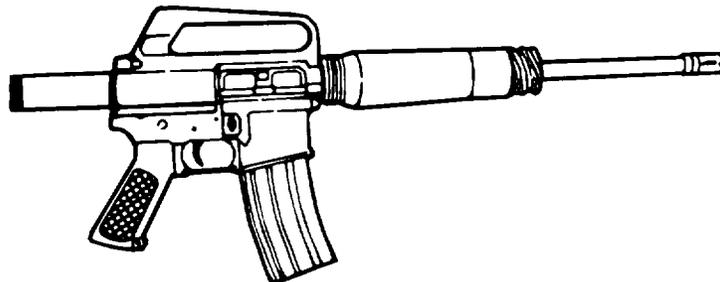


TM 9-1005-309-10
Supersedes copy
dated 4 April 1986

OPERATOR'S MANUAL



SUBMACHINE GUN, 5.56-MM: PORT FIRING, M231
(1005-01-081-4582) EIC: (4BE)

HEADQUARTERS, DEPARTMENT OF THE ARMY

AUGUST 1997

WARNING

To avoid accidental firing'

- (1) Keep selector lever in SAFE position until you're ready to fire**
- (2) Always look into chamber after clearing weapon to ensure it does not contain a round.**
- (3) Never insert loaded cartridge magazine into the weapon until you're ready to fire.**

To avoid possible explosion.

- (1) Be sure bolt cam pin is installed in the bolt carrier and striker assembly**
- (2) Never exchange or switch bolt carrier and striker assembly between weapons.**
- (3) Use only authorized ammunition.**
- (4) Do not fire weapon if there's water or any obstruction in the barrel and extension assembly.**

To avoid possible ammunition cook-off

If your weapon stops firing with a live round in the chamber of a hot barrel and extension assembly, remove the cartridge magazine immediately and remove the round by charging action.

To avoid injury to personnel

- (1) Single hearing protection must be worn when firing the firing port weapon from vehicle.**
- (2) Brass catcher bag/evacuation hose system must be installed when firing the firing port weapon.**
- (3) Be sure to clear weapon before disassembly, cleaning, inspecting, transporting, or storing.**

FIRST AID

For further information on first aid, see FM 21-11

Technical Manual

No. 9-1005-309-10

HEADQUARTERS
DEPARTMENT OF THE ARMY
Washington D.C., 5 August 1997

**OPERATOR'S MANUAL
SUBMACHINE GUN, 5.56-MM: PORT, FIRING, M231
(1005-01-081-4582)**

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.

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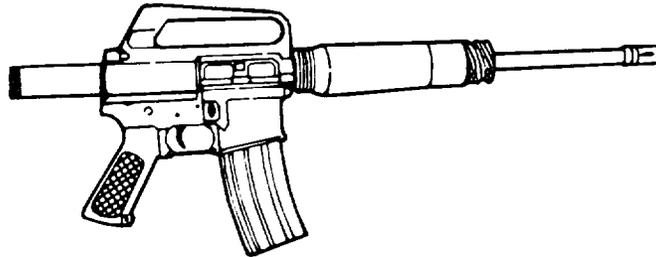
*This manual supersedes TM 9-1005-309-10, 4 April 1986.

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**CHAPTER 1
INTRODUCTION**

Section I. GENERAL INFORMATION



WARNING

The firing port weapon may be used in the hand-held off-vehicle mode only in a combat emergency situation. The weapon is not authorized for off-vehicle use during training. When used on the vehicle, the following precautions must be taken:

GENERAL INFORMATION-CONT

- a. The muzzle tends to rise when the weapon is fired. Take a firm grip on the weapon. A positive effort is required to keep the muzzle down.
- b. The barrel collar becomes hot when the weapon is fired. Do not touch the barrel collar.
- c. Single hearing protection must be worn when firing the firing port weapon from vehicle.
- d. Brass catcher bag/evacuation hose system must be installed when firing the firing port weapon.

1-1. SCOPE.

- a. Type of Manual: Operator's manual.
- b. Model Number and Equipment Name: M231 firing port 5.56-mm submachine gun (firing port weapon).
- c. Purpose of Equipment: To provide personnel inside vehicle a suppressive fire capability while in the mounted role.

Weapon can be removed for field use under combat emergency conditions. The weapon is not authorized for off-vehicle use during training.

1-2. MAINTENANCE FORMS AND RECORDS.

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

1-3. REPORTING EQUIPMENT IMPROVEMENT RECOMMENDATIONS (EIR'S).

If your firing port weapon needs improvement, let us know. Send us an EIR. You, the user, are the only one who can tell us what you don't like about your equipment. Let us know why you don't like the design or performance. Put it on an SF 368 (Quality Deficiency Report). Mail it to us at Commander, U.S Army Armament Research, Development and Engineering Center, ATTN: AMSTA-AR-QAW-A (R)/Customer Feedback Center, Rock Island, IL 61299-7300. We'll send you a reply.

Section II. EQUIPMENT DESCRIPTION

1-4. EQUIPMENT CHARACTERISTICS, CAPABILITIES, AND FEATURES.

The firing port weapon:

- a. Is Lightweight, air-cooled, gas operated, cartridge magazine fed, mounted in a ball firing port in the vehicle.

1-4. EQUIPMENT CHARACTERISTICS, CAPABILITIES, AND FEATURES-CONT.

- b. Fires full automatic only, beginning from open bolt carrier and striker assembly position.
- c. Provides personnel inside vehicle with suppressive fire capability while in a mounted role.

1-5. EQUIPMENT DATA.

Weight:

Without 30-round cartridge magazine	7.34 lb (3.33 kg)
With 30-round cartridge magazine	8.34 lb (3.79 kg)

Overall length 28.25 in. (71.76 cm)

Firing rate (full automatic only):

Sustained (short bursts)	50 to 60 rds per min
Minimum cyclic	1225 rds per min

Maximum effective range 328 yds (300 m)

**CHAPTER 2
OPERATING INSTRUCTIONS**

Section I. DESCRIPTION AND USE OF OPERATOR'S CONTROLS

2-1. GENERAL.

WARNING

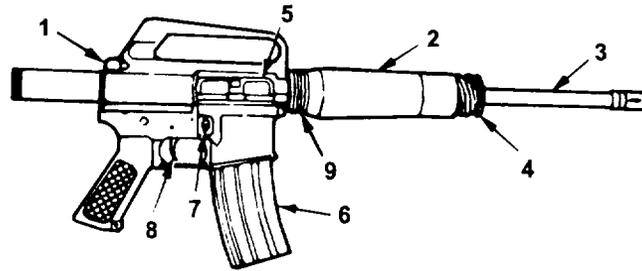
To be considered **SAFE** before disassembly, cleaning, inspecting, transporting, or storing, the weapon must be cleared.

NOTE

This manual does not depict the weapon mounted, so that you may more clearly view the weapon and it's operation.

2-1. GENERAL-CONT.

Familiarize yourself with the following parts before operating the firing port weapon.



2-2

CHARGING HANDLE (1)-cocks weapon when preparing to fire or clearing weapon.

HANDGUARD (2)-protects operator from heat of barrel and extension assembly (3) during firing.

BARREL AND EXTENSION ASSEMBLY (3)-directs the projectile upon firing.

BARREL COLLAR (4)-attaches the weapon to the port in the vehicle.

EJECTION PORT COVER (5)-protects upper receiver from foreign matter when weapon is not in use.

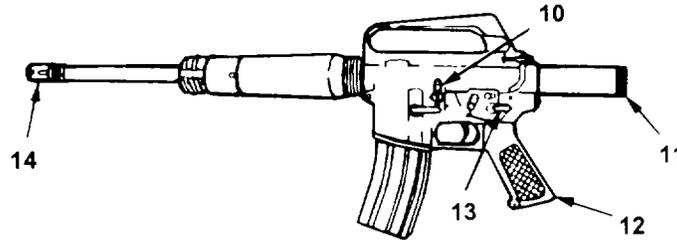
CARTRIDGE MAGAZINE (6)-supplies 30 rounds of ammunition to the weapon.

MAGAZINE CATCH BUTTON (7)-when pushed releases cartridge magazine (6) from the weapon.

TRIGGER (8)-controls the firing of the weapon.

HANDGUARD SLIP RING (9)-keeps handguards in place.

2-1. GENERAL-CONT.



BOLT CATCH (10)-locks bolt carrier and striker assembly to the open position after last round is fired.

DRIVE SPRING AND GUIDE ASSEMBLY (11)-provides force to close bolt carrier and striker assembly and fire weapon.

RIFLE GRIP (12)-aids operator in stabilizing and aiming the weapon.

SELECTOR LEVER (13)-arms or safes the weapon.

FLASH SUPPRESSOR (14)-reduces the amount of flash from muzzle when weapon is fired.

Section II. PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS)

2-2. GENERAL.

NOTE

An inactive weapon is a weapon, whether assigned or not assigned to an individual, that is stored in an arms room for a period of 90 days. Normal cleaning (PMCS) of an inactive weapon will be performed every 90 days.

Perform AFTER operations PMCS if: you are the assigned operator and the weapon has been stored in the arms room and not used for a period of 90 days, or you have been issued the weapon for the first time.

- a. Before You Operate.** Perform your Before PMCS.
- b. During Operation.** Perform your During PMCS.
- c. After Operation.** Perform your After PMCS.
- d. If Your Equipment Falls to Operate.** Troubleshoot with proper equipment. Report any deficiencies using the proper forms, see DA PAM 738-750. If you cannot correct it yourself, notify your supervisor.

2-3. PMCS PROCEDURES.

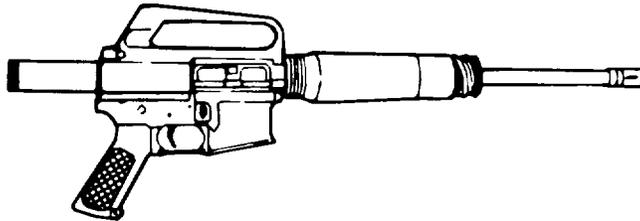
The PMCS table 2-1 lists those required checks and services to be performed by personnel who operate the firing port weapon. The table is divided as follows:

- a. Item No. Column.** Checks and services are numbered in disassembly sequence. This column shall be used as a source of item numbers for the TM Number: column on DA Form 2404, Equipment Inspection and Maintenance Worksheet, in recording results of PMCS.
- b. Interval Column.** This column gives the designated interval when each check is to be performed.
- c. Item To Be Checked or Serviced Column.** This column lists the items to be checked or serviced.
- d. Procedure Column.** This column contains a brief description of the procedure by which the check is to be performed. It contains all the information required to accomplish the checks and services.
- e. Not Fully Mission Capable If: Column.** This column contains a brief statement of the condition (e.g., malfunction, shortage) that would cause the covered equipment to be less than fully ready to perform its assigned mission.

Item No.	Interval	Item to Be Checked/or Serviced	Procedure	Not Fully Mission Capable If:
1	Before	Tools and Equipment	<p style="text-align: center;">WARNING</p> <p>To avoid accidental firing, clear weapon before performing PMCS.</p> <p>Check authorized tools and equipment for completeness and serviceability.</p>	

Table 2-1. Operator Preventive Maintenance Checks and Services (PMCS)-Cont.

Item No.	Interval	Item to Be Checked/or Serviced	Procedure	Not Fully Mission Capable If:
2	Before	Firing Port Weapon	a. Look the weapon over for missing or damaged parts. Report any missing or damaged parts to organizational maintenance.	Part is damaged or missing.



Item No.	Interval	Item to Be Checked/or Serviced	Procedure	Not Fully Mission Capable If:
			<p>b. Field strip (p 3-26) weapon, then run cleaning rod with clean, dry small arms cleaning swab (item 16, app D) through bore. Go right through the flash suppressor.</p> <p>c. Reassemble the weapon (p 3-51).</p>	

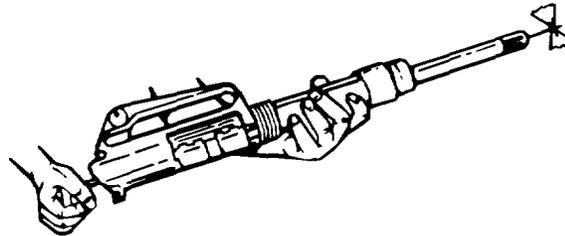


Table 2-1. Operator Preventive Maintenance Checks and Services (PMCS)-Cont.

Item No.	Interval	Item to Be Checked/or Serviced	Procedure	Not Fully Mission Capable If:
3	Before	Selector Lever (1)	a. Pull the charging handle (2) to rear and return. Place selector lever on SAFE-pull trigger (3); the bolt carrier and striker assembly (4) should not go forward.	Bolt carrier and striker assembly goes forward.

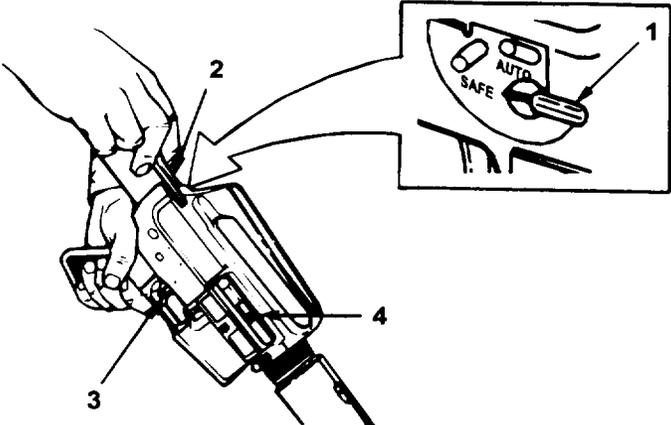
Item No.	Interval	Item to Be Checked/or Serviced	Procedure	Not Fully Mission Capable If:
				

Table 2-1. Operator Preventive Maintenance Checks and Services (PMCS)Cont.

Item No.	Interval	Item to Be Checked/or Serviced	Procedure	Not Fully Mission Capable If:
3 Cont			<p>b. Place selector lever (1) in AUTO position-pull trigger (3), the bolt carrier and striker assembly (4) should go forward.</p> <p>c. Hold trigger (3) to the rear-pull charging handle (2) to the rear. Bolt carrier and striker assembly (4) should not sear (lock to the rear).</p>	<p>Bolt carrier and striker assembly does not go forward.</p> <p>Bolt carrier and striker assembly does not go forward.</p>

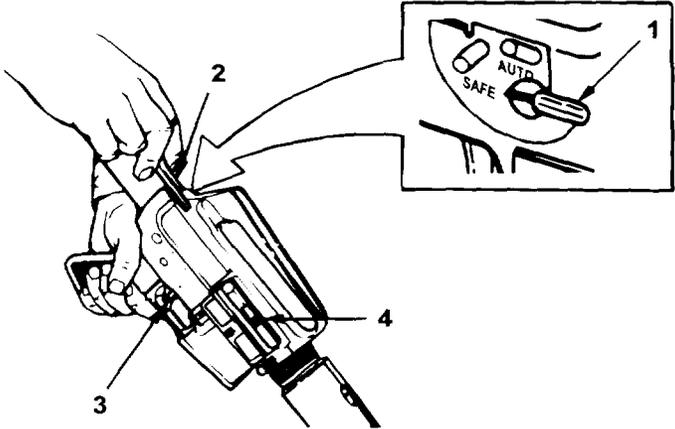
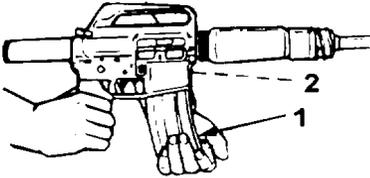
Item No.	Interval	Item to Be Checked/or Serviced	Procedure	Not Fully Mission Capable If:
				

Table 2-1. Operator Preventive Maintenance Checks and Services (PMCS)Cont.

Item No.	Interval	Item to Be Checked/or Serviced	Procedure	Not Fully Mission Capable If:
4 Magazine	Before Ensure cartridge magazine is empty.	Cartridge 	<p style="text-align: center;">WARNING</p> <p>a. Insert EMPTY cartridge magazine (1) into the cartridge magazine well (2) and slap upward on it to make sure it is properly seated. The magazine catch (3) should release the cartridge magazine (1) when the magazine catch button (4) is pressed.</p>	The magazine catch will not retain or release the magazine cartridge.

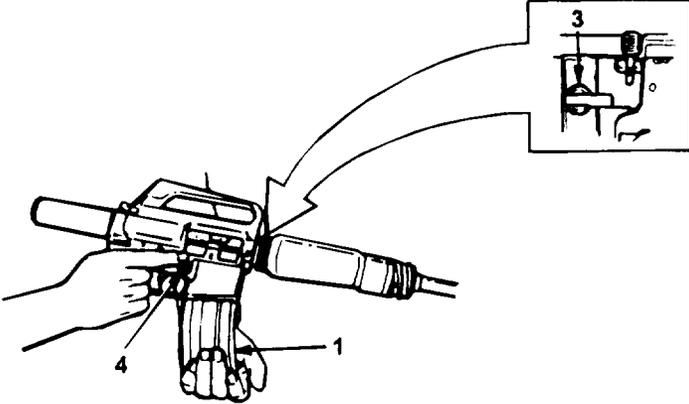
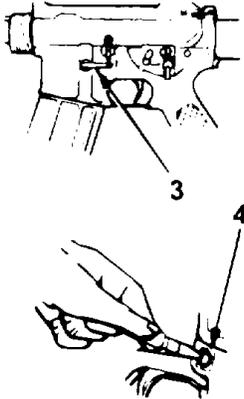
Item No.	Interval	Item to Be Checked/or Serviced	Procedure	Not Fully Mission Capable If:
				

Table 2-1. Operator Preventive Maintenance Checks and Services (PMCS)-Cont.

Item No.	Interval	Item to Be Checked/or Serviced	Procedure	Not Fully Mission Capable If:
4 Cont		<p>The right side of the firing port weapon has the magazine catch button, while the left side has the magazine catch.</p>	<p>NOTE</p> <p>b. If necessary, adjust the magazine catch (3) by pressing the magazine catch button (4) (use cleaning rod or a cartridge) until the magazine catch (3) protrudes beyond the left side of the lower receiver. To tighten, turn the magazine catch (3) clockwise. To loosen, turn it counterclockwise.</p>	

Item No.	Interval	Item to Be Checked/or Serviced	Procedure	Not Fully Mission Capable If:
5	During	Firing Port Weapon	<p style="text-align: center;">WARNING</p> <p>If there's water in the barrel and extension assembly, don't fire the weapon. Explosion could occur if the firing port weapon is fired with an obstruction in it.</p> <p>a. Periodically check firing port weapon for cleanness and foreign matter/material in bore. If required, clean bore (p 3-36). Unusual climatic conditions may call for more frequent checks during firing exercises.</p> <p style="text-align: center;">2-17</p>	

Table 2-1. Operator Preventive Maintenance Checks and Services (PMCS)-Cont.

Item No.	Interval	Item to Be Checked/or Serviced	Procedure	Not Fully Mission Capable If:
5 Cont			<p>b. Clean and lubricate (p 2-22) the firing port weapon after firing approximately 300 rounds or after one day of firing. Cleaning and lubricating of barrel and extension assembly (1) and bolt carrier and key assembly (2) are minimum requirements. Check for cracked or broken bolt cam pin (3), cracks around bolt cam pin hole (4), or cracked breech bolt locking lugs (5).</p> <p style="text-align: center;">2-18</p>	Part is cracked or broken.

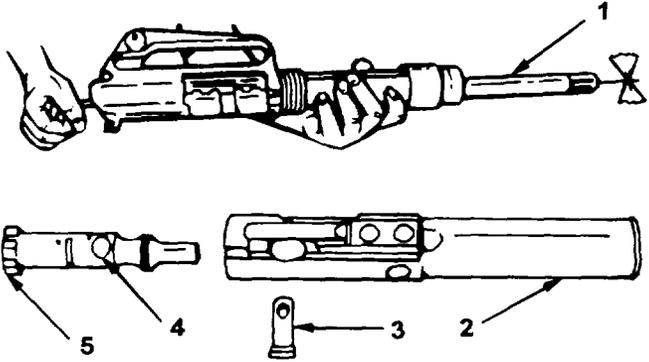
Item No.	Interval	Item to Be Checked/or Serviced	Procedure	Not Fully Mission Capable If:
 <p>The diagram illustrates the disassembly of a mechanical device. At the top, a hand is shown pulling a long rod (1) out of a main cylindrical body. Below this, the components are shown separated: a small cap (2) is removed from the main body (3), and a small pin (4) is removed from the cap (5).</p>				
<p>2-19</p>				

Table 2-1. Operator Preventive Maintenance Checks and Services (PMCS)-Cont.

Item No.	Interval	Item to Be Checked/or Serviced	Procedure	Not Fully Mission Capable If:
6	After	Firing Port Weapon	Field strip (p 3-26) weapon. Clean and lubricate (p 3-36). Report all damaged or missing parts to	Part is missing or damaged.
7	After	Cartridge Magazine	organizational maintenance. Disassemble cartridge magazine (p 3-33). lubricate, and inspect for damage (p 3-35).	Clean,
8	After	Tools and Equipment	Clean and lubricate tools, then stow in maintenance equipment case (item 7, app D).	
2-20				

Section III. OPERATION UNDER USUAL CONDITIONS

2-4. NORMAL OPERATION.

WARNING

If there's water in the barrel and extension assembly, don't fire the weapon. Explosion could occur if the firing port weapon is fired with an obstruction in it.

Ensure that red-colored M22 Blank Firing Attachment has been removed from end of barrel and flash suppressor (p 2-4) before using M196 tracer ammunition.

To avoid accidental firing, CLEAR YOUR WEAPON.

NOTE

Anytime the weapon is being loaded, unloaded, or in use, it must be mounted in the vehicle. (Refer to TM 9-2350-252-10-1 for installation procedures.) This manual does not depict the weapon mounted, so that you may more clearly view the weapon and it's operation.

2-4. NORMAL OPERATION-CONT.

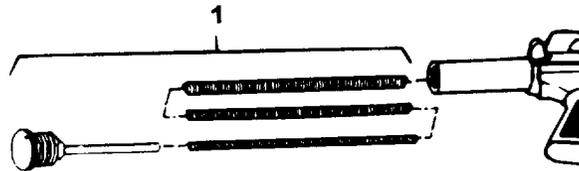
a. PREPARATION FOR FIRING-CLEAN AND LUBE.

- (1) Look for carbon fouling in BORE and CHAMBER. If dirty, go to step 2. If clean, go to LOADING (p 2-25).

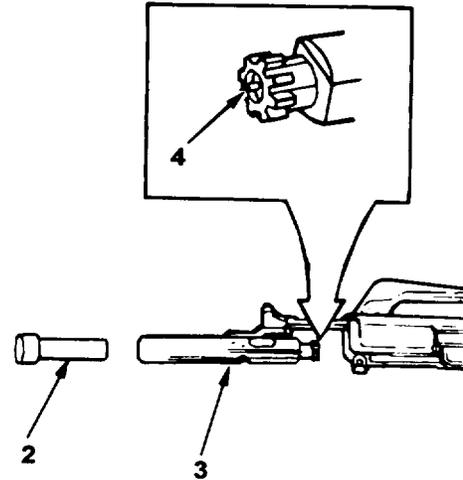
WARNING

Be careful removing spring loaded parts. Carelessness could result in injury.

- (2) With bolt carrier and striker assembly forward, remove drive spring and guide assembly (1). Break weapon open (p 3-28).



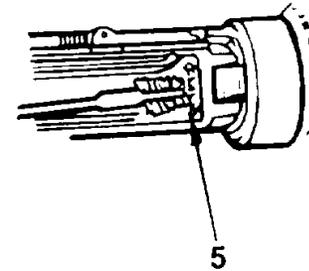
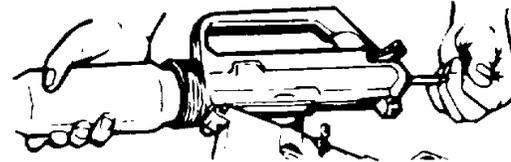
- (3) Remove firing hammer (2) and bolt carrier and striker assembly (3). Clean carbon and oil from firing pin (4) and all surfaces of bolt carrier and striker assembly (3) with dry swab (item 16, app D).
- (4) Disassemble bolt carrier and striker assembly (p 3-31).
- (5) bolt carrier and striker assembly (p 3-41). Lightly lube (p 3-45) paying special attention to breech bolt bearing surfaces and bolt cam pin areas.



2-4. NORMAL OPERATION-CONT.

a. PREPARATION FOR FIRING-CLEAN AND LUBE-continued.

- (6) Swab out (from chamber to muzzle) with swab (Item 16, app D).
- (7) Clean lugs (5). See page 3-37, step 2.
- (8) Lightly lube lugs (5) with LSA (item 12, app D).
- (9) Assemble the weapon (p 3-51).



b. INSTALLATION OF M2 INFANTRY FIGHTING VEHICLE.

Installation procedures can be found in TM 9-2350-252-10-1.

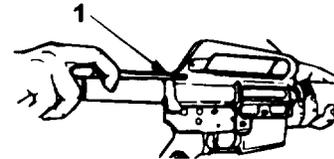
c. LOADING.

WARNING

The brass catcher bag/evacuation hose system must be installed when firing the firing port weapon.

Point muzzle in safe direction and place selector lever in SAFE position until you're ready to fire.

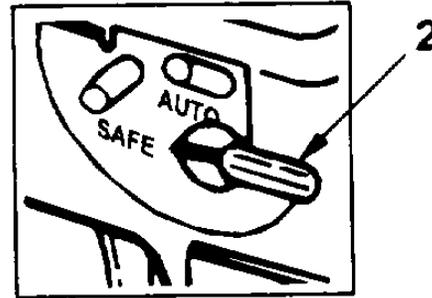
- (1) Pull charging handle (1) to rear and return.



2-4. NORMAL OPERATION-CONT.

c. LOADING-continued.

(2) Place selector lever (2) on SAFE.



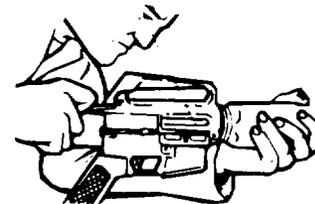
WARNING

To avoid accidental firing, always look into chamber after clearing weapon to ensure it does not contain a round. Never insert loaded cartridge magazine into the weapon until ready to fire.

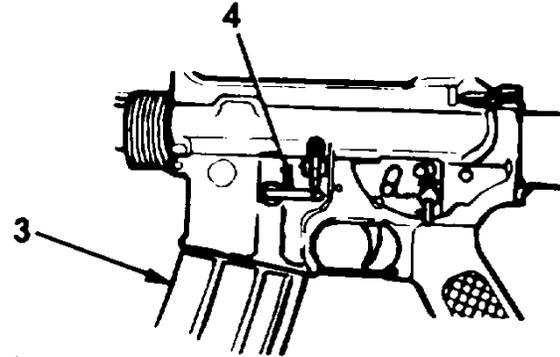
(3) Eyeball chamber. Clear?

NOTE

Cartridge magazine may be loaded with bolt carrier and striker assembly open or closed.



- (4) If chamber is clear, insert cartridge magazine (3). Push upward until magazine catch (4) engages and holds cartridge magazine (3).
- (5) Tap upward to make sure it's seated securely.



NOTE

Your weapon is now combat ready; e.g., ammunition loaded, bolt to the rear, and safety on.

d. FIRING.

NOTE

If your weapon stops while firing, take IMMEDIATE ACTION (p 2-32).

The firing port weapon charging handle must be manually returned to forward position, not just released. This is because the bolt carrier and striker assembly on the firing port weapon fires from the open position on full automatic only.

2-4. NORMAL OPERATION-CONT.

d. FIRING-continued.

- (1) BOLT CARRIER AND STRIKER ASSEMBLY OPEN (to the rear)

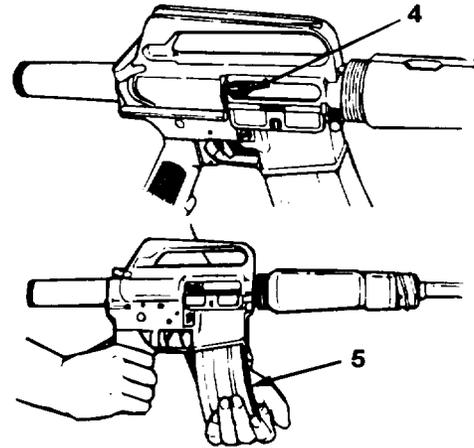


- (a) Insert loaded cartridge magazine.
 (b) Press bolt catch (1) to release bolt carrier and striker assembly into the seared position.
 (c) Move selector lever (2) to AUTO position.
 (d) Pull trigger (3). Round will feed, chamber, and fire.

NOTE

When last round in cartridge magazine is fired, the bolt carrier and striker assembly (4) will be locked to the rear (open position) by the bolt catch.

- (e) Release empty cartridge magazine (5).
- (f) Repeat steps 1 thru 5 to continue firing.



2-4. NORMAL OPERATION-CONT.

d. FIRING-continued.

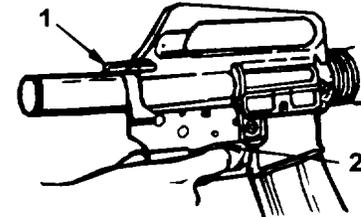
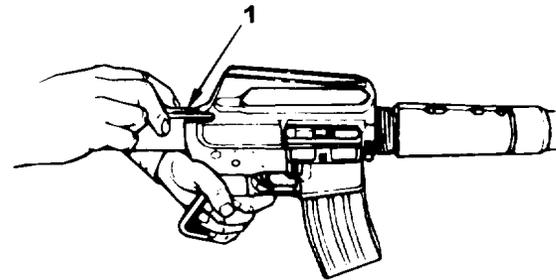
(2) BOLT CARRIER AND STRIKER ASSEMBLY CLOSED (forward and locked)

- (a) Insert loaded cartridge magazine.
- (b) Pull charging handle (1) fully rearward.

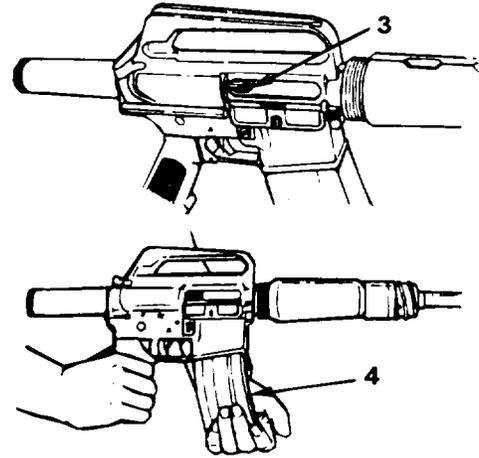
WARNING

Do not pull trigger until after the charging handle has been returned forward.

- (c) Manually return charging handle (1) forward. Pull trigger (2). Round will feed, chamber, and fire.



- (d) When last round in cartridge magazine is fired, the bolt carrier and striker assembly (3) will be locked to the rear (open position) by the bolt catch.
- (e) Release empty cartridge magazine (4) and insert full cartridge magazine.
- (f) Press bolt catch. Pull trigger to continue firing.



2-4. NORMAL OPERATION-CONT.

d. FIRING-continued.

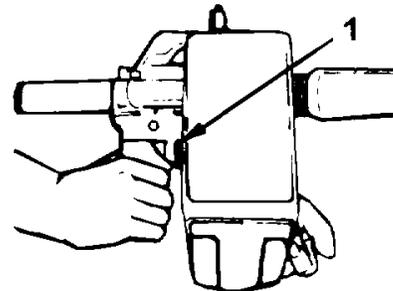
(3) IF YOUR WEAPON STOPS WHILE FIRING: TAKE **IMMEDIATE ACTION**

WARNING

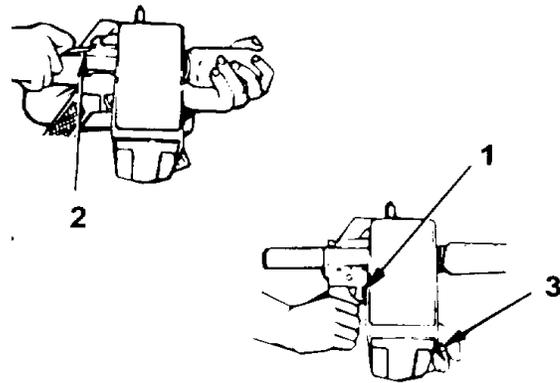
The weapon must **NOT** be removed from vehicle gun mount ball while performing immediate action. Always have the weapon muzzle pointed in a safe direction.

If continuous sustained firing precedes any stoppage/malfunction, the barrel will be hot. If weapon stops firing with a live round in the chamber of a hot barrel and extension assembly, remove the cartridge magazine immediately and remove the round by charging action. However, during training, if you cannot remove it within 10 seconds, wait 15 minutes with the bolt closed and the weapon pointing in a safe direction. This will preclude the possibility of injury due to a possible ammunition cook-off.

(a) Release trigger (1).



- (b) Pull charging handle (2) fully rearward and manually return it forward
- (c) Slap upward on cartridge magazine (3) to make sure it's secure.
- (d) Point muzzle in a safe direction and pull trigger (1)
- (e) If the weapon fires, continue the fire mission.
- (f) If the weapon does not fire:



- 1 Release trigger (1)
- 2 Pull charging handle (2) fully rearward and manually return it forward.
- 3 Remove cartridge magazine (3)
- 4 During training: Pull trigger (1) and wait 15 minutes.
- 5 Apply the following remedial action.

2-4. NORMAL OPERATION-CONT.**e. REMEDIAL ACTION.**

If your firing port weapon fails after performing IMMEDIATE ACTION and there is a cartridge case or cartridge in the chamber, perform the following procedures as they apply to your situation.

WARNING

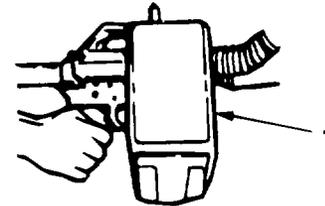
Be sure bolt carrier and striker assembly is closed (forward). If barrel is hot, WAIT 15 MINUTES for barrel and extension assembly to cool so you won't get hurt by an ammunition cook-off.

CAUTION

If projectile is lodged in the bore, do not attempt to remove it. Turn the weapon in to organizational maintenance.

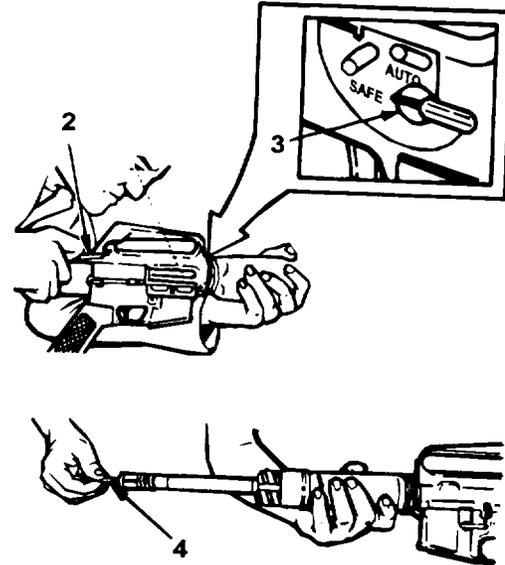
When the weapon is cool, perform the following procedures as they apply to your situation.

- (1) Remove brass catcher bag (1).



- (2) Pull charging handle (2) all the way back and observe ejection of cartridge. If it ejects, go to step 3. If it does not eject, place selector lever (3) on SAFE, remove weapon from gun mount ball and run cleaning rod (4) through the muzzle end to tap cartridge out. Place weapon back into gun mount ball.

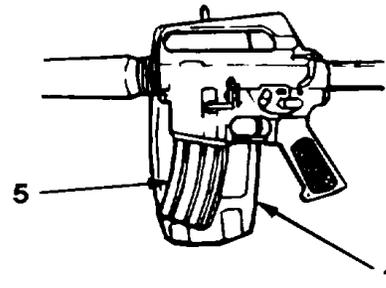
CAUTION
Barrel may be hot.



2-4. NORMAL OPERATION-CONT.

e. REMEDIAL ACTION-continued.

- (3) Attach brass catcher bag (1), insert loaded cartridge magazine (5) and resume normal operation. If it still won't fire, go to step 4.



- (4) Remove cartridge magazine (5) and brass catcher bag (1). Clear weapon, remove weapon from gun mount ball, field strip (p 3-26), and inspect for the cause. Refer to troubleshooting table on page 3-4. Notify organizational maintenance if weapon needs repair. If not, perform PMCS (p 2-5), place weapon back into gun mount ball, attach brass catcher bag (1), insert loaded cartridge magazine (5), and attempt to fire. If weapon still will not fire, remove cartridge magazine (5) and brass catcher bag (1), clear weapon (p 2-37), place selector lever on SAFE, remove from gun mount ball, and notify organizational maintenance.

f. **CLEARING YOUR WEAPON.**



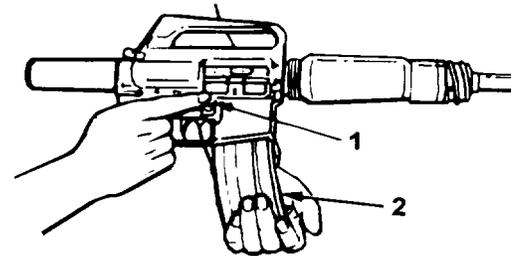
WARNING

To avoid accidental firing, always look into chamber after clearing weapon to make sure it does not contain a round.

NOTE

If weapon is not cocked, selector lever cannot be pointed toward **SAFE**.

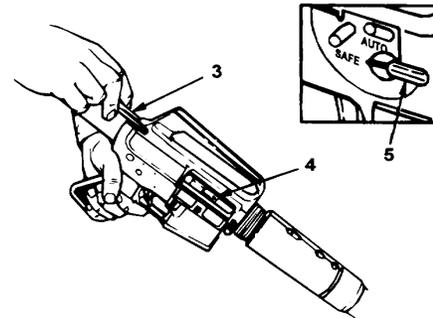
- (1) Press magazine catch button (1), pull cartridge magazine (2) down and remove.



2-4. NORMAL OPERATION-CONT.

f. CLEARING YOUR WEAPON-continued.

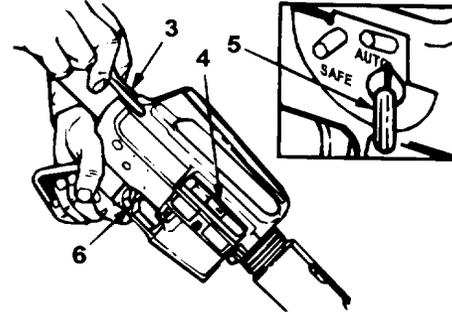
- (2) Pull charging handle (3) to lock bolt carrier and striker assembly (4) rearward. Inspect chamber. If clear, return charging handle (3) forward. Place selector lever (5) on SAFE.



NOTE

If weapon is to be stored, bolt carrier and striker assembly should be in forward position.

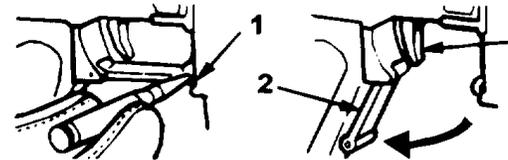
- (3) Place selector lever (5) on AUTO. Pull charging handle (3) to rear and hold. Pull trigger (6), and ease charging handle (3) forward to close bolt carrier and striker assembly (4).



Section IV. OPERATION UNDER UNUSUAL CONDITIONS

2-5. EXTREME COLD CLIMATES.

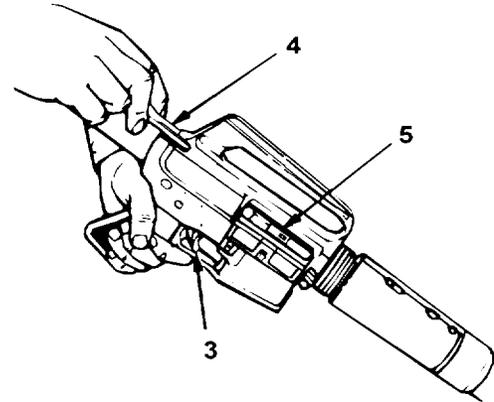
- a. When using arctic mittens, depress spring pin (1) and open trigger guard (2) for easy access to trigger (3).



2-5. EXTREME COLD CLIMATES-CONT.**NOTE**

Before firing cold weapon, dry cycle it two or three times prior to inserting cartridge magazine.

- b. To dry cycle weapon, perform the following steps:
- (1) Pull charging handle (4) to rear until bolt carrier and striker assembly (5) locks.
 - (2) Manually return charging handle assembly (4) to forward position.
 - (3) Pull trigger (3).
 - (4) Repeat two or three times.



- (5) Prior to using cartridge magazine loaded with cartridges, perform the following:
 - (a) Remove a few cartridges from the cartridge magazine.
 - (b) Press down on the remaining cartridges in the cartridge magazine to ensure cartridges and internal parts of cartridge magazine are free to move and are not frozen in the cartridge magazine.
 - (c) Replace the cartridges removed from the cartridge magazine.
 - (d) Perform same functional checks on loaded cartridge magazines as performed on weapons (see 2-5f).
- c. Clean and lube weapon with weapons lubricating oil (LAW) (item 11, app D). Cleaning and lubrication should be done in a warm area. Weapon temperature should be room temperature.
- d. Apply lubrication In LIGHT coats to the functional parts.
- e. To prevent freezing, keep the weapon covered when moving from a warm to a cold area to allow gradual cooling.

2-5. EXTREME COLD CLIMATES-CONT.

- f. Perform functional check every 30 minutes to keep weapon and cartridge magazine from freezing up.
- g. Keep the weapon dry.
- h. Do NOT lay a HOT weapon directly in snow or ice. If it is necessary, allow weapon to COOL first.
- i. Keep the ammunition dry. Moisture will cause malfunctions. DO NOT LUBE AMMUNITION.

2-6. HOT, WET CLIMATES.

- a. Perform maintenance as outlined in the PMCS, pages 2-5 thru 2-20.
- b. Perform maintenance more frequently. Inspect hidden surfaces of the bolt carrier and striker assembly, upper receiver and barrel assembly, and lower receiver and receiver extension assembly for corrosion. Make sure they are cleaned and lubricated.
- c. To prevent corrosion on metal surfaces, remove hand prints with swab (item 16, app D). Dry and lubricate with LSA (item 12, app D).
- d. Check ammunition for corrosion frequently. Clean using RBC (item 9, app D) and a swab (item 16, app D). Wipe dry.

2-7. HOT, DRY CLIMATES.

NOTE

Hot, dry climates are usually areas containing dust and sand.

a. Lightly lube only the internal working surfaces using LSA (item 12, app D). **DO NOT APPLY GENEROUS AMOUNTS OF LUBRICATION.** Oil will collect dust and sand, causing excessive wear and malfunctions.

CAUTION

Firing the weapon with the muzzle cap installed is not dangerous but the muzzle cap will most likely be lost.

b. Use the muzzle cap (item 6, app D) to protect the bore from accumulation of dust and sand. When firing, remove muzzle cap and keep for future use.

c. Use the cartridge magazine protective bags (item 1, app D) to keep dust and sand out and the ammunition clean. If moisture accumulates inside the cartridge magazine protective bags, dry the ammunition and cartridge magazine to prevent corrosion.

2-8. HEAVY RAIN OR FORDING.

CAUTION

Firing the weapon with the muzzle cap installed is not dangerous but the muzzle cap will most likely be lost.

- a. Use the protective (muzzle) cap (item 6, app D) to prevent water from entering the bore of the barrel and barrel collar assembly. When firing, remove the muzzle cap and keep for future use.
- b. If water gets in the barrel and extension assembly, dry with a swab (item 16, app D) and cleaning rod before firing.

2-9. NUCLEAR, BIOLOGICAL, AND CHEMICAL (NBC) DECONTAMINATION PROCEDURES.

Decontamination procedures can be found in FM 3-3, FM 3-5, and TM 3-4230-216-10.

**CHAPTER 3
MAINTENANCE INSTRUCTIONS**

Section I. LUBRICATION INSTRUCTIONS

3-1. LUBE GUIDE.

CAUTION

Do not use Cleaner, Lubricant, Preservative (CLP) on this weapon.

NOTE

Lube instructions are mandatory.

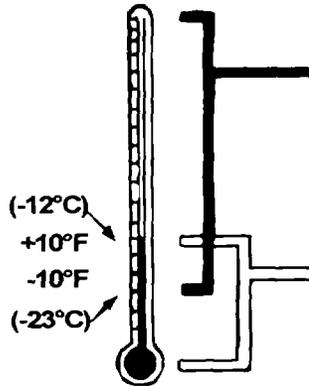
Under all but the coldest arctic conditions, LSA (item 12, app D) is the lubricant to use on your weapon. Remember to remove excessive oil from the bore before firing.

Do not mix lubricants on the same weapon. The weapon must be thoroughly cleaned during change from one lubricant to another. Dry Cleaning Solvent (SD) is recommended for cleaning during change from one lubricant to another.

Rifle Bore Cleaner (RBC) (item 9, app D) may be used to remove carbon buildup in the bore and other portions of the weapon.

Lightly Lube - A film of oil barely visible to the eye.

Generously Lube - Heavy enough so that it can be spread with the finger.



LSA (item 12, app D)-Weapons lubricating oil.

Between -100F (-230°C) and +100F (-120C) use LSA (item 12, app D) or LAW (item 11, app D). However, do not use both on the same weapon at the same time. LAW (item 11, app D) is the lubricant to use during cold arctic conditions.

LAW (item 11, app D)-Weapons lubricating oil.

Section II. TROUBLESHOOTING PROCEDURES

3-2. INTRODUCTION.

NOTE

This manual does not depict the weapon mounted, so that you may more clearly view the weapon and it's operation.

- a. Table 3-1 lists the common malfunctions which you may find during the operation or maintenance of the firing port weapon. 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 organizational maintenance.
- c. There are no troubleshooting procedures for the blank firing attachment. It is an extremely simple device to use.

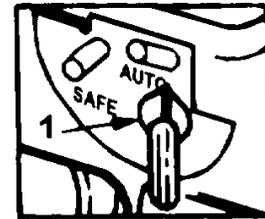
Table 3-1. Troubleshooting.

MALFUNCTION
TEST OR INSPECTION
CORRECTIVE ACTION

1. WEAPON WILL NOT FIRE.

Step 1. Check to see if selector lever (1) is in SAFE position.

Place in AUTO position.



Step 2. Check for bad, damaged, or bent ammunition.

Remove and dispose of, using authorized procedures.

MALFUNCTION

TEST OR INSPECTION

CORRECTIVE ACTION

Step 3. Check for improper assembly of firing pin (2).

Assemble correctly (p 3-53).



Step 4. Check for too much oil in firing pin recess (3).

Wipe off excess.



Step 5. Check for too much carbon on firing pin (2).

Clean the firing pin (2) with a swab (item 16, app D) saturated with RBC (item 9, app D).

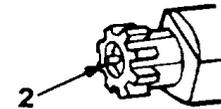
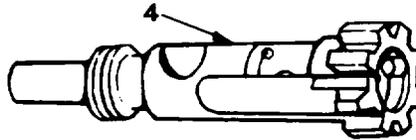


Table 3-1. Troubleshooting-Cont.

MALFUNCTION
TEST OR INSPECTION
CORRECTIVE ACTION

2. BOLT CARRIER AND STRIKER ASSEMBLY WILL NOT UNLOCK.

Step 1. Check for dirty breech bolt (4).

Clean (p 3-42).

Step 2. Check for burred breech bolt (4).

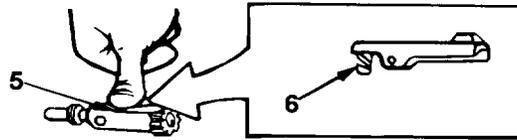
Notify organizational maintenance.

MALFUNCTION
TEST OR INSPECTION
CORRECTIVE ACTION

3. WEAPON WILL NOT EXTRACT.

Step 1. Check for stuck cartridge or cartridge case in chamber.

Remove stuck cartridge or cartridge case (p 2-34).



Step 2. Check for broken cartridge extractor (5) or extractor spring assembly (6).

Replace breech bolt and notify organizational maintenance.

Table 3-1. Troubleshooting-Cont.

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION**

3. WEAPON WILL NOT EXTRACT-continued.

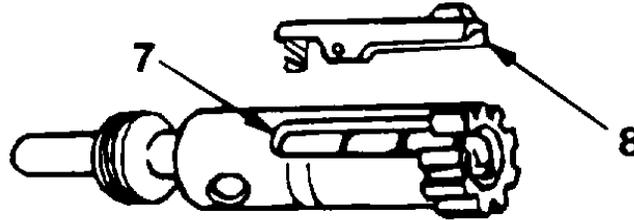
Step 3. Check for dirty or corroded ammunition.

Clean dirty or corroded ammunition using RBC (Item 9, app D) and a swab (item 16, app D). Wipe dry.

Step 4. Check for carbon in chamber.

Clean (p 3-36).

MALFUNCTION
TEST OR INSPECTION
CORRECTIVE ACTION



Step 5. Check for carbon in cartridge extractor opening (7) on breech bolt or cartridge extractor lip (8).

Clean (p 3-42).

4. WEAPON WILL NOT FEED.

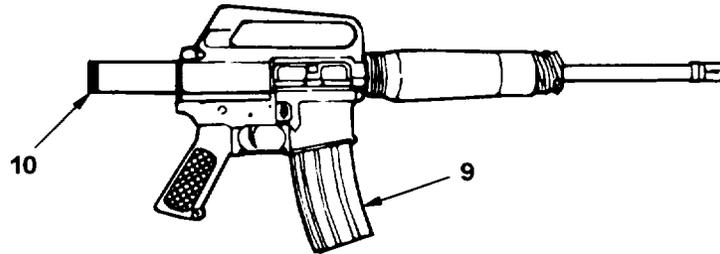
Step 1. Check for dirty or corroded ammunition.

Clean dirty or corroded ammunition using RBC (item 9, app D) and a swab (item 16, app D). Wipe dry.

Table 3-1. Troubleshooting-Cont.

MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
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4. WEAPON WILL NOT FEED-continued.



Step 2. Check for dirty cartridge magazine (9).

Clean (p 3-35).

MALFUNCTION

TEST OR INSPECTION

CORRECTIVE ACTION

Step 3. Check for defective cartridge magazine (9).

Replace cartridge magazine (app C).

Step 4. Check for too many rounds in cartridge magazine (9).

Remove excess.

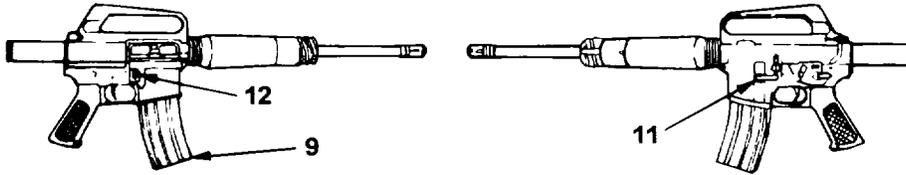
Step 5. Check for correct drive spring and guide assembly (10) action.

a. Clean (p 3-40).

b. If it still won't operate properly, notify organizational maintenance.

Table 3-1. Troubleshooting-Cont.

MALFUNCTION
TEST OR INSPECTION
CORRECTIVE ACTION



5. CARTRIDGE MAGAZINE WILL NOT STAY SECURE.

Step 1. Check for defective cartridge magazine (9).

Replace cartridge magazine (app C).

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION**

Step 2. Check for loose or tight adjustment of magazine catch (11).

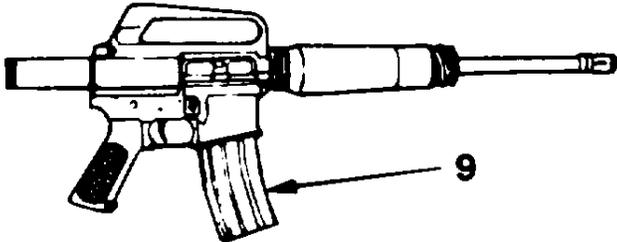
NOTE

The right side of the firing port weapon has the magazine catch button, while the left side has the magazine catch.

- a. Press magazine catch button (12) until magazine catch (11) protrudes beyond lower receiver.
- b. Turn magazine catch (11) a full turn clockwise to tighten and a full turn counterclockwise to loosen.
- c. Tighten or loosen magazine catch (11) until cartridge magazine will stay fully secure.

Table 3-1. Troubleshooting-Cont.

MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
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6. CARTRIDGE MAGAZINE DOUBLE FEEDS.

Check for loose cartridges in cartridge magazine (9).

Replace cartridge magazine (app C).

7. ROUND WILL NOT CHAMBER.

Step 1. Check for dirty or corroded ammunition.

Clean dirty or corroded ammunition using RBC (item 9, app D) and a swab (item 16, app D). Wipe dry.

MALFUNCTION

TEST OR INSPECTION

CORRECTIVE ACTION

Step 2. Check for bad, damaged, or bent ammunition.

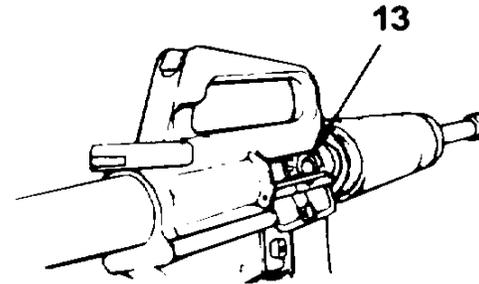
Notify unit maintenance.

Turn in bad ammunition.

Step 3. Check for carbon in chamber (13).

Clean (p 3-36).

Step 4. Check for ruptured cartridge in chamber (13).



8. BOLT CARRIER AND STRIKER ASSEMBLY WILL NOT LOCK.

Step 1. Check for dirt, corrosion, or carbon buildup in upper receiver and barrel assembly locking lugs (14).

Clean (p 3-36).

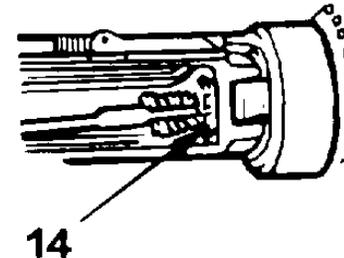


Table 3-1. Troubleshooting-Cont.

MALFUNCTION
TEST OR INSPECTION
CORRECTIVE ACTION

8. BOLT CARRIER AND STRIKER ASSEMBLY WILL NOT LOCK-continued.

Step 2. Check for frozen cartridge extractor (5).

Remove (p 3-32) and clean (p 3-42).



Step 3. Check for correct drive spring and guide assembly (10) action.

Remove (p 3-26) and clean (p 3-40).

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION**



Step 4. Check for correct movement of bolt carrier and striker assembly (15).

Remove (p 3-30) clean (p 3-41), and lube (p 3-45).

Step 5. Check for bent gas tube.

If bent, notify your armorer.

9. WEAPON WILL NOT EJECT.

Step 1. Check for carbon or dirt in key (16) of bolt carrier and key assembly (17).

Clean (p 3-42).

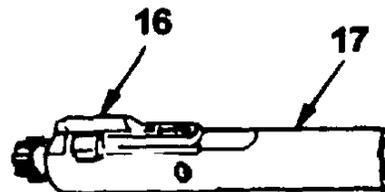
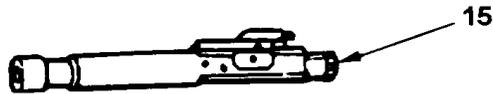


Table 3-1. Troubleshooting-Cont.

MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
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9. WEAPON WILL NOT EJECT-continued.

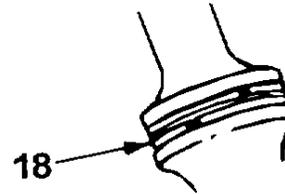


Step 2. Check for improper assembly of bolt carrier and striker assembly (15).

Assemble correctly (p 3-51), be sure firing pin retaining pin is assembled into the larger opening of bolt carrier and key assembly from left side only.

Step 3. Check for gaps in bolt rings (18) (not staggered).

Stagger bolt ring gaps (p 3-52).



MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
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Step 4. Broken or stuck ejector (19).



Replace breech bolt (p 3-30).

10. BOLT CARRIER AND STRIKER ASSEMBLY FAILS TO LOCK TO REAR AFTER LAST ROUND.

Step 1. Check for dirty or corroded bolt catch (20)

Clean (p 3-48).

Step 2. Check for bad or damaged cartridge magazine (9).

Replace cartridge magazine (app C).

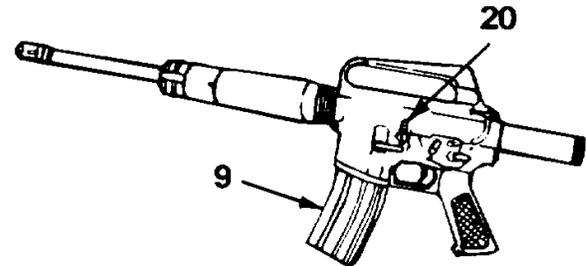
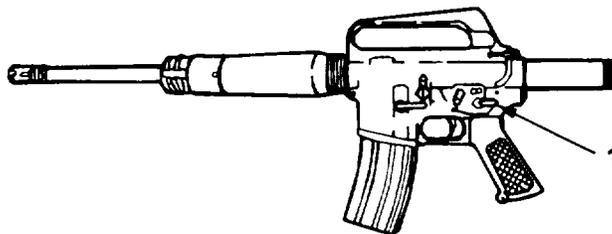


Table 3-1. Troubleshooting-Cont.

MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
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11.	SELECTOR LEVER (1) TURNS HARD.	
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Inspect for insufficient lubrication.

Lube (p 3-50).

12.	BOLT CARRIER AND STRIKER ASSEMBLY "HUNG UP".	
-----	---	--

Check for round jammed between bolt carrier and striker assembly and charging handle.

WARNING

To avoid injury do not remove the firing port weapon from firing port, keep personnel clear of muzzle.

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION**

- a. Remove cartridge magazine.
- b. Hold charging handle back and bang cartridge magazine well with your hand.
- c. EASE charging handle forward. Round will fall through cartridge magazine well.

Section III. MAINTENANCE PROCEDURES**NOTE**

Use wiping rag (item 13, app D) to wipe excess lubrication from parts.

Apply RBC (item 9, app D) from bottle (item 2, app D).

The cleaning rod consists of handle section (item 10, app D) and rod section (item 14, app D). When using a swab (item 16, app D) with cleaning rod, also use swab holder section (item 15, app D).

3-3. INSTALLATION AND REMOVAL OF M22 BLANK FIRING ATTACHMENT.

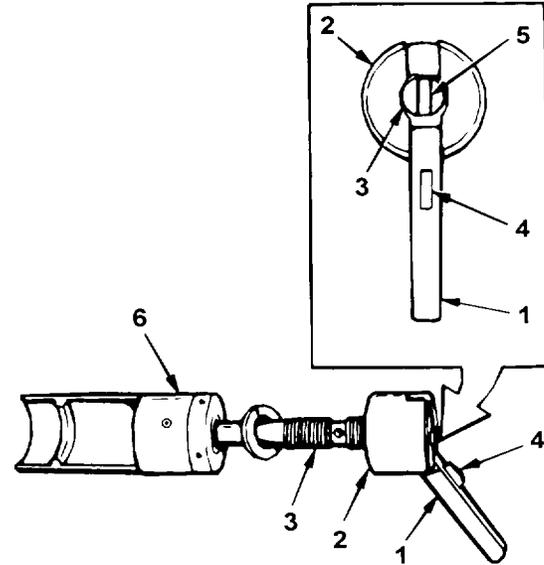
NOTE

The M22 blank firing attachment (app C) is painted red.

The body cannot be removed from the restrictor.

a. INSTALLATION.

- (1) Rotate handle (1) counterclockwise until knob
- (2) disengages thread on restrictor (3). (2) Align tab (4) on handle (1) with slot (5) in end of restrictor (3). Engage handle and rotate counterclockwise until threads of restrictor (3) are fully disengaged from body (6).

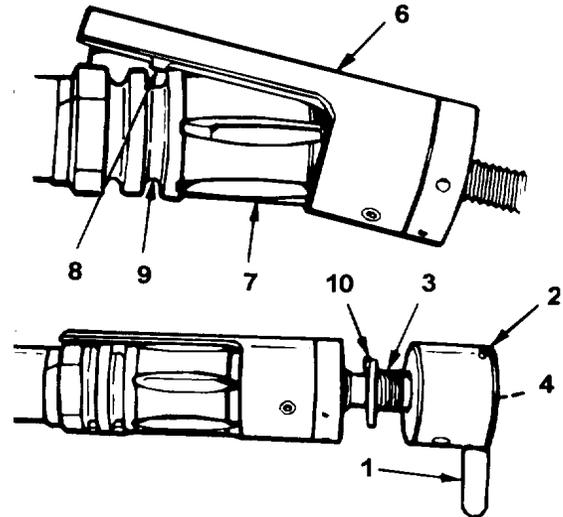


(3) Install body (6) on flash suppressor (7) on weapon by engaging half ring (8) on body with flash suppressor groove (9).

CAUTION

Do not use tools to tighten blank firing attachment. Handtighten only.

(4) Aline tab (4) on handle (1) with slot in end of restrictor (3). Engage handle and rotate clockwise to firmly seat restrictor against end of barrel. Do not overtighten.



(5) Disengage handle (1) from slot (5) in restrictor (3) to extended position and rotate clockwise to tighten knob (2) until lockwasher (10) is fully compressed.

3-3. INSTALLATION AND REMOVAL OF M22 BLANK FIRING ATTACHMENT-CONT.

a. INSTALLATION-continued.

WARNING

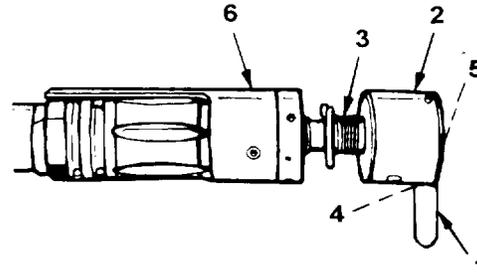
After first 60 rounds fired, check to insure that M22 blank firing attachment remains properly secured to weapon. Be sure to clean carbon buildup from all components after each training exercise.

NOTE

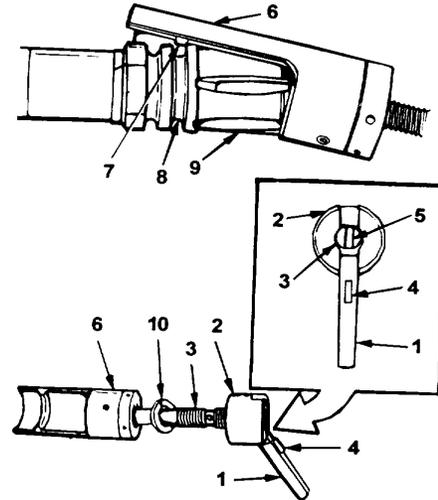
The weapon with the M22 blank firing attachment installed can be installed and removed from vehicle.

b. REMOVAL.

- (1) With handle (1) in extended position, rotate handle counterclockwise until knob (2) disengages threads on restrictor (3).
- (2) Align tab (4) on handle (1) with slot (5) in end of restrictor (3). Engage handle and rotate counterclockwise until threads of restrictor are fully disengaged from body (6).



- (3) Disengage half ring (7) from flash suppressor groove (8) and remove body (6) from flash suppressor (9) on weapon.
- (4) Move handle (1) to extended position and rotate handle clockwise to tighten knob (2). Do not compress lockwasher (10).



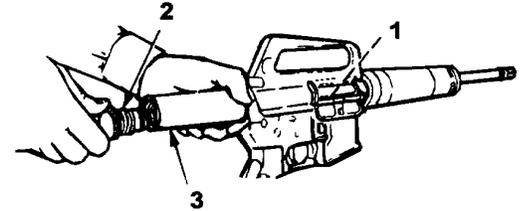
3-4. FIELD STRIP.

a. DRIVE SPRING AND GUIDE ASSEMBLY.

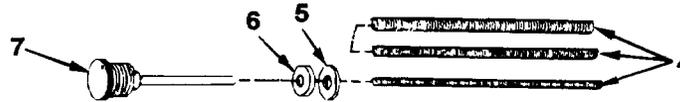
WARNING

To avoid accidental firing, be sure weapon is clear (p 2-37) and bolt carrier and striker assembly is forward.

Be careful when removing spring loaded parts. Carelessness could result in injury.



- (1) With bolt carrier and striker assembly (1) forward, unscrew the drive spring and guide assembly (2) counterclockwise from the receiver extension (3) and remove.



- (2) Remove three helical compression springs (4), flat washer (5), recoil buffer (6), and retainer assembly (7).

b. HANDGUARDS.

NOTE

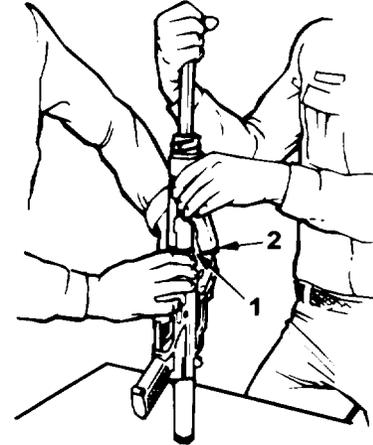
Remove and clean only if dirt or corrosion can be seen through handguard vent holes.

- (1) Push down handguard slip ring (1)

NOTE

Two soldiers may be required to remove handguards; one to push down handguard slip ring and one to remove handguards.

- (2) Remove handguards (2).



3-4. FIELD STRIP-CONT.

c. UPPER AND LOWER RECEIVERS.

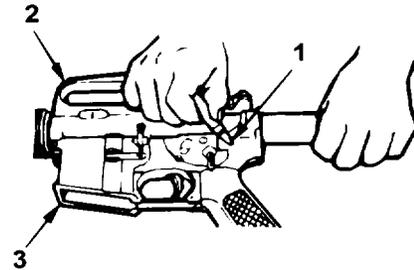
WARNING

Bolt carrier and striker assembly must be forward or injury to personnel may result.

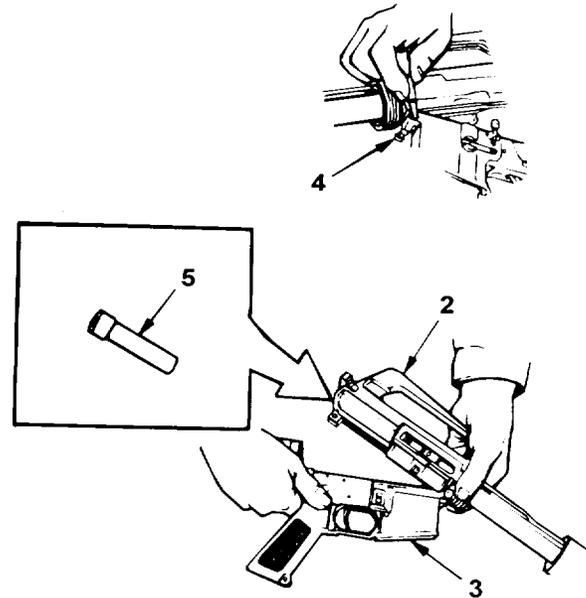
CAUTION

Do not force takedown pin or pivot pin beyond the stops or receiver damage will occur.

- (1) Push takedown pin (1) as far as it goes and pivot upper receiver (2) from lower receiver (3).



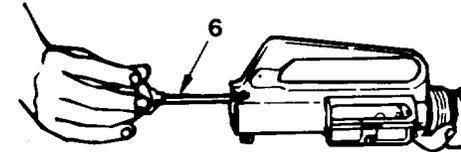
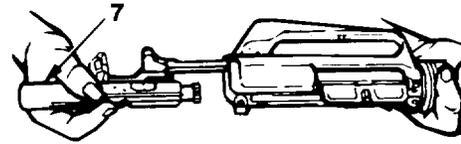
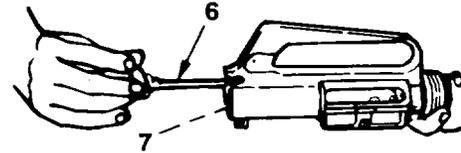
- (2) Push pivot pin (4) as far as it goes.
- (3) Separate upper and lower receivers (2 and 3).
- (4) Remove firing hammer (5).



3-4. FIELD STRIP-CONT.

c. UPPER AND LOWER RECEIVERS-continued.

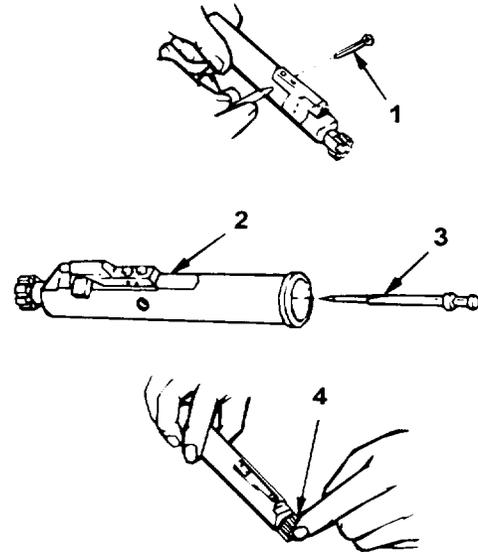
- (5) Pull back charging handle (6) and bolt carrier and striker assembly (7).
- (6) Remove bolt carrier and striker assembly (7).
- (7) Pull charging handle (6) back and down to remove.



d. DISASSEMBLY OF BOLT CARRIER AND STRIKER ASSEMBLY.**CAUTION**

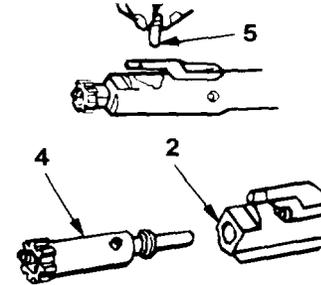
Do not open or close split end of firing pin retaining pin.

- (1) Remove firing pin retaining
- (2) Raise front of bolt carrier and striker assembly (2). Firing pin (3) will drop out rear of bolt carrier and striker assembly (2). Catch it.
- (3) Put breech bolt (4) in lock position by pushing in.



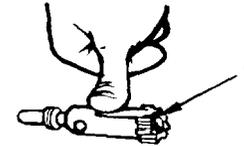
3-4. FIELD STRIP-CONT.**d. DISASSEMBLY OF BOLT CARRIER AND STRIKER ASSEMBLY-continued.**

- (4) Give bolt cam pin (5) a $\frac{1}{4}$ turn and lift out.
- (5) Remove breech bolt (4) from bolt carrier and key assembly (2).

**e. DISASSEMBLY OF BREECH BOLT ASSEMBLY.****NOTE**

Disassemble only when dirty or damaged.

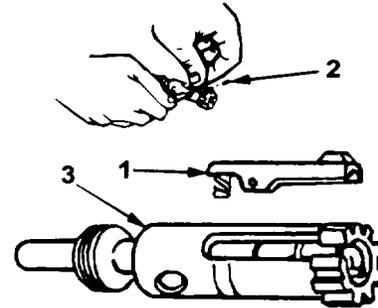
- (1) Press top rear of cartridge extractor (1) to compress extractor spring assembly.



CAUTION

Do not damage tip of firing pin.

- (2) Use firing pin to remove extractor pin (2).
- (3) Remove cartridge extractor (1) from breech bolt (3).



3-5. MAINTENANCE OF CARTRIDGE MAGAZINE.

a. DISASSEMBLY.

NOTE

Disassembly is necessary only if cartridge magazine is dirty.

- (1) Use cleaning rod section to pry up, push out, and release base catch (1).



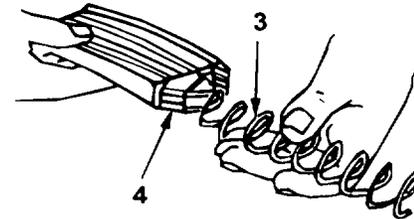
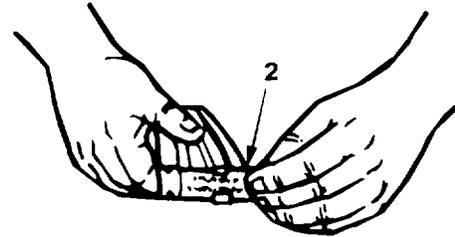
3-5. MAINTENANCE OF CARTRIDGE MAGAZINE-CONT.**a. DISASSEMBLY-continued.**

(2) Remove base (2).

(3) Jiggle spring (3) and follower (4) to remove.

NOTE

Do not remove follower from spring. If the spring comes loose from the follower, don't try to fix it yourself. Turn in the cartridge magazine to organizational maintenance.



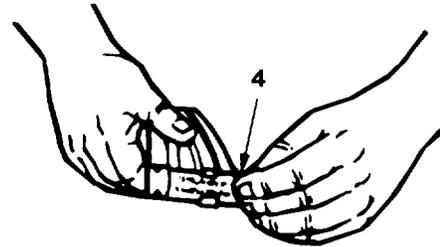
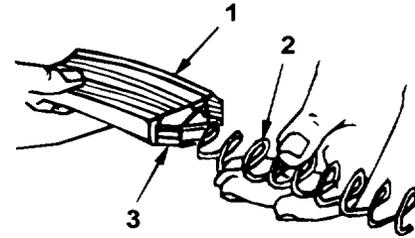
b. REASSEMBLY.

- (1) **CLEAN AND LUBE.** Wipe dirt with swab (item 16, app D) from tube (1), spring (2), and follower (3), then lightly lube spring (2) and follower (3) with LSA (item 12, app D).
- (2) Jiggle spring (2) and follower (3) to install.

NOTE

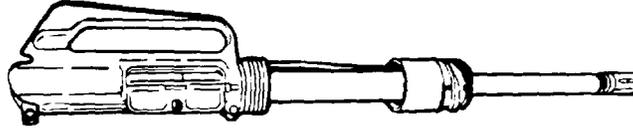
Make sure printing is on the outside of the base.

- (3) Slide the base (4) under all four tabs.



3-6. MAINTENANCE OF UPPER RECEIVER AND BARREL ASSEMBLY.

a. CLEANING.



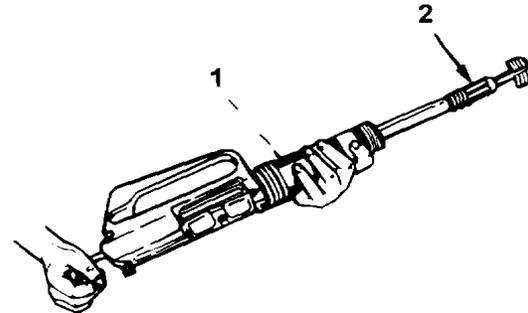
Use RBC (item 9, app D) on the following areas:

- All areas of powder fouling, corrosion, dirt, and rust.
- Bore and chamber.
- Upper receiver and barrel assembly locking lugs.
- Gas metallic bent tube.

NOTE

Don't reverse direction of bore brush while in bore.

- (1) Use a cleaning rod, bore brush (item 3, app D) and RBC (item 9, app D). Run rod through chamber (1) and flash suppressor (2).

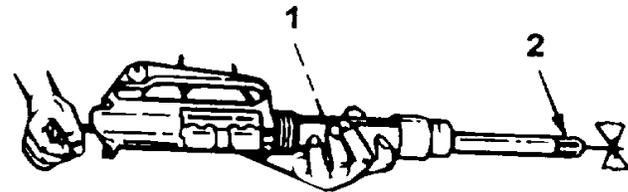
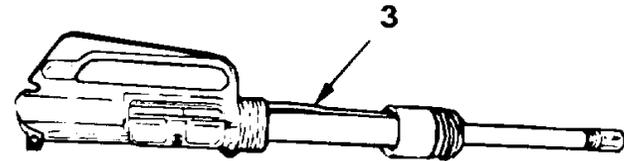
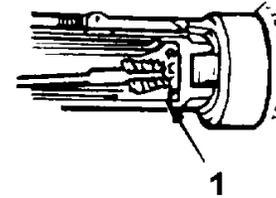


- (2) Install chamber brush (item 4, app D), dip in RBC (item 9, app D), and insert in chamber (1). Clean by pushing and twisting cleaning rod.

NOTE

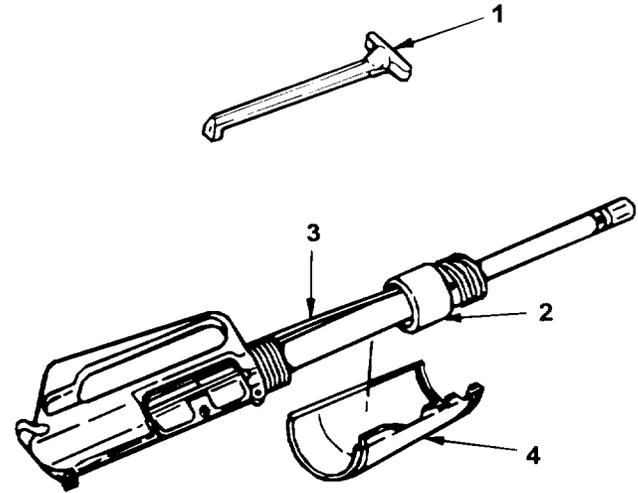
Use a worn out bore brush to perform the following step. This procedure ruins the bore brush.

- (3) Use a bore brush (Item 3, app D) to clean outside surface of protruding gas metallic bent tube (3) (get sides and bottom from bottom of upper receiver).
- (4) Take off bore brush, install swab holder (item 15, app D) and a swab (item 16, app D). Run rod through chamber (1) and flash suppressor (2) and back.



3-6. MAINTENANCE OF UPPER RECEIVER AND BARREL ASSEMBLY-CONT.**b. INSPECTION.**

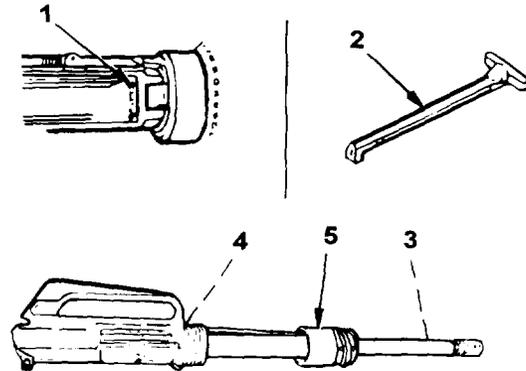
- (1) Inspect charging handle (1) for cracks, bends, or breaks.
- (2) Inspect barrel and barrel collar assembly (2), gas metallic bent tube (3), and handguards (4) for cracks, bends, or breaks. If you think a part is bad, notify organizational maintenance.



c. LUBRICATION.**CAUTION**

Be sure all traces of RBC (item 9, app D) are removed from cleaned parts before lubing.

- (1) Lube upper receiver and barrel assembly locking lugs (1) and charging handle (2) with LSA (item 12, app D).
- (2) Lightly lube bore (3), chamber (4), and outer surfaces of barrel and barrel collar assembly (5) with LSA (item 12, app D).



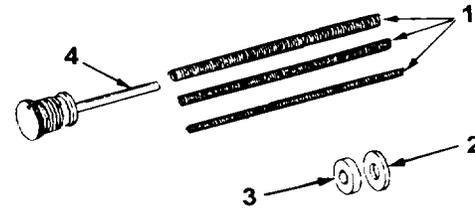
3-7. MAINTENANCE OF DRIVE SPRING AND GUIDE ASSEMBLY.

a. CLEANING.

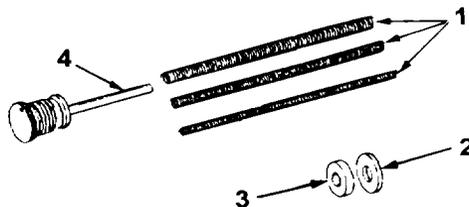
Wipe off with swab (item 16, app D) three helical compression springs (1), flatwasher (2), recoil buffer (3), and retainer assembly (4).

b. INSPECTION.

- (1) Check helical compression springs (1) for breaks and kinks.
- (2) Check retainer assembly (4), flat washer (2), and recoil buffer (3) for cracks, bends, or breaks. If you think a part is bad, notify organizational maintenance.



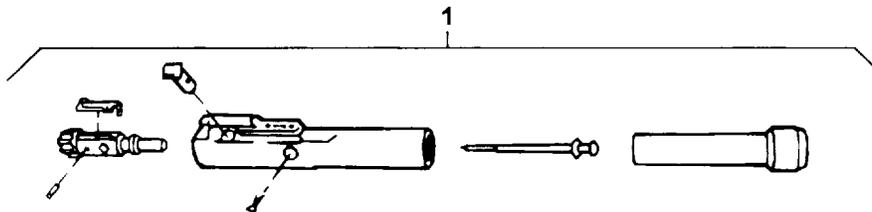
c. LUBRICATION.



Lightly lube three helical compression springs (1), flat washer (2), recoil buffer (3), and retainer assembly (4) with a swab (item 16, app D) and LSA (item 12, app D).

3-8. MAINTENANCE OF BOLT CARRIER AND STRIKER ASSEMBLY.

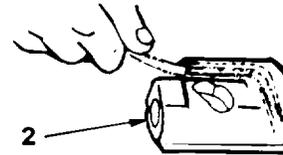
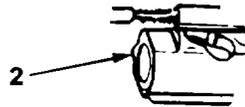
a. CLEANING.



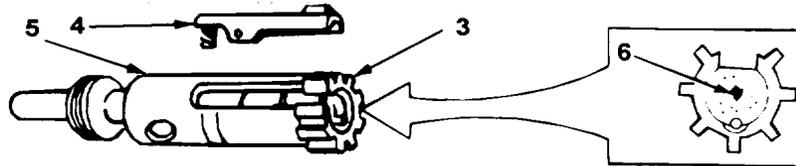
- (1) Clean all parts and outer surfaces of the bolt carrier and striker assembly (1) with a swab (item 16, app D) saturated with RBC (item 9, app D).

3-8. MAINTENANCE OF BOLT CARRIER AND STRIKER ASSEMBLY- CONT.

a. CLEANING-continued.



- (2) Clean the bolt carrier and key assembly (2) with a bore brush (item 3, app D) dipped in RBC (item 9, app D). Dry with pipe cleaner (item 8, app D) and swab (item 16, app D).

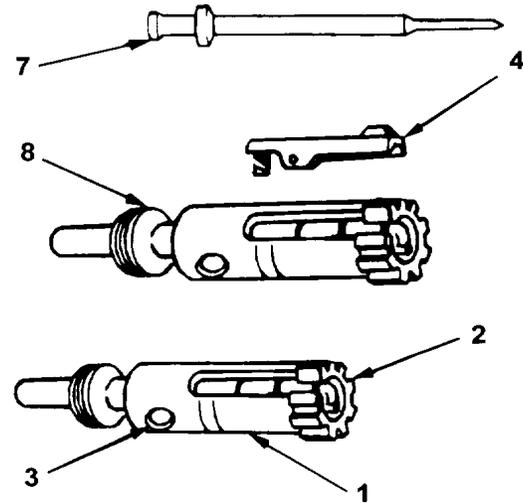


- (3) With a cleaning brush (item 5, app D) dipped in RBC (item 9, app D), scrub carbon deposits and dirt from the locking lugs (3) and cartridge extractor (4) on the breech bolt (5).
- (4) Clean bolt firing pin hole (6) with a pipe cleaner (item 8, app D).

(5) Clean the firing pin (7) with a swab (Item 16, app D) saturated with RBC (item 9, app D).

(6) Clean areas behind bolt rings (8).

Clean under lip of cartridge extractor (4).



b. INSPECTION.

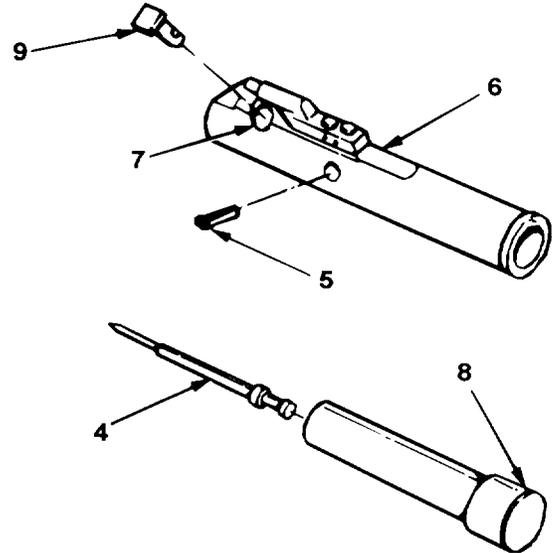
WARNING

To avoid possible explosion, DO NOT interchange bolt carrier and striker assembly between weapons.

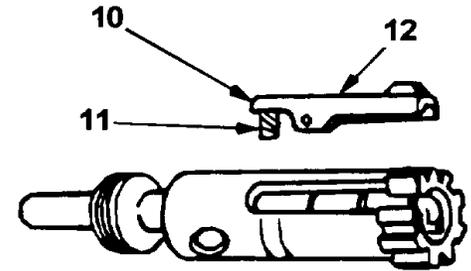
(1) Inspect breech bolt (1) for cracks around locking lugs (2) and bolt cam pin hole (3). If cracks are found, notify organizational maintenance.

3-8. MAINTENANCE OF BOLT CARRIER AND STRIKER ASSEMBLY-CONT.**b. INSPECTION-continued.**

- (2) Inspect firing pin (4) for bends, cracks, or blunt end.
- (3) Inspect firing pin retaining pin (5) for bends, breaks, or dents.
- (4) Inspect bolt carrier and key assembly (6) for damage, especially for cracks in the bolt cam pin hole (7) area. Inspect firing hammer (8) for cracks or breaks.
- (5) Inspect bolt cam pin (9) for cracks or chips.

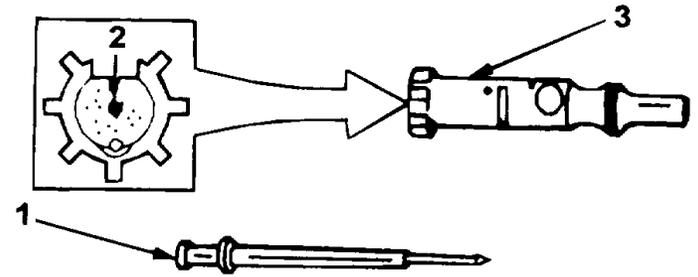


- (6) Check cartridge extractor (10) for chipped or broken edges in the area of the lip that engages the cartridge case. Check for missing extractor spring assembly (11). Check for cracks in the extractor pin hole (12) area.
- (7) If you think a part is bad, notify organizational maintenance.



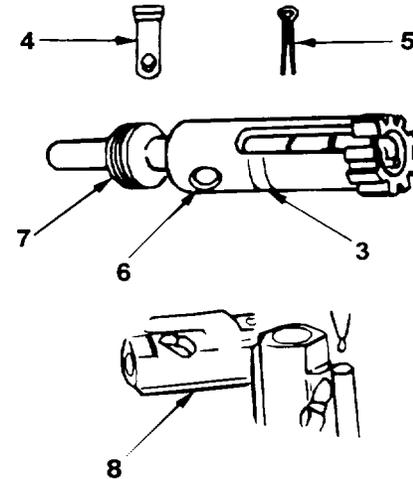
c. LUBRICATION.

- (1) Lightly lube firing pin (1) and bolt firing pin hole (2) in breech bolt (3) with LSA (item 12, app D).



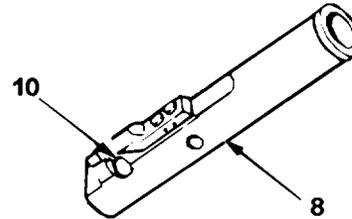
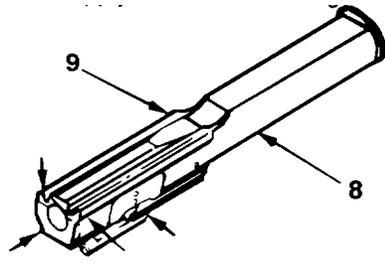
3-8. MAINTENANCE OF BOLT CARRIER AND STRIKER ASSEMBLY-CONT.**c. LUBRICATION-continued.**

- (2) Generously lube outside of bolt cam pin (4) and firing pin retaining pin (5) with LSA (item 12, app D)...make certain to lube bolt cam pin hole (6), bolt rings (7), and outside of the breech bolt (3).
- (3) Place one drop of LSA (item 12, app D) inside key of bolt carrier and key assembly (8).
- (4) Lightly lube with LSA (item 12, app D), inner and outer surfaces of bolt carrier and key assembly (8).



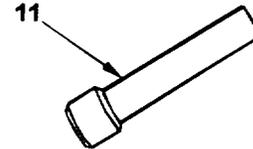
NOTE

Apply LSA to areas designated by arrows in the illustration.



- (5) Generously lube with LSA (item 12, app D) slides (9) and bolt cam pin slot (10) of bolt carrier and key assembly (8).

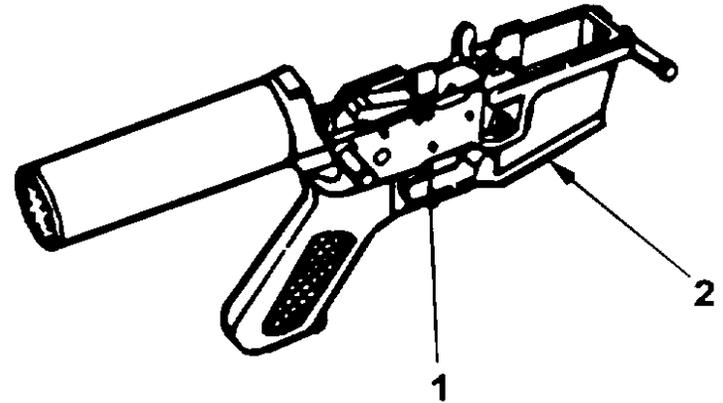
- (6) Lightly lube firing hammer (11) with LSA (item 12, app D).



3-9. MAINTENANCE OF LOWER RECEIVER AND RECEIVER EXTENSION ASSEMBLY.**a. CLEANING.****CAUTION**

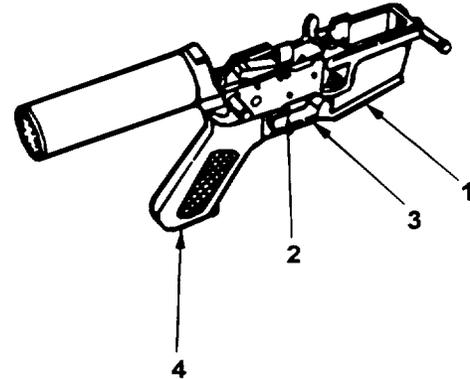
Do not use steel/wire brush or any type of abrasive material to clean outside surface of lower receiver.

- (1) Wipe dirt from trigger (1) with a swab (item 16, app D).
- (2) Use a swab (item 16, app D) dipped in RBC (item 9, app D) to clean carbon, foreign material, dirt, and corrosion from the inside and outside parts of lower receiver (2).



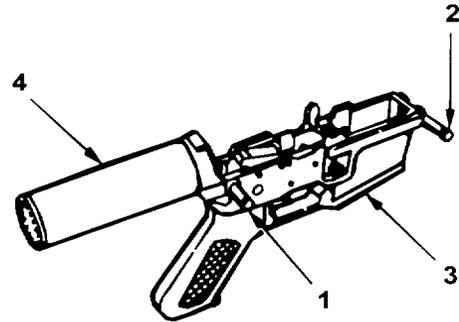
b. INSPECTION.

- (1) Examine lower receiver (1) for broken or bent trigger (2), trigger guard (3), corroded or deformed lower receiver (1), and cracked or damaged rifle grip (4).
- (2) Look at inside parts of lower receiver (1) for cracks, dents, or breaks.
- (3) If you think the parts are bad, notify organizational maintenance.



3-9. MAINTENANCE OF LOWER RECEIVER AND RECEIVER EXTENSION ASSEMBLY-CONT.**c. LUBRICATION.**

- (1) Generously lube with LSA (item 12, app D) the takedown pin (1), pivot pin (2), and inside parts of lower receiver (3).
- (2) Lightly lube with LSA (item 12, app D) the outside parts of the lower receiver (3).
- (3) Lightly lube with LSA (item 12, app D) inner surface of receiver extension (4).



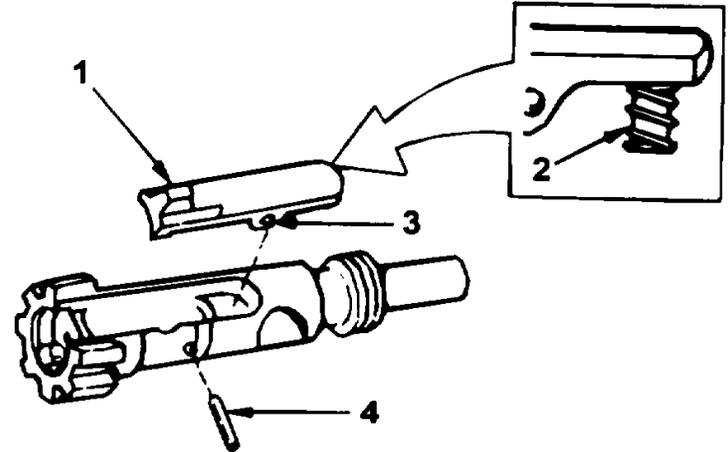
3-10. REASSEMBLY OF FIRING PORT WEAPON.
a. BOLT CARRIER AND STRIKER ASSEMBLY.

NOTE

If the extractor spring assembly comes loose, put the large end of extractor spring assembly in the cartridge extractor and seat. Press until it stays. If the extractor spring assembly will not engage with the cartridge extractor, notify your armorer.

Be sure parts of the extractor spring assembly are not missing. Do not remove the rubber insert from the spring.

- (1) Insert cartridge extractor (1) with extractor spring assembly (2).
- (2) Push cartridge extractor (1) and extractor spring assembly (2) down. Aline with hole (3) and insert extractor pin (4).



3-10. REASSEMBLY OF FIRING PORT WEAPON-CONT.

a. BOLT CARRIER AND STRIKER ASSEMBLY-continued.

- (3) Stagger gaps in bolt rings (5) to stop gas loss.

WARNING

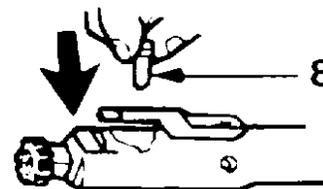
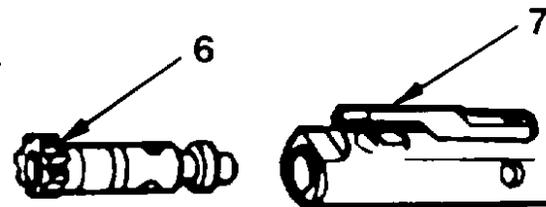
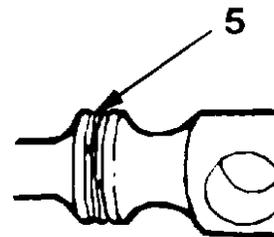
To avoid possible explosion, don't switch bolt carrier/bolt assembly and striker assemblies between weapons.

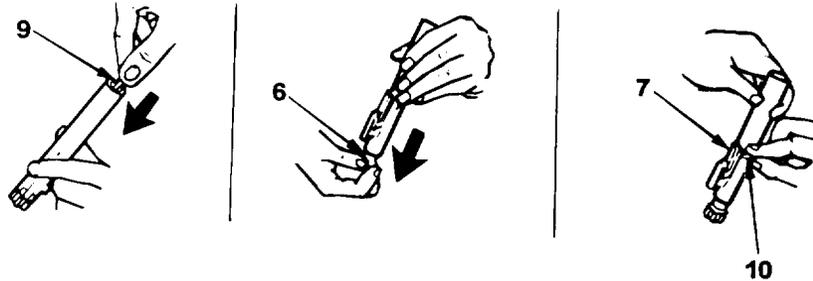
- (4) Slide breech bolt (6) into bolt carrier and key assembly (7).

WARNING

Bolt cam pin must be installed or weapon will blow up when the first round is fired.

- (5) Aline bolt cam pin holes and insert bolt cam pin
- (8) If bolt cam pin cannot be inserted, turn breech bolt 180 degrees and insert bolt cam pin.
- (6) Turn the bolt cam pin (8) 1/4 turn.

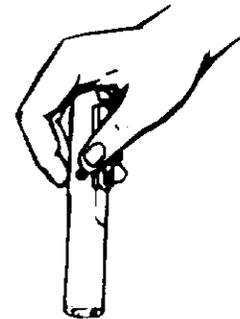




- (7) Drop firing pin (9) in opening.
- (8) Pull breech bolt (6) downward.
- (9) Press firing pin retaining pin (10) into larger opening of bolt carrier and key assembly (7).

NOTE

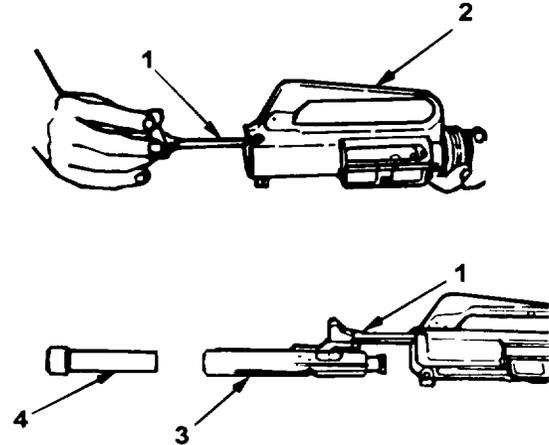
To be sure that bolt carrier and striker assembly was put back together right, invert the bolt carrier and striker assembly. Try to shake out the firing pin. The firing pin should not fall out.



3-10. REASSEMBLY OF FIRING PORT WEAPON-CONT.**b. UPPER RECEIVER AND BARREL ASSEMBLY.****NOTE**

Be sure breech bolt is still pulled out.

- (1) Engage charging handle (1) in upper receiver (2) and push part way in.
- (2) Slide in bolt carrier and striker assembly (3).
- (3) Push charging handle (1) and bolt carrier and striker assembly (3) forward.
- (4) Install firing hammer (4) if not already installed.



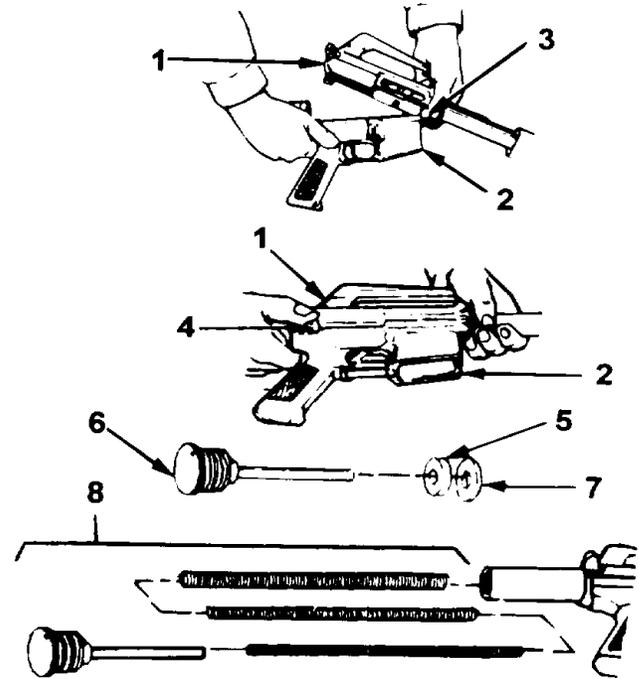
c. JOINING UPPER AND LOWER RECEIVERS.

- (1) Join upper receiver (1) and lower receiver (2).
- (2) Aline the pivot pin holes and push pivot pin (3) in.
- (3) Close upper receiver (1) and lower receiver (2). Push in takedown pin (4).

NOTE

When assembling drive spring and guide assembly make sure recoil buffer mechanism (5) is placed on retainer assembly (6) before flat washer (7).

- (4) Assemble and install drive spring and guide assembly (8).



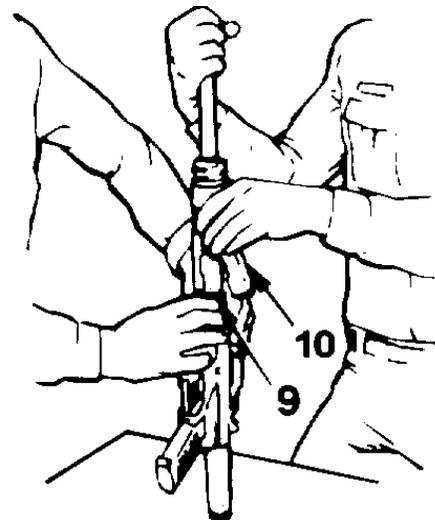
3-10. REASSEMBLY OF FIRING PORT WEAPON-CONT.

c. JOINING UPPER AND LOWER RECEIVERS-continued.

NOTE

Two soldiers may be required to install handguards; one to push down handguard slip ring and one to install handguards.

- (5) Push down handguard slip ring (9).
- (6) Install handguards (10) and release handguard slip ring (9).
- (7) Check that handguards are securely in place.

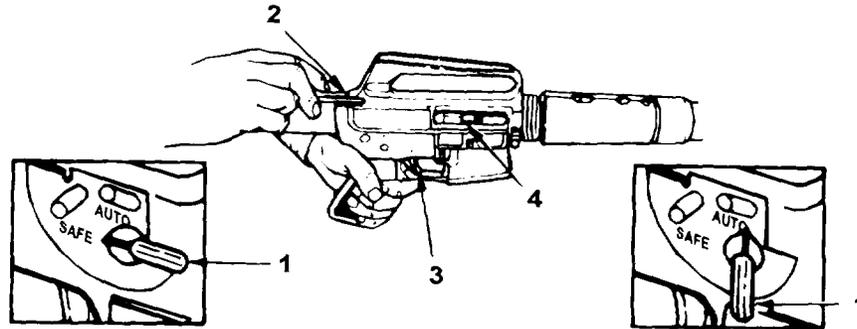


3-11. FUNCTIONAL CHECK.

WARNING

To avoid accidental firing, be sure cartridge magazine is removed and chamber is clear.





- a. Pull the charging handle (2) to rear and return. Place selector lever (1) on SAFE- pull trigger (3). The bolt carrier and striker assembly (4) should not go forward.
- b. Place the selector lever (1) in AUTO position-pull trigger (3). The bolt carrier and striker assembly (4) should go forward.
- c. Hold trigger (3) to the rear. Pull charging handle (2) to the rear. Bolt carrier and striker assembly (4) should not sear up or lock to the rear.

NOTE

If anything fails the CHECK, notify organizational maintenance.

3-57/(3-58 blank)

**CHAPTER 4
AMMUNITION**

AUTHORIZED AMMUNITION.

WARNING

To avoid possible explosion, DO NOT FIRE...

Corroded ammunition

Dented cartridges

Cartridges with loose bullets

Cartridges exposed to extreme heat 135°F (57 °C) until they have cooled

Do not fire blank ammunition toward personnel within 20 feet or less from the muzzle, because fragments of a closure wad or particles of unburnt propellant might inflict injury within that range.

AUTHORIZED AMMUNITION-CONT.

WARNING

Use only authorized ammunition. Do not fire 5.56-mm M855 ball and M856 tracer ammunition in the M231 firing port weapon. The only ammunition authorized for use in the M22 blank firing attachment is the M200 blank. Damaged ammunition will be disposed of using authorized procedures.

Under combat conditions, when M196 Tracer ammunition is not available, M193 Ball ammunition may be used. M193 Ball ammunition **SHALL NOT** be used for training.

RED
TIP



TRACER
M196



DUMMY
M199

VIOLET
TIP



BLANK
M200

4-3/(4-4 blank)

**APPENDIX A
REFERENCES**

A-1. SCOPE.

This appendix lists forms, field manuals, and technical manuals, and miscellaneous publications referenced in this manual.

A-2. FIELD MANUALS (FM).

First Aid for Soldiers	FM 21-11
NBC Contamination Avoidance	FM 3-3
NBC Decontamination	FM 3-5

A-3. FORMS.

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

A-4. TECHNICAL MANUALS (TM).

Operator's Manual for Decontaminating Kit, Skin:
M258A1 (NSN 4320-01-101-3984) and Training Aid,
Skin, Decontaminating: M58A1 (6910-01-101-1768) TM 3-4230-216-10

Operator's Manual for Fighting Vehicle, Infantry,
M2 (2350-01-048-5920) and Fighting Vehicle,
Cavalry, M3 (2350-01-049-2695) Hull TM 9-2350-252-10-1

A-5. MISCELLANEOUS PUBLICATIONS.

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

Army Medical Department Expendable/Durable Items CTA 8-100

Expendable/Durable Items (Except Medical
Class V, Repair Parts, and Heraldic Items) CTA 50-970

**APPENDIX B
COMPONENTS OF END ITEM (COEI) AND
BASIC ISSUE ITEMS (BII) LISTS**

Section I. INTRODUCTION

B-1. SCOPE.

This appendix lists basic issue items for the firing port weapon to help you inventory items required for safe and efficient operation.

B-2. GENERAL.

a. Section II. Components of End Item. There is no COEI list for the firing port weapon.

b. Section III. Basic Issue Items. These are the minimum essential items required to place the firing port weapon in operation, to operate it, and to perform emergency repairs. Although shipped separately packaged, BII must be with the firing port weapon during operation and whenever it is transferred between property accounts. This manual is your authority to request/requisition replacement B11, based on TOE/MTOE authorization of the end item.

B-3. EXPLANATION OF COLUMNS.

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

- a. Column (1) - Illustration Number (Illus Number). This column indicates the number of the illustration on which the item is shown.
- b. Column (2) - National Stock Number. Indicates the National Stock Number assigned to the item and will be used for requisitioning purposes.
- c. Column (3) - Description. 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 Contractor and Government Entity Code (CAGEC) in parentheses followed by the part number.
- d. Column (4) - Unit of Measure (U/M). Indicates the measure used in performing the actual operational/maintenance function. This measure is expressed by a two-character alphabetical abbreviation (e.g., ea, in, pr).
- e. Column (5) - Quantity required (Qty rqr). Indicates the quantity of the item authorized to be used with/on the equipment.

Section II. COMPONENTS OF END ITEM

There are no components of end item for the firing port weapon.

Section III. BASIC ISSUE ITEMS

(1) Illus Number	(2) National Stock Number	(3) DESCRIPTION CAGEC & Part Number	(4) U/M	(5) Qty rqr
		TM 9-1005-309-10 Submachine Gun, 5.56-mm: Port, Firing M231	EA	1

B-3/(B-4 blank)

**APPENDIX C
ADDITIONAL AUTHORIZATION LIST(AAL)**

Section I. INTRODUCTION

C-1. SCOPE.

This appendix lists additional items you are authorized for the support of the firing port weapon.

C-2. GENERAL.

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

C-3. 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 of document (i.e., CTA, MTOE, TDA, or JTA) which authorizes the item(s) to you.

Section II. ADDITIONAL AUTHORIZATION LIST (AAL)

(1) NATIONAL STOCK NUMBER	(2) DESCRIPTION CAGEC & PART NUMBER USABLE ON CODE	(3) U/M	(4) QTY AUTH
<u>CTA AUTHORIZED ITEMS</u>			
1005-01-163-3725	BLANK FIRING ATTACHMENT (19200) 9352363	EA	1
1005-00-921-5004	CARTRIDGE MAGAZINE: 30-cartridge capacity (19204) 8448670	EA	9

**APPENDIX D
EXPENDABLE/DURABLE SUPPLIES AND
MATERIALS LIST (EDSML)**

Section I. INTRODUCTION

D-1. SCOPE.

This appendix lists expendable/durable supplies and materials you will need to operate and maintain the firing port weapon. This listing is for informational purposes only and is not authority to requisition the listed items. 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.

D-2. EXPLANATION OF COLUMNS.

a. 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 5, app D)").

D-2. EXPLANATION OF COLUMNS-CONT.

b. Column (2)-Level. This column identifies the lowest level of maintenance that requires the listed item.

C - Operator/Crew

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

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

e. Column (5)-Unit of Measure (U/M). Indicates the measure used in performing the actual maintenance function. This measure is expressed by a two-character alphabetical abbreviation (e.g., ea, in., pr). If the unit of measure differs from the unit of issue, requisition the lowest unit of issue that will satisfy your requirements.

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

(1) ITEM NO.	(2) LEVEL	(3) NATIONAL STOCK NUMBER	(4) DESCRIPTION	(5) U/M
1	C	1005-00-193-8306	BAG, PROTECTIVE, MAGAZINE CARTRIDGE: (500 per bx) for 30-round cartridge magazine (19204) 8448464	EA
2	C	1005-00-242-5687	BOTTLE, ASSEMBLY	EA
3	C	1005-00-903-1296	CYLINDRICAL (19204) 8448444	EA
4	C	1005-00-999-1435	BRUSH, CLEANING, SMALL ARMS: bore (19204) 11686340	EA
			BRUSH, CLEANING, SMALL ARMS: chamber (19204) 8432358	EA

**EXPENDABLE/DURABLE SUPPLIES AND
MATERIALS LIST (EDSML)-CONT**

(1) ITEM NO.	(2) LEVEL	(3) NATIONAL STOCK NUMBER	(4) DESCRIPTION	(5) U/M
5	C	1005-00-494-6602	BRUSH, CLEANING, SMALL ARMS: tooth (19204) 8448462	EA
6	C	5340-00-880-7666	CAP, PROTECTIVE: dust and moisture seal muzzle (19204) 8445067	EA
7	C	8465-00-781-9564	CASE, MAINTENANCE EQUIPMENT, SMALL ARMS: (81349) MIL-C-43737	EA
8	C	9920-00-292-9946	CLEANER, TOBACCO PIPE: cotton tuft, wire core (32 per pk) (19203) 840507	EA

(1) ITEM NO.	(2) LEVEL	(3) NATIONAL STOCK NUMBER	(4) DESCRIPTION	(5) U/M
9	C	6850-00-224-6656	CLEANING COMPOUND, RIFLE BORE: small arms bore cleaning solution (RBC) 2-oz (59.15-ml) bottle (81349) MIL-C-372	OZ
10	C	1005-01-113-0321	HANDLE SECTION, CLEANING ROD, SMALL ARMS: (19204) 8436776	EA
11	C	9150-00-292-9689	LUBRICATING OIL, WEAPONS: (LAW) 1-qt (0.95-1) can (81349) MIL-L-14107	QT

**EXPENDABLE/DURABLE SUPPLIES AND
MATERIALS LIST (EDSML)-CONT**

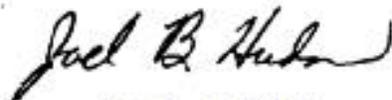
(1) ITEM NO.	(2) LEVEL	(3) NATIONAL STOCK NUMBER	(4) DESCRIPTION	(5) U/M
12	C C	9150-00-935-6597 9150-00-889-3522	LUBRICATING OIL, WEAPONS: (LSA), semifluid 2-oz (59.15-ml) plastic bt 4-oz (118.30-ml) bt (81349) MIL-L-46000	OZ OZ
13	C	7920-00-205-1711	RAG, WIPING: 50 lb bdl (58536) A-A-531	LB
14	C	1005-00-050-6357	ROD SECTION, CLEANING SMALL ARMS: (19204) 8436775	EA

(1) ITEM NO.	(2) LEVEL	(3) NATIONAL STOCK NUMBER	(4) DESCRIPTION	(5) U/M
15	C	1005-00-937-2250	SWAB HOLDER SECTION, CLEANING ROD, SMALL ARMS: (19204) 11686327	EA
16	C	1005-00-912-4248	SWAB, SMALL ARMS CLEANING: cotton 1 pk (1000 per pk) (19204) 11686408	MX

D-7 /(D-8 blank)

By Order of the Secretary of the Army:

Official:



JOEL B. HUDSON
*Administrative Assistant to the
Secretary of the Army*
03791

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

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METRIC CHART

The list below shows the difference between US customary and metric units. It also shows the symbols used for the units.

US CUSTOMARY

METRIC

LENGTH AND DISTANCE

inch: 1 in 2.54 cm: centimeters
yard: 1 yd.....0.9144 m: meter

TEMPERATURE

degree Fahrenheit: °F (F° -32°)x5/9=°C:
degree Celsius

WEIGHT

pound: 1 lb.....0.4536 kg: kilogram

VOLUME

fluid ounce: 1 oz 29.57 ml: milliliters
quart: 1 qt 0.9463 l: liter

PIN: 051778-000