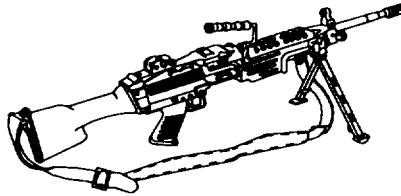


ARMY TM 9-1005-201-10
MARINE CORPS TM 08671A-10/A
AIR FORCE TO 11W3-5-5-51

Supersedes copy dated September 1983

OPERATOR'S MANUAL
MACHINE GUN, 5.56mm, M249 W/EQUIP
(NSN 1005-01-127-7510) (EIC: 4BG)



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HEADQUARTERS, DEPARTMENT OF THE ARMY
JULY 1991

CHANGE

NO. 1

**HEADQUARTERS
DEPARTMENT OF THE ARMY**
Washington D. C., 25 November 1996

**Operator's Manual
for
Machine Gun, 5.56MM, M249 w/equip
(1005-01-127-7510) (EIC: 4BG)**

ARMY TM 9-1005-201-10, MARINE CORPS TM 08671A-10/1A, 26 July 1991, is changed as follows:

1. Air Force number TO 11 W3-5-5-51 has been added to to the cover and title page, but applies to al pages.
2. Remove old pages and insert new pages as indicated on pages 2 and 3.

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MARINE CORPS TM 08671A-10/1A

3. New or changed material is indicated by a vertical bar in the margin of the page. Illustration changes are indicated by a miniature pointing hand.

Remove Pages

a thru c/(d blank)
i thru iv
1-5 and 1-6
1-13 and 1-14
1-17 and 1-18
2-1 thru 2-20
2-33 thru 2-38
2-41 thru 2-46
2-49 thru 2-52

Insert Pages

a thru d
i thru viii
1-5 thru 1-6.1/(1-6.2 blank)
1-13 and 1-14
1-17 and 1-18
2-1 thru 2-20
2-33 thru 2-38
2-40.1/(2-40.2 blank) thru 2-46
2-49 thru 2-52

2-55/(2-56 blank)
3-17 thru 3-20
3-33 thru 3-40
3-43 thru 3-48
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3-59 and 3-60
3-63/(3-64 blank)
4-1 and 4-2
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C-3 thru C-6
D-3 and D-4
Front Cover

2-55/(2-56 blank)
3-17 thru 3-20
3-33 thru 3-40
3-43 thru 3-48
3-55 and 3-56
3-59 and 3-60
3-63 thru 3-66
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A-1 thru A-6
B-5 thru B-7/(B-8 blank)
C-3 thru C-5/(C-6 blank)
D-3 thru D-5/(D-6 blank)
Front Cover

Retain this sheet in front of manual for reference purposes.

By Order of the Secretary of the Army:

Official:

JOEL BHUDSON
*Administrative Assistant to the
Secretary of the Army*
02730

DENNIS J. REIMER
*General, United States Army
Chief of Staff*

DISTRIBUTION- To be distributed in accordance with the initial distribution number (IDN) 400571, requirements for TM 9-1005-201-10.

WARNING

1. Be sure to clear weapon before disassembling, cleaning, inspecting, transporting or storing.
2. stay clear of muzzle and always keep weapon pointed downrange.
3. Keep safety on until you are ready to fire.
4. Before firing, make sure the barrel is locked tightly.
5. Never remove trigger mechanism before weapon is cleared. Removal of the trigger mechanism from a loaded weapon will cause a runaway.
6. Hot fired cartridge cases may strike right arm as they are ejected from the weapon when firing left-handed. Operators firing left-handed should not roll up right arm sleeve of clothing.
7. Never open the cover of weapon if the barrel is hot and you suspect there is a live round in chamber.

WARNING

7. Never open the cover of weapon If the barrel is hot and you suspect there is a live round In chamber.
8. Always look into chamber after clearing weapon.
9. With ammunition and weapon exposed to the sun on a hot sunny day, a cookoff can occur within 50 rounds of continuous firing.
10. Use only blank M200 with the Blank Firing Attachment (BFA) and do not fire directly at anyone less than 20 feet away.
11. Do not interchange barrel assemblies (to Include spare barrel) or bolt assemblies from one weapon to another without having headspace checked.

b Change 1

WARNING

12. Do not allow round to hit any hard surface or it may fire. Dispose of live round in accordance with local regulations.
13. Do not modify components, use repair parts, or Interchange components other than those authorized by this TM. This includes other models of machine guns or foreign versions of this weapon.
14. Never reload a runaway weapon until it has been replaced.
15. The firing of long sustained bursts of greater than 25 rounds or a continuous firing of approximately 200 rounds will present a danger of 'cook off' In the event a malfunction occurs; and for will accelerate the premature wearing out of the barrel.

Change 1 c

***ARMY TM 9-1005-201-10**
***MARINE CORPS TM 08671A-10/A**
***AIR FORCE TO 11W3-5-5-51**

TECHNICAL MANUAL
NO. 9-1005-201-10
NO. 08671A-10/1A
TECHNICAL ORDER
NO. 11 W3-5-5-51

DEPARTMENTS OF THE ARMY,
MARINE CORPS AND AIR FORCE
Washington, DC 26 July 1991

OPERATOR'S MANUAL
Machine Gun, 5.56MM, M249, W/Equip
(1005-01-127-7510)

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*This manual supersedes TM 9-1005-201-10/TM 08671A-10t1, dated September 1983, including all changes.

Change 1 i

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 or DA Form 2028 (Recommended Changes to Publications and Blank Forms) direct to Director, Armament and Chemical Acquisition and Logistics Activity, ATTN: AMSTA-AC-NML, Rock Island, IL 61299-7630. A reply will be furnished to you.

USMC users submit NAVMC Form 10772 to: Commander, Marine Corps Logistics Base (Code 850), Albany, GA 31704-5000.

Air Force users submit AFTO Form 22, Technical Order System Publications Improvement Report and reply to: WR-ALC/LZDTA, Robins AFB, GA. 31098- 5330

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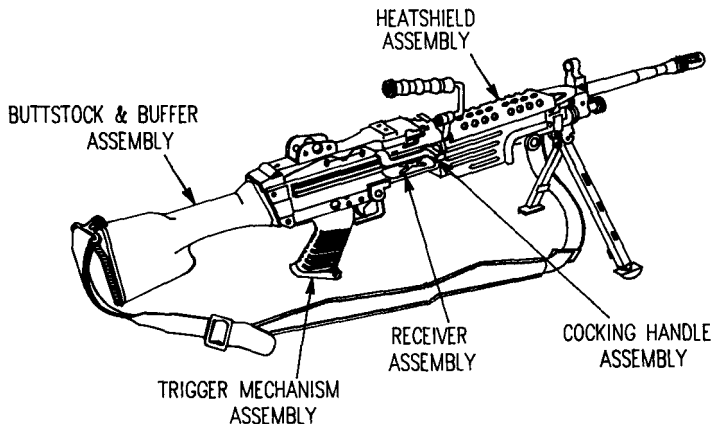
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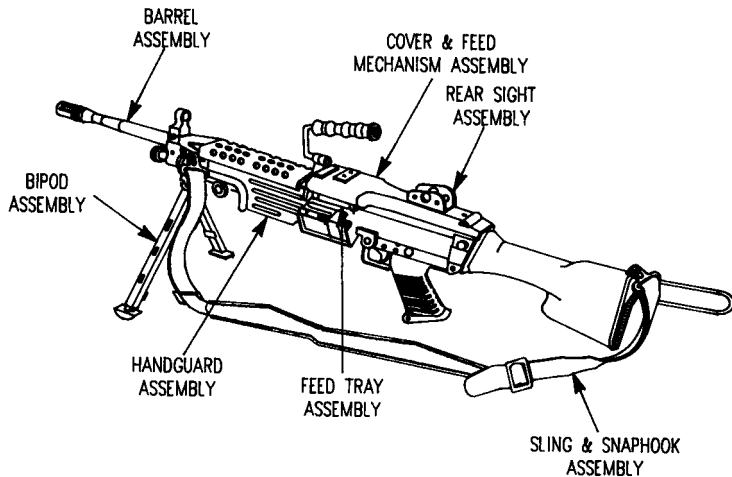
CHAPTER 1 INTRODUCTION

Section I. GENERAL INFORMATION



New style buttstock and buffer assembly shown.

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1-1. SCOPE.

A. Type of Manual: Operator's Manual.

B. Model Number and equipment name: Machine Gun, 5.56 MM, M 249 w/equipment.

C. Purpose of Equipment: The M249 machine gun is designed as a fire team automatic weapon providing suppressive fire at extended ranges allowing fire and movement to make contact with and destroy the enemy.

1-2. MAINTENANCE FORMS, RECORDS AND REPORTS.

Department of the Army forms and procedures used for equipment maintenance will be those prescribed by DA PAM 733-750, The Army Maintenance Management System (TAMMS). USMC users will refer to TM 4700-15/1, Equipment Record Procedures.

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

CPC of materiel is a continuing concern. It is important any corrosion problems with this item be reported so that the problem can be corrected and improvements can be made to prevent the problem in the future.

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1-3. CORROSION, PREVENTION AND CONTROL (CPC) (CONT).

While corrosion is typically associated with rusting of metals, it can also include deterioration of other materials such as rubber or plastic. Unusual cracking, softening, swelling, or breaking of these materials may be a corrosion problem.

If a corrosion problem is identified, it can be reported using Standard Form 368, Quality Deficiency Report. Use of key words such as "corrosion", "rust", "deterioration", or "cracking" will assure that the information is identified as a CPC problem.

The form should be submitted to: Commander, U.S. Army Armament, Munitions and Chemical Command, ATTN: AMSMC-QAD, Rock Island, IL 61299-6000.

USMC users should submit SF 368 (QDR) in accordance with MCO 4855.10 to: Commanding General, Marine Corps Logistics Base, ATTN: Code 808, Albany, GA 31704-5000.

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

Procedures and materials used for the destruction of the machine gun will be found in TM 750-244-7.

1-5. REPORTING EQUIPMENT IMPROVEMENT RECOMMENDATIONS (EIR).

If your machine gun needs improvement, let us know. Send us an EIR. You, the user, are the only one that can tell us what you don't like about your equipment. Let us know why you don't like the design. Tell us why a procedure is hard to perform. Put it on a SF 368 (Quality Deficiency Report). Mail it to: Commander, U. S. Army Armament Research, Development and Engineering Center, ATTN: AMSTA-AR-QAW-A (R)/Customer Feedback Center, Rock Island, IL 61299-7300. A reply will be furnished directly to you.

USMC users should submit SF 368 (QDR) in accordance with MDO 4855.10, to: Commander, Marine Corps Logistics Base Albany, ATTN: Code 840, Albany, GA 31704-5000.

Air Force users submit Material Deficiency Report (MDR) and Quality Deficiency Report (QDR) in accordance with TO 00-35D-54, (TM, USAF, Material Deficiency Reporting and Investigating System) to WR-ALC/LZBS, Robins AFB, GA 310985330.

Change 1 1-5

Section II. EQUIPMENT DESCRIPTION

1-6. EQUIPMENT CHARACTERISTICS, CAPABILITIES AND FEATURES.

A. CHARACTERISTICS:

The M249 machine gun is belt-fed, gas-operated, air-cooled and fires from the open bolt position. The old style barrel has a regulator for selecting normal and adverse rates of fire in the event that the weapon firing rate slows down (weapon becomes sluggish). It also has a 30 round magazine feeding capability for emergency firing procedures and is fielded with two barrel assemblies.

B. CAPABILITIES:

The M249 machine gun can be used as a Squad Automatic Weapon (SAW) or, as a Light Machine Gun (LMG). It can be fired from the shoulder or hand-held position, bipod steadied position, the tripod mounted machine gun position, or from the pedestal or ring mount position. It has two barrel assemblies to extend the life of the barrels, retain accuracy and allow for continuous firing over long periods of time.

1-6 Change 1


C. FEATURES:

The quick-change barrel is air-cooled and has a fixed headspace. The bolt is a multiple-lug type which rotates into a positive locked position in the barrel extension prior to firing. Gas is taken from the barrel acting on a piston directly fixed to the bolt carrier (slide). The gas pressure on the old style barrel is based on the gas exhaust system and is controlled by a two position regulator; one for normal conditions, the other delivering additional power for adverse conditions. The new style barrel has a preset gas orifice and rotation of the regulator has no effect on its operation. The new barrel also has a folding carrying handle. The M249 is equipped with a spare barrel in addition to the weapon barrel assembly.

Change 1 1-6.1/(1-6.2 blank)

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1-7. LOCATION AND DESCRIPTION OF MAJOR COMPONENTS:

 major components of the machine gun are:

- | | |
|--------------------------------------|--|
| 1 . Barrel Assembly | Houses cartridge for firing, directs projectile, and supports fixed front sight. (Old style barrel to be replaced with new style barrel by attrition.) |
| 2 . Heatshield | Protects operator's hands from a hot barrel. |
| 3 . Receiver Assembly | Serves as a support for all major components. Houses action of weapon and through a series of guide rails, controls functioning of weapon. |
| 4. Rear Sight Assembly | Rear sight is adjustable for both windage and elevation. |
| 5. Cover and Feed Mechanism Assembly | Provides support for rear sight and means for gaining access to feed tray. By means of cam and lever action, feeds linked belt ammunition and holds cartridges in position for stripping, feeding, and chambering. |

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1-7. LOCATION AND DESCRIPTION OF MAJOR COMPONENTS (Cont):

- | | | |
|-----|-------------------------------|--|
| 6. | Feed Pawl Assembly | Feeds linked belt ammunition, positions and holds cartridges in position for stripping, feeding and cambering. |
| 7. | Feed Tray Assembly | Serves as a guide for positioning cartridges, to assist in cambering. |
| 8. | Cocking Handle Assembly | Pulls the moving parts rearward. Moves in a guide rail fixed to the right side of the receiver. |
| 9. | Buttstock and Buffer Assembly | Serves as a shoulder support for aiming and firing machine gun. Contains a folding shoulder rest and a hydraulic buffer. Old style buttstock does not contain a hydraulic buffer. (Old style buttstock to be replaced by Modification Work Order.) |
| 10. | Bolt Assembly | Provides stripping, cambering, firing, and extraction, using the propellant gases and recoil spring for power. |

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- | | |
|---|---|
| 11. Slide Assembly | Houses the bolt assembly, firing pin and roller assembly and cams bolt assembly to lock and unlock. |
| 12. Piston Assembly | Transfers power from propelling gases to bolt and slide assemblies to function the machine gun (move recoiling-parts rearward). |
| 13. Spring, Helical Compression | Provides power to the piston assembly for moving slide and bolt assemblies forward during weapon functioning. |
| 14. Return Rod and Transfer Mechanism Assembly or Rod Assembly, Operating | Absorbs recoil from bolt, slide, and piston assemblies at the end of recoil movement, and transfers recoil pressure to the buffer in the buttstock. |
| 15. Trigger Mechanism Assembly | Houses the trigger, sear and safety, and controls the firing of the machine gun. |

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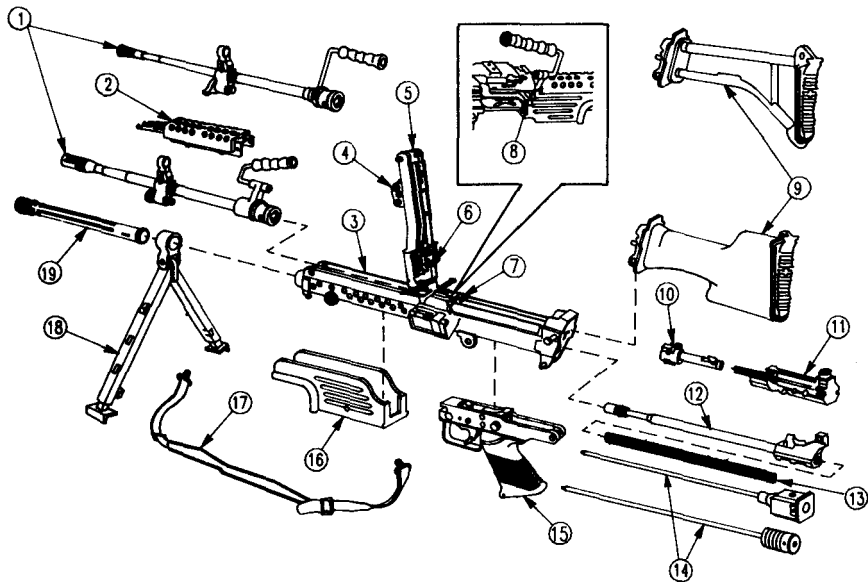
1-7. LOCATION AND DESCRIPTION OF MAJOR COMPONENTS (Cont):

WARNING

THE SAFE INDICATOR FOR THE M249 IS USED ONLY DURING CLEANING PROCEDURES, AND WHEN THE WEAPON IS COMBAT LOADED. TO BE CONSIDERED "SAFE" BEFORE DISASSEMBLING, CLEANING, INSPECTING, TRANSPORTING, OR STORING, THE WEAPON MUST BE CLEARED.

- | | |
|----------------------------------|--|
| 16. Hand Guard Assembly | Provides thermal insulation to protect the operator's hands from heat, and houses cleaning equipment. |
| 17. Sling and Snap Hook Assembly | Provides a means of carrying the weapon. |
| 18. Bipod, Assembly | Supports machine gun in prone/sitting position. The telescopic legs can be individually adjusted to three different lengths. |
| 19. Gas Cylinder Assembly | Locks bipod in place on receiver and provides passageway for operating gases. |

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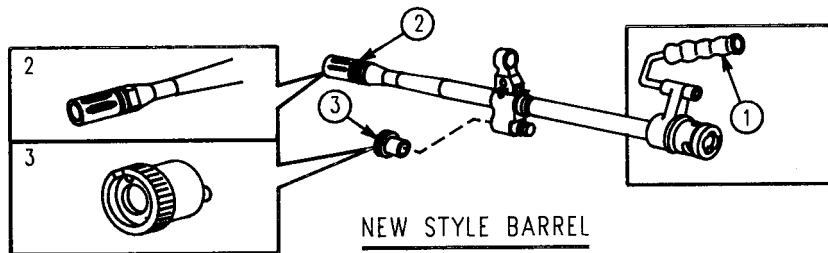
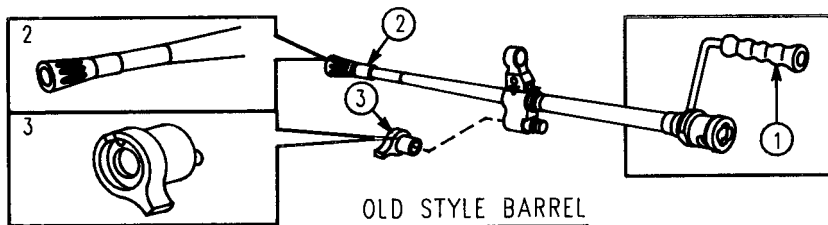


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1-8. DIFFERENCES BETWEEN MODELS.

Old Style Barrel	New Style Barrel
1. Carrying Handle- Fixed (non-folding).	1. Carrying Handle- Folding (3 position).
2. Flash Suppressor- Minimizes Muzzle Flash.	2. Compensator- Minimizes Muzzle Flash, reduces and lessens muzzle climb.
3. Gas Collar-is a two-position control to change the cyclic rate setting.	3. Gas Collar-Setting has no effect on cyclic rate. Only function is to lock gas regulator into barrel assembly.

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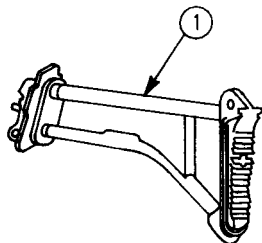


1-8. DIFFERENCES BETWEEN MODELS (Cont).

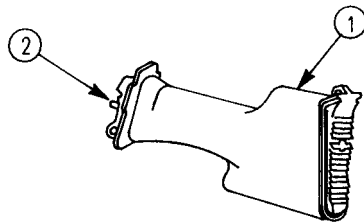
Old Style Buttstock		New Style Buttstock & Buffer Assembly	
1	Lightweight tubular design with plastic webb	1	Solid molded design containing a hydraulic buffer.
2	Contains no hydraulic buffer of backplate.	2	Plunger protrudes from face

Rod Assembly, Operating		Return Rod and Transfer Mechanism Assembly	
Assembly uses a large spring at the rear for functioning		Assembly uses a permanently riveted slip weight at the rear for	

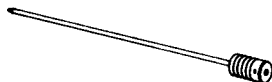
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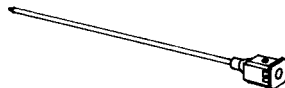
OLD STYLE BUTTSTOCK



NEW STYLE BUTTSTOCK
AND
BUFFER ASSEMBLY



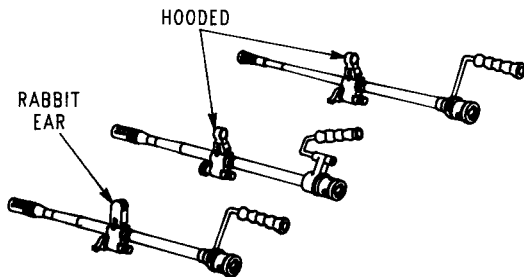
ROD ASSEMBLY, OPERATING



RETURN ROD AND
TRANSFER MECHANISM ASSEMBLY

NOTE

Some M249 Squad Automatic Weapons were fielded with barrels that have slightly different front sight assemblies and muzzle compensators.



There is no difference in the functioning of the compensators and there is no difference in zeroing or sighting of the front sight assemblies. The slightly different barrels are easily identified by the front sight bracket. Most barrels have the hooded front sight and some barrels have the “rabbit ear” front sight.

1-9. EQUIPMENT DATA.

Height

Weapon (with bipod and tools)..... 7.718 kg (17.00 lbs)
200 round box (filled)..... 3.140 kg (6.92 lbs)
100 round assault magazine (filled) 1.62 kg (3.00 lbs)
Spare heat shield, spare barrel
assembly and barrel bag 3.178 kg (7.00 lbs)

Length

Overall weapon..... 1.350 M (40.75 in)
Barrel assembly (spare) 520 MM (20.50 in)
Rifling Twist (RH) 1 turn in 7 inches

Rate of fire (old style barrel)

Cyclic (normal setting)..... 725 rds/min
(adverse setting) 1000 rds/min
Sustained (3-5 round burst, 4-5 seconds between bursts)..... 50 rds/min
Recommend barrel change after firing 200 rounds.

Change 1 1-17

Rate of fire (old style barrel) (Cont).

Rapid (8-10 round burst, 2-3 seconds between bursts) 100 rds/min
Recommend barrel change after firing 200 rounds.

Rate of fire (new style barrel)

Cyclic 850 rds/min
Sustained (3-5 round burst, 4-5 seconds between bursts) 50 rds/min
Recommend barrel change after firing 200 rounds.
Rapid (8-10 round burst, 2-3 seconds between bursts) 100 rds/min
Recommend barrel change after firing 200 rounds.

Range

Maximum 3600 M
Maximum effective 1000 M (area target)

Sights

Front Semi-fixed hooded post type
Rear Fully adjustable peep type for elevation and windage

**CHAPTER 2
OPERATING INSTRUCTIONS**

**Section I. PREVENTIVE MAINTENANCE CHECKS AND SERVICES
P M C S**

NOTE

Always keep in mind the CAUTIONS and WARNINGS. The numbers in the item number column shall be used for the "TM Number" column on DA Form 2404, Equipment Inspection and Maintenance Worksheet, in recording results of PMCS.

2-1. PMCS.

Perform PMCS if: (1) you are assigned as the machine gun operator, or (2) the machine gun is being issued for the first time.

2-1. PMCS

Perform PMCS if: (1) you are assigned as the machine gun operator, or (2) the machine gun is being issued for the first time.

Preventive Maintenance Checks and Services (Cont'd)

Item No.	Interval	Location	Procedure	Not Fully Mission Capable if:
		Item to Check/Service		
	Before	Tools and Equip-ment	Visually check for missing or damaged tools and equipment.	

WARNING

DO NOT INTERCHANGE BARREL ASSEMBLIES (TO INCLUDE SPAREB ARREL) OR BOLT ASSEMBUES FROM ONE MACHINE GUN TO ANOTHER WITHOUT HAVING HEADSPACE CHECKEDDOING SO MAY RESULT IN INJURY TO PERSONNEL OR DAMAGE TO WEAPON.

CAUTION

ROTATE USAGE OF THE BARREL ASSEMBLIES TO MINIMIZE WEAR.

Preventive Maintenance Checks and Services (Cont'd)

Item No.	Interval	Location	Procedure	Not Fully Mission Capable if:
		Item to Check/Service		
1	Before	Machine Gun	<p>NOTE</p> <p>When barrel is removed/Installed the bolt must be locked rearward with safety on.</p> <p>Visually check for accompanying spare barrel assembly</p>	Spare barrel assembly is not available.
2	Before	Barrel Assembly	Remove barrel (p 2-33); check bore and chamber	a Obstruction in barrel cannot be removed.

Change 1 2-3

Preventive Maintenance Checks and Services (Cont'd)

Item No.	Interval	Location	Procedure	Not Fully Mission Capable if:
		Item to Check/Service		
2 Cont			<p>Using cleaning rod assembly (items 9, 10, and 12, app D) and swab (item 14, app D), remove lubricant, foreign material or obstructions.</p> <p>Install and lock barrel assembly securely in receiver (p 3-54) (Spare barrel must also be checked before use).</p>	<p>b Barrel will not lock securely in receiver.</p>

Preventive Maintenance Checks and Services (Cont'd)

Item No.	Interval	Location	Procedure	Not Fully Mission Capable if:
		Item to Check/Service		
3	After	Barrel Assembly	<p>Clear weapon (p 2-16); check chamber and bore for obstructions</p> <p>Install and lock barrel assembly securely in receiver (p 3-54)(Spare barrel assembly must also be checked).</p>	<p>a Obstruction in barrel cannot be removed.</p> <p>b Barrel will not lock securely in receiver.</p>

NOTE

When a barrel is removed during extended firing missions, lubrication should be reapplied during cooling period.

Preventive Maintenance Checks and Services (Cont'd)

Item No.	Interval	Location	Procedure	Not Fully Mission Capable if:
		Item to Check/Service		
4	Before	Cover Assembly	Squeeze cover latches and raise cover Let go of latches and close cover Inspect cover assembly to ensure it will remain fully opened	<p>a Latches fail to hold cover shut.</p> <p>b Spring fails' to hold cover assembly fully open.</p>

2-6 Change 1

Preventive Maintenance Checks and Services (Cont'd)

Item No.	Interval	Location	Procedure	Not Fully Mission Capable if:
		Item to Check/Service		
5	Before	Cocking Handle Assembly	With palm up pull cocking handle rearward to charge weapon Confirm that bolt assembly moves freely without binding and locks to rear.	Cocking handle does not fully charge weapon.

Change 1 2-7

Preventive Maintenance Checks and Services (Cont'd)

Item No.	Interval	Location	Procedure	Not Fully Mission Capable if:
		Item to Check/Service		
6	Before	Safety	With bolt assembly locked to the rear (cocked position), push safety to "SAFE' (RED BAND not visible)Pull trigger; bolt assembly should not move forward.	The bolt assembly moves forward with the safety engaged.

2-8 Change 1

Preventive Maintenance Checks and Services (Cont'd)

Item No.	Interval	Location	Procedure	Not Fully Mission Capable if:
		Item to Check/Service		
7	Before	Bolt Assembly	While charging weapon, confirm that bolt assembly moves freely without binding and locks in cocked position	<p>a Bolt assembly binds in receiver.</p> <p>b Bolt assembly fails to lock in cocked position.</p>

Preventive Maintenance Checks and Services (Cont'd)

Item No.	Interval	Location	Procedure	Not Fully Mission Capable if:
		Item to Check/Service		
8	Before	Push safety to "FIRE" (RED BAND visible). Hold cocking handle to rear and pull trigger. Ride cocking handle forward. Gas Collar (old style barrel only)	NOTE Confirm that collar is in "N" (normal) position. NOTE Setting of gas collar on new style barrel has no effect on cyclic rate.	Not applicable.

2-10 Change 1

Preventive Maintenance Checks and Services (Cont'd)

Item No.	Interval	Location	Procedure	Not Fully Mission Capable if:
		Item to Check/Service		
9	Insure proper After	lubrication has been Machine Gun	<p>NOTE</p> <p>applied to the weapon. If cyclic rate slows down or weapon becomes sluggish; clear, clean and lubricate weapon</p>	a Cleaning and lubricating weapon does not improve functioning.

Change 1 2-10.1

Preventive Maintenance Checks and Services (Cont'd)

Item No.	Interval	Location	Procedure	Not Fully Mission Capable if:
		Item to Check/Service		
9 Cont				b Notify unit maintenance as soon as possible if weapon does not function properly.

2-10.2 Change 1

Preventive Maintenance Checks and Services (Cont'd)

Item No.	Interval	Location	Procedure	Not Fully Mission Capable if:
		Item to Check/Service		
10	After	Machine Gun	Clear, disassemble, clean, inspect, lubricate, reassemble and function check weapon (p 3-18 thru 3-66)	<p>a Any part to include the spare barrel assembly is broken, missing or damaged to the extent that it could cause the weapon to malfunction.</p> <p>b Spare barrel assembly is not accompanying the weapon.</p>

Change 1 2-10.3

Preventive Maintenance Checks and Services (Cont'd)

Item No.	Interval	Location	Procedure	Not Fully Mission Capable if:
		Item to Check/Service		
11	Before	Sling & Snaphook Assembly	Visually inspect for improperly assembled, broken, missing or damaged parts appearance notify unit maintenance.	Check overall If damaged,

2-10.4 Change 1

ARMY TM 9-1005-201-10
MARINE CORPS TM 08671A-10/1A

PREVENTIVE MAINTENANCE CHECKS AND SERVICES (Cont)

ITEM NO.	INTERVAL	ITEMS TO BE INSPECTED /PROCEDURES	NOT FULLY MISSION CAPABLE IF:
5	BEFORE	SAFETY With bolt assembly locked to the rear (cocked position), push safety to "SAFE" (RED BAND <u>not</u> visible). Pull trigger; bolt assembly should not move forward.	The bolt assembly moves forward with the safety engaged.
6	BEFORE	BOLT ASSEMBLY While charging weapon, confirm that bolt assembly moves freely without binding and locks in cocked position.	a. Bolt assembly binds in receiver. b. Bolt assembly fails to lock in cocked position.

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MARINE CORPS TM 08671A-10/1A

PREVENTIVE MAINTENANCE CHECKS AND SERVICES (Cont)

ITEM NO.	INTERVAL	ITEMS TO BE INSPECTED /PROCEDURES	NOT FULLY MISSION CAPABLE IF:
7	BEFORE	NOTE	
		Push safety to "FIRE (RED BAND visible). Hold cocking handle to rear and pull trigger. Ride cocking handle forward.	
		GAS COLLAR (old style barrel only) Confirm that collar is in "N" (normal) position.	Not applicable.
		NOTE	
		Setting of gas collar on new style barrel has no effect on cyclic rate.	

PREVENTIVE MAINTENANCE CHECKS AND SERVICES (Cont)

ITEM NO.	INTERVAL	ITEMS TO BE INSPECTED /PROCEDURES	NOT FULLY MISSION CAPABLE IF:
8	AFTER	<p style="text-align: center;">NOTE</p> <p style="text-align: center;">Insure proper lubrication has been applied to the weapon.</p> <p>MACHINE GUN If cyclic rate slows down or weapon becomes sluggish; clear, clean and lubricate weapon.</p>	
			<p>a. Cleaning and lubricating weapon does not improve functioning.</p> <p>b. Notify unit maintenance as soon as possible if weapon does not function properly.</p>

ARMY TM 9-1005-201-10

MARINE CORPS TM 08671A-10/1A

PREVENTIVE MAINTENANCE CHECKS AND SERVICES (Cont)

ITEM NO.	INTERVAL	ITEMS TO BE INSPECTED PROCEDURES	NOT FULLY MISSION CAPABLE IF:
9	AFTER	MACHINE GUN Clear, disassemble, clean inspect, lubricate and reassemble weapon (p 3-18 thru 3-63).	Any part is broken, missing or damaged to the extent that it could cause the weapon to malfunction.

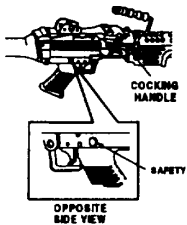
Section II. OPERATION UNDER USUAL CONDITIONS

2-2. OPERATION OF WEAPON.

WARNING

THE FIRING OF LONG SUSTAINED BURSTS OF GREATER THAN 25 ROUNDS OR A CONTINUOUS FIRING OF APPROXIMATELY 200 ROUNDS WILL PRESENT A DANGER OF "COOKOFF" IN THE EVENT A MALFUNCTION OCCURS; AND/OR WILL ACCELERATE THE PREMATURE WEARING OUT OF BARRELS.

LOADING



With palm up, charge weapon by pulling cocking handle to rear, to lock bolt (cock weapon). Push cocking handle forward until you hear it click. Push safety to right (RED BAND not visible).

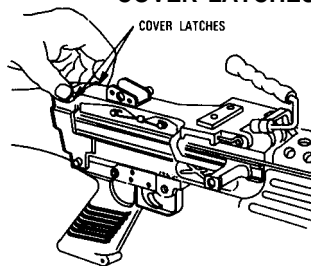
Change 1 2-11

ARMY TM 9-1005-201-10
MARINE CORPS TM 08671A-10/1A
LOADING (Cont)

COVER ASSEMBLY

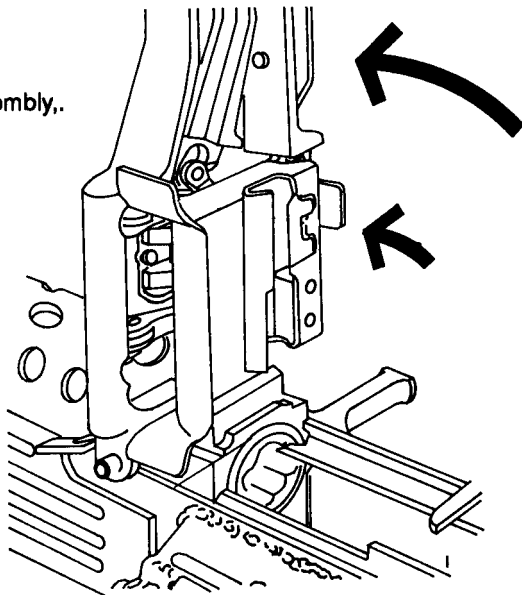
Squeeze latches to open cover assembly.

COVER LATCHES

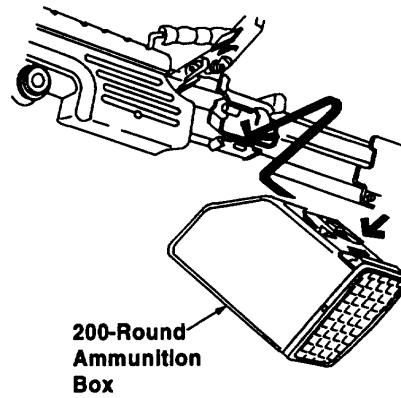
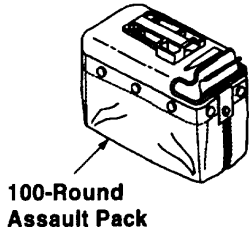


Raise feed tray assembly.
Look into chamber to make
sure there is no round cham-
bered.

Lower feed tray assembly.



Attach 200-round ammunition box or 100- round assault magazine containing link belt to underside of receiver, after aligning box/magazine latch with receiver dovetail



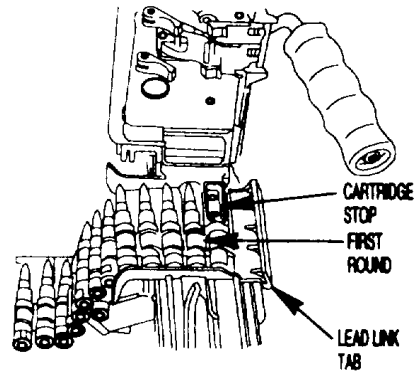
Pull outward on ammunition box or magazine to ensure that the aligning box /magazine latch is engaged.

ARMY TM 9-1005-201-10
MARINE CORPS TM 08671A-10/1A
LOADING (Cont)

NOTE

During training exercises where broken (shortened) belts are used and the lead link tab is not available the lead round should be stripped from the link. Place the open link well onto the feed tray until the first round is against the cartridge stop. The open side of links are down.

Place link belt in feed tray assembly with first round against cartridge stop and hold belt in position. Close cover assembly. If loose or partial ammunition belt is being loaded, hold belt in place while closing cover.



2-14 Change 1

NOTE

The cartridge Indicator Is no longer required and must be removed. If during the loading operation a cartridge Indicator sticks up above the top of the left side of the cover, notify unit maintenance.

WARNING

YOUR WEAPON IS NOW COMBAT READY, E.G., AMMUNITION LOADED, BOLT TO THE REAR, AND SAFETY ON (RED BAND NOT VISIBLE).

CAUTION

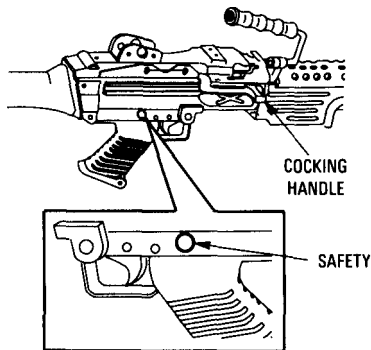
THE WEAPON CAN BE MANIPULATED TO CLOSE THE BOLT ON AN EMPTY CHAMBER, AND PLACE THE SAFETY IN THE ON POSITION (RED BAND NOT VISIBLE). HOWEVER, DOING SO RENDERS THE WEAPON NOT COMBAT READY", AND IF THE BOLT IS MISTAKENLY CHARGED WHEN AMMUNITION HAS BEEN LOADED WITH THE SAFETY ON, DAMAGE TO THE WEAPON AND/OR AMMUNITION CAN OCCUR.

Change 1 2-15

ARMY TM 9-1005-201-10
MARINE CORPS TM 08671A-10/1A

CLEARING

Charge weapon (pull cocking handle rearward). Be sure bolt is locked in rear position. Push charging handle forward until you hear it click.

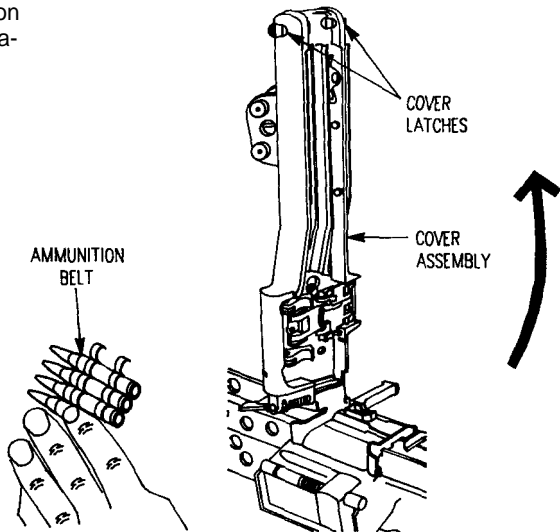


**OPPOSITE
SIDE VIEW**

Push safety to right (RED BAND not visible).

ARMY TM 9-1005-201-10
MARINE CORPS TM 08671A-10/1A

If belt feed is used, squeeze latches to open cover assembly. Remove ammunition belt and loose links. If magazine is used, follow instruction on page 2-52.



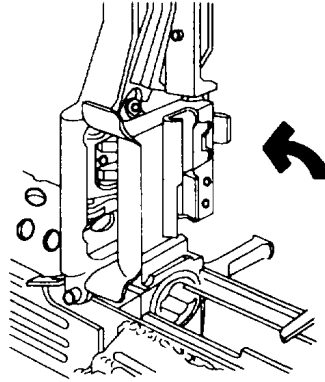
CLEARING (Cont)

NOTE

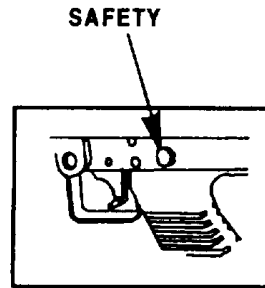
A cleaning rod may be used to ensure barrel and chamber are cleared.

Raise feed tray assembly. Look into chamber. Round still chambered? Remove it. Follow instructions on page 2-28.

Magazine well/receiver cavity/chamber empty? Lower feed tray assembly. Close cover assembly. Make sure it locks shut.



Push safety to left (RED BAND visible). Hold cocking handle to rear, pull trigger, and ride bolt forward to close and lock.



Look in receiver cavity for live rounds or spent cartridge cases. With left hand, open magazine well cover by pushing inward, and check for live rounds or spent cartridge cases.

NOTE

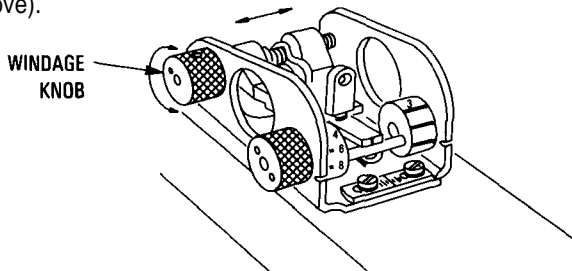
When clearing the weapon after use on the training range, ensure the rod used for clearing does not touch the ejector.

**ARMY TM 9-1005-201-10
MARINE CORPS TM 08671A-10/1A
FIELD ZERO**

NOTE

Each sight may vary as to how many clicks are needed to center the sight. To check your sight, start with the sight leaf all the way to the left; counting the clicks, rotate the windage knob (front knob) until the sight leaf stops on the right side. Divide this number of clicks by two and move leaf sight right to center-example: 24 clicks= 12 to center; example: 23 clicks = to 12 to center ($11 + 12 = 23$, used larger figure).

To field zero your machine gun in azimuth, you must first center your rear sight leaf (see note above).



NOTE

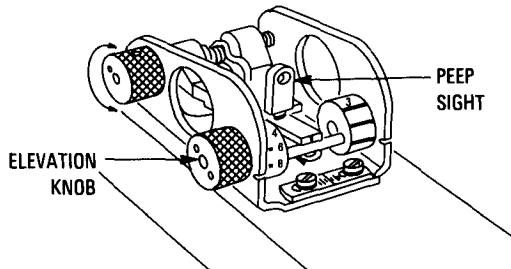
To make the peep sight easier to grasp, rotate the elevation knob (rear knob) to the “10” (1000 meter) mark. After you make your adjustment, move the elevation knob back to where you started.

NOTE

Each sight may vary as to how many clicks are needed to center the sight. To check your sight, start with the peep sight post all the way to the top; counting the clicks, screw it down as far as it will go. Divide this number of clicks by two and move peep sight up to center - example: 13 clicks = 7 to center ($6 + 7 = 13$, use larger figure).

To field zero your machine gun in elevation, you must center your peep sight (see note above).

ARMY TM 9-1005-201-10
MARINE CORPS TM 08671A-10/1A
FIELD ZERO (Cont)



Rotate the elevation knob (rear knob) to the desired range. Fire a 3-5 round burst on the center of your target.

NOTE

Each number (3 to 10) on the elevation scale stand for 100 meters. The marks below "3" on the right hand scale are 500, 700 and 900 meters respectively.

ARMY TM 9-1005-201-10
MARINE CORPS TM 08671A-10/1A

NOTE

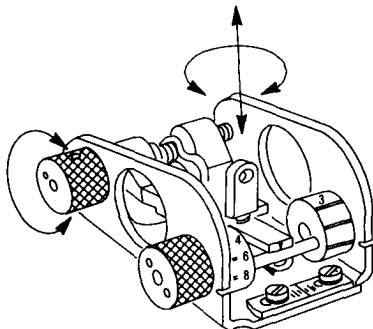
Each click of the windage knob (front knob) or the peep sight moves the sight 1/2 mil, and the group on the target 6 inches (15.24 centimeters) at 300 meters or 10 inches (25.4 centimeters) at 500 meters.

Make windage and elevation corrections as follows:

- To move group to right: Turn windage knob (front knob) counterclockwise (CCW).
- To move group to left: Turn windage knob (front knob) clockwise (CW).
- To raise the group: Turn peep sight counterclockwise (CCW).
- To lower the group: Turn peep sight clockwise (CW).

Fire another group. Repeat above procedures until zeroed.

ARMY TM 9-1005-201-10
MARINE CORPS TM 08671A-10/1A
FIELD ZERO (Cont)



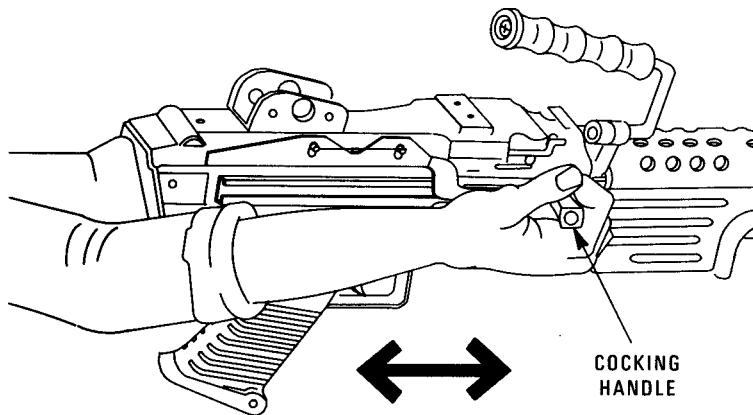
NOTE

If the weapon cannot be zeroed in elevation, and the peep sight is screwed all the way in or out, notify your unit armorer for a front sight post adjustment. Center your peep sight in elevation and fire a burst of 3-5 rounds for a shot group. Tell your unit armorer the estimated adjustment required to bring the weapon on target.

IMMEDIATE ACTION

If the weapon stops firing, take immediate action. Charge weapon and push cocking handle forward until you hear it click.

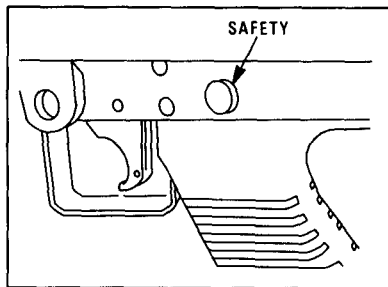
If a round is ejected - FIRE AGAIN.



ARMY TM 9-1005-201-10
MARINE CORPS TM 08671A-10/1A
IMMEDIATE ACTION (Cont)

WARNING

IF NOTHING IS EJECTED AND BARREL IS HOT (200 ROUNDS FIRED WITHIN A 2 MINUTE PERIOD); DO NOT OPEN THE COVER, PUSH SAFETY TO RIGHT (RED BAND NOT VISIBLE). KEEP MACHINE GUN POINTED DOWNRANGE, AND REMAIN CLEAR FOR 15 MINUTES. AFTER 15 MINUTES, CLEAR YOUR WEAPON (p 2-16 thru 2-18).



If nothing is ejected, and belted ammunition is being used, look to see if any rounds remain on the feed tray assembly. If not, you have run out of belted ammunition. If the barrel is not hot, clear the weapon.

IF IMMEDIATE ACTION DOESN'T WORK

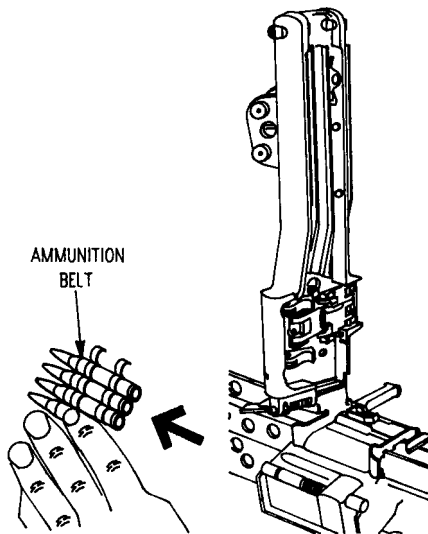
Be sure weapon is cleared.

Check for:

- Obstructions
- Lubrication
- Dirt
- Damaged parts

Take corrective action
as required.

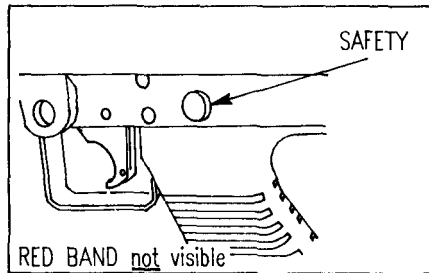
Reload, and fire again.



**ARMY TM 9-1005-201-10
MARINE CORPS TM 08671A-10/1A
STUCK CARTRIDGE CASE OR LIVE ROUND**

WARNING

STAY CLEAR OF MUZZLE. DO NOT ALLOW ROUND TO HIT ANY HARD SURFACE OR IT MAY FIRE. DISPOSE OF LIVE ROUND IN ACCORDANCE WITH LOCAL REGULATIONS,



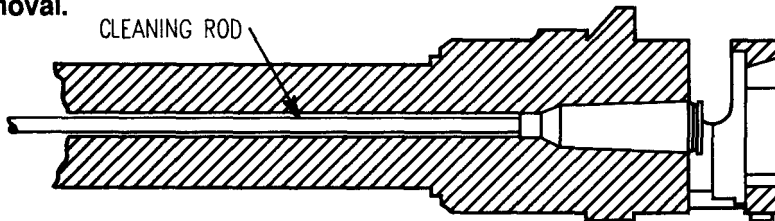
If it did fire and didn't extract, you have a stuck cartridge case. If weapon can be charged, do so, Push safety to right (RED BAND not visible). Remove barrel (p 2-33).

CAUTION

IF YOU TRY TO CHARGE THE WEAPON AND THE COCKING HANDLE WILL NOT UNLOCK THE BOLT, DO NOT TRY TO FORCE THE COCKING HANDLE TO THE REAR WITH YOUR FOOT OR A HEAVY OBJECT. THIS CAN DAMAGE THE WEAPON.

NOTE

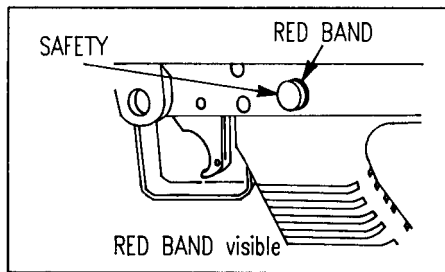
Barrel must be removed to perform stuck cartridge case removal.



STUCK CARTRIDGE CASE

Assemble cleaning rod without swab holder. Insert rod through muzzle end of barrel. Gently tap out stuck cartridge case.

ARMY TM 9-1005-201-10
MARINE CORPS TM 08671A-10/1A
STUCK CARTRIDGE CASE OR LIVE ROUND (Cont)



If it didn't fire and didn't extract, you have a stuck live round. If weapon can be charged, do so.

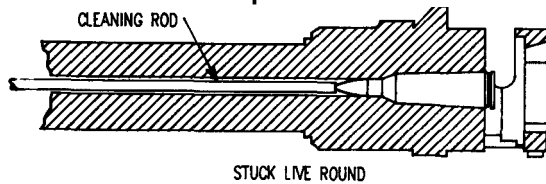
Push safety to left (RED BAND visible). Pull trigger if it still doesn't fire, wait until barrel is cool (approximately 15 rein). If weapon can be charged, do so, and push safety to right (RED BAND not visible). Remove barrel (p 2-33).

WARNING

IF YOU TRY TO CHARGE THE WEAPON AND THE COCKING HANDLE WILL NOT UNLOCK THE BOLT, DO NOT TRY TO FORCE THE COCKING HANDLE TO THE REAR WITH YOUR FOOT OR A HEAVY OBJECT. THIS CAN CAUSE INJURY TO PERSONNEL OR DAMAGE THE WEAPON.

NOTE

Barrel must be removed to perform live round removal.



Assemble cleaning rod without swab holder. Insert rod through muzzle end of barrel. Gently tap out live round.

The weapon must be treated as though it has a live round in the chamber if the bolt is locked and it cannot be charged. If you experience this condition, notify unit maintenance.

ARMY TM 9-1005-201-10
MARINE CORPS TM 08671A-10/1A
RUNAWAY MACHINE GUN

If runaway occurs (weapon won't stop firing), take action to correct it quickly.

WARNING

ALWAYS KEEP MACHINE GUN POINTED DOWNRANGE.

Take either of the following actions:

1. Let weapon continue firing if near end of link belt or magazine capacity
2. Grab cocking handle (palm up), pull all the way back and hold. Push safety to right (RED BAND not visible); raise cover, remove link belt or magazine.

WARNING

NEVER RELOAD A RUNAWAY WEAPON UNTIL IT IS RE-PAIRED. BE SURE WEAPON IS CLEARED.

Notify unit maintenance for repairs.

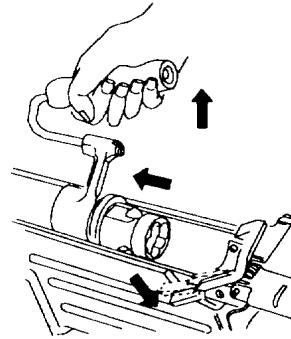
NOTE

When the barrel is removed or installed the bolt must be locked to the rear with the safety pushed to the right (RED BAND not visible).

REMOVE:

Clear weapon. Depress the barrel locking lever with left hand. Hold the carrying handle with right hand, lift it up and push the barrel forward (p 3-25). If barrel is hot, handle carefully.

NEW STYLE
BARREL SHOWN

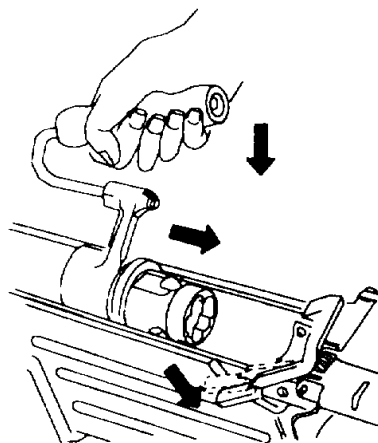


Change 1 2-33

INSTALL:

Depress the barrel locking lever with the left hand. Holding the carrying handle with the right hand, pull the barrel rearward, and down, and lock by releasing barrel locking lever (p 3-54). Reload.

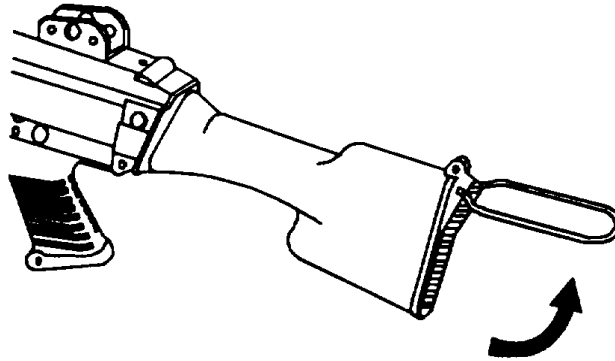
NEW STYLE
BARREL SHOWN



2-34 Change 1

SHOULDER REST AND BIPOD POSITIONING

When shoulder rest firing is required, pull shoulder rest to the rear and up. Shoulder rest is secure when it snaps into notches at the top of the butt stock.



NEW STYLE BUTTSTOCK SHOWN

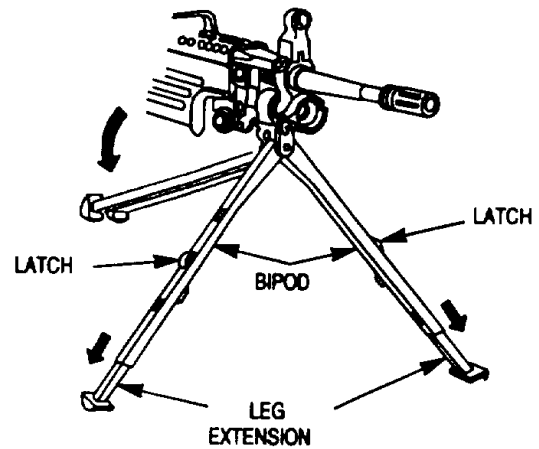
Change 1 2-34.1/(2-34.2 blank)

SHOULDER REST AND BIPOD POSITIONING (Cont)

To operate the weapon from the bipod, hold the legs together and pull them down from the handguard. Release the legs so that they lock in the vertical position.

WARNING
SPRING PINS THAT
PROTRUDE ON INSIDE OF
BIPOD LEGS CAN CAUSE
INJURY.

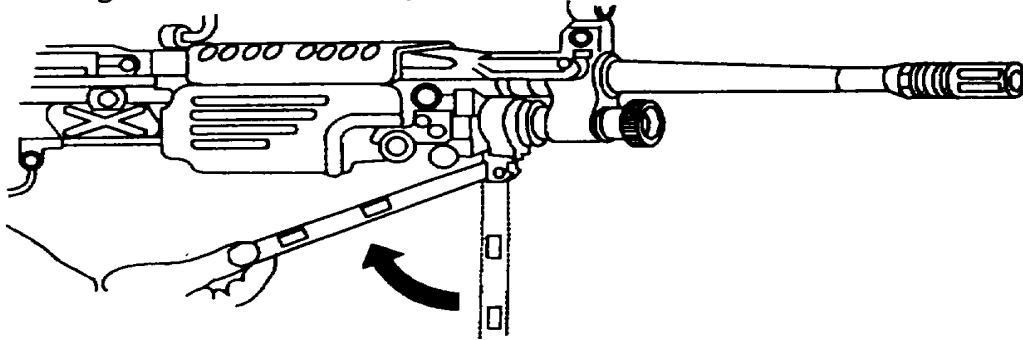
To extend bipod legs, push in on the latches and slide legs out.



Change 1 2-35

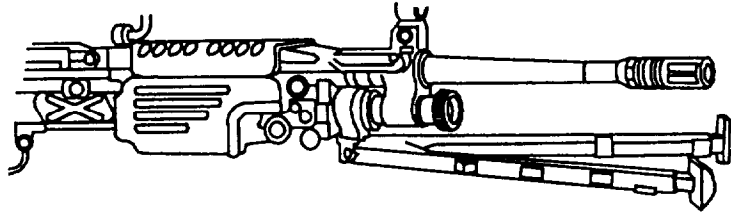
SHOULDER REST AND BIPOD POSITIONING (Cont)

The bipod can be folded for transport or when firing from the hip. Holding the two legs together, bring them back under the handguard and release them so that the hooks of the legs grip the handguard. The bipod can only be folded when the legs are in the closed position.



Folding of bipod under the handguard.

To fold the bipod forward, hold the two legs together and bring them up under the barrel. When released they will lock into position. The purpose of positioning the legs forward is to allow the weapon to be used on tripods and other mountings.



Positioning of the legs forward

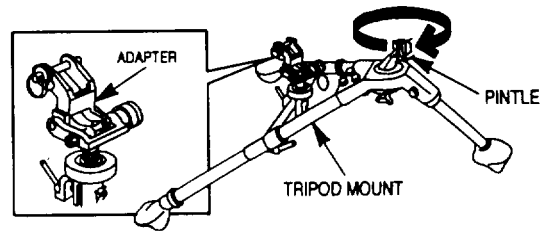
2-3. OPERATION OF AUXILIARY EQUIPMENT: TACTICAL/TRAINING

2-4 TACTICAL EQUIPMENT

2-5. TRIPOD MOUNT, M122 W/ADAPTER ASSEMBLY

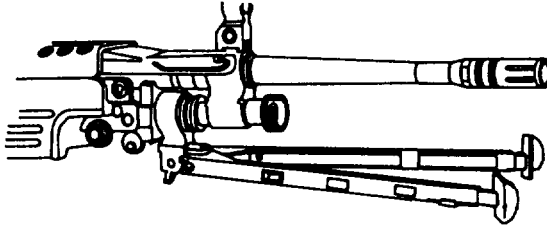
The weapon can be fitted on the Tripod Mount, M122, by means of a special adapter.

- Assure release lever of the pintle is forward.
- Assure Adapter Assembly yoke is rearward.
- Adjust elevation ring of T&E mechanism to midway.

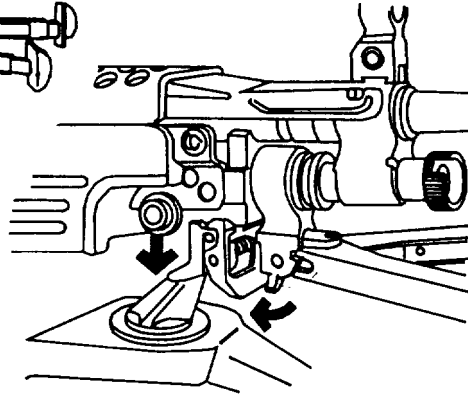


2-38 Change 1

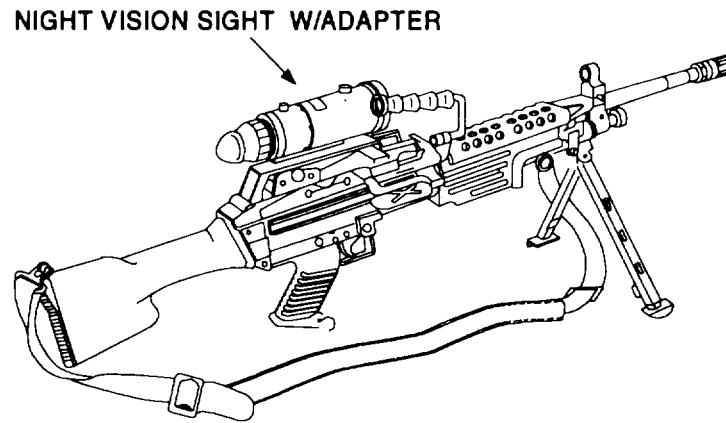
Extend Bipod forward.



Engage the mounting pin of the gun into the pintle of the tripod by squeezing the locking lever of the pintle.



2-6. NIGHT VISION SIGHT, AWPVS-4



To mount the night vision sight, AN/PVS-4 refer to TM 11-5855-213-10.

Change 1 2-40.1/(2-40.2 blank)

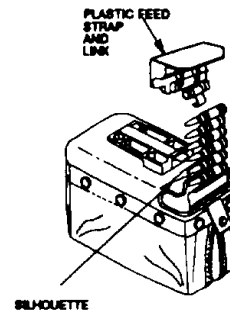
2-7. LOADING 100 ROUND ASSAULT MAGAZINE

NOTE

The following Instructions are for loading two reusable 100 round magazines

1. With canvas up, unzip 100-round magazine, remove the reusable plastic feed strap and attached link packed inside (these are spares and should be kept for future use). Note the silhouette of a cartridge on the inside of the plastic.

2. Remove 200-round ammo belt from disposable container. Determine the center point of the belt (holding the loose ends together) and by twisting, separate it into two belts of approximately equal length.

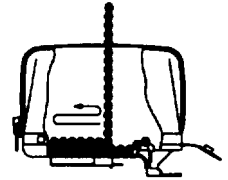


LOADING 100 ROUND ASSAULT MAGAZINE (Cont)

3. By twisting, remove the plastic feed strap and first link from the first cartridge. With the cartridges pointing as the silhouette depicts, insert several rounds from the inside of the magazine through the feed opening (the first cartridge will have no open link loops). Turn the magazine, plastic up, check for proper cartridge position as the silhouette depicts, and reattach the feed strap and link to the first cartridge.
4. Using moderate pressure to overcome the spring force, push belt back into magazine until the feed strap seats into the feed opening.
5. Turn magazine canvas up and fold the ammo belt back and forth so that it fits inside the magazine, close the zipper, and secure the snap on the zipper pull.

2-42 Change 1

6. The reusable 100 round magazine is now ready for use and for attachment to the weapon, refer to page 2-13.
7. To load the second magazine, repeat step one.
8. With the cartridges pointing as the silhouette depicts, insert several rounds from the inside of the magazine through the feed opening (the first cartridge will have no open link loops). Turn the magazine, plastic up, and attach the supplied feed strap and link to the first cartridge.
9. Follow the procedures in steps four and five above.
10. After use, save feed strap and attached link for future use.

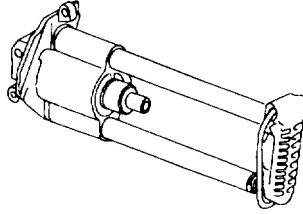


Change 1 2-42.1

2-8. STOCK, GUN, SHOULDER: M5

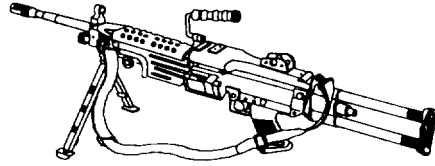
The weapon can be fitted with a collapsible buttstock which can shorten the overall length of the machine gun. The type of units principally using the M5 are airborne, air assault and etc.

- Remove conventional buttstock and buffer assembly following the field strip procedures starting on page 3-18.
- Assure the M5 is locked in the extended position.

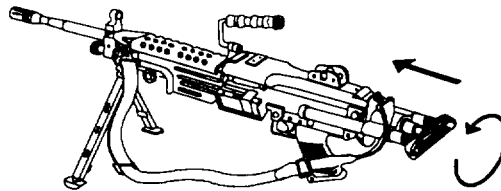


2-42.2 Change 1

Reassemble the weapon, with the M5, following the instructions beginning on page 3-49.



To shorten the overall length of the weapon, pull back on buttplate, twist to the left (counter clockwise), and push buttplate fully forward.



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2-9. Mount Pedestal, Machine Gun, M6 and Mount, Machine Gun, M197.

The weapon can be mounted on a M998 High Mobility Multipurpose Wheeled Vehicle (HMMWV) (Cargo/Troop Carrier).

WARNING

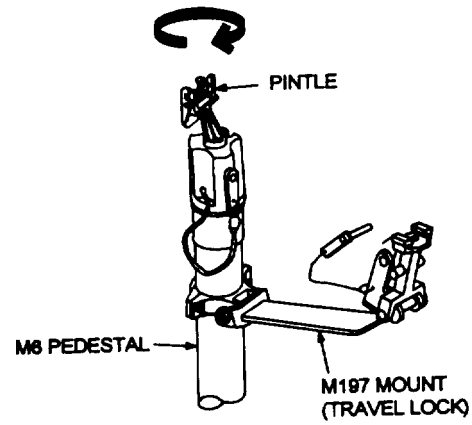
The canvas cover above the driver and passenger seats should always be in place when firing.

Firing on-the-move is not permitted from the M998.

Ground personnel should not be within 10 meters of the vehicle when firing.

2-42.4 Change 1

- Assure release lever of the pintle is forward.

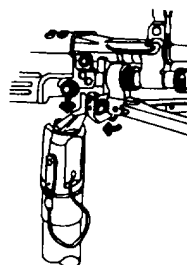
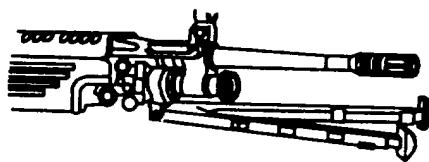


Change 1 2-42.5

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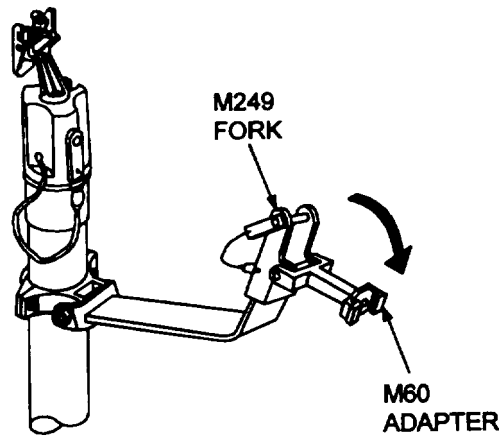
Mount Pedestal, Machine Gun, M6 and Mount, Machine Gun, M197 (Cont)

- Extend Bipod forward.
- Engage the mounting pin of the gun into the pintle of the pedestal by squeezing the locking lever of the pintle.



2-42.6 Change 1

- Assure M60 Machine Gun adapter assembly is pivoted away from the M249 fork (clevis).

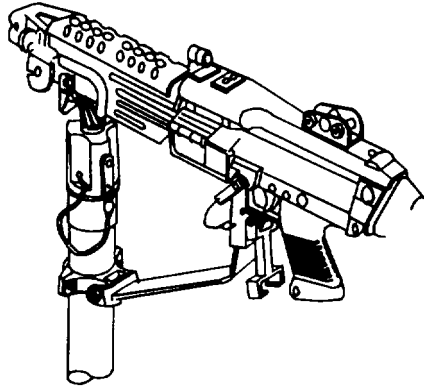


Change 1 2-42.7

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Mount Pedestal, Machine Gun, M6 and Mount, Machine Gun, M197 (Cont)

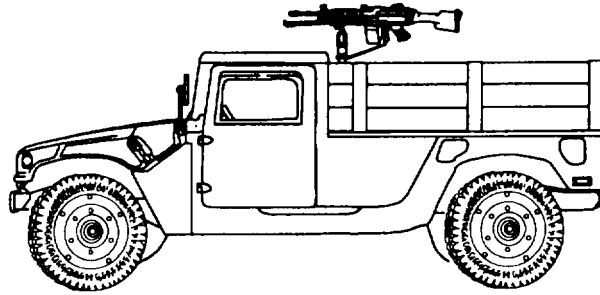
- Above the trigger guard there is a hole thru the trigger mechanism. Engage this part of the machine gun into the fork of the mount and push in the locking pin.



2-42.8 Change 1

CAUTION

WHEN THE WEAPON IS NOT IN USE IT SHOULD BE REMOVED FROM THE PEDESTAL OR SECURED BY THE TRAVEL LOCK.



NOTE

For mounting instructions of M6 and M197 Mounts in M998 HMMWVs refer to TM 9-1005-245-13&P.

Change 1 2-42.9

2-10. MOUNT, MACHINE GUN, M197

The weapon can be mounted on a M1025 or M1026 High Mobility Multipurpose Wheeled Vehicle (HMMWV) (Armament Carrier).

WARNING

GROUND PERSONNEL SHOULD NOT BE WITHIN 10 METERS OF THE VEHICLE WHEN FIRING.

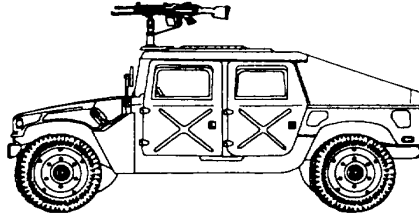
FIRING ON-THE-MOVE IS RESTRICTED TO 5 MILES PER HOUR CROSS-COUNTRY AND 10 MILES PER HOUR ON IMPROVED ROADS WHEN MOUNTED ON M1025 AND M1026 HMMWVS (ARMAMENT CARRIERS).

2-42.10 Change 1

CAUTION

WHEN THE WEAPON IS NOT IN USE IT SHOULD BE REMOVED FROM THE RING MOUNT OR SECURED BY THE TRAVEL LOCK.

To mount the weapon, follow the mounting instruction/procedures beginning on page 2-41.5.



NOTE

NOTE

For mounting Instructions of the M197 Mount In M1025/M1026 HMMWVs refer to TM 91005-245-13&P

2-11. TRAINING EQUIPMENT

2-12. BLANK FIRING ATTACHMENT (BFA)

WARNING

USE ONLY BLANK M200 WITH THE BFA AND DO NOT FIRE DIRECTLY AT ANYONE LESS THAN 20 FEET AWAY.

CAUTION

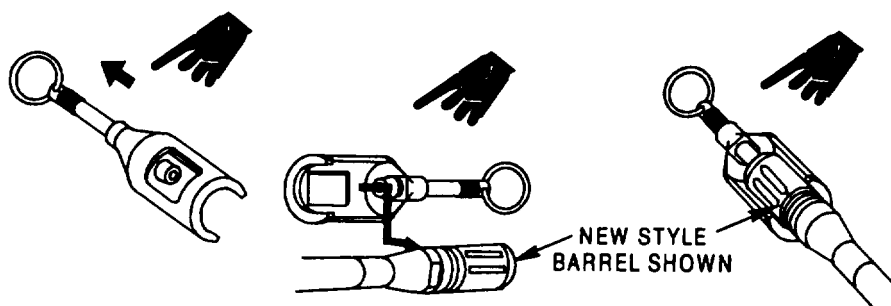
DO NOT USE TOOLS TO TIGHTEN ATTACHMENT, HANDS ONLY.

NOTE

Do not use M20 blank cartridges in the 30 round M16 Series Rifle magazine.

After 50 rounds, check to see if BFA is still tight.

2-42.12 Change 1



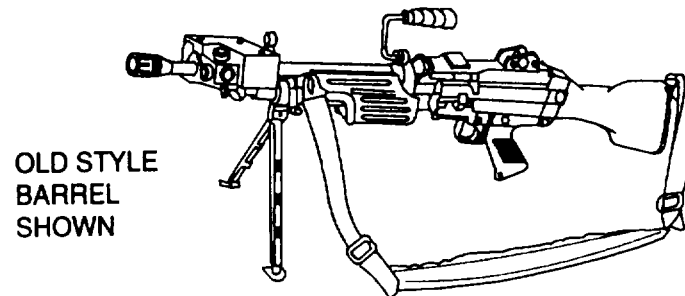
1. Unscrew the restrictor tube and slide it all the way back.

2. Hook in forward groove of compensator (new style barrel) or flash suppressor (old style barrel).

3. Slide restrictor tube in and hand tighten.

Change 1 2-43

2-13. SIMULATOR SYSTEM, FIRING, LASER, M90 OF MULTIPLE INTEGRATED LASER ENGAGEMENT SYSTEM (MILES)



NOTE

Prior to mounting the M90, It Is necessary to remove the Heat Shield Assembly and temporarily stow It.

To mount the Simulator System, Firing, Laser M90 refer to TM 9-1265-211-10.

2-44 Change 1

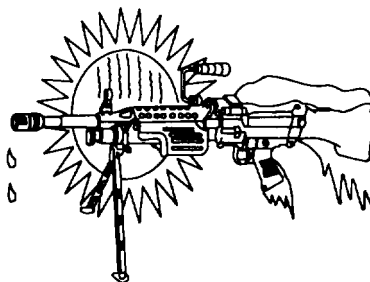
Section III. OPERATION UNDER UNUSUAL CONDITIONS

2-14. ENVIRONMENT/WEATHER (Protective Measures).



NOTE

See Lubrication Guide (p 3-1).

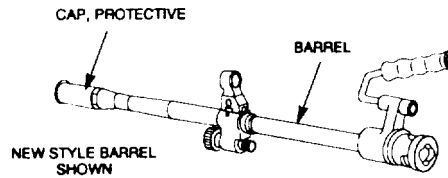


Change 1 2-45

2-14. ENVIRONMENTIWEATHER (Protective Measures) (Cont).

WARNING

PAY SPECIAL ATTENTION TO DAILY CLIMATE CONDITIONS AS THE AMBIENT TEMPERATURE RISES, THE POTENTIAL FOR A HOT WEAPON COOKOFF ALSO RISES.



For protection against water, sand, dirt, mud and ice, place Cap, Protective on the muzzle end of your weapon.

Do not remove linked ammunition from the 200 round container. Operation with free hanging linked ammunition will allow water, sand, dirt, mud, snow and ice to enter the weapon, causing feed problems.

2-46 Change 1

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Be sure weapon covers, such as the link ejection port cover, are closed when weapon is not in operation. This will prevent sand, dirt, mud and snow from entering the weapon.

Keep weapon covered when possible. This will prevent sand, dirt, snow and water from accumulating.

CAUTION

**TO AVOID DAMAGE TO EQUIPMENT, DO NOT USE DRY
CLEANING SOLVENT ON PLASTIC, SEALED BUFFERS,
ETC.**

During unusual conditions, it may be necessary to periodically flush out sand, mud and other debris from areas like the trigger assembly that you are not authorized to disassemble. Unit maintenance has the dry cleaning solvent (SD), NSN 6850-00-281-1985, that you can use.

1 EXPOSURE TO WATER-MUD

WARNING

ENSURE BARREL IS NOT OBSTRUCTED BY WATER OR MUD.

- Disassemble, clean, lightly lubricate and assemble as soon as possible.
- Make sure it is dry before lubricating.
- Generously lubricate external surfaces.

2 HOT - WET/SALT AIR

- Inspect more frequently for signs of rust.
- Keep gun as moisture-free as possible.
- Clear and lubricate as necessary to preserve the metal and prevent rust.
- Use a generous second coat of lubrication on external surfaces for extra protection.

3. HOT - DRY - SAND - DUST

NOTE

DO NOT lubricate the exterior metal surfaces, as this will only collect dust and sand.

- Clean in enclosed areas when possible, away from blowing sand and dust.
- Clean and lubricate only moving parts.
- Extreme heat dries up lubricant. Clean and lubricate more frequently.

4. COLD - ICE - SNOW

- If possible, thoroughly clean, dry and lubricate the weapon in a warm, dry place.
- If weapon is brought indoors, keep it away from direct heat.
- Exercise weapon and lubricate daily to help prevent corrosion.
- If metal "sweats", dry and lubricate parts before taking weapon outdoors. Apply a light second coat of lubrication to provide protection.

2-15. DURING TRAINING WITH BFA

- Thoroughly clean your weapon after each firing exercise. Blank ammunition builds up carbon faster than live ammunition.
- To ensure continued/proper weapon function, it is conceivable that thorough cleaning may be necessary after firing each 200 round magazine. If necessary, clean weapon before firing blank rounds.

2-16. EMERGENCY PROCEDURES.

ALTERNATIVE FIRING MODE

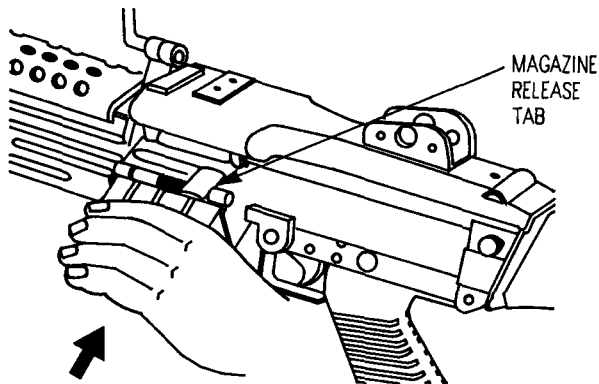
NOTE

Never use 30 round magazines for familiarization or training exercises (live ball/tracer or blank firing).

Firing from a 30 round M16 Series Rifle Magazine may cause more weapon stoppages than firing with belted ammunition.

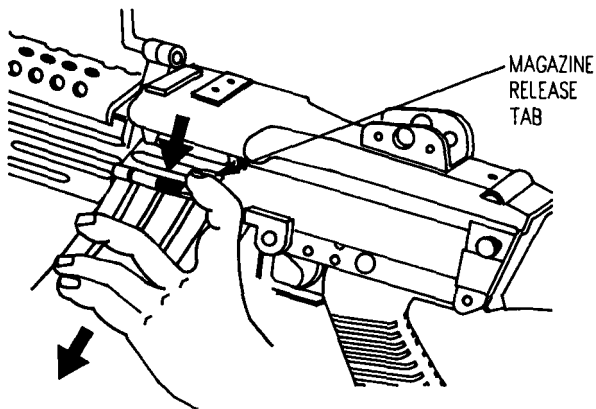
ARMY TM 9-1005-201-10
MARINE CORPS TM 08671A-10/1A

When belted ammunition is not available or is not suitable for tactical operations, the 30 round M1 6 Series Rifle Magazine may be loaded by inserting it into the magazine well on the left side of the receiver and pushing it slowly to the right until it bottoms in the well and release tab “clicks” into recess in magazine. After magazine engages, pull back slightly to properly seat magazine and to assure magazine is not inserted too far into the receiver.



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ALTERNATE FIRING MODE (Cont)

To continue with magazine feeding or to return to belt feeding, push down on magazine release tab and pull out magazine. Raise cover assembly.

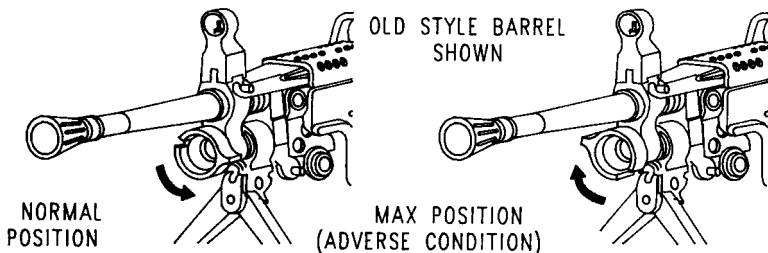


RATE OF FIRE SELECTION

During tactical situations where frequent cleaning may not be possible, and the weapon function becomes sluggish, the gas regulator may be switched to deliver more power to the weapon. When these adverse conditions exist, the gas collar should be rotated right (180°), to the max position. This is true on the old style barrel only.

NOTE

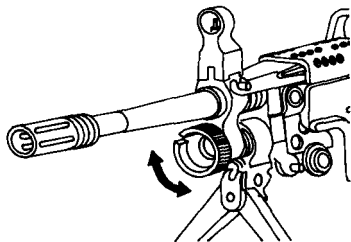
MAX position to be used ONLY when weapon will not function properly in NORMAL position.



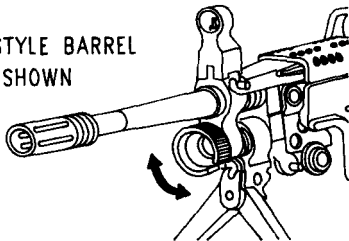
**ARMY TM 9-1005-201-10
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RATE OF FIRE SELECTION (Cont)**

NOTE

New style barrel does not have the capability of changing/switching the gas regulator to deliver more power. Rotating the gas collar will not affect cyclic rate.



**NEW STYLE BARREL
SHOWN**



CHAPTER 3 MAINTENANCE INSTRUCTIONS

Section I. LUBRICATION INSTRUCTIONS

3-1. LUBRICATION GUIDE

Cleaner, Lubricant and Preservative (CLP) is the only lubricant to use on your weapon. Remember to remove excessive lubricant from the bore before firing.

CLP - Grade 2 is used for all temperatures

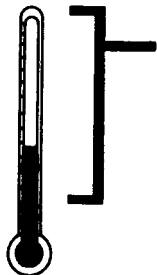
Lightly Lubricate – A film of oil barely visible to the eye.

Generously Lubricate – Heavy enough so that it can be spread with finger.

NOTE

CLP will provide required lubrication at temperatures between 0°F and -35°F (-19°C and -37°C).

However, if 1/2 oz. bottle is stowed where temperatures reach 0°F (-19°C) or lower, bottle becomes rigid and hard to dispense CLP.



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3-1. LUBRICATION GUIDE (Cont).

Disassemble, clean, lubricate and reassemble as often as required.

Section II. TROUBLESHOOTING PROCEDURES

3-2. TROUBLESHOOTING.

a. The table lists the common malfunctions which you may find during the operation or maintenance of the weapon or its components. You should perform the tests/inspections and corrective actions in the order listed.

b. This manual cannot list all malfunctions that may occur, nor all tests or inspections and corrective actions. If a malfunction is not listed or is not corrected by listed - corrective actions, notify unit maintenance.

TROUBLESHOOTING TABLE

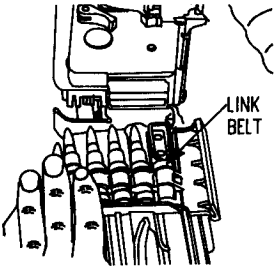
MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
1. SLUGGISH OPERATION	Dirty receiver	Clean and lubricate
	Lack of lubricant	Lubricate
	Carbon buildup in gas system	Clean gas regulator, piston and cylinder

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MARINE CORPS TM 08671A-10/1A

TROUBLESHOOTING TABLE (Cont)

MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTON
2. FAILURE TO FEED	Insufficient lubrication	Lubricate as required
	Defective ammunition links	Remove defective ammunition, install new ammunition
	Obstruction in receiver	Remove obstruction
	Insufficient gas pressure	Clean gas regulator, piston and cylinder
	Unlatched cover	Latch cover

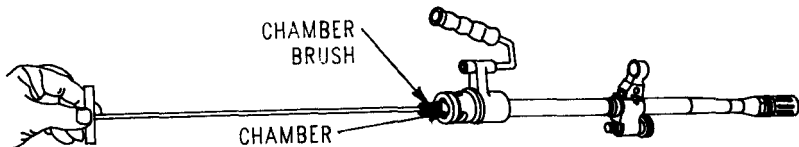
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MARINE CORPS TM 08671A-10/1A

MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
2. FAILURE TO FEED (Cont)	<p>Long/short rounds</p>  <p>Inverted link belt</p> <p>Damaged, weak, or worn operating parts.</p>	<p>Aline rounds in link belt.</p> <p>Reinstall link belt with open end of link facing down.</p> <p>Notify unit maintenance.</p>

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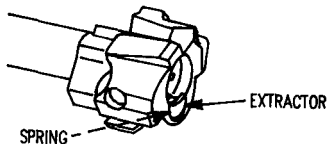
TROUBLESHOOTING TABLE (Cont)

MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
3. DOUBLE FEED	Dirty ammunition or chamber	Clean ammunition and/or chamber.



Broken extractor/spring

Notify unit maintenance.



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MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
4. FAILURE TO CHAMBER	Dirty ammunition	Clean ammunkion
	Carbon build up in gas system.	Clean gas regulator, piston, and cylinder. If problems still exist, notify unit maintenance.
	Carbon build up in receiver	
	Damaged round	Remove round and re-charge weapon
	Damaged or weakened helical compression spring (driving)	Notify unit maintenance

HELICAL
COMPRESSION
SPRING
(DRIVING)

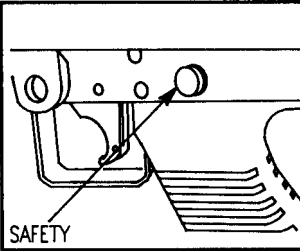


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MARINE CORPS TM 08671A-10/1A

TROUBLESHOOTING TABLE (Cont)

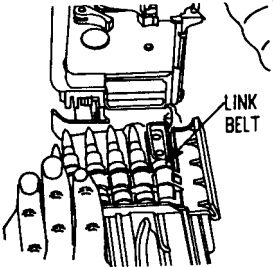
MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
4. FAILURE TO CHAMBER\ (Cont)	Dirty chamber	Clean chamber.
	Damaged gas regulator	Notify unit maintenance.

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MARINE CORPS TM 08671A-10/1A

MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
5. FAILURE TO FIRE	Safety on	<p data-bbox="856 252 1110 311">Push SAFETY to left RED BAND visible).</p> 

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MARINE CORPS TM 08671A-10/1A

TROUBLESHOOTING TABLE (Cont)

MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
5. FAILURE TO FIRE (Cont)	<p data-bbox="480 327 718 381">Link belt improperly loaded</p>  <p data-bbox="480 743 705 769">Faulty ammunition</p>	<p data-bbox="828 327 1111 381">Remove and install link belt properly.</p> <p data-bbox="828 743 1147 800">Eject round. Replace ammunition.</p>

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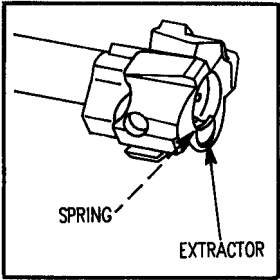
MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
5. FAILURE TO FIRE (Cont)	Broken or damaged firing pin Broken or weakened helical compression spring (driving)	Notify unit maintenance. Notify unit maintenance

HELICAL
COMPRESSION
SPRING
(DRIVING)



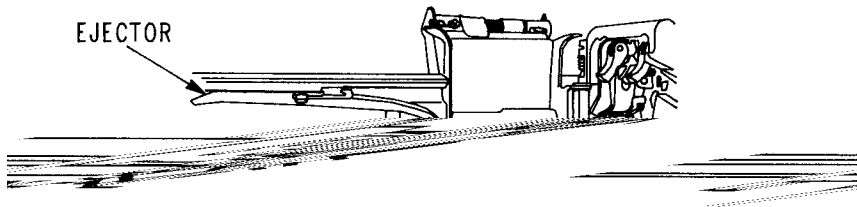
ARMY TM 9-1005-201-10
MARINE CORPS TM 08671A-10/1A

TROUBLESHOOTING TABLE (Cont)

MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
6. FAILURE TO EXTRACT 	<p>Inspect for stuck cartridge case.</p> <p>Dirty chamber/bolt and slide assembly</p> <p>Carbon buildup in gas system</p> <p>Damaged extractor/spring</p>	<p>Follow instructions on page 2-28.</p> <p>Clean chamber and/or clean bolt and slide assembly. If problem still exists notify unit maintenance.</p> <p>Clean gas regulator, cylinder, and piston.</p> <p>Notify unit maintenance,</p>

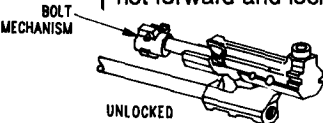

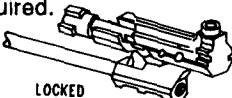
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MARINE CORPS TM 08671A-10/1A

MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
7. FAILURE TO EJECT	Short recoil	Clean and lubricate bolt and slide assembly. If problem still exists notify unit maintenance.
	Damaged ejector/spring	Notify unit maintenance
	Carbon buildup in gas system	Clean gas regulator, piston, and cylinder




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TROUBLESHOOTING TABLE (Cont)


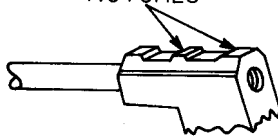
MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
<p>8. STOPS FIRING</p> <div data-bbox="345 508 713 650">  </div>	<p>Defective round in chamber</p> <div data-bbox="647 353 1054 446">  </div> <p>Bolt and slide assembly not forward and locked</p> <div data-bbox="841 526 1105 640">  </div> <p>Primer dented but not fired</p>	<p>Eject round</p> <p>Remove obstruction or clean and lubricate as required.</p> <p>Eject round. If this occurs more than once, it may be caused by faulty ammunition or a worn firing pin. Notify unit maintenance.</p>

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MARINE CORPS TM 08671A-10/1A

MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
<p>8. STOPS FIRING (Cont)</p>	Sticking feed mechanism	Clean and lubricate feed mechanism. If problems still exist, notify unit maintenance.
	Carbon buildup in gas system	Clean gas regulator, piston, and cylinder. If problems still exist, notify unit maintenance
	<p>Short recoil</p> 	Clean and lubricate gas regulator bolt and piston assembly. If problems still exist, notify unit maintenance.
	Bolt jammed in barrel socket	Notify unit maintenance.

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MARINE CORPS TM 08671A-10/1A

TROUBLESHOOTING TABLE (Cont)

MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
9. FAILURE TO COCK OR RUNAWAY WEAPON	<p>Broken, worn, or burred sear</p>  <p>Piston assembly sear notch worn</p> 	<p>Notify unit maintenance.</p> <p>Notify unit maintenance</p>

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MARINE CORPS TM 08671A-10/1A

MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
9. FAILURE TO COCK OR RUNAWAY WEAPON (Cont)	Sear stuck in trigger housing	Notify unit maintenance.
	Short recoil	Clean and lubricate bolt and slide assembly
	Carbon buildup in gas system	Clean gas regulator, piston and cylinder.
10. FAILURE TO LOCK IN OPEN BOLT POSITION	Safety fails to slide properly.	Notify unit maintenance.

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Section III. MAINTENANCE PROCEDURES

3-3. FIELD STRIPPING (Disassembly).

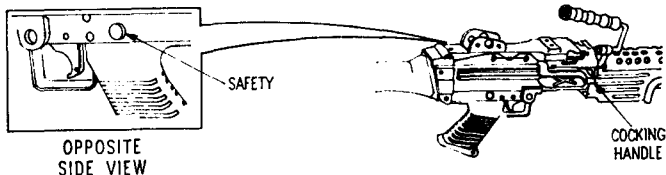
Clear the weapon (p 2-16 thru 2-18).

**DRIVE SPRING AND RETURN ROD AND TRANSFER MECHANISM ASSEMBLY
REMOVAL**

WARNING

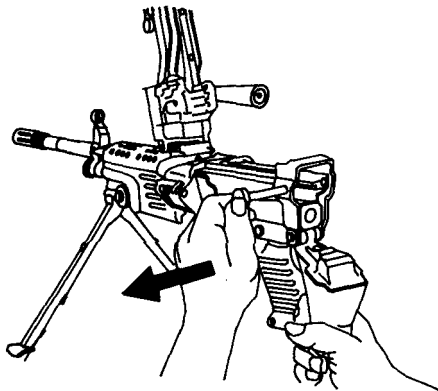
BE SURE BOLT IS IN FORWARD POSITION BEFORE REMOVING RETURN ROD AND TRANSFER MECHANISM ASSEMBLY AND SPRING.

If the moving parts are situated at the rear, push safety to left (RED BAND visible), hold the cocking handle with one hand, press trigger and, with hand on cocking lever, ride the moving parts slowly forward.



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■ Raise cover assembly. Pull the upper retaining pin at the rear of receiver to the left. Let the buttstock and buffer assembly pivot downward so that the rear opening on receiver is completely free.

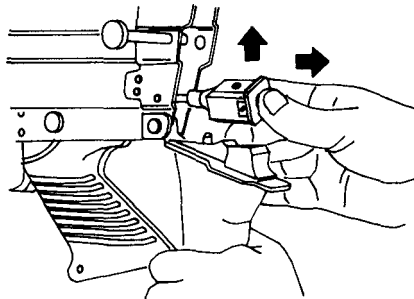


New style buttstock and buffer assembly shown.

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MARINE CORPS TM 08671A-10/1A

**DRIVE SPRING AND RETURN ROD AND TRANSFER MECHANISM ASSEMBLY
REMOVAL (Cont)**

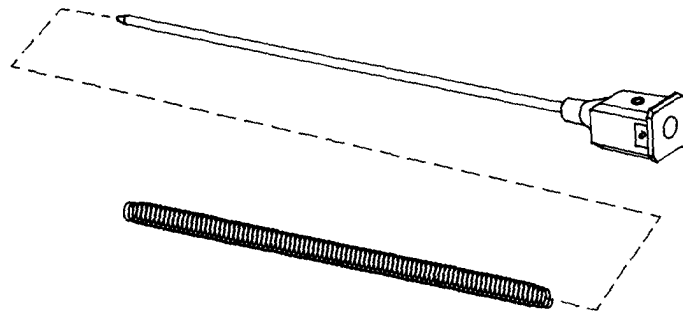
By holding weapon with one hand on the buttstock, simultaneously push in and upward on the rear end of return rod and transfer mechanism assembly with thumb of other hand. The return rod and transfer mechanism assembly is now released from positioning groove inside receiver. Withdraw the return rod and transfer mechanism assembly and spring.



New style buttstock and buffer assembly shown.

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MARINE CORPS TM 08671A-10-1A

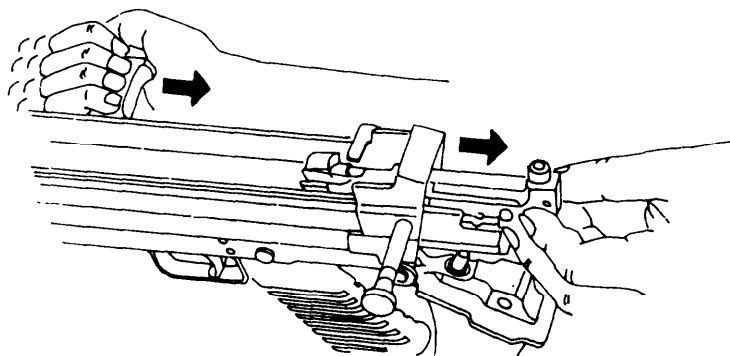
Separate spring from return rod and transfer mechanism assembly



ARMY TM 9-1005-201-10
MARINE CORPS TM 08671 A-10/1A

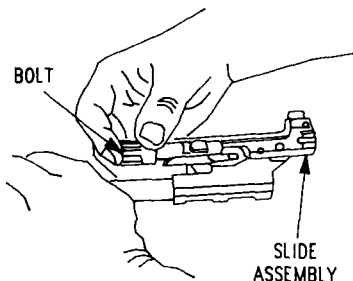
**MOVING PARTS (OPERATING ROD, SLIDE ASSEMBLY AND BOLT ASSEMBLY)
REMOVAL**

Pull the cocking handle rearward.
Slide the moving parts out the rear of the receiver.

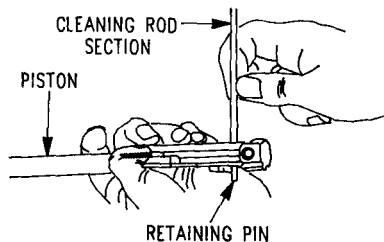


ARMY TM 9-1005-201-10
MARINE CORPS TM 08671A-10/1A

Rotate the bolt clockwise to disengage the lug and pull it out of the slide as-



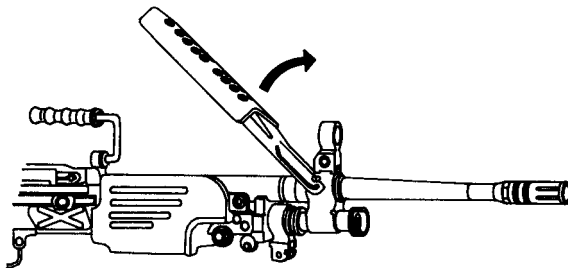
To separate slide assembly from the piston assembly, press the retaining pin to the left, using a cleaning rod section and lift off the slide assembly.



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MARINE CORPS TM 08671A-10/1A

HEATSHIELD REMOVAL

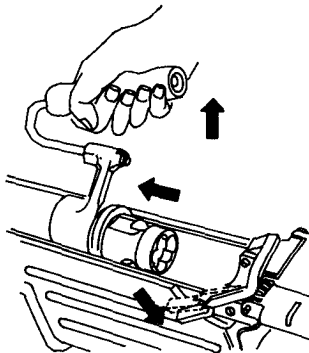
While holding weapon, grasp the heatshield just forward of the barrel handle and lift it off the barrel.



BARREL REMOVAL

Close cover. Assure folding handle on new style barrel is in carrying (up) position.
Depress the locking lever of the barrel with left hand. Hold the carrying handle with the right hand, lift it up and push the barrel forward.

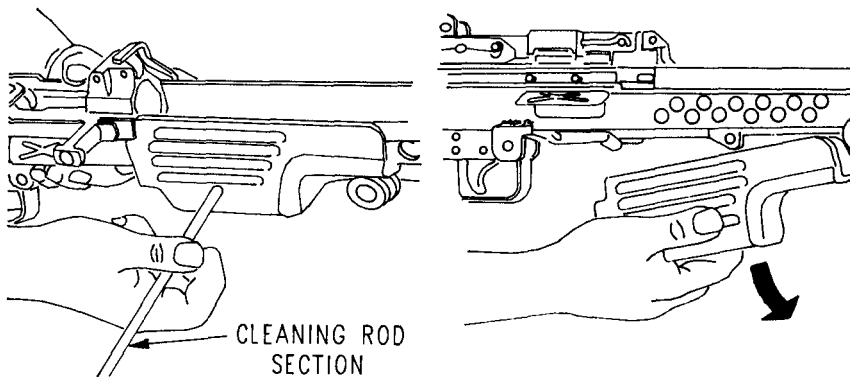
NEW STYLE
BARREL SHOWN



ARMY TM 9-1005-201-10
MARINE CORPS TM 08671A-10/1A

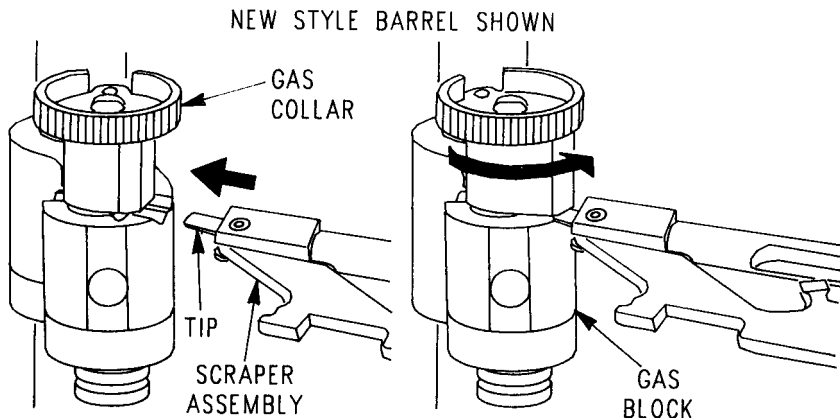
HANDGUARD REMOVAL

Push handguard retaining pin to the left using cleaning rod section, then remove handguard downward.



GAS REGULATOR REMOVAL

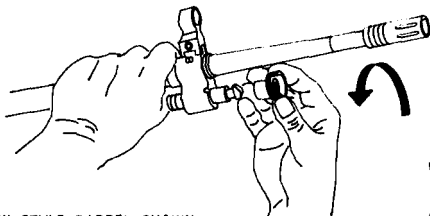
Position the gas collar to allow the scraper assembly to be installed. Place the tip (guide) of scraper assembly into the notch in the front left of gas block and hold guide firmly in notch.



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MARINE CORPS TM 08671A-10/1A

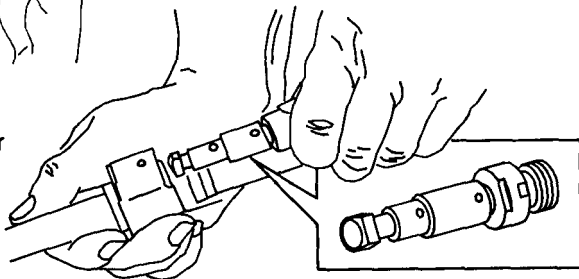
GAS REGULATOR REMOVAL (Cont)

Holding the scraper assembly in position, turn the collar counterclockwise until the collar can be removed.



NEW STYLE BARREL SHOWN

Remove the gas regulator
from the gas block.

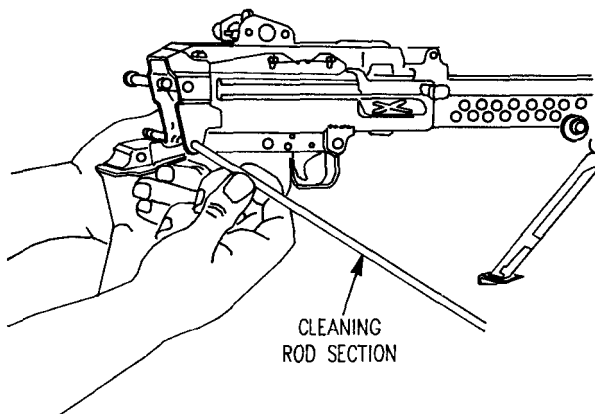


NOTE

Position hand to pre-
vent gas regulator
from falling out.

BUTTSTOCK AND BUFFER ASSEMBLY REMOVAL

Using cleaning rod section, push lower most retaining pin to the left. Remove buttstock and buffer assembly pulling it rearward while supporting trigger mechanism.



New style buttstock and buffer assembly shown.

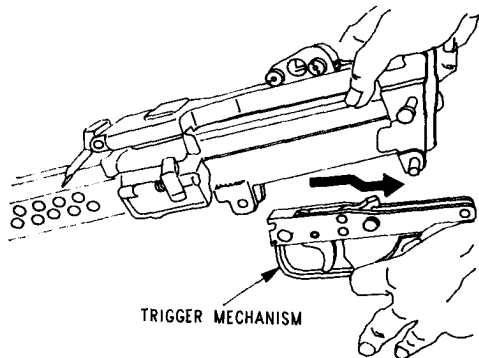
**ARMY TM 9-1005-201-10
MARINE CORPS TM 08671A-10/1A**

TRIGGER MECHANISM REMOVAL

WARNING

NEVER REMOVE TRIGGER MECHANISM BEFORE WEAPON IS CLEARED. REMOVAL OF THE TRIGGER MECHANISM FROM A LOADED WEAPON WILL CAUSE A RUN-AWAY.

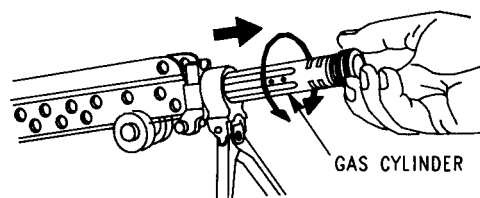
Remove trigger mechanism rearward and down.



**ARMY TM 9-1005-201-10
MARINE CORPS TM 08671A-10/1A**

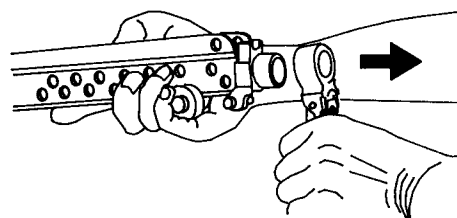
GAS CYLINDER REMOVAL

Turn gas cylinder to the left or right to release the locking spring, then pull out.



BIPOD REMOVAL

After removal of gas cylinder, the bipod can be separated from the receiver.



34. CLEANING, INSPECTION, AND REPAIR

WARNING

USING GASOLINE, KEROSENE, HYDRAULIC OIL, BENZENE, BENSOL, HIGH-PRESSURE WATER, STEAM, OR COMPRESSED AIR FOR CLEANING IS PROHIBITED.

CAUTION

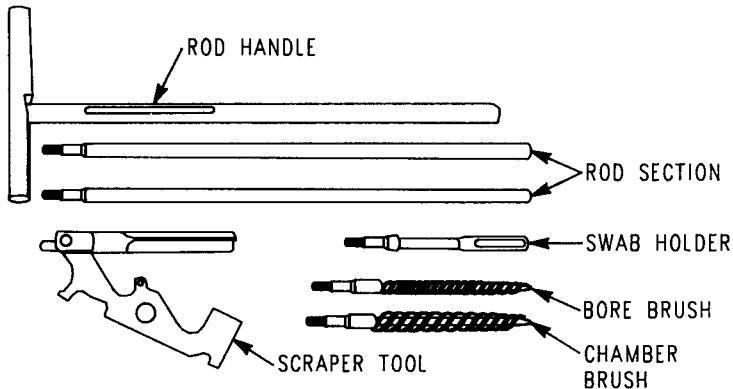
DO NOT USE ABRASIVES TO CLEAN THE BORE, PISTON, GAS CYLINDER, OR GAS REGULATOR PLUG.

NOTE

Do not remove extractor or extractor pin during cleaning.

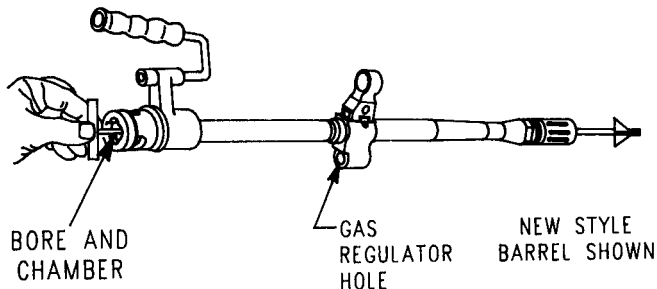
CLEANING EQUIPMENT

The cleaning tools can be housed inside the handguard (p EI -E2).
See appendix E for equipment stowage and alternate stowage locations.
See appendixes C and D for ordering replacement items.



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CLEANING, INSPECTION AND REPAIR (Cont)



CAUTION

**DO NOT LUBRICATE GAS REGULATOR HOLE IN BARREL,
OR GAS REGULATOR. DO NOT USE ABRASIVES TO
CLEAN GAS REGULATOR, BORE AND CHAMBER.**

CAUTION

BE SURE TO CLEAN YOUR BARREL BORE FROM THE MUZZLE END WITH BARREL REMOVED FROM WEAPON.

1. Inspect bore and chamber.
2. Wipe outside of barrel with lightly lubricated rag (item 4, app D). if heavy carbon deposits are present in the bore and/or chamber, clean with bore brush/chamber brush.

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MARINE CORPS TM 08671A-10/1A

CLEANING, INSPECTION AND REPAIR (Cont)

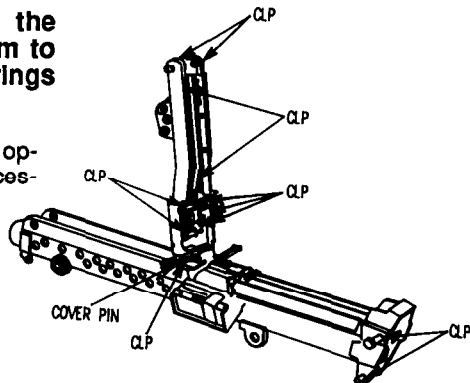
3. Inspect for cracks, dents, burrs, or other damage on flash suppressor (old style barrel) or compensator (new style barrel), barrel extension, and barrel release lever. Check front sight for looseness, if loose, notify unit maintenance.

NOTE

Use care when cleaning the cover and feed mechanism to avoid knocking the springs out.

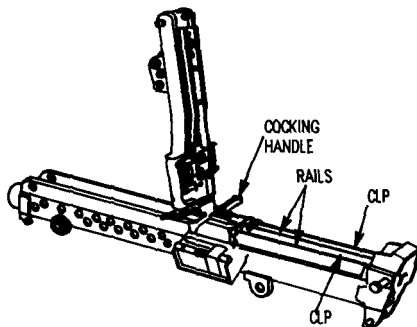
4. Check cover assembly for smooth operation, spring tension, bent parts, or excessive wear.

"CLP" – Lightly lubricate moving parts.



ARMY TM 9-1005-201-10
MARINE CORPS TM 08671A-10/1A

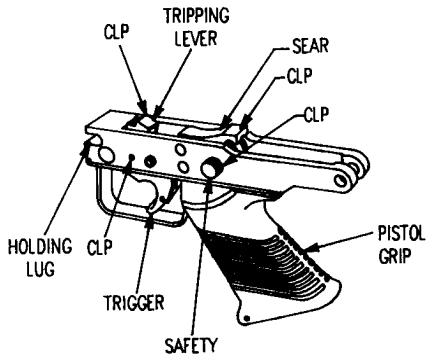
5. Check for bends and cracks, free movement of cocking assembly, and excessively worn, burred, or chipped rails. Check barrel locking latch and cover detent springs for spring tension. Lightly lubricate all rails.



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MARINE CORPS TM 08671A-10/1A

CLEANING, INSPECTION, AND REPAIR (Cont)

6. Check for broken pistol grip, and chipped or cracked trigger housing holding lug.
7. Check tripping lever and sear for burrs, cracks, chips, and wear,
8. Notify unit maintenance if problem exists.
9. Check cocking action by pushing back on tripping lever; sear will rise. Pull trigger; sear will lower. Push back on tripping lever.
10. Check safety function. When safety is pushed to right (RED BAND not visible), pull trigger; sear will not lower. When safety is pushed to left (RED BAND visible) pull trigger, sear lowers.
11. CLP—Lightly lubricate tripping lever and sear surfaces, ends of trigger pin, safety shaft, and sear pivot pin.

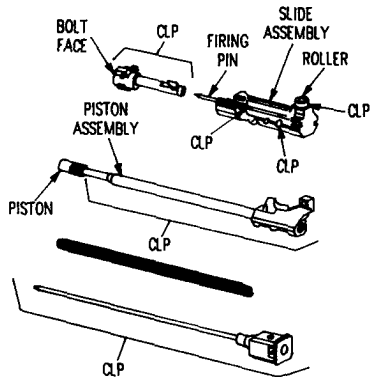


ARMY TM 9-1005-201-10
MARINE CORPS TM 08671A-10/1A

12. Check slide assembly, bolt assembly, piston assembly and return rod and transfer mechanism assembly, for burrs, cracks, or broken pins. Push down on roller of slide assembly to make sure it will retract. Check driving spring for broken strands. Notify unit maintenance if more than one broken strand is found on same coil or if more than two strands are broken regardless of location on entire spring.

CLP—Light lubricate driving spring, return rod and transfer mechanism assembly, bolt assembly, piston assembly, slide assembly, moving parts, polished areas, firing pin, and roller.

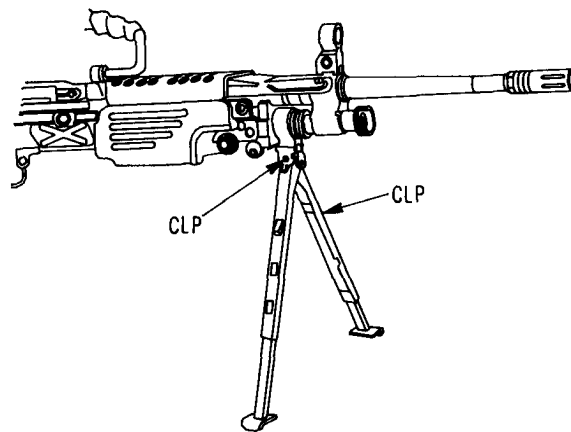
CAUTION
DO NOT LUBRICATE PISTON.



ARMY TM 9-1005-201-10
MARINE CORPS TM 08671A-10/1A

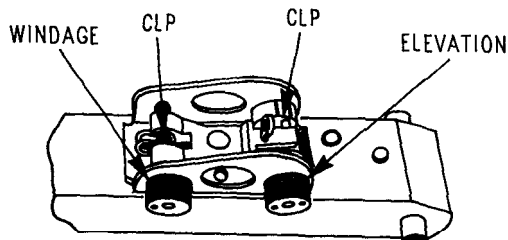
CLEANING, INSPECTION, AND REPAIR (Cont)

13. Clean and check bipod legs for operation; CLP-lightly lubricate. Notify unit maintenance if problem exists,



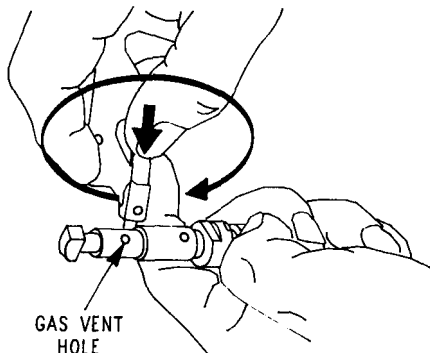
ARMY TM 9-1005-201-10
MARINE CORPS TM 08671A-10/1A

14. Clean and check the rear sight assembly for azimuth and elevation; CLP-lightly lubricate. If rear sight does not function properly, notify unit maintenance.



CLEANING, INSPECTION, AND REPAIR (Cont)
REGULATOR

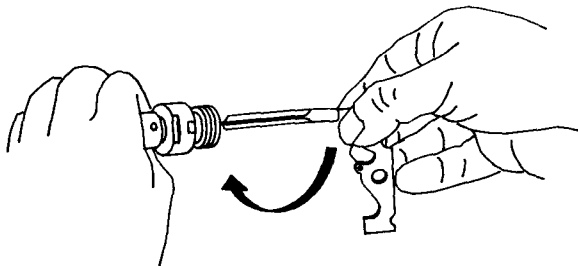
The regulator must be cleaned with the special tool (scraper).
Clean the gas vent hole of the regulator body as indicated.



The regulator body can be heavily carboned and will require more thorough cleaning.

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MARINE CORPS TM 08671A-10/1A

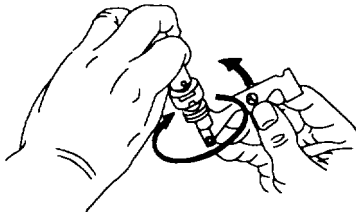
Clean the central hole of the regulator with the appropriate part of the scraper by turning it clockwise and pushing it inward to the bottom of the housing.



CLEANING, INSPECTION, AND REPAIR (Cont)

REGULATOR (Cont)

Use the protruding tips of the scraper to clean the two grooves of the regulator body. (Typical cleaning of one of two grooves.)



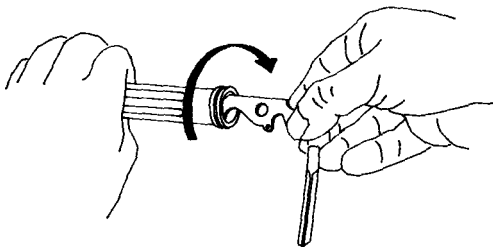
The regulator sleeve is generally not heavily carboned and can be easily cleaned with a rag.

CAUTION

DO NOT LUBRICATE REGULATOR

GAS CYLINDER

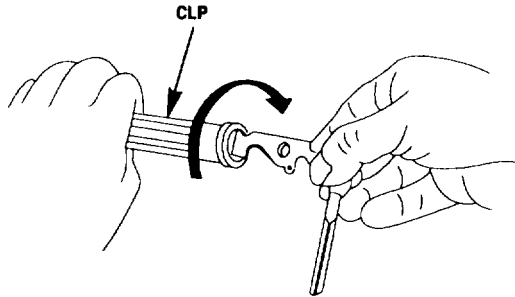
Clean the front of the cylinder (internal diameter) by inserting and turning the flat side of the scraper in the hole.



CLEANING, INSPECTION, AND REPAIR (Cont)

GAS CYLINDER (Cont)

Clean the internal grooves of the front side of the gas cylinder using the flat side of the scraper. Lightly lubricate exterior of gas cylinder only.

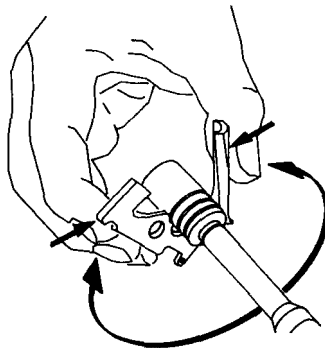


CAUTION

DO NOT LUBRICATE INTERIOR OF GAS CYLINDER

PISTON

The grooves of the piston will be cleaned as shown.



(Typical cleaning of one of three grooves.)

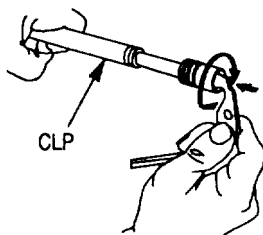
CLEANING, INSPECTION, AND REPAIR (Cont)

PISTON (Cont)

CAUTION

DO NOT LUBRICATE INTERIOR OR EXTERIOR OF PISTON.

Clean the hole on the front of piston with the same scraper part as the front hole of the gas cylinder. Lightly lubricate piston rod except piston.



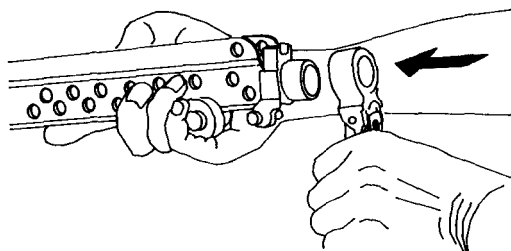
ARMY TM 9-1005-201-10
MARINE CORPS TM 08671A-10/1A

3-5. HOW TO PUT IT TOGETHER
BIPOD AND GAS CYLINDER

Place the bipod on the receiver.

NOTE

The receiver and bipod legs should be positioned as shown below.



**ARMY TM 9-1005-201-10
MARINE CORPS TM 08671A-10/1A**

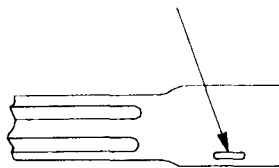
HOW TO PUT IT TOGETHER (Cont)

BIPOD AND GAS CYLINDER (Cont)

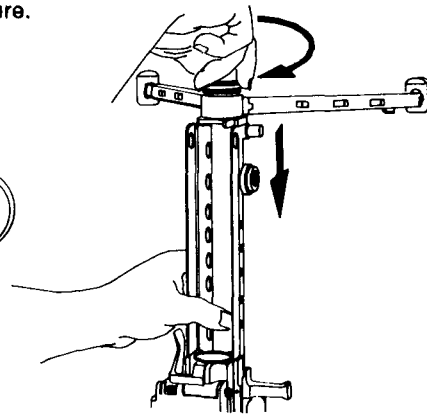
Push the gas cylinder through the bipod yoke into the receiver.

Push the cylinder to the rear while countering the pressure of the locking spring and guiding the end of the cylinder into receiver with the other hand applying downward pressure.

Position recess in cylinder near spring.



Turn the cylinder until the spring clicks into the recess at the rear of the gas cylinder.



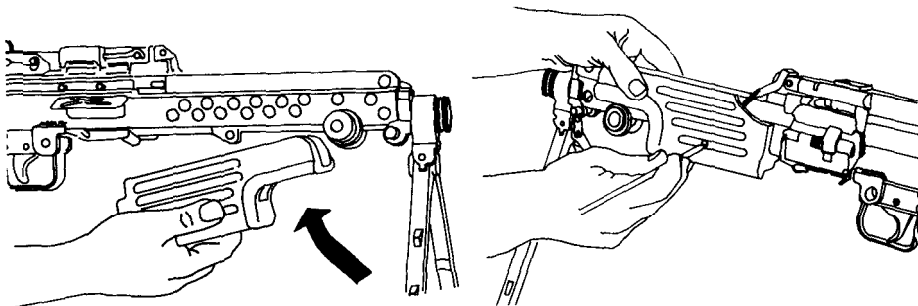
HANDGUARD

Replace all cleaning equipment removed from stowage areas (app E-1).

Place the handguard on the receiver and slide it backwards until it stops.

With the help of a cleaning rod section, push the handguard retaining pin into the right.

Pull downward on the handguard to check if it is secure (assembled correctly).

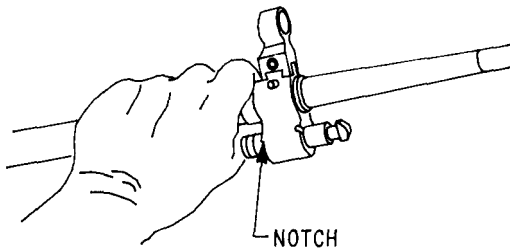


ARMY TM 9-1005-201-10
MARINE CORPS TM 08671A-10/1A

HOW TO PUT IT TOGETHER (Cont)

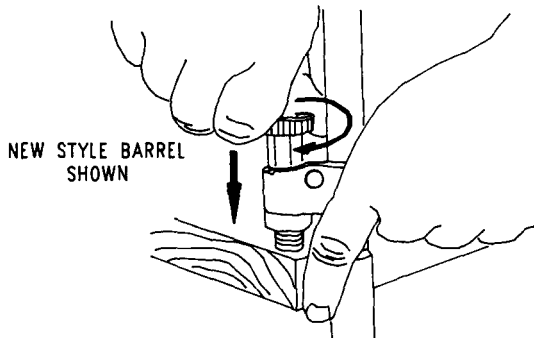
GAS REGULATOR

Holding barrel in one hand with muzzle up, insert gas regulator into lower end of gas block hole being careful to align notch on regulator body with notch in gas block.



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MARINE CORPS TM 08671A-10/1A

With gas regulator installed and supported on firm surface, place the gas collar on the protruding end of the gas regulator and rotate the collar until it slips into place. Press in and rotate to lock in place.



CAUTION



OLD STYLE COLLAR CANNOT BE USED IN A NEW STYLE BARREL BECAUSE IT MAY CAUSE AN UNDER-POWERED WEAPON.



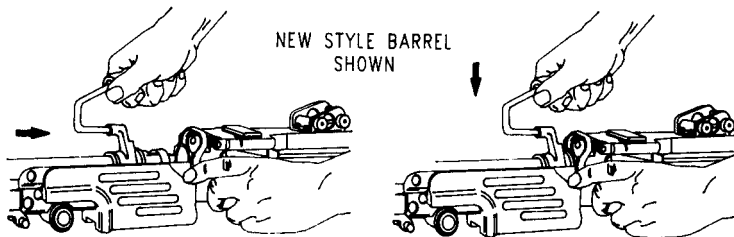
NEW STYLE COLLAR CANNOT BE USED IN OLD STYLE BARREL BECAUSE IT MAY CAUSE AN OVER-POWERED WEAPON.

ARMY TM 9-1005-201-10
MARINE CORPS TM 08671A-10/1A

HOW TO PUT IT TOGETHER (Cont)

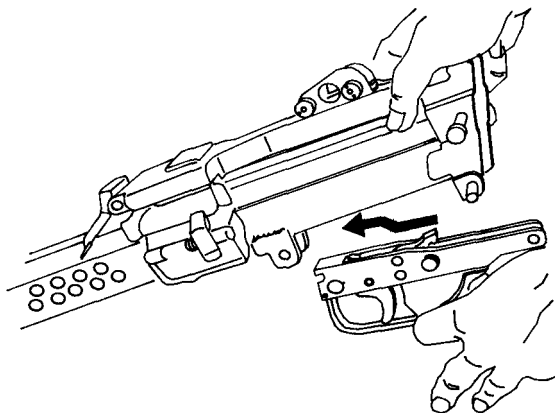
BARREL

Depress the locking lever with left hand. Holding the carrying handle with the right hand, pull the barrel rearward, push downward and lock by releasing barrel locking lever.



TRIGGER MECHANISM

Ensure retaining pin is to the left. Install trigger mechanism. Hold in place by pushing the retaining pin into the right side hole of the trigger mechanism assembly.



HOW TO PUT IT TOGETHER (Cont)

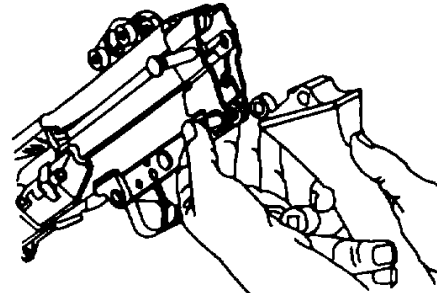
BUTTSTOCK AND SHOULDER ASSEMBLY

WARNING

WHEN THE RETENTION (PIVOT) PIN IS NOT POSITIVELY RETAINED IT CAN WORK LOOSE DURING FIRING. IF IT WORKS COMPLETELY OUT, THE TRIGGER MECHANISM CAN SEPARATE FROM THE WEAPON. SEPARATION OF THE TRIGGER MECHANISM WHEN THE WEAPON IS LOADED, WILL CREATE A RUNAWAY.

Supporting trigger mechanism with left hand, align lower hole in buttstock and buffer assembly with rear hole in trigger mechanism and push lower retaining pin to right.

If positive retention doesn't exist with both grooves of the retention (pivot) pin, notify unit maintenance.

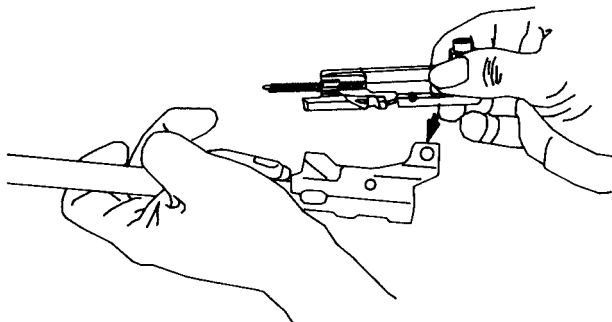


New style buttstock and buffer assembly shown.

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MOVING PARTS MECHANISM

Assemble the slide assembly to the piston, and secure by pushing retaining pin from left to right.



ARMY TM 9-1005-201-10
MARINE CORPS TM 08671A-10/1A

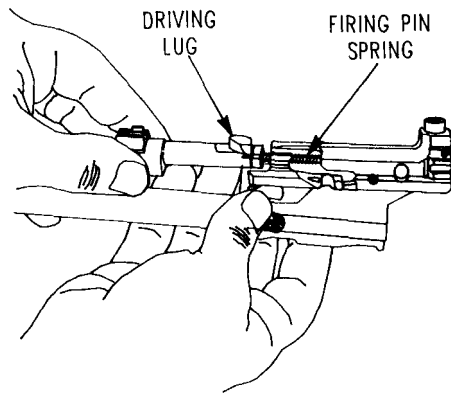
HOW TO PUT IT TOGETHER (Cont)

MOVING PARTS MECHANISM (Cont)

NOTE

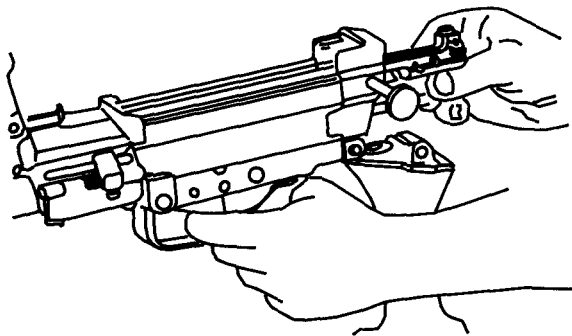
Be sure firing pin spring is on firing pin.

Put the bolt assembly into the slide assembly. Press in to compress the firing pin spring, rotate the bolt and hook its driving lug into the slide assembly.



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MARINE CORPS TM 08671A-10/1A

Put the moving parts into the receiver with the feed cover open. Locate the bolt lugs and slide cutouts carefully on the rails. At the same time locate the piston into the rear of the gas cylinder. Press the trigger with the forefinger of the other hand so that the sear does not prevent the moving parts from going forward.



HOW TO PUT IT TOGETHER (Cont)

SPRING AND RETURN ROD AND TRANSFER MECHANISM ASSEMBLY.

CAUTION

IMPROPER ASSEMBLY OF THE TRANSFER MECHANISM CAN CAUSE DAMAGE TO THE RECEIVER AND/OR THE ASSEMBLY ITSELF. IF THE HORIZONTAL PINS OF THE TRANSFER ASSEMBLY ARE NOT PLACED IN THE HOOKS, INSIDE THE RECEIVER, WHEN THE BUTTSTOCK IS PIVOTED IN THE UP POSITION FOR PINNING, THE RECEIVER HOOKS CAN BE BENT. IF THE HORIZONTAL PINS OF THE TRANSFER ASSEMBLY ARE ROTATED TO A VERTICAL POSITION AND THE BOTTOM PIN IS HOODED INTO THE LIGHTENING HOLE IN THE BOTTOM OF THE RECEIVER, THE PIN CAN BE SHEARED, DAMAGED OR LOST WHEN THE WEAPON IS FIRED.

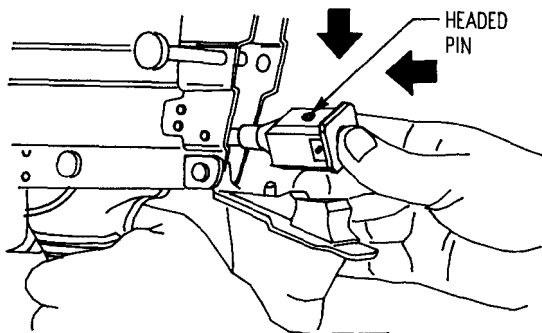
While rotating in either direction, slide spring on return rod and transfer mechanism assembly

SPRING, AND RETURN ROD AND TRANSFER MECHANISM ASSEMBLY

NOTE

Assure that the headed end of the vertical pin, in the transfer mechanism assembly, is up (on top)

Hold the pistol grip with one hand and push the return rod and transfer mechanism assembly into its housing in the rear of the piston with the other. With the thumb of that hand, press in and down on the rear of the assembly until its two lugs are positioned in the receiver grooves.

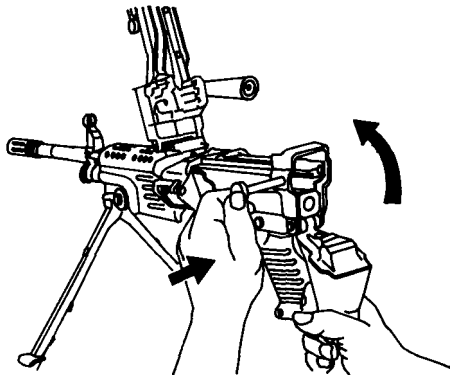


ARMY TM 9-1005-201-10
MARINE CORPS TM 08671A-10/1A

HOW TO PUT IT TOGETHER (Cont)

SPRING, AND RETURN ROD AND TRANSFER MECHANISM ASSEMBLY (Cont)

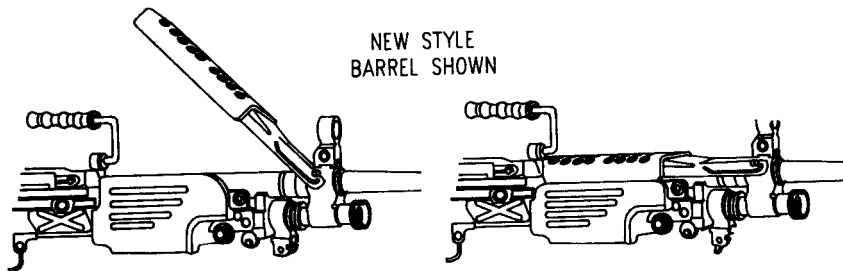
Pivot the buttstock and buffer assembly upward into position and push the upper retaining pin to the right; close the cover assembly.



New style buttstock and buffer assembly shown.

HEATSHIELD INSTALLATION

Hook the metal extensions of the heat shield assembly under the front sight pins (new style barrel) with the spring clips down on top of barrel.



NOTE

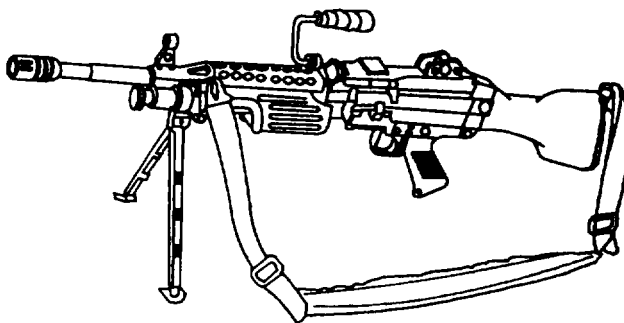
Although old style barrels do not have protruding front sight pins, heat shield assemblies can be used.

Using care not to pinch yourself, apply downward pressure and snap heatshield onto the barrel.

HOW TO PUT IT TOGETHER (Cont)

SLING AND SNAP HOOK ASSEMBLY INSTALLATION

Squeeze the latch on the snaphook and place hook in buttstock loop and hole in receiver fore end (either side). Assure sling is not twisted.



FUNCTION CHECK

- Assure the safety is to the left (RED BAND visible) and charge the weapon by pulling the cocking handle to the rear to lock the bolt (cock the weapon). Push cocking handle forward until you hear it click.
- Push safety to the right (RED BAND Int visible).
- Open cover assembly and place link belt of several rounds of M199 dummy ammunition on feed tray with first round against cartridge stop, hold in position, and close the cover assembly.
- Pull the trigger nothing should happen.
- Push safety to the left (RED BAND visible) and pull the trigger. The bolt assembly should move forward, stripping, feeding, and locking a dummy round (M199) in the chamber.

Change 1 3-65

FUNCTION CHECK (Cont)

- Pull cocking handle to rear. Dummy round (M199) should extract and eject, and the bolt assembly should remain to rear.
- Repeat the cycle several times. Each time the cycle is repeated, a link should exit the cover assembly.
- With bolt assembly held to the rear, check for clear weapon. Hold cocking handle to rear, pull the trigger and ride the bolt assembly forward to close and lock on empty chamber.
- If for any reason the weapon fails the function test, check for missing or improperly assembled components. If the reason for failure cannot be detected, notify organizational maintenance.

3-66 Change 1

CHAPTER 4
MAINTENANCE OF AUXILIARY EQUIPMENT.

Section I MAINTENANCE OF TACTICAL EQUIPMENT.

4-1. TRIPOD MOUNT, M122 W/ADAPTER ASSEMBLY

For maintenance of Tripod Mount, M122 refer to TM 9-1005-224-10, Marine Corps use TM 02705E-10/1.

Inspect adapter assembly for missing parts and bent or broken members. Clean and lightly lubricate. If adapter does not function properly, notify unit maintenance for repair.

4-2. NIGHT VISION SIGHT, AN/PVS-4

For maintenance of Night Vision Sight, AN/PVS-4 refer to TM 11-5855-213-10.

Change 1 4-1

MAINTENANCE OF TACTICAL EQUIPMENT. (Cont)

4-3 STOCK, GUN, SHOULDER: MS

If collapsible buttstock is damaged or does not function correctly, notify unit maintenance for repair.

4-4. MOUNT, PEDESTAL, MACHINE GUN, M6

For maintenance of Mount, Pedestal, Machine Gun, M6 refer to TM 9- 1005-245-13&P.

4-5. MOUNT, MACHINE GUN, M197

For maintenance of Mount, Machine Gun, M197 refer to TM 91005-245- 13&P.

4-2 Change 1

Section II MAINTENANCE OF TRAINING EQUIPMENT.

4-6. BLANK FIRING ATTACHMENT (BFA).

Clean frequently using CLP (item 6 or 7, app D). If BFA becomes cracked or distorted, replace.

4-7. SIMULATOR SYSTEM, FIRING, LASER, M90 OF MULTIPLE INTEGRATED LASER ENGAGEMENT SYSTEM (MILES)

For maintenance of MILES Simulator System, Firing, Laser, M90 refer to TM 9-1265-211-10.

Change 1 4-3/(4-4 blank)

CHAPTER 5
AMMUNITION
WARNING

DO NOT FIRE

Seriously corroded ammunition

Dented cartridges

Cartridges with loose bullets

Cartridges exposed to extreme heat (direct sunlight on a hot day) until they have cooled

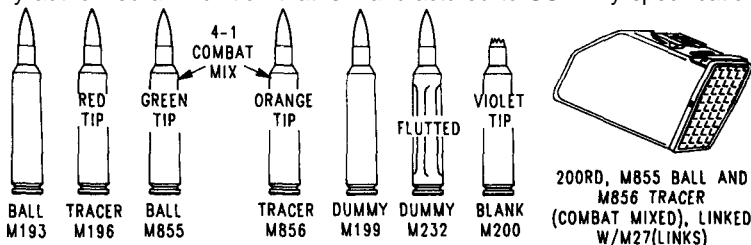
Cartridges with pushed in (short) bullets

CAUTION

IF AMMUNITION IS WET OR DIRTY, WIPE IT OFF WITH A DRY RAG PRIOR TO USE. DUST AND OTHER ABRASIVES THAT COLLECT ON OILY AMMUNITION ARE DAMAGING TO OPERATING PARTS OF THE GUN. DO NOT LUBRICATE. LUBRICATED CARTRIDGES PRODUCE EXCESSIVE CHAMBER PRESSURE.

ARMY TM 9-1005-201-10
MARINE CORPS TM 08671A-10/1A

Use only authorized ammunition that is manufactured to US Army specifications.



KEEP DRY, CLEAN, AND FREE OF "CRUD". YOUR LIFE DEPENDS ON IT!

WARNING

SAFETY IN FIRING BLANK CARTRIDGES

BLANK AMMUNITION SHOULD NOT BE FIRED TOWARD PERSONNEL WITHIN 20 FEET OR LESS FROM THE MUZZLE, BECAUSE FRAGMENTS OF A CLOSURE WAD OR PARTICLES OF UNBURNED PROPELLANT MIGHT INFLICT INJURY WITHIN THAT RANGE.

DO NOT LUBRICATE AMMUNITION UNDER ANY CIRCUMSTANCES.

APPENDIX A

REFERENCES

SCOPE: This appendix lists all U.S. Army and Marine Corps forms, field manuals, orders, pamphlets, and technical manuals referenced in this manual.

U.S. ARMY PUBLICATIONS AND FORMS

FORMS

DA FORM 2028	Recommended Changes to Publications and Blank Forms
DA FORM 2404	Equipment Inspections and Maintenance Worksheet
SF 368	Quality Deficiency Report

FIELD MANUALS

FM 21-11	First Aid for Soldiers
FM 23-14	Squad Automatic Weapon (SAW) M249
FM 31-70	Basic Cold Weather Manual
FM 31-71	Northern Operations
FM 90-3	Desert Operations

FIELD MANUALS

FM 21-11 First Aid for Soldiers
FM 23-14 Squad Automatic Weapon (SAW) M249
FM 31-70 Basic Cold Weather Manual
FM 31-71 Northern Operations
FM 90-3 Desert Operations

PAMPHLETS

DA PAM 738-750..... The Army Maintenance Management System
(TAMMS)

TECHNICAL MANUALS

TM 9-107 Operation and Maintenance of Ordnance
Material in Cold Weather
TM 9-1005-201-23&P Unit and Direct Support Maintenance Manual
(including Machine Gun, 5.56MM, M249
w/Equip (1005-01-127-7510)

ARMY TM 9-1005-201-10
MARINE CORPS TM 08671A-10/1A

TM 9-1265-211-10	Operator's Manual for Multiple Integrated Laser Engagement System (MILES) Simulator System, Firing, Laser: M89 (NSN 1265-01-236-6725) for M16A1/M16A2 Rifle and Simulator System, Firing, Laser: M90 (NSN 1265-01-236-6724) or M249, Squad Automatic Weapon (SAW)
TM 11-5855-213-10	Operator's Manual for Night Vision Sight Individual Served Weapon AN/PVS-4 (NSN 5855-00-629-5334)
TM 750-244-7	Procedures for Destruction of Equipment to Prevent Enemy Use

U.S. MARINE CORPS PUBLICATIONS AND FORMS

FORMS

NAVMC Form 10772	Recommended Changes to Technical Publications
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MARINE CORPS ORDERS

MCO 4855.10	Quality Deficiency Report
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ARMY TM 9-1005-201-10
MARINE CORPS TM 08671A-10/1A

TECHNICAL MANUALS (Cont)

TM 11-5855-213-10.....	Operator's Manual for Night Vision Sight Individual Served Weapon AN/PVS-4 (NSN 5855-00-629-5334)
TM 750-244-7.....	Procedures for Destruction of Equipment to Prevent Enemy Use

U.S.MARINE CORPS PUBLICATIONS AND FORMS FORMS

NAVMC Form 10772.....	Recommended Changes to Technical Publications
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MARINE CORPS ORDERS

MCO 4855.10.....	Quality Deficiency Report
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ARMY TM 9-1005-201-10
MARINE CORPS TM 08671A-10/1A

AIR FORCE PUBLICATIONS AND FORMS

FORMS

ATTO Form 22	Technical Order System Publication Improvement Report and Reply
TECHNICAL ORDERS	
TO 00-35D-54	TM, USAF, Material Deficiency Reporting and Investigating System.
TO 11W2-8-1-322	Operators, Unit, and Direct Support Maintenance Manual with Repair Parts and Special Tools List (RPSTL) for Machine Gun Mounts and Combinations
TO 11 W3-5-5-52	Unit and Direct Support Maintenance Manual (including Repair Parts and Special Tools List) for Machine Gun, 5.56MM, M249 W/EQUIP

A-5 Change 1

APPENDIX B
COMPONENTS OF END ITEM AND BASIC ISSUE ITEMS LIST
Section I. INTRODUCTION

SCOPE.

This appendix lists components of end item (COEI) and basic issue items (BII) for the M249 Machine Gun to help you inventory items required for safe and effective operation.

GENERAL

The COEI and BII lists are divided into the following sections:

COEI

This listing is for informational purposes only and is not authority to requisition replacements. These items are part of the end item, but are removed and separately packaged for transportation or shipment. As part of the end item, these items must be with the end item, whenever it is issued or transferred between property accounts. The illustration will assist you in identifying the items.

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GENERAL (Cont)

BII

These are the minimum essential items required to place the M249 Machine Gun in operation, to operate it, and to perform emergency repairs. Although shipped separately packaged, BII must be with the M249 Machine Gun during operation and whenever it is transferred between properly accounts. The illustrations will assist you in identifying the items. This manual is your authority to request/requisition replacement BII, based on TOE/MTOE authorization of the end item.

The following provides an explanation of columns found in the tabular listing:

Column (1) - Illustration Number (Illus No.). This column indicates the number of the illustration in which the item is shown.

Column (2) - National Stock Number. Indicates the national stock number (NSN) assigned to the item and will be used for requisitioning purposes.

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MARINE CORPS TM 08671A-10/1A

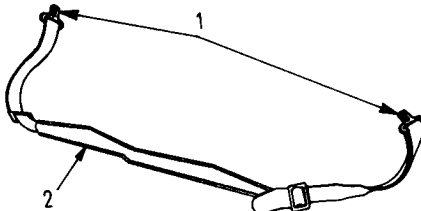
Column (3) - Description CAGEC and Part No. Indicates the Federal item name and, if required, a minimum description to identify and locate the item. The last line for each item indicates the Commercial and Government Entity Code (CAGEC) followed by the part number.

Column (4) - Unit of Issue (U/I). Indicates how the item is issued for the NSN shown in column two.

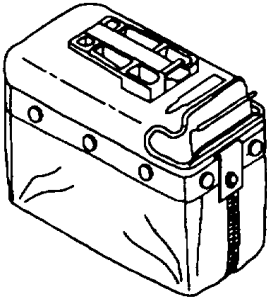
Column (5) - Quantity required (Qty rqr). Indicates the quantity of the item authorized to be used with/on the equipment.

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MARINE CORPS TM 08671A-10/1A

Section II. COMPONENTS OF END ITEM

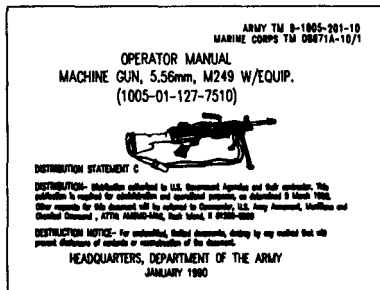
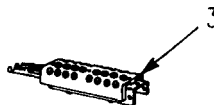
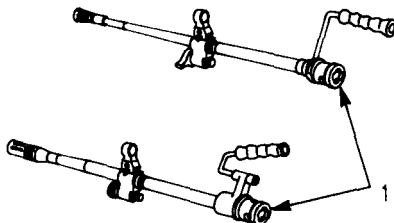
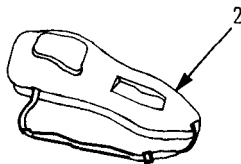
(1) ILLUS NO.	(2) NATIONAL STOCK NO.	(3) DESCRIPTION CAGEC & PART NO.	(4) U/I	(5) QTY RQD
1	5340-01-158-0134	HOOK, SNAP ASSEMBLY (19200) 9348468	EA	2
2	1005-00-312-7177	SLING, SMALL ARMS (19204) 12002983	EA	1
				

Section II. COMPONENTS OF END ITEMS

(1) IIUS NO.	(2) National Stock No.	(3) Description CAGEC and Part Number	(4) (U/I)	(5) Qty Rqd
3	1005-01-334-1507	MAGAZINE, CARTRIDGE (19200)12944203 	EA	2

ARMY TM 9-1005-201-10
MARINE CORPS TM 08671A-10/1A

Section III. BASIC ISSUE ITEMS



ARMY TM 9-1005-201-10
MARINE CORPS TM 08671A-10/1

OPERATOR MANUAL
MACHINE GUN, 5.56mm, M249 W/EQUIP.
(1005-01-127-7510)

DISTRIBUTION STATEMENT C

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HEADQUARTERS, DEPARTMENT OF THE ARMY
JANUARY 1990

(1) IIUS NO.	(2) National Stock No.	(3) Description CAGEC and Part Number	(4) (U/I)	(5) Qty Rqd
1	1005-01-254-9800	Barrel Assembly (new style barrel) (19200) 12557000	EA	1
1	1005-01-128-5462	OR Barrel Assembly (old style barrel) (19200) 9348420	EA	1
2	1005-00-791-5420	Case, Carrying, Barrel Assembly and Equipment (19205) 7791009	EA	1
3	1005-01-249-0184	Heat Shield Assembly (19200) 12540405	EA	1
4	NONE	TM 9-1005-201-10 TM 08671A-10/1A	EA	1

Change 1 B-7/(B-8 blank)

APPENDIX C
ADDITIONAL AUTHORIZATION LIST

Section I. INTRODUCTION

SCOPE.

This appendix lists additional items you are authorized for the support of the M249 machine gun.

GENERAL.

This list identifies items that do not have to accompany the M249 machine gun and that do not have to be turned in with it. These items are all authorized to you by CTA, MTOE, TDA, or JTA.

EXPLANATION OF LISTING.

National stock numbers, descriptions, and quantities are provided to help you identify and request the additional items you require to support this equipment. The items are listed in alphabetical sequence by item name under the type document (i.e., MTOE, CTA, TDA, or JTA) which authorizes the item(s) to you.

ARMY TM 9-1005-201-10
MARINE CORPS TM 08671A-10/1A

EXPLANATION OF COLUMNS.

Column (1) - National Stock Number. Indicates the national stock number (NSN) assigned to the item and will be used for requisitioning purposes.

Column (2) - Description CAGEC and Part Number. Indicates the Federal item name and, if required, a minimum description to identify and locate the item. The last line for each item indicates the Commercial and Government Entity Code (CAGEC), in parenthesis, followed by the part number.

Column (3) - Unit of Issue U/I. Indicates how the item is issued for the NSN shown in column one.

Column (4) - Quantity Recommended (QTY RECM). Indicates the quantity of the item authorized to be used with/on the equipment.

ARMY TM 9-1005-201-10
MARINE CORPS TM 08671A-10/1A

Section II. ADDITIONAL AUTHORIZATION LIST

(1) NATIONAL STOCK NO.	(2) DESCRIPTION CAGEC & PART NO.	(3) U/M	(4) QTY RECM
<p>1005-00-710-5599</p> <p>5855-00-629-5334</p> <p>1265-01-236-6724</p>	<p style="text-align: center;">MTOE AUTHORIZED ITEMS</p> <p>Mount Tripod Machine Gun, M122 (19205) 7790723</p> <p>Night Vision Sight, Individual Served Weapon, AN/PVS-4 (80063) SMD850300-1</p> <p style="text-align: center;">TDA AUTHORIZED ITEMS</p> <p>Simulator System, Firing, Laser, M90 (for training only) (19200) 11838730</p>	<p>EA</p> <p>EA</p> <p>EA</p>	<p>1</p> <p>1</p> <p>1</p>

Section II. ADDITIONAL AUTHORIZATION LIST (Cont)

(1) IIUS NO.	(2) National Stock No.	(3) Description CAGEC and Part Number	(4) (U/I)	(5) Qty Rqd
		CTA AUTHORIZED ITEMS		
8465-00-781-9564	Case, Maintenance Equipment, Small Arms (81349) MIL-C-43737 (CTA 50-970)		EA	1
8465-01-157-4834	Case, Small Arms Ammunition (200 Rd) (82349) MIL-C-44082 (CTA 50-900)		EA	2

Section II. ADDITIONAL AUTHORIZATION LIST (Cont)

(1) IIUS NO.	(2) National Stock No.	(3) Description CAGEC and Part Number	(4) (U/I)	(5) Qty Rqd
	1005-21-900-9739	OTHER AUTHORIZED ITEMS Blank Firing Attachment (BFA) (for training only) (2C085) 8576421	EA	1
	1005-01-411-6341	Mount, Pedestal, Machine Gun, M6	EA	1
	1005-01-413-4098	Mount, Machine Gun, M197	EA	1
	1005-01-334-1507	Magazine, Cartridge (19200)12944203	EA	4

Change 1 C-5

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MARINE CORPS TM 08671A-10/1A

Section II. ADDITIONAL AUTHORIZATION LIST (Cont)

(1) NATIONAL STOCK NO.	(2) DESCRIPTION CAGEC & PART NO.	(3) U/M	(4) QTY RECM
OTHER AUTHORIZED ITEMS (Cont)			
1005-01-113-0321	Handle Assembly (19204) 8436776	EA	1
1005-00-050-6357	Rod Section, Small Arms (19204) 8436775	EA	2
1005-01-131-1914	Scraper Assembly (19200) 9348463	EA	1
1005-00-937-2250	Swab Holder Section, Small Arms (19204) 11686327	EA	1

APPENDIX D
EXPENDABLE/DURABLE SUPPLIES AND MATERIALS LIST

Section I. INTRODUCTION

SCOPE.

This appendix lists expendable/durable supplies and materials you will need to operate and maintain the M249 Machine Gun. These items are authorized to you by CTA 50-970, Expendable/Durable Items (Except Medical, Class V, Repair Parts, and Heraldic Items), or CTA 8-100, Army Medical Department Expendable/Durable items.

EXPLANATION OF COLUMNS.

Column (1) - Item Number. This number is assigned to the entry in the listing and is referenced in the narrative instructions to identify the material (e.g., "Use cleaning compound, item 2, app D").

Column (2) - Level. This column identifies the lowest level of maintenance that requires the listed items (e.g., "C- OPERATOR/CREW").

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MARINE CORPS TM 08671A-10/1A

EXPLANATION OF COLUMNS (Cont).

Column (3) - National Stock Number. This is the National stock number assigned to the item; use it to request or requisition the item.

Column (4) - Description CAGEC & Part Number. Indicates the Federal item name and, if required, a description to identify the item. The last line for each item indicates the Commercial and Government Entity Code (CAGEC), in parenthesis, followed by the part number.

Column (5) - Unit of Measure (U/M). Indicates the measure used in performing the actual maintenance function. If the unit of measure differs from the unit of issue, requisition the lowest unit of issue that will satisfy your requirements.

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MARINE CORPS TM 08671A-10/1A

Section II. EXPENDABLE/DURABLE SUPPLIES AND MATERIALS LIST

(1) ITEM NO.	(2) LEVEL	(3) NATIONAL STOCK NO.	(4) DESCRIPTION CAGEC & PART NO.	(5) U/M
1	C	9150-01-102-1473	CLEANER, LUBRICANT AND PRESERVATIVE (CLP) (81349) MIL-L-663460 1/2 oz btl	EA
2	C	9150-01-079-0124	CLEANER, LUBRICANT AND PRESERVATIVE (CLP) (27412) MIL-L-63460 4 oz btl	EA
3	C	9920-00-292-9946	CLEANER, TOBACCO PIPE (89855)	EA

Section II. EXPENDABLE/DURABLE SUPPLIES AND MATERIALS LIST
(Cont)

(1) ITEM NO.	(2) LEVEL	(3) National Stock No.	(4) Description CAGEC and Part Number	(5) (U/M)
6	C	9150-01-102-1473	Cleaner, Lubricant and Preservative (CLP) (81349) MIL-L-63460 1/2 oz btl	EA
7	C	9150-01-079-0124	Cleaner, Lubricant and Preservative (CLP) (27412) MIL-L-63460 4 oz btl	EA
8	C	9920-00-292-9946	Cleaner, Tobacco Pipe (89855)	EA
9	C	1005-01-113-0321	Handle Assembly (19204) 8436776	EA

D-4 Change 1

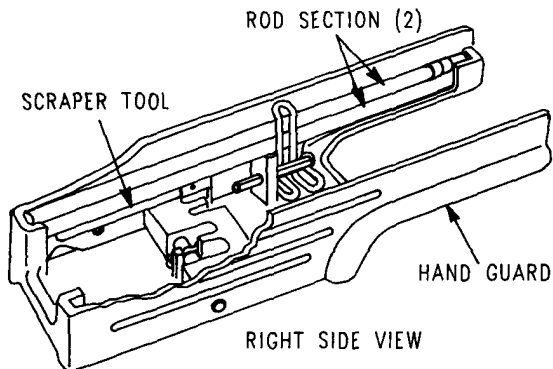
(1) ITEM NO.	(2) LEVEL	(3) National Stock No.	(4) Description CAGEC and Part Number	(5) (U/M)
10	C	1005-00-050-6357	Rod Section, Small Arms (19204) 8436775	EA
11	C	1005-01-131-1914	Scraper Assembly (19200) 9348463	EA
12	C	1005-00-937-2250	Swab Holder Section, Small Arms (19204) 11686327	EA
13	C	7920-00-205-1711	Rag, Wiping: Cotton (58536) A-A-351 50 lb bdl	EA
14	C	1005-00-912-4248	Swab, Small Arms Cleaning: Cotton (19204) 11686408 1 pkg(1000 per pkg.)	EA

*U.S. GOVERNMENT PRINTING OFFICE: 1996 - 545-039/4060

Change 1 D-5(D-6 blank)

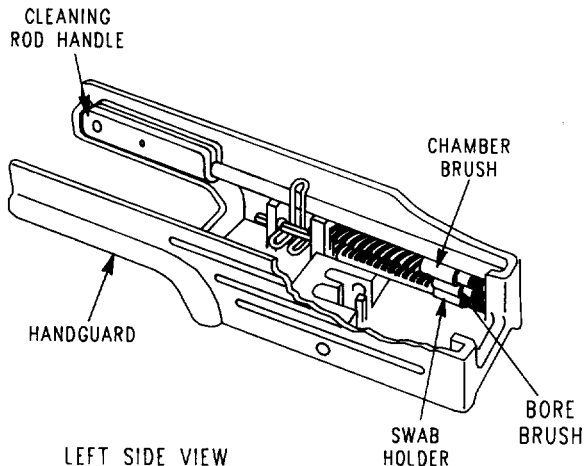
APPENDIX E
EXPENDABLE/DURABLE SUPPLIES AND MATERIALS LIST

E-1. STOWAGE OF CLEANING TOOLS.

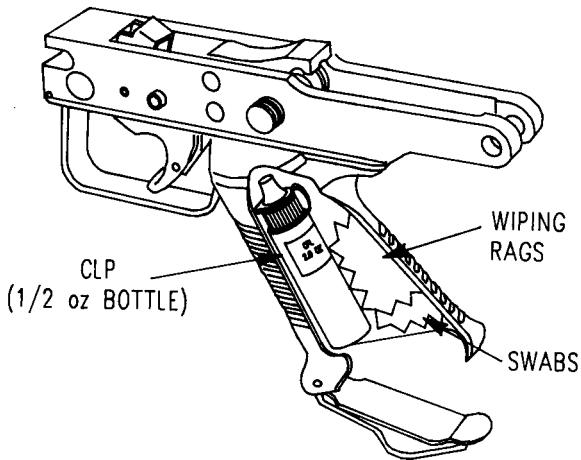


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MARINE CORPS TM 08671A-10/1A

E-1. STOWAGE OF CLEANING TOOLS (Cont)

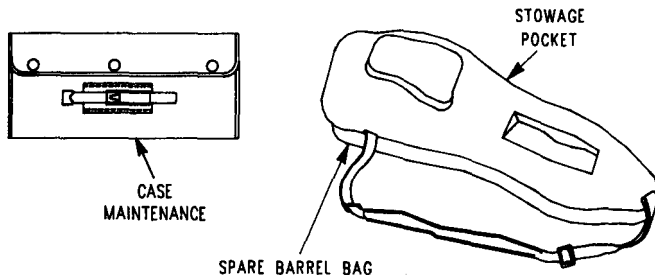


E-2. STOWAGE OF CLEANING SUPPLIES.



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MARINE CORPS TM 08671A-10/1A

E-3. ALTERNATE STOWAGE OF CLEANING EQUIPMENT/SUPPLIES.



Brush cleaning, NSN 1005-00-810-8828, maybe stowed in spare barrel bag. The following items may be stowed in Case, Maintenance Equipment, Small Arms:

- | | |
|------------------------|----------------------------|
| 1. Cleaning Rod Handle | 7. CLP (1/2 oz bottle) |
| 2. Rod Section (2 ea) | 8. Wiping Rags |
| 3. Swab Holder | 9. Swabs |
| 4. Chamber Brush | 10. Pipe Cleaners |
| 5. Bore Brush | 11. Cleaning Brush (tooth) |
| 6. Scraper Tool | |

E-4

ARMY TM 9-1005-201-10
MARINE CORPS TM 08671A-10/1A

By Order of the Secretary of the Army:

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

Official:

PATRICIA P. HICKERSON
Brigadier General, United States Army
The Adjutant General

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requirements for TM 9-1005-201-10.

By Order of the Marine Corps:

H. E. REESE
Deputy for Support
Marine Corps Research, Development and
Acquisition Command

ARMY TM 9-1005-201-10 MARINE CORPS TM 08671A-10/1A

THE METRIC SYSTEM AND EQUIVALENTS

LINEAR MEASURE

Centimeter -10 Millimeters- 0.01 Meter -0.3937 Inches
 Meter -100 Centimeters - 1000 Millimeters -39.37 inches
 kilometer -1000 Meters- 0.621 Miles
 Millimeters. Inches times 25.4
 Inches - Millimeters divided by 25.4

WEIGHTS

1 Gram -0.001 Kilograms - 1000 Milligrams. 0.035 Ounces
 1 Kilogram - 1000 Grams - 2.2Lb

LIQUID MEASURE

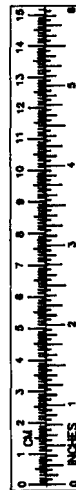
1 Milliliter -0.001 Liters - 0.0338 Fluid Ounces

TEMPERATURES

212°F - 100° C°
 100° -38° C°
 32°F -0° C°
 0°F --18° C°
 35° F--37° C°

APPROXIMATE CONVERSION FACTORS

TO CHANGE	To	MULTIPLY BY
Inches	Centimeters	2.540
Feet	Meters	0.305
Yards	Meters	0.914
Miles	Kilometers	1.609
Fluid Ounces	Millimeters	29.573
Ounces	Gram	28.349
Pounds	Kilograms	0.454
Centimeters.	Inches	0.394
Madam	Fact	3.280
Meters.	Yards	1.094
Kilometers	Miles	0.621
Milliliters.	Fluid Ounces	0.034
Grams	Ounces.	0.035
Kilograms.	Pounds	2.205
°Fahrenheit	°Celsius	°C- (°F-32)x5 ÷ 9
°Celsius	°Fahrenheit	°F-°x9 ÷ 5 +32



RECOMMENDED CHANGES TO EQUIPMENT TECHNICAL PUBLICATIONS



THEN... JOT DOWN THE
DOPE ABOUT IT ON THIS
FORM, CAREFULLY TEAR IT
OUT, FOLD IT AND DROP IT
IN THE MAIL!

SOMETHING WRONG WITH THIS PUBLICATION?

FROM: (PRINT YOUR UNIT'S COMPLETE ADDRESS)

DATE SENT

PUBLICATION NUMBER

PUBLICATION DATE

PUBLICATION TITLE

BE EXACT... PIN-POINT WHERE IT IS

PAGE
NO.

PARA-
GRAPH

FIGURE
NO.

TABLE
NO.

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

TEAR ALONG PERFORATED LINE

PRINTED NAME, GRADE OR TITLE, AND TELEPHONE NUMBER

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DA FORM 2028-2
1 JUL 79

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