

TECHNICAL MANUAL

SCHEDULED MAINTENANCE

OPERATOR LEVEL

2½-TON 6X6, M44A1 AND M44A2 SERIES TRUCKS
(MULTIFUEL)

TRUCK, CARGO: M35A1,
M35A2, M35A2C, M36A2; TRUCK,
TANK, FUEL: M49A1C, M49A2C; TRUCK, TANK,
WATER: M50A1, M50A2, M50A3; TRUCK, VAN,
SHOP: M109A2, M109A3; TRUCK, REPAIR SHOP:
MW5A2, M185A3; TRUCK, TRACTOR: M275A1,
M275A2; TRUCK, DUMP: M342A2; TRUCK,
MAINTENANCE, PIPELINE CONSTRUCTION:
M756A2; TRUCK, MAINTENANCE,
EARTH BORING AND POLESETTING: M764

Chapter 1
Preventive
Maintenance

Chapter 2
Checkout,
Alinement, and
Adjustment

Chapter 3
Lubrication

Chapter 4
Scheduled
Maintenance of
Material Used
in Conjunction
with Major
Items

This copy is a reprint which includes current
pages from Change 1.

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NO. 36A12-1B-1091-2**

**DEPARTMENTS OF THE ARMY
AND
THE AIR FORCE
Washington, DC, 26 September 1980**

TECHNICAL MANUAL

**SCHEDULED MAINTENANCE
OPERATOR LEVEL
2½-TON, 6X6, M44A1 AND M44A2 SERIES TRUCKS
(MULTIFUEL)**

Model		NSN without Winch	NSN with Winch
Truck, Cargo	M35A1	2320-00-542-5633	2320-00-542-5634
	M35A2	2320-00-077-1616	2320-00-077-1617
	M35A2C	2320-00-926-0873	2320-00-926-0875
	M36A2	2320-00-077-1618	2320-00-077-1619
Truck, Tank, Fuel	M49A1C	2320-00-440-3349	2320-00-440-3346
	M49A2C	2320-00-077-1631	2320-00-077-1632
Truck, Tank, Water	M50A1	2320-00-440-8307	2320-00-440-8305
	M50A2	2320-00-077-1633	2320-00-077-1634
	M50A3	2320-00-937-4036	2320-00-937-5264
Truck, Van, Shop	M109A2	2320-00-440-8313	2320-00-440-8308
	M109A3	2320-00-077-1636	2320-00-077-1637
Truck, Repair Shop	M185A2	4940-40-987-8799	4940-00-987-8800
	M185A3	4940-00-077-1638	4940-00-077-1639
Truck, Tractor	M275A1	2320-00-446-2479	
	M275A2	2320-00-077-1640	2320-00-077-1641
Truck, Dump	M342A2	2320-00-077-1643	2320-00-077-1644
Truck, Maintenance, Pipeline Construction			
	M756A2		2320-00-904-3277
Truck, Maintenance, Earth Boring and Polesetting			
	M764		2320-00-937-5980

Current as of 15 February 1980

***This manual supersedes TM 9-2320-209-ESC, 12 April 1973, and together with TM 9-2320-209-10-1, 26 September 1980; TM 9-2320-209-10-3, 26 September 1980; and TM 9-2320-209-10-4, 26 September 1980, supersedes TM 9-2320-209-10/1, 29 October 1976.**

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 Publication and Blank Forms), or DA Form 2028-2 located in the back of this manual direct to: Commander, U.S. Army Tank Automotive Materiel Readiness Command, ATTN: DRSTA-MB, Warren, Michigan 48090. A reply will be furnished to you.

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CHAPTER 1

PREVENTIVE MAINTENANCE

1-1. GENERAL .

a. Maintenance Forms and Records. Every mission begins and ends with the paperwork. There isn't much of it, but you have to keep it up. The forms and records you fill out have several uses; they are a permanent record of the services, repairs, and modifications made on your vehicle; they are reports to Organizational Maintenance and to your Commander; and they are a checklist for you when you want to know what is wrong with the vehicle after its last use, and whether those faults have been fixed. For the information you need on forms and records, see TM 38-750.

b. Preventive Maintenance Checks and Services. (Tables 1-1 to 1-9 and 4-1)

(1) Do your (B) PREVENTIVE MAINTENANCE just before you operate your vehicle. Pay attention to the CAUTIONS and WARNINGS.

(2) Do your during (D) PREVENTIVE MAINTENANCE while the vehicle and/or its component systems are in operation.

(3) Do your after (A) PREVENTIVE MAINTENANCE right after operating the vehicle. Pay attention to the CAUTIONS and WARNINGS.

(4) Do your (W) PREVENTIVE MAINTENANCE weekly.

(5) Do your (M) PREVENTIVE MAINTENANCE once a month.

(6) If something doesn't work, troubleshoot it with the instructions in TM 9-2320-209-10-3 and notify your supervisor.

(7) Always do your PREVENTIVE MAINTENANCE in the same order until it gets to be a habit. Once you've had some practice, you'll spot anything wrong in a hurry.

(8) If anything looks wrong and you can't fix it, write it on your DA Form 2404. If you find something seriously wrong, report it to Organizational Maintenance RIGHT NOW.

(9) When you do your PREVENTIVE MAINTENANCE, take along the tools you need to make all the checks. You always need a rag or two, also.

1-2. GENERAL MAINTENANCE PROCEDURES.

a. Cleanliness. Dirt, grease, oil, and debris only get in the way and may cover up a serious problem. Clean as you work and as needed. Use dry cleaning solvent Type II, Fed. Spec P-D-680, on all metal surfaces.

WARNING

Dry cleaning solvent, Type II, Fed. Spec P-D-680, is potentially dangerous to personnel and property. Do not use near open flame or excessive heat. Flash point of solvent is 139° F (59.4° C).

b. Bolts, Nuts, and Screws. Check them all for obvious looseness, missing, bent, or broken condition. You can't try them all with a tool, of course, but look for chipped paint, bare metal, or rust around bolt heads. If you find one you think is loose, tighten it, or report it to Organizational Maintenance.

c. Welds. Look for loose or chipped paint, rust, or gaps where parts are welded together. If you find a bad weld, report it to Organizational Maintenance.

d. Electric Wires and Connectors. Look for cracked or broken insulation, bare wires, and loose or broken connectors. Check for loose connectors and make sure the wires are in good shape. Report loose connectors and bad wires to organizational maintenance.

e. Hydraulic Lines and Fittings. Look for wear, damage, leaks, and make sure clamps and fittings are tight. Wet spots show leaks, of course, but a stain around a fitting or connector can mean a leak. If a leak comes from a loose fitting or connector, report it to Organizational Maintenance. If something is broken or worn out, report it to Organizational Maintenance.

1-3. FLUID LEAKAGE. It is necessary for you to know how fluid leakage affects the status of the fuel, lubricating, coolant and hydraulic systems. The following are definitions of the types/classes of leakage you need to know to be able to determine the status of your vehicle. Learn, then be familiar with them and REMEMBER -- WHEN IN DOUBT, NOTIFY YOUR SUPERVISOR!

CAUTION

Equipment operation is allowable with minor leakages (Class I or II). Of course, consideration must be given to the fluid capacity in the item/system being checked/inspected. When in doubt, notify your supervisor

When operating with Class I or II leaks, continue to check fluid levels as required in your PMCS.

Class III leaks should be reported to your supervisor or to Organizational Maintenance.

- a. Class I. Seepage of fluid (as indicated by wetness or discoloration) not great enough to form drops.
- b. Class II. Leakage of fluid great enough to form drops but not enough to cause drops to drip from item being checked/inspected.
- c. Class III. Leakage of fluid great enough to form drops that fall from the item being checked /inspected.

Table 1-1. Operator /Crew Preventive Maintenance Checks and Services

NOTE : These checks are to be made in the order listed, within designated interval.

B-Before operation
D-During operation

A-After operation
W-Weekly

M-Monthly

Item No.	Interval					Item to be Inspected Procedure: Check for and have repaired, filled, or adjusted as needed	Equipment is not ready/available if:
	B	D	A	W	M		
1						NOTE Perform Weekly (W) as well as Before (B) PMCS's if: a. You are the assigned operator but have not operated the vehicle since the last weekly. b. You are operating the vehicle for the first time. <u>MAKE THE FOLLOWING WALK AROUND CHECKS :</u> EXTERIOR OF VEHICLE a. Visually check for obvious damage to body and cab that would impair operation. b. Check tires for cuts, gouges or cracks. Remove all penetrating objects. c. Look under vehicle for evidence of fluid leakage (fuel, oil, coolant). d. Check condition of: (1) Windshield and windows. (2) Windshield wiper arms anti blades. (3) Mirrors. (4) All locking and fastening devices.	
	1						
	1						Tires have cuts, gouges, or cracks which would result in tire failure during operation. Three or more tires missing or flat.
	1						Class III leakage of oil or coolant is evident. Any class [11 fuel leak. Any gasoline leak.
	1	1			1		

Table 1-1. Operator/Crew Preventive Maintenance Checks and Services - Cont

NOTE: These checks are to be made in the order listed, within designated interval.

B-Before operation
D-During operationA-After operation
W-Weekly

M-Monthly

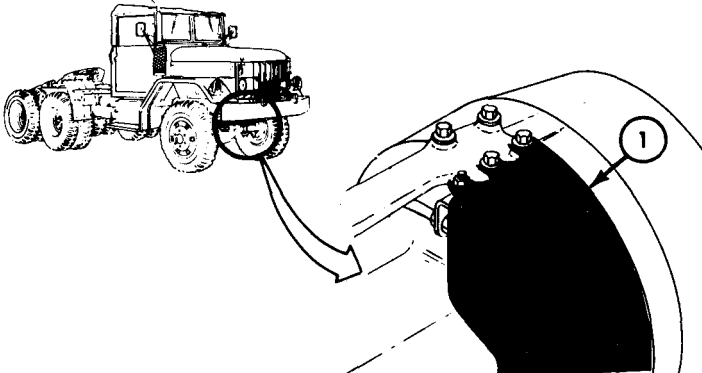
Item No.	Interval					Item to be Inspected Procedure: Check for and have repaired, filled, or adjusted as needed	Equipment is not ready/ available if:								
	B	D	A	W	M										
1 (cont)		•		•		(5) Spare tire mounting. (6) Operation of doors and windows. (7) Operation of headlights, taillights, stoplights, turn signals, and blackout lights. (8) Steering knuckle boots (1). Check for tears. 									
2				•		TIRES TA 252430 a. Gage tires for correct air pressure using tire inflation gage and hose assembly. Adjust as necessary: For normal operation of vehicle, tire pressure for 9:00 x 20 tires, should be as follows: <table><tr><td>Road Cond</td><td>Pressure (psi)</td></tr><tr><td>Highway</td><td>50 (344.750 kPa)</td></tr><tr><td>Crosscountry</td><td>35 (241.325 kPa)</td></tr><tr><td>Mud, snow and sand</td><td>15 (103.425 kPa)</td></tr></table> b. Make sure that all wheel stud nuts are tight. If stud nuts are found loose, tighten and notify organizational maintenance.	Road Cond	Pressure (psi)	Highway	50 (344.750 kPa)	Crosscountry	35 (241.325 kPa)	Mud, snow and sand	15 (103.425 kPa)	
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Highway	50 (344.750 kPa)														
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Mud, snow and sand	15 (103.425 kPa)														

Table 1-1. Operator/Crew Preventive Maintenance Checks and Services – Cont

NOTE: These checks are to be made in the order listed, within designated interval.

B-Before operation

A-After operation

M-Monthly

D-During operation

W-Weekly

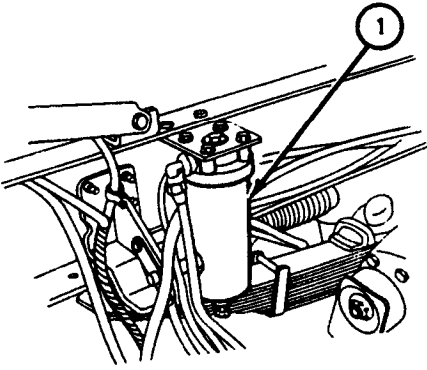
Item No.	Interval					Procedure: Item to be Inspected Check for and have repaired, filled, or adjusted as needed	Equipment is not ready/ available if:
	B	D	A	W	M		
3	●					PRIMARY FUEL FILTER Check primary fuel filter (1) for water or dirt. If contaminated, notify organizational maintenance. 	Any Class III fuel leaks. Any gasoline leak.

Table 1-1. Operator/Crew Preventive Maintenance Checks and Services – Cont

NOTE: These checks are to be made in the order listed, within designated interval.

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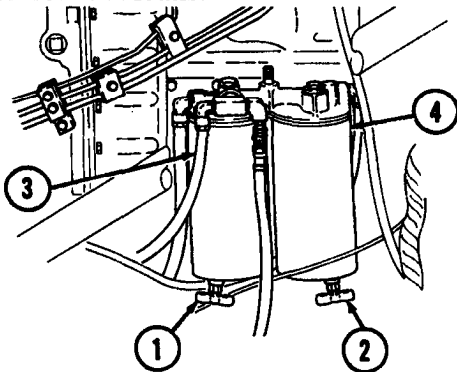
Item No.	Interval					Item to be Inspected Procedure: Check for and have repaired, filled, or adjusted as needed	Equipment is not ready/ available if:
	B	D	A	W	M		
3.1						SECONDARY AND FINAL FUEL FILTERS <u>WARNING</u> Do not perform fuel filter checks, inspections, or draining, while smoking or near fire, flames, or sparks. Fuel may ignite, causing injury or death to personnel. <u>CAUTION</u> If one pint (0.473 L) of fuel is drained and fuel is still unclear, notify organizational maintenance. Open draincocks (1) and (2) at bottom of secondary fuel filter (3) and final fuel filter (4). Drain approximately one pint (0.473 L) of fuel from each into a container. If there are large amounts of water or impurities, notify your supervisor. Close draincocks (1) and (2). Check for fuel leaks. 	
4						FUEL SYSTEM a. Inspect fuel tank for leaks or broken supports. b. Check fuel lines and hoses for leakage and damage. Make sure all connections are secure.	Any Class III fuel leakage, any water or contaminants in final fuel filter. Fuel tank(s) or lines are damaged or any broken supports.

Table 1-1. Operator/Crew Preventive Maintenance Checks and Services – Cent

NOTE: These checks are to be made in the order listed, within designated interval.

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D—During operation

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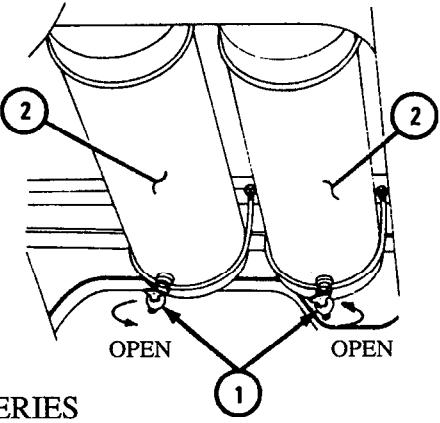
Item No.	Interval					Item to be Inspected Procedure: Check for and have repaired, filled, or adjusted as needed	Equipment is not ready/available if:
	B	D	A	W	M		
5			●			AIR RESERVOIR DRAIN COCK Drain air reservoirs as follows: - Turn petcocks (1) on bottom of tanks (2) to opened position. - Let air and condensation drain off. - Turn petcocks (1) to closed position. 	Any reservoir line or hose missing, leaking or damaged. Any broken supports.
6						BATTERIES <u>WARNING</u> Wear safety glasses or goggles when checking batteries. Always check electrolyte level with engine stopped. Do not smoke or use exposed flame when checking battery; explosive gases are present and severe injury to personnel can result. Remove all jewelry such as rings, dog tags, bracelets, etc. If jewelry contacts battery positive terminal and ground, a direct short will result in instant heating of tools, damage to equipment, and injury to personnel.	

Table 1–1. Operator/Crew Preventive Maintenance Checks and Services – Cont

NOTE: These checks are to be made in the order listed, within designated interval.

B–Before operation
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Item No.	Interval					Item to be Inspected Procedure: Check for and have repaired, filled, or adjusted as needed	Equipment is not ready/available if
	B	D	A	W	M		
6 (cont)						NOTE Battery compartment is located on right side of truck between running board and cab door. a. Check that fluid level is to split–ring. NOTE If fluid fluid level is below split–rings repeatedly or is boiling, notify organizational maintenance. When temperature drops below 32°F (0°C), run the engine 15 minutes to allow distilled water added to battery by organizational maintenance to mix with electrolyte. b. Check terminals and posts for tightness, damage, and corrosion. c. Check batteries for cracked or leaking casing, broken, burnt, or loose battery terminal posts. d. Inspect battery compartment for corrosion. If excessively corroded, Notify Organizational Maintenance.	One or more missing or unserviceable batteries or will not crank engine.
7						<u>UNDERBODY</u> FRAME NOTE If any of the following conditions are found, notify your supervisor. Visually check frame side rails, crossmembers and underbody supports for broken/loose bolts or rivets, obvious cracks, broken welds, and rusted-through conditions.	Any obviously cracked, rusted–through, loose, or broken or missing side rails, crossmembers, welds, bolts or rivets.

Table 1-1. Operator/Crew Preventive Maintenance Checks and Services – Cont

NOTE: These checks are to be made in the order listed, within designated interval.

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M-Monthly

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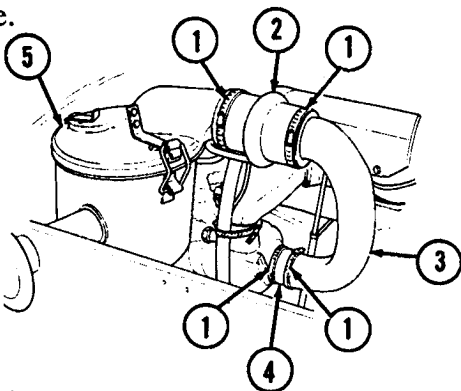
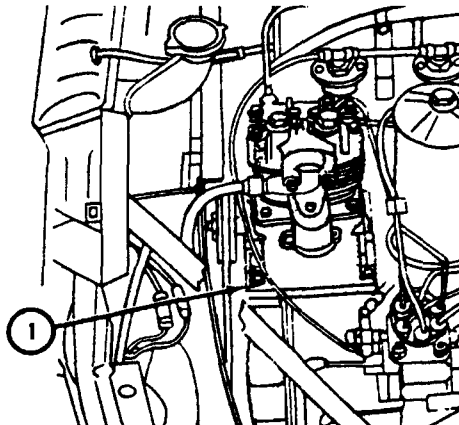
Item No.	Interval					Item to be Inspected Procedure: Check for and have repaired, filled, or adjusted as needed	Equipment is not ready/ available if:
	B	D	A	W	M		
7.1						<u>ENGINE COMPARTMENT</u> <u>AIR INTAKE SYSTEM</u> <u>WARNING</u> If NBC exposure is suspected, all air filter media should be handled by personnel wearing protective equipment. Consult your unit NBC Officer or NBC NCO for appropriate handling or disposal instructions. Check clamps (1) for tightness and hump hose (2), tube (3), hose (4), and air cleaner assembly (5) for openings which would allow foreign materials to enter engine. 	Leaks or openings which will allow foreign material to enter engine are evident.
8						<u>RADIATOR</u> <u>WARNING</u> Use care when removing radiator filler cap. Coolant is under pressure, and can cause severe burns when cap is removed while engine is hot. - Check to see that radiator is full. If low, notify organizational maintenance. - Check all hoses for deterioration, leakage and secure connections.	Any Class III leaks.

Table 1-1. Operator/Crew Preventive Maintenance Checks and Services – Cont

NOTE: These checks are to be made in the order listed, within designated interval.

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Item No.	Interval					Item to be Inspected Procedure: Check for and have repaired, filled, or adjusted as needed	Equipment is not ready/available if:
	B	D	A	W	M		
9	●					ENGINE OIL LEVEL a. Check engine oil level. When checking COLD, oil level should be approximately 1" - 1 1/2" (25.4 to 38.1 mm) above full mark. Add oil as necessary. Do not overfill. b. When checking HOT, oil level should be between the "ADD" and "FULL" marks. Add oil as necessary. Do not overfill.	
10					●	DRIVE BELTS ● Check for missing belts, broken, cracking, or fraying.	Any drivebelt is missing, broken, cracked to the belt fiber, has more than one crack (1/8 in. depth or 50% of belt thickness) within a 6 in. area, or has frays more than 2 in. long.
11						AIR COMPRESSOR  ● Check compressor (1) for loose bolts and air leaks.	

Any hose lines missing, leaking, or damaged. Any air leak.