

TM 9-2320-211-20-3-1
T.O. 36A12-1C-422-1-3

TECHNICAL MANUAL
VOLUME 3 OF 3
PART 1 OF 2
MAINTENANCE
ORGANIZATIONAL LEVEL

5-TON, 6X6, M39 SERIES TRUCKS
(MULTIFUEL)

TRUCK, CHASSIS: M40A2C,
M61A2, M63A2; TRUCK, CARGO:
M54A2, M54A2C, M55A2; TRUCK,
DUMP: M51A2; TRUCK, TRACTOR:
M52A2; TRUCK, WRECKER, MEDIUM: M543A2

NOTE:

**THE STYLE OF THIS TM IS
EXPERIMENTAL. IT IS BEING TRIED
BY THE ARMY ONLY ON
A LIMITED BASIS**

Chapter 1
General
Maintenance
Information

Chapter 2
Engine System

Chapter 3
Clutch System

Chapter 4
Fuel System

Chapter 5
Exhaust System

Chapter 6
Cooling System

Chapter 7
Electrical System

Chapter 8
Transmission System

Chapter 9
Transmission Transfer System

Chapter 10
Propeller Shafts

Chapter 11
Front and
Rear Axles

Chapter 12
Brake System

***TM 9-2320-211-20-3-1**
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TECHNICAL MANUAL
NO. 9-2320-211-20-3-1
TECHNICAL ORDER
NO. 36A12-1C-422-1-3

DEPARTMENTS OF THE ARMY
AND
THE AIR FORCE
WASHINGTON, DC, 10 December 1980

TECHNICAL MANUAL
VOLUME 3 OF 3
PART 1 OF 2
MAINTENANCE
ORGANIZATIONAL LEVEL

5-TON, 6X6, M39 SERIES TRUCKS
(MULTIFUEL)

Model		NSN without Winch	NSN with Winch
Chassis	M40A2C	2320-00-969-4114	
	M61A2	2320-00-055-9264	2320-00-965-0321
	M63A2	2320-00-226-6251	2320-00-285-3757
Truck, Cargo	M54A2	2320-00-055-9266	2320-00-055-9265
	M54A2C	2320-00-926-0874	2320-00-926-0874
	M55A2	2320-00-073-8476	2320-00-055-9259
Truck, Dump	M51A2	2320-00-055-9262	2320-00-055-9263
Truck, Tractor	M52A2	2320-00-055-9260	2320-00-055-9261
Truck, Wrecker, Medium	M543A2		2320-00-055-9258

Current as of 25 Jul 80.

*This manual together with TM 9-2320-211-20-1, 10 December 1980; TM 9-2320-211-20-2-1, 10 December 1980; TM 9-2320-211-20-2-2, 10 December 1980 and TM 9-2320-211-20-3-2, 10 December 1980 supersedes so much of TM 9-2320-211-20, 1 June 1973 as pertains to multifuel vehicles including all changes.

REPORTING OF 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 procedure, 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, US Army Tank-Automotive Command, ATTN: DRSTA-MB, Warren, Michigan 48090. A reply will be furnished to you.

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CHAPTER 1

GENERAL MAINTENANCE INFORMATION

1-1. **SCOPE.** This manual contains the organizational maintenance instructions for the trucks listed below. This manual includes procedures for disassembly, cleaning, inspection, repair, test and adjustment as authorized by the maintenance allocation chart.

Truck, Cargo: 5 ton, 6x6, M54A2, M54A2C and M55A2
 Truck, Dump: 5 ton, 6x6, M51A2
 Truck, Tractor: 5 ton, 6x6, M52A2
 Truck, Wrecker, Medium: 5 ton, 6x6, M543A2

Information is provided on maintenance of trucks which is beyond the scope of tools, equipment, personnel, or supplies normally available to operator or using organization.

1-2. **GENERAL MAINTENANCE.** The general maintenance and repair covered by other manuals and called out in this manual are as follows:

TM 9-214 Inspection, Care and Maintenance of Antifriction Bearings.
 TM 9-237 Operators Manual: Welding Theory and Application.
 FM 43-3 General Repair For Canvas and Webbing.
 TM 9-247 Materials Used for Cleaning, Preserving, Abrading and Cementing Ordnance Materiel and Related Materials Including Chemicals.
 FM 43-2 Sheet Metal Work: Body, Fender, and Radiator Repairs.
 TB 750-254 Radiator Test.
 TM 43-0139 Painting Instructions For Field Use.
 TB 43-0209 Color and Camouflage Painting of Marking of Military Vehicles, Construction Equipment and Materials Handling Equipment.
 TB 43-0212 Purging, Cleaning and Coating Interior Ferrous and Terne Sheet Vehicle Fuel Tanks.
 TB 43-0213 (Rustproofing)
 TM 9-2300-422- 20 Security of Tactical Wheeled Vehicles.

1-3. **CLEANING.** All parts must be cleaned before inspection and assembly and after repair.

WARNING

Dry cleaning solvent is flammable. Do not use near an open flame. Keep a fire extinguisher nearby when solvent is used. Use only in well-ventilated places. Failure to do this may result in injury to personnel and damage to equipment.

Clean inner and outer surfaces of metallic parts and all areas subject to oil or mease with dry cleaning solvent, type II (SD-2), - Fed. Spec P-D-680. Clean out sludge and gum with a stiff brush. Use steam cleaning to take off accumulated grease and dirt after dry cleaning solvent has been applied. Dry with clean rags. To clean bearings, refer to TM 9-214. The general cleaning covered by other manuals and references called out in this manual are as follows:

TM 9-208-1 Cleaning of Ordnance Material.

TM 9-247 Materials Used for Cleaning, Presenting, Abrading and Cementing Ordnance Materiel and Related Materials Including Chemicals.

TM 9-214 Inspection, Care and Maintenance of Antifriction Bearings.

1-4. PAINTING. Instruction for the preparation of the material for painting, how to paint, and material to be used are in TM 9-213. Instructions for camouflage painting are contained in FM 5-20B. Stenciling and marking must be done periodically due to weathering or repainting. Instructions for marking military trucks is called out in TB 746-93-1.

1-5. AIR SYSTEM LEAKAGE TEST. The following procedures give instructions for checking the compressed air system for leaks. These instructions are of a general nature and are given here so that they do not have to be repeated throughout chapter 12.

- a. With compressed air system filled, brush each air line and fitting with soapy water.
- b. If air bubbles appear, line or fitting is leaking.
- c. Tighten fitting just enough to stop leak and do steps a and b again.
- d. If you still have a leak, remove and replace line or fitting.

1-6. SPECIAL TOOLS AND EQUIPMENT. Special tools and equipment are provided to make it easier to do particular maintenance tasks and to keep the truck in good repair. Table 1-1 lists the special tools and equipment and gives a reference to the maintenance paragraph where they are used and what they are used for.

1-7. TORQUE VALUES. Critical torque values for a particular component are given in the maintenance procedures. When torque values are not given, bolts, screws, and nuts are to be tightened as given in table 1-2.

1-8. COMMON TOOLS. In the maintenance procedures covered in this manual, specific wrench sizes have been given. However, due to modifications made to equipment in the field or in production at the factory, you may need different wrench sizes.

1-9. SAFETY INSPECTION AND TESTING OF LIFTING DEVICES. Refer to TB 43-0142 for safety inspection and testing of lifting devices used in this manual.

1-10. FORMS AND RECORDS. Maintenance forms, records, and reports which are to be used by maintenance personnel at all levels are listed in and prescribed by TM S8-750.

1-11. EQUIPMENT IMPROVEMENT REPORT AND MAINTENANCE DIGEST (EIR MD) AND EQUIPMENT IMPROVEMENT REPORT AND MAINTENANCE SUMMARY (EIR MS). The quarterly Equipment Improvement Report and Maintenance Digest, TB 43-0001-39 series, contains valuable field information on the equipment covered in this manual. The information in the TB 43-0001-39 series is compiled from some of the Equipment Improvement Reports that you prepared on the vehicles covered in this manual. Many of these articles result from comments, suggestions, and improvement recommendations that you submitted to the EIR program. The TB 43-0001-39 series contains information on equipment improvements, minor alterations, proposed Modification Work Orders (MWO'S), warranties (if applicable), actions taken on some of your DA Form 2028's (Recommended Changes to Publications), and advance information on proposed changes that may affect this manual. In addition, the more maintenance significant

articles, including minor alterations, field-fixes, etc, that have a more permanent and continuing need in the field are republished in the Equipment Improvement Report and Maintenance Summary (EIR MS) for TARCOM Equipment (TM 43-0143). Refer to both of these publications (TB 43-0001-39 series and TM 43-0143) periodically, especially the TB 43-0001-39 series, for the most current and authoritative information on your equipment. The information will help you in doing your job better and will help in keeping you advised of the latest changes to this manual. Also refer to DA Pam 310-4, Index of Technical Publications, and Appendix A, References, of the manual.

Table 1-1. Special Tools and Equipment

Item	Part No.	National Stock No.	Reference Paragraph	Use
PRESSURE GAGE : OIL	3005456	4910-00-792-8304	18-21	Used to check valve bank pressure.
REMOVER , BEARING	7950127	5120-00-378-4301	14-10	Used to take spindle bearing sleeve off of spindle.
REMOVER AND REPLACER , BEARING	7950130	5120-00-795-0130	14-10	Used to take bearing out of sleeve.
REMOVER AND REPLACER , BEARING	7950129	5120-00-795-0129	14-10	Used to put spindle bearing sleeve on spindle.
WRENCH, PULLEY ADJUSTING: (air Compressor Pulley)	10935288	5120-00-070-7809	12-25 12-28	Used to adjust air compressor pulley.
WRENCH, SPANNER	11602326	5120-00-880-4264	18-19	Used to tighten lift cylinder packing nut.
WRENCH, WHEEL BEARING NUT	7076869	5120-00-378-3139	13-3 13-4 13-9 13-10 16-5	Used to take off and put on wheel bearing nut.

1-12. REPORTING IMPROVEMENT RECOMMENDATIONS. If your truck 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. Tell us why a procedure is hard to perform. Put it on an SF 368 (Quality Deficiency Report). Mail it to us at: Commander, U.S. Army Tank Automotive Material Readiness Command, ATTN: DRSTA-MT, Warren, Michigan 48090. We'll send you a reply.