

TECHNICAL MANUAL  
OPERATOR'S MANUAL  
FOR  
TRUCK, 5-TON, 6X6, M939,  
M939A1, AND M939A2  
SERIES TRUCKS (DIESEL)  
TRUCK, CARGO: 5-TON, 6X6 DROPSIDE, M923  
(2320-1-050-2084) (EIC: BRY); M923A1 (2320-01-  
206-4087) (EIC:  
BSS); M923A2 (2320-01-230-0307) (EIC: BS7);  
M925 (2320-01-047-8769) (EIC: BRT); M925A1  
(2320-01-206-4088) (EIC:  
BST); M925A2 (2320-01-230-0308) (EIC: BS8);  
TRUCK, CARGO: 5-TON, 6X6 XLWB, M927  
(2320-01047-8771) (EIC: BRV); M927A1 (2320-  
01-206-4089), (EIC: BSW); M927A2 (2320-01-230-  
0309) (EIC: BS9); M928 (2320-01-047-8770) (EIC:  
BRU); M928A1 (2320-01-206-4090) (EIC: BSX);  
M928A2 (2320-01-230-0310) (EIC: BTM);  
TRUCK, DUMP: 5-TON, 6X6, M929 (2320-0147-  
8756)  
(EIC: BTH); M929A1 (2320-01-206-4079) (EIC:  
BSY);  
M929A2 (2320-01-230-0305) (EIC: BTN); M930  
(2320-01-047-8755) (EIC: BTG); M930A1 (2320-  
01-206-4080), (EIC: BSZ); M930A2 (2320-01-230-  
0306) (EIC: BTO);  
TRUCK, TRACTOR: 5-TON, 6X6, M931 (2320-01-  
047-8753)  
(EIC: BTE); M931A1 (2320-01-206-4077) (EIC:  
BS2);  
M931A2 (2320-01-230-0302) (EIC: BTP); M932  
(2320-01-047-8752) (EIC: BTD); M932A1 (2320-  
01-205-2684) (EIC: BS5); M932A2 (2320-01-230-  
0303) (EIC: BTQ);  
TRUCK, VAN, EXPANSIBLE: 5-TON, 6X6, M934  
(2320-01-047-8750) (EIC: BTB); M934A1 (2320-  
01-205-2682) (EIC: BS4); M934A2 (2320-01-230-  
0300) (EIC: BTR);  
TRUCK, MEDIUM WRECKER: 5-TON, 6X6, M936  
(2320-01-047-8754) (EIC: BTF); M936A1 (2320-  
01-206-4078) (EIC:  
BS6); M936A2 (2320-01-230-0304) (EIC: BTT).

TABLE OF CONTENTS	ii
HOW TO USE THIS MANUAL	iii
INTRODUCTION	1-1
OPERATING INSTRUCTIONS	2-1
PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS)	2-28
MAINTENANCE INSTRUCTIONS	3-1
TROUBLESHOOTING PROCEDURES	3-2
REFERENCES	A-1
COMPONENTS OF END ITEM (COEI) AND BASIC ISSUE ITEMS (BII) LISTS	B-1
ADDITIONAL AUTHORIZAION LISTS (AAL)	C-1
EXPENDABLE/DURABLE SUPPLIES AND MATERIALS UST	D-1
STOWAGE AND SIGN GUIDE	E-1

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

HEADQUARTERS, DEPARTMENT OF THE ARMY  
AND THE AIR FORCE

AUGUST 15, 1996

OPERATOR'S MANUAL  
FOR  
TRUCK, 5-TON, 6X6, M939,  
M939A1 AND M939A2 SERIES (DIESEL)

TRUCK, CARGO: 5-TON, 6X6, DROPSIDE,  
M923 (2320-01-050-2084), M923A1 (2320-01-206-4087), M923A2 (2320-01-230-0307),  
M925 (2320-01-047-8769), M925A1 (2320-01-206-4088), M925A2 (2320-01-230-0308);  
TRUCK, CARGO: 5-TON, 6X6,  
M924 (2320-01-047-8773), M924A1 (2320-01-205-2692),  
M926 (2320-01-047-8772), M926A1 (2320-01-205-2693);  
TRUCK, CARGO: 5-TON, 6X6, XLWB,  
M927 (2320-01-047-8771), M927A1 (2320-01-206-4089), M927A2 (2320-01-230-0309),  
M928 (2320-01-047-8770), M928A1 (2320-01-206-4090), M928A2 (2320-01-230-0310);  
TRUCK, DUMP: 5-TON, 6X6,  
M929 (2320-01-047-8756), M929A1 (2320-01-206-4079), M929A2 (2320-01-230-0305),  
M930 (2320-01-047-8755), M930A1 (2320-01-206-4080), M930-A2 (2320-01-230-0306);  
TRUCK, TRACTOR: 5-TON, 8X6,  
M931 (2320-01-047-8753), M931A1 (2320-01-206-4077), M931A2 (2320-01-230-0302),  
M932 (2320-01-047-8752), M932A1 (2320-01-205-2684), M932A2 (2320-01-230-0303);  
TRUCK, VAN, EXPANSIBLE: 5-TON, 6X6,  
M934 (2320-01-047-8750), M934A1 (2320-01-205-2682), M934A2 (2320-01-230-0300);  
M935 (2320-01-047-8751), M935A1 (2320-01-205-2683), M935A2 (2320-01-230-0301);  
TRUCK, MEDIUM WRECKER: 5-TON, 6X6,  
M936 (2320-01-047-8754), M936A1 (2320-01-206-4078), M936A2 (2320-01-230-0304)

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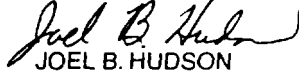
This change is issued in conjunction with Safety of Use Message (SUOM), TACOM Control No. 98-07. It emphasizes safe driving procedures to be followed by M939 vehicle operators.

TM 9-2320-272-10, August 1996, is changed as follows:  
Remove old pages 1-23, 1-24 and 2-105, 2-106 and insert provided pages with same numbering.

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By Order of the Secretary of the Army:

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JOEL B. HUDSON

Administrative Assistant to the  
Secretary of the Army  
05676

DENNIS J. REIMER  
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Chief of Staff

By Order of the Secretary of the Air Force:

RONALD R. FOGLEMAN  
General, United States Air Force  
Chief of Staff

Official:

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General, United States Air Force  
Commander, Air Force Materiel Command

DISTRIBUTION:

To be distributed in accordance with the initial distribution number (IDN)  
380385, requirements for TM 9-2320-272-10.

**WARNING****EXHAUST GASES CAN KILL**

1. DO NOT operate your vehicle engine in enclosed area.
2. DO NOT idle vehicle engine with vehicle windows closed.
3. DO NOT drive vehicle with inspection plates or cover plates removed.
4. BE ALERT at all times for exhaust odors.
5. BE ALERT for exhaust poisoning symptoms. They are:
  - Headache
  - Dizziness
  - Sleepiness
  - Loss of muscular control
6. IF YOU SEE another person with exhaust poisoning symptoms:
  - Remove person from area
  - Expose to open air
  - Keep person warm
  - Do not permit person to move
  - Administer artificial respiration\* or CPR, if necessary
  - For artificial respiration, refer to FM 21-11.
7. BE AWARE, the field protective mask for Nuclear-Biological-Chemical (NBC) protection will not protect you from carbon monoxide poisoning. THE BEST DEFENSE AGAINST EXHAUST POISONING IS ADEQUATE VENTILATION.

**WARNING****HIGH INTENSITY NOISE**

Hearing protection is required for all personnel working in and around this vehicle while the engine is running (reference AR 40-5 and TB MED 501).

**Warning a**

**WARNING SUMMARY**

- If Nuclear, Biological, or Chemical (NBC) exposure is suspected, all air filter media should be handled by personnel wearing protective equipment. Consult your unit NBC officer or NBC NCO for appropriate handling or disposal instructions.
- Extreme care should be taken when removing surge tank filler cap if temperature gauge reads above 175°F (79°C). Steam or hot coolant under pressure will cause injury.
- Pump brakes gradually when slowing or stopping vehicle on ice, snow, or wet pavement. Sudden stop will cause vehicle wheels to lock, engine to stall, and loss of power steering. Failure to do this will result in injury or death.
- Ground spike must be driven into ground 18-24 inches (46-61 centimeters) and spike cable connected to the chassis before power can be taken from outside source. Failure to do this will result in electrical damage, injury, or death.
- Ensure spike cable ring terminal makes good contact with bare metal. If necessary, scrape contact area clean of dirt, paint, or rust. Failure to do this will result in electrical damage, injury, or death.
- Vehicle will become charged with electricity if A-frame contacts or breaks high voltage wire. Do not leave vehicle while high voltage line is in contact with A-frame or vehicle. Failure to do this will result in injury or death. Notify nearby personnel to have electrical power turned off.
- Do not put vehicle in motion until warning light is extinguished, and alarm (buzzer) stops sounding. If air pressure gauges indicate less than 90 psi (621 kPa), turn ignition and battery switches to OFF positions, and notify unit maintenance. Failure to do this will result in injury or death.
- Alcohol used in alcohol evaporator is flammable, poisonous, and explosive. Do not smoke when adding fluid and do not drink fluid. Failure to do this will result in injury or death.
- Stay clear of dump body and cab protector at all times during loading and unloading operations. Dump body can unexpectedly raise when a heavy load is dropped into dump body and will cause injury or death.
- Do not smoke, have open flames, or make sparks around the batteries, especially if the caps are off. They can explode and cause injury or death.
- Do not lower load without a ground guide. Direct all personnel to stand clear of lifting operations. Swinging loads will cause injury or death.
- Do not perform fuel system checks or inspection while smoking or near fire, flames, or sparks. Fuel could ignite, causing damage to vehicle, injury, or death.
- This vehicle has been designed to operate safely and efficiently within the limits specified in this TM. Operation beyond these limits is prohibited IAW AR 70-1 without written approval from the Commander, U.S. Army Tank-automotive and Armaments Command, ATTN: AMCPEO-CM-S, Warren, MI 48397-5000.
- When brakes are applied, the hand throttle does not automatically disengage.

**Warning b**

**TECHNICAL MANUAL**  
**NO. 9-2320-272-10**

**TECHNICAL ORDER**  
**NO. 36A12-1C441**

HEADQUARTERS,  
DEPARTMENT OF THE ARMY  
ANDTHEAIRFORCE  
Washington DC, 15August 1996

**OPERATOR'S MANUAL**  
**FOR**  
**TRUCK, 5-TON, 6X6, M939, M939A1, AND**  
**M939A2 SERIES TRUCKS (DIESEL)**

<b>TRUCK</b>	<b>MODEL</b>	<b>EIC</b>	<b>NSN (WO/WINCH)</b>	<b>NSN (W/WINCH)</b>
Cargo, Dropside	M923	BRY	2320-01-050-2084	
Cargo, Dropside	M923A1	BSS	2320-01-206-4087	
Cargo, Dropside	M923A2	BS7	2320-01-230-0307	
Cargo, Dropside	M925	BRT		2320-01-047-8769
Cargo, Dropside	M925A1	BST		2320-01-206-4088
Cargo, Dropside	M925A2	BS8		2320-01-230-0308
Cargo	M927	BRV	2320-01-047-8771	
Cargo	M927A1	BSW	2320-01-206-4089	
Cargo	M927A2	BS9	2320-01-230-0309	
Cargo	M928	BRU		2320-01-047-8770
Cargo	M928A1	BSX		2320-01-206-4090
Cargo	M928A2	BTM		2320-01-230-0310
Dump	M929	BTH	2320-01-047-8756	
Dump	M929A1	BSY	2320-01-206-4079	
Dump	M929A2	BTN	2320-01-230-0305	
Dump	M930	BTG		2320-01-047-8755
Dump	M930A1	BSZ		2320-01-206-4080
Dump	M930A2	BTO		2320-01-230-0306
Tractor	M931	BTE	2320-01-047-8753	
Tractor	M931A1	BS2	2320-01-206-4077	
Tractor	M931A2	BTP	2320-01-230-0302	
Tractor	M932	BTD		2320-01-047-8752
Tractor	M932A1	BS5		2320-01-205-2684
Tractor	M932A2	BTQ		2320-01-230-0303
Van, Expansible	M934	BTB	2320-01-047-8750	
Van, Expansible	M934A1	BS4	2320-01-205-2682	
Van, Expansible	M934A2	BTR	2320-01-230-0300	
Medium Wrecker	M936	BTF		2320-01-047-8754
Medium Wrecker	M936A1	BS6		2320-01-206-4078
Medium Wrecker	M936A2	BTT		2320-01-230-0304

**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 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 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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	<b>Page</b>
<b>HOW TO USE THIS MANUAL</b> .....	iii
<b>CHAPTER 1. INTRODUCTION</b> .....	1-1
Section I. General Information .....	1-1
II. Equipment Description and Data .....	1-8
III. Principles of Operation .....	1-27
<b>CHAPTER 2. OPERATING INSTRUCTIONS</b> .....	2-1
Section I. Description and Use of Operator's Controls and Indicators .....	2-1
II. <b>PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS)</b> .....	2-28
III. Operation Under Usual Conditions .....	2-100
IV. Operation Under Unusual Conditions .....	2-201
V. Operation of Special Purpose kits .....	2-217
<b>CHAPTER 3. MAINTENANCE INSTRUCTIONS</b> .....	3-1
Section I. Lubrication Instructions .....	3-1
II. <b>TROUBLESHOOTING PROCEDURES</b> .....	3-2
III. Maintenance Procedures .....	3-23
<b>APPENDIX A. REFERENCES</b> .....	A-1
<b>APPENDIX B. COMPONENTS OF END ITEM (COEI) AND BASIC ISSUE ITEMS (BII) LISTS</b> .....	B-1
<b>APPENDIX C. ADDITIONAL AUTHORIZATION LIST (AAL)</b> .....	C-1
<b>APPENDIX D. EXPENDABLE/DURABLE SUPPLIES AND MATERIALS LIST</b> .....	D-1
<b>APPENDIX E. STOWAGE AND SIGN GUIDE</b> .....	E-1

## HOW TO USE THIS MANUAL

1. The information contained in this manual can be accessed in several ways.
  - a. If you know what area you are looking for, use the front cover index. Find the appropriate box and match it to the blackened pages on the side of the book, or use the page number listed in the box.
  - b. If you are looking for a specific paragraph, refer to the index at the back of the manual.
2. This manual consists of:
  - a. Chapter 1, Introduction - provides information for completing forms and records, gives a familiarization of equipment, and a functional and physical description of major equipment.
  - b. Chapter 2, Operating Instructions - provides information needed to use or operate the vehicle.
  - c. Chapter 3, Maintenance Instructions - provides information covering lubrication, troubleshooting, and corrective maintenance.
3. Types of notations
  - a. Warnings are posted immediately prior to text covering any area that would present a situation that may result in injury or death. Compliance is mandatory.
  - b. Cautions will be found on the same page and preceding the text covering any area that would present a situation that may result in damage to equipment.
  - c. Notes will precede text covering an area with the intent to alter normal procedures for unique situations or equipment, or point out areas of special concern.
4. Appendices have been provided to:
  - a. Basic Issue Items (BII) list - specify the minimum essential items to place and maintain the M939, M939A1, and M939A2 (M939/A/A2) series vehicles in operation, and are maintained with the vehicle.
  - b. Additional Authorization List (AAL) - specify items not shipped with vehicles, but are authorized for support of the M939A1/A2 series vehicles.
  - c. Expendable/Durable Supplies and Materials List - specify expendable/durable supplies and materials you will need to operate and maintain M939/A1/A2 series vehicles.

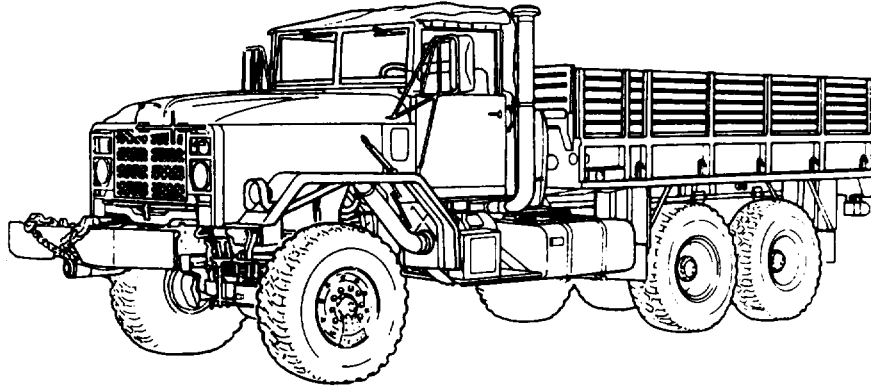
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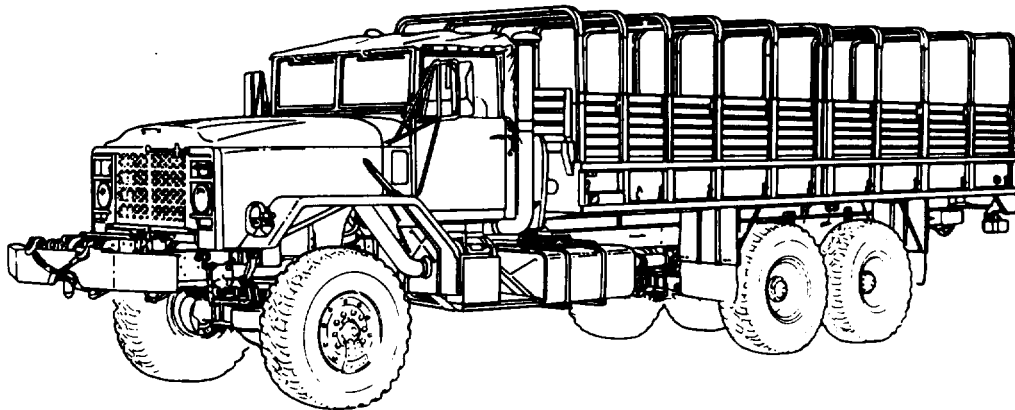
**CHAPTER 1  
INTRODUCTION**

- Section I General Information (page 1-1)
- Section II Equipment Description and Data (page 1-8)
- Section III Principles of Operation (page 1-27)

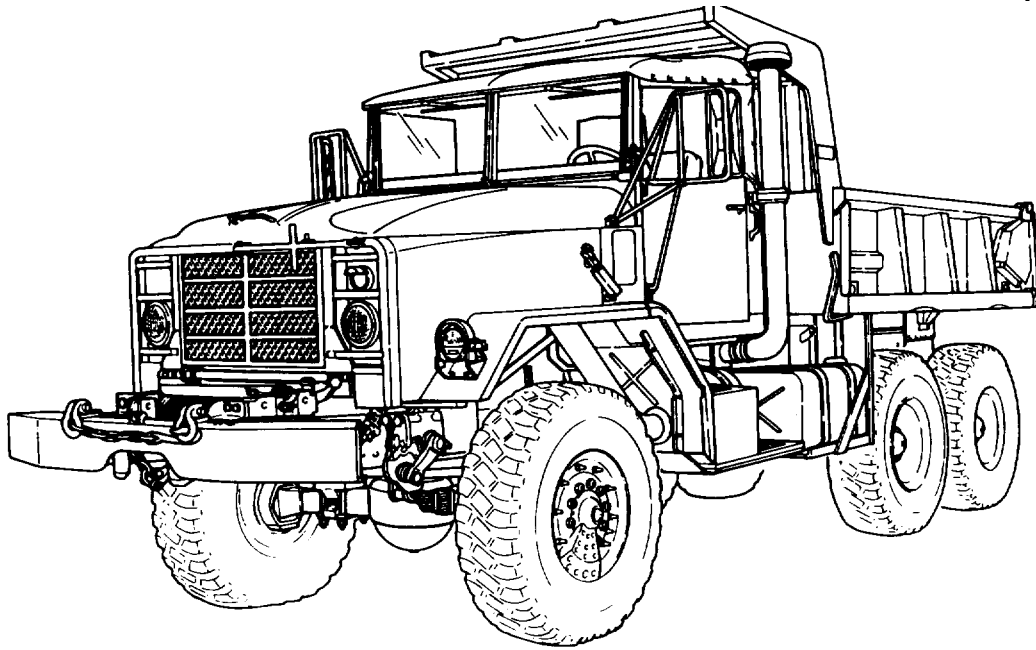
**Section I. GENERAL INFORMATION**



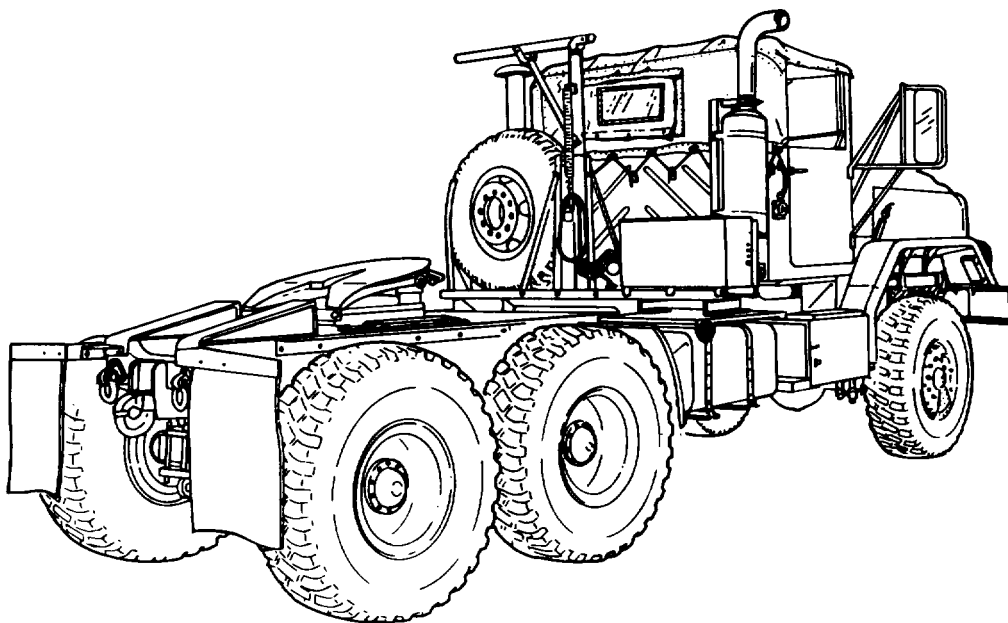
**M923A2 AND M925A2**



**M927A2 AND M928A2**

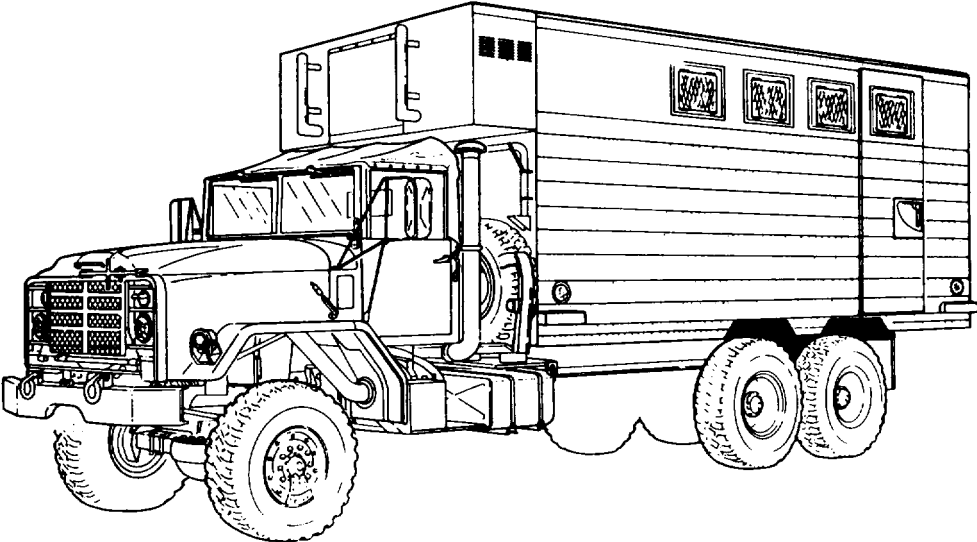


M929A2 AND M930A2

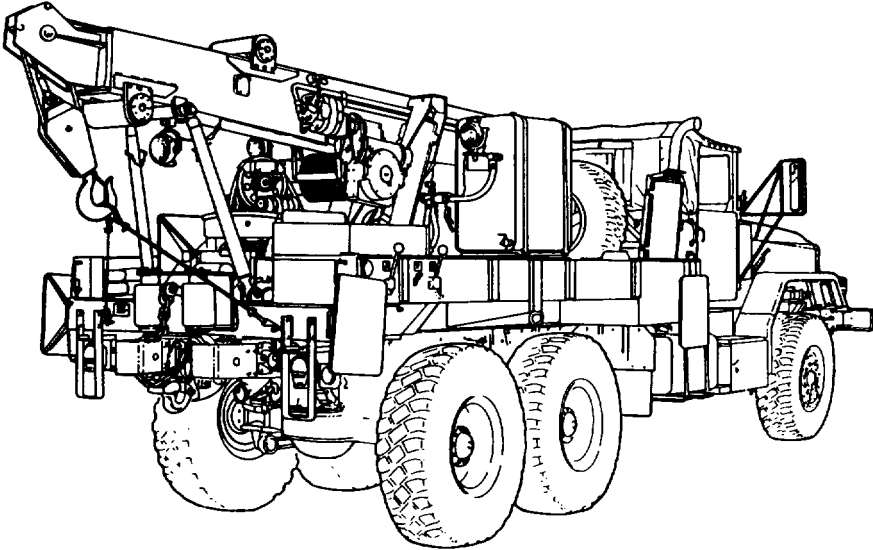


M931A2 AND M932A2

1-2



M934A2



M936A2

**1-1. SCOPE**

- a. This operator's manual contains instructions for operating and servicing the following M939/A1/A2 series vehicles:
  - (1) M923/A1/A2, Cargo Truck, WO/W (Dropside)
  - (2) M925/A1/A2, Cargo Truck, W/W (Dropside)
  - (3) M927/A1/A2, Cargo Truck, WO/W (XLWB)
  - (4) M928/A1/A2, Cargo Truck, W/W (XLWB)
  - (5) M929/A1/A2, Dump Truck, WO/W
  - (6) M930/A1/A2, Dump Truck, W/W
  - (7) M931/A1/A2, Tractor Truck, WO/W
  - (8) M932/A1/A2, Tractor Truck, W/W
  - (9) M934/A1/A2, Expansible Van, WO/W
  - (10) M936/A1/A2, Medium Wrecker, W/W
- b. Vehicles' purpose.
  - (1) The M923/A1/A2, M925/A1/A2, M927/A1/A2, and M928/A1/A2 series cargo trucks provide transportation of personnel or equipment over a variety of terrain and climate conditions.
  - (2) The M929/A1/A2 and M930/A1/A2 series dump trucks are used to transport various materials over a variety of terrains. Each vehicle can be equipped with troop seat, and tarpaulin and bow kits for troop transport operations.
  - (3) The M931/A1/A2 and M932/A1/A2 series tractor trucks are equipped with a fifth wheel used to haul a semitrailer over a variety of terrain.
  - (4) The M934/A1/A2 series expansible vans are designed to transport electronic base stations over a variety of terrain.
  - (5) The M936/A1/A2 series wreckers are designed for recovery of disabled or mired vehicles, and perform crane operation.
- c. The material presented here provides operators with information and procedures needed to provide the safest and most efficient operation and servicing of these vehicles. This information includes:
  - (1) Vehicle limitations.
  - (2) The function of controls.
  - (3) Operation instructions for vehicle.
  - (4) Cautions and warnings to operators regarding safety to personnel and equipment.
  - (5) Operator maintenance checks and services.
  - (6) Troubleshooting procedures to be followed by operator if the vehicle malfunctions.
  - (7) Operator forms and records.

## 1-2. MAINTENANCE FORMS

**a. Vehicle Maintenance Forms and Records.** Department of the Army forms and procedures used for equipment maintenance will be those prescribed by DA Pam 738-750 as contained in the maintenance management update.

**b. Hand Receipt Manual** This manual has a companion document with a TM number followed by -HR (which stands for Hand Receipt). The TM 9-2320-272-10-HR consists of preprinted hand receipts (DA Form 2062) that list end item related equipment (i.e., COEI, BII, and AAL) you must account for. As an aid to property accountability, additional -HR manuals may be requisitioned from the following source in accordance with procedures in chapter 3, AR 310-2:

The U.S. Army Adjutant General Publications Center  
2800 Eastern Blvd.  
Baltimore, MD 21220

## 1-3. CORROSION PREVENTION AND CONTROL (CPC)

Corrosion Preventive 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 problems can be corrected and improvements can be made to prevent problems in the future items.

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.

If a corrosion problem is identified, it can be reported using Standard Form 368, Product Quality Deficiency Report. Use of key words such as "corrosion", "rust", "deterioration", or a "cracking" will ensure that the information is identified as a CPC problem. The form should be submitted to the address specified in DA Pam 738-750.

## 1-4. DESTRUCTION OF ARMY MATERIEL TO PREVENT ENEMY USE

Procedures for destruction of Army materiel to prevent enemy use can be found in TM 750-244-6.

## 1-5. REPORTING EQUIPMENT IMPROVEMENT RECOMMENDATIONS (EIR'S)

If the design of your vehicle needs improvement, let us know. If your vehicle is in proper operating condition and there are problems with vehicle or equipment performance, send us an EIR. You, the user, are the only one who can tell us what you don't like about your equipment. It is not necessary to show a new design or a better way to perform a procedure. Just let us know why you don't like the design or performance. Put it on an SF 368 (Quality Deficiency Report). Mail it to us at:

Commander, U.S. Army Tank-automotive and Armaments Command, ATTN:  
AMSTA-IM-MMAA, Warren, Michigan 48397-5000. We'll send you a reply.

**1-6. WARRANTY INFORMATION**

The Cummins engine (model NHC 250) used in M939/A1 series vehicles and Allison transmission (model MT-654 CR) used in all models are warranted in accordance with TB 9 2300-29515/1. The Cummins engine (model 6CTA8.3) used in the M939A2 series vehicles is warranted in accordance with TB 9-2300-358-24. The warranty starts on the date, found in Block 23, DA Form 2408-9, in the logbook. Report all defects in material or workmanship to your supervisor, who will take appropriate action through your unit maintenance shop.

**1-7. NOMENCLATURE CROSS-REFERENCE LIST**

The following is an alphabetical list of commonly used military terms that appear in this manual. This list is cross-referenced to commonly understood terms used in everyday speech that mean the same thing.

Engine Coolant.....	antifreeze/water
Exhaust Stack .....	tailpipe
Failsafe Unit.....	warning buzzer
Fording .....	crossing through water
Grade.....	steepness of hill
Hydraulics.....	operated by oil pressure
Inclement Weather .....	bad weather (rain, snow, high winds)
Indicators .....	gauges, warning lights, etc.
Mired.....	stuck in mud or snow
Operation.....	task
Operator .....	driver
Slaving.....	jump starting
Splash Shields.....	mud flaps
Transport .....	to carry
Turning Radius .....	distance needed to make a U-turn
Usual Conditions .....	good roads, good weather

**1-8. LIST OF ABBREVIATIONS**

All abbreviations that appear in this manual are listed below.

AAL.....	Additional Authorization List
AC.....	Alternating Current
BII .....	Basic Issue Items
B.O. ....	blackout
BRT .....	bright
CC .....	cross-country
°C.....	degree Celsius
cm.....	centimeter
Contd.....	continued
CPC .....	Corrosion Prevention Control
CTIS .....	Central Tire Inflation System
cu f .....	cubic feet
CW .....	chain (and) wire rope (lubricating oil)
DA.....	Department of Army
DC .....	Direct Current
DFA .....	diesel fuel (arctic)

**1-8. LIST OF ABBREVIATIONS (Contd)**

drvy.....	drive
EIR.....	Equipment Improvement Recommendation
emer.....	emergency
°F.....	degree Fahrenheit
ft.....	feetfoot
g.....	gram
GAA.....	grease, automotive, and artillery
gal.....	gallon
GO.....	gear oil
GOS.....	gear oil (sub-zero)
Hwy.....	highway
in.....	inch
kg.....	kilogram
km.....	kilometer
km/h.....	kilometers per hour
kPa.....	kilopascal
l.....	liter
lb.....	pound
lb-ft.....	pound-feet
1ig.....	long
LO.....	Lubrication Order
m.....	meter
MAC.....	Maintenance Allocation Chart
mi.....	mile
mpg.....	miles per gallon
mph.....	miles per hour
N.m.....	Newton meter
NBC.....	Nuclear, Biological, or Chemical
NSN.....	National Stock Number
OE/HDO.....	oil, engine/heavy duty oil
OEA.....	oil, engine (arctic)
oz.....	ounce
para.....	paragraph
pg.....	page
PMCS.....	Preventive Maintenance Checks and Services
pr.....	pair
psi.....	pounds per square inch
pt.....	pint
PTO.....	power takeoff
qt.....	quart
rpm.....	revolutions (turns) per minute
TM.....	technical manual
w/hlg.....	with hydraulic liftgate
w/o.....	without
wo/w.....	without winch
w.....	with
w/w.....	with winch
xlwb.....	extra long wheelbase
yd.....	yard