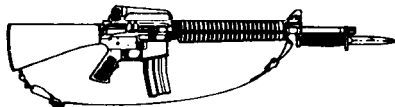


TM 05538C-23&P/2

U.S. MARINE CORPS TECHNICAL MANUAL

ORGANIZATIONAL AND INTERMEDIATE MAINTENANCE (INCLUDING REPAIR PARTS AND SPECIAL TOOLS LIST)



RIFLE, 5.56-MM, M16A2 W/E
NSN 1005-01-128-9936



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OCTOBER 1984

**Organizational and Intermediate
Maintenance
(Including Repair Parts and Special Tools List)
RIFLE, 5.56-MM, M16A2 W/E
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HOW TO USE THIS MANUAL

GENERAL

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

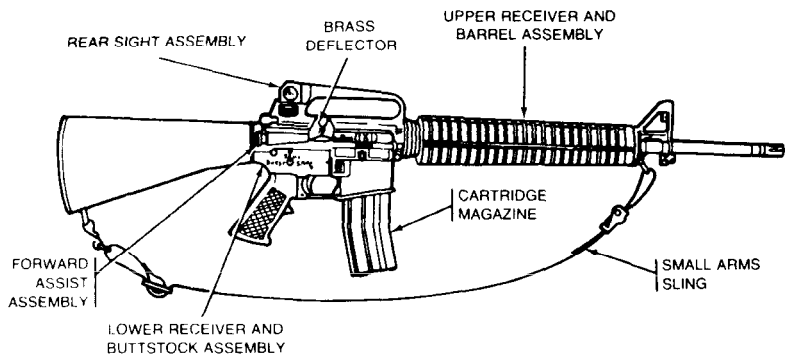
1. All references in the manual are to pages.
2. Illustrations for the maintenance procedures show only those parts affected by the operation being performed.
3. Whenever the male gender is mentioned in the manual (i.e., crewman, repairman), it also pertains to females.

INDEXES

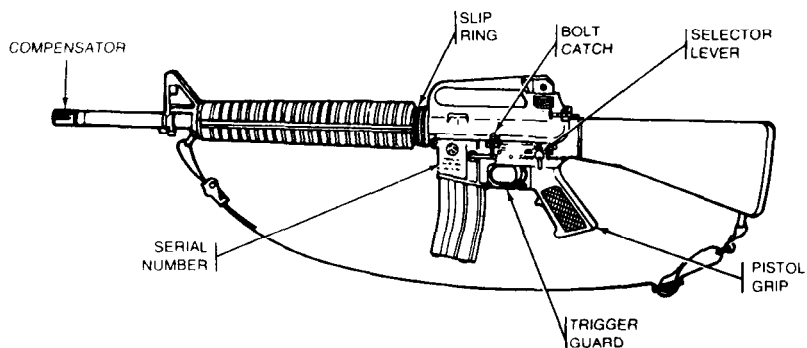
This manual is organized to help you find the information you need quickly. There are several useful indexes.

1. Front Cover Index. Lists the most important areas of the manual. Is keyed to areas with bleed-to-edge indicators.
2. Table of Contents. Lists in order all chapters, sections, and appendixes. Gives page references.
3. Nomenclature Cross-Reference List.
4. Chapter Overviews. Summarize material covered in the chapter. Are located at the beginning of each chapter.
5. Symptom Index. Located just before the troubleshooting table in each maintenance chapter. Lists, in alphabetical order, parts of the weapon with possible malfunctions. References pages of the troubleshooting table.
6. Alphabetical Index. Located at the end of the manual. An extensive subject index for everything in the manual. Gives page references.

EXTERNAL VIEW OF 5.56-MM RIFLE M16A2



RIGHT SIDE



LEFT SIDE

CHAPTER 1 INTRODUCTION

CHAPTER OVERVIEW

This chapter contains general information, equipment description and data, and principles of operation for your weapon.

Section I. GENERAL INFORMATION

1-1. SCOPE.

- a. *Type of Manual.* Organizational and Intermediate Maintenance
- b. *Model Number and Equipment Name.* 5.56-mm Rifle M16A2
- c. *Purpose of Equipment.* Provides personnel an offensive capability to engage targets for field use.

1-2. MAINTENANCE FORMS, RECORDS, AND REPORTS.

Refer to TM 4700-15 1

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

Refer to TM 4700-15 1

1-4. PREPARATION FOR STORAGE OR SHIPMENT.

Refer to MCO P4450.7

1-5. OFFICIAL NOMENCLATURE, NAMES, AND DESIGNATIONS.

NOMENCLATURE CROSS-REFERENCE LIST

<i>Common Name</i>	<i>Official Nomenclature</i>
Action Spring	Compression Helical Spring (8448629)
Bolt Catch Spring	Compression Helical Spring (8448633)
Burst Disconnector	Lock Release Lever (9349113)

<i>Common Name</i>	<i>Official Nomenclature</i>
Cam Clutch Spring	Helical Spring (9349109)
Charging Handle Assembly	Handle Assembly (8448517)
Disconnecter Springs	Compression Helical Spring (9349116)
Ejector Spring	Helical Spring (8448516)
Extractor Spring Assembly	Spring Assembly (8448755)
Hammer Spring	Torsion Helical Spring (9349107)
Magazine Catch Spring	Compression Helical Spring (8448637)
Peel Washer	Shim (9349052)
Pivot Pin Detent	Takedown Pin Detent (8448585)
Rifle Barrel Assembly	Barrel Assembly (9349124)
Semiautomatic Disconnecter	Lock Release Lever (9349114)
Trigger Spring	Torsion Helical Spring (8448593)
Weapon	Rifle, 5.56-mm, M16A2

1-6. REPORTING OF UNSATISFACTORY EQUIPMENT.

Refer to MCO 4855.10.

Section II. EQUIPMENT DESCRIPTION AND DATA

1-7. EQUIPMENT CHARACTERISTICS, CAPABILITIES, AND FEATURES.

- a. *Characteristics.*
 - (1) Lightweight
 - (2) Air cooled
 - (3) Gas-operated
 - (4) Magazine-fed
 - (5) Semiautomatic or burst fire

- b. *Capabilities.* Provide Marines an offensive defensive capability.

c. Features

(1) The bolt locking action is one of the mechanical features of the weapon. The bolt and barrel extension contain locking lugs which engage and lock the bolt firmly in the barrel extension. The initial force of the explosion of the cartridge is absorbed by the barrel, barrel extension, and bolt.

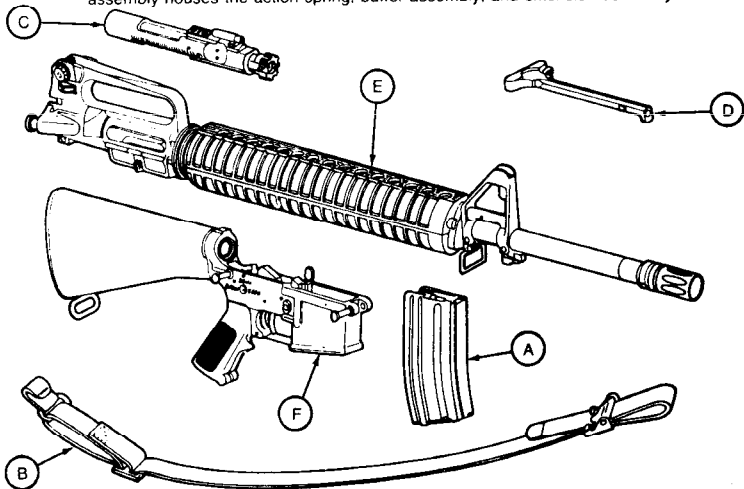
(2) The trigger guard is easily adaptable to winter operations. A spring-loaded retaining pin is

depressed to allow ready access to the trigger when wearing arctic mittens.

(3) The ejection port cover prevents dirt or sand from getting into the ejection port. The cover must be closed during periods when firing is not anticipated. It opens automatically by the forward or rearward movement of the bolt carrier.

1-8. LOCATION AND DESCRIPTION OF MAJOR COMPONENTS.

- (A) CARTRIDGE MAGAZINE. 30 cartridge capacity.
- (B) SMALL ARMS SLING. The small arms sling is adjustable and provides a means to carry the weapon.
- (C) BOLT CARRIER ASSEMBLY. Carries bolt to chamber and fires the weapon. Contains the firing pin, extractor, bolt, ejector, and cam pin.
- (D) HANDLE ASSEMBLY. Provides a means of charging the weapon.
- (E) UPPER RECEIVER AND BARREL ASSEMBLY. Rifle barrel assembly is air-cooled, contains compensator and front sight assembly, and holds the two handguards and the sling swivel. Upper receiver contains rear sight, ejection port, ejection port cover, and a housing for the bolt carrier and bolt assembly. A forward assist assembly is used on the M16A2 weapon.
- (F) LOWER RECEIVER AND BUTTSTOCK ASSEMBLY. Lower receiver contains the trigger assembly, sear, hammer assembly, selector lever, rifle grip, bolt catch, and buttstock assembly. The buttstock assembly houses the action spring, buffer assembly, and extension assembly.



1-9. EQUIPMENT DATA.**Weight:**

Rifle M16A2 without magazine and sling	7 1/2 lb
Sling, Adjustable	4 oz
Empty magazine	4 oz
Loaded magazine	1 lb 1 oz
Rifle M16A2 w/sling and loaded magazine	8 3/4 lb
Bayonet-Knife M7	10 1/2 oz
Scabbard M8A1	5 oz

Length:

Rifle w/compensator	39 5/8 in.
Rifle w/bayonet-knife	44 7/8 in.
Barrel	20 in.
Barrel with compensator	21 in.

Mechanical features:

Rifling	right-hand twist, 6 grooves-1 turn in 7 inches
Method of operation	direct gas
Type of breech mechanism	rotating bolt
Method of feeding	magazine
Cooling	air
Trigger pull	5 to 8 1/2 lb

Ammunition:

Caliber	5.56-mm
Type	ball, blank, dummy, and tracer

Firing characteristics:

Muzzle velocity (approximate)	3,100 fps
Muzzle energy	1,322 ft-lb
Chamber pressure	52,000 psi
Cyclic rate of fire (approximate)	800 rds/m

Maximum rate of fire:

Semiautomatic	45-65 rds/m
Burst	150/200 rds/m

Sustained rate of fire

	12-15 rds/m
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Maximum range

	3,534 meters
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Maximum effective range:

Individual/point targets	550 meters
Area targets	800 meters

NOTE

Some weights and measures are approximations using M855 ammunition.

Section III. PRINCIPLES OF OPERATION

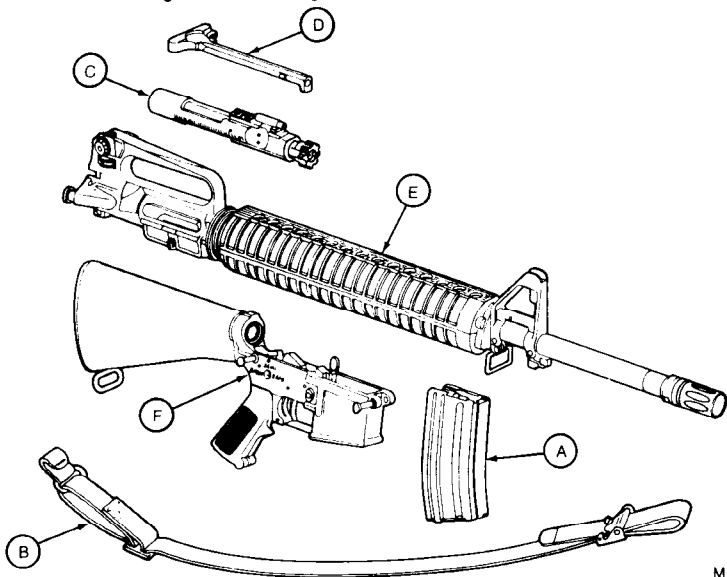
1-10. GENERAL. The weapon:

a. *Is gas-operated.* It fires in either the semiautomatic or burst mode.

b. *Has positive locking of the bolt.* Firing pin is part of the bolt and carrier assembly and cannot strike the primer until the bolt is fully locked.

1-11. PRINCIPLES OF OPERATION.

- (A) CARTRIDGE MAGAZINE. Holds cartridges ready for feeding and provides a guide for positioning cartridges for stripping. Provides quick reload capabilities for sustained firing.
- (B) SMALL ARMS SLING. Provides the means for carrying the weapon.
- (C) BOLT AND CARRIER ASSEMBLY. Provides stripping, chambering, locking, firing, extraction, and ejection of cartridges using the drive springs and projectile propelling gases for power.
- (D) HANDLE ASSEMBLY. Provides initial charging of the weapon. The charging handle latch locks the handle in the forward position during sustained fire to prevent injury to the operator.
- (E) UPPER RECEIVER AND BARREL ASSEMBLY. Provides support for the bolt carrier assembly. The barrel chambers the cartridge for firing and directs the projectile.
- (F) LOWER RECEIVER AND BUTTSTOCK ASSEMBLY. Provides firing control for the weapon and provides storage for basic cleaning materials.



M16A2

CHAPTER 2 ORGANIZATIONAL MAINTENANCE INSTRUCTIONS

CHAPTER OVERVIEW

This chapter contains information and instructions to help keep the weapon in good repair. The chapter contains:

- a. Repair Parts and Special Tools
- b. Service Upon Receipt
- c. Organizational Preventive Maintenance Checks and Services (PMCS)
- d. Organizational Troubleshooting
- e. Organizational Maintenance Procedures

Section I. REPAIR PARTS AND SPECIAL TOOLS

2-1. COMMON TOOLS AND EQUIPMENT. For authorized common tools and equipment, see SL-3-00607A.

2-3. REPAIR PARTS. Repair parts are listed in and illustrated in appendix C of this manual.

2-2. SPECIAL TOOLS. Special tools required for organizational support are listed in appendix C. Fabricated tools are listed and illustrated in appendix E.

Section II. SERVICE UPON RECEIPT

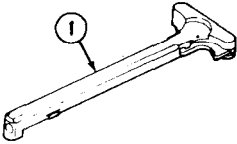
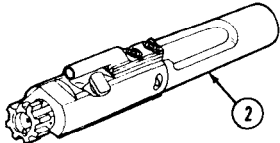
2-4. GENERAL.

a. Check the weapon against the packing slip to see if the shipment is complete. Report all discrepancies in accordance with MCO P4610.19C.

b. Check to see if all modification instructions have been applied.

2-5. ORGANIZATIONAL SERVICE UPON RECEIPT OF MATERIEL. Refer to the following table.

SERVICE UPON RECEIPT - M16A2 RIFLE

LOCATION	ITEM	ACTION	REMARKS
M16A2 Rifle	a. Charging handle assembly (1)	Clear the weapon.	Reference TM 05538C-10/1.
			
	b. Bolt carrier assembly and bolt assembly (2)	Remove.	Reference TM 05538C-10/1.
			
	c. All components	Visually inspect for proper assembly, damage, or for missing parts. Clean and lubricate.	Reference TM 05538C-10/1
NOTE Wipe excess oil from bore and chamber. Particular attention should be given to cleaning the bolt carrier key with a pipe cleaner (item 7, app D).			
	d. Bolt carrier assembly and bolt assembly	Reassemble.	Reference TM 05538C-10/1.
		Hand function to assure proper operation.	Reference TM 05538C-10/1.
	e. Cartridge magazine	Check for positive retention and functioning of bolt catch.	Reference TM 05538C-10/1.

Section III. ORGANIZATIONAL PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS)

2-6. GENERAL. This section contains the procedures and instructions necessary to perform organizational preventive maintenance checks and services. These services are to be performed by organizational maintenance personnel with the assistance, where practical, of the operator/crew.

2-7. PREVENTIVE MAINTENANCE CHECKS AND SERVICES.

WARNING

Before starting an inspection, be sure to clear the weapon. Do not keep live ammunition near the work area.

a. *General.* The PMCS procedures are contained in the table below. They are arranged in logical sequence requiring a minimum amount of time and

motion on the part of the persons performing them and are arranged so that there will be a minimum interference between persons performing checks simultaneously on the same end item.

b. *Item Number Column.* Checks and services are numbered in chronological order regardless of interval.

c. *Item To Be Inspected Column.* The items listed in this column are divided into groups indicating the portion of the equipment of which they are a part, for example, "Cartridge Magazine," "Bolt Carrier Assembly."

d. *Procedures Column.* This column contains a brief description of the procedure by which the check is to be performed. It contains all the information required to accomplish the checks and services.

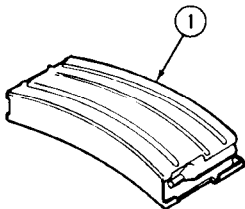
ORGANIZATIONAL PREVENTIVE MAINTENANCE CHECKS AND SERVICES QUARTERLY SCHEDULE

Item No.	Item To Be Inspected	Procedures
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WARNING

Before starting an inspection, be sure to clear the rifle. Do not actuate the trigger until the rifle has been cleared. Inspect the chamber to ensure that it is empty and no ammunition is in position to be chambered. Do not keep live ammunition near work area.

- 1 Cartridge magazine (1) (serviceability check)



Disassemble as in TM 05538C-10/1. Inspect tube for bulges, dents, or damaged feeder lips. Inspect spring and follower for kinks or damage. Replace the magazine if any of the above conditions exist. Floor plate must be positively retained when reassembled.

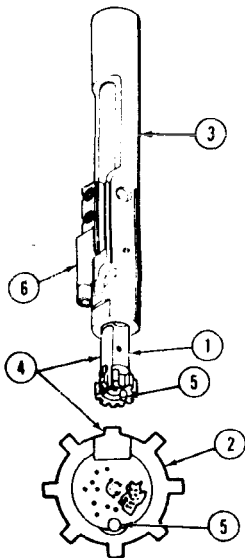
ORGANIZATIONAL PREVENTIVE MAINTENANCE CHECKS AND SERVICES QUARTERLY SCHEDULE (CONT)

Item No	Item To Be Inspected	Procedures
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WARNING

Do not interchange bolt assemblies or components from one weapon to another. Doing so may result in injury to, or death of, personnel.

- 2 Bolt carrier assembly and bolt assembly (serviceability check)



Disassemble. Visually inspect bolt assembly (1) for cracks, especially in the area of the cam pin hole. Check for cracks on locking lugs (2), for a pitted or chipped bolt face, and for an elongated firing pin hole. If defects are found, evacuate to intermediate maintenance for repair.

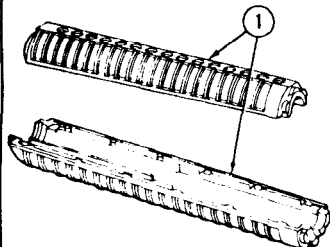
Check for worn bolt rings. Insert the bolt assembly (1) into the bolt carrier (do not insert cam pin) and exercise in and out to check for binding. Turn bolt carrier assembly (3) so the bolt assembly (1) points down. The bolt must not drop out. If the bolt assembly drops out of the bolt carrier due to its own weight, evacuate to intermediate maintenance for repair (usually bolt ring replacement).

Check extractor (4) and spring and ejector (5) and spring for serviceability. Check carrier key (6) for damage and looseness. If bolt carrier (3) or carrier key (6) are damaged, evacuate to intermediate maintenance. Clean ejector (5) and spring. Lubricate and assemble or repair as necessary. Some dented carrier keys (6) can be repaired by using the fabricated key tool (E-4, app E). See page E-3.

NOTE

Refer to TM 05538C-10/1 for "buddy system" procedure for removing handguards.

- 3 Upper receiver group (handguards)

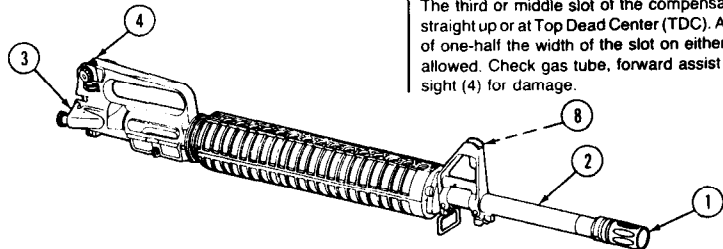


Remove and inspect handguards (1) internally and externally for cracks and/or damage. Cracks up to one inch in length are acceptable providing they do not adversely affect weapon operation or operator safety.

Discard and replace the hand guard (1) if the heatshield is loose enough to rattle.

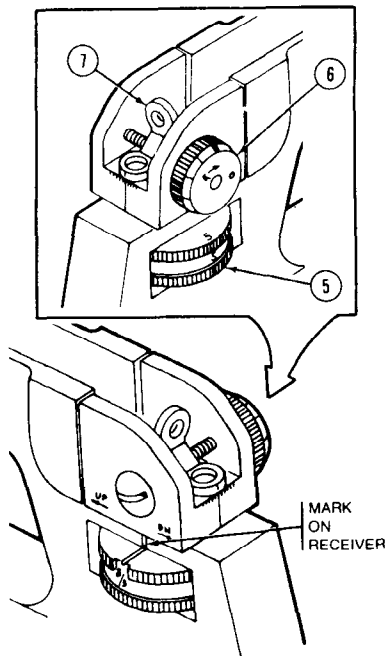
ORGANIZATIONAL PREVENTIVE MAINTENANCE CHECKS AND SERVICES QUARTERLY SCHEDULE (CONT)

Item No	Item To Be Inspected	Procedures
4	Upper receiver group (serviceability check)	Hand check compensator (1) for looseness on barrel (2), then hand check barrel for looseness on upper receiver. The third or middle slot of the compensator must be straight up or at Top Dead Center (TDC). A minor variation of one-half the width of the slot on either side of TDC is allowed. Check gas tube, forward assist (3), and rear sight (4) for damage.



Rear sight elevation (5) and windage (6) knobs must rotate freely with distinct "clicks." The 300 meter mark must align with the mark on the receiver when the sight is all the way down on the last whole "click." The rear sight spring should retain the rear sight aperture (7) in either position with firmness. If any of the above are defective, evacuate to intermediate maintenance.

Check front sight plunger and spring (8) for damage and corrosion. Clean and lubricate them. Check charging handle assembly and ejection port cover for defects and proper functioning. Check sling swivel and pin/rivet for damage and proper functioning. Replace defective components as necessary.



ORGANIZATIONAL PREVENTIVE MAINTENANCE CHECKS AND SERVICES QUARTERLY SCHEDULE (CONT)

Item No.	Item To Be Inspected	Procedures
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WARNING

Dry cleaning solvent is flammable and toxic and should be used in a well-ventilated area. The use of rubber gloves is necessary to protect the skin when washing rifle parts.

CAUTION

Do not use wire brush to roughen surfaces. Use a well-ventilated area during cleaning and application of solid film lubricant (item 17, app D). If solid film lubricant comes in contact with recoiling parts or functioning surfaces of the rifle, remove lubricant immediately by washing with dry cleaning solvent (item 12, app D).

5 Upper receiver group (exterior finish)

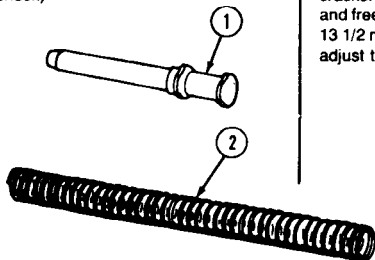
Inspect upper receiver finish. If scratched or worn shiny in spots, disassemble and remove all lubricant from surface with dry cleaning solvent (item 12, app D) and let dry. Always wear rubber gloves (item 14, app D) when using dry cleaning solvent. Roughen the surface using abrasive cloth (item 8, app D) and apply solid film lubricant (item 17, app D). Allow 16 to 24 hours to dry before handling. Release takedown pin and open receivers. Hold barrel at 40-degree angle (muzzle down). Pull charging handle assembly to rear. Hold bolt carrier to rear and push charging handle forward. Release bolt carrier. The bolt carrier should close and lock under its own weight. If it does not, remove the bolt from the carrier and slide the carrier and key assembly (without bolt) back and forth in the upper receiver and barrel assembly.

6 Upper receiver group (bent gas tube extension)

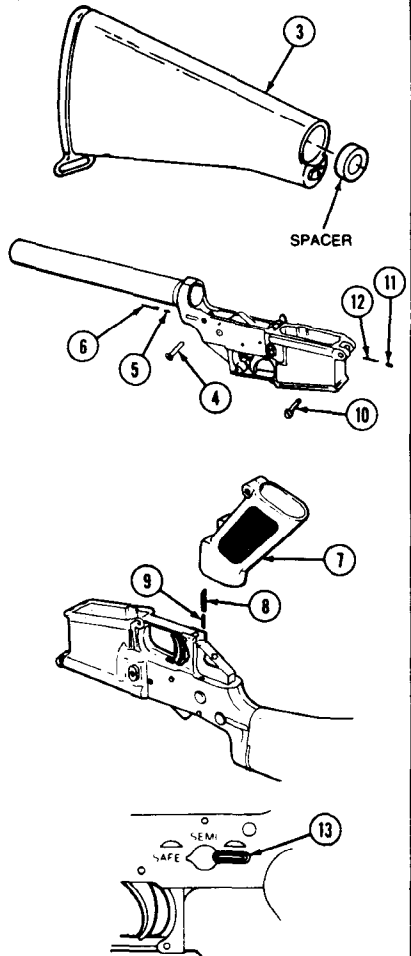
If the gas tube hits the carrier key, or if the gas tube binds in the carrier key, try to correct the malfunction by adjusting (slightly bending) the gas tube slightly in the area of the handguards. If this does not correct the malfunction, evacuate to intermediate maintenance.

7 Lower receiver group (serviceability check)

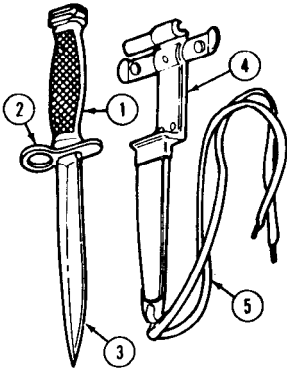
Remove buffer (1) and action spring (2). Check buffer for cracks. Replace if cracked. Check action spring for kinks and free length. Free length should be 11 3/4 minimum to 13 1/2 maximum inches; if not, replace. Do not attempt to adjust the length by stretching the spring.



ORGANIZATIONAL PREVENTIVE MAINTENANCE CHECKS AND SERVICES QUARTERLY SCHEDULE (CONT)

Item No.	Item To Be Inspected	Procedures
7 (Cont)	 The diagrams illustrate the following components and their locations: 3: Butt cap screw and buttstock assembly. 4: Takedown pin. 5: Detent. 6: Spring. 7: Pistol grip. 8: Spring. 9: Safety detent. 10: Pivot pin. 11: Detent. 12: Spring. 13: Receiver holes. SPACER: A small cylindrical component shown near the buttstock assembly.	Remove butt cap screw and buttstock assembly (3), taking care not to lose the takedown pin (4), detent (5), and spring (6). Clean and lubricate the takedown pin, detent, spring, and hole in the receiver. Check buttstock assembly components and buttstock for damage. Replace damaged components as necessary. Cracked buttstock can be repaired at intermediate maintenance. Hand check lower receiver extension for looseness and corrosion. If loose, evacuate to intermediate maintenance. Clean and lubricate the extension. Remove pistol grip (7), spring (8), and safety detent (9). Clean and lubricate pivot pin (10), detent (11), spring (12), and receiver holes. Replace defective components as necessary. Clean and lubricate selector lever (13). Reassemble. Function check the magazine catch, bolt catch, automatic sear, hammer, trigger, and disconnectors. If defective, evacuate to intermediate maintenance. Check lower receiver finish. If scratched or worn shiny in spots, repair in the same manner as outlined for upper receiver.

ORGANIZATIONAL PREVENTIVE MAINTENANCE CHECKS AND SERVICES QUARTERLY SCHEDULE (CONT)

Item No	Item To Be Inspected	Procedures
8	Bayonet and scabbard (serviceability check) 	Remove grips (1). Clean and lubricate the bayonet. Check release for retention and release on rifle bayonet lug (2). Bayonet blade (3) should not be broken and blade should be free of nicks. Blades with blunt points and any nicks will be restored by stoning. Check scabbard (4) for cracks, splits, worn fabric, and missing thong (5). NOTE During periods of inactivity, perform preventive maintenance quarterly unless inspection reveals more frequent servicing is necessary. An inactive weapon is a weapon which has been stored in an arms room for a period of 90 days without use. The weapon may or may not have been assigned to an individual. Normal cleaning (PMCS) of an inactive weapon will be performed every 90 days. Should the unit armorer detect corrosion on a weapon prior to the end of the 90-day period, the PMCS should be performed immediately.

Section IV. ORGANIZATIONAL TROUBLESHOOTING

2-8. GENERAL.

a. This section contains organizational level troubleshooting information for locating and correcting most of the operating troubles which may develop in the weapon. Each malfunction for the individual part or assembly is followed by a list of tests or inspections which will help you to determine the corrective actions to take. You should perform the tests/inspections and corrective actions in the order listed.

b. This manual cannot list all malfunctions that may occur, nor all tests or inspections and corrective actions. If a malfunction is not listed or is not corrected by listed corrective actions, see individual repair sections for maintenance instructions on each major assembly.

2-9. TROUBLESHOOTING PROCEDURES. Refer to troubleshooting table for malfunctions, tests, and corrective actions. The symptom index is provided for a quick reference of symptoms covered in the table.

SYMPTOM INDEX

	Troubleshooting Procedures Page
Bolt fails to lock to rear after firing last round	2-9
Failure to chamber	2-12
Failure to cock	2-11
Failure to cycle with selector lever set on BURST	2-14
Failure to eject	2-11
Failure to extract	2-10
Failure to feed	2-11
Failure to fire	2-10
Failure to lock	2-13
Fires two rounds with one squeeze of trigger with selector lever set on SEMI (double firing)	2-14
Fires with selector lever on SAFE or when trigger is released with selector lever on SEMI	2-14
Short recoil	2-13

ORGANIZATIONAL TROUBLESHOOTING

MALFUNCTION

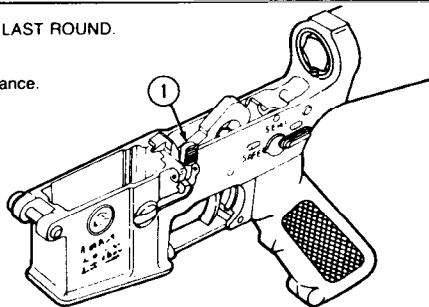
TEST OR INSPECTION

CORRECTIVE ACTION

1. BOLT FAILS TO LOCK TO REAR AFTER FIRING LAST ROUND.

Step 1. Broken bolt catch (1) and/or spring.

Evacuate to intermediate maintenance.



Step 2. Magazine follower (2) worn or broken.

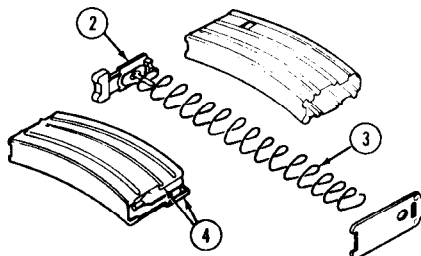
Replace magazine.

Step 3. Magazine spring (3) weak or broken.

Replace magazine.

Step 4. Magazine feeder lips (4) bent or broken.

Replace magazine.



ORGANIZATIONAL TROUBLESHOOTING (CONT)

MALFUNCTION

TEST OR INSPECTION

CORRECTIVE ACTION

2. FAILURE TO FIRE.

Step 1. Broken or short firing pin (1).

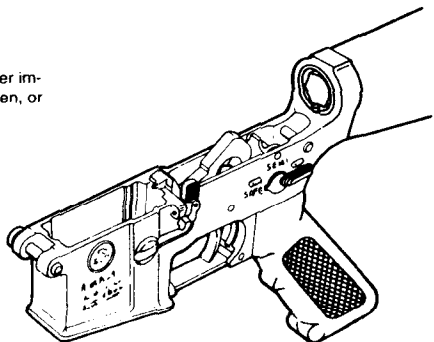
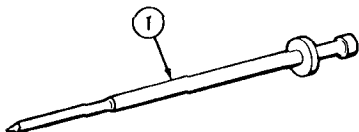
Evacuate to intermediate maintenance.

Step 2. Carbon buildup in firing pin track inside bolt.

Remove extractor and clean track with pipe cleaner (item 7, app D).

Step 3. Firing mechanism and/or lower receiver improperly assembled or has worn, broken, or missing parts.

- a. Inspect for proper assembly.
Assemble properly.
- b. Evacuate to intermediate maintenance.



Step 4. Broken, defective, or improperly assembled retaining pin (2).

- a. Assemble properly.
- b. Replace.



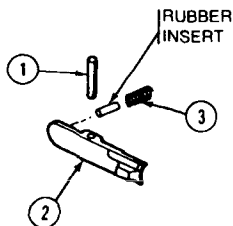
3. FAILURE TO EXTRACT.

Step 1. Defective extractor pin (1), extractor (2), and/or extractor spring assembly (3).

Replace extractor pin (1), extractor (2), and/or extractor spring assembly (3) (p 2-23).

Step 2. Short recoil.

Refer to page 2-13.



NOTE

Rubber insert and spring are an assembly. Illustration shows insert out of assembly for clarification only.

ORGANIZATIONAL TROUBLESHOOTING (CONT)

MALFUNCTION

TEST OR INSPECTION

CORRECTIVE ACTION

4. FAILURE TO EJECT.

Step 1. Broken ejector (1).

Replace (p 2-22).

Step 2. Ejector (1) stuck in bolt body (2).

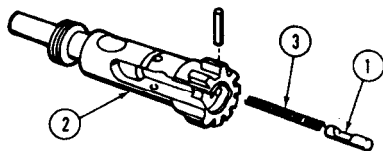
Disassemble and clean.

Step 3. Weak or broken ejector spring (3).

Replace (p 2-22).

Step 4. Short recoil.

Refer to page 2-13.



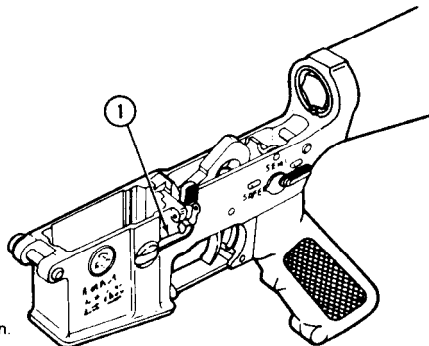
5. FAILURE TO COCK.

Step 1. Worn, broken, or missing parts of firing mechanism.

Evacuate to intermediate maintenance.

Step 2. Short recoil.

Refer to page 2-13.



6. FAILURE TO FEED.

Step 1. Magazine catch spring weak or broken.

Evacuate to intermediate maintenance.

Step 2. Magazine catch (1) defective.

Evacuate to intermediate maintenance.

ORGANIZATIONAL TROUBLESHOOTING (CONT)

MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
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Step 3 Magazine catch notch (2) defective.

Replace magazine.

Step 4 Magazine lips (3) burred or broken.

Replace magazine.

Step 5 Magazine follower (4) defective.

Replace magazine.

Step 6 Magazine spring weak (5) or broken.

Replace magazine.

Step 7 Magazine tube (6) dented.

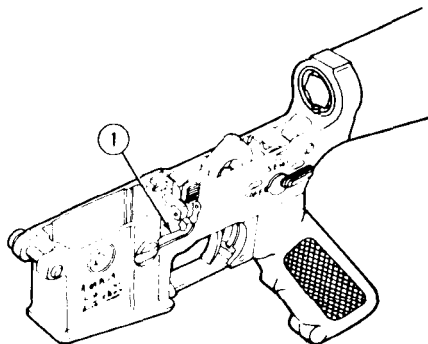
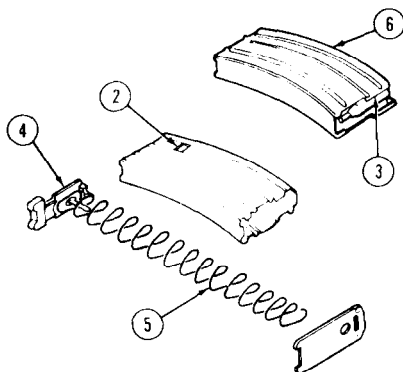
Replace magazine.

Step 8 Magazine catch (1) out of adjustment (will not retain magazine).

Refer to page 3-60.

Step 9 Short recoil.

Refer to page 2-13.



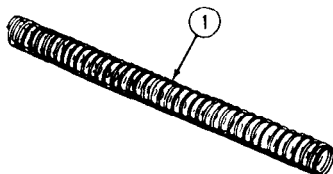
7. FAILURE TO CHAMBER.

Step 1. Weak or broken action spring (1) (free length 11 3/4 inches minimum to 13 1/2 inches maximum).

Replace action spring (1) (p 2-38).

Step 2. Short recoil.

Refer to page 2-13.



ORGANIZATIONAL TROUBLESHOOTING (CONT)

MALFUNCTION

TEST OR INSPECTION

CORRECTIVE ACTION

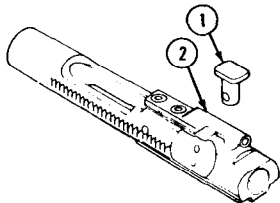
8. FAILURE TO LOCK.

Step 1. Bolt cam pin (1) missing.

Replace (p 2-19).

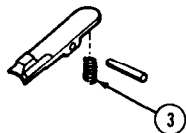
Step 2. Loose or damaged bolt carrier key (2).

Evacuate to intermediate maintenance.



Step 3. Improperly assembled extractor spring assembly (3).

Assemble correctly (p 2-23).



Step 4. Bent gas tube (4).

- a. Adjust by bending in area of handguard.
- b. Evacuate to intermediate maintenance.



Step 5. Weak or broken action spring.

Replace action spring (p 2-38).

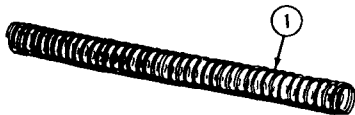
9. SHORT RECOIL.

Step 1. Weak or broken action spring (1).

Replace action spring (1) (p 2-38).

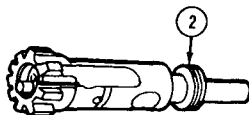
Step 2. Unlubricated or dirty action spring and receiver extension.

Clean and lubricate.



Step 3. Improper gap space or worn, missing, or broken bolt rings (2).

Evacuate to intermediate maintenance if rings are worn, broken or missing (p 2-17).



ORGANIZATIONAL TROUBLESHOOTING (CONT)

MALFUNCTION

TEST OR INSPECTION

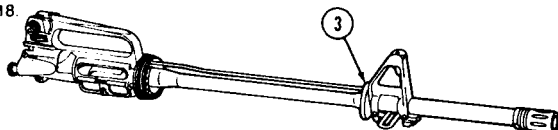
CORRECTIVE ACTION

Step 4. Gas leakage caused by broken or loose gas tube (3) around front sight base.

Evacuate to intermediate maintenance.

Step 5. Improper alinement of gas tube and carrier key.

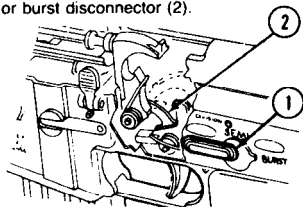
Refer to page 2-18.



10. FAILURE TO CYCLE WITH SELECTOR LEVER SET ON BURST.

Faulty selector lever (1), broken cam, cam clutch spring, or burst disconnector (2).

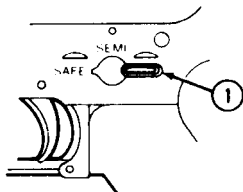
Evacuate to intermediate maintenance.



11. FIRES WITH SELECTOR LEVER (1) ON SAFE OR WHEN TRIGGER IS RELEASED WITH SELECTOR LEVER ON SEMI.

Worn, broken, or missing parts of firing mechanism.

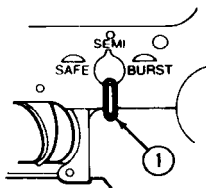
Evacuate to intermediate maintenance.



12. FIRES TWO ROUNDS WITH ONE SQUEEZE OF TRIGGER WITH SELECTOR LEVER (1) SET ON SEMI (DOUBLE FIRING).

Perform function test.

If any part of function test (page 2-45) fails, evacuate to intermediate maintenance.



Section V. ORGANIZATIONAL MAINTENANCE PROCEDURES

2-10. INITIAL SETUP. The following will reduce the space required for the initial setup portion of the maintenance procedures.

- a. Resources required are not listed unless they apply to the procedure.
- b. **Personnel Required** is listed only if the task requires more than one person. If **Personnel Required** is not listed, it means one person can do the job.

c. The normal standard equipment condition is that the item is removed from end item or next higher assembly and is in the assembled condition. **Equipment Condition** is not listed unless some other condition is required.

d. The approximate time required is listed on the applicable Maintenance Allocation Chart (MAC).

2-11. MAJOR COMPONENTS OF M16A2 RIFLE.

This task covers disassembly.

INITIAL SETUP

References

TM 05538C-10/1

Equipment Condition

Weapon assembled.

General Safety Instructions

Before starting an inspection, be sure to clear the weapon. Do not keep live ammunition near the work area.

To avoid injury to your eye, use care when removing and installing spring-loaded parts.

Do not interchange bolt assemblies or components from one weapon to another. Doing so may result in injury to, or death of, personnel.

LOCATION	ITEM	ACTION	REMARKS
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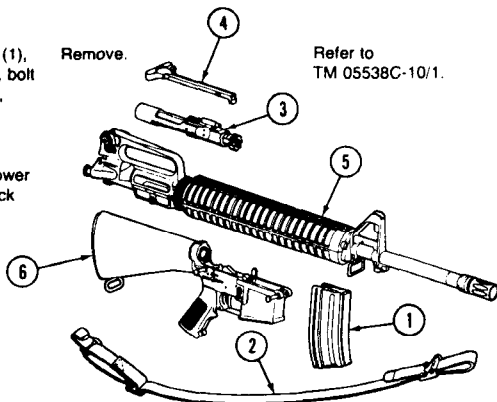
DISASSEMBLY

Weapon

Cartridge magazine (1), small arms sling (2), bolt carrier assembly (3), charging handle assembly (4), upper receiver and barrel assembly (5), and lower receiver and buttstock assembly (6).

Remove.

Refer to
TM 05538C-10/1.



2-12. BOLT CARRIER ASSEMBLY (ORGANIZATIONAL).

This task covers:

- | | |
|----------------|----------------|
| a. Disassembly | d. Repair |
| b. Cleaning | e. Lubrication |
| c. Inspection | f. Reassembly |

INITIAL SETUP**Tools**

Small Arms Repairman Tool Kit
 NSN 5180-00-357-7770/
 SL-3-00607A
 Key tool (E-4, app E)

General Safety Instructions

Bolt cam pin must be installed or weapon will blow up while firing the first round. If the bolt cam pin is not installed, injury to, or death of, personnel may result.

Do not interchange bolt assemblies or components from one weapon to another. Doing so may result in injury to, or death of, personnel.

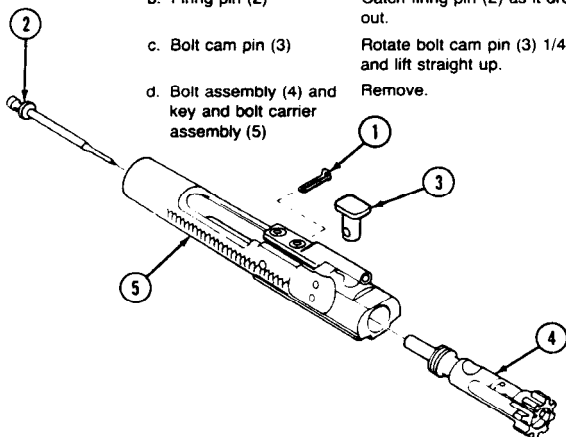
Materials/Parts

Cleaner, lubricant, and preservative (CLP)
 (item 6, app D)

LOCATION	ITEM	ACTION	REMARKS
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DISASSEMBLY

Bolt Carrier Assembly	a. Firing pin retaining pin (1)	Remove.	Do not spread or close legs of firing pin retaining pin (1).
	b. Firing pin (2)	Catch firing pin (2) as it drops out.	
	c. Bolt cam pin (3)	Rotate bolt cam pin (3) 1/4 turn and lift straight up.	For disassembly see page 2-15.
	d. Bolt assembly (4) and key and bolt carrier assembly (5)	Remove.	



LOCATION	ITEM	ACTION	REMARKS
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CLEANING

Bolt Carrier Assembly	All items	Remove carbon using CLP (item 6, app D).	
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INSPECTION

Bolt Carrier Assembly	a. Bolt assembly	Check for worn rings by holding the bolt carrier assembly with the bolt assembly down. Check ring spacing.	If bolt assembly falls out of carrier after retaining pin and cam pin are removed, the rings are worn. Notify intermediate maintenance.
	b. All items	Check for serviceability.	

REPAIR

Bolt Carrier Assembly	a. Firing pin retaining pin and cam pin	Replace if unserviceable.	Items are unserviceable if cracked or mutilated.
	b. Bolt assembly		See page 2-20.
	c. Firing pin	Notify intermediate maintenance if unserviceable.	Firing pin is unserviceable if broken or if tip is mutilated.

CAUTION

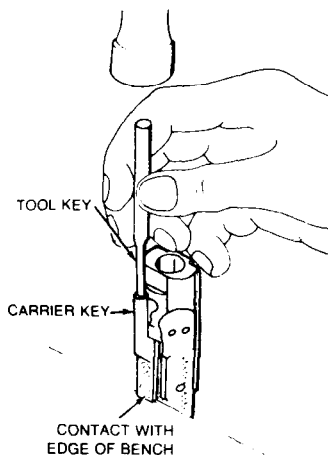
Extreme care must be exercised during the following procedure to assure that the striking force is not directed to the attaching screws and that the tube portion is not enlarged or flared beyond original requirements as such enlargement would permit loss of gas pressure when the key and gas tube come together during function.

d. Carrier key	Repair small dents and/or distortions using fabricated key tool (E-4, app E) as follows:
----------------	--

2-12. BOLT CARRIER ASSEMBLY (ORGANIZATIONAL) (CONT).

LOCATION	ITEM	ACTION	REMARKS
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REPAIR (CONT)



Place the key and bolt carrier assembly in a vertical position, supported in a manner that contact is made with the rear surface of the key.

Insert the small end of the key tool (E-4, app E) into the tube portion of the key.

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

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

LUBRICATION

Bolt Carrier Assembly All items

Lubricate using CLP (item 6, app D).

REASSEMBLY

WARNING

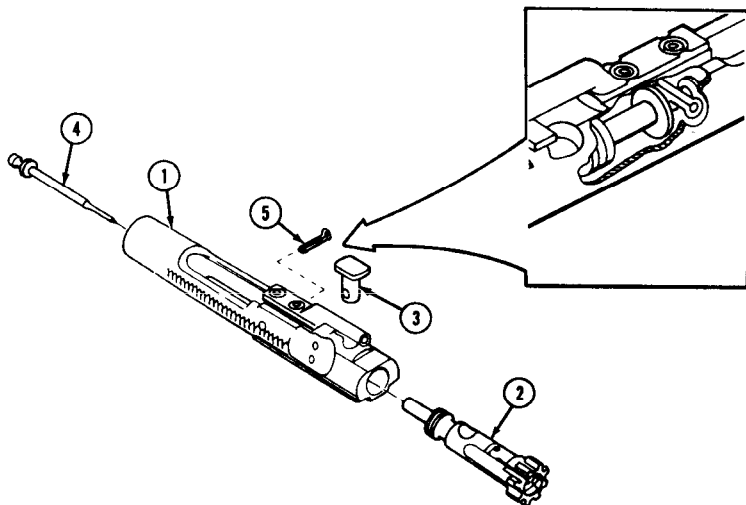
Do not interchange bolt assemblies or components from one weapon to another. Doing so may result in injury to, or death of, personnel.

Bolt cam pin must be installed or weapon will blow up while firing the first round. If the cam pin is not installed, injury to, or death of, personnel may result.

LOCATION	ITEM	ACTION	REMARKS
----------	------	--------	---------

REASSEMBLY (CONT)

- | | | | |
|-----------------------|---|--|---|
| Bolt Carrier Assembly | a. Key and bolt carrier assembly (1), bolt assembly (2), and bolt cam pin (3) | Install bolt in carrier and key and secure with cam pin. | Before installing bolt assembly, check to see that the ring gaps are staggered to prevent loss of gas pressure. |
| | b. Firing pin (4) and firing pin retaining pin (5) | Install. | Firing pin retaining pin must be installed from the left side only. |



2-13. BOLT ASSEMBLY (ORGANIZATIONAL).

This task covers:

- | | |
|----------------|---------------|
| a. Disassembly | d. Repair |
| b. Cleaning | e. Reassembly |
| c. Lubrication | |

INITIAL SETUP

- | | |
|---|---|
| Tools
Small Arms Repairman Tool Kit
NSN 5180-00-357-7770/
SL-3-00607A | General Safety Instructions
Do not interchange bolt assemblies or other components from one weapon to another. Doing so may result in injury to, or death of, personnel.

To avoid injury to your eye, use care when removing and installing spring-loaded parts. |
|---|---|

Materials/PartsCleaner, lubricant, and preservative (CLP)
(item 6, app D)

LOCATION	ITEM	ACTION	REMARKS
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DISASSEMBLY**CAUTION**

If firing pin is used as a tool to push out extractor pin, use extreme care not to damage tip of firing pin.

Bolt Assembly

- a. Extractor pin (1), cartridge extractor (2), and extractor spring assembly (3)

Push out extractor pin and remove cartridge extractor and spring assembly as a unit.

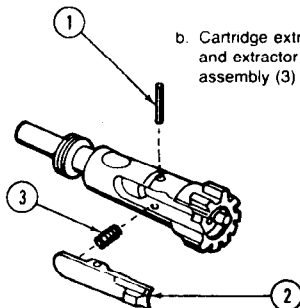
Do not separate cartridge extractor and spring assembly unless replacement of either or both is required.

- b. Cartridge extractor (2) and extractor spring assembly (3)

Twist spring assembly counter-clockwise to remove from cartridge extractor.

NOTE

Do not remove rubber insert assembly from spring assembly.



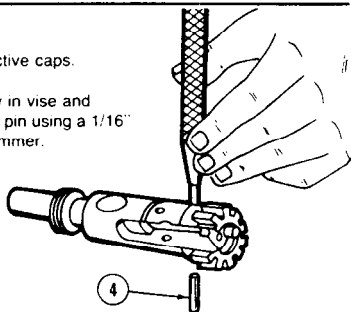
LOCATION	ITEM	ACTION	REMARKS
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CAUTION

Be sure to use vise jaw protective caps.

c. Spring pin (4)

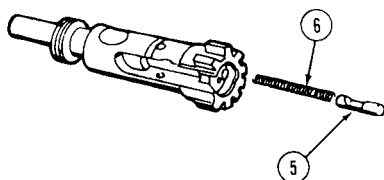
Hold bolt body in vise and remove spring pin using a 1/16" punch and hammer.

**WARNING**

To avoid injury to your eye, use care when removing and installing spring-loaded parts

d. Cartridge ejector (5) and helical spring (6)

Catch cartridge ejector and helical spring as punch is withdrawn to prevent loss.

**CLEANING****CAUTION**

Do not distort spring assembly during cleaning.

Bolt Assembly

All items

Remove carbon with CLP (item 6, app D).

LUBRICATION

Bolt Assembly

All items

Cover with light coat of CLP (item 6, app D).

REPAIR

Bolt Assembly

All authorized items

Replace if unserviceable.

2-13. BOLT ASSEMBLY (ORGANIZATIONAL) (CONT).

LOCATION	ITEM	ACTION	REMARKS
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REASSEMBLY

WARNING

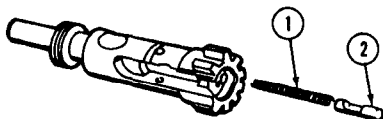
To avoid injury to your eye, use care when removing and installing spring-loaded parts.

Do not interchange bolt assemblies or other components from one weapon to another. Doing so may result in injury to, or death of, personnel.

Bolt Assembly

- a. Helical spring (1) and cartridge ejector (2)

Install. Align the groove on the cartridge ejector so that the spring pin can be installed. Hold in place with a 1/16" punch inserted from below.

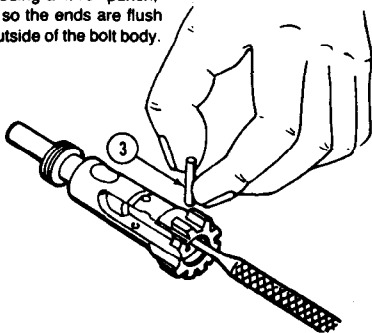


CAUTION

Be sure to use vise jaw protective caps.

- b. Spring pin (3)

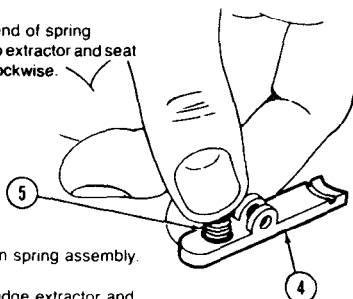
Use a new spring pin (3), if available. Hold bolt body in vise. Start spring pin in hole. Compress and hold the helical spring and cartridge ejector in place with a 3/8" punch and then complete the installation of spring pin (3) using hammer. Using a 1/16" punch, install pin so the ends are flush with the outside of the bolt body.



LOCATION	ITEM	ACTION	REMARKS
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REASSEMBLY (CONT)

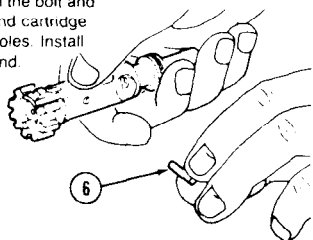
- c. Cartridge extractor (4) and extractor spring assembly (5)
- Insert large end of spring assembly into extractor and seat by turning clockwise.



NOTE

Do not disassemble rubber insert from spring assembly.

- d. Cartridge extractor (4), extractor spring assembly (5), and extractor pin (6)
- Position cartridge extractor and spring assembly on the bolt and compress spring and cartridge extractor to align holes. Install extractor pin by hand.



2-14. CHARGING HANDLE ASSEMBLY (ORGANIZATIONAL).

This task covers:

- | | |
|----------------------|----------------|
| a. Disassembly | c. Lubrication |
| b. Inspection/Repair | d. Reassembly |

INITIAL SETUP

Tools

Small Arms Repairman Tool Kit
NSN 5180-00-357-7770/SL-3-00607A

Materials/Parts

Cleaner, lubricant and preservative (CLP)
(item 6, app D)

2-14. CHARGING HANDLE ASSEMBLY (ORGANIZATIONAL) (CONT).

LOCATION	ITEM	ACTION	REMARKS
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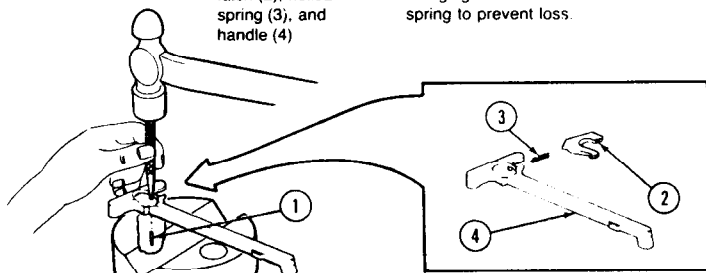
DISASSEMBLY

Charging Handle Assembly

- a. Spring pin (1)
- b. Charging handle latch (2), helical spring (3), and handle (4)

Remove using hammer and 1/16" punch.

As punch is withdrawn, catch charging handle latch and helical spring to prevent loss.

**INSPECTION/REPAIR**

Charging Handle Assembly

All authorized items

Inspect for serviceability.

Replace if unserviceable.

Items are unserviceable if broken, cracked, or mutilated.

LUBRICATION

Charging Handle Assembly

All items

Lightly coat with CLP (item 6, app D.)

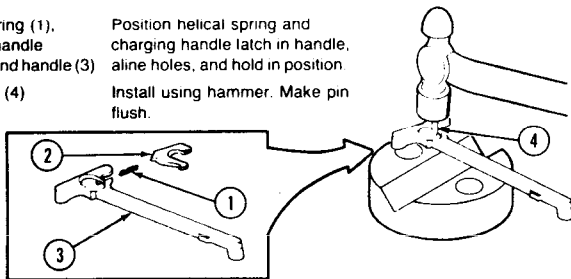
REASSEMBLY

Charging Handle Assembly

- a. Helical spring (1), charging handle latch (2), and handle (3)
- b. Spring pin (4)

Position helical spring and charging handle latch in handle, align holes, and hold in position.

Install using hammer. Make pin flush.



2-15. UPPER RECEIVER AND BARREL ASSEMBLY (HANDGUARD ASSEMBLY) (ORGANIZATIONAL).

This task covers:

- a. Disassembly
- b. Inspection/Repair
- c. Reassembly

INITIAL SETUP*References*

TM 05538C-10/1

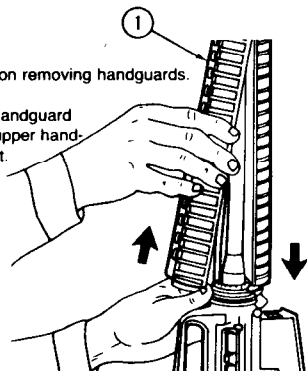
LOCATION	ITEM	ACTION	REMARKS
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DISASSEMBLY**NOTE**

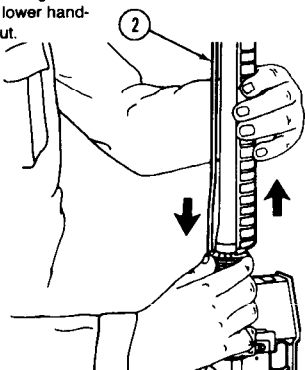
Refer to TM 05538C-10/1 for "buddy system" procedure on removing handguards.

Upper Receiver and
Barrel Assembly

- a. Upper handguard (1)

Push down on the handguard
slip ring and lift the upper hand-
guard (1) up and out.

- b. Lower handguard (2)

Push down on the handguard
slip ring and lift the lower hand-
guard (2) up and out.

2-15. UPPER RECEIVER AND BARREL ASSEMBLY (HANDGUARD ASSEMBLY) (ORGANIZATIONAL) (CONT).

LOCATION	ITEM	ACTION	REMARKS
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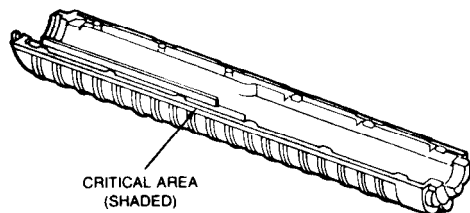
INSPECTION/REPAIR

Upper Receiver and Barrel Assembly Handguard assembly

Inspect for breaks, separation, and cracks.

Breaks and separations of material which prevent proper retention or interfere with functioning of the weapon will be cause for rejection. Cracks up to one inch in length which do not interfere with functioning of weapon or safety are allowable. Report cracked handguards in accordance with TM 4700-15/1. Also submit SF 368, Quality Deficiency Report.

Handguards which have a heatshield which is loose enough to rattle will be discarded and replaced.



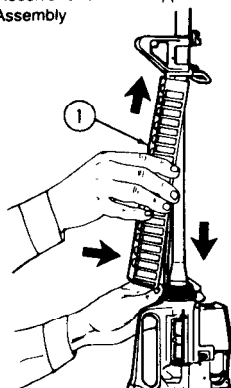
REASSEMBLY

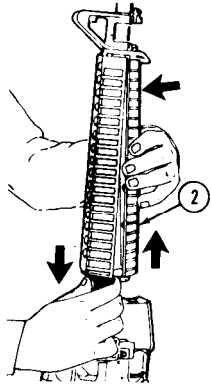
NOTE

Refer to TM 05538C-10/1 for "buddy system" procedure on installing handguards.

Upper Receiver and Barrel Assembly a. Upper handguard (1)

Install front of upper handguard in tube cap. Push down on handguard slip ring. Push handguard in place and release handguard slip ring.



LOCATION	ITEM	ACTION	REMARKS
	b. Lower handguard (2)	Install front of lower handguard in tube cap. Push down on handguard slip ring. Push handguard in place and release handguard slip ring.	

2-16. UPPER RECEIVER AND BARREL ASSEMBLY (ORGANIZATIONAL).

This task covers:

- | | |
|----------------|----------------|
| a. Disassembly | d. Repair |
| b. Cleaning | e. Lubrication |
| c. Inspection | f. Reassembly |

INITIAL SETUP

Tools

Small Arms Repairman Tool Kit
 NSN 5180-00-357-7770/SL-3-00607A
 Sight removal tool (E-2, app E)
 Front sight detent depressor (E-1, app E)

Materials/Parts

Cleaner, lubricant and preservative (CLP)
 (item 6, app D)

Equipment Condition

Upper receiver and barrel assembly removed from lower receiver.

General Safety Instructions

To avoid injury to your eye, use care when removing and installing spring-loaded parts.

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

Do not interchange bolt assemblies or other components from one weapon to another. Doing so may result in injury to, or death of, personnel.

2-16. UPPER RECEIVER AND BARREL ASSEMBLY (ORGANIZATIONAL) (CONT).

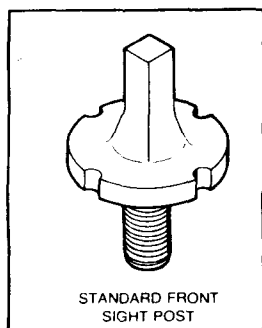
LOCATION	ITEM	ACTION	REMARKS
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DISASSEMBLY

Upper Receiver and
Barrel Assembly

a. Front sight post (1)

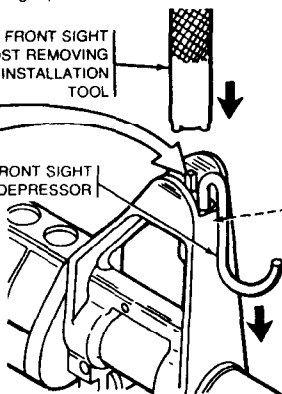
Using fabricated tool (E-2,
app E) and front sight detent
depressor (E-1, app E), remove
front sight post.



FRONT SIGHT
POST REMOVING
AND INSTALLATION
TOOL

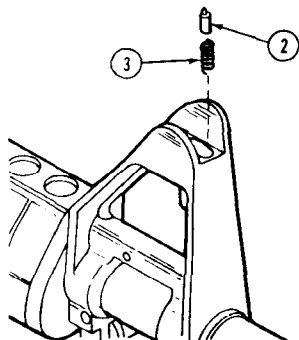
FRONT SIGHT
DETENT DEPRESSOR

DEPRESS
DETENT



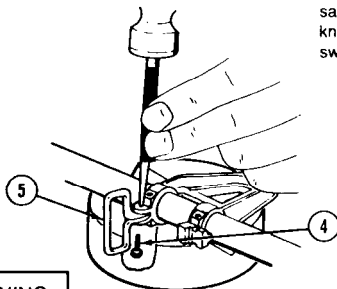
b. Front sight detent (2)
and helical spring (3)

Catch front sight detent and heli-
cal spring to prevent loss.



LOCATION	ITEM	ACTION	REMARKS
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- c. Tubular rivet (4) and sling swivel (5)



Disassemble only if repair is necessary. If repair is necessary, use hammer and punch to knock out rivet and remove swivel. Discard rivet.

CLEANING

Upper Receiver and Barrel Assembly

All items

Clean with CLP (item 6, app D).

INSPECTION

Upper Receiver and Barrel Assembly

- a. Front sight assembly
b. Front sight area
c. Barrel

Inspect for chips, breaks, bends, and cracks.

Inspect for evidence of gas leakage around gas tube.

Clean and inspect for pits in bore, burrs, broken or worn locking lugs, and surface cracks and defects.

Pits no wider than a land or groove and 3/8 inch or less in length are allowable in the bore.

Uniformly fine pits in a densely pitted area of the bore are allowable.

Inspect bore for ringing.

Definitely ringed bores or bores ringed sufficiently to bulge the outside surface of the barrel are cause for rejection.

Lands that appear dark due to coating of gilding metal from projectiles are allowable.

2-16. UPPER RECEIVER AND BARREL ASSEMBLY (ORGANIZATIONAL) (CONT).

LOCATION	ITEM	ACTION	REMARKS
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INSPECTION (CONT)

d. Compensator

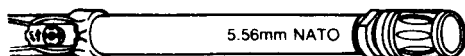
Inspect chamber for pitting.

Check for looseness on barrel. The third, or middle, slot must be straight up or at Top Dead Center (TDC).

Stripping of lands and grooves shall not be cause for rejection unless so determined by barrel erosion gage.

Fine pits, or fine pits in a densely pitted area, are allowable. Pits 1/8 inch in length are cause for rejection.

TDC may vary as much as one half the width of the slot.



REPAIR

Upper Receiver and Barrel Assembly

All authorized items

Replace authorized unserviceable parts.

LUBRICATION

Upper Receiver and Barrel Assembly

All items

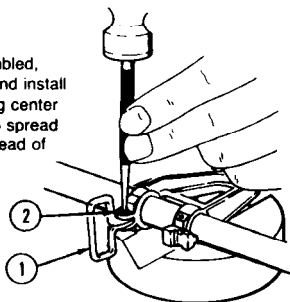
Cover with a light coat of CLP (item 6, app D).

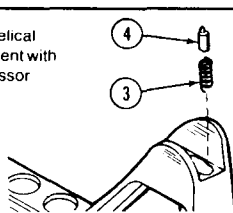
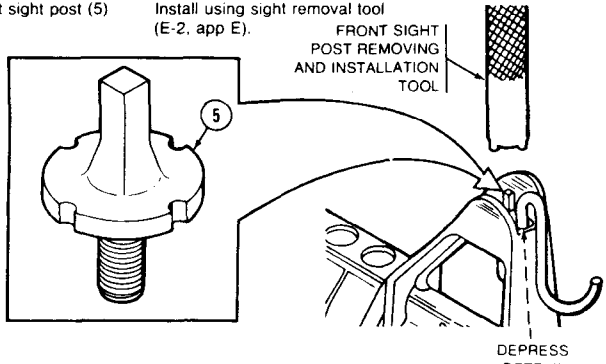
REASSEMBLY

Upper Receiver and Barrel Assembly

a. Sling swivel (1) and tubular rivet (2)

If previously disassembled, position sling swivel and install new tubular rivet using center punch and hammer to spread and flare the hollow head of tubular rivet.



LOCATION	ITEM	ACTION	REMARKS
	b. Helical spring (3) and front sight detent (4)	Position and depress helical spring and front sight detent with front sight detent depressor (E-1, app E).	
	c. Front sight post (5)	Install using sight removal tool (E-2, app E).	 FRONT SIGHT POST REMOVING AND INSTALLATION TOOL DEPRESS DETENT

DISASSEMBLY

NOTE

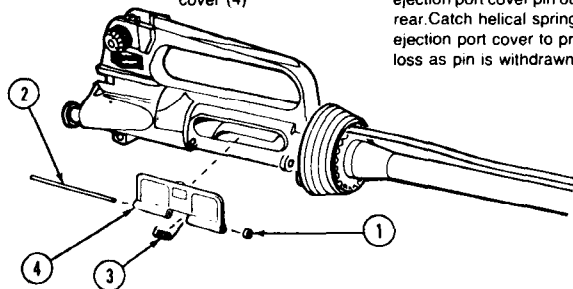
Do not disassemble unless repair is necessary.

Upper Receiver and Barrel Assembly

Retaining ring (1), ejection port cover pin (2), helical spring (3), and ejection port cover (4)

Using two small punch tips or two small flat tip screwdrivers, remove retaining ring and slide ejection port cover pin out to the rear. Catch helical spring and ejection port cover to prevent loss as pin is withdrawn.

Ejection port cover pin may bind against the forward assist housing on the M16A2 rifle and require some additional force to remove.



2-16. UPPER RECEIVER AND BARREL ASSEMBLY (ORGANIZATIONAL) (CONT).

LOCATION	ITEM	ACTION	REMARKS
INSPECTION			
Upper Receiver and Barrel Assembly	All items	Inspect for serviceability in and tightness of latch assembly on ejection port cover.	If items are damaged or nonfunctional, they are unserviceable.

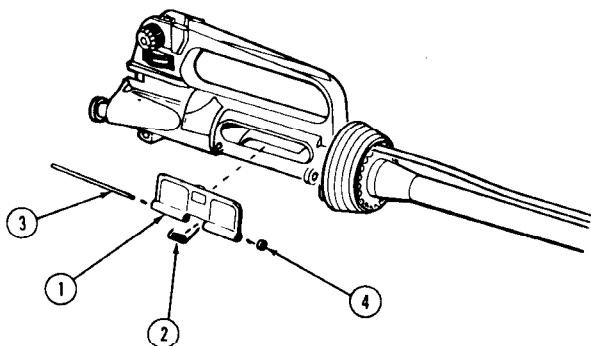
REPAIR			
Upper Receiver and Barrel Assembly	All authorized items	Replace if unserviceable.	

REASSEMBLY			
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NOTE

Use a new retaining ring, if available.

Upper Receiver and Barrel Assembly	Ejection port cover (1), helical spring (2), ejection port cover pin (3), and retaining ring (4)	Position cover and spring. Slide in cover pin and install retaining ring using tweezers or round nose pliers to position ring.	Long leg of spring must be twisted once or pretensioned and positioned before the pin is completely installed. Place short leg to the rear on inside of cover as the pin enters the spring slot of the cover (approximately 1/4 inch). Twist the long leg 1/2 turn (180 degrees) with fingers of the right hand; hold the long leg against the cover (spring now under tension) while pushing on rear of pin to complete installation. Check for proper spring tension on cover before installing retaining ring.
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2-17. LOWER RECEIVER AND BUTTSTOCK ASSEMBLY (ORGANIZATIONAL).

This task covers:

- | | |
|----------------|----------------|
| a. Disassembly | d. Lubrication |
| b. Inspection | e. Reassembly |
| c. Repair | |

INITIAL SETUP

Tools

Small Arms Repairman Tool Kit
 NSN 5180-00-357-7770/SL-3-00607A
 Pivot Pin Removing Tool (E-3, app E)
 Pivot Pin Installation Tool (E-6, app E)

Materials/Parts

Cleaner, lubricant and preservative (CLP)
 (item 6, app D)

General Safety Instructions

To avoid injury to your eye, use care when removing and installing spring-loaded parts.

Do not interchange bolt assemblies or other components from one weapon to another. Doing so may result in injury to, or death of, personnel.

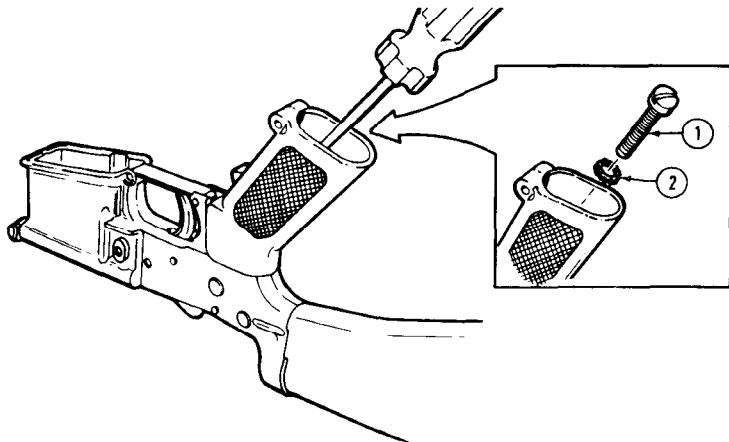
LOCATION	ITEM	ACTION	REMARKS
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DISASSEMBLY

Lower Receiver and
Buttstock Assembly

- a. Machine screw (1) and
lock washer (2)

Using screwdriver, reach inside
rifle grip and remove screw and
lock washer.



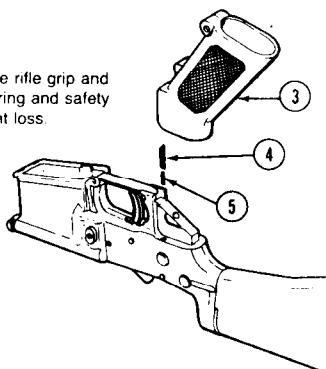
2-17. LOWER RECEIVER AND BUTTSTOCK ASSEMBLY (ORGANIZATINAL) (CONT).

LOCATION	ITEM	ACTION	REMARKS
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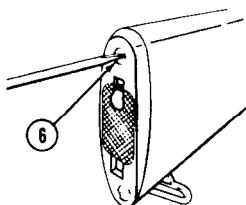
DISASSEMBLY (CONT)

- b. Rifle grip (3), helical spring (4), and safety detent (5)

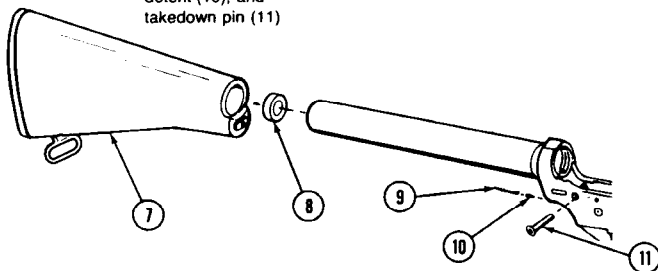
Carefully remove rifle grip and catch helical spring and safety detent to prevent loss.



- c. Self-locking screw (6) Remove.



- d. Buttstock assembly (7), stepped spacer (8), helical spring (9), takedown pin detent (10), and takedown pin (11)
- Remove stock carefully and catch helical spring, detent, and takedown pin to prevent loss.



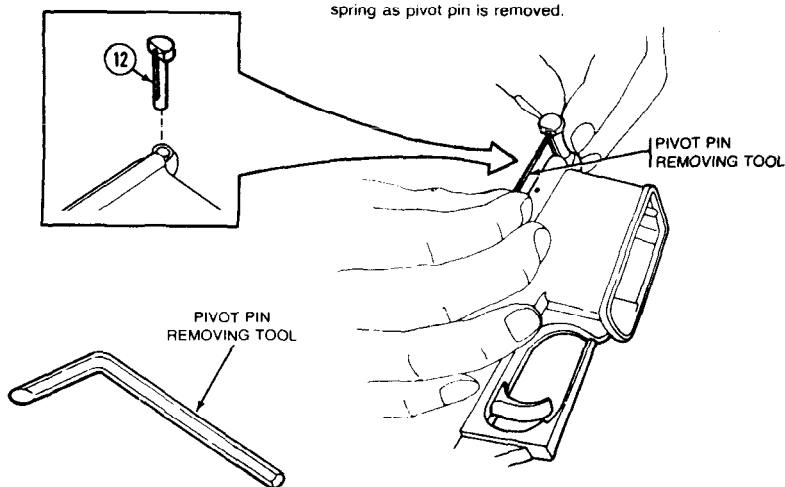
LOCATION	ITEM	ACTION	REMARKS
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WARNING

To avoid injury to your eye, use care when removing and installing spring-loaded parts.

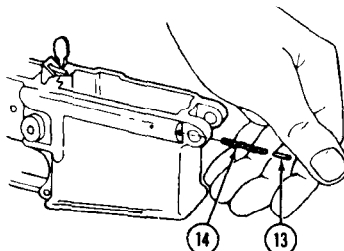
e. Pivot pin (12)

Insert pivot pin removing tool (E-3, app E) to compress detent. Turn pin a quarter-turn. Remove tool and pin. Catch detent and spring as pivot pin is removed.



f. Pivot pin detent (13) and helical spring (14)

Be sure to hold cupped hand in front of detent and helical spring to prevent loss of detent and spring.



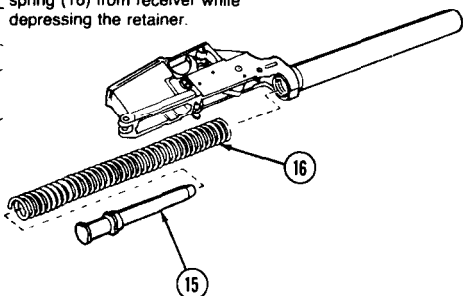
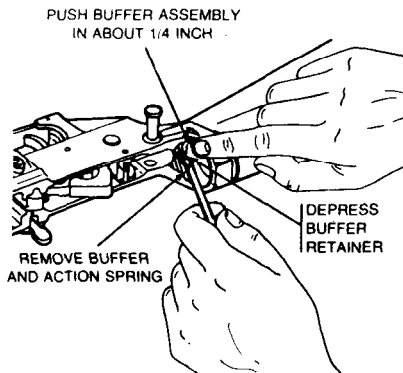
2-17. LOWER RECEIVER AND BUTTSTOCK ASSEMBLY (ORGANIZATIONAL) (CONT).

LOCATION	ITEM	ACTION	REMARKS
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DISASSEMBLY (CONT)

- g. Buffer assembly (15) and action spring (16)

Press buffer assembly in. Using screwdriver, depress buffer retainer and release buffer (15) and action spring (16). Remove buffer assembly (15) and action spring (16) from receiver while depressing the retainer.



NOTE

Early type buffer assembly must be replaced.



INSPECTION

Lower Receiver and Buttstock Assembly

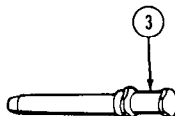
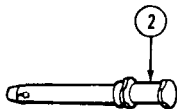
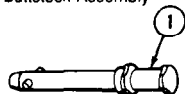
- a. Buffer assembly

The buffer assembly must not be cracked between hole and end of housing.

Some old buffers (1) have a pin through hole which protrudes equally on each side approximately 1/32 of an inch.

Some buffers (2) have a hole in the housing but no pin. Discard these.

New buffers (3) do not have a hole in buffer body or a pin.



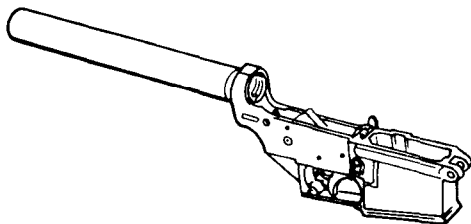
LOCATION	ITEM	ACTION	REMARKS
----------	------	--------	---------

- | | |
|------------------|---|
| b. Action spring | The free length of the action spring must be between 11 3/4 inches minimum and 13 1/2 inches maximum. |
|------------------|---|



- | | |
|---|---------------------------------------|
| c. Lower receiver (without further disassembly) | Inspect serial number for legibility. |
|---|---------------------------------------|

If the serial number is hard to read, notify depot maintenance. Only depot maintenance is authorized to restamp the serial number.



Inspect for missing or damaged parts. Inspect finish of lower receiver for shiny spots.

Touch up with solid film lubricant.

REPAIR

Lower Receiver and Buttstock Assembly

All authorized items

Replace if unserviceable.

Perform test on page 2-45. Test must not fail. Evacuate any damaged parts to intermediate maintenance.

LUBRICATION

Lower Receiver and Buttstock Assembly

All metal parts.

Apply a light coat of CLP (item 6, app D) on all metal components.

2-17. LOWER RECEIVER AND BUTTSTOCK ASSEMBLY (ORGANIZATIONAL) (CONT).

LOCATION	ITEM	ACTION	REMARKS
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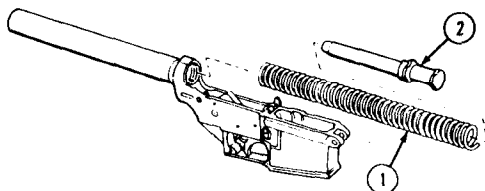
REASSEMBLY

WARNING

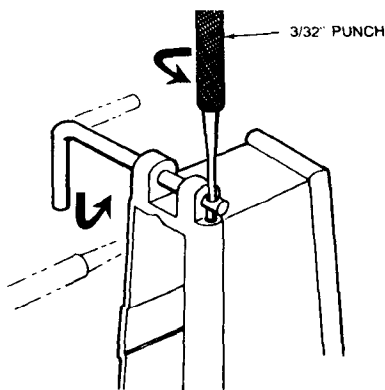
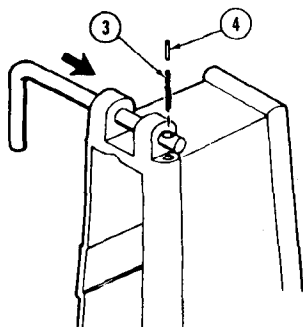
To avoid injury to your eye, use care when removing and installing spring-loaded parts.

Do not interchange bolt assemblies or other components from one weapon to another. Doing so may result in injury to, or death of, personnel.

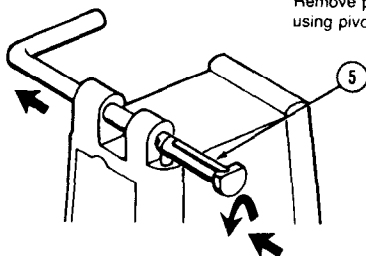
- | | | |
|--|---|--|
| Lower Receiver and
Buttstock Assembly | a. Action spring (1) and
buffer assembly (2) | Press in until retainer snaps up
and holds action spring and
buffer assembly in place. |
|--|---|--|



- | | |
|--|---|
| b. Helical spring (3),
pivot pin detent (4),
and pivot pin (5) | Install pivot pin installation
tool (E-6, app E). Insert spring and
detent. Compress detent in
recess with punch and rotate
tool. |
|--|---|



LOCATION	ITEM	ACTION	REMARKS
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Remove punch. Push out tool using pivot pin (5).

Rounded end of detent must be in the groove of the pivot pin when assembly is complete.

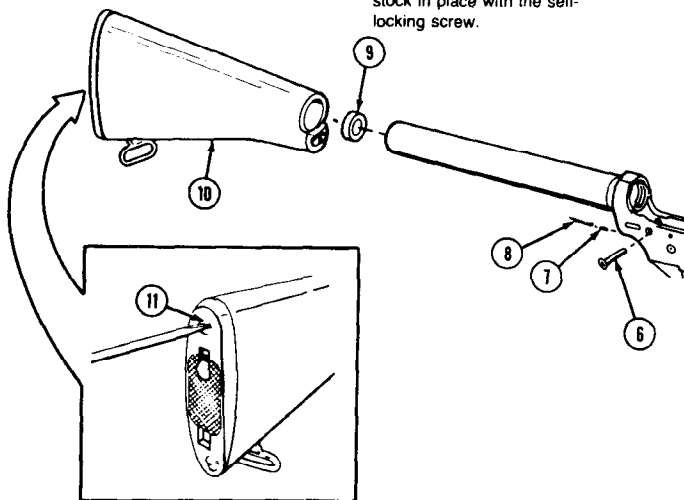
Lower Receiver and Buttstock Assembly

- c. Takedown pin (6), takedown pin detent (7), helical spring (8), stepped spacer (9), buttstock assembly (10), and self-locking screw (11)

Install takedown pin with groove to the rear. Install detent and spring from the rear. Install spacer on receiver extension. Begin to install buttstock assembly. Carefully compress the spring with stock and secure the stock in place with the self-locking screw.

CAUTION

Do not kink the detent spring (8) during assembly.



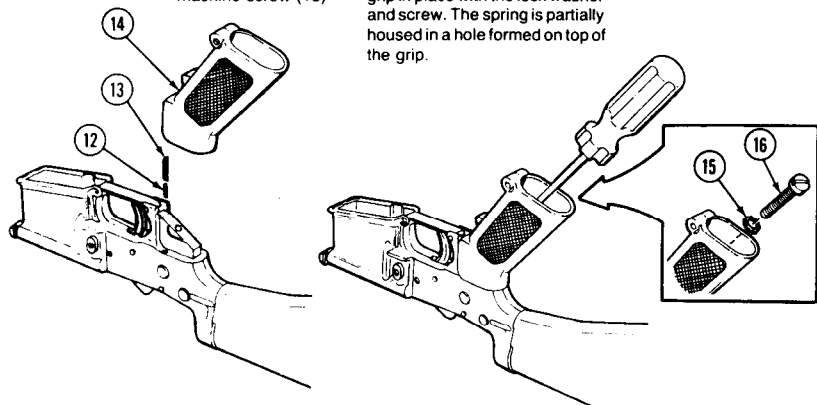
2-17. LOWER RECEIVER AND BUTTSTOCK ASSEMBLY (ORGANIZATIONAL) (CONT).

LOCATION	ITEM	ACTION	REMARKS
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REASSEMBLY (CONT)

- d. Safety detent (12), helical spring (13), rifle grip (14), lock washer (15), and machine screw (16)

Install detent, pointed end first, and spring from the bottom. Carefully compress the spring with the rifle grip and secure the grip in place with the lock washer and screw. The spring is partially housed in a hole formed on top of the grip.

**2-18. BUTTSTOCK ASSEMBLY (ORGANIZATIONAL).**

This task covers:

- a. Disassembly
- b. Inspection
- c. Repair

- d. Lubrication
- e. Reassembly

INITIAL SETUP**Tools**

Small Arms Repairman's Tool Kit
NSN 5180-00-357-7770/SL-3-00607A

Materials/Parts

Cleaner, lubricant and preservative (CLP)
(item 6, app D)

Equipment Condition

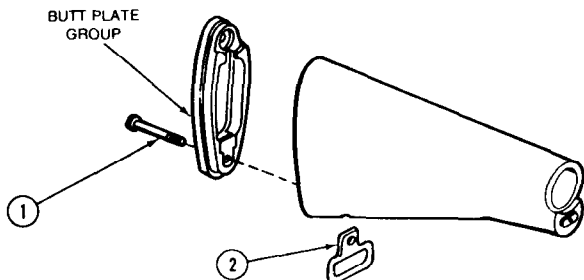
Buttstock assembly removed from lower receiver and buttstock assembly.

LOCATION	ITEM	ACTION	REMARKS
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DISASSEMBLY

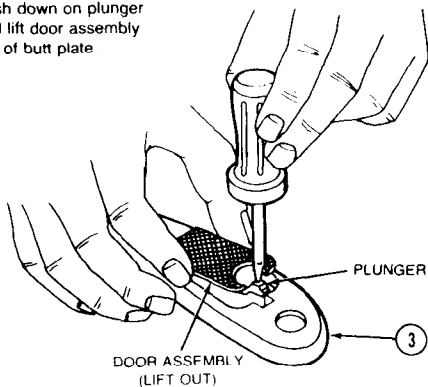
- Buttstock Assembly a. Self-locking screw (1)
and small sling
swivel (2)

Using screwdriver, remove
self-locking screw, small sling
swivel, and butt plate group.



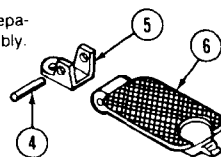
- b. Butt plate (3)

Push down on plunger
and lift door assembly
out of butt plate



- c. Straight pin (4),
hinge (5), and door
assembly (6)

Remove straight pin and sepa-
rate hinge and door assembly.

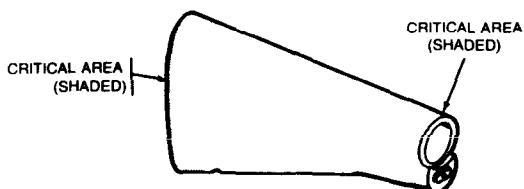


2-18. BUTTSTOCK ASSEMBLY (ORGANIZATIONAL) (CONT).

LOCATION	ITEM	ACTION	REMARKS
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INSPECTION

Buttstock Assembly	Stock	Inspect stock for cracks. Report cracked stocks and evacuate to intermediate support.	Report cracked stock in accordance with TM 4700-15/1. Also submit SF 368, Quality Deficiency Report.
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REPAIR

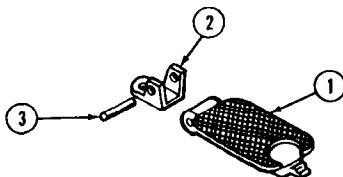
Buttstock Assembly	All authorized items	Replace unserviceable items.	Unserviceable items are those items which are damaged.
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LUBRICATION

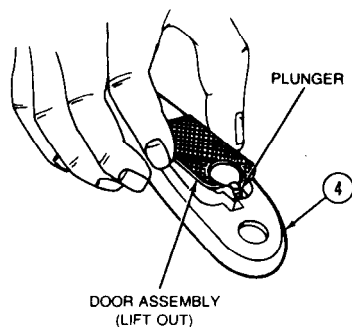
Buttstock Assembly	Stock	Lubricate all metal components with CLP (item 6, app D).	
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REASSEMBLY

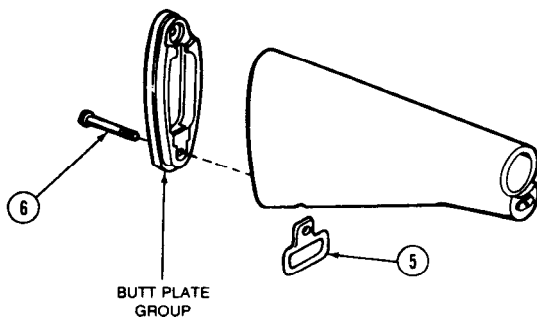
Buttstock Assembly	a. Door assembly (1), hinge (2), and straight pin (3)	Position hinge on door assembly and install straight pin.	
--------------------	---	---	--



LOCATION	ITEM	ACTION	REMARKS
	b. Butt plate (4)	Install door assembly into butt plate and press plunger to lock.	



- | | | |
|--|--|---|
| c. Small sling swivel (5) and self-locking screw (6) | Position butt plate group and rear sling swivel to the buttstock and secure with self-locking screw (6). | See page 2-39 for reassembly of buttstock assembly to lower receiver. |
|--|--|---|



2-19. MAJOR COMPONENTS OF M16A2 RIFLE.

This task covers:

- a. Reassembly
- b. Organizational Test
- c. Organizational Stowage

INITIAL SETUP

References

TM 05538C-10/1

Equipment Condition

Page 2-17, weapon disassembled into major components.

General Safety Instructions

Do not interchange bolt assemblies or components from one weapon to another. Doing so may result in injury to, or death of, personnel.

Do not keep live ammunition near the work area.

LOCATION	ITEM	ACTION	REMARKS
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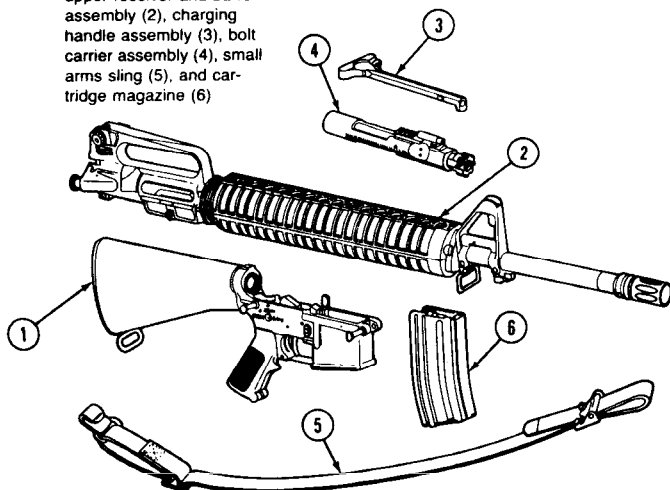
REASSEMBLY

Weapon

Lower receiver and buttstock assembly (1), upper receiver and barrel assembly (2), charging handle assembly (3), bolt carrier assembly (4), small arms sling (5), and cartridge magazine (6)

Install.

Refer to TM 05538C-10/1.



LOCATION	ITEM	ACTION	REMARKS
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ORGANIZATIONAL TEST

Weapon

		Function test as follows:	
a. Charging handle assembly		Pull to rear. Check that chamber is clear. Let bolt and bolt carrier close.	Do not pull trigger. Leave hammer in cocked position.
b. Selector lever		Place in SAFE position and pull trigger.	Hammer should not fall.
c. Selector lever		Place in SEMI position and pull trigger.	Hammer should fall.
		Hold trigger to the rear, cock weapon, and release trigger. Squeeze trigger.	Hammer should fall.
d. Selector lever		Place in BURST position. Cock weapon and squeeze trigger.	Hammer should fall.
		While holding the trigger to the rear, pull the charging handle assembly to the rear and release it three times. Release the trigger.	Hammer should not fall. The burst disconnector should have held the hammer to the rear while the trigger was in the squeezed position.
		Squeeze the trigger.	Hammer should fall. This should be the first round of a three-round burst.

ORGANIZATIONAL STOWAGE

Weapon

Rifle

Prior to stowing the rifle in arms room, perform the following procedures:	Rifles passed into arms room issue window should be passed butt first with the bolt locked to the rear.
Clear.	Refer to TM 05538C-10/1.
Place selector in SEMI. Point in safe direction.	
Squeeze trigger.	Hammer should fall.
Close ejection port (dust) cover.	
Place rifle in rack.	

CHAPTER 3 INTERMEDIATE MAINTENANCE INSTRUCTIONS

CHAPTER OVERVIEW

Chapter 3 contains information and instructions to help keep the weapon in good repair. This chapter contains

- a Repair Parts and Special Tools
- b Service Upon Receipt
- c Intermediate Troubleshooting
- d Intermediate Maintenance Procedures for the M16A2 Rifle

Section I. REPAIR PARTS AND SPECIAL TOOLS

3-1. COMMON TOOLS AND EQUIPMENT. For authorized common tools and equipment, see SL-3-00607A.

3-3. REPAIR PARTS. Repair parts are listed and illustrated in appendix C.

3-2. SPECIAL TOOLS. Special tools required for intermediate maintenance are listed in appendix C and fabricated tools are listed and illustrated in appendix E.

Section II. SERVICE UPON RECEIPT

3-4. GENERAL.

a. Check the weapon against the packing slip to see if the shipment is complete. Report all discrepancies in accordance with MCO P4610.19C.

b. Check to see if all modification instructions have been applied.

3-5. INTERMEDIATE SERVICE UPON RECEIPT OF MATERIEL.

Refer to the following table.

SERVICE UPON RECEIPT - M16A2 RIFLE

LOCATION	ITEM	ACTION	REMARKS
M16A2 Rifle	Charging handle assembly	Clear the weapon.	Refer to TM 05538C-10/1.

WARNING

To avoid injury to your eye, use care when removing and installing spring-loaded parts.

Bolt carrier assembly and bolt assembly	Remove.	Refer to TM 05538C-10/1.
All components	Visually inspect for proper assembly, damage, or missing parts. Clean and lubricate.	Refer to TM 05538C-10/1.
Bolt carrier assembly and bolt assembly	Reassemble.	Refer to TM 05538C-10/1.
	Hand function to assure proper operation.	
Cartridge magazine	Insert empty magazine and pull the bolt to the rear. Check magazine for positive retention and check functioning of bolt catch by assuring that bolt locks to the rear with empty magazine inserted.	Refer to TM 05538C-10/1.

Section III. INTERMEDIATE TROUBLESHOOTING

3-6. GENERAL.

a. This section contains intermediate troubleshooting information for locating and correcting most of the operating troubles which may develop in the weapon. Each malfunction for the individual component, unit, or system is followed by a list of tests or inspections which will help you to determine the corrective actions to take. You should perform the tests/inspections and corrective actions in the order listed.

b. This manual cannot list all malfunctions that may occur, nor all tests or inspections and corrective actions. If a malfunction is not listed or is not corrected by listed corrective actions, see individual repair sections for maintenance instructions on each major assembly.

3-7. TROUBLESHOOTING PROCEDURES.

Refer to troubleshooting table for malfunctions, tests, and corrective actions. The symptom index is provided for a quick reference of symptoms covered in the table.

SYMPTOM INDEX

	Troubleshooting Procedure Page
Bolt fails to lock to rear after firing last round	3-7
Failure of magazine to lock in weapon	3-5
Failure to chamber	3-5
Failure to cock in either semi or burst mode	3-4
Failure to cycle with selector lever set at BURST	3-8
Failure to eject	3-4
Failure to extract	3-4
Failure to feed	3-5
Failure to fire	3-3
Failure to lock	3-6
Failure to unlock	3-4
Fires two rounds in SEMI selector position (doubling)	3-9
Fires with selector lever on SAFE or when trigger is released with selector lever on SEMI	3-9
Hammer pin "walks"	3-9
Short recoil	3-6
Weapon cannot be zeroed	3-8

INTERMEDIATE TROUBLESHOOTING

MALFUNCTION

TEST OR INSPECTION

CORRECTIVE ACTION

1. FAILURE TO FIRE.

Step 1. Broken hammer (1).

Replace hammer (1).

Step 2. Weak or broken hammer spring (2).

Replace spring (2).

Step 3. Hammer spring (2) improperly assembled.

Reassemble correctly (p 3-64).

Step 4. Burst cam (3) and/or clutch spring (4) frozen or improperly assembled.

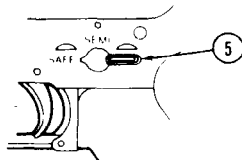
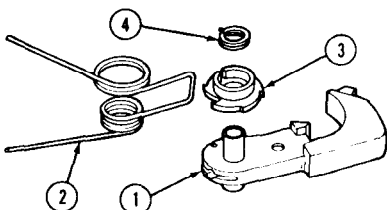
Disassemble, clean, lubricate, and reassemble correctly.

Step 5. Selector lever (5) frozen on SAFE position.

Disassemble and clean.

Step 6. Broken firing pin (6) or firing pin does not meet gage protrusion requirement.

Replace.



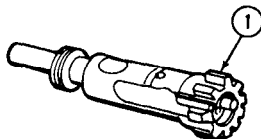
INTERMEDIATE TROUBLESHOOTING (CONT)

MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
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2. FAILURE TO UNLOCK.

Step 1. Burred locking lugs (1) on bolt assembly.

Remove burrs.



Step 2. Burred lugs (2) on barrel extension.

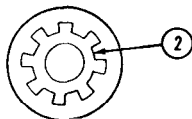
Remove burrs.

Step 3. See short recoil.

3. FAILURE TO EXTRACT.

Step 1. Inspect extractor and extractor spring.

Replace if cracked or broken. Refer to page 2-20.



Step 2. Inspect badly pitted chamber with reflector tool.

Replace rifle barrel assembly if chamber is badly pitted. Refer to page 3-28.

4. FAILURE TO EJECT.

See short recoil.

5. FAILURE TO COCK IN EITHER SEMI OR BURST MODE.

Step 1. Worn or broken trigger nose (1) or trigger spring (2).

Replace trigger (3) or defective trigger spring (2).

Step 2. Worn or broken hammer trigger notch (4).

Replace hammer (5).

Step 3. Worn or broken hammer disconnecter hook (6).

Replace hammer (5).

Step 4. Worn or broken hammer automatic sear hook (7).

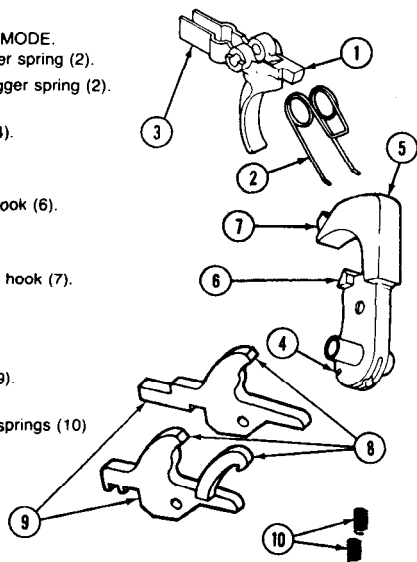
Replace hammer (5).

Step 5. Worn or broken disconnecter hooks (8).

Replace defective disconnecters (9).

Step 6. Weak, broken, or missing disconnecter springs (10).

Replace springs (10).



INTERMEDIATE TROUBLESHOOTING (CONT)

MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
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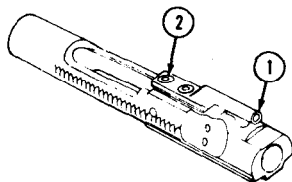
9. FAILURE TO LOCK

Step 1. Damaged bolt carrier key (1).

Repair or replace bolt carrier key (1) and check alinement.

Step 2. Loose screws (2) on bolt carrier key (1).

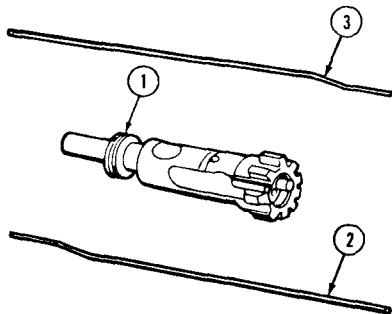
Disassemble and repair (p 3-19).
Reassemble using new screws.



Step 3. Bent gas tube (3).

Adjust by bending tube in area of handguards.
Replace gas tube (3) and check alinement.

Step 4. See short recoil.



10. SHORT RECOIL.

Step 1. Improper gap space or worn, missing, or broken bolt rings (1).

Replace bolt rings and stagger gaps.

Step 2. Broken or bent gas tube (2).

Adjust by bending in area of handguards or replace gas tube.

Step 3. Gas tube spring pin (3) missing from front sight (4).

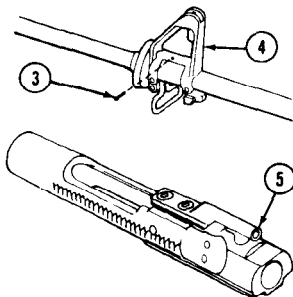
Replace spring pin (3).

Step 4. Partially plugged gas system because of carbon buildup in the gas tube (2).

Replace gas tube (2).

Step 5. Carbon buildup or foreign matter in the narrow passage of the bolt carrier key (5).

Clean with CLP (item 6, app D) and a pipe cleaner (item 7, app D).



INTERMEDIATE TROUBLESHOOTING (CONT)

MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
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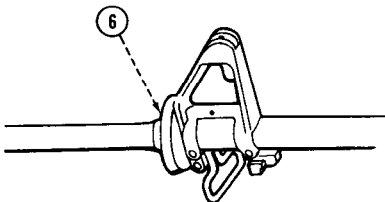
WARNING

When using P-C-111, avoid skin contact. If it comes in contact with the skin, wash off thoroughly with running water. The use of a good lanolin base cream after exposure to compound is helpful. The use of gloves and protective equipment is required.

Step 6. Carbon buildup in barrel gas port (6).

Remove carbon buildup by soaking in P-C-111 (item 5, app D). Use rubber gloves (item 19, app D) with P-C-111.

Use .50 caliber firing pin hole brush (item 3, app D).

**11. BOLT FAILS TO LOCK TO REAR AFTER FIRING LAST ROUND.****Step 1. Broken bolt catch (1).**

Replace bolt catch (1).

Step 2. Weak or broken bolt catch spring (2).

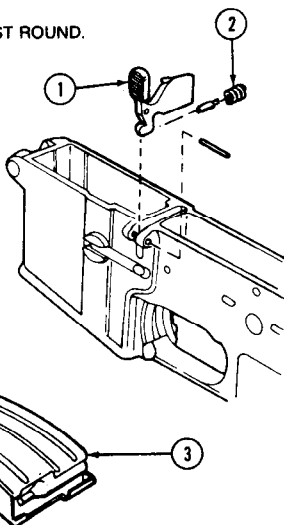
Replace bolt catch spring (2).

Step 3. Restricted movement of bolt catch (1).

Disassemble and clean.

Step 4. Weak action on follower by magazine spring.

Replace magazine (3).



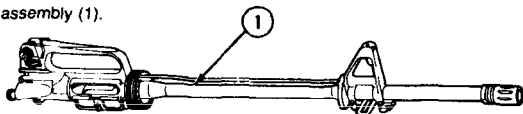
INTERMEDIATE TROUBLESHOOTING (CONT)

MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
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12. WEAPON CANNOT BE ZEROED.

Step 1. Defective or bent rifle barrel assembly (1).

Replace rifle barrel assembly (1).

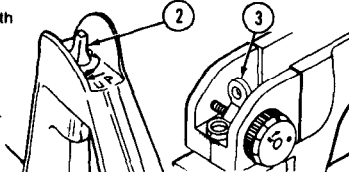


Step 2. (For windage) barrel assembly out of alignment with rear sight on upper receiver.

Align barrel and upper receiver (p 3-33).

Step 3. (For elevation) corroded front (2) or rear (3) sights.

Disassemble, clean, and lubricate.



13. FAILURE TO CYCLE WITH SELECTOR LEVER SET AT BURST.

Step 1. Broken automatic sear (1) or spring (2).

Replace automatic sear (1).

Step 2. Faulty selector lever (3).

Replace selector lever (3).

Step 3. Broken tooth on burst cam (4).

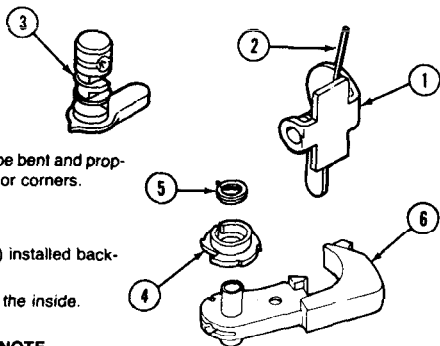
Replace burst cam (4).

Step 4. Broken cam clutch spring (5). Should be bent and properly formed without any sharp edges or corners.

Inspect and replace if required.

Step 5. The bend in the cam clutch spring (5) installed backwards (toward outside).

Install properly with the bend to the inside.



NOTE

When hammer is rotated back to cocked position, cam should rotate to allow the burst disconnect to index in the next notch.

Step 6. Cam clutch spring (5) fails to "clutch" and burst cam (4) fails to rotate back with hammer.

Replace cam clutch spring (5). If problem continues, replace hammer (6) and cam (4).

Step 7. Short recoil.

See malfunction 10.

INTERMEDIATE TROUBLESHOOTING (CONT)

MALFUNCTION

TEST OR INSPECTION

CORRECTIVE ACTION

14. FIRES WITH SELECTOR LEVER ON SAFE OR WHEN TRIGGER IS RELEASED WITH SELECTOR LEVER ON SEMI.

Step 1. Worn or broken hammer trigger nose (1).

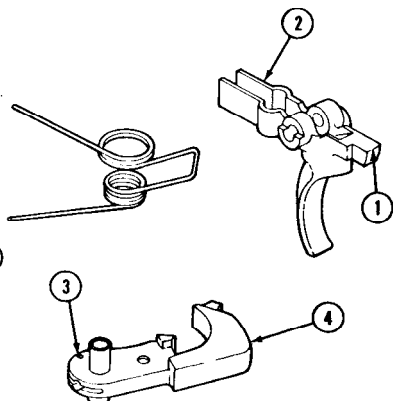
Replace trigger (2).

Step 2. Worn or broken hammer trigger notch (3).

Replace firing hammer (4).

Step 3. Defective selector.

Replace selector (5).



15. FIRES TWO ROUNDS WITH SELECTOR LEVER ON SEMI (DOUBLING).

Step 1. Check for worn semiautomatic disconnect, hammer, or trigger.

Replace unserviceable parts.

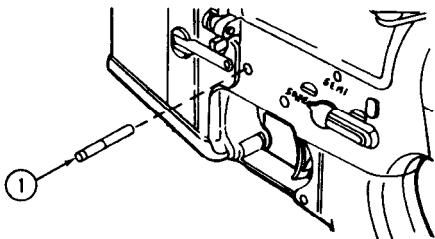
Step 2. Worn trigger or hammer pin hole. Gage trigger and hammer pin holes.

If gage 12006472 enters any of the four holes (p 3-58), replace weapon.

16. HAMMER PIN "WALKS."

Hammer pin (1) "walks" or works loose during firing or hammer pin is very easy to push out of receiver when hammer is installed.

Replace hammer assembly (p 3-59).



Section IV. INTERMEDIATE MAINTENANCE PROCEDURES FOR THE M16A2 RIFLE

3-8. MAJOR COMPONENTS OF M16A2 RIFLE.

This task covers disassembly.

INITIAL SETUP

Tools

Small Arms Repairman Tool Kit
NSN 5180-00-357-7770/SL-3-00607A

M16 Series and M231 Firing Port Weapon Direct
Support and General Support Maintenance for
5.56-mm Rifle Tool and Gage Set
NSN 4933-00-056-7106/SL-3-06229A

References

TM 05538C-10/1

Equipment Condition

Weapon assembled

General Safety Instructions

Before starting an inspection, be sure to clear the weapon. Do not actuate the trigger until the rifle has been cleared. Inspect the chamber to ensure that it is empty and no ammunition is in position to be chambered. Do not keep live ammunition near work area.

Do not interchange bolt assemblies or components from one weapon to another. Doing so may result in injury to, or death of, personnel.

LOCATION	ITEM	ACTION	REMARKS
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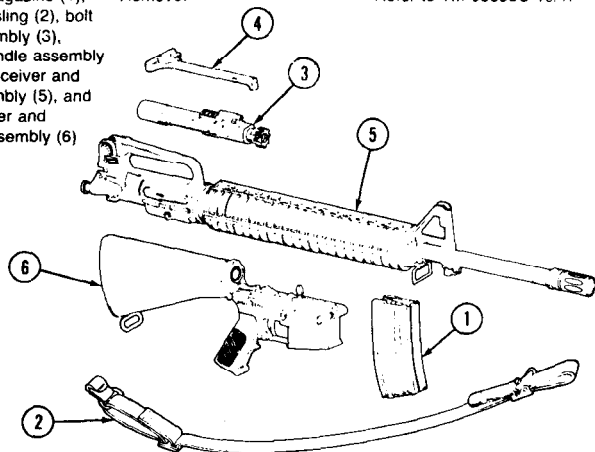
DISASSEMBLY

Weapon

Cartridge magazine (1),
small arms sling (2), bolt
carrier assembly (3),
charging handle assembly
(4), upper receiver and
barrel assembly (5), and
lower receiver and
buttstock assembly (6)

Remove.

Refer to TM 05538C-10/1.



3-9. BOLT CARRIER ASSEMBLY (INTERMEDIATE).

This task covers:

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

INITIAL SETUP

Tools

Small Arms Repairman Tool Kit
NSN 5180-00-357-7770/
SL-3-00607A

M16 Series and M231 Firing Port Weapon Direct
Support and General Support Maintenance for
5 56-mm Rifle Tool and Gage Set
NSN 4933-00-056-7106/SL-3-06229A

Materials/Parts

Cleaner, lubricant and preservative (CLP)
(item 6, app D)
Pipe cleaner (item 7, app D)

Equipment Condition

Page	Condition Description
3-10	Bolt carrier assembly removed

General Safety Instructions

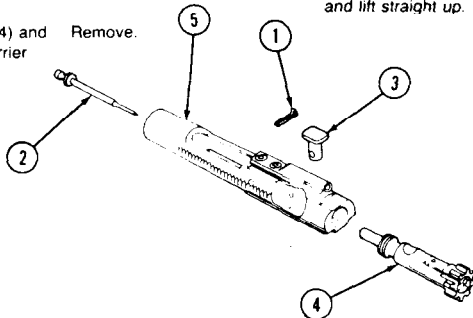
Do not interchange bolt assemblies or components from one weapon to another. Doing so may result in injury to, or death of, personnel.

LOCATION	ITEM	ACTION	REMARKS
----------	------	--------	---------

DISASSEMBLY

- | | | |
|-----------------------|--|---------|
| Bolt Carrier Assembly | a. Firing pin retaining pin (1) | Remove. |
| | b. Firing pin (2) | Remove. |
| | c. Bolt cam pin (3) | Remove. |
| | d. Bolt assembly (4) and key and bolt carrier assembly (5) | Remove. |

Tip bolt carrier and key allowing firing pin to drop out. Catch the firing pin.
Rotate bolt cam pin 1/4 turn and lift straight up.



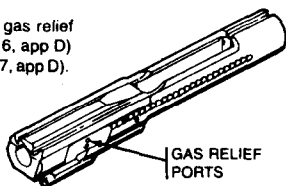
3-9. BOLT CARRIER ASSEMBLY (INTERMEDIATE) (CONT).

LOCATION	ITEM	ACTION	REMARKS
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CLEANING

Bolt Carrier Assembly Key and bolt carrier assembly

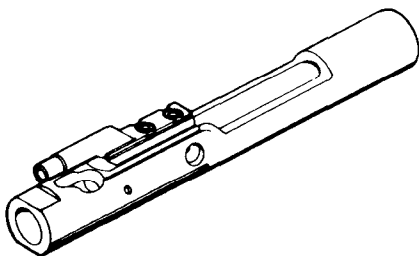
Clean carrier key and gas relief ports using CLP (item 6, app D) and pipe cleaner (item 7, app D).



INSPECTION

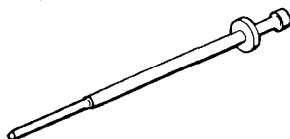
Bolt Carrier Assembly a. Key and bolt carrier assembly

Check carrier and key screws for tightness and for proper staking.



b. Firing pin

Inspect tip for proper contour. Inspect for pitting, wear, and burrs.



LOCATION	ITEM	ACTION	REMARKS
	c. Bolt assembly	Inspect for wear, burrs, and pits.	Replace the bolt assembly if it contains a cluster of pits approximately 1/8 inch in diameter and if the pits appear to be more than 0.010 inch deep.
	UNSERVICEABLE	SERVICEABLE	Bolts that contain very small individual pits in a scattered pattern shall not be cause for rejection.
	d. Bolt carrier assembly and bolt assembly	Exercise bolt in bolt carrier assembly.	Prior to reassembly, insert bolt assembly in bolt carrier assembly (do not insert cam pin) and exercise bolt in and out of bolt carrier assembly. Check for binding.
		Check for proper fit with cam pin removed. Turn bolt carrier assembly and suspend so the bolt assembly is pointed down.	The bolt must not drop out. If weight of bolt assembly allows it to drop out of carrier assembly, replace bolt rings.

3-9. BOLT CARRIER ASSEMBLY (INTERMEDIATE) (CONT).

LOCATION	ITEM	ACTION	REMARKS
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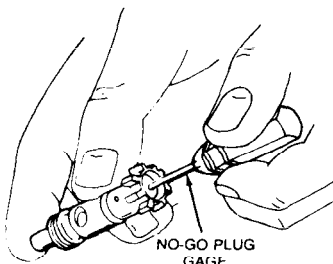
TEST

Bolt Assembly

Bolt assembly

Test firing pin hole for elongated and oversized holes.

Bolts that have elongated or oversized holes that permit special no-go plug gage 12620101 to penetrate fully at any position on the circumference of the firing pin hole will be rejected.



Replace bolt assembly if firing pin hole is elongated or oversized.

Bolt assembly

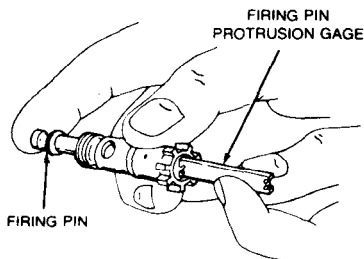
Using firing pin protrusion gage 7799735, check for proper firing pin protrusion.

Insert firing pin through bolt assembly.

Firing pin should touch the gage on minimum but should not touch on maximum.

Replace defective firing pin.

Large diameter portion of firing pin should contact rear of bolt.



REPAIR

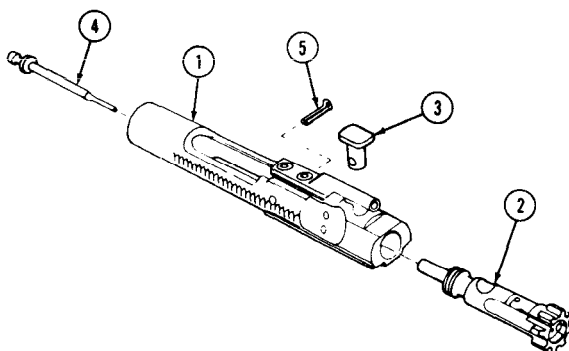
Bolt Carrier Assembly All authorized items

Replace if unserviceable.
Retest all replaced parts.

LOCATION	ITEM	ACTION	REMARKS
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REASSEMBLY

- | | | | |
|-----------------------|--|----------|--|
| Bolt Carrier Assembly | a. Key and bolt carrier assembly (1) and bolt assembly (2) | Install. | |
| | b. Bolt cam pin (3) | Install. | Install and rotate a quarter turn. |
| | c. Firing pin (4) | Install. | Hold carrier with bolt assembly down and drop in firing pin. |



- | | | |
|---------------------------------|----------|---|
| d. Firing pin retaining pin (5) | Install. | Install from the left side only to ensure proper installation of firing pin retaining pin. Attempt to shake out firing pin. |
|---------------------------------|----------|---|

3-10. BOLT ASSEMBLY (INTERMEDIATE).

This task covers:

- a. Disassembly
- b. Inspection/Repair
- c. Reassembly

INITIAL SETUP*Tools*

Small Arms Repairman Tool Kit
 NSN 5180-00-357-7770/SL-3-00607A
 M16 Series and M231 Firing Port Weapon
 Direct Support and General Support
 Maintenance for 5.56-mm Rifle Tool and
 Gage Set
 NSN 4933-00-056-7106/SL-3-06229A

Materials/Parts

Penetrant kit (item 19, app D)
 Wiping rag (item 20, app D)

Equipment Condition

Page	Condition	Description
3-11	Bolt carrier assembly removed	
3-11	Bolt assembly removed	

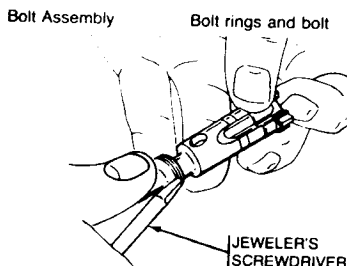
General Safety Instructions

Do not interchange bolt assemblies or other components from one weapon to another. Doing so may result in injury to, or death of, personnel.

LOCATION	ITEM	ACTION	REMARKS
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DISASSEMBLY**NOTE**

Do not remove rings unless they require replacement.



Using a small flat tip jeweler's screwdriver, remove the three bolt rings from the bolt.

Do not remove defective bolt rings unless new replacements (three) are on hand.

INSPECTION/REPAIR

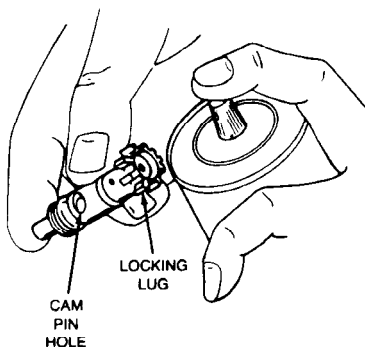
- Bolt Assembly
- a. Bolt rings

Visually inspect for cracks, kinks, and bends.

Replace if defective.

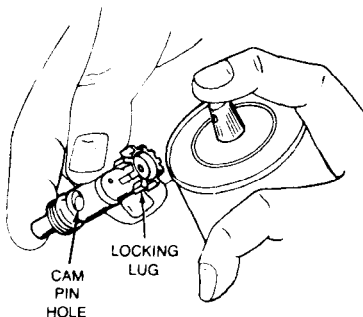
If one or more bolt rings are damaged, replace all three rings. See page 3-13 for wear check.

LOCATION	ITEM	ACTION	REMARKS
	b. Bolt	Inspect bolt for elongated or oversized firing pin hole using special no-go plug gage 12620101. Firing pin holes which permit the special no-go plug gage to fully penetrate at any position on the circumference will be rejected. Bolt face defects of large pits, or a cluster of pits, covering an area measuring approximately 1/8 inch across and more than approximately 0.010 inch deep, will be cause for rejection. Bolts that contain pits extending into the firing pin hole will be rejected. Rings on the bolt face (machine tool marks), grooves, or ridges less than approximately 0.010 inch will not be cause for rejection.	
	c. Bolt locking lugs and bolt cam pin hole	Inspect for cracks in the locking lugs and cam pin hole area. Use black light if available; otherwise, use a glass of no more than 3X magnification or use a penetrant kit (item 19, app D). Inspect for cracks (especially at base of locking lugs and cam pin hole area) using penetrant kit (item 19, app D) as follows: The area to be inspected must be clean, free of oil, etc. Spray a small amount of remover on the area to be inspected, let dry, and wipe off with a wiping rag (item 20, app D).	



3-10. BOLT ASSEMBLY (INTERMEDIATE) (CONT).

LOCATION	ITEM	ACTION	REMARKS
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INSPECTION/REPAIR (CONT)

Spray penetrant (only enough to wet the area) on the area of the component to be inspected.

Spray developer over the penetrant and let the developer work. Cracks will be indicated by a change in color where there is a crack. If there are cracks, the component is unserviceable.

If there are no cracks, spray remover on the area, let dry, and wipe off with a wiping rag (item 20, app D). Oil the area to prevent corrosion.

Pay close attention to the area where the locking lugs meet the body.

Replace bolt assembly if defective.

NOTE

Replacement of the bolt assembly will require that the headspace be tested.

REASSEMBLY

Bolt Assembly

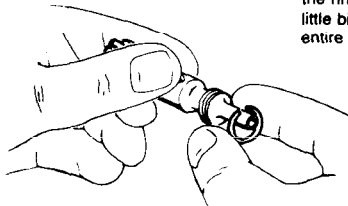
Bolt rings and bolt

NOTE: MAKE CERTAIN RING GAPS ARE STAGGERED TO PREVENT LOSS OF GAS PRESSURE.

NOTE: NEW RINGS WILL MAKE INSTALLING THE BOLT IN THE CARRIER DIFFICULT. LUBRICATE INSIDE OF CARRIER AND USE GENTLE PRESSURE WHEN INSTALLING.

Install the three bolt rings one at a time onto the bolt using care not to bend or "spring" new bolt rings. Stagger the bolt ring gaps to prevent loss of gas pressure.

To install a ring, carefully place one end in the bolt ring groove and hold in place with the thumb of one hand. With the index finger of the other hand, gently guide and push the rest of the ring into the groove a little bit at a time until the entire ring is in place.



3-11. KEY AND BOLT CARRIER ASSEMBLY (INTERMEDIATE).

This task covers:

- a. Disassembly
- b. Inspection/Repair
- c. Reassembly

INITIAL SETUP**Tools**

Field Maintenance Basic Less Power Small Arms
Shop Set SC 4933-95-CL-A11 (19204)
Small Arms Repairman Tool Kit
NSN 5180-00-357-7770/SL-3-00607A
Key tool (E-4, app E)

General Safety Instructions

Do not interchange bolt assemblies or other components from one weapon to another. Doing so may result in injury to, or death of, personnel.

Equipment Condition

Page	Condition Description
3-11	Key and bolt carrier assembly removed
3-11	Bolt assembly removed

LOCATION	ITEM	ACTION	REMARKS
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DISASSEMBLY

Key and Bolt Carrier Assembly

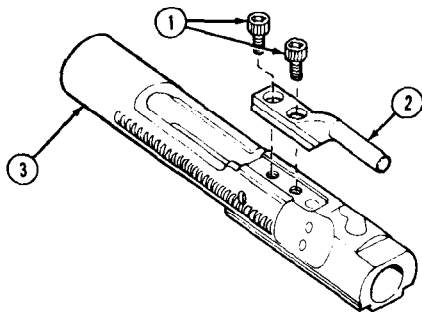
- a. Carrier and key screws (1)
- b. Bolt carrier key (2) from bolt carrier (3)

Using socket wrench handle and 1/8" socket head screw socket wrench attachment, remove the two socket head screws.
Remove.

Do not disassemble the key and bolt assembly unless the bolt carrier key or bolt carrier is defective.

Use a tight fitting 1/8" wrench as key screws are difficult to remove.

The heads and part of the key may be ground off in order to remove key from carrier if screws cannot be otherwise removed.

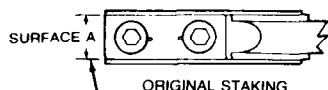


3-11. KEY AND BOLT CARRIER ASSEMBLY (INTERMEDIATE) (CONT).

LOCATION	ITEM	ACTION	REMARKS
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INSPECTION/REPAIR

Key and Bolt Carrier Assembly	a. Carrier and key screw	Inspect for looseness and proper staking.	Visually inspect the carrier and key screws for looseness and proper staking. Do not attempt to retorquing if there is no loosening of the screws indicated by the staking marks.
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ORIGINAL STAKING



SURFACE A

NOTE:
SURFACE "A" MUST NOT INDICATE DISTORTION OR DAMAGE WHICH IMPAIRS PARALLELISM.

NOTE:
SURFACE "A" MUST NOT INDICATE ANY LOSS OF PARALLELISM. A MAXIMUM OF 0.025 INCH PROTRUSION IN AN UPWARD DIRECTION IS PERMISSIBLE.



FIELD REPLACEMENT STAKING

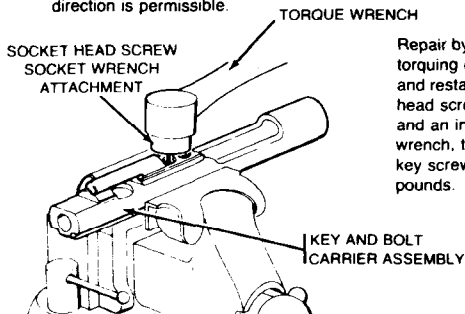


REVISED STAKING

NOTE

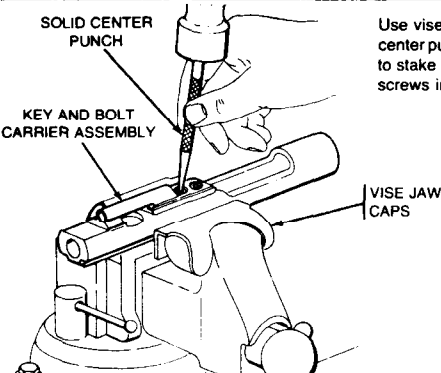
Surface "A" must not indicate distortion or damage which impairs parallelism.

Surface "A" must not indicate any loss of parallelism. A maximum of 0.025 inch protrusion in an upward direction is permissible.



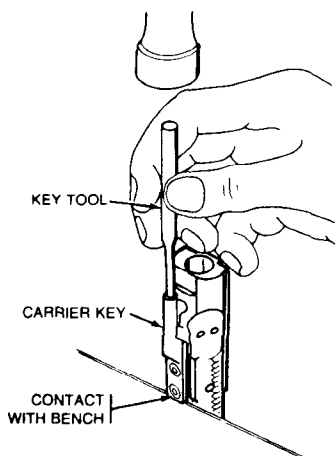
Repair by replacing screws and torquing carrier and key screws and restaking. Using the socket head screw wrench attachment and an inch/pound torque wrench, torque the carrier and key screws to 35 to 40 inch pounds.

Do not reuse old screws. New screws must be used at assembly. Use a tight-fitting 1/8" wrench.

LOCATION	ITEM	ACTION	REMARKS
	 SOLID CENTER PUNCH KEY AND BOLT CARRIER ASSEMBLY WISE JAW CAPS	Use vise jaw caps, vise, solid center punch, and hand hammer to stake the two carrier and key screws in three places.	Field staking method will be used by field units.

CAUTION

Extreme care must be exercised during the following procedure to assure 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 tube come together during functioning.

b. Key

Inspect for burrs, breaks, or bends.

Repair small dents and/or distortions using fabricated key tool (E-4, app E) as follows:

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

Insert the small end of the key tool (E-4, app E) into the tube portion of the key.

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

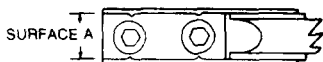
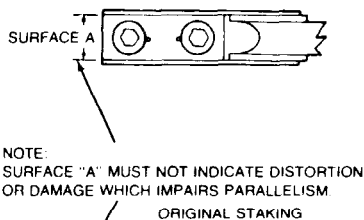
Repeat striking (gently) until the carrier key is reformed to original configuration.

3-11. KEY AND BOLT CARRIER ASSEMBLY (INTERMEDIATE) (CONT).

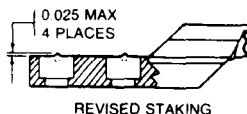
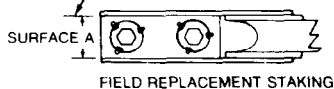
LOCATION	ITEM	ACTION	REMARKS
	c. Bolt carrier assembly	Inspect for burrs, cracks, and wear.	

REASSEMBLY

Key and Bolt Carrier Assembly	a. Bolt carrier key and bolt carrier	Install and position bolt carrier key onto bolt carrier.	
	b. Carrier and key screws	Install the two carrier and key screws. Torque and stake.	Always use new screws. See page 3-20 and below.



NOTE:
SURFACE "A" MUST NOT INDICATE ANY LOSS OF PARALLELISM. A MAXIMUM OF 0.025 INCH PROTRUSION IN AN UPWARD DIRECTION IS PERMISSIBLE



CAUTION

Blanks **must** be used if a BFA is attached.

NOTE

If the bolt carrier key is replaced, it may be necessary to create a seal between the bolt carrier and key by firing three through eight rounds. Manual operation of the rifle may be required.

3-12. UPPER RECEIVER AND BARREL ASSEMBLY (INTERMEDIATE).

This task covers:

- | | |
|------------------------|---------------|
| a. Disassembly | d. Reassembly |
| b. Inspection/Cleaning | e. Test |
| c. Repair | |

INITIAL SETUP

Applicable Configuration

All M16A2 rifles except as noted.

Test Equipment

M16 Series and M231 Firing Port Weapon Direct
Support and General Support Maintenance for
5.56-mm Rifle Tool and Gage Set
NSN 4933-00-056-7106/SL-3-06229A

Tools

Small Arms Repairman Tool Kit
NSN 5180-00-357-7770/SL-3-00607A
Field Maintenance Basic Less Power Small Arms
Shop Set SC 4933-95-CL-A11 (19204)

Materials Parts

Molybdenum disulfide grease (item 15, app D)
Carbon removing compound (P-C-111)
(item 5, app D)
Abrasive cloth (item 8, app D)
Solid film lubricant (item 17, app D)
Technical dichloromethane (item 11, app D)
Sealing compound (item 21, app D)
Dry cleaning solvent (item 12, app D)
Gloves (item 14, app D)
Firing pin hole brush (item 3, app D)
Target (item 23, app D)

References

FM 23-9
TM 05538C-10/1

Equipment Condition

Page	Condition	Description
3-10	Upper receiver and barrel assembly removed from lower receiver.	

General Safety Instructions

To avoid injury to your eye, use care when removing and installing spring-loaded parts.

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

When using P-C-111, avoid skin contact. If P-C-111 comes in contact with the skin, wash thoroughly with running water. Using a good lanolin base cream after exposure to the compound is helpful. Using gloves and protective equipment is required.

Do not interchange bolt assemblies or other components from one weapon to another. Doing so may result in injury to, or death of, personnel.

3-12. UPPER RECEIVER AND BARREL ASSEMBLY (INTERMEDIATE) (CONT).

LOCATION	ITEM	ACTION	REMARKS
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DISASSEMBLY

WARNING

To avoid injury to your eye, use care when removing and installing spring-loaded parts.

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

When using P-C-111, avoid skin contact. If P-C-111 comes in contact with the skin, wash thoroughly with running water. Using a good lanolin base cream after exposure to compound is helpful. Using gloves and protective equipment is required.

Do not interchange bolt assemblies or other components from one weapon to another. Doing so may result in injury to, or death of, personnel.

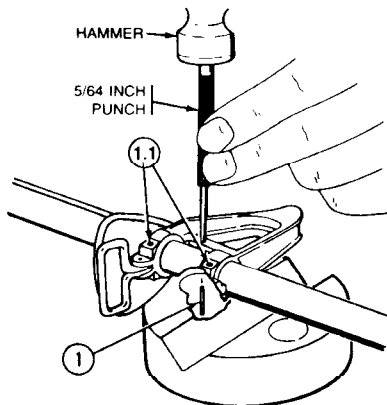
NOTE

Refer to TM 05538C-10/1 for "buddy system" procedure on removing handguards.

- | | | |
|---------------------------------------|-------------------|---|
| Upper Receiver and
Barrel Assembly | a. Handguards | Remove. |
| | b. Spring pin (1) | Remove. Using ballpeen hammer and 5/64 inch-diameter drive pin punch, drive spring pin out of front sight assembly. |

NOTE

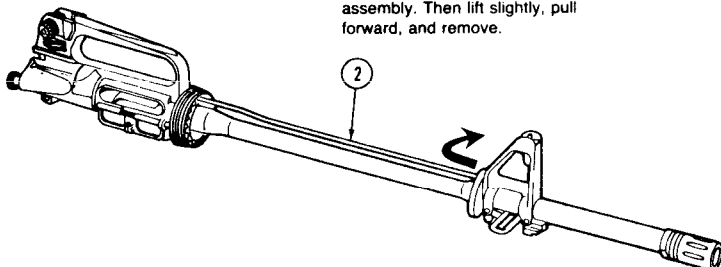
Do not disassemble front sight pins (1.1). If only one pin is missing or loose, replace it. If both pins are missing, replace barrel assembly.



LOCATION	ITEM	ACTION	REMARKS
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c. Gas tube (2)

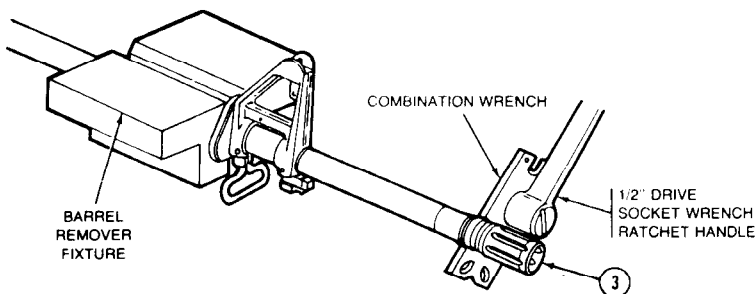
Remove. Slide gas tube back into receiver to clear front sight assembly. Then lift slightly, pull forward, and remove.



d. Compensator (3)

Remove. Using barrel remover fixture, place upper receiver and barrel assembly in vise.

Using combination wrench and 1/2 inch-drive handle, remove compensator.

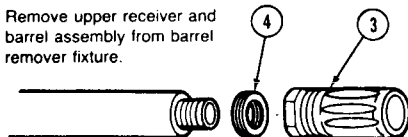


e. Peel washer (4)

Remove.

Do not lose or bend thin sections of peel washer.

Remove upper receiver and barrel assembly from barrel remover fixture.

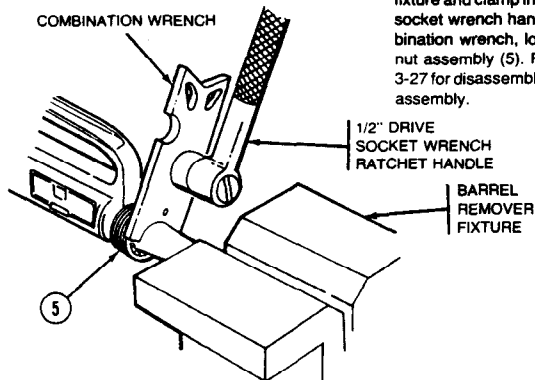


3-12. UPPER RECEIVER AND BARREL ASSEMBLY (INTERMEDIATE) (CONT).

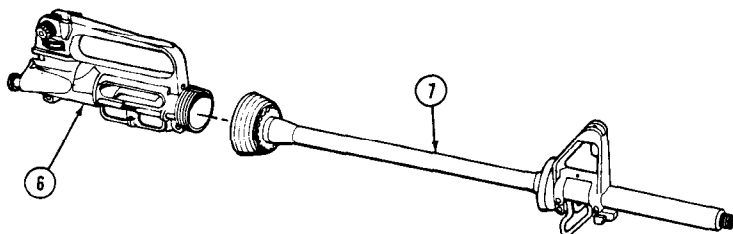
LOCATION	ITEM	ACTION	REMARKS
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DISASSEMBLY (CONT)

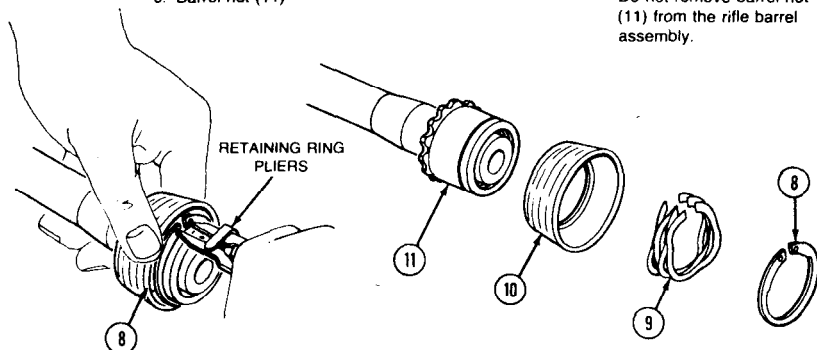
- f. Barrel nut assembly (5) Place upper receiver and barrel assembly into barrel remover fixture and clamp into vise. Using socket wrench handle and combination wrench, loosen barrel nut assembly (5). Refer to page 3-27 for disassembly of barrel nut assembly.
- Be sure all three drive pins on combination wrench are fully engaged with barrel nut assembly. Wrench must be pushed toward upper receiver to compress the slip ring spring.



- g. Upper receiver assembly (6)
- h. Rifle barrel assembly (7)
- Separate from barrel assembly (7).
- Remove rifle barrel assembly from remover fixture.



LOCATION	ITEM	ACTION	REMARKS
Barrel Nut Assembly	a. Retaining ring (8)	Remove using retaining ring pliers.	Do not remove barrel nut (11) from the rifle barrel assembly.
	b. Slip ring spring (9) and handguard slip ring (10)	Remove.	
	c. Barrel nut (11)		



INSPECTION/CLEANING

Upper Receiver and
Barrel Assembly

a. Gas tube

Inspect for cracks.

Replace if defective.

Use P-C-111, carbon removing compound (item 5, app D), to remove carbon deposits from interior and exterior of gas tube.

If a large amount of carbon is found and cannot be removed, replace the gas tube.

NOTE

A .50 caliber firing pin hole brush (item 3, app D) may be used to clean interior of front sight assembly where gas tube is secured.

3-12. UPPER RECEIVER AND BARREL ASSEMBLY (INTERMEDIATE) (CONT).

LOCATION	ITEM	ACTION	REMARKS
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INSPECTION/CLEANING (CONT)

b. Bore

Inspect for burrs, cracks, rust, bulges, and pits.

Pits no wider than a land or groove and no longer than 3/8 inch are allowed in the bore. Lands that appear dark blue due to coating of gilding metal from projectiles are allowable.

Replace rifle barrel assembly if defective.

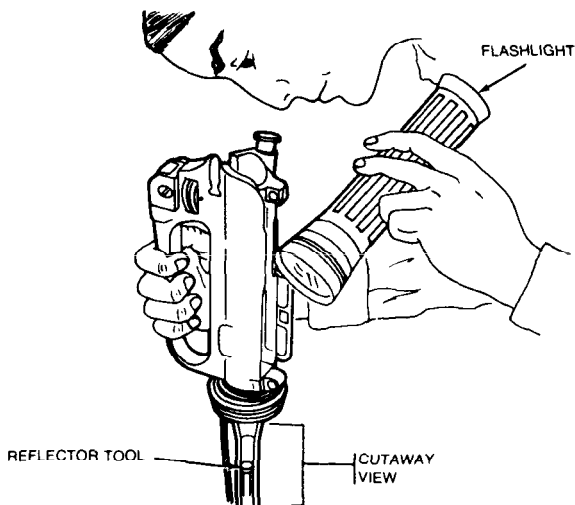
Definitely ringed bores or bores ringed sufficiently to bulge the outside surface of the barrel are cause for rejection.

c. Chamber

Inspect chamber using reflector tool and flashlight.

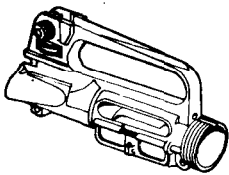
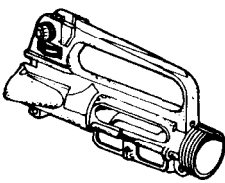
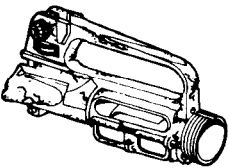
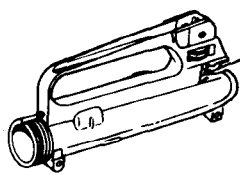
Pits 1/8 inch in length are cause for rejection.

Replace rifle barrel assembly if defective.



NOTE

Chamber may be inspected with or without upper receiver assembled to the barrel assembly.

LOCATION	ITEM	ACTION	REMARKS
	d. Upper receiver	Inspect for cracks, corrosion, mutilation, wear, or damage.	Small dents or gouges that do not affect functioning will not be cause for rejection. If receiver contains cracks or holes, the receiver will be replaced.
	 A - SHINY SURFACES (REPARABLE)	Inspect springs for breaks, deformation, and rust. Repair corroded surfaces as follows: Sand corroded area with abrasive cloth (item 8, app D) and make sure all corrosion has been removed. Wash area with technical dichloromethane (item 11, app D) (methylenechloride) to remove all dirt, grease, and foreign material. Apply sealing compound (item 21, app D), mixed in accordance with manufacturer's directions, to areas to be filled. Spread sealing compound as smoothly as possible into defective area using a putty knife or similar tool.	
	 B - CORRODED (REPARABLE)		
	 C - CORRODED (NONREPARABLE)	NOTE Do not feather edges. Place a sheet of polyethylene, cut to size, over filled area. Rub by hand or smooth using small roller.	
	 D - BREAKTHROUGH HOLE (ACCEPTABLE)	BREAKTHROUGH HOLE	

3-12. UPPER RECEIVER AND BARREL ASSEMBLY (INTERMEDIATE) (CONT).

LOCATION	ITEM	ACTION	REMARKS
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INSPECTION/CLEANING (CONT)

After curing, remove polyethylene sheet in accordance with instructions by the manufacturer.

WARNING

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

CAUTION

Solid film lubricant (item 17, app D) is to be used only as an exterior surface protective finish and touch up. If solid film lubricant comes in contact with recoiling parts or functional surfaces of the rifle, remove immediately by washing with technical dichloromethane (item 11, app D).

Wash area with technical dichloromethane (item 11, app D) (methlenechloride) to remove all dirt, grease, and foreign material.

Roughen area to be refinished with abrasive and clean surface again. Do not touch the area with fingers.

Repair shiny surfaces.

Spray a coat of solid film lubricant (item 17, app D) in accordance with instructions supplied by the manufacturer. Dry 24 hours before handling.

e. All parts

Inspect for damage and wear.

Replace all defective parts.

LOCATION	ITEM	ACTION	REMARKS
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REPAIR

Upper Receiver and Barrel Assembly

a. All authorized items Replace if unserviceable.

b. Front sight guards Place front sight base (1) in a vise.

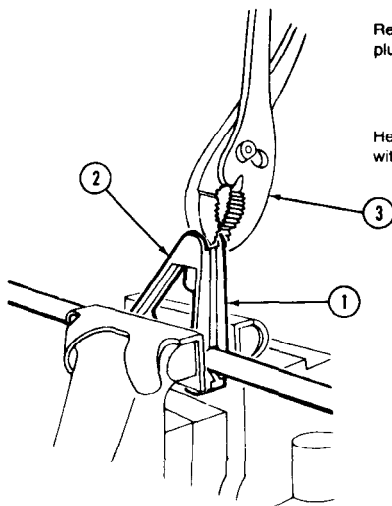
Use copper or brass caps (jaw inserts) on vise to prevent damage to sight base during clamping.

(See page 2-28.) Remove spring before heating. (Heat will damage spring.) The sight post and plunger may be reused unless damaged.

The sight guard (2) should be put back as nearly as possible to the original position.

Remove front sight post, plunger, and spring.

Heat sight guard (2) and bend with pliers (3).



WARNING

Dry cleaning solvent is flammable and toxic and should be used in a well-ventilated area. The use of rubber gloves is necessary to protect skin when washing rifle parts.

Roughen surface with abrasive cloth (item 8, app D) and clean with dry cleaning solvent (item 12, app D). Always wear rubber gloves (item 14, app D) when using dry cleaning solvent.

Allow front sight housing to air cool.

CAUTION

Do not allow solid film lubricant to flow into front sight post threaded well.

Apply solid film lubricant (item 17, app D) to cover the damaged finish.

3-12. UPPER RECEIVER AND BARREL ASSEMBLY (INTERMEDIATE) (CONT).

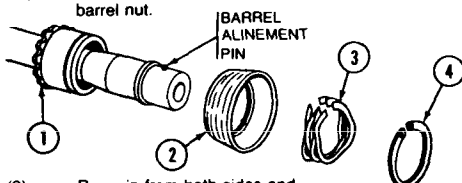
LOCATION	ITEM	ACTION	REMARKS
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REASSEMBLY

Barrel Nut Assembly
and Rifle Barrel
Assembly

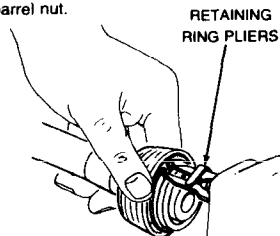
- a. Barrel nut (1) Position barrel nut (1) on barrel. Slide barrel nut to the rear of barrel as far as possible.

- b. Handguard slip ring (2) Slide handguard slip ring over barrel nut.



- c. Slip ring spring (3) Press in from both sides and insert slip ring spring into handguard slip ring.

- d. Retaining ring (4) Install against slip ring spring using retaining ring pliers. Snap retaining ring to barrel nut.



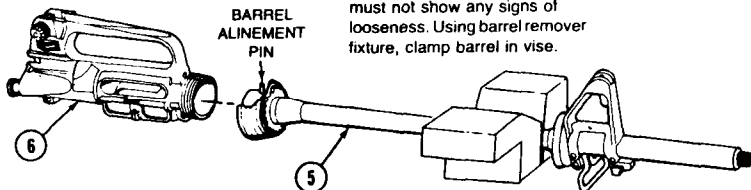
NOTE

After cleaning, apply molybdenum disulfide grease (item 15, app D) to threads of barrel nut assembly before installation.

Upper Receiver and
Barrel Assembly

- a. Rifle barrel assembly (5)

Position rifle barrel with alignment pin up. The alignment pin must not show any signs of looseness. Using barrel remover fixture, clamp barrel in vise.



LOCATION	ITEM	ACTION	REMARKS
	b. Upper receiver assembly (6)	Align upper receiver assembly using barrel alignment pin and the slot in upper receiver assembly. Install over end of barrel.	The slot should fit the alignment pin perfectly with very little or no rotational play present. Note the play in a new barrel and new upper receiver and use this as a guide.

NOTE

Wipe upper receiver thread clean and ensure there are no burrs. Apply molybdenum disulfide grease (item 15, app D) to the threads prior to installation.

Engage threads of barrel nut assembly with upper receiver assembly.

Using combination wrench and torque wrench, torque barrel nut assembly to 31-35 ft-lb. Torque is measured when both wrenches are used together.

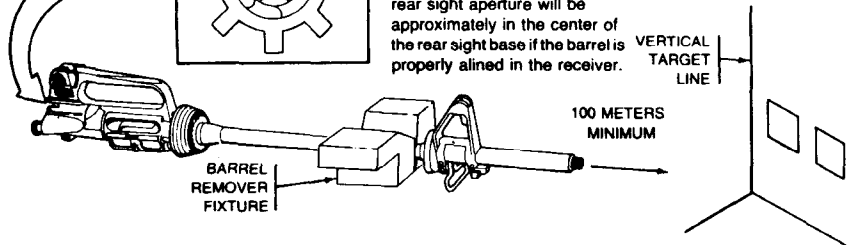
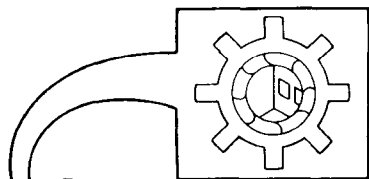
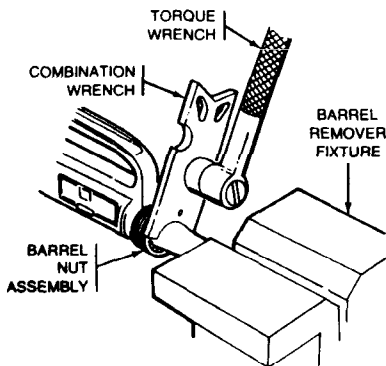
Make certain all three drive pins on combination wrench are engaged with barrel nut assembly. Loosen and repeat torque operation. Then loosen the barrel nut again.

Front sight post must be installed. Loosen the vise and align the bore on a distant vertical target. Center the target in the bore from 12 o'clock through 6 o'clock. The front sight post should be on line and vertical with the target. Tighten vise. Adjust the rear sight windage until a proper sight picture is obtained on the vertical target viewed through the bore. The rear sight aperture will be approximately in the center of the rear sight base if the barrel is properly aligned in the receiver.

Two time torquing (three times total) procedures provide for a better thread fit and prevent barrel nuts from becoming loose.

Do not use the torque wrench for loosening.

If barrel (usually new) is not properly aligned in the receiver (usually an old part), excessive windage will be present and the receiver will require replacement to obtain the proper fit between the alignment pin and slot.



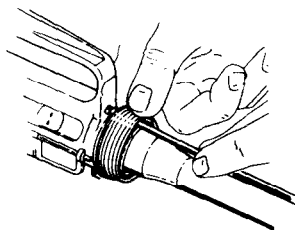
3-12. UPPER RECEIVER AND BARREL ASSEMBLY (INTERMEDIATE) (CONT).

LOCATION	ITEM	ACTION	REMARKS
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REASSEMBLY (CONT)

The barrel nut may be tightened beyond 35 ft-lb to align the barrel nut serrations for proper gas tube clearance. Never loosen the barrel nut to align for gas tube clearance.

Do not attempt to hold the upper receiver with a pry bar; however, if the barrel turns in the holding fixture, a pry bar may be used through the front sight base to help prevent the barrel from turning in the holding fixture. Use care not to distort or bend front sight or retaining pins. Use "buddy system" to hold pry bar.



Check alignment of barrel nut assembly with upper receiver assembly.

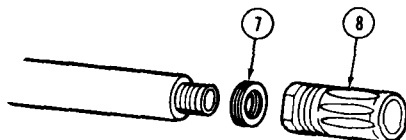
If necessary, tighten nut to next hole to allow proper alignment. Remove upper receiver and barrel assembly from barrel remover fixture.

The front eight inches of a gas tube may be used as an alignment tool (see illustration). This is inserted into the bolt carrier key and then inserted into the rear of the receiver. If the parts of the barrel nut assembly are properly aligned, the tool will pass freely and lay top dead center along the top of the barrel. A # 15 twist drill (.180 inch) may also be used as an alignment tool.

c. Peel washer (7) and compensator (8)

Install on barrel.

Peel washer (7) may be heated with a match to remove thin sections. Always place thin sections to rear.

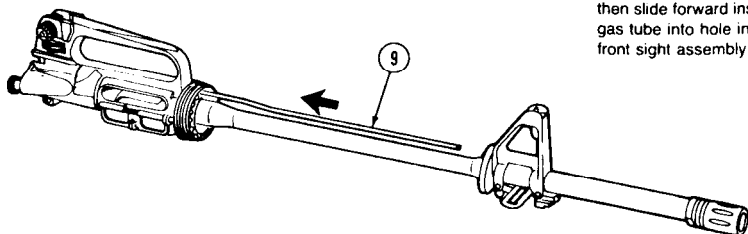


LOCATION	ITEM	ACTION	REMARKS
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d. Gas tube (9)

Install.

Slide gas tube (9) through the barrel nut assembly and then slide forward inserting gas tube into hole in the front sight assembly.



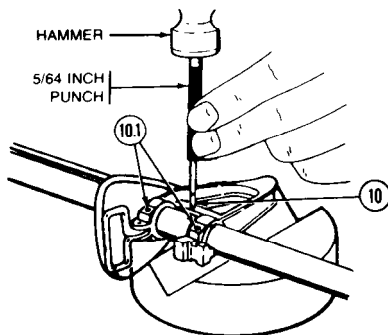
e. Spring pin (10)

Install. Align the holes in gas tube and sight. Using ball peen hammer and 5/64-inch diameter drive pin punch, drive spring pin into front sight assembly to secure gas tube.

f. Front sight pins (10.1)

Replace.

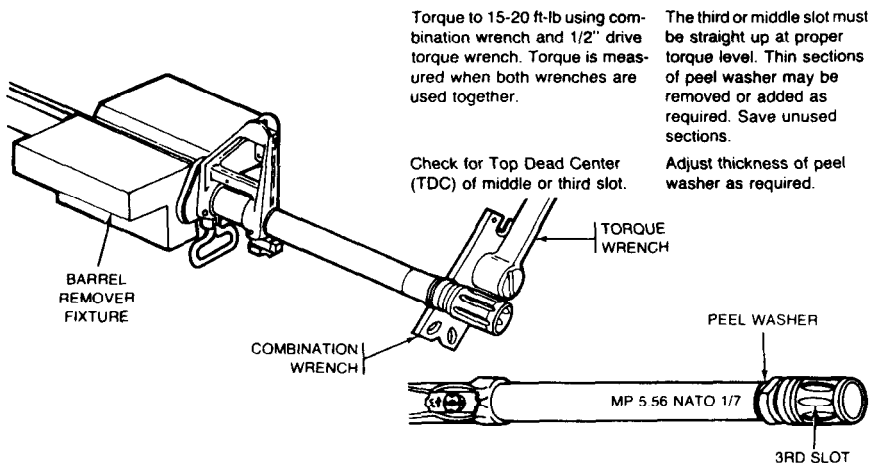
Replace only if one falls out. If both fall out, replace barrel assembly.



3-12. UPPER RECEIVER AND BARREL ASSEMBLY (INTERMEDIATE) (CONT).

LOCATION	ITEM	ACTION	REMARKS
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REASSEMBLY (CONT)



g. Handguards

Install.

TEST

Upper receiver and barrel assembly

NOTE

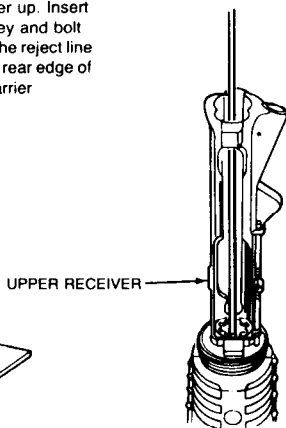
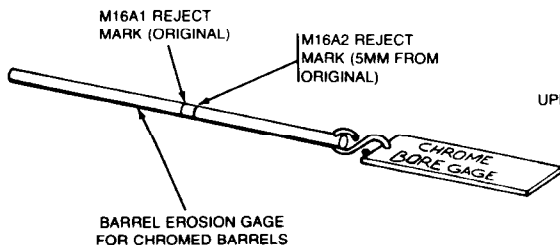
- The following information pertains to the use of breech bore and other gages:
 - All M16A2 barrels and chambers are chromed.
 - Barrel erosion gage P/N 8448496 (normally used on M16A1 fully-chromed barrels) can be used to gage M16A2 barrels. A second reject mark (for M16A2 barrels) must be applied 5mm to the rear of the original mark.
- The bore straightness gage, P/N 8448202, is required for use on all barrels. The gage must pass through the barrel without being forced.

LOCATION	ITEM	ACTION	REMARKS
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a. Barrel

For chrome barrel, use barrel erosion gage 8448496 and install bolt carrier and key assembly with bolt assembly and firing pin removed. Hold rifle vertical with receiver up. Insert gage into rear of key and bolt carrier assembly. The reject line must be read at the rear edge of the key and bolt carrier assembly.

If the reject mark passes beyond the rear surface of the bolt carrier assembly, the barrel is unserviceable and shall be replaced.



b. Bore

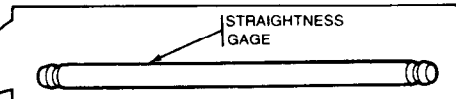
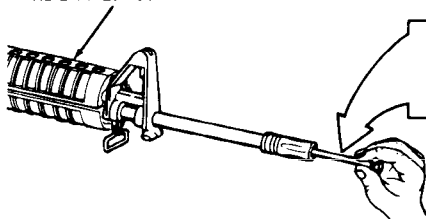
Check straightness using straightness gage 8448202. Put gage in barrel. Tilt barrel and allow gage to fall through. Catch gage as it falls through.

Gage must pass freely through barrel. If the gage does not pass through the barrel, clean the bore with a new bore brush and attempt to use gage again. If the barrel is defective, it must be replaced.

NOTE

Barrels which fail straightness check will be reported in accordance with TM 4700-15/1. Also submit SF 368, Quality Deficiency Report.

UPPER RECEIVER
AND BARREL ASSEMBLY



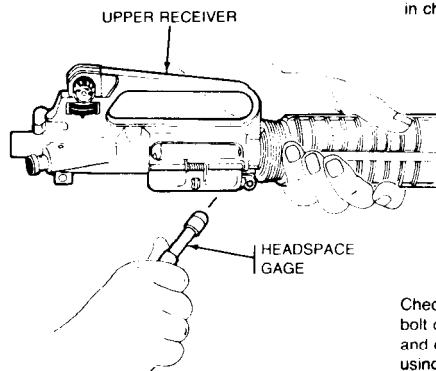
3-12. UPPER RECEIVER AND BARREL ASSEMBLY (INTERMEDIATE) (CONT).

LOCATION	ITEM	ACTION	REMARKS
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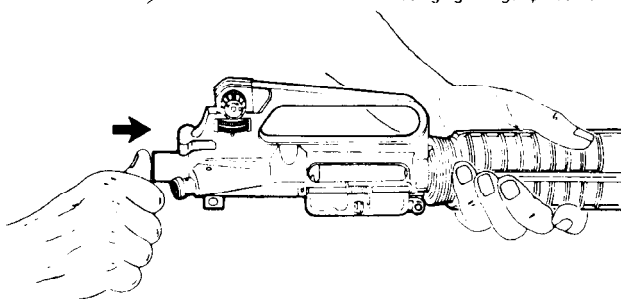
TEST (CONT)

c. Chamber

Assemble charging handle assembly, bolt assembly, and bolt carrier into upper receiver. Insert headspace gage 7799734 in chamber.



Check headspace by pressing bolt carrier and bolt assembly and charging handle forward using light finger pressure.



Bolt should not rotate to locked position. Bolt carrier and bolt assembly must protrude from rear of receiver for proper headspace. If bolt carrier is flush with or indented to rear surface, this indicates excessive headspace. If excessive headspace, first replace old bolt assembly with an unused bolt assembly and then recheck. If headspace is not corrected, replace barrel assembly; then recheck with the original bolt to determine if the bolt is still good or if the bolt should be replaced also.

Remove bolt carrier and bolt assembly and charging handle and headspace gage.

NOTE

Weapons which have been rebarreled must be function-fired with nine rounds of ball ammunition. After rebarreling, the weapon must be targeted with three rounds of ball ammunition at a 25-meter range using target (item 23, app D). Refer to TM 05538C-10/1 and FM 23-9.

3-13. UPPER RECEIVER ASSEMBLY AND REAR SIGHT ASSEMBLY (INTERMEDIATE).**This task covers:**

- | | |
|----------------|----------------|
| a. Disassembly | d. Lubrication |
| b. Inspection | e. Reassembly |
| c. Repair | |

INITIAL SETUP**Tools**

Small Arms Repairman Tool Kit
 NSN 5180-00-357-7770/SL-3-00607A
 Field Maintenance Basic Less Power Small Arms
 Shop Set SC 4933-95-CL-A11 (19204)
 Permanent magnet NSN 5340-01-054-0124

Equipment Condition

Page	Condition Description
3-10	Upper receiver removed

General Safety Instructions

To avoid injury to your eye, use care when removing and installing spring-loaded parts.

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

Materials/Parts

Solid film lubricant (item 17, app D)
 Cleaner, lubricant and preservative (CLP)
 (item 6, app D)

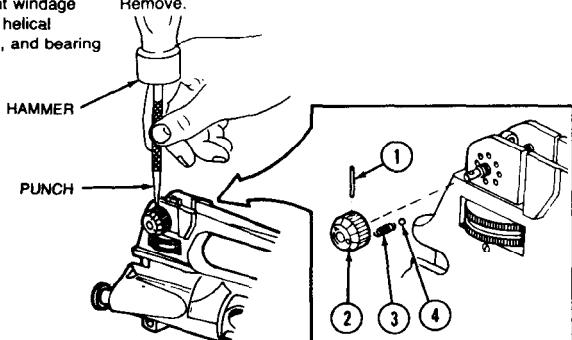
LOCATION	ITEM	ACTION	REMARKS
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DISASSEMBLY**CAUTION**

Be sure to catch small parts.

**Upper Receiver
 Assembly and Rear
 Sight Assembly**

- | | | |
|--|--|--|
| a. Spring pin (1) | Remove using 1/16-inch punch and hammer. | Use magnet to keep from losing small parts (1, 3 and 4). |
| b. Rear sight windage knob (2), helical spring (3), and bearing ball (4) | Remove. | |



3-13. UPPER RECEIVER ASSEMBLY AND REAR SIGHT ASSEMBLY (INTERMEDIATE) (CONT).

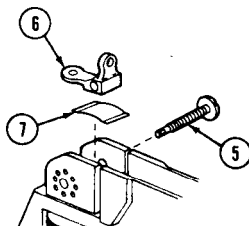
LOCATION	ITEM	ACTION	REMARKS
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DISASSEMBLY (CONT)

- c. Windage screw (5)
- d. Sight aperture (6) and flat spring (7)

Remove using flat-bladed screwdriver.

Remove.



- e. Spring pin (8) and helical spring (9)
- f. Rear sight base (10), bearing ball (11), and helical spring (12)
- g. Elevation index (13), bearing ball (14), and helical spring (15)
- h. Index screw (16) and elevation knob (17)

Drive out with 3/32 inch punch.

Catch spring when punch is withdrawn.

Rotate elevation index (13) until sight base clears the upper receiver.

Catch bearing ball and helical spring as base clears. Use magnet.

Push elevation index out with thumb using slight rotation motion.

Catch bearing ball and helical spring as base clears. Use magnet.

Use 1/16 inch allen wrench to remove screw. Separate elevation index (13) from elevation knob by hand.

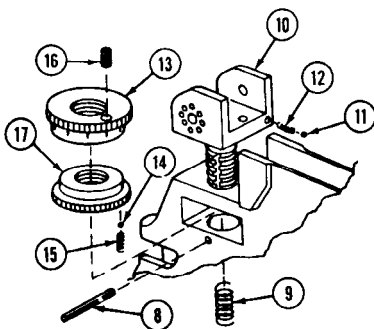
Elevation index should easily separate from base with screw removed.

- i. Spring pin (18)

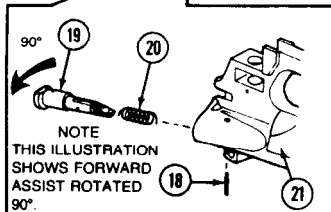
Remove using 3/32-inch drive pin punch and hand hammer.

- j. Forward assist assembly (19), helical spring (20), and cartridge receiver (21)

Remove. If further disassembly is required, see page 3-45.



3/32 INCH PUNCH



LOCATION	ITEM	ACTION	REMARKS
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INSPECTION

Upper Receiver Assembly and Rear Sight Assembly

a. Rear sight parts

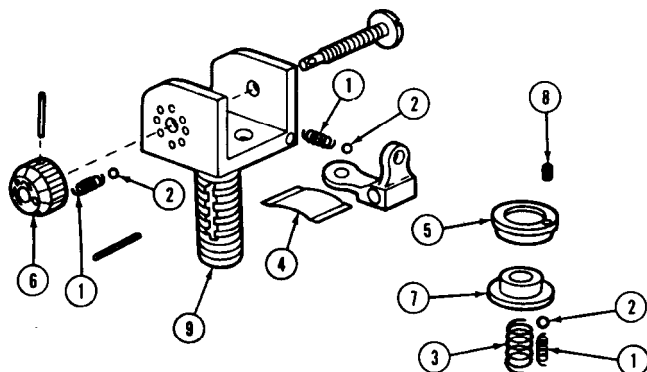
Check for serviceability.
Replace if defective.

Inside of apertures should be round and distinct.

b. Rear sight helical springs (1), bearing balls (2), and helical (elevation) spring (3)

Check for serviceability.
Replace if defective.

Make a visual inspection. Look for broken, bent, or missing springs and bearing balls. Bearing balls should be smooth and round.



c. Upper receiver

Check for cracks, corrosion, and mutilation.
Repair or replace if defective.

Clear drain hole with a piece of wire.

d. Flat spring (4)

Spring shall retain the sight firmly in either position.

Refer to page 3-27.

e. Elevation index (5) and windage knobs (6)

Rotate and test for ease of functioning and legibility of markings.

If sight is not firm, replace spring.
Underside of elevation and windage knobs should be checked for cracks. Detent indexing surfaces should be well formed.

f. Elevation knob zero (7)

Rotate elevation knob all the way down. The 300 meter mark should align with the mark on the receiver on the last whole click.

If 300 meter mark is not aligned, slip the range scale by removing screw (8) through access hole.

g. Rear sight base (9)

Check for serviceability.

Clear drain holes for each of the four springs with a piece of wire.

Threaded portion of rear sight base and elevation knob should be well formed.

3-13. UPPER RECEIVER ASSEMBLY AND REAR SIGHT ASSEMBLY (INTERMEDIATE) (CONT).

LOCATION	ITEM	ACTION	REMARKS
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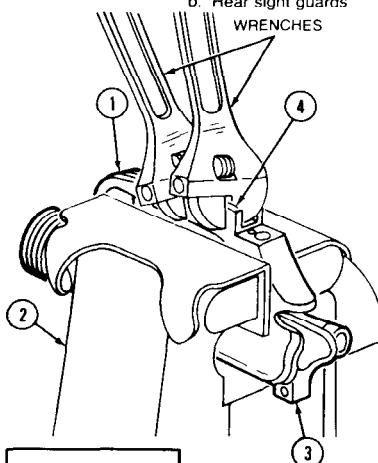
REPAIR

Upper Receiver
Assembly and Rear
Sight Assembly

a. All authorized items

Refer to page 3-31 for repair.

b. Rear sight guards
WRENCHES



Remove rear sight components and place carrying handle (1) in a vise (2).

Tighten vise (2) to firmly hold upper receiver (3).

Using two eight-inch adjustable wrenches, gradually bend guard (4) to straighten.

When bending the guards (4), gradually bend beyond the straight point as the guard will partially return when bending pressure is stopped.

After straightening, use a flat file to remove any nicks, kinks, or burrs that remain on the inside of guards (4).

Apply solid film lubricant (item 17, app D) to brightened area for final protective coating.

Replace rear sight components and check that sight functions properly.

If sight functions check out, return upper receiver to service.

LUBRICATION

Upper Receiver
Assembly and Rear
Sight Assembly

Lubricate.

Apply CLP (item 6, app D) to springs and bearing balls (three each) and threaded screw portions before installation. Lubricate springs and bearing balls through their respective drain holes.

REASSEMBLY

Upper Receiver
Assembly and Rear
Sight Assembly

a. Helical spring (1) and forward assist assembly (2)

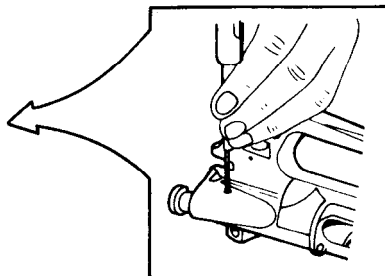
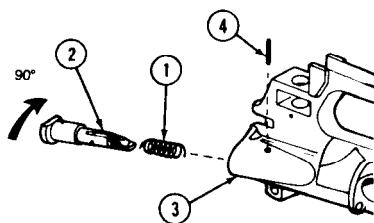
Install to upper cartridge receiver (3).

Apply CLP (item 6, app D) to helical spring, plunger assembly, pawl detent, and spring pin.

LOCATION	ITEM	ACTION	REMARKS
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b. Spring pin (4)

Install using 3/32-inch drive pin punch and hand hammer.



c. Elevation knob (5), elevation index (6), and index screw (7)

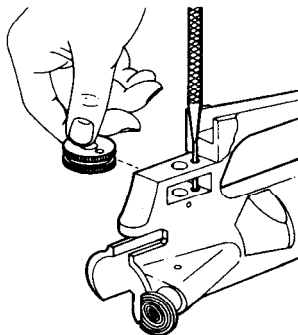
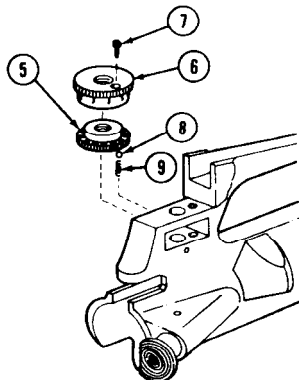
Assemble using 1/16-inch allen wrench.

Do not overtighten index screw as scale will require adjustment.

d. Bearing ball (8) and helical spring (9)

Install with needle-nose pliers or tweezers. Slide in elevation knob assembly.

Depress bearing ball with a punch inserted through access hole as elevation knob is pushed in from side. Center elevation knob in upper receiver.

**NOTE**

All springs are identical when new. Once disassembled from the rifle, their free length may vary due to different amounts of compression when installed. If the length of springs varies, use longest spring as # 11 (p 3-44), the next longest as # 18 (p 3-44), and the shortest as # 9 (p 3-43).

3-13. UPPER RECEIVER ASSEMBLY AND REAR SIGHT ASSEMBLY (INTERMEDIATE) (CONT).

LOCATION

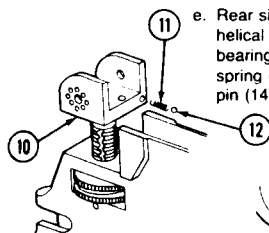
ITEM

ACTION

REMARKS

REASSEMBLY (CONT)**WARNING**

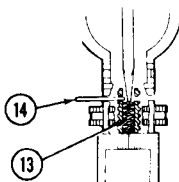
To avoid injury to your eye, use care when removing and installing spring-loaded parts.



- e. Rear sight base (10), helical spring (11), bearing ball (12), helical spring (13), and spring pin (14)

Insert threaded portion of rear sight base into receiver and rotate elevation knob assembly until threads engage. Insert helical spring (11) and bearing ball (12) in their hole as base is lowered into receiver as elevation knob is further rotated.

Rotate elevation knob until sight base is all the way down. Then come up 22 clicks before installing spring pin. Check spring action of helical spring (11) on upper receiver.



Insert helical spring (13) through underside of receiver. Install spring pin (14) while helical spring is held compressed.

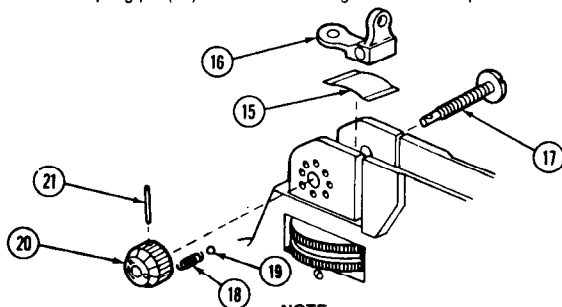
As spring pin is installed, spring must be held compressed with a small tip screwdriver. Pin must pass over spring, not through its coils. Rotate elevation knob until rear sight base is all the way down.

- f. Flat spring (15), sight aperture (16), and windage screw (17)
g. Helical spring (18), bearing ball detent (19), windage knob (20), and spring pin (21)

Install spring and aperture in rear sight base. Install screw with screwdriver.

Insert spring and bearing ball detent in windage knob. Position windage knob assembly on shaft of windage screw. Install pin.

Tilt receiver toward windage knob during positioning to prevent loss of bearing ball.

**NOTE**

Refer to page 3-41, item f., to check elevation knob zero.

3-14. FORWARD ASSIST ASSEMBLY (INTERMEDIATE).

This task covers:

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

INITIAL SETUP**Tools**

Small Arms Repairman Tool Kit
 NSN 5180-00-357-7770/SL-3-00607A
 Field Maintenance Basic Less Power Small Arms
 Shop Set SC 4933-95-CL-A11 (19204)

Equipment Condition

Page	Condition Description
3-40	Forward assist assembly removed

General Safety Instructions

To avoid injury to your eye, use care when removing and installing spring-loaded parts.

Do not interchange bolt assemblies or other components from one weapon to another. Doing so may result in injury to, or death of, personnel.

Materials/Parts

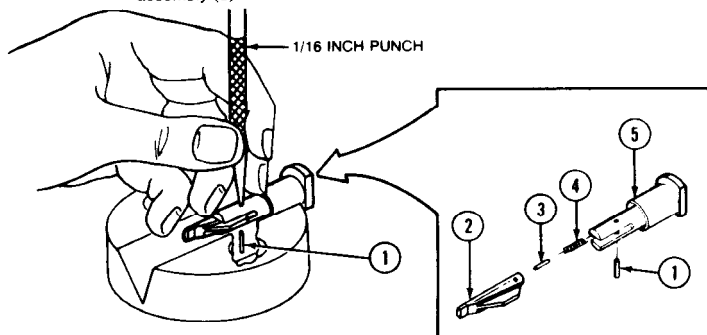
Cleaner, lubricant and preservative (CLP)
 (item 6, app D)

LOCATION	ITEM	ACTION	REMARKS
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DISASSEMBLY

Forward Assist Assembly

- | | |
|---|---|
| a. Spring pin (1) | Remove using 1/16-inch drive pin punch and hand hammer. |
| b. Forward assist pawl (2), pawl detent (3), helical spring (4), and plunger assembly (5) | Remove. |



3-14. FORWARD ASSIST ASSEMBLY (INTERMEDIATE) (CONT)

LOCATION	ITEM	ACTION	REMARKS
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INSPECTION

Forward Assist Assembly	a. Forward assist pawl	Inspect for burrs, chips, and cracks. Replace if defective.	Minor burrs may be removed using fine files or stones, as required.
	b. Pawl detent	Inspect for burrs and cracks.	
	c. Helical spring	Replace if defective. Inspect for kinks, breaks, and wear.	Minor burrs may be removed using fine files or stones, as required.
	d. Plunger assembly	Replace if defective. Inspect for wear, burrs, chips, and breaks.	
		Replace if defective.	Minor burrs may be removed using fine files or stones, as required.

REPAIR

Forward Assist Assembly	a. Forward assist pawl	Using fine files or stones, as required, smooth burrs but do not deform forward assist pawl.
	b. Pawl detent	Using fine files or stones, as required, smooth burrs but do not deform pawl detent.
	c. Plunger assembly	Using fine files or stones, as required, smooth burrs but do not deform plunger assembly.

LOCATION	ITEM	ACTION	REMARKS
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REASSEMBLY

WARNING

To avoid injury to your eye, use care when removing and installing spring-loaded parts.

Forward Assist
Assembly

Lubricate.

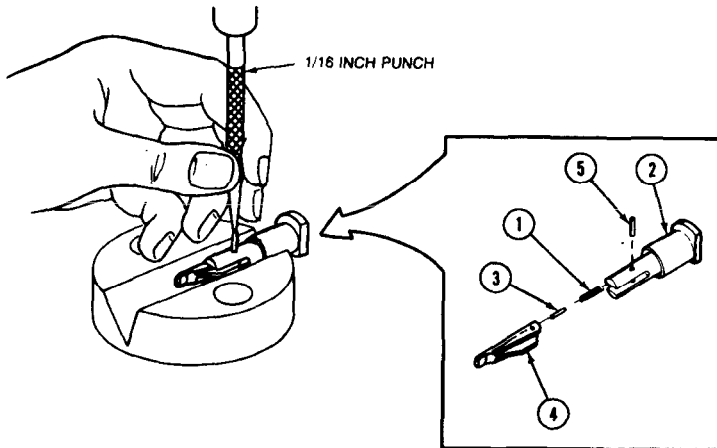
Apply CLP (item 6, app D) to forward assist pawl, pawl detent, and helical spring before installation.

- a. Helical spring (1),
plunger assembly (2),
pawl detent (3), and
forward assist pawl (4)

Install.

- b. Spring pin (5)

Install using 1/16-inch drive pin
punch and hand hammer. Pin
must be flush or slightly below
flush after reassembly.



3-15. LOWER RECEIVER AND BUTTSTOCK ASSEMBLY (INTERMEDIATE).

This task covers:

- | | |
|----------------|---------------|
| a. Disassembly | d. Test |
| b. Inspection | e. Reassembly |
| c. Repair | |

INITIAL SETUP

Tools

Small Arms Repairman Tool Kit
 NSN 5180-00-357-7770/SL-3-00607A
 Field Maintenance Basic Less Power Small Arms
 Shop Set SC 4933-95-CL-A11 (19204)
 M16 Series and M231 Firing Port Weapon Direct
 Support and General Support Maintenance for
 5.56-mm Rifle Tool and Gage Set
 NSN 4933-00-056-7106/SL-3-06229A
 Pivot pin removing tool (E-3, app E)
 Lower receiver gage (E-5, app E)
 Modified old trigger "slave" pin (E-7, app E)

Materials/Parts

Solid film lubricant (item 17, app D)
 Technical dichloromethane (item 11, app D)
 Cleaner, lubricant and preservative (CLP)
 (item 6, app D)

References

TM 9-1005-301-30

Equipment Condition

Page	Condition Description
3-10	Lower receiver and buttstock assembly removed

General Safety Instructions

To avoid injury to your eye, use care when removing and installing spring-loaded parts.

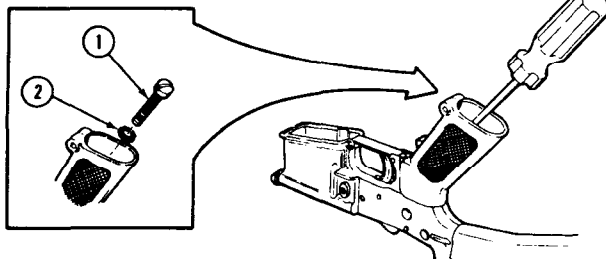
When using solid film lubricant or dichloromethane, be sure the area is well ventilated.

LOCATION	ITEM	ACTION	REMARKS
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DISASSEMBLY

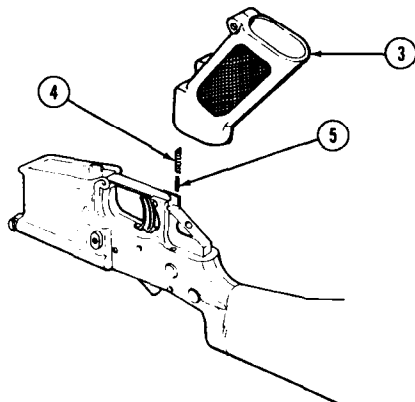
Lower Receiver and
 Buttstock Assembly

- a. Machine screw (1) and lock washer (2) Using screwdriver, reach inside rifle grip and remove screw and lock washer.

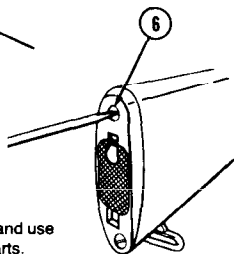


LOCATION	ITEM	ACTION	REMARKS
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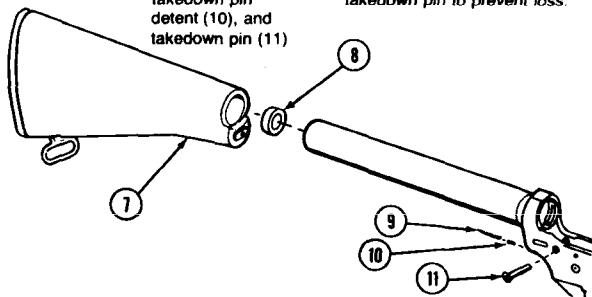
- b. Rifle grip (3), helical spring (4), and safety detent (5)
- Carefully remove rifle grip and catch helical spring and safety detent to prevent loss.



- c. Self-locking screw (6) Remove.



- d. Buttstock assembly (7), stepped spacer (8), helical spring (9), takedown pin detent (10), and takedown pin (11)
- Remove stock carefully and use magnet to hold small parts. Catch helical spring, detent, and takedown pin to prevent loss.



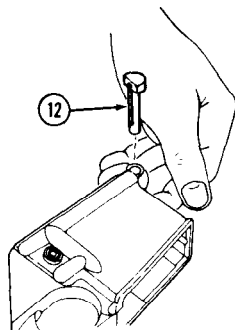
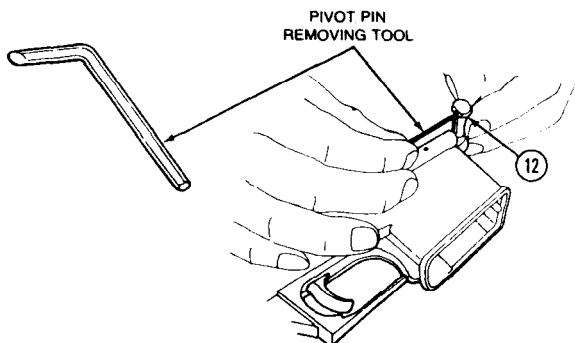
3-15. LOWER RECEIVER AND BUTTSTOCK ASSEMBLY (INTERMEDIATE) (CONT).

LOCATION	ITEM	ACTION	REMARKS
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DISASSEMBLY (CONT)

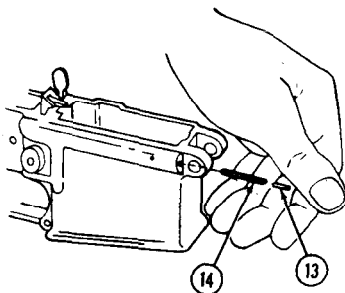
e. Pivot pin (12)

Insert fabricated tool (E-3, app E) to compress detent. Turn pin a quarter turn. Remove tool and pin.



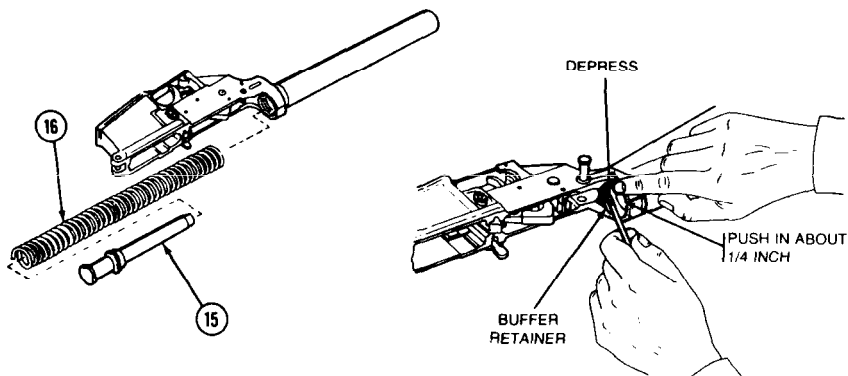
f. Takedown pin detent (13) and helical spring (14)

Be sure to hold cupped hand in front of detent and helical spring to prevent loss of detent and spring as pivot pin is removed.

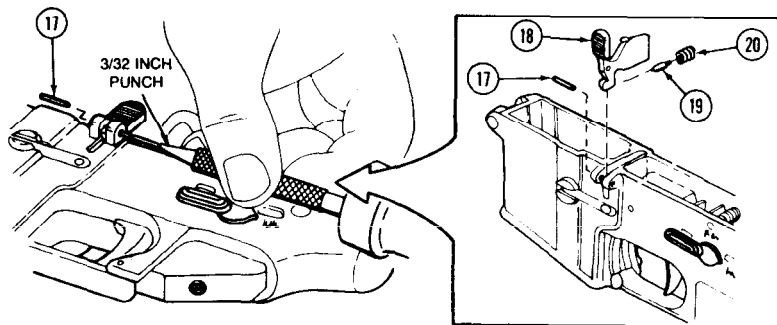


LOCATION	ITEM	ACTION	REMARKS
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- g. Buffer assembly (15) and action spring (16) Press buffer assembly in. Using screwdriver, depress buffer retainer and release buffer and action spring.



- h. Spring pin (17) Remove using 3/32-inch drive pin punch and hand hammer.
i. Bolt catch (18), bolt catch plunger (19), and helical spring (20) Remove.



3-15. LOWER RECEIVER AND BUTTSTOCK ASSEMBLY (INTERMEDIATE) (CONT).

LOCATION	ITEM	ACTION	REMARKS
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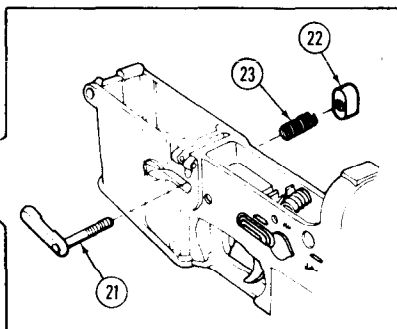
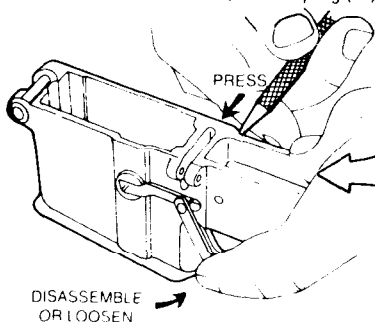
DISASSEMBLY (CONT)

j. Magazine catch (21)

Remove. Using drive pin punch, press in on magazine button (22) and turn magazine catch counterclockwise to unscrew.

k. Magazine button (22) and helical spring (23)

Remove.



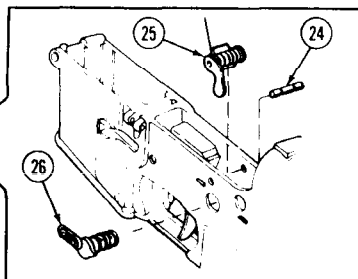
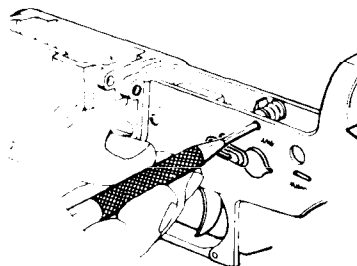
l. Automatic sear pin (24)

Remove. Using rounded tip drive pin punch, push automatic sear pin out of receiver.

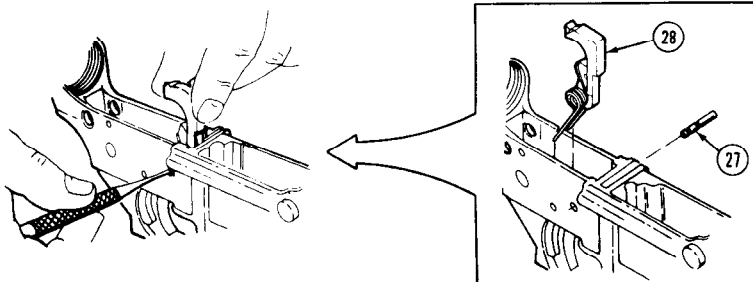
To remove sear, safety selector lever must be positioned to burst (if installed).

m. Sear (25) and selector lever (26)

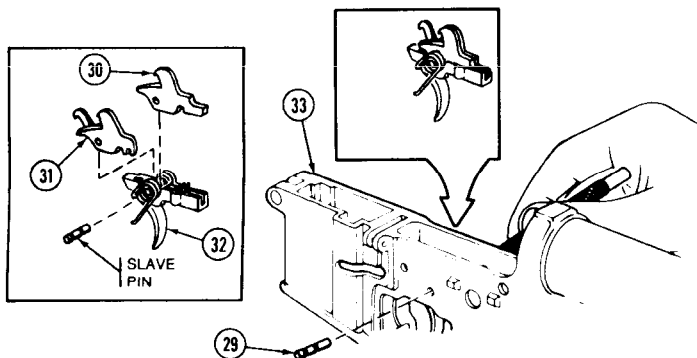
Remove.



LOCATION	ITEM	ACTION	REMARKS
	n. Hammer pin (27)	Remove. Using drive pin punch, push pin from receiver.	To remove (hammer should be forward), place safety selector lever (if installed) to SEMI position.
	o. Hammer assembly (28)	Remove. If further disassembly is required, see page 3-63.	Hammer pin should offer resistance as it is removed. See page 3-9, step 16.



- p. Trigger pin (29)
- Remove. Using "slave" pin (E-7, app E) and drive pin punch, push out left side of receiver. "Slave" pin will allow removal of these parts as a unit.
- q. Semiautomatic disconnecter (30), burst disconnecter (31), trigger assembly (32), and lower receiver and extension assembly (33)
- Remove. If further disassembly is required, see page 3-65.

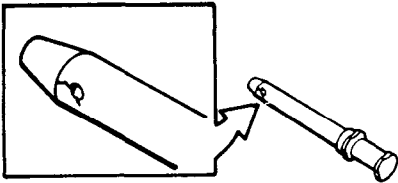


3-15. LOWER RECEIVER AND BUTTSTOCK ASSEMBLY (INTERMEDIATE) (CONT).

LOCATION	ITEM	ACTION	REMARKS
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INSPECTION

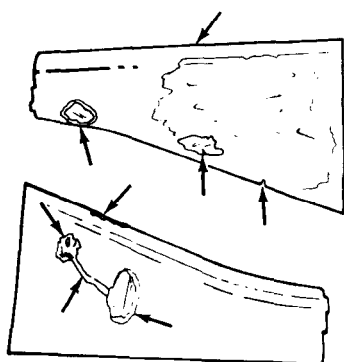
Lower Receiver and Buttstock Assembly	a. All parts	Inspect for cracks, corrosion, and mutilation which would affect functioning.	Small dents and gouges will not be cause for rejection.
	b. All parts	Inspect for damage.	
	c. Buffer assembly	The buffer assembly must not be cracked between hole and end of housing.	New buffers do not have hole in housing and are not likely to crack.



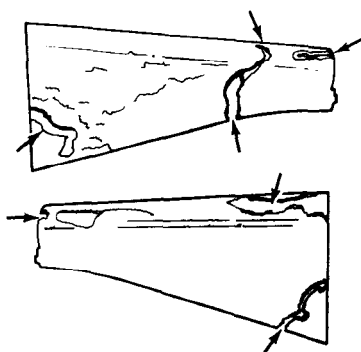
d. Helical spring	The free length of the helical spring must be between 11 3/4 minimum and 13 1/2 maximum inches.
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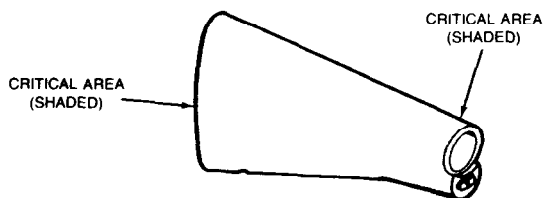
LOCATION	ITEM	ACTION	REMARKS
	e. Stock assembly	Inspect for breaks and separation of material which could prevent proper functioning of weapon. Inspect for dents, cracks, and chips.	Cracks or breaks in critical areas will be repaired or rejected. For stock repair, see TM 9-1005-301-30. Cracks in other than critical areas, not exceeding three inches in length and 1/16 inch in width, may be repaired.

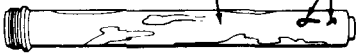


BUTTSTOCK - REPARABLE DAMAGED AREAS



BUTTSTOCK - NONREPARABLE DAMAGE



LOCATION	ITEM	ACTION	REMARKS
		Inspect for corrosion. Repair or replace if defective.	
	A - SHINY SURFACES (REPARABLE)		
			
	B - CORRODED (REPARABLE)		
			
	C - HOLES AND THIN WALLS (NONREPARABLE)		

REPAIR

Lower Receiver and
Buttstock Assembly

All parts

Repair or replace if defective.

For stock repair, see
TM 9-1005-301-30.

TEST

Weapon

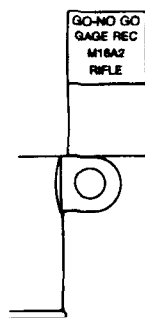
Lower receiver and
buttstock assembly

Test lower receiver pivot pin lug clearance using fabricated lower receiver go-no go gage (E-5, app E).

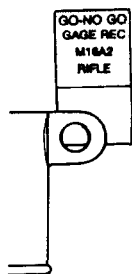
Do not force gage to fit between pivot pin lugs.

If lower receiver go-no go gage (E-5, app E) enters far enough to pass or cover the entire pivot hole, the rifle is unserviceable and will be turned in for replacement.

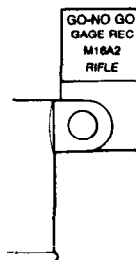
If lower receiver go-no go gage (E-5, app E) does not enter or enters but does not pass or cover the entire pivot pin hole, the receiver is still serviceable.



A - SERVICEABLE



B - SERVICEABLE

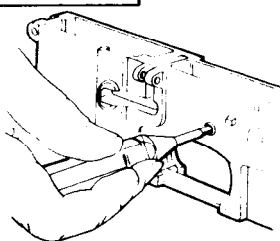


C - UNSERVICEABLE

3-15. LOWER RECEIVER AND BUTTSTOCK ASSEMBLY (INTERMEDIATE) (CONT).

LOCATION	ITEM	ACTION	REMARKS
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TEST (CONT)



Test the hammer pin holes and the trigger pin holes using no go plug gage 12006472.

If the no go plug gage passes through any one of the four pin holes, the rifle is unserviceable and will be turned in for replacement. The gage must penetrate through the wall thickness to be unserviceable.

REASSEMBLY

WARNING

When using solid film lubricant (item 17, app D) or technical dichloromethane (item 11, app D), be sure the area is well ventilated.

NOTE

Before reassembling parts, clean them with technical dichloromethane (item 11, app D) and lubricate them with CLP (item 6, app D).

Lower Receiver and Buttstock Assembly

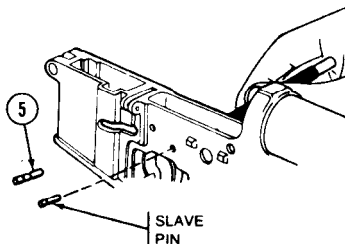
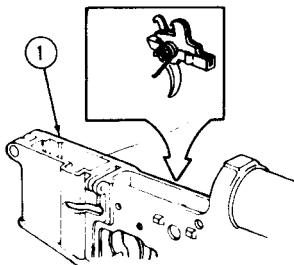
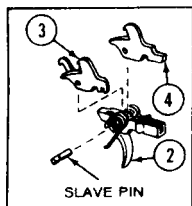
- a. Lower receiver and extension assembly (1), trigger assembly (2), burst disconnector (3), and semiautomatic disconnector (4)

Install.

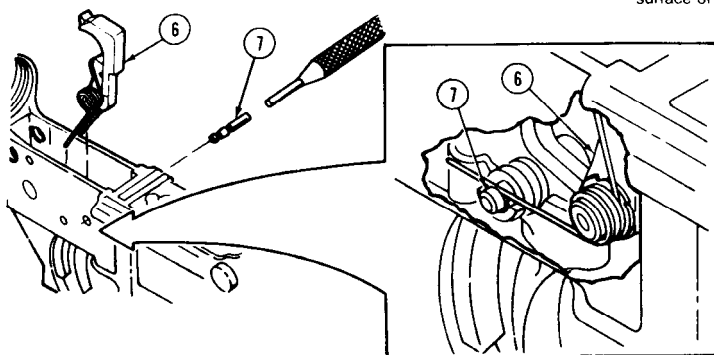
Assemble as a unit using "slave" pin. Install in receiver using trigger pin to push out slave pin.

- b. Trigger pin (5)

Install using drive pin punch. Push in until flush.



LOCATION	ITEM	ACTION	REMARKS
	c. Hammer assembly (6)	Install.	
	d. Hammer pin (7)	Install using drive pin punch. Push in until flush.	Ends of hammer spring to be installed to rear of hammer pin (7), resting in the annular groove on upper surface of trigger pin.



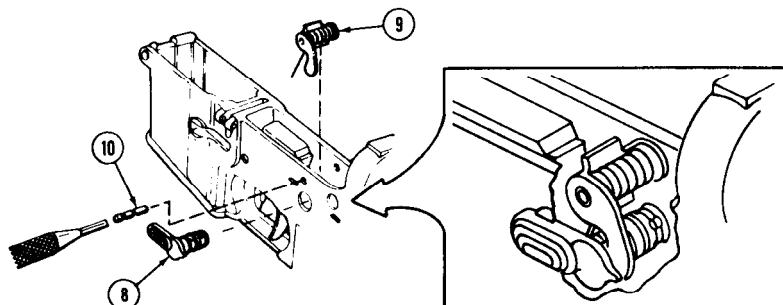
- e. Selector lever (8) and sear (9)

Install.

Selector, if installed, must be positioned to burst. Long leg of spring must rest on top of selector.

- f. Automatic sear pin (10)

Install automatic sear pin into receiver using drive pin punch. Push flush.

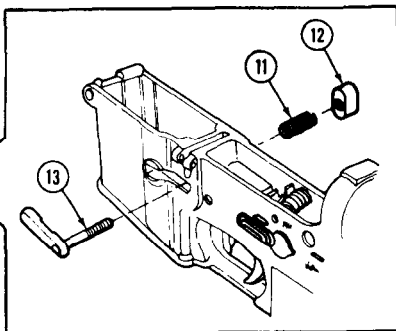
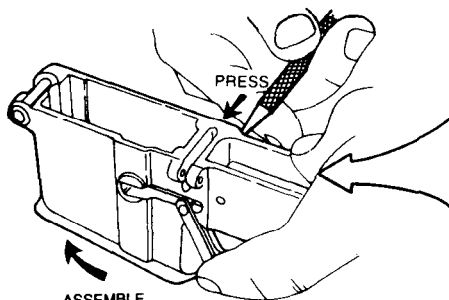


3-15. LOWER RECEIVER AND BUTTSTOCK ASSEMBLY (INTERMEDIATE) (CONT).

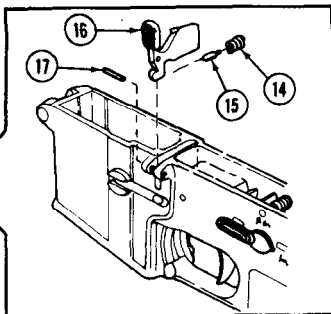
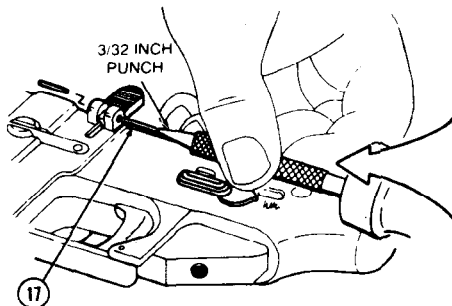
LOCATION	ITEM	ACTION	REMARKS
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REASSEMBLY (CONT)

- | | | |
|-------------------------|---|--|
| g. Helical spring (11) | Install. | |
| h. Magazine button (12) | Install. | |
| i. Magazine catch (13) | Install. Using drive pin punch, push in and turn magazine catch (13) clockwise until end of catch is flush with magazine button head. | Pin punch should be larger than hole in magazine button. |

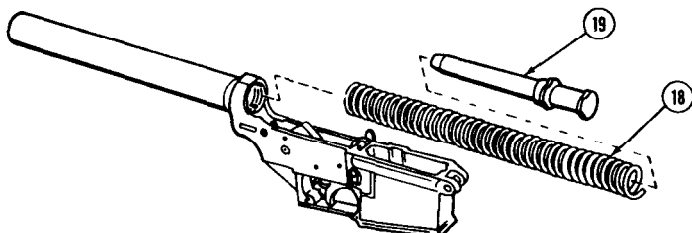


- | | | |
|--|--|--|
| j. Helical spring (14), bolt catch plunger (15), and bolt catch (16) | Install. | |
| k. Spring pin (17) | Install using 3/32-inch drive pin punch and hand hammer. | |

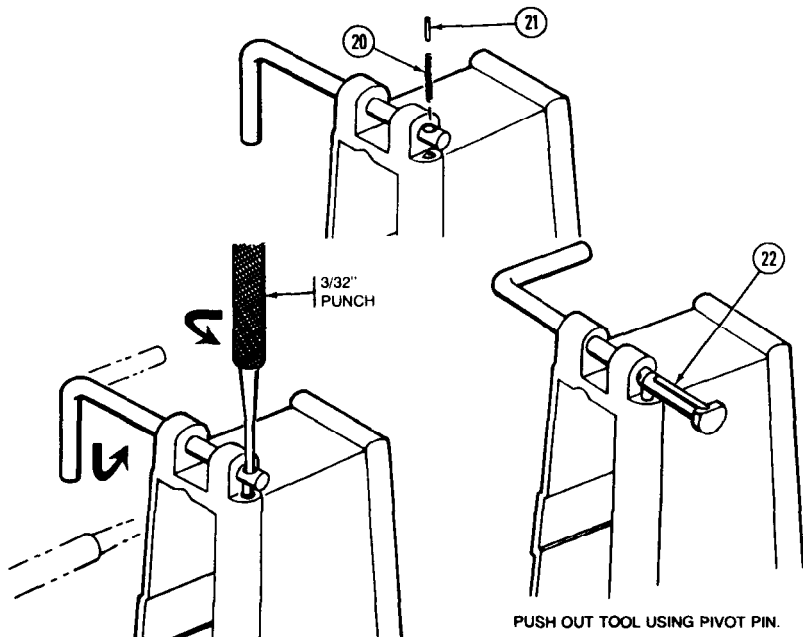


LOCATION	ITEM	ACTION	REMARKS
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- l. Action spring (18) and buffer assembly (19) Press in until retainer snaps up.



- m. Helical spring (20), takedown pin (21), and pivot pin (22) Install pivot pin installation tool (E-6, app E). Insert spring and detent. Compress detent in recess and rotate tool. Be sure detent is in groove of pivot pin.



3-15. LOWER RECEIVER AND BUTTSTOCK ASSEMBLY (INTERMEDIATE) (CONT).

LOCATION

ITEM

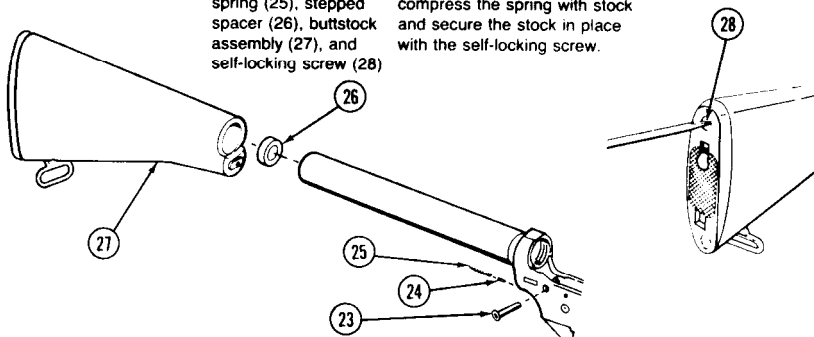
ACTION

REMARKS

REASSEMBLY (CONT)

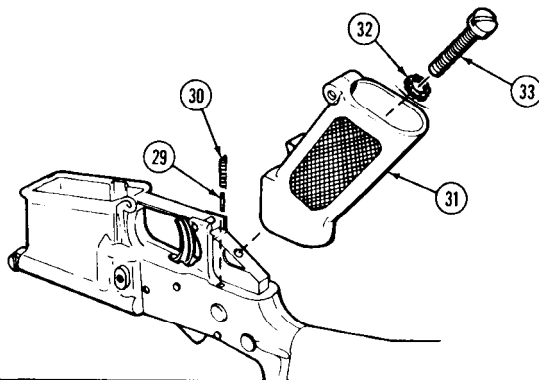
- n. Takedown pin (23), takedown pin detent (24), helical spring (25), stepped spacer (26), buttstock assembly (27), and self-locking screw (28)

Install takedown pin with groove to the rear. Install detent and spring from the rear. Carefully compress the spring with stock and secure the stock in place with the self-locking screw.



- o. Safety detent (29), helical spring (30), rifle selector, and spring from the grip (31), lock washer (32), and machine screw (33)

Install detent, pointed toward selector, and spring from the bottom. Carefully compress the spring with the rifle grip and secure the grip in place with the lock washer and screw.



3-16. BUTTSTOCK ASSEMBLY (INTERMEDIATE).

This task covers:

a. Inspection

b. Repair

INITIAL SETUP*References*

TM 9-1005-301-30

Equipment Condition

Page	Condition	Description
3-49	Buttstock removed	

LOCATION	ITEM	ACTION	REMARKS
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INSPECTION

Buttstock Assembly	Buttstock	Inspect.	See page 3-55.
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REPAIR

Buttstock Assembly	Buttstock	Repair.	See TM 9-1005-301-30.
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3-17. HAMMER ASSEMBLY (INTERMEDIATE).

This task covers:

a. Disassembly

b. Inspection

c. Reassembly

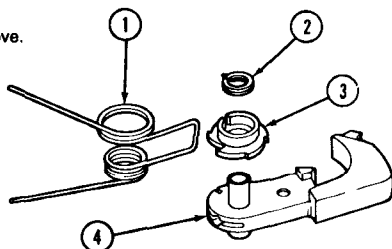
LOCATION	ITEM	ACTION	REMARKS
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DISASSEMBLY

Hammer Assembly

Hammer spring (1), cam clutch spring (2), burst cam (3), and hammer assembly (4)

Remove.

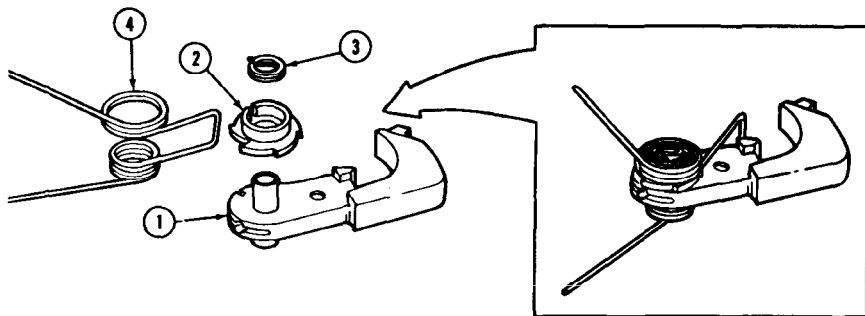


3-17. HAMMER ASSEMBLY (INTERMEDIATE) (CONT).

LOCATION	ITEM	ACTION	REMARKS
INSPECTION			
Hammer Assembly	a. Hammer spring	Inspect for deformities, breaks, and bends. Replace if defective.	Pay special attention to large coil.
	b. Cam clutch spring	Inspect for deformities, breaks, and bends. Replace if defective.	
	c. Burst cam	Inspect for deformities, breaks, and bends. Replace if defective.	Install hammer pin into hole in hammer to check spring retention of the hammer pin. Hammer pin should "click" home under strong finger pressure.
	d. Firing hammer	Inspect for chips and breaks. Replace if defective.	

REASSEMBLY

Hammer Assembly	Hammer assembly (1), burst cam (2), cam clutch spring (3), and hammer spring (4)	Assemble in sequence.	Cam clutch spring should be assembled with bend to the inside and the large loop of the hammer spring (4) over the burst cam (2).
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3-18. TRIGGER ASSEMBLY (INTERMEDIATE).

This task covers:

- a. Disassembly
- b. Inspection

c. Reassembly

INITIAL SETUP**Tools**

Small Arms Repairman Tool Kit
 NSN 5180-00-357-7770/SL-3-00607A
 Field Maintenance Basic Less Power Small
 Arms Shop Set SC 4933-95-CL-A11
 (19204)

General Safety Instructions

To avoid injury to your eye, use care when removing
 and installing spring-loaded parts.

Equipment Condition

Page Condition Description
 3-53 Trigger assembly removed

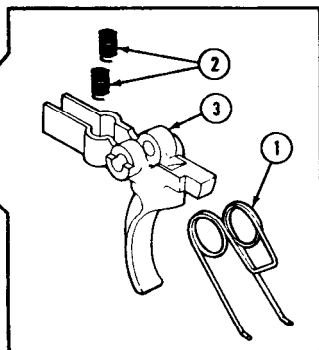
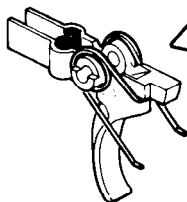
LOCATION	ITEM	ACTION	REMARKS
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DISASSEMBLY

Trigger Assembly

Trigger spring (1), helical
springs (2), and trigger (3)

Remove.

**INSPECTION**

Trigger Assembly

a. Trigger spring

Inspect for kinks, deformities,
and weakness.

Replace if defective.

b. Helical springs

Inspect for deformities, bends,
breaks, and weakness.

Replace if defective.

c. Trigger

Inspect for chips and cracks.

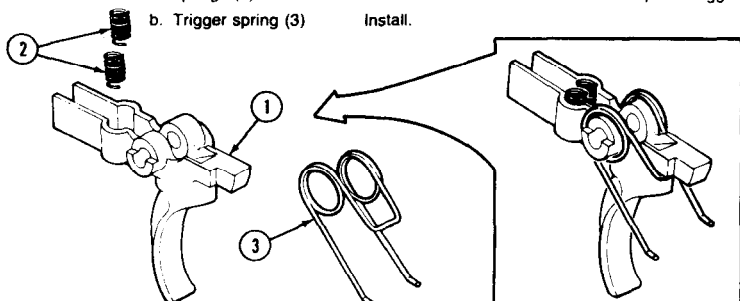
Replace if defective.

3-18. TRIGGER ASSEMBLY (INTERMEDIATE) (CONT).

LOCATION	ITEM	ACTION	REMARKS
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REASSEMBLY

- | | | | |
|------------------|--|-------------------------------------|---|
| Trigger Assembly | a. Trigger (1) and helical springs (2) | Install helical springs in trigger. | Large end of springs should snap into trigger recesses. |
| | b. Trigger spring (3) | Install. | |



3-19. LOWER RECEIVER AND RECEIVER EXTENSION ASSEMBLY (INTERMEDIATE).

This task covers:

- | | |
|------------------|---------------|
| a. Disassembly | d. Test |
| b. Inspection | e. Reassembly |
| c. Repair/Modify | |

INITIAL SETUP

Tools

Field Maintenance Basic Less Power Small
Arms Shop Set SC 4933-95-CL-A11 (19204)
Small Arms Repairman Tool Kit
NSN 5180-00-357-7770/SL-3-00607A
M16 Series and M231 Firing Port Weapon Direct
Support and General Support Maintenance for
5.56-mm Rifle Tool and Gage Set
NSN 4933-00-056-7106/SL-3-06229A

Materials/Parts

Abrasive cloth (item 8, app D)
Molybdenum disulfide grease (item 15, app D)
Solid film lubricant (item 17, app D)

Equipment Condition

Page	Condition	Description
3-53	Lower receiver and receiver extension assembly removed	

General Safety Instructions

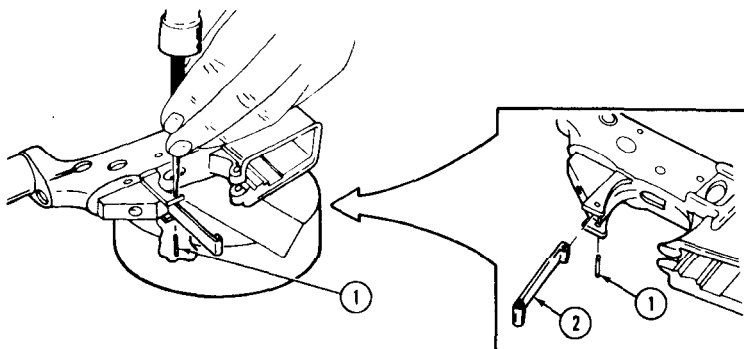
To avoid injury to your eye, use care when removing and installing spring-loaded parts.

LOCATION	ITEM	ACTION	REMARKS
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DISASSEMBLY

Lower Receiver and Receiver Extension Assembly

- a. Spring pin (1) Remove using 1/8-inch drive pin punch and hand hammer.
- b. Trigger guard (2) Remove.



- c. Lower receiver extension (3) Remove using vise, vise jaw caps, combination wrench, and socket wrench handle. Clamp lower receiver in vise and tighten on solid portion just tight enough to hold.

NOTE

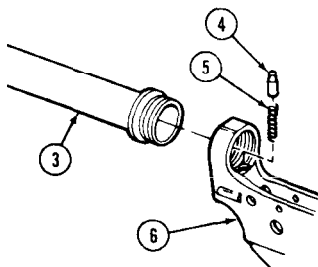
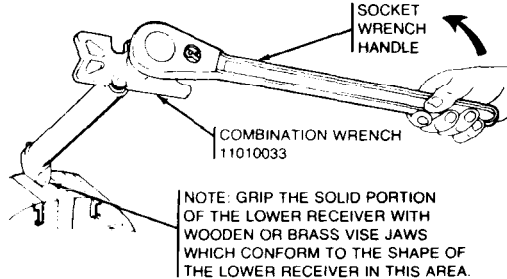
Use wooden vise jaws in place of brass vise jaw caps.

- d. Buffer retainer (4) and helical spring (5) Remove.

As lower receiver extension is removed, catch buffer retainer and spring.

- e. Lower receiver (6)

Lower receiver is a serial-number controlled item.



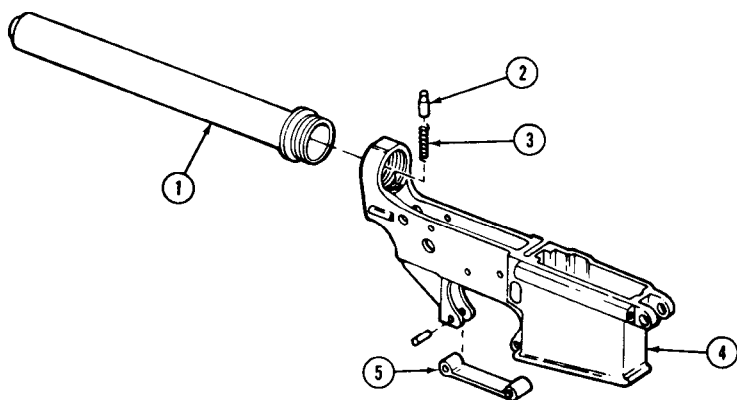
3-19. LOWER RECEIVER AND RECEIVER EXTENSION ASSEMBLY (INTERMEDIATE) (CONT).

LOCATION	ITEM	ACTION	REMARKS
----------	------	--------	---------

INSPECTION

Lower Receiver and Receiver Extension Assembly

- | | | |
|---------------------------------|--|--------------------------|
| a. Lower receiver extension (1) | Inspect for corrosion, dents, and wear.
Repair or replace if defective. | See page 3-57. |
| b. Buffer retainer (2) | Inspect for wear and replace if defective. | |
| c. Helical spring (3) | Inspect for deformities and breaks.
Replace if defective. | |
| d. Lower receiver (4) | Inspect. | See pages 3-57 and 3-58. |
| e. Trigger guard (5) | Inspect for deformities and check plunger and spring.
Replace if defective. | |



REPAIR/MODIFY

Lower Receiver and Receiver Extension Assembly

- | | |
|-----------------------------|--|
| a. Lower receiver extension | Repair. Using abrasive cloth (item 8, app D), remove light corrosion and use solid film lubricant (item 17, app D) to retouch. |
|-----------------------------|--|

LOCATION	ITEM	ACTION	REMARKS
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b. Lower receiver

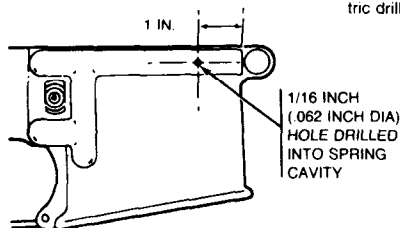
Inspect for damage, wear, and corrosion.

See page 3-56.

Repair or replace weapon.

Modify (when required) using 1/16 twist drill and portable electric drill per drawing.

This procedure will only be applied to rifles whose pivot pin, detent, or spring cannot be removed in any other manner.



CAUTION: EXERCISE EXTREME CARE WHEN DRILLING HOLE THAT PENETRATION IS NOT MADE IN INNER WALL OF SPRING CAVITY.

TEST

Lower Receiver and Receiver Extension Assembly

- a. Trigger pin holes and hammer pin holes

Test.

See page 3-58.

- b. Lower receiver pivot pin area spacing.

Test.

See page 3-57.

REASSEMBLY

Lower Receiver and Receiver Extension Assembly

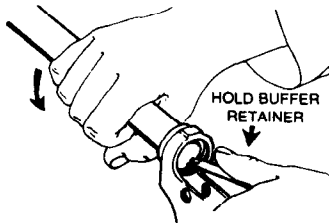
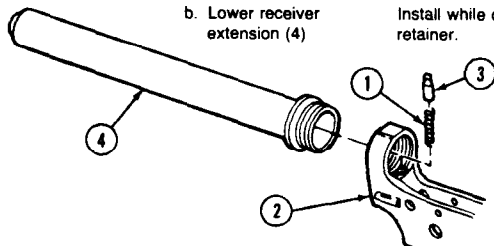
Lubricate threads of lower receiver and receiver extension assembly with molybdenum disulfide grease (item 15, app D) before reassembly.

- a. Helical spring (1), lower receiver (2), and buffer retainer (3)

Install.

- b. Lower receiver extension (4)

Install while depressing buffer retainer.

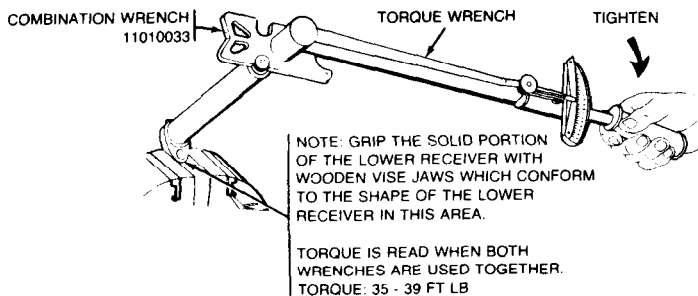


3-19. LOWER RECEIVER AND RECEIVER EXTENSION ASSEMBLY (INTERMEDIATE) (CONT).

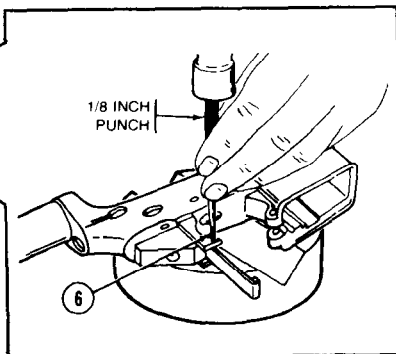
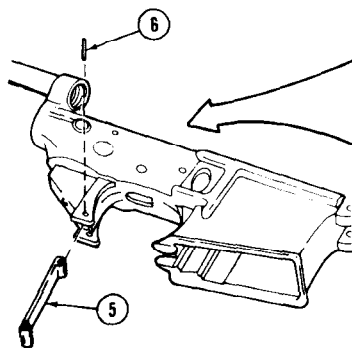
LOCATION	ITEM	ACTION	REMARKS
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REASSEMBLY (CONT)

Torque using vise, vise jaw caps, combination wrench 11010033, and torque wrench, clamping solid portion of lower receiver torque to 35 - 39 ft-lb. Use wooden vise jaws in vise in place of brass vise jaw caps, if available.



- c. Trigger guard (5) Install.
- d. Spring pin (6) Install using 1/8-inch drive pin punch and hand hammer.



3-20. MAJOR COMPONENTS OF M16A2 RIFLE.

This task covers:

a. Reassembly

b. Test

INITIAL SETUP**Tools**

Small Arms Repairman Tool Kit
 NSN 5180-00-357-7770/SL-3-00607A
 M16 Series and M231 Firing Port Weapon Direct
 Support and General Support Maintenance for
 5.56-mm Rifle Tool and Gage Set
 NSN 4933-00-056-7106/SL-3-06229A

References

TM 05538C-10/1

Equipment Condition

Weapon assembled

General Safety Instructions

To avoid injury to your eye, use care when removing
 and installing spring-loaded parts

Do not interchange bolt assemblies or components
 from one weapon to another. Doing so may result in
 injury to, or death of, personnel.

Live ammunition should not be near the work area.

LOCATION	ITEM	ACTION	REMARKS
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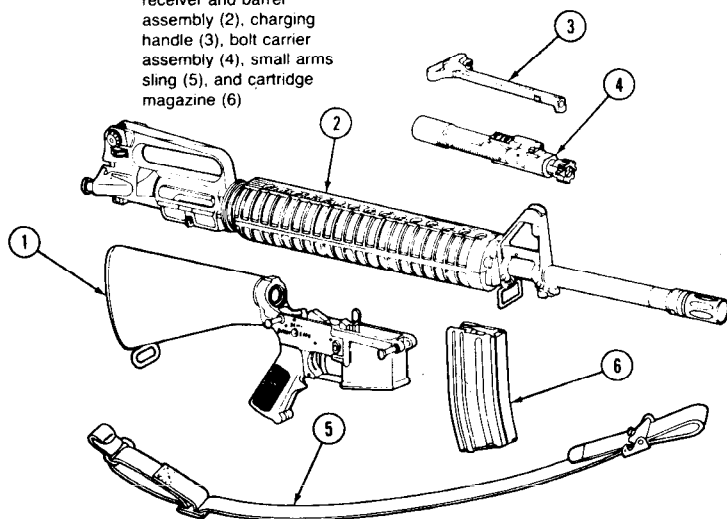
REASSEMBLY

Weapon

Lower receiver
 assembly (1), upper
 receiver and barrel
 assembly (2), charging
 handle (3), bolt carrier
 assembly (4), small arms
 sling (5), and cartridge
 magazine (6)

Install.

Refer to TM 05538C-10/1.



3-20. MAJOR COMPONENTS OF M16A2 RIFLE (CONT).

LOCATION	ITEM	ACTION	REMARKS
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TEST

Weapon

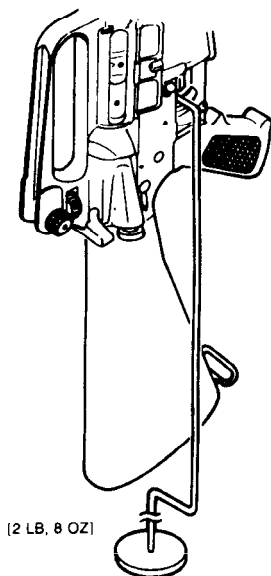
Trigger

Test trigger pull. Using trigger pull measuring fixture 7274758, add weights until hammer trips. Determine weight applied.

Place weapon in SEMI position and hold weapon in vertical position.

Hammer should not trip until 5 pounds have been applied, and it must trip prior to applying 8.5 pounds.

If rifle fails trigger pull test or excessive creep is present, replace trigger and/or hammer. Very careful and limited stoning of the trigger sear area may also correct bad trigger pulls. Avoid stoning notch on hammer as the correct angle is difficult to maintain. Never lighten trigger pulls to less than 5 pounds. Always gage trigger and hammer pin holes with no go plug gage 12006472 before stoning or replacing parts.



(1 LB, 8 OZ)

3-21. M16A2 RIFLE FINAL INSPECTION FOR INTERMEDIATE SUPPORT UNITS.

This task covers:

- a. Final inspection
- b. Test
- c. Functional theory of three-round burst control

INITIAL SETUP**Tools**

M16 Series and M231 Firing Port Weapon Direct
Support and General Support Maintenance
for 5.56-mm Rifle Tool and Gage Set
NSN 4933-00-056-7106/SL-3-06229A

References

TM 05538C-10/1

Equipment Condition

Weapon assembled

General Safety Instructions

Do not interchange bolt assemblies or components
from one weapon to another. Doing so may result in
injury to, or death of, personnel.

Live ammunition should not be near the work area.

LOCATION	ITEM	ACTION	REMARKS
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FINAL INSPECTION

Weapon	a. General appearance	Weapon should look almost new.	All metal surfaces are to have a dull, rust- or corrosion-resistant finish with no burrs or deep scratches.
	b. Barrel	Visually inspect for serviceability.	Barrels must be straight, clean, free of rust, powder fouling, and free of bulges and rings. Fine pitting is allowable.
	c. Weapon	Visually inspect for missing parts, serial numbers, steel parts, spring pins, and screws.	All parts must be attached, and all modifications must be applied. Serial numbers must be legible and steel parts must be rust free. Spring pins must be secure and screws must be tight.
		Functionally inspect key and bolt carrier assembly and gas tube alignment using the following procedures:	
		Step 1. Disengage the takedown pin and open the receiver.	Refer to TM 05538C-10/1.
		Step 2. Remove bolt carrier assembly.	Refer to TM 05538C-10/1.

3-21. M16A2 RIFLE FINAL INSPECTION FOR INTERMEDIATE SUPPORT UNITS (CONT).

LOCATION	ITEM	ACTION	REMARKS
FINAL INSPECTION (CONT)			
		Step 3. Remove bolt assembly from bolt carrier assembly	Refer to TM 05538C-10/1.
		Step 4. Insert key and bolt carrier assembly into upper receiver and barrel assembly.	The bolt assembly must not be installed while performing test.
		Step 5. Slide bolt carrier and key forward to detect binding between key and bolt carrier assembly and gas tube by feel.	Badly bent gas tube could cause damage to both the bolt key and bolt carrier assembly or the gas tube. A slightly bent gas tube will cause unnecessary wear of the carrier and key assembly and gas tube.
			Refer to TM 05538C-10/1.
		Step 6. Correct slight binding by removing weapon handguards and by slightly bending gas tube in the handguard area while repeating step 5 above until no binding is detected. Badly bent gas tubes will be replaced.	
		Step 7. Remove key and bolt carrier assembly from upper receiver and barrel assembly.	
		Step 8. Reassemble bolt assembly into key and bolt carrier assembly.	Refer to TM 05538C-10/1.
		Step 9. Reinstall bolt carrier assembly into upper receiver and barrel assembly.	
		Functional inspection.	Make a functional check of the rifle while the selector lever is in SAFE, SEMI, and BURST positions. Any portion of this check may be used alone to determine the operational condition of any specific fire selection.

LOCATION	ITEM	ACTION	REMARKS
	d. Charging handle	Pull to rear. Check to assure that chamber is clear.	Leave hammer in cocked position.
	e. Selector lever	Place in SAFE position and squeeze trigger.	Hammer should not fall.
		Place in SEMI position. Squeeze trigger.	Hammer should fall.
		Hold trigger to the rear, cock weapon, and release trigger. Squeeze trigger.	Hammer should fall.
	f. Three-round burst	Place in BURST position. Cock weapon and squeeze trigger.	Hammer should fall.
		While holding the trigger to the rear, pull the charging handle assembly to the rear and release it three times.	Hammer should not fall. The burst disconnector should have held the hammer to the rear while the trigger was in the squeezed position.
		Squeeze the trigger.	Hammer should fall. This should be the first round of a three-round burst.

NOTE

A detailed explanation of the three-round burst control can be found on page 3-76.

g. Magazine catch button	Press magazine catch button.	Make sure it functions properly.
h. Bolt catch	Press.	Make certain it operates smoothly and holds bolt in open position.
i. Front sight and rear sight	Inspect.	Make certain they can be adjusted properly. Refer to TM 05538C-10/1.
j. Forward assist assembly	Actuate.	It must work freely.
k. Upper receiver and barrel assembly	Inspect.	Barrel assembly should not rotate within upper receiver assembly.

TEST

a. Headspace	Check headspace using headspace gage 7799734.	See page 3-38.
b. Firing pin	Check firing pin protrusion using firing pin protrusion gage 7799735.	See page 3-14.
c. Barrel	Check barrel erosion using proper barrel erosion gage.	See page 3-37.
d. Compensator	Third or middle slot should be straight up (TDC).	See page 3-36.

3-21. M16A2 RIFLE FINAL INSPECTION FOR INTERMEDIATE SUPPORT UNITS (CONT).

FUNCTIONAL THEORY OF THREE-ROUND BURST CONTROL

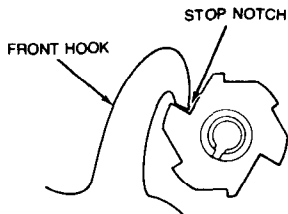
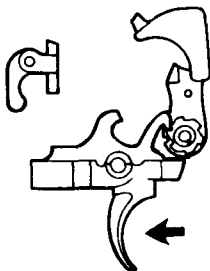
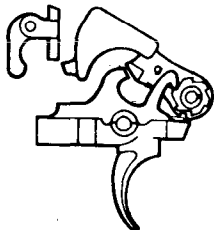
NOTE

First become familiar with the functioning of the firing mechanism especially when in the SAFE and SEMI positions. You should also understand the role that the automatic sear plays when firing in the BURST position. Functioning of the mechanism is explained below in a step by step manner. This actually will seem to complicate something that is really very simple and happens in less than one second. The diagrams below and on the following pages do not show the associated springs for the sake of simplicity. The positioning of the burst cam is shown in detail.

Functional check of three-round burst is as follows:

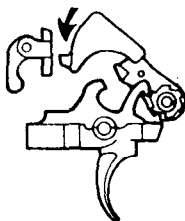
Assume the weapon is fully loaded with a live round in the chamber and the selector lever on BURST:

- a. Hammer is cocked.
- b. Front hook of burst disconnector is in stop notch.
- c. Trigger is pulled.
- d. Trigger nose drops and hammer falls firing the FIRST ROUND.
- e. Front hook of burst disconnector holds burst cam in place as hammer falls.

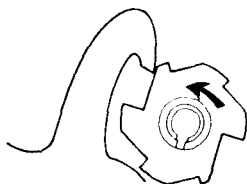


NOTE

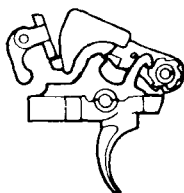
Anytime the hammer falls forward, the clutch spring releases the burst cam and allows the front hook of the burst disconnector to keep it in place.



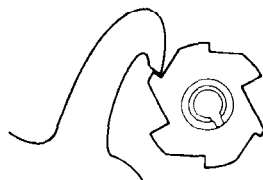
- f. As the bolt carrier assembly moves to the rear, the hammer is forced to the rear.



- g. The clutch spring of the burst cam clutches the cam and causes it to rotate one notch as the hammer is forced back.



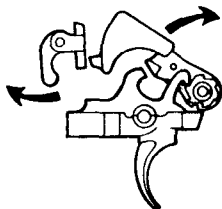
- h. When hammer is fully to the rear, the automatic sear catches it.



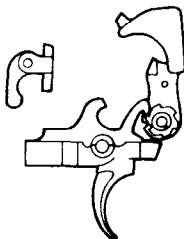
- i. The front hook of the burst disconnector is now fully in the second notch.

3-21. M16A2 RIFLE FINAL INSPECTION FOR INTERMEDIATE SUPPORT UNITS (CONT).

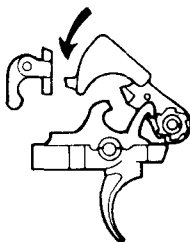
FUNCTIONAL THEORY OF THREE-ROUND BURST CONTROL (CONT)



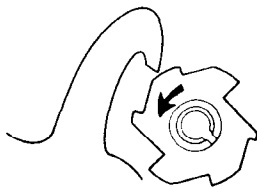
- j. As the bolt carrier assembly travels forward, the automatic sear releases the hammer and the hammer falls.



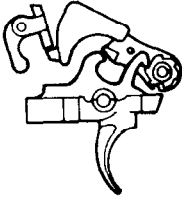
- k. When the hammer falls, the SECOND ROUND is fired.



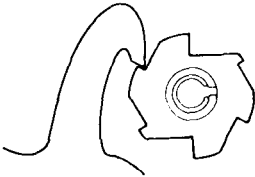
- l. As the bolt carrier assembly moves to the rear, the hammer is forced back to the rear.



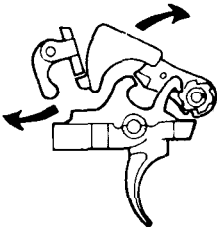
- m. The clutch spring of the burst cam clutches against the cam and causes it to rotate one notch as the hammer is forced back.



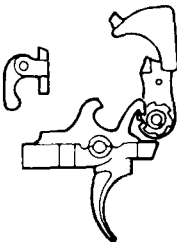
- n. When the hammer is fully to the rear, the automatic sear catches it.



- o. The front hook of the burst disconnector is now fully in the third notch.



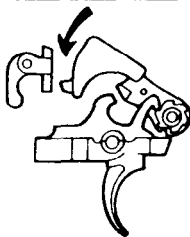
- p. As the bolt carrier assembly travels forward, the automatic sear releases the hammer and the hammer falls.



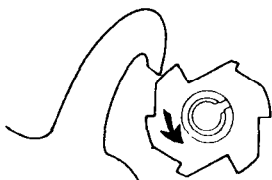
- q. When the hammer falls, the THIRD ROUND is fired.

3-21. M16A2 RIFLE FINAL INSPECTION FOR INTERMEDIATE SUPPORT UNITS (CONT).

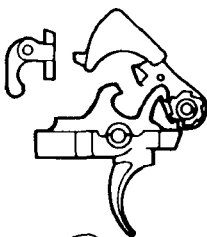
FUNCTIONAL THEORY OF THREE-ROUND BURST CONTROL (CONT)



- r. As the bolt carrier moves to the rear, the hammer is forced back to the rear.

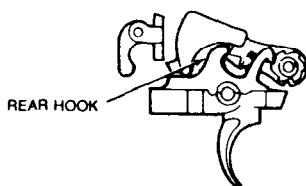


- s. The clutch spring of the burst cam clutches against the cam and causes it to rotate one notch as the hammer is forced back.

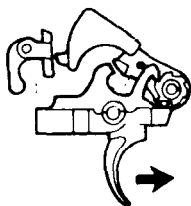


- t. When the hammer is fully to the rear, it is initially caught by the automatic sear. However, the front hook of the burst disconnector is now fully in the next stop notch which is deeper than the others.





- u. Because a stop notch is deeper than the others, it allows the front hook of the burst disconnector further forward than before. This allows the rear hook of the burst disconnector to latch on the rear hammer notch. This holds the hammer fully to the rear even though the trigger is still to the rear. This happens when the burst is over and the firing is stopped.



- v. Once the trigger is released, the trigger nose comes up and holds the hammer back.

NOTE

Pulling the trigger to the rear and *holding it back again* will fire another three-round burst. This will continue until the magazine is empty. However, the trigger must be released between each burst.

3-22. M16A2 RIFLE ANNUAL ORGANIZATIONAL AND INTERMEDIATE SUPPORT LIMITED TECHNICAL INSPECTION (LTI) INSPECTION AND GAGING REQUIREMENTS.

This task covers:

a. LTI inspection

b. Gaging

INITIAL SETUP

Tools

DA Form 2407

Small Arms Repairman Tool Kit

NSN 5180-00-357-7770/SL-3-00607A

Field Maintenance Basic Less Power Small Arms
Shop Equipment SC 4933-95-CL-A11 (19204)

M16 Series and M231 Firing Port Weapon Direct
Support and General Support Maintenance for
5.56-mm Rifle Tool and Gage set

NSN 4933-00-056-7106/SL-3-06229A

Equipment Condition

Weapon assembled

General Safety Instructions

To avoid injury to your eye, use care when removing and installing spring-loaded parts.

Do not interchange bolt assemblies or components from one weapon to another. Doing so may result in injury to, or death of, personnel.

All M16A2 rifles must have an LTI and be gaged at least once annually for safety. In addition, an LTI will be performed at the time of rifle issue and prior to annual requalification.

References

TM 05538C-10/1

TM 4700-15/1

LOCATION	ITEM	ACTION	REMARKS
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LTI INSPECTION

Weapon	General appearance	Overall appearance should indicate a well-maintained weapon.	All visual and functional inspection requirements should be met.
	Lower receiver and buttstock assembly	Perform final inspection.	See page 3-74.

LOCATION	ITEM	ACTION	REMARKS
GAGING			
Weapon	a. Bolt carrier assembly	Gage firing pin protrusion using firing pin protrusion gage 7799735.	See page 3-14.
		Gage firing pin hole using no go plug gage 12620101.	See page 3-14.
	b. Upper receiver and barrel assembly	Inspect chamber using chamber reflector tool 8448201.	See page 3-28.
	c. Upper receiver and barrel assembly	Gage barrel using proper barrel erosion gage, as applicable, and bore straightness gage 8448202.	See page 3-37.
	d. Upper receiver and barrel assembly	Check headspace by inserting headspace gage 7799734 in chamber.	See page 3-38.
	e. Lower receiver and extension assembly	Gage pivot pin lug area clearance using fabricated lower receiver go-no go gage.	See page 3-57.
	f. Weapon	Gage trigger pull using trigger pull measuring fixture 7274758.	See page 3-72.
Document	NAVMC 11003	Document all LTI's when completed.	See TM 4700-15/1.

CHAPTER 4 MAINTENANCE OF AUXILIARY EQUIPMENT

CHAPTER OVERVIEW

This chapter contains information and instructions to keep auxiliary equipment used with your weapon in good repair. The chapter contains:

- a. Organizational Level Auxiliary Equipment
- b. Intermediate Support Level Auxiliary Equipment

Section I. ORGANIZATIONAL LEVEL AUXILIARY EQUIPMENT REPAIR

4-1. GENERAL.

a. The following materiel is used in conjunction with the M16A2 rifle:

- (1) Bayonet-Knife M7
- (2) Bayonet-Knife Scabbard M8A1 or M10
- (3) 40-mm Grenade Launcher M203

- (4) Lock Plate
- (5) Top Sling Adapter
- (6) Blank Firing Attachment M15A2

b. Refer to TM 9-1010-221-24&P for organizational maintenance for the Grenade Launcher M203.

4-2. BAYONET-KNIFE M7.

This task covers:

- a. Disassembly
- b. Inspection/Repair
- c. Reassembly

INITIAL SETUP

General Safety Instructions

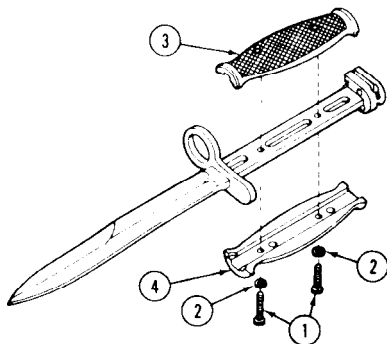
Keep tip of blade pointed away from body at all times.

LOCATION	ITEM	ACTION	REMARKS
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DISASSEMBLY

Bayonet-Knife M7

- a. Grip screws (1) Remove.
- b. Lock washers (2) and grips (3 and 4) Remove.



4-2. BAYONET-KNIFE M7 (CONT).

LOCATION	ITEM	ACTION	REMARKS
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INSPECTION/REPAIR

Bayonet-Knife M7

a. Grip screws

Inspect threads and replace if stripped or damaged.

b. Grips

Inspect for cracks in both grips and for stripped threads in the left grip.

Notify intermediate maintenance if grips are cracked or if grip screws have stripped threads.



CRACKED



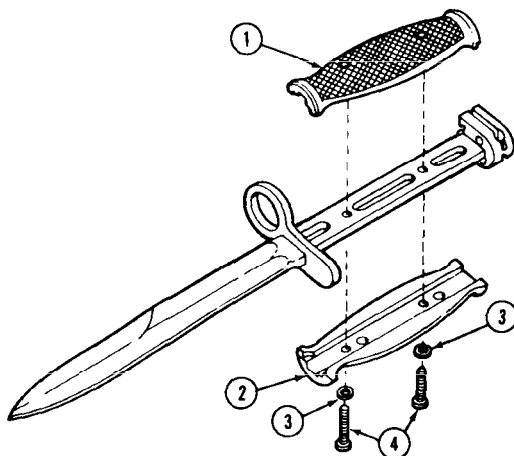
STRIPPED

REASSEMBLY

Bayonet-Knife M7

Grips (1 and 2), lock washers (3), and grip screws (4)

Install grips and secure with lock washers and grip screws.



4-3. BAYONET-KNIFE SCABBARD M8A1 OR M10.

This task covers inspection/repair.

INITIAL SETUP**Materials/Parts**

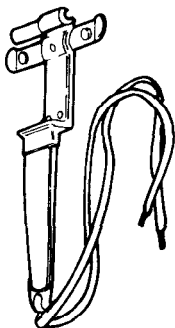
- Olive drab enamel (item 13, app D)
- Solid film lubricant (item 17, app D)

LOCATION	ITEM	ACTION	REMARKS
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INSPECTION/REPAIR

Bayonet-Knife
Scabbard M8A1
or M10

All parts



Inspect metal parts. They must be dark. Worn metal area will be repaired by applying solid film lubricant (item 17, app D).

Inspect scabbard for chipped or exposed fabric and scratched or marred surfaces.

Repair by smoothing, as required, and paint with olive drab enamel (item 13, app D).

Inspect lace. Clean and/or replace damaged lace.

Scabbard is considered serviceable if lace is missing.

4-4. LOCK PLATE.

This task covers:

- a. Installation
- b. Removal
- c. Inspection

INITIAL SETUP

Tools

Small Arms Repairman Tool Kit
NSN 5180-00-357-7770/SL-3-00607A

LOCATION	ITEM	ACTION	REMARKS
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WARNING

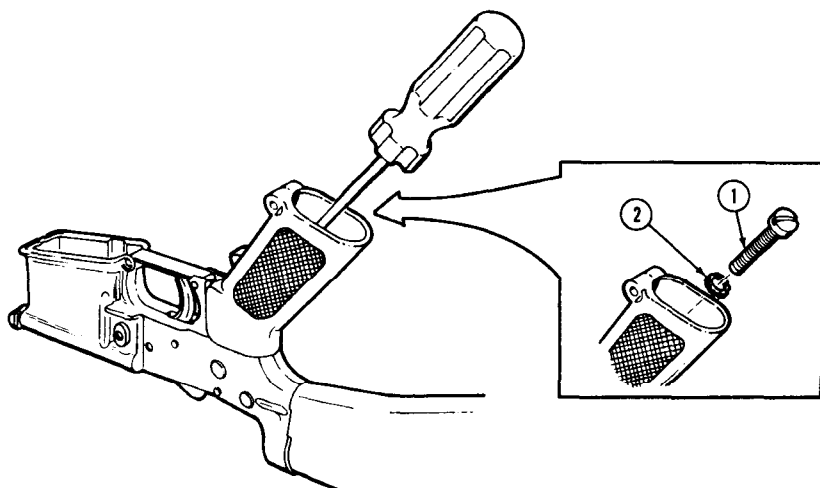
The lock plate prevents the selector from being placed in BURST and will be installed at the discretion of the unit commander. Required for civil disturbance (riot control units only). It is recommended for use in civil disturbance (riot control).

INSTALLATION

Lower Receiver and
Buttstock Assembly

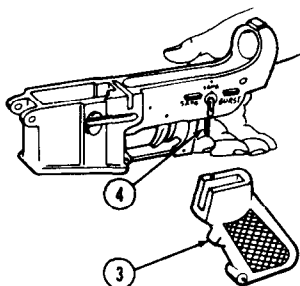
- a. Screw (1) and lock
washer (2)

Using screwdriver, reach inside
rifle grip and remove screw and
lock washer.



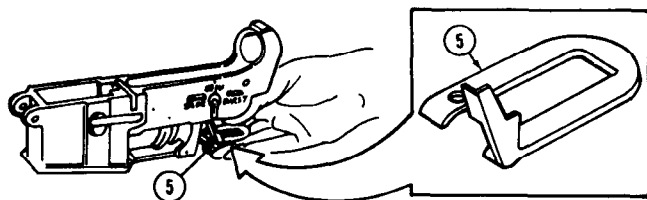
LOCATION	ITEM	ACTION	REMARKS
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- b. Rifle grip (3) and helical spring (4) Carefully remove rifle grip. Hold helical spring in place.



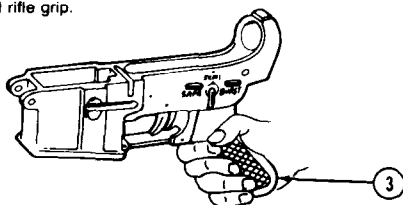
- c. Lock plate (5)

Install lock plate with the detent spring passing through the hole in the right side, and the arm on the outside of the receiver and pointing to the SAFE position.



- d. Rifle grip (3)

Carefully compressing spring, install rifle grip.



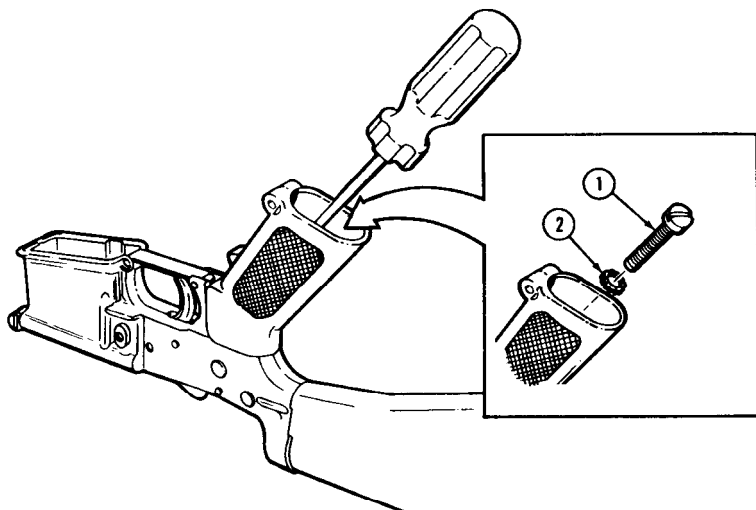
4-4. LOCK PLATE (CONT).

LOCATION	ITEM	ACTION	REMARKS
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INSTALLATION (CONT)

- e. Lock washer (2) and screw (1)

Using screwdriver, install lock washer and screw.



REMOVAL

Reverse of installation.

INSPECTION

Lower Receiver and
Buttstock Assembly

Lock plate

Tang is broken off. Replace.

4-5. TOP SLING ADAPTER.

This task covers:

- a. Installation
b. Removal
c. Inspection

INITIAL SETUP**Materials/Parts**

Top sling adapter kit 8448471

References

TM 9-1005-286-10

LOCATION	ITEM	ACTION	REMARKS
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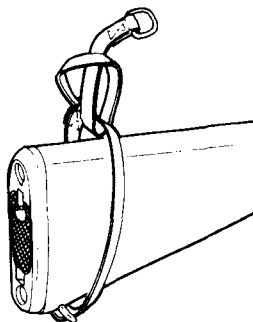
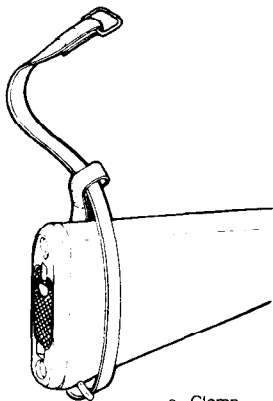
INSTALLATION

Rifle M16A2

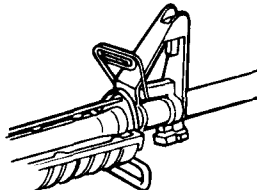
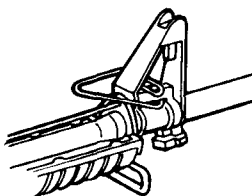
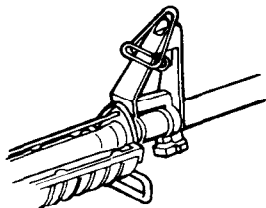
- a. Rifle sling
b. Top sling strap

Remove.
Install and tie.

See TM 9-1005-286-10.



Remove upper handguard.
Use pliers to force clamp.



4-5. TOP SLING ADAPTER (CONT).

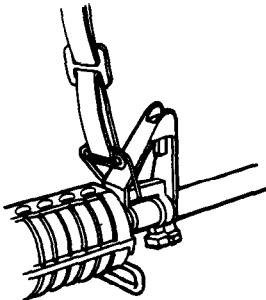
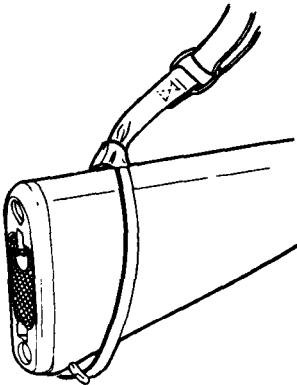
LOCATION	ITEM	ACTION	REMARKS
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INSTALLATION (CONT)

d. Sling

Attach to adapter strap and front clamp.
Adjust sling.

Reinstall upper handguard.



REMOVAL

Reverse of installation.

INSPECTION

Rifle M16A2	Top sling adapter	Replace if badly worn or damaged.
-------------	-------------------	-----------------------------------

4-6. BLANK FIRING ATTACHMENT M15A2.

This task covers:

- | | |
|-----------------|----------------|
| a. Installation | d. Inspection |
| b. Removal | e. Repainting |
| c. Cleaning | f. Replacement |

INITIAL SETUP**Materials/Parts**

- Cleaner, lubricant and preservative (CLP)
(item 6, app D)
Fluorescent coating compound (item 9, app D)

General Safety Instructions

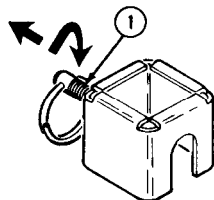
Do not keep live ammunition near the work area. Only blank cartridge M200 is to be used when the blank firing attachment is attached to the rifle.

LOCATION	ITEM	ACTION	REMARKS
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INSTALLATIONBlank Firing
Attachment M15A2

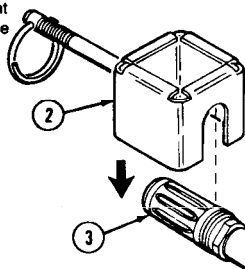
- a. Slide (1)

Unscrew and pull slide all the way out.



- b. Blank firing attachment (2) and compensator (3)

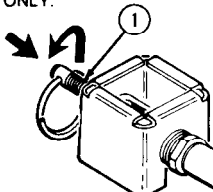
Hook blank firing attachment behind the first groove of the compensator.

**CAUTION**

Do not use tools to tighten the blank firing attachment, HANDS ONLY.

- c. Slide (1)

Push slide into compensator and hand tighten.

**NOTE**

Check and retighten after firing approximately 50 rounds.

4-6. BLANK FIRING ATTACHMENT M15A2 (CONT).

LOCATION	ITEM	ACTION	REMARKS
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REMOVAL

Reverse of installation.

CLEANING

Blank Firing
Attachment M15A2

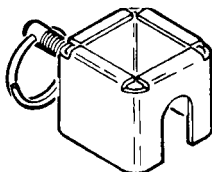
Clean with CLP (item 6, app D),
wipe dry, and coat with CLP.

INSPECTION

Blank Firing
Attachment M15A2

Inspect for cracks or distortion.
Be sure the parts in the slide are
clear and clean.

If blank firing attachment is
cracked or distorted, it is
unserviceable.



REPAINTING

Blank Firing
Attachment M15A2

Repaint blank firing attachment
using fluorescent coating com-
pound (item 9, app D).

Painting is the only repair
authorized.

REPLACEMENT

Blank Firing
Attachment M15A2

Replace if unserviceable.

Section II. INTERMEDIATE LEVEL AUXILIARY EQUIPMENT REPAIR

4-7. GENERAL.

a. The Bayonet-Knife M7 is used in conjunction with the M16A2 rifle.

b. Refer to TM 9-1010-221-24&P for direct support and general support maintenance for the Grenade Launcher M203.

4-8. BAYONET-KNIFE M7.

This task covers:

- a. Disassembly
- b. Inspection/Repair

c. Reassembly

INITIAL SETUP

Tools

Small Arms Repairman Tool Kit
 NSN 5180-00-357-7770/SL-3-00607A
 Field Maintenance Basic Less Power
 Small Arms Shop Set SC 4933-95-CL-A11 (19204)

General Safety Instructions

Keep tip of blade pointed away from body at all times.

To avoid injury to your eye, use care when removing and installing spring-loaded parts.

Equipment Condition
 Assembled

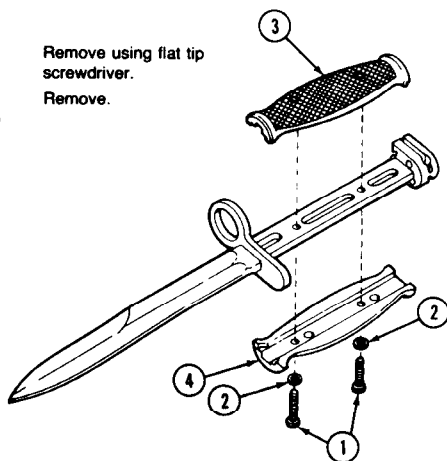
LOCATION	ITEM	ACTION	REMARKS
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DISASSEMBLY

Bayonet-Knife M7

- a. Grip screws (1)
- b. Lock washers (2), grip (3) and grip (4)

Remove using flat tip screwdriver.
 Remove.



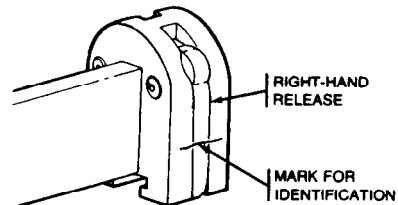
4-8. BAYONET-KNIFE M7 (CONT).

LOCATION	ITEM	ACTION	REMARKS
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DISASSEMBLY (CONT)

NOTE

Prior to disassembly, it is recommended that the right-hand release and plate be marked (using machinist's scriber) to assist in identification when assembling the left- and right-hand releases.



c. Spring pin (5)

Remove using drive pin punch and hand hammer.

d. Release (6) and spring (7)

Remove.

e. Spring pin (8)

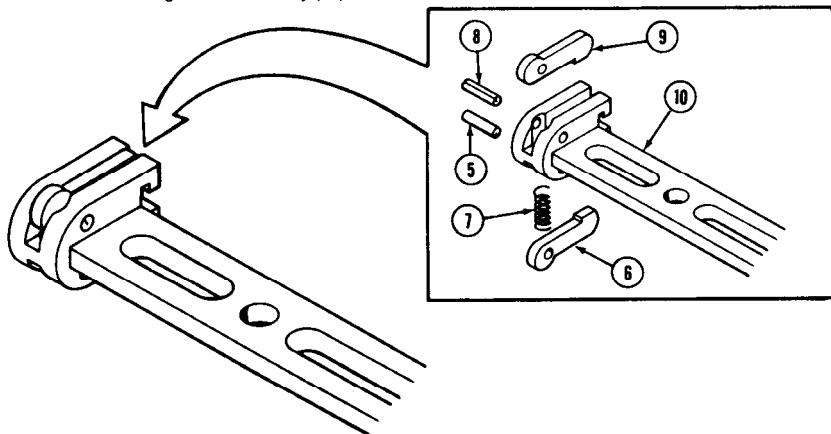
Remove using drive punch and hand hammer.

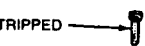
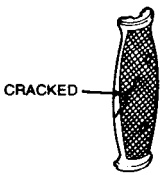
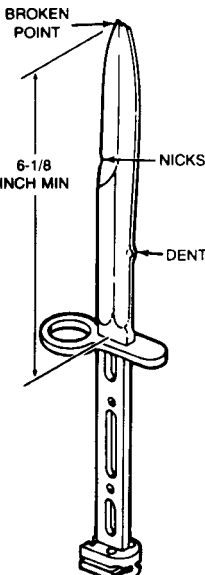
f. Release (9)

Remove.

Spring tension will be present if release (6) was not removed.

g. Blade assembly (10)

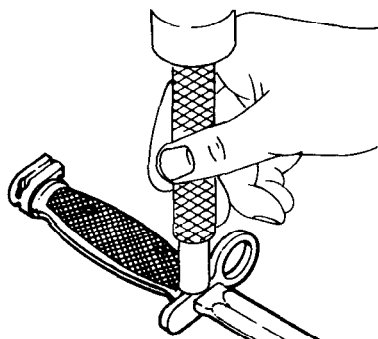


LOCATION	ITEM	ACTION	REMARKS
INSPECTION/REPAIR			
Bayonet-Knife M7	a. Screws	Inspect threads and replace if stripped or damaged.	 STRIPPED
	b. Grips	Inspect for cracks in both grips and stripped threads in the left grip. Replace if defective.	 CRACKED
	c. Spring pins	Replace if worn or damaged.	 WORN
	d. Spring	Inspect for kinked, set, or broken springs. Replace if defective.	 BENT BROKE
	e. Release	Inspect release camming area for wear if positive retention is questionable. Replace the release. Inspect release for bends. Repair by straightening or replacing, as required.	 WORN
	f. Blade assembly	Inspect blade assembly for nicks, breaks, or dents. Repair by grinding and/or stoning. The length of the blade (measured from the front face of the guard) must not be less than 6 1/8 inches after repointing. Nicks on the cutting edge not exceeding 3/16 inch in depth may be removed by grinding. Ground areas shall be blended into adjacent surfaces. Inspect plates for looseness. Stake or peen to tighten. If unable to tighten, spot or arc weld. Make certain when repairing that sufficient clearance exists after repairs to permit positive retention of bayonet to the rifle.	 BROKEN POINT NICKS DENT 6-1/8 INCH MIN

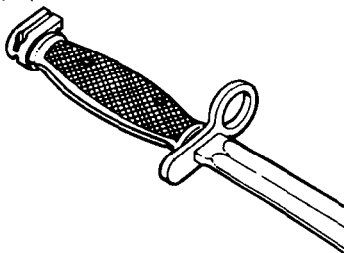
4-8. BAYONET-KNIFE M7 (CONT).

LOCATION	ITEM	ACTION	REMARKS
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INSPECTION/REPAIR (CONT)



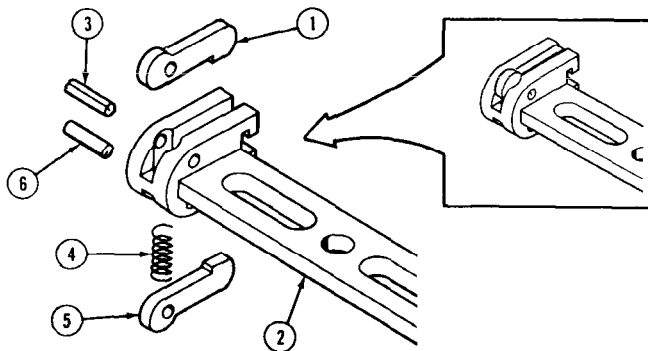
Inspect for loose guard. Repair by swaging the link using a large diameter drive pin punch and steel hammer.



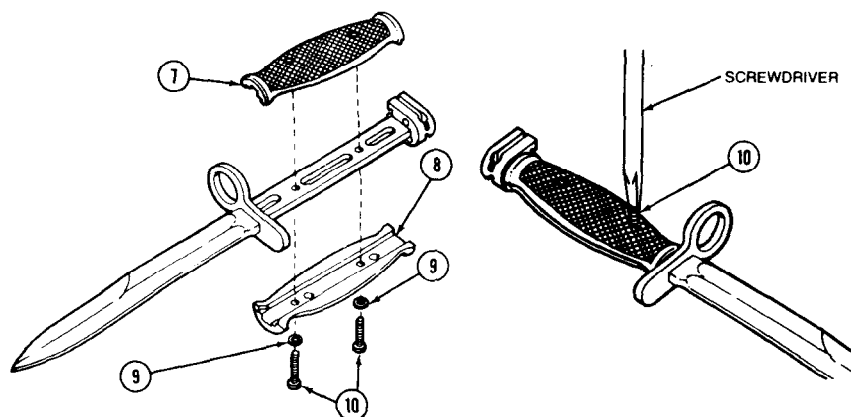
REASSEMBLY

Bayonet-Knife M7

- | | |
|---------------------------------------|--|
| a. Release (1) and blade assembly (2) | Install. |
| b. Spring pin (3) | Install using drive pin punch and hand hammer. |
| c. Spring (4) and release (5) | Install. |
| d. Spring pin (6) | Install using drive pin punch and hand hammer. |



LOCATION	ITEM	ACTION	REMARKS
	e. Grip (7), grip (8) and lock washers (9)	Install.	
	f. Screw (10)	Install using flat tip screwdriver.	



APPENDIX A REFERENCES

A-1. TECHNICAL BULLETINS.

TB 9-1000-247-34	Standards for Oversea Shipment or Domestic Issue of Small Arms, Aircraft Armament, Towed Howitzers, Mortars, Recoilless Rifles, Rocket Launchers and Associated Fire Control Equipment
TB 43-0196	Inspection and Certification of Gages, Small Arms

A-2. TECHNICAL MANUALS.

TM 05538C-10/1	U.S. Marine Corps Operator's Manual W/Components List M16A2 Rifle
TM 9-1005-301-30	Direct Support Maintenance Manual: Repair of Wooden, Fiber Glass/Plastic or Plastic Components of Small Arms Weapons
TM 9-1010-221-24&P	Organizational, Direct Support and General Support Maintenance Manual (Including Repair Parts and Special Tools List) for Launcher, Grenade: 40-mm M203 W/E (NSN 1010-00-179-6447)
TM 740-90-1	Administrative Storage of Equipment
TM 4700-15/1	Equipment Record Procedures

A-3. TECHNICAL INSTRUCTIONS.

TI 05538A-15/2A	Early Warning Indications of Malfunctions
TI-05538A- 35/12A	Checking Muzzle and Breech Erosion in Barrel
TI 8005-24/20	Prefire Inspection, Small Arms Weapons, Ordnance Material

A-4. FIELD MANUALS.

FM 21-11	First Aid for Soldiers
FM 23-9	M16A1 Rifle and Rifle Marksmanship

A-5. RELATED PUBLICATIONS.

FMFM 1-3A	Field Firing Techniques
FMFM 6-5	Marine Rifle Squad
MIL-STD-1189	Packaging, Packing and Marking for Shipment of Inert Ammunition Components
SI-1300-15/1	Ammo Data Cards, Marine Corps Ammo
SI-1300-15/2B	Procedure for Requesting Disposition for Class V (W) Materiel
SL-3-06229A	Components List for Tool and Gage Set for M16A1 Rifle

APPENDIX B MAINTENANCE ALLOCATION CHART

Section I. INTRODUCTION

B-1. GENERAL.

a. This section provides a general explanation of all maintenance and repair functions authorized at various maintenance categories.

b. The Maintenance Allocation Chart (MAC) in section II designates overall authority and responsibility for the performance of maintenance functions on the identified end item or component. The application of the maintenance functions to the end item or component will be consistent with the capacities and capabilities of the designated maintenance categories.

c. Section III lists the tools and test equipment (both special tools and common tool sets) required for each maintenance function as referenced from section II.

d. Section IV contains supplemental instructions and explanatory notes for a particular maintenance function.

B-2. MAINTENANCE FUNCTIONS. Maintenance functions will be limited to and defined as follows: (except for ammunition MAC).

a. *Inspect.* To determine the serviceability of an item by comparing its physical, mechanical, and/or electrical characteristics with established standards through examination (e.g., by sight, sound, or feel).

b. *Test.* To verify serviceability by measuring the mechanical, pneumatic, hydraulic, or electrical characteristics of an item and comparing those characteristics with prescribed standards.

c. *Service.* Operations required periodically to keep an item in proper operating condition, i.e., to clean (includes decontaminate, when required), to preserve, to drain, to paint, or to replenish fuel, lubricants, chemical fluids, or gases.

d. *Adjust.* To maintain or regulate, within prescribed limits, by bringing into proper or exact position, or by setting the operating characteristics to specified parameters.

e. *Align.* To adjust specified variable elements of an item to bring about optimum or desired performance.

f. *Calibrate.* To determine and cause corrections to be made or to be adjusted on instruments or test, measuring, and diagnostic equipments used in precision measurement. Consists of comparisons of two instruments, one of which is a certified standard of known accuracy, to detect and adjust any discrepancy in the accuracy of the instrument being compared.

g. *Remove/Install.* To remove and install the same item when required to perform service or other maintenance functions. Install may be the act of emplacing, seating, or fixing into position a spare, repair part, or module (component or assembly) in a manner to allow the proper functioning of an equipment or system.

h. *Replace.* To remove an unserviceable item and install a serviceable counterpart in its place. "Replace" is authorized by the MAC and is shown as the 3d position code of the SMR code.

i. *Repair.* The application of maintenance services¹, including fault location/troubleshooting², removal/installation, and disassembly/assembly³ procedures, and maintenance actions⁴ to identify troubles and restore serviceability to an item by correcting specific damage, fault, malfunction, or failure in a part, subassembly, module (component or assembly), end item, or system.

j. *Overhaul.* That maintenance effort (service/action) prescribed to restore an item to a completely serviceable/operational condition as required by maintenance standards in appropriate technical publications (i.e., DMWR). Overhaul is normally the highest degree of maintenance performed by the Army. Overhaul does not normally return an item to like new condition.

k. *Rebuild.* Consists of those services/actions necessary for the restoration of unserviceable equipment to a like new condition in accordance with original manufacturing standards. Rebuild is the highest degree of materiel maintenance applied to Army equipment. The rebuild operation includes the act of returning to zero those age measurements (hours/miles, etc.) considered in classifying Army equipment/components.

¹Services - inspect, test, service, adjust, align, calibrate, and/or replace.

²Fault locate/troubleshoot - The process of investigating and detecting the cause of equipment malfunctioning; the act of isolating a fault within a system or unit under test (UUT).

³Disassemble/assemble - encompasses the step-by-step taking apart (or breakdown) of a spare/functional group coded item to the level of its least componentry identified as maintenance significant (i.e., assigned an SMR code) for the category of maintenance under consideration.

⁴Actions - welding, grinding, riveting, straightening, facing, remachining, and/or resurfacing.

B-3. EXPLANATION OF COLUMNS IN THE MAC, SECTION II.

a. *Column 1, Group Number.* Column 1 lists functional group code numbers, the purpose of which is to identify maintenance significant components, assemblies, subassemblies, and modules with the next higher assembly. End item group number shall be "00."

b. *Column 2, Component/Assembly.* Column 2 contains the names of components, assemblies, subassemblies, and modules for which maintenance is authorized.

c. *Column 3, Maintenance Function.* Column 3 lists the functions to be performed on the item listed in Column 2. (For detailed explanation of these functions, see paragraph B-2.)

d. *Column 4, Maintenance Category.* Column 4 specifies, by the listing of a work time figure in the appropriate subcolumn(s), the category of maintenance authorized to perform the function listed in Column 3. This figure represents the active time required to perform that maintenance function at the indicated category of maintenance. If the number or complexity of the tasks within the listed maintenance function vary at different maintenance categories, appropriate work time figures will be shown for each category. The work time figure represents the average time required to restore an item (assembly, subassembly, component, module, end item, or system) to a serviceable condition under typical field operating conditions. This time includes preparation time (including any necessary disassembly/assembly time), troubleshooting/fault location time, and quality assurance/quality control time in addition to the time required to perform the specific tasks identified for the maintenance functions authorized in the maintenance allocation chart. The symbol designations for the various maintenance categories are as follows:

C	Operator or Crew
O	Organizational Maintenance
I	Intermediate Maintenance
L	Specialized Repair Activity (SRA)
D	Depot Maintenance

e. *Column 5, Tools and Equipment.* Column 5 specifies, by code, those common tool sets (not individual tools) and special tools, TMDE, and support equipment required to perform the designated function.

f. *Column 6, Remarks.* This column shall, when applicable, contain a letter code, in alphabetic order, which shall be keyed to the remarks contained in Section IV.

B-4. EXPLANATION OF COLUMNS IN TOOL AND TEST EQUIPMENT REQUIREMENTS, SECTION III.

a. *Column 1, Reference Code.* The tool and test equipment reference code correlates with a code used in the MAC, Section II, Column 5.

b. *Column 2, Maintenance Category.* The lowest category of maintenance authorized to use the tool or test equipment.

c. *Column 3, Nomenclature.* Name or identification of the tool or test equipment.

d. *Column 4, National Stock Number.* The National stock number of the tool or test equipment.

e. *Column 5, Tool Number.* The manufacturer's part number.

B-5. EXPLANATION OF COLUMNS IN REMARKS, SECTION IV.

a. *Column 1, Reference Code.* The code recorded in column 6, Section II.

b. *Column 2, Remarks.* This column lists information pertinent to the maintenance function being performed as indicated in the MAC, Section II.

Section II. MAINTENANCE ALLOCATION CHART

(1) GROUP NUMBER	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE CATEGORY				(5) TOOLS AND EQPT	(6) REMARKS
			C	O	I	D		
00	M16A2 RIFLE, 5.56MM	Inspect Test Service Replace Repair Overhaul	0.1 0.1 0.2 0.1 0.1	0.2 0.1 0.3 0.1 1.5	0.3 0.3 0.1 1.5	..	4	A
01	BOLT CARRIER ASSEMBLY	Inspect Test Service Install Replace Repair	0.1 0.1 0.1 0.1 0.1	0.1 0.1 0.1 0.1 0.2	0.1 0.1 0.1 0.1 0.2		4 2, 3	
0101	Bolt Assembly	Inspect Test Service Install Replace Repair	0.1 0.1 0.1 0.1 0.2	0.1 0.1 0.1 0.1 0.2	0.1 0.1 0.1 0.1 0.2		4 2, 3	
0102	Key and Bolt Carrier Assembly	Inspect Service Install Replace Repair	0.1 0.1 0.1 0.1 0.2	0.1 0.1 0.1 0.1 0.2	0.1 0.1 0.1 0.1 0.2		2, 3	A
02	HANDLE ASSEMBLY	Inspect Service Install Replace Repair	0.1 0.1 0.1 0.1 0.1	0.1 0.1 0.1 0.1 0.1			2	
03	UPPER RECEIVER AND BARREL ASSEMBLY	Inspect Test Service Install Replace Repair	0.1 0.2 0.1 0.1 0.1	0.2 0.2 0.1 0.1 0.1	0.1 0.2 0.1 0.2 0.5		2, 3, 4	
0301	Barrel Assembly	Inspect Replace Repair	0.1 0.2 0.2	0.2 0.5 0.5			2	B, C

**Worktimes are included in DMWR 9-1005-249.

(1) GROUP NUMBER	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE CATEGORY				(5) TOOLS AND EQPT	(6) REMARKS
			C	O	I	D		
0302	Upper Receiver Assembly	Inspect Install Replace Repair	0.1		0.1 0.2 0.5 0.3		2, 3	
030201	Forward Assist Assembly	Inspect Install Replace Repair	0.1	0.1	0.1 0.2 0.2 0.2		2, 3	
030202	Rear Sight Assembly	Inspect Install Replace Repair			0.1 0.2 0.5 0.3			
04	LOWER RECEIVER AND BUTTSTOCK ASSEMBLY	Inspect Test Service Install Repair	0.1 0.2 0.1	0.2 0.2 0.1 0.3	0.2 0.1 0.1 0.3		4 2, 3, 4	D, E, F, G, H
0401	Buttstock Assembly	Inspect Install Replace Repair	0.1	0.1 0.1 0.3	0.1 0.1 0.1 1.0		2	H
0402	Hammer Assembly	Inspect Install Replace Repair	0.1	0.1	0.1 0.1 0.1 0.1		2, 3	
0403	Trigger Assembly	Inspect Install Replace Repair	0.1	0.1	0.1 0.1 0.1 0.1		2, 3	
0404	Lower Receiver and Receiver Extension Assembly	Inspect Test Install Repair			0.1 0.1 0.1 0.3		4 2, 3, 4	
05	Bayonet-Knife M7	Inspect Service Replace Repair	0.1 0.2	0.1 0.2			2, 3	

**Section III. TOOL AND TEST EQUIPMENT REQUIREMENTS
FOR
M16A2 RIFLE**

(1) TOOL OR TEST EQUIPMENT REF CODE	(2) MAINTENANCE CATEGORY	(3) NOMENCLATURE	(4) NATIONAL/ NATO STOCK NUMBER	(5) TOOL NUMBER
1	O	Tool Kit, Small Arms Repairman	5180-00-357-7770	SL-3-00607A
2	F	Shop Set, Small Arms. Field Maintenance, Basic Less Power	4933-00-754-0664	SC 4933-95-CL-A11
3	F	Tool and Gage Set, DS/GS Maintenance for 5.56-mm Rifle, M16 Series and M231 Firing Port Weapon	4933-00-056-7106	SL-3-06229A
4	F	Magnet, Permanent	5340-01-054-0124	1809

Section IV. REMARKS

REFERENCE CODE	REMARKS
A	Tool, Key
B	Tool, Sight Remover
C	Depressor, Front Sight Detent
D	Tool, Pivot Pin Removing
E	Tool, Pivot Pin Installation
F	Gage, Receiver
G	Pin, Modified Old Trigger "Slave"
H	TM 9-1005-301-30

APPENDIX C ORGANIZATIONAL AND INTERMEDIATE MAINTENANCE REPAIR PARTS AND SPECIAL TOOLS LIST

Section I. INTRODUCTION

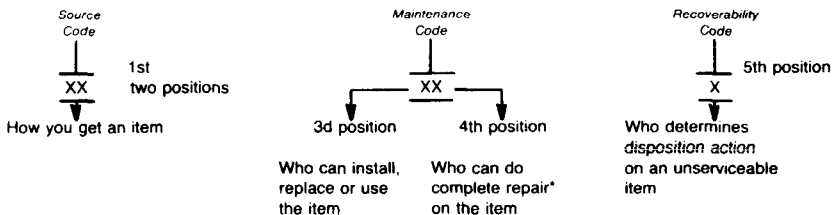
C-1. SCOPE. This appendix lists and authorizes spares and repair parts; special tools; special test, measurement, and diagnostic equipment (TMDE); and other special support equipment required for performance of organizational and intermediate maintenance of the 5.56-mm Rifle M16A2. It authorizes the requisitioning, issue, and disposition of spares, repair parts and special tools as indicated by the Source, Maintenance and Recoverability (SMR) codes.

C-2. GENERAL. This Repair Parts and Special Tools List is divided into the following sections:

- a. *Section II. Repair Parts List.* A list of spares and repair parts authorized by this RPSTL for use in the performance of maintenance. The list also includes parts which must be removed for replacement of the authorized parts. Parts lists are composed of functional groups in ascending alphanumeric sequence, with the parts in each group listed in ascending figure and item number sequence. Bulk materials are listed in NSN sequence.
- b. *Section III. Special Tools List.* A list of special tools, special TMDE, and other special support equipment authorized by this RPSTL for the performance of maintenance.
- c. *Section IV. National Stock Number and Part Number Index.* A list, in National item identification number (NIIN) sequence, of all National stock numbers (NSN) appearing in the listings, followed by a list in alphanumeric sequence of all part numbers appearing in the listings. National stock numbers and part numbers are cross-referenced to each illustration figure and item number appearance.

3. EXPLANATION OF COLUMNS.

- a. *ILLUSTRATION (Column (1)).* This column is divided as follows:
 - (1) ((a) FIG NO.) Figure number. Indicates the figure number illustrating an exploded view of a functional group.
 - (2) ((b) ITEM NO.). Indicates the number used to identify items called out in the illustration.
- b. *SMR CODE (Column (2)).* The Source, Maintenance, and Recoverability (SMR) code is a 5-position code containing supply/requisitioning information, maintenance category authorization criteria, and disposition instructions, as shown in the following breakout:



*Complete Repair: Maintenance capacity, capability, and authority to perform all the corrective maintenance tasks of the "Repair" function in a use/user environment in order to restore serviceability to a failed item.

(1) **Source code.** The source code tells you how you get an item needed for maintenance, repair, or overhaul of an end item/equipment. Source codes are always the first two positions of the SMR code. Explanations of source codes follow:

Code	Explanation
PA PB PC PD PE PF PG	Stocked items; use the applicable NSN to request/requisition items with these source codes. They are authorized to the category indicated by the code entered in the 3d position of the SMR code.
KD KF KB	Items with these codes are not to be requested/requisitioned individually. They are part of a kit which is authorized to the maintenance category indicated in the 3d position of the SMR code. The complete kit must be requisitioned and applied.
MO-(Made at Org/ AVUM Category) MF-(Made at INTMD/AVIM Category) MD-(Made at Depot)	Items with these codes are not to be requested/requisitioned individually. They must be made from bulk material which is identified by NSN in the Description column and listed in the Bulk Material group in the repair parts list in this appendix. If the item is authorized to you by the 3d position code of the SMR code, but the source code indicates it is made at a higher category, order the item from the higher category of maintenance.
AO-(Assembled by Org/AVUM Category) AF-(Assembled by INTMD/AVIM Category) AD-(Assembled by Depot)	Items with these codes are not to be requested/requisitioned individually. The parts that make up the assembled item must be requisitioned or fabricated and assembled at the category of maintenance indicated by the source code. If the 3d position code of the SMR code authorizes you to replace the item, but the source code indicates the item is assembled at a higher category, order the item from the higher category of maintenance.
XA -	Do not requisition an "XA"-coded item. Order its next higher assembly. (Also, refer to the NOTE below.)
XB -	If an "XB" item is not available from salvage, order it using the FSCM and part number given.
XD -	Item is not stocked. Order an "XD"-coded item through normal supply channels using the FSCM and part number given, if no NSN is available.

NOTE

Cannibalization or controlled exchange, when authorized, may be used as a source of supply for items with the above source codes, except for those source coded "XA" or those aircraft support items restricted by requirements of AR 700-42.

(2) Maintenance code. Maintenance codes tell you the category(s) of maintenance authorized to USE and REPAIR support items. The maintenance codes are entered in the third and fourth positions of the SMR Code as follows:

(a) The maintenance code entered in the third position tells you the lowest maintenance category authorized to remove, replace, and use an item. The maintenance code entered in the third position will indicate authorization to one of the following categories of maintenance.

<i>Code</i>	<i>Application/Explanation</i>
C	- Crew or operator maintenance done within organizational or aviation unit maintenance.
O	- Organizational or aviation unit category can remove, replace, and use the item.
F	- Intermediate or aviation intermediate category can remove, replace, and use the item.
L	- Specialized repair activity can remove, replace, and use the item.
D	- Depot category can remove, replace, and use the item.

(b) The maintenance code entered in the fourth position tells you whether or not the item is to be repaired and identifies the lowest maintenance category with the capability to do complete repair (i.e., perform all authorized repair functions). (NOTE: Some limited repair may be done on the item at a lower category of maintenance, if authorized by the Maintenance Allocation Chart (MAC) and SMR codes.) This position will contain one of the following maintenance codes.

<i>Code</i>	<i>Application/Explanation</i>
O	- Organizational or aviation unit is the lowest category that can do complete repair of the item.
F	- Intermediate or aviation intermediate is the lowest category that can do complete repair of the item.
L	- Specialized repair activity is the lowest category that can do complete repair of the item.
D	- Depot is the lowest category that can do complete repair of the item.
Z	- Nonreparable. No repair is authorized.
B	- No repair is authorized. (No parts or special tools are authorized for the maintenance of a "B"-coded item.) However, the item may be reconditioned by adjusting, lubricating, etc., at the user level.

(3) Recoverability code. Recoverability codes are assigned to items to indicate the disposition action on unserviceable items. The recoverability code is entered in the fifth position of the SMR Code as follows:

<i>Recoverability Codes</i>	<i>Definition</i>
Z	- Nonreparable item. When unserviceable, condemn and dispose of the item at the category of maintenance shown in 3d position of SMR Code.
O	- Repairable item. When uneconomically repairable, condemn and dispose of the item at organizational or aviation unit category.
F	- Repairable item. When uneconomically repairable, condemn and dispose of the item at the intermediate or aviation intermediate category.

Recoverability
Codes

Definition

- | | |
|---|---|
| D | - Repairable item. When beyond lower category repair capability, return to depot. Condemnation and disposal of item not authorized below depot category. |
| L | - Repairable item. Condemnation and disposal not authorized below specialized repair activity. |
| A | - Item requires special handling or condemnation procedures because of specific reasons (i.e., precious metal content, high dollar value, critical material, or hazardous material). Refer to appropriate manuals/directives for specific instructions. |

c. **NATIONAL STOCK NUMBER (Column (3)).** Lists the National stock number (NSN) assigned to the item. Use the NSN for requests/requisitions.

d. **FSCM (Column (4)).** The Federal Supply Code for Manufacturer (FSCM) is a 5-digit numeric code which is used to identify the manufacturer, distributor, or Government agency, etc., that supplies the item.

e. **PART NUMBER (Column (5)).** Indicates the primary number used by the manufacturer (individual, company, firm, corporation, or Government activity), which controls the design and characteristics of the item by means of its engineering drawings, specifications standards, and inspection requirements to identify an item or range of items.

NOTE

When you use an NSN to requisition an item, the item you receive may have a different part number from the part ordered, but go ahead and use or furnish it as the replacement part.

f. **DESCRIPTION (Column (6)).** This column includes the following information:

- (1) The Federal item name and, when required, a minimum description to identify the item.
- (2) Spare/repair parts that make up an assembled item are listed immediately following the assembled item line entry.
- (3) NSN's for bulk materials are referenced in the description column in the line item entry for the item to be manufactured/fabricated.
- (4) When the part to be used differs between serial numbers of the same model, the effective serial numbers are shown as the last line of the description.
- (5) The **USABLE ON CODE**, when applicable (see paragraph C-4, **SPECIAL INFORMATION**).
- (6) In the **Special Tools List Section**, the basis of issue (BOI) appears as the last line(s) in the entry for each special tool, special TMDE, and other special support equipment. When density of equipments supported exceeds density spread indicated in the basis of issue, the total authorization is increased proportionately.

g. **UIM (Column (7)).** The Unit of Measure (UM) indicates the measure (e.g., foot, gallon, pound) or count (e.g., each, dozen, gross) of a listed item. A two-character alpha code (e.g., FT, GL, LB, EA, DZ, GR) appears in this column to indicate the measure or count. If the U/M code appearing in this column differs from the Unit of Issue (U/I) code listed in the Army Master Data File (AMDF), request the lowest U/I that will satisfy your needs.

h. **QTY INC IN UNIT (Column (8)).** The Quantity Incorporated in Unit (QTY INC IN UNIT) indicates the quantity of the item used in the breakout shown on the illustration figure, which is prepared for a functional group, subfunctional group, or an assembly. A "V" appearing in this column in lieu of a quantity indicates that no specific quantity is applicable (e.g., shims, spacers).

C-4. SPECIAL INFORMATION.

a. The "USABLE ON CODE" title appears in the lower right corner of column (6), Description. Usable on codes are shown in the right-hand margin of the description column. Uncoded items are applicable to all models. Identification of the usable on codes used in this publication are:

Code

Used ON

M52

M16A2

538

Bayonet-Knife M7

000

Tool and Gage Set P/N 8426685

b. Detailed assembly instructions for items source coded to be assembled from component spare/repair parts are found in chapter 3. Items that make up the assembly are listed immediately following the assembled item entry or appropriate group header.

C-5. HOW TO LOCATE REPAIR PARTS.

a. When National Stock Number or Part Number is not Known:

(1) First. Using the table of contents, determine the functional group or subfunctional group to which the item belongs. This is necessary since figures are prepared for functional groups and subfunctional groups, and listings are divided into the same groups.

(2) Second. Find the figure covering the functional group or subfunctional group to which the item belongs.

(3) Third. Identify the item on the figure and note the item number of the item.

(4) Fourth. Refer to the Repair Parts List for the figure to find the line item entry for the item number noted on the figure.

b. When National Stock Number or Part Number is Known:

(1) First. Using the Index of National Stock Numbers and Part Numbers, find the pertinent National stock number or part number. The NSN index is in National Item Identification Number (NIIN)* sequence. The part numbers in the Part Number index are listed in ascending alphanumeric sequence. Both indexes cross-reference you to the illustration figure and item number of the item you are looking for.

*The NIIN consists of the last 9 digits of the NSN (i.e., $\overbrace{5305-01-674-1467}^{\text{NSN}}$
NIIN

(2) Second. After finding the figure and item number, verify that the item is the one you're looking for, then locate the item number in the repair parts list for the figure.

C-6. FEDERAL SUPPLY CODE FOR MANUFACTURERS.

CODE	MANUFACTURER	CODE	MANUFACTURER	CODE	MANUFACTURER
13629	COLT INDUSTRIES OPERATING CORP. FIREARMS DIVISION 150 HUYSHOPE AVE HARTFORD, CT 06102	64484	SARGENT-WELCH SCIENTIFIC CO 7300 N. LINDER AVE P.O. BOX 1026 SKOKIE, IL 60077	81349	MILITARY SPECIFICATIONS PROMULGATED BY MILITARY DEPARTMENTS/AGENCIES UNDER AUTHORITY OF DEFENSE STANDARDIZATION MANUAL 4120 3-M
16059	DEVCON CORP 61 ENDICOTT ST DANVERS, MA 01923	80205	NATIONAL AEROSPACE STANDARDS COMMITTEE AEROSPACE INDUSTRIES ASSOCIATION OF AMERICA INC 1725 DE SALES, N.W.W. WASHINGTON, DC 20036	88044	AERONAUTICAL STANDARDS GROUP DEPARTMENT OF NAVY AND AIR FORCE
19200	ROCK ISLAND ARSENAL ROCK ISLAND, IL 61299	81348	FEDERAL SPECIFICATIONS PROMULGATED BY GENERAL SERVICES ADMINISTRATION WASHINGTON, DC	89855	AMERICAN BRANDS, INC AMERICAN TOBACCO DIVISION 245 PARK AVE NEW YORK, NY 10167
19204	ROCK ISLAND ARSENAL ROCK ISLAND, IL 61299			96906	MILITARY STANDARDS PROMULGATED BY MILITARY DEPARTMENTS UNDER AUTHORITY OF DEFENSE STANDARDIZATION MANUAL 4120 3-M
27412	SANIBAR CORP 9999 MUIRLAND BLVD IRVINE, CA 92714				
58536	FEDERAL COMMERCIAL ITEM DESCRIPTION EXECUTED BY GENERAL SERVICES ADMINISTRATION WASHINGTON, DC 20406				

Section II. REPAIR PARTS LIST

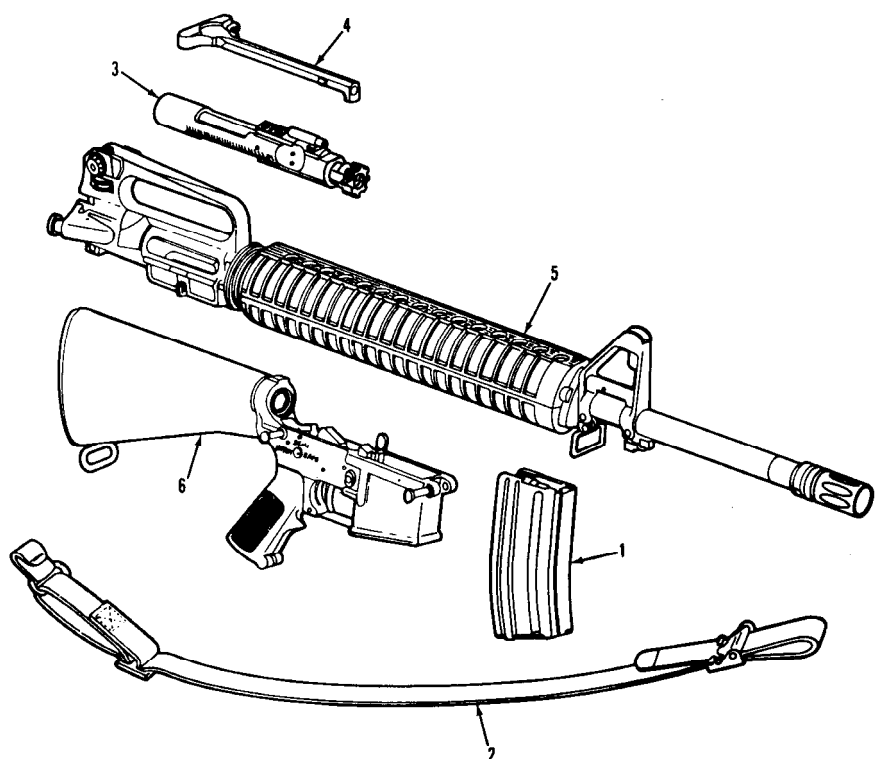


Figure C-1. 5.56-mm rifle, M16A2 9349000

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO	(b) ITEM NO	(c) SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION	USABLE ON CODE	DIV INC IN UNIT
						GROUP 00 5.56-MM RIFLE, M16A2 9349000		
C-1	1	PAGZ	1005-00-921-5004	19200	8448670	MAGAZINE, CARTRIDGE.....	M52	EA 1
C-1	2	PACZZ	1005-01-083-8113	19200	11833432	SLING, SMALL ARMS.....	M52	EA 1
C-1	3	AEFFZ		19200	8448501	BOLT CARRIER ASSEMBLY.....	M52	EA 1
C-1	4	PADDD	1005-00-017-9546	19204	8448517	HANDLE ASSEMBLY.....	M52	EA 1
C-1	5	AEFFZ		19200	9349050	UPPER RECEIVER AND BARREL ASSEMBLY.....	M52	EA 1
C-1	6	YAFFA		19200	9349100	LOWER RECEIVER AND BUTTSTOCK ASSEMBLY.....	M52	EA 1

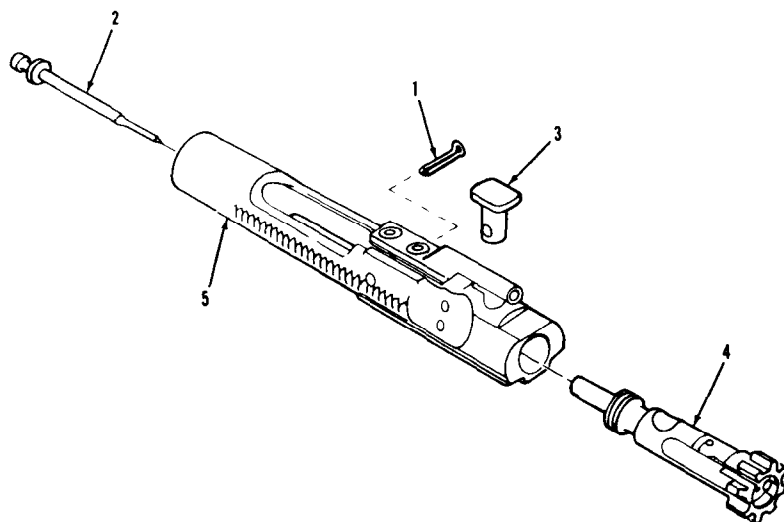


Figure C-2. Bolt carrier assembly 8448501

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(A) FIG NO.	(B) ITEM NO.	S&P CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION	USABLE ON CODE	QTY INC IN UNIT
						GROUP 01 BOLT CARRIER ASSEMBLY 8448501		
C-2	1	PA02Z	1005-00-999-1309	19204	8448504	PIN, FIRING PIN RETAINING.....M52	EA	1
C-2	2	PA02Z	1005-00-017-9347	19204	8448503	PIN, FIRING.....M52	EA	1
C-2	3	PA02Z	1005-00-992-7294	19204	8448502	PIN, BOLT CAM.....M52	EA	1
C-2	4	PA0FF	1005-00-992-7285	19200	8448509	BOLT ASSEMBLY.....M52	EA	1
C-2	5	AFFFF		19200	8448505	KEY AND BOLT CARRIER ASSEMBLY.....M52	EA	1

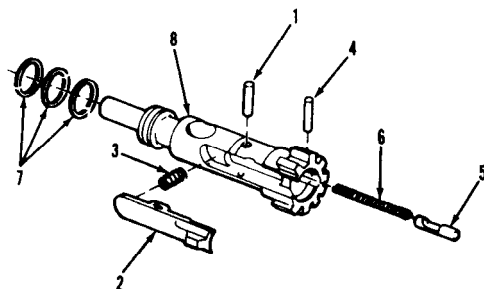


Figure C-3. Bolt assembly 8448509

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO	(b) ITEM NO	(c) BAR CODE	(d) NATIONAL STOCK NUMBER	(e) FSCN	(f) PART NUMBER	(g) DESCRIPTION	(h) USABLE DN CODE	(i) QTY INC IN UNIT
						GROUP 0101 BOLT ASSEMBLY 8448509		
C-3	1	PA022	1005-00-992-7290	19204	8448513	PIN EXTRACTOR.....M52	EA	1
C-3	2	PA022	1005-00-992-7288	19204	8448512	EXTRACTOR CARTRIDGE.....M52	EA	1
C-3	3	PA022	1005-00-760-3748	19200	8448733	SPRING ASSEMBLY.....M52	EA	1
C-3	4	PA022	5315-00-397-5086	96906	9816562-98	PIN SPRING.....M52	EA	1
C-3	5	PA022	1005-00-992-7291	19204	8448515	EJECTOR CARTRIDGE.....M52	EA	1
C-3	6	PA022	5360-00-992-7292	19204	8448516	SPRING HELICAL.....M52	EA	1
C-3	7	PAF22	1005-00-992-7287	19204	8448511	RING BOLT.....M52	EA	3
C-3	8	PAF22	1005-00-992-7287	19200	8448510	BOLT.....M52	EA	1

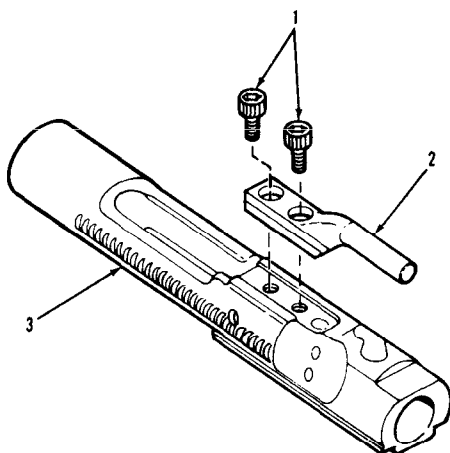


Figure C-4. Key and bolt carrier assembly 8448505

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(8) FIG NO	(8) ITEM NO	(2) SAM CODE	(3) NATIONAL STOCK NUMBER	(4) FSCN	(5) PART NUMBER	(6) DESCRIPTION	(7) QTY INC IN UNIT	(8) QTY INC IN UNIT
						USABLE ON CODE		
						GROUP 0102 KEY AND BOLT CARRIER ASSEMBLY 8448505		
C-4	1	PAF22	1003-00-992-7284	19204	8448508	SCREW, CARRIER AND KEY.....MS2	EA	2
C-4	2	PAF22	1003-00-992-7283	19200	8448506	KEY, BOLT CARRIER.....MS2	EA	1
C-4	3	PAF22	1003-00-738-6213	19200	8448507	CARRIER, BOLT.....MS2	EA	1

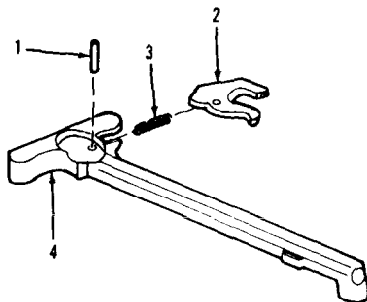


Figure C-5. Handle assembly 8448517

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
FIG NO	ITEM NO	BAR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION	USABLE ON CODE	QTY INC IN UNIT
						GROUP 02 HANDLE ASSEMBLY 8448517		
C-5	1	PA022	3313-00-017-9532	13629	93113	PIN, SPRING.....	M52	EA 1
C-5	2	PA022	1003-00-999-0405	19200	8448519	LATCH, CHARGING. HANDLE.....	M52	EA 1
C-5	3	PA022	3360-00-999-0404	19204	8448520	SPRING, HELICAL.....	M52	EA 1
C-5	4	XAD22		19200	8448518	HANDLE.....	M52	EA 1

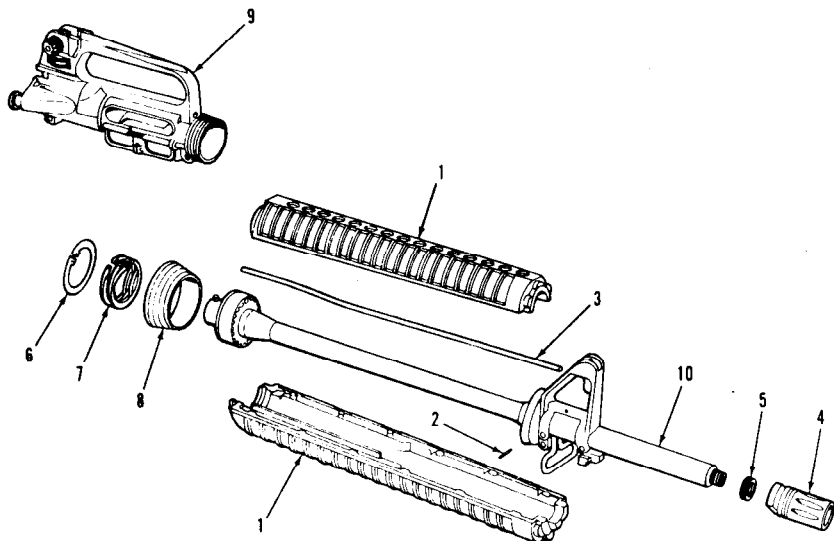


Figure C-6. Upper receiver and barrel assembly 9349050

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6) DESCRIPTION	(7)	(8)
FIG NO	ITEM NO	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	USABLE ON CODE	QTY INC IN UNIT	UM
GROUP 03 UPPER RECEIVER AND BARREL ASSEMBLY 9349050								
C-6	1	PAQ22	1005-01-134-3629	19200	9349059	HANDGUARD ASSEMBLY.....	M52 EA	2
C-6	2	PAF72	5315-00-058-6044	96906	MS16562-106	PIN SPRING.....	M52 EA	1
C-6	3	PAF72	1005-00-978-1038	19200	8448567	TUBE GAS.....	M52 EA	1
C-6	4	PAF72	1005-01-134-3633	19200	9349051	COMPENSATOR.....	M52 EA	1
C-6	5	PAF72	5365-01-144-1494	19200	9349052	SHIM.....	M52 EA	1
C-6	6	PAF72	5365-00-252-6853	96906	MS16626-1137	RING RETAINING.....	M52 EA	1
C-6	7	PAF72	1005-00-978-1036	19204	8448555	SPRING SLIP RING. HANDGUARD UPPER RECEIVER.....	M52 EA	1
C-6	8	PAF72	1005-00-987-6998	19204	8448712	RING SLIP HAND GUARD.....	M52 EA	1
C-6	9	AFEEE		19200	9349062	UPPER RECEIVER ASSEMBLY.....	M52 EA	1
C-6	10	PAFFF	1005-01-146-7684	19200	9349124	BARREL ASSEMBLY.....	M52 EA	1

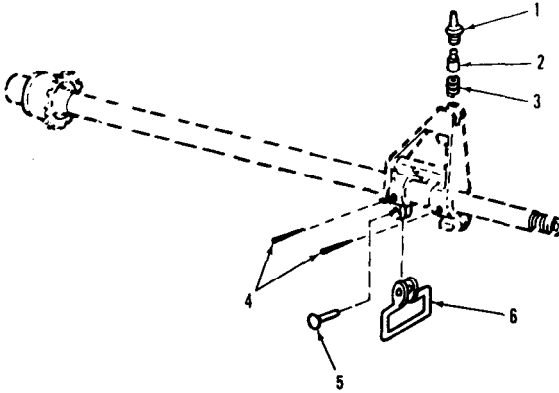


Figure C-7. Barrel assembly 9349124

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO	(b) ITEM NO	SMR CODE	NATIONAL STOCK NUMBER	PSCN	PART NUMBER	DESCRIPTION	USABLE ON CODE	QTY INC IN UNIT
						GROUP 0301 BARREL ASSEMBLY 9349124		
C-7	1	PAGIZ	1003-01-134-3623	19200	9349056	POST. FRONT SIGHT.....	MS2	EA 1
C-7	2	PAGIZ	1003-00-979-3930	19204	8448373	DETENT. FRONT SIGHT.....	MS2	EA 1
C-7	3	PAGIZ	5360-00-979-3931	19204	8448374	SPRING. HELICAL.....	MS2	EA 1
C-7	4	PAGIZ	1003-00-979-3932	19204	8448375	PIN. FRONT SIGHT.....	MS2	EA 2
C-7	5	PAGIZ	5320-01-063-7633	19204	8448697	RIVET. TUBULAR.....	MS2	EA 1
C-7	6	PAGIZ	1003-00-017-9543	19204	8448371	SWIVEL. BLIND. SMALL.....	MS2	EA 1

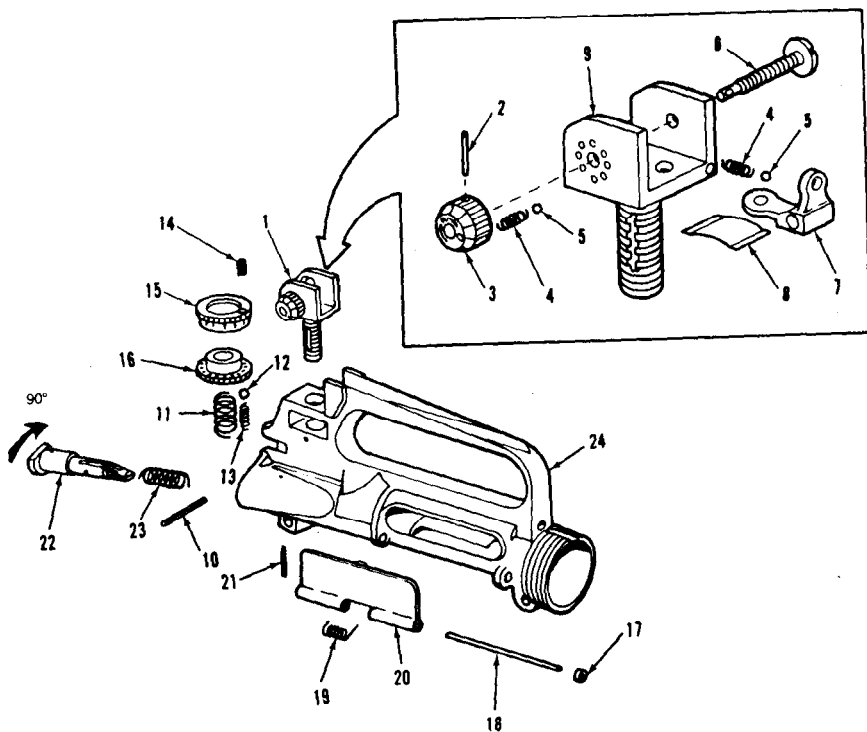


Figure C-8. Upper receiver assembly 9349062 and rear sight assembly 9349072

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
FBI FIG NO	FBI ITEM NO	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION USABLE ON CODE	U/M	QTY INC IN UNIT
						GROUP 0302 UPPER RECEIVER ASSEMBLY 9349062 AND GROUP 030202 REAR SIGHT ASSEMBLY 9349072		
C-8	1	AF111		19200	9349072	REAR SIGHT ASSEMBLY.....	MS2 EA	1
C-8	2	PAF12	5315-00-058-6678	96906	MS16562-103	.PIN SPRING.....	MS2 EA	1
C-8	3	PAF12	1005-01-134-3627	19200	9349077	.KNOB WINDAGE.....	MS2 EA	1
C-8	4	PAF12	5360-01-148-1751	19200	9349069	.SPRING HELICAL.....	MS2 EA	2
C-8	5	PAF12	3110-01-148-7438	96906	MS19061-20003	.BALL BEARING.....	MS2 EA	2
C-8	6	PAF12	3305-01-144-1490	19200	9349076	.SCREW WINDAGE.....	MS2 EA	1
C-8	7	PAF12	1005-01-135-3697	19200	9349075	.APERTURE SIGHT.....	MS2 EA	1
C-8	8	PAF12	5360-00-978-1027	19200	8448536	.SPRING FLAT.....	MS2 EA	1
C-8	9	PAF12	1005-01-134-3631	19200	9349074	.BASE REAR SIGHT.....	MS2 EA	1
C-8	10	PAF12	5315-01-027-4759	80205	NAS561-3-10	.PIN SPRING.....	MS2 EA	2
C-8	11	PAF12	5360-01-134-3710	19200	9349070	.SPRING HELICAL.....	MS2 EA	1
C-8	12	PAF12	3110-01-148-7438	96906	MS19061-20003	.BALL BEARING.....	MS2 EA	1
C-8	13	PAF12	5360-01-148-1751	19200	9349069	.SPRING HELICAL.....	MS2 EA	1
C-8	14	PAF12	1005-01-134-3622	19200	9349065	.SCREW INDEX.....	MS2 EA	1
C-8	15	PAF12	1005-01-134-3621	19200	9349066	.INDEX ELEVATION.....	MS2 EA	1
C-8	16	PAF12	1005-01-135-4972	19200	9349067	.KNOB ELEVATION.....	MS2 EA	1
C-8	17	PAF12	5365-00-064-2652	96906	MS16632-1012	.RING RETAINING.....	MS2 EA	1
C-8	18	PAF12	1005-00-978-1023	19204	8448533	.PIN EJECTION PORT COVER.....	MS2 EA	1
C-8	19	PAF12	5360-00-978-1025	19204	8448532	.SPRING HELICAL.....	MS2 EA	1
C-8	20	PAF12	1005-00-978-1022	19204	8448525	.COVER EJECTION PORT.....	MS2 EA	1
C-8	21	PAF12	5315-00-058-6678	96906	MS16562-103	.PIN SPRING.....	MS2 EA	1
C-8	22	AF111		19200	9349086	FORWARD ASSIST ASSEMBLY.....	MS2 EA	1
C-8	23	PAF12	5360-00-017-9541	19200	8448540	.SPRING HELICAL COMPRESSION.....	MS2 EA	1
C-8	24	PAF12	1005-01-134-3701	19200	9349063	RECEIVER CARTRIDGE.....	MS2 EA	1

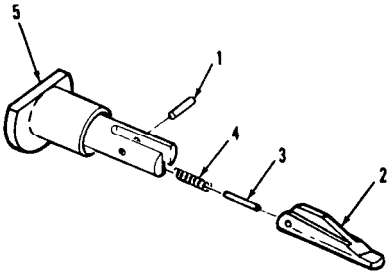


Figure C-9. Forward assist assembly 9349086

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6) DESCRIPTION	(7)	(8)
WM FIG NO	WM ITEM NO	SNR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	USABLE ON CODE	U/M	QTY INC IN UNIT
						GROUP 030201 FORWARD ASSIST ASSEMBLY 9349086		
C-9	1	PAFZZ	5313-00-017-9532	13629	93113	PIN SPRING.....M52	EA	1
C-9	2	PAFZZ	1005-00-017-9539	19204	8448343	PAML FORWARD ASSIST.....M52	EA	1
C-9	3	PAFZZ	1005-00-017-9540	19204	8448344	DETENT PAML.....M52	EA	1
C-9	4	PAFZZ	3360-00-523-8084	19200	8448342	SPRING HELICAL COMPRESSION.....M52	EA	1
C-9	5	PAFZZ	1005-01-144-1468	19200	9349085	PLINDER ASSEMBLY.....M52	EA	1

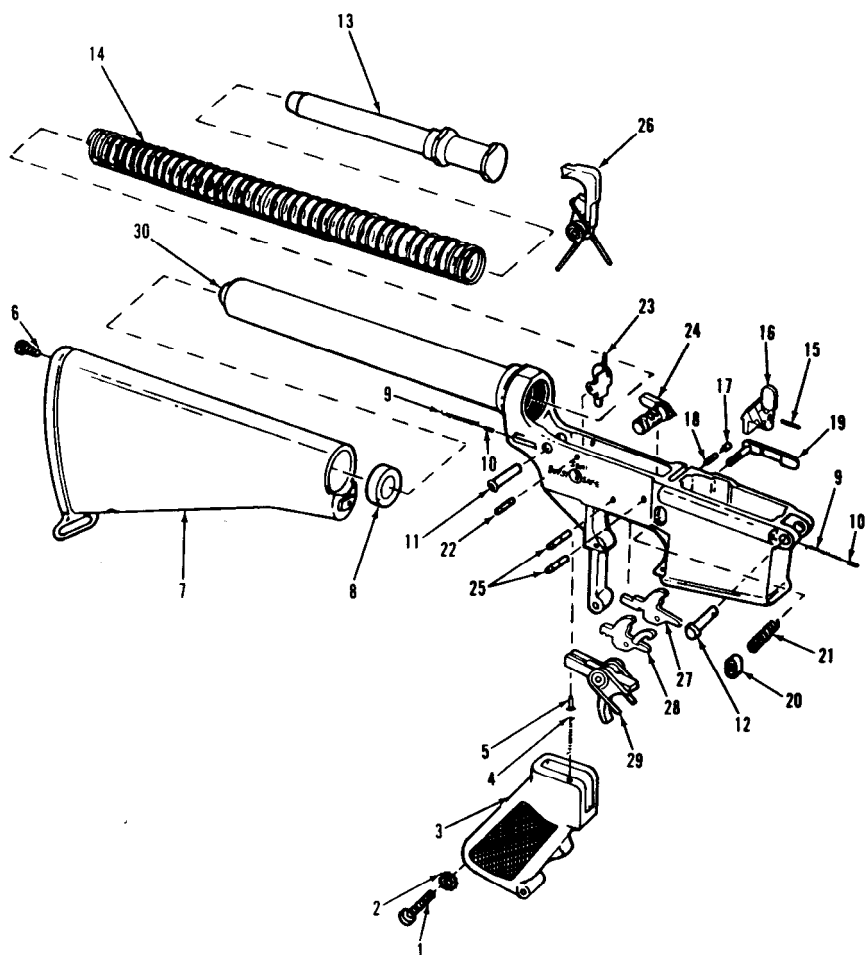


Figure C-10. Lower receiver and buttstock assembly 9349100

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(A) FIG NO	(B) ITEM NO	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION	USABLE ON CODE	QTY INC IN UNIT
						GROUP 04 LOWER RECEIVER AND BUTTSOCK ASSEMBLY 9349100		
C-10	1	PAQIZ	5305-01-147-0777	88044	AN501D416-16	SCREW, MACHINE.....	M52 EA	1
C-10	2	PAQIZ	5310-00-527-3634	96906	MS35335-61	WASHER, LOCK.....	M52 EA	1
C-10	3	PAQIZ	1005-01-148-4805	19200	9349127	GRIP, RIFLE PLASTIC, BLACK.....	M52 EA	1
C-10	4	PAQIZ	5360-00-992-7292	19204	8448514	SPRING, HELICAL COMPRESSION.....	M52 EA	1
C-10	5	PAQIZ	1005-00-992-6667	19204	8448631	DETENT, SAFETY.....	M52 EA	1
C-10	6	PAQIZ	5305-01-147-8585	19200	9349128	SCREW, SELF-LOCKING.....	M52 EA	1
C-10	7	PAFFF	1005-01-135-4975	19200	9349119	BUTTSOCK ASSEMBLY.....	M52 EA	1
C-10	8	PAQIZ	5365-01-146-7692	19200	9349129	SPACER, STEPPED.....	M52 EA	1
C-10	9	PAQIZ	5360-00-992-6655	19204	8448586	SPRING, HELICAL COMPRESSION.....	M52 EA	2
C-10	10	PAQIZ	1005-00-992-6654	19204	8448585	DETENT, TAKEDOWN PIN.....	M52 EA	2
C-10	11	PAQIZ	1005-00-992-6653	19204	8448584	PIN, TAKEDOWN.....	M52 EA	1
C-10	12	PAQIZ	1005-00-017-9537	19204	8448621	PIN, PIVOT.....	M52 EA	1
C-10	13	PAQIZ	1005-00-937-3078	19200	8448615	BUFFER ASSEMBLY.....	M52 EA	1
C-10	14	PAQIZ	5360-00-992-6665	19204	8448629	SPRING, HELICAL COMPRESSION.....	M52 EA	1
C-10	15	PAFIZ	5315-00-812-3312	96906	MS16562-119	PIN, SPRING.....	M52 EA	1
C-10	16	PAFIZ	1005-00-017-9548	19200	8448628	CATCH, BOLT.....	M52 EA	1
C-10	17	PAFIZ	1005-00-056-2247	19204	8448634	PLUNGER, BOLT CATCH.....	M52 EA	1
C-10	18	PAFIZ	5360-00-056-2246	19204	8448633	SPRING, HELICAL COMPRESSION.....	M52 EA	1
C-10	19	PAFIZ	1005-00-056-2201	19204	8448638	CATCH, MAGAZINE.....	M52 EA	1
C-10	20	PAFIZ	1005-00-992-7302	19204	8448636	BUTTON, MAGAZINE CATCH.....	M52 EA	1
C-10	21	PAFIZ	5360-00-992-7301	19204	8448637	SPRING, HELICAL COMPRESSION.....	M52 EA	1
C-10	22	PAFIZ	1005-00-992-6650	19204	8448599	PIN, AUTOMATIC SEAR.....	M52 EA	1
C-10	23	PAFIZ	1005-00-992-6649	19200	8448595	SEAR.....	M52 EA	1
C-10	24	PAFIZ	1005-00-992-6646	19204	8448630	LEVER, SELECTOR.....	M52 EA	1
C-10	25	PAFIZ	1005-00-992-7309	19204	8448609	PIN, HAMMER AND TRIGGER.....	M52 EA	2
C-10	26	PAFFF	1005-01-145-7910	19200	9349106	HAMMER ASSEMBLY.....	M52 EA	1
C-10	27	PAFIZ	1005-01-145-7910	19200	9349114	LEVER, LOCK-RELEASE.....	M52 EA	1
C-10	28	PAFIZ	1005-01-144-1499	19200	9349113	LEVER, LOCK-RELEASE.....	M52 EA	1
C-10	29	PAFFF		19200	9349115	TRIGGER ASSEMBLY.....	M52 EA	1
C-10	30	PAFFA		19200	9349101	LOWER RECEIVER AND RECEIVER EXTENSION ASSEMBLY.....	M52 EA	1

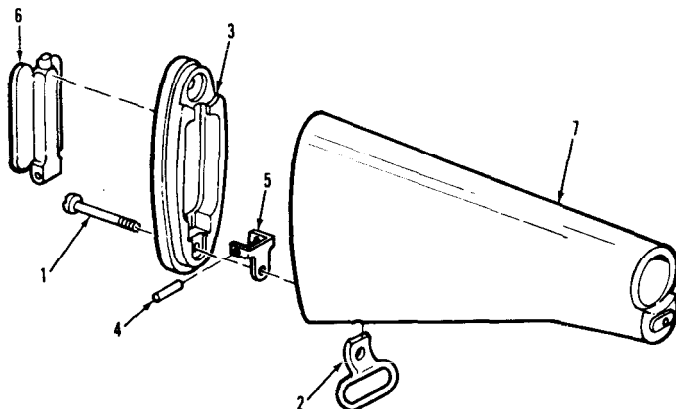


Figure C-11. Buttstock assembly 9349119

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO	(b) ITEM NO	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION	USABLE ON CODE	QTY INC IN UNIT
						GROUP 0401 BUTTSTOCK ASSEMBLY 9349119		
C-11	1	PAQZZ	5305-01-144-1494	19200	9349120	SCREW, SELF-LOCKING.....	H52	EA 1
C-11	2	PAQZZ	1005-00-403-0964	19204	8448452	SWIVEL, SLING, SMALL.....	H52	EA 1
C-11	3	PAQZZ	1005-01-144-7683	19200	9349130	PLATE, BUTT, SHOULDER, OLN STOCK.....	H52	EA 1
C-11	4	PAQZZ	5315-00-463-3894	19204	8448435	PIN, STRAIGHT, HEADLESS.....	H52	EA 1
C-11	5	PAQZZ	5340-00-463-3892	19200	8448453	HINGE, ACCESS DOOR, BUTT PLATE.....	H52	EA 1
C-11	6	PAQZZ	1005-00-403-0962	19200	8448458	DOOR ASSEMBLY, STORAGE.....	H52	EA 1
C-11	7	IAFFB		19200	9349121	BUTTSTOCK.....	H52	EA 1

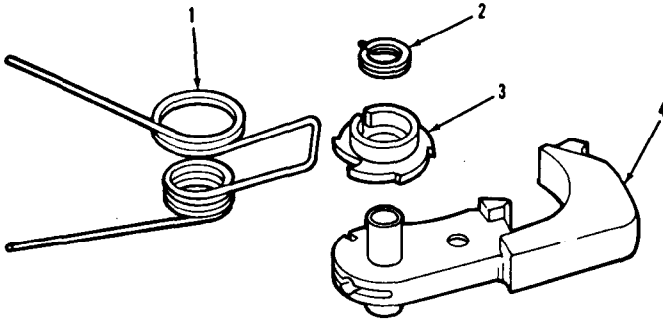


Figure C-12. Hammer assembly 9349106

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
IN FIG. NO.	IN ITEM NO.	SNR CODE	NATIONAL STOCK NUMBER	FSCN	PART NUMBER	DESCRIPTION	USABLE ON CODE	QTY INC IN UNIT
						GROUP 0402 HAMMER ASSEMBLY 9349106		
C-12	1	PAF22	5360-01-144-1492	19200	9349107	SPRING, HELICAL.....	M32	EA 1
C-12	2	PAF22	5360-01-136-3471	19200	9349109	SPRING, HELICAL.....	M32	EA 1
C-12	3	PAF22	1015-01-148-0172	19200	9349108	CAM, BURST.....	M32	EA 1
C-12	4	PAF22	1005-01-134-3630	19200	9349110	HAMMER AND HAMMER PIN RETAINER ASSEMBLY.....	M32	EA 1

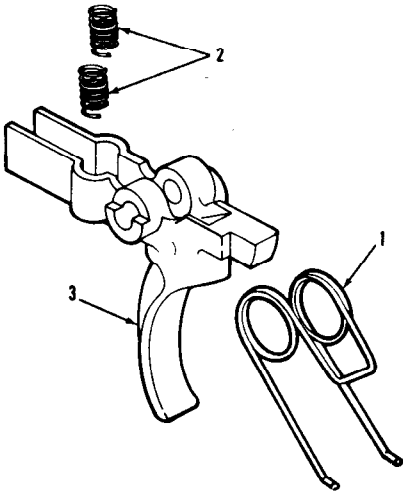


Figure C-13. Trigger assembly 9349115

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO	(b) ITEM NO	SNR CODE	NATIONAL STOCK NUMBER	FIGM	PART NUMBER	DESCRIPTION	USABLE ON CODE	QTY INC IN UNIT
						GROUP 0403 TRIGGER ASSEMBLY 9349115		
C-13	1	PAF12	3360-00-992-7300	19204	8448593	SPRING, HELICAL, TORSION.....R52	EA	1
C-13	2	PAF12	3360-01-133-0333	19200	9349116	SPRING, HELICAL.....R52	EA	2
C-13	3	PAF12	1005-01-134-3702	19200	9349117	TRIGGER.....R52	EA	1

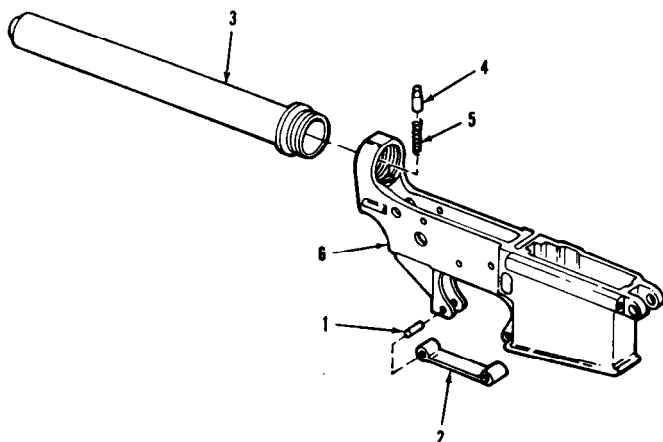


Figure C-14. Lower receiver and receiver extension assembly 9349101

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO	(b) ITEM NO	SNR CODE	NATIONAL STOCK NUMBER	FSCN	PART NUMBER	DESCRIPTION	USABLE ON CODE	QTY INC IN UNIT
						GROUP 0404 LOWER RECEIVER AND RECEIVER EXTENSION ASSEMBLY 9349101		
C-14	1	PAFZZ	5313-00-058-6081	96904	MS16562-129	PIN, SPRING.....	MS2	EA 1
C-14	2	PAFZZ	1005-00-992-7299	19204	8448587	GUARD, TRIGGER.....	MS2	EA 1
C-14	3	PAFZZ	1005-00-992-7297	19200	8448581	EXTENSION, LOWER RECEIVER.....	MS2	EA 1
C-14	4	PAFZZ	1005-00-992-6651	19204	8448582	RETAINER, BUFFER.....	MS2	EA 1
C-14	5	PAFZZ	5360-00-992-6652	19200	8448583	SPRING, HELICAL COMPRESSION.....	MS2	EA 1
C-14	6	IAFDA		19200	9349102	RECEIVER, LOWER.....	MS2	EA 1

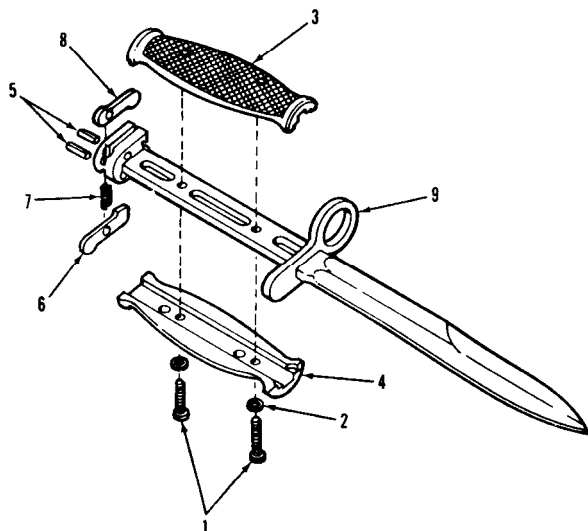


Figure C-15. Bayonet-knife M7 11010077

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
FIG. NO.	ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION	U/M	QTY INC IN UMT
						UNABLE ON CODE		
						GROUP 05 BAYONET-KNIFE M7 11010077		
C-15	1	PA022	3205-00-051-3609	19204	11010078	SCREW MACHINE GRIP.....	538	EA 2
C-15	2	PA022	3310-00-379-0079	96906	MS35333-37	WASHER LOCK LOCK INT-TEETH B. CD-PLTD. NO. 6 SCREW SIZE.....	538	EA 2
C-15	3	PAF22	1005-00-051-3607	19204	11010068	GRIP, BAYONET-KNIFE BAYONET-KNIFE LH. PLASTIC. KNULED. BLK. 4.400 LDA. 1.250 M.....	538	EA 1
C-15	4	PAF22	1005-00-051-3608	19204	11010069	GRIP, BAYONET-KNIFE BAYONET-KNIFE RH. PLASTIC. KNULED. BLK. 1.250 M. 4.400 LDA.....	538	EA 1
C-15	5	PAF22	5015-00-098-6077	96906	MS14562-125	PIN SPRING B. PHOS-CTD. 1/8 X 3/8.....	538	EA 2
C-15	6	PAF22	1005-00-051-3899	19204	11010010	LEVER LOCK-RELEASE BAYONET RH.....	538	EA 1
C-15	7	PAF22	3360-00-716-0949	19203	7160949	SPRING HELICAL HELICAL COMPRESSION B. 0.022 BTK DIA. 0.170 FREE OD. 0.763 FREE LG. 14 TOTAL COILS.....	538	EA 1
C-15	8	PAF22	1005-00-051-3901	19204	11010011	LEVER LOCK-RELEASE BAYONET LH.....	538	EA 1
C-15	9	IAF22		19204	11010067	BLADE ASSEMBLY.....	538	EA 1

Section III. SPECIAL TOOLS LIST

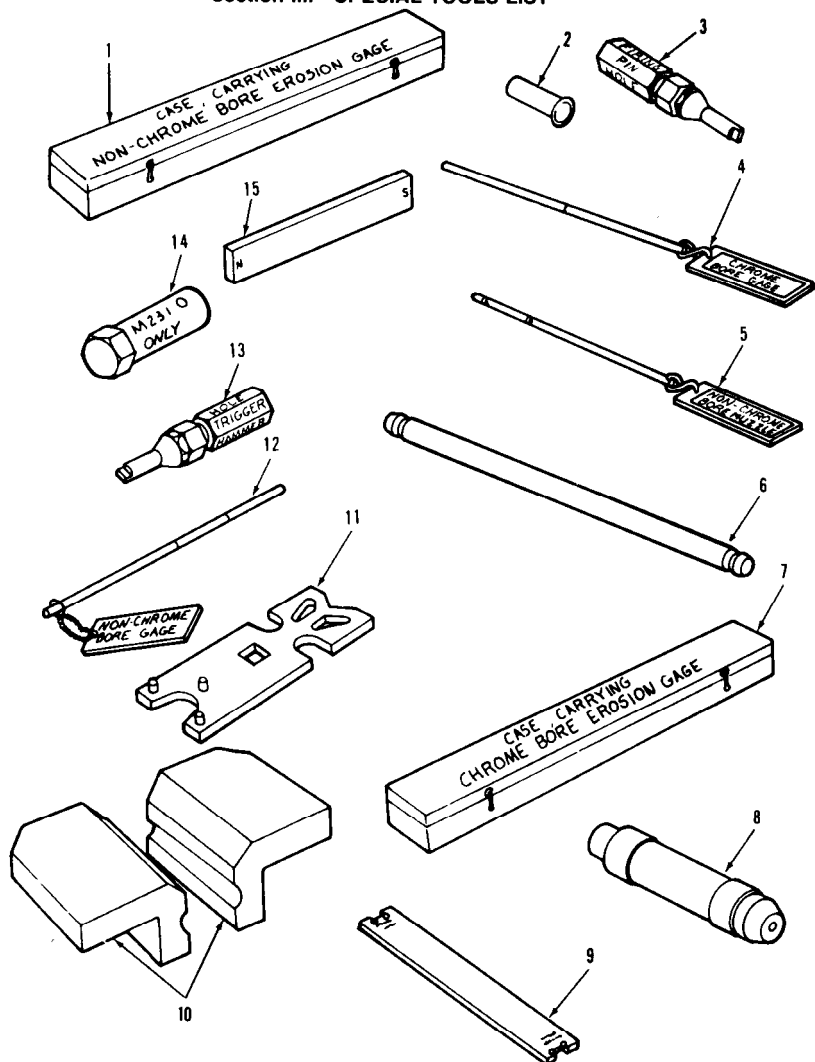


Figure C-16. Special tools

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(A) FIG NO	(B) ITEM NO	S&M CODE	NATIONAL STOCK NUMBER	FSM	PART NUMBER	DESCRIPTION	USABLE ON CODE	QTY INC BY UNIT
						GROUP 9500 SPECIAL TOOLS		
C-14		ADEFA		19204	8426685	TOOL AND GAGE SET DS/GS SUPPORT MAINTENANCE FOR 5.56MM RIFLE, M16 RIFLE SERIES AND M201 FIRING PORT WEAPON BDI: 2 PER SUPPORTING DSU/GSU.....M52		EA
C-14	1	PAF22	4933-00-944-7084	19203	7799809	.CASE, CARRYING, GAGE. PART OF KIT P/N 8426685 (M16 ONLY)..... 000		EA
C-14	2	PAF22	4933-00-800-7508	19204	8448201	.REFLECTOR TOOL, CHAM PART OF KIT P/N 8426685.....	000	EA
C-14	3	PAF22	5220-01-075-5004	19200	12620101	.GAGE, PLUG, PLAIN CYL PART OF KIT P/N 8426685.....	000	EA
C-14	4	PAF22	5220-01-014-8183	19204	8448496	.GAGE, BARREL, EROSION PART OF KIT P/N 8426685.....	000	EA
C-14	5	PAF22	5220-00-135-4925	19204	8448677	.GAGE, MUZZLE, EROSION PART OF KIT P/N 8426685 (M16 ONLY)..... 000		EA
C-14	6	PAF22	4933-00-221-9391	19204	8448202	.GAGE, STRAIGHTNESS PART OF KIT P/N 8426685.....	000	EA
C-14	7	PAF22	4933-01-035-5607	19204	12006359	.CASE, BORE GAGE PART OF KIT P/N 8426685.....	000	EA
C-14	8	PAF22	4933-00-070-7814	19204	7799734	.GAGE, HEADSPACE PART OF KIT P/N 8426685.....	000	EA
C-14	9	PAF22	4933-00-070-7815	19204	7799735	.GAGE, FIRING PIN PRO PART OF KIT P/N 8426685.....	000	EA
C-14	10	PAF22	4933-00-070-9151	19204	11010032	.FIXTURE, BARREL REMO PART OF KIT P/N 8426685.....	000	EA
C-14	11	PAF22	4933-00-070-9152	19204	11010033	.WRENCH, COMBINATION PART OF KIT P/N 8426685.....	000	EA
C-14	12	PAF22	4933-00-912-3409	19203	7799792	.GAGE, BARREL, EROSION PART OF KIT P/N 8426685 (M16 ONLY)..... 000		EA
C-14	13	PAF22	5220-01-043-9473	19204	12006472	.GAGE, PLUG, TAPER CYL PART OF KIT P/N 8426685.....	000	EA
C-14	14	PAF22	1005-01-081-4835	19200	11828589	.WRENCH, EXTENSION, RE PART OF KIT P/N 8426685 (M201 ONLY)..... 000		EA
C-14	15	PAF22	5340-01-054-0124	64484	1809	MAGNET, PERMANENT BDI: 2 PER SUPPORTING DSU/GSU.....M52		EA

Section IV. NATIONAL STOCK NUMBER AND PART NUMBER INDEX

STOCK NUMBER	FIGURE NO.	ITEM NO.	STOCK NUMBER	FIGURE NO.	ITEM NO.
5315-00-017-9537	C-10	12	5360-00-992-6665	C-10	14
1005-00-017-9539	C-9	2	1005-00-992-6666	C-10	24
1005-00-017-9540	C-9	3	1005-00-992-6667	C-10	5
5360-00-017-9541	C-8	23	1005-00-992-7283	C-4	2
1005-00-017-9543	C-7	4	1005-00-992-7284	C-4	1
1005-00-017-9546	C-1	6	1005-00-992-7285	C-2	4
5315-00-017-9547	C-2	2	1005-00-992-7287	C-3	7
1005-00-017-9548	C-10	16	1005-00-992-7288	C-3	2
5315-00-017-9552	C-5	1	1005-00-992-7290	C-3	1
5315-00-017-9552	C-9	1	1005-00-992-7291	C-3	5
1005-00-051-3607	C-13	3	5360-00-992-7292	C-10	4
1005-00-051-3608	C-13	4	5360-00-992-7292	C-3	6
5305-00-051-3609	C-15	1	1005-00-992-7294	C-2	3
1005-00-051-3899	C-13	4	1005-00-992-7297	C-14	3
1005-00-051-3901	C-13	8	1005-00-992-7299	C-14	2
1005-00-056-2201	C-10	19	5360-00-992-7301	C-10	21
5360-00-056-2246	C-10	17	1005-00-992-7302	C-10	20
1005-00-056-2247	C-10	18	5360-00-992-7308	C-13	1
5315-00-058-6044	C-6	2	1005-00-992-7309	C-10	25
5315-00-058-6077	C-15	3	5360-00-999-0404	C-5	3
5315-00-058-6081	C-14	1	1005-00-999-0405	C-5	2
5315-00-058-6678	C-8	2	1005-00-999-1509	C-2	1
5315-00-058-6678	C-8	21	5220-01-014-8183	C-16	4
5365-00-064-2652	C-8	17	5315-01-027-4759	C-8	10
4933-00-070-7814	C-14	8	4933-01-025-5607	C-16	7
4933-00-070-7815	C-16	9	5220-01-043-9473	C-16	13
4933-00-070-9151	C-16	10	5340-01-054-0124	C-16	15
4933-00-070-9152	C-16	11	5320-01-063-7635	C-7	5
1005-00-087-8998	C-6	8	5220-01-075-5004	C-16	3
5220-00-135-4925	C-16	5	1005-01-083-8113	C-16	14
4933-00-221-9391	C-16	6	C-1	2	
5365-00-252-6853	C-6	6	1005-01-134-3621	C-8	15
1005-00-403-0962	C-11	6	5305-01-134-3622	C-8	14
1005-00-403-0964	C-11	2	1005-01-134-3625	C-7	1
5340-00-463-3892	C-11	5	1005-01-134-3627	C-8	3
5315-00-463-3894	C-11	4	1005-01-134-3629	C-6	1
5360-00-523-8084	C-9	4	1005-01-134-3630	C-12	4
5310-00-527-3634	C-10	2	1005-01-134-3631	C-8	9
5310-00-579-0079	C-15	2	1005-01-134-3633	C-6	4
5315-00-597-5086	C-3	4	1005-01-134-3701	C-8	24
5360-00-716-0949	C-15	7	1005-01-134-3702	C-13	3
1005-00-738-6213	C-4	3	5360-01-134-3710	C-8	11
1005-00-760-3768	C-3	3	5360-01-135-0353	C-13	2
4933-00-800-7508	C-16	2	1005-01-135-3697	C-8	7
5315-00-812-3312	C-10	15	1005-01-135-4972	C-8	16
1005-00-912-3409	C-16	12	1005-01-135-4973	C-10	7
1005-00-921-5008	C-1	1	5360-01-136-5471	C-12	2
1005-00-927-3078	C-10	13	C-9	6	
4933-00-944-7084	C-16	1	5305-01-144-1490	C-8	5
1005-00-978-1022	C-8	20	5360-01-144-1492	C-12	1
1005-00-978-1023	C-8	18	5305-01-144-1494	C-11	1
5360-00-978-1025	C-8	19	5365-01-144-1496	C-6	5
5360-00-978-1027	C-8	8	1005-01-144-1499	C-10	28
1005-00-978-1036	C-6	7	1005-01-145-7910	C-10	27
1005-00-978-1038	C-4	3	1005-01-146-7684	C-6	10
1005-00-979-3926	C-7	4	1005-01-146-7685	C-11	3
1005-00-979-3930	C-7	2	5365-01-146-7692	C-10	8
5360-00-979-3931	C-7	3	5305-01-147-0777	C-10	1
1005-00-992-6649	C-10	23	5305-01-147-8585	C-10	6
1005-00-992-6650	C-10	22	1015-01-148-0172	C-12	3
1005-00-992-6651	C-14	4	5360-01-148-1751	C-8	4
5360-00-992-6652	C-14	5	5360-01-148-1751	C-8	13
1005-00-992-6653	C-10	11	1005-01-148-4805	C-10	3
1005-00-992-6654	C-10	10	3110-01-148-7438	C-8	5
5360-00-992-6655	C-10	9	3110-01-148-7438	C-8	12

FIGURE NO.	ITEM NO.	FIGURE NO.	ITEM NO.
88044	AN501D416-16		
96906	MS16562-103		
96906	MS16562-103		
96906	MS16562-106		
96906	MS16562-119		
96906	MS16562-125		
96906	MS16562-129		
96906	MS16562-98		
96906	MS16626-1137		
96906	MS16632-1012		

FIGURE NO.	ITEM NO.	FIGURE NO.	ITEM NO.
C-10	1	96906	MS19061-20003
C-8	2	96906	MS19061-20003
C-8	21	96906	MS35333-37
C-6	2	96906	MS35335-61
C-10	15	80205	NAS561-3-10
C-15	5	19204	11010010
C-14	1	19204	11010011
C-3	4	19204	11010032
C-6	6	19204	11010033
C-8	17	19204	11010067

FIGURE NO.	ITEM NO.	FIGURE NO.	ITEM NO.
C-8	5		
C-8	12		
C-15	2		
C-10	2		
C-8	10		
C-15	6		
C-13	8		
C-16	10		
C-16	11		
C-15	9		

FSCM	PART NUMBER	FIGURE NO.	ITEM NO.	FSCM	PART NUMBER	FIGURE NO.	ITEM NO.
19204	11010068	C-15	3	19200	8448615	C-10	13
19204	11010069	C-15	4	19204	8448621	C-10	12
19204	11010078	C-15	1	19200	8448628	C-10	16
19200	11828589	C-16	14	19204	8448629	C-10	14
19200	11833432	C-1	2	19204	8448630	C-10	24
19204	12006359	C-16	7	19204	8448631	C-10	5
19204	12006472	C-16	13	19204	8448633	C-10	18
19200	12620101	C-16	3	19204	8448634	C-10	17
44484	1809	C-16	15	19204	8448636	C-10	20
19205	7160949	C-15	7	19204	8448637	C-10	21
19204	7799734	C-16	8	19204	8448638	C-10	19
19204	7799735	C-16	9	19204	8448632	C-11	2
19205	7799792	C-16	12	19200	8448653	C-11	5
19205	7799809	C-16	1	19204	8448655	C-11	4
19204	8426685	C-16		19200	8448658	C-11	6
19204	8448201	C-16	2	19200	8448670	C-1	1
19204	8448202	C-16	6	19204	8448677	C-16	5
19204	8448496	C-16	4	19204	8448697	C-7	5
19200	8448501	C-1	3	19204	8448712	C-6	8
19204	8448502	C-2	3	19200	8448755	C-3	3
19204	8448503	C-2	2	19200	9349050	C-1	5
19204	8448504	C-2	1	19200	9349051	C-6	4
19200	8448505	C-2	5	19200	9349052	C-6	5
19200	8448506	C-4	2	19200	9349056	C-7	1
19200	8448507	C-4	3	19200	9349059	C-6	1
19204	8448508	C-4	1	19200	9349062	C-6	9
19200	8448509	C-2	4	19200	9349063	C-8	24
19200	8448510	C-3	8	19200	9349065	C-8	14
19204	8448511	C-3	7	19200	9349066	C-8	15
19204	8448512	C-3	2	19200	9349067	C-8	16
19204	8448513	C-3	1	19200	9349069	C-8	4
19204	8448515	C-3	5	19200	9349069	C-8	13
19204	8448516	C-10	4	19200	9349070	C-8	11
19204	8448516	C-3	6	19200	9349072	C-8	1
19204	8448517	C-1	4	19200	9349074	C-8	9
19200	8448518	C-5	4	19200	9349075	C-8	7
19200	8448519	C-5	2	19200	9349076	C-8	6
19204	8448520	C-5	3	19200	9349077	C-8	3
19204	8448525	C-8	20	19200	9349085	C-9	5
19204	8448532	C-8	19	19200	9349086	C-8	22
19204	8448533	C-8	18	19200	9349100	C-1	6
19200	8448536	C-8	8	19200	9349101	C-10	30
19200	8448540	C-8	23	19200	9349102	C-14	6
19200	8448542	C-9	4	19200	9349106	C-10	26
19204	8448543	C-9	2	19200	9349107	C-12	1
19204	8448544	C-9	3	19200	9349108	C-12	3
19204	8448555	C-6	7	19200	9349109	C-12	2
19200	8448567	C-6	3	19200	9349110	C-12	4
19204	8448571	C-7	6	19200	9349113	C-10	28
19204	8448573	C-7	2	19200	9349114	C-10	27
19204	8448574	C-7	3	19200	9349115	C-10	29
19204	8448575	C-7	4	19200	9349116	C-13	2
19200	8448581	C-14	3	19200	9349117	C-13	3
19204	8448582	C-14	4	19200	9349119	C-10	7
19200	8448583	C-14	5	19200	9349120	C-11	1
19204	8448584	C-10	11	19200	9349121	C-11	7
19204	8448585	C-10	10	19200	9349124	C-6	10
19204	8448586	C-10	9	19200	9349127	C-10	3
19204	8448587	C-14	2	19200	9349128	C-10	6
19204	8448592	C-13	1	19200	9349129	C-10	8
19200	8448595	C-10	23	19200	9349130	C-11	3
19204	8448599	C-10	22	13629	95113	C-5	1
19204	8448609	C-10	25	13629	95113	C-9	1

APPENDIX D EXPENDABLE SUPPLIES AND MATERIALS LIST

Section I. INTRODUCTION

D-1. SCOPE. This appendix lists expendable supplies and materials you will need to operate and maintain the 5.56-mm Rifle M16A2.

D-2. EXPLANATION OF COLUMNS.

a. *Column 1 - Item Number.* This number is assigned to the entry in the listing and is referenced in the narrative instructions to identify the material (e.g., "Use carbon removing compound, item 5, app D").

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

- C - Operator/Crew Maintenance
- O - Organizational Maintenance
- F - Intermediate Maintenance

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

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

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

Section II. EXPENDABLE SUPPLIES AND MATERIALS LIST

(1) ITEM NUMBER	(2) LEVEL	(3) NATIONAL STOCK NUMBER	(4) DESCRIPTION	(5) U/M
1	F	8040-00-944-7292	ADHESIVE KIT: (81348) MMM-A-1754	KT
2	O	8020-00-244-0153	BRUSH, ARTIST'S: metal ferrule, flat, chisel edge, 7/16 w, 1 1/8 l, exposed bristle (81348) H-B-241	EA
3	F	1005-00-716-2702	BRUSH, CLEANING, SMALL: (19205) 7162702	EA
4	O	7920-00-205-2401	BRUSH, CLEANING, TOOLS AND PARTS: (81349) MILS43871	EA
5	O	6850-00-965-2332	CARBON REMOVING COMPOUND: (81348) P-C-111	GL
6			CLEANER, LUBRICANT AND PRESERVATIVE: (27412)	
	O	9150-01-079-6124	CLP-4 4 oz bottle	EA
	O	9150-01-054-6453	CLP-5 pt bottle	EA
	O	9150-01-053-6688	CLP-7 gal bottle	EA
6A	C		CLEANER, LUBRICANT AND PRESERVATIVE: (81349) MIL-L-63460	
		9150-01-102-1473	1/2 oz bottle	EA

(1) ITEM NUMBER	(2) LEVEL	(3) NATIONAL STOCK NUMBER	(4) DESCRIPTION	(5) U/M
7	C	9920-00-292-9946	CLEANER, TOBACCO PIPE: cotton turf, wire core (89855) DILLSPIECECLEANER 36 per pkg	EA
8	O	5350-00-221-0872	CLOTH, ABRASIVE: (58536) A-A-1206	SH
9	O	8010-00-181-7859	COATING COMPOUND, FLUORESCENT: paint for blank firing attachment (81349) MIL-P-21563 1 pt can	EA
10	C	1005-00-809-2190	COVER, PROTECTIVE, RIFLE: (19204) 8448213	EA
11	F	5810-00-244-0290 6810-00-616-9188	D:CHLOROMETHANE, TECHNICAL: (81349) MILD6998 5 gal pail 600 lb drum	CN DR
12	O	6850-00-281-1985	DRY CLEANING SOLVENT: (81348) A-A-711 1 gal can	GL
13	O	8010-00-297-0560	ENAMEL: olive drab No. 3407 (81348) TT-E-527 1 gal can	GL
14	O	8415-00-823-7456	GLOVES, CHEMICAL AND OIL PROTECTIVE: (81348) ZZ-G-381	PR
15	F	9150-00-754-2595	GREASE, MOLYBDENUM DISULFIDE: (81349) MIL-G-21164	LB
16	*	8010-00-527-2884	LACQUER: black lusterless (81349) MIL-L-19538	GL
17	O	9150-00-168-2000	LUBRICANT, SOLID FILM: (81349) MIL-L-46147 16 oz spray can	OZ
18	C	9150-00-292-9689	LUBRICATING OIL, WEAPONS: (LAW) for cold weather operation (81349) MIL-L-14107	QT

(1) ITEM NUMBER	(2) LEVEL	(3) NATIONAL STOCK NUMBER	(4) DESCRIPTION	(5) U/M
19	F	6850-00-826-0981	PENETRANT KIT: (81349) MIL-I-25135	KT
20	C	7920-00-205-1711	RAG, WIPING: (58536) A-A-531 50 lb bdl	LB
21	F	8030-00-670-8553	SEALING COMPOUND: (16059) DEVCON F	KT
22	C	1005-00-912-4248	SWAB, SMALL ARMS: (19204) 11686408	EA
23	C	6920-01-152-2891	TARGET, ZEROING: (19200) 9357935	EA

*No longer authorized at organizational or intermediate maintenance level.

APPENDIX E

ILLUSTRATED LIST OF MANUFACTURED ITEMS

E-1. INTRODUCTION.

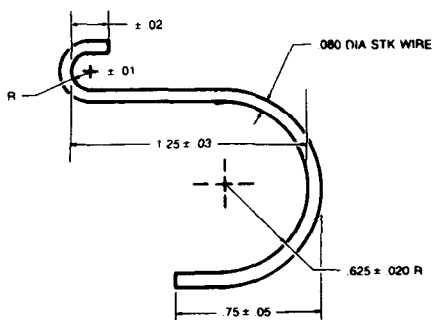
a. This appendix includes complete instructions for making items authorized to be manufactured or fabricated at organizational or intermediate level.

b. A part number index in alphanumeric order is provided for cross-referencing the part number of the item to be manufactured to the figure which covers fabrication criteria.

c. All bulk materials needed for manufacture of an item are listed by part number, NSN, or specification number in a tabular list on the illustration.

INDEX

Item	Figure Number
Front sight detent depressor	E-1
Key tool	E-4
Lower receiver go-no go gage	E-5
M16A2 rifle	
Modified old trigger "slave" pin	E-7
Pivot pin installation tool	E-6
Pivot pin removing tool	E-3
Square front sight post removing and installation tool	E-2

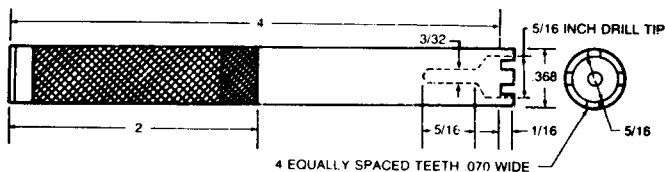


MATERIAL BLOCK
MUSIC WIRE

NOTES:

1. FABRICATE FROM .08 IN. MUSIC WIRE OR EQUIVALENT.
2. FINISH: NO. 5.3.1.2 OR 5.3.2.2 OF MIL-STD-171.
3. ALL DIMENSIONS ARE IN INCHES.

Figure E-1. Front sight detent depressor.



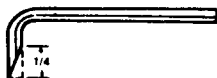
MATERIAL: MILD STEEL

MATERIAL BLOCK
FSCM 81348 QQ-T-580 METAL BAR,
STEEL, GRADE C, CLASS W2-09
HOT ROLLED, ROUND, 0.375 INCH NOMINAL
DIAMETER, 3 FOOT NOMINAL LONG
NSN 9510-00-640-4407 OR EQUIVALENT

NOTE: ALL DIMENSIONS SHOWN ARE IN INCHES

AR 922756

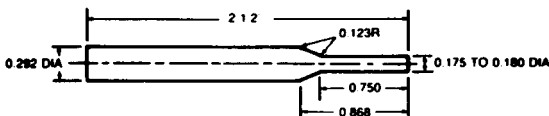
Figure E-2. Square front sight post removing and installation tool.



- NOTE: 1. FABRICATE FROM 1/16 IN. SOCKET HEAD SCREW KEY NSN 5120-00-198-5398 OR EQUIVALENT.
2. ALL DIMENSIONS ARE IN INCHES.

AR 922734

Figure E-3. Pivot pin removing tool.

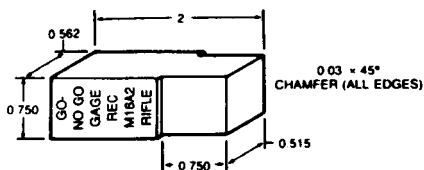


NOTE: ALL DIMENSIONS SHOWN ARE IN INCHES

MATERIAL BLOCK
FSCM 81348 QQ-T-580 METAL BAR,
STEEL, GRADE C, CLASS W2-09
HOT ROLLED, ROUND, 0.375 INCH NOMINAL
DIAMETER, 3 FOOT NOMINAL LONG
NSN 9510-00-840-4407 OR EQUIVALENT

AR 922842

Figure E-4. Key tool.



MATERIAL BLOCK
FSCM 81348 QQ-T-580 METAL BAR,
STEEL, GRADE C, CLASS W2-09 OR
STEEL, GRADE C, CLASS 62-10,
HOT ROLLED, 0.750 INCH NOMINAL
SQUARE, 3 FOOT NOMINAL LONG
NSN 9510-00-541-9528 OR EQUIVALENT

NOTE: ALL DIMENSIONS SHALL BE TOLERANCE ± 0.005 EXCEPT
GAGING WIDTH (0.515) WHICH SHALL BE TOLERANCE
- 0.002

ALL DIMENSION ARE IN INCHES

AR 922757

Figure E-5. Lower receiver go-no go gage M16A2 rifle.

APPENDIX F TORQUE LIMITS

F-1. INTRODUCTION. This appendix includes torque limits for the compensator, barrel nut, carrier key screws, and lower receiver extension.

STANDARD TORQUE TABLE

ITEM	TORQUE TO	PAGE NO.
COMPENSATOR	15 FT LBS TO 20 FT LBS	3-36

NOTE

See page 3-33 for barrel nut alinement procedure. Torque is measured when torque wrench and combination wrench are used together.

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