WORK ORDER

## EQUIPMENT MAINTENANCE & INSPECTION WORKSHEET

UIC:

ADMIN NUMBER	MODEL	EQUIPMENT NOUN	CURRENT READING
SERIAL NUMBER	EQUIPMENT NUMBER	EQUIPMENT NSN	CURRENT READING
PUB NUMBER	PUB DATE (YYMM) PUB CHANGE	INSPECTORS NAME	DATE/TIME

SIGNATURE:		DATE/TIME:		
		SERVICE DATA		
SERVICE TYPE	SERVICE DUE	READING DUE	HEAGE REMAINING	IINTT OF MEASURE

### FAULTS & PARTS REQUESTED

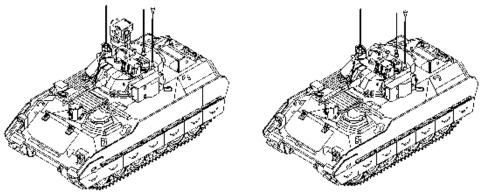
NOTIFICATION | TECH STATUS | NOTIFICATION DATE | FAULT DESCRIPTION

	MAINTENANCE FAULTS						
ITEM NUM	TECH STATUS	FAULT DATE	FAULT DESCRIPTION	CORRECTIVE ACTION	INITIA		

### **TECHNICAL MANUAL**

OPERATOR MANUAL FOR

# FIGHTING VEHICLE, INFANTRY M2A3 (NSN 2350-01-436-0005) (EIC APG) FIGHTING VEHICLE, INFANTRY, OPERATION DESERT STORM, SITUATIONAL AWARENESS (ODS SA) M2 ODS SA (NSN 2350-01-565-3460) (EIC AP2) TURRET



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# HEADQUARTERS, DEPARTMENT OF THE ARMY 30 NOVEMBER 2019

### **OPERATOR MAINTENANCE**

### PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS) INTRODUCTION

### SCOPE

This section details Preventive Maintenance Checks and Services (PMCS).

PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS), BEFORE (WP 0104)

PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS), DURING (WP 0105)

PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS), AFTER WP 0106

PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS), WEEKLY WP 0107

PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS), MONTHLY WP 0108

### MAINTENANCE FORMS AND RECORDS

Every mission begins and ends with paperwork. There isn't much of it, but you have to keep it up. The forms and records you fill out have many uses. The forms are a permanent record of the services, repairs, and changes made to your vehicle. They are reports to Field Maintenance and to your Commander. They are checklists that tell you whether those faults have been repaired. For information on forms and records, see DA PAM 750-8.

### **PMCS PROCEDURES**

### NOTE

You are allowed to operate equipment with minor coolant and oil leaks (Class I or II). You are not allowed to operate the vehicle with any fuel leaks. How much fluid each item or system being checked or inspected can hold must be considered. When in doubt, notify Field Maintenance. When operating equipment with Class I or II leaks, continue to check fluid levels as required in your PMCS. Report Class III leaks to Field Maintenance for corrective action right away.

- 1. PMCS is broken down into crew position responsibility.
- 2. Obey all WARNINGS and CAUTIONS when you do your PMCS.
- 3. Do your BEFORE PMCS just before you operate the vehicle.
- 4. Do your DURING PMCS during operation. Monitor your vehicle and its systems while you are actually operating your vehicle. Perform a DURING check of a system only when actual operation of that system is required for a mission.
- 5. Do your AFTER PMCS right after operating your vehicle.
- 6. Do your WEEKLY PMCS weekly.
- 7. Do your MONTHLY PMCS monthly.
- 8. Do your BI-MONTHLY (60 DAYS) PMCS every sixty days.
- 9. Do your SEMIANNUAL 1500 MILES (2400 KM) operation checks every six months.
- If something does not work, troubleshoot it using the Turret Troubleshooting Malfunction/Symptom Index (WP 0093) Notify Field Maintenance.

Always do your PMCS in the same order so it gets to be a habit. With practice, you will spot anything that is wrong.

If you find anything wrong which will make your vehicle NOT READY/AVAILABLE, notify Field Maintenance right away. If you find something wrong, but you can still complete your mission, write it up. Use DA Form 2404 (Equipment Inspection and Maintenance Worksheet) or DA Form 5990-E Maintenance Request (EGA). Use item numbers from the PMCS chart for the "TM Number" column on the form.

When you do your PMCS, take along the tools you will need to make all the checks. You will always need wiping rags.

Keep your vehicle clean. Dirt, grease, oil, and debris only get in the way, and may cover up a serious problem. Clean your vehicle as you work and as needed.

Use cleaning compound on metal surfaces. Use scrubbing soap and water when you clean rubber or plastic surfaces. Use clean water and clean rag when you clean periscopes.

Bolts, nuts, and screws: Check for looseness and missing, bent, or broken parts. If you find a loose one, tighten it. If you can't tighten it, notify Field Maintenance. Look for chipped paint, bare metal, or rust around bolt heads.

Welds: Look for loose or chipped paint, rust, cracks, or gaps where parts are welded together. If you find a bad weld, notify Field Maintenance.

Electrical wires and connectors: Look for cracked or broken insulation, bare wires, and loose or broken connectors. Tighten loose connectors. Make sure wires are in good shape. If you find cracked or broken insulation, bare wires, or broken connectors, notify Field Maintenance.

Straps: Look for rubber hold-down straps that are cracked, broken, or have hardened. Look for webbing stowage straps that are frayed, worn, or have missing metal ends. If you find bad straps, notify Field Maintenance.

Hoses and fluid lines: Look for wear, damage, and leaks. Make sure clamps and fittings are tight. Wet spots show leaks. A stain around a fitting or connector can also mean there is a leak. If a leak comes from a loose fitting or connector, tighten each fitting or connector. If something is broken or worn out, notify Field Maintenance.

You need to know how fluid leaks affect your vehicle. Definitions of the types and classes of leaks are given below. You need to know them to determine the condition of your vehicle. Learn them. REMEMBER: WHEN IN DOUBT, NOTIFY FIELD MAINTENANCE!

CLASS I Seepage of fluid (as indicated by wetness or discoloration) but not great enough to

form drops.

CLASS II Leakage of fluid great enough to form drops, but not enough to cause drops to drip

from the item being checked/inspected.

CLASS III Leakage of fluid great enough to form drops that fall from item being checked/

inspected.

### **WARNINGS AND CAUTIONS**

Always observe the WARNINGs and CAUTIONs appearing in your PMCS tables BEFORE, DURING, and AFTER you operate the equipment. The WARNINGs and CAUTIONs appear before certain procedures. You must observe these WARNINGs and CAUTIONs to prevent serious injury to yourself and others or prevent damage to equipment.

### **GENERAL**

Your PMCS table has been provided so you keep your equipment in good operating condition and ready for its primary mission.

If you find something wrong when performing PMCS, fix it if you can using troubleshooting procedures and/or maintenance procedures.

### **EXPLANATION OF TABLE ENTRIES**

- 1. **Item Number Column -** Numbers in this column are for reference. When completing (Equipment Inspection and Maintenance Work Sheet), include the item number for the check/service indicating a fault. Item numbers also appear in the order that you must do the checks and services for the intervals listed.
- 2. Interval Column This column tells you when you must do the procedure in the procedure column. BEFORE procedures must be performed prior to the equipment leaving its containment area or performing its mission. DURING checks are performed by the commander/gunner per the PMCS tables to monitor and identify faults in equipment performance during the mission. AFTER procedures are performed per the PMCS table at the conclusion of the mission to identify and correct faults which will preclude the next mission. WEEKLY as well as BEFORE PMCS procedures must be performed if:

You are the assigned crewmember and have not operated the vehicle since the last WEEKLY.

You are operating the vehicle for the first time.

When a check and service procedure is required for both WEEKLY and BEFORE intervals, it is not necessary to do the procedures twice.

- Item to be Checked or Serviced Column This column identifies the item to be checked or serviced.
- 4. Procedure Column This column gives the procedure you must do to check or service the item listed in the item to be checked or serviced column to know if the equipment is ready or available for its intended mission or for operation. You must do the procedure at the time stated in the interval column. Carefully follow these instructions. If you do not have the tools, or if the procedure tells you to, have Field Maintenance do the work.
- 5. **Equipment Not Ready/Available If: Column -** Information in this column tells you what faults will keep your equipment from being capable of performing its primary mission. If you make check and service procedures that show faults listed in this column, do not operate the equipment. Follow standard operating procedures for maintaining the equipment or reporting equipment failure.

### **OTHER TABLE ENTRIES**

Information other than WARNINGs, CAUTIONs, and NOTEs appear in the PMCS table. Be sure to observe all special information appearing in the table.

### **PMCS GENERAL INSTRUCTIONS**

### **Tools/Materials**

When you do your PMCS, take along the tools you will need to make all the checks. You will always need wiping rags (WP 0150,).

### Cleaning

**Keep the vehicle clean.** Dirt, grease, oil, and debris only get in the way, and may cover up a serious problem. Clean your vehicle as you work and as needed. If you clean the vehicle or weapons, be sure to observe the following:

Use cleaning solvent WP 0150. Item 4) on metal surfaces. Use scrubbing soap and water when you clean rubber or plastic surfaces. Use isopropyl alcohol WP 0150. Item 13) and clean water or lens cleaning solution WP 0150. Item 14) when you clean optical surfaces.

### **General Inspection**

### NOTE

Inspection does not apply to Gun Elevation Drive (GED), preload, nut, or traverse drive mounting hardware. These have preset values.

**Hardware:** Check bolts, nuts and screws for looseness and missing, bent, or broken parts. If you find a loose one, tighten it. If you can't tighten, notify Field Maintenance. Look for chipped paint, bare metal, or rust around bolt heads.

**Welds:** Look for loose or chipped paint, rust, cracks, or gaps where parts are welded together. If you find a bad weld, notify Field Maintenance.

### NOTE

Connectors on traverse drive should be hand tightened only.

**Electrical wires and connectors:** Look for cracked or broken insulation, bare wires, and loose or broken connectors. Tighten loose connectors. Make sure wires are in good shape, If you find cracked or broken insulation, bare wires, or broken connectors, notify Field Maintenance.

**Straps:** Look for hold down straps that are cracked, broken, or hardened. Look for webbing stowage straps that are frayed, worn, or have missing metal ends. If you find any bad straps, notify Field Maintenance.

### **HAZARDOUS WASTE**

When servicing this vehicle, performing maintenance, or disposing of materials such as engine coolant, transmission fluid, lubricants, batteries, battery acid, or CARC paint, consult your Unit/local hazardous waste disposal center or safety office for local regulatory guidance. If further information is needed, please contact the Army environmental hotline at 1-800-872-3845. Improper disposal of this material may result in damage to environment or injury to personnel.

### **LUBRICATION**

Lubrication is performed as part of the PMCS. Follow the specific instructions in the PMCS tables.

### **Lubrication Tables**

The following tables are to be used during PMCS lubrication checks.

Table 1. Lubricant Symbols.

SYMBOL	NOMENCLATURE	SPECIFICATION
FRH	Hydraulic Fluid, Rust Inhibited, Fire Resistant	MIL-PRF-46170
OE/HDO	Lubricating Oil, Internal Combustion Engine	MIL-PRF-2104
OEA	Lubricating Oil, Internal Combustion Engine, Arctic	MIL-PRF-46167
OHT	Hydraulic Fluid, Petroleum Base, Preservation and Operation	MIL-PRF-6083
GAA	Grease, Automotive & Artillery	MIL-PRF-10924

Table 2. Lubricant Usage.

rable 2. Lubricant Osage.				
COMPONENTS	CAPACITIES (APPROX)	_	S TO USE AT MPERATURES*	INTERVALS
+5°F to +125°F (-15°C to +52°C)	+20°F to -70°F (-7°C to -57°C)			
Engine	As required	OE/HDO-15W-40	OEA	Daily - Check and Fill
Transmission				
Final Drives				
Idler Support Arm Bearings and Roadwheel Support Arm Bearings		GAA		Semi - Check and Fill
Roadwheel Hubs, Idler Wheel Hubs, and Support Roller Hubs		OE/HDC	9-15W-40	Daily - Check and Fill
Right Angle Fan Drive Gearbox	OE/ HDO-15W-40	OEA	Monthly - Check and Fill	
		-25°F to +250°F (-32°C to +121°C)	-25°F to -65°F (-32°C to -54°C)	
Ramp Hydraulic Power Unit	As required	FRH	OHT	Daily - Check and Fill
Power Unit Access Door Hydraulic Reservoir				

<sup>\*</sup>For arctic operation (TM 4-33.31); for desert operation (FM 90-3).

### **END OF WORK PACKAGE**

### **OPERATOR MAINTENANCE**

### PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS) - BEFORE

### **INITIAL SETUP:**

### Materials

Clean water
Lint-free cloth WP 0150 Item 6)
Wiping rag WP 0150 Item 21)

### **Personnel Required**

Commander (C)
Driver (D)
Gunner (G)

### References

TM 9-2350-438-10-1 TM 11-5820-1172-13&P TM 11-5825-305-13&P

### WP 0010 WP 0011 WP 0012 WP 0016

WP 0009

WP 0016 WP 0057 WP 0070 WP 0130 WP 0136

### **Equipment Condition**

Vehicle parked

Turret shut down WP 0017)

**Table 1. Preventive Maintenance Checks and Services, Before.** 

NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
			NOTE	
			Refer to local safety and environmental protocols for the proper segregation, recycle, and/or disposal of used rags/cloths contaminated with petroleum, solvents, and/or hazardous components.	
1	Before	Turret Interior	GUNNER/COMMANDER	
			Check turret interior for damage, obstruction, and operational condition.	
2	Before	Turret Travel	GUNNER/COMMANDER	
		Lock	Check that turret travel lock is not damaged or broken.	Turret travel lock does not engage and lock turret in desired position.

Table 1. Preventive Maintenance Checks and Services, Before – Continued.

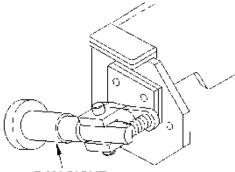
NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:			
	TRAVEL LOCK LEVER						
			Figure 1. Turret Lock Lever.				
			Operate travel lock lever and make sure that it is engaged.				
3	Before	Combat Over- ride Switch	GUNNER/COMMANDER				
		Tide Gwileii	WARNING				
			Combat override disables safety interlocks. Soldiers can be killed or seriously injured without safety interlocks working.				
			Do not activate combat override unless turret shield door, Driver's hatch, and cargo hatch are closed. Do not activate combat override unless in COMBAT and hatch switches have received battle damage.				
			NOTE				
			When combat override is active, COMBAT OVRD annunciator light on the system control box is lit and COMBAT OVERRIDE appears at the bottom of Improved Bradley Acquisition Subsystem (IBAS). When either cargo or Driver's hatch or turret door is open, and combat override is active, the OPEN HATCH annunciator light on the system control box flashes.				

Table 1. Preventive Maintenance Checks and Services, Before – Continued.

ITEM NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
			<ol> <li>Check that COMBAT OVERRIDE switch guard is closed and secured with an antipilferage seal. If switch guard is damaged or missing or if seal is broken, notify Field Maintenance.</li> </ol>	Combat override switch antipilferage seal is missing.
			RIDE ARD ARBON TO TRAIN TO TRA	
		Figure 2. Co	mbat Override Switch and Antipilferage Seal.	

Table 1. Preventive Maintenance Checks and Services, Before – Continued.

NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
4	Before	Ballistic Sight Shield Doors and Actuator Handles	GUNNER/COMMANDER  1. Open ballistic sight shield doors by taking actuator handles out of closed locking detent and turning actuator handles to open locking detent.	



DAY SIGHT ACTUATOR HANDLE

Figure 3. Day Sight Actuator Handle.



Figure 4. Night Sight Actuator Handle.

Check that both ballistic sight shield doors open.	Ballistic sight shield doors do
- I	not open.

Table 1. Preventive Maintenance Checks and Services, Before – Continued.

			interiance Checks and Services, Before – Conti		
NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:	
5	Before	Target Acquisition Subsystem (TAS) Windows	CAUTION  Coating on TAS windows can be damaged by tools, metal objects, and abrasive materials. Use caution when inspecting or cleaning the window surfaces. Do not use any cleaning solvent, paper, or cloth that is not specifically approved for cleaning these windows.  Check if TAS windows are dirty, broken, or severely scratched. Clean dirty windows WP 0134)	TAS windows are broken or scratched so that viewing the target area is not possible.	
	TAS WINDOWS  Figure 5. TAS Windows.				
6	Before	Commanders Independent Viewer (CIV) Windows	<ol> <li>GUNNER/COMMANDER</li> <li>Push top to manually raise CIV.</li> <li>Remove sight protection screen (WP 0136).</li> <li>Check if CIV windows are dirty or broken. Clean dirty windows (WP 0134).</li> <li>Install sight protection screen (WP 0136).</li> </ol>	CIV windows are broken or scratched so that viewing the target area is not possible.	

Table 1. Preventive Maintenance Checks and Services, Before – Continued.

ITEM NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
		CIV	WINDOWS	
			Figure 6. CIV Windows.	
7	Before	25MM Gun Sys- tem	GUNNER WARNING	
			Accidental firing of weapons can kill or seriously injure personnel.	
			Set manual safety to SAFE. Ensure that all weapons are unloaded.	
			WARNING	
			25MM gun firing produces toxic materials that can injure soldiers. If 25MM gun cover is missing, damaged, or open, soldiers will be exposed to toxic materials during 25MM gun firing.	
			Make sure gun cover is installed and closed before firing 25MM gun in powered mode.	
			If tactical situation permits, minimize firing 25MM gun in manual mode and open Gunner's and Commander's hatches to improve ventilation.	

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

	Table 1. Preventive Maintenance Checks and Services, Before – Continued.				
ITEM NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:	
			Remove 25MM gun guard and open gun cover (WP 0010). Check 25MM gun system for dirt and damage.		
			Check gun cover, zippers, and bolt position indicator for dirt and damage. If any are damaged, notify Field Maintenance.	Gun cover or zipper is damaged or missing.	
	GUN COVER ZIPPER				
			Figure 7. Gun Cover and Zipper.		
			3. Move manual safe handle to safe position.		
		SAFE	MANUAL SAFE HANDLE		
			x19C7a27a		
		Figure 8	8. Manual Safe Handle in SAFE Position.		

Table 1. Preventive Maintenance Checks and Services, Before – Continued.

NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
			If bolt position indicator is dirty, wipe with clean, lint-free cloth.	

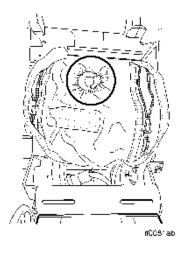


Figure 9. 25MM Bolt Position Indicator Location.

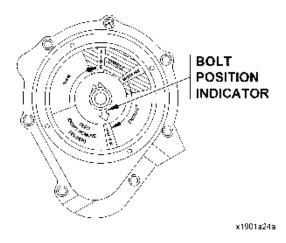


Figure 10. Bolt Position Indicator.

<ol> <li>Check that gun power cable on 25MM gun is attached and not damaged. Turn handle and remove High Explosive (HE) top ammo can door. Rotate roller rapidly on roller retainer. If HE top ammo can roller or roller retainer drags or binds, notify Field Maintenance.</li> </ol>	Gun power cable is cut or damaged.
<ol><li>Check that connector locking ring is attached and locked.</li></ol>	

	Table	e 1. Preventive Ma	intenance Checks and Services, Before -	Continued.
NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
			HE TOP AMMO CAN DOOR HANDLE	
		Figure	11. HE Top Ammo Can Door Removal.	
		· · ·		

Figure 12. 25MM Ammo Roller, Retainer and 25MM Gun Power Cable Location.

Table 1. Preventive Maintenance Checks and Services, Before – Continued.

ITI	ЕМ		ITEM TO BE		<b>EQUIPMENT NOT</b>
N	Ю.	INTERVAL	CHECKED OR	PROCEDURE	READY/
			SERVICED		AVAILABLE IF:

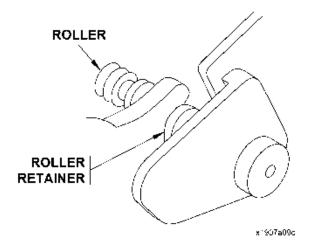


Figure 13. 25MM Ammo Roller and Retainer.

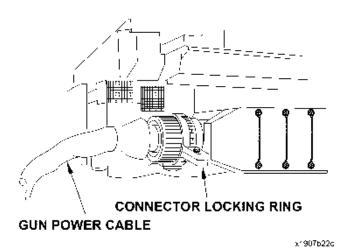


Figure 14. Gun Power Cable.

### **NOTE**

Roller retainer will lock when moved all the way to the right. Unlock roller retainer by moving it to the left.

- 7. Grasp roller and move roller retainer to the right and to the left.
- 8. Check HE ammo can loading rails and retroreflector. If loading rails in HE ammo can are dirty, wipe with clean, lint-free

Table 1. Preventive Maintenance Checks and Services, Before – Continued.

NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
			cloth. Install HE top ammo can door and turn handle to latch.	

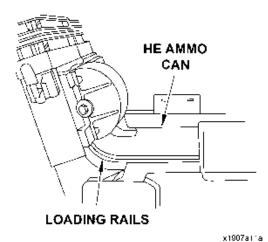


Figure 15. HE Ammo Can and Loading Rails.

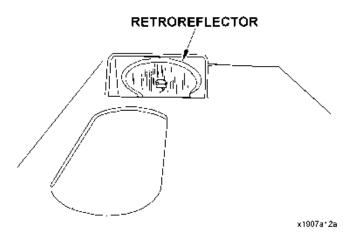


Figure 16. Retroreflector.
CAUTION
Unsecured ammo chute can cause damage when rotating turret. Ensure Armor-Piercing (AP) and HE feed chutes, guide pins, guide pin mounting brackets/tabs, and latches are not damaged, loose, or missing. Ensure AP and HE feed chutes are properly connected and secured.

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. Check if AP and HE feed chutes, guide pins, guide pin mounting brackets/tabs, and latches are damaged, loose, or missing. If chute is damaged or missing or	Either AP or HE feed chutes are cracked or separated.
			cannot be secured, notify Field Maintenance.	Guide pin or pin is damaged, loose, missing, bent, or excessively corroded.
				Feeder assembly brackets/tabs and attaching fasteners are damaged, loose, missing, bent, or cracked preventing AP/HE feed chutes from being properly secured.
				Latch is damaged, loose, missing, bent, or cracked.
				Latch or latch/ release mechanism does not operate as intended or operates roughly.

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

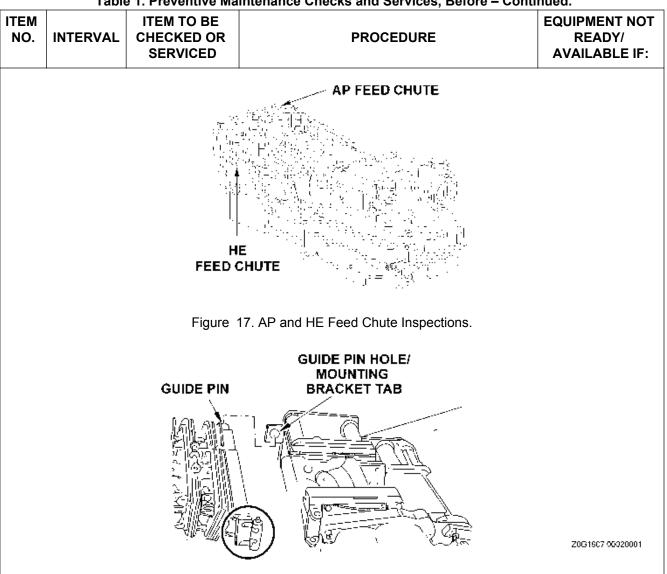
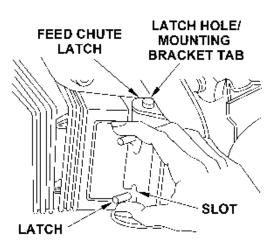


Figure 18. AP Feed Chute Guide Pin, Guide Pin Hole, and Latch Inspections.

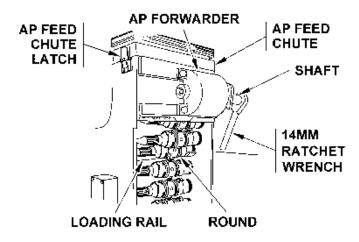
Table 1. Preventive Maintenance Checks and Services, Before – Continued.

ITI	ЕМ		ITEM TO BE		<b>EQUIPMENT NOT</b>
N	Ю.	INTERVAL	CHECKED OR	PROCEDURE	READY/
			SERVICED		AVAILABLE IF:



20031907/00020002

Figure 19. AP Feed Chute Latches and Latch Hole Bracket/Mounting Tab Inspections.



20031907/000220003

Figure 20. AP Feed Chute Latches at AP Forwarder Location Inspections.

20031907/000220002

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

	iubi	c i. i icventive ma	initeriance Checks and Services, Deroie – Conti	nucu.
NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
		GUIDE PIN		
		GUIDE PIN MOUNT BRACKE	ING	Z0G1907 00020004

Figure 21. HE Feed Chute Guide Pin, Guide Pin Hole/Mounting Bracket Tab, and Latch Inspections.

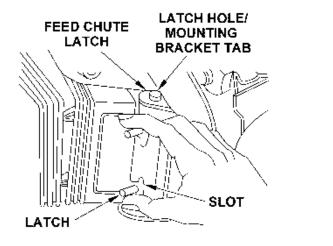


Figure 22. HE Feed Chute Latches and Latch Holes/Mounting Bracket Tab Inspections.

Table 1. Preventive Maintenance Checks and Services, Before – Continued.

NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:

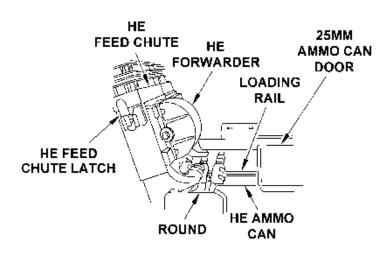


Figure 23. HE Feed Chute Latches at HE Forwarder Location Inspections.

### CAUTION

Unsecured ammo chute can cause damage when rotating turret. Ensure AP and HE link eject chutes, pins, and latches are not damaged, loose, or missing. Ensure AP and HE link eject chutes are properly connected and secured.

 Check if AP and HE link eject chutes, pins, and latches are damaged, loose, or missing. If chute is damaged or missing or cannot be secured, notify Field Maintenance. Either AP or HE link eject chutes are damaged or missing.

20G19D7/00G20006

Guide pin or pin is damaged, loose, missing, bent, or excessively corroded.

Latch is damaged, loose, missing, bent, or cracked.

Table 1. Preventive Maintenance Checks and Services, Before – Continued.

NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
				Latch or latch/ release mechanism does not operate as intended or operates roughly.

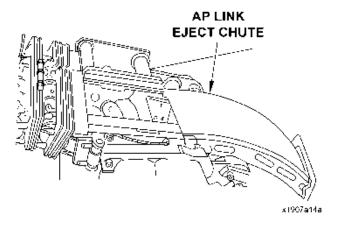


Figure 24. AP Link Eject Chute Inspection.



Figure 25. HE Link Eject Chute Inspection.

Table 1. Preventive Maintenance Checks and Services, Before – Continued.

ITEM		ITEM TO BE		<b>EQUIPMENT NOT</b>
NO.	INTERVAL	CHECKED OR	PROCEDURE	READY/
		SERVICED		AVAILABLE IF:

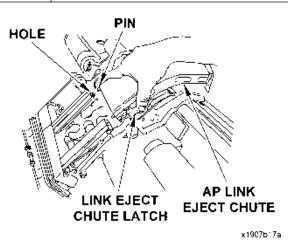


Figure 26. AP Link Eject Chute Latches, Pins, and Pin Holes Inspections.

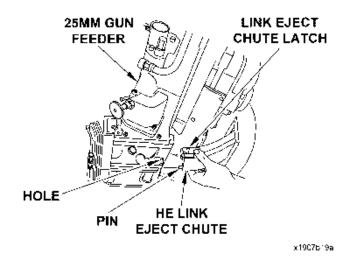


Figure 27. HE Link Eject Chute Latches, Pins, and Pin Holes Inspections.

Table 1. Preventive Maintenance Checks and Services, Before – Continued.

	Table 1. Preventive Maintenance Checks and Services, Before - Continued.						
NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:			
			WARNING				
			*				
			Accidental firing of weapons can kill or seriously injure personnel.				
			Before dry firing, make sure guns are clear, feed chutes are empty, and manual safe is set to SAFE.				
			WARNING				
			26				
			Hands can be crushed if gun rotor moves.				
			Turn turret power off or set the gun elevation to manual mode before reaching into gun rotor area.				
			11. Check 25MM gun for damage and dry fire manually (WP 0070).	25MM gun cannot be dry fired manually using handcrank assembly.			
		1	Figure 28. 25MM Gun Location.				

Table 1. Preventive Maintenance Checks and Services, Before – Continued.

ITEM NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:	
	Figure 29. 25MM Gun.				
			12. Close cover and install 25MM gun guard WP 0010).		
8	Before	Force XXI Bat- tle Command Brigade-and-Be- low (FBCB2) Preop Check	<ol> <li>GUNNER/COMMANDER</li> <li>Check/service FBCB2 as follows:</li> <li>On Commander's Tactical Display (CTD), start FBCB2 (WP 0057).</li> <li>Ensure all cables are connected.</li> <li>Ensure Internet Controller/Vehicle Amplifier Adapter (INC/VAA) circuit breaker is on.</li> <li>Clean CTD and keyboard with soft, waterdamp wiping rag.</li> <li>Verify cooling fins and rear of display are not dirty or blocked.</li> </ol>		

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

	Table	2 1. Preventive Ma	intenance Checks and Services, Before – Conti	nuea.
NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
		Figure 20 M2 OF		
	1		OS SA Computer Processing Unit (CPU) Location.	<del> </del>
9	Before	ACS.	<ol> <li>Inspect Commander's shield for loose, missing, cracked, or damaged parts. If ballistic window is damaged, replace (WP 0130)</li> <li>Inspect debris shield for cracks, holes, missing shields, or broken shields. Replace debris shield if missing, broken, cracked, or has sustained other damage (WP 0130)</li> <li>Remove debris shield from ballistic window (WP 0130)</li> <li>Inspect ballistic window for cracks, holes, or damage. If ballistic window is damaged, replace (WP 0130)</li> <li>Inspect ballistic window and debris shield separately and together for degree of visual clarity, and for visual impairment resulting from scratches or damage. If ballistic window is damaged, replace (WP 0130)</li> <li>Inspect ACS for dirt, oil, grease, or debris.</li> </ol>	
			If ACS is dirty, oily, greasy, or has debris,	

clean (WP 0129)

7. Reinstall debris shield (WP 0130)

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

	Table 1. Preventive Maintenance Checks and Services, Before – Continued.				
NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:	
		Figure 3	1. Armored Commander's Shield (ACS).		
10	Before	Dry Fire Operation of 25MM Gun	Accidental firing of weapons can kill or seriously injure personnel.  Before dry firing, make sure guns are clear, feed chutes are empty, and manual safe is set to SAFE.  WARNING  Hands can be crushed if gun rotor moves.  Turn turret power off or set the gun elevation to manual mode before reaching into gun rotor area.		
			CAUTION		
			25MM gun is easily damaged. Checks should be made in exact order shown.		

Table 1. Preventive Maintenance Checks and Services, Before – Continued.

NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
			<ol> <li>Move TURRET DRIVE switch to OFF. Remove 25MM gun guard and open gun cover WP 0010. Move manual safe handle to SAFE position.</li> </ol>	Manual safe handle cannot be moved to SAFE position.

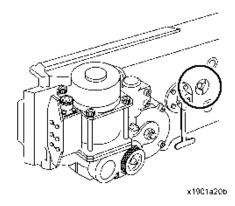


Figure 32. Manual Safe Handle Location.

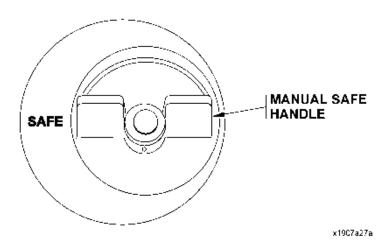


Figure 33. Manual Safe Handle.

2.	Check that bolt position indicator is in SEAR position. If bolt position indicator is not in SEAR position, verify timing of 25MM gun feeder WP 0025.
3.	Check that drive shaft handle does not turn over 1/2 inch (13 mm). If drive shaft handle turns over 1/2 inch (13 mm), position 25MM gun bolt in SEAR position WP 0026).

Table 1. Preventive Maintenance Checks and Services, Before – Continued.

NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
			<ol> <li>Move TURRET DRIVE switch to ON. Press and release 25MM switch to AP. Move ARM-SAFE-RESET switch to ARM. Check that ARM indicator light comes ON.</li> </ol>	ARM indicator light does not come ON.
			<ol><li>Check that SEAR/MISFIRE indicator light is on steady.</li></ol>	SEAR/MISFIRE indicator light does not come on steady.
			<ol><li>Check that LO AMMO OVRD indicator light flashes.</li></ol>	
			<ol> <li>Press LO AMMO OVRD button. Check that LO AMMO OVRD indicator light comes on steady.</li> </ol>	LO AMMO OVRD indicator light does not come on steady.

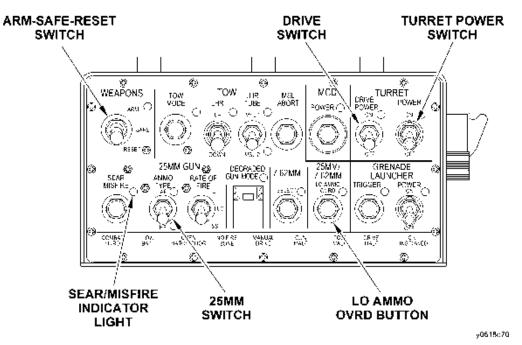


Figure 34. Turret Control Switches/Buttons and Indicator Lights.

	Table 1. Preventive Maintenance Checks and Services, Before – Continued.					
NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:		
			NOTE			
			When palm and trigger switches are squeezed, 25MM gun will dry fire and cycle to MISFIRE position because no ammo is in 25MM gun. SEAR/MISFIRE indicator light will flash when gun is in MISFIRE position.			
			8. Select Single Shot (SS) and dry fire 25MM gun by squeezing Gunner's palm and trigger switches. Check that bolt position indicator moves to MISFIRE position.	Bolt position indicator does not move to MISFIRE position.		
			NOTE			
			When SEAR/MISFIRE button is pressed and palm and trigger switches squeezed, 25MM gun will cycle to SEAR position and SEAR/MISFIRE indicator light will come on steady.			
			<ol> <li>Press MISFIRE button and squeeze         Gunner's palm and trigger switches. Check         that bolt position indicator moves to SEAR         position and that SEAR/MISFIRE indicator         light comes on steady.</li> </ol>	Bolt position indicator does not move to SEAR position.		
	ARM-SAFE-RESET SWITCH					
	HEAPONS TOW LIP WORD TURRET TOWN LIP WORD TOWN TOWN TOWN TOWN TOWN TOWN TOWN TOWN					

Figure 35. ARM-SAFE-RESET Switch and SEAR/MISFIRE Buttons.

SEAR/MISFIRE **BUTTON** 

Table 1. Preventive Maintenance Checks and Services, Before – Continued.

NO. INTERVAL CHECKED OR SERVICED  BOLT POSITION INDICATOR  SEAR POSITION  Figure 36. BOLT Position Indicator and SEAR Position.		illueu.					
SEAR POSITION  **1901a24b  Figure 36. BOLT Position Indicator and SEAR Position.	1	EQUIPMENT NOT READY/ AVAILABLE IF:					
		POSITION INDICATOR  SEAR POSITION					
10. Move ARM-SAFE-RESET switch to							
RESET, then release back to SAFE. Check that ARM, AP, LO AMMO OVRD, and SEAR/MISFIRE indicator lights go out.		ARM, AP, LO AMMO OVRD, or SEAR/MISFIRE indicator light stays on.					

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

	Table	e i. Pieveiilive Ma	intenance Checks and Services, Before – Conti	ilueu.		
NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:		
11	Before	Power Up	GUNNER/COMMANDER			
		·	WARNING			
			Soldiers may be killed or injured by moving vehicle or turret.			
			Ensure all personnel are clear of vehicle and turret before turning on vehicle master power, turret power, or starting engine.			
			CAUTION			
			Ensure engine is started before turning on radios. Damage to radios will result if they are on when vehicle is started.			
			1. Have Driver start engine (TM 9-2350-438-10-1).			
			NOTE			
			If turret does not power up after three minutes, cycle turret power by moving TURRET POWER and EMERGENCY shutdown switches to OFF and back to ON.			
			Turn TURRET POWER switch ON. Check that TURRET POWER indicator light comes on.	Turret power indicator light does not come on.		
	SCB TURRET POWER					
	WEAPONS TOW JUST ALLEY PORT PRINT PORT PORT PORT PORT PORT PORT PORT POR					
		Fig	ure 37. TURRET POWER Switch.			

Table 1. Preventive Maintenance Checks and Services, Before – Continued.

NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
			Check that System Control Box (SCB),     Gunner's Sight Control Panel (GSCP),     Commander's Sight Control Panel (CSCP),     and CTD back lighting comes on.	SCB, GSCP, CSCP, and CTD back lighting does not come on.
			4. (D) Have Driver check Driver's Tactical Display (DTD) for TURRET POWER indicator ON.	TURRET POWER indicator does not come on.
			<ol><li>(C) Adjust PNL LIGHT DIMMER knob as needed. Adjust CTD back lighting and display with CTD brightness keys.</li></ol>	Backlogging brightness cannot be adjusted.

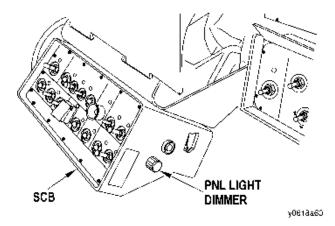


Figure 38. Panel Light Dimmer.

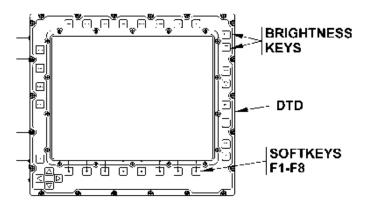


Figure 39. CTD Display Brightness Keys (M2A3).

Table 1. Preventive Maintenance Checks and Services, Before – Continued.				
ITEM NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
		(	BRIGHTNESS KEYS  VERY ME MAN ME ME MAN ME MA	
		Figure 40. 0	CTD Display Brightness Keys (M2 ODS SA).	
			<ol> <li>(C) (G) Turn PNL LIGHT DIMMER knob fully clockwise past detent. Check that all indicator and annunciator lights on SCB, GSCP, and CSCP come on. (C) Turn DIMMER knob back over detent and adjust panel back lighting as needed.</li> </ol>	All indicator and annunciator lights on SCB do not come on when PNL LIGHT DIMMER knob is turned fully counter- clockwise.
			WARNING	
			Turret can rotate and severely injure or kill	

Turret can rotate and severely injure or kill you. Do not reach through turret shield opening when turret drive switch is on. Keep turret shield door closed whenever turret drive switch is on. Engage turret travel lock before moving or reaching through turret shield opening.

7. Move TURRET DRIVE switch on SCB to ON. Check that DRIVE indicator light comes on and that two turret drive warning lights in step area come on (two red glows on turret door).

**DRIVE** indicator light does not come on.

Table 1. Preventive Maintenance Checks and Services, Before – Continued.

			internation officers and convicted, Belone	tiriaoai		
NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:		
			DRIVE SWITCH			
	WEAPONS TOW UP MOD POWER TOWN OF THERE TO THE TOWN OF					
	Figure 41. TURRET DRIVE Switch.					

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

NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
12	Before	COMM System	GUNNER/COMMANDER	
		Power Up	Turn communication system power on as follows:	
			<ul> <li>a. Move POWER/CB1 switch on Single Channel Ground and Airborne Radio System (SINCGARS) VAA to ON.</li> </ul>	
			SINCGARS	
		_	<b>\</b>	
		POWER / CB		
			ZCGy680Ca29	5
			Figure 42. SINCGARS.	
			<ul> <li>b. Move Master Control Station (MCS) SYSTEM switch to select PROG 1, PROG 2, PROG 3, LISTENING SILENCE, or ALL as applicable.</li> <li>c. Check that self-test displays PASS and POWER FAULT indicator lights do not come on.</li> </ul>	

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

Table 1. Preventive Maintenance Checks and Services, Before – Continued.						
NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:		
			<ul> <li>d. If self-test displays FAIL, or SYS or Active Noise Reduction (ANR) lights come on and stay on, see TM 11-5830-263-10.</li> </ul>	MCS self-test displays FAIL or POWER FAULT (SYS or ANR) lights come on and stay on.		
			POWER FAULT INDICATOR LIGHTS			
			Inconverts on the party of the second of the			
		*	Section   Sect			
			METER STEEL			
			SYSTEM SWITCH			
			x3200a37b			
		Figu	re 43. MCS Power Fault Indicators.			
13	Before	Commanders Tactical Display (CTD) Legibility	GUNNER/COMMANDER  1. Check that the CTD display is steady, focused, and that all parts of the screen can be read.			
	Figure 44. CTD Location.					
			If the CTD display cannot be read, check the Squad Leader's Display (SLD) for legibility.	Both the CTD and SLD are not legible.		

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

	nued.			
NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
14	Before	Self Test Sum- mary and Mal- function Adviso- ry List (MAL) In- dicator	GUNNER/COMMANDER  1. Check SELF TEST SUMMARY and MAL indicator on CTD as follows:	
		SUBSYSTEM SAFETY SENSORS & INTERLOCKS WEAPONS CONTROL TURRET DRIVE GUNNER SIGHT COR SIGHT NAVIGATION COMMUNICATION	SELF TEST SJAMARY  TEST STATUS  GO ROLS GO GO VERIFY GO DEGRADED  DEGRADED  DEGRADED  DEGRADED  DEGRADED  DEGRADED  DET TEST STATUS  AND COMMERCATIONALE ON  OPERATIONALE ON  DEGRAPORE OF TEST OPERATIONALE ON  O	
		Figu	a. Check that all SUBSYSTEMs display GO in TEST STATUS column. b. Check that MAL indicator displays 0. c. If any SUBSYSTEM displays NO-GO, DEGRADED, or if MAL indicator	
			displays a number other than 0, notify Field Maintenance.	
15	Before	Commanders Tactical Display (CTD)	NOTE  Note the WARNINGS, CAUTIONS, and advisories on CTD. Press CLOSE soft key to acknowledge.  NOTE  The following checks pertain to both the CTD and the SLD. As long as one of the displays is operational, it can be placed in the CTD position and the vehicle will be considered mission capable.  1. Check CTD as follows:	

Table 1. Preventive Maintenance Checks and Services, Before – Continued.

NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
			<ul> <li>a. Check if CTD display is dirty or cracked. Clean dirty display (TM 9-2350-438-10-1).</li> </ul>	CTD display is cracked.
			<ul> <li>b. Using brightness keys, check that display brightness can be adjusted.</li> </ul>	Display brightness cannot be adjusted.

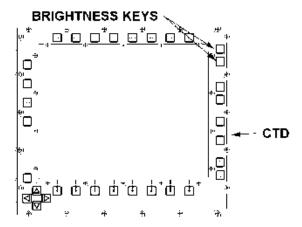


Figure 46. CTD Brightness Keys (M2A3).

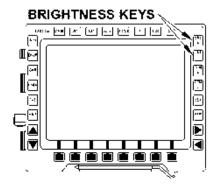


Figure 47. CTD Brightness Keys (M2 ODS SA).

			<ul> <li>c. Check screen navigation by pressing the following softkeys in order: CLOSE, SETUP, and POWER MGMT. Then PREVIOUS two times, and MAIN.</li> </ul>	CTD screens do not display as selected by softkeys. Refer to NOTE above.
16	Before	Gun Fans	GUNNER/COMMANDER	Gun fans cannot be heard.

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

	Table 1. Preventive Maintenance Checks and Services, Before – Continued.				
NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:	
			Press and release GUN FAN button on SCB. Check that gun fans can be heard. Press and release GUN FAN button again to turn off fans.		
	SCB GUN FAN				
			Figure 48. Gun Fan Control.		
17	Before	TAS Defogger	GUNNER/COMMANDER  Move FAN DEFOGGER switch to HIGH position. Check that heated air exits out front of sight shield.	Heated air does not exit out front of sight shield when FAN DEFOGGER switch is in HIGH position.	

Figure 49. FAN DEFOGGER Switch Location.

Table 1. Preventive Maintenance Checks and Services, Before – Continued.

NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:		
			HIGH LOW  FAN DEFOGGER SWITCH  y3403b51			
		Fig	gure 50. FAN DEFOGGER Switch.			
18	Before	Turret Shield Door	GUNNER/COMMANDER  1. Check that cargo and Driver's hatch are closed. Open turret shield door. Check that DRIVE indicator light goes off and OPEN HATCH light comes on when turret shield door is opened.	DRIVE indicator light does not go off with turret shield door open.		
	OPEN HATCH/DOOR LIGHT					
		Figure 51. Driv	2. Ensure that turret shield door opening and top of vehicle are clear of personnel.  Attempt to rotate turret. Turret should not rotate.	Turret rotates with turret shield door open.		

Table 1. Preventive Maintenance Checks and Services, Before – Continued.

ITEM NO.	INTERVAL	ITEM TO BE CHECKED OR	PROCEDURE	EQUIPMENT NOT READY/
		SERVICED	3. Close turret shield door. Check that turret shield door locks in closed position. Check that OPEN HATCH light goes off and DRIVE indicator light comes on when turret shield door is closed.	AVAILABLE IF:  Turret shield door does not lock in closed position.
		DQQ	TURRET SHIELD DOOR  R LOCK  x10C1a28b	
		Fi	gure 52. Turret Shield Door Lock.	
19	Before	Gunners Hand- station (GHS)	GUNNER/COMMANDER  NOTE  Commander gives order for operation in POWER mode.  1. Check GHS as follows:  a. Check that cargo hatch and Driver's	
			hatch are closed.  b. (C) Have Commander use intercom to tell crew members that turret is to be operated in POWER mode.	

c. Release turret travel lock (WP 0009).

Table 1. Preventive Maintenance Checks and Services, Before – Continued.

	Table 1.1 Teventive maintenance officers and oct vices, before – continued.				
NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:	
			d. Using GHS, traverse turret to right and left, and elevate and depress gun (WP 0016). Then traverse to 6400 mils. If turret does not respond to control handles, notify Field Maintenance.	Turret does not traverse or gun does not elevate and/or depress.	
	Figure 53. GHS Location.				
20	Before	Commanders Handstation (CHS)	GUNNER/COMMANDER  1. Check function of CHS. Using CHS, traverse turret to right and left, and elevate and depress gun (WP 0016). Then traverse to 6400 mils. If turret does not respond to CHS, notify Field Maintenance.  2. Check Commander's Override. Have Gunner squeeze palm grips and traverse turret left. Have Commander squeeze palm grips and attempt to traverse turret right.	Turret does not traverse or gun does not elevate and/or depress.  Turret does not rotate to right.	

Table 1. Preventive Maintenance Checks and Services, Before – Continued.

ITEM NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
		-	Figure 54. CHS Location.	
21	Before	IBAS Operation	GUNNER/COMMANDER  1. Check IBAS operation as follows:  a. Press HI/Low Magnification (LO MAG) button on GHS. Check that view switches from Wide Field of View (WFOV) (LO MAG) to Narrow Field of View (NFOV) (HI MAG). Press button again to switch back.	Biocular Display or Direct View Optics (DVO) view does not switch from WFOV (LO MAG) to NFOV (HI MAG) when HI/LO MAG button is pressed.

Table 1. Preventive Maintenance Checks and Services, Before – Continued.

NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
			<ul> <li>b. Check that reticles and center dot are visible in Biocular Display and DVO eyepiece. Adjust reticle brightness if necessary. If reticles and center dot are not visible, notify Field Maintenance.</li> </ul>	

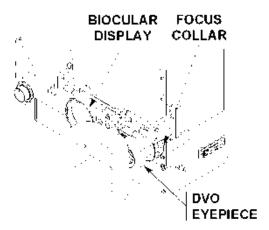


Figure 55. Biocular Display and Controls.

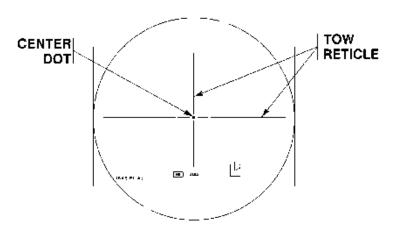


Figure 56. Reticles and Center Dot.

Table 1. Preventive Maintenance Checks and Services, Before – Continued.

NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:		
			<ul> <li>c. Using DISPLAY and ADJUST switches on GSCP, check that image focus, contrast, and brightness can be adjusted, and reticle/symbol brightness can be adjusted.</li> </ul>	Image focus, contrast, and brightness cannot be adjusted.		
	DISPLAY ADJUST SWITCH					
		Figu	re 57. Display and Adjust Switches.			
			<ul> <li>d. Check that condensation is not present in DVO eyepiece. If condensation is present, notify Field Maintenance.</li> <li>e. Adjust focus of image in DVO eyepiece by turning focus collar. If image cannot be focused, notify Field Maintenance.</li> </ul>	DVO image cannot be focused.		

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

NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:	
			NOTE		
			Forward Looking Infrared (FLIR) can operate only after cooling down for 15 minutes.		
			f. Check that cooldown symbol is not visible.	Cooldown symbol still visible after 15 minutes.	
		ME	AY SYSTEM MESSAGE AREA	DOWN	
		·		x1903b90a	
	Figure 58. FLIR COOLED Down Indicator.				

Table 1. Preventive Maintenance Checks and Services, Before – Continued.

NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
			g. Press FLIR/TV button on GHS to switch Biocular Display to FLIR. Check that FLIR view appears in Biocular Display.	FLIR view does not appear in Biocular Display after pressing FLIR/TV button.

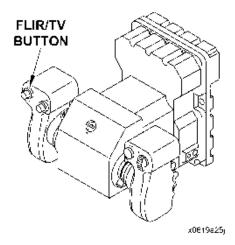


Figure 59. FLIR/TV Button.

22	Before	System Nulling	GUNNER/COMMANDER	
			WARNING	
			CIV moves automatically during nulling procedure and could strike personnel.	
			Check CIV area to ensure personnel are clear of CIV before starting nulling procedure.	
			<ol> <li>Close ballistic sight shield doors WP 0012).</li> </ol>	
			<ol><li>Press TAS ALIGN button on GSCP to align IBAS.</li></ol>	IBAS not aligned.
			<ol><li>Check that both GHS and CHS are in centered positions with palm switches released.</li></ol>	
			4. On GHS, press NULL button.	
			<ol><li>When Nulling disappears on the TAS reticle, check accuracy of nulling procedure as follows:</li></ol>	

Table 1. Preventive Maintenance Checks and Services, Before – Continued.

NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
			<ul> <li>a. Open ballistic sight shield doors (WP 0012).</li> <li>b. Look through DVO and using GHS, place DVO reticle on a target about 300 meters away.</li> </ul>	

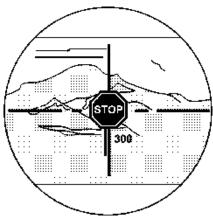


Figure 60. DVO Reticle View.

c. Press FLIR/TV button on GHS to select TV on Biocular Display. Check that TV reticle is still on same point of target as DVO reticle.

TV reticle is not on same point of target as DVO reticle.

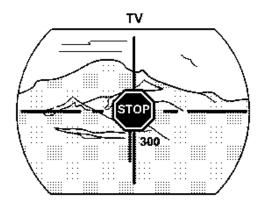


Figure 61. DVO TV View.

Table 1. Preventive Maintenance Checks and Services, Before – Continued.

ITEM NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:		
			NOTE  The DVO, TV, and FLIR LOSs are collimated (parallel to each other). The FLIR LOS will always be offset approximately 6 inches (152 mm) from the TV and DVO LOSs at any distance.			
			<ul> <li>d. Press FLIR/TV button on GHS to select FLIR on Biocular Display.</li> <li>Check that the FLIR reticle is on a point approximately 6 inches (152 mm) to the left of the DVO/TV reticle.</li> </ul>	FLIR reticle is not on a point approximately 6 inches (152 mm) to the left of the DVO/TV reticle.		
	FLIR STOP 30-8 Figure 62. FLIR Reticle View.					
23	Before	IBAS Reticle Drift	GUNNER/COMMANDER  NOTE  The scene and reticle will move as the Gunner's hand moves. Gunner should not move hand grips during this check.  1. Squeeze GHS palm switch and check for any reticle drift in Biocular Display. When sighted on a target or suitable object at 300 meters, drift shall not exceed 12 inches (305 mm) of center within 20 seconds.			

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

		- 11 1 10 10 11 11 10 11 11 11 11 11 11 1	lintenance Checks and Services, Before – Conti	1.404.			
NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:			
			If drift is greater than 12 inches (305 mm) within 20 seconds, perform PMCS Item 22, System Nulling, then repeat PMCS Item 23, IBAS Reticle Drift.	Biocular Display reticle drift exceeds 12 inches (305 mm) of center of target or suitable object at 300 meters within 20 seconds after retest.			
24	Before	IBAS Autotrack	GUNNER/COMMANDER				
	50,010	1D/10 / tatou ask	On GHS, momentarily move AUTO TRK-AUTO PT switch to AUTO TRK. A flashing track gate will appear in the Biocular Display.	Track gate does not appear in Biocular Display.			
	FLASHING TRK 1 FLASHING TRACK GATE						
	TARGET  IDAS FL A3  HE 268C						
	ı	1	Figure 63. Biocular Display.	1			
			NOTE				
			Pressing G-SIZE switch up or down adjusts the gate height. Pressing switch right or left adjusts the gate width.				
			Adjust size of track gate by pressing G- SIZE switch on GHS up, down, left, and right.				
			Momentarily press DROP TRK button on GHS. Track gate will disappear from Biocular Display.				

1. Using GHS, place Biocular Display reticle

on a target about 300 meters away and

**GUNNER/COMMANDER** 

25

Before

IBAS Laser

Rangefinder

(ELRF)

Table 1. Preventive Maintenance Checks and Services, Before – Continued.

17			Interialice Checks and Services, Before - Conti			
NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:		
			momentarily pull Battlefield Combat Identification System (BCIS)/Laser Rangefinder (LRF)-LRF switch down to LRF. Range to target will be displayed on Biocular Display.	Range does not appear in Biocular Display.		
		CDR AUTOF TRK1	POINT			
		•7	BIOCULAR DISPLAY SYSTEM MESSAGE AREA			
	IBAS FL A3    HE   2680   Q     COOL     Fire Control   Warmings   A3 Sye Warnings					
			RANGE RETURNS LINE			
		FI	gure 64. Biocular Range Display.			
26	Before	Commanders Independent Viewer (CIV) Operation	GUNNER/COMMANDER  1. Check CIV operation as follows:			
			a. Momentarily move IBAS-CIV switch on Remote Biocular Display (RBD) to CIV. Move CIV switch on CSCP to ON/UNSTOW. Squeeze palm switch on CHS to unstow CIV. Check that CIV indicator light comes on.	CIV indicator light does not come on.		

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

Table 1. Preventive Maintenance Checks and Services, Before – Continued.						
NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:		
			b. Check that CIV RAISED annunciator light on SCB comes on.	CIV RAISED annunciator light does not come on.		
			c. Momentarily move FLIR-TV switch on CSCP to TV. Using DISPLAY and ADJUST switches on CSCP, check that image, focus, contrast, and brightness can be adjusted, and reticle/symbol brightness can be adjusted.	TV image focus, contrast, and brightness cannot be adjusted.		
			FLIR/TV SWITCH			
NOTE OF THE PARTY						
			Figure 65. FLIR/TV Switch.			
			d. Momentarily move FLIR-TV switch on CSCP to FLIR. Then momentarily move MAN-AUTO switch on CSCP to AUTO. Check that FLIR view appears in RBD.	FLIR view does not appear in RBD.		
			e. Using DISPLAY and ADJUST switches on CSCP, check that FLIR image focus, contrast, and brightness can be adjusted, and reticle/symbol brightness can be adjusted.	FLIR image focus, contrast, and brightness cannot be adjusted.		
CIV SWITCH ADJUST SWITCH						
			Figure 66. CIV Switch.			

Table 1. Preventive Maintenance Checks and Services, Before – Continued.

ITEM NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
			f. Using CHS, traverse and elevate/ depress CIV. If CIV does not respond to control handle, notify Field Maintenance.	CIV does not traverse or elevate/ depress.
27	Before	Dry Fire Coax	GUNNER/COMMANDER	
		Machine Gun	WARNING	
			**	
			Accidental firing of weapons can kill or seriously injure personnel.	
			Before dry firing, make sure guns are clear, feed chutes are empty, and manual safe is set to SAFE.	
			Move TURRET DRIVE switch to OFF.     Open coax machine gun access doors     (WP 0011). Check that manual safety is in S (safe) position.	
			x 901a61c	
		Fi	gure 67. Manual Safety Location.	

Table 1. Preventive Maintenance Checks and Services, Before – Continued.

NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:	
			MANUAL SAFETY		
	Figure 68. Manual Safety.				

Table 1. Preventive Maintenance Checks and Services, Before – Continued.

NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
			<ol><li>Push manual safety to fire position. Pull charger handle back firmly. Check that charger handle moves smoothly and bolt locks to the rear.</li></ol>	

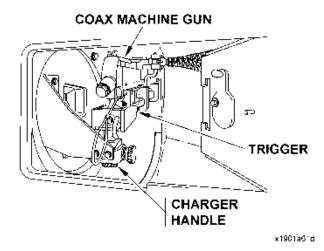


Figure 69. Coax Machine Gun.

rigure 09. Coax Macrille Ouri.	
and pull trigger. Trigger should not operate.	Coax machine gun dry fires in safe position.
4. Push manual safety to fire position.	
5. Move TURRET DRIVE switch to ON. Press 7.62MM button on SCB. Check that 7.62MM indicator light comes on.	
Check that ARM indicator light comes on	ARM indicator light does not come on.
7. Press LO AMMO OVRD button. Check that LO AMMO OVRD indicator light comes on steady.	
8. Hold charger handle back and have Gunner squeeze palm and trigger switches on GHS. Let bolt return to forward position.	
9. Move ARM-SAFE-RESET switch to RESET, then release back to SAFE. Check that ARM, 7.62MM, and LO AMMO OVRD indicator lights go out.	

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

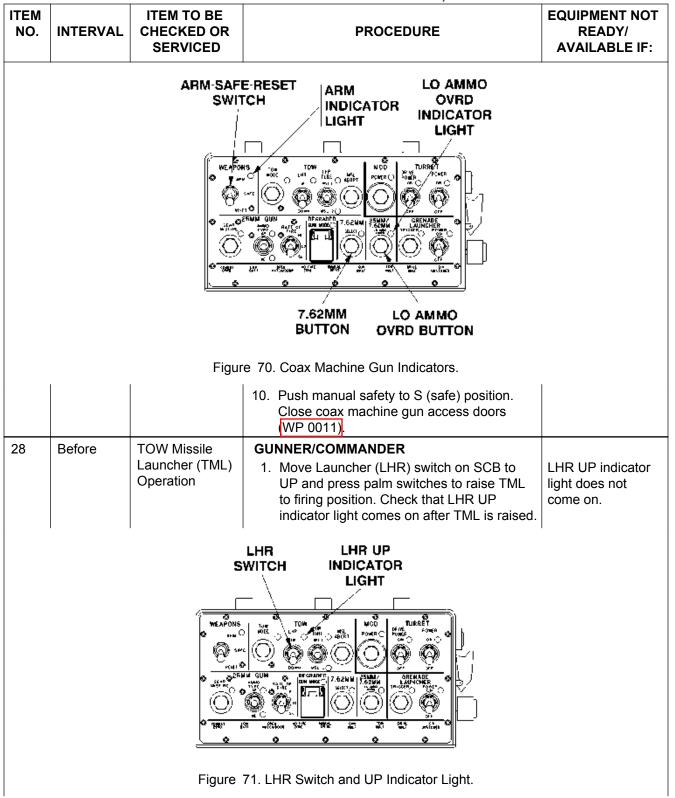


	Table 1. Preventive Maintenance Checks and Services, Before – Continued.					
ITEM NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:		
			Check that reticle is illuminated in DVO and present in Biocular Display.	Reticle is not present.		
			Check for TOW status indicator in Biocular Display.			
			Move LHR switch on SCB to DOWN and press palm switches to lower TML to stowed position. Check that LHR UP indicator light goes out.	LHR UP indicator light stays on or flashing M appears in Biocular Display.		
29	Before	Smoke Gre-	GUNNER/COMMANDER			
	nade Launcher Operation	WARNING				
		Operation				
			Accidental firing of smoke grenades can seriously injure or kill personnel and damage equipment.			
			Make sure launcher tubes are empty before continuing.			
			Check smoke grenade launchers for debris and damage. If unfired smoke grenades are found in grenade launcher tubes, remove unfired grenades. If launcher is damaged, notify Field Maintenance.			
	1	GRENA	ADE LAUNCHER T <u>UBE</u>			

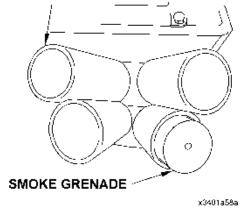


Figure 72. Grenade Launcher Tubes.

Table 1. Preventive Maintenance Checks and Services, Before – Continued.

NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
			Move GRENADE LAUNCHER switch to     ON. Check that GRENADE LAUNCHER     indicator light comes on. If GRENADE     LAUNCHER indicator light does not come     on, do not load smoke grenades.	
			<ol> <li>Press TRIGGER button. Check that TRIGGER indicator light comes on when TRIGGER button is pressed. If TRIGGER indicator light does not come on, do not load smoke grenades. Move GRENADE LAUNCHER switch to OFF.</li> </ol>	

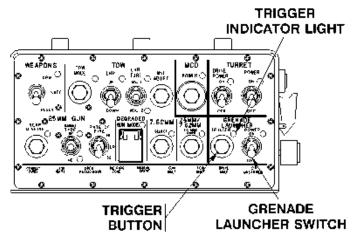


Figure 73. Grenade Launcher Controls.

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

NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
30	Before	Final Command- ers Tactical Dis- play (CTD) Check	GUNNER/COMMANDER  1. Check CTD as follows:	
			a. Check that MAL indicator displays 0.	MAL indicator does not display 0.

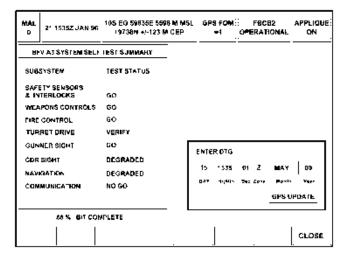


Figure 74. CTD Status Screen.

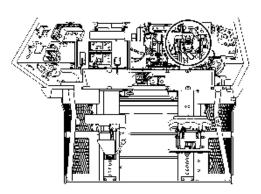


Table 1. Preventive Maintenance Checks and Services, Before - Continued.

	labi	e 1. Preventive Ma	intenance Checks and Services, Before – Conti	nuea.
NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
			b. Go to METEOROLOGICAL PARAMETERS screen (SETUP FIRE CONTROL METEOROLOGICAL PARAM) and enter current conditions.	
		OPERATIONAL O	1922:14Z	
		METEOROLOGICAL PA	ARAMETERS SETUP STANDARO CURRENT	
		·		
		(0.10 <sup>2</sup> 23 m/s)	0.00 () TOWARDS You (*) AWAY from Yold	
		Air Temp √30 to 51 °C;	15.0   15.00	
		Air Pressure (\$03 to 1080 mt):	1013 0 1013 25	
		i-31 ie 51 °C)	21.0 21.11	
		STAND	E APPLY CURRENT	
		MANUAL BORESIGHT	PREVIOUS	
			ZCGy8805/00002A3053	
		Figure	75. Meteorological Parameters Screen.	
31	Before	Defense Advanced Global Positioning System (GPS) Receiver (DAGR)	GUNNER/COMMANDER  1. Perform PMCS (TM 11-5820-1172-13&P).	Inspection criteria not met.
			Perform Commander self-test (TM 11-5820-1172-13&P).	
32	Before	Enhanced DAGR Distribu- tion Device (ED3) (M2A3 Only If Equip- ped)	GUNNER/COMMANDER  1. Perform PMCS (TM 11-5825-305-13&P).	
			<ol> <li>Perform ED3 self-test (TM 11-5825-305-13&amp;P).</li> </ol>	Inspection criteria is not met.

Table 1. Preventive Maintenance Checks and Services, Before – Continued.

NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
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20G6800m00040001

Figure 76. ED3 Location.

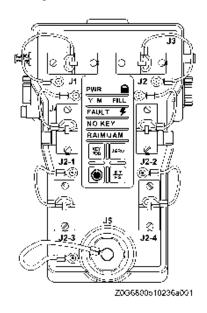


Figure 77. ED3.

(BUSK) III Blan-	33	Before	1	GUNNER/COMMANDER  1. Check for damaged or missing blanket.	Missing blanket.
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Table 1. Preventive Maintenance Checks and Services, Before – Continued.

NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
			Inspect top cover for any cuts, tears, or punctures in the fabric.	Any cover puncture, cut or defect that makes inner load bearing components visible, 1/2" (13mm) in diameter or larger.
				Cover having any cut, regardless of width, 2" (51mm) or longer.
			Unsnap and remove the outer cover and inspect the inner blanket and webbing for tears or punctures in the fabric.	Any cut or puncture to the inner blanket exceeding 1/2" in diameter. Any cut into stitching or any ripped, torn, or frayed stitching in the webbing exceeding 1/2".

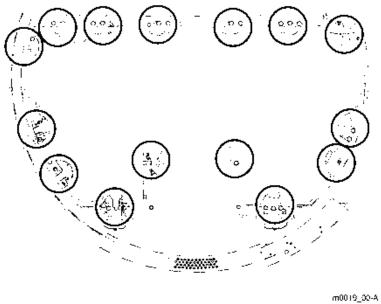


Figure 78. Blanket Anchor Points.

Table 1. Preventive Maintenance Checks and Services, Before – Continued.

NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
			<ol> <li>Inspect all anchors for visable damage.         Check for missing, damaged or loose bolts, nuts, and quick release pins.     </li> </ol>	Damaged anchors, damaged, missing or loose bolts or quick release pins.
			<ol> <li>Inspect protective vinyl coating at all anchor points. If nylon webbing is exposed, then check for webbing that is visibly frayed or appears to be unraveling. Pay close attention to the edges of the webbing.</li> </ol>	Webbing is cut, punctured or fraying.

## **MANDATORY REPLACEMENT PARTS**

There are no replacement parts required for these PMCS procedures.

## **END OF WORK PACKAGE**

#### **OPERATOR MAINTENANCE**

# PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS) - DURING

INITIAL SETUP: Personnel Required Commander

Equipment Condition

Vehicle parked

Turret shut down WP 0017)

References WP 0130

**Table 1. Preventive Maintenance Checks and Services, During.** 

NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
1	During	Debris Shield	COMMANDER	
			Inspect debris shield for breakage or cracks.  Replace debris shield if broken or cracked  WP 0130)	

## MANDATORY REPLACEMENT PARTS

There are no replacement parts required for these PMCS procedures.

#### **END OF WORK PACKAGE**

## **OPERATOR MAINTENANCE**

## PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS) - AFTER

**INITIAL SETUP:** 

**Materials** 

Lint-free cloth (WP 0150, Item 6)

**Personnel Required** 

Commander

Driver

Gunner

Crew

References

DA Form 2408-4

WP 0004 WP 0009 WP 0011 WP 0037 WP 0063

**Equipment Condition** 

Vehicle parked

Turret shut down WP 0017

**Table 1. Preventive Maintenance Checks and Services, After.** 

ITEM NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
			NOTE  Refer to local safety and environmental protocols for the proper segregation, recycle, and/or disposal of used rags/cloths	
			contaminated with petroleum, solvents, and/or hazardous components.	
1	After	Turret Exterior	GUNNER/COMMANDER	
			CAUTION	
			Before inspecting turret, ensure all weapons are in safe mode.	
			Check turret exterior for damage and obstruction.	
			<ol> <li>Check area outside of turret for objects that will block traversing turret. If an object is found, move it out of the way. Remove all shell casings and links from inside and around armor ring segments.</li> </ol>	
2	After	25MM Gun Bar- rel	GUNNER	

Table 1. Preventive Maintenance Checks and Services, After – Continued.

NTERVAL	ITEM TO BE CHECKED OR SERVICED	WARNING  Hot parts can burn you.  25MM weapon can be very hot after firing. Contact with a hot barrel or hot parts can	EQUIPMENT NOT READY/ AVAILABLE IF:
		Hot parts can burn you.  25MM weapon can be very hot after firing.	
		25MM weapon can be very hot after firing.	
		25MM weapon can be very hot after firing.	
		seriously burn you.	
		Allow the 25MM weapon to cool before working on or near it. Use heat protective gloves if it is necessary to work on or near hot parts.	
		WARNING	
		25MM gun barrel may have fixed radioactive Depleted Uranium (DU) residue inside after firing M919 ammunition.	
		If M919 ammunition has been fired, survey muzzle end of gun barrel with AN/VDR-2, PDR-77, or equivalent radiation detection instrument. Beta window of radiation detection instrument must be open when readings are taken. See TM 11-6665-251-10. Wear gloves.	
		If fixed radioactive residue is present, remove barrel from service and dispose of as low-level radioactive waste in accordance with AR 385-10.	
		NOTE	
		Fixed radioactive residue inside of the gun barrel after firing M919 rounds suggests an in-bore projectile breakup. Breakups can occur because of a worn or damaged barrel or because of defective ammunition.  1. Check that 25MM gun barrel is aligned and locked in 25MM gun support and that	Muzzle break is missing.
			readings are taken. See TM 11-6665-251-10. Wear gloves.  If fixed radioactive residue is present, remove barrel from service and dispose of as low-level radioactive waste in accordance with AR 385-10.  NOTE  Fixed radioactive residue inside of the gun barrel after firing M919 rounds suggests an in-bore projectile breakup. Breakups can occur because of a worn or damaged barrel or because of defective ammunition.  1. Check that 25MM gun barrel is aligned and

Table 1. Preventive Maintenance Checks and Services, After – Continued.

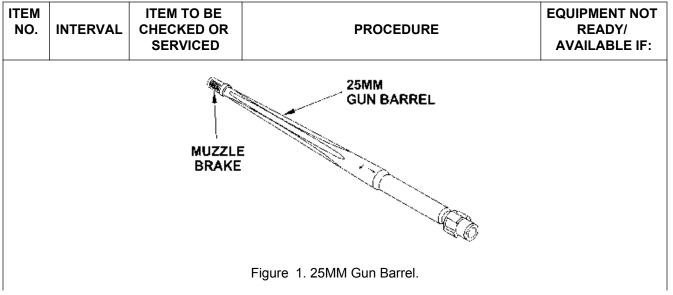


Table 1. Preventive Maintenance Checks and Services, After – Continued.

ITEM NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:	
3	After	Armored Commander's Shield (ACS)	Busine all Debris Shields are installed when ACS is not in use.  1. Inspect ACS for damaged or missing parts. If ballistic window is damaged, or visual clarity is less than 50 percent, replace (WP 0130).  2. Inspect ACS for dirt, oil, grease, or debris. Clean as required (WP 0129).  3. Inspect ACS ballistic window and debris shield for visual clarity.		
	Figure 2. ACS.				
4	After	Smoke Gre- nade Launchers	GUNNER/COMMANDER  1. Check smoke grenade launchers for debris and damage. If unfired smoke grenades are found in launcher tubes, remove unfired grenades. If launcher is damaged, do not load it. Notify Field Maintenance.		

Table 1. Preventive Maintenance Checks and Services, After – Continued.

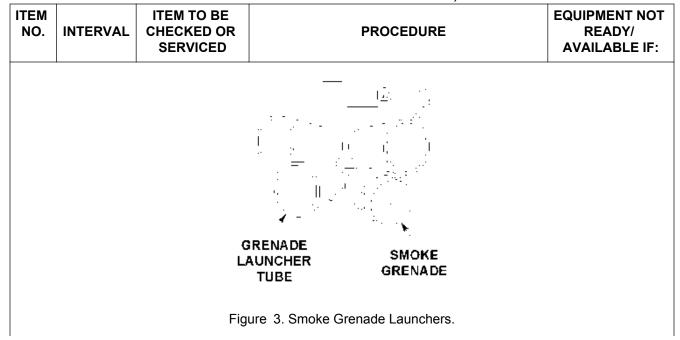


Table 1. Preventive Maintenance Checks and Services, After – Continued.

	1		aintenance Checks and Services, After – Contir			
NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:		
			<ol><li>If debris or dirt is found inside grenade launcher tubes, clean launcher tube.</li></ol>			
			<ol><li>Install rubber caps on smoke grenade launcher tubes.</li></ol>			
	SMOKE RUBBER GRENADE CAP LAUNCHER					
			igure 4. Rubber Cap Installation.			
5	After	Smoke Gre- nade Stowage Boxes	GUNNER/COMMANDER  Check smoke grenade stowage boxes for debris and damage. Clean boxes as needed.			
	RIGHT SIDE SMOKE GRENADE STOWAGE BOX					
			x3401a56a			

Figure 5. Right Smoke Grenade Stowage Box.

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

Table 1. Preventive Maintenance Checks and Services, After – Continued.						
NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:		
			LEFT SIDE SMOKE GRENADE STOWAGE BOX  6. Left Smoke Grenade Stowage Box.			
_	A #4 = 11	_	-	T		
6	After	TOW Missile Launcher (TML)	GUNNER/COMMANDER NOTE			
			Inspect and clean TML daily when TOW missiles have been fired.			
			Remove dust cover from TML. Check TML for debris and damage.			
HANDLE LOCKS LOADING HANDLE  TOW LAUNCHER  DUST COVER						
	x3401a59a					
	Figure 7. TML Components.					

	Tab	Table 1. Preventive Maintenance Checks and Services, After – Continued.					
NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:			
			Check loading handles and handle locks on TML for damage.	Loading handles or handle locks do not operate properly.			
			3. Install dust cover on TML.				
7	After	Gunner's Hatch	GUNNER/COMMANDER				
		Cover	WARNING				
			Falling hatch could seriously injure you.				
			Keep head lower than closed hatch position when opening or closing hatch. Keep hands clear of hatch rim when closing. Make sure latch pin or mechanism is fully engaged when hatch is in any open position.				
			Check Gunner's hatch cover. Open and close Gunner's hatch cover. Check that hatch cover can be locked in OPEN and CLOSED position. Check that quick release pin can be inserted in locking holes to secure latch handle.	Quick release pin is missing or cannot be inserted into locking holes to secure latch handle. Gunner's hatch cover cannot be locked in OPEN or CLOSED position.			
	HATCH						

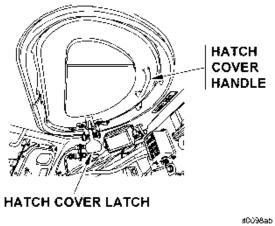


Figure 8. Latch Handle and Latch.

Table 1. Preventive Maintenance Checks and Services, After – Continued.

ITEM NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:		
	HINGE LATCH HANDLE  QUICK RELEASE PIN					
		Figure	e 9. Latch Handle Quick Release Pin.			
			Check cushioning pad on Gunner's hatch cover for cracks and missing parts.			
8	After	Deck Clearance System	<ol> <li>GUNNER/COMMANDER/DRIVER</li> <li>Move TURRET POWER switch to ON (WP 0004).</li> <li>Open Driver's hatch to POP-UP position. Check that OPEN HATCH annunciator light on System Control Box (SCB) comes on.</li> <li>Close Driver's hatch and open cargo hatch to POP-UP position. Check that OPEN HATCH annunciator light on SCB comes on.</li> <li>Close cargo hatch and check that OPEN HATCH annunciator light on SCB goes out. If light stays on with Driver's hatch and cargo hatch closed, notify Field Maintenance.</li> </ol>	OPEN HATCH annunciator light does not come on.  OPEN HATCH annunciator light does not come on.		

Table 1. Preventive Maintenance Checks and Services, After – Continued.

ITEM		ITEM TO BE	amteriance checks and Services, After – Contin	EQUIPMENT NOT
NO.	INTERVAL	CHECKED OR SERVICED	PROCEDURE	READY/ AVAILABLE IF:
			WARNING	
			Combat override disables safety interlocks. Soldiers can be killed or seriously injured without safety interlocks working.	
			Do not activate combat override unless turret shield door, Driver's hatch, and cargo hatch are closed. Do not activate combat override unless in COMBAT and hatch switches have received battle damage.	
			NOTE	
			When combat override is active, COMBAT OVRD annunciator light on the system control box is lit and COMBAT OVERRIDE appears at the bottom of Improved Bradley Acquisition Subsystem (IBAS) video. When either cargo or Driver's hatch or turret door is open, and combat override is active, the OPEN HATCH annunciator light on the system control box flashes.	
			NOTE	
			Barrel of 25MM gun will elevate by itself before reaching rear deck. Barrel will pass over rear deck, then depress by itself -160 mils. Check that COMBAT OVERRIDE switch is OFF.	
			5. Release travel lock (WP 0009).	
			<ol><li>Move TURRET DRIVE switch to ON WP 0004).</li></ol>	
			<ol> <li>Depress 25MM gun to -160 mils. Traverse turret to left and right in full circle at -160</li> </ol>	Turret will not traverse.
			mils. Check that 25MM gun elevates and depresses by itself when passing over rear deck.	Turret stops traversing when 25MM gun reaches rear deck.
				25MM does not elevate over hatches and decks.

Table 1. Preventive Maintenance Checks and Services, After – Continued.

	140		aintenance Checks and Services, After – Contin	
NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	READY/ AVAILABLE IF:
				25MM gun strikes rear deck.
			If gun or TML strike any stowed equipment, or if stowed equipment is in flight path, restow it.	
			WARNING	
			*	
			Gun barrel can move unexpectedly during next test series.	
			Unexpected gun barrel movement can seriously injure personnel or damage equipment.	
			Be sure personnel and equipment are clear of gun barrel before performing next test series.	
			9. Elevate 25MM gun to 0 mils. Open Driver's hatch to UPRIGHT position. Traverse turret to left and right using Gunner's control handles.  Output  Description:	Turret does not traverse when using Gunner's control handles with Driver's hatch in UPRIGHT position.
			Close Driver's hatch and open cargo hatch to UPRIGHT position. Traverse turret to left and right using Gunner's control handles.	Turret does not traverse when using Gunner's control handles with cargo hatch in UPRIGHT position.
			<ol> <li>Move cargo hatch to TOW LOAD position.         Try to traverse turret to left and right using Gunner's control handles. Check that turret does not traverse.     </li> </ol>	Turret traverses when cargo hatch is in TOW LOAD position.

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

	Tab	ie 1. Preventive Ma	aintenance Checks and Services, After – Contir	iuea.		
NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:		
			Moving missile launcher can seriously injure personnel.  Make sure personnel and stowed equipment are clear of launcher path before squeezing palm grips.  12. Close cargo hatch and raise TOW launcher. Open cargo hatch. Press TOW button on SCB and wait 20 seconds. Then close cargo hatch. Check that NO FIRE ZONE annunciator light on SCB goes out.	NO FIRE ZONE annunciator light stays on.		
		LAUNCHER LIFT INHIBIT	GUN +17 DEGREES  TOW LAUNCHER BELOW -14 DEGREES  GUN ROTOR BELOW -1 DEGREE			
	Figure 10. No Fire Zone.					

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

ITEM NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:		
			13. Stow TOW launcher (WP 0037).			
9	After	25MM Ammo Cans	DRIVER/GUNNER  1. Check High Explosive (HE) ammo can as follows:			
			<ul> <li>a. Traverse turret to HE load position (2150 mils).</li> </ul>			
			b. Move TURRET DRIVE and TURRET POWER switches to OFF WP 0004).  Set turret travel lock WP 0009).			
			WARNING			
			Turret can rotate and severely injure or kill you. Do not reach through turret shield opening when turret drive switch is on. Keep turret shield door closed whenever turret drive switch is on. Engage turret travel lock before moving or reaching through turret shield opening.			
			c. Open turret shield door and check HE ammo can door. Turn handle and remove HE ammo can door; then install HE ammo can door and turn handle to latch. Then close turret shield door.	HE ammo can door cannot be closed and latched.		
	HE AMMO CAN DOOR					
		I	Figure 11. HE Ammo Can Door.			

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

NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:		
			NOTE			
			Roller retainer will lock when moved all the way to the right. Unlock roller retainer by moving it to the left.			
			d. Turn handle and remove HE top ammo can door. Rotate roller rapidly on roller retainer. If HE top ammo can roller or roller retainer drags or binds, notify Field Maintenance.	Ammo can roller retainer binds or drags.		
			<ul> <li>e. Check loading rails; If dirty, wipe with clean cloth.</li> </ul>			
	HE AMMO CAN					

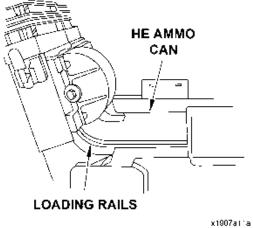


Figure 12. Loading Rails.

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

	Table 1. Preventive Maintenance Checks and Services, After – Continued.				
NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:	
			<ul> <li>f. Check retroreflector on top ammo can door; If dirty, wipe with clean lint-free cloth.</li> </ul>		
			RETROREFLECTOR		
			x1907a12a		
			Figure 13. Retroreflector.		
			g. Grasp roller and move roller retainer to the right and to the left.		
		ROL RETAII			
		Fig	ure 14. Roller and Roller Retainer.		
			h. Install top ammo can door and turn handle to latch.		

Table 1. Preventive Maintenance Checks and Services, After – Continued.

ITEM NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
			<ul> <li>i. Release turret travel lock (WP 0009).</li> <li>Move TURRET POWER and TURRET DRIVE switches to ON (WP 0004).</li> </ul>	
			Check Armor-Piercing (AP) ammo can as follows:	
			<ul> <li>a. Traverse turret to AP load position (4350 mils).</li> </ul>	
			<ul> <li>b. Move TURRET DRIVE and TURRET POWER switches to OFF WP 0004).</li> <li>Set turret travel lock WP 0009).</li> </ul>	
			WARNING	
			Turret can rotate and severely injure or kill you. Do not reach through turret shield opening when turret drive switch is on. Keep turret shield door closed whenever turret drive switch is on. Engage turret travel lock before moving or reaching through turret shield opening.	

Table 1. Preventive Maintenance Checks and Services, After – Continued.

ITEM NO.	INTERVAL	ITEM TO BE CHECKED OR	PROCEDURE	EQUIPMENT NOT READY/		
		SERVICED		AVAILABLE IF:		
			c. Open turret shield door and check AP ammo can door. Turn handle and remove AP ammo can door. Check loading rails; if dirty, wipe with clean cloth. Check retroreflector on ammo can door; if dirty, wipe with clean, lint-free cloth. Install AP ammo can door and turn handle to latch. Then close turret shield door.	AP ammo can door cannot be closed and latched.		
	LOADING RAILS  RETROREFLECTOR					
		^	P AMMO CAN			
			x19C7a39a			
		F	Figure 15. AP Ammo Can Door.			
			<ul> <li>d. Release turret travel lock WP 0009). Move TURRET POWER and TURRET DRIVE switches to ON (WP 0004).</li> <li>e. Traverse turret to 6400 mils (WP 0016). Move TURRET DRIVE and TURRET POWER switches to OFF (WP 0004). Set turret travel lock (WP 0009).</li> </ul>			
10	After	25MM Gun	GUNNER/COMMANDER			

Table 1. Preventive Maintenance Checks and Services, After – Continued.

ITEM		ITEM TO BE	amteriance Checks and Services, After – Contin	EQUIPMENT NOT
NO.	INTERVAL	CHECKED OR SERVICED	PROCEDURE	READY/ AVAILABLE IF:
			WARNING	
			*	
			The M919 sabot round uses a Depleted Uranium (DU) penetrator which emits low levels of radiation. Wear gloves when handling DU or M919 rounds. Wash hands before eating or touching your face. If DU corrosion (yellow or white powder or stain) is visible on the surface of the round, dispose of gloves in accordance with AR 385-10.	
			WARNING	
			*	
			25MM gun barrel may have fixed radioactive Depleted Uranium (DU) residue inside after firing M919 ammunition.	
			If M919 ammunition has been fired, survey muzzle end of gun barrel with AN/VDR-2, PDR-77, or equivalent radiation detection instrument. Beta window of radiation detection instrument must be open when readings are taken. See TM 11-6665-251-10. Wear gloves.	
			If fixed radioactive residue is present, remove barrel from service and dispose of as low-level radioactive waste in accordance with AR 385-10.	
			NOTE	
			Fixed radioactive residue inside of the gun barrel after firing M919 rounds suggests an in-bore projectile breakup. Breakups can occur because of a worn or damaged barrel or because of defective ammunition.	

Table 1. Preventive Maintenance Checks and Services, After – Continued.

NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
			NOTE	
			Normal firings of M919 DU ammunition does not cause radioactive contamination in the M242 gun barrel. However, if the barrel is found to be radioactively contaminated, the barrel is to be taken out of service without being cleaned, ends sealed with tape, and the barrel marked Low Level Radioactive Waste. Storage and return of the barrel is accomplished in accordance with AR 385-10.	
			NOTE	
			Due to critical nature of breech assembly and firing pin for safe and reliable 25MM gun operation, the following components must be replaced at the following intervals:	
			Firing pin (P/N 12524325) replaced after 8000 rounds.	
			Firing pin (P/N 12524512) replaced after 12,000 rounds.	
			NOTE	
			Enhanced breech assembly (P/N 12524527) shall be inspected at 25,000 rounds and every 2500 rounds thereafter. There is no round count limit for replacement of the enhanced breech. The standard breech is replaced at 25,000 rounds.  1. Enter rounds count information on DA Form 2408-4.	

Table 1. Preventive Maintenance Checks and Services, After – Continued.

ITEM NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
			NO SHOULDER  M242 BREECH ASSEMBLY PN 12524370/12524527	
	Milled flats on b	. ,,	5/16 in	2 IN — (50.8 MM) PN 12524325
			Figure 16. Firing Pin.	
			NOTE  25MM gun must be cleaned, inspected, and lubricated daily when it has been fired.  2. Remove 25MM gun feeder (WP 0117), barrel (WP 0114), receiver (WP 0120), and track and bolt assembly (WP 0123).  Disassemble track and bolt assembly.	
			<ol> <li>Clean, inspect, and lubricate 25MM gun barrel (WP 0115). If damaged, notify Field Maintenance.</li> <li>Clean, inspect, and lubricate 25MM gun feeder (WP 0118). If damaged, notify Field Maintenance.</li> </ol>	25MM gun barrel is damaged.  25MM gun feeder is damaged
			<ol> <li>Clean, inspect, and lubricate 25MM gun receiver WP 0121). If damaged, notify Field Maintenance.</li> </ol>	25MM gun receiver is damaged.
			<ol> <li>Clean, inspect, and lubricate 25MM gun track and bolt assembly (WP 0125). If damaged, notify Field Maintenance.</li> </ol>	25MM gun track and bolt assembly is damaged.

Table 1. Preventive Maintenance Checks and Services, After – Continued.

NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
			7. Assemble 25MM gun track and bolt assembly WP 0126) Install track and bolt assembly WP 0127) gun receiver WP 0122) barrel WP 0116) and feeder WP 0119)	
			8. Install weapon.	
11	After	Coax Machine Gun	GUNNER/COMMANDER	
		Guil	WARNING	
			Accidental firing of weapons can kill or seriously injure personnel.	
			Set manual safety to SAFE. Ensure that all weapons are unloaded.	
			WARNING	
			<b>□</b> ≤	
			7.62 gun can move and crush hands when gun is operated with 7.62 access door open.	
			Keep 7.62 access door closed during powered mode operation. Remove turret drive power mode before opening 7.62 access door.	
			NOTE	
			Coax machine gun must be cleaned, inspected, and lubricated daily when it has been fired.	
			NOTE	
			Do not change Azimuth (AZ) or Elevation (EL) knob setting. This will affect boresight alignment.	
			Remove coax machine gun (WP 0111).	
			Clean, inspect, and lubricate coax machine gun (WP 0112).	
			3. Install coax machine gun (WP 0113).	

Table 1. Preventive Maintenance Checks and Services, After – Continued.

NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
			<ol> <li>Check front and rear gun mounts. Do not load or fire coax machine gun during mission if front/rear gun mount is cracked, bracket is broken, or parts are missing. Notify Field Maintenance.</li> </ol>	Front or rear gun mount is damaged.

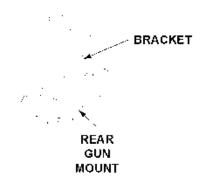


Figure 17. Rear Gun Mount.

5.	Check operation of rear mounting pin for coax machine gun. If rear mounting pin falls out or is missing, notify Field
	Maintenance. If rear mounting pin does not
	move up and down freely, try exercising
	pin until it does move freely. If pin still does
	not move freely, notify Field Maintenance.
	Do not install, load, or fire coax machine
	gun during mission.

Front or rear mounting pin is missing or not moving freely.

# **COAX MACHINE GUN**



**REAR MOUNTING PIN** 

Figure 18. Rear Mounting Pin.

Table 1. Preventive Maintenance Checks and Services, After – Continued.

		<u></u>	aintenance Checks and Services, After – Contin	
NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
			Close coax machine gun access doors     (WP 0011). Check that handles secure     coax machine gun access doors in closed     position.	
12	After	Gunner's Seat	GUNNER  1. Check that Gunner's seat can be moved up, down, forward, and backward freely. Check that seat can be locked into position.	
			GUNNER'S SEAT  CONTROL HANDLE  Figure 19. Gunners Seat.	
			Check that the seat belt cutter is present.	Seat belt cutter is missing.
13	After	Gunner's Periscopes	<ol> <li>Check Gunner's two periscopes for dirty or cracked periscope lenses. If periscope lenses are dirty, wipe with clean, lint-free cloth. If over 50% visibility loss, notify Field Maintenance.</li> <li>Open and close blackout covers. Check that blackout covers are not torn and stay</li> </ol>	

in place when fastened.

Table 1. Preventive Maintenance Checks and Services, After – Continued.

ITEM NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
			GUNNER'S PERISCOPE PERISCOPE LENS  BLACKOUT COVER	
		Fi	gure 20. Periscope Components.	
14	After	Commanders Hatch Cover	Falling hatch could seriously injure you.  Keep head lower than closed hatch position when opening or closing hatch. Keep hands clear of hatch rim when closing. Make sure latch pin or mechanism is fully engaged when hatch is in any open position.  1. Check Commander's hatch cover. Open and close Commander's hatch cover. Check that hatch cover can be locked in OPEN and CLOSED position. Check that quick release pin can be inserted in locking holes to secure latch handle.	Commander's hatch cover cannot be locked in OPEN or CLOSED position. Quick release pin is missing or cannot be inserted into locking holes to secure latch handle.

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

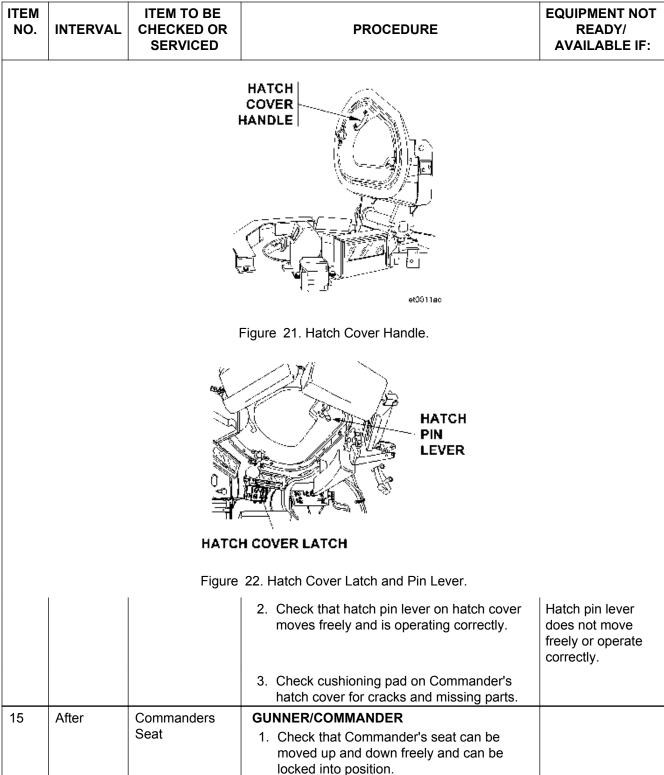


Table 1. Preventive Maintenance Checks and Services, After – Continued.

NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:	
	CONTROL HANDLE				
			Figure 23. Commanders Seat.		
			2. Check that the seat belt cutter is present.	Seat belt cutter is missing.	
16	After	Service Lights	<ul><li>GUNNER/COMMANDER</li><li>1. Check service lights of 25MM gun and coax machine gun. If light is out, notify Field Maintenance.</li></ul>		
	Figure 24. Service Lights Location.				

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	Chemical, Biological, Radiological, and Nuclear (CBRN) System	GUNNER/COMMANDER  1. Activate CBRN system (WP 0063) and allow to run for 5 minutes.			
			<ol> <li>Check air outlet hoses for warm, sufficient air flow and for damage and leaks. If hoses are damaged, notify Field Maintenance.</li> </ol>	Hoses are damaged. If ambient temperature is below freezing, CBRN heater is not functional.		
	FLEXIBLE HOSE  AIR OUTLET HOSE					
	Figure 25. Air Outlet Hoses.					

ITEM **ITEM TO BE EQUIPMENT NOT** NO. **INTERVAL CHECKED OR PROCEDURE** READY/ **SERVICED AVAILABLE IF: AIR OUTLET** HOSE **FLEXIBLE** HOSE Figure 26. Air Outlet Hose (Detailed View). 3. Deactivate CBRN system (WP 0063).

Table 1. Preventive Maintenance Checks and Services, After – Continued.

# **MANDATORY REPLACEMENT PARTS**

There are no replacement parts required for these PMCS procedures.

### **END OF WORK PACKAGE**

# **OPERATOR MAINTENANCE**

# PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS) - WEEKLY

**INITIAL SETUP:** 

**Personnel Required** 

Commander Crew

Driver Gunner

Helper (H)

References

WP 0004

WP 0009 WP 0016 WP 0109 WP 0110 WP 0131

**Equipment Condition** 

Vehicle parked

Turret shut down WP 0017

Table 1. Preventive Maintenance Checks and Services, Weekly.

NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
			NOTE	
			Refer to local safety and environmental protocols for the proper segregation, recycle, and/or disposal of used rags/cloths contaminated with petroleum, solvents, and/or hazardous components.	
1	Weekly	Turret Battery	GUNNER/COMMANDER	

Table 1. Preventive Maintenance Checks and Services, Weekly. – Continued.

ITEM NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
			WARNING	
			LEAD ACID BATTERY  Lead acid battery gases can explode. Do not smoke, have open flames or make sparks around a battery. Battery acid (electrolyte) can cause severe burns to the skin or eyes. Avoid electrolyte contact with skin, eyes or clothing. Remove all jewelry such as rings, ID tags, watches, and bracelets. If jewelry or a tool contacts a battery terminal, a direct short may result in instant heating, severe burns, or electrical shock. Wear protective eyewear, gloves and clothing. If exposed, immediately flush skin and/or eyes with water and seek medical attention.	
			Refer to local procedures and plans for neutralization and cleanup of acid spills. Comply with local procedures and environmental regulations when disposing of used batteries and cleanup materials. Failure to comply may result in injury to personnel and/or damage to the environment.	
			NOTE	
			Goggles and gloves may be obtained from Field Maintenance.	
			Check turret emergency battery compartment for damaged or missing batteries WP 0131).	One or more batteries is damaged, missing, or unserviceable.
			2. Check battery filler caps WP 0131).	Filler caps are damaged or missing.
			Check battery cables and connections (WP 0131).	Cables are missing, broken, or frayed.
			4. Check battery terminal posts WP 0131).	Battery posts are damaged or have rust or corrosion.
			<ol> <li>Check battery hold-downs for broken or missing components (WP 0131).</li> </ol>	Hold-downs are missing or broken.

Table 1. Preventive Maintenance Checks and Services, Weekly. – Continued.

NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:	
	Z0Cy40256ap				
	I	F I	Figure 1. Turret Battery Location.		
			Report any discrepancies to Field     Maintenance.		
2	Weekly	Commanders Periscopes	NOTE  If over 50% visibility loss, notify Field Maintenance.  1. Check Commander's seven periscopes for dirty or cracked periscope lenses. If		
			periscope lenses are dirty, wipe with clean, lint-free cloth.  2. Open and close blackout covers. Check that blackout covers are not torn and stay		
	COMMANDER'S PERISCOPE  PERISCOPE  LENS  BLACKOUT				
	Figure 2. Commander's Periscope Lens and Blackout Cover.				

Table 1. Preventive Maintenance Checks and Services, Weekly. – Continued.

NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
3	Weekly	Turret Manual	GUNNER/COMMANDER	
		Operation	NOTE	
			TOW elevation and gun elevation linkage is easily damaged. Never turn gun elevation handwheel with both TOW Elevation Drive (TED) select lever and Gun Elevation Drive (GED) select lever in MANUAL position.	
			<ol> <li>Check operation of GED select lever and gun elevation handwheel by manually elevating and depressing 25MM gun. If GED select lever cannot be locked in MANUAL position, or if turning gun elevation handwheel does not elevate or depress 25MM gun, notify Field Maintenance.</li> </ol>	
	GUN ELEVATION DRIVE SELECT LEVER			

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

ITEM NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
			GUN ELEVATION HANDWHEEL	
		Γiz	x1901a37b gure 4. Gun Elevation Handwheel.	
			2. Check manual operation of TOW Missile Launcher (TML) as follows:  a. Move GED select lever to POWER position.  b. Move TED select lever to MANUAL position. If TED select lever cannot be locked in MANUAL position, notify Field Maintenance.	
			TOW ELEVATION DRIVE SELECT LEVER	
			Figure 5. TED Select Lever.	

Table 1. Preventive Maintenance Checks and Services, Weekly. – Continued.

ITEM		ITEM TO BE	ntenance Checks and Services, Weekly. – Cont	EQUIPMENT NOT	
NO.	INTERVAL	CHECKED OR SERVICED	PROCEDURE	READY/ AVAILABLE IF:	
			c. Depress TML 4 to 5 inches (102 to 127 mm) to clear stow pin out of saddle by using gun elevation handwheel.		
			<ul> <li>d. Manually raise TML 10 to 12 inches (254 to 305 mm). If TML does not raise smoothly, notify Field Maintenance.</li> </ul>		
			<ul> <li>e. Manually release TOW MANUAL LIFT release handle until launcher bangs against side. If TML does not lower smoothly, notify Field Maintenance.</li> </ul>		
	TOW MANUAL LIFT RELEASE HANDLE				
		Figure	6. TOW Manual Lift Release Handle.		
			f. Manually elevate TML until launcher is stowed in saddle. If gun elevation handwheel cannot be turned without excessive force, binding, or slipping, notify Field Maintenance.		
			3. Traverse turret manually. Check operation of turret traverse drive select lever and turret traverse handwheel. If turret traverse drive select lever cannot be locked in MANUAL position, or if turning turret traverse handwheel does not traverse turret, notify Field Maintenance.		

Table 1. Preventive Maintenance Checks and Services, Weekly. – Continued.

ITEM		ITEM TO BE		<b>EQUIPMENT NOT</b>
NO.	INTERVAL	CHECKED OR	PROCEDURE	READY/
		SERVICED		AVAILABLE IF:

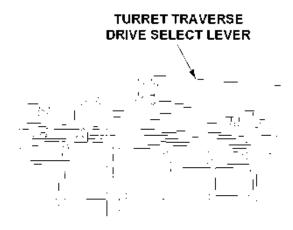


Figure 7. Turret Traverse Drive Select Lever.

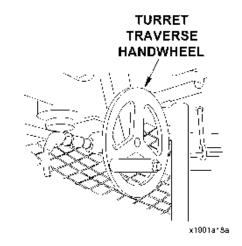


Figure 8. Turret Traverse Handwheel.

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

	Table 1. Preventive Maintenance Checks and Services, Weekly. – Continued.				
ITEM NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:	
4	Weekly	Backup Sight Operation	GUNNER/COMMANDER  1. Check backup sight for damage.		
	BACKUP				
			Figure 9. Backup Sight.		
			<ol> <li>Check that eyepiece assembly can rotate to either the Gunner's or Commander's position. Check that lock lever holds eyepiece assembly in position.</li> <li>Check that eyepiece assembly adjusts from 4 to +4 diopters and that diopter scale can be adjusted for each operator.</li> <li>Check that eyecup material is flexible and can be deflated for use with gas mask.</li> </ol>		
5	Weekly	Turret Drive	GUNNER/COMMANDER		
		Control Unit (TDCU)	Turret can rotate and severely injure or kill you. Do not reach through turret shield opening when turret drive switch is on. Keep turret shield door closed whenever turret drive switch is on. Engage turret travel lock before moving or reaching through turret shield opening.		

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

ITEM NO.	INTERVAL	ITEM TO BE CHECKED OR	PROCEDURE	EQUIPMENT NOT READY/	
		SERVICED		AVAILABLE IF:	
			Traverse turret to 3200 mils (WP 0016).     Move TURRET DRIVE switch to OFF (WP 0004). Move TURRET POWER switch to OFF (WP 0004). Set turret travel lock (WP 0009).		
			<ol> <li>(H) Open turret shield door and check that the dust cap and shorting plug are installed on J10 and J11. Then close turret shield door.</li> </ol>		
			J11 J10 '		
		Figu	ire 10. Dust Cap and Shorting Plug.		
			<ol> <li>Release turret travel lock WP 0009). Move TURRET POWER switch to ON WP 0004). Move TURRET DRIVE switch to ON WP 0004).</li> <li>Traverse turret to 6400 mils WP 0016). Move TURRET DRIVE switch to OFF WP 0004). Move TURRET POWER switch to OFF WP 0004). Set turret travel lock WP 0009).</li> </ol>		

Table 1. Preventive Maintenance Checks and Services, Weekly. – Continued.

NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
6	Weekly	Gunner's Foot Rest	GUNNER/COMMANDER  1. Inspect Gunner's foot rest.	Quick release pins are damaged and/or missing.

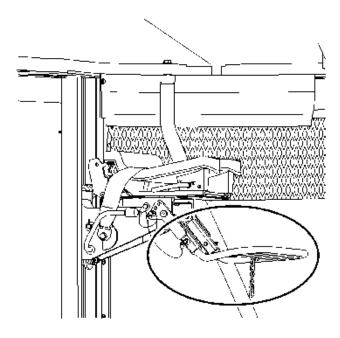


Figure 11. Gunners Foot Rest.

7	Weekly	Antennas	GUNNER/COMMANDER	
			WARNING	
			5	
			Radio antennas can shock or burn you if touched while transmitting.	
			Do not touch antennas when the radios are in use. Ensure radios are off before handling antennas.	
			Check antenna mounts for damage to antenna support bases and contact points.	

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

	Table 1. Preventive Maintenance Checks and Services, Weekly. – Continued.					
NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:		
ANTENNA SUPPORT BASE ANTENNA MOUNT						
		F	igure 12. Antenna Components.			
8	8 Weekly TML GUNNER Clean TML weekly whether it has been fired or not WP 0110).  TOW launc contaminate debris.					
9	Weekly	Smoke Gre- nade Launchers	NOTE  Smoke grenade launches must be cleaned and inspected weekly, whether smoke grenades have been fired or not.  Remove rubber caps from smoke grenade launcher tubes. Check rubber caps for damage.			

**ITEM EQUIPMENT NOT ITEM TO BE** NO. **INTERVAL CHECKED OR PROCEDURE** READY/ **SERVICED AVAILABLE IF:** SMOKE GRENADE LAUNCHER TUBES **RUBBER CAPS** Figure 13. Smoke Grenade Launcher Rubber Caps. 2. Clean and inspect smoke grenade launchers (WP 0109). 3. Install rubber caps on smoke grenade launcher tubes.

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

## **MANDATORY REPLACEMENT PARTS**

There are no replacement parts required for these PMCS procedures.

## **END OF WORK PACKAGE**

## **OPERATOR MAINTENANCE**

# PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS) - MONTHLY

#### **INITIAL SETUP: Personnel Required** WP 0118 WP 0119 Commander Driver WP 0121 WP 0122 Gunner Crew WP 0125 WP 0126 References WP 0127 WP 0112 WP 0113 **Equipment Condition** WP 0115 Vehicle parked Turret shut down WP 0017 WP 0116

**Table 1. Preventive Maintenance Checks and Services, Monthly.** 

ITEM NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
			NOTE	
			Be sure to conduct cleaning in areas with approved drains and collection methods of cleaning run-off. Dispose of spent cleaning solutions, applicators, and washing aids IAW approved industrial methods, local safety, and environmental protocols.	
			NOTE	
			Refer to local safety and environmental protocols for the proper segregation, recycle, and/or disposal of used rags/cloths contaminated with petroleum, solvents, and/or hazardous components.	
1	Monthly	25MM Gun	GUNNER	
			WARNING	
			*	
			APFSDS-T M919 ammunition has a Depleted Uranium (DU) penetrator that emits low levels of radiation. Exceeding vehicle stowage plan for M919 ammunition can increase your radiation exposure. Do not exceed specified stowage plan unless combat conditions dictate. Avoid unnecessary occupancy when M919 ammunition is stowed in crew compartment.	

Table 1. Preventive Maintenance Checks and Services, Monthly. – Continued.

	Table		ntenance Checks and Services, Monthly. – Con	
NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	READY/ AVAILABLE IF:
			WARNING	
			**	
			Accidental firing of weapons can kill or seriously injure personnel.	
			Set manual safety to SAFE. Ensure that all weapons are unloaded.	
			WARNING	
			25MM gun barrel may have fixed radioactive Depleted Uranium (DU) residue inside after firing M919 ammunition.	
			If M919 ammunition has been fired, survey muzzle end of gun barrel with AN/VDR-2, PDR-77, or equivalent radiation detection instrument. Beta window of radiation detection instrument must be open when readings are taken. See TM 11-6665-251-10. Wear gloves.	
			If fixed radioactive residue is present, remove barrel from service and dispose of as low-level radioactive waste in accordance with AR 385-10.	
			NOTE	
			Fixed radioactive residue inside of the gun barrel after firing M919 rounds suggests an in-bore projectile breakup. Breakups can occur because of a worn or damaged barrel or because of defective ammunition.	
			NOTE	
			Normal firings of M919 DU ammunition does not cause radioactive contamination in the M242 gun barrel. However, if the barrel is found to be radioactively contaminated, the barrel is to be taken out of service without being cleaned, ends sealed with tape, and the barrel marked Low Level Radioactive Waste. Storage and return of the barrel is accomplished in accordance with AR 385-10.	

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

			ntenance Checks and Services, Monthly. – Con	
NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
			NOTE	
			25MM gun will be cleaned, inspected, and lubricated monthly, whether it has been fired or not.	
			<ol> <li>Clean, inspect, and lubricate 25MM gun barrel (WP 0115).</li> </ol>	25MM gun barrel is damaged and or missing parts. Notify Field Maintenance.
			<ol> <li>Clean, inspect, and lubricate 25MM gun feeder WP 0118)</li> </ol>	25MM gun feeder is damaged and or missing parts. Notify Field Maintenance.
			<ol> <li>Clean, inspect, and lubricate 25MM gun receiver WP 0121).</li> </ol>	25MM gun receiver is damaged and or missing parts. Notify Field Maintenance.
			Clean, inspect, and lubricate <u>25MM</u> gun track and bolt assembly (WP 0125)	25MM gun track and bolt assembly is damaged and or missing parts. Notify Field Maintenance.
			5. Assemble 25MM gun track and bolt assembly WP 0126) Install track and bolt assembly WP 0127) gun receiver WP 0122) barrel WP 0116) and feeder WP 0119)	
		0511110	6. Install weapon.	
2	Monthly	25MM Gun Sys- tem	GUNNER/COMMANDER	
		Com	CAUTION	
			Unsecured ammo chute can cause damage when rotating turret. EnsureArmor-Piercing (AP) and High Explosive (HE) feed chutes, guide pins, guide pin mounting brackets/ tabs, and latches are not damaged, loose, or missing. Ensure AP and HE feed chutes are properly connected and secured.	

Table 1. Preventive Maintenance Checks and Services, Monthly. – Continued.

	Table 1. Preventive Maintenance Checks and Services, Monthly. – Continued.					
NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:		
			<ol> <li>Check if AP and HE feed chutes, guide pins, guide pin mounting brackets/tabs, and latches are damaged, loose, or missing. If chute is damaged or missing or</li> </ol>	Either AP or HE feed chutes are cracked or separated.		
			cannot be secured notify Field Maintenance.	Guide pin or pin is damaged, loose, missing, bent, or excessively corroded.		
				Feeder assembly brackets/tabs and attaching fasteners are damaged, loose, missing, bent, or cracked preventing AP/HE feed chutes from being properly secured.		
				Latch is damaged, loose, missing, bent, or cracked.		
				Latch or latch/ release mechanism does not operate as intended or operates roughly.		
			AP FEED CHUTE			
	AP FEED CHUTE  HE FEED CHUTE					
		F	igure 1. AP and HE Feed Chutes			

20031907/000220002

Table 1. Preventive Maintenance Checks and Services, Monthly. – Continued.

SERVICED AVAILABLE IF		NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
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Figure 2. AP Feed Chute Guide Pin, Guide Pin Hole, and Latch Inspections.

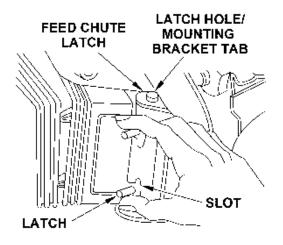


Figure 3. AP Feed Chute Latches and Latch Holes Mounting/Bracket Tab Inspections.

Table 1. Preventive Maintenance Checks and Services, Monthly. – Continued.

ITEM		ITEM TO BE		<b>EQUIPMENT NOT</b>
NO.	INTERVAL	CHECKED OR	PROCEDURE	READY/
		SERVICED		AVAILABLE IF:

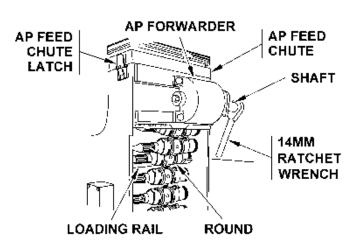
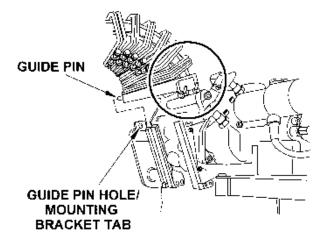


Figure 4. AP Feed Chute Latches at AP Forwarder Location Inspections.



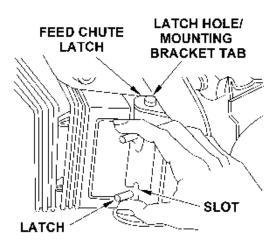
Z0G1907 00020004

20G1907/00C20003

Figure 5. HE Feed Chute Guide Pin, Guide Pin Hole/Mounting Bracket Tab, and Latch Inspections.

Table 1. Preventive Maintenance Checks and Services, Monthly. – Continued.

NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
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20031907/000220002

20G1907/00C20006

Figure 6. HE Feed Chute Latches and Latch Holes/Mounting Bracket Tab Inspections.

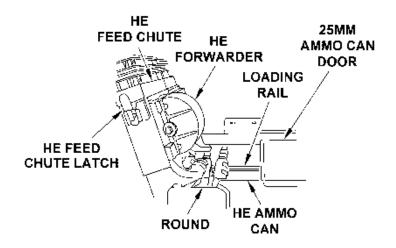


Figure 7. HE Feed Chute Latches at HE Forwarder Location Inspections.

Table 1. Preventive Maintenance Checks and Services, Monthly. – Continued.

NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
			CAUTION  Unsecured ammo chute can cause damage when rotating turret. Ensure AP and HE link eject chutes, pins, and latches are not damaged, loose, or missing. Ensure AP and HE link eject chutes are properly connected and secured.	
			Check if AP and HE link eject chutes, pins, and latches are damaged, loose, or missing. If chute is damaged or missing or cannot be secured notify Field Maintenance.	Either AP or HE link eject chutes are damaged or missing. Guide pin or pin is damaged, loose, missing, bent, or excessively corroded.
				Latch is damaged, loose, missing, bent, or cracked.
				Latch or latch/ release mechanism does not operate as intended or operates roughly.

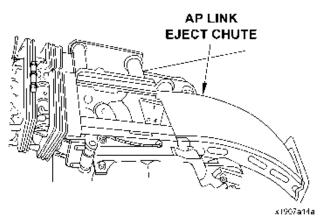


Figure 8. AP Link Eject Chute Inspection.

Table 1. Preventive Maintenance Checks and Services, Monthly. – Continued.

ITEM NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
		GERVIOLD		AVAILABLE II

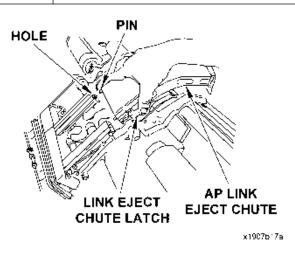


Figure 9. AP Link Eject Chute Latches, Pins, and Pin Holes Inspections.



Figure 10. HE Link Eject Chute.

Table 1. Preventive Maintenance Checks and Services, Monthly. – Continued.

	Table 1. Preventive Maintenance Checks and Services, Monthly. – Continued.							
NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:				
	25MM GUN FEEDER CHUTE LATCH  HOLE  HE LINK EJECT CHUTE							
			x1907b19a					
	Fi	gure 11. HE Link E	Eject Chute Latches, Pins, and Pin Holes Inspection	ns.				
3	Monthly	Coax Machine Gun	<ol> <li>GUNNER/COMMANDER</li> <li>Remove coax machine gun. Clean, inspect, and lubricate coax machine gun (WP 0112). Install coax machine gun (WP 0113).</li> <li>Check 7.62MM ammo feed chute and two latches for damage. If two latches are broken or do not secure 7.62MM ammo feed chute in place, do not load or fire coax machine gun during mission. Notify Field Maintenance.</li> <li>Check boresight knobs on coax machine gun for rust, dirt, and free movement. Clean dirty knobs with clean cloth. If boresight knobs do not move freely, notify Field Maintenance. Do not load or fire coax machine gun during mission.</li> </ol>					

Table 1. Preventive Maintenance Checks and Services, Monthly. – Continued.

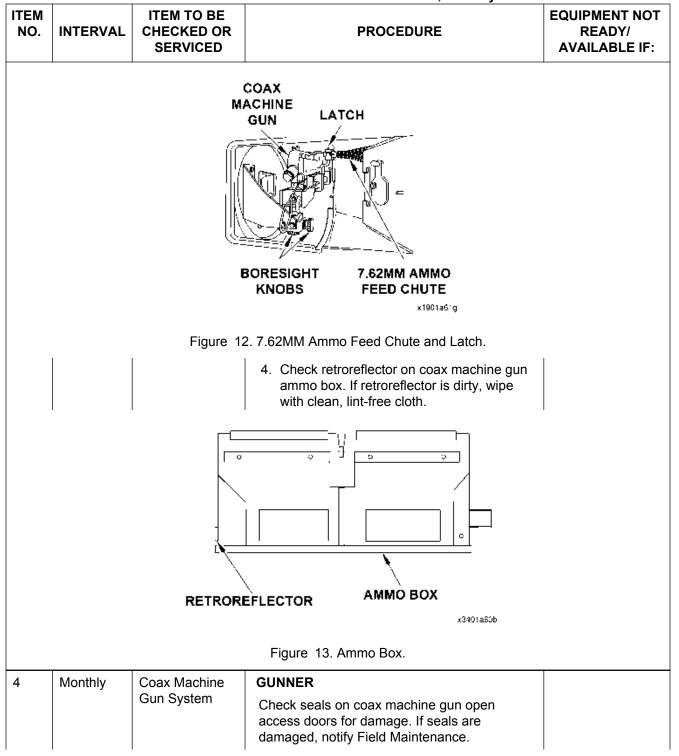
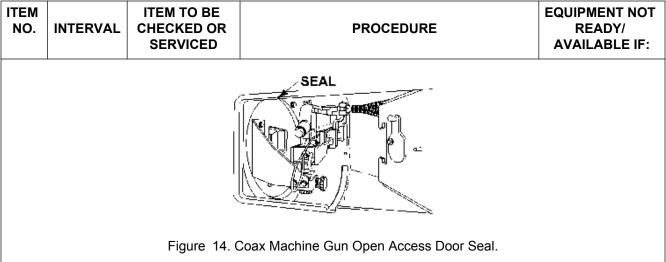


Table 1. Preventive Maintenance Checks and Services, Monthly. – Continued.



# **MANDATORY REPLACEMENT PARTS**

There are no replacement parts required for these PMCS procedures.

# **END OF WORK PACKAGE**