

*ARMY TM 9-2320-280-10
AIR FORCE TO 36A12-1A-2091-1
MARINE CORPS TM 2320-10/6B

TECHNICAL MANUAL
OPERATOR'S MANUAL
FOR

TRUCK, UTILITY: CARGO/TROOP CARRIER, 1-1/4 TON, 4X4, M998 NSN 2320-01-107-7155 (EIC: BBD)
TRUCK, UTILITY: CARGO/TROOP CARRIER, 1-1/4 TON, 4X4, M998A1 NSN 2320-01-371-9577 (EIC: BBN)
TRUCK, UTILITY: CARGO/TROOP CARRIER, 1-1/4 TON, 4X4, W/WINCH, M1038 NSN 2320-01-107-7156 (EIC: BBE)
TRUCK, UTILITY: CARGO/TROOP CARRIER, 1-1/4 TON, 4X4, W/WINCH, M1038A1 NSN 2320-01-371-9578 (EIC: BBP)
TRUCK, UTILITY: HEAVY VARIANT, 4X4, M1097 NSN 2320-01-346-9317 (EIC: BBM)
TRUCK, UTILITY: HEAVY VARIANT, 4X4, M1097A1 NSN 2320-01-371-9583 (EIC: BBU)
TRUCK, UTILITY: HEAVY VARIANT, 4X4, M1097A2, M1097R1 NSN 2320-01-380-8604 (EIC: BB6)
TRUCK, UTILITY: HEAVY VARIANT, 4X4, M1123 NSN 2320-01-455-9593 (EIC: B6G)
TRUCK, UTILITY: TOW CARRIER, ARMORED, 1-1/4 TON, 4X4, M966 NSN 2320-01-107-7153 (EIC: BBC)
TRUCK, UTILITY: TOW CARRIER, ARMORED, 1-1/4 TON, 4X4, M966A1 NSN 2320-01-372-3932 (EIC: BBX)
TRUCK, UTILITY: TOW CARRIER, ARMORED, 1-1/4 TON, 4X4, M1121 NSN 2320-01-456-1282 (EIC: B6H)
TRUCK, UTILITY: TOW CARRIER, W/SUPPLEMENTAL ARMOR, 1-1/4 TON, 4X4, M1045 NSN 2320-01-146-7191
TRUCK, UTILITY: TOW CARRIER, W/SUPPLEMENTAL ARMOR, 1-1/4 TON, 4X4, M1045A1 NSN 2320-01-371-9580 (EIC: BBR)
TRUCK, UTILITY: TOW CARRIER, W/SUPPLEMENTAL ARMOR, 1-1/4 TON, 4X4, M1045A2 NSN 2320-01-380-8229 (EIC: BB5)
TRUCK, UTILITY: TOW CARRIER, W/SUPPLEMENTAL ARMOR, 1-1/4 TON, 4X4, W/WINCH, M1046 NSN 2320-01-146-7188
TRUCK, UTILITY: TOW CARRIER, W/SUPPLEMENTAL ARMOR, 1-1/4 TON, 4X4, W/WINCH, M1046A1 NSN 2320-01-371-9582 (EIC: BBT)
TRUCK, UTILITY: ARMAMENT CARRIER, ARMORED, 1-1/4 TON, 4X4, M1025 NSN 2320-01-128-9551 (EIC: BBF)
TRUCK, UTILITY: ARMAMENT CARRIER, ARMORED, 1-1/4 TON, 4X4, M1025A1 NSN 2320-01-371-9584 (EIC: BBV)
TRUCK, UTILITY: ARMAMENT CARRIER, ARMORED, 1-1/4 TON, 4X4, M1025A2, M1025R1 NSN 2320-01-380-8233 (EIC: BB3)
TRUCK, UTILITY: ARMAMENT CARRIER, ARMORED, 1-1/4 TON, 4X4, W/WINCH, M1026 NSN 2320-01-128-9552 (EIC: BBG)
TRUCK, UTILITY: ARMAMENT CARRIER, ARMORED, 1-1/4 TON, 4X4, W/WINCH, M1026A1 NSN 2320-01-371-9579 (EIC: BBQ)
TRUCK, UTILITY: ARMAMENT CARRIER, W/SUPPLEMENTAL ARMOR, 1-1/4 TON, 4X4, M1043 NSN 2320-01-146-7190
TRUCK, UTILITY: ARMAMENT CARRIER, W/SUPPLEMENTAL ARMOR, 1-1/4 TON, 4X4, M1043A1 NSN 2320-01-372-3933 (EIC: BBY)
TRUCK, UTILITY: ARMAMENT CARRIER, W/SUPPLEMENTAL ARMOR, 1-1/4 TON, 4X4, M1043A2 NSN 2320-01-380-8213 (EIC: BB4)
TRUCK, UTILITY: ARMAMENT CARRIER, W/SUPPLEMENTAL ARMOR, 1-1/4 TON, 4X4, W/WINCH, M1044 NSN 2320-01-146-7189
TRUCK, UTILITY: ARMAMENT CARRIER, W/SUPPLEMENTAL ARMOR, 1-1/4 TON, 4X4, W/WINCH, M1044A1 NSN 2320-01-371-9581 (EIC: BBS)
TRUCK, UTILITY: S250 SHELTER CARRIER, 4X4, M1037 NSN 2320-01-146-7193 (EIC: BBK)
TRUCK, UTILITY: S250 SHELTER CARRIER, 4X4, W/WINCH, M1042 NSN 2320-01-146-7187
TRUCK, AMBULANCE, 2-LITTER, ARMORED, 4X4, M996 NSN 2310-01-111-2275 (EIC: BBB)
TRUCK, AMBULANCE, 2-LITTER, ARMORED, 4X4, M996A1 NSN 2310-01-372-3935 (EIC: BB2)
TRUCK, AMBULANCE, 4-LITTER, ARMORED, 4X4, M997 NSN 2310-01-111-2274 (EIC: BBA)
TRUCK, AMBULANCE, 4-LITTER, ARMORED, 4X4, M997A1 NSN 2310-01-372-3934 (EIC: BBZ)
TRUCK, AMBULANCE, 4-LITTER, ARMORED, 4X4, M997A2 NSN 2310-01-380-8225 (EIC: BB8)
TRUCK, AMBULANCE, 2-LITTER, SOFT TOP, 4X4, M1035 NSN 2310-01-146-7194
TRUCK, AMBULANCE, 2-LITTER, SOFT TOP, 4X4, M1035A1 NSN 2310-01-371-9585 (EIC: BBW)
TRUCK, AMBULANCE, 2-LITTER, SOFT TOP, 4X4, M1035A2 NSN 2310-01-380-8290 (EIC: BB9)

***SUPERSEDE NOTICE:** This TM supersedes TM 9-2320-280-10 dated 31 January 1996 and all changes.

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**OPERATOR MAINTENANCE
PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS) INTRODUCTION**

GENERAL

A permanent record of services, repairs, and modifications made to these vehicles must be recorded. See DA Pam 750-8 for a list of forms and records required and how to complete them.

PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS)**PURPOSE OF PMCS TABLE**

The purpose of the PMCS table is to provide a systematic method of inspection and servicing of equipment. In this way, small defects can be detected early and corrected before they become major problems causing equipment failure. The PMCS table is arranged with the individual PMCS procedures listed in sequence under assigned intervals. The most logical time (before, during, and after operation) to perform each procedure determines the interval to which it is assigned. Make a habit of performing the checks in the same order each time; anything wrong will be identified quickly. The following is a list and description of the column headings in the PMCS table.

Item Number – This column shows the sequence in which the checks and services are to be performed and is used to identify equipment area on the Equipment Inspection and Maintenance Worksheet, DA Form 2404 or DA Form 5988-E (WP 0104).

Interval – This column indicates when each check is to be performed.

Item to be Checked or Serviced – This column identifies the item and location to be checked by part, component, or assembly name.

Equipment Not Ready/Available If: – This column lists conditions that make the equipment unavailable for use as a result of damage, missing parts, or improper functioning that presents a safety hazard. Do not accept or operate equipment with a condition noted in this column.

DESIGNATED INTERVALS**NOTE**

Designated intervals are performed under usual operating conditions. PMCS intervals must be performed more frequently when operating under unusual conditions.

1. BEFORE checks and services of PREVENTIVE MAINTENANCE must be performed prior to placing vehicle or its components in operation.
2. DURING checks and services of PREVENTIVE MAINTENANCE must be performed while vehicle and/or its components/systems are in operation.
3. AFTER checks and services of PREVENTIVE MAINTENANCE are performed upon completion of mission.
4. WEEKLY checks and services of PREVENTIVE MAINTENANCE are performed once every 7 days.
5. MONTHLY checks and services of PREVENTIVE MAINTENANCE are performed once every 30 days.

PROCEDURES

1. For troubleshooting malfunctions, refer to Troubleshooting (WP 0071) or notify your supervisor.
2. Use DA Form 2404 or DA Form 5988-E (automated) and report malfunctions to unit maintenance at once.
3. Tools included with vehicle are to be used when making PREVENTIVE MAINTENANCE checks and services. Wiping cloths are needed to remove dirt or grease.
4. Refer to appropriate TMs for PMCS requirements on mounted systems (i.e., missiles systems, radios, etc.).
5. When performing lubrication procedures, you should be familiar with the equipment. Notify field maintenance or your supervisor if you have any questions relating to lubrication points.

TROUBLESPOTS**NOTE**

Dirt, grease, oil, and debris may cover up a serious problem. Clean as you check. Following precautions printed on container, use solvent cleaning compound MIL-PRF-680 on all metal surfaces. On rubber or plastic material, use soap and water.

1. Check all bolts, nuts, and screws. If loose, bent, broken, or missing, either tighten or report conditions to field maintenance.
2. Look for loose or chipped paint, and rust or cracks at welds. Remove rust and loose paint, and spot-paint as required. If a cracked weld is found, report situation to field maintenance.
3. Inspect electrical wires and connectors for cracked or broken insulation. Also look for bare wires and loose or broken connections. Tighten loose connections. Report other problems to field maintenance.
4. Check hoses and fluid lines for wear, damage, and leaks. Ensure clamps and fittings are tight. Refer to Fluid Leakage for information on leaks.
5. Check hinges for security and operation.
6. Check data, caution, and warning plates for security and legibility.

NOT READY/AVAILABLE

If vehicle is not able to perform the mission, equipment will be reported as not ready/available. Refer to DA PAM 750-8 (WP 0104).

CORRECT ASSEMBLY OR STOWAGE

Check each component for installation as an assembly, that it is in the right place, and has no missing parts.

CORROSION PREVENTION AND CONTROL (CPC) (PMCS)

Corrosion Prevention and Control (CPC) is a continuing concern. It is important that any corrosion problems with this equipment be reported so improvements can be made and future problems eliminated.

Corrosion is typically associated with rusting of metals or galvanic corrosion, which produces a white powder. This category of corrosion also includes deterioration of other materials such as rubber and plastic. Unusual cracking, softening, swelling, or breaking of materials may be the result of corrosion. If a corrosion problem is identified, it can be reported using SF 368, Product Quality Deficiency Report. Use of key words such as "corrosion," "rust," "deterioration," or "cracking" ensure the information is identified as a CPC problem. Submit the form to the address specified in DA PAM 750-8.

FLUID LEAKAGE

It is necessary for you to know how fluid leakage affects the status of the (enter component/equipment name). Following are types/classes of leakage you need to know to be able to determine the status of the (enter component/equipment name). Learn these leakage definitions and remember - when in doubt, notify your supervisor. Equipment operation is allowed with minor leakage (Class I or II). Consideration must be given to 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 the PMCS.

Class III leaks should be reported immediately to your supervisor.

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

END OF WORK PACKAGE

**OPERATOR MAINTENANCE
PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS) - BEFORE**

INITIAL SETUP:

References

- WP 0092
- AR 385-10

Table 1. Preventive Maintenance Checks and Services - Before.

ITEM NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
1.	Before	Left Front, Side Exterior	<p align="center"><u>WARNING</u></p> <p>Always remember WARNINGS, CAUTIONS, and NOTES before operating this vehicle and prior to PMCS.</p> <p align="center">NOTE</p> <p>Perform your before, after, and weekly checks if:</p> <ol style="list-style-type: none"> 1. You are the assigned driver but have not operated the vehicle since the last weekly inspection. 2. You are operating the vehicle for the first time. 3. See separate manual for smoke generator, TOW launcher, and radios. <p>DRIVER</p> <p align="center"><u>CAUTION</u></p> <p>If leaks are detected in area of transfer case oil cooler, do not attempt to tighten retaining nuts. Internal damage to transfer case oil cooler may result. Notify field maintenance.</p> <p align="center">NOTE</p> <p>If leakage is detected, further investigation is needed to determine location and cause of leak.</p>	

Table 1. Preventive Maintenance Checks and Services - Before - Continued.

ITEM NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
2.	Before	Left Side Tires	<p>a. Visually check underneath vehicle for any evidence of fluid leakage.</p> <p>b. Visually check front and left side of vehicle for obvious damage that would impair operation.</p> <p>c. Check and adjust mirror.</p> <p>DRIVER</p> <p style="text-align: center;"><u>WARNING</u></p> <p>Operating a vehicle with a tire in an underinflated condition or with a questionable defect may lead to premature tire failure. Failure to comply may result in equipment damage and injury or death to personnel.</p> <p>Visually check tires for underinflation and defects.</p>	<p>Any brake fluid leaks; class III leak of oil, fuel, or coolant.</p> <p>Any damage that prevents operation.</p> <p>Mirror cracked, broke, or missing.</p>
3.	Before	Rear Exterior	<p>DRIVER</p> <p style="text-align: center;">NOTE</p> <p>If leakage is detected, further investigation is needed to determine location and cause of leak.</p> <p>a. Visually check underneath vehicle for evidence of fluid leakage.</p> <p>b. Visually check rear of vehicle for obvious damage that would impair operation.</p> <p>c. Inspect bumper supports for cracks before towing trailer.</p>	<p>Tire missing, deflated, or unserviceable.</p> <p>Any brake fluid leaks; class III leak of oil, fuel, or coolant.</p> <p>Any damage that prevents operation.</p> <p>Any damage that prevents operation.</p>

Table 1. Preventive Maintenance Checks and Services - Before - Continued.

ITEM NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
4.	Before	Exhaust Louvers (M996, M996A1)	<p align="center">NOTE</p> <p>Perform following check prior to airlift procedure.</p> <p>d. Inspect shackle for loose or missing mounting hardware.</p> <p>DRIVER</p> <p>Check air exhaust louvers to ensure they are clear and free of debris that would restrict air flow. Clean any dirt or debris from louvers.</p>	Loose or missing hardware.
5.	Before	Right Front, Side Exterior	<p>DRIVER</p> <p align="center">NOTE</p> <p>If leakage is detected, further investigation is needed to determine location and cause of leak.</p> <p>a. Visually check underneath vehicle for evidence of fluid leakage.</p> <p>b. Visually check front and right side of vehicle for obvious damage that would impair operation.</p> <p>c. Check and adjust mirror.</p>	Any brake fluid leaks; class III leak of oil, fuel, or coolant. Any damage that prevents operation. Mirror cracked, broke, or missing.
6.	Before	Right Side Tires	<p>DRIVER</p> <p align="center"><u>WARNING</u></p> <p>Operating a vehicle with a tire in an underinflated condition or with a questionable defect may lead to premature tire failure. Failure to comply may result in equipment damage and injury or death to personnel.</p> <p>Visually check tires for underinflation and defects.</p>	Tire missing, deflated, or unserviceable.

Table 1. Preventive Maintenance Checks and Services - Before - Continued.

ITEM NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
7.	Before	Front	<p>DRIVER</p> <p>NOTE</p> <p>If leakage is detected, investigation is needed to determine location and cause of leak.</p> <ol style="list-style-type: none"> a. Visually check front of vehicle for obvious damage that would impair operation. b. Visually check underneath vehicle for evidence of fluid leakage. 	<p>Any damage that prevents operation.</p> <p>Any brake fluid leaks; class III leak of oil, fuel, or coolant.</p>
8.	Before	Power Steering Reservoir (All models excepts A2 and M1123)	<p>DRIVER</p> <p>CAUTION</p> <ul style="list-style-type: none"> • Do not permit dirt, dust, or grit to enter power steering reservoir. Damage to power steering system will result if power steering fluid becomes contaminated. • Do not overfill power steering reservoir. Damage to power steering system will result. <p>Check fluid in power steering reservoir (WP 0092). Fluid should be between HOT and COLD marks. Add fluid if level is below COLD mark.</p>	

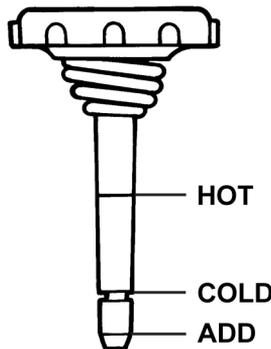


Figure 1. Power Steering Reservoir Cap (Basic and A1 Vehicles Only).

Table 1. Preventive Maintenance Checks and Services - Before - Continued.

ITEM NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
9.	Before	Power Steering Reservoir (A2 and M1123 models only)	<p>DRIVER</p> <p><u>CAUTION</u></p> <ul style="list-style-type: none"> • Do not permit dirt, dust, or grit to enter power steering reservoir. Damage to power steering system will result if power steering fluid becomes contaminated. • Do not overfill power steering reservoir. Damage to power steering system will result. <p>Check sightglass for proper fluid level. If fluid is HOT, level should be at top of sightglass. If fluid is COLD, fluid should be in center of sightglass. Add fluid if level is at bottom of sightglass.</p>	
<p>The diagram shows a perspective view of a hexagonal power steering reservoir cap. Three horizontal lines are drawn across the cap to indicate fluid levels. The top line is labeled 'HOT', the middle line is labeled 'COLD', and the bottom line is labeled 'ADD'.</p>				
<p><i>Figure 2. Power Steering Reservoir Cap (A2, R1, M1123 Vehicles Only).</i></p>				
10.	Before	Cooling System	<p>DRIVER</p> <p><u>WARNING</u></p> <p>If engine has been recently operated, do not remove radiator cap to check coolant level. Cooling system is under pressure, and escaping steam or coolant can cause burns.</p> <p><u>CAUTION</u></p> <p>Overheating, caused by lack of coolant, will cause engine damage.</p>	

Table 1. Preventive Maintenance Checks and Services - Before - Continued.

ITEM NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
11.	Before	Seat and Seatbelts	<p>Check coolant level in coolant tank. Level should be at or above FULL COLD line. Add coolant if below FULL line.</p> <p>DRIVER</p> <p>NOTE</p> <p>Vehicle operation with inoperative seatbelts may violate AR 385-10.</p> <p>a. Check all seatbelts, including troop seat safety strap for security, damage, and proper operation.</p> <p>b. Check gunner’s restraint for security, damage, and operation of harness, tail strap, sling seat assembly, turret brackets, mount retractor, rotary buckle quick release and clasp ends.</p> <p>c. Check operation of seat adjusting mechanism (driver’s seat only).</p>	<p>Seatbelts inoperable, buckles or clasps damaged, retractor damaged, or straps frayed.</p> <p>Harness, tail strap, sling seat assembly is missing, frayed, damaged or does not fasten, adjust, retract or operate.</p> <p>Seat adjusting lock inoperative, or missing.</p>
12.	Before	Fire Extinguisher	<p>DRIVER</p> <p>a. Check for missing or damaged fire extinguisher.</p> <p>b. Check gauge for proper pressure of about 150 psi (1,034 kPa).</p> <p>c. Check for damaged or missing seal.</p>	<p>Fire extinguisher missing or damaged.</p> <p>Pressure gauge needle in recharge area.</p> <p>Seal broken or missing.</p>

Table 1. Preventive Maintenance Checks and Services - Before - Continued.

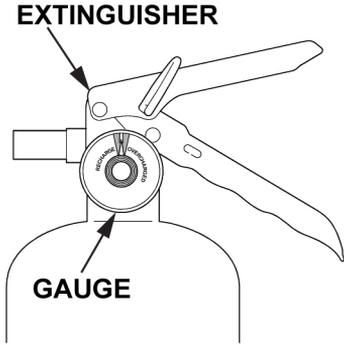
ITEM NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
 <p data-bbox="471 662 782 689"><i>Figure 3. Fire Extinguisher.</i></p>				
13.	Before	Instrument Panel	<p>DRIVER</p> <p><u>WARNING</u></p> <p>If gauges, instruments, or instrument lights are inoperable or not within ranges described in these checks, immediately shut off engine and notify your supervisor or unit maintenance personnel. Continued operation of vehicle may result in injury to personnel or damage to equipment.</p> <p><u>NOTE</u></p> <p>If engine is warm, wait to start light may not come on. During cranking or after starting, light may go on and off a few times.</p> <p>a. Check wait to start light and brake warning light. Turn rotary switch to RUN. Wait to start and brake warning light should come on.</p>	<p>Wait to start light does not come on when engine is cold, or wait light stays on continually. Brake warning light does not come on.</p>

Table 1. Preventive Maintenance Checks and Services - Before - Continued.

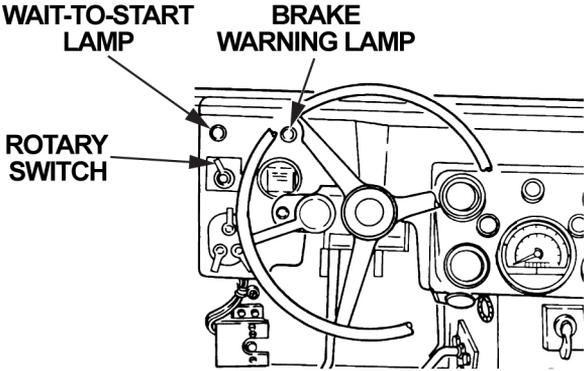
ITEM NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
 <p>The diagram shows a steering wheel and instrument panel. Three components are labeled with arrows: 'WAIT-TO-START LAMP' (a small circular indicator on the left side of the dashboard), 'BRAKE WARNING LAMP' (a circular indicator at the top of the steering wheel), and 'ROTARY SWITCH' (a knob on the left side of the dashboard).</p>				
			<p>b. Start engine and check following:</p> <ol style="list-style-type: none"> 1. Engine oil pressure gauge. 2. Voltmeter. 3. Air restriction gauge. 4. Brake warning light should go off when hand brake is released. 5. Check fuel gauge. 	<p>Engine will not start.</p> <p>Oil pressure is less than 10 psi (69 kPa) at idle.</p> <p>Voltmeter needle stays in yellow or red range.</p> <p>Air restriction indicator reaches red zone.</p> <p>Brake warning light stays on after hand brake is released or comes on while driving.</p>

Figure 4. Rotary Switch, Wait-To-Start Lamp, and Brake Warning Lamp.

Table 1. Preventive Maintenance Checks and Services - Before - Continued.

ITEM NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
			6. Check coolant temperature gauge.	Coolant temperature gauge inoperative or reads greater than 240° F (116° C) and/or overheat lamp illuminates.

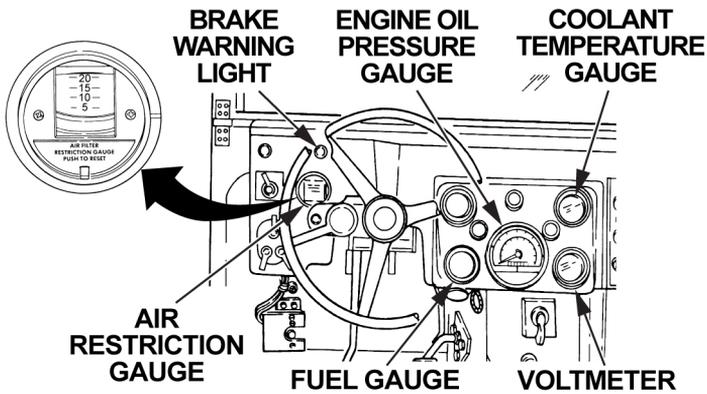


Figure 5. Instrument Panel Gauges.

			7. Check transmission indicator lamp.	Transmission indicator lamp stays illuminated.
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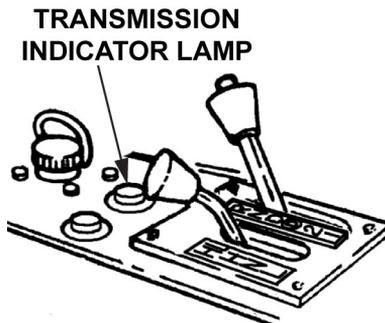


Figure 6. Transmission Indicator Lamp.

Table 1. Preventive Maintenance Checks and Services - Before - Continued.

ITEM NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
14.	Before	Brakes	<p>DRIVER</p> <p>NOTE Engine must be warmed up and idling, transmission in drive (D), transfer in high (H), and parking brake released to perform following check.</p> <p>a. Check brake pedal travel. With vehicle at idle, transfer in high (H), transmission in drive (D), allow vehicle to move forward. As vehicle moves, slowly depress brake pedal. Pedal should travel 1 to 1 ½ in. (2.5 to 3.8 cm) before brakes take hold. After brakes take hold, pedal may exceed 1 to 1 ½ in. (2.5 to 3.8 cm) travel. This is normal.</p> <p>b. Check parking brake. With parking brake fully applied, transmission in drive (D) or reverse (R), and transfer in high (H), vehicle should not move.</p> <p>c. Check parking brake lever safety mechanism to ensure that it latches when parking brake is applied.</p>	<p>Brakes will not stop vehicle.</p> <p>Parking brake inoperable or unable to hold vehicle.</p> <p>Parking brake lever safety mechanism (if equipped) is not functioning properly.</p>
15.	Before	NBC (CBRN) System (M996, M996A1, M997, M997A1, M997A2)	<p>DRIVER</p> <p>a. Check NBC (CBRN) system power switch for proper operation and security of mounting. All system fuses, including spares, should be present.</p> <p>b. Check NBC (CBRN) heater for proper operation. When knob is turned clockwise, the light should come on, indicating heater is working.</p>	<p>Light does not come on. Heater inoperable.</p>

Table 1. Preventive Maintenance Checks and Services - Before - Continued.

ITEM NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
16.	Before	Weapon Station (M966, M966A1, M1045, M1045A1, M1045A2, M1046, M1046A1, M1025, M1025A1, M1025A2/R1, M1026, M1026A1, M1043, M1043A1, M1043A2, M1044, M1044A1, M1121)	<p>c. Check for steady flow of air at hose outlets.</p> <p>DRIVER</p> <p>NOTE Weapon station binding should be checked with weapon system or equivalent weight applied to turret. Refer to appropriate system TM to determine weight of weapon system.</p> <p>a. Check weapon station for binding by rotating 360° in both directions at least five times.</p> <p>b. (Armament carriers only) Check armament mounting plate and bearing sleeve for security of mounting and obvious damage that would impair operation.</p> <p>c. (TOW vehicles only) Check inclinometer for proper operation. Check level vial for breaks and/or bubbles.</p>	<p>Flow of air not steady or no flow of air.</p> <p>Weapon station binds.</p> <p>Armament weapons required for missions: Mounting plate or bearing sleeve missing or any damage that prevents or impair mounting of armament weapons.</p> <p>Level vial is broken or no bubble is present.</p>

END OF WORK PACKAGE

**OPERATOR MAINTENANCE
PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS) - DURING**

INITIAL SETUP: NOT APPLICABLE

Table 1. Preventive Maintenance Checks and Services - During.

ITEM NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
1.	During	Controls and Indicators	<p>DRIVER a. Monitor all gauges.</p> <p>b. Check speedometer operation.</p> <p>c. (Marine Corps Only) Check hour/tachometer operation.</p>	<p>Engine oil pressure gauge reads less than approximately 25 psi (172 kPa) under normal driving conditions or less than 10 psi (69 kPa) at idle. Coolant temperature gauge reads greater than 240° F (116° C). Air restriction gauge indicates restriction in air cleaner. Voltmeter indicates loss of voltage.</p> <p>Speedometer not operational.</p> <p>Hour/tachometer not operational.</p>
2.	During	Brakes	<p>DRIVER Check brakes for pulling or grabbing.</p>	<p>Brakes pull or grab.</p>
3.	During	Steering	<p>DRIVER Be alert for excessive sway, leaning to one side, or unstable handling. Check steering response for unusual free play, binding, or shimmy.</p>	<p>Handling is unstable; turning is difficult; unusual free play, binding, or shimmy detected.</p>
4.	During	Accelerator Pedal	<p>DRIVER Check response to accelerator feed. Check for sticking or binding pedal.</p>	<p>Pedal sticking or binding.</p>

Table 1. Preventive Maintenance Checks and Services - During - Continued.

ITEM NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
5.	During	Powertrain	<p>DRIVER Be alert for unusual noises or vibrations from engine, transmission, transfer case, differentials, propeller shafts (especially under load), axle shafts, or wheels.</p>	Unusual noise or vibration detected.
6.	During	Transmission	<p>DRIVER Check transmission for proper operation.</p>	Transmission slips or will not shift.
7.	During	Air Conditioner (M997, M997A1, M997A2)	<p style="text-align: center;">NOTE</p> <p>Perform following inspection only if air conditioner is required for climatic conditions.</p> <p>Turn air conditioner on and set blower to maximum cooling speed settings. Wait 5 minutes to allow temperature to stabilize. Check outlet ducts for cool air.</p>	Climatic conditions require air-conditioning and A/C is inoperable, or outlet duct air is not cooler than ambient temperature.

END OF WORK PACKAGE

**OPERATOR MAINTENANCE
PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS) - AFTER**

INITIAL SETUP:**References**

AR 385-10

Table 1. Preventive Maintenance Checks and Services - After.

ITEM NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
1.	After	Gear Shifter Lever	<p>DRIVER</p> <p>a. Check transmission shift lever operation. Shift transmission through all operating ranges. Lever should move freely through all range positions.</p> <p>b. Check transfer shift lever operation. With transmission in neutral (N), shift transfer lever through all range positions. Lever should move freely through all range positions.</p>	<p>Lever inoperable or binds between range detents.</p> <p>Lever inoperable or does not engage in all ranges with engine not running.</p>

Table 1. Preventive Maintenance Checks and Services - After - Continued.

ITEM NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
2.	After	Transmission Fluid	<p>DRIVER</p> <p style="text-align: center;"><u>CAUTION</u></p> <ul style="list-style-type: none"> • Do not permit dirt, dust, fluid or grit to enter transmission oil dipstick tube. Internal transmission damage will result if transmission oil becomes contaminated. • Do not overfill transmission. Damage to transmission will result. An over-full transmission can also indicate a transfer case fluid leak. Notify field maintenance if transmission fluid is above crosshatch mark. <p style="text-align: center;"><u>NOTE</u></p> <ul style="list-style-type: none"> • With foot on brake, move shift lever through each gear range. Pause for about three seconds in each range, ending in park (P) for vehicles that have 4L80-E/4L85-E transmission and in neutral (N) for vehicles that have 3L80 transmission. • Transmission fluid level should be checked with engine running, parking brake set, transmission shift lever in park (P) for vehicles that have 4L80-E/4L85-E transmission and in neutral (N) for vehicles that have 3L80 transmission, and vehicle on level ground. Fluid level should be at crosshatch marks on dipstick. • Let vehicle idle with all accessories off for three minutes. • Engine operating temperature of 190–240° F (88–116° C) must be reached before performing AFTER checks. <p>Check transmission fluid level. If level is below crosshatch marks, add sufficient fluid to bring level to crosshatch marks.</p>	

Table 1. Preventive Maintenance Checks and Services - After - Continued.

ITEM NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
 <p>The image shows a vertical dipstick with a handle at the bottom. The upper portion is a tapered shaft with a cross-hatched section near the top. The word 'ADD' is printed vertically on the shaft.</p>				
<p><i>Figure 1. Transmission Oil Dipstick.</i></p>				
3.	After	Fuel Filter	<p>DRIVER</p> <p>WARNING</p>  <p>Do not perform fuel system checks, inspections, or maintenance while smoking or near fire, flames, or sparks. Fuel may ignite, causing damage to vehicle and injury or death to personnel.</p> <p>NOTE</p> <p>A rubber hose can be attached to drain valve to catch fuel in container before opening drain valve. If fuel is clear, put fuel back in fuel tank.</p> <p>a. Check fuel for contamination. With engine running, open drain valve. Allow fuel to drain into suitable container until it runs clear and close valve.</p>	<p>Fuel is not clear after draining 1 pt (0.47 L).</p>

Table 1. Preventive Maintenance Checks and Services - After - Continued.

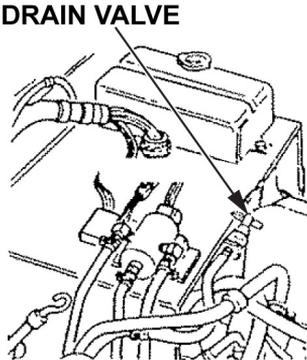
ITEM NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
			<p style="text-align: center;">NOTE</p> <p>Fuel retained in drain valve may drip when vehicle vibrations occur. This is normal and does not constitute a leak. Wipe drain valve with rag until excess fuel is removed.</p> <p>b. Check for leaks.</p> <p>c. Stop engine and remove rubber hose from drain valve, if installed.</p>	<p>Any Class III leakage evident.</p>
<p>DRAIN VALVE</p> 				
<p><i>Figure 2. Fuel Filter Drain Valve.</i></p>				
4.	After	Left Side Tires	<p>DRIVER</p> <p style="text-align: center;"><u>WARNING</u></p> <p>Operating a vehicle with a tire in an underinflated condition or with a questionable defect may lead to premature tire failure. Failure to comply may result in equipment damage and injury or death to personnel.</p> <p>Visually check tires for underinflation, cuts, gouges, cracks, or bulges. Remove all penetrating objects.</p>	<p>Tires deflated or otherwise unserviceable.</p>

Table 1. Preventive Maintenance Checks and Services - After - Continued.

ITEM NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
5.	After	Left Side Mirror	<p>DRIVER</p> <p>NOTE Vehicle operation with damaged or missing outside rearview mirrors may violate AR 385-10.</p> <p>Check mirror for defects, cracks, and serviceability.</p>	
6.	After	Left Front, Side Exterior	<p>DRIVER</p> <p>NOTE If leakage is detected, further investigation is needed to determine location and cause of leak.</p> <p>a. Visually check underneath vehicle for evidence of fluid leakage.</p> <p>b. Visually check halfshaft cv boots and ball joint boots for rips, tears, or cuts.</p> <p>c. Inspect frame crossmembers and underbody support for missing hardware, cracks, bends, and breaks. Notify field maintenance if rust is present, but base metal is sound.</p> <p>d. Visually check for body damage that would impair operation of vehicle.</p>	<p>Any brake fluid leaks; Class III leak of oil, fuel, or coolant.</p> <p>Crossmembers or underbody support are missing any hardware, are cracked, broken, or bent or rusted-through condition is present that would affect vehicle operation.</p> <p>Any damage that prevents operation.</p>
7.	After	Rear Exterior	<p>DRIVER</p> <p>NOTE If leakage is detected, further investigation is needed to determine location and cause of leak.</p>	

Table 1. Preventive Maintenance Checks and Services - After - Continued.

ITEM NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
8.	After	Patient Compartment (M996, M996A1, M997, M997A1, M997A2)	<p>a. Visually check underneath vehicle for evidence of fluid leakage.</p> <p>b. Visually check halfshaft cv boots and ball joint boots for rips, tears, or cuts.</p> <p>c. Inspect frame crossmembers and underbody support for missing hardware, cracks, bends, and breaks. Notify field maintenance if rust is present, but base metal is sound.</p> <p>d. Inspect bumper or crossmember and inner braces in area around towing pintle for cracks or breaks.</p> <p>DRIVER</p> <p>a. Check presence and operation of ceiling white lights, blackout lights, and spotlights.</p> <p>b. Check operation of blackout switches at rear step, rear doors, and bulkhead door.</p> <p>c. Inspect condition and security of litter racks and components.</p> <p>d. Inspect upper litter rack hinges and latches for proper operation, damage, and missing components.</p> <p>e. Inspect tension straps, support straps, litter straps, and footman loops for security of mounting, damage, and missing components.</p>	<p>Any brake fluid leaks; Class III leak of oil, fuel, or coolant.</p> <p>Crossmembers or underbody support are missing any hardware, are cracked, broken, or bent or rusted-through condition is present that would affect vehicle operation.</p> <p>Bumper, crossmember, or an inner brace is cracked or broken.</p> <p>One or more lights inoperative or unserviceable.</p> <p>Any blackout switch inoperative.</p> <p>Hinges or latches inoperative, damaged, or missing.</p>

Table 1. Preventive Maintenance Checks and Services - After - Continued.

ITEM NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
9.	After	Right Side Tires	<p>f. Inspect oxygen bottles and mounting components for security of stowage when oxygen bottles are in stowed position.</p> <p>g. Inspect IV straps and hangers for security of mounting, damage, and missing components.</p> <p>h. Check operation of rear doors, handles, and latching mechanisms. Check for loose or missing components. Door should not bind and should close securely when latched shut.</p> <p>i. Inspect rear door seals, step seals, bulkhead door and rear door vent seals (M996 and M996A1 only) for proper installation and condition. Door seals must not allow emission of light signature under blackout conditions.</p> <p>DRIVER</p> <p style="text-align: center;"><u>WARNING</u></p> <p>Operating a vehicle with a tire in an underinflated condition or with a questionable defect may lead to premature tire failure. Failure to comply may result in equipment damage and injury or death to personnel.</p> <p>Visually check tires for underinflation, cuts, gouges, cracks, or bulges. Remove all penetrating objects.</p>	<p>Rear door handles and latching mechanisms do not operate properly.</p> <p>Door seals allow emission of light signature under blackout conditions (detectable from 50 ft [15 mi] of vehicle).</p>
10.	After	Right Side Mirror	<p>DRIVER</p> <p style="text-align: center;">NOTE</p> <p>Vehicle operation with damaged or missing outside rearview mirrors may violate AR 385-10.</p>	<p>Tire deflated or otherwise unserviceable.</p>

Table 1. Preventive Maintenance Checks and Services - After - Continued.

ITEM NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
11.	After	Right Front, Side Exterior	<p>Check mirror for defects, cracks, and serviceability.</p> <p>DRIVER</p> <p>NOTE</p> <p>If leakage is detected, further investigation is needed to determine location and cause of leak.</p> <p>a. Visually check underneath vehicle for evidence of fluid leakage.</p> <p>b. Visually check halfshaft cv boots and ball joint boots for rips, tears, or cuts.</p> <p>c. Inspect frame crossmembers and underbody support for missing hardware, cracks, bends, and breaks. Notify field maintenance if rust is present, but base metal is sound.</p> <p>d. Visually check front and right side of vehicle for obvious damage that would impair operation.</p>	<p>Any brake fluid leaks; Class III leak of oil, fuel, or coolant.</p> <p>Crossmembers or underbody support are missing any hardware, are cracked, broken, or bent or rusted-through condition is present that would affect vehicle operation.</p> <p>Any damage that prevents operation.</p>
12.	After	Engine Oil	<p>DRIVER</p> <p><u>CAUTION</u></p> <ul style="list-style-type: none"> • Do not permit dirt, dust, or grit to enter engine oil dipstick tube. Internal engine damage will result if engine oil becomes contaminated. • Do not overfill engine crankcase. Damage to engine will result. 	

Table 1. Preventive Maintenance Checks and Services - After - Continued.

ITEM NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
			Check engine oil level. Level should be between ADD and FULL . If level is below ADD , add oil to bring level between ADD and FULL marks.	Oil appears milky.
				
<p><i>Figure 3. Engine Oil Dipstick.</i></p>				
13.	After	Power Steering Lines and Fittings	<p>DRIVER</p> <p style="text-align: center;"><u>CAUTION</u></p> <p>Notify field maintenance if power steering system has class III leak. Loss of power assist could occur if this condition exists.</p> <p>Check power steering lines and fittings for leaks.</p>	Class III leakage evident.
14.	After	Cooling System	<p>DRIVER</p> <p>Inspect radiator hoses for leakage.</p>	Class III leakage evident.
15.	After	Master Cylinder	<p>DRIVER</p> <p>Visually check master cylinder lines for leaks and security of cover.</p>	Any leak, or cover missing.
16	After	Windshield Washer Bottle	<p>DRIVER</p> <p>a. Visually check windshield washer bottle for damage.</p> <p>b. Check windshield washer fluid level.</p>	

Table 1. Preventive Maintenance Checks and Services - After - Continued.

ITEM NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
17.	After	Lights	<p>DRIVER W/ASSISTANT CAUTION</p> <p>Never set rotary switch to RUN to check lights. This drains batteries and can burn out glow plugs and control box.</p> <p>NOTE</p> <p>Vehicle operation with damaged or inoperable headlights may violate AR 385-10.</p> <p>a. Check for presence and operation of service drive, turn signal, blackout marker, marker, blackout drive, and side marker lights.</p> <p>b. Check operation of tail/stoplights. Push down brake pedal approximately 1/4 in. (6.4 mm). Tail/stoplights should come on.</p>	
18.	After	Horn	<p>DRIVER</p> <p>NOTE</p> <ul style="list-style-type: none"> • Vehicle operation with inoperative horn may violate AR 385-10. • Ensure all light switches are in OFF position when complete. <p>Check operation of horn if tactical situation permits.</p>	
19.	After	Windshield and Wipers	<p>DRIVER</p> <p>NOTE</p> <p>Vehicle operation with damaged windshield may violate AR 385-10.</p> <p>a. Check windshield for damage that would impair operator's vision.</p>	<p>Windshield is cracked, broken, or discolored (cloudy) sufficiently to impair operator's vision.</p>

Table 1. Preventive Maintenance Checks and Services - After - Continued.

ITEM NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
			<p style="text-align: center;">NOTE</p> <p>Vehicle operation with inoperative wipers may violate AR 385-10.</p> <p>b. Check windshield wiper and blade for defects, damage, and proper operation.</p> <p>c. Check windshield wipers and washer for proper operation.</p>	

END OF WORK PACKAGE

**OPERATOR MAINTENANCE
PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS) - WEEKLY**

INITIAL SETUP:

Materials/Parts

Distilled Water (WP 0107, Item 12)

References

WP 0002

WP 0072

WP 0100

DA Form 2404

TM 9-2610-200-14

Table 1. Preventive Maintenance Checks and Services - Weekly.

ITEM NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
1.	Weekly	Hand Throttle	<p>DRIVER</p> <p>a. Check hand throttle and mounting bracket for security. Check throttle release lever to ensure hand throttle cable operates properly.</p> <p>b. Check hand throttle cable for corrosion, nicks, breaks, or burns.</p>	

Table 1. Preventive Maintenance Checks and Services - Weekly - Continued.

ITEM NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
2.	Weekly	Tires	<p>DRIVER</p> <p style="text-align: center;"><u>WARNING</u></p> <ul style="list-style-type: none"> • Do not exceed 30 psi (207 kPa) cold bias tire inflation pressure. Overinflation of tire may result in damage to equipment and injury or death to personnel. • Do not exceed 50 psi (345 kPa) cold radial tire inflation pressure. Overinflation of tire may result in damage to equipment and injury or death to personnel. • Goodyear MT radial tires are not to be mixed with either Goodyear MT/R radial tire or Goodrich Baja radial tire. Failure to comply may result in injury to personnel or damage to equipment. Goodyear MT/R tire and Goodrich Baja tire are compatible and can be mixed in any combination on vehicles. <p style="text-align: center;">NOTE</p> <ul style="list-style-type: none"> • Check tire size designator on sidewall for tire construction identification: 36x12.50-16.5 LT-Bias ply, 37x12.50R 16.5 LT-Radial. • Both radial and bias tires are non-directional. They provide equal traction and performance when installed in either direction. • Refer to TM 9-2610-200-14 for additional tire information. • Refer to Table 24. Tire Pressure (Bias Tires) (WP 0002) or Table 25. Tire Pressure (Radial Tire) (WP 0002) for vehicle tire pressures. 	

Table 1. Preventive Maintenance Checks and Services - Weekly - Continued.

ITEM NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
			<p>a. Check tire tread depth. Tread should not be worn beyond level of wear bar (1/16 in. (1.59 mm) or less). Wear bars are molded across tread pattern in the valley between center rib and lugs. Tread Wear Indicator letters (TWI) are molded on sidewall to aid in locating wear bar.</p>	<p>Any tread is worn even to height of tread wear indicator (1/16 in. (1.59 mm) or less). Any cut, gouge, or crack that extends to the cord body or any bulges. Tires exhibit excessive inner and outer wear or balance.</p>
			<p style="text-align: center;">NOTE</p> <p>Wear bars are not evident on new or very low mileage tires. Wear bars will appear after usual use.</p> <p>b. Check for missing or loose wheel stud nuts and lug nuts. Tighten loose lug nuts and have field maintenance tighten stud nuts and lug nuts to proper torque.</p>	<p>Any wheel stud nut or lug nut is missing or broken.</p>

Figure 1. Tire Tread.

Table 1. Preventive Maintenance Checks and Services - Weekly - Continued.

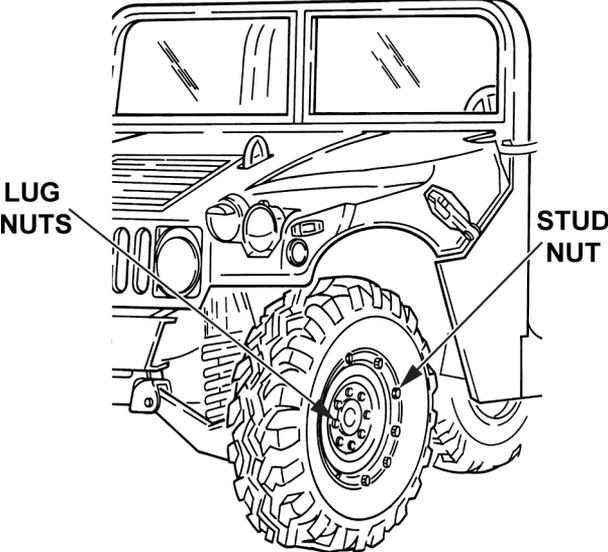
ITEM NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
				
			<p style="text-align: center;"><i>Figure 2. Tire Nuts.</i></p> <p style="text-align: center;"><u>WARNING</u></p> <p>Do not exceed 30 psi (207 kPa) cold radial tire inflation pressure. Overinflation of tire may result in damage to equipment and injury or death to personnel.</p> <p style="text-align: center;">NOTE</p> <ul style="list-style-type: none"> • Perform Step c for bias tires only. • Check tire size designator on sidewall for tire construction identification: 36x12.50-16.5 LT-Bias ply. <p>c. Gauge tires for correct air pressure using tire inflation gauge. Adjust as necessary. Refer to Table 24. Tire Pressure (Bias Tires) (WP 0002) for vehicle tire pressures.</p>	

Table 1. Preventive Maintenance Checks and Services - Weekly - Continued.

ITEM NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
3.	Weekly	Exhaust System	<p style="text-align: center;"><u>WARNING</u></p> <p>Do not exceed 50 psi (345 kPa) cold radial tire inflation pressure. Overinflation of tire may result in damage to equipment and injury or death to personnel.</p> <p style="text-align: center;">NOTE</p> <ul style="list-style-type: none"> • Perform Step d for radial tires only. • Check tire size designator on sidewall for tire construction identification: 37x12.50R- 16.5 LT-Radial. <p>d. Gauge tires for correct air pressure using tire inflation gauge. Adjust as necessary. Refer to Table 25. Tire Pressure (Radial Tire) (WP 0002) for vehicle tire pressures.</p> <p>DRIVER Check exhaust system for security of all mounts, tightness of clamps and bolts, rusted conditions, damaged pipes, and any indication of an exhaust leak.</p>	Any mounts are broken, pipes are rusted through or broken, or any indication of an exhaust leak.
4.	Weekly	Shock Absorbers	<p>DRIVER</p> <p>a. Visually inspect shock absorbers for leaks, damage, and security of mounting.</p> <p>b. Check that coil spring is centered on shock absorber.</p>	Class III leakage or damage is evident; mounting damaged or loose. Coil spring has shifted off center.

Table 1. Preventive Maintenance Checks and Services - Weekly - Continued.

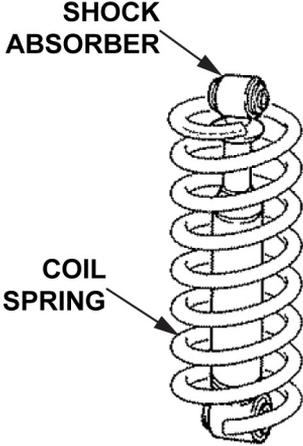
ITEM NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
 <p>The diagram shows a vertical coil spring with a shock absorber cylinder mounted at the top. An arrow points to the top of the cylinder labeled 'SHOCK ABSORBER', and another arrow points to the middle of the spring labeled 'COIL SPRING'.</p>				
<p><i>Figure 3. Shock Absorber.</i></p>				
5.	Weekly	Doors and Windows	<p>DRIVER Check operation of doors and windows.</p>	
6.	Weekly	Tailgate	<p>DRIVER Check operation of tailgate. Check that tailgate latches securely and operates properly.</p>	
7.	Weekly	Armament Carriers (M966, M966A1, M1045, M1045A1, M1045A2, M1046, M1046A1, M1025, M1025A1, M1025A2/R1, M1026, M1026A1, M1043, M1043A1, M1043A2, M1044, M1044A1, M1121)	<p>DRIVER (TOW and Armament Carriers) a. Inspect cargo shell door for bends, warping, binding, and ease of operation. Inspect latching mechanisms for proper operation. Inspect lift cylinders for bends and security of mounting.</p>	Lift cylinders or latches bent, warped, binding, or inoperative.

Table 1. Preventive Maintenance Checks and Services - Weekly - Continued.

ITEM NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
9.	Weekly	Front Arctic Heater and/or Rear Troop/Cargo Heater/Ambulance Patient Compartment Heater (M996, M966A1, M996, M996A1, M997, M997A1, M997A2)	<p>e. (M996, M996A1 only) Inspect handhold straps and footman loops for security, damage, or missing components.</p> <p>DRIVER (Vehicle w/Arctic Winterization Kit and/or Troop/Cargo Winterization Kit)</p> <p>a. Check heater and heater controls for proper operation.</p> <p>b. Check fuel lines and fittings for leaks, cracks, or breaks.</p> <p>c. Check electrical cables and connections for security of mounting, and missing components.</p> <p>d. Check heater exhaust pipe for damage, security of mounting, and missing components.</p> <p>e. Check fuel filter for leaks or damage.</p>	<p>Heater inoperable and mission requires heater.</p> <p>Any fuel leakage is evident and mission requires heater.</p> <p>Frayed or broken wires.</p> <p>Heater exhaust damaged or components missing.</p> <p>Any fuel leak evident.</p>
10.	Weekly	Crew Door (M966, M966A1, M996, M996A1, M997, M997A1, M997A2, M1025, M1025A1, M1025A2/R1, M1026, M1026A1, M1121)	<p>DRIVER</p> <p>a. Check crew door assembly for visible cracks that would make door unserviceable or unable to secure properly.</p>	<p>Visible cracks, or door does not secure properly.</p>

Table 1. Preventive Maintenance Checks and Services - Weekly - Continued.

ITEM NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
			<p>c. Check support mounts, side brackets, and side bracket weldments on radiator for missing hardware, damage, or broken welds.</p>	<p>Support mounts broken, damaged, or missing hardware. Side brackets damaged of two or more weldments broken, allowing movement of radiator.</p>
<p>Figure 4. Cooling System Side Bracket and Support Mounts.</p>				
			<p style="text-align: center;">NOTE</p> <p>Belt flutter at idle is normal in HMMWV belt drive system. It does not necessarily indicate that belts are loose. Belt flutter should disappear as engine is accelerated.</p> <p>d. (All models except A2, R1, and M1123 only) Check for loose, missing, broken, cracked, or frayed drivebelts. Notify supervisor if loose drivebelts are suspected.</p>	<p>Any drivebelt is missing, broken, or frayed (fibers exposed). Belt fiber has more than one crack 1/8 in. (3.18 mm) in depth or 50% of total belt thickness or frays more than 2 in. (5.1 cm) long.</p>

Table 1. Preventive Maintenance Checks and Services - Weekly - Continued.

ITEM NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
			<p style="text-align: center;">NOTE</p> <p>Belt flutter at idle is normal in HMMWV belt drive system. It does not necessarily indicate that belts are loose. Belt flutter should disappear as engine is accelerated.</p> <p>e. (A2, R1, and M1123 models only) Check for looseness, misalignment, breaks, splits, or frayed serpentine belt.</p> <p>f. Check fan shroud for damage.</p> <p>g. Check engine oil cooler and hoses for damage and leaks.</p>	<p>Serpentine belt is loose, misaligned (off one or more grooves on any pulley), breaks, or splits in outer surface, frays on either edge if cord is broken.</p> <p>Fan shroud broken, cracked, or loose that would affect its intended function or mounting.</p> <p>Class III leak evident.</p>

Table 1. Preventive Maintenance Checks and Services - Weekly - Continued.

ITEM NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
14.	Weekly	Batteries	<p>DRIVER</p> <p style="text-align: center;"><u>WARNING</u></p> <p style="text-align: center;"></p> <p>Do not smoke, have open flames, or make sparks around batteries, especially if caps are off. Batteries can explode and may cause injury or death.</p> <p style="text-align: center;"><u>WARNING</u></p> <p style="text-align: center;"></p> <p>Remove all jewelry such as rings, identification tags, bracelets, etc. If jewelry contacts battery terminal, a direct short may result, causing severe injury to personnel, or damage to equipment.</p> <p>a. Remove commander seat and check batteries for damaged casing, terminal posts, and security of mounting. Notify field maintenance if any defects are found.</p> <p>b. Electrolyte should be filled to level/split ring in the battery filler opening (vent). If fluid is low, fill with distilled water (WP 0107, Item 12) to split ring. If fluid is gassing (boiling), notify field maintenance.</p>	<p>One or more batteries missing, unserviceable, or leaking; terminal or cables loose, corroded, or holddowns not secure or missing.</p>

Table 1. Preventive Maintenance Checks and Services - Weekly - Continued.

ITEM NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
15.	Weekly	Weapon Station (M966, M966A1, M1045, M1045A1, M1045A2, M1046, M1046A1, M1025, M1025A1, M1025A2/R1, M1026, M1026A1, M1043, M1043A1, M1043A2, M1044, M1044A1, M1121)	<p style="text-align: center;">NOTE</p> <p>Water in battery box can be caused by debris plugging battery box drain holes. If water is present, clean debris from battery box drain holes.</p> <p>c. Check battery box for corrosion or water on bottom of battery tray.</p> <p>DRIVER</p> <p>a. Inspect weapon station hatch and hinge for bends, cracks, warped, or damaged areas.</p> <p>b. Inspect brake handle for ease of operation.</p> <p>c. Inspect gunner's sling for tears, frays, or damaged hook.</p>	<p>Hatch or hinges inoperable.</p> <p>Brake handle does not operate.</p> <p>Sling is torn, shows wear, or hook is damaged.</p>
16.	Weekly	TOW Missile Rack (M966, M966A1, M1045, M1045A1, M1045A2, M1046, M1046A1, M1121)	<p>DRIVER</p> <p>a. Inspect TOW missile rack latch assembly and support braces for presence and ease of operation.</p> <p>b. Inspect straps for tears and frays.</p>	<p>Rack will not support or stow six TOW missiles.</p>

Table 1. Preventive Maintenance Checks and Services - Weekly - Continued.

ITEM NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
17.	Weekly	Floorboard	<p>DRIVER Check for presence of TU adapter.</p>	TU adapter missing or damaged.
18.	Weekly	Gunner's Platform	<p>DRIVER Inspect gunner's platform riser for binding, ease of operation, or missing lockpins.</p>	Gunner's platform cannot be adjusted or lockpins are missing.
19.	Weekly	Tiedowns	<p>DRIVER</p> <ul style="list-style-type: none"> a. Inspect stored equipment footman loops for presence and security of mounting. Inspect straps for tears or frays. b. Inspect stowage brackets, footman loops, and tiedowns for security of mounting, damage, and missing components. c. Inspect all tiedown strap assemblies for proper operation, frays, damage, cleanliness, and security of mounting. 	
20.	Weekly	Bulkhead Doors (M996, M996A1, M997, M997A1, M997A2)	<p>DRIVER Check operation of bulkhead doors. Door should securely latch when closed or fully opened. Inspect all door components for damage, adjustment, or missing component.</p>	
21.	Weekly	Environment Control System (M996, M996A1, M997, M997A1, M997A2)	<p>DRIVER</p> <ul style="list-style-type: none"> a. Check security of A/C heater control box mounting. b. Check Heating, Ventilation and Air Conditioning (HVAC) filter (WP 0100) for dirt or debris. Clean filters of dirt and debris that would restrict air flow. 	

Table 1. Preventive Maintenance Checks and Services - Weekly - Continued.

ITEM NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
22.	Weekly	NBC (CBRN) System (M996, M996A1, M997, M997A1, M997A2)	<p>c. Inspect exposed HVAC system ducts, hoses, fitting lines, vents, and mounting hardware for damage, leaks, missing components, and security of mounting.</p> <p>d. Inspect exposed wiring harnesses for breaks, frayed insulation, loose or damaged connectors, and loose, damaged, or missing mounting hardware.</p> <p>DRIVER</p> <p>a. Inspect exposed NBC (CBRN) equipment for security of mounting, damage, and missing components.</p> <p>b. Inspect NBC (CBRN) stowage compartment door seals, hinges, latches, and straps for proper operation, damage, and missing components.</p> <p>c. Inspect M13 patient protective mask, hoses, and end connectors for damage, leaks, or missing components. Inspect adapter for stripped threads or other damage.</p>	<p>A/C inoperable or any leaks evident.</p> <p>Wiring harness broken, frayed, or damaged. Mounting hardware missing.</p>
23.	Weekly	Canvas and Bows (M998, M998A1, M1038, M1038A1)	<p>DRIVER (W/Soft Top Enclosure)</p> <p>a. Inspect cargo cover for tears, punctures, and ripped seams.</p> <p>b. Inspect windows for cracks and scratches.</p> <p>c. Inspect bows and mounting brackets for damage and security of mounting.</p> <p>d. Inspect footman loops and straps for tears, frays, and security of mounting.</p>	

Table 1. Preventive Maintenance Checks and Services - Weekly - Continued.

ITEM NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
24.	Weekly	Tow Pintle	<p>DRIVER</p> <p><u>WARNING</u></p> <p>If tow pintle is damaged, do not tow trailer. Failure to comply may result in damage to equipment or injury to personnel.</p> <p>Check pintle hook for looseness, damaged locking mechanism, and presence of cotter pin.</p>	
25.	Weekly	Tow Hooks	<p>DRIVER</p> <p>Check presence and condition of tow hooks (front and rear).</p>	
26.	Weekly	Trailer Electrical Connector	<p>DRIVER</p> <p>Check trailer electrical connector for damage.</p>	
27.	Weekly	Parking Brake	<p>DRIVER</p> <p>Check combination service/parking brake assemblies; inspect parking brake for obstruction of actuating lever or broken or missing spring.</p>	Actuating lever or spring is broken or missing.

END OF WORK PACKAGE

**OPERATOR MAINTENANCE
PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS) - MONTHLY**

INITIAL SETUP:

Materials/Parts

Lubricant (WP 0107, Item 31)

References

WP 0027

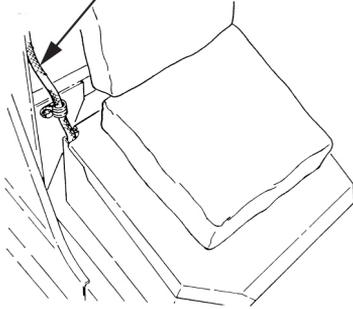
Table 1. Preventive Maintenance Checks and Services - Monthly.

ITEM NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
1.	Monthly	Corrosion	<p>DRIVER Visually inspect vehicle body for indication of corrosion, cracks, and/or breaks.</p>	Any corroded-through condition, cracks or breaks that would affect vehicle operation.
2.	Monthly	Tailgate	<p>DRIVER Check tailgate for corroded-through condition and/or damage. If tailgate does not latch securely or is damaged, notify field maintenance.</p>	Any corroded-through condition, or damage that would affect vehicle operation.
3.	Monthly	Red Cross Plate (M996, M996A1, M997, M997A1, M997A2)	<p>DRIVER</p> <ul style="list-style-type: none"> a. Check cross marking latches and hinges for proper operation, security of mounting, damage, or missing components. b. Inspect stowage component door hinge, seal, and latch for proper operation, damage, or missing components. 	
4.	Monthly	Shelter Mount Kit (M1037, M1042, M1097, M1097A1, M1097A2, M1097R1, M1123)	<p>DRIVER Inspect shelter mounting bracket for security of mounting and loose or missing bolts.</p>	Any mounting bolt loose or missing.

Table 1. Preventive Maintenance Checks and Services - Monthly - Continued.

ITEM NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
5.	Monthly	Winch	<p>DRIVER (Vehicles W/Winch) <u>WARNING</u> Do not operate winch with damaged cable. Failure to comply may result in damage to equipment or injury to personnel.</p> <p>a. Check winch controls for proper operation.</p> <p>NOTE Pull out cable leaving four windings on spool.</p> <p>b. Check winch cable for kinks, frays, or breaks.</p> <p>c. Inspect tree saver strap for cuts and abrasions. If red safety thread is visible in main body of strap, notify field maintenance for replacement of strap.</p> <p>d. If it is known strap has been overloaded, notify field maintenance for replacement of strap.</p> <p>e. Wrap winch cable (WP 0027).</p>	
6.	Monthly	Troop Seats (M998, M998A1, M1038, M1038A1)	<p>DRIVER (W/Troop Seat Kit)</p> <p>a. Inspect troop seats for missing or damaged lockpins.</p> <p>b. Inspect troop seats and backrest for security of mounting.</p>	Mission requires troop seats and troop seats are inoperative or damaged.

Table 1. Preventive Maintenance Checks and Services - Monthly - Continued.

ITEM NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
7.	Monthly	TOW Power Cable (M966, M1025, M1046)	<p data-bbox="501 775 750 802"><i>Figure 1. Troop Seats.</i></p> <p data-bbox="526 820 870 875">c. Inspect troop seat straps for frays or damage.</p> <p data-bbox="526 920 876 1006">DRIVER (Serial Numbers 19,410 and Below)</p> <p data-bbox="526 1015 933 1184">Inspect TOW power cable at the point where it exits the battery box. Chafing of the nylon braid that covers the cable is acceptable. If there is evidence that the wire inside is exposed, notify field maintenance.</p>	Troop seat straps are frayed or damaged.
			<p data-bbox="467 1208 744 1235">TOW POWER CABLE</p>  <p data-bbox="463 1590 791 1617"><i>Figure 2. TOW Power Cable.</i></p>	

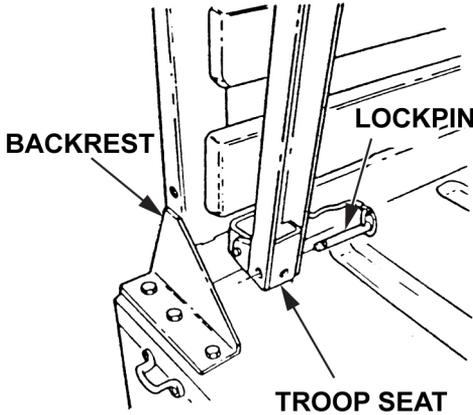


Figure 1. Troop Seats.

- c. Inspect troop seat straps for frays or damage.

**DRIVER
(Serial Numbers 19,410 and Below)**

Inspect TOW power cable at the point where it exits the battery box. Chafing of the nylon braid that covers the cable is acceptable. If there is evidence that the wire inside is exposed, notify field maintenance.

Troop seat straps are frayed or damaged.

TOW POWER CABLE

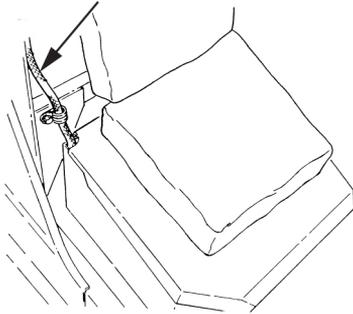


Figure 2. TOW Power Cable.

Table 1. Preventive Maintenance Checks and Services - Monthly - Continued.

ITEM NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
8.	Monthly	Zippers	<p>DRIVER</p> <ul style="list-style-type: none"> a. Check canvas top and door zippers for corrosion and/or damage. b. Clean zippers with toothbrush. Apply interlock lubricant (WP 0107, Item 31) to canvas top and door zippers. 	
9.	Monthly	Skid Plates	<p>DRIVER (Vehicles Equipped W/Skid Plate)</p> <ul style="list-style-type: none"> a. Inspect skid plate and shield for bends, breaks, or cracks. b. Inspect shields for loose fasteners, or damaged or missing components. Tighten loose fasteners, or replace damaged or missing components. 	

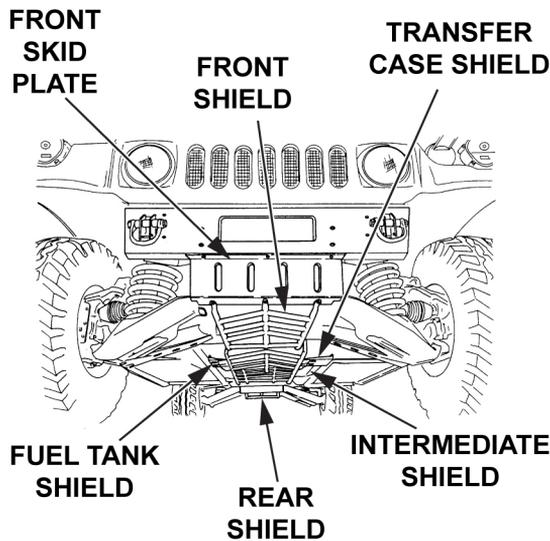


Figure 3. Skid Plates.

END OF WORK PACKAGE