TM 9-2350-222-10-1

VOLUME 1 OF 3

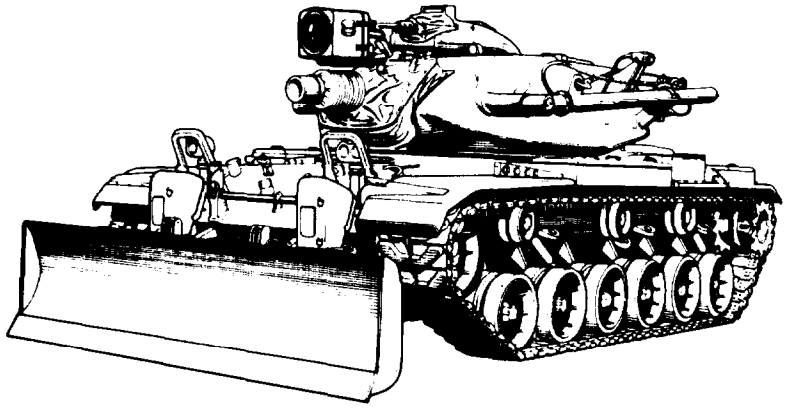
CHECK FOR CURRENT CHANGES

OPERATOR'S MANUAL
OPERATOR CONTROLS AND PMCS

OPERATING INSTRUCTIONS PAGE 2-1

PMCS PAGE 2-29

This copy is a reprint which includes current pages from Changes 1 through 6.



VEHICLE, COMBAT ENGINEER
FULL TRACKED: M728
(2350-00-795-1797)

HEADQUARTERS, DEPARTMENT OF THE ARMY

JANUARY 1981

TA133250

WARNING

The following summary list is adapted from the warnings within the manual. However, all warnings should be observed as noted in the text.

1. Make sure all personnel are in a safe position before moving vehicle, elevating gun, or traversing turret.

2. Make sure safety is in a safe position on all loaded weapons, until ready to fire.

3. When weapons are loaded, keep trained on target and keep all personnel clear of barrels.

4. Do not allow flames or sparks within area while refueling or loading ammunition. Have a manned fire extinguisher handy.

5. Neither gas-particulate filter unit nor M25A1 tank mask will protect you against carbon monoxide poisoning.

6. Do not disconnect/connect any part of electrical equipment with power on.

7. Never attempt to operate MASTER BATTERY switch (ON/OFF) from turret compartment. Operation must be performed by crewmember who is situated completely within driver's compartment. Do not under any circumstances use GUNNER'S POWER CONTROL handles for support when reentering turret.

8. Never move steering control while engine is running, transmission is in park, and brakes are locked. Moving steering control could result in accidental pivot steering. This could cause injury to personnel or damage to vehicle or property.

9. Before you work around tracked vehicle, remove rings, bracelets, and wrist watches. These items may be caught on projections and cause injury or may be shorted across an electrical circuit and cause severe burns and electrical shock.

10. Wear safety gloves when handling wire-rope of boom staylines or winch cable.

11. Keep all personnel clear of winch and cable during operation. All personnel must be at least the length of cable away from vehicle and load. Serious injury could result if winch fails or cable breaks.

12. Main gun must not be elevated above 178 mils (10 degrees) quadrant reading when loading round.

TA132115

CHANGE

NO. 6

HEADQUARTERS
DEPARTMENT OF THE ARMY
WASHINGTON, D. C., *18 June 1993*

OPERATOR'S MANUAL
OPERATOR CONTROLS AND PMCS

VEHICLE, COMBAT ENGINEER
FULL-TRACKED: M728
(2350-00-795-1797)

TM 9-2350-222-10-1, 12 January 1981, is changed as follows:

1. Remove old pages and insert new pages as indicated below.

2. New or changed material is indicated by a vertical bar in the margin of the page.

Remove Pages	Insert Pages
b and c	b and c
1-1 and 1-2	1-1 and 1-2
1-11 and 1-12	1-11 and 1-12
2-21 thru 2-24	2-21 thru (2-23 blank)/2-24
2-31 and 2-32	2-31 and 2-32
2-85 and 2-86	2-85 and 2-86
None	2-86.1 /(2-86.2 blank)
2-119 and 2-120	2-119 and 2-120
2-163 and 2-164	2-163 and 2-164

Approved for public release; distribution is unlimited.

File this change sheet in front of the publication for reference purposes.

By Order of the Secretary of Army:

GORDON R. SULLIVAN
General, United States Army
Chief of Staff

Official:

MILTON H. HAMILTON
Administrative Assistant to the
Secretary of the Army
04433

Distribution:
To be distributed IAW DA Form 12-37-E, Block 1040, requirements for TM 9-2350-222-10-1.

Change

No. 5

HEADQUARTERS
DEPARTMENT OF THE ARMY
Washington D.C., *5 January 1992*

OPERATOR'S MANUAL
OPERATOR CONTROLS AND PMCS
VEHICLE, COMBAT ENGINEER
FULL-TRACKED: M728
(2350-00-795-1797)

TM 9-2350-222-10-1, 12 January 1981, is changed as follows:

1. Remove old pages and insert new pages as indicated below.
2. The Preventive Maintenance Checks and services have been completely replaced; no change bars or pointing hands will appear on pages 2-34 through 2-193.
3. File this change sheet in front of the publication for reference purposes.

Remove Pages	Insert Pages
2-33 thru 2-137/(2-138 blank)	2-33 thru 2-193/(2-194 blank)

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CHANGE

NO. 4

HEADQUARTERS
DEPARTMENT OF THE ARMY
Washington, D.C., *28 January 1987*

Operator's Manual

Operator Controls and PMCS

VEHICLE, COMBAT ENGINEER
FULL-TRACKED: M728
(2350-00-795-1797)

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Remove Pages	Insert Pages
b and c	b thru d/(e blank)
2-13 and 2-14	2-13 and 2-14
None	2-14.1/(2-14.2 blank)
2-37 and 2-38	2-37 and 2-38
None	2-38.1 and 2-38.2
2-39 and 2-40	(2-39 blank)/2-40
2-65 and 2-66	(2-65 blank)/2-66
None	2-66.1 and 2-66.2
2-101 and 2-102	(2-101 blank)/2-102
None	2-102.1 and 2-102.2
2-131 and 2-132	2-131 and 2-132

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TM 9-2350-222-10-1
C3

CHANGE

NO. 3

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Washington, D.C., *20 January 1987*

Operator's Manual

Operator Controls and PMCS

VEHICLE, COMBAT ENGINEER
FULL TRACKED: M728
(2350-00-795-1797)

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1. Remove old pages and insert new pages as indicated below.

2. New or changed material is indicated by a vertical bar in the margin of the page.

Remove Pages	Insert Pages
2-17 and 2-18	**2-17 and 2-18**
2-67 thru 2-70	**2-67 thru 2-70**
2-107 and 2-108	**2-107 and 2-108**

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Change

No. 2

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OPERATOR'S MANUAL
OPERATOR CONTROLS AND PMCS
VEHICLE, COMBAT ENGINEER
FULL-TRACKED: M728
(2350-00-795-1797)

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1. Remove old pages and insert new pages as indicated below.
2. New or changed material is indicated by a vertical bar in the margin of the page.
3. Added or revised illustrations are indicated by a vertical bar adjacent to the illustration identification number.

Remove Pages	Insert Pages
i and ii	i and ii
1-11 thru 1-14	1-11 thru 1-14
2-1 and 2-2	2-1 and 2-2
None	2-10.1/(2-10.2 blank)
2-45 and 2-46	2-45 and 2-46
2-53 and 2-54	2-53 and 2-54
None	2-54.1 thru 2-54.4
2-55 and 2-56	(2-55 blank)/2-56
None	2-80.5 and 2-80.6
2-81 and 2-82	2-81 and 2-82
None	DA Forms 2028-2
Cover and Warning	**Cover and Warning**

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CHANGE NO. 1

C1

HEADQUARTERS
DEPARTMENT OF THE ARMY
Washington, DC, 21 Sep 83

OPERATOR'S MANUAL
VEHICLE, COMBAT ENGINEER
FULL-TRACKED, M728
(2350-00-795-1797)

TM 9-2350-222-10-1, 12 January 1981, is changed as follows:

1. Remove old pages and insert new pages as indicated below.
2. New or changed material is indicated by a vertical bar in the margin of the page.

Remove Pages	Insert Pages
b/(c blank)	b and c
1-1 through 1-4	1-1 through 1-4
1-9 through 1-14	1-9 through 1-14
2-7 and 2-8	2-7 and 2-8
2-11 and 2-18	2-11 and 2-18
None	2-18.1 through 2-18.3/(2-18.4 blank)
2-19 through 2-24	2-19 through 2-24
None	2-24.1 and 2-24.2
2-25 through 2-30	2-25 through 2-30
2-37 through 2-40	2-37 through 2-40
2-45 and 2-46	2-45 and 2-46
2-73 and 2-74	2-73 and 2-74
2-77 and 2-78	2-77 and 2-78
2-83 through 2-88	2-83 through 2-88
2-91 and 2-92	2-91 and 2-92
2-97 and 2-98	2-97 and 2-98

Remove Pages	Insert Pages
None	2-98.1 through 2-98.4
2-103 through 2-112	2-103 through 2-112
None	2-112.1 and 2-112.2
2-115 and 2-116	2-115 and 2-116
None	(2-116.1 blank)/2-116.2
2-117 and 2-118	2-117 and 2-118
None	‘2-118.1 through 2-118.3/(2-118.4 blank)
2-119 and 2-120	2-119 and 2-120
2-129 and 2-130	2-129 and 2-130
None	2-132.1/(2-132.2 blank)

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By Order of the Secretary of the Army:

JOHN A. WICKHAM,
General, United States
Chief of Staff

Official:

ROBERT M. JOYCE
Major General, United States Army
The Adjutant General

Distribution:
To be distributed in accordance with DA Form 12-3. Direct Support and General Support Maintenance. Vehicle. Combat Engineer. Full-Tracked: M728.

13. Do not apply turret power or operate turret controls until all personnel are in safe positions and prepared for turret or gun movement.

14. Do not operate turret in power or manual mode until all personnel are in proper position, turret ring has been cleared, and shell ejection plate and all platform guards are in place.

15. Do not reach into or attempt to enter or exit driver's compartment until turret power switch is off and turret traverse lock is in locked position.

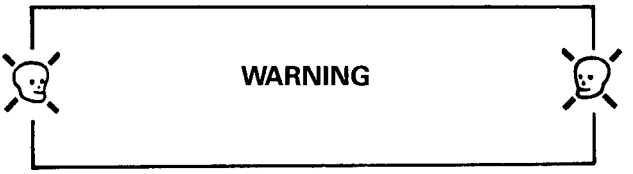
16. Crew members out of station are in extreme danger when turret power is on. Commanders must shut down turret power before allowing crew members to leave their stations.

17. Dry cleaning solvent P-D-680 is toxic and flammable. To avoid injury, wear protective goggles and gloves and use in a well-ventilated area. Avoid contact with skin, eyes, and clothes, and do not breathe vapors. Do not use near open fire or excessive heat. The flash point for Type I dry cleaning solvent is 100°F (38 °C) and for Type II is 140° F (60° C). If you become dizzy while using dry cleaning solvent, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.

18. If NBC exposure is suspected, all air filter media must be handled by personnel wearing protective equipment. Contact your unit NBC Officer or NBC NCO for appropriate handling or disposal procedures.

Laser light is dangerous and can cause blindness if viewed without appropriate optical filters. This vehicle is equipped with protective filters for the telescope and gunner's periscope as well as commander's periscope. When operating in an area where lasers are a potential threat, be sure to take protective measures including installation of optical filters.

TA252660



CARBON MONOXIDE POISONING CAN BE DEADLY.

Carbon monoxide is a colorless, odorless, deadly poisonous gas, which when breathed, deprives your body of oxygen and causes suffocation. Exposure to air contaminated with carbon monoxide causes symptoms of headache, dizziness, loss of muscular control, apparent drowsiness, and coma. Permanent brain damage or death can result from severe exposure. It occurs in the exhaust fumes of fuel-burning heaters and internal combustion engines and becomes dangerously concentrated under conditions of inadequate ventilation. Make sure of safety of personnel whenever personnel heater or engine of vehicle is operated for maintenance purposes or tactical use.

1. DO NOT operate heater or vehicle engine in an enclosed area unless it is ADEQUATELY VENTILATED.

2. DO NOT idle engine for long periods without ventilator blower operating. If tactical situation permits, open hatches.

3. DO NOT drive any vehicle with inspection plates, cover plates, or engine compartment doors removed unless necessary for maintenance purposes.

4. BE ALERT at all times during vehicle operation for exhaust odors and exposure symptoms. If either are present, IMMEDIATELY VENTILATE personnel compartments. If symptoms persist, remove affected personnel from vehicle and treat as follows: expose to fresh air, keep warm, DO NOT PERMIT PHYSICAL EXERCISE, administer artificial respiration if necessary.

THE BEST DEFENSE AGAINST CARBON MONOXIDE POISONING IS ADEQUATE VENTILATION.

Technical Manual
No. 9-2350-222-10-1

HEADQUARTERS
DEPARTMENT OF THE ARMY
Washington, D. C., 12 January 1981

OPERATOR'S MANUAL
OPERATOR CONTROLS AND PMCS
VEHICLE, COMBAT ENGINEER
FULL-TRACKED: M728
(2350-00-795-1797)

REPORTING ERRORS AND RECOMMENDING IMPROVEMENTS

You can help improve this manual. If you find any mistakes, or if you know of a way to improve the procedures, please let us know. Mail your letter, DA Form 2028 (Recommended Changes to Publications and Blank Forms), or DA Form 2028-2 located in the back of this manual direct to: Commander, U.S. Army Tank-Automotive Command, Attn: AMSTA-MB Warren, MI 48397-5000. A reply will be furnished to you.

TABLE OF CONTENTS

VOLUME 1

VOLUME 2

TA249034

*This manual, together with TM 9-2350-222-10-2, 12 January 1981, and TM 9-2350-222-10-3, 12 January 1981, supersedes TM 9-2350-222-10, August 1965 and TM 9-2350-222-ESC, 16 October 1972.

TABLE OF CONTENTS- Continued

VOLUME 3

TA132118

HOW TO USE THIS MANUAL

- This manual (TM 9-2350-222-10) is divided into 3 volumes, with volume number indicated on the cover by -1, -2 or -3 after the basic TM number. The manual is further divided into chapters and sections. For a specific volume, chapter or section; refer to TABLE OF CONTENTS (page i).

- The TABLE OF CONTENTS lists the titles of each chapter and section and the page number on which each chapter and section begins. Also listed in the TABLE OF CONTENTS are the APPENDIXES and the SUBJECT INDEX.

- Section I and II of Chapter 1 and Section I of Chapter 2 will introduce the vehicle, giving General Information, Equipment Description, description and use of operator's controls and indicators for the inexperienced as well as serving as a reference for the experienced.

- Section II of Chapter 2 is the Preventative Maintenance Checks and Services (PMCS). This PMCS table lists all required checks and services. There are before, during, after operations, weekly and monthly checks and services. The PMCS contains the conditions under which you report your vehicle not ready/ available.

- Section III and IV of Chapter 2 provides instructions for operating your vehicle under usual and unusual conditions. Each of the sections has its own OPERATIONAL INDEX for quick reference to the procedures by title.

- Section I, II, and III of Chapter 3 provides lubrication, troubleshooting, and maintenance instructions for keeping your vehicle fully operational. A feature of TROUBLESHOOTING (Chapter 3, Section II) is the SYMPTOM INDEX. This index provides an easy way to find the troubleshooting procedure needed by looking up the symptom.

- Chapter 4 provides information on the types of ammunition authorized. In addition identification, care, handling and preservation of ammunition is described.

- The APPENDIXES which follow Chapter 4 provide information on equipment, tools, and supplies needed to keep the vehicle fully operational.

TA132119

HOW TO USE THIS MANUAL - Continued

- The SUBJECT INDEX is an alphabetical listing of subjects you are likely to look for, You are able to find information on procedures by looking for either the equipment name or operation to be performed on the equipment in the index, Example: “Boresight caliber .50 machine gun” can be found in the index by looking under any of the following subjects.

  Boresight
  Caliber .50 machine gun
  Machine gun
  M85 caliber .50 machine gun

- The pages of each chapter are numbered consecutively, using two-part arabic numerals separated by a hyphen. The first part is the chapter number and the second part is the order within the chapter.

- When more than one crewmember is required to perform a procedure, the number of persons required will be stated in a NOTE at the beginning of that procedure.

- Tools, equipment, and/or supplies needed for a procedure, along with their stowage locations, are listed at the beginning of the procedure.

- Condition listed under Make Sure should always be met before beginning to perform procedure.

Example

Make Sure:
- Turret traverse lock is set to LOCKED (page 2-568).

Operator should check that the turret traverse lock is locked, If not, operator should lock it according to procedure on page 2-568.

- Numbered steps are to be performed in the order they are numbered.

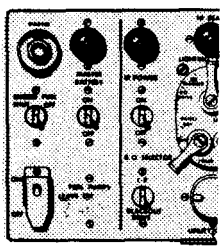
TA132120

HOW TO USE THIS MANUAL - Continued

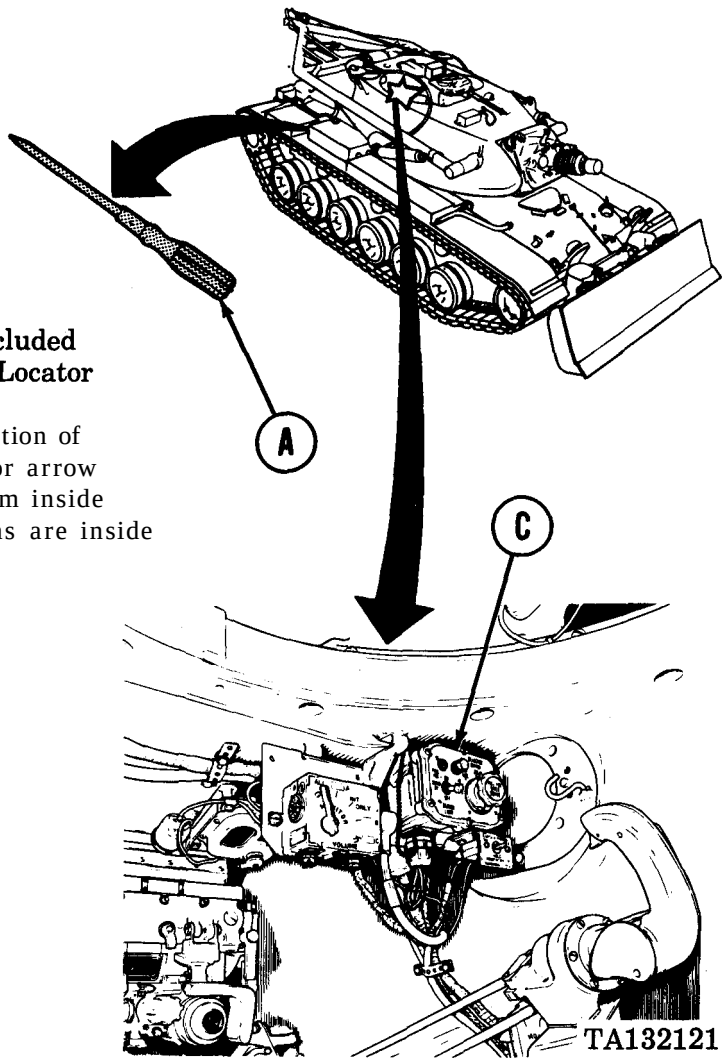
- WARNINGS, CAUTIONS, and NOTES appear before the step to which they apply. Be sure to read and follow all WARNINGS and CAUTIONS before performing any procedure or step that follows.

- When a procedure is listed, followed by a page number in parenthesis, go to that page for instructions on how to do that procedure.

- Names of switches, switch positions, and equipment descriptions that appear on decals, signs, or stencils will appear in the text in CAPITAL LETTERS. Example: The words MASTER BATTERY appears on the drivers control panel above the switch. When called out as MASTER BATTERY switch, the words MASTER BATTERY will always be capitalized.



- **Locator views are included wherever necessary. Locator** arrows are solid and started from the location of an item. When locator arrow is shown starting from inside jagged circle, locations are inside the vehicle.

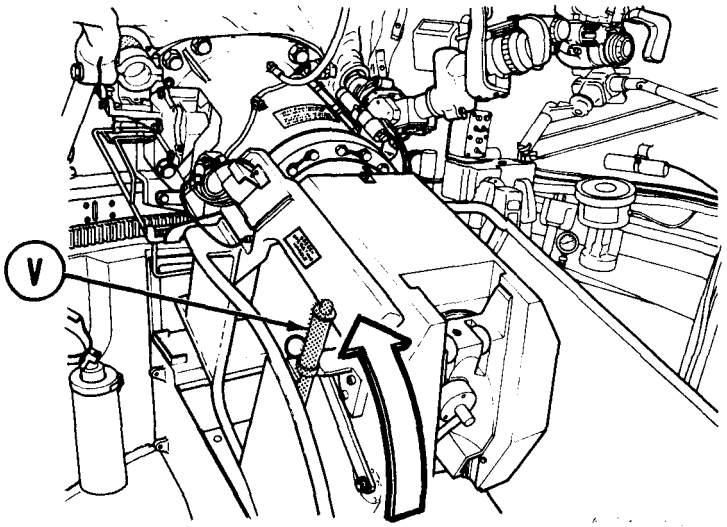


HOW TO USE THIS MANUAL - Continued

- Callout letters identifying equipment in illustrations will appear in a callout balloon on art and in parenthesis in the text. See example.

Example

13. Rotate operating handle (V) forward to latched position.

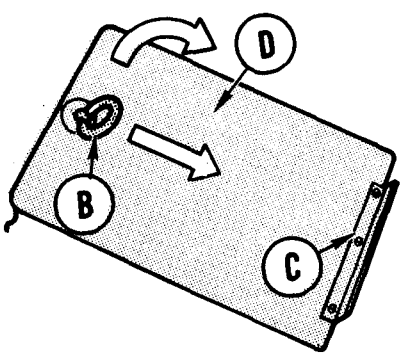


LOADER'S STATION

- Mechanical motion arrows are white and show the direction of movement of an item. See example.

TURRET FLOOR

Example



TA132122

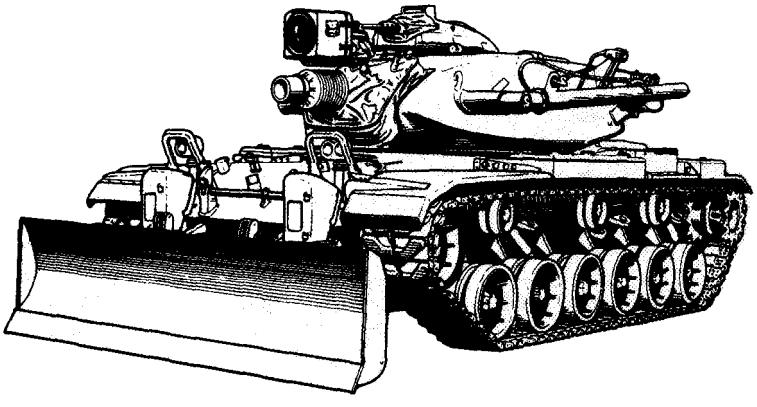
CHAPTER 1

INTRODUCTION

Section I. GENERAL INFORMATION

Scope

This manual is for your use in operating and maintaining the CEV (Combat Engineer Vehicle). The vehicle is operated by a four-man crew. The crew consists of a commander, gunner, loader, and driver.



Maintenance Forms and Records

Department of the Army forms and procedures used for equipment maintenance will be those prescribed by DA PAM 738-750, The Army Maintenance Management System (TAMMS). ■

Reporting Equipment Improvement Recommendations (EIR)

EIR's can and must be submitted by anyone who is aware of an unsatisfactory condition with the equipment design or use. It is not necessary to show a new design or list a better way to perform a procedure. Just simply tell why the design is unfavorable or why a procedure is difficult. EIRs may be submitted on SF 368, Quality Deficiency Report. Mail directly to Commander. U.S. Army-Tank Automotive Command, AMSTA-QR, Warren, MI 48397-5000. A reply will be furnished to you. ■

NOMENCLATURE CROSS REFERENCE LIST

Common Name	Official Nomanclature and General Application
Amplifier	Amplifier, Audio Frequency AM-1780/VRC
Azimuth indicator	Indicator, Azimuth M28E2
CVC helmet	Combat Vehicle Crewmember Helmet with headset and microphone installed
Daylight periscope (driver's)	Periscope M27
Elevation Quadrant	Quadrant, Fire Control M13A3
External handset box	Control, Intercommunication set C-2296/VRC
Instrument light (for M105F telescope)	Light, Instrument M50
Intercom	Intercommunication Set AN/ VIC-1 (V)
Intercom control box (crew members)	Control, Intercommunication Set C-2298/VRC
Intercom control box (driver's)	Control, Intercommunication Set C-2297/VRC
IR periscope (driver's)	Periscope M24
Light source control (for M36 or M36E1)	Control, Light Source 861959
Light source control (for M105F)	Control, Light Source 8619165-1
Light source control (for M13A3)	Control, Light Source 8620860
Night vision viewer (driver's)	Viewer Assembly AN/ VVS-2
Periscope (commander's)	Periscope M36
Periscope (commander's)	Periscope M36E1
Periscope (gunner's)	Periscope M32CE1
Periscope (loader's),	Periscope M37
Receiver-Transmitter	Receiver-Transmitter RT-524/ VRC used with AN/VRC-46
Receiver-Transmitter	Receiver-Transmitter RT505/ VRC used with AN/VRC-53
Receiver-Transmitter	Receiver-Transmitter RT-841/ VRC used with AN/VRC-64
Searchlight	Searchlight AN/VSS-2
Searchlight	Searchlight AN/VSS-3A

TA252662

Section II. EQUIPMENT DESCRIPTION

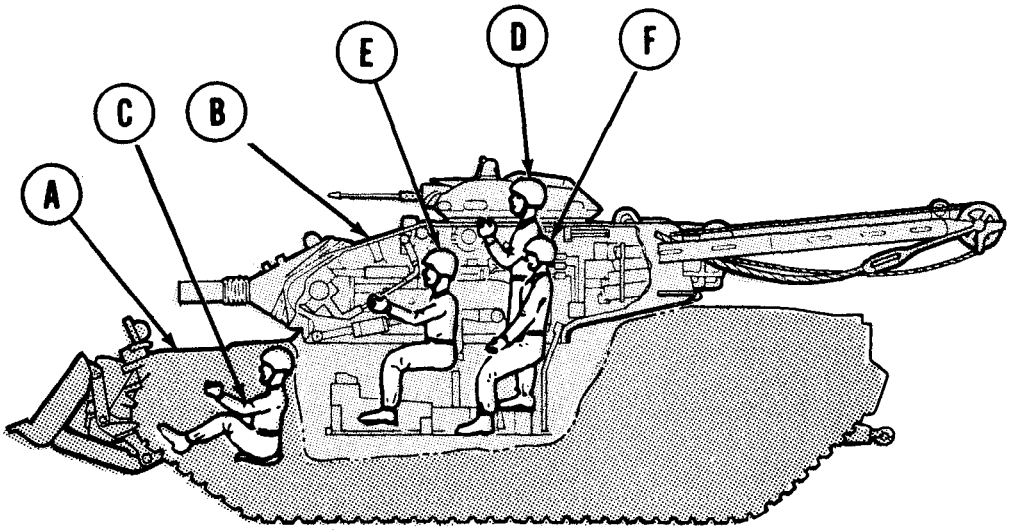
Purpose

A combat engineer vehicle is designed to remove, destroy, or make obstacles while providing movable weapons.

Capability and Features

- Operates within a nuclear-biological-chemical environment
- Moves rapidly over cross country terrains
- Moldboard provides capability of clearing obstacles
- Hoists up to 17,500 pounds (7999 kilograms)
- Winches up to 25,000 pounds (11,340 kilograms)
- Provides instant heavy demolition capability
- Fords water up to 48 inches (1.2 meters) deep without water fording kit
- Fords water up to 8 feet (2.4 meters) deep with kit installed
- Provides night sighting during low light levels
- Provides choice of white searchlight or security infrared searchlight
- Provides limited smoke screen from choice of two smoke grenade launchers or engine smoke generator

LOCATION AND DESCRIPTION OF MAJOR COMPONENTS

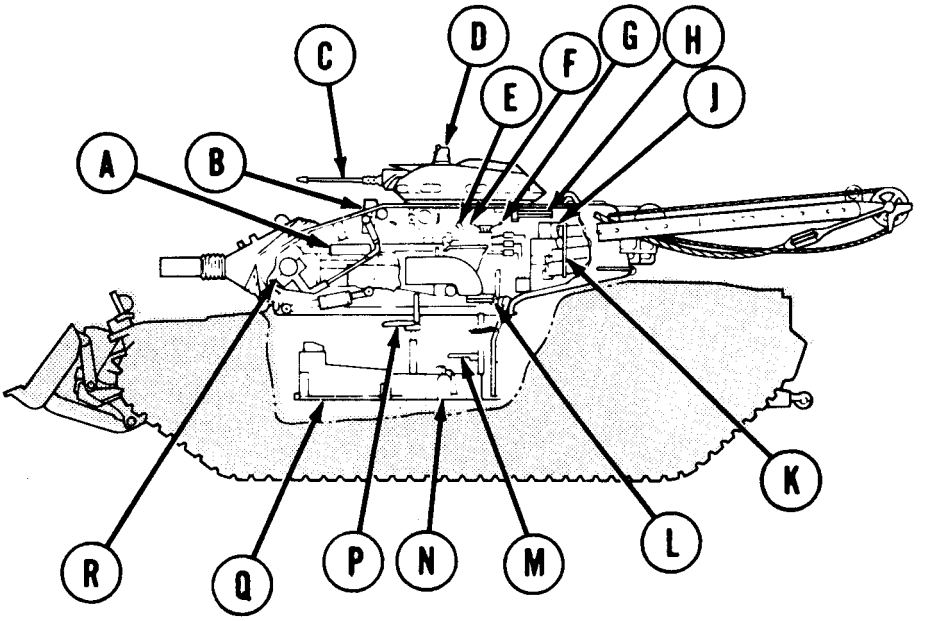


General

The vehicle is divided into two sections, hull (A) and turret (B). The hull front contains the driver's (C) compartment, controls and instruments. The hull rear contains engine, transmission, fuel tanks, and related automotive parts. The turret (B) has positions for commander (D), gunner (E), and loader (F). It also contains the armament, ammunition, communications, and sighting and fire control equipment. The following pages locate and briefly describe major components. For more information refer to index for page number.

TA132126

LOCATION AND DESCRIPTION OF MAJOR COMPONENTS - Continued

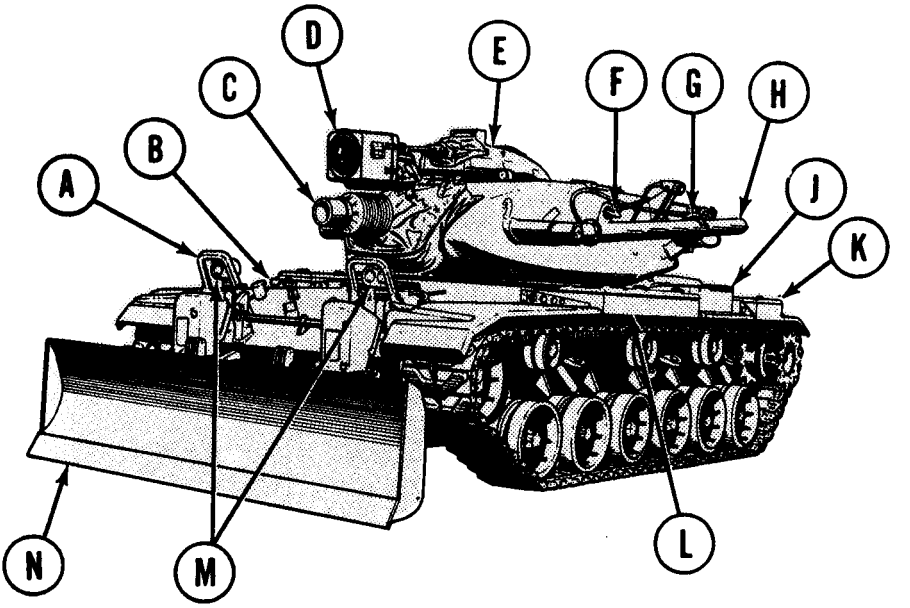


LEFT VIEW

A 7.62-mm machine gun
B Gunner's periscope
C Caliber .50 machine gun barrel
D Commander's periscope
E Commander's gun elevating and turret traversing control
F Winch control
G Boom control
H Commander's observation seat
J Radio equipment
K Ammunition stowage rack
L Commander's seat
M Commander's platform
N Portable fire extinguisher
P Gunner's seat
Q Turret platform
R M150 gun mount

TA132127

LOCATION AND DESCRIPTION OF MAJOR COMPONENTS - Continued

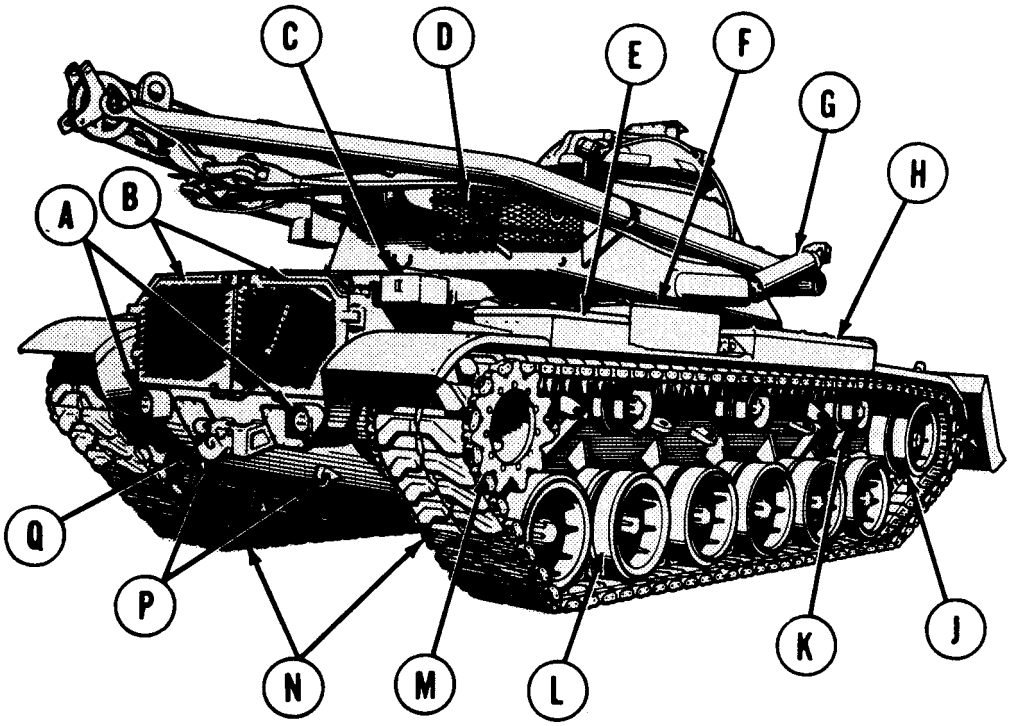


LEFT VIEW

A Brush guard, headlight
B Personnel heater exhaust outlet
C 165-mm gun tube
D Searchlight
E M19 commander's cupola
F Hook, winch cable
G Boom travel lock
H Boom
J Engine air cleaner
K Rear fender stowage box
L Front fender stowage box
M Headlight
N Moldboard

TA132128

LOCATION AND DESCRIPTION OF MAJOR COMPONENTS - Continued

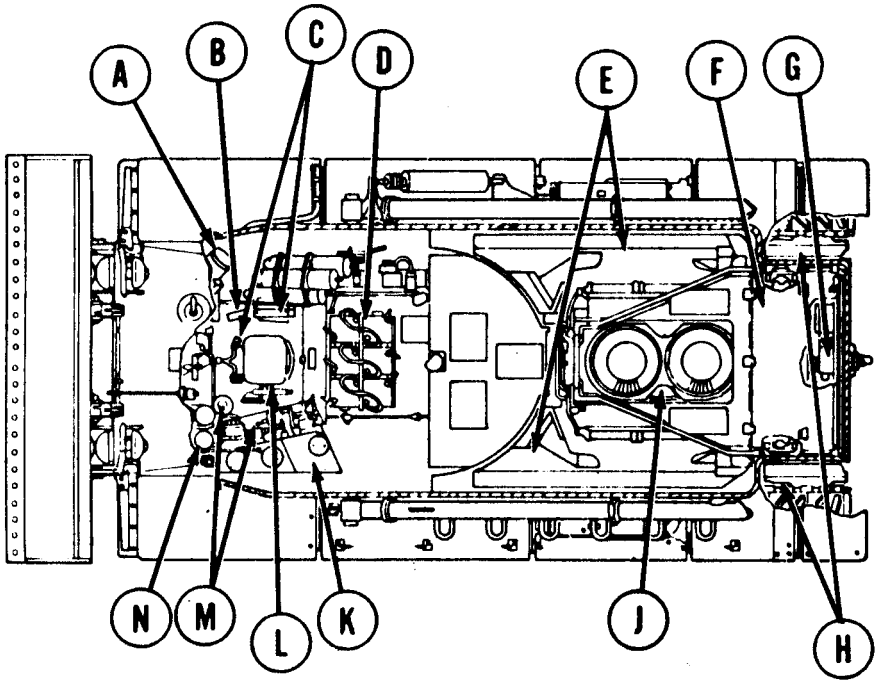


RIGHT VIEW

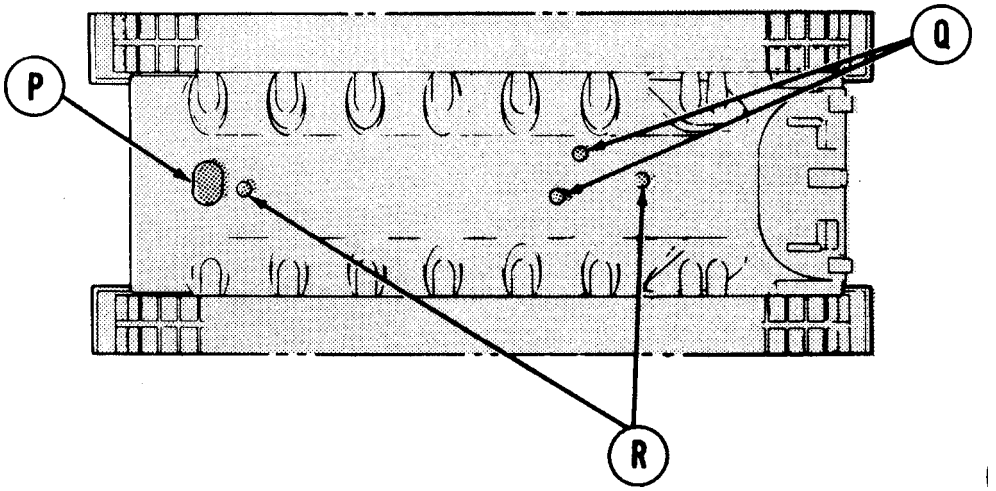
A Taillight
B Rear grille doors
C External handset box
D Bustle rack, stowage
E Rear fender stowage box
F Engine air cleaner
G Boom linear actuating cylinder
H Front fender stowage box
J Compensating idler wheel
K Track support roller
L Roadwheel and hub
M Drive sprocket
N Track
P Tow eye
Q Tow pintle

TA132129

LOCATION AND DESCRIPTION OF MAJOR COMPONENTS - Continued



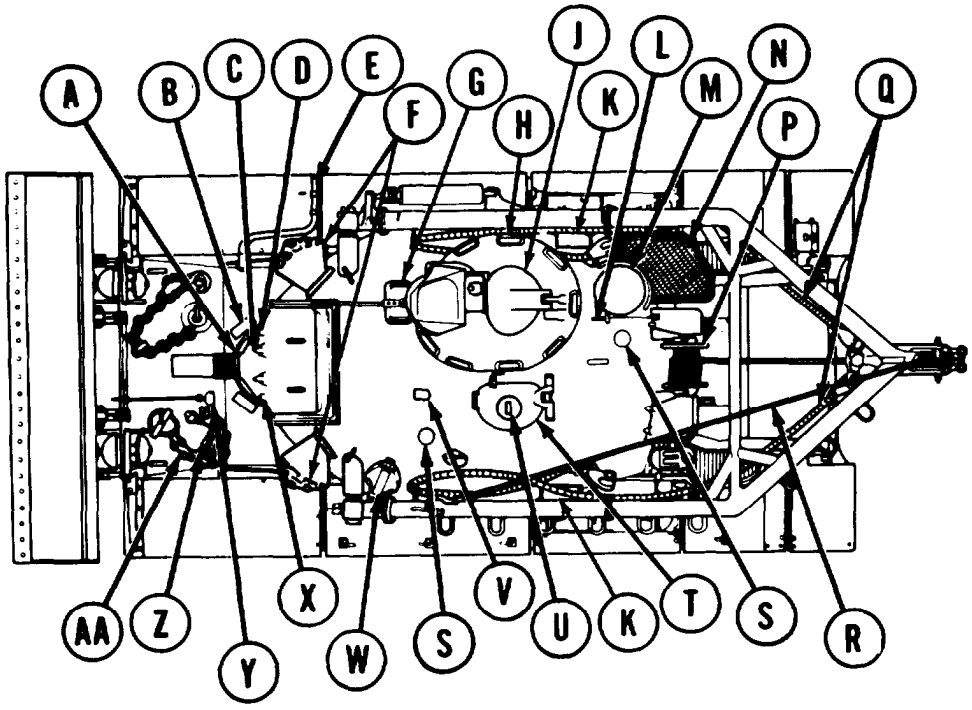
A Personnel heater
B Driver's instruments
C Driver's controls
D Batteries
E Fuel tanks
F Transmission shroud
G Hydraulic Pump
H Final drives
J Engine
K Hydraulic reservoir
L Driver's seat
M Driver's controls
N Fixed fire extinguishers



P Driver's escape hatch
Q Fuel tank drain plug access cover
R Hull drain valves

TA132130

LOCATION AND DESCRIPTION OF MAJOR COMPONENTS-Continued



A Driver's hatch
B Driver's vision block
C Searchlight mount
D Gunner's telescope port
E Personnel heater exhaust outlet
F Smoke grenade launchers (late model)
G Gunner's periscope
H Cupola vision block
J Commander's hatch
K Smoke grenade stowage boxes (late model)
L Winch gearshift lever
M Turret ventilating blower cover
N Bustle rack, stowage
P Winch
Q Boom stayline
R Winch cable
S Antenna mount
T Loader's hatch
U Loaders' periscope cover
V Searchlight power receptacle
W Snatch block
X 7.62-mm machine gun port
Y Moldboard locking hook handle
Z Fire extinguisher release handles
AA Lifting chain

TA252664

LOCATION AND DESCRIPTION OF MAJOR COMPONENTS-Continued

Sighting and Fire Control

Two types of sights are used to find and track targets. The first type is conventional and is used in daylight. The second type, IR (infrared), or passive, is for use at night. The IR system uses infrared light from the IR headlights or searchlight. The passive system amplifies existing light for night sighting. The vehicle is set up for direct fire control only. For location and description of major parts, see pages B-3 thru B-8.

Communications

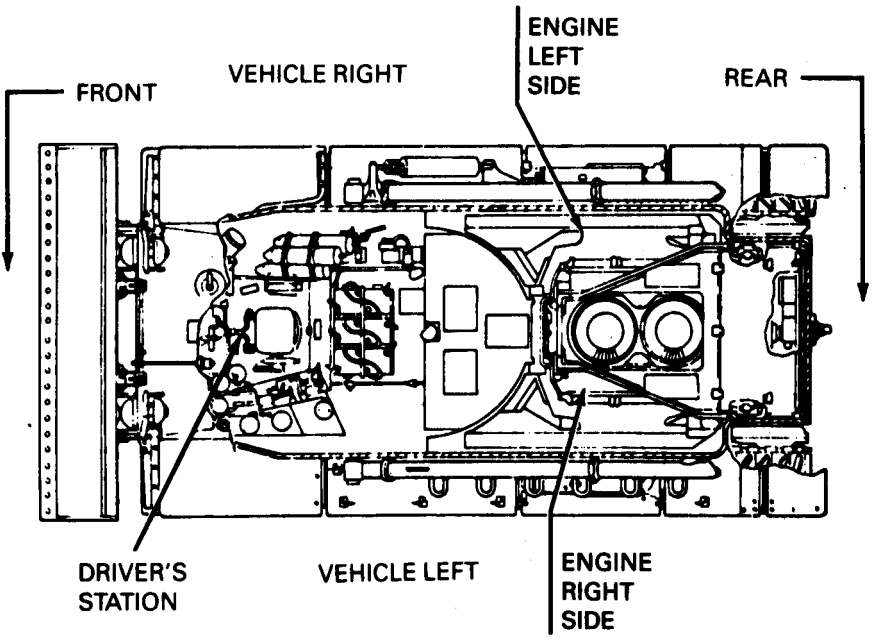
The vehicle may be equipped with radio sets AN/VRC-46, or 64 plus external interphone

Combat Engineering Equipment

The CEV is equipped with hydraulicly operated moldboard, winch, and boom. The moldboard, operated from the driver's station is capable of moving earth or obstacles to clear a path for lighter vehicles. The turret mounted winch, operated from the commander's station, is capable of pulling a horizontal load of 25,000 lb. (11,340 kg) using a single line or 50,000 lb. (22,680 kg) when using a double line. The boom and winch used together give the CEV the capability of vertically hoisting a load of 17,500 lb. (7938 kg) when using a single line or 35,000 lb. (16,876 kg) when using a double line.

TA252665

FRONT REAR, RIGHT AND LEFT DESIGNATIONS



NOTE

Engine right and left side are opposite vehicle right and left side. Front and rear are same. The right and left sides of engine are determined by facing the oil filter housing at front of engine.

Detailed Description

If you need a detailed description of any part of the vehicle, ask your supervisor to let you see a copy of TM 9-2350-222-20-1 for hull components or TM 9-2350-222-20-2 for turret components.

TA132133

DIFFERENCES BETWEEN MODELS

There are several M728 vehicle equipment variations. This manual covers the following:

- AVDS-1790-2D engine, or
  AVDS-1790-2DA engine.
- Side loading engine air cleaner, or
  Aluminum top-loading engine air cleaner, or
  Armored top-loading engine air cleaner.
- M73 7.62-mm machine gun, or
  M240 7.62-mm machine gun.
- AN/VSS-2 searchlight 2.2 kilowatt power, or
  AN/VSS-3A searchlight 1 kilowatt power.
- Fender mounted external handset box, or
  Bracket mounted external handset box.
- Periscope M32CE1
- Periscope M36, or
  Periscope M36E1
- Periscope M24 or
  Viewer Assembly AN/VVS-2
- M239 Smoke Grenade Launcher System
- Vehicle Exhaust Dust Ejector System (VEDES)
- Dust Detector System
- Mechanical Track Adjusting Link, or
  Grease Actuated Track Adjusting Link

Functional differences are shown and explained in operational procedures where applicable.

PERFORMANCE DATA

Capacities (fuel and oil):
- Fuel tanks (total) ..... 375 gal (1419 liters)
- Engine crankcase (refill, approximate) ..... 13 gal (49.21 liters) (2A engine); 14.5 gal (54.9 liters) (2D engine)
- Transmission (refill, approximate) ..... 17 gal (64.35 liters)
- Hydraulic reservoir - boom, winch, and moldboard (refill, approximate) . 48 gal (181.7 liters)
- Engine cooling system ..... air

Controls:
- Brakes:
  - Operation..... ..... hydraulic-mechanical foot pedal
- Steering:
  - Type ..... hydraulic-mechanical steering control
  - Turning capability ..... 360-degree pivot
- Transmission shift lever positions ..... P (park), N (neutral), L (low), H (high), and R (reverse)

Dimensions:
- Length (with boom and moldboard in travel position) ..... 350.8 in. (891 cm)
- Length (with boom in erected position) ..... 366.3 in. (930.4 cm)
- Height (lowest operable) ..... 128.23 in. (325.7 cm)
- Width (with moldboard) ..... 146 in. (371 cm)
- Ground clearance ..... 15 in. (38 cm)

Electrical:
- Electrical system ..... 24 vdc
- Number of batteries ..... six (12 vdc)

Powerplant
- Type ..... V-12, air cooled, compression ignition, turbosupercharged
- Model ..... AVDS-1790-2A, 2D, or 2DA
- Governed speed, full load ..... 2400 rpm
  - no load ..... 2550 rpm
- Fuel oil, diesel ..... 40 cetane, summer grade, DF-2, 20°F to 115°F (– 7°C to 46°C)
  - ..... 40 cetane, winter grade DF-1), – 25°F to 20°F (– 32°C to – 7°C)
  - ..... 40 cetane, arctic grade DF-A, – 65°F to – 25°F (– 55°C to – 32°C)

TA249036

PERFORMANCE DATA - Continued

Transmission:	
.....	CD-850-6A two speeds forward, one speed reverse
Performance	
Allowable speed (maximum)	
Low	10 mph (16 kph)
High	30 mph (48 kph)
Reverse	5 mph (8 kph)
Cruising range (approximate)	280 miles (450.6 km)
Vertical obstacle vehicle will climb forward	30 in. (76 cm)
Width of ditch vehicle will cross (maximum)	99 in, (251 cm)
Fording depth (maximum)	48 in. (121.9 cm)
Grade ascending ability (maximum)	60 percent
Grade descending ability (maximum)	60 percent
Side-slope (maximum)	30 percent
Traverse of turret	360 degrees
Weight	
Gross (combat loaded)	117,400 lb (58.7 tons) (53.2 metric tons)
Ground pressure	12.8 psi (88.6 kpa)
Primary armament:	
Main gun M135	165-mm
Length of recoil (minimum)	8.75 in. (22.2 cm)
(maximum)	13.5 in. (34.3 cm)
Hydraulic oil capacity of recoil mechanism (including replenisher)...	5.5 gal (20.8 liters)
Ammunition	fixed cartridge
Secondary armament	
Machine gun M85	Cal. 50
Ammunition	M33 ball and M17 tracer in M152A series links
Submachine gun M3A1	Cal. 45
Ammunition	M1911 ball, M26 tracer, M1921 dummy in 30-round magazine

TA252667

PERFORMANCE DATA - Continued

Machine gun M73/M240	7.62-mm
Ammunition	NATO 7.62-mm M59/M80 ball, M62 tracer, M61 armor piercing (M240) and M63 dummy in M13 service links

Ammunition: Basic load (Refer to Chapter 4 for more detailed information)

7.62-mm (M73/M240 machine gun)	3,600 rounds
Cal. 50 (M85 machine gun)	728 rounds
Cal. 45 M3A1 (for submachine gun)	360 rounds
165-mm (for 165-mm gun, M135)	30 rounds
Grenades, hand	12

Gas - particulate filter unit

Personnel protection	four or fewer persons per gas-particulate filter unit

Moldboard:

Controls	hydraulic
Lowest position	10 in. (254 mm) below ground level
Highest position	30 in. (762 mm) above ground level
Carrying position	29 in. (737 mm) above ground level
Rate of lift	2.5 in/sec at engine speed of 1100 rpm.

Winch

Controls	hydraulic
Capacity (direct pull):	
Single line	25,000 lb (11,340 kg)
Double line	50,000 lb (22,680 kg)

Boom

Controls	hydraulic
Hoisting capacity (vertical lift)	
Single line	17,500 lb (7.938 kg)
Double line	35,000 lb (15,876 kg)

Height, ground to highest

Cable hook position	16,6 ft (5.03 m)

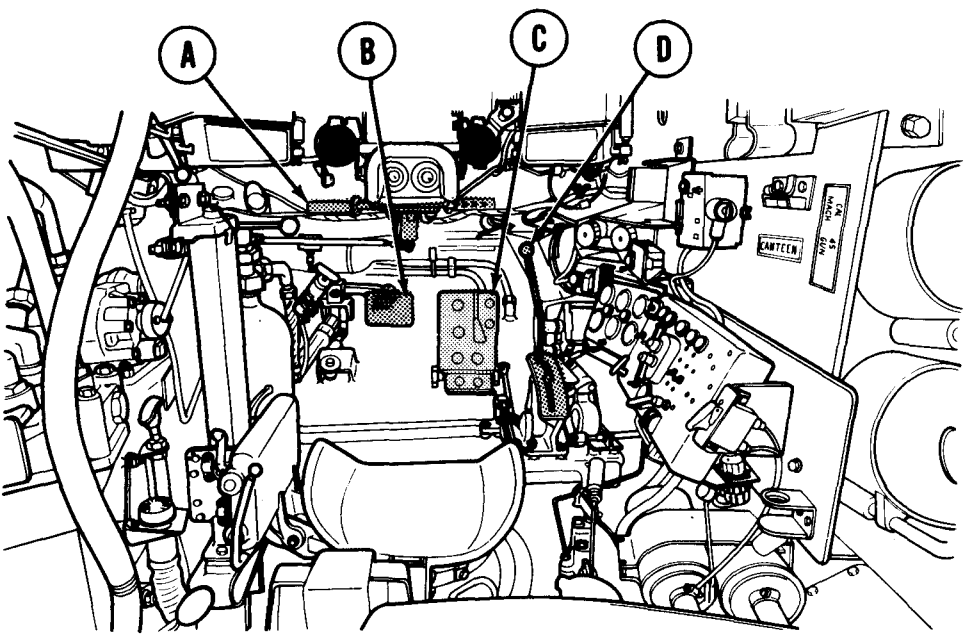
TA132137

CHAPTER 2

OPERATING INSTRUCTIONS

Section I. DESCRIPTION AND USE OF OPERATOR'S CONTROLS AND INDICATORS

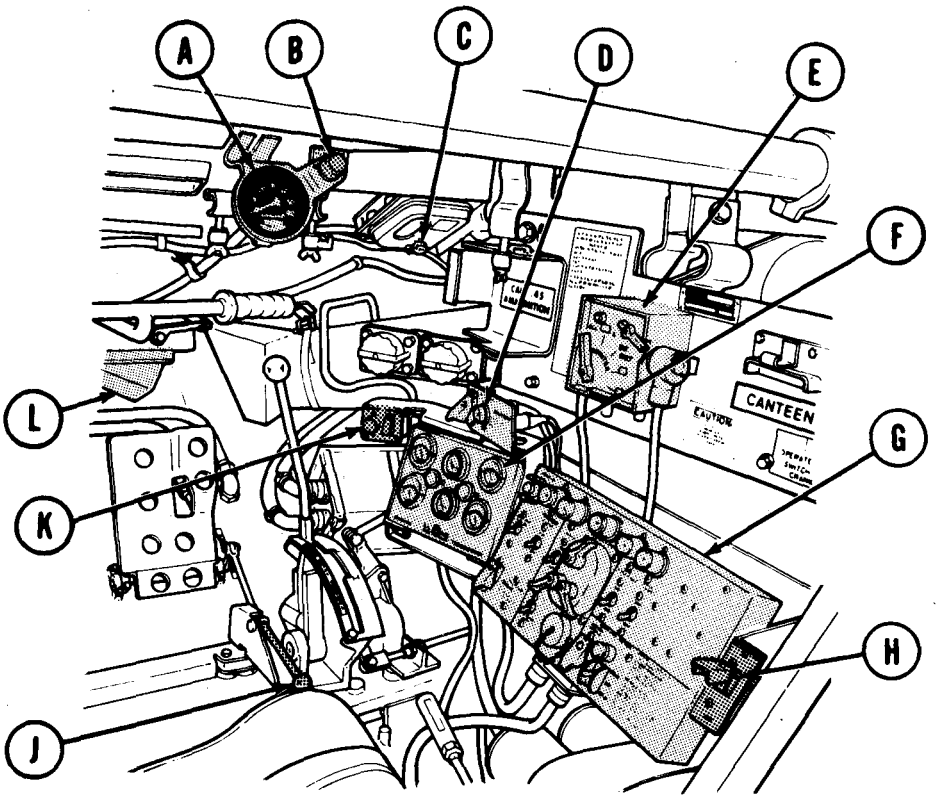
DRIVER'S CONTROLS AND INDICATORS



Key	Control or Indicator	Function
A	STEERING CONTROL	Steers CEV when shift lever is in any position except P (park).
B	BRAKE Pedal	Applies brakes to control and stop vehicle.
C	Accelerator Pedal	Controls engine speed.
D	TRANS SHIFT CONTROL	Controls transmission range. Locks brakes in the applied position when in P (park).

TA132138

DRIVER'S CONTROLS AND INDICATORS - Continued



Key	Control or Indicator	Function
A	Speedometer	Indicates vehicle speed in miles per hour (mph).
	Odometer	Registers total miles vehicle has been driven since manufacture.
B	POWERPLANT WARNING LAMP	Lights if engine oil pressure, engine oil temperature or transmission oil temperature gage is in red area, or if dust detector warning light (if equippad) is on.
C	Domelight Switch	Turns dome light on-off. Selects blue or white interior lighting.

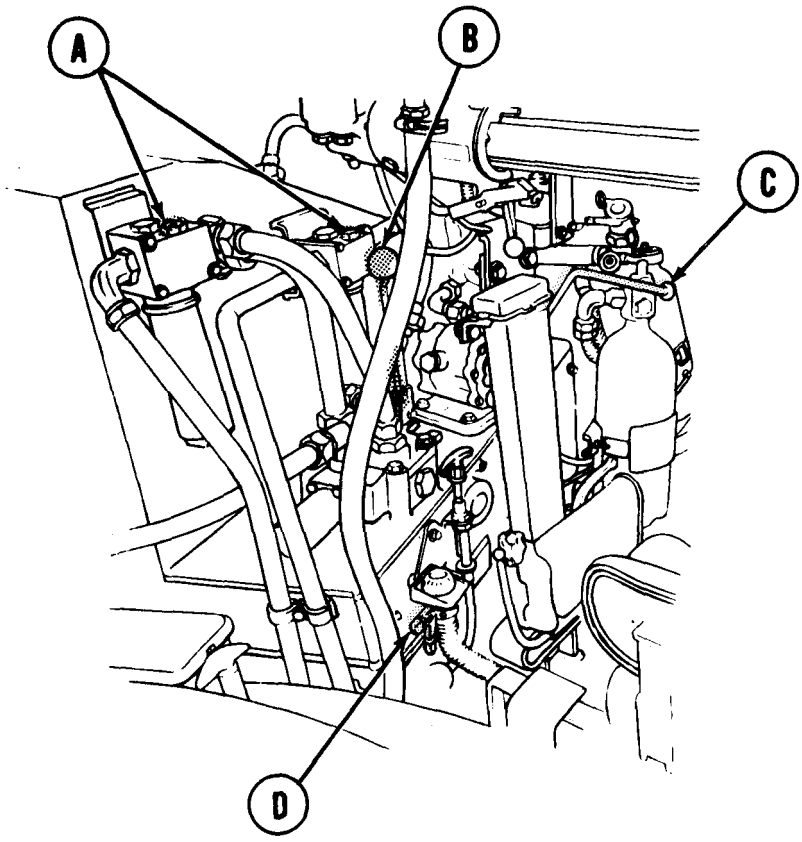
TA249037

DRIVER'S CONTROLS AND INDICATORS - Continued

Key	Control or Indicator	Function
D	HYDRAULIC PUMP Switch and Indicator	Turns hydraulic pump ON-OFF for use of moldboard, winch or boom. Indicator lights when ON.
E	Intercom Control Box	Selects and adjusts volume of radio audio signals.
F	Indicator Panel	See page 2-9 for details.
G	Master Control Panel	See page 2-11 for details.
H	GENERATOR Switch	Controls engine electrical generator.
J	ACCELERATOR LOCK Lever	Locks accelerator pedal in preset position.
K	SMOKE GENERATOR Switch and Indicator	Controls engine smoke generator. Indicator lights when ON.
L	Heater Air Outlet Door	Controls direction of airflow from personnel heater.

TA132140

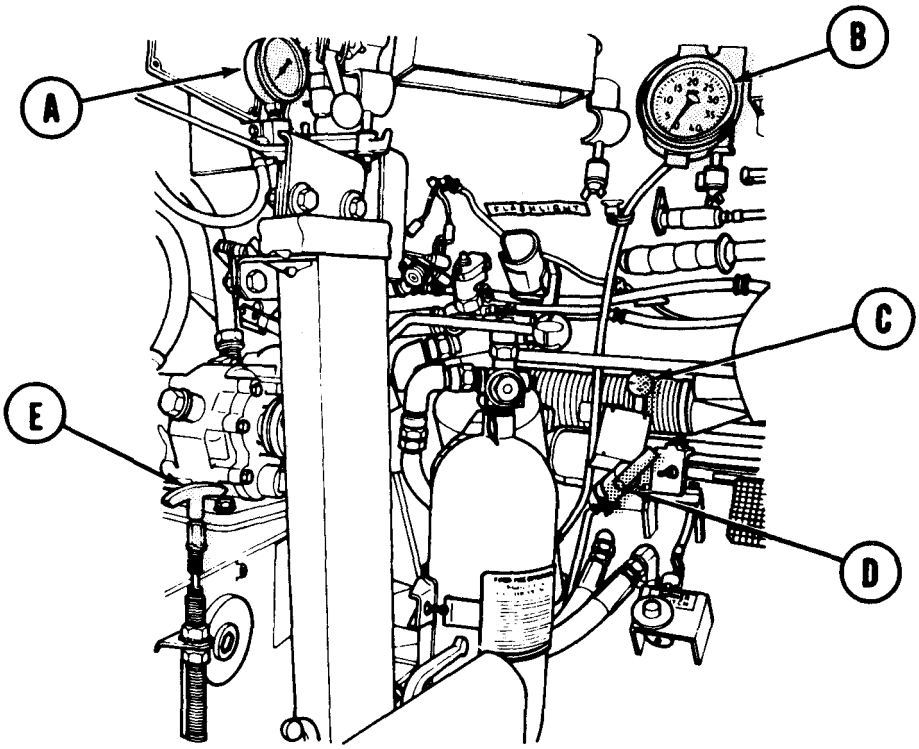
DRIVER'S CONTROLS AND INDICATORS - Continued



Key	Control or Indicator	Function
A	Hydraulic Oil Filter Restriction Indicator	Indicates hydraulic oil filters require servicing.
B	SELECTOR VALVE Lever	Selects hydraulic power for hull or turret.
C	BULLDOZER CONTROL VALVE Lever	Controls lifting or lowering of moldboard.
D	SUCTION SHUTOFF VALVE Lever	Isolates hydraulic oil to reservoir when closed.

TA132141

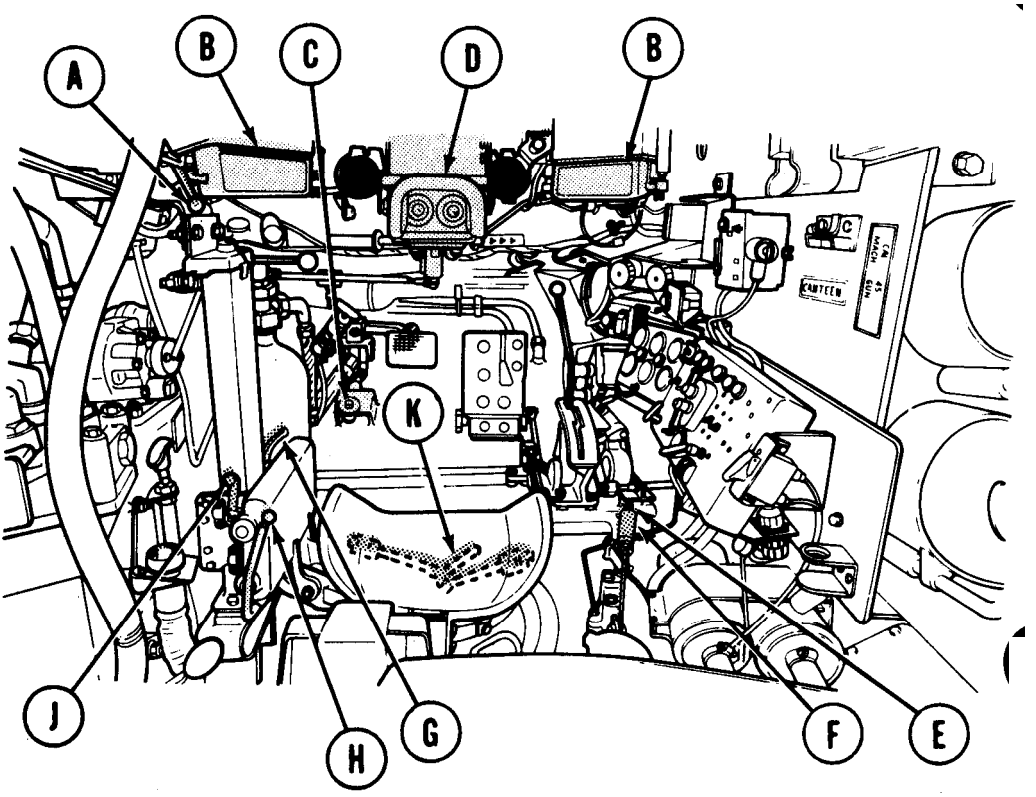
DRIVER'S CONTROLS AND INDICATORS - Continued



Key	Control or Indicator	Function
A	Hull to Turret Seal Pressure Gage	Indicates air pressure in hull to turret seal.
B	Tachometer	Indicates engine speed in revolutions per minute (rpm).
	Hour Meter	Registers in hours a factor equivalent to hours of engine operation 2025 rpm.
C	Brake Pressure Gage	Indicates hydraulic pressure in brake line.
D	TURRET SEAL PUMP	Inflates hull to turret seal.
E	Manual Fuel Shutoff Handle	Shuts off fuel to engine in up position. Turns fuel on in down position.

TA132142

DRIVER'S CONTROLS AND INDICATORS - Continued



Key	Control or Indicator	Function
A	Driver's Hatch Control	Locks hatch in open and closed positions.
B	M27 Periscopes	Used for daylight driving with hatch closed.
C	Headlight DIMMER SWITCH	Selects either high or low headlight beam when pressed and released.

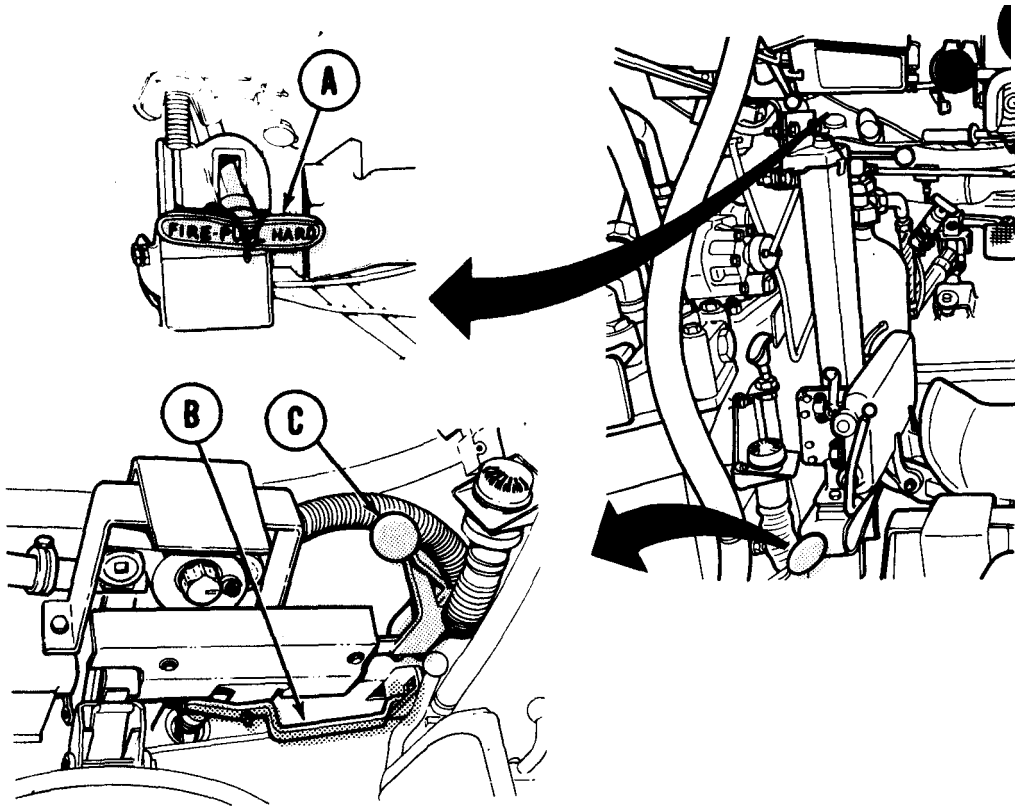
TA132143

DRIVER'S CONTROLS AND INDICATORS - Continued

Key	Control or Indicator	Function
D	AN/VVS-2 Night Vision Viewer OR M24IR Periscope	Used when driving at night under blackout conditions. Used with IR headlight for night driving with hatch closed.
E	Manifold Heater Switch (on end of PURGE PUMP handle)	Turns fuel to manifold heaters on and off. Turns power to manifold heater spark plugs on and off.
F	PURGE PUMP handle	Purges air from engine fuel system when pumped up and down.
G	Driver's seat HEIGHT ADJ Lever	Locks or unlocks seat for vertical adjustment to driver's desired position.
H	Driver's Seat DUMP LEVER	Dumps driver's seat to allow access to drivers emergency escape hatch.
J	FWD-REAR Adjustment Lever	Allows adjustment of driver's seat forward or rearward.
K	Escape Hatch Lever	Releases driver's escape hatch when turned counterclockwise. Clockwise movement locks hatch to hull.

TA252668

DRIVER'S CONTROLS AND INDICATORS - Continued



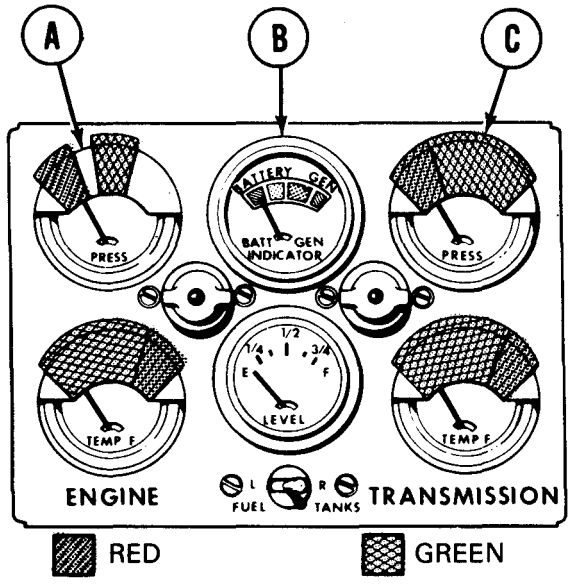
Key	Control or Indicator	Function
A	Fixed Fire Extinguisher Interior Control	Discharges fixed fire extinguishers.
B	FRONT DRAIN VALVE Control Lever	Opens and closes front hull drain valve.
C	REAR DRAIN VALVE Control Lever	Opens and closes rear hull drain valve.

NOTE

Fixed fire extinguishers are for use in case of fire in the engine compartment.

TA132145

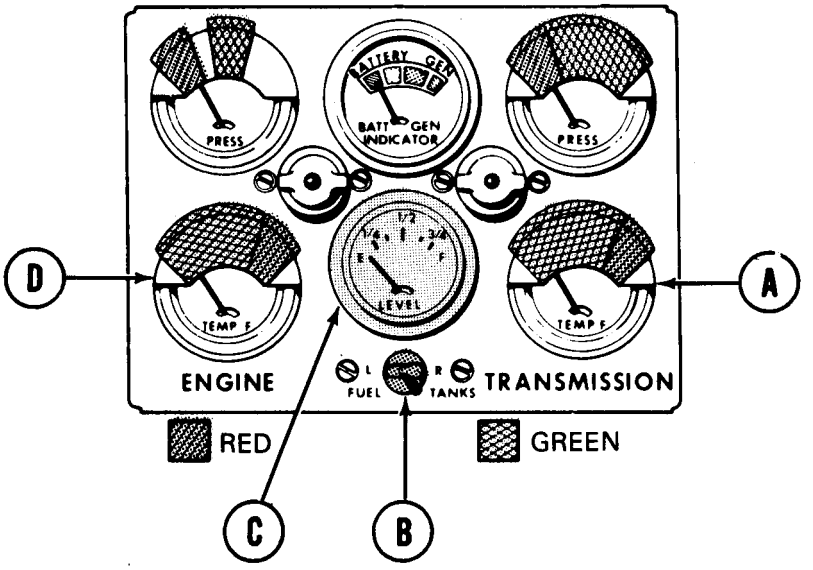
DRIVER'S CONTROLS AND INDICATORS - Continued



Key	Control or Indicator	Function
A	ENGINE PRESS	Indicates normal engine oil operating pressure in green area. Indicates low pressure in red area.
B	BATT GEN Indicator	Indicates condition of batteries when engine is off. Indicates rate of charge when engine is running.
C	TRANSMISSION PRESS	Indicates normal operating pressure in green area. Indicates low pressure in red area.

TA132146

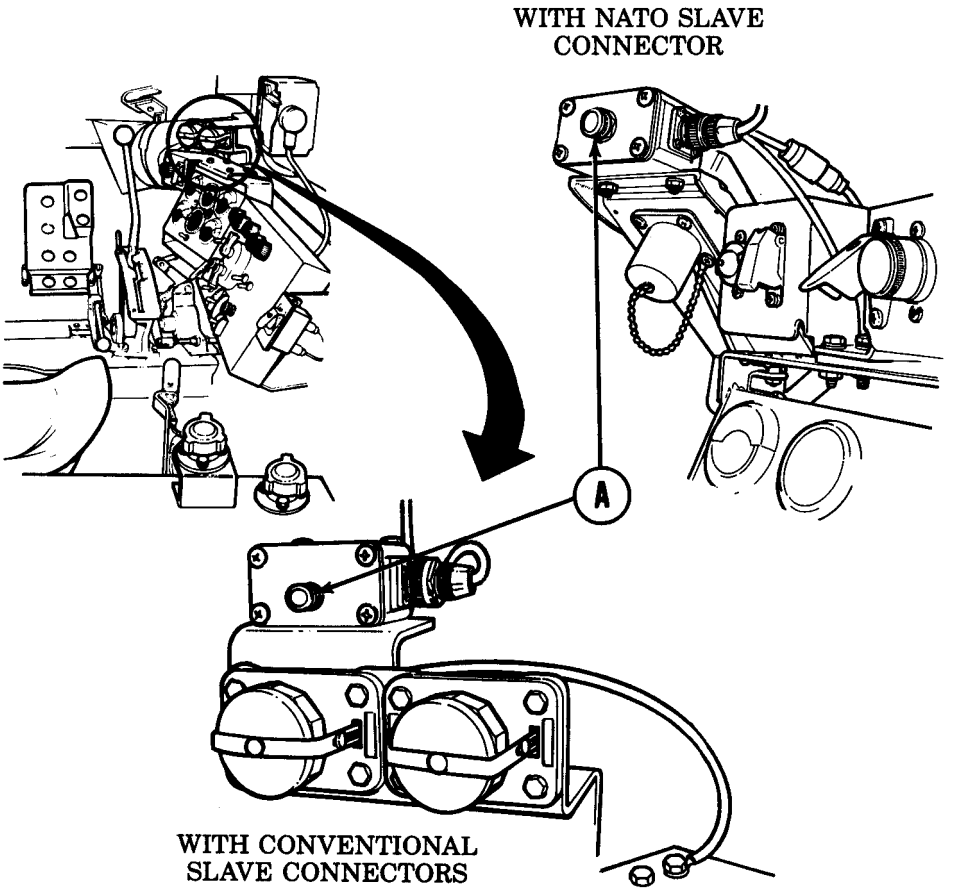
DRIVER'S CONTROLS AND INDICATORS - Continued



Key	Control or Indicator	Function
A	TRANSMISSION TEMP	Indicates normal operating temperature in green area. Indicates high temperature in red area.
B	FUEL TANKS Selector Switch	Connects fuel level indicator to either fuel tank (L or R).
C	Fuel LEVEL	Indicates fuel level in tank selected.
D	ENGINE TEMP	Indicates normal operating temperature in green area. Indicates high temperature in red area.

TA132147

DRIVER'S CONTROLS AND INDICATORS - Continued



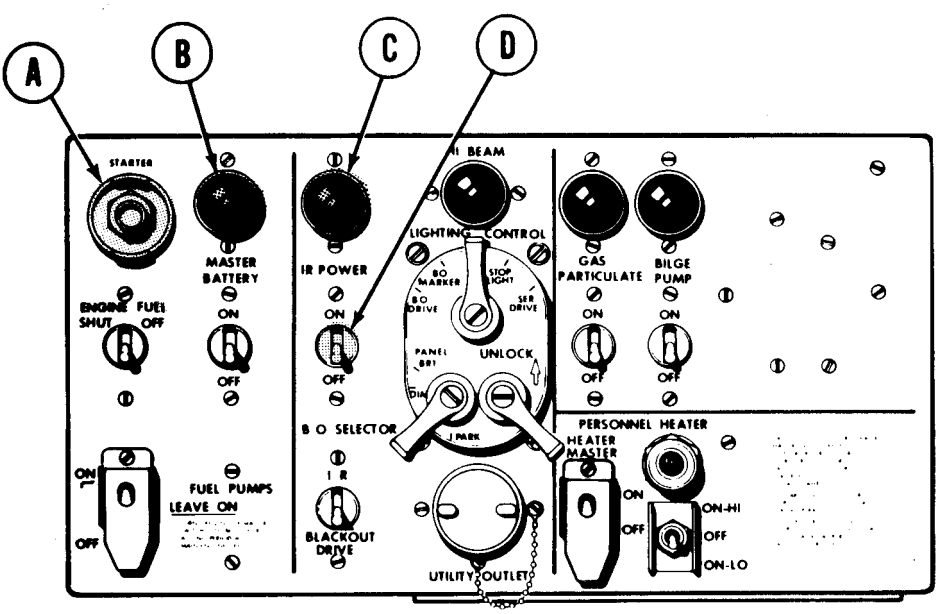
Key	Control or Indicator	Function
A	Dust Detector Warning Light (if equipped)	Operates with powerplant warning lamp to indicate that dust detector pressure switch has tripped.

NOTE

Mounting of dust detector warning light varies depending whether vehicle has conventional slave connectors or NATO slave connector.

TA249038

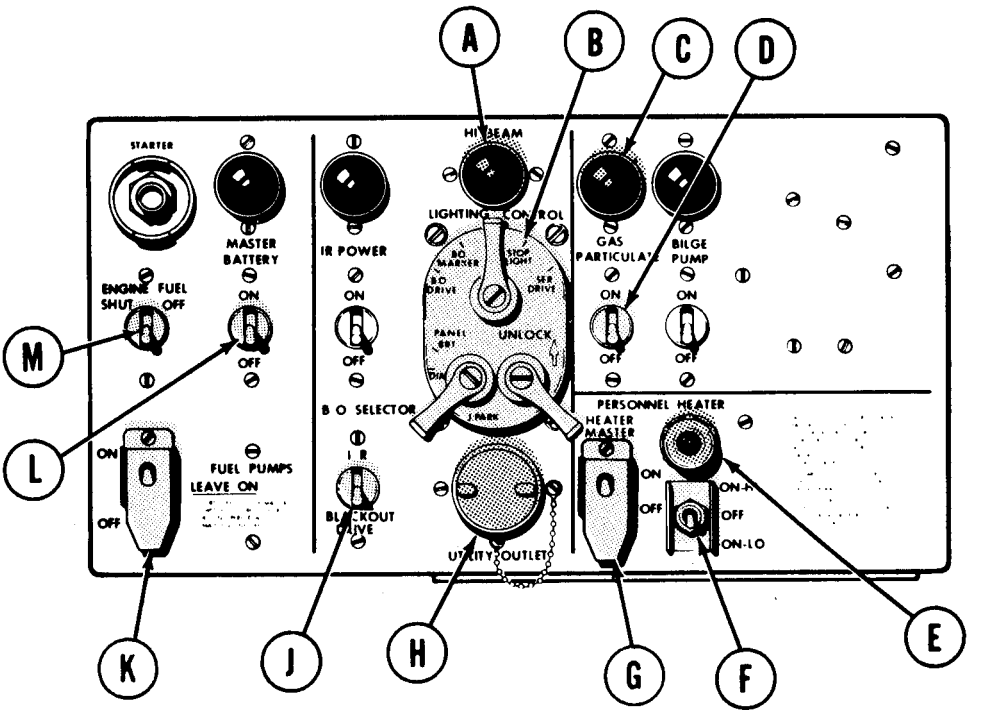
DRIVER'S CONTROLS AND INDICATORS - Continued



Key	Control or Indicator	Function
A	STARTER Switch	Operates engine cranking circuit when pressed. Returns to OFF (open) position when released.
B	MASTER BATTERY Indicator	Indicates MASTER BATTERY switch is on when lit.
C	IR POWER Indicator	Indicates IR POWER switch is on when lit.
D	IR POWER switch	Turns power ON and OFF for IR viewer.

TA132148

DRIVER'S CONTROLS AND INDICATORS - Continued



Key	Control or Indicator	Function
A	HI BEAM Indicator	Indicates headlights are on high beam when lit.
B	LIGHTING CONTROL Switch	Controls vehicle external lights and panel lights.
C	GAS PARTICULATE Filter Unit Indicator	Indicates gas particulate filter unit switch is on when lit.
D	GAS PARTICULATE Filter Unit Switch	Turns power ON-OFF to gas particulate filter unit system.

TA132149

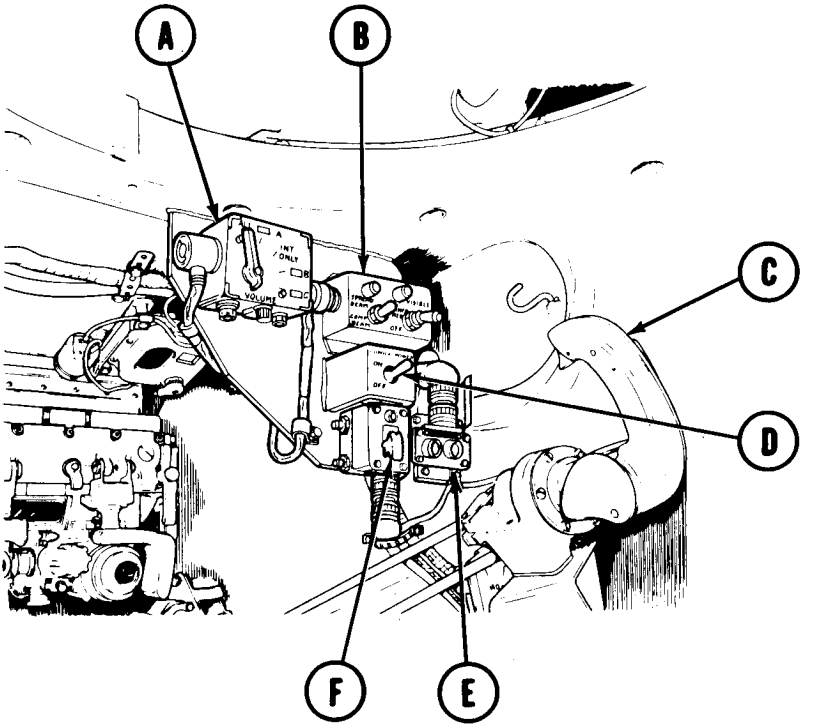
Key	Control or Indicator	Function
E	PERSONNEL HEATER Indicator	Indicates heater is in run cycle when switch is in ON-HI or ON-LO and indicator is lit. Indicates heater is in purge cycle when switch is OFF and indicator is lit. Indicates circuit to heater is complete when switch is off, indicator is pressed, and lamp lights (press-to-test).
F	PERSONNEL HEATER Switch ON-HI, OFF, ON-LO	Turns heater on and off. Selects high or low output.
G	PERSONNEL HEATER MASTER Switch	Turns power on-off to ON-HI, OFF, and ON-LO switch and heater indicator.
H	UTILITY OUTLET	Supplies 24 vdc power to accessories connected to outlet socket.
J	B O SELECTOR Switch	Selects either infrared headlights or blackout drive lights.
K	FUEL PUMPS Switch ON-OFF	Turns in-tank fuel pumps on and off.

WARNING

- **Never attempt to operate MASTER BATTERY switch (ON/OFF) from turret compartment. Operation must be performed by crewmember who is situated completely within driver's compartment. Do not under any circumstances use GUNNER'S POWER CONTROL handles for support when reentering turret from driver's compartment. This can cause turret to traverse and injure personnel.**
- **Do not apply turret power or operate turret controls until all personnel are in safe positions and prepared for turret or gun movement.**
- **Do not operate turret in power or manual mode until all personnel are in proper position, turret ring has been cleared, and shell ejection plate and all platform guards are in place.**
- **Do not reach into or attempt to enter or exit driver's compartment until turret power switch is off and turret traverse lock is in locked position.**
- **Crew members out of station are in extreme danger when turret power is on. Commanders must shut down turret power before allowing crew members to leave their stations.**

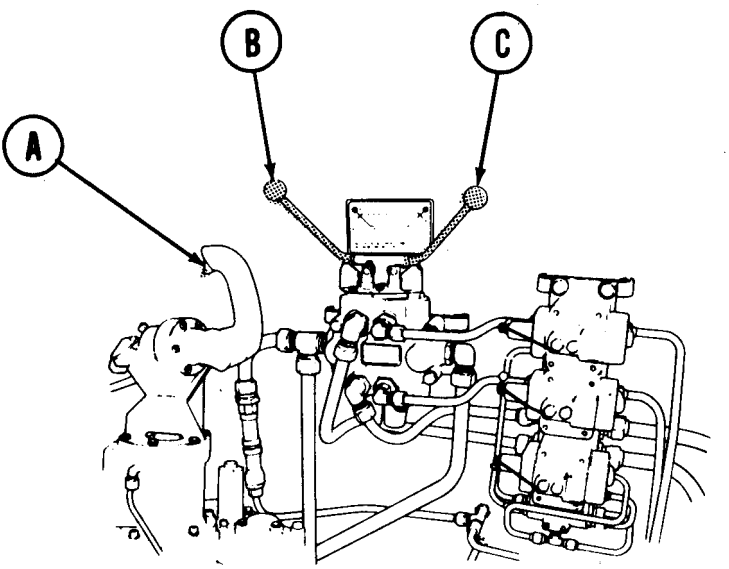
L	MASTER BATTERY Switch	Turns power ON-OFF to vehicle electrical system.
M	ENGINE FUEL SHUT OFF Switch	Shuts off fuel to stop engine when raised. Returns to on when released.

COMMANDER'S CONTROLS AND INDICATORS



Key	Control or Indicator	Function
A	Intercom Control Box	Selects and adjusts volume of radio audio signals.
B	Searchlight Remote Control Box	Controls searchlight power and beam during operation.
C	COMMANDERS CONTROL Handle	Allows commander override control of turret and guns in power mode.
D	CUPOLA POWER switch	Controls electrical power to cupola.
E	Grenade Launcher Switch	Operates when light (L) is on. Pressing either switch fires 3 smoke grenades from left discharger and 3 from right. Pressing both switches fires all grenades.
F	GRENADE POWER Switch	Turns power on and off to smoke grenade launcher system.

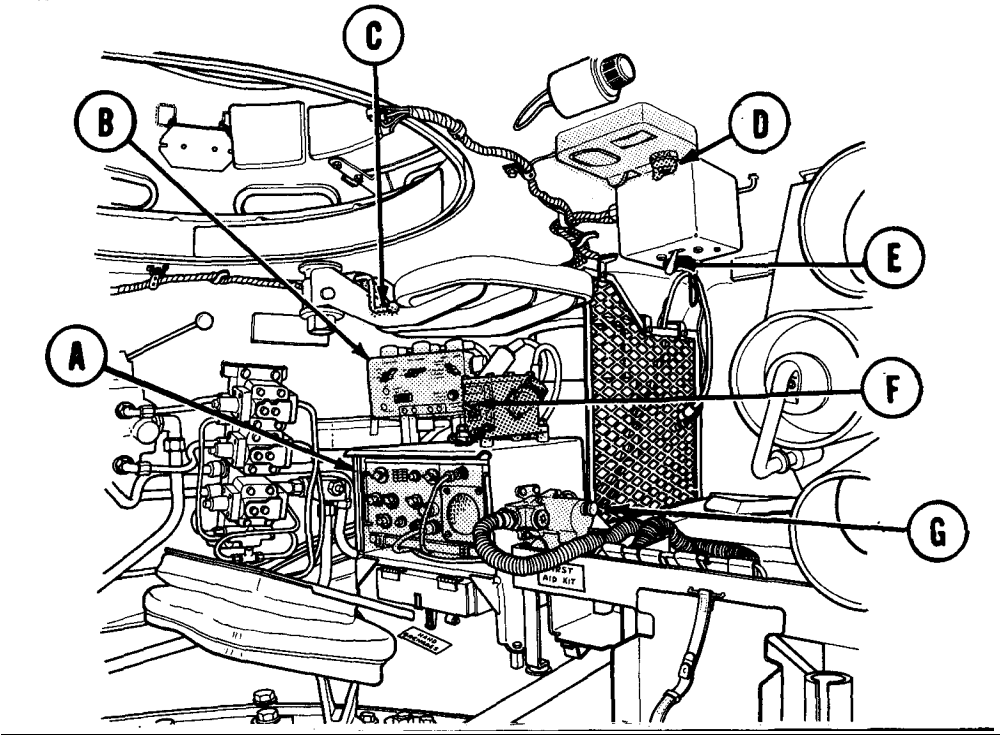
COMMANDER'S CONTROLS AND INDICATORS - Continued



Key	Control or Indicator	Function
A	Firing Switch	Fires main gun or 7.62-mm machine gun depending on gunner's switch box setting.
B	WINCH CONTROL	Controls direction of winch reel rotation.
C	BOOM CONTROL	Controls boom hydraulic cylinder.

TA132152

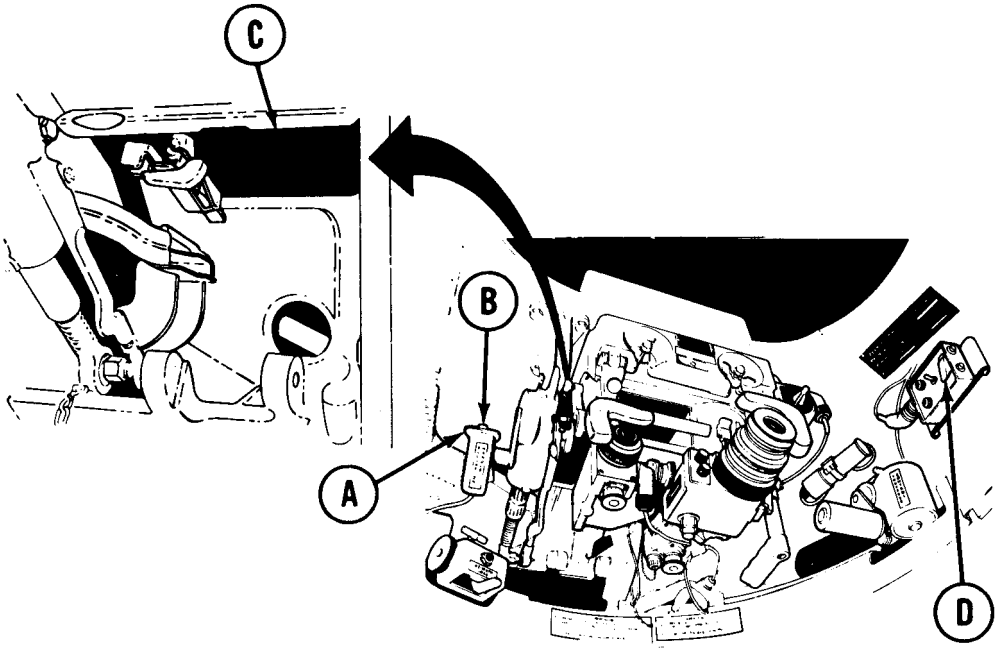
COMMANDER'S CONTROLS AND INDICATORS - Continued



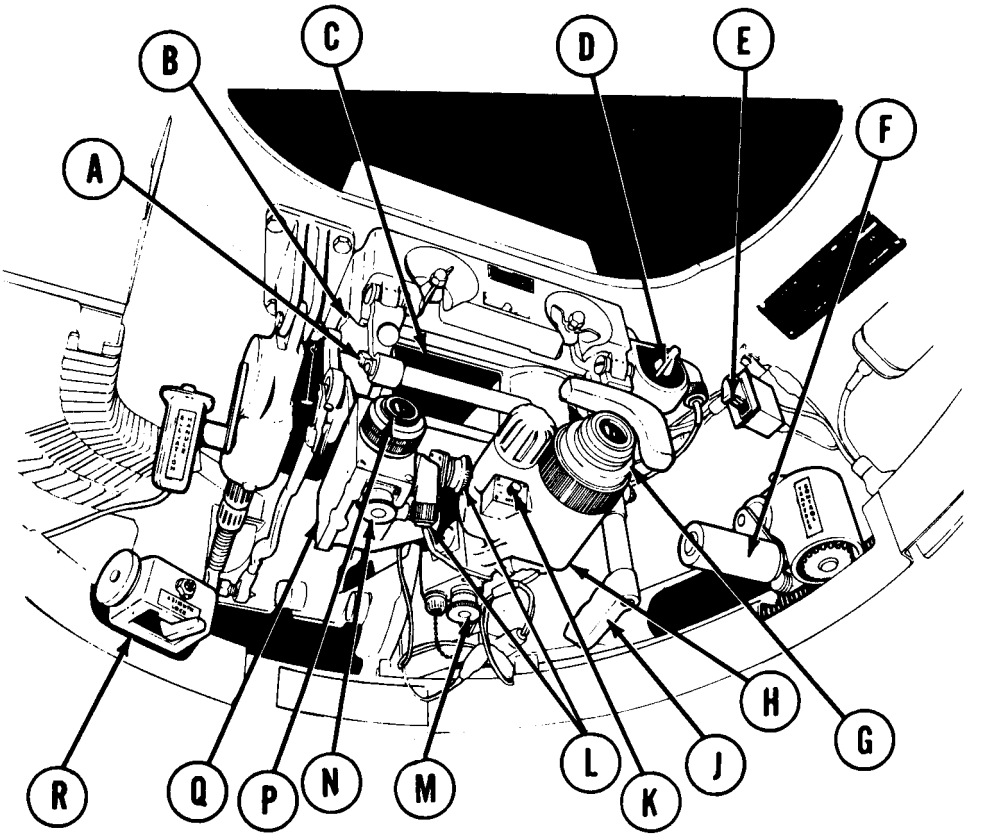
Key	Control or Indicator	Function
A	Receiver-Transmitter	Provides radio communication. See page 2-172 for description of types authorized.
B	Audio Frequency Amplifier AM 1780/VRC	Amplifies crew intercom, external interphone and radio.
C	Observation Seat Lock Handle	Locks observation seat in stowed or observation position.
D	Domelight Switch	Turns domelight on-off. Selects red or white, interior lighting.
E	BLOWER Switch	Controls turret ventilating BLOWER.
F	Gas Particulate Air Heater Switch	Controls temperature of air breathed thru gas particulate.
G	Battle Override Switch	Restores communications power if circuit breaker opens during battle.

TA132153

COMMANDER'S CONTROLS AND INDICATORS - Continued



Key	Control or Indicator	Function
A	ELEVATION HANDLE	Elevates or depresses caliber .50 machine gun manually.
B	Machine Gun Trigger Switch	Fires caliber .50 machine gun when GUN electrical safety switch (D) is on.
C	Caliber .50 Machine Gun Access Door	Provides access to caliber .50 machine gun for installing, removing or servicing.
D	GUN Electrical Safety Switch (Late Model)	Allows electrical firing of caliber .50 machine gun when cupola electrical power control is on.



M36 Periscope

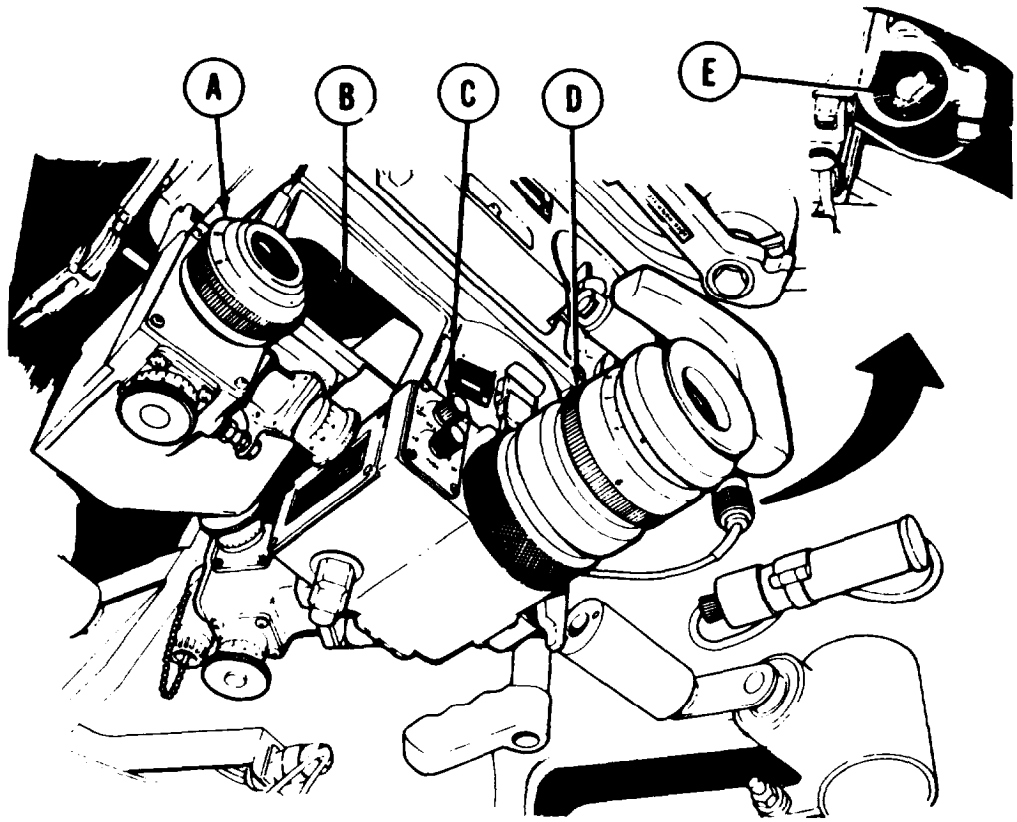
Key	Control or Indicator	Function
A	Adjust Lever	Allows headrest adjustment.
B	M36 Periscope	Provides optical sighting for fire control of caliber .50 machine gun.
C	Unity Power Window	Provides a daylight 1:1 optical periscope.
D	Light Source Control	Adjusts brightness of periscope daylight body reticle.
E	GUN Electrical Safety Switch (Early Model)	Allows electrical firing of caliber .50 machine gun when cupola electrical power control is on.

TA252673

COMMANDER'S CONTROLS AND INDICATORS - Continued

Key	Control or Indicator	Function
F	TRAVERSECONTROL Handle	Traverse cupola when rotated manually.
G	Diopter ring	Focuses IR body eyepiece.
H	IR Body	Provides an eight-power night sighting optical periscope.
J	Ballistic Shield Control Handle	Raises or lowers periscope ballistic shield.
K	IR Switch	Rotation selects vehicle or battery power.
L	IR body and Daylight Body Deflection Knobs	Moves periscope deflection alinement during boresighting.
M	Elevation Knob	Adjusts IR body elevation during boresighting to aline with caliber .50 machine gun.
N	Elevation Knob	Adjusts daylight body elevation alinement.
P	Diopter Ring	Focuses daylight body eyepiece.
Q	Daylight Body	Provides an eight-power daylight optical periscope.
R	Azimuth Lock and Interlock	Locks the cupola to the turret or releases to allow cupola traversing.

COMMANDER'S CONTROLS AND INDICATORS - Continued

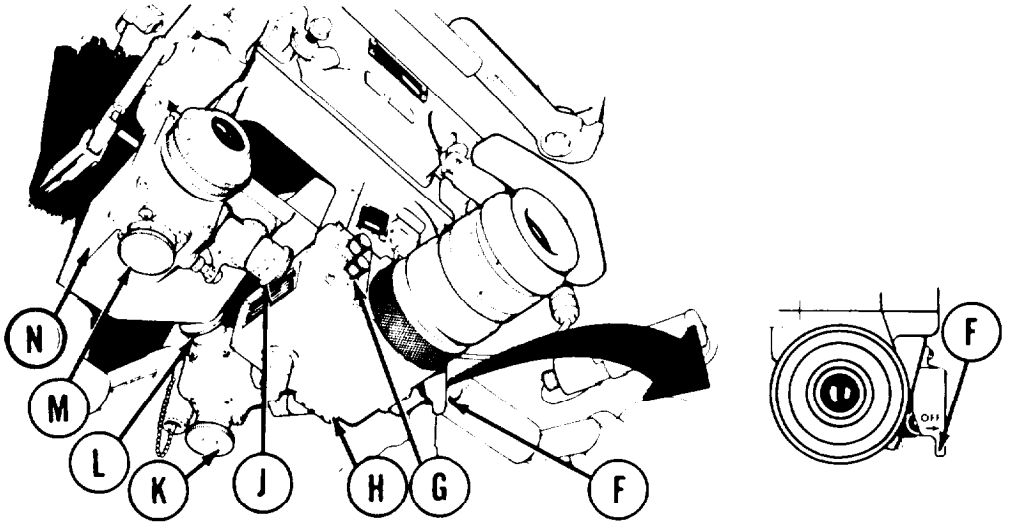


M36E1 PERISCOPE

Key	Control or Indicator	Function
A	Diopter Ring	Focuses daylight body eyepiece.
B	Unity Power Window	Provides a daylight 1:1 optical periscope.
C	RETICLE Control	Turns passive body reticle on/off and controls brightness.
D	Diopter Ring	Focuses passive body eyepiece.
E	Light Source Control	Adjusts brightness of daylight body reticle.

TA252675

COMMANDER'S CONTROLS AND INDICATORS - Continued

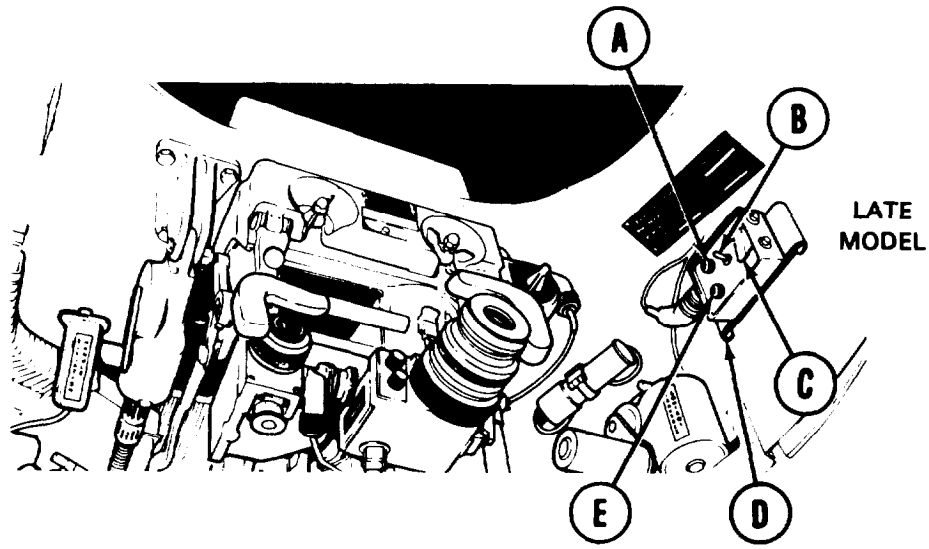


M36E1 PERISCOPE

Key	Control or Indicator	Function
F	Shutter Lever	Open shutter and depresses power switch on when moved to left.
G	TUBE Control	Controls passive body image amplification.
H	Passive Body	Amplifies light electronically for night viewing.
J	Deflection Knob	Adjusts daylight body reticle alinement.
K	Elevation Knob	Adjusts passive body reticle alinement.
L	Deflection Knob	Adjusts passive body reticle alinement.
M	Elevation Knob	Adjusts daylight body reticle alinement.
N	Daylight Body	Provides an eight-power daylight sighting optical periscope.

TA252676

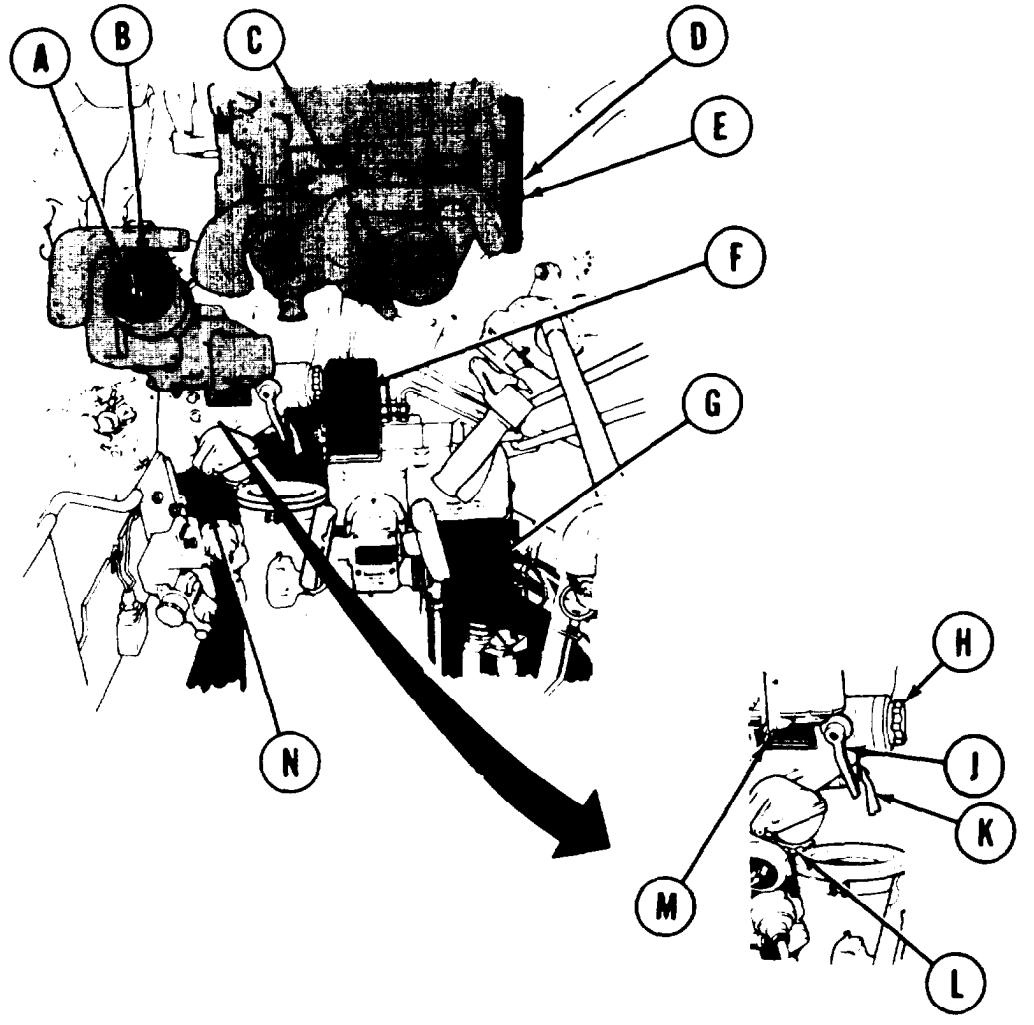
COMMANDER'S CONTROLS AND INDICATORS - Continued



Key	Control or Indicator	Function
A	GUN READY Indicator	Comes on when CUPOLA POWER switch is ON, GUN SAFETY switch is up (armed), and LAST ROUND OVERRIDE switch is either on or last round has not been sensed by sensing switch.
B	LAST ROUND OVERRIDE Switch	Can be used to bypass last round sensing switch if desired.
C	GUN SAFETY Switch	Caliber .50 machine gun cannot be fired electrically when switch is down.
D	Commander's Panel	Contains caliber .50 machine gun electrical controls.
E	POWER ON Indicator	Cornea on when CUPOLA POWER switch is ON.

TA252677

GUNNER'S CONTROLS AND INDICATORS



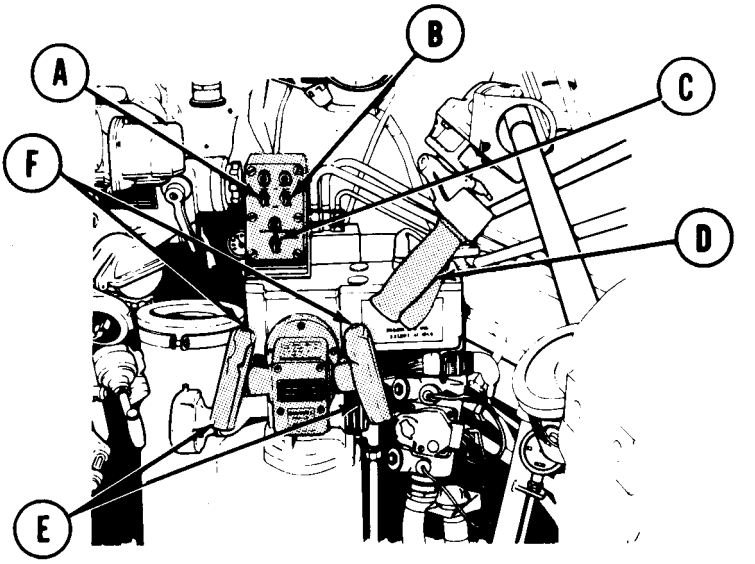
Key	Control or Indicator	Function
A	Telescope M105F	Provides eight-power optical sighting for fire control of 165-mm gun.
B	Diopter Ring	Focuses telescope eyepiece.

TA252678

GUNNER'S CONTROLS AND INDICATORS - Continued

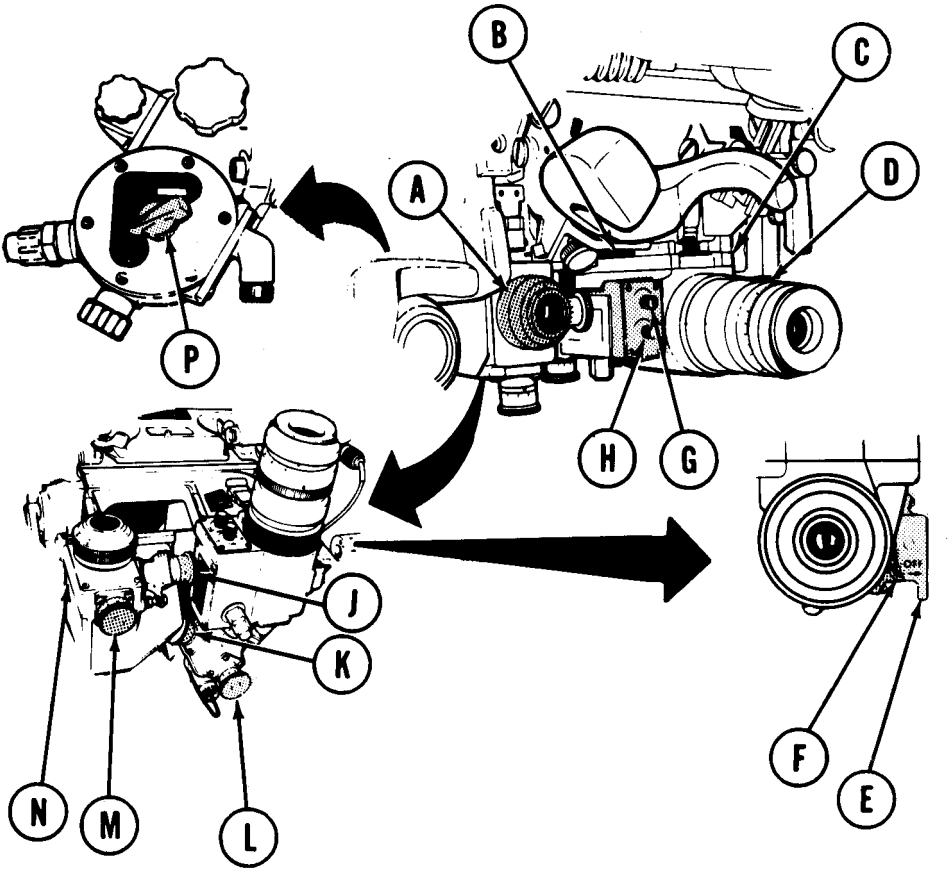
Key	Control or Indicator	Function
C	M32CE1 Periscope	Provides daylight or night sighting for fire control.
D	Ballistic Shield Operating Handle	Opens or closes ballistic shield for periscope use.
E	Ballistic Shield Lock Plunger	Releases ballistic shield operating handle from lock.
F	Gunner's Switch Box	Provides electrical control of turret traversing, gun elevating, and gun firing.
G	Gas Particulate Air Heater Switch	Controls temperature of air breathed thru gas particulate.
H	Deflection Knob	Adjusts telescope deflection for boresighting.
J	Deflection Locks	Locks telescope deflection adjustment after boresighting.
K	Elevation Lock	Locks telescope elevation adjustment after boresighting.
L	Elevation Knob	Adjusts telescope elevation for boresighting.
M	Reticle Selector	Selects HEP or MILS reticle.
N	Light Source Control	Controls telescope reticle brightness and turns brightness on/off.

GUNNER'S CONTROLS AND INDICATORS - Continued



Key	Control or Indicator	Function
A	MAIN GUN Switch	Turns 165-mm gun electrical firing circuit on/off. Also, turns indicator light on/off.
B	MACHINE GUN Switch	Turns 7.62-mm machine gun electrical firing circuit on/off. Also, turns indicator light on/off.
C	ELEV/TRAV POWER Switch	Opens and closes 165-mm gun elevation and turret traversing electrical power circuit. Also, turns indicator light on/off.
D	MANUAL TRAVERSE Handle	Controls turret traverse manually when rotated by hand,
E	GUNNERS POWER CONTROL Handles	Controls turret traverse and gun elevation with turret in power mode.
F	Firing Triggers	Fire main gun or machine gun depending on control box switch settings.

TA132159



M32CE1 PERISCOPE

Key	Control or Indicator	Function
A	Diopter Ring	Focuses daylight body eyepiece.
B	Unity Power Window	Provides a daylight 1:1 periscope with infinity sight reticle.

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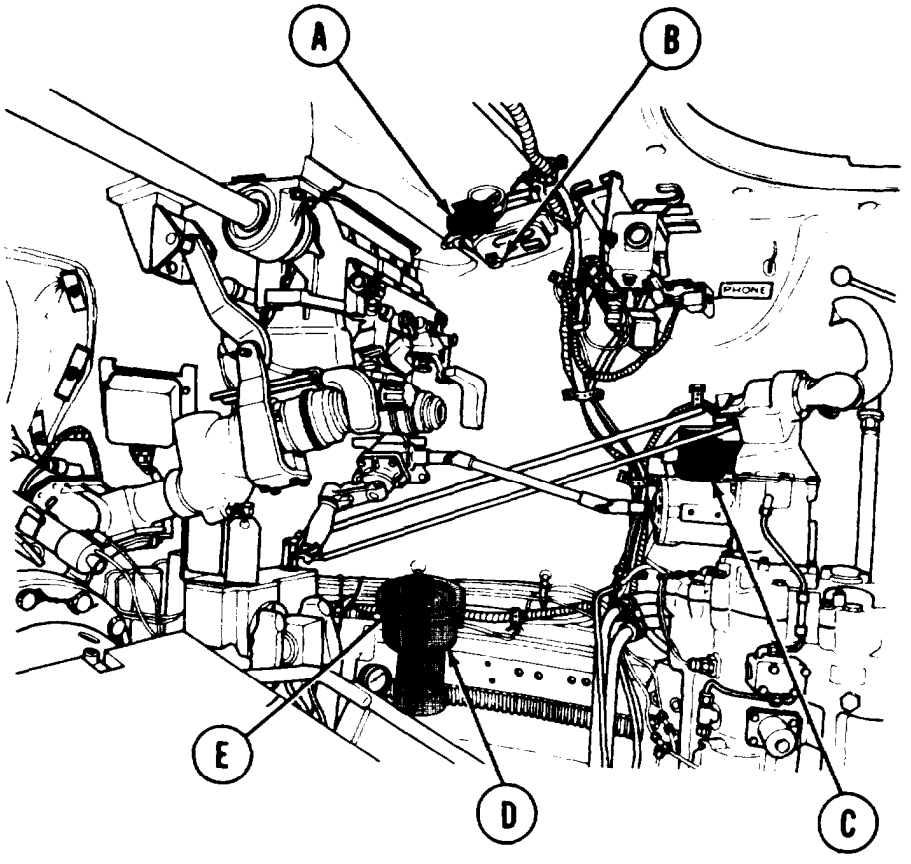
GUNNER'S CONTROLS AND INDICATORS - Continued

Key	Control or Indicator	Function
C	Passive Body	Amplifies dim light for night viewing.
D	Diopter Ring	Focuses passive body eyepiece to users needs.
E	Shutter Lever	Opens light shutter and turns power switch on.
F	Power Switch	Turns passive body power on when shutter lever to left.
G	RETICLE Control	Turns passive body reticle on/off and controls brightness.
H	TUBE Control	Controls passive body image amplification.
J	Deflection Knob	Adjusts daylight body deflection during boresighting.
K	Deflection Knob	Adjusts passive body deflection during boresighting.
L	Elevation Knob	Adjusts passive body elevation during boresighting.
M	Elevation Knob	Adjusts daylight body elevation during boresighting.
N	Daylight Body	Provides an eight-power daylight sighting optical periscope.
P	Light Source Control	Turns daylight body and infinity sight reticles on/off and adjusts brightness.

TA252682

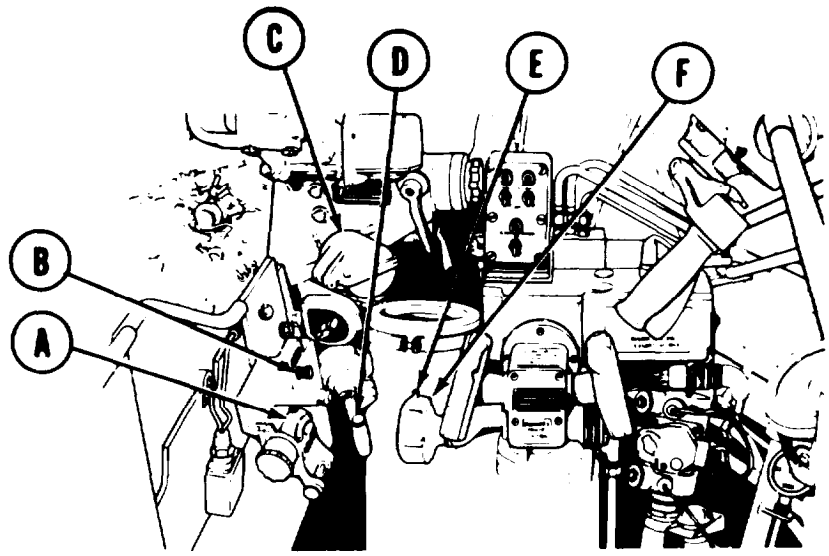
GUNNER'S CONTROLS AND INDICATORS - Continued



Key	Control or Indicator	Function
A	Rheostat Knob	Controls brightness of domelight.
B	Domelight Switch	Controls selection of white or red interior lighting.
C	Intercom Control Box	Selects and adjusts volume of radio audio signals.
D	Azimuth Indicator	Shows turret deflection for auxiliary sighting.
E	Resetter Knob	Resets micrometer and azimuth pointers.

TA252683

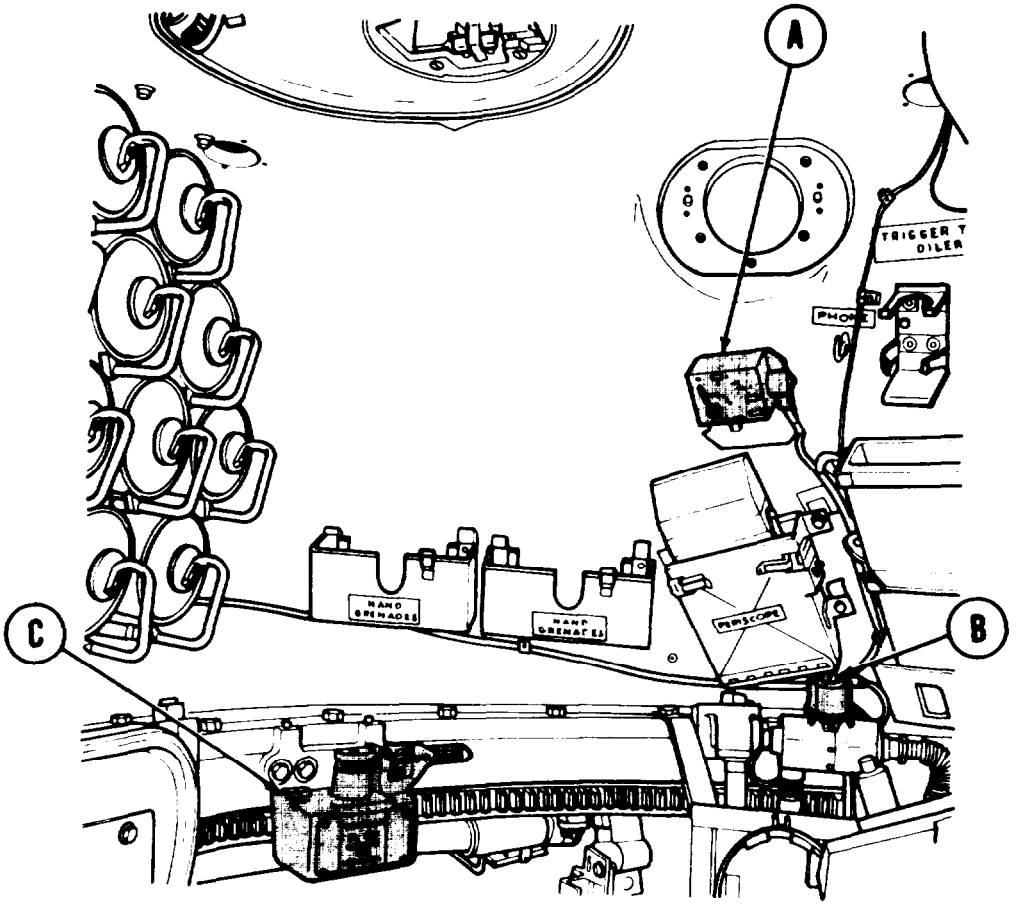
GUNNER'S CONTROLS AND INDICATORS - Continued



Key	Control or Indicator	Function
A	M13A3 Elevation Quadrant	Shows main gun elevation to nearest one-tenth of a mil.
B	Rheostat Knob	Controls light source for M13A3 elevation quadrant.
C	Filter Box	Contains 3 filters for M105F telescope. Late models also have 3 laser light filters.
D	MANUAL Firing Handle	Fires main gun if electrical power is interrupted.
E	Firing Button	Fires main gun or 7.62-mm machine gun depending on gunner's switch box setting.
F	MANUAL ELEVATION CONTROL Handle	Elevates or depresses main gun when rotated by hand.

TA252684

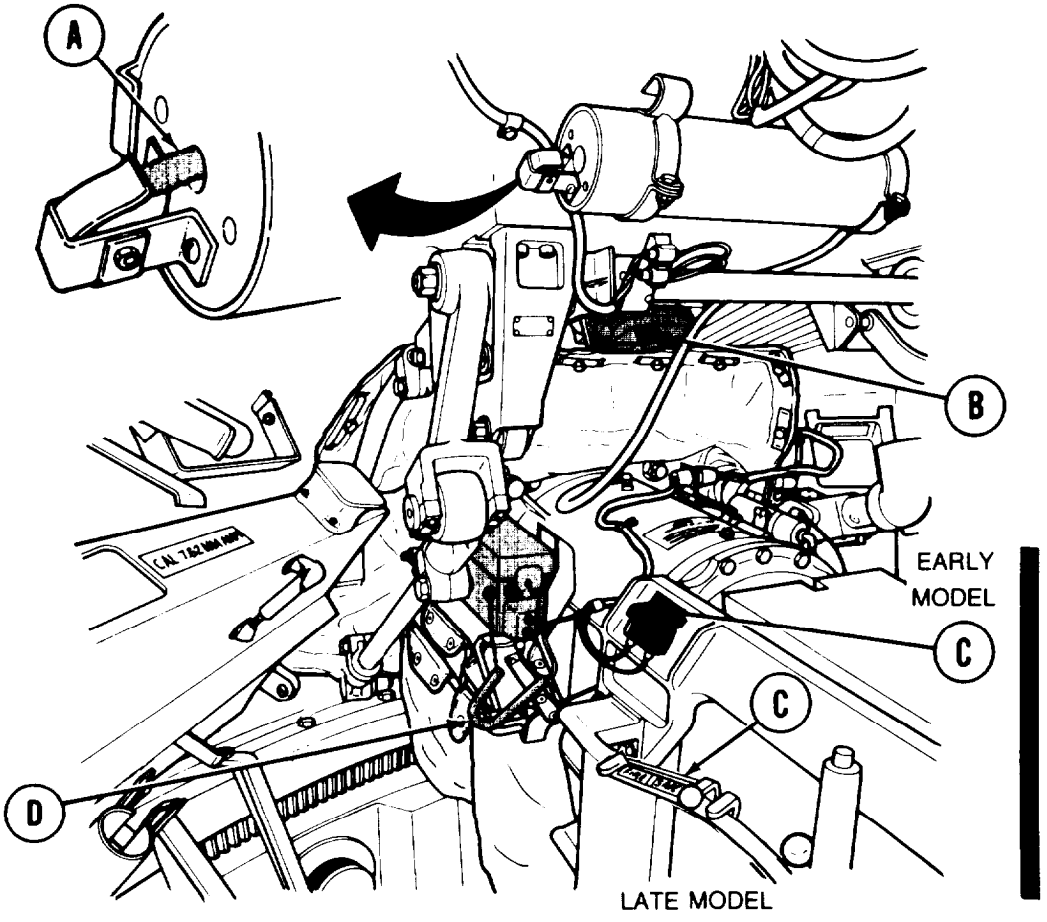
LOADER'S CONTROLS AND INDICATORS



Key	Control or Indicator	Function
A	Intercom Control Box	Selects and adjusts volume of radio audio signals.
B	Gas Particulate Air Heater Switch	Controls temperature of air breathed thru gas particulate.
C	Turret Traverse Lock	Locks or unlocks turret.

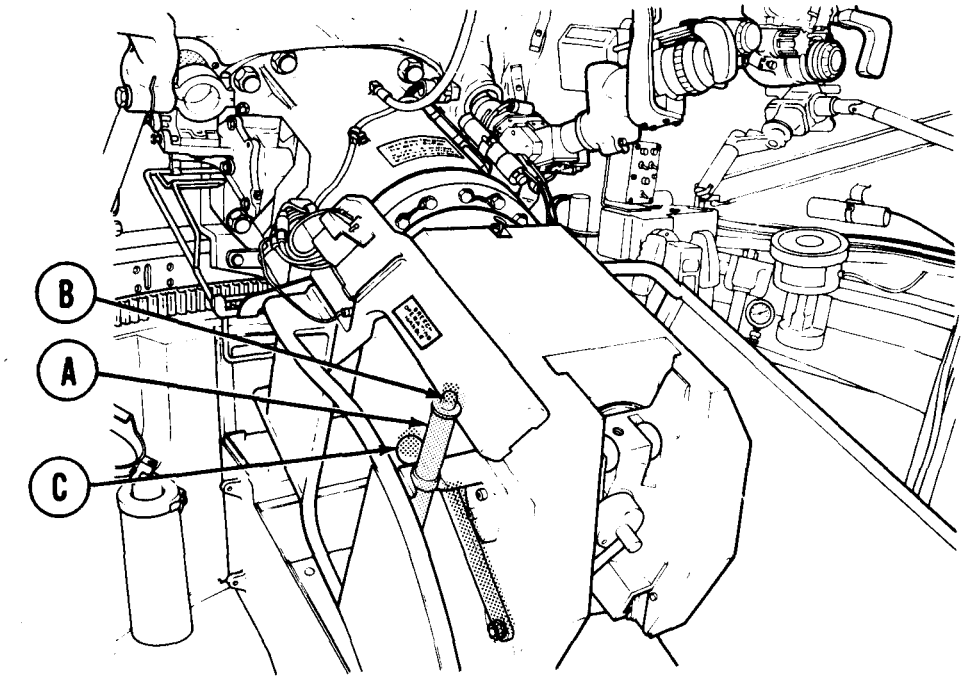
TA252685

LOADER'S CONTROLS AND INDICATORS - Continued



Key	Control or Indicator	Function
A	Replenisher Indicator Tape	Indicates amount of oil in replenisher.
B	Domelight Switch	Controls selection of white or red interior lighting.
C	Main Gun FIRE-SAFE Switch	Allows main gun to fire electrically when set to FIRE.
D	7.62-mm Machine Gun Charging Handle (M73 shown)	Charges machine gun prior to firing.

TA252686



Key	Control or Indicator	Function
A	BREECH OPERATING HANDLE	Opens main gun breech.
B	Plunger	Releases BREECH OPERATING HANDLE.
C	Release Lever	Allows breechblock to close.

TA132165

SECTION II. PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS)

1. The following PMCS procedures, sub-sections I thru VI, list specified PMCS intervals. Always keep in mind CAUTIONS and WARNINGS.

   a. Sub-section I. Perform sub-section I, daily PMCS on days you operate. If mission includes firing operation, perform sub-section III, "Before Firing" (BF) PMCS.

      (1) BEFORE you operate. Perform PMCS indicated before operation.
      (2) During operation. Perform PMCS indicated while operating the vehicle or its component systems:
      (3) After operation. Perform PMCS indicated after operation.

   b. Sub-section II. Perform sub-section II, WEEKLY (hull) PMCS as well as sub-section I (hull) PMCS if: (1) you are the assigned operator and have not operated the equipment since the last weekly PMCS or (2) you are operating for the first time.

   c. Sub-section III. Perform subsection III, WEEKLY (turret) PMCS as well as sub-section I (turret) PMCS if: (1) you are the assigned operator and have not operated the equipment since the last weekly PMCS or (2) you are operating the equipment for the first time.

      (1) Before Firing (BF), Perform (BF) PMCS only if you are going to fire your weapons.
      (2) Weekly-Before Firing (W-BF). Perform (W-BF) PMCS before firing and weekly.
      During Firing (DF). Perform (DF) PMCS only during firing.

   d. Sub-section IV. Perform sub-section IV, AFTER FIRING PMCS only after firing weapons.

   e. Sub-section V. Perform sub-section V, MONTHLY PMCS along with sub-sections I, II, and III (W-BF) PMCS.

   f. Subsection VI. Perform sub-section VI, QUARTERLY PMCS along with subsections I, II, III (W-BF) and V PMCS.

2. Not Ready/Available. Defects in this column will show that vehicle is not ready/available to perform primary mission.

3. If anything looks wrong and you can't fix it, whether it is part of PMCS or not, write it on your DA Form 2404 (Equipment Inspection and Maintenance Worksheet). Use item number from PMCS for "TM Number" column. If you find something seriously wrong, notify organizational maintenance RIGHT NOW.

TA252687

PREVENTIVE MAINTENANCE CHECKS AND SERVICES - Continued

4 . Perform radio set PMCS in accordance with TM 11-5820-401-10-2.

5 . Inspect to see if items are in good condition. Are they correctly assembled or stowed, secure, not excessively worn, not leaking, and properly lubricated (if not, correct right away or notify organizational maintenance).

6 . Expose canvas covers and paulins to fresh air during quarterly service. Reduce interval as required in a rainy climate. Do not stow canvas items when wet.

7 . Use drycleaning solvent, item 61, Appendix D, to clean grease or oil from all metal parts except those exposed to powder during firing. Parts which require lubrication will be wiped dry and oiled (LO 9-2350-222-12).

8 . Use rifle bore cleaning compound, item 11, Appendix D, to clean all armament parts which have been exposed to powder during firing. Parts which require lubrication will be wiped dry and oiled (LO 9-2350-222-12).

9 . Do not use coarser material than crocus cloth to remove rust from metal parts. Be careful not to change parts size when using crocus cloth. Coat unprotected metal surfaces with oil, item 47, Appendix D, after cleaning.

10. When installing new parts, remove preservative materials. Lubricate (LO 9-2350-222-12).

11. Oil and grease can be removed from canvas, rubber, or plastic items by scrubbing with soap and warm water. Rinse well with clear water and dry.

12. Nameplates, caution plates, and instruction plates made of steel may rust very rapidly. If rusty, clean thoroughly and coat with preservative oil, item 47 Appendix D.

13. Clean all optical lenses with cleaning compound, item 9, Appendix D.

14. All lubrication will be performed in accordance with LO 9-2350-222-12.

15. It is necessary for you to know how fluid leakage affects the status of your vehicle. The following are definitions of the type/classes of leakage you need to know to be able to determine the status of your vehicle. Learn, then be familiar with them and REMEMBER - WHEN IN DOUBT, NOTIFY YOUR SUPERVISOR!

TA132167

Leakage Definitions for Crew/Operator PMCS

CLASS I	Seepage of fluid (as indicated by wetness or discoloration) 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 item being checked/inspected.
CLASS III	Leakage of fluid great enough to form drops that fall from the item being checked/inspected,

CAUTION

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

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

Class III leaks should be reported to your supervisor or to organizational maintenance for corrective action.

16. Use care when cleaning to prevent injury to personnel and damage to equipment.

WARNING

Dry cleaning solvent P-D-680 is toxic and flammable. To avoid injury, wear protective goggles and gloves and use in a well-ventilated area. Avoid contact with skin, eyes, and clothes, and do not breathe vapors. Do not use near open fire or excessive heat. The flash point for Type 1 dry cleaning solvent is 100°F (38° C) and for Type II ia 140°F (60°C). If you become dizzy while using dry cleaning solvent get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.

a. Use dry cleaning solvent only in well-ventilated places. A fire extinguisher should be provided nearby.

b. Avoid spilling petroleum products on rubber parts. Rubber that is not resistant to petroleum will deteriorate.

c. Do not use diesel fuel oil, gasoline, paint thinner, or benzene (benzol) for cleaning.

d. When using highly volatile cleaning solvents (those that will burn), wear gloves to protect hands from skin-drying effect.

CAUTION

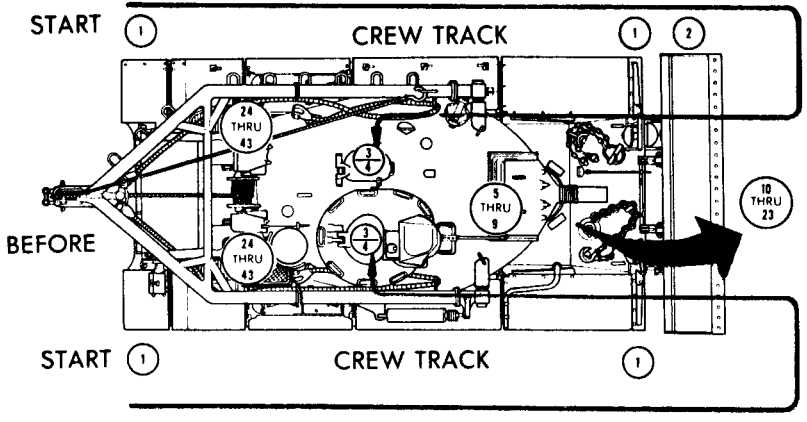
Do not clean interior of turret or hull with steam, water, or air under pressure.

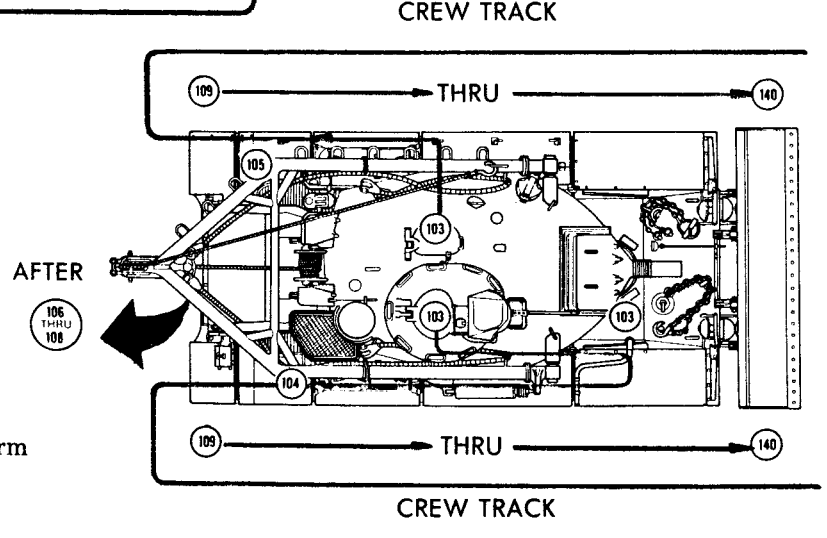
Such cleaning will cause sighting and fire control material to become inoperative. Moisture will rust gears bearings, and other internal components.

Do not allow water to enter engine exhaust sys tem. Water entering exhaust system could damage engine.

e. Before you wash vehicle, install personnel heater exhaust plug and tape air cleaner blower motor exhaust outlets and engine exhaust to prevent water from entering exhaust systems. Be sure to remove plug and tape after washing is completed.

17. Be sure that all gas-particulate filter hoses are connected. Be sure spring clip is in place over filter unit air intake openings before cleaning vehicle interior.





DAILY PMCS CHECK

These routing diagrams will help you perform your "before" and "after" PMCS. It shows the PMCS routing track and the location where you will perform various PMCS items. The PMCS item numbers are shown in circles.

Table 2-1. Preventive Maintenance Checks and Services for Model M728

Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
1	Before	Vehicle Exterior	a. Check for signs of tampering, damage or missing parts. **NOTE** Ensure drain valves are open, then closed. b. Check for puddles or large spots of fluids/oil under tank. **WARNING** **Before elevating gun or traversing turret, alert crew and make sure area is clear of obstacles to prevent main gun of turret from hitting personnel.** **CAUTION** **If loud, high pitched, squealing noise is heard, or hydraulic pressure drops suddenly to 1500 psi, or less, large hydraulic leak is present, inform tank commander that turret power should be shut off immediately.**	b. Class III leak identified.

Table 2-1. Preventive Maintenance Checks and Services for Model M728

Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
			DRIVER	
2	Before	Fire Extinguisher Handles (External)	Check that safety wire-lead seals on fire extinguisher external release handles are not missing or broken.	Safety wire/lead seal broken or missing.

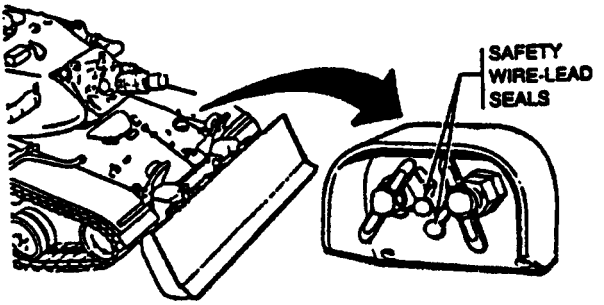
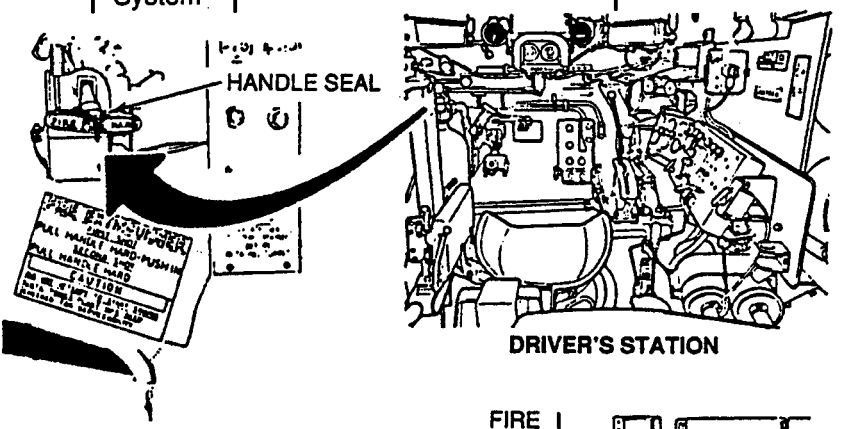


Table 2-1. Preventive Maintenance Checks and Services for Model M728

Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
3	Before	Fire Extinguisher System	DRIVER a. Check that three internal fire extinguisher cylinders are installed.	a. Cylinder missing.
			b. Check that internal fire extinguisher handle seal is not broken or missing.	



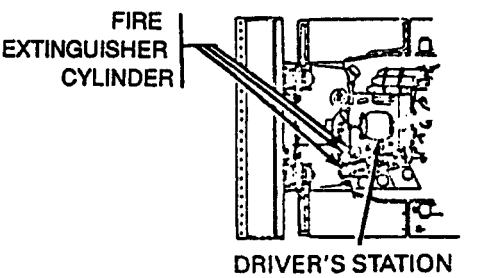


Table 2-1. Preventive Maintenance Checks and Services for Model M728

Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
3	Before	Fire Extinguisher System Continued	c. Check that lead seal on each of two internal fire extinguisher cylinder control valves and pins are not broken or missing.	c. Seals on handle or cylinder control valves broken or missing.
			d. Check that lead seal and shrunk tubing on each of three internal fire extinguisher cylinders are not broken or missing.	d. Shrunk tubing broken or missing.

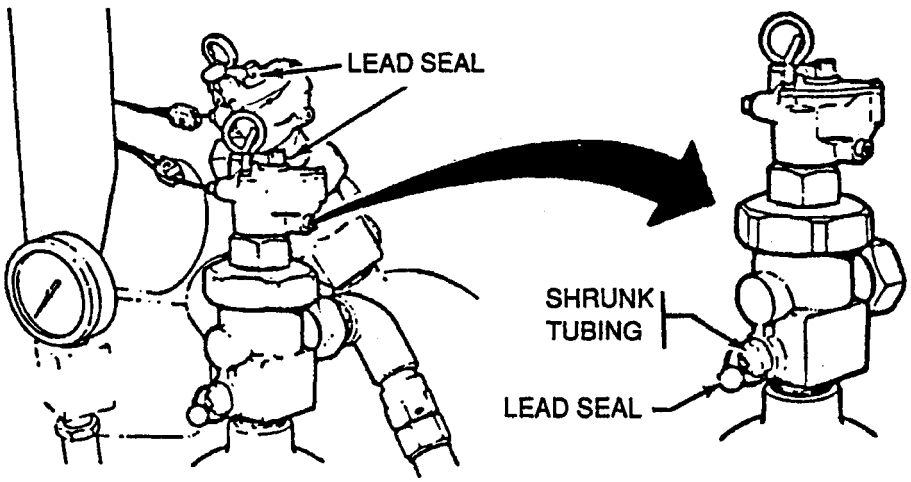


Table 2-1. Preventive Maintenance Checks and Services for Model M728

Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
4	Before	Steering Control	Check that steering control returns to center position.	Steering control does not center.

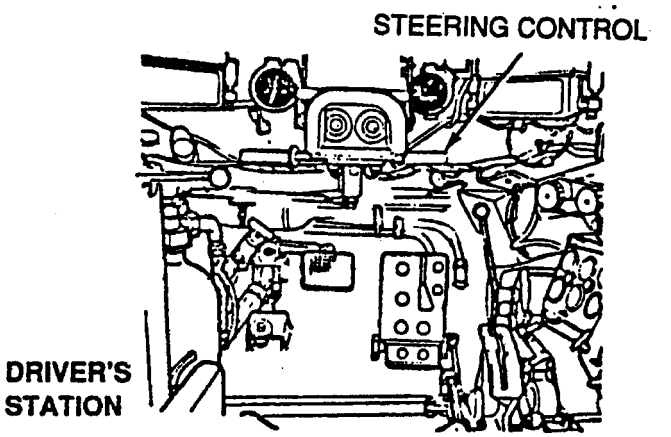


Table 2-1. Preventive Maintenance Checks and Services for Model M728

Item No.	Interval	Location / Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
5	Before	7.62-MM Machine Gun (M240 and Mount)	LOADER **WARNING** **Make sure machine gun is clear of ammunition.** a. Check that machine gun barrel bore is wiped dry and is free of obstructions. b. Check that mounting bracket is secure. c. Check that front and rear pin assemblies are snapped in mount detent. d. Check that electrical connectors are connected.	a. Barrel damaged or obstructed. b. Gun not mounted securely. c. Either pin missing. d. Gun will not fire electrical.

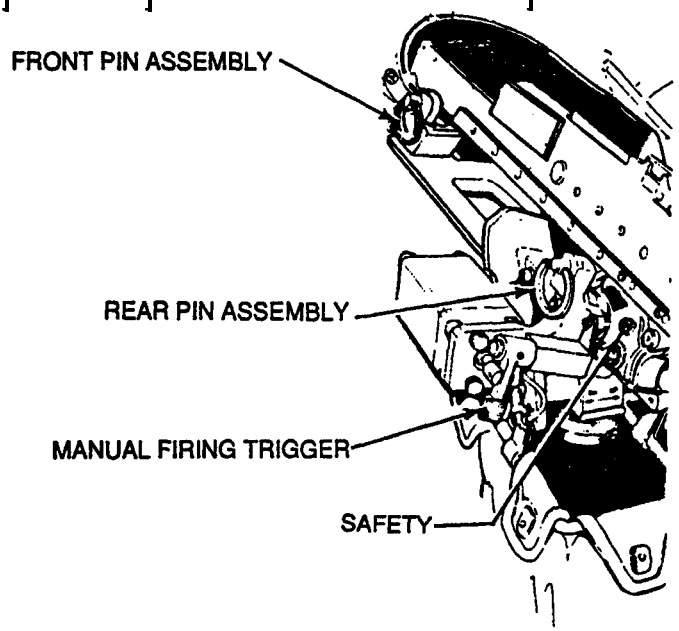


Table 2-1. Preventive Maintenance Checks and Services for Model M728

Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
5	Before	7.62-MM Machine Gun (M240 and Mount) Continued	e. Check that manual firing trigger and safety work without sticking. f. Check that feed and ejection ports work properly. **NOTE** Set ELEV/TRAV POWER switch to ON. Set MAIN GUN switch to OFF. Set MACHINE GUN switch to ON. Set SAFETY switch to S.	f. Either not working properly.

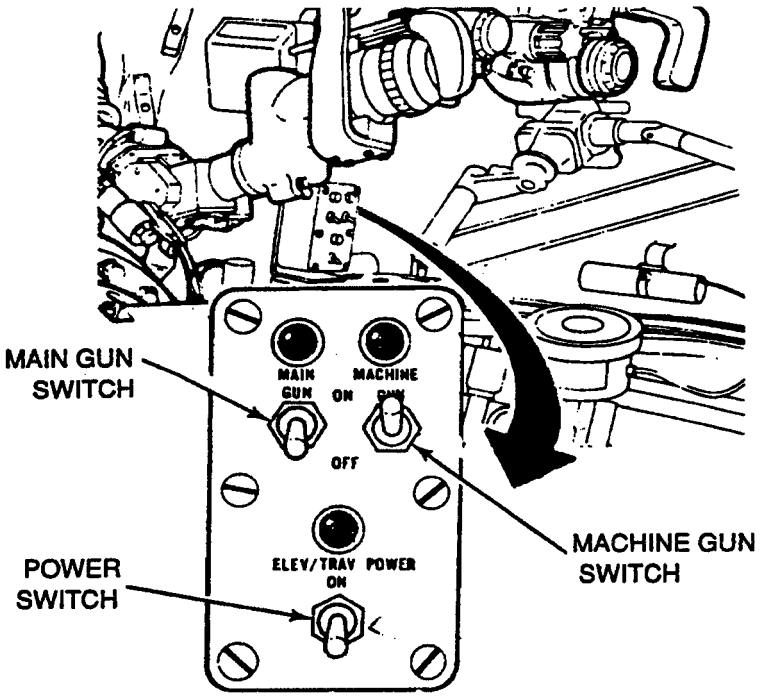


Table 2-1. Preventive Maintenance Checks and Services for Model M728

Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
5	Before	7.62-MM Machine Gun (M240 and Mount) Continued	Press both triggers on GUNNER's POWER CONTROL handles.	
			g. Listen for audible click of machine gun solenoid.	g. Gun fires with safety on.
			Press trigger on MANUAL ELEVATION CONTROL handle.	
			h. Listen for audible click of machine gun solenoid.	h. Gun fires with safety on.
			Press trigger on COMMANDER'S CONTROL handle when palm switch is held pressed.	
			i. Listen for audible click of machine gun solenoid.	i. Gun fires with safety on.
			Set MACHINE GUN switch to OFF.	
			Set ELEV/TRAV POWER switch to OFF.	

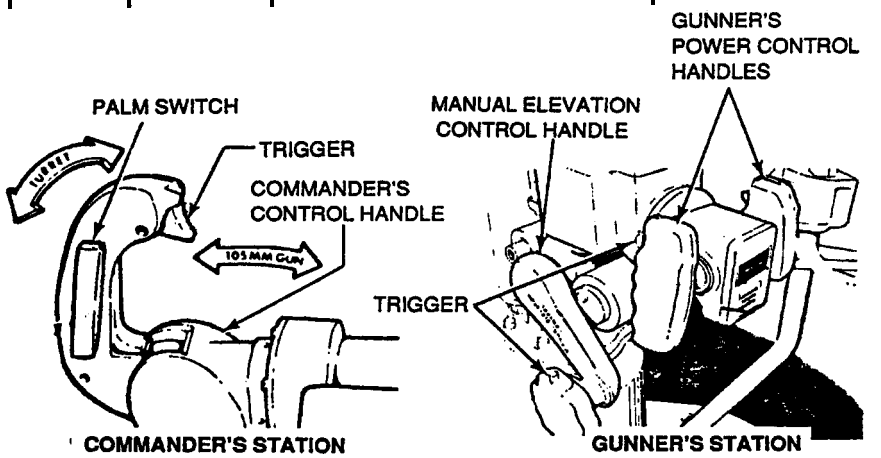


Table 2-1. Preventive Maintenance Checks and Services for Model M728

Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
			TANK COMMANDER	
6	Before	Caliber .50 Machine Gun and interrupter	**WARNING** **Make sure machine gun is clear of ammunition.**	
			a. Check that machine gun barrel bore is wiped dry and free of obstructions prior to installation.	a. Barrel obstructed or damaged.
			b. Check that electrical connectors are connected and machine gun is securely mounted.	b. Electrical firing not possible.
			c. Check that manual trigger and safety work without sticking.	
			d. Check that feed and ejection parts work properly.	d. Any damage.
			Set CUPOLA POWER switch to ON.	

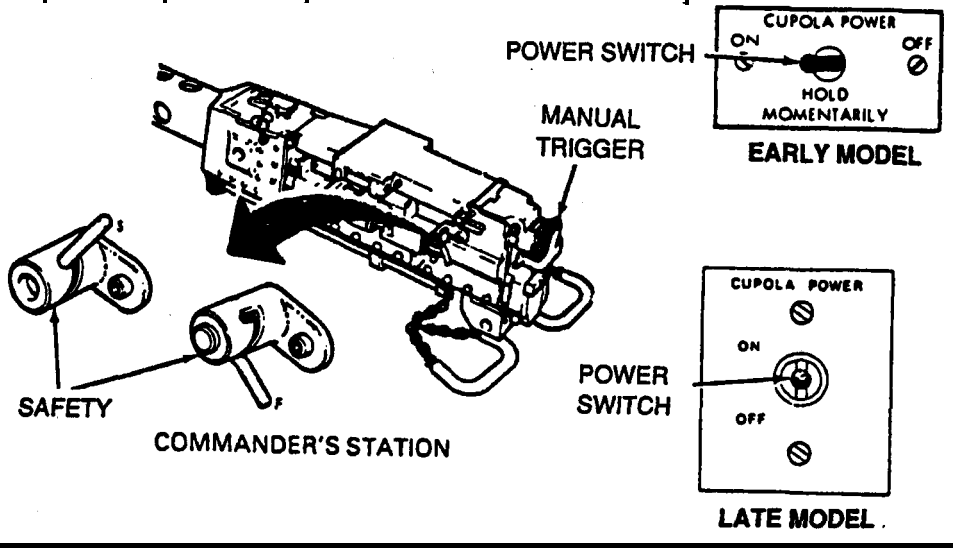


Table 2-1. Preventive Maintenance Checks and Services for Model M728

Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
6	Before	Caliber .50 Machine Gun and interrupter Continued	e. Set GUN SAFETY switch to ON. Press machine gun trigger switch. Listen for audible click of machine gun solenoid. Set GUN SAFETY switch to OFF. Set CUPOLA POWER switch to OFF. f. Check forward interrupted for freedom of movement between stowed and raised positions. g. Check that interrupter locks in both positions. Raise and lock interrupter to operational position if searchlight is installed.	e. Fires with safety on.

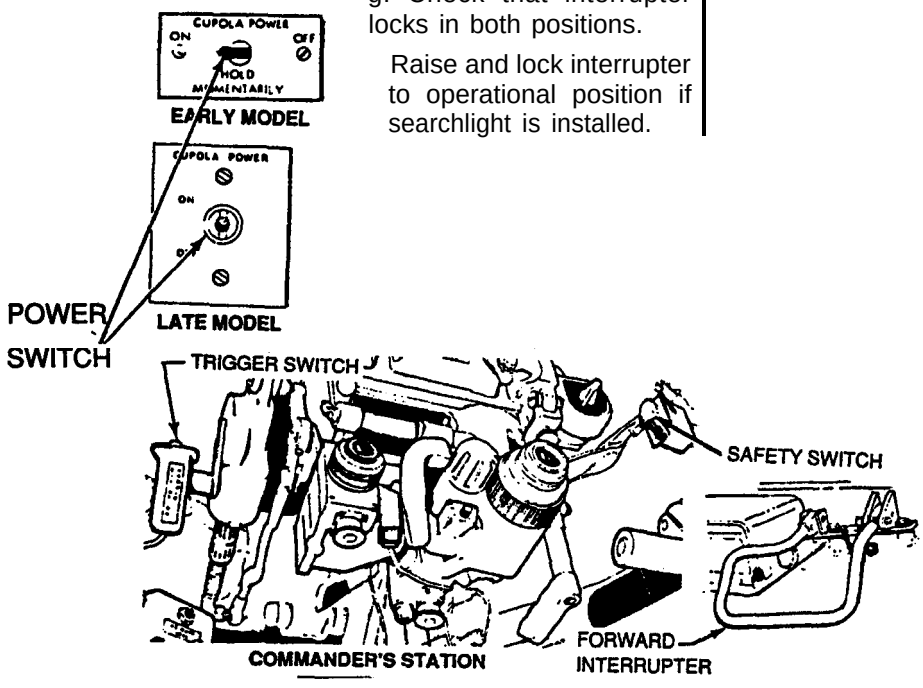


Table 2-1. Preventive Maintenance Checks and Services for Model M728

Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
6	Before	Caliber .50 Machine Gun and Interrupter Continued	h. Check that POWER ON lamp lights. Set GUN SAFETY switch to fire. Set LAST ROUND OVERRIDE switch to ON. i. Check that GUN READY lamp lights. j. Press machine gun trigger switch.	j. Gun fails to fire.

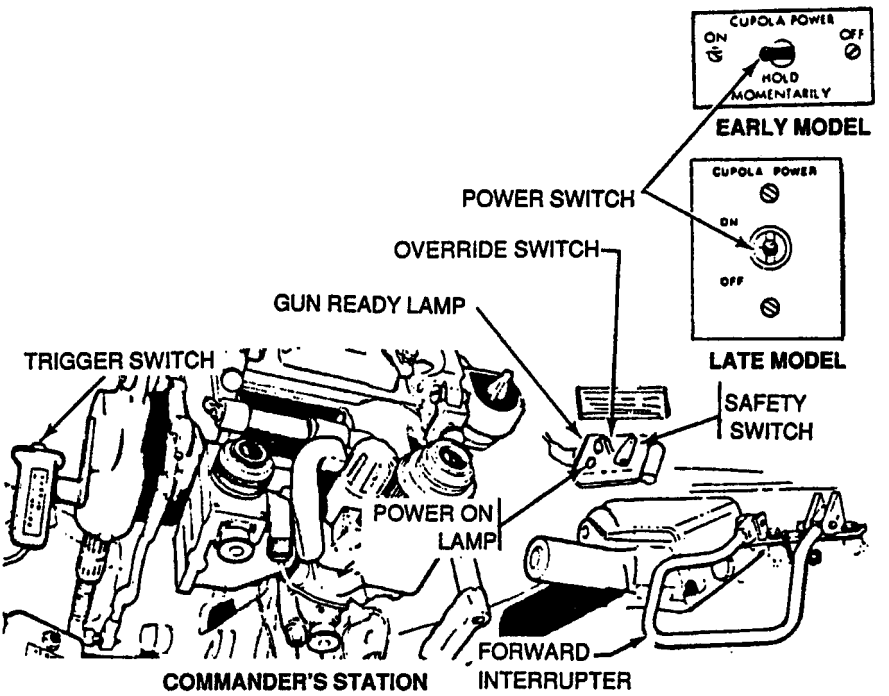


Table 2-1. Preventive Maintenance Checks and Services for Model M728

Item No.	Interval	Location Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
6	Before	Caliber .50 Machine Gun and Interrupter Continued	k. Listen for audible click of machine gun solenoid. Set LAST ROUND OVERRIDE switch to OFF. Set GUN SAFETY switch to safe. Set CUPOLA POWER switch to OFF. l. Check forward interrupter for freedom of movement between stowed and raised positions. m. Check that interrupter locks in both positions. Raise and lock interrupter to operational position if searchlight is installed.	

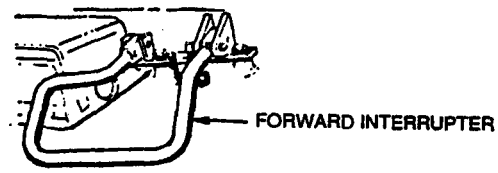


Table 2-1. Preventive Maintenance Checks and Services for Model M728

Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
7	Before	.50 Machine Gun	TANK COMMANDER Turn ELEVATION handle to depress and elevate caliber .50 machine gun. Check that machine gun can be elevated to upper and lower stops smoothly and without binding.	

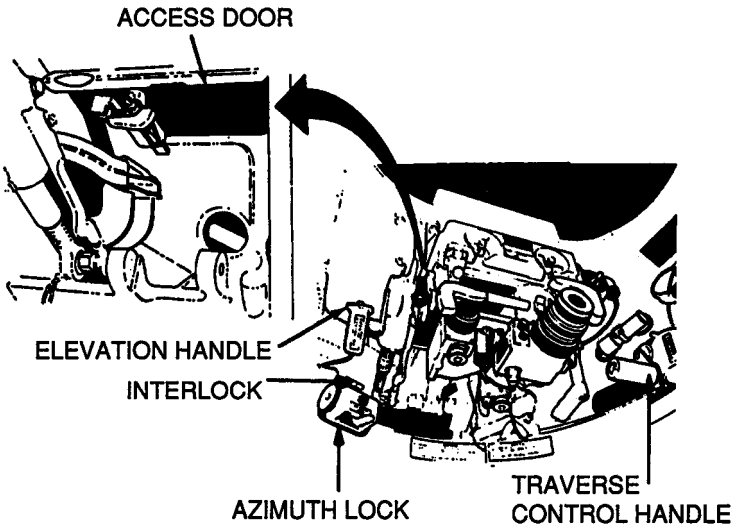


Table 2-1. Preventive Maintenance Checks and Services for Model M728

Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
8	Before	Bore-sighting	GUNNER/COMMANDER/ LOADER a. Boresight 165-MM gun (page 2-390). b. Boresight M240 7.62-MM machine gun (page 2-399). c. Boresight caliber .50 machine gun (page 2-416).	a. 165-MM gun cannot be foresighted.

Table 2-1. Preventive Maintenance Checks and Services for Model M728

Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable if:
9	Before	Portable Fire Extinguisher	LOADER a. Check that extinguisher clamp secures cylinder. b. Check that safety wire-seal is not missing or broken.	

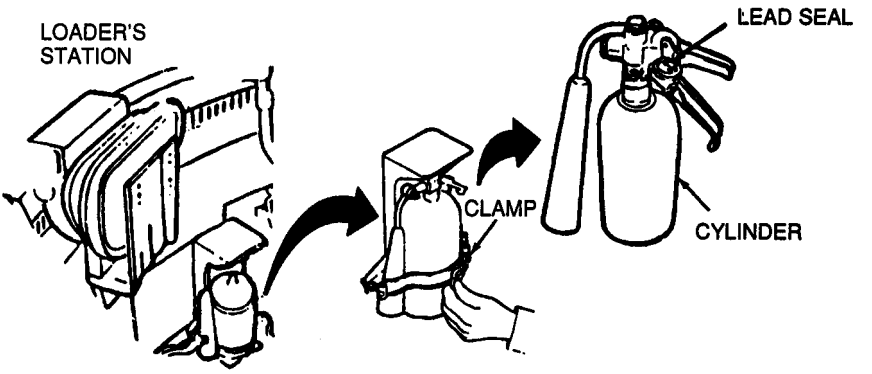


Table 2-1. Preventive Maintenance Checks and Services for Model M728

Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
10	Before	Hydraulic Brake System	DRIVER a. Visually check brake master cylinder and hull area below brake master cylinder assembly and attaching tube assemblies for fluid leak. **NOTE** Do not allow brake pedal pressure to go over 900 psi. Brake may become difficult to release. b. Press brake control pedal once until pressure gage indicates 750 to 900 psi. Hold pedal in position for 30 seconds.	a. Indication of fluid leak. b. 750 psi cannot be obtained.

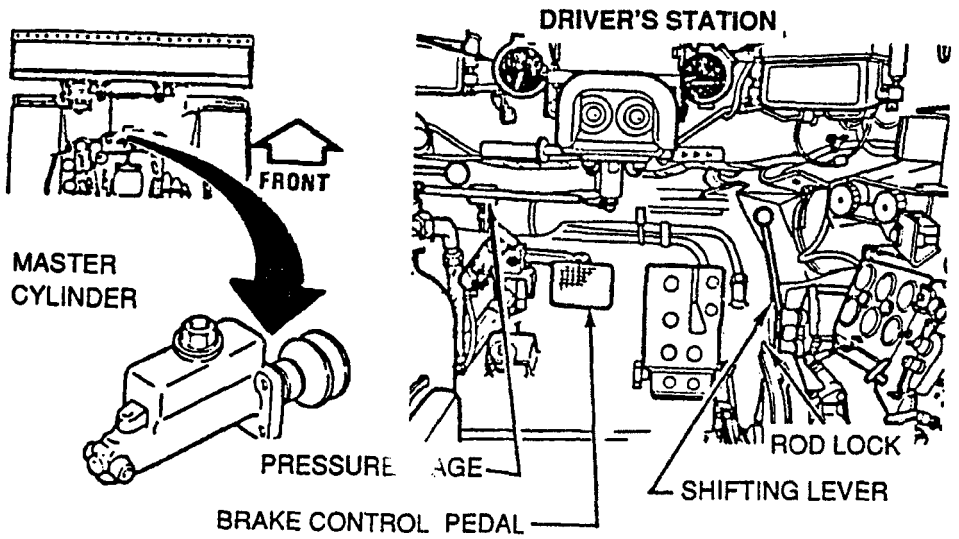


Table 2-1. Preventive Maintenance Checks and Services for Model M728

Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
10	Before	Hydraulic Brake System Continued	c. Check that pedal does not move. Place shifting lever control rod in "P" position and remove foot from brake control pedal.	c. Pressure drop or pedal movement.
			d. To release brake control pedal and hold, push shifting lever control rod lock forward, placing shifting lever in "N" neutral position. Release pedal.	d. Shift lever control rod can be moved from park to neutral position with parking brake engaged.

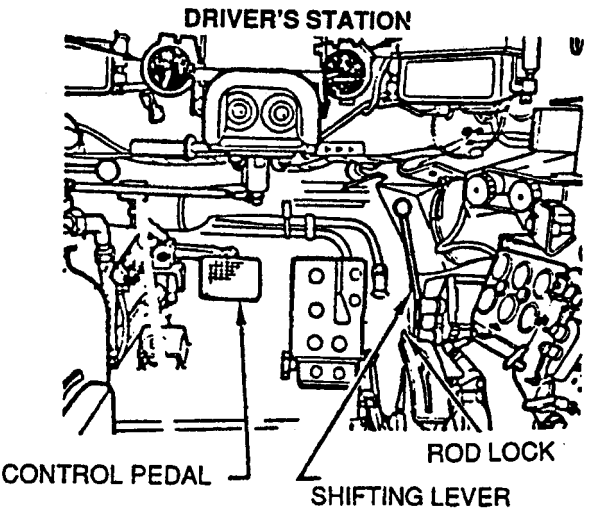


Table 2-1. Preventive Maintenance Checks and Services for Model M728

Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
11	Before	Moldboard Selector Control Valve.	DRIVER **NOTE** Open hydraulic suction valve. a. Check that selector control valve handle moves freely into all positions. b. Check selector control valve for loose fittings and mounting hardware. c. Check selector control valve tubing and lines for fluid leaks.	a. Selector control handle inoperable in any mode. b. Class III leak.
12	Before	Moldboard Directional Control Valve	DRIVER a. Check that moldboard responds to operation of control handle. b. Check directional control valve for loose fittings and mounting hardware.	a. Class III leak. b. Directional control handle inoperable in any mode.

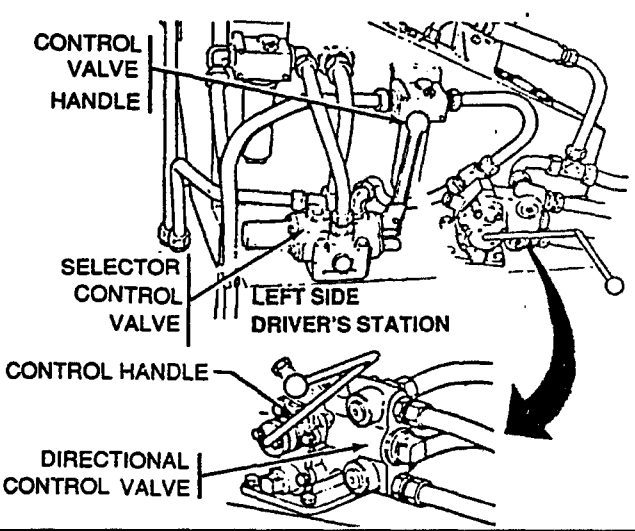
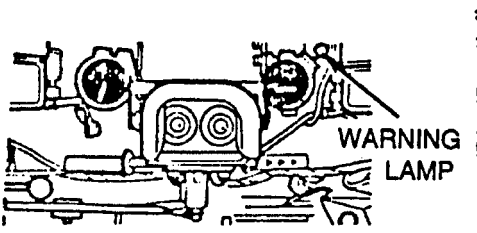


Table 2-1. Preventive Maintenance Checks and Services for Model M728

Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
13	Before	Instrument Panel (Engine Running)	NOTE Set MASTER BATTERY switch to ON. Check that both MASTER BATTERY lamp and POWER PLANT WARNING lamp light.	



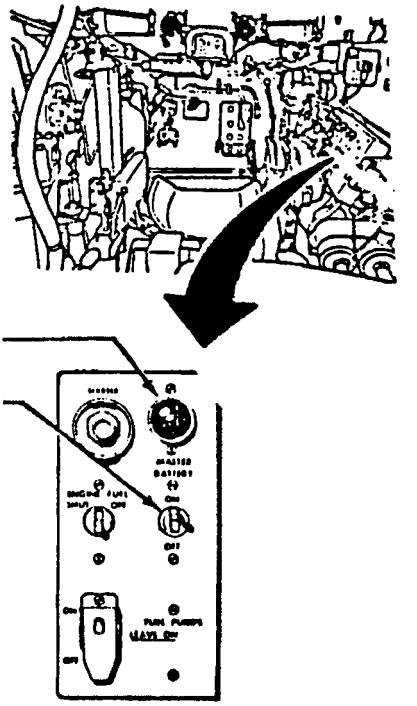


Table 2-1. Preventive Maintenance Checks and Services for Model M728

Item No.	Interval	Location: Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
13	Before	Instrument Panel (Engine Running) Continued	DRIVER START ENGINE a. Push down on accelerator lock. Leave shifting lever in "P position. **NOTE** Engine speed should not surge when accelerator pedal is held steady. b. Check that tachometer is installed, operational and reads 700 to 750 rpm. 1. Check that hour meter on tachometer is operational. 2. Step on brake pedal until pressure gage reads 750 to 900 psi. 3. Accelerate engine until tachometer reads 1600 rpm. Release accelerator pedal.	a. Engine fails to start. b. Tachometer is inoperative or missing.

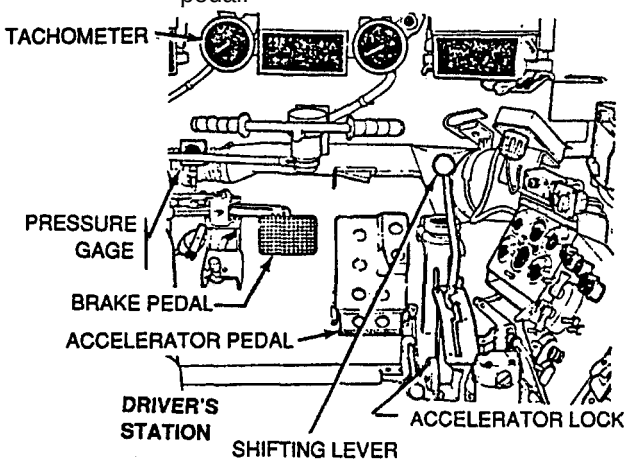


Table 2-1. Preventive Maintenance Checks and Services for Model M728

Item No.	Interval	Location / Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
13	Before	Instrument Panel (Engine Running) Continued	c. Check that accelerator pedal returns freely to idle position and tachometer reads from 700 to 750 rpm.	c. Binding prevents pedal from returning to idle position. Engine surges.

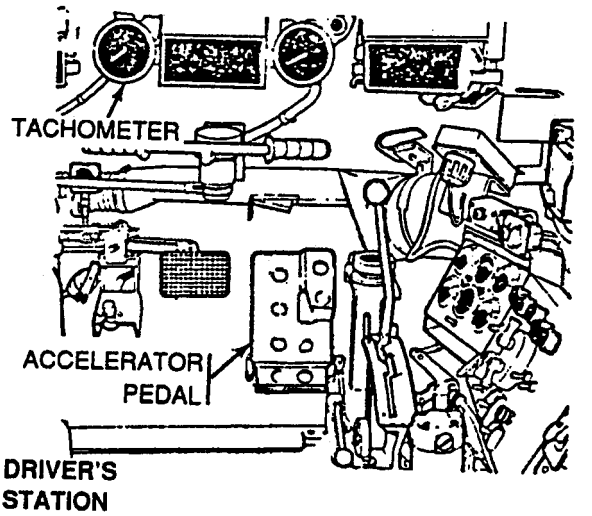
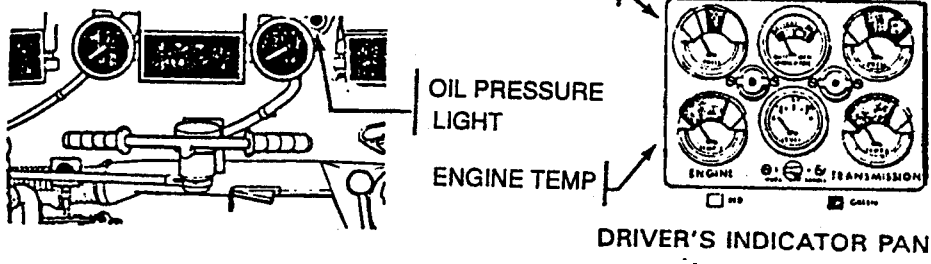


Table 2-1. Preventive Maintenance Checks and Services for Model M728

Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
13	Before	Instrument Panel (Engine Running) Continued	**NOTE** If light is lit, immediately check the ENGINE OIL PRESSURE, ENGINE OIL TEMPERATURE, TRANSMISSION OIL PRESSURE and TRANSMISSION OIL TEMPERATURE gages on the driver's indicator panel and the DUST DETECTOR WARNING LIGHT (if equipped).	Any gage missing/ inoperative
			d. Check that BATT GEN INDICATOR reads in green band. e. Check that ENGINE PRESS reads in green band (15 psi at idle, 700 to 750 rpm, or 40 to 70 psi when accelerating). f. Check that ENGINE TEMP F reads in green band (between 180° and 225° when engine is warm).	d. BATT GEN INDICATOR reads in red band. e. ENGINE PRESS reads in red band or too high or too low. f. ENGINE TEMP F reads in red band or above 225°.



DRIVER'S INDICATOR PANEL

Table 2-1. Preventive Maintenance Checks and Services for Model M728

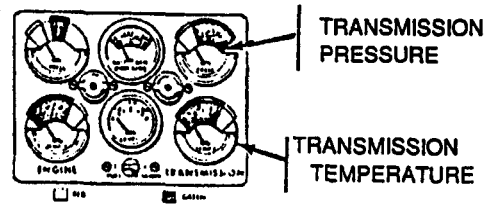
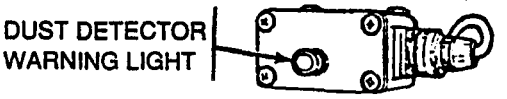
Item No.	Interval	Location item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
13	Before	Instrument Panel (Engine Running) Continued	g. Check that TRANSMISSION PRESS reads in green band (2 psi at idle, 700 to 750 rpm, or 8 to 40 psi when accelerating).	g. TRANSMISSION PRESS reads in red band or too high or too low.
			 DRIVER'S INDICATOR PANEL	
			h. Check that TRANSMISSION TEMP F reads in green band (between 200° and 280° when engine is warm).	h. TRANSMISSION TEMP F reads in red band or above 280°.
			 DUST DETECTOR WARNING LIGHT	
			i. Check that DUST DETECTOR WARNING LIGHT is out. Press lens cap in to check. If lamp does not light, replace lamp. If light is on, go to troubleshooting.	i. DUST DETECTOR WARNING LIGHT is on, inoperative or missing.

Table 2-1. Preventive Maintenance Checks and Services for Model M728

Item No.	Interval	Location / Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
14	Before	Turret Lock	**WARNING** **Do not traverse turret or elevate/depress main gun without an assistant assigned to warn of possible danger.** Place turret lock in locked and unlocked position. Check that turret lock is working properly. Leave in unlocked position. **CAUTION** **Make sure hull ammunition stowage rack retainers are closed before traversing turret.**	

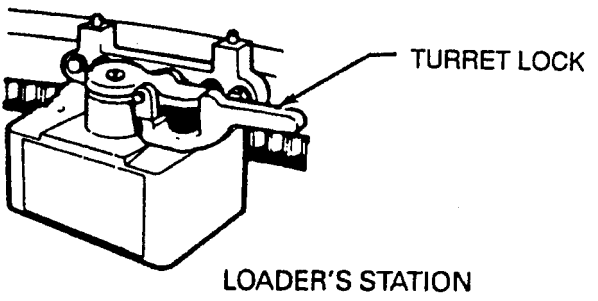


Table 2-1. Preventive Maintenance Checks and Services for Model M728

Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
15	Before	Hydraulic Power supply	GUNNER **WARNING** ● **Do not reach into or attempt to enter or exit driver's compartment until turret power switch is off and turret traverse lock is in locked position.** ● **Crew members out of station are in extreme danger when turret power is on. Commanders must shut down turret power before allowing crew members to leave their stations.** **NOTE** Make sure ELEV/ TRAV POWER switch is set to OFF.	

Table 2-1. Preventive Maintenance Checks and Services for Model M728

Item No.	Interval	Location / Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
15	Before	Hydraulic Power Supply Continued	Make sure turret lock is unlocked and turret seal is deflated. Turn GUNNER'S POWER CONTROL handles. a. Check that turret does not traverse and main gun does not elevate or depress. **NOTE** Lock turret lock. Press and hold plunger on power solenoid.	a. Turret traverses or main gun elevates or depresses with ELEV/TRAV POWER OFF.

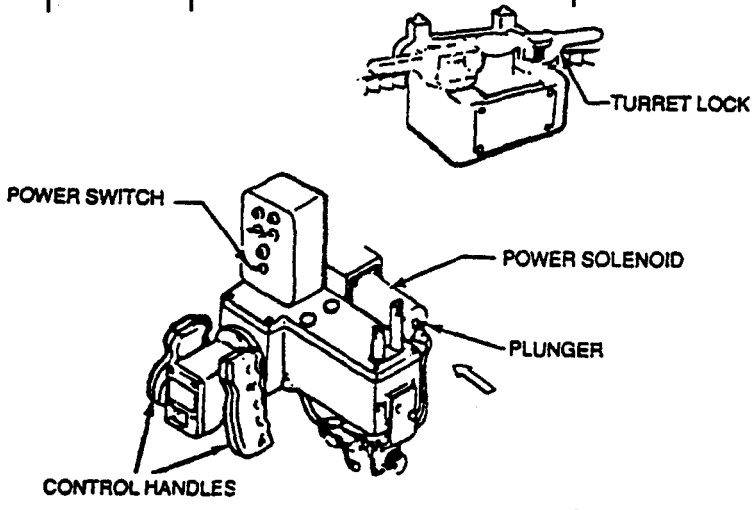


Table 2-1. Preventive Maintenance Checks and Services for Model M728

Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
15	Before	Hydraulic Power Supply Continued	Look at pressure gage. b. Check that needle moves slowly to between 500 and 550 psi and then suddenly drops to zero. **NOTE** Let go of GUNNER'S POWER CONTROL handles and plunger on solenoid. Be sure gage shows zero. On vehicles without liquid level sight gage, pull dipstick up. Wipe. Reinsert dipstick and pull out again. c. Check that fluid level is between ADD OIL line and FULL line on dipstick. Add fluid, if necessary. Reinsert dipstick. On vehicles with liquid level sight gage, visually check that fluid level is between ADD and FULL marks on gage.	

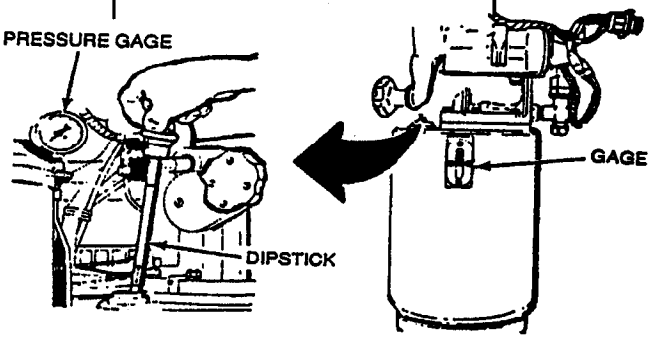
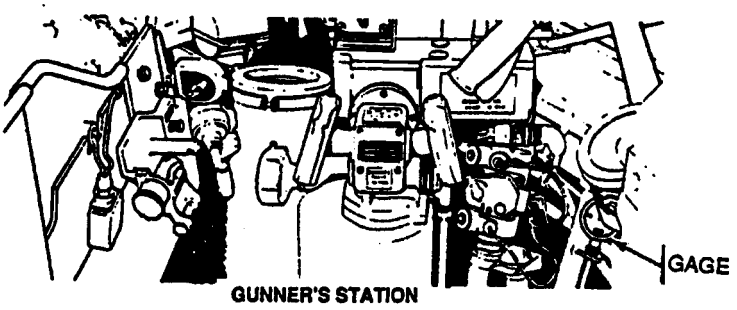


Table 2-1. Preventive Maintenance Checks and Services for Model M728

Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
			GUNNER	
16	Before	Equi-librator/ Accu-mulator Gage	Check that manual equilbrator/ accumulator gage indicates 1500 to 1800 psi.	lindicates less than 1500 or more than 1800 psi.
			GUNNER	
17	Before	Turret Hydrau-lic Sys-tem	Check area of turret hydraulic system for hydraulic fluid leaks.	Any class III fluid leak.



GUNNER'S STATION

Table 2-1. Preventive Maintenance Checks and Services for Model M728

Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
18	Before	Replenisher Assembly and Recoil Mechanism	GUNNER Wait for a four hour cooling down period, if fired. a. Check that indicator tape on replenisher shows one rough edge and one smooth edge. b. Check that hose is not cracked or leaking. If necessary, add fluid. c. Check fitting on replenisher and fitting on top of main gun for hydraulic fluid leakage. d. Check bottom underside area of recoil mechanism for hydraulic fluid leakage.	a. Loose or broken replenisher indicator tape. b. Any Class III fluid leak.

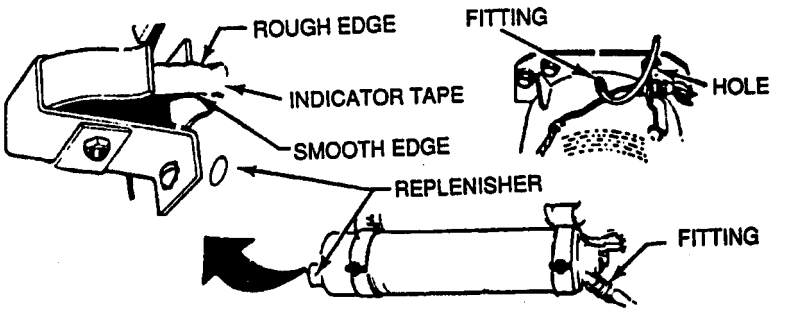
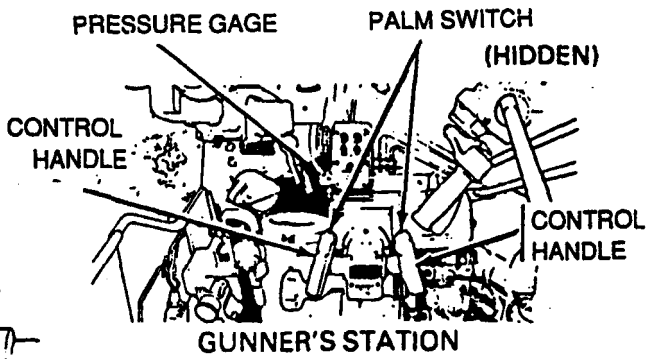


Table 2-1. Preventive Maintenance Checks and Services for Model M728

Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
19	Before	Turret Powered Traverse, Main Gun Powered Elevation and Depression.	GUNNER **WARNING** • **Do not apply turret power or operate turret controls until all personnel are in safe positions and prepared for turret or gun movement.** • **Do not operate turret in power or manual mode until all personnel are in proper position, turret ring has been cleared, and shell ejection plate and all platform guards are in place.** • **Do not reach into or attempt to enter or exit driver's compartment until turret power is off and turret traverse lock is in locked position..**	

Table 2-1. Preventive Maintenance Checks and Services for Model M728

Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
20	Before	Turret Powered Traverse, Main Gun Powered Elevation and Depression. Continued	**WARNING** **Crew members out of station are in extreme danger when turret power is on. Commanders must shutdown turret power before allowing crew members to leave their stations.**	
			a. Check that GUNNER'S POWER CONTROL handles (with either palm switch pressed) and COMMANDER'S CONTROL handle (with palm switch pressed) can traverse turret and elevate and depress main gun smoothly at any speed.	a. Cannot traverse or elevate using control handles, gunners and/or commanders.



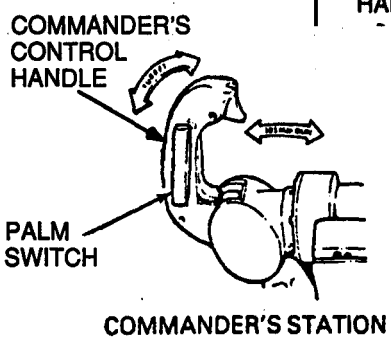
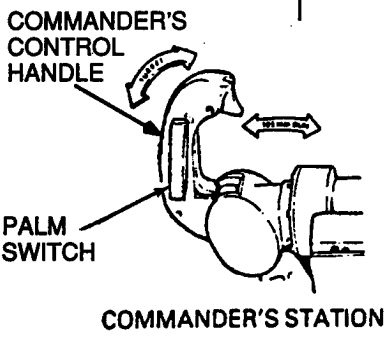


Table 2-1. Preventive Maintenance Checks and Services for Model M728

Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
20	Before	Turret Powered Traverse, Main Gun Powered Elevation and Depression Continued	**NOTE** Press both gunner's palm switches on handles, attempt to traverse turret counterclockwise while commander presses palm switch on handle and attempts to traverse turret clockwise. b. Check that commander's switch overrides gunner's switches and traverses turret clockwise.	b. Power mode turret traverse, or power mode main gun elevation/depression inoperative.



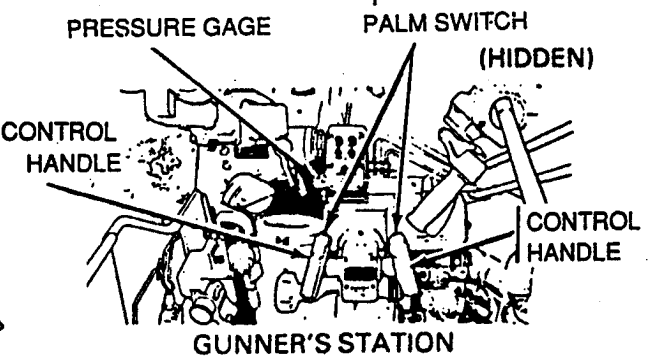


Table 2-1. Preventive Maintenance Checks and Services for Model M728

Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
21	Before	Main Gun Firing Circuit Test	LOADER **WARNING** **Make sure 165-MM gun is clear of ammunition before performing the following procedure.** Make sure MASTER BATTERY switch is set to OFF. Make sure MAIN GUN switch is set to OFF. Set loader's safety switch to SAFE. Open breech and place firing circuit tester into the chamber and close breech fully.	

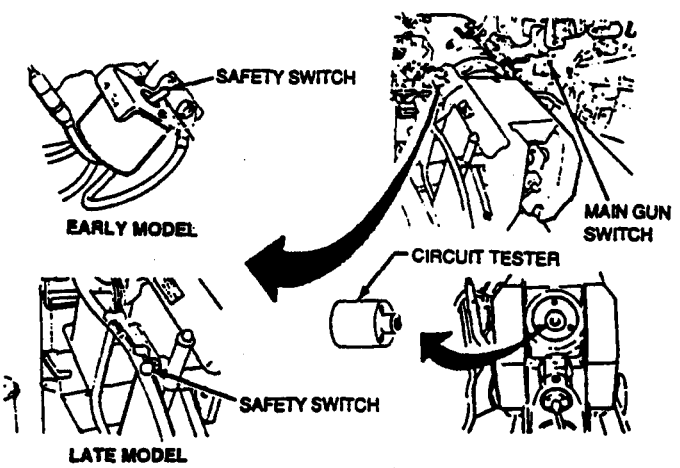
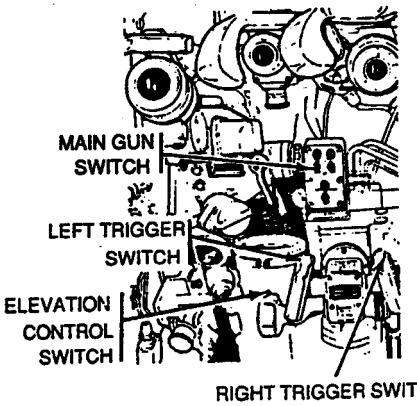


Table 2-1. Preventive Maintenance Checks and Services for Model M728

Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
21	Before	Main Gun Firing Circuit Test Continued	Check that firing circuit tester does not buzz or make noise during each of the following steps. a. Set loader's safety switch to FIRE. b. Set MASTER BATTERY switch to ON. c. Set MAIN GUN switch to ON. d. Momentarily press COMMANDER'S CONTROL handle palm switch.	Any check does not function properly, a. thru h..



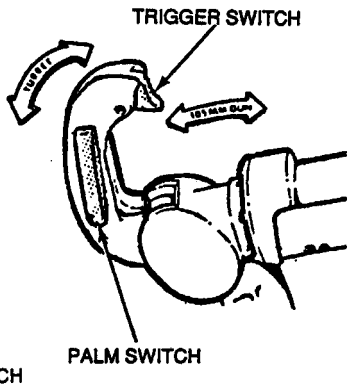
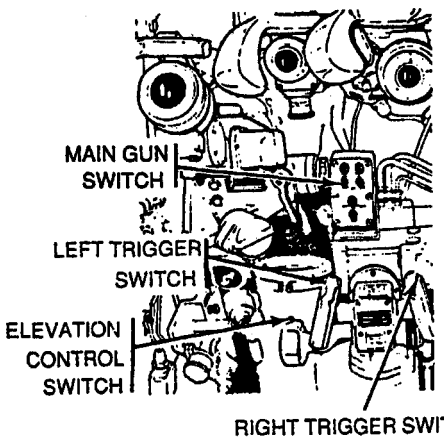


Table 2-1. Preventive Maintenance Checks and Services for Model M728

Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
21	Before	Main Gun Firing Circuit Test Continued	e. Press gunner's left and right control handle trigger switches. f. Press MANUAL ELEVATION CONTROL handle trigger switch. g. Press COMMANDER'S CONTROL handle trigger while squeezing palm switch. h. Turn MANUAL FIRING handle very rapidly and energetically in a clockwise direction.	Any check does not function properly, a. thru h..



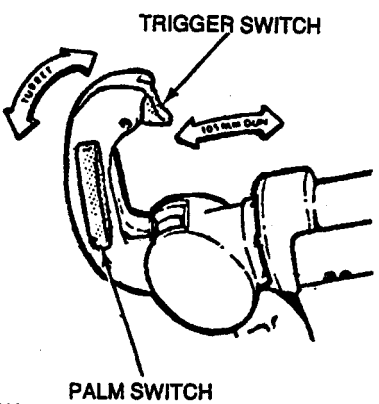


Table 2-1. Preventive Maintenance Checks and Services for Model M728

Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
21	Before	Main Gun Firing Circuit Test Continued	**NOTE** Check that firing circuit tester does not buzz or make a noise during any of the following tests. i. Set loader's safety switch to SAFE. j. Press MANUAL ELEVATION CONTROL handle trigger switch. k. Turn manual firing handle very rapidly and energetically in a clockwise direction. **NOTE** Set MAIN GUN switch to OFF. Set Master Battery switch to OFF. Remove firing circuit tester from breechblock.	Any switch is defective. Manual emergency firing mechanism is defective or missing. Tester buzz is heard when trigger switch under test is released.

Table 2-1. Preventive Maintenance Checks and Services for Model M728

Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
22	Before	Periscope Mount, Gunner's (M118/M118E1)	GUNNER **NOTE** Press release button on ballistic shield locking handle. Raise handle to open shield. a. Check that button and handle move freely. b. Check that ballistic shield will lock in open and closed position. Open and close coupling lever. c. Check that coupling moves freely. Lubricate if necessary.	

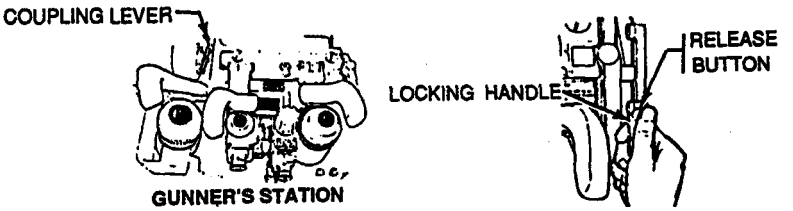


Table 2-1. Preventive Maintenance Checks and Services for Model M728

Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
23	Before	Periscope M32CE1 Daylight Body Light Source Control and Infinity Sight	GUNNER **NOTE** Make sure MASTER BATTERY switch is set to ON. Open ballistic shield. Focus daylight eyepiece. Turn light source control knob on INFINITY sight (located at rear of daylight body). a. Check that reticle of unity power window and daylight body eyepiece light from dim to bright. b. Check for moisture or fungus within field of vision. c. Check controls and knobs for proper operation.	a. Sight vision blocked.

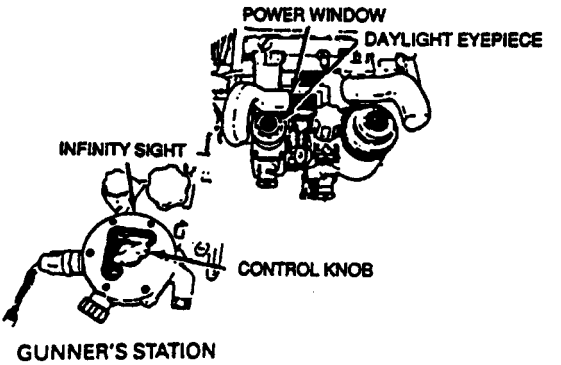


Table 2-1. Preventive Maintenance Checks and Services for Model M728

Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
24	Before	Periscope M32CE1 Passive Body Night Check	GUNNER **CAUTION** **Perform passive body checks under low light conditions only. Use the lowest possible light intensity for reticle illumination. Always turn off reticle power when periscope is not in use to prevent damaging the screen due to extended high light intensity.** **NOTE** Perform WEEKLY and BEFORE NIGHT OPERATIONS. Set MASTER BATTERY switch to ON. Open ballistic shield. Move shutter lever to left to turn on power switch of passive body. Turn tube control clockwise for clearest image.	

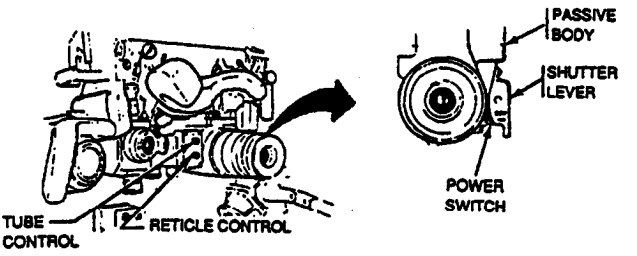


Table 2-1. Preventive Maintenance Checks and Services for Model M728

Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
24	Before	Periscope M32CE1 Passive Body Night Check Continued	a. Check that image is clear. Turn RETICLE control clockwise for suitable brightness. Use lowest possible intensity. b. Check that reticle brightness changes from dim to bright to dim. Turn diopter ring. c. Check that background is sharp and clear. Turn focus ring and adjust for viewing range. If not firing move shutter lever to OFF and close ballistic shield.	a. Image unclear or cannot be seen. b. No change. c. Background image not clear.

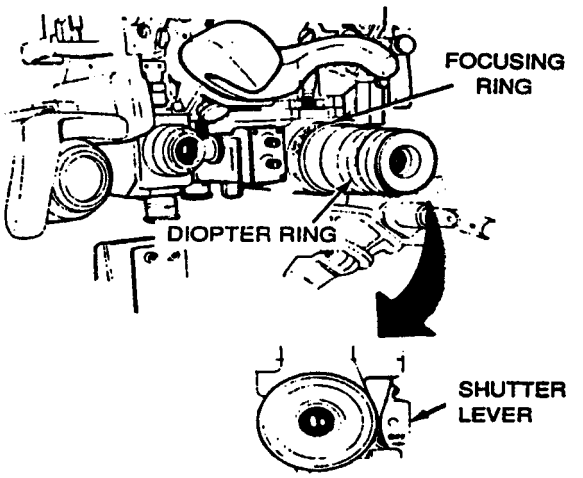


Table 2-1. Preventive Maintenance Checks and Services for Model M728

Item No.	Interval	Location / Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
25	Before	Periscope Mount, Commander's	COMMANDER Turn ballistic shield handle clockwise and push up. Turn counterclockwise to lock open. a. Check ease of opening ballistic shield. b. Check that shield locks in fully open and closed positions. Lubricate if necessary.	
26	Before	M36 Periscope - Daylight Body and Light Source Control	**CAUTION** **For day operation of M36 turn IR switch to OFF.** Make sure MASTER BATTERY and CUPOLA ELECTRICAL POWER CONTROL switches are set to ON. Open ballistic shield.	

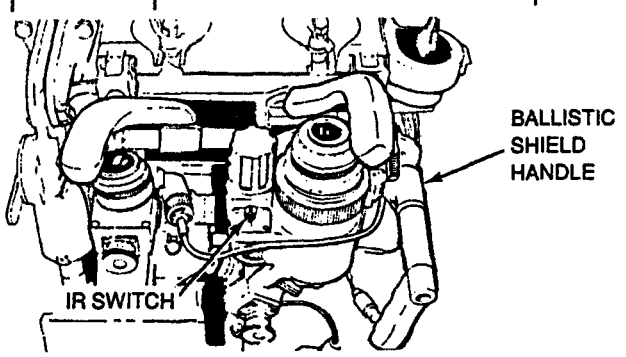


Table 2-1. Preventive Maintenance Checks and Services for Model M728

Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
26	Before	M36 Periscope - Daylight Body and Light Source Control Continued	GUNNER a. Check that reticle of daylight body eyepiece lights from dim to bright using light source control knob. b. Check for moisture or fungus within field of vision and daylight body eyepiece. c. Check control knobs for proper operation.	a. Reticle missing. b. Vision blurry.
27	Before	M36E1 Periscope-Daylight Body and Light Source Control	GUNNER **CAUTION** **For daylight operation on M36E1, make sure shutter lever is set to OFF position.** Make sure MASTER BATTERY and CUPOLA POWER switches are set to ON. Open ballistic shield.	

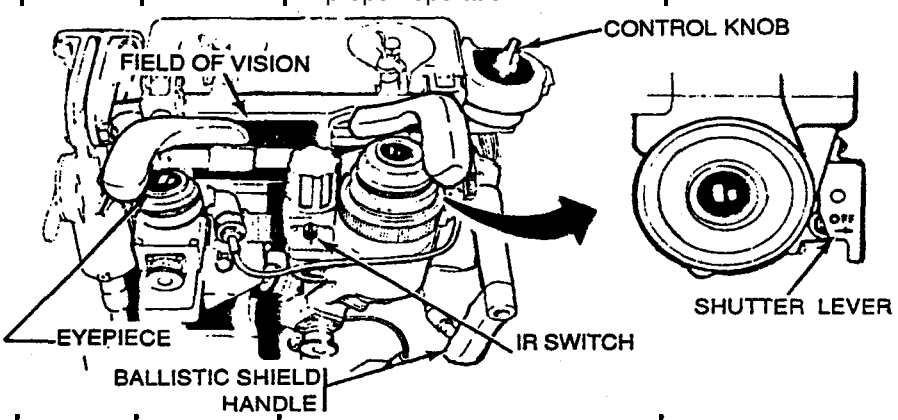


Table 2-1. Preventive Maintenance Checks and Services for Model M728

Item No.	Interval	Location Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
27	Before	M36E1 Peri-scope-Daylight Body and Light Source Control Continued	a. Check that retitles of unity power window and daylight body eyepiece, light from dim to bright using light source control knob. b. Check for moisture or fungus within field of vision and daylight body eyepiece. c. Check for missing knobs and smooth operation of controls.	a. Reticle missing. b. Vision blurry.

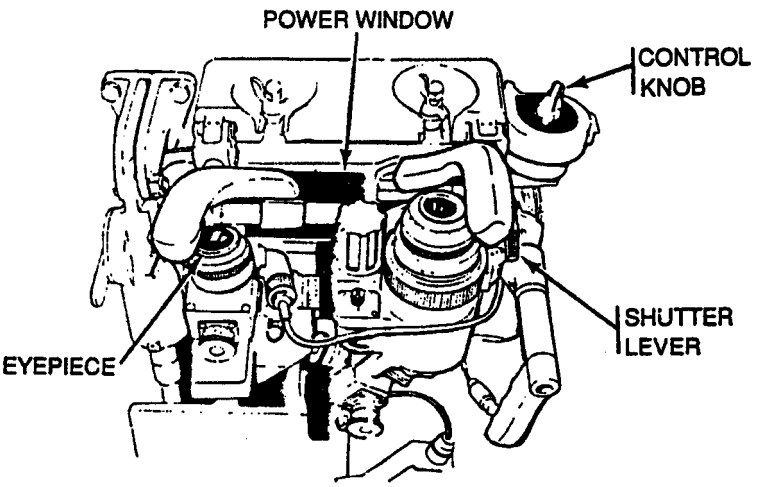


Table 2-1. Preventive Maintenance Checks and Services for Model M728

Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
2 8	Before	Peri-scope M36 IR Body, Night Check	GUNNER **CAUTION** **Perform IR BODY NIGHT checks under low light conditions only. Use the lowest possible light intensity for reticle illumination. Always turn off reticle power when periscope is not in use to prevent damaging the screen due to extended high light intensity.** **NOTE** ● Perform WEEKLY and BEFORE NIGHT OPERATIONS. ● Be sure a fresh BA-42 battery is always available for IR power backup system. Make sure MASTER BATTERY switch is set to ON. Set CUPOLA ELECTRICAL POWER CONTROL switch to ON. Open ballistic shield.	

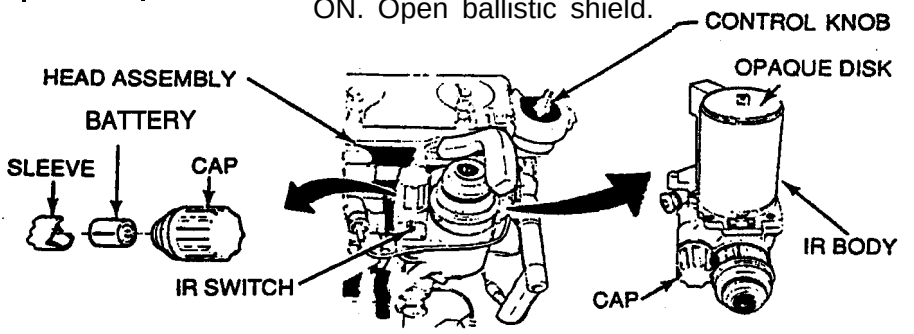


Table 2-1. Preventive Maintenance Checks and Services for Model M728

Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
28	Before	Peri-scope M36 IR Body, Night Check Continued	Make sure IR switch and light source control knob are set to OFF. Using a flashlight to see with, remove cap and BA-42 battery from IR body. a. Check internal area of sleeve for corrosion. Make sure that arrow on converter points down towards sleeve. Install converter in IR body. Install cap on converter. Remove IR body from head assembly and remove opaque disk. Reinstall IR body in head assembly. Turn IR switch to 24V.	

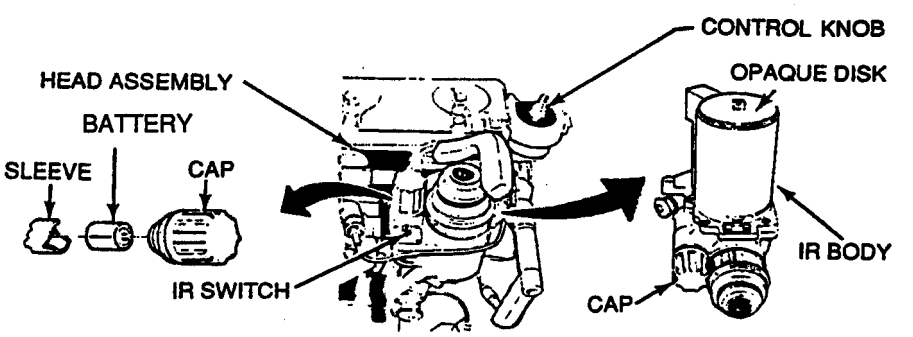


Table 2-1. Preventive Maintenance Checks and Services for Model M728

Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
28	Before	Peri-scope M36 IR Body, Night Check Continued	View through eyepiece and rotate diopter ring. b. Check that reticle and field of view are sharp and clear. Turn light source control knob. c. Check that reticle lights from dim to bright to dim.	b. Reticle cannot be seen or vision blurry.

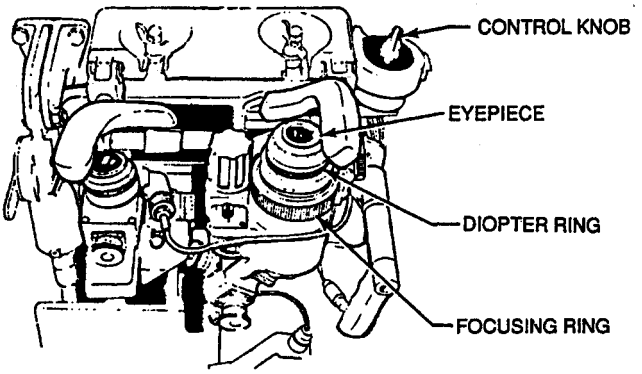


Table 2-1. Preventive Maintenance Checks and Services for Model M728

Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
28	Before	Peri-scope M36 IR Body, Night Check Continued	d. Check that target is sharp and clear. (If not firing, turn light source control knob to OFF). Set IR switch to OFF. Remove IR body and install opaque disk. Install IR body.	

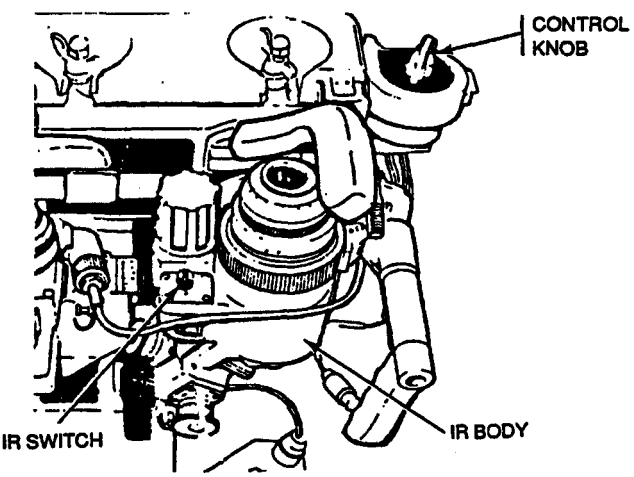


Table 2-1. Preventive Maintenance Checks and Services for Model M728

Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
29	Before	Periscope M36E1 Passive Body, Night Check	GUNNER **CAUTION** **Perform passive body checks under low light conditions only. Use the lowest possible light intensity for reticle illumination. Always turn off reticle power when periscope is not in use to prevent damaging the screen due to extended high light intensity.** **NOTE** Perform WEEKLY and BEFORE NIGHT OPERATIONS.	

Table 2-1. Preventive Maintenance Checks and Services for Model M728

Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
29	Before	Peri-scope M36E1 Passive Body, Night Check Continued	**NOTE** Make sure MASTER BATTERY switch is set to ON. Set CUPOLA POWER switch to ON. Open ballistic shield. Move shutter lever to left to turn on power. Turn TUBE control for clearest image.	

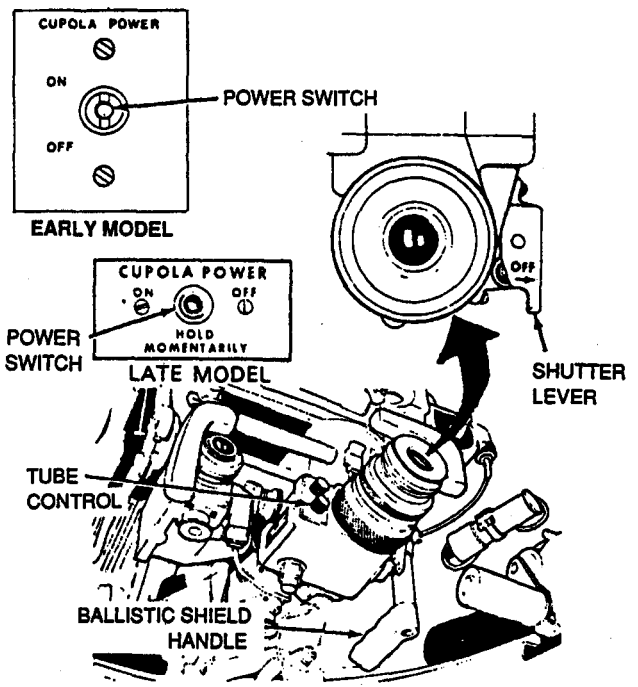


Table 2-1. Preventive Maintenance Checks and Services for Model M728

Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
29	Before	Periscope M36E1 Passive Body, Night Check Continued	a. Check that image is clear. Turn RETICLE control clockwise for suitable brightness. Use lowest possible intensity. b. Check that reticle brightness changes from dim to bright to dim. Turn diopter ring. c. Check that background is sharp and clear. Turn focus ring and adjust for viewing range. If not firing, move shutter lever to OFF and close ballistic shield. Set CUPOLA POWER switch to OFF.	a. Image is blurry or cannot be seen. b. No change. c. Vision blurry.

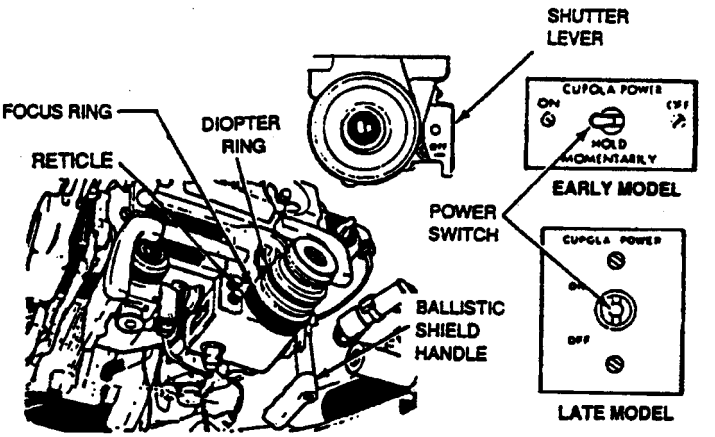


Table 2-1. Preventive Maintenance Checks and Services for Model M728

Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
30	Before	Telescope M105F, Light source Control, Telescope Mount M114, and Instrument Light M50	GUNNER Pull down light from light source control storage slide. Slide light into slot on top of telescope. Turn light control knob. a. Check that reticle light goes from dim to bright and from bright to dim. Turn diopter scale and focus eyepiece. b. Check that reticle and field-of-view are clear. c. Check for moisture or fungus within field-of-view. Be sure telescope is mounted securely by mounting clamp.	

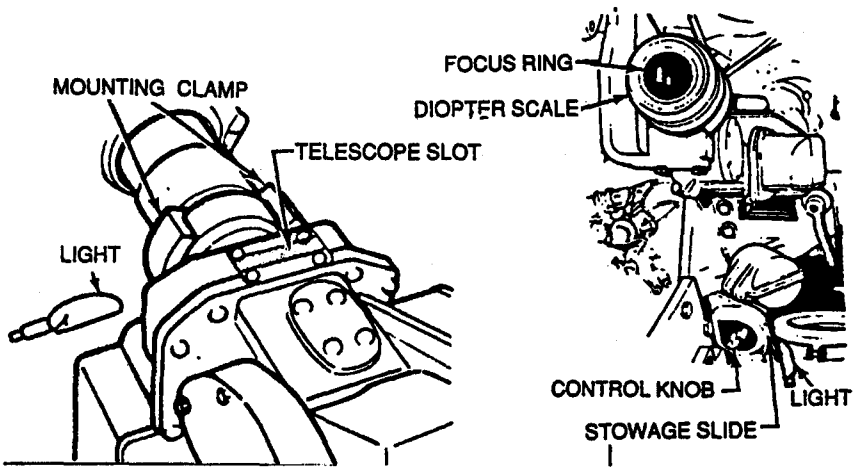


Table 2-1. Preventive Maintenance Checks and Services for Model M728

Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
30	Before	Telescope M105F, Light Source Control, Telescope Mount M114 and Instrument Light M50 Continued	d. Check that telescope is held to eyepiece hanger by quick disconnect pin. With batteries installed, turn knob on instrument light M50 from OFF to bright to OFF. Be sure light goes on and varies from dim to bright and back to off. Remove batteries after operation complete.	

Table 2-1. Preventive Maintenance Checks and Services for Model M728

Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable if
31	Before	Gas-Particulate System	CREW **WARNING** **If NBC exposure is suspected, all air filter media must be handled by personnel wearing protective equipment. Contact your unit NBC Officer or NBC NCO for appropriate handling or disposal instructions.** At the initiation of combat operations where use of a blood agent (AC or CK) is expected or after a known blood agent attack, notify organizational maintenance that gas particulate filters must be replaced.	

Table 2-1. Preventive Maintenance Checks and Services for Model M728

Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable if:
31	Before	Gas-Particulate System Continued	CREW **Visually inspect filter unit for damage.** Pull and lift spring clip from air intake openings on filter unit. Set MASTER BATTERY switch on ON. Set GAS PARTICULATE switch to ON. Pull hose outlet from connector at each crewmember station. a. Check for steady flow of air at hose outlet at each crewmember station.	

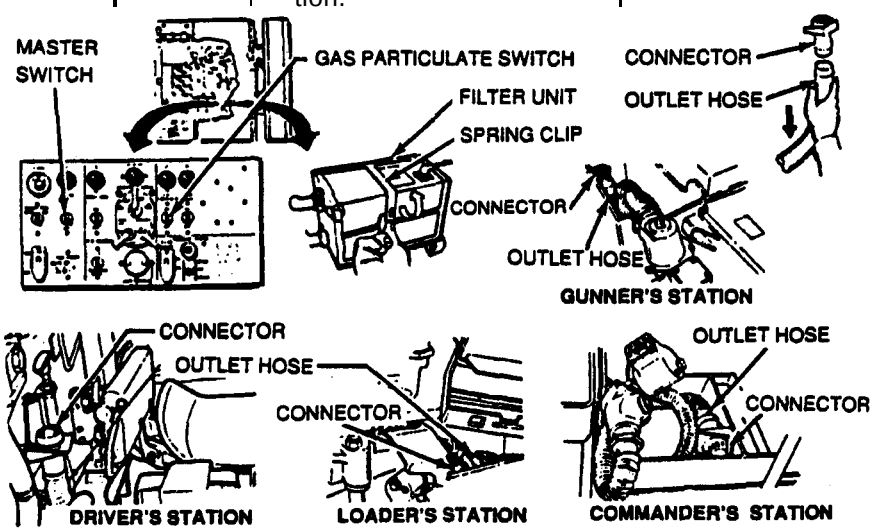
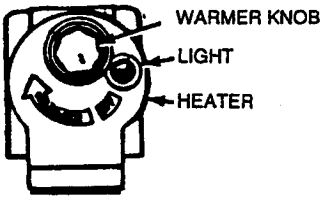


Table 2-1. Preventive Maintenance Checks and Services for Model M728

Item No.	Interval	Location / Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
31	Before	Gas-Particulate System Continued	**NOTE** Air flow test see TM 3-6680-316-10 Turn WARMER knob on M3 heater at each crewmember station clockwise from OFF. b. Check that light lights. c. Check for increase in temperature of flow of air at hose outlet at each crewmember station. Turn WARMER knob to M3 heater at each crewmember station counterclockwise to OFF. Connect hose outlet to connector at each crewmember station.	



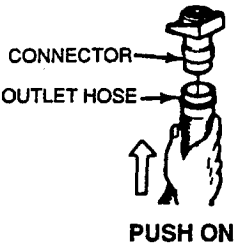
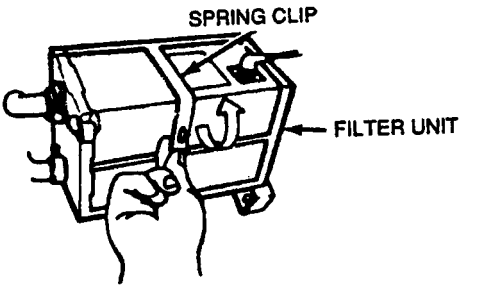


Table 2-1. Preventive Maintenance Checks and Services for Model M728

Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
31	Before	Gas-Particulate System Continued	Set GAS PARTICULATE switch to OFF. Press spring clip on filter unit down to cover air intake opening	
32	Before	Ventilating Blower	Set turret ventilating BLOWER switch to ON. Check that ventilating blower motor is running without unusual noise. Set BLOWER switch to OFF.	Turret Vent Blower Inoperative.



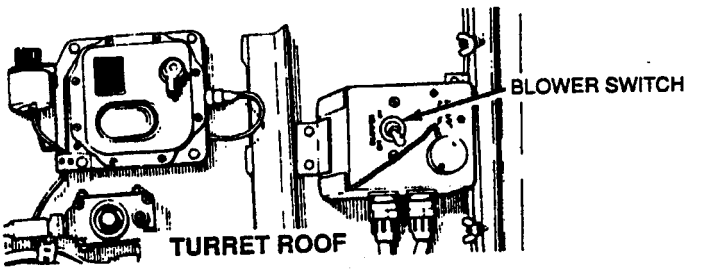


Table 2-1. Preventive Maintenance Checks and Services for Model M728

Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
33	Before	Intercom Sets C-2297/VRC (Driver) and 2298/V (Commander, Gunner and Loader)	TANK COMMANDER/CREW **NOTE** Check of intercom sets 2297 and 2298 is the same (except commanders) gunners and loaders sets (2298) are not equipped with SIG, EXT, OFF switch or indicator. Turn amplifier AM-1780/VRC on. a. Check intercom operation. To talk to crew, move MONITOR switch to INT ONLY and adjust VOLUME knob to desired	a. Commander cannot talk with driver, loader and gunner.
			b. Check radio set operation. For procedures see TM 11-5820-401-10-2 or TM 11-5820-498-12.	b. Radio will not transmit or receive. Fault listed in "Not Fully Mission Capable If" column of radio TM.

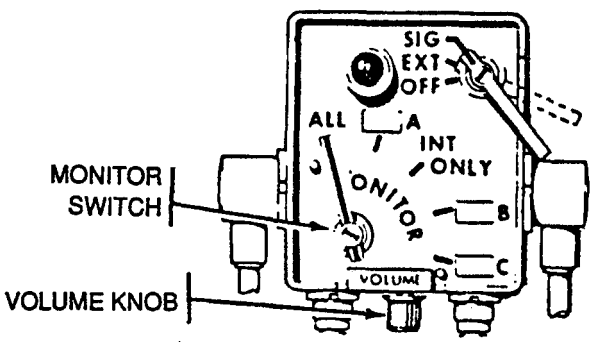


Table 2-1. Preventive Maintenance Checks and Services for Model M728

Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
34	During	Steering Control	Check that vehicle does not wonder to right or left.	Vehicle wonders.

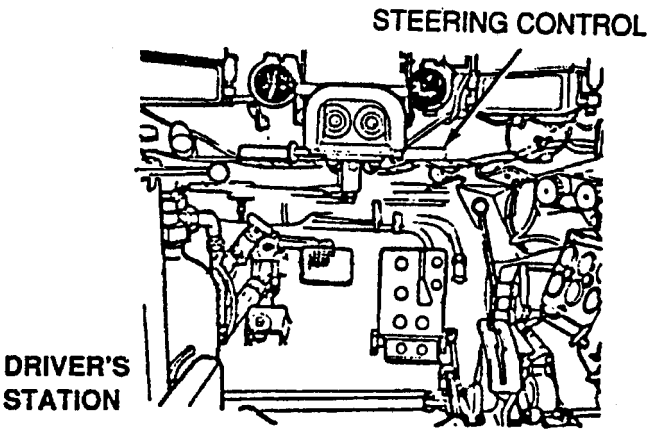


Table 2-1. Preventive Maintenance Checks and Services for Model M728

Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
35	During	Shifting Control	DRIVER a. When driving vehicle, check for proper response when operating shifting control through entire shift pattern. b. Check for binding of shift control or failure of transmission to shift when control is shifted.	b. Binding of shifting control or failure to shift.
3 6	During	Hydraulic Brake System	DRIVER Check that vehicle stops smoothly and doesn't pull to one side when brake pedal is pressed.	Vehicle pulls to either side. Service brakes will not stop vehicle.

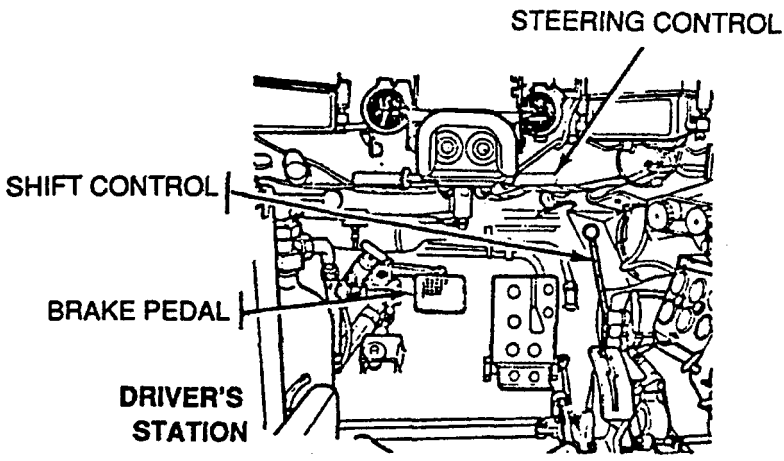


Table 2-1. Preventive Maintenance Checks and Services for Model M728

Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
37	During	Personnel heater (Check only when Heater is used.)	DRIVER **WARNING** **If fuel leak or exhaust leak is present, do not use heater until repairs are made.** a. Check for fuel leaks in area of quick disconnect at personnel heater and fittings, and at fuel pump.	a. Any fuel leak.
			b. Check for exhaust fumes in area of personnel heater exhaust pipe and feed through pipe coupling.	b. Any exhaust leak.

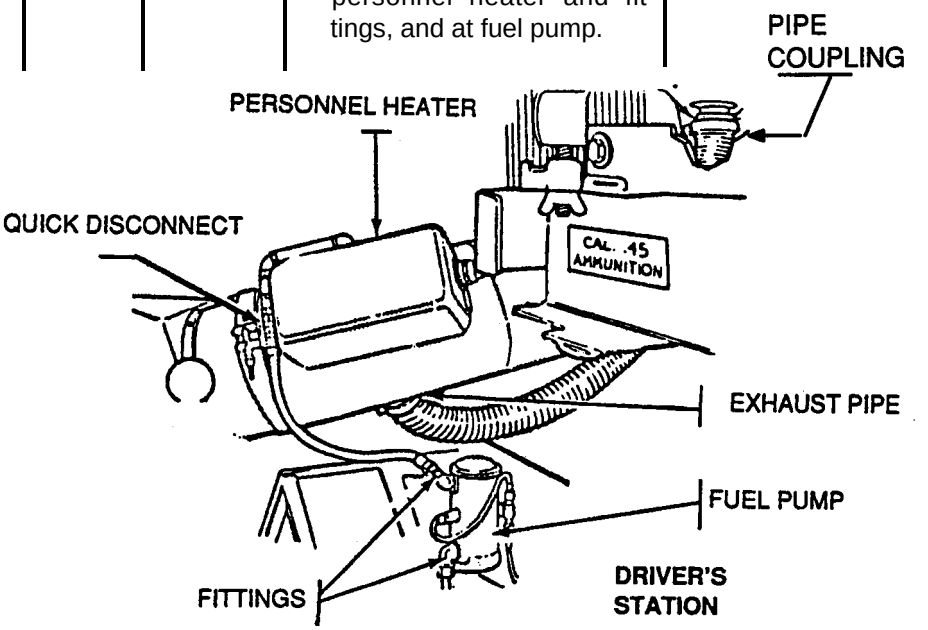


Table 2-1. Preventive Maintenance Checks and Services for Model M728

Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
38	During	Replenisher Assembly and Recoil Mechanism	GUNNER a. Continuously observe replinisher indicator tape. Check that indicator shows one rough edge and one smooth edge or two smooth edges. Add or remove oil (page 3-164).	a. Loose or broken replenisher indicator tape.

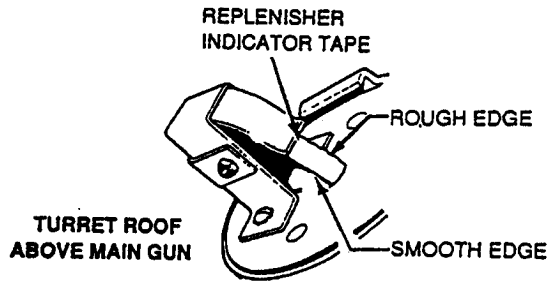


Table 2-1. Preventive Maintenance Checks and Services for Model M728

Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
38	During	Replenisher Assembly and Recoil Mechanism Continued	LOADER b. Observe/check recoil mechanism for smooth operation and complete return to battery without shock. **NOTE** During firing and immediately thereafter, leakage criteria for main gun recoil mechanism can be up to 15 drops in 3 minutes for up to a 2 hour period after firing. c. Check under recoil mechanism for hydraulic oil leakage.	b. Recoil mechanism not working properly. c. More than 20 drops in 3 minute period.
39	During	Breech Operating Group	LOADER a. Observe/check functioning of breech operating group and extractors for smooth operation. Breech action should be smooth and without binding or shock.	a. Breech fails to operate.

Table 2-1. Preventive Maintenance Checks and Services for Model M728

Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
39	During	Breech Operating Group Continued	LOADER **NOTE** Only three position adjustments for spring tension are possible. Detent positions A and B are on the inside face (not visible) of adjuster. The notch C is the third and final adjustment possible and provides for maximum spring tension. Detent position A provides the minimum spring tension. b. If breechblock closing speed is too slow, increase spring tension by positioning spanner wrench (item 74, appendix B) in two adjuster recess holes. Turn adjuster clockwise to either detent position B or notch C. If notch must be used for proper operation, notify organizational maintenance.	b. Notch must be used for operation.

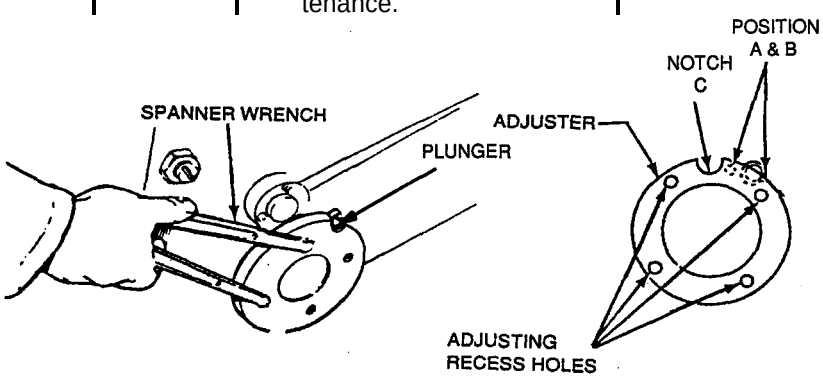


Table 2-1. Preventive Maintenance Checks and Services for Model M728

Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
39	During	Breech Operating Group Continued	c. If breechblock closing speed is too fast, decrease spring tension by positioning spanner wrench in two adjuster recess holes. **NOTE** • To depress plunger, reduce adjuster pressure on plunger by turning adjuster slightly clockwise and then depress plunger. • Using a screwdriver, depress plunger and turn adjuster counterclockwise to detent position B or A.	

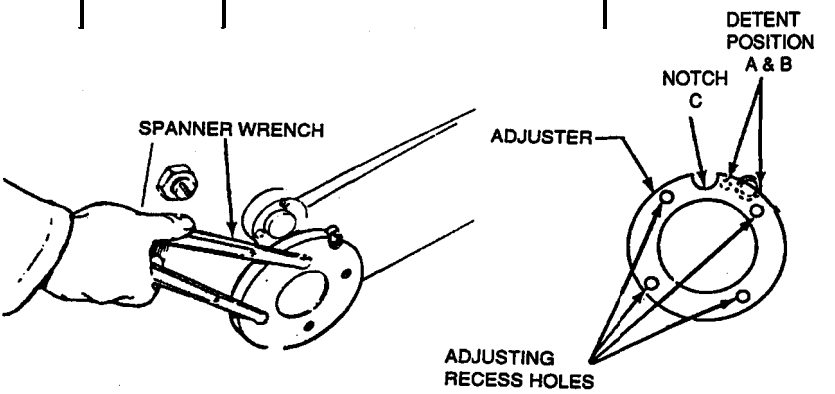


Table 2-1. Preventive Maintenance Checks and Services for Model M728

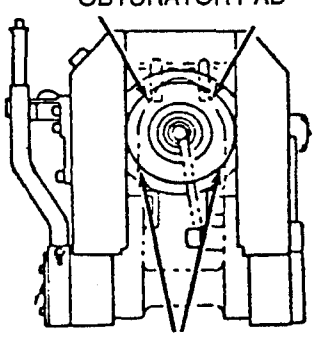
Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
40	During	Obturator Pad	**CAUTION** **At first sign of propellant gas leak in crew compartment, obturator pad shims are to be adjusted to provide proper sealing of gases in chamber of main gun (page 3-198).** a. Check for evidence of propellant gas leak around area of obturator pad. b. Check DA Form 2408-4 when firing. When 100 rounds are fired, replace obturator pad (page 3-198) and check shim requirements (page 3-198). Record replacement of obturator pad on DA Form 2408-4. OBTURATOR PAD  OBTURATOR PAD	b. Obturator pad cannot be shimmed, or needs replacement.

Table 2-1. Preventive Maintenance Checks and Services for Model M728

Item No.	Interval	Location / Item to Check/ Service	Crewmember / Procedure	Not Fully Mission Capable If:
41	During	Air Induction System	TANK COMMMANDER a. Check that exhaust smoke is not excessively black. b. Check for noticeable loss of engine power.	a. Excessive black smoke. b. Noticeable loss of engine power.

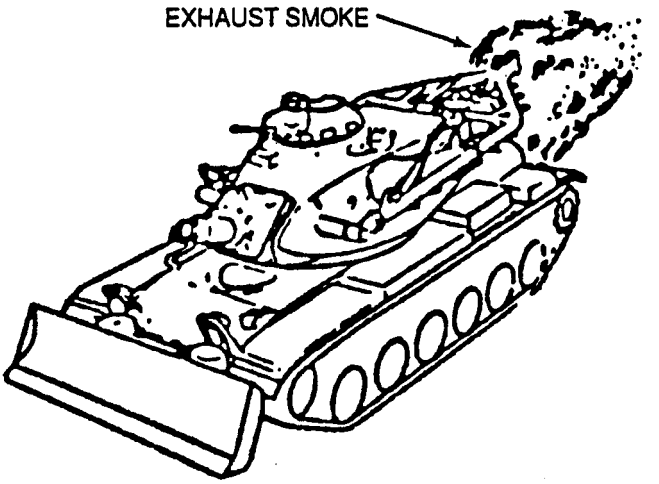


Table 2-1. Preventive Maintenance Checks and Services for Model M728

Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
42	During	Azimuth Indicator M28E2	GUNNER a. Check that glass cover is not broken. Turn rheostat clockwise. b. Check that indicator lights go from dim to bright as knob is turned.	b. Indicator not functioning properly.

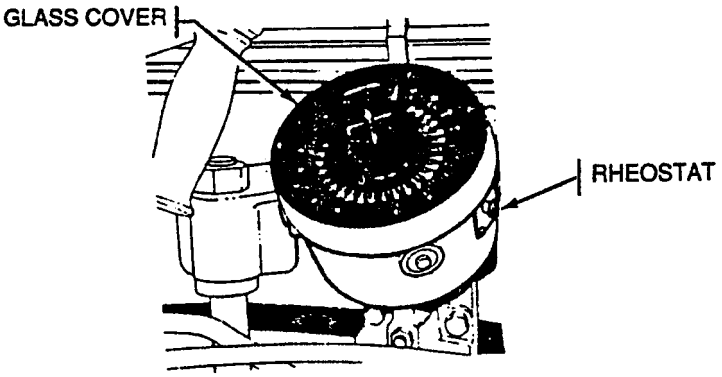
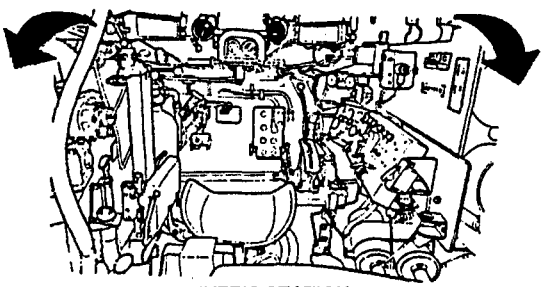
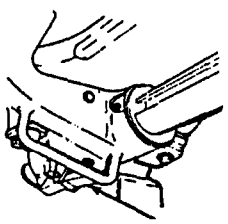


Table 2-1. Preventive Maintenance Checks and Services for Model M728

Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
43	After	Driver's Hatch	DRIVER **WARNING** **Make sure hatch is locked in open or closed position at all times.** Use both hands to operate hatch. a. Make sure hatch moves smoothly and locks in both open and closed positions.	a. Hatch will not lock in opened or closed positions.

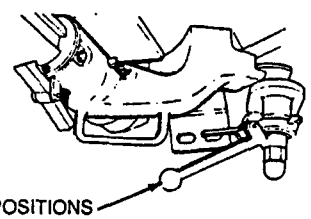


DRIVER'S STATION



OPEN POSITION

HATCH OPEN-VIEW OVER RIGHT SHOULDER



CLOSED POSITIONS

HATCH CLOSED - VIEW OVER LEFT SHOULDER

Table 2-1. Preventive Maintenance Checks and Services for Model M728

Item No.	Interval	Location / Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
44	After	Loader's and Commander's Hatches	LOADER **WARNING** **Make sure hatch is locked in open or closed position at all times.** a. Check that commander's and loader's hatch is not missing and damaged. b. Check operation of hatch covers and hold-open locking handles in partially opened and fully opened positions; also operation of locking and unlocking of hold-close handles (in hatch closed position.	b. Any hatch missing or fails to lock in any position.

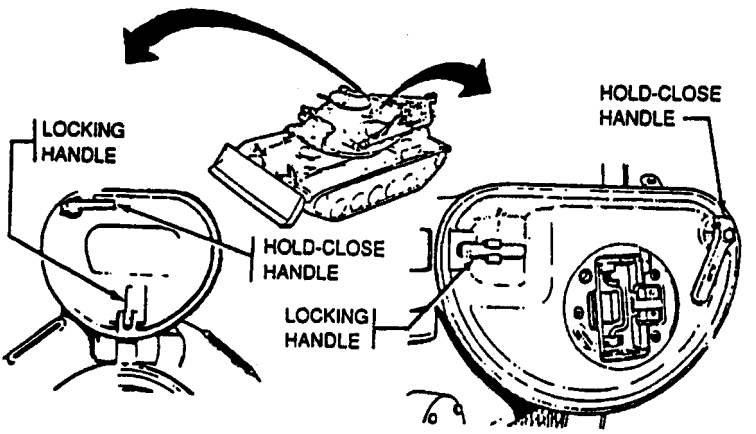


Table 2-1. Preventive Maintenance Checks and Services for Model M728

Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
45	After	Driver's Seat (Adjustment and Dumping)	DRIVER **WARNING** **Do not pull red dump lever while sitting in driver's seat.** Adjust driver's seat up and down, forward and backward. a. Check that seat moves smoothly and locks in desired position. Push tilt lever. b. Check that backrest tilts easily.	a. Seat does not lock into position. b. Backrest missing.

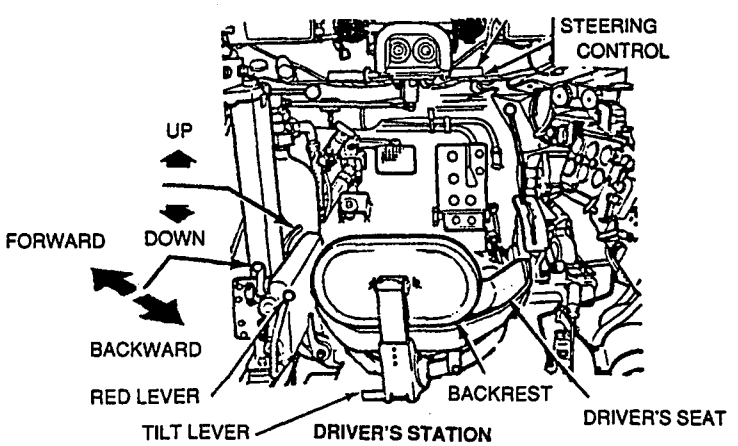


Table 2-1. Preventive Maintenance Checks and Services for Model M728

Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
45	After	Driver's Seat (Adjustment and Dumping) Continued	**WARNING** **Do not sit in seat when pulling red dump lever.** Sit in driver's seat, hold steering control with right hand to support body weight. Remove feet and legs from under seat. Raise up out of seat. Pull red lever. c. Check that seat dumps over to side and that it also goes up to top height.	c. Driver's seat will not dump or adjust.

Table 2-1. Preventive Maintenance Checks and Services for Model M728

Item No.	Interval	Location / Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
46	After	Seats	LOADER'S/GUNNRE'S AND COMMANDER'S SEAT a. Check that seat(s) are not missing. b. Check seats for ease of operation (raising/lowering) and backrest adjustment.	a. Seat(s) missing or cannot be adjusted. b. Seats do not move easily (raising/lowering) and backrest cannot be adjusted.

Table 2-1. Preventive Maintenance Checks and Services for Model M728

Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
47	After	Ballistic Drive XM15	GUNNER Elevate/depress main gun while viewing through M32CE1 periscope. Check for binding of ballistic drive linkage. See that movements of reticle are smooth and continuous. (Jerky uneven movements indicates binding).	

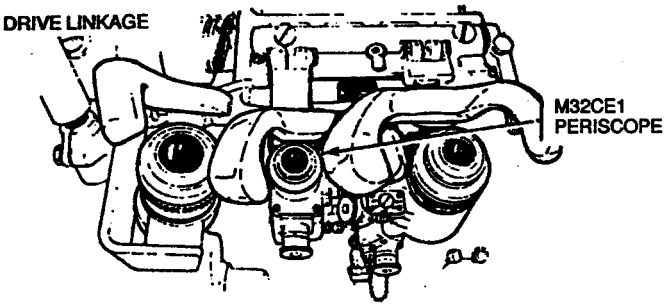


Table 2-1. Preventive Maintenance Checks and Services for Model M728

Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
48	After	Cupola Azimuth Control and Elevation Control	COMMANDER Unlock azimuth lock. Turn TRAVERSE CONTROL handle to traverse cupola right and left. Check that cupola traverses smoothly without binding. Lock azimuth lock.	

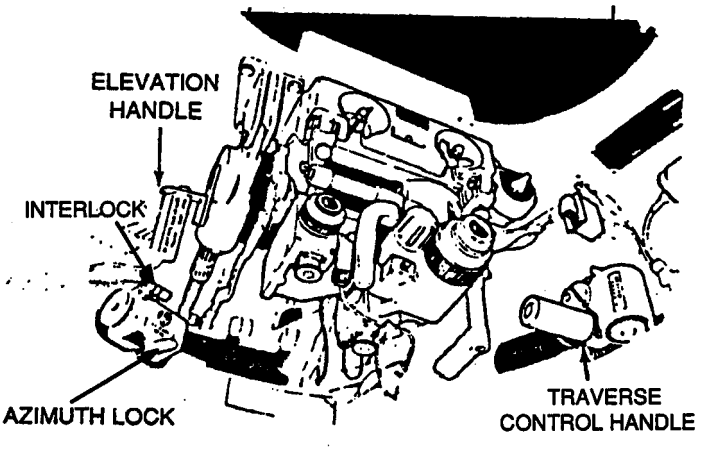


Table 2-1. Preventive Maintenance Checks and Services for Model M728

Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If
49	After	Manual Traverse, Manual Elevation	GUNNER **WARNING** **• Make sure crew is in safe position and driver has lowered his seat and has his head down before operating manual traversing or elevating handles.** **• Do not apply turret power or operate turret controls until all personnel are in safe positions and prepared for turret or gun movement.** **• Do not operate turret in power or manual mode until all personnel are in proper position, turret ring has been cleared and shell ejection plate and all platform guards are in place.** **• Do not reach into or attempt to enter or exit driver's compartment until turret power switch is off and turret traverse lock is in locked position.** **• Crew members out of station are in extreme danger when turret power is on. Commanders must shut down turret power before allowing crew members to leave their stations.**	

Table 2-1. Preventive Maintenance Checks and Services for Model M728

Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
49	After	Manual Traverse, Manual Elevation Continued	**WARNING** **Make sure crew is in safe position and driver has lowered his seat and has his head down before operating manual traversing or elevating handles.** Turn MANUAL ELEVATION CONTROL handle to elevate and depress main gun. a. Check that main gun elevates and depresses with equal effort.	a. Main gun cannot be balanced.

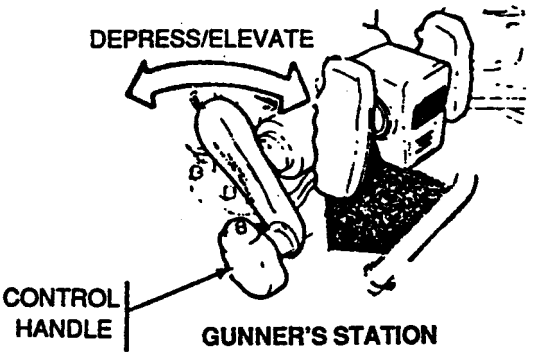


Table 2-1. Preventive Maintenance Checks and Services for Model M728

Item No.	Interval	Location / Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
49	After	Manual Traverse, Manual Elevation and Turret Lock Continued	Squeeze locking lever and turn MANUAL TRAVERSE handle clockwise to traverse turret right. Squeeze lever and turn handle counterclockwise to traverse turret left. b. Check manual traverse for smooth movement. **NOTE** Make sure manual traverse handle is locked in position prior to power traversing.	b. Cannot manually traverse.

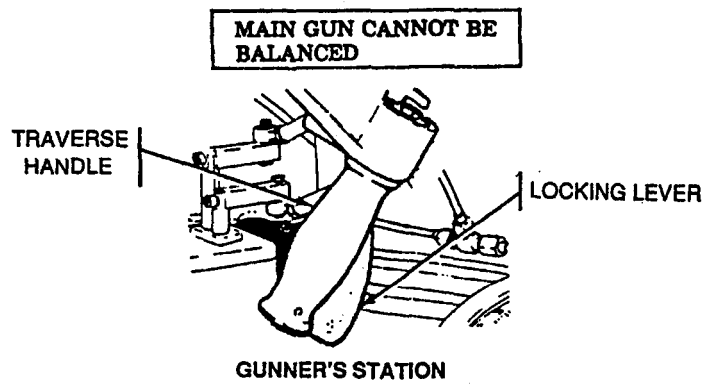


Table 2-1. Preventive Maintenance Checks and Services for Model M728

Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
50	After	Main Gun and Breech Operating Group	LOADER **WARNING** **Make sure 165-MM gun is clear of ammunition.** a. Check breech operating group for ease of operation.	a. Breech inoperative or damaged.

Table 2-1. Preventive Maintenance Checks and Services for Model M728

Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
50	After	Main Gun and Breech Operating Group Continued	**WARNING** **Keep hands clear of breech to prevent injury. Do not release breechblock release lever while checking that gun tube is clear. Handle can snap back and cause injury.** b. Check that breechblock release lever drops fully. Open breech and look thru gun tube. c. Check for missing parts. d. Look for rust, powder fowling, corrosion, and damage. e. Check for proper lubrication of breechblock.	b. Breech fails to operate. c. Gun/breech mechanism parts missing or broken.

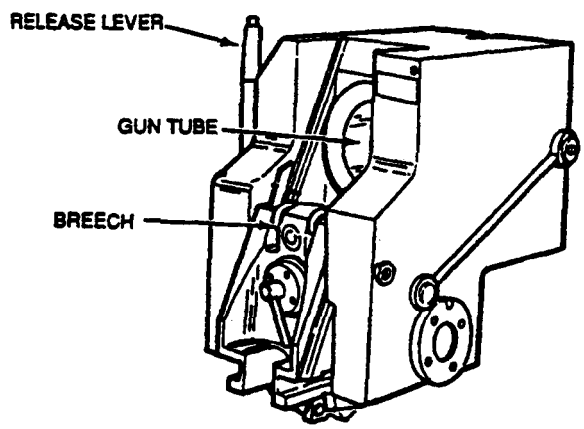
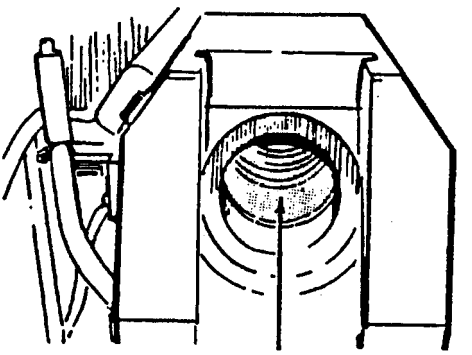


Table 2-1. Preventive Maintenance Checks and Services for Model M728

Item No.	Interval	Location / Item Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
50	After	Main Gun, Breech Operating Group Continued	f. Check DA Form 2408-4 for number of rounds fired since last borescoping and pullover gage reading. Notify organizational maintenance if more than 250 rounds have been fired since last borescoping or more than 1000 rounds have been fired since last pullover gage reading. g. Remove breech operating group (page 3-174). Check gun tube for cracks, pitting, flaws and wear per TM 9-1000-202-14. **CAUTON** **Do NOT lubricate electrical firing contacts or insulators.**	



GUN TUBE

Table 2-1. Preventive Maintenance Checks and Services for Model M728

Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
50	After	Main Gun, Breech Operating Group Continued	Clean and lubricate main tube and breechblock. Install breech operating group (page 3-184). h. Check obturator pad (page 3-198). Open and close breech several times. i. Check that breech action works smooth and without binding. j. Check that breech ring adapter key is not missing or broken and is firmly seated into slot. k. Visually check closing speed of breechblock.	h. Pad missing, damaged or not properly installed. i. Breech binding.

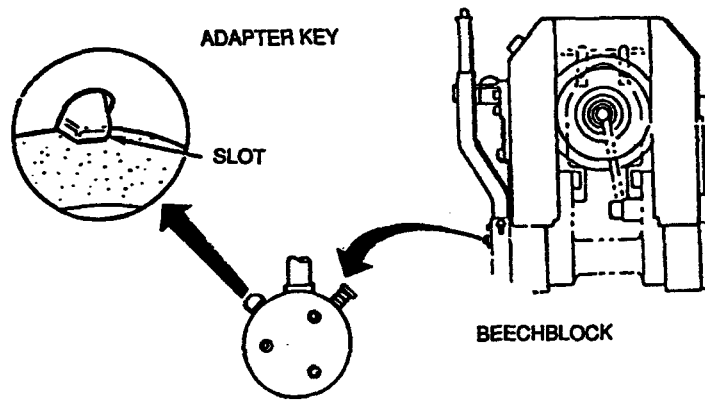


Table 2-1. Preventive Maintenance Checks and Services for Model M728

Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
51	After	Ammunition Stowage Racks and Ammunition Ready Racks	LOADER **NOTE** Perform the following checks during loading or unloading ammunition. a. Check for damage to ammunition stowage rack tubes and retainers in turret left side, hull right side and turret floor. b. Check that ammunition ready rack locks are not missing or damaged. c. Check that cushioning pads are not loose or missing.	a. More than four stowage rack tubes or retainers damaged or missing. b. More than two ready rack lock damaged or missing. c. One or more ready rack cushioning pads damaged or missing.

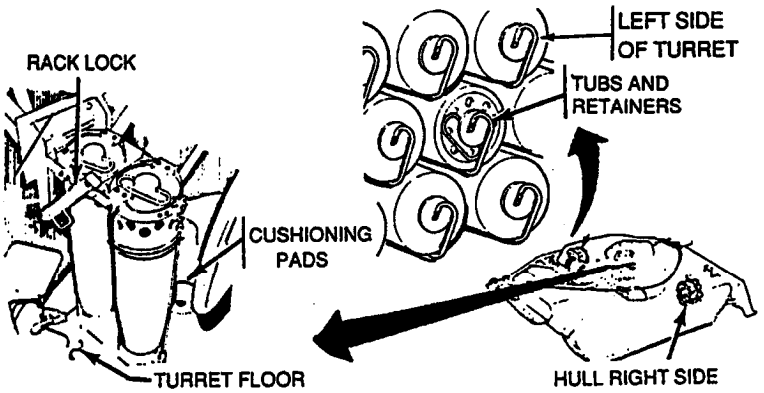


Table 2-1. Preventive Maintenance Checks and Services for Model M728

Item No.	Interval	Location / Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
5 2	After	Generator Exhaust Valve	COMMANDER With engine running, hold a piece of paper or cloth in front of air intake screen. a. Check that paper or cloth is drawn against air intake screen. **CAUTION** **Do not operate generator with generator exhaust valve closed for more than ten seconds.** b. While holding paper or cloth in front of air intake screen, turn handle counterclockwise to unlock. Pull handle out. c. Check that airflow stops and paper or cloth is no longer drawn against air intake screen. Push in handle. Turn handle clockwise to lock.	

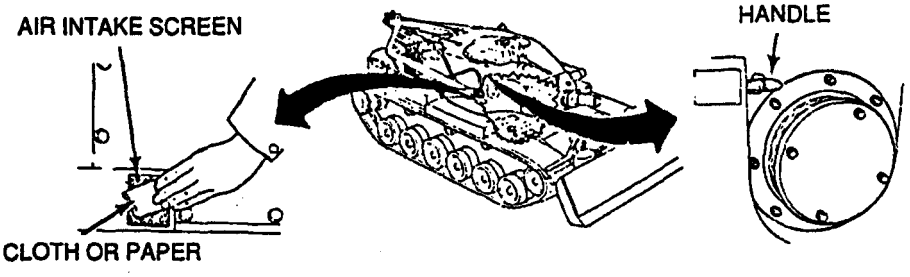


Table 2-1. Preventive Maintenance Checks and Services for Model M728

Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
53	After	Peri-scope M37 and Stow-age Box	LOADER a. Check periscope M37 for damage. b. Check stowage box clamps and hinge for ease of operation. Lubricate, if needed, per lube order.	

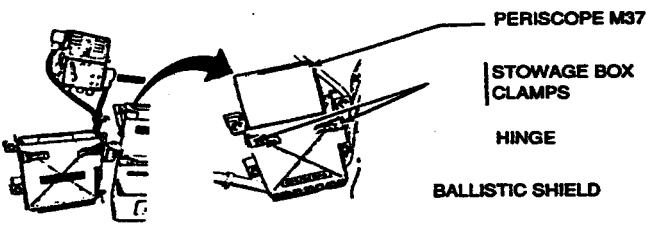
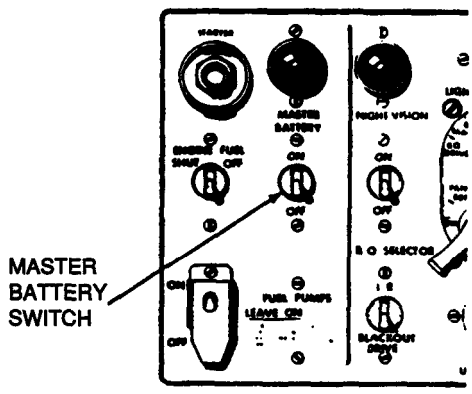


Table 2-1. Preventive Maintenance Checks and Services for Model M728

Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
54	After	Smoke Grenade Launcher, Dischargers, Covers and Stowage Boxes, Left and Right	GUNNER **WARNING** **To prevent injury by accidental discharge of grenades, ensure launchers are not loaded.** a. Set master battery switch to ON. b. Set grenade power switch to ON. Ensure that power light lights. c. Set grenade power and master battety switches to OFF.	



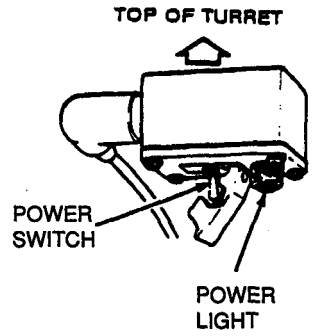


Table 2-1. Preventive Maintenance Checks and Services for Model M728

Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
54	After	Smoke Grenade Launcher, Dischargers, Covers and Stowage Boxes, Left and Right Continued	d. Remove cover from each discharger. e. Check both dischargers for obvious damage, misalignment, dirty or clogged barrels, and security of attachment. f. Check that drain holes are clear by inserting a stiff wire in holes. g. Check both stowage boxes for proper operation of lids and latches. h. Check both stowage boxes for damage and security of attachment.	

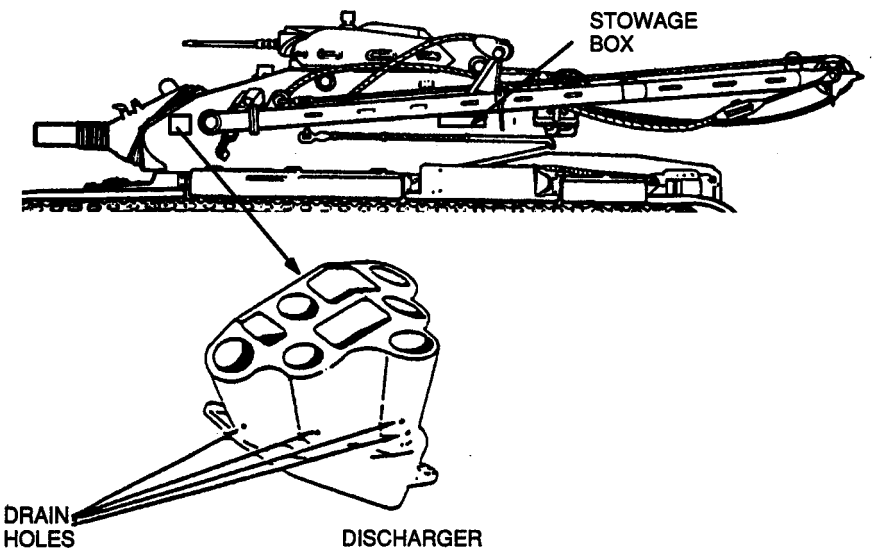


Table 2-1. Preventive Maintenance Checks and Services for Model M728

Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
55	After	Periscope Windows, and Telescope Lens (External)	COMMANDER/GUNNER Make sure ballistic shields are open for Commander's M36 or M36E1 periscope and gunner's M32CE1 periscope. Check outside windows of commander's periscope, gunner's periscope and M105F telescope for dirt scratches or damage. If dirty, clean. Report badly scratched or damaged items.	

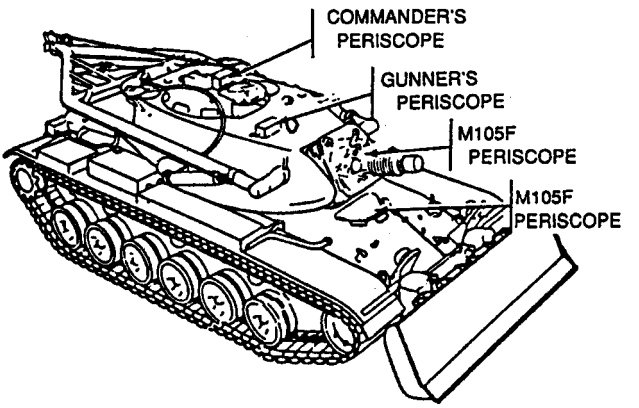


Table 2-1. Preventive Maintenance Checks and Services for Model M728

Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
56	After	Caliber .50 machine Gun M85	COMMANDER/GUNNER Clean and lubricate (TM 9-1005-231-10).	Fault listed in "Not Fully Mission Capable If" column of machine gun TM.
57	After	7.62 MM machine gun	LOADER Clean and lubricate M240 (TM 9-1005-313-10).	Fault listed in "Not Fully Mission Capable If" column of machine gun TM.

Table 2-1. Preventive Maintenance Checks and Services for Model M728

Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
58	After	Mold-board, Winch and Boom Hydrau-lic Res-ervoir Filter Handles	DRIVER **NOTE** When hydraulic reser-voir filter indicators are up and show red, filters are dirty. a. Check that indicators are not up and showing red.	a. Filter indicators are up and shows red.

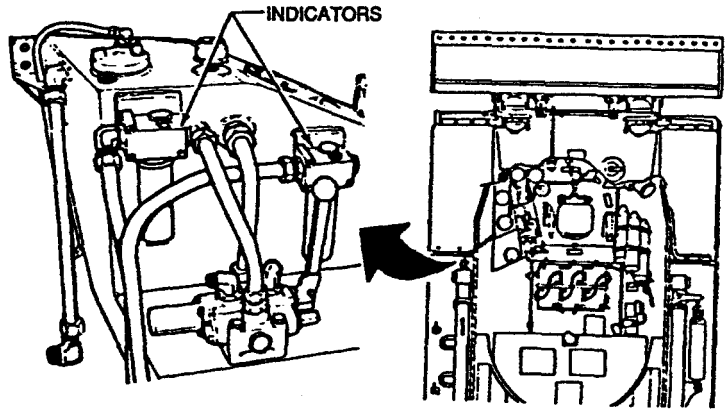


Table 2-1. Preventive Maintenance Checks and Services for Model M728

Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
58	After	Moldboard, Winch, and Boom Hydraulic Reservoir Filter Handles Continued	**NOTE** Open driver's hatch for access to operating handle. b. Check that moldboard carrying hooks are not cracked or broken. c. Check that carrying hooks operating handle is not bent or broken.	

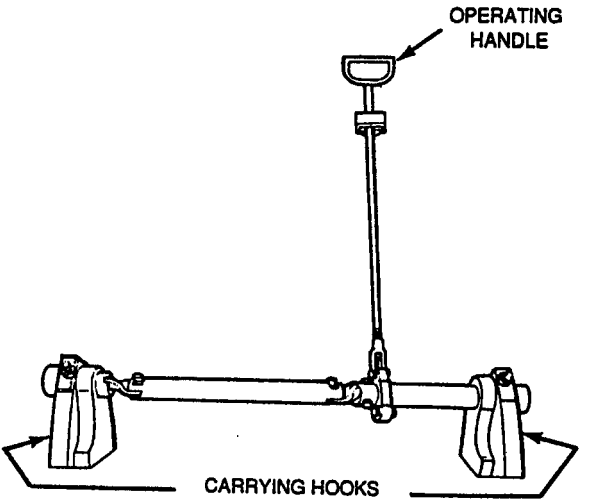


Table 2-1. Preventive Maintenance Checks and Services for Model M728

Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
59	After	Boom Travel Locks, Boom and Winch Controls	COMMANDER/LOADER **NOTE** Person must be stationed outside of vehicle to assist in operation of boom. a. Check that boom travel locks are not damaged.	

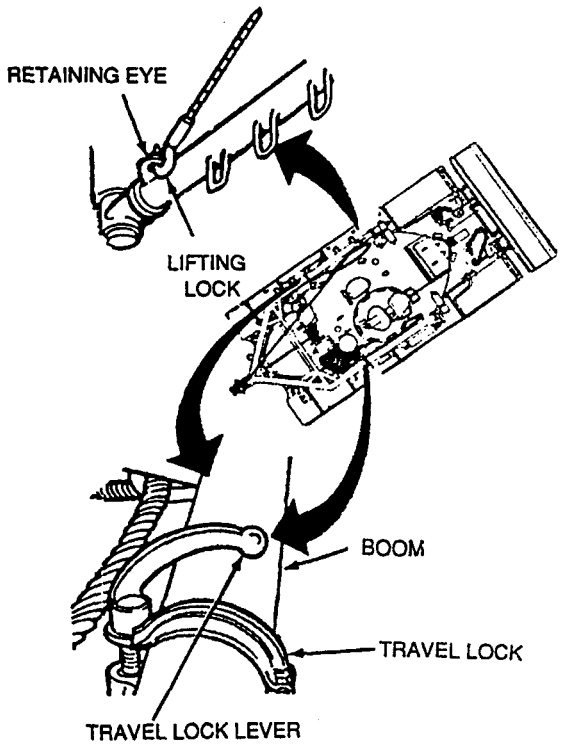


Table 2-1. Preventive Maintenance Checks and Services for Model M728

Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Misson Capable If:
59	After	Boom Travel Locks, Boom and Winch Controls Continued	b. Check that travel locks lever is working properly. **WARNING** **use Safety gloves when handling wire rope, staylines and winch cable.** **CAUTION** **• Make sure boom is free of travel locks and lifting hook is attached to retaining eye on left side of boom.** **• Make sure antenna is in forward stowage position, and cupola is in forward position so that boom does not hit the caliber .50 machine gun barrel.**	

Table 2-1. Preventive Maintenance Checks and Services for Model M728

Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
59	After	Boom Travel Locks, Boom and Winch Controls Continued	c. Make sure selector control lever is in TURRET position to operate boom and winch.	c. Cannot operate boom.

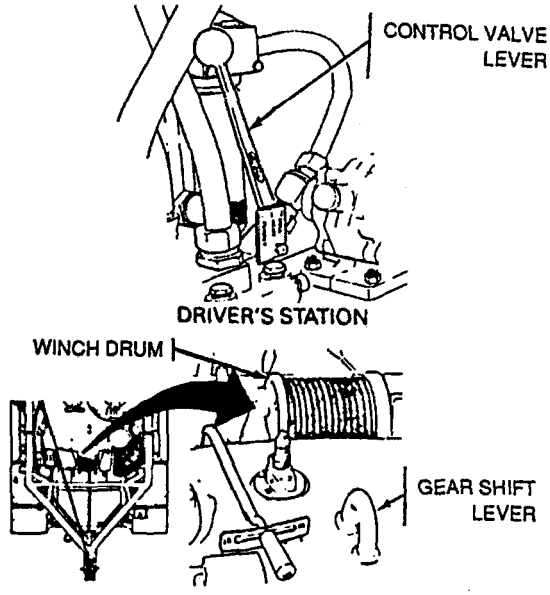


Table 2-1. Preventive Maintenance Checks and Services for Model M728

Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
59	After	Boom Travel Locks, Boom and Winch Controls Continued	**NOTE** Do not force winch gear shift lever into position . If movement of lever is difficult a slight turning of winch drum by moving lever up or down will allow easy operation of lever. d. Check that lever moves smoothly and fully engages in both HI or LO position. **CAUTION** **Winch gear shift lever must be fully engaged in HI or LO position before using winch.** **NOTE** When raising or lowering boom, make sure iever is in LO position. Operate boom (page 2-287).	d. Winch gear shift in-operative

Table 2-1. Preventive Maintenance Checks and Services for Model M728

Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
59	After	Boom Travel Locks, Boom and Winch Controls Continued	e. Check that boom control lever and winch control lever moves smoothly and does not bind when raised or lowered and returns to center position when released. f. Check valve for unusual noises, vibration and hydraulic fluid leaks.	e. Boom or winch inoperative f. Any Class III fluid leakage.

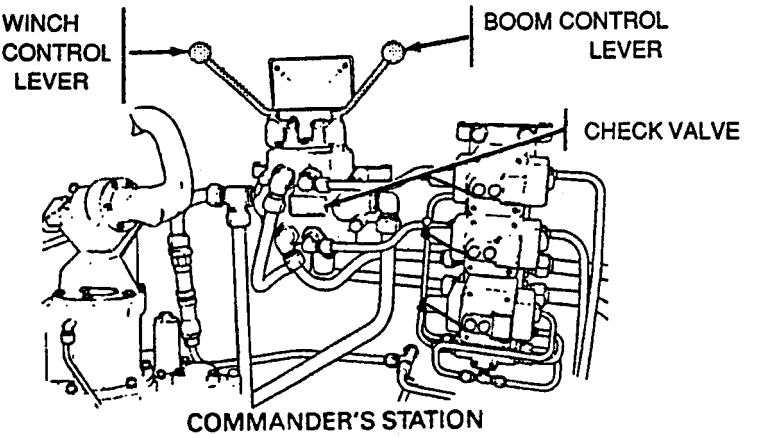


Table 2-1. Preventive Maintenance Checks and Services for Model M728

Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
60	After	Stayline Cable, Winch Cable and Winch Assembly	TANK COMMANDER/LOADER **WARNING** **Use safety gloves when handling wire rope, staylines and winch cables.**	
			CAUTION **Winch gear shift lever be fully engaged in HI or LO position before using winch.**	
			a. Check that stayline cables are not broken kinked, tangled, snagged or frayed.	a. Stayline cable broken, kinked or missing.

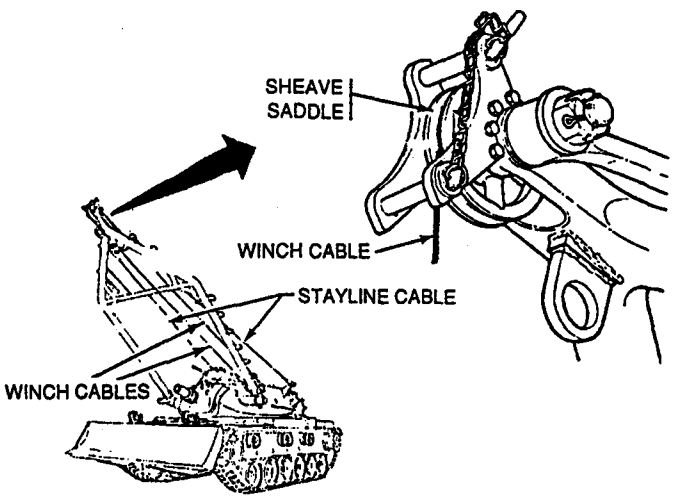


Table 2-1. Preventive Maintenance Checks and Services for Model M728

Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
60	After	Stayline Cable, winch Cable and Winch Assembly Continued	b. Check that winch cable is seated in sheave saddle. c. Check that winch cable is not broken, kinked or frayed. d. Check that snatchblock, clevis pin, hook and drum are not damaged or missing. Remove snatchblock from left side of turret and attach to winch cable (page 2-277). e. Check that snatchblock and clevis pin are in working condition.	b. Winch cable is broken, kinked, frayed or missing.

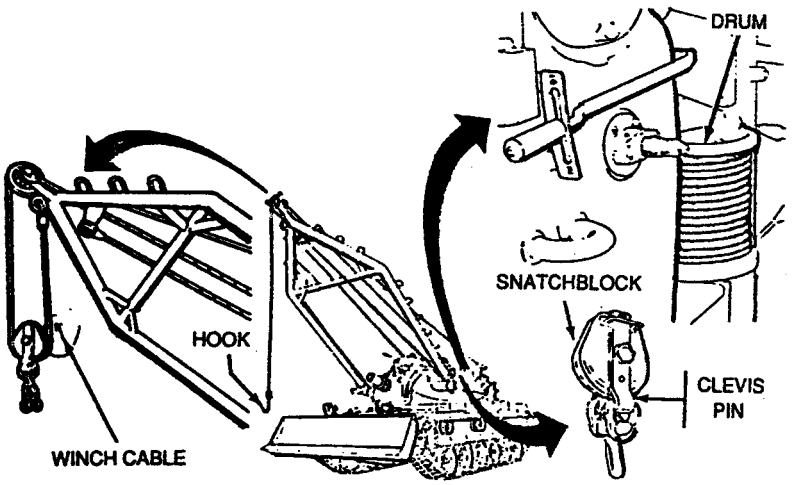


Table 2-1. Preventive Maintenance Checks and Services for Model M728

Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
60	After	Stayline Cable, Winch Cable and Winch Assembly Continued	**CAUTION** **When rewinding cable on winch drum, cable must be kept taut and coils tight together. Turret should be traversed to keep winch drum at proper angle with cable, this will keep a tight wrap to prevent snarling of cable.** **NOTE** On completion of boom and winch operation, remove snatchblock (page 2-281) and return to stowage. Lower boom to stowage position. Make sure lifting hook is attached to retaining eye. f. Secure boom in travel locks and lock travel locks.	

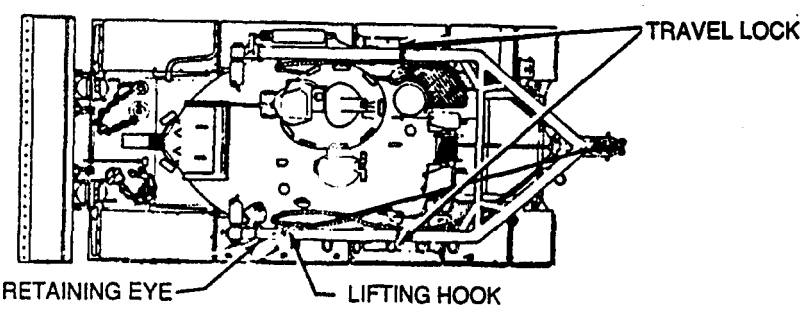


Table 2-1. Preventive Maintenance Checks and Services for Model M728

Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
61	After	Suction Line Shutoff Valve	DRIVER **NOTE** When suction shutoff lever is down as shown, valve is in OPEN position, when lever is in up position and held by retainer valve is in CLOSED position. a. Check that suction line lever moves smoothly to OPEN and CLOSED positions. **NOTE** Move suction line lever to CLOSED position. b. Check suction line lever and valve for loose fittings and hardware.	a. Suction line shutoff valve inoperable.

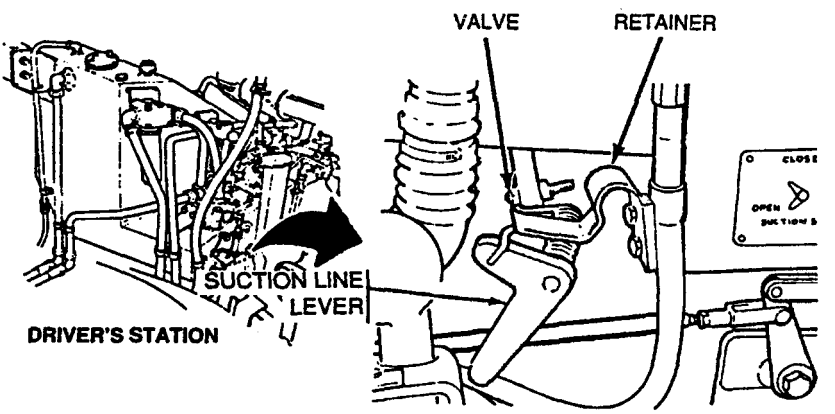
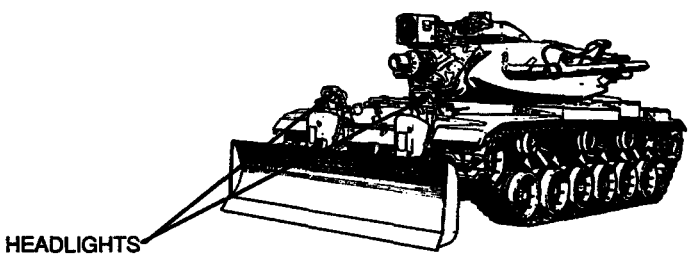


Table 2-1. Preventive Maintenance Checks and Services for Model M728

Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
62	After	Lights	DRIVER/GUNNER **NOTE** Driver will turn on lights and crew member will check for operation. a. Check driving lights by turning driving lights switch on. Depress high-beam switch to make sure lights operate on high and low beams. Turn MASTER SWITCH to ON and lift up on safety lock lever.	



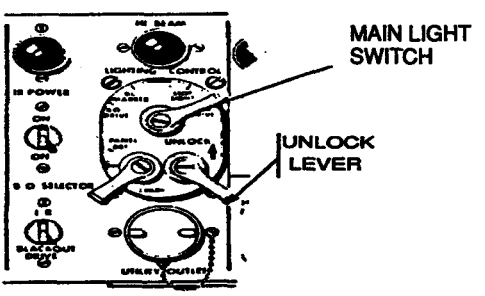


Table 2-1. Preventive Maintenance Checks and Services for Model M728

Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
62	After	Lights Continued	b. Check HI BEAM indicator light. MASTER SWITCH ON indicator light.	

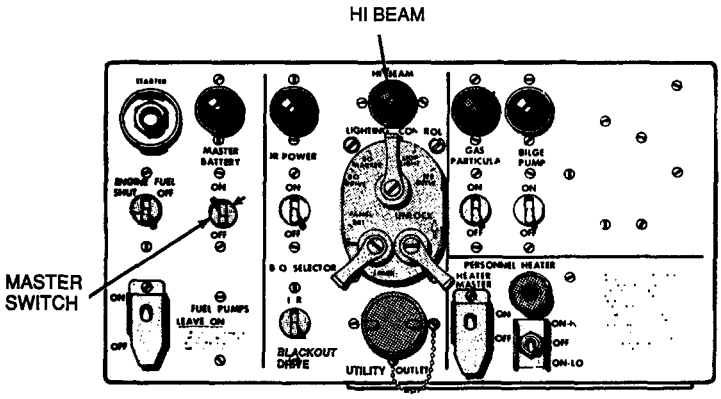


Table 2-1. Preventive Maintenance Checks and Services for Model M728

Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
62	After	Lights Continued	c. Check stoplight and taillights to see that they operate properly. Make sure lights brighten during braking.	

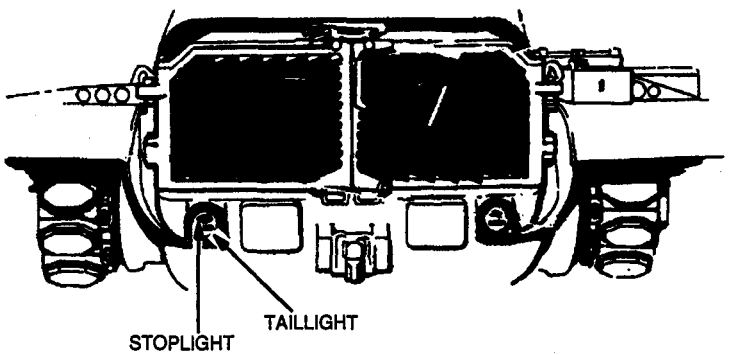


Table 2-1. Preventive Maintenance Checks and Services for Model M728

Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
62	After	Lights Continued	d. Check blackout drive lights. Set main light switch lever to B.O. DRIVE.	

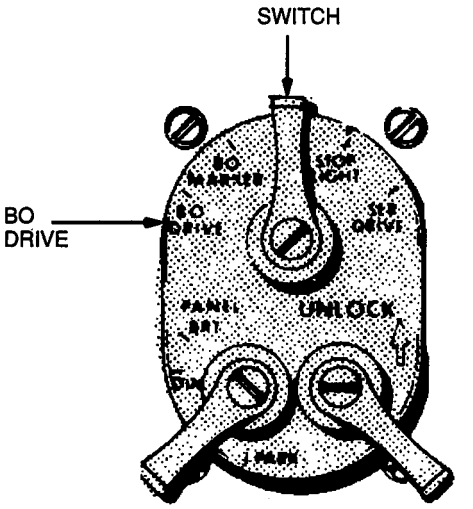


Table 2-1. Preventive Maintenance Checks and Services for Model M728

Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
62	After	Lights Continued	Blackout headlight and four blackout marker lights will light. Blackout stoplight will light when brakes are applied.	

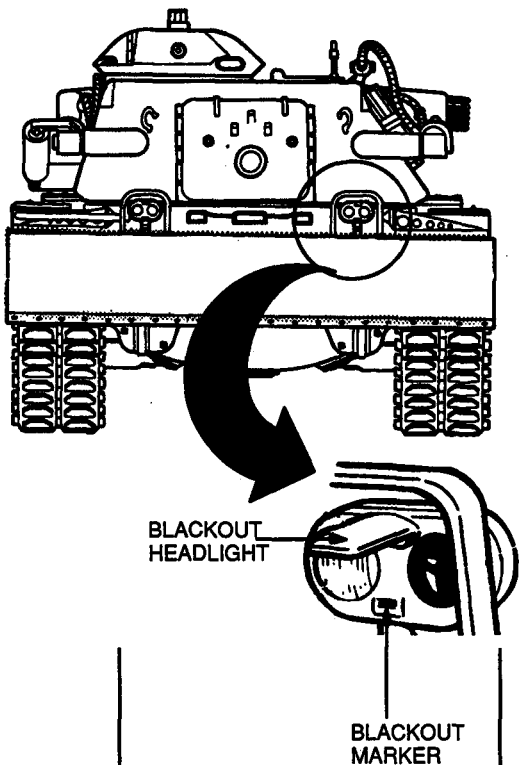


Table 2-1. Preventive Maintenance Checks and Services for Model M728

Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
62	After	Lights Continued	**WARNING** **Do not look directly into infrared lights. You may damage your eyes. Do not touch lens. You may burn your fingers.** e. Check infrared lights on both high and low beam. Do this by HOLDING YOUR HANDS OVER THE LENS, but do not touch the lens. If light is operating properly, you will feel heat.	

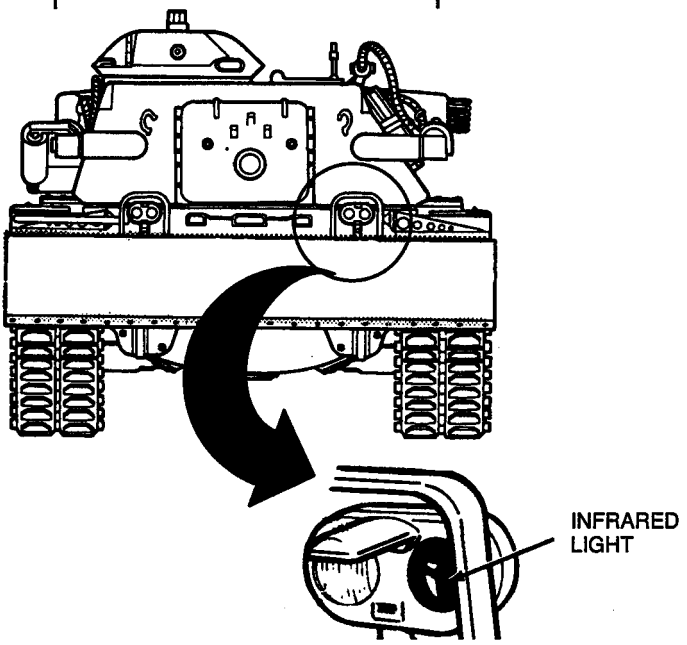


Table 2-1. Preventive Maintenance Checks and Services for Model M728

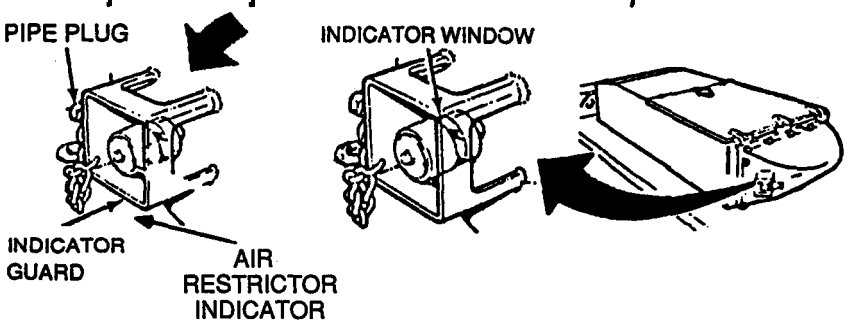
Item No.	interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
63	After	Air Restriction Indicators, Air Cleaner Housing and Door, Top or Side Loading **Right and Left Side**	DRIVER (If your tank is equipped with air restriction indicators) a. Check that air restriction indicator is not damaged or missing. b. Check that pipe plug is not damaged or missing. c. Check that indicator guard is not damaged or missing. d. Check indicator reading. If in red, clean filters. Early model - air restriction indicator window should not show red. Late model - A reading of 30 or more means that the filter element requires cleaning. A reading of 25 indicates that the elements should be cleaned before any extensive move.	a. Indicator missing, cracked or unserviceable. b. Pipe plug missing. d. Early model air restriction indicator shows red. d. Late model - shows 30 or more.
				
			Check during stops and halts other than tactical operation.	

Table 2-1. Preventive Maintenance Checks and Services for Model M728

Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
63	After	Air Restriction Indicators, Air Cleaner Housings and Doors, Top and Side Loading, **Right and Left Side** Continued	DRIVER e. Check that air cleaner door is not cracked, damaged or missing any hardware. f. Check that door locking screws or fasteners are not cracked, broken, or missing. g. Check baseplate for cracks.	

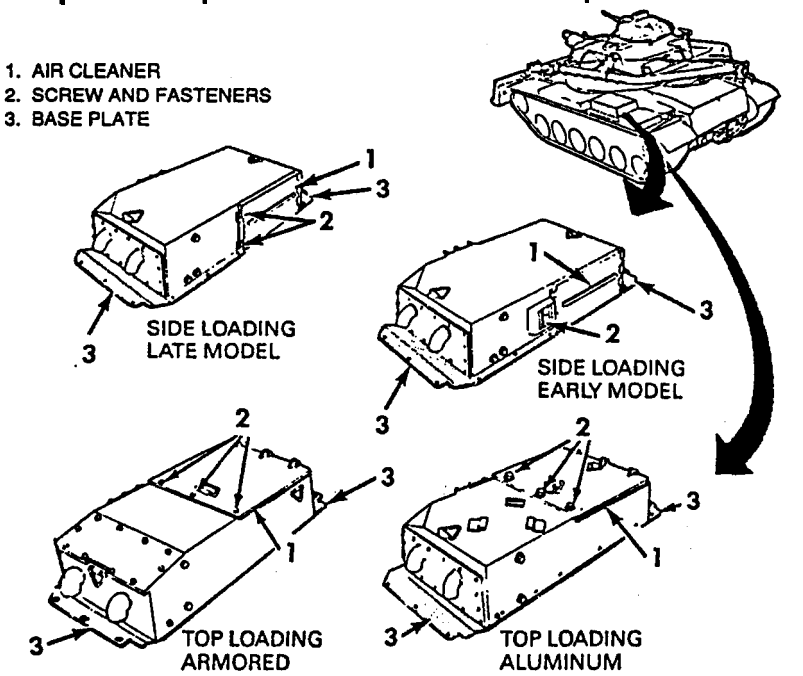


Table 2-1. Preventive Maintenance Checks and Services for Model M728

Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
63	After	Air Restriction Indicators, Air Cleaner Housings and Doors, Top and Side Loading, **Right and Left Side** Continued	h. Check access plate for cracks and loose or missing locking screws.	h. Access plate missing, screws loose, broken or missing.
			i. Inspect housing for cracks and dents which would allow dirt or dust to enter.	i. Housing cracked or dented allowing dust or dirt to enter.
			j. Check that door hinges and housing hinges are not bent, broken, cracked or missing.	j. Any broken, missing or bent hinge or door.
			k. Check that drain plug is not loose or missing.	k. Any drain plug missing.
			l. Check that inspection plug are not loose or missing.	l. Any inspection plug broken or missing.

1. ACCESS PLATE
2. HOUSING
3. DOOR HINGES
4. HOUSING HINGES
5. DRAIN PLUG
6. INSPECTION PLUGS

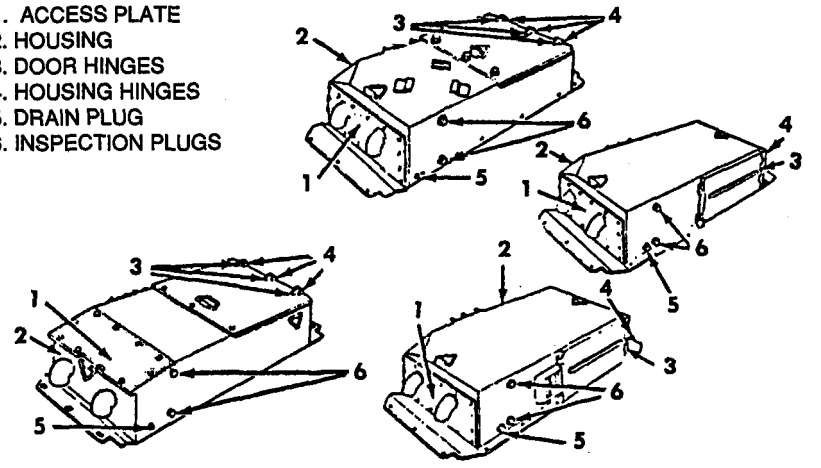


Table 2-1. Preventive Maintenance Checks and Services for Model M728

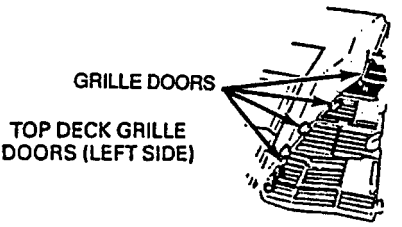
Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
64	After	Top Deck Grille Doors, **Right and Left Side**	TANK COMMANDER/ DRIVER **NOTE** Traverse turret so that right top deck grille doors can be inspected. a. Check that all doors are present. b. Look for missing hardware on grille doors and hinges.  	a. Any top grille door missing.

Table 2-1. Preventive Maintenance Checks and Services for Model M728

Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
65	After	Air Cleaner Elbows, Hoses and Clamps, **Right and Left Side**	DRIVER Check that air cleaner intake and outlet hoses, hose elbows and clamps, are not cracked, broken, damaged, loose and missing.	Intake or outlet hoses damaged or missing. Elbows loose or damaged hose clamps loose, broken or missing.

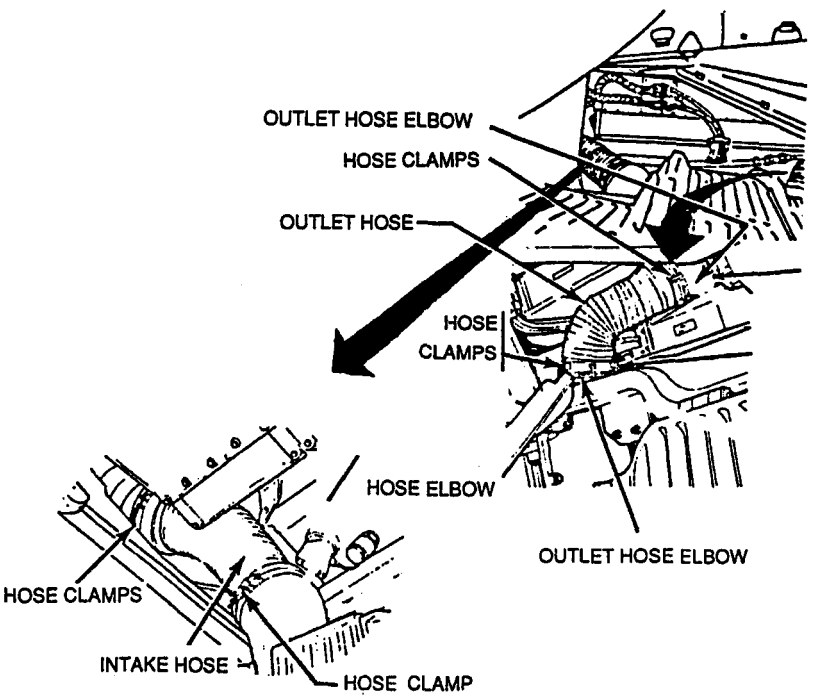
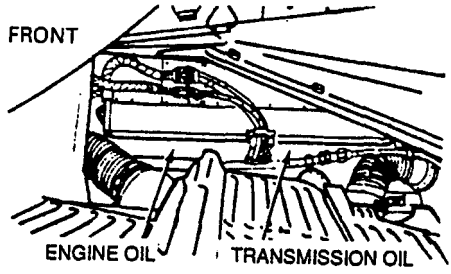


Table 2-1. Preventive Maintenance Checks and Services for Model M728

Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
66	After	Engine and Transmission Oil Coolers, **Right and Left Side**	DRIVER a. Check screens on engine oil and transmission oil coolers for debris. b. Check coolers for damage and leaks.	a. Damage to oil coolers or oil lines that restrict oil flow. b. Class II or class III leaks.



ENGINE COMPARTMENT
(LEFT SIDE SHOWN)

Table 2-1. Preventive Maintenance Checks and Services for Model M728

Item No.	Interval	Location / Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
67	After	Dust Detector pressure Switch **Right and Left Side** (If Equipped	DRIVER a. Check dust detector pressure switch (if equipped) for security of mounting. b. Check that wiring harness is connected. c. Check that hoses are not damaged or missing. d. Check that fittings are secure.	c. Hose damaged or torn.

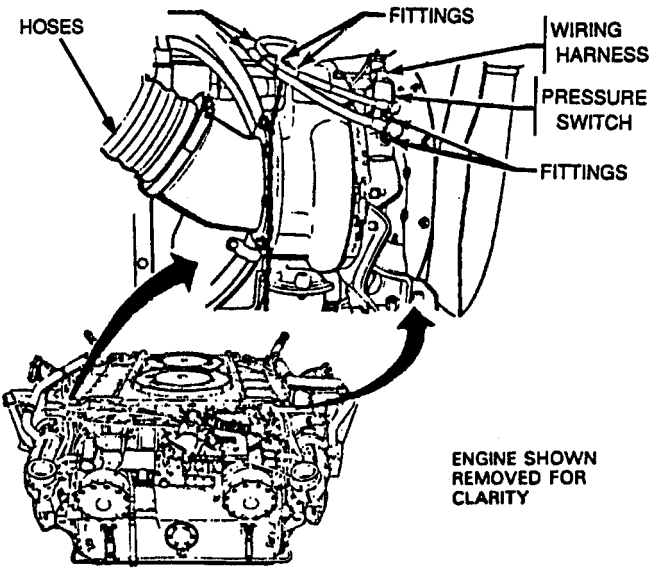


Table 2-1. Preventive Maintenance Checks and Services for Model M728

Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable if:
68	After	Engine and Trans-mission oil Level (Engine Run ning)	DRIVER/GUNNER Make sure engine is running at idle (700-750 rpm), ENGINE OIL TEMPERATURE and TRANSMISSION OIL TEM-PERATURE gages read in green ban area. Open top deck grille doors for access to engine and transmission oil dipsticks. **NOTE** • Vehicle may be equipped with a 2D/2DA engine, Dip-sticks are not inter-changeable. Make sure dipstick is rein-serted with loop pointed toward hull. • Remove engine oil dipstick from tube. Wipe dipstick and re-insert fully into tube and re-move. a. Check that oil level is between the ADD and FULL mark on dipstick.	

Table 2-1. Preventive Maintenance Checks and Services for Model M728

Item No.	Interval	Location / Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
68	After	Engine and Transmission Oil Level (Engine Running) Continued	If oil level is not between the ADD and FULL mark on dipstick, add oil. Remove transmission oil dipstick from tube, wipe dipstick and reinsert fully into tube and remove. b. Check that oil level is at or slightly above FULL AT ENGINE IDLE mark on dipstick. If oil level is below the FULL AT ENGINE IDLE mark, add oil. Stop engine.	

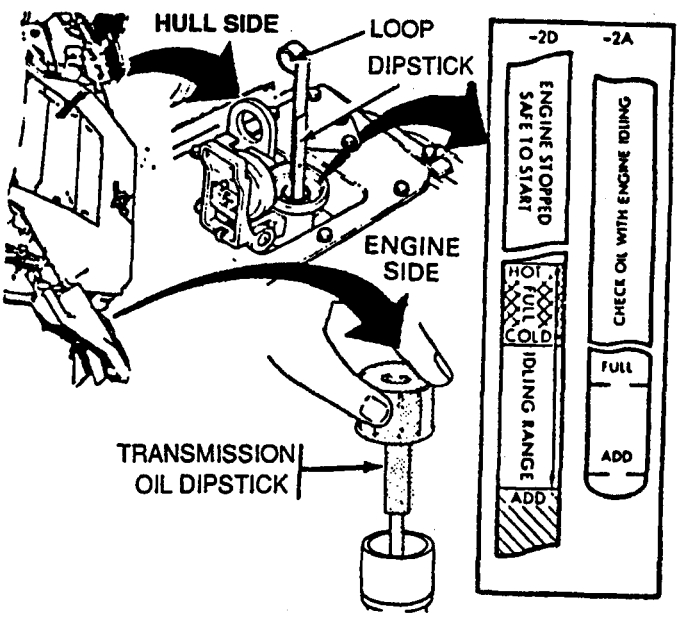


Table 2-1. Preventive Maintenance Checks and Services for Model M728

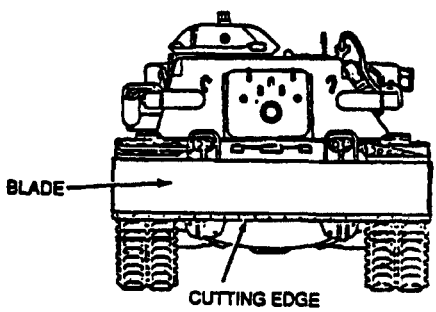
Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
69	After	Mold-board Blade and Cut-ting Edge	DRIVER a. Check moldboard blade for cracks, and loose or missing hardware. b. Check cutting edge for cracks, breaks and missing hardware.  	Blade is missing or cracked, or loose or missing hardware.

Table 2-1. Preventive Maintenance Checks and Services for Model M728

Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
70	After	Emergency Lift Cable **Right and Left Side**	DRIVER a. Check for kinked, frayed, broken or missing lift cable. b. Chek cable for loose and missmg hardware.	

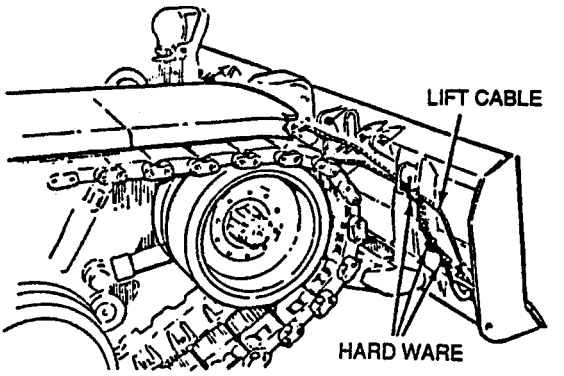


Table 2-1. Preventive Maintenance Checks and Services for Model M728

Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
71	After	Mold-board Hydrau-lic Cylin-ders, Tilt Arms and Push Beams **Right and Left Side**	DRIVER a. Check in area of hydrau-lic cylinders for fluid leaks. b. Check that cylinder rod is not bent or broken. **NOTE** Two tilt arms located on each side of vehicle. c. Check that tilt arms are not cracked or bro-ken. d. Check that push beams are not cracked or broken. e. Check for missing pins.	a. Any class Ill fluid leak. b. Cylinder rod bent, broken, or pins missing.

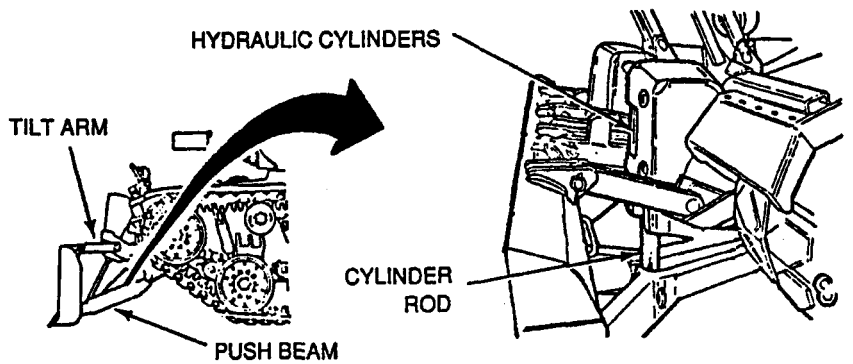


Table 2-1. Preventive Maintenance Checks and Services for Model M728

Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
72	After	Final Drive, **Right and Left Side**	DRIVER a. Check for class III oil leakage between final drive and bottom of sprocket. b. Check for sheared mounting studs. **WARNING** **Final drive hubs may be very hot.** c. Cautiously check final drive hubs for overheating.	a. Class III leak. b. More than two final drive hub studs sheared off on any one final drive. c. Any final drive hub overheating.

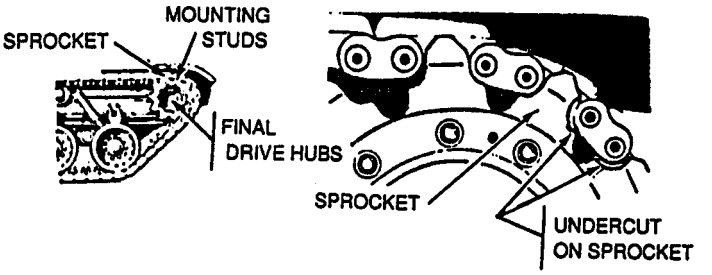


Table 2-1. Preventive Maintenance Checks and Services for Model M728

Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
73	After	Sprocket **Right and Left Side**	DRIVER a. Check sprocket for cracks or missing teeth.	a. Sprocket cracked or tooth missing.
			NOTE Undercut is located on two teeth only. b. Check sprocket for wear by looking at undercut on sprocket. Be sure that undercut area has not worn away.	b. Undercut is completely worn away.

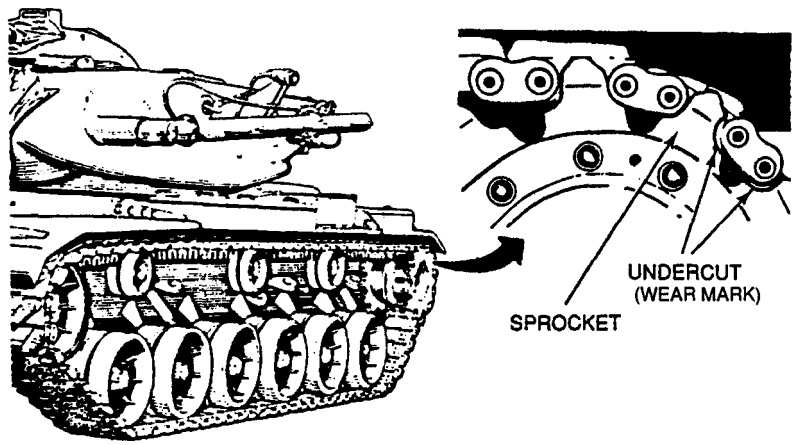


Table 2-1. Preventive Maintenance Checks and Services for Model M728

Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
74	After	Track Support Rollers and Hubs **Right and Left Side**	DRIVER a. Check for missing or loose track support rollers. b. Check rollers for separation of rubber from metal and chunking. **WARNING** **Track support roller hubs may be very hot.** c. Cautiously feel support roller hubs for high temperature differences between other hubs.	a. Any track support roller missing or loose. c. Any overheated hub.

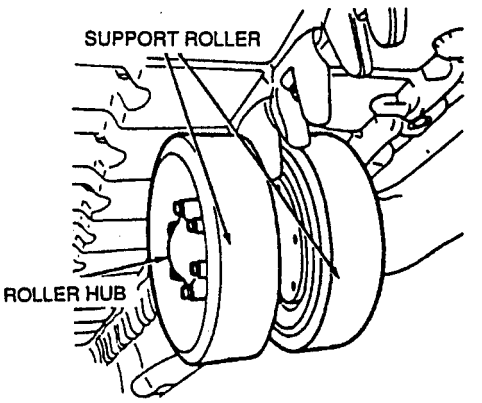


Table 2-1. Preventive Maintenance Checks and Services for Model M728

Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
75	After	Road-wheel Assem-blies, **Right and Left Side**	CREWMEMBER a. Check for bent, broken or missing roadwheel.	a. Two roadwheels on same arm, either side, cracked, dented, missing or unserviceable. Any roadwheel warped.
			b. Check for any loose or missing mounting bolts or nuts.	b. Three or more mount nuts missing on same hub, wheel hub.
			c. Check for cracked, miss-ing or gouged wearplates.	c. Wearplate worn out.
			d. Check roadwheels for chunking or separation. **WARNING** **Roadwheel hubs may be extremely hot.**	d. Separation of 1 inch of rubber con-tact from metal sur-face around 75% of roadwheel and/or chunking that ex-poses metal extend-ing 3 x 4 inches on wheel surface ex-ists.
			e. Inspect inner and outer roadwheel hub for leaks and temperature. **NOTE** Splattered grease indi-cates defective seal.	e. One or more roadwheels missing or unserviceable.

Table 2-1. Preventive Maintenance Checks and Services for Model M728

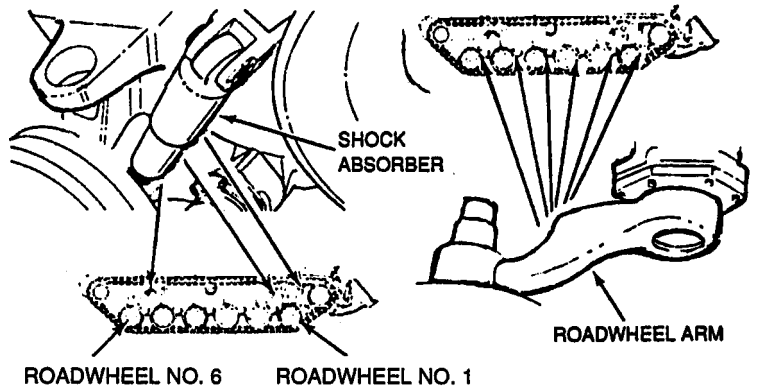
Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
76	After	Road-wheel Arms **Right and Left Side**	DRIVER Check that roadwheel arms are not bent, broken, or missing.	Any arm bent, broken, damaged or missing.
				
77	After	Shock Absorb-ers Right and Left Side	DRIVER Check shock absorbers for broken or missing cotter pins/ springs and for signs of oil leakage.	Shock absorber at No. 1 or No. 6 roadwheel broken or missing.

Table 2-1. Preventive Maintenance Checks and Services for Model M728

Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
78	After	Compensating Idler Wheel Assembly, #1 and #2 Roadwheel Assembly, **Right and Left Side**	CREWMEMBER	
			a. Check for bent, broken or missing roadwheels and compensating idler wheel.	a. Any idler wheel or number 1 or 6 arm roadwheel or two roadwheels on same arm for 2 thru 5, either side, is cracked, dented, missing or unserviceable. Any compensating idler or roadwheel warped.
			b. Check for any loose or missing mounting bolts or nuts.	b. Two or more mounting nuts missing on same idler wheel hub. Three or more mounting nuts missing on same roadwheel hub.
			c. Check for cracked, missing or gouged wearplates.	c. Wearplate worn off .
			d. Check roadwheels and compensating idler wheels for chunking or separation. **WARNING** **idler wheel hub maybe very hot.**	d. Separation of 1 inch of rubber contact from metal surface around 75% of roadwheel and/or chunking that exposes metal extending 3 x 4 inches on wheel surface exists.
			e. inspect inner and outer roadwheel hub and compensating idler hub for high temperature.	e. Any hub overheated or throwing grease.

Table 2-1. Preventive Maintenance Checks and Sewices for Model M728

Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
79	After	Track Adjusting Links, **Right and Left Side**	DRIVER a. Check that link assembly is not missing or broken. b. Check that cotter pin is not missing or broken. c. Check connector pin and retainer bolt.	a. Adjuster broken, missing or damaged. b. Connector pin broken, missing or nut missing.

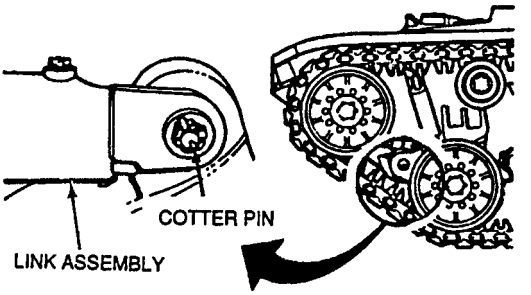
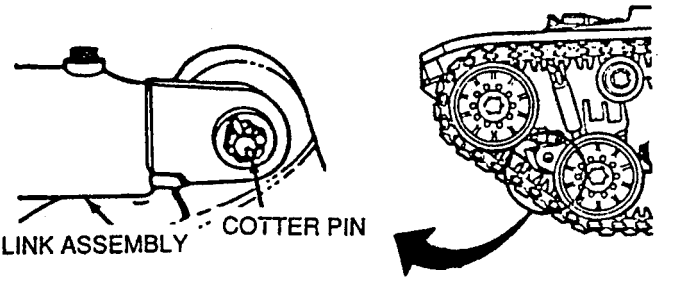
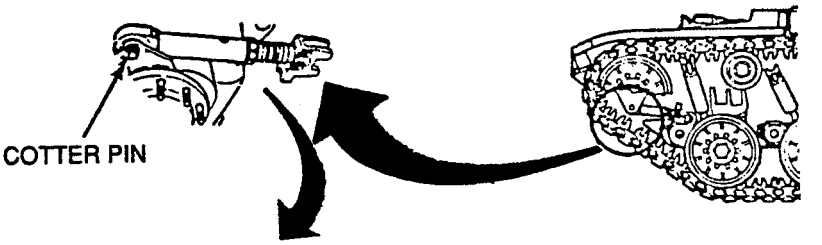


Table 2-1. Preventive Maintenance Checks and Services for Model M728

Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
80	After	Track Adjusting Link, Grease Actuated Right and Left Side	DRIVER a. Check that link assembly is not missing or broken and is not leaking grease. b. Check that cotter pin, connector pin and bolt is serviceable. c. Check that collar locking screw is not loose or missing.	a. Adjuster missing, broken or unserviceable. b. Connector pin broken, missing or nut missing. c. Any mount screw missing or damaged.





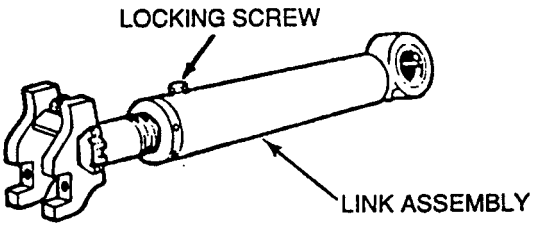


Table 2-1. Preventive Maintenance Checks and Services for Model M728

Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
80	After	Track Adjusting Link, Grease Actuated **Right Side and Left Side** Continued	d. Check that bearings and pin are not worn. e. Check that bearing attaching screws are not loose or missing. f. Check that grease fitting, pressure relief valve and plug are not damaged or missing.	e. Broken or missing track adjusting link. Attaching screws missing, either end.

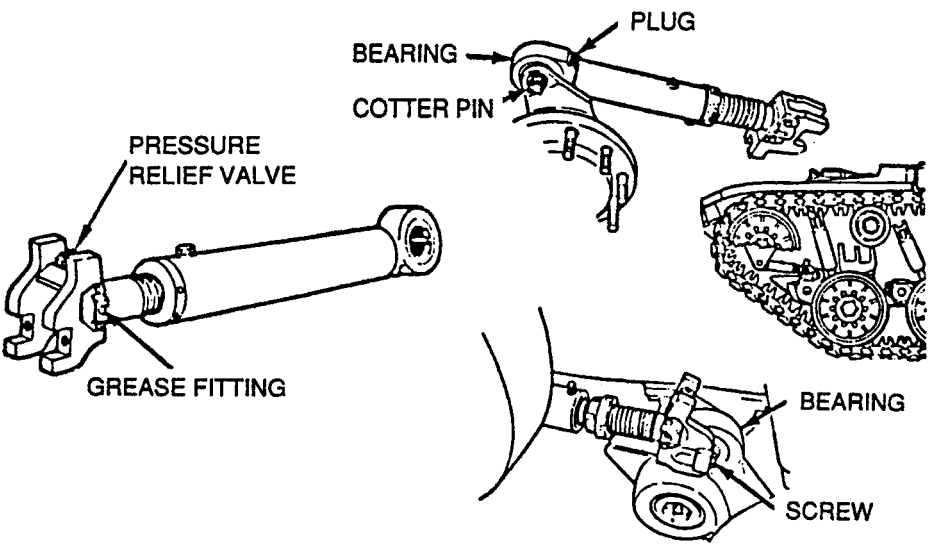


Table 2-1. Preventive Maintenance Checks and Services for Model M728

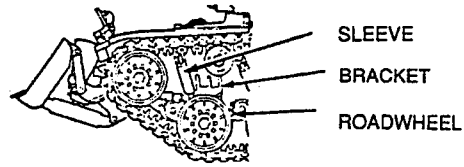
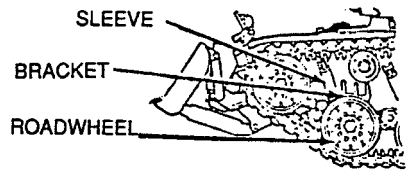
Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
81	After	Torsion Bars For Road-wheels 1 and 6, **Right and Left Side**	DRIVER Look at roadwheels 1 and 6 to see if torsion bars are broken or missing. For good torsion bar, check that volute bumper spring bracket is clearly visible above top of roadwheel and extended shock absorber sleeve, clearly visible above top of roadwheel.  VIEW WITH GOOD TORSION BAR For broken torsion bar, check that volute bumper spring bracket is barely visible above top of roadwheel and compressed shock absorber sleeve barely or not visible above top of roadwheel.  VIEW WITH BAD TORSION BAR	Torsion bars at roadwheels 1 and/or 6 broken or missing. Any two in row at roadwheels 2-5.

Table 2-1. Preventive Maintenance Checks and Services for Model M728

Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
82	After	Track End Connectors, Wedges, Center Guides and Track Pads, Right and Left Side	CREW **NOTE** Track maintenance should be performed on hard level surface. Dirt and mud should be removed from track. Loose track hardware reduces track life and increases track maintenance. The following procedures should be used: A. Four man crew is required. B. Driver start engine. C. Two crew members should be in front of vehicle to observe track as it passes over compensating idler. D. The commander will be the ground guides and observe: Move tank forward.	

Table 2-1. Preventive Maintenance Checks and Services for Model M728

Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
82	After	Track End Connectors, Wedges, Center Guides and Track Pads, Right and Left Side Continued	E. The ground guide will instruct the driver to move the tank forward at a very slow (creeping speed). The crew member in front will look for missing or improperly seated wedges and loose or broken end connectors as they pass over the compensating idler wheel. As faults are found, crew member observing track should alert ground guide to signal the driver to stop the tank and mark the outboard end connector for later reference. After tracks are inspected fault repair can be accomplished.	

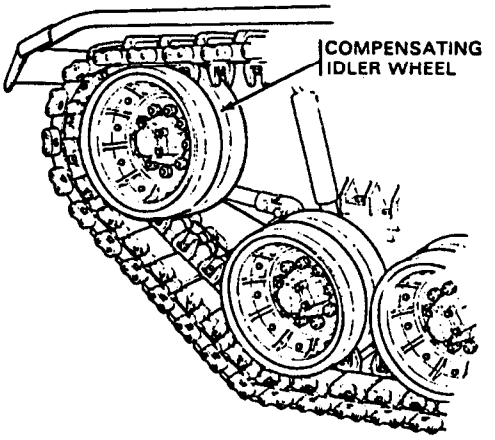


Table 2-1. Preventive Maintenance Checks and Services for Model M728

Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
82	After	Track End Connectors, Wedges, Center Guides and Track Pads Continued	CREW a. Check for broken, missing or loose end connectors. b. Look for shiny metal where bolt touches end connector (indicates loose wedge and bolt). c. Look for missing wedges and bolts.	a. Any broken or missing end connectors. c. Any broken or missing wedges.

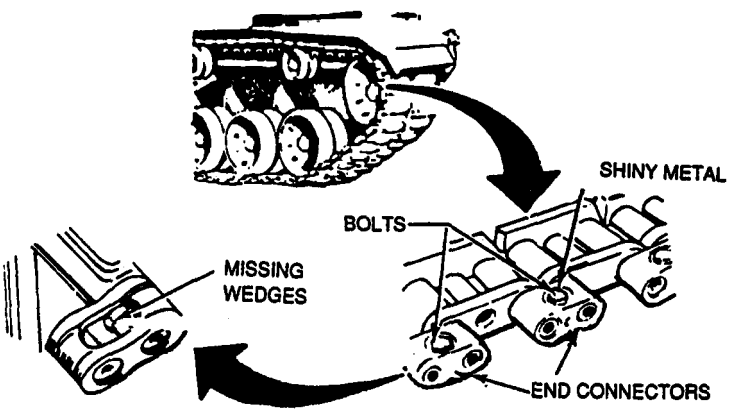


Table 2-1. Preventive Maintenance Checks and Services for Model M728

Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
82	After	Track End Connectors, Wedges, Center Guides and Track Pads, Right and Left Side Continued	d. Check for improperly seated wedges. **NOTE** Wedge will not seat properly on pins if positioned on radius. End connector may need to be repositioned (in or out) on pins to properly seated wedge. Wedge must not touch inner or outer radius.	

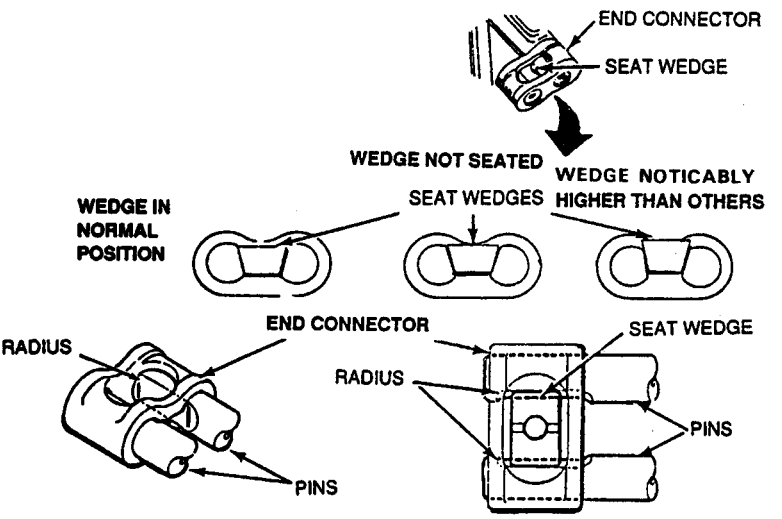
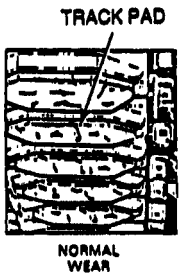
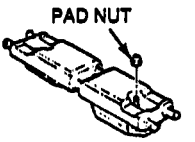


Table 2-1. Preventive Maintenance Checks and Services for Model M728

Item No.	Interval	Location Item to Check/ Service	Crewmeber Procedure	Not Fully Mission Capable If:
82	After	Track End Connectors, Wedges, Center Guides and Track Pads, Right and Left Side Continued	e. Check for missing bent, cracked, broken or loose center guides. Shiny metal indicates loose center guide nut. f. Check that track pads are not loose or missing. g. Check track pads for excessive wear. Track pads should be changed when the grouser begins to damage roadway. (For reference, proper torque is 260 to 280 lb-ft). **NOTE** When replacing missing track shoe pads, replacement pads should be about the same height as the adjacent pads.	e. Any missing or broken center guides.





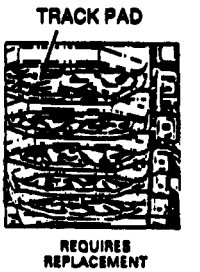


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Table 2-1. Preventive Maintenance Checks and Services for Model M728

Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
82	After	Track End Connectors, Wedges, Center Guides and Track Pads, Right and Left Side Continued	**NOTE** For any loose end connectors, wedges, center guides or track pads the following procedure must be followed before tightening. h. Loosen track tension (page 3-62). i. Loosen center guide nut on the same link that has loose end connector. j. Move vehicle until loose end connectors are midway over compensating idler wheel. Stop vehicle and tighten both inboard and outboard end connectors.	

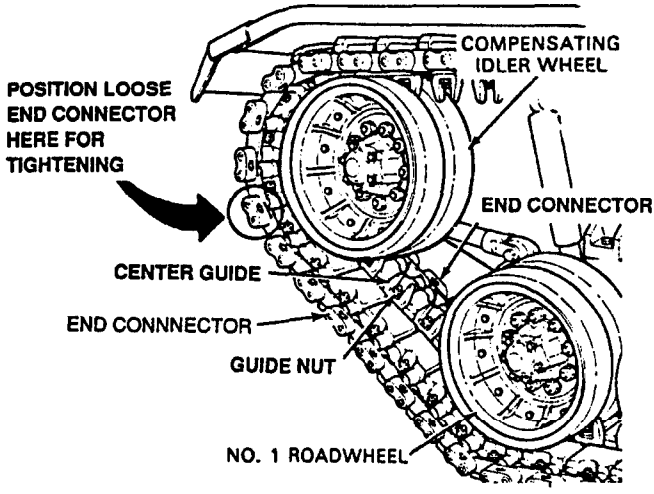


Table 2-1. Preventive Maintenance Checks and Services for Model M728

Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
82	After	Track End Connectors, Wedges, Center Guides and Track Pads, Right and Left Side Continued	(For reference, proper torque is 180 to 200 lb-ft) k. Move vehicle until loosened center guide is between compensating idler wheel and #1 roadwheel. Stop vehicle and tighten center guide nut. (For reference, proper torque is 350 to 380 lb-ft) l. Adjust track tension after all faults have been corrected.	

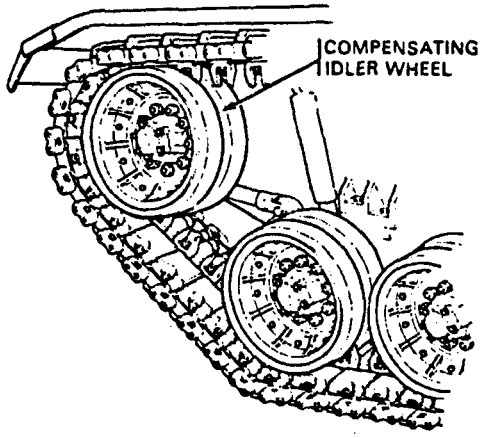


Table 2-1. Preventive Maintenance Checks and Services for Model M728

Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
83	After	Track Shoes, **Right and Left Side**	CREW **NOTE** When track shoe appears out of line, it indicates a dead shoe or damaged track pin bushing. a. Check for dead shoes between track support rollers. b. Check track shoes for breaks, cracks, or broken pin. **NOTE** When replacing individual track shoes, the rubber pads should be approximately the same height as adjacent pads. This may require removing new pads and installing used pads of equal height.	a. On one side of vehicle three or more dead track shoes or any broken pin.

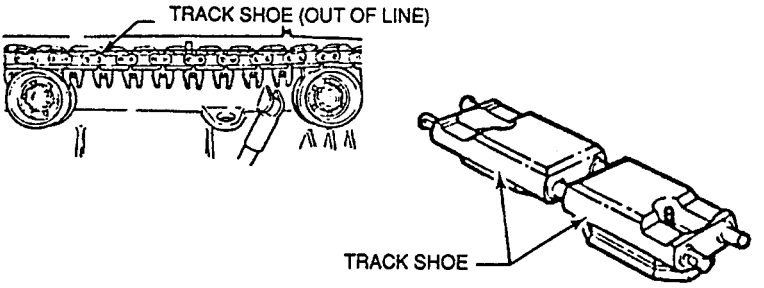


Table 2-1. Preventive Maintenance Checks and Services for Model M728

Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
84	After	Track Tension **Right and Left Side**	CREW Mechanical Track Adjustment Link Only. Adjust track tension after all other track inspection faults have been corrected. Move vehicle forward on hard level surface and coast to stop without using brakes or steering. Remove dirt and mud from outboard end connectors between first and second support rollers. Place string, with weight on both ends over first end connector before No. 1 support roller, and extend string past No. 2 support roller to next end connector.	

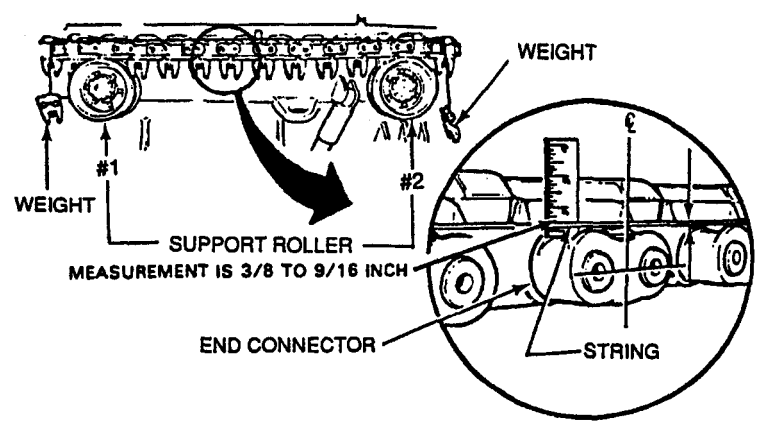


Table 2-1. Preventive Maintenance Checks and Services for Model M728

Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
84	After	Track Tension, **Right and Left Side** Continued	Locate string in center of end connector. Measure distance between string and end connector midway between first and second support roller. Make sure distance is 3/8 to 9/16 in. (95 to 1.43 cm).	

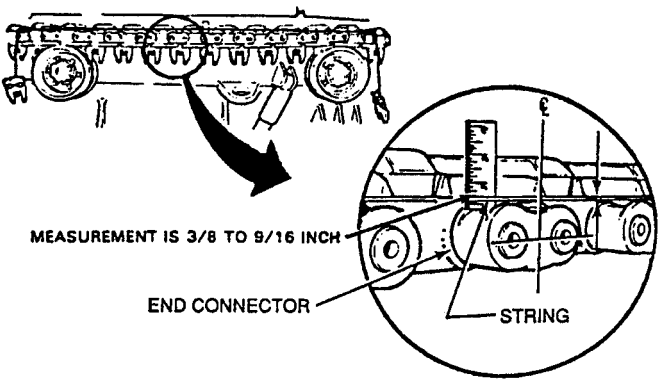


Table 2-1. Preventive Maintenance Checks and Services for Model M728

Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
85	Weekly	Batteries	**WARNING** **• Lead-acid battery gases can explode. Don't smoke, have open flames or make sparks around battery, especially if caps are off. If gassing exists, notify unit maintenance for removal and servicing.** **Ž Remove all jewelry such as rings, dog tags, bracelets, etc.. If jewelry contacts battery terminal, a direct short will result in instant heating of tools, damage to equipment and injury to personnel.**	

Table 2-1. Preventive Maintenance Checks and Services for Model M728

Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
85	Weekly	Batteries	DRIVER **NOTE** Open battery access door on turret platform. a. Check condition of batteries and also check that terminal connectors are not torn, exposing battery connectors. b. Remove caps. Make sure electrolyte is filled to the level/split ring in the battery filler opening (vent). Add distilled water as needed. If fluid is gassing (boiling), notify unit maintenance. c. Check that vent holes in caps are clean before reinstalling caps.	Batteries unusable. Obvious visual damage to battery, terminals, battery casings, posts or retainers. Loose or broken cable or terminal. Any battery retainer missing.

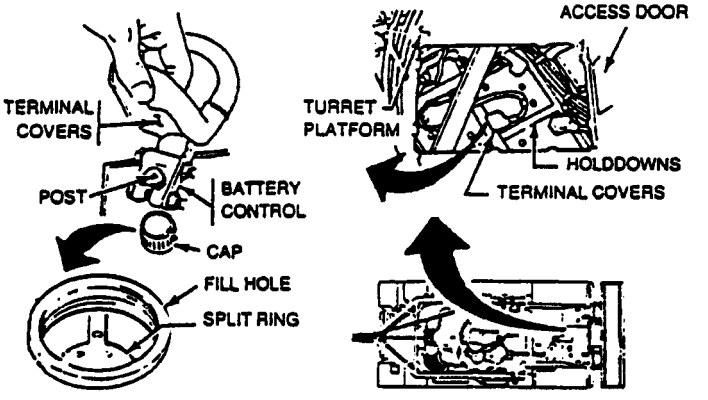


Table 2-1. Preventive Maintenance Checks and Services for Model M728

Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
85	Weekly	Batteries Continued	d. Check battery casings for damage. e. Make sure cables and terminals are clean and tight on posts.	
86	Weekly	Bilge Pump (if equipped)	DRIVER Set BILGE PUMP switch to ON.	

Table 2-1. Preventive Maintenance Checks and Services for Model M728

Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
87	Weekly	Nylon Personnel Ballistic Shield	From inside turret, check ballistic shield for tears, rips, and rotting. Check that nuts, screws, and mounting straps are tight.	

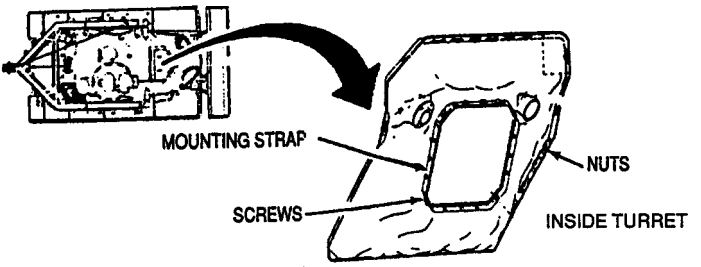


Table 2-1. Preventive Maintenance Checks and Services for Model M728

Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
88	Weekly	Hull-Turret Inflatable Seal	**CAUTION** **Do not traverse turret while hull turret seal is inflated.** Turn turret seal draincock clockwise to close. Manually inflate hull turret seal by pumping hand pump untll gage shows 25 psi. Check that after 5 minutes the pressure has not dropped more than 2 psi. Turn turret seal draincock counterclockwise to deflate seal.	

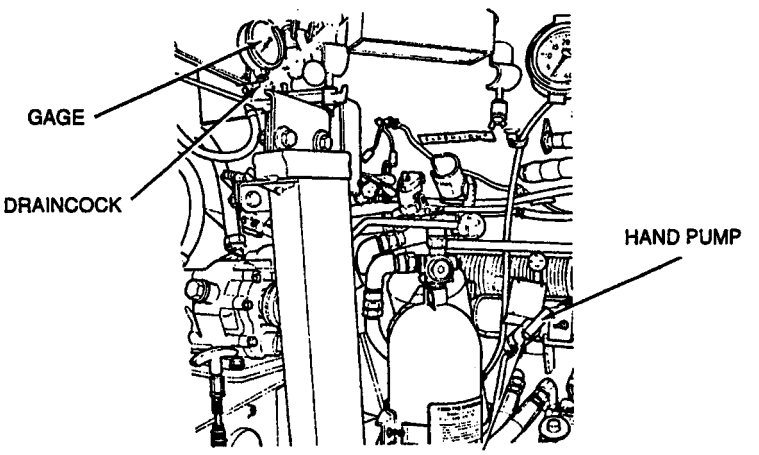


Table 2-1. Preventive Maintenance Checks and Services for Model M728

Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
89	Weekly	Engine Manual Fuel Shutoff Handle	With engine running, release latch if so equipped. Pull manual fuel shut-off handle. Check that engine stops within 30 seconds after fuel supply is shut off. Push manual fuel shut-off handle down.	Fuel shut-off cable inoperative or will not stop engine.

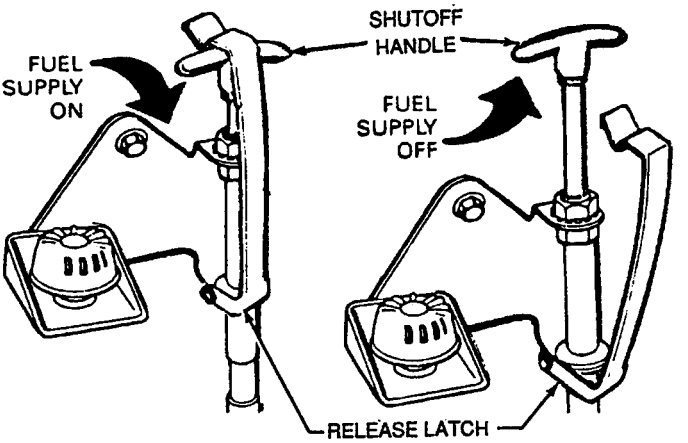


Table 2-1. Preventive Maintenance Checks and Services for Model M728

Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
90	Weekly	Hydraulic Slip Ring	Open access door on turret platform. **NOTE** Manually traverse turret to gain visual access to bottom of hull area. Check bottom of hull area for evidence of hydraulic fluid leaks.	Any line leaking class III.

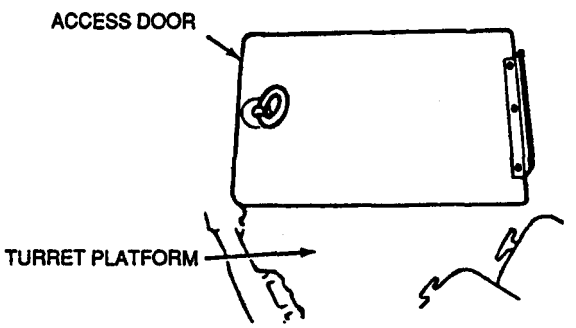


Table 2-1. Preventive Maintenance Checks and Services for Model M728

Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
91	Weekly	Rear Grille Doors	a. Make sure grille doors are secure. b. Check for loose or missing hardware. c. Be sure doors are not damaged or missing	a. Grille doors cannot be secured or closed. b. Grille doors are missing.

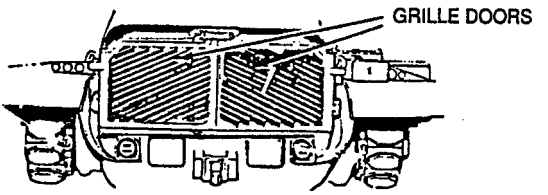


Table 2-1. Preventive Maintenance Checks and Services for Model M728

Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
92	Weekly	Air Cleaner Fans (If equip-ped) (Engine Run-ning)	a. Check that flow of air can be felt at all four fan elbows. **CAUTION** **If no airflow is present, shut off engine. Notify unit maintenance.** b. Check fan access plate for cracks, loose or missing locking bolts.	a. No air flow at either fan elbow on same air cleaner housing. b. Fan access plate missing.

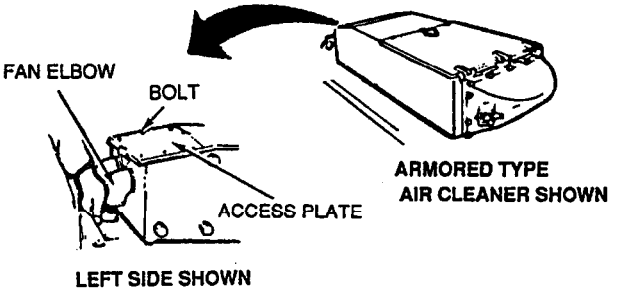
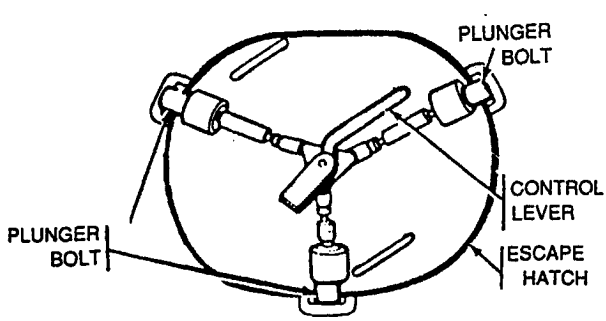


Table 2-1. Preventive Maintenance Checks and Services for Model M728

Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
93	Weekly	Driver's Escape Hatch	**NOTE** Check escape hatch before repositioning seat. a. Check that escape hatch is in place. b. Check that three plunger bolts extend over edge of hatch opening. **WARNING** **Do not move control lever counterclockwise (open position).** c. Check that manual control lever is in full closed (clockwise) position.	b. Escape hatch lever will not lock. c. Escape hatch cover not installed



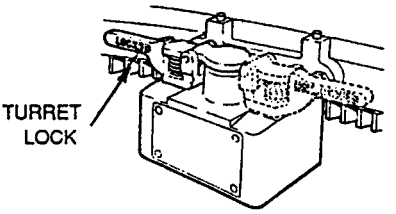
BENEATH DRIVER'S SEAT

Table 2-1. Preventive Maintenance Checks and Services for Model M728

Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
94	Weekly	M24 IR Periscope Night Check	**WARNING** **IR powerpack is high voltage item. Injury to personnel or damage to M24 periscope could occur if MASTER BATTERY and IR POWER switches are in ON position when vehicle power cable is being connected to or disconnected from periscope.** **CAUTION** **Perform M24 IR periscope check during darkness only. Do not expose IR periscope to direct sunlight.** **NOTE** Perform WEEKLY and BEFORE NIGHT operations.	

Table 2-1. Preventive Maintenance Checks and Services for Model M728

Item No.	Interval	Location / Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
94	Weekly	M24 IR Periscope Night Check Continued	Close and lock driver's hatch. Position main gun over driver's hatch and place turret lock in LOCKED position.	



Lower center M27 periscope (page 2-78). Pull down on periscope lid handle. Push up on latch to unlock lid. Push lid open.

NOTE

When main gun is over driver's hatch periscope stowage box is behind driver on turret floor.

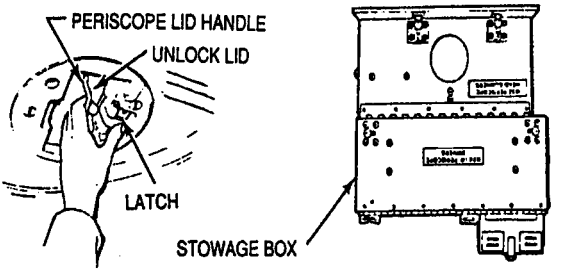


Table 2-1. Preventive Maintenance Checks and Services for Model M728

Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
94	Weekly	M24 IR Peri-scope Night Check Continued	Slide latches to release door for access to periscope. Remove periscope from box. Release elevation adjustment lever allowing clamp to pivot. Loosen jamnut and thumbscrew. Position periscope in hatch holder and push up to lock. Make sure periscope is locked before you release it. Tighten thumbscrew until clamp is firmly in detent. Tighten jamnut. Pull elevation adjustment lever forward to lock periscope.	

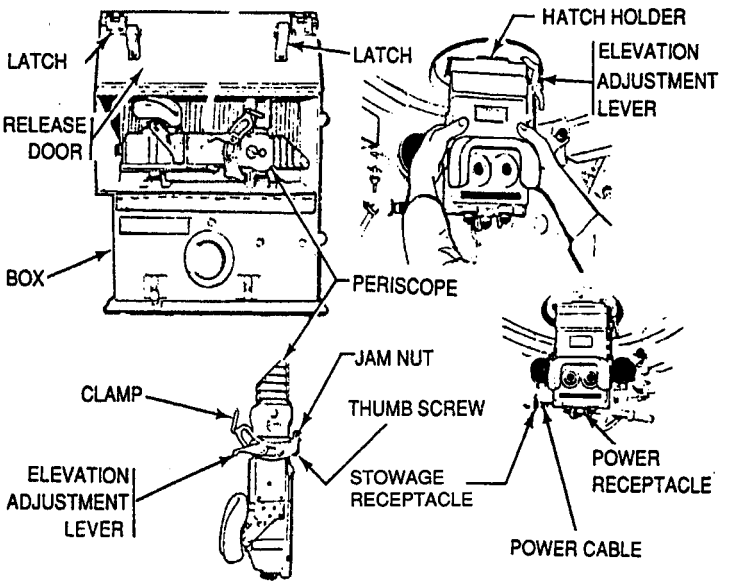


Table 2-1. Preventive Maintenance Checks and Services for Model M728

Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
94	Weekly	M24 IR Periscope Night Check Continued	**WARNING** **IR powerpack is high voltage. Injury to personnel or damage to M24 periscope could occur if MASTER BATTERY and IR POWER switches are in ON position when vehicle power cable is being connected to or disconnected from periscope.**	

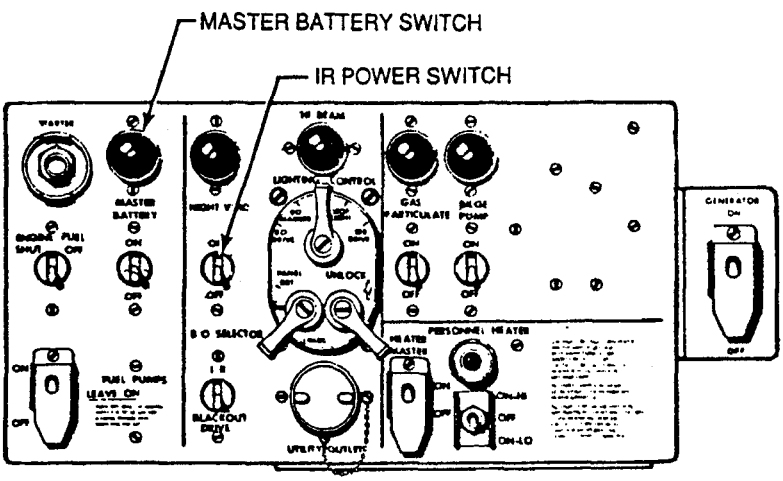
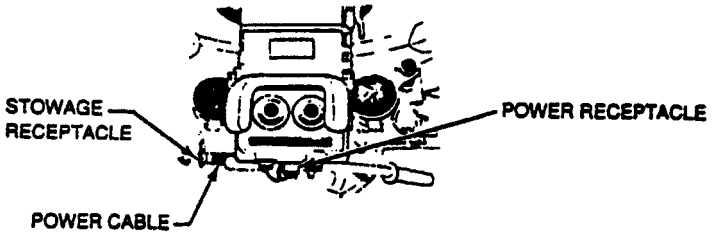


Table 2-1. Preventive Maintenance Checks and Services for Model M728

Item No.	Interval	Location / Item to Check/ Service	Crewmember / Procedure	Not Fully Mission Capable If:
94	Weekly	M24 IR Periscope Night Check Continued	Make sure that MASTER BATTERYswitch is set to OFF. Unscrew dustcap from power receptacle. Remove power cable from stowage receptacle. Connect power cable to power receptacle.	power cable missing, damaged or will not connect to M24



			Set MASTER BATTERY switch to ON. Set BO SELECTOR switch to IR. Raise UNLOCK lever and set LIGHTING CONTROL lever to BO DRIVE. Set IR POWER switch to ON. IR indicator will glow.	

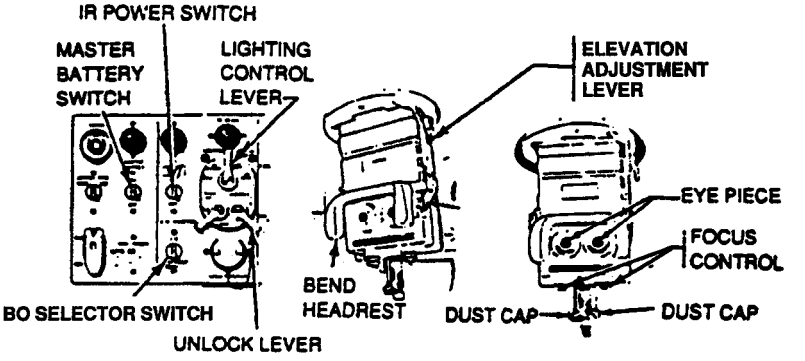


Table 2–1. Preventive Maintenance Checks and Services for Model M728

Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
94	Weekly	M24 IR Periscope Night Check Continued	Release elevation adjustment lever. Adjust periscope to elevation angle desired. Pull lever forward to lock periscope in position. If necessary, adjust headrest by loosening clamp screws. Tighten screws after adjustment. Bend headrest to fit head. Allow 5-minute warmup for periscope before adjusting focus. Remove dust caps from left and right focus controls. Loosen locknuts on focus controls. Using a screwdriver, turn focus controls and check that view through eyepiece is sharp and clear. Tighten locknuts. Put dust caps on left and right focus controls.	View is not clear or obstructed.

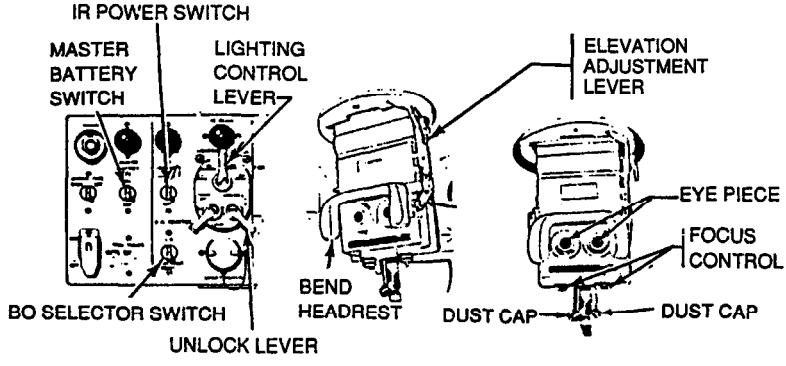


Table 2–1. Preventive Maintenance Checks and Services for Model M728

Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
94	Weekly	M24 IR Periscope Night Check continued	Set IR POWER switch to OFF. Set MASTER BATTERY switch to OFF. SET BO SELECTOR switch to BLACKOUT DRIVE. Set LIGHTING CONTROL level to center (up) position.	M24 IR Periscope inoperative or missing.

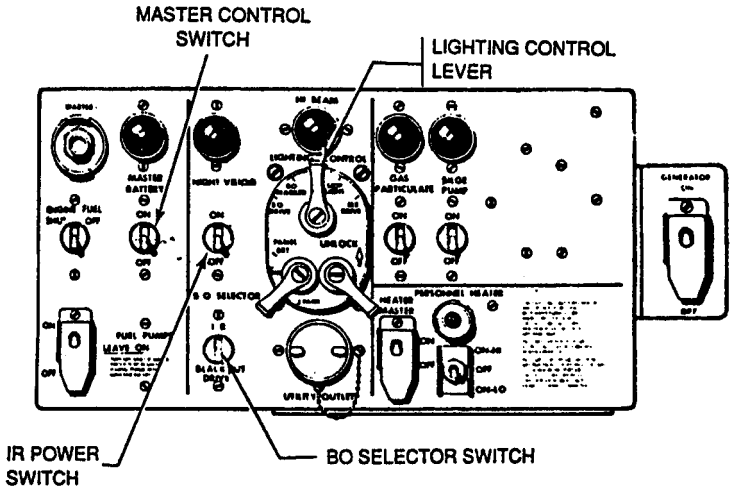


Table 2–1. Preventive Maintenance Checks and Services for Model M728

Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
94	Weekly	M24 IR Periscope Night Check Continued	**WARNING** **Wait at least 2 minutes after IR POWER switch is turned off before disconnecting power cable. (High voltage is present at power cable for several minutes after IR POWER switch is OFF).**	

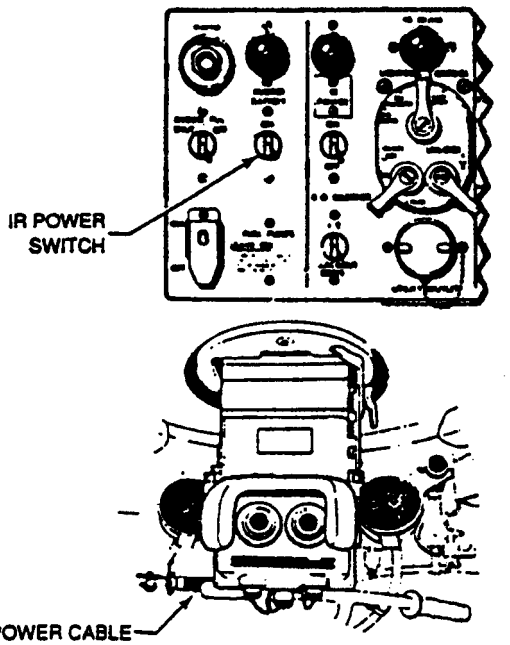


Table 2-1. Preventive Maintenance Checks and Services for Model M728

Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
94	Weekly	M24 IR Periscope Night Check Continued	Disconnect power cable from periscope and connect to stowage receptacle. Install receptacle dustcover on power receptacle. While supporting periscope with one hand, pull release bar toward rear and remove periscope. Place periscope in stowage box and latch cover. Raise M27 periscope.	

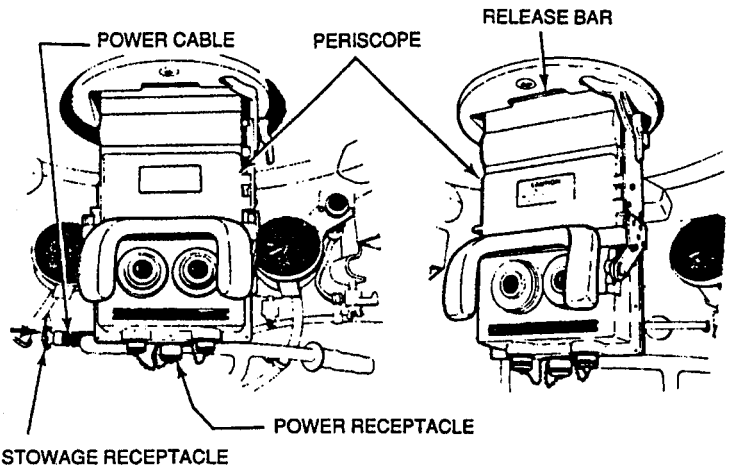
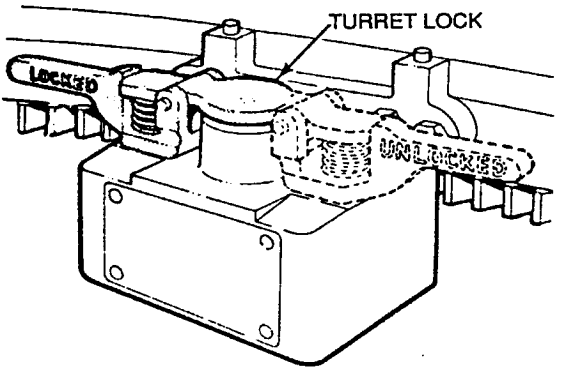


Table 2-1. Preventive Maintenance Checks and Services for Model M728

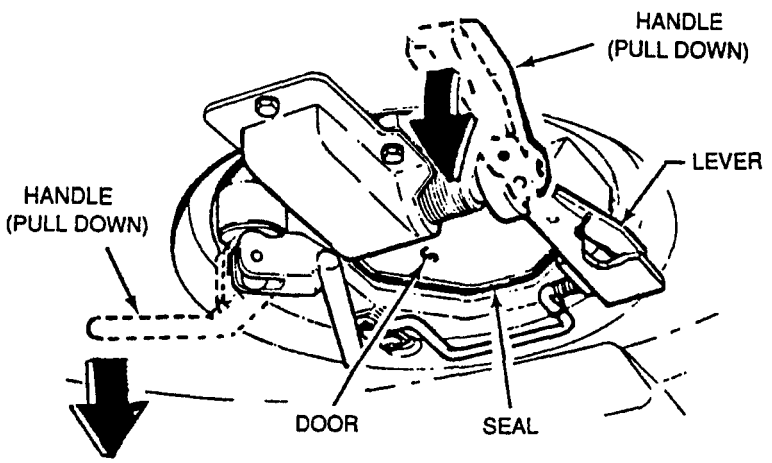
Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
95	Weekly	AN/ VVS-2 Night Vision Viewer and Hatch Night Check	**CAUTION** **Perform AN/VVS-2 night vision checks during darkness only. Do not expose objective lens on night vision viewer to direct sunlight or bright light.** **NOTE** Perform WEEKLY and BEFORE NIGHT OPERATION. Close and lock driver's hatch. Position main gun over driver's hatch and place turret lock in LOCKED position. Lower M27 periscope.	



LOADER'S STATION

Table 2-1. Preventive Maintenance Checks and Services for Model M728

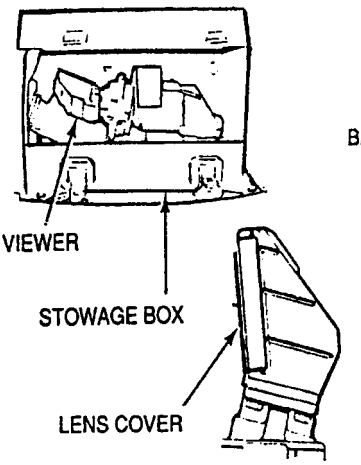
Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
95	Weekly	ANI VVS-2 Night Vision Viewer and Hatch Night Check Continued	Turn handle fully downward to raise door above hatch. Then turn handle rearward until door is fully open. Turn handle upward. Press lever and pull handle down and rearward (180 degrees) until handle locks. Check that seal is properly seated in viewer hatch groove and not hanging loose.	



LOADER'S STATION

Table 2-1. Preventive Maintenance Checks and Services for Model M728

Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
95	Weekly	AN/ VVS-2 Night Vision Viewer and Hatch Night Check Continued	Remove viewer from stowage box. Remove snap-on lens cover from viewer and stow cover in viewer stowage box. Unscrew battery cap and remove battery, if installed. Reinstall battery cap. Check that OFF-BRIGHT knob is set to OFF and not broken. Turn mounting plate to position in detent. Sides of mounting plate will be in line with sides of viewer.	



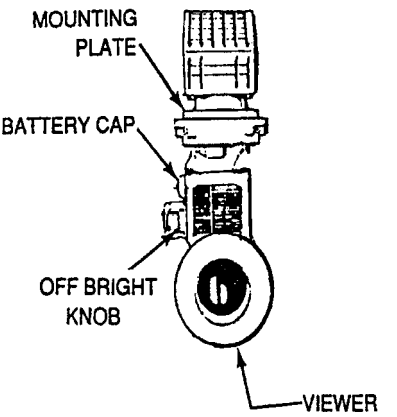


Table 2-1. Preventive Maintenance Checks and Services for Model M728

Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
95	Weekly	AN/ VVS-2 Night Vision Viewer and Hatch Night Check Continued	Carefully raise viewer through hatch and lock firmly in place by pressing lever and allowing handle to rotate down and forward to locked position. Remove snap-on eyepiece cover and stow cover in viewer stowage box. Make sure NIGHT VISION switch is set to OFF. Remove cover from viewer receptacle. Disconnect power cable from dummy receptacle and connect to viewer connector. Check that MASTER BATTERY switch is set to ON. Set NIGHT VISION switch to ON. Turn OFF-BRIGHT knob to full BRIGHT. View through eyepiece.	View is obstructed or unclear.
			Check that image display is brightly lighted. Turn OFF-BRIGHT knob slowly to OFF.	Inoperative in both battery and vehicle power mode.

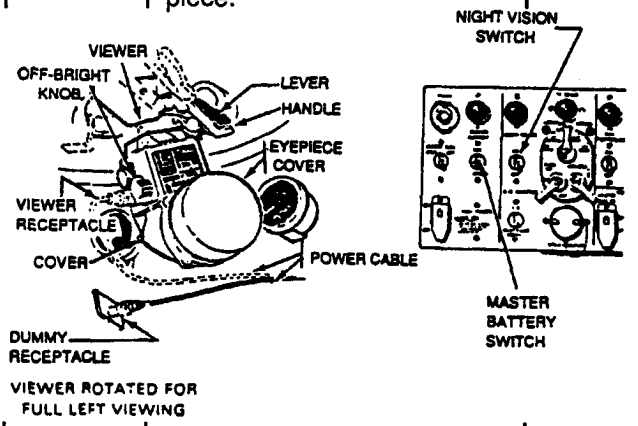
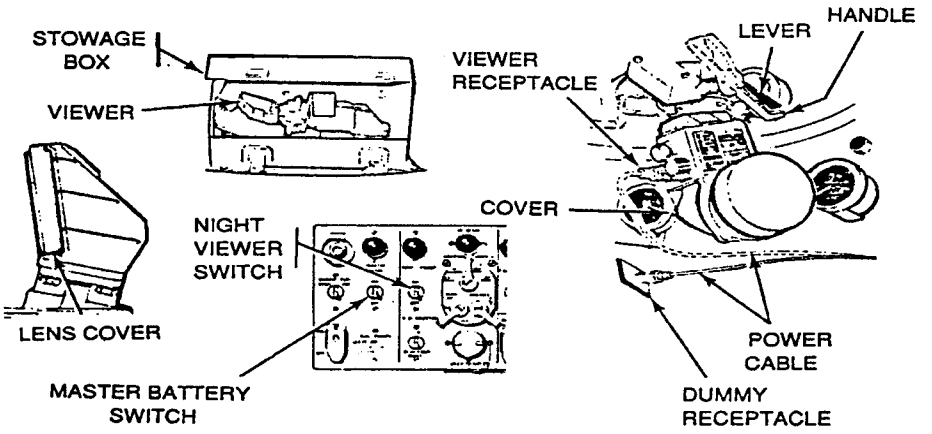


Table 2-1. Preventive Maintenance Checks and Services for Model M728

Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
95	Weekly	AN/ VVS-2 Night Vision Viewer and Hatch Night Check Continued	Check that image display light goes from bright to dim to off. Set NIGHT VISION switch to OFF. Disconnect power cable from viewer receptacle and connect it to dummy receptacle. Install cover on viewer receptacle. Install snap-on eyepiece cover. Check that viewer is in straight forward (detent) position. While supporting viewer with left hand press lever and pull handle downward and 180 degrees rearward until it locks. Carefully lower and remove viewer from hatch.	Night vision viewer AN/VVS-2 inoperative.
			Install snap-on lens cover and stow viewer in stowage box. Close viewer door and turn MASTER BATTERY switch to OFF.	



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CO. A , 3rd Engineering BN
FT. Leonard Wood, MO 63108

DATE SENT

PUBLICATION NUMBER	PUBLICATION DATE	PUBLICATION TITLE
TM 9-2350-222-10-1	12 JAN 81	Vehicle, Combat Engineer Full Tracked; M728

BE EXACT PIN-POINT WHERE IT IS

PAGE NO	PARA-GRAPH	FIGURE NO	TABLE NO
1-7			
2-23			

IN THIS SPACE TELL WHAT IS WRONG AND WHAT SHOULD BE DONE ABOUT IT:

In line 24 of page 1-7, the manual states the engine has 6 cylinders. The engine in my tank has 12 cylinders. Change the manual to show 12 cylinders.

Callout 16 on page 2-23 is pointing at a bolt. On page 2-22 item 16 is called a shim. Please correct one or the other.

SAMPLE

PRINTED NAME, GRADE OR TITLE AND TELEPHONE NUMBER
JOHN DOE, PFC (268) 317-7111

SIGN HERE
John Doe

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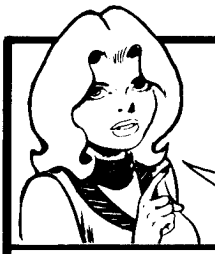

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Chief of Staff

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The Adjutant General

To be distributed in accordance with DA Form 12-37, Operator Maintenance requirements for M728 Combat Engineer Vehicle.

☆ U.S. GOVERNMENT PRINTING OFFICE: 1981-750-002/1105

THE METRIC SYSTEM AND EQUIVALENTS

[redacted] MEASURE

[redacted]eter = 10 Millimeters = 0.01 Meters = 0.3937 Inches
= 100 Centimeters = 1000 Millimeters = 39.37 Inches
1 Kilometer = 1000 Meters = 0.621 Miles

WEIGHTS

1 Gram = 0.001 Kilograms = 1000 Milligrams = 0.035 Ounces
1 Kilogram = 1000 Grams = 2.2 Lb.
1 Metric Ton = 1000 Kilograms = 1 Megagram = 1.1 Short Tons

LIQUID MEASURE

1 Milliliter = 0.001 Liters = 0.0338 Fluid Ounces
1 Liter = 1000 Milliliters = 33.82 Fluid Ounces

SQUARE MEASURE

1 Sq. Centimeter = 100 Sq. Millimeters = 0.155 Sq. Inches
1 Sq. Meter = 10,000 Sq. Centimeters = 10.76 Sq. Feet
1 Sq. Kilometer = 1,000,000 Sq. Meters = 0.386 Sq. Miles

CUBIC MEASURE

1 Cu. Centimeter = 1000 Cu. Millimeters = 0.06 Cu. Inches
1 Cu. Meter = 1,000,000 Cu. Centimeters = 35.31 Cu. Feet

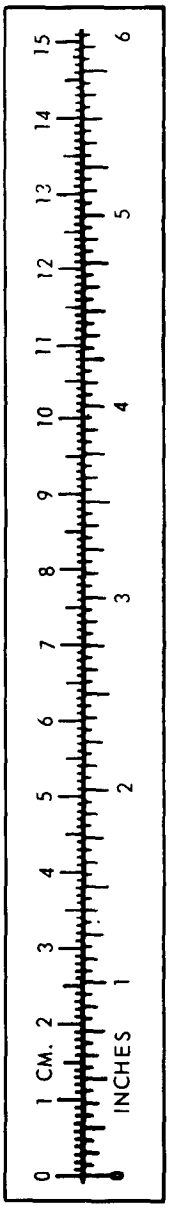
TEMPERATURE

$\frac{5}{9}(°F - 32) = °C$
212° Fahrenheit is equivalent to 100° Celsius
90° Fahrenheit is equivalent to 32.2° Celsius
32° Fahrenheit is equivalent to 0° Celsius
$\frac{9}{5}\,°C + 32 = °F$

APPROXIMATE CONVERSION FACTORS

TO CHANGE	TO	MULTIPLY BY
Inches	Centimeters	2.540
Feet	Meters	0.305
Yards	Meters	0.914
Miles	Kilometers	1.609
Square Inches	Square Centimeters	6.451
Square Feet	Square Meters	0.093
Square Yards	Square Meters	0.836
Square Miles	Square Kilometers	2.590
Acres	Square Hectometers	0.405
Cubic Feet	Cubic Meters	0.028
Cubic Yards	Cubic Meters	0.765
Fluid Ounces	Milliliters	29.573
Pints	Liters	0.473
Quarts	Liters	0.946
Gallons	Liters	3.785
Ounces	Grams	28.349
Pounds	Kilograms	0.454
Short Tons	Metric Tons	0.907
Pound-Feet	Newton-Meters	1.356
Pounds per Square Inch	Kilopascals	6.895
Miles per Gallon	Kilometers per Liter	0.425
Miles per Hour	Kilometers per Hour	1.609

TO CHANGE	TO	MULTIPLY BY
Centimeters	Inches	0.394
Meters	Feet	3.280
Meters	Yards	1.094
Kilometers	Miles	0.621
Square Centimeters	Square Inches	0.155
Square Meters	Square Feet	10.764
Square Meters	Square Yards	1.196
Square Kilometers	Square Miles	0.386
Square Hectometers	Acres	2.471
Cubic Meters	Cubic Feet	35.315
Cubic Meters	Cubic Yards	1.308
Milliliters	Fluid Ounces	0.034
Liters	Pints	2.113
Liters	Quarts	1.057
Liters	Gallons	0.264
Grams	Ounces	0.035
Kilograms	Pounds	2.205
Metric Tons	Short Tons	1.102
Newton-Meters	Pound-Feet	0.738
Kilopascals	Pounds per Square Inch	0.145
Kilometers per Liter	Miles per Gallon	2.354
Kilometers per Hour	Miles per Hour	0.621



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LOCATION	QUANTITY	UNIT OF ISSUE	ACTION	RQN DATE
BL	2	INITIAL-DIST.		
PKG SIZE	ITEM NO.	BULK/RCPT DATE	SLAGPC CONTROL NO.	
570			ID-1101-31939	

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