPARTMENT OF THE ARMY
WASHINGTON, D.C.,25 *OCTOBER 1985*

ORGANIZATIONAL MAINTENANCE MANUAL

M60A1 TANK CHASSIS, TRANSPORTING: BRIDGE, ARMORED-VEHICLE-LAUNCHED: SCISSORING TYPE; CLASS *60*

NSN 5420-00-889-2020

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 to: Commander, U.S. Army Tank-Automotive Command, ATTN: AMSTA-MBC, Warren, Michigan 48397-5000., A reply will be furnished to you.

TABLE OF CONTENTS

VOLUME 1

★'This manual together with TM 5-5420-202-20-2, TM 5-5420 -202-20-3 and TM 5-5420 -202-20-4 supersedes TM 5-5420-202-20,14, January 1976.

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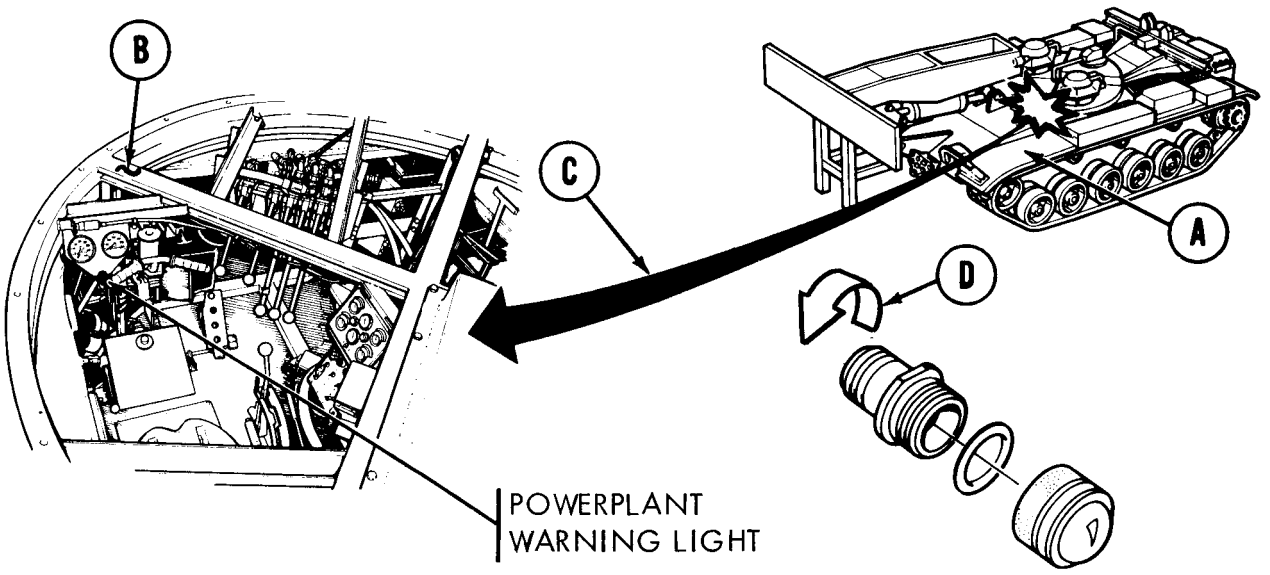
VOLUME 2

TABLE OF CONTENTS - Continued

VOLUME 4- Continued

HOW TO USE THIS MANUAL:

- Manual is divided into chapters.
- Chapters are by functional group code and are presented in same order as the RPSTL (Repair Parts and Special Tools List).
- Procedure indexes are on procedures that are four pages or more, and indicate how the procedure is set up, i.e., disassembly, removal, cleaning, inspection, etc.
- All references within this technical manual refer to page numbers.
- Steps are numbered and are to be performed in that order.
- Be sure to read all NOTES, WARNINGS, and CAUTIONS.
- Locator views are included wherever necessary. These will help you locate the item which the procedure› is referencing.
- Jagged circle (*) on locator (A) indicates a cutout and means the item is inside the vehicle.
- A (~) symbol represents the outside surface (B) of a piece of equipment that cannot be shown in its entirety.
- Callouts are shown by a circle with a letter inside.
- Locator arrows (C) are black, and mechanical motion arrows (D) are white.
- Broken leader arrow (- - ➤) indicates the item is either inside or under the vehicle and cannot be seen.



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HOW TO USE THIS MANUAL - Continued

- An illustrated list of manufactured items includes complete instructions for making items authorized to be manufactured or fabricated and used at organizational maintenance.
- A maintenance information index lists all parts subject to maintenance tasks. It provides the location of all maintenance tasks related to a component in this manual.
- Certain sections of the manual have detailed “how to use " instructions at the beginning of the section - for example: troubleshooting.
- As a general maintenance practice, throw away all removed lockwashers, locknuts, and cotter pins, and replace with new lockwashers, locknuts, and cotter pins at installation.
- LO 5-5420-202-12, M60A1 AVLB lubrication order, has been rescinded. All crew lubrication tasks have been incorporated into TM 5-5420-202-10, Appendix G, and are to be performed as required or as a part of crew PMCS. All organizational maintenance lubrication tasks have been incorporated into PMCS contained in this manual and in TM 5-5420-228-424 and are to be performed as required and as a part of organizational maintenance PMCS. Any reference to LO 5-5420-202-12 must be considered a reference to either TM 5-5420-202-10, Appendix G or organizational PMCS and must be performed in accordance with instructions provided in the applicable PMCS.

CHAPTER 1

INTRODUCTION

Section I. GENERAL INFORMATION

SCOPE

Type of Manual: Organizational Maintenance

Model Number and Equipment Name: M60A1 Tank Chassis, Transporting for Class 60 Scissoring Type, Armored-Vehicle-Launched Bridge (M60A1 AVLB).

Purpose of Equipment: Provide a transportable bridge that can be launched and retrieved while providing maximum ballistic protection for the crew.

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).

REPORTING EQUIPMENT IMPROVEMENT RECOMMENDATIONS (EIR'S)

If your M60A1 AVLB 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 our equipment. Let us know why you don't like the design. Tell us why a procedure is hard to perform. Put it on an SF 368 (Quality Deficiency Report). Mail it to: Commander, U.S. Army Tank-Automotive Command, AMSTA-Q, Warren, Michigan 48397-5000. We'll send you a reply.

USE OF ENGLISH AND METRIC SYSTEM UNITS

Torque values specified in this manual are expressed in pound-feet (lb-ft.) or pound-inches (lb.-in.) followed by the metric equivalent in parentheses. The metric equivalent is expressed in system international units Newton meters (N•m). The metric system and equivalents conversion table is located on inside back cover of this manual.

DESTRUCTION OF ARMY MATERIEL TO PREVENT ENEMY USE

Refer to TM 750-244-6 for instructions on destruction of materiel to prevent enemy use.

ADMINISTRATIVE STORAGE

Refer to TM 740-90-1 for instructions on administrative storage.

QUALITY ASSURANCE/QUALITY CONTROL (QA/QC)

a. No particular quality assurance or quality control manual pertains specifically to the M60A1 AVLB.

b. Defective materiel received through the supply system should be reported on Quality Deficiency Report (QDR) SF 368. Instructions for preparing QDR's are provided in AR 702-7, Reporting of Quality Deficiency Data. QDR's should be mailed to Commander, U.S.

Army Tank-Automotive Command, ATTN: AMSTA-Q, Warren, MI 48397-5000. A reply will be furnished to you.

Section II EQUIPMENT DESCRIPTION AND DATA

PURPOSE OF THE M60A1 ARMORED VEHICLE BRIDGE LAUNCHER

Capabilities and Features

- Provides a transportable bridge that can be launched and retrieved.
- Suited to a nuclear environment because armor protection reduces effects of blasts and radiation.
- Can be dispersed and concentrated rapidly over great distances.
- Provides deep penetration due to mobility and flexibility
- Provides close combat vehicle support.
- Major components:

1. Hull
2. Power train
3. Fuel system
4. Air intake system
5. Exhaust system
6. Cooling system
7. Electrical system
8. Tracks and suspension
9. Personnel heater
10. Steering and shifting controls
11. Accelerator controls
12. Brake controls
13. Fixed fire extinguisher system

LOCATION AND DESCRIPTION OF EXTERNAL COMPONENTS

(A) **FIXED FIRE EXTINGUISHER HANDLE**

Permits crew to release first and second shot of $C0_2$ into the engine compartment in the event of a powerplant fire.

(B) **GRILLE DOORS**

Provides access to powerplant.

(C) **PINTLE**

Permits attaching tow bar for towing or recovery of disabled vehicles.

(D) **TRACK AND SUSPENSION**

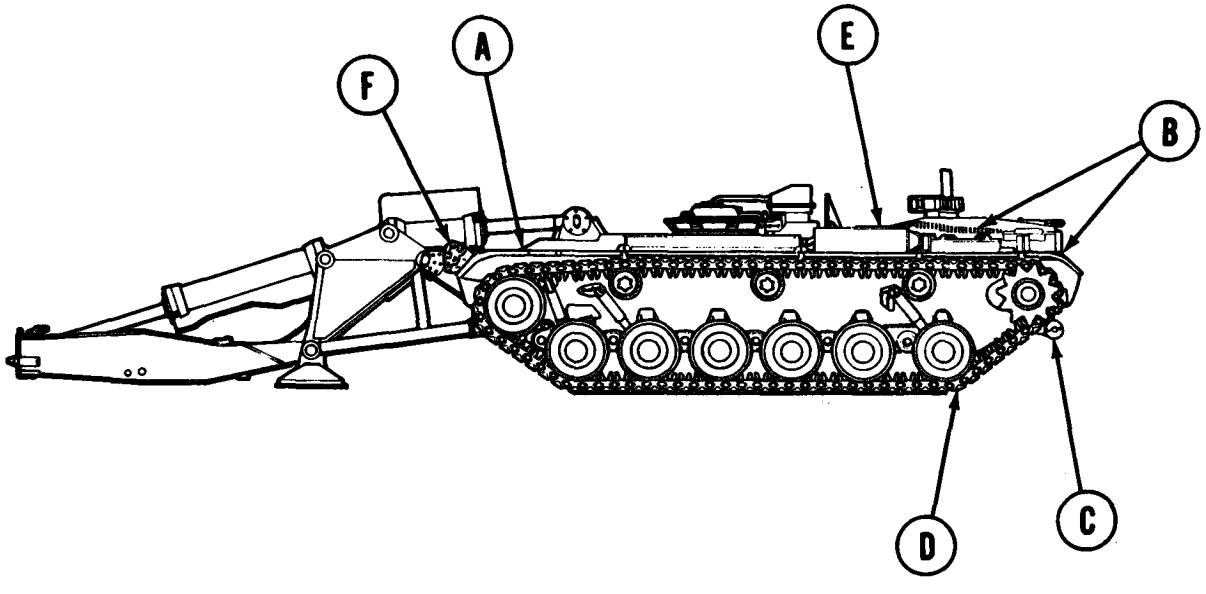
Provides optimum riding characteristics, over all types of terrain, by utilizing transverse torsion bars and individually supported roadwheels.

(E) **AIR CLEANER**

Filters engine combustion air prior to delivery to engine turbocharger. Draws air, through air intake screen. Removes larger dust partitles in precleaned section and exhausts them by blower motor. Removes finer particles by surface-type air filter.

(F) **SMOKE GRENADE LAUNCHER**

Provides the vehicle with a self-screening capability.



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LOCATION AND DESCRIPTION OF INTERNAL COMPONENTS (1 of 2)

(A) TRANSMISSION

Transmits engine power to the final drives to move the vehicle. The transmission has two forward ranges, low and high, and one reverse range.

(B) UNIVERSAL JOINT

Transmits power from transmission to final drives. There is one universal joint on each side of the transmission.

(C) ENGINE WITH POWER TAKEOFF

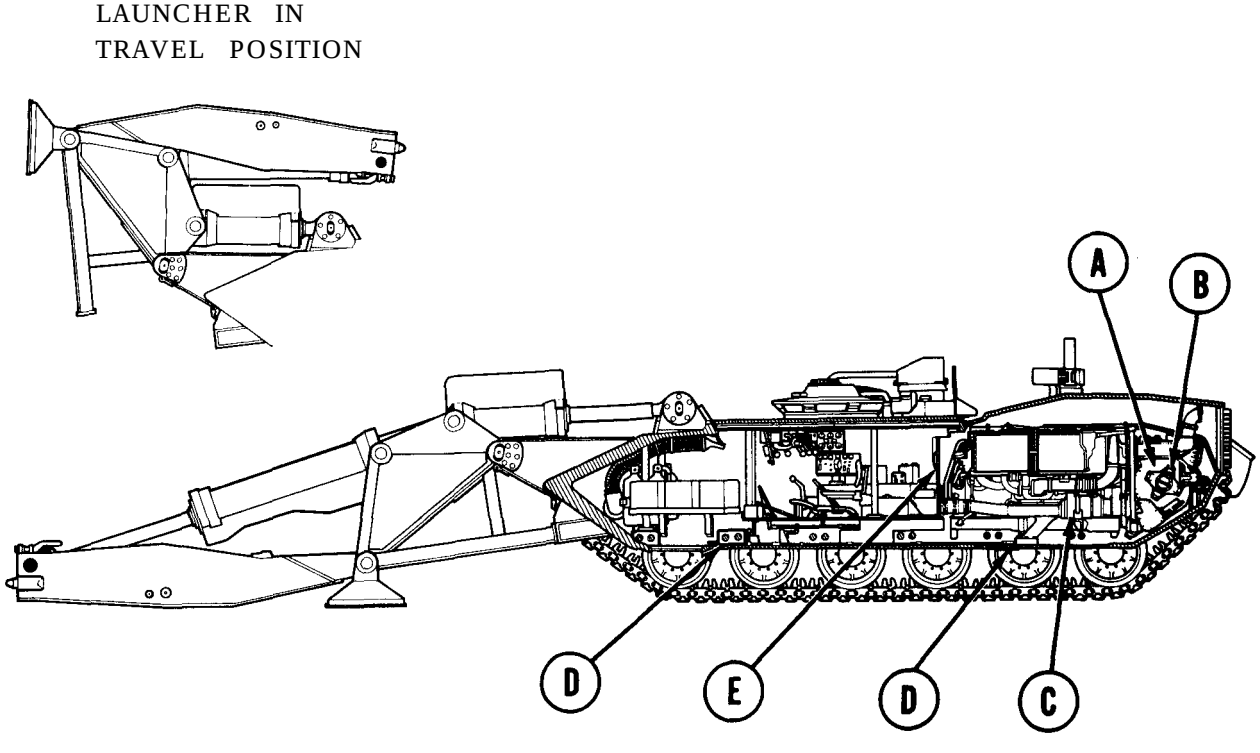
Provides power to move vehicle. Provides power to drive hydraulic pump.

(D) HULL DRAIN VALVES

Provides means for draining any water accumulated.

(E) ENGINE AIR CLEANER INTAKE

Provides means of drawing air from crew compartment for air cleaners. This is usually done during fording or during operation under dusty or sandy conditions.



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LOCATION AND DESCRIPTION OF INTERNAL COMPONENTS (2 of 2)

(F) DRIVER'S CONTROL PANELS

Provides driver with means of monitoring all systems during vehicle operation. The panels are mounted to the right of the driver's station.

(G) BATTERIES

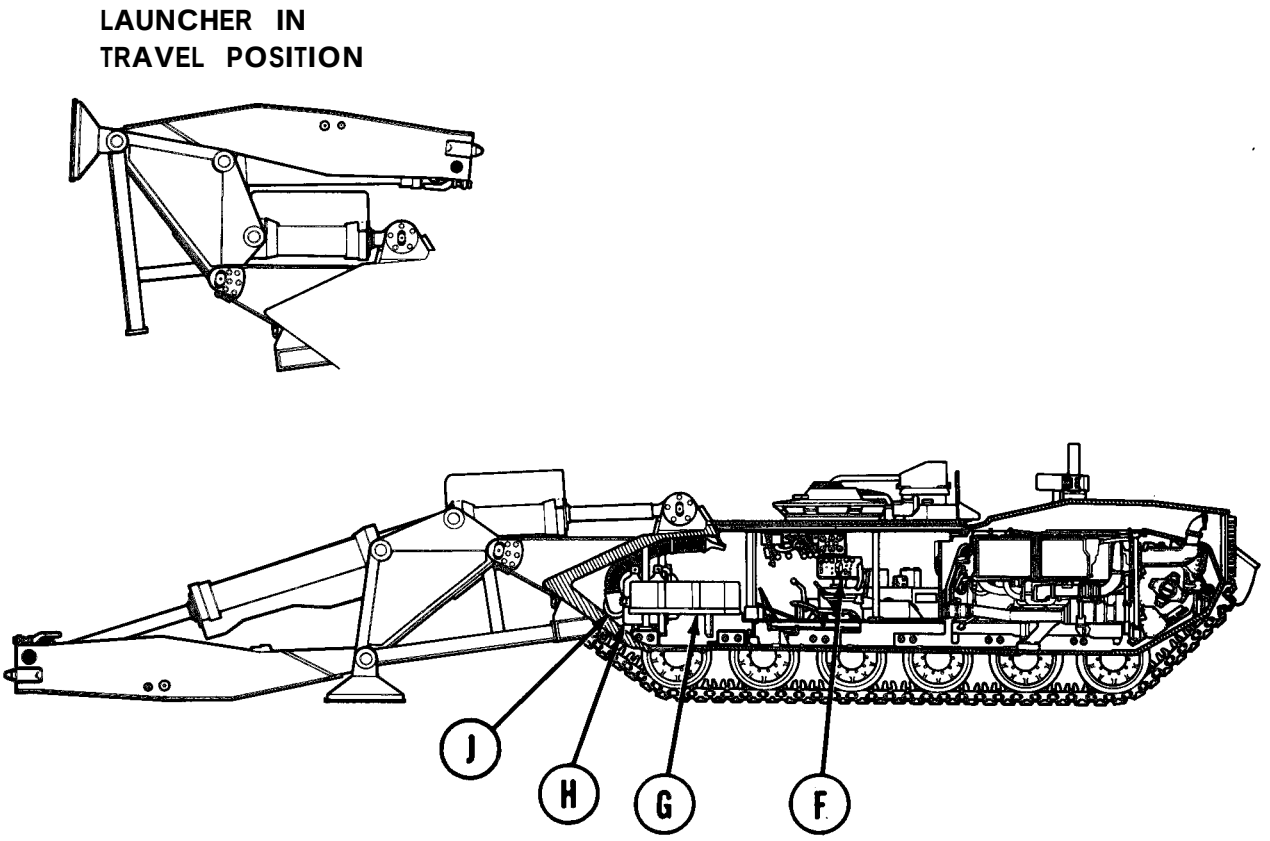
The six vehicle batteries are located forward of the operator on the hull floor, three on either side of the vehicle. They supply a 24-vo1t power source for the vehicle electrical system.

(H) FIXED FIRE EXTINGUISHERS

Provides a first and second shot of $C0_2$ into the engine compartment in the event of a powerplant fire.

(J) PERSONNEL HEATER

Provides heated air to hull for crew comfort during cold temperatures. Heater is turned on by a switch located on driver's control panel.



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LOCATION OF DATA PLATES

Refer to TM 5-5420-202-10 for location of data plates.

EQUIPMENT DATA

Engine Characteristics

Manufacturer	Teledyne Continental
Model	AVDS-1790-2D
Speed:	
Governed, full load	2400 rpm
Governed, no load	2550 rpm
Idle	700-750 rpm
Horsepower, gross	750 bhp at 2400 rpm
Cooling system	Engine driven fans for cylinders, transmission and engine oil coolers
Induction system	Supercharged by two exhaust driven turbo-chargers
Oil pressure:	
At 700 rpm idle	20 psi with SAE 30 at 180°F
At 2400 rpm full load	50 to 70 psi with SAE 30 at 180°F
Oil temperature:	
Normal	180°F at 60°F ambient
Maximum	250°F
Lubricating oil:	
Type	LO 5-5420-202-12
Capacity	Dry engine-20 gallons, oil change- 17 gallons
Fuel:	
Type	Diesel
Grade	40 cetane min.
Specification	VV-F-800
Consumption	310 lb/hr at 2400 rpm and 750 bhp