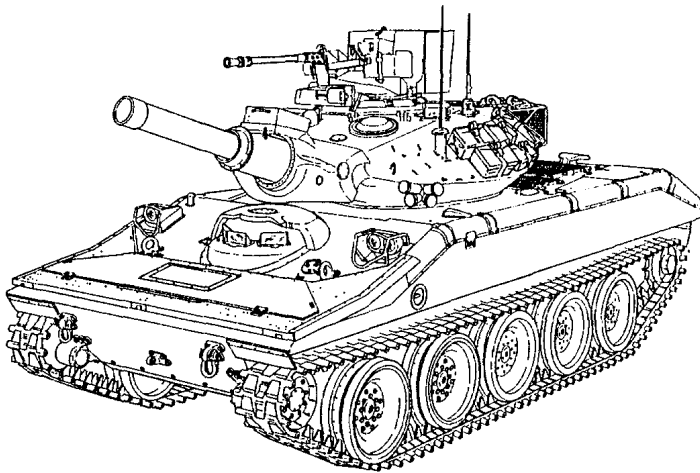


**UNIT MAINTENANCE MANUAL
FOR
HULL, SUSPENSION, AND
MISCELLANEOUS HULL
COMPONENTS OF THE**

**ARMORED
RECONNAISSANCE/
AIRBORNE ASSAULT
VEHICLE,
FULL-TRACKED, 152-MM
GUN/LAUNCHER
M551A1 (2350-00-140-5151)
AND
M551NTC (2350-01-115-1579)**



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Approved for public release; distribution is unlimited.

HEADQUARTERS, DEPARTMENT OF THE ARMY

JUNE1996

**UNIT MAINTENANCE MANUAL
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AND
M551NTC (2350-01-115-1579)**

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 Command, ATTN: AMSTA-IM-**OPIT**, Warren, MI 48397-5000. A reply will be furnished to you.

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HOW TO USE THIS MANUAL

GENERAL

This manual contains Unit Maintenance instructions for the M551A1/M551NTC Sheridan.

The front matter in this manual consists of a cover index, general warnings, and table of contents.

This manual is divided into 9 chapters and 8 appendices. Each chapter and appendix starts on a right-hand page with the page number of 1. Pages are numbered after the chapter number or appendix letter. For example, 1-14 means Chapter 1, page 14, and A-2 means Appendix A, page 2.

At the end of this manual are an alphabetical index, DA Form 2028-2, a vehicle electrical schematic, and a metric conversion chart.

It is important that you familiarize yourself with and understand the entire maintenance procedure before beginning any maintenance task.

OVERVIEW OF THIS MANUAL

Front Cover Index lists the major divisions in this manual.

Warning Page and First Aid Data provides a summary of all warnings which appear in this manual. First Aid data is found within warning text to ensure safety.

Chapter 1 provides general information, equipment description and data, and principles of operation.

Chapter 2 provides Preventive Maintenance Checks and Services (PMCS), the Quick Guide to Troubleshooting, the troubleshooting chart, and general maintenance procedures.

Chapter 3 provides instructions for the engine/powerplant and related components.

Chapter 4 provides instructions for the fuel, air intake, and exhaust systems and related components.

Chapter 5 provides instructions for the cooling system and related components.

Chapter 6 provides instructions for the electrical system and related components.

Chapter 7 provides instructions for the transmission and related components.

Chapter 8 provides instructions for the suspension and related components.

Chapter 9 provides instructions for the hull components.

Appendix A provides titles of documents and publications referenced in this manual.

Appendix B provides the Maintenance Allocation Chart (MAC) and special tools identification list.

Appendix C provides the tools identification list.

Appendix D provides an expendable and durable items list.

Appendix E provides an illustrated list and instructions to produce manufactured items needed for Unit Maintenance procedures.

Appendix F provides torque limits.

OVERVIEW OF THIS MANUAL-Continued

Appendix G provides a list of the mandatory replacement parts necessary to perform the Unit Maintenance procedures.

Appendix H provides a general overview of Simplified Test Equipment for Internal Combustion Engines--Reprogrammable (STE/ICE-R) equipment and operations. Readout display messages, PMCS test method, STE/ICE troubleshooting method including GO and NO-GO chains, vehicle test cards, and battery test procedures are included in this appendix.

Index provides an alphabetical listing of information contained in this manual.

DA Form 2028 is used to report errors of this manual and to recommend improvements to this manual.

Vehicle Electrical Schematic provides the vehicle electrical system schematics.

Metric Conversion Chart converts English measurements to metric equivalents.

LOCATING INFORMATION

This manual provides five ways by which you can locate information quickly.

The front cover index lists the major divisions by name and starting page number. Black tabs are placed along right hand margin of the front cover and are matched by black tabs on the pages listed.

The table of contents lists each chapter, section, and paragraph title and starting page.

The chapter and appendix table of contents lists the section and paragraph information covered within those chapters or appendixes.

The Quick Guide to Troubleshooting provides a malfunction index to locate items in the troubleshooting chart.

The index provides an alphabetical listing of the information contained in this manual.

REFERENCING

In this manual internal referencing is done by chapter, appendix, paragraph, section, or task. For example, (see paragraph 8-15) refers you to Chapter 8, paragraph 15.

Referencing outside this manual is done by the military document or publication number. For example, (refer to TM 9-256-311-10) refers you to that manual.

WARNINGS, CAUTIONS, AND NOTES

Warnings, cautions, and notes are provided throughout this manual and always appear above the task or step to which they apply. It is important to read all warnings, cautions, and notes before performing procedures whenever they appear.

A warning is provided where injury may occur to personnel on or near the Sheridan.

A caution is provided where equipment may be damaged, but no injuries to personnel should result.

A note provides essential information, but no personnel injury or equipment damage should result.

INITIAL SETUPS

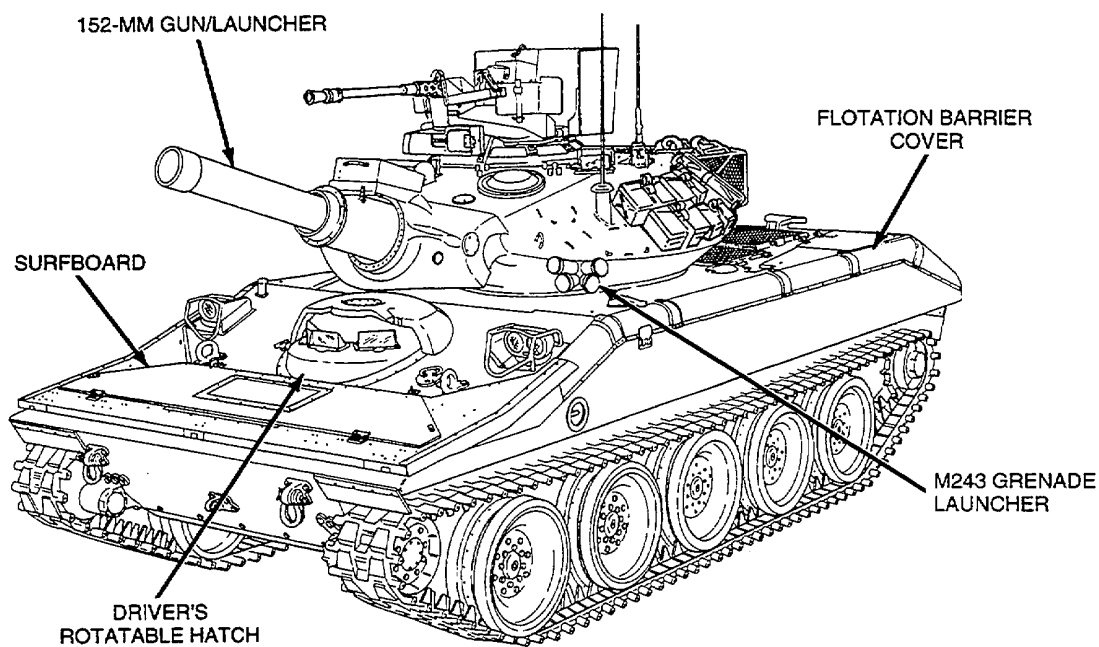
Before starting a task, you must obtain all the tools, supplies, and personnel listed in the initial setup. Be sure to read the task before performing the maintenance. If any other tasks are referenced, you must go to the initial setup page for each of those tasks to find out what tools, supplies, and personnel will be needed.

USING THE REPAIR PARTS AND SPECIAL TOOLS LIST (RPSTL)

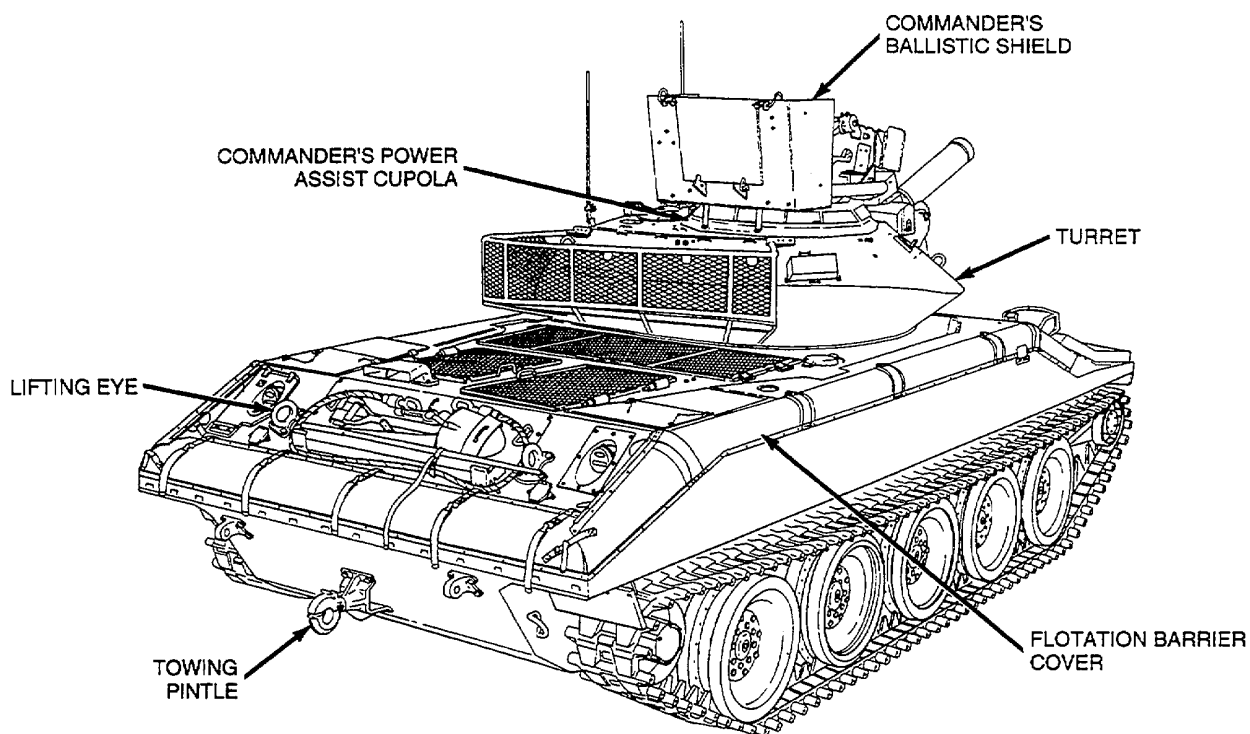
The RPSTL (TM 9-2350-230-24P-1) gives the National Stock Number (NSN) required to order parts used in the maintenance tasks. To use the RPSTL to identify and order a part, do the following: go to the beginning of the task being performed;

find "Materials/Parts" under INITIAL SETUP and find the part(s) that need replacement and get the item number; go to appendix G to find the part number; go to the RPSTL Cross-Reference Index, look up the part number, and find the figure listed; go to the figure and find the same illustrated part and the item number assigned to it; look up this item number in the listing for that figure (the NSN can be found in the "NSN column").

If an item is found damaged, go to the RPSTL and find the Source, Maintenance, and Recoverability (SMR) code for the damaged item. If the SMR code does not authorize repair, reassemble it and send it to the authorized level of maintenance.



FRONT VIEW



REAR VIEW

Chapter 1 INTRODUCTION

INTRODUCTION

This chapter provides general information on equipment characteristics, performance data, location of major components, and principles of operation of the M551A1/M551NTC Sheridan.

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Section I. GENERAL INFORMATION

1-1. SCOPE

This Unit Maintenance manual contains Unit Maintenance instructions for the hull, suspension, and miscellaneous hull components of the M551A1/M551NTC Armored Reconnaissance/Airborne Assault Vehicle (AR/AAV), Full-Track, 152-mm Gun/Launcher (Sheridan). The purpose of M551A1/M551NTC Sheridan is to provide forward reconnaissance, intelligence gathering, and airborne assault capabilities.

1-2. MAINTENANCE FORMS, RECORDS, AND REPORTS

Department of the Army forms and procedures used for equipment maintenance will be those prescribed by (as applicable) DA PAM 738-750, The Army Maintenance Management System (TAMMS); DA PAM 738-751, Functional Users Manual for the Army Maintenance Management System-Aviation (TAMMS-A); or AR 700-138, Army Logistics Readiness and Sustainability.

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

If captured, the M551A1/M551NTC Sheridan and its equipment, ammunition, and fuel shall be destroyed in accordance with TM 750-244-6, Procedures for Destruction of Tank-Automotive Equipment to Prevent Enemy Use. If possible, attempt to salvage sighting and fire-control equipment and short-supply items prior to destruction. Destruction of vehicle must be as total and extensive as the tactical situation permits and by the methods and priorities listed below.

Methods:

- Burning--gasoline, oil, or incendiary grenades
- Mechanical--axe, crowbar, pick mattock, sledge, or other heavy implement
- Demolition--ammunition or demolition charges
- Gunfire--artillery, hand grenades, or antitank rockets

Priority:

- Missile subsystem--transmitter, tracker (on M149 telescope mount), signal data converter, and modulator
- Sighting and fire control equipment--AN/VVG-1 Laser Range Finder (LRF) (M551A1), XMF44E series periscope, M127 telescope (M551NTC), M127A1 telescope (M551A1), AN/PVS-2 night vision sight (cal .50 machine gun), and M48 periscope
- 152-mm gun/launcher--breech mechanism
- Turret electric drive control--accessory box, amplifier integrator, power supply assembly, and gyro selector
- Missiles--fire in direction of enemy or destroy in conjunction with vehicle
- Machine guns--receiver
- Powerplant--destroy in conjunction with vehicle

1-4. PREPARATION FOR STORAGE OR SHIPMENT

See paragraph 2-17 for detailed information for preparing the M551A1/M551NTC Sheridan for storage or shipment.

1-5. OFFICIAL NOMENCLATURE, NAMES, AND DESIGNATIONS

In the following list, parts and component assemblies are identified by their official nomenclature followed by their common names.