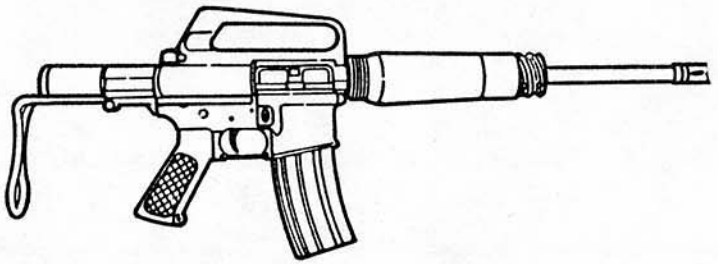
TM 9-1005-309-23&P

TECHNICAL MANUAL

AC 105

ORGANIZATIONAL AND DIRECT SUPPORT MAINTENANCE MANUAL (INCLUDING REPAIR PARTS AND SPECIAL TOOLS LIST) FOR SUBMACHINE GUN, 5.56-MM: PORT, FIRING, M231 (1005-01-081-4582)

This manual was verified, but it still contains errors.



APR 23 1982

HEADQUARTERS, DEPARTMENT OF THE ARMY

WARNING

Before starting any procedures on the M231 submachine gun be sure to clear weapon. Live ammunition should not be near the work area.

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

To avoid possible explosion, never exchange or switch bolt carrier and striker assembly from one weapon to another.

Dry cleaning solvent (SD) (P-D-680) is flammable and should not be used near an open flame or in a smoking area. Use only in well-ventilated areas. This solvent evaporates quickly and has a drying effect on the skin. When used without gloves it may cause cracks in the skin and in some cases mild irritation or inflammation.

When using solid film lubricant, be sure the area is well ventilated.

When using technical dichloromethane, be sure area is well ventilated.

First Aid

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

TECHNICAL MANUAL
No. 9-1005-309-23&P)

HEADQUARTERS
DEPARTMENT OF THE ARMY
Washington, DC,

Organizational and Direct Support Maintenance Manual

(Including Repair Parts and Special Tools List)

for

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

Current as of April 13, 1982

REPORTING ERRORS AND RECOMMENDING IMPROVEMENTS

You can help improve this manual. If you find any mistakes or if you know of a way to improve the procedures, please let us know. Mail your letter, DA Form 2028 (Recommended Changes to Publications and Blank Forms), or DA Form 2028-2 located in the back of this manual direct to: Commander, US Army Armament Materiel Readiness Command, ATTN: DRSAR-MAS, Rock Island, IL 61299. A reply will be furnished to you.

HOW TO USE THIS MANUAL

GENERAL

In order to use this manual efficiently, there are several things you need to know.

a. Warnings, cautions, and notes appear throughout the manual and are means of attracting attention to essential or critical information.

b. You must familiarize yourself with the entire maintenance procedure before beginning the maintenance task.

c. References in the manual are to pages, appendixes, or to other publications.

INDEXES

This manual has several useful indexes to help you quickly find the information needed:

a. Front Cover Index. Is a tabbed index of key sections and appendixes. Keyed to tabbed pages in the manual.

b. Table of Contents. Lists in order all chapters, sections, appendixes, and the alphabetical index. Gives page references.

c. Official Nomenclature, Names, and Designations. Gives an alphabetical list of common names and official nomenclature used in the manual.

d. Symptom Index. Located just before the troubleshooting table in each maintenance chapter. Lists in alphabetical order the possible malfunctions. References pages of the troubleshooting table.

e. Alphabetical Index. Located at the end of the manual. An extensive subject index for everything in the manual. Gives page references.

MAINTENANCE PROCEDURES

Maintenance procedures found in chapters 2 and 3 are in two parts--summary procedures and detailed procedures. Procedures are in disassembly sequence as authorized in the maintenance allocation chart, appendix B.

a. Summary Procedure. Made up of two parts--initial setup and list of tasks. Used only when doing maintenance on the entire M231 submachine gun. (For maintenance of an individual assembly, use the detailed procedures for each maintenance task.)

(1) Initial Setup. Is a list of everything needed in order to do the maintenance task:

Tools and Special Tools--Lists tools needed to perform the maintenance tasks.

Materials/Parts--Lists expendable materials and 100% replaceable parts. Each material or part is followed by a part number or appendix reference. If more than one part is needed, the quantity needed precedes the part number or reference.

Personnel Required--Identifies the personnel required to perform the maintenance task.

References--Lists other publications, appendixes, and maintenance procedures containing necessary information.

Equipment Conditions--Lists conditions to be met before starting the procedure. The reference on the left of the condition is a page reference to instructions for setting up the condition. At the end of each condition is a reference to the task numbers in the list of tasks to which the condition applies.

General Safety Instructions--Includes any general safety information that applies throughout the procedure.

(2) List of Tasks. Summarizes in outline form the major tasks involved in the procedure. Gives page references to detailed procedures.

b. Detailed Procedures. Immediately follow each summary procedure. Also contain an initial setup plus step-by-step procedures.

(1) Initial Setup. Gives a list of everything needed in order to perform maintenance on each part of the M231 submachine gun. See explanation of initial setup above.

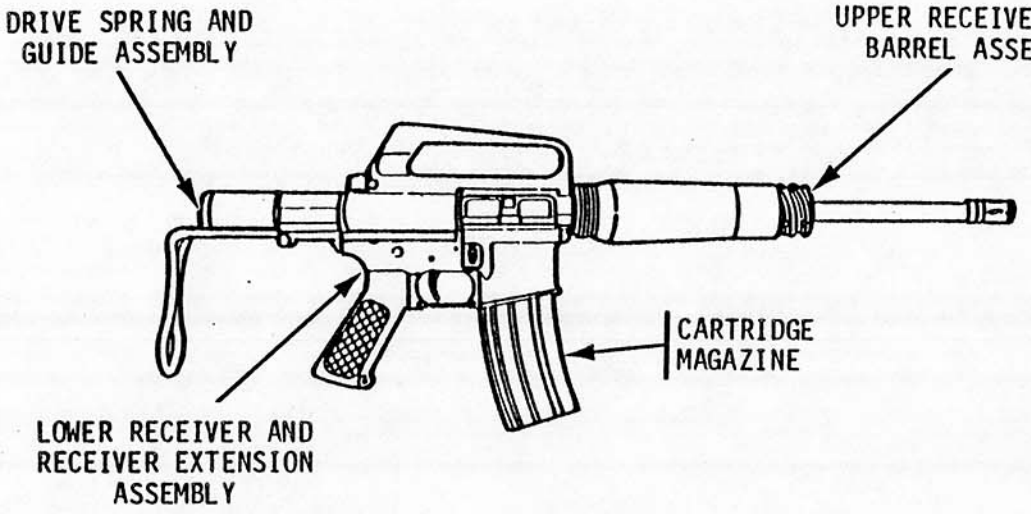
(2) Step-By-Step Procedures. Are illustrated procedures for maintenance authorized in the maintenance allocation chart (MAC), appendix B, and the repair parts and special tools list (RPSTL), appendix C.

REPAIR PARTS AND SPECIAL TOOLS LIST

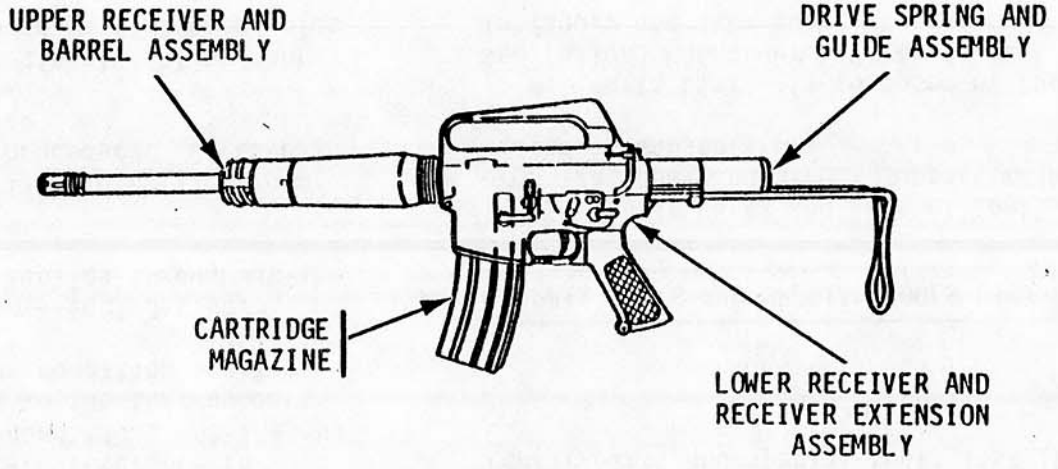
a. Repair Parts and Special Tools. Designed for organizational and direct support maintenance and are listed in appendix C.

b. Parts List. Is composed of functional groups, and follows MAC order. Parts in each group are listed in figure and item number sequence.

c. Illustrations. Illustrations and item numbers for repair parts authorized for organizational and direct support maintenance are in this manual.



RIGHT SIDE



LEFT SIDE

M231 SUBMACHINE GUN

CHAPTER 1
INTRODUCTION

Section I. GENERAL INFORMATION

1-1. SCOPE

a. Type of Manual: Organizational and direct support maintenance (including repair parts and special tools list (RPSTL)).

b. Model Number and Equipment Name: M231 firing port 5.56-mm submachine gun.

c. Purpose of Equipment: To provide personnel inside vehicle a suppressive fire capability. M231 submachine gun can be removed for field use under emergency conditions.

1-2. MAINTENANCE FORMS, RECORDS, AND REPORTS

Department of the Army forms and procedures used for equipment maintenance will be those prescribed by TM 38-750, The Army Maintenance Management System (TAMMS).

1-3. DESTRUCTION OF ARMY MATERIEL TO PREVENT ENEMY USE

Refer to TM 750-244-7.

1-4. PREPARATION FOR STORAGE OR SHIPMENT

Requirements for storage or shipment are listed on page 3-63.

1-5. OFFICIAL NOMENCLATURE, NAMES, AND DESIGNATIONS

Nomenclature Cross-Reference List

Common Name	Official Nomenclature
Barrier material	Barrier material, grease-proofed-waterproofed
Fiberboard box	Box, shipping
Firing hammer	Hammer, firing, small
Gas metallic bent tube	Tube, bent, metallic
Helical sear spring	Spring, helical torsion
Inner helical compression spring	Spring, helical compression
Lower receiver gage	Gage, receiver
Lubricating oil (LSA)	Lubricating oil, weapons
Middle helical compression spring	Spring, helical compression
M231 submachine gun	Submachine gun, 5.56-mm: port, firing, M231
Outer helical compression spring	Spring, helical compression
Pressure sensitive tape	Tape, pressure sensitive adhesive
Recoil buffer	Buffer, recoil mechanism
Steel strapping	Strapping
VCI treated material	Paper, volatile corrosion inhibitor treated
Wooden box	Box, shipping

1-6. REPORTING EQUIPMENT IMPROVEMENT RECOMMENDATIONS (EIR)

If your M231 submachine gun 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. Put it on an SF 368 (Quality Deficiency Report). Mail it to us at: Commander, US Army Armament Materiel Readiness Command, ATTN: DRSAR-MAO, Rock Island, IL 61299. We'll send you a reply.

Section II. REPAIR PARTS, SPECIAL TOOLS, TMDE, AND SUPPORT EQUIPMENT

1-7. COMMON TOOLS AND EQUIPMENT

For authorized common tools and equipment refer to the Modified Table of Organization and Equipment (MTOE) applicable to your unit.

1-8. SPECIAL TOOLS, TMDE, AND SUPPORT EQUIPMENT

No support equipment or TMDE is required for the M231 submachine gun. Special tools are listed in appendix C of this manual.

1-9. REPAIR PARTS

Repair parts are listed and illustrated in appendix C of this manual.

Section III. EQUIPMENT DESCRIPTION AND DATA

1-10. EQUIPMENT CHARACTERISTICS, CAPABILITIES, AND FEATURES

CHARACTERISTICS

a. Lightweight
b. Air cooled
c. Gas operated
d. Magazine fed
e. Automatic fire

CAPABILITIES AND FEATURES

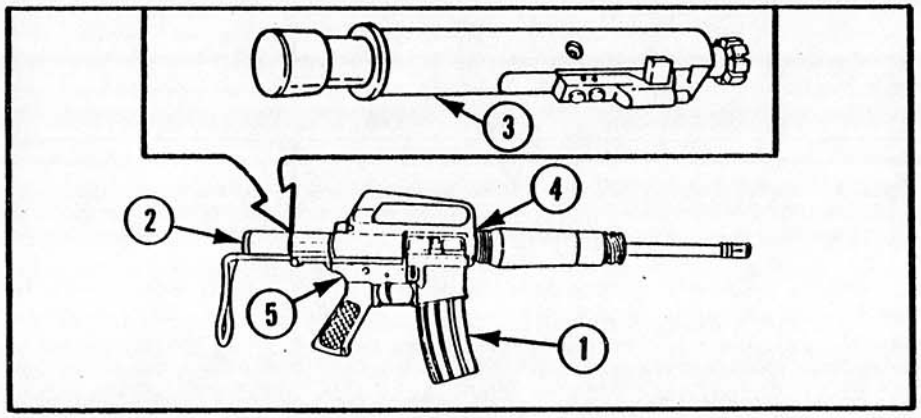
a. Has positive locking of the breech bolt. The breech bolt and the barrel and barrel collar assembly contain locking lugs which engage and lock the breech bolt firmly in the barrel and barrel collar assembly. Firing hammer cannot strike the firing pin until the breech bolt is fully locked.

b. Fires from open bolt carrier and striker assembly position.

c. The trigger guard is easily adaptable to winter operations. A spring loaded retaining pin is depressed to allow ready access to the trigger when wearing arctic mittens.

d. The ejection port cover prevents dirt or sand from getting into the ejection port of the upper receiver. The ejection port cover must be closed during periods when firing is not anticipated. It opens automatically by the forward or rearward movement of the bolt carrier and striker assembly.

1-11. LOCATION AND DESCRIPTION OF MAJOR COMPONENTS



a. Cartridge Magazine (1). Has 30-cartridge capacity.

b. Drive Spring and Guide Assembly (2). Helical compression springs provide energy to feed and fire the weapon and act as a buffer for the bolt carrier and striker assembly during recoil. Retainer assembly keeps helical compression springs alined in proper position to function.

c. Bolt Carrier and Striker Assembly (3). Carries breech bolt to chamber and fires the weapon.

d. Upper Receiver and Barrel Assembly (4). Is air cooled, contains flash suppressor, barrel collar, two handguards, ejection port, and ejection port cover. Houses the bolt carrier and striker assembly.

e. Lower Receiver and Receiver Extension Assembly (5). Contains trigger, sear, selector lever, rifle grip, bolt catch, receiver extension, and the retractable buttstock. Houses the drive spring and guide assembly.

1-12. EQUIPMENT DATA

Refer to TM 9-1005-309-10 for the tabulated equipment data.

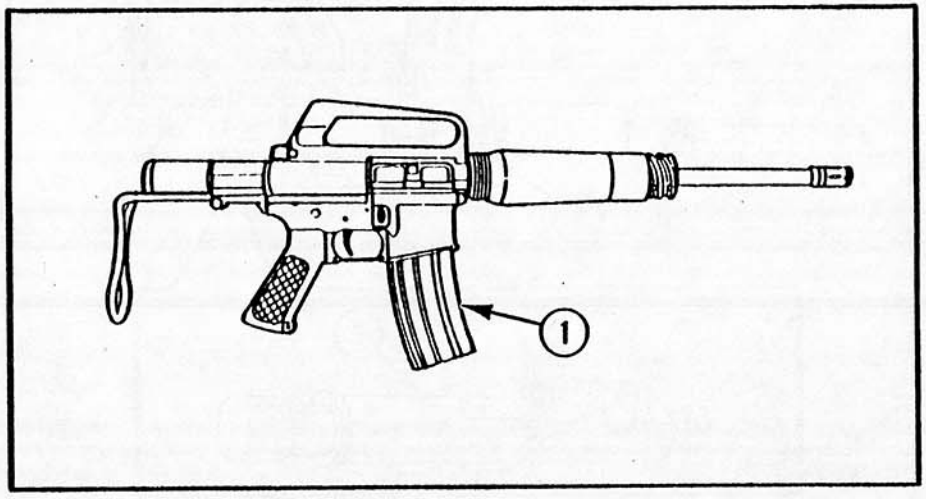
Section IV. PRINCIPLES OF OPERATION

1-13. GENERAL

The M231 submachine gun is mounted in a vehicle ball socket providing suppressive fire to the sides and rear of the vehicle. Sighting is accomplished by viewing the tracer ammunition paths through periscopes on the vehicle.

1-14. PRINCIPLES OF OPERATION

a. Cartridge Magazine (1). Holds cartridges ready for feeding and provides a guide for positioning cartridges for stripping. Provides quick reloading capabilities for sustained firing.



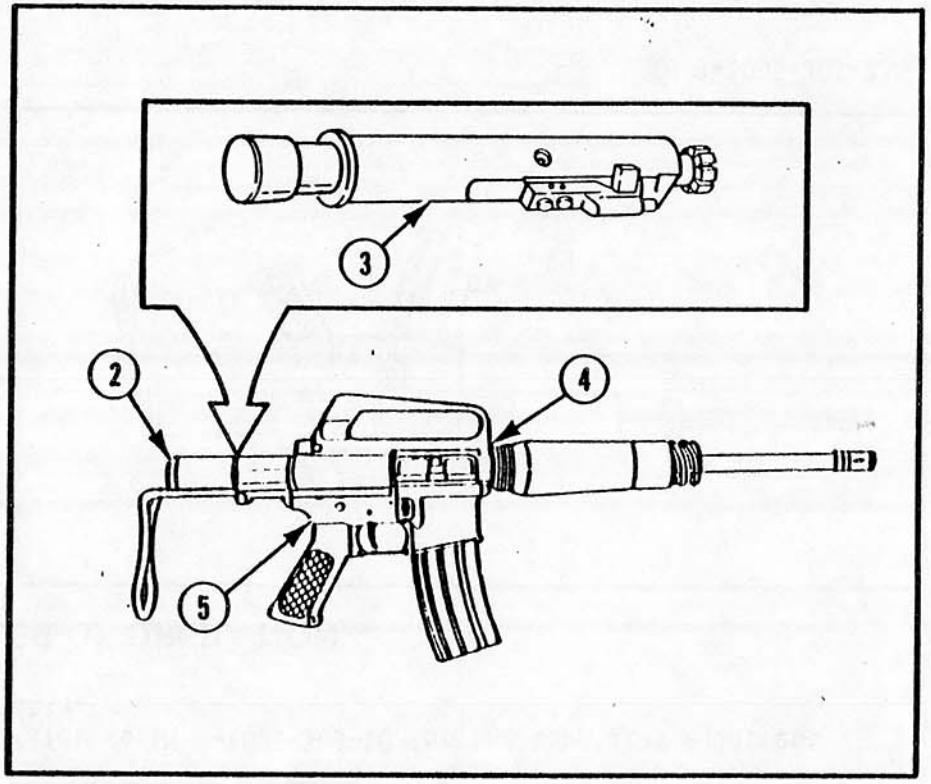
1-14. PRINCIPLES OF OPERATION (cont)

b. Drive Spring and Guide Assembly (2). Provides energy for returning bolt carrier and striker assembly to the firing position and provides a buffer to the recoiling bolt carrier and striker assembly after firing.

c. Bolt Carrier and Striker Assembly (3). Provides stripping, chambering, locking, firing, extraction, and ejection of cartridges using the helical compression springs and projectile propelling gases for power.

d. Upper Receiver and Barrel Assembly (4). Provides support for the bolt carrier and striker assembly. The barrel contains the cartridge for firing and directs the projectile. The barrel collar provides the means to mount the M231 submachine gun in the vehicle firing port.

e. Lower Receiver and Receiver Extension Assembly (5). Provides firing control for the M231 submachine gun.



CHAPTER 2
ORGANIZATIONAL MAINTENANCE INSTRUCTIONS

Section I. SERVICE UPON RECEIPT

2-1. SCOPE

This section contains instructions for services to be performed by the using organization upon the receipt of a new or overhauled M231 submachine gun. These services include unpacking, deprocessing, and checking the M231 submachine gun.

2-2. SERVICE UPON RECEIPT OF MATERIEL

Table 2-1 contains instructions for performing those services required upon the receipt of this equipment.

Table 2-1. SERVICE UPON RECEIPT--M231 SUBMACHINE GUN

LOCATION	ITEM	ACTION	REMARKS
M231 submachine gun	1. M231 submachine gun	Field strip.	Refer to TM 9-1005-309-10.
	2. All parts	a. Clean.	Refer to TM 9-1005-309-10.
		b. Inspect.	
		c. Lubricate.	
	3. M231 submachine gun	a. Reassemble.	a. Refer to TM 9-1005-309-10.
		b. Perform functional check.	b. Refer to TM 9-1005-309-10.

2-2. SERVICE UPON RECEIPT OF MATERIEL (cont)

Table 2-1. SERVICE UPON RECEIPT--M231 SUBMACHINE GUN (cont)

LOCATION	ITEM	ACTION	REMARKS
	3. M231 submachine gun (cont)	c. Insert empty cartridge magazine. Pull charging handle assembly to the rear. Return charging handle assembly.	c. Bolt carrier and striker assembly should lock to the rear.
		d. Pull trigger.	d. Bolt carrier and striker assembly should not go forward.
		e. Press bolt catch to release bolt carrier and striker assembly. Pull trigger.	e. Bolt carrier and striker assembly should go forward.

2-3. CHECKING UNPACKED EQUIPMENT

a. Inspect the equipment for damage incurred during shipment. If the equipment has been damaged, report the damage on SF Form 364, Report of Discrepancy (ROD).

b. Check the equipment against the packing slip to see if the shipment is complete. Report all discrepancies in accordance with the instructions of TM 38-750.

c. Check to see whether the equipment has been modified.

Section II. PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS)

2-4. GENERAL

a. Perform PMCS every 90 days to keep the weapon ready for use.

b. If the weapon has not been used for 90 days, PMCS in the operator's manual (TM 9-1005-309-10) also should be performed. If you see rust on a weapon, the PMCS should be done immediately.

c. An annual technical inspection by direct support maintenance is required for the M231 submachine gun.

2-5. PREVENTIVE MAINTENANCE CHECKS AND SERVICES

Table 2-2 lists those preventive maintenance checks and services to be performed quarterly. The table consists of three columns.

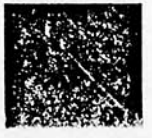
a. Column 1, Item No. The first column contains the item number which shall be used as a source of item numbers for the TM Number Column on DA Form 2404, Equipment Inspection and Maintenance Worksheet, in recording results of PMCS.

b. Column 2, Item to be Inspected. The second column lists the item to be inspected.

c. Column 3, Procedures. The third column contains the illustrated procedures to be followed.

Table 2-2. ORGANIZATIONAL PREVENTIVE MAINTENANCE CHECKS AND SERVICES
QUARTERLY SCHEDULE

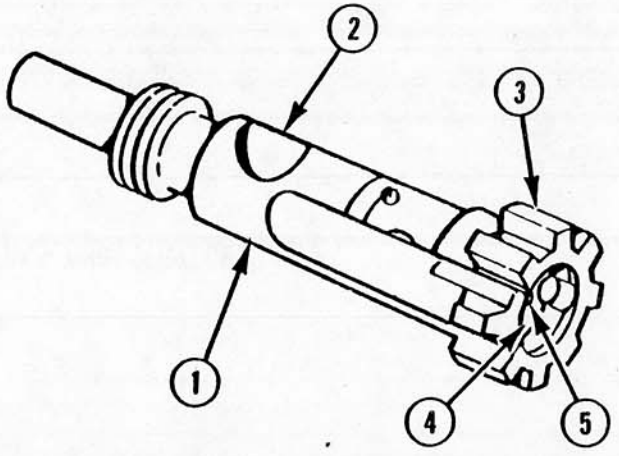
Item No.	Item To Be Inspected	Procedures	
		WARNING Before starting an inspection, be sure to clear M231 submachine gun. Live ammunition should not be near the work area.	

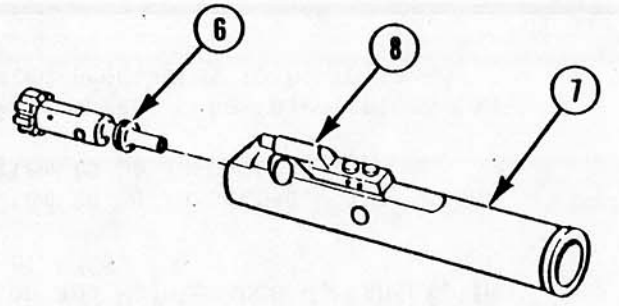


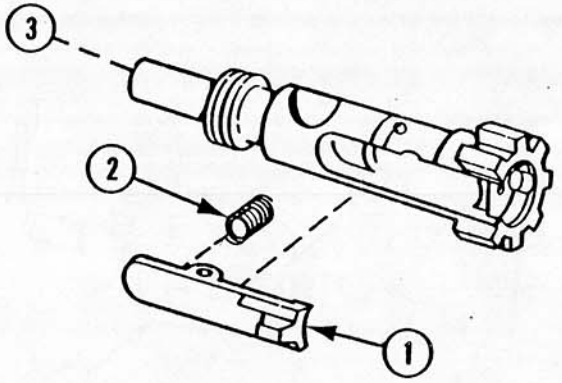
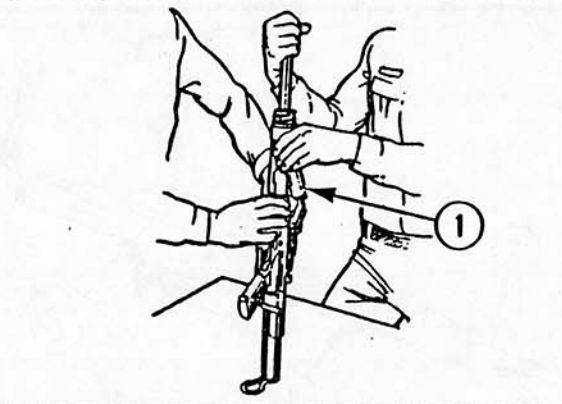
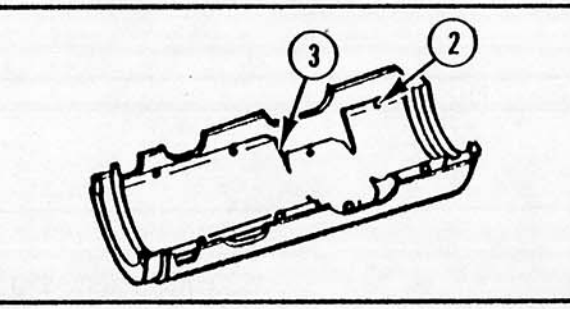
2-5. PREVENTIVE MAINTENANCE CHECKS AND SERVICES (cont)

Table 2-2. ORGANIZATIONAL PREVENTIVE MAINTENANCE CHECKS AND SERVICES QUARTERLY SCHEDULE (cont)

Item No.	Item To Be Inspected	Procedures
1	Bolt carrier and striker assembly	WARNING To avoid possible explosion, never exchange or switch bolt carrier and striker assembly from one weapon to another. a. Disassemble (p 2-24). b. Check breech bolt (1) for cracks in the area of bolt cam pin hole (2). c. Check for cracks on locking lugs (3), pitted or chipped breech bolt face (4), and that the firing pin hole (5) is still round. d. Check for worn bolt rings (6). If breech bolt will fall out of bolt carrier and key assembly (7) when it is in the down position, the bolt rings are defective. e. Check key (8) for damage or looseness. f. If any of the above show defects, notify direct support maintenance.



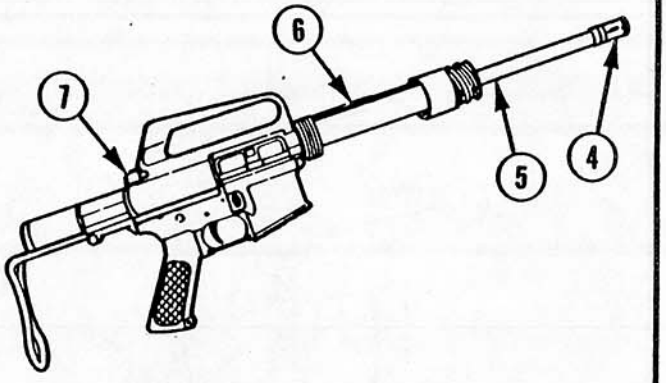


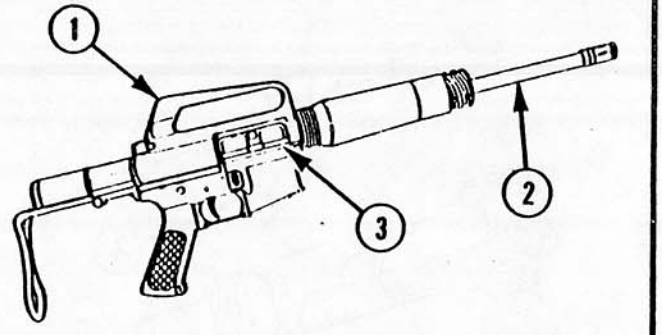
2	Breech bolt	a. Remove cartridge extractor (1) and extractor spring assembly (2) (p 2-28). Check cartridge extractor (1) for cracks and make sure cartridge extractor lip is sharp and free of burrs and chips. Check extractor spring assembly (2) for kinks or damaged insert. Replace cartridge extractor and extractor spring assembly (p 2-28) if defective. b. Clean breech bolt hole (3) with small arms cleaning brush (TM 9-1005-309-10) dipped in rifle bore cleaning compound (RBC) (item 8, app D); lubricate with lubricating oil (LSA) (item 16, app D); and reassemble (p 2-28). c. Reassemble weapon (TM 9-1005-309-10).	
3	Upper receiver and barrel assembly	a. Remove both handguards (1) (step 2, p 2-31). b. Inspect handguards internally and externally for cracks and/or damage. Handguard can have cracks up to 1 in. (2.54 cm) long. ~~If cracks are longer than 1 in. (2.54 cm), replace handguard.~~ c. ~~Discard~~ Replace handguards ~~and replace~~ (p 2-31) if three rivets (2) are missing, if the liner (3) is loose enough to rattle, or if handguard is cracked more than 1 in. (2.54 cm) in length.	 

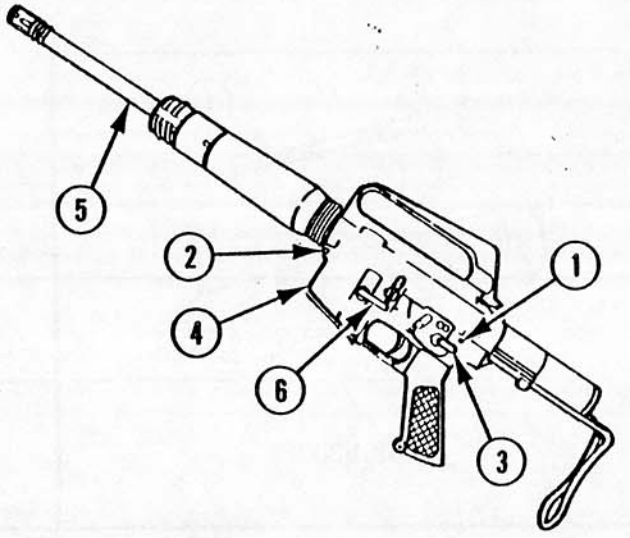
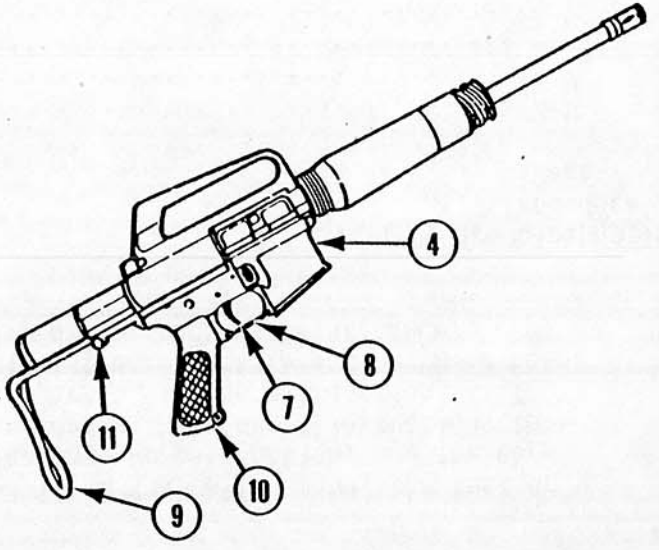
2-5. PREVENTIVE MAINTENANCE CHECKS AND SERVICES (cont)

Table 2-2. ORGANIZATIONAL PREVENTIVE MAINTENANCE CHECKS AND SERVICES
QUARTERLY SCHEDULE (cont)

Item No.	Item To Be Inspected	Procedures
3	Upper receiver and barrel assembly (cont)	d. Hand check flash suppressor (4) for looseness on barrel and extension assembly (5). If loose, notify direct support maintenance. e. Check gas metallic bent tube (6) for damage. If damaged, notify direct support maintenance. f. Install handguards (p 2-32). g. Check charging handle assembly (7) for defects (p 2-33). If defective, replace or repair.
4	Upper receiver assembly	a. Hand check upper receiver (1) for looseness on barrel and extension assembly (2). If loose, notify direct support maintenance. b. Check ejection port cover (3) for freedom of movement when opening or closing. Replace (p 2-35) if defective. c. Inspect finish of upper receiver (1). Repair (p 2-35) if scratched or worn shiny.





5	Lower receiver and receiver extension assembly	a. Check for frozen detents and springs. b. Clean all detents and springs, take-down pin (1), pivot pin (2), selector lever (3), and outer surface of lower receiver (4) with small arms cleaning brush (TM 9-1005-309-10) dipped in rifle bore cleaning compound (RBC) (item 8, app D). c. Hand check lower receiver (4) for looseness on barrel and extension assembly (5). If loose, notify direct support maintenance. d. Function check magazine catch (6), and adjust (TM 9-1005-309-10). If defective, notify direct support maintenance. e. Check for bent or broken trigger (7), trigger guard (8), and buttstock (9). If defective, notify direct support maintenance. f. Check for corroded or damaged lower receiver (4). If damaged, notify direct support maintenance. g. Check for cracked or damaged rifle grip (10). If damaged, replace (p 2-38). h. Check buttstock latch (11) for tension to be sure it holds buttstock (9) in position. If buttstock latch is defective, notify direct support maintenance.	 

Section III. TROUBLESHOOTING

2-6. TROUBLESHOOTING INFORMATION

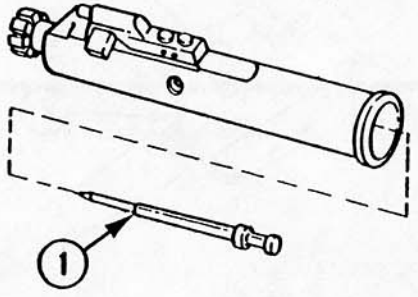
a. The symptom index can be used as a quick guide to troubleshooting. Common malfunctions are listed in alphabetical order with a page number reference to the troubleshooting table where a test or inspection and corrective action are provided.

b. Table 2-3 lists the malfunction, the test or inspection indicating the malfunction, and the corrective action needed. There are illustrations to show location of parts. If the malfunction still exists after all listed corrective actions have been performed, notify direct support maintenance.

SYMPTOM INDEX

M231 SUBMACHINE GUN

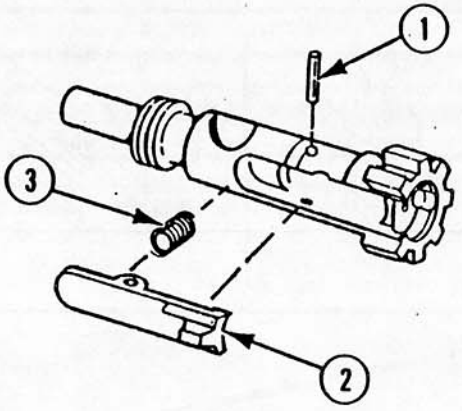
Table 2-3. TROUBLESHOOTING

MALFUNCTION TEST OR INSPECTION CORRECTIVE ACTION	LOCATION
1. FAILS TO FIRE. Check for broken firing pin (1). Notify direct support maintenance.	

2. FAILS TO EXTRACT.

Check breech bolt for defective extractor pin (1), cartridge extractor (2), and extractor spring assembly (3).

Replace defective parts (p 2-28).



3. FAILS TO EJECT.

Step 1. Check for frozen cartridge ejector (1).

Clean (p 2-28).

Step 2. Check cartridge ejector (1) for improper installation.

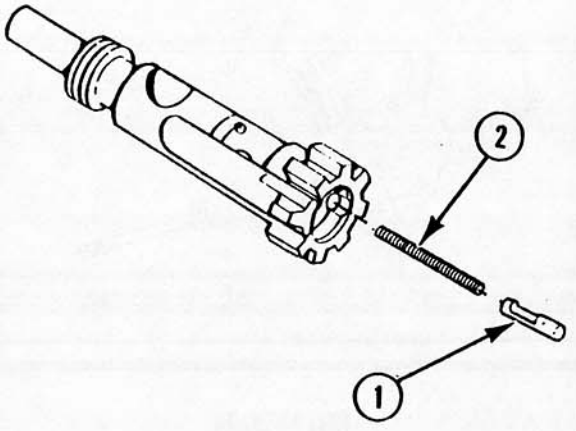
Install correctly (p 2-28).

Step 3. Check for broken cartridge ejector (1).

Replace defective cartridge ejector (p 2-28).

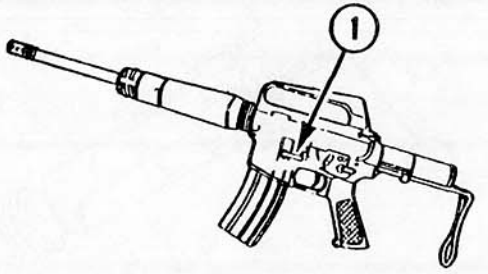
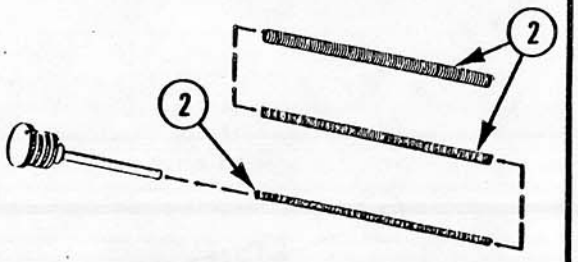
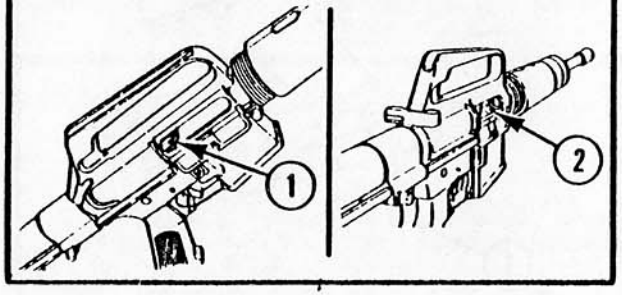
Step 4. Check for broken or weak helical compression spring (2).

Replace defective helical compression spring (p 2-28).



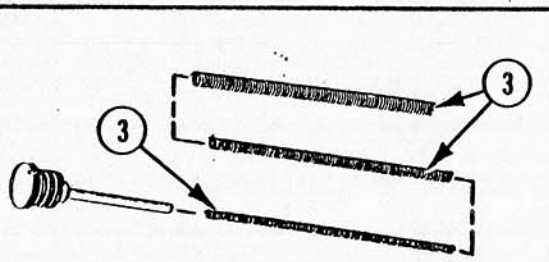
2-6. TROUBLESHOOTING INFORMATION (cont)

Table 2-3. TROUBLESHOOTING (cont)

MALFUNCTION TEST OR INSPECTION CORRECTIVE ACTION	LOCATION
4. FAILS TO FEED. Step 1. Check if magazine catch (1) is out of adjustment. Adjust magazine catch (TM 9-1005-309-10). Step 2. Check drive spring and guide assembly for broken helical compression springs (2). Replace broken helical compression springs (p 2-19).	 
5. FAILS TO LOCK. Step 1. Check for defective breech bolt locking lugs (1) and defective mating locking lugs (2) in barrel and extension assembly. Notify direct support maintenance.	

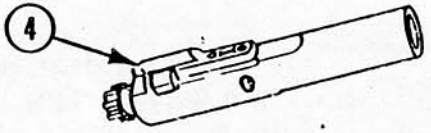
Step 2. Check drive spring and guide assembly for weak or broken helical compression springs (3).

Replace defective helical compression springs (p 2-19).



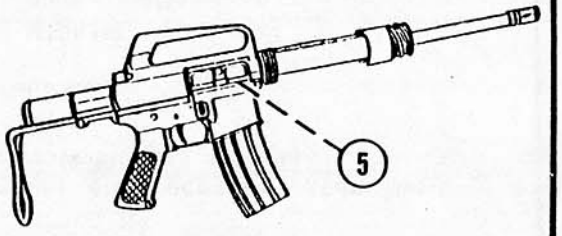
Step 3. Check for dented key (4) of bolt carrier and key assembly.

If dented, repair using key tool (p 2-24).



Step 4. Check end of gas metallic bent tube (5) for damage.

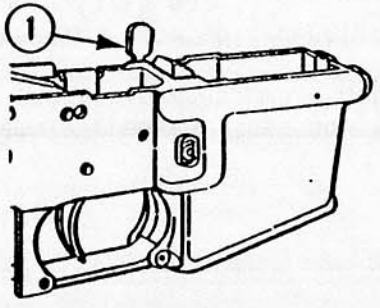
Notify direct support maintenance.



6. FAILS TO LOCK TO REAR AFTER LAST ROUND.

Check for broken bolt catch (1).

Notify direct support maintenance.



Section IV. MAINTENANCE PROCEDURES

2-7. M231 SUBMACHINE GUN--MAINTENANCE INSTRUCTIONS

INITIAL SETUP

Tools and Special Tools
- Key tool (fig. 1, app E)
- Pivot pin removing tool (fig. 2, app E)
- Small arms cleaning brush (11686340)
- Small arms repairman tool kit (SC 5180-95-CL-A07)

Materials/Parts
- Abrasive cloth (item 9, app D)
- Artist's brush (item 5, app D)
- Dry cleaning solvent (item 10, app D)
- Lubricating oil (LSA) (item 16, app D)
- Rifle bore cleaning compound (RBC) (item 8, app D)
- Small arms cleaning swab (item 20, app D)
- Solid film lubricant (item 13, app D)
- Tobacco pipe cleaner (item 7, app D)
- Tools and parts cleaning brush (item 6, app D)
- Wiping rag (item 18, app D)

Personnel Required
- MOS 76Y-10 Supply clerk/unit armorer
- Helper

References
- Appendix C
- Appendix D
- TM 9-1005-309-10

Equipment Conditions
- 2-19 Retainer assembly removed (task no. 3)
- 2-15 Bolt carrier and striker assembly removed (task no. 4)
- 2-24 Breech bolt removed from bolt carrier and striker assembly (task no. 5)
- 2-15 Upper receiver and barrel assembly removed (tasks no. 6 and 8)
- 2-15 Lower receiver and receiver extension assembly removed (task no. 9)

General Safety Instructions

WARNING

Before starting any procedures on the M231 submachine gun be sure to clear weapon. Live ammunition should not be near the work area.

To avoid possible explosion, never exchange or switch bolt carrier and striker assembly from one weapon to another.

LIST OF TASKS

2-7. M231 SUBMACHINE GUN--MAINTENANCE INSTRUCTIONS (cont)

LIST OF TASKS (cont)

9	Maintain lower receiver and receiver extension assembly: a. Disassemble. b. Clean. c. Inspect. d. Repair. e. Reassemble.	 2-39 2-40 2-41 2-41 2-41

2-8. M231 SUBMACHINE GUN--MAINTENANCE INSTRUCTIONS

THIS TASK COVERS:

a. Inspection
b. Disassembly
c. Repair
d. Reassembly

INITIAL SETUP

Tools and Special Tools
Small arms repairman tool kit (SC 5180-95-CL-A07)

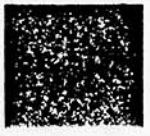
Personnel Required
MOS 76Y-10 Supply clerk/unit armorer

References
Appendix C

General Safety Instructions

WARNING

Before starting any procedures on the M231 submachine gun be sure to clear weapon. Live ammunition should not be near the work area.



2-8. M231 SUBMACHINE GUN--MAINTENANCE INSTRUCTIONS (cont)

INSPECTION

1 Check that all sliding parts move freely and smoothly.

2 Check to see that all spring loaded pins are movable.

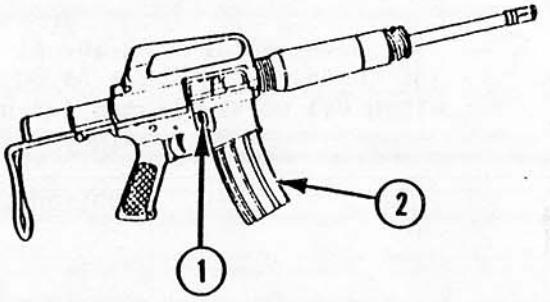
3 Check for obstruction in bore, upper receiver and barrel assembly, and cartridge magazine.

4 Check cartridge magazine for damage.

5 Check for burrs. If present, remove with a stone.

6 Check for corrosion.

DISASSEMBLY

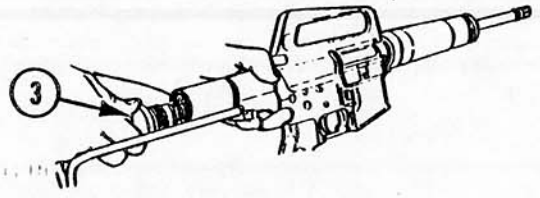


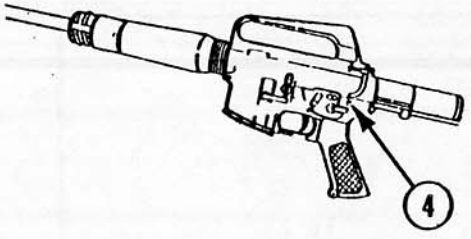
1 MAGAZINE CATCH BUTTON (1). Press.

2 CARTRIDGE MAGAZINE (2). Pull down and remove.

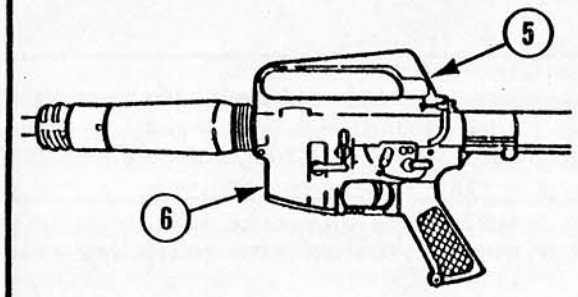
WARNING
Be careful when removing spring loaded parts. Carelessness could result in injury.

3 DRIVE SPRING AND GUIDE ASSEMBLY (3). With bolt carrier and striker assembly forward, turn counterclockwise and remove.





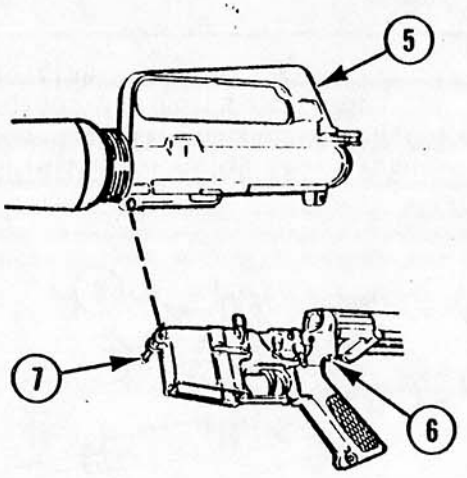
4 TAKEDOWN PIN (4). Push in as far as it will go.



5 UPPER RECEIVER AND BARREL ASSEMBLY (5). Pivot from lower receiver and receiver extension assembly (6).

6 PIVOT PIN (7). Push as far as it goes.

7 UPPER RECEIVER AND BARREL ASSEMBLY (5). Remove from lower receiver and receiver extension assembly (6).

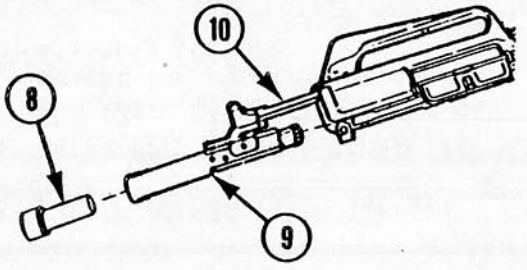


REPAIR

NOTE
The firing hammer is part of the bolt carrier and striker assembly.

8 FIRING HAMMER (8). Tilt M231 submachine gun and remove firing hammer.

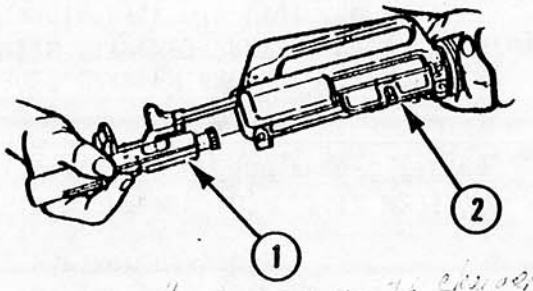
9 BOLT CARRIER AND KEY ASSEMBLY (9) WITH ATTACHED PARTS. Pull charging handle assembly (10) and tilt upper receiver and barrel assembly to remove.



Repair is by replacement of authorized parts (app C) as required.

2-8. M231 SUBMACHINE GUN--MAINTENANCE INSTRUCTIONS (cont)

REASSEMBLY

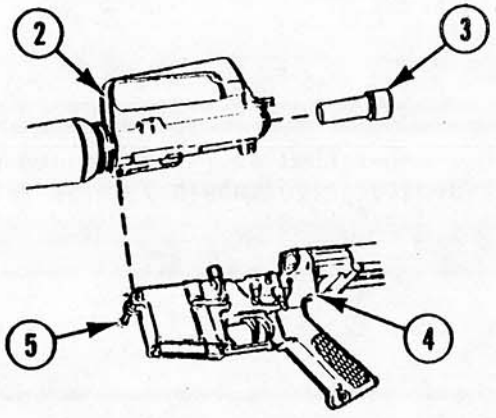


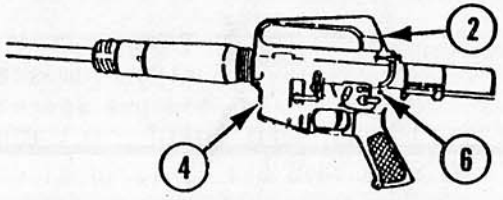
1 BOLT CARRIER AND KEY ASSEMBLY (1) WITH ATTACHED PARTS. Slide into upper receiver and barrel assembly (2).

2 FIRING HAMMER (3). Install.

3 UPPER RECEIVER AND BARREL ASSEMBLY (2). Aline with lower receiver and receiver extension assembly (4).

4 PIVOT PIN (5). Push back into place.

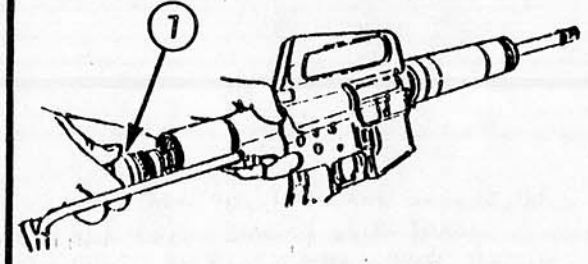




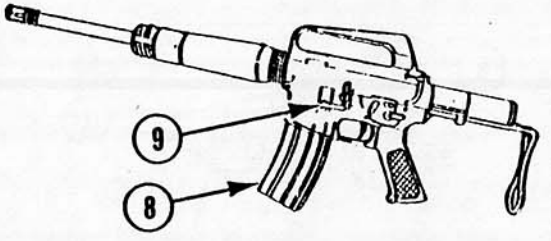
5 UPPER RECEIVER AND BARREL ASSEMBLY (2).

a. Pivot back in position with lower receiver and receiver extension assembly (4).

b. Secure by pushing in on takedown pin (6).



6 DRIVE SPRING AND GUIDE ASSEMBLY (7). Install and turn clockwise to lock in place.



7 CARTRIDGE MAGAZINE (8). Push upward until magazine catch (9) engages and holds cartridge magazine.

2-9. DRIVE SPRING AND GUIDE ASSEMBLY--MAINTENANCE INSTRUCTIONS

THIS TASK COVERS:

a. Removal/disassembly
b. Cleaning
c. Inspection
d. Repair
e. Reassembly/installation

INITIAL SETUP

Tools and Special Tools
Small arms repairman tool kit (SC 5180-95-CL-A07)

Materials/Parts
Lubricating oil (LSA) (item 16, app D)
Wiping rag (item 18, app D)

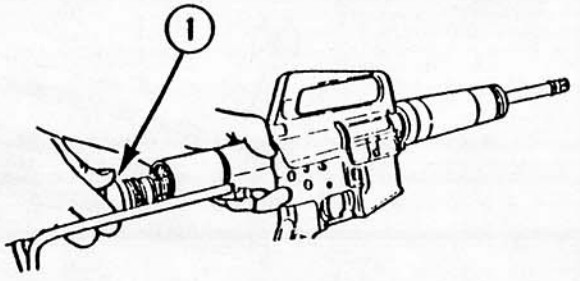
Personnel Required
MOS 76Y-10 Supply clerk/unit armorer

References
Appendix C
Appendix D

REMOVAL/DISASSEMBLY

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

1 DRIVE SPRING AND GUIDE ASSEMBLY (1). Turn counterclockwise and remove.

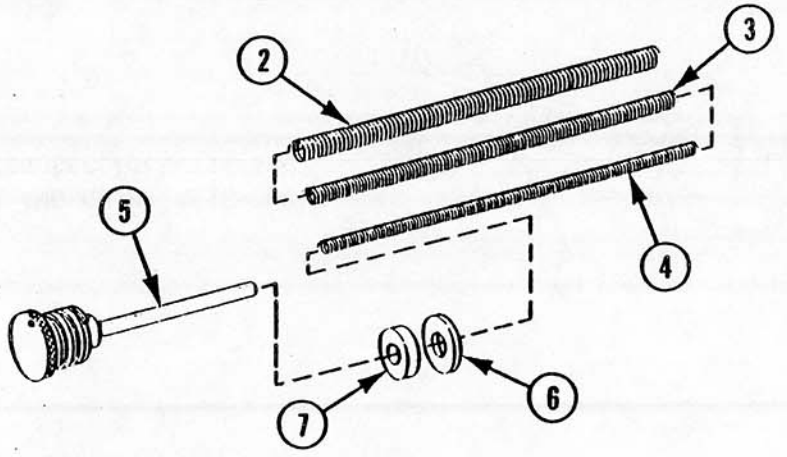


2-9. DRIVE SPRING AND GUIDE ASSEMBLY--MAINTENANCE INSTRUCTIONS (cont)

REMOVAL/DISASSEMBLY (cont)

2 OUTER HELICAL COMPRESSION SPRING (2), MIDDLE HELICAL COMPRESSION SPRING (3), AND INNER HELICAL COMPRESSION SPRING (4). Remove from retainer assembly (5).

3 FLAT WASHER (6) AND RECOIL BUFFER (7). Remove from retainer assembly (5).



CLEANING

ALL PARTS. Wipe off with wiping rag (item 18, app D).

INSPECTION

1 HELICAL COMPRESSION SPRINGS.

a. Check for breaks or kinks.

b. Measure free length of springs with steel tape measure.

(1) The outer and middle springs' free length is between 9 and 10 3/8 in. (22.9 and 25.8 cm).

(2) Inner spring's free length will be between 8 1/2 and 9 3/8 in. (21.6 and 23.8 cm).

2 ALL REMAINING PARTS.

a. Check for bends, breaks, or other deformation.

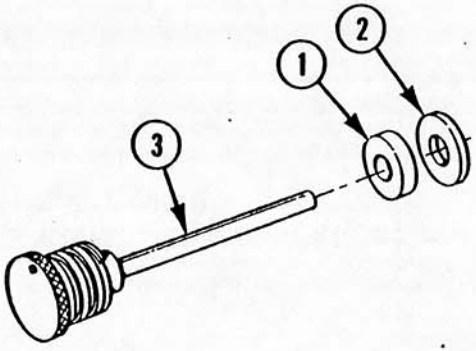
b. Check for burrs. If present, remove with a stone.

Repair is by replacement of authorized parts (app C) as required.

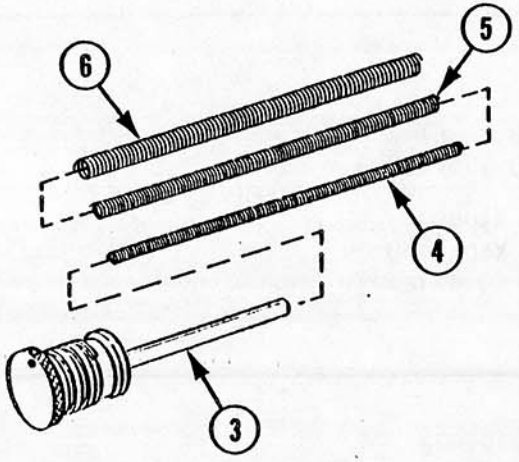
NOTE

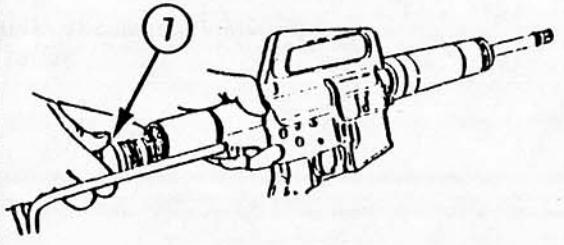
For repair of the retainer assembly refer to page 2-22.

1 RECOIL BUFFER (1) AND FLAT WASHER (2). Lightly lube with lubricating oil (LSA) (item 16, app D) and place on retainer assembly (3).



2 INNER HELICAL COMPRESSION SPRING (4), MIDDLE HELICAL COMPRESSION SPRING (5), AND OUTER HELICAL COMPRESSION SPRING (6). Lightly lube with lubricating oil (LSA) (item 16, app D) and place on retainer assembly (3).





3 DRIVE SPRING AND GUIDE ASSEMBLY (7). Install and turn clockwise to lock in place.

2-10. RETAINER ASSEMBLY--MAINTENANCE INSTRUCTIONS

THIS TASK COVERS:

a. Disassembly
b. Cleaning
c. Inspection
d. Repair
e. Reassembly

INITIAL SETUP

Tools and Special Tools
Small arms repairman tool kit (SC 5180-95-CL-A07)

Materials/Parts
Lubricating oil (LSA) (item 16, app D)
Wiping rag (item 18, app D)

Personnel Required
MOS 76Y-10 Supply clerk/unit armorer

References
Appendix C
Appendix D

Equipment Conditions
2-19 Retainer assembly removed

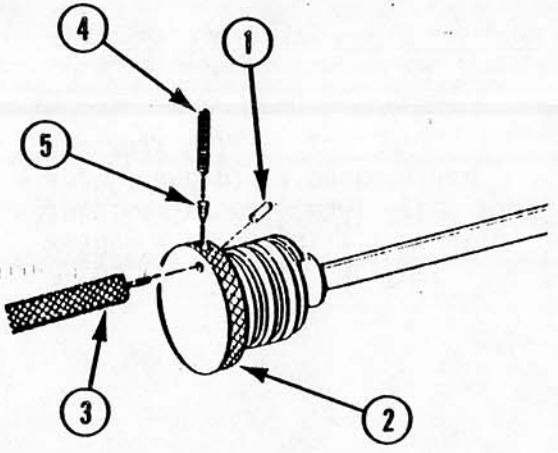
DISASSEMBLY

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

NOTE
Catch small parts as they fall to prevent loss.

1 SPRING PIN (1). Remove from spring retainer (2) using 1/16-inch punch (3).

2 HELICAL COMPRESSION SPRING (4) AND SAFETY DETENT (5). Remove.



CLEANING

ALL PARTS. Wipe with wiping rag (item 18, app D).

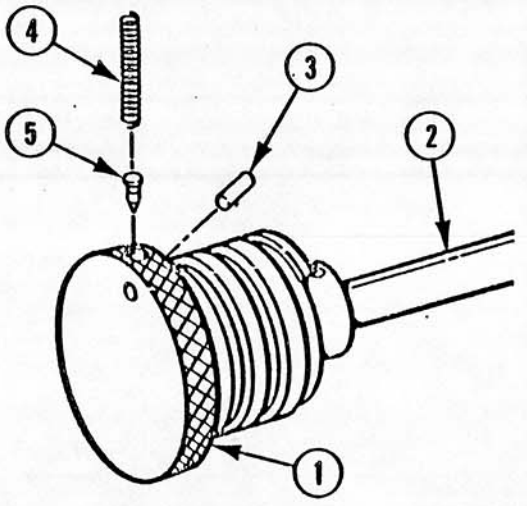
INSPECTION

1 SPRING RETAINER (1) AND RETAINER ROD (2).

a. Inspect for deformation. If defective, notify direct support maintenance.

b. Inspect for burrs. If present, remove with a stone.

2 SPRING PIN (3), HELICAL COMPRESSION SPRING (4), AND SAFETY DETENT (5). Inspect for bends and deformation. If damaged, replace.



REPAIR

Repair is by replacement of authorized parts (app C) as required.

REASSEMBLY

1 SPRING PIN (1). Start spring pin (1) in spring retainer (2).

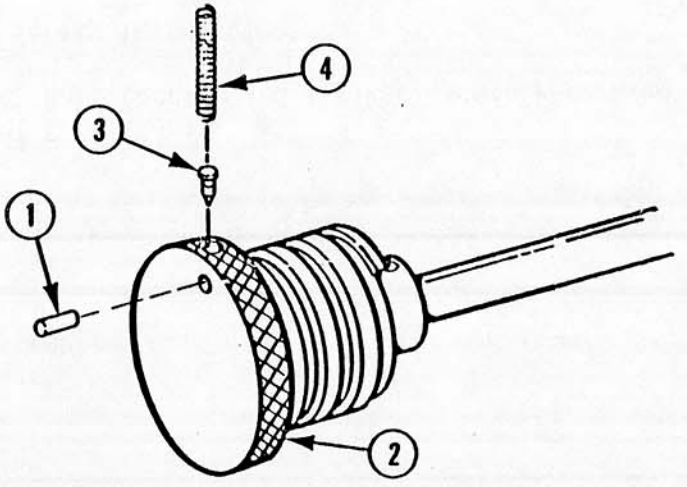
2 SAFETY DETENT (3) AND HELICAL COMPRESSION SPRING (4).

a. Generously lube with lubricating oil (LSA) (item 16, app D).

NOTE
Install pointed end of the safety detent first.

b. Insert in spring retainer (2).

3 SPRING PIN (1). While depressing helical compression spring (4), drive spring pin (1) in.



2-11. BOLT CARRIER AND STRIKER ASSEMBLY--MAINTENANCE INSTRUCTIONS

THIS TASK COVERS:

a. Disassembly
b. Cleaning
c. Inspection
d. Repair
e. Reassembly

INITIAL SETUP

Tools and Special Tools
Key tool (fig. 1, app E)
Small arms cleaning brush (11686340)
Small arms repairman tool kit (SC 5180-95-CL-A07)

Materials/Parts
Rifle bore cleaning compound (RBC) (item 8, app D)
Small arms cleaning swab (item 20, app D)
Tobacco pipe cleaner (item 7, app D)

Personnel Required
MOS 76Y-10 Supply clerk/unit armorer

References
Appendix C
Appendix D
TM 9-1005-309-10

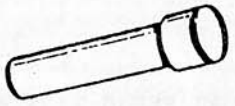
Equipment Conditions
2-15 Bolt carrier and striker assembly removed

General Safety Instructions

WARNING

To avoid possible explosion, never exchange or switch bolt carrier and striker assembly from one weapon to another.

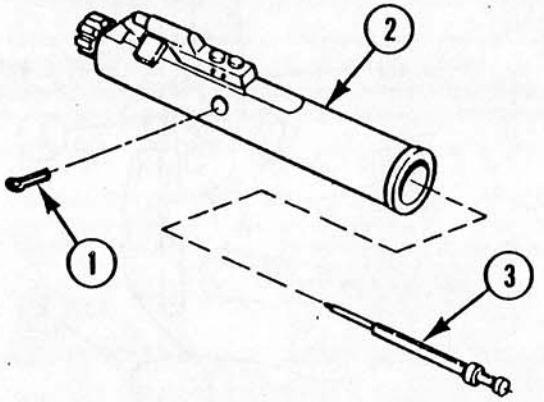
DISASSEMBLY



NOTE
The firing hammer was removed when the M231 submachine gun was disassembled (p 2-15).

1 FIRING PIN RETAINING PIN (1). Remove from bolt carrier and key assembly (2) using a 1/16-inch punch.

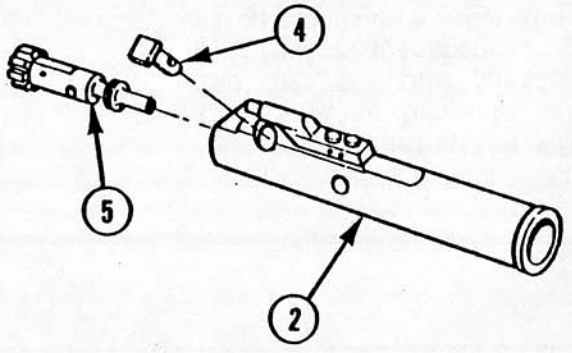
2 FIRING PIN (3). Remove by tipping bolt carrier and key assembly (2).



NOTE
Make sure breech bolt is pushed into bolt carrier and key assembly before removing bolt cam pin.

3 BOLT CAM PIN (4). Rotate 1/4 turn and lift straight up and out of bolt carrier and key assembly (2).

4 BREECH BOLT (5). Pull straight out from bolt carrier and key assembly (2) to remove.



CLEANING

1 ALL PARTS. Clean external surfaces with small arms cleaning swab (item 20, app D) saturated with rifle bore cleaning compound (RBC) (item 8, app D).

2 BOLT CARRIER KEY.

a. Clean inside with small arms cleaning brush dipped in rifle bore cleaning compound (RBC) (item 8, app D).

b. Dry with tobacco pipe cleaner (item 7, app D).

2-11. BOLT CARRIER AND STRIKER ASSEMBLY--MAINTENANCE INSTRUCTIONS (cont)

INSPECTION

1 FIRING PIN. Inspect point for large chips or pits. Point should be smooth and even. If defective, notify direct support maintenance.

2 ALL PARTS.

a. Inspect for cracks, corrosion, or other defects. If defective, notify direct support maintenance.

b. Inspect for burrs, remove with a stone if present.

REPAIR

CAUTION

Be careful during the following procedure to ensure that the striking force is not directed to the attaching screws and that the tube portion is not enlarged or flared beyond original requirements. Such enlargement would permit loss of gas pressure when the key and gas metallic bent tube come together during functioning.

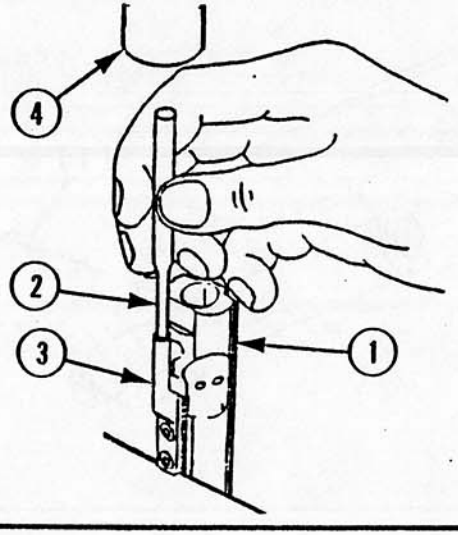
1 BOLT CARRIER AND KEY ASSEMBLY (1). Repair small dents and/or distortions using fabricated key tool as follows:

a. Place the bolt carrier and key assembly on the edge of a table as shown.

b. Insert the small end of the key tool (2) into the tube portion of the key (3).

c. Strike the large end of the key tool (lightly) with a 3-ounce soft brass hammer (4).

d. Repeat striking (gently) until the key is in its original shape. If the key is flared too large or is distorted, notify direct support maintenance.



2 BOLT CARRIER AND STRIKER ASSEMBLY. Repair is by replacement of authorized parts (app C) as required.

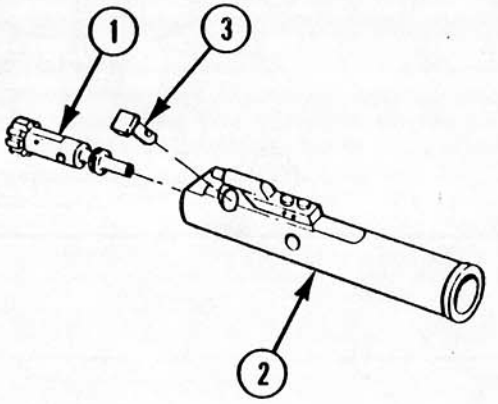
NOTE
For repair of the breech bolt refer to page 2-28.

1 BREECH BOLT (1).

a. Place in bolt carrier and key assembly (2).

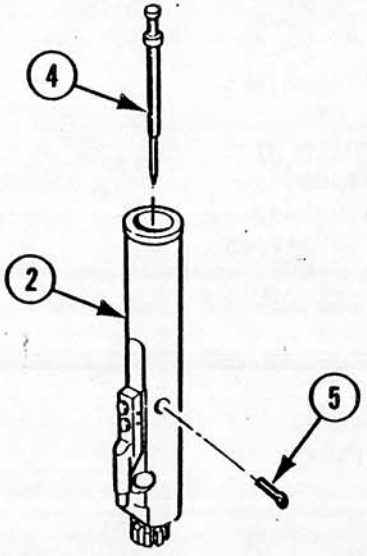
b. Pull back until hole is alined with hole in bolt carrier and key assembly where bolt cam pin (3) is installed.

2 BOLT CAM PIN (3). Install through holes and rotate 1/4 turn to aline hole for firing pin.



3 FIRING PIN (4). Drop in upright bolt carrier and key assembly (2).

4 FIRING PIN RETAINING PIN (5). Press into larger opening of bolt carrier and key assembly (2).



NOTE
To ensure proper installation, invert bolt carrier and key assembly with breech bolt end up and attempt to shake out firing pin. Firing pin should not fall out.

2-12. BREECH BOLT--MAINTENANCE INSTRUCTIONS

THIS TASK COVERS:

a. Disassembly
b. Cleaning
c. Inspection
d. Repair
e. Reassembly

INITIAL SETUP

Tools and Special Tools
Small arms repairman tool kit (SC 5180-95-CL-A07)
Small arms cleaning brush (11686340)

Materials/Parts
Lubricating oil (LSA) (item 16, app D)
Rifle bore cleaning compound (RBC) (item 8, app D)
Small arms cleaning swab (item 20, app D)
Tobacco pipe cleaner (item 7, app D)

Personnel Required
MOS 76Y-10 Supply clerk/unit armorer
Helper

References
Appendix C
Appendix D
TM 9-1005-309-10

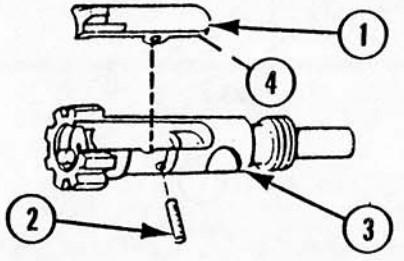
Equipment Conditions
2-24 Breech bolt removed from bolt carrier and striker assembly

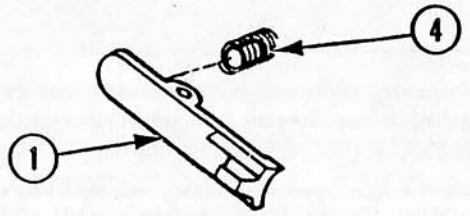
DISASSEMBLY

1 CARTRIDGE EXTRACTOR (1). Press down to relieve spring tension.

2 EXTRACTOR PIN (2). Remove from bolt (3) using a 1/16-inch punch.

3 CARTRIDGE EXTRACTOR (1) WITH EXTRACTOR SPRING ASSEMBLY (4). Lift off of bolt (3).





NOTE
Do not remove the rubber insert from extractor spring.

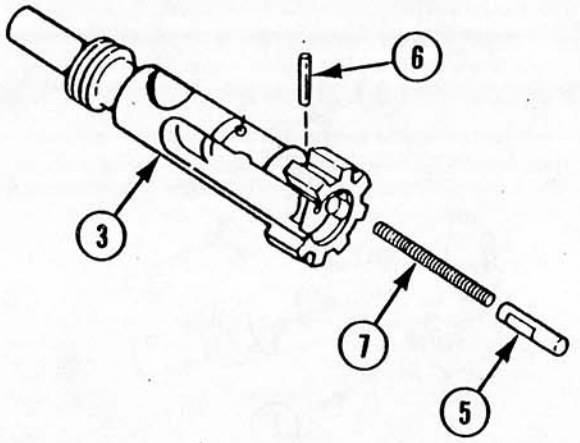
4 EXTRACTOR SPRING ASSEMBLY (4). Remove from cartridge extractor (1).

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

5 CARTRIDGE EJECTOR (5). Have the helper push in cartridge ejector (5) with the handle of a punch.

6 SPRING PIN (6). Remove from bolt (3) using a 1/16-inch punch.

7 CARTRIDGE EJECTOR (5) AND HELICAL COMPRESSION SPRING (7). Release, catch in hand to prevent loss.



CLEANING

1 BOLT.

a. Scrub locking lugs with small arms cleaning brush dipped in rifle bore cleaning compound (RBC) (item 8, app D).

b. Clean cartridge ejector hole in bolt face using rifle bore cleaning compound (RBC) (item 8, app D) and tobacco pipe cleaner (item 7, app D).

c. Clean external surfaces with small arms cleaning swab (item 20, app D) saturated with rifle bore cleaning compound (RBC) (item 8, app D).

2 CARTRIDGE EXTRACTOR, CARTRIDGE EJECTOR, AND HELICAL COMPRESSION SPRING. Clean with small arms cleaning brush dipped in rifle bore cleaning compound (RBC) (item 8, app D).

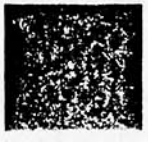
INSPECTION

1 BOLT.

a. Inspect exterior surface for large pits or clusters of pits.

NOTE
If cracks are found on breech bolt locking lugs or around cam pin hole, notify direct support maintenance.

b. Inspect for cracks in the locking lugs, especially at the base.



2-12. BREECH BOLT--MAINTENANCE INSTRUCTIONS (cont)

INSPECTION (cont)

1 BOLT. (cont)

c. Inspect for cracks around cam pin hole.

d. Inspect bolt rings for damage and wear. To check for wear, insert breech bolt in bolt carrier and key assembly and hold with breech bolt end down. If breech bolt falls out, bolt rings are worn. Notify direct support maintenance.

2 ALL PARTS.

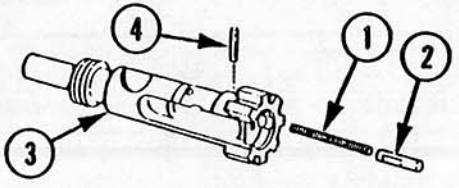
a. Inspect for cracks, burrs, kinks, and breaks.

b. If burrs are present, remove with a stone.

REPAIR

Repair is by replacement of authorized parts (app C) as required.

REASSEMBLY



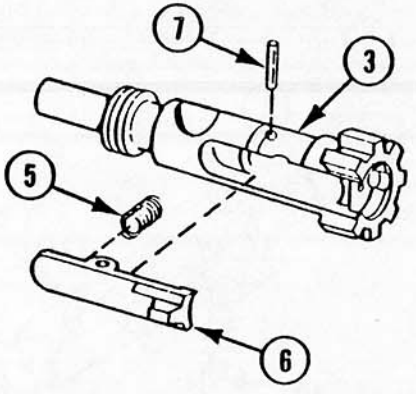
1 HELICAL COMPRESSION SPRING (1) AND CARTRIDGE EJECTOR (2). Apply lubricating oil (LSA) (item 16, app D), insert in bolt (3) and have helper push in to hold in place.

2 SPRING PIN (4). Drive into bolt (3).

3 EXTRACTOR SPRING ASSEMBLY (5). Press into cartridge extractor (6), large end first, until it snaps in place and is retained.

4 CARTRIDGE EXTRACTOR (6). Position in place on bolt (3). Press to hold in place.

5 EXTRACTOR PIN (7). Install.



2-13. UPPER RECEIVER AND BARREL ASSEMBLY--MAINTENANCE INSTRUCTIONS

THIS TASK COVERS:

a. Disassembly
b. Inspection
c. Repair
d. Reassembly

INITIAL SETUP

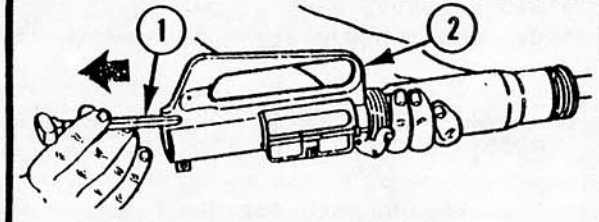
Tools and Special Tools
Small arms repairman tool kit (SC 5180-95-CL-A07)

Personnel Required
MOS 76Y-10 Supply clerk/unit armorer
Helper

References
Appendix C

Equipment Conditions
2-15 Upper receiver and barrel assembly removed

DISASSEMBLY



1 CHARGING HANDLE ASSEMBLY (1).

a. Pull to the rear.

b. Aline detents with slots in upper receiver assembly.

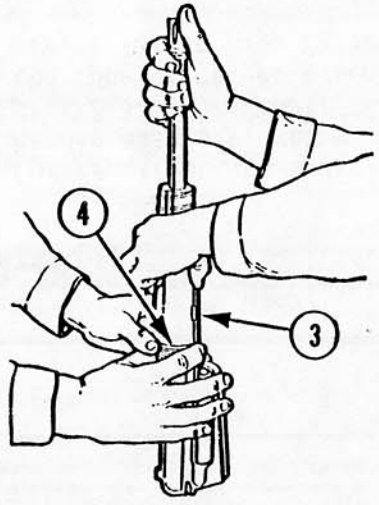
c. Pull down and remove from upper receiver assembly (2).

NOTE
Two soldiers may be required to remove handguards.

2 TWO HANDGUARDS (3).

a. Point barrel upward and have helper push down on barrel nut assembly (4).

b. Armorer pivots each handguard (3) outward to remove.



2-13. UPPER RECEIVER AND BARREL ASSEMBLY--MAINTENANCE INSTRUCTIONS (cont)

INSPECTION

1 TWO HANDGUARDS.

NOTE
Handguard can have cracks up to 1 in. (2.54 cm) long. If cracks are longer than 1 in. (2.54 cm), replace handguard.

a. Inspect for cracks or loose rivets allowing liner to rattle.

b. Inspect for broken vent tabs. If two or more tabs are missing from either handguard, the handguard is unserviceable.

2 ALL PARTS.

a. Inspect for cracks, deformation, and proper functioning. If defective, notify direct support maintenance.

b. Inspect for burrs, remove with stone if present.

REPAIR

Repair is by replacement of authorized parts (app C) as required.

NOTE
For repair of the charging handle assembly, refer to page 2-33. For repair of the upper receiver assembly, refer to page 2-35.

REASSEMBLY

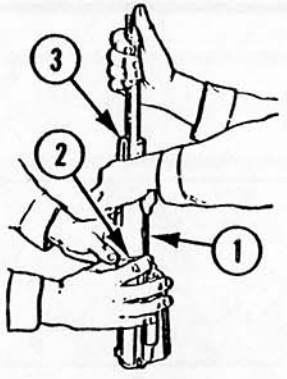
NOTE
Two soldiers may be required to install handguards.

1 TWO HANDGUARDS (1).

a. Point barrel and extension assembly upward and have helper pull down on barrel nut assembly (2).

b. Armorer inserts top of each handguard (1) into upper barrel collar (3) and pivots handguard downward against barrel and extension assembly.

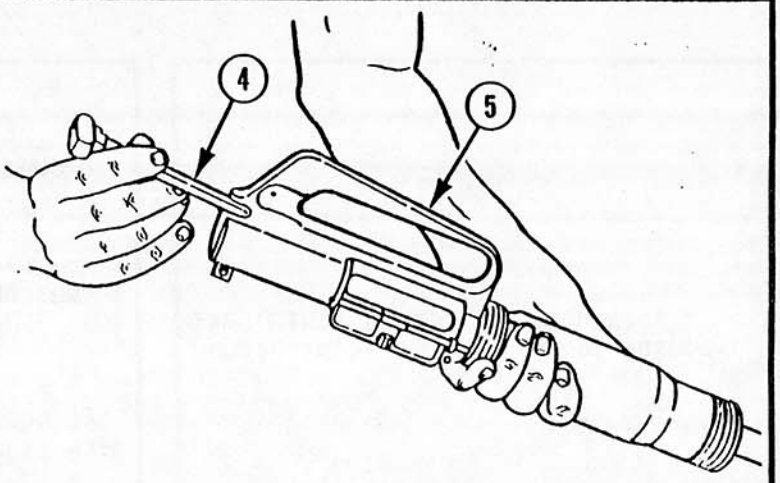
c. Release barrel nut assembly (2).



2 CHARGING HANDLE ASSEMBLY (4).

a. Aline detents on charging handle assembly (4) with slots in upper receiver assembly (5).

b. Lift up and push charging handle assembly forward to install.



2-14. CHARGING HANDLE ASSEMBLY--MAINTENANCE INSTRUCTIONS

THIS TASK COVERS:

a. Removal
b. Disassembly
c. Inspection
d. Repair
e. Reassembly
f. Installation

INITIAL SETUP

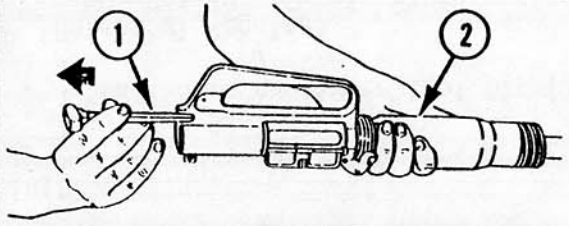
Tools and Special Tools
Small arms repairman tool kit (SC 5180-95-CL-A07)

Personnel Required
MOS 76Y-10 Supply clerk/unit armorer

References
Appendix C

2-14. CHARGING HANDLE ASSEMBLY--MAINTENANCE INSTRUCTIONS (cont)

REMOVAL

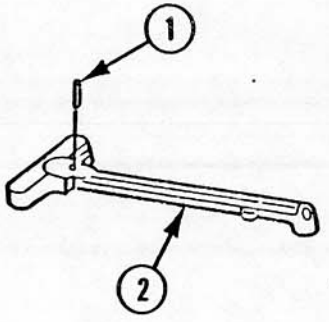


CHARGING HANDLE ASSEMBLY (1). Pull charging handle assembly to the rear. Aline charging handle assembly detents with slots in upper receiver assembly. Pull down and remove from upper receiver assembly (2).

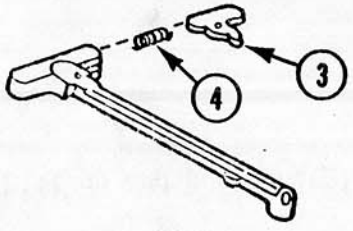
DISASSEMBLY

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

1 SPRING PIN (1). Remove from charging handle (2) using 1/16-inch punch.



INSPECTION



NOTE
Catch small parts to prevent loss.

2 CHARGING HANDLE LATCH (3) AND HELICAL COMPRESSION SPRING (4). Remove.

1 CHARGING HANDLE. Check for damage or breaks. If defective, replace charging handle assembly.

2 ALL PARTS.

a. Inspect for weak spring tension, cracks, burrs, or corrosion.

b. If burrs are present, remove with a stone.

REPAIR

Repair is by replacement of authorized parts (app C) as required.

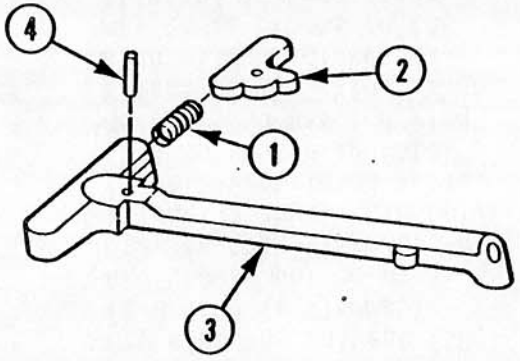
REASSEMBLY

1 HELICAL COMPRESSION SPRING (1) AND CHARGING HANDLE LATCH (2).

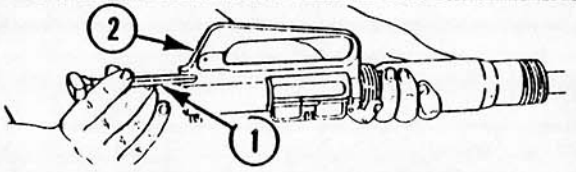
a. Insert into charging handle (3).

b. Press in on charging handle latch (2) and aline holes. Use 1/16-inch punch to hold in place.

2 SPRING PIN (4). Install by driving punch out.



INSTALLATION



CHARGING HANDLE ASSEMBLY (1).

a. Aline detents on charging handle assembly (1) with slots in upper receiver assembly (2).

b. Lift up and push charging handle assembly forward to install.

2-15. UPPER RECEIVER ASSEMBLY--MAINTENANCE INSTRUCTIONS

THIS TASK COVERS:

a. Disassembly
b. Cleaning
c. Inspection
d. Repair
e. Reassembly

INITIAL SETUP

Tools and Special Tools
Small arms repairman tool kit (SC 5180-95-CL-A07)

Materials/Parts
Abrasive cloth (item 9, app D)
Artist's brush (item 5, app D)
Dry cleaning solvent (item 10, app D)
Rifle bore cleaning compound (RBC) (item 8, app D)
Solid film lubricant (item 13, app D)
Tools and parts cleaning brush (item 6, app D)

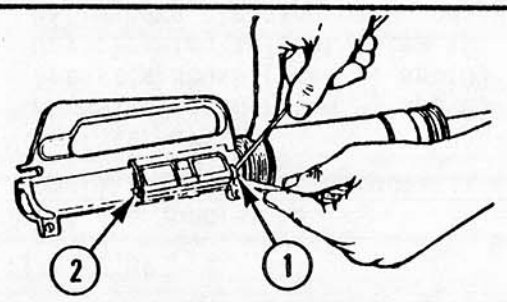
Personnel Required
MOS 76Y-10 Supply clerk/unit armorer

References
Appendix C
Appendix D

Equipment Conditions
2-15 Upper receiver and barrel assembly removed

2-15. UPPER RECEIVER ASSEMBLY--MAINTENANCE INSTRUCTIONS (cont)

DISASSEMBLY

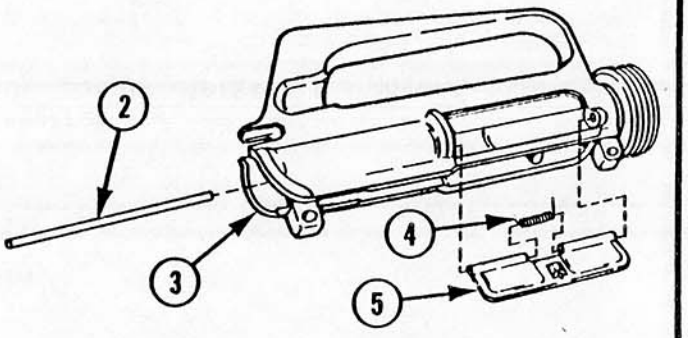


1 RETAINING RING (1). Use two small screwdrivers as shown to remove retaining ring (1) from ejection port cover pin (2).

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

2 EJECTION PORT COVER PIN (2). Pull out of upper receiver (3).

3 HELICAL TORSION SPRING (4) AND EJECTION PORT COVER (5). Remove.



CLEANING

ALL PARTS.

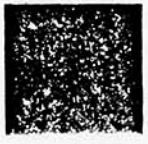
a. Remove carbon using rifle bore cleaning compound (RBC) (item 8, app D).

b. Clean corroded areas with abrasive cloth (item 9, app D).

WARNING
Dry cleaning solvent (SD) (P-D-680) is flammable and should not be used near an open flame or in a smoking area. Use only in well-ventilated areas. This solvent evaporates quickly and has a drying effect on the skin. When used without gloves it may cause cracks in the skin and in some cases mild irritation or inflammation.

c. Clean with dry cleaning solvent (item 10, app D) using artist's brush (item 5, app D) and tools and parts cleaning brush (item 6, app D).

INSPECTION	REPAIR	
ALL PARTS. a. Inspect for cracks, burrs, corrosion, or other defects. b. If present, remove burrs with a stone.	1 UPPER RECEIVER. a. Inspect for missing protective finish. CAUTION Do not use wire brush to roughen surface. b. Roughen surface with abrasive cloth (item 9, app D).	WARNING When using solid film lubricant, be sure area is well ventilated. CAUTION Be sure upper receiver is thoroughly cleaned and dried prior to application of solid film lubricant.
WARNING Dry cleaning solvent (SD) (P-D-680) is flammable and should not be used near an open flame or in a smoking area. Use only in well-ventilated areas. This solvent evaporates quickly and has a drying effect on the skin. When used without gloves it may cause cracks in the skin and in some cases mild irritation or inflammation. CAUTION Solid film lubricant is to be used only as an exterior surface protective finish and touchup. If the solid film lubricant comes in contact with recoiling parts or functional surfaces of the M231 submachine gun, remove immediately by cleaning with dry cleaning solvent (item 10, app D).		c. Apply solid film lubricant (item 13, app D) to all exterior uncoated areas. Allow 24 hours to dry before reassembly. 2 ALL PARTS. Repair is by replacement of authorized parts (app C) as required.



2-15. UPPER RECEIVER ASSEMBLY--MAINTENANCE INSTRUCTIONS (cont)

REASSEMBLY

1 EJECTION PORT COVER (1). Position on upper receiver (2) and hold in place.

2 EJECTION PORT COVER PIN (3). Install through upper receiver (2) and ejection port cover (1) up to spring opening.

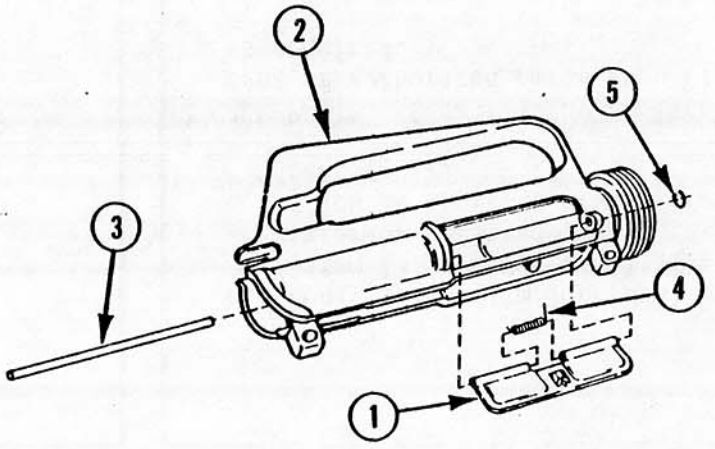
3 HELICAL TORSION SPRING (4). Put in place with long end toward the front of the upper receiver.

4 EJECTION PORT COVER PIN (3). Insert halfway into helical torsion spring (4).

5 HELICAL TORSION SPRING (4). Twist long end of spring one full turn to the right.

6 EJECTION PORT COVER PIN (3). Insert all the way and release helical torsion spring (4).

7 RETAINING RING (5). Install on ejection port cover pin (3) using small screwdriver.



2-16. LOWER RECEIVER AND RECEIVER EXTENSION ASSEMBLY--MAINTENANCE INSTRUCTIONS

THIS TASK COVERS:

a. Disassembly
b. Cleaning
c. Inspection
d. Repair
e. Reassembly

INITIAL SETUP

Tools and Special Tools
Pivot pin removing tool (fig. 2, app E)
Small arms cleaning brush (11686340)
Small arms repairman tool kit (SC 5180-95-CL-A07)

Materials/Parts
- Abrasive cloth (item 9, app D)
- Artist's brush (item 5, app D)
- Dry cleaning solvent (item 10, app D)
- Lubricating oil (LSA) (item 16, app D)
- Rifle bore cleaning compound (RBC) (item 8, app D)
- Solid film lubricant (item 13, app D)
- Tools and parts cleaning brush (item 6, app D)

Personnel Required
- MOS 76Y-10 Supply clerk/unit armorer

References
- Appendix C
- Appendix D
- TM 9-1005-309-10

Equipment Conditions
- 2-15 Lower receiver and receiver extension assembly removed

DISASSEMBLY

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

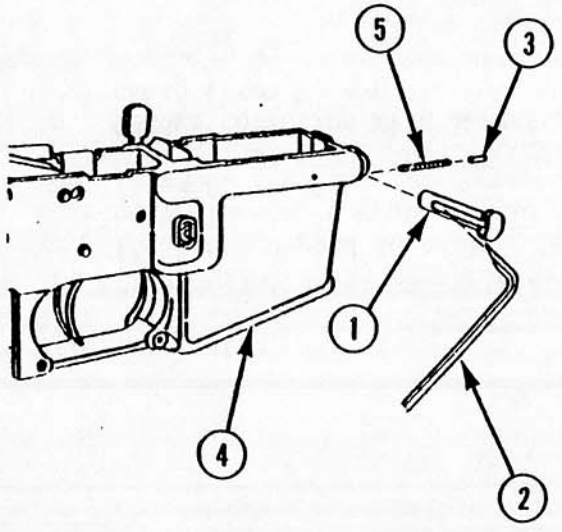
1 PIVOT PIN (1).

a. Insert fabricated pivot pin removing tool (2) in groove of pivot pin (1) to compress takedown pin detent (3).

NOTE
Catch small parts to prevent loss.

b. Turn pivot pin 1/4 turn and remove pivot pin removing tool and pivot pin from lower receiver (4).

2 TAKEDOWN PIN DETENT (3) AND HELICAL COMPRESSION SPRING (5). Remove.



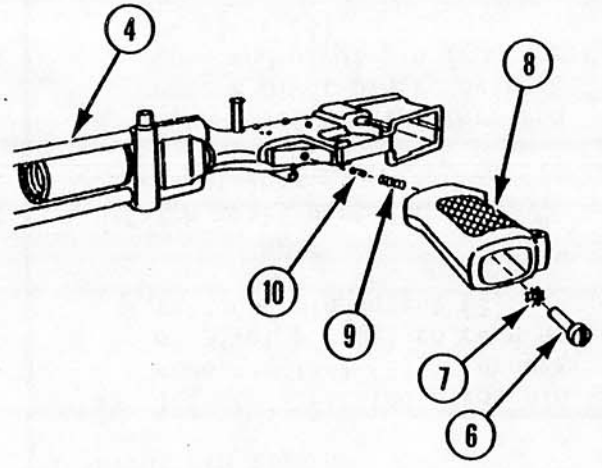
2-16. LOWER RECEIVER AND RECEIVER EXTENSION ASSEMBLY--MAINTENANCE INSTRUCTIONS (cont)

DISASSEMBLY (cont)

3 MACHINE SCREW (6), LOCKWASHER (7), AND RIFLE GRIP (8). Remove from lower receiver (4).

NOTE
Catch small parts to prevent loss.

4 HELICAL COMPRESSION SPRING (9) AND SAFETY DETENT (10). Remove.



CLEANING

1 LOWER RECEIVER.

a. Clean using small arms cleaning brush dipped in rifle bore cleaning compound (RBC) (item 8, app D).

b. Remove corrosion with abrasive cloth (item 9, app D).

WARNING
Dry cleaning solvent (SD) (P-D-680) is flammable and should not be used near an open flame or in a smoking area. Use only in well-ventilated areas. This solvent evaporates quickly and has a drying effect on the skin. When used without gloves it may cause cracks in the skin and in some cases mild irritation or inflammation.

c. Clean thoroughly with dry cleaning solvent (item 10, app D) using artist's brush (item 5, app D) and tools and parts cleaning brush (item 6, app D).

d. Lightly lubricate with lubricating oil (LSA) (item 16, app D).

2 ALL REMAINING PARTS.

a. Clean using small arms cleaning brush dipped in rifle bore cleaning compound (RBC) (item 8, app D).

b. Generously lubricate all internal parts with lubricating oil (LSA) (item 16, app D).

INSPECTION

ALL PARTS.

a. Inspect for cracks, breaks, burrs, or corrosion.

b. If present, remove burrs with stone.

REPAIR

1 LOWER RECEIVER.

a. Inspect for missing protective finish.

CAUTION
Do not use wire brush to roughen surface.

b. Roughen surface with abrasive cloth (item 9, app D).

WARNING
When using solid film lubricant, be sure area is well ventilated.

WARNING
Dry cleaning solvent (SD) (P-D-680) is flammable and should not be used near an open flame or in a smoking area. Use only in well-ventilated areas. This solvent evaporates quickly and has a drying effect on the skin. When used without gloves it may cause cracks in the skin and in some cases mild irritation or inflammation.

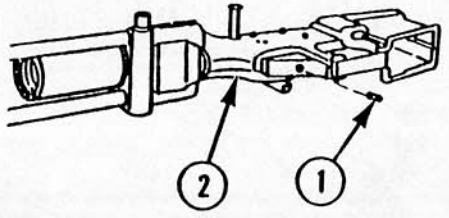
CAUTION
Solid film lubricant is to be used only as an exterior surface protective finish and touchup. If solid film lubricant comes in contact with recoiling parts or functional surfaces of the M231 submachine gun, remove immediately by cleaning with dry cleaning solvent (item 10, app D).

Be sure lower receiver is thoroughly cleaned and dried prior to application of solid film lubricant.

c. Apply solid film lubricant (item 13, app D) to all exterior uncoated areas. Allow to dry 24 hours before reassembly.

2 ALL PARTS. Repair is by replacement of authorized parts (app C) as required.

REASSEMBLY



1 SAFETY DETENT (1).

a. Lightly lube with lubricating oil (LSA) (item 16, app D).

b. Insert in lower receiver (2) with pointed end first.

2-16. LOWER RECEIVER AND RECEIVER EXTENSION ASSEMBLY--MAINTENANCE INSTRUCTIONS (cont)

REASSEMBLY (cont)

2 LOCKWASHER (3) AND MACHINE SCREW (4). Install in rifle grip (5).

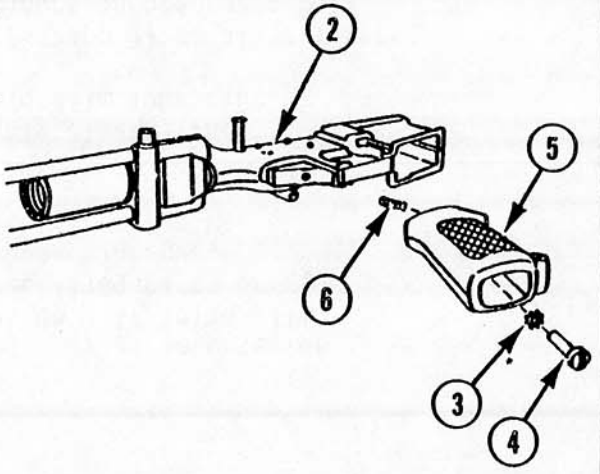
NOTE
Turn rifle grip sideways for ease in installation.

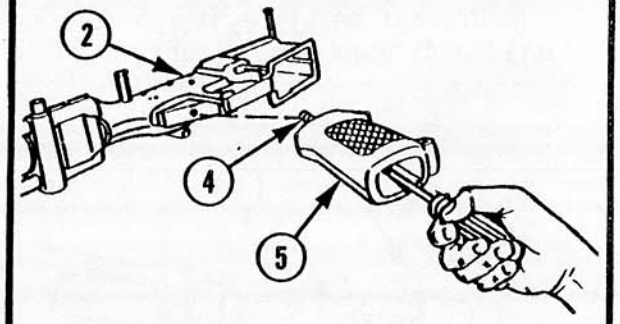
3 HELICAL COMPRESSION SPRING (6).

a. Install in rifle grip (5).

b. Aline with lower receiver (2).

CAUTION
Be careful not to damage helical compression spring.





4 RIFLE GRIP (5). Install on lower receiver (2).

5 MACHINE SCREW (4). Tighten handtight.

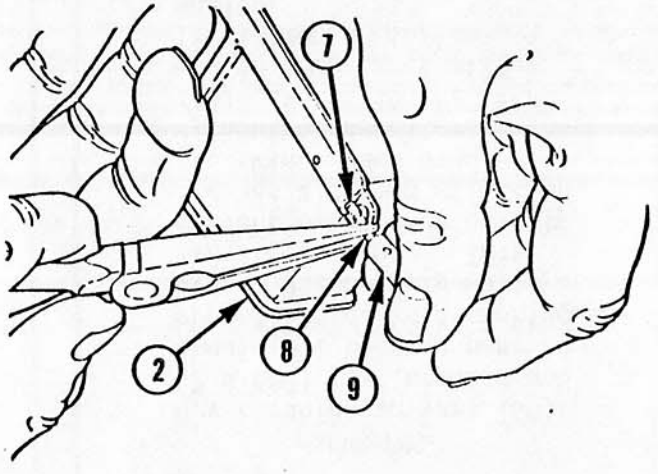
6 HELICAL COMPRESSION SPRING (7) AND TAKEDOWN PIN DETENT (8).

a. Lightly lube helical compression spring (7) with lubricating oil (LSA) (item 16, app D) and install in lower receiver (2).

b. Position takedown pin detent (8) on helical compression spring (7) with needle nose pliers.

c. Guide takedown pin detent (8) with pliers and push it down into hole with flat end of pivot pin (9). Hold takedown pin detent (8) down with pivot pin (9) while rotating pivot pin until pivot pin will slide into hole in lower receiver (2).

d. Push takedown pin detent (8) through lower receiver (2) and turn it until takedown pin detent engages groove in pivot pin (9).



CHAPTER 3
DIRECT SUPPORT MAINTENANCE INSTRUCTIONS

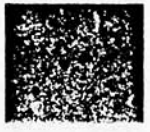
Section I. TROUBLESHOOTING

3-1. TROUBLESHOOTING INFORMATION

a. The symptom index can be used as a quick guide to troubleshooting. Common malfunctions are listed in alphabetical order with a page number reference to the troubleshooting table where a test or inspection and corrective action are provided.

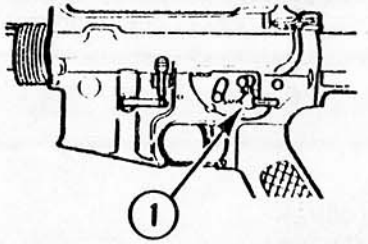
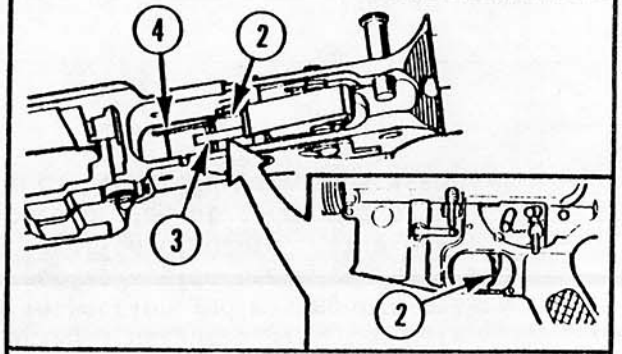
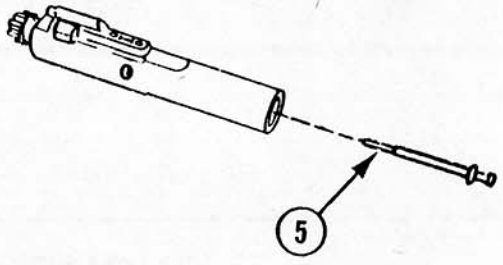
b. The troubleshooting procedures list the malfunction, the test or inspection indicating the malfunction, and the corrective action needed. There are illustrations to show location of parts. If a malfunction is not mentioned or is not corrected by specified corrective action, notify your supervisor.

SYMPTOM INDEX



3-1. TROUBLESHOOTING INFORMATION (cont)

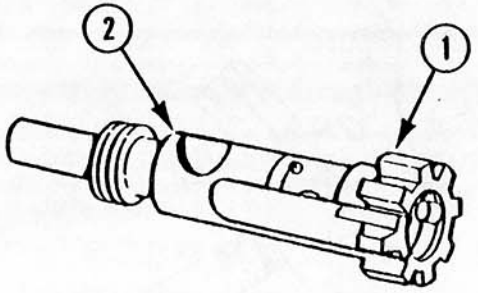
Table 3-1. TROUBLESHOOTING

MALFUNCTION TEST OR INSPECTION CORRECTIVE ACTION	LOCATION
WARNING Before starting any procedures on the M231 submachine gun, be sure to clear weapon. 1. FAILS TO FIRE. Step 1. Check for frozen or broken selector lever (1). Clean or replace defective selector lever (p 3-45). Step 2. Check to see if trigger (2), trigger extension (3), or helical torsion spring (4) are defective. Replace defective parts (p 3-45). Step 3. Check for chipped point or broken firing pin (5). Replace defective firing pin (p 3-21).	  

2. FAILS TO UNLOCK.

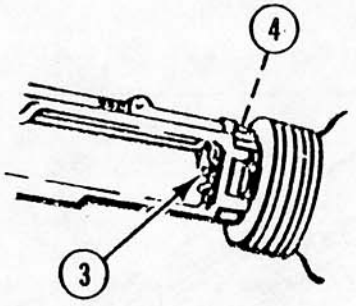
Step 1. Check for burred locking lugs (1) on breech bolt (2).

Remove burrs.



Step 2. Check for burred locking lugs (3) on barrel and extension assembly (4).

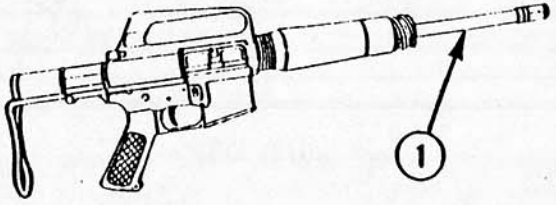
Remove burrs.



3. FAILS TO EXTRACT.

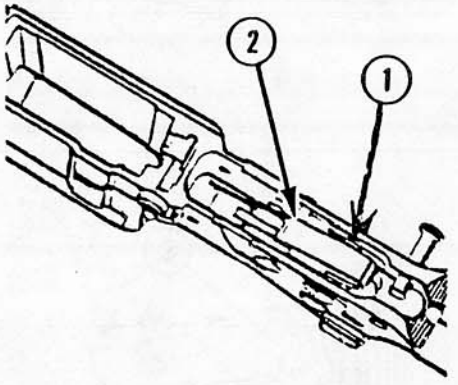
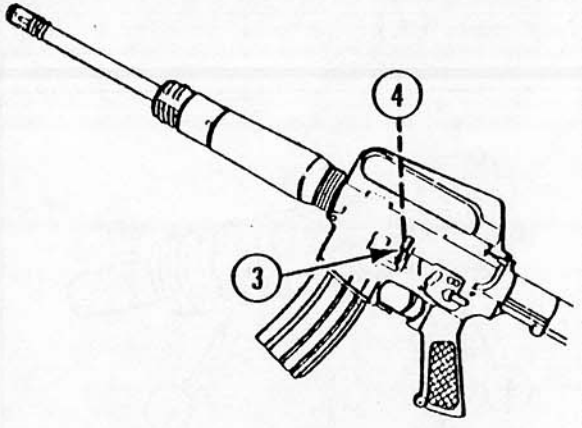
Check barrel and extension assembly (1) to see if chamber is pitted.

Replace barrel and barrel collar assembly (p 3-43), if chamber is pitted.



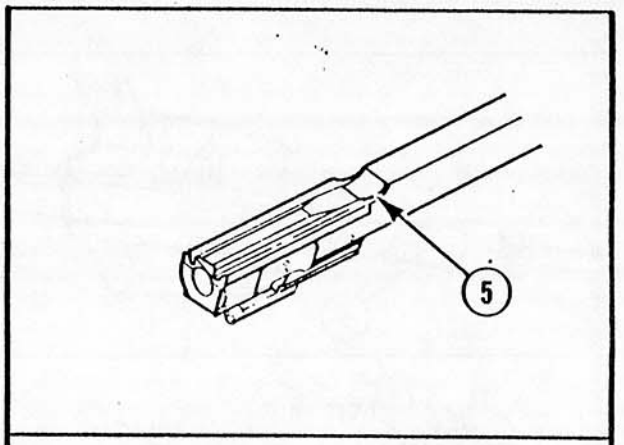
3-1. TROUBLESHOOTING INFORMATION (cont)

Table 3-1. TROUBLESHOOTING (cont)

MALFUNCTION TEST OR INSPECTION CORRECTIVE ACTION	LOCATION
4. FAILS TO LOCK TO REAR. Step 1. Check for weak or broken helical sear spring (1). Replace defective helical sear spring (p 3-45). Step 2. Check to see if sear (2) is worn or broken. Replace sear (p 3-45). Step 3. Check to see if helical sear spring (1) is incorrectly assembled. Remove and install helical sear spring correctly (p 3-45). Step 4. Check for broken bolt catch (3). Replace defective bolt catch (p 3-45). Step 5. Check to see if helical compression spring (4) is broken or weak. Replace defective helical compression spring (p 3-45).	 

Step 6. Check to see if bolt carrier and key assembly sear notch (5) is worn.

Replace bolt carrier and key assembly (p 3-21).



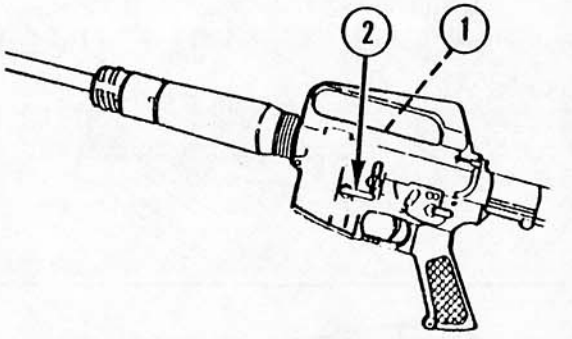
5. FAILS TO FEED.

Step 1. Check for defective helical compression spring (1) in magazine catch.

Replace defective helical compression spring (p 3-45).

Step 2. Check to see if magazine catch (2) is worn or broken.

Replace defective magazine catch (p 3-45).



6. FAILS TO CHAMBER.

Check to see if helical compression springs (1, 2, and 3) are weak or broken (p 2-19).

Replace defective helical compression springs (p 3-17).

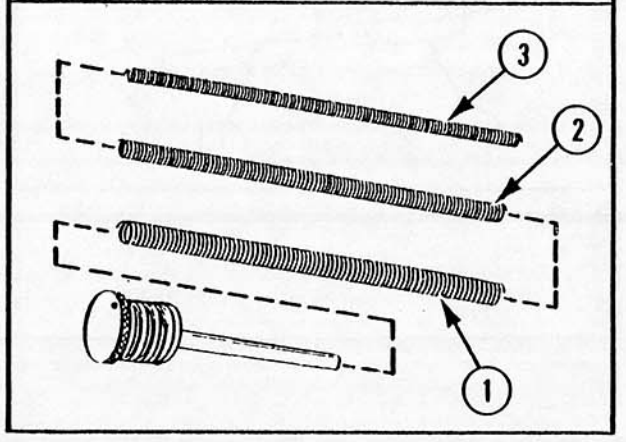
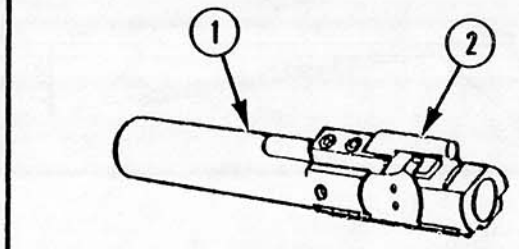
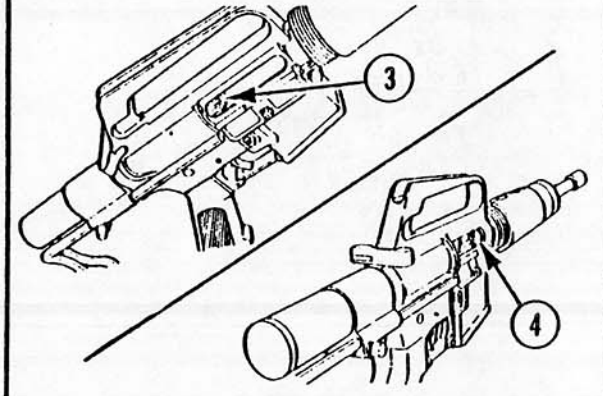
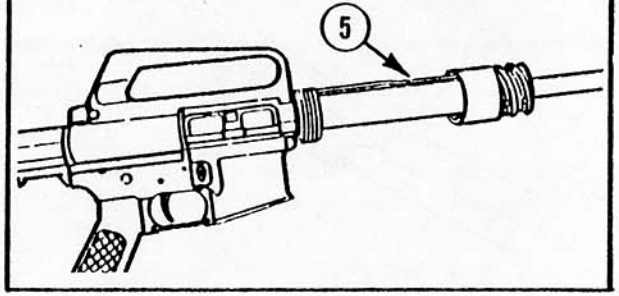
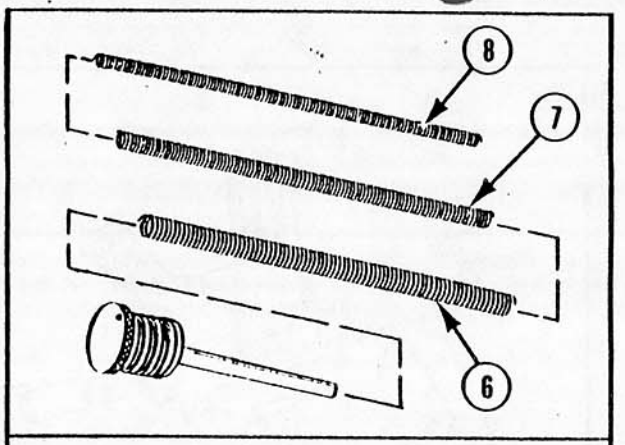


Table 3-1. TROUBLESHOOTING (cont)

MALFUNCTION TEST OR INSPECTION CORRECTIVE ACTION	LOCATION
7. FAILS TO LOCK. Step 1. Check bolt carrier and key assembly (1) to see if key (2) is loose or damaged. Repair or replace defective bolt carrier and key assembly (p 3-21). Step 2. Check for defective breech bolt locking lugs (3) ~~and defective mating locking lugs (4) in barrel and extension assembly.~~ Repair or replace breech bolt (p 3-21). Step 3. Check for defective [illegible] in barrel extension assembly. Replace barrel and barrel extension assembly (p 3-30). Step 3. Check gas metallic bent tube (5) for proper alinement or damage. Replace defective gas metallic bent tube and aline properly (p 3-28).	  

Step 4. Check to see if helical compression springs (6, 7, and 8) are weak or broken.

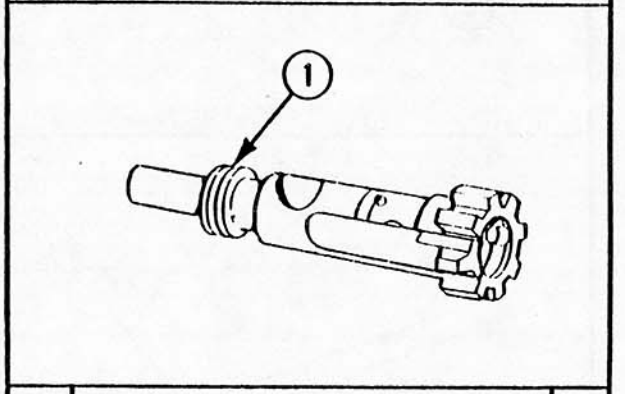
Replace defective helical compression springs (p 3-17).



8. FAILS TO EJECT.

Step 1. Check to see if bolt rings (1) are worn, broken or missing; and that gaps are staggered.

Replace defective bolt rings (p 3-25).

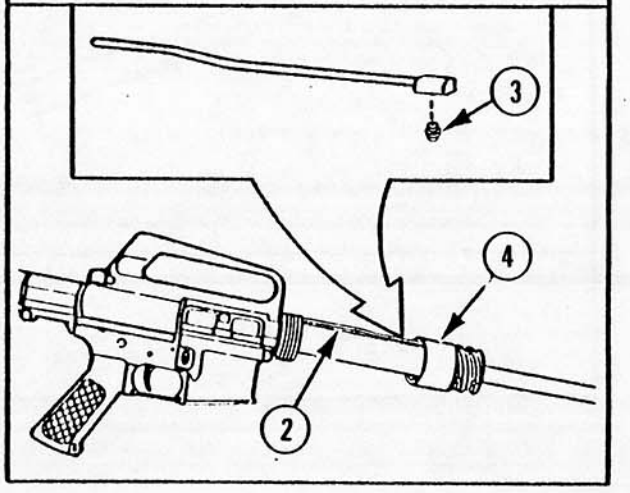


Step 2. Check gas metallic bent tube (2) for proper alinement or damage.

Replace defective gas metallic bent tube and aline properly (p 3-28).

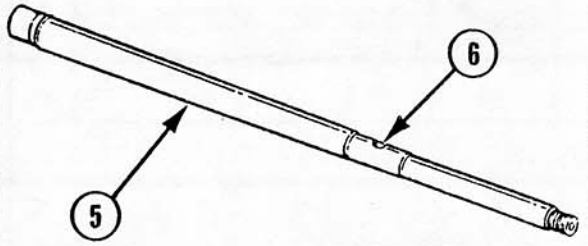
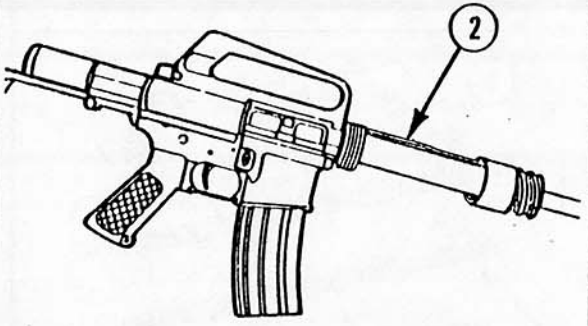
Step 3. Check to see if gas seal (3) is missing from barrel collar (4).

Replace gas seal (p 3-28).



3-1. TROUBLESHOOTING INFORMATION (cont)

Table 3-1. TROUBLESHOOTING (cont)

MALFUNCTION TEST OR INSPECTION CORRECTIVE ACTION	LOCATION
8. FAILS TO EJECT. (cont) Step 4. Check barrel and extension assembly (5) for carbon buildup at gas port (6). Remove carbon buildup (p 3-43). Step 5. Check to see if gas metallic bent tube (2) is plugged due to carbon buildup. Replace gas metallic bent tube (p 3-28).	 

3-2. M231 SUBMACHINE GUN--MAINTENANCE INSTRUCTIONS

INITIAL SETUP

Tools and Special Tools
- Key tool (fig. 1, app E)
- Lower receiver gage (fig. 3, app E)
- Small arms cleaning brush (11686340)
- Small arms repairman tool kit (SC 5180-95-CL-A07)
- Small arms shop set (SC 4933-95-CL-A11)
- Tool and gage set (fig. 11, app C)

Materials/Parts
- Abrasive cloth (item 9, app D)
- Dry cleaning solvent (item 10, app D)
- Inspection penetrant kit (item 12, app D)
- Lubricating oil (LSA) (item 16, app D)
- Molybdenum disulfide grease (item 11, app D)
- Rifle bore cleaning compound (RBC) (item 8, app D)
- Solid film lubricant (item 13, app D)
- Wiping rag (item 18, app D)

Personnel Required
- MOS 45B-10 Small arms repairer
- Helper

References
- 3-37 Barrel erosion test
- 3-33 Barrel straightness test
- 3-32 Chamber test
- 3-38 Headspace test
- 3-18 Reassembly/installation of drive spring and guide assembly
- 3-24 Reassembly of bolt carrier and striker assembly
- 3-33 Reassembly of upper receiver and barrel assembly
- Appendix C
- Appendix D
- Appendix E
- TM 9-1005-309-10

Equipment Conditions
- 3-17 Retainer assembly removed from drive spring and guide assembly (task no. 3)
- 2-15 Bolt carrier and striker assembly removed (tasks no. 4 and 5)
- 3-21 Breech bolt removed (task no. 5)
- 2-15 Upper receiver and barrel assembly removed (tasks no. 6 and 9)
- 3-28 Upper receiver assembly removed from upper receiver and barrel assembly (task no. 7)
- 3-28 Barrel nut assembly removed from upper receiver and barrel assembly (task no. 8)
- 3-28 Barrel and barrel collar assembly disassembled and removed (task no. 9)
- 2-15 Lower receiver and receiver extension removed (task no. 10)

General Safety Instructions

WARNING

Before starting any procedures on the M231 submachine gun be sure to clear the weapon. Live ammunition should not be near the work area.

To avoid possible explosion, never exchange or switch bolt carrier and striker assembly from one weapon to another.

3-2. M231 SUBMACHINE GUN--MAINTENANCE INSTRUCTIONS (cont)

LIST OF TASKS

3-2. M231 SUBMACHINE GUN--MAINTENANCE INSTRUCTIONS (cont)

LIST OF TASKS

3-3. M231 SUBMACHINE GUN--MAINTENANCE INSTRUCTIONS

THIS TASK COVERS:

a. Inspection
b. Headspace test
c. Trigger pull test

INITIAL SETUP

Tools and Special Tools
Small arms repairman tool kit (SC 5180-95-CL-A07)
Tool and gage set (fig. 11, app C)

Personnel Required
MOS 45B-10 Small arms repairer

General Safety Instructions

WARNING
Before starting any procedures on the M231 submachine gun be sure to clear weapon. Live ammunition should not be near the work area.

INSPECTION

NOTE
Direct support maintenance is required to do a complete technical inspection annually, including gaging, on each M231 submachine gun when requested by organizational maintenance. This inspection is performed as a safety measure and to determine serviceability.

1 Check that all sliding parts move freely and smoothly.

2 Check to see that all spring loaded pins are movable.

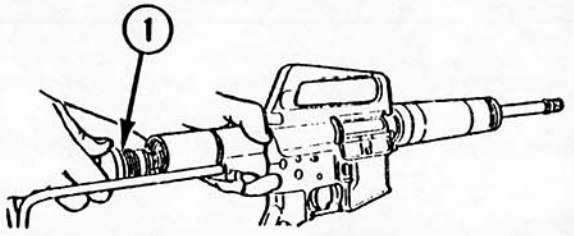
3 Inspect for obstruction in bore and upper receiver and barrel assembly.

4 Inspect for burrs. If present, remove with stone or file.

5 Inspect for corrosion.

6 Check that setscrew is secure on barrel collar.

HEADSPACE TEST

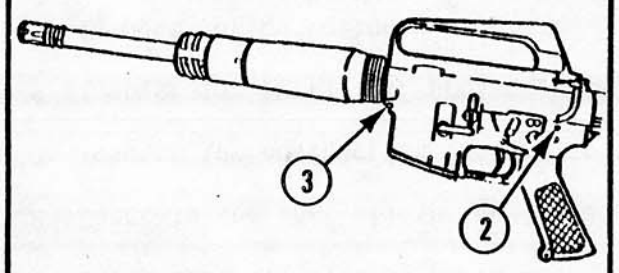


WARNING
Be careful when removing spring loaded parts. Carelessness could result in injury.

1 DRIVE SPRING AND GUIDE ASSEMBLY (1). Turn counterclockwise and remove.

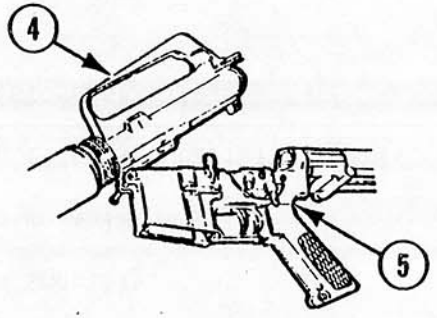
3-3. M231 SUBMACHINE GUN--MAINTENANCE INSTRUCTIONS (cont)

HEADSPACE TEST (cont)



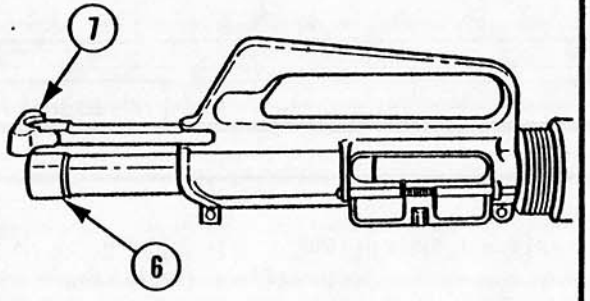
2 TAKEDOWN PIN (2). Pull out as far as it will go.

3 PIVOT PIN (3). Pull out as far as it will go.

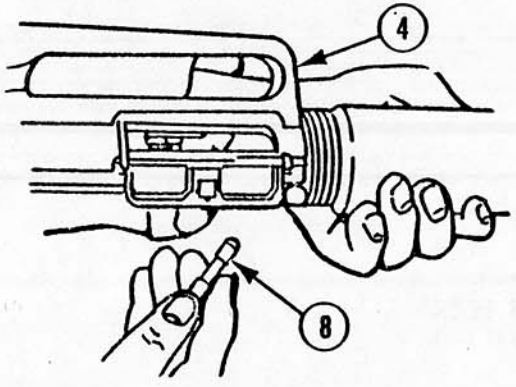


4 UPPER RECEIVER AND BARREL ASSEMBLY (4). Remove from lower receiver and receiver extension assembly (5).

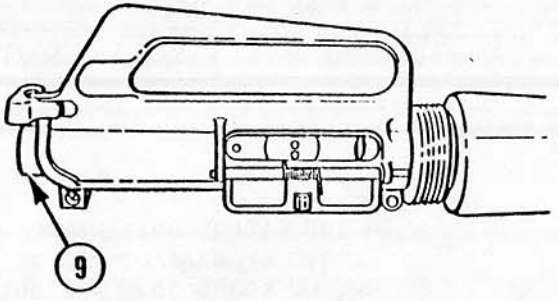
CAUTION
Be careful not to drop the bolt carrier and striker assembly.



5 BOLT CARRIER AND STRIKER ASSEMBLY (6) AND CHARGING HANDLE ASSEMBLY (7). Pull back until breech bolt clears ejection port opening.



6 HEADSPACE GAGE (8). Insert in chamber of upper receiver and barrel assembly (4).

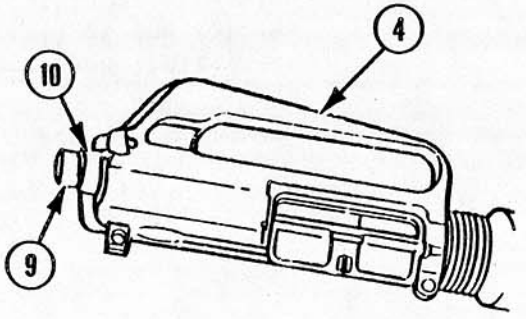


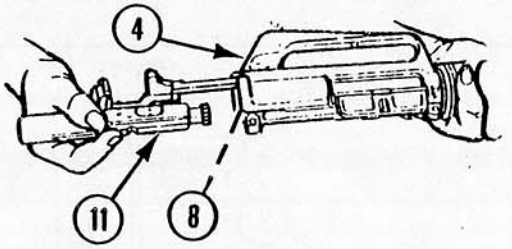
7 FIRING HAMMER (9).

a. Press forward using light finger pressure.

NOTE
If firing hammer is flush with rear of upper receiver (10) and/or the bolt carrier and striker assembly closes and locks, the barrel and extension assembly or breech bolt is unserviceable.

b. Remove from upper receiver and barrel assembly (4).

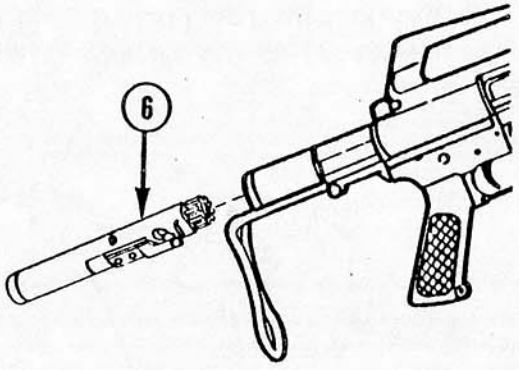




NOTE
Catch parts as they fall.

8 BOLT CARRIER AND KEY ASSEMBLY (11) WITH ATTACHED PARTS. Remove from upper receiver and barrel assembly (4).

9 HEADSPACE GAGE (8). Remove.

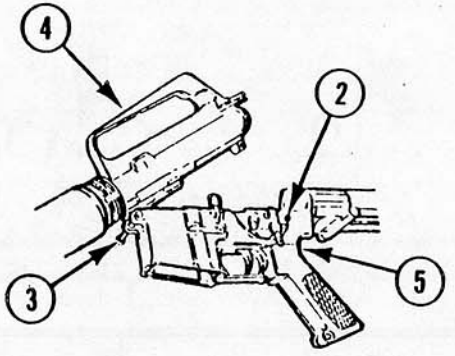


10 BOLT CARRIER AND STRIKER ASSEMBLY (6). Install.

11 UPPER RECEIVER AND BARREL ASSEMBLY (4).

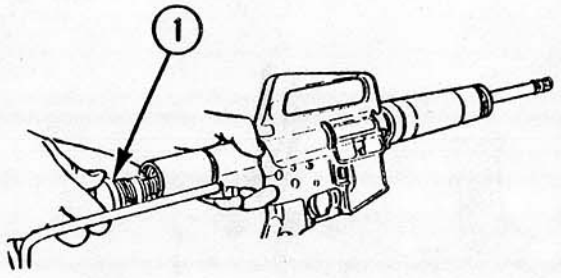
a. Position on lower receiver and receiver extension assembly (5).

b. Secure by pushing in on takedown pin (2) and pivot pin (3).



3-3. M231 SUBMACHINE GUN--MAINTENANCE INSTRUCTIONS (cont)

HEADSPACE TEST (cont)



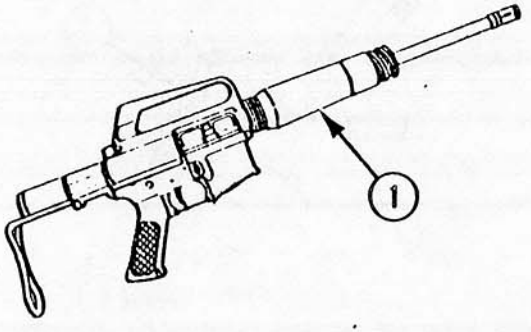
12 DRIVE SPRING AND GUIDE ASSEMBLY (1). Install and turn clockwise to lock in place.

TRIGGER PULL TEST

1 M231 SUBMACHINE GUN (1).

a. With cartridge magazine removed and selector lever on AUTO position, charge weapon.

b. Hold in vertical position.



2 TRIGGER PULL MEASURING FIXTURE (2).

a. Install on trigger (3).

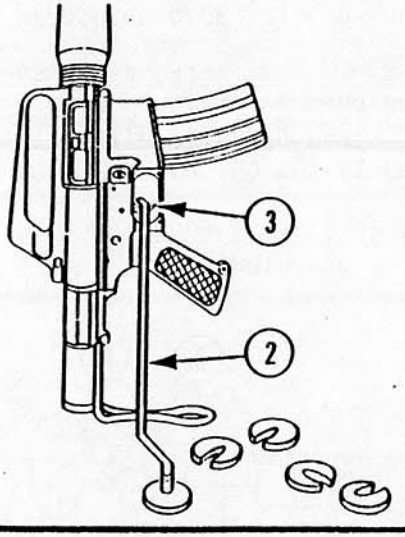
b. Add weights until weapon fires.

NOTE

Weapon should not fire until 5 lbs have been applied, and it must fire before applying 8.5 lbs.

c. Determine weight applied.

d. If weapon did not fire within the prescribed limits, repair or replace as necessary any or all of the following: trigger, helical torsion spring, trigger extension, helical sear spring, and sear (p 3-45).



3-4. DRIVE SPRING AND GUIDE ASSEMBLY--MAINTENANCE INSTRUCTIONS

THIS TASK COVERS:

a. Removal/disassembly
b. Cleaning
c. Inspection
d. Repair
e. Reassembly/installation

INITIAL SETUP

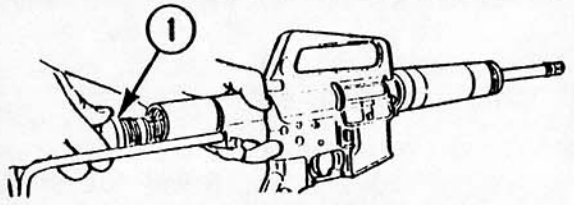
Tools and Special Tools
Small arms repairman tool kit (SC 5180-95-CL-A07)

Materials/Parts
Lubricating oil (LSA) (item 16, app D)
Wiping rag (item 18, app D)

Personnel Required
MOS 45B-10 Small arms repairer

References
Appendix C
Appendix D

REMOVAL/DISASSEMBLY

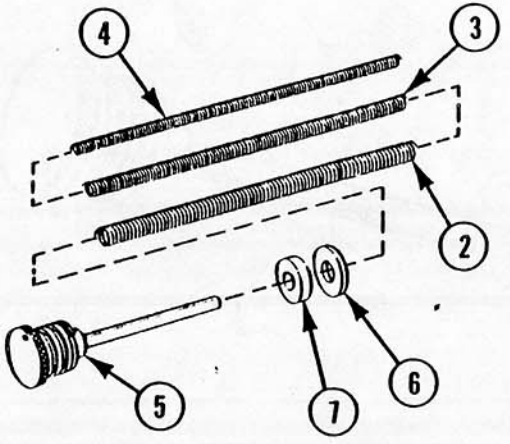


WARNING
Be careful when removing spring loaded parts. Carelessness could result in injury.

1 DRIVE SPRING AND GUIDE ASSEMBLY (1). Turn counterclockwise and remove.

2 OUTER HELICAL COMPRESSION SPRING (2), MIDDLE HELICAL COMPRESSION SPRING (3), AND INNER HELICAL COMPRESSION SPRING (4). Remove from retainer assembly (5).

3 FLAT WASHER (6) AND RECOIL BUFFER (7). Remove from retainer assembly (5).



3-4. DRIVE SPRING AND GUIDE ASSEMBLY--MAINTENANCE INSTRUCTIONS (cont)

CLEANING

ALL PARTS. Wipe off with wiping rag (item 18, app D).

INSPECTION

1 SPRING RETAINER (1).

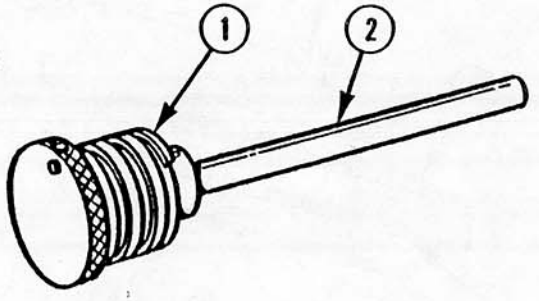
a. Inspect seating surface for cracks, breaks, and burrs.

b. If present, remove burrs with a stone or file.

2 RETAINER ROD (2).

a. Check for bends, deformation, cracks, and burrs.

b. If present, remove burrs with a stone or file.



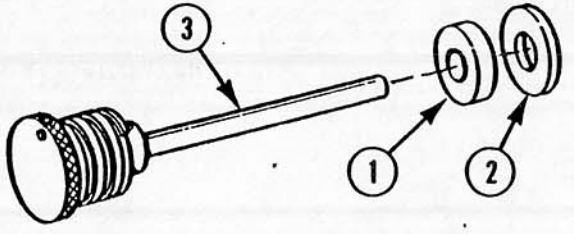
REPAIR

3 ALL REMAINING PARTS. Check for breaks, bends, or kinks.

Repair is by replacement of authorized parts (app C) as required.

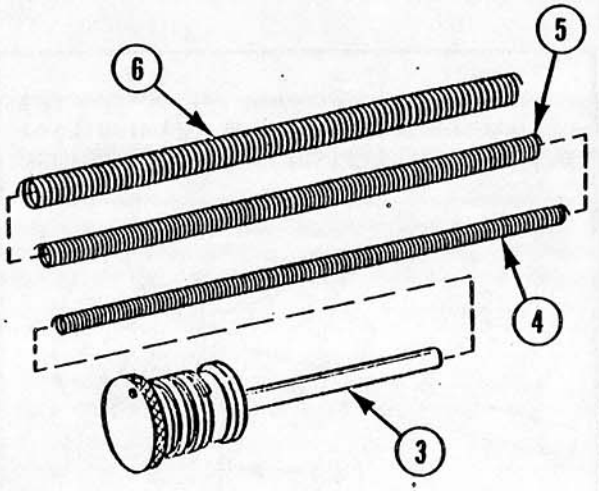
NOTE
For repair of the retainer assembly refer to page 3-19.

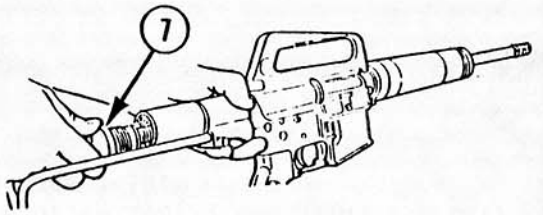
REASSEMBLY/INSTALLATION



1 RECOIL BUFFER (1) AND FLAT WASHER (2). Lightly lube with lubricating oil (LSA) (item 16, app D) and place on retainer assembly (3).

2 INNER HELICAL COMPRESSION SPRING (4), MIDDLE HELICAL COMPRESSION SPRING (5), AND OUTER HELICAL COMPRESSION SPRING (6). Lightly lube with lubricating oil (LSA) (item 16, app D) and place on retainer assembly (3).





3 DRIVE SPRING AND GUIDE ASSEMBLY (7). Install and turn clockwise to lock in place.

3-5. RETAINER ASSEMBLY--MAINTENANCE INSTRUCTIONS

THIS TASK COVERS:

a. Disassembly
b. Cleaning
c. Inspection
d. Repair/replacement
e. Reassembly
f. Installation

INITIAL SETUP

Tools and Special Tools
Small arms repairman tool kit (SC 5180-95-CL-A07)

Materials/Parts
Wiping rag (item 18, app D)

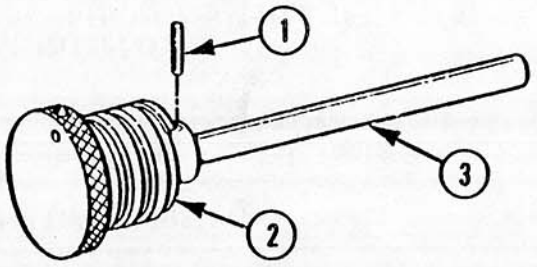
Personnel Required
MOS 45B-10 Small arms repairer

References
3-18 Reassembly/installation of drive spring and guide assembly
Appendix C
Appendix D

Equipment Condition
3-17 Retainer assembly removed from drive spring and guide assembly

3-5. RETAINER ASSEMBLY--MAINTENANCE INSTRUCTIONS (cont)

DISASSEMBLY



SPRING PIN (1). Remove from spring retainer (2) and retainer rod (3) using 1/16-inch punch.

CLEANING

ALL PARTS. Wipe with wiping rag (item 18, app D).

INSPECTION

RETAINER ASSEMBLY.

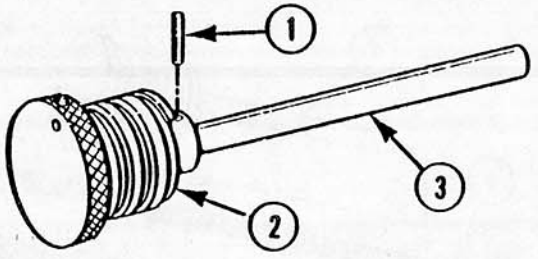
a. Inspect for bends, breaks, or other deformation.

b. Inspect for burrs, remove with a stone or file if present.

REPAIR/REPLACEMENT

Repair is by replacement of authorized parts (app C) as required.

REASSEMBLY



SPRING PIN (1). Install into spring retainer (2) through retainer rod (3).

INSTALLATION

For installation procedures, refer to the reassembly/installation of the drive spring and guide assembly on page 3-18.

3-6. BOLT CARRIER AND STRIKER ASSEMBLY--MAINTENANCE INSTRUCTIONS

THIS TASK COVERS:

a. Disassembly
b. Cleaning
c. Inspection
d. Repair
e. Test
f. Reassembly

INITIAL SETUP

Tools and Special Tools
- Key tool (fig. 1, app E)
- Small arms repairman tool kit (SC 5180-95-CL-A07)
- Small arms shop set (SC 4933-95-CL-A11)
  - Number 36 drill bit
- Tool and gage set (fig. 11, app C)

Materials/Parts
- Inspection penetrant kit (item 12, app D)
- Rifle bore cleaning compound (RBC) (item 8, app D)

Personnel Required
- MOS 45B-10 Small arms repairer

References
- Appendix C
- Appendix D
- Appendix E

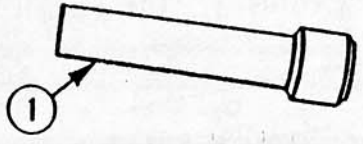
Equipment Conditions
- 2-15 Bolt carrier and striker assembly removed

General Safety Instructions

WARNING

To avoid possible explosion, never exchange or switch bolt carrier and striker assembly from one weapon to another.

DISASSEMBLY

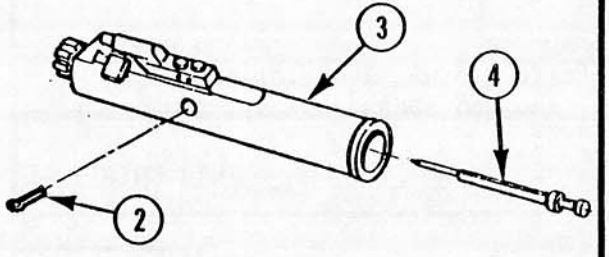


NOTE

The firing hammer (1) was removed when the M231 submachine gun was disassembled.

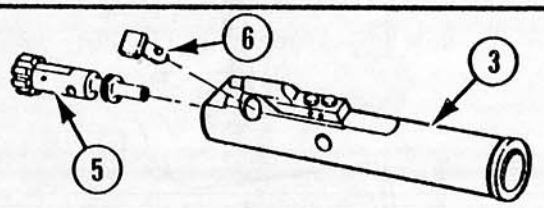
1 FIRING PIN RETAINING PIN (2). Remove from bolt carrier and key assembly (3) using 1/16-inch punch.

2 FIRING PIN (4). Remove by tipping bolt carrier and key assembly (3).



3-6. BOLT CARRIER AND STRIKER ASSEMBLY--MAINTENANCE INSTRUCTIONS (cont)

DISASSEMBLY (cont)



3 BREECH BOLT (5). Push back.

4 BOLT CAM PIN (6). Rotate 1/4 turn and lift straight up to remove from bolt carrier and key assembly (3).

5 BREECH BOLT (5). Pull to remove.

CLEANING

ALL PARTS. Clean with rifle bore cleaning compound (RBC) (item 8, app D).

INSPECTION

1 FIRING PIN.

a. Check tip for proper contour. Inspect for wear, chips, pits, and burrs.

b. If present, remove burrs with a stone or file.

NOTE
Use inspection penetrant kit according to instructions contained in kit.

REPAIR

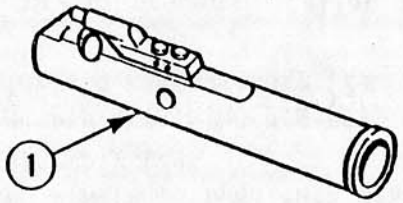
2 ALL REMAINING PARTS.

a. Check for cracks using inspection penetrant kit (item 12, app D).

b. Check for chips and burrs.

c. If present, remove burrs with a stone or file.

CAUTION
Be careful during the following procedure to make sure that the striking force is not directed to the attaching screws and that the tube portion is not enlarged or flared beyond original requirements. Such enlargement would permit loss of gas pressure when the key and gas metallic bent tube come together during functioning.



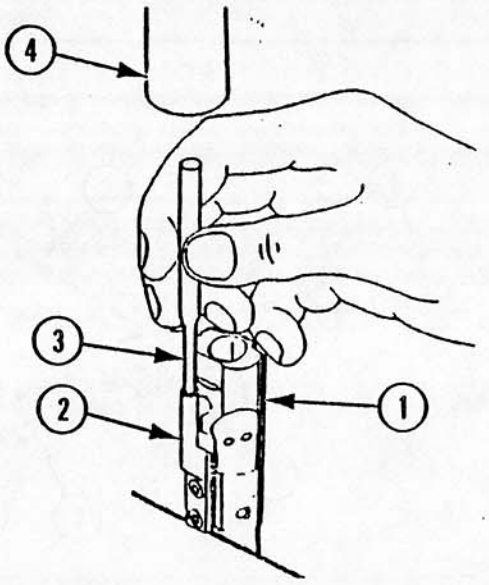
1 BOLT CARRIER AND KEY ASSEMBLY (1). Repair small dents and/or distortions using fabricated key tool as follows:

a. Place the bolt carrier and key assembly (1) in a vertical position, supported so that contact is made with the rear surface of the key (2).

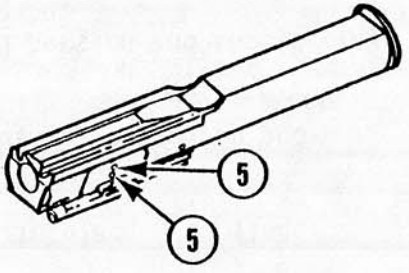
b. Insert the small end of the key tool (3) into the tube portion of the key.

c. Strike the large end of the key tool (lightly) with a 3-ounce soft brass hammer (4).

d. Repeat striking (gently) until the key is reformed to original configuration.



2 GAS RELIEF PORTS (5). Ream large buildup of carbon from gas relief ports (5) using a no. 36 drill bit. Hand hold drill bit and use a back and forth motion to clear gas relief ports.



3 ALL PARTS. Repair is by replacement of authorized parts (app C) as required.

NOTE

For repair of the breech bolt refer to page 3-25.

3-6. BOLT CARRIER AND STRIKER ASSEMBLY--MAINTENANCE INSTRUCTIONS (cont)

TEST

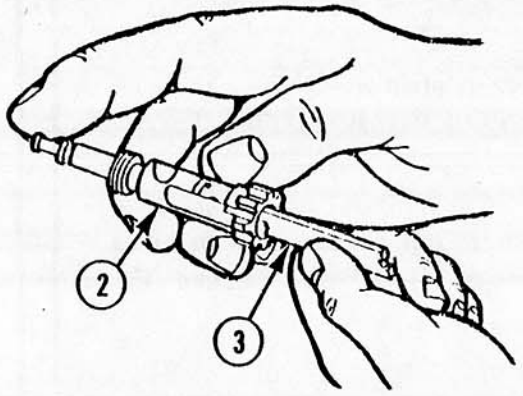
FIRING PIN (1).

a. Insert through breech bolt (2) and hold in place with finger pressure.

b. Check for proper firing pin protrusion using firing pin protrusion gage (3).

c. End of firing pin should touch MIN. .028 portion and should clear MAX. .036 end of firing pin protrusion gage.

d. Replace firing pin (app C) if defective.



REASSEMBLY

1 BREECH BOLT (1).

a. Install in bolt carrier and key assembly (2).

b. Pull back until hole is alined with hole in bolt carrier and key assembly where bolt cam pin (3) is installed.

2 BOLT CAM PIN (3). Install through holes and rotate 1/4 turn to aline firing pin hole.

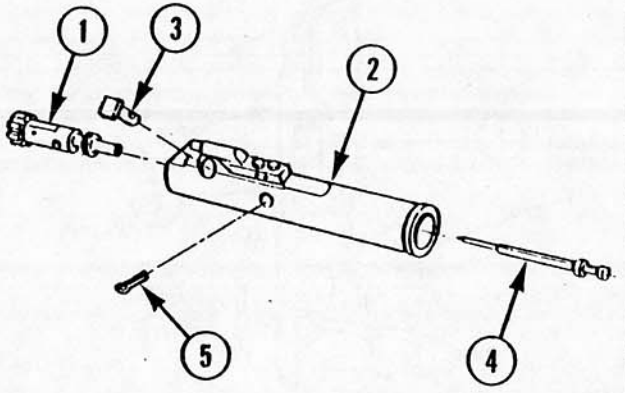
3 BOLT CARRIER AND KEY ASSEMBLY (2). Hold with breech bolt end down.

4 FIRING PIN (4). Drop into place from rear of bolt carrier and key assembly (2).

5 FIRING PIN RETAINING PIN (5). Press into larger opening of bolt carrier and key assembly (2).

NOTE

To be sure of proper installation, attempt to shake out firing pin.



3-7. BREECH BOLT--MAINTENANCE INSTRUCTIONS

THIS TASK COVERS:

a. Disassembly
b. Cleaning
c. Inspection
d. Test
e. Repair/replacement
f. Reassembly
g. Installation

INITIAL SETUP

Tools and Special Tools
Small arms repairman tool kit (SC 5180-95-CL-A07)
Tool and gage set (fig. 11, app C)

Materials/Parts
Inspection penetrant kit (item 12, app D)
Rifle bore cleaning compound (RBC) (item 8, app D)

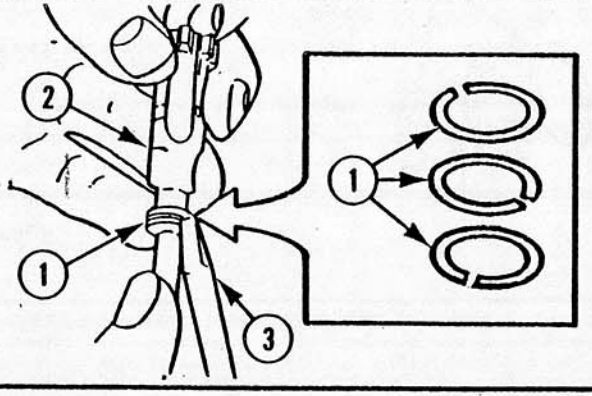
Personnel Required
MOS 45B-10 Small arms repairer

References
3-24 Reassembly of bolt carrier and striker assembly
Appendix C
Appendix D

Equipment Conditions
2-15 Bolt carrier and striker assembly removed
3-21 Breech bolt removed

DISASSEMBLY

THREE BOLT RINGS (1). Remove from bolt (2) using small screwdriver (3).



CLEANING

BOLT AND THREE BOLT RINGS. Clean with rifle bore cleaning compound (RBC) (item 8, app D).

3-7. BREECH BOLT--MAINTENANCE INSTRUCTIONS (cont)

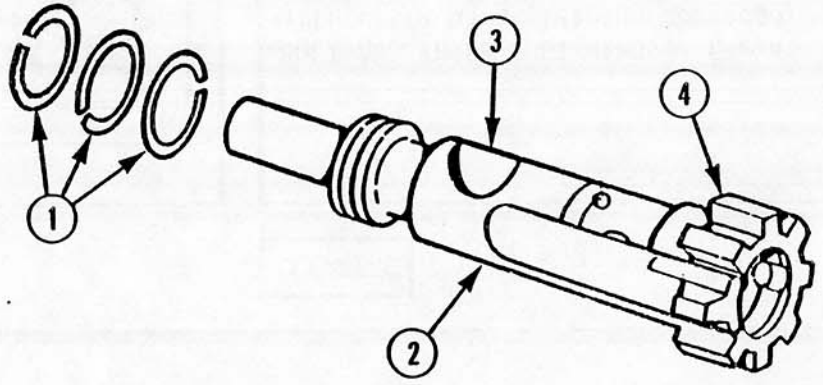
INSPECTION

1 THREE BOLT RINGS (1). Inspect for cracks, kinks, and bends.

2 BOLT (2).

NOTE
Use inspection penetrant kit according to instructions contained in kit.

a. Inspect for cracks in bolt cam pin hole area (3), locking lugs (4), and bolt face, using inspection penetrant kit (item 12, app D). Pay special attention to the area where the locking lugs meet the body.



NOTE
Breech bolts that contain pits extending into the bolt firing pin hole will not be rejected unless excess wear is determined.

b. Inspect exterior surface for large pits or clusters of pits.

c. Inspect for burrs, remove with a stone or file if present.

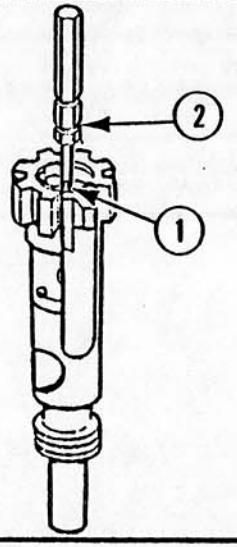
TEST

BOLT FIRING PIN HOLE (1). Test for oversize or out-of-round hole by performing the following procedures:

a. Attempt to insert plain plug gage (2) (12620101) into bolt firing pin hole (1) by gage weight only, do not press.

b. Rotate plain plug gage (2) to determine if bolt firing pin hole is elongated.

c. Entry of plain plug gage (2) in bolt firing pin hole (1) is cause for replacement of the breech bolt.



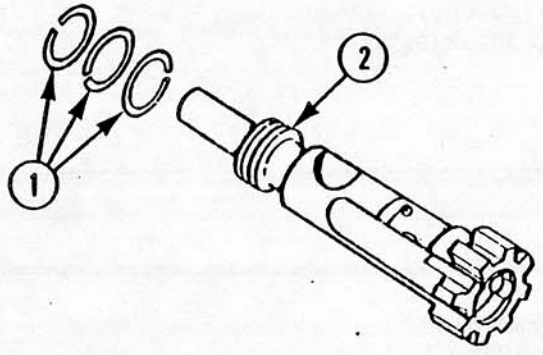
REPAIR/REPLACEMENT

Repair is by replacement of authorized parts (app C) as required.

REASSEMBLY

NOTE
Be sure bolt ring gaps are staggered to prevent loss of gas pressure.

THREE BOLT RINGS (1). Install in slot on bolt (2).



INSTALLATION

For installation procedures, refer to the reassembly of the bolt carrier and striker assembly (p 3-24).

3-8. UPPER RECEIVER AND BARREL ASSEMBLY--MAINTENANCE INSTRUCTIONS

THIS TASK COVERS:

a. Disassembly
b. Inspection/cleaning
c. Chamber test
d. Barrel straightness test
e. Repair
f. Reassembly
g. Barrel erosion test
h. Headspace test

INITIAL SETUP

Tools and Special Tools
Small arms cleaning brush (11686340)
Small arms repairman tool kit (SC 5180-95-CL-A07)
Tool and gage set (fig. 11, app C)

Materials/Parts
Molybdenum disulfide grease (item 11, app D)
Rifle bore cleaning compound (RBC) (item 8, app D)
Wiping rag (item 18, app D)

Personnel Required
MOS 45B-10 Small arms repairer
Helper

References
Appendix C
Appendix D
TM 9-1005-309-10

Equipment Conditions
2-15 Upper receiver and barrel assembly removed