

U.S. MARINE CORPS TECHNICAL MANUAL
**ORGANIZATIONAL AND INTERMEDIATE
MAINTENANCE MANUAL WITH REPAIR PARTS LIST (RPL)**

FOR

RIFLE, 5.56 MM, M16A2 W/E
NSN: 1005-01-128-9936 (EIC:4GM)
PN 9349000

RIFLE, 5.56 MM, M16A4 W/E
NSN: 1005-01-383-2872 (EIC:4F9)
PN 12973001

CARBINE, 5.56 MM, M4 W/E
NSN: 1005-01-231-0973 (EIC:4FJ)
PN 9390000

CARBINE, 5.56 MM, M4A1 CQBW W/E
NSN: 1005-01-382-0953 (EIC:4GC)
PN 12972700



MARINE CORPS SYSTEMS COMMAND
QUANTICO, VA 22134-6050

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DECEMBER 2008

PCN 184 055381 00

DEPARTMENT OF THE NAVY
Headquarters, U.S. Marine Corps
Washington, DC 20380-0001

31 December 2008

1. This Technical Manual (TM), authenticated for Marine Corps use and effective upon receipt, provides information on the Rifle, 5.56 mm, M16A2 W/E, NSN: 1005-01-128-9936; Rifle, 5.56 mm, M16A4 W/E, NSN: 1005-01-383-2872; Carbine, 5.56 mm, M4 W/E, NSN: 1005-01-231-0973; Carbine, 5.56 mm, M4A1 CQBW W/E, NSN: 1005-01-382-0953; TM 05538/10012-IN.
2. Submit notice of discrepancies or suggested changes on a NAVMC 10772. The NAVMC may be submitted via the Internet using website <https://pubs.ala.usmc.mil/front.htm>, scrolling down to the NAVMC 10772 Tracking Program and following instructions provided. It may also be submitted by electronic mail to smb.log.tech.pubs.fct@usmc.mil or by mailing paper copy NAVMC 10772 in an envelope addressed to Commander, Marine Corps Systems Command, Attn: Assistant Commander Acquisition and Logistics (LOG/TP), 814 Radford Blvd, Suite 20343, Albany, Georgia 31704-0343.
3. TM 05538/10012-23&P/2 of May 1991, is hereby superseded for Marine Corps use.

BY DIRECTION OF THE COMMANDANT OF THE MARINE CORPS

OFFICIAL:



A. D. BIANCA
Program Manager, IW, PG-13
Marine Corps Systems Command

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WARNING SUMMARY

ALL WARNINGS in this technical manual pertain to both the rifle and the carbine unless otherwise specified.

WARNING

- **Before starting an inspection, be sure to clear the weapon.**
- **DO NOT pull the trigger until the weapon has been cleared.**
- **Inspect the chamber to ensure it is empty and no ammunition is in position to be chambered.**
- **Failure to follow these warnings may cause injury or death to personnel.**

WARNING

DO NOT keep live ammunition near the work area. Failure to follow this warning may cause injury or death to personnel.



WARNING

Use care when removing and installing spring-loaded parts. Failure to follow this warning may cause injury to personnel.

WARNING

- **M16A2 and M16A4 rifles and M4/M4A1 CQBW carbines must be inspected and gaged at least once annually for safety and serviceability.**
- **Initial gaging is required one year from receipt of the weapons.**
- **Failure to follow these warnings may cause injury or death to personnel.**

WARNING

- **It is recommended that training units inspect/gage all rifles and carbines at the end of each training cycle.**
- **Training units will inspect/gage all rifles and carbines at least once annually.**
- **Failure to follow these warnings may cause injury or death to personnel.**

WARNING

Below Intermediate maintenance, DO NOT interchange bolt assemblies from one weapon to another. Failure to follow this warning may cause injury or death to personnel.

WARNING

The bolt cam pin must be installed or the weapon will explode when first round is fired. Failure to follow this warning may cause injury or death to personnel.



- Dry cleaning solvent is flammable and toxic and should be used in a well-ventilated area.
- Wear rubber gloves to protect your skin when washing weapon parts.
- Failure to follow these warnings may cause injury or death to personnel.



When using solid film lubricant or dichloromethane, be sure the area is well-ventilated. Failure to follow this warning may cause injury or death to personnel.

WARNING

DO NOT fire blank ammunition at a representative enemy at distances less than 20 ft (6.10 m). Failure to follow this warning may cause injury or death to personnel.

WARNING

If the weapon fails any of the following function tests, evacuate to higher level of maintenance. Failure to follow this warning may cause injury or death to personnel.

U.S. MARINE CORPS TECHNICAL MANUAL

**ORGANIZATIONAL AND INTERMEDIATE MAINTENANCE MANUAL
WITH REPAIR PARTS LIST**

FOR

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	WP/Page Number
Warning Summary	a
How to Use This Manual	v
 CHAPTER 1 GENERAL INFORMATION, EQUIPMENT DESCRIPTION AND DATA, AND PRINCIPLES OF OPERATION	
WP 0001 00 General Information	0001 00-1
WP 0002 00 Equipment Description and Data	0002 00-1
WP 0003 00 Principles of Operation	0003 00-1
 CHAPTER 2 TROUBLESHOOTING	
WP 0004 00 Troubleshooting Introduction	0004 00-1
WP 0005 00 Troubleshooting Symptom Index	0005 00-1
WP 0006 00 Troubleshooting Procedures	0006 00-1

Table of Contents - Continued

**WP/Page
Number**

CHAPTER 3 ORGANIZATIONAL MAINTENANCE

WP 0007 00	Service Upon Receipt	0007 00-1
WP 0008 00	Preventive Maintenance Checks and Services (PMCS), Including Lubrication Instructions	0008 00-1
WP 0009 00	General Maintenance Instructions	0009 00-1
WP 0010 00	Cleaning the Weapon	0010 00-1
WP 0011 00	Disassembly of Weapon	0011 00-1
WP 0012 00	Bolt Carrier Assembly Maintenance	0012 00-1
WP 0013 00	Bolt Assembly Maintenance	0013 00-1
WP 0014 00	Charging Handle Maintenance	0014 00-1
WP 0015 00	Upper Receiver and Barrel Assembly Maintenance	0015 00-1
WP 0016 00	Lower Receiver and Buttstock Assembly Maintenance	0016 00-1
WP 0017 00	Buttstock Assembly Maintenance	0017 00-1
WP 0018 00	Reassembly of Weapon	0018 00-1
WP 0019 00	Function Check	0019 00-1
WP 0020 00	Stowage	0020 00-1
WP 0021 00	Preparation for Storage and Shipment	0021 00-1

CHAPTER 4 INTERMEDIATE MAINTENANCE

WP 0022 00	Bolt Carrier Assembly	0022 00-1
WP 0023 00	Bolt Assembly	0023 00-1
WP 0024 00	Key and Bolt Carrier Assembly	0024 00-1
WP 0025 00	Upper Receiver and Barrel Assembly	0025 00-1
WP 0026 00	Upper Receiver Assembly and Rear Sight Assembly	0026 00-1
WP 0027 00	Forward Assist Assembly	0027 00-1
WP 0028 00	Lower Receiver and Receiver Extension Assembly	0028 00-1
WP 0029 00	Hammer Assembly	0029 00-1
WP 0030 00	Trigger Assembly	0030 00-1
WP 0031 00	Final Inspection, Function Test, and Trigger Pull Test	0031 00-1
WP 0032 00	Gaging Requirements (Annual)	0032 00-1
WP 0033 00	Pre-Embarkation Inspection	0033 00-1

CHAPTER 5 AUXILIARY EQUIPMENT

WP 0034 00	Auxiliary Equipment - General	0034 00-1
WP 0035 00	Blank Firing Attachment (BFA) - M15A2 (M16A2 and M16A4 Rifles) and M23 (M4 and M4A1 CQBW Carbines)	0035 00-1
WP 0036 00	Rail Adapter System (RAS) (Includes Quick-Release Bracket [QRB] Barrel Stop)	0036 00-1
WP 0037 00	Back Up Iron Sight (BUIS)	0037 00-1
WP 0038 00	Suppressor, Quick Disconnect	0038 00-1

CHAPTER 6 SUPPORTING INFORMATION

WP 0039 00	References	0039 00-1
WP 0040 00	Expendable and Durable Items List	0040 00-1
WP 0041 00	Tool Identification List (Includes Special Tools)	0041 00-1
WP 0042 00	Manufactured Items Illustrations	0042 00-1
WP 0043 00	Quality Assurance Checklist	0043 00-1

Table of Contents - Continued

	WP/Page Number		
WP 0044 00	Repair Parts List (RPL) Introduction	0044 00-1	
WP 0045 00	Repair Parts List (RPL)	0045 00-1	
			Figure Number
			Page Number
UPPER RECEIVER, REAR SIGHT, AND FORWARD			
ASSIST ASSEMBLY	1	1-1	
CHARGE HANDLE, BOLT, AND			
CARRIER ASSEMBLY	2	2-1	
BARREL, FRONT SIGHT, AND HANDGUARD ASSEMBLY	3	3-1	
LOWER RECEIVER AND BUTTSTOCK ASSEMBLY			
(M16A2 AND M16A4)	4	4-1	
RIFLE GRIP AND TRIGGER ASSEMBLY			
(M16A2 AND M16A4)	5	5-1	
LOWER RECEIVER AND BUTTSTOCK			
ASSEMBLY (M4 AND M4A1 CQBW)	6	6-1	
RIFLE GRIP AND TRIGGER ASSEMBLY			
(M4 AND M4A1 CQBW)	7	7-1	
RAIL ADAPTER SYSTEM (M16A4)	8	8-1	
RAIL ADAPTER SYSTEM (M4 AND M4A1 CQBW)	9	9-1	
BACKUP SIGHT, MAGAZINE, AND SLING	10	10-1	
NATIONAL STOCK NUMBER INDEX.....		I-1	
PART NUMBER INDEX		I-5	
Index		Index-1	

HOW TO USE THIS MANUAL

INTRODUCTION

1. This manual contains operating instructions, maintenance procedures, emergency procedures, and troubleshooting procedures for the M16A2 and M16A4 Rifles and the M4 and M4A1 CQBW Carbines W/E. It is divided into six chapters.
2. This manual is written in work package format:
 - a. Chapters divide the manual into major categories of information (e.g., *General Information, Equipment Description and Data, and Principles of Operation*).
 - b. Each chapter is divided into work packages, which are identified by a six-digit number (e.g., 0001 00, 0002 00, etc.) located on the upper right-hand corner of each page. The work package page number (e.g., 0001 00-1, 0001 00-2, etc.) is centered at the bottom of each page.
 - c. If a Change Package is issued to this manual, added work packages use the fifth and sixth digits of their number to indicate new material. For instance, work packages inserted between WP 0001 00 and WP 0002 00 are numbered WP 0001 01, WP 0001 02, etc.
3. Read through this manual to become familiar with its organization and contents before attempting to operate or maintain the equipment.

CONTENTS OF THIS MANUAL

1. A *Warning Summary* is located at the beginning of this manual. Become familiar with these warnings before operating or maintaining the equipment.
2. A *Table of Contents*, located in the front of the manual, lists all chapters and work packages in the publication. If you cannot find what you are looking for in the Table of Contents, refer to the alphabetical *Index* at the back of the manual.
3. Chapter 1, *General Information, Equipment Description and Data, and Principles of Operation*, provides general information about the equipment, identifies the major components and systems, and describes how the components and systems work.
4. Chapter 2, *Troubleshooting*, which consists of *Troubleshooting Introduction, Troubleshooting Symptom Index, and Troubleshooting Procedures*, provides symptoms and procedures pertaining to failures that could occur during operation of the M16 series weapons.
5. Chapter 3, *Organizational Maintenance*, includes *Service Upon Receipt, Preventive Maintenance Checks and Services (PMCS), Including Lubrication Instructions, General Maintenance Instructions, and Preparation for Storage and Shipment*. This chapter provides procedures to maintain the M16 series weapons at the Organizational level.
6. Chapter 4, *Intermediate Maintenance*, provides intermediate-level maintenance procedures along with inspection and testing requirements pertaining to the M16 series weapons.
7. Chapter 5, *Auxiliary Equipment*, provides information on attachments and other items that are used with the M16A2 and M16A4 Rifles and the M4 and M4A1 CQBW Carbines.
8. Chapter 6, *Supporting Information*, which includes *References, Expendable and Durable Items List, Tool Identification List, and Quality Assurance Checklist*, provides information pertaining to references, components listing, expendable/durable supplies, and a materials list.
9. An alphabetical *Index* is located at the back of this manual.

FEATURES OF THIS MANUAL

1. This manual contains information on operating and maintaining the M16 series weapons W/E.
2. WARNINGS, CAUTIONS, NOTES, subject headings, and other important information are highlighted in **BOLD** print as a visual aid.

WARNING

A WARNING indicates a hazard that may result in injury or death to personnel.

CAUTION

A CAUTION is a reminder of safety practices or directs attention to usage practices that may result in damage to equipment.

NOTE

A NOTE is a statement containing information that will make the procedures easier to perform.

3. Statements and words of particular interest may be printed in CAPITAL LETTERS to create emphasis.
4. Within a procedural step, reference may be made to another chapter or work package in this manual or in another manual. These references indicate where you should look for more complete information. For example, if you are told: "Install the buttstock on the lower receiver (WP 0017 00)", go to WP 0017 00 in this manual for instructions.
5. Illustrations are placed after, and as close to, the procedural steps to which they apply. Callouts placed on the art are text or numbers.
6. Numbers located at lower right corner of art (e.g., M16-013; M16-016, etc.) are art control numbers, and are used for tracking purposes only. Disregard these numbers.

CHAPTER 1
GENERAL INFORMATION, EQUIPMENT
DESCRIPTION AND DATA, AND PRINCIPLES OF OPERATION

SCOPE

1. **Type of Manual.** Organizational and Intermediate Maintenance.
2. **Equipment Name and Model Number.** M16A2, M16A4 Rifles and M4, and M4A1 CQBW Carbines.
3. **Purpose of Equipment.** Provides personnel an offensive/defensive capability to engage targets with small arms fire.

MAINTENANCE FORMS, RECORDS, AND REPORTS

The Marine Corps forms and procedures used for equipment maintenance will be those prescribed by the current edition of TM 4700-15/1_, *Ground Equipment Record Procedures*.

REPORTING EQUIPMENT IMPROVEMENT RECOMMENDATIONS

If a way to improve this weapon is recognized, submit Standard Form (SF) 368, *Product Quality Deficiency Report (PQDR)* in accordance with MCO 4855.10, *Product Quality Deficiency Report (PQDR)*, to the address listed below. To electronically submit a PQDR, go to EZ PQDR website <https://199.208.242.174/spqdr/home.do>. This site can be used to submit the PQDR, answer questions on how to correctly fill out the form, and track the status.

Marine Corps LogCom Command Element
Attn: Quality Assurance Office (L15)
814 Radford Boulevard, Ste 20330
Albany, Georgia 31704-0330

A reply will be sent to you.

CORROSION PREVENTION AND CONTROL (CPC)

The prevention of corrosion on any equipment is important, and it is critically important for safe functioning of a weapons system. Carry out corrosion prevention in accordance with TM 4795-12/1_, *Organizational Corrosion Prevention and Control Procedures for USMC Equipment*. Report a recurrent corrosion problem on SF 368 in accordance with MCO 4855.10.

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

If a corrosion problem is identified, it can be reported using SF 368, *Product Quality Deficiency Report*. Use key words such as “corrosion”, “rust”, “deterioration”, or “cracking” to ensure that the information is identified as a CPC problem.

OFFICIAL NOMENCLATURE, NAMES, AND DESIGNATIONS

NOMENCLATURE CROSS-REFERENCE LIST

Common Name	Official Nomenclature
Action Spring	Compression Helical Spring
Ball Bearing	Bearing Ball
Bolt Catch Spring.....	Compression Helical Spring
Bolt Carrier Key Tool	Machine Key
Burst Disconnecter	Lock-Release Lever
Cam Clutch Spring.....	Helical Spring
Carbine	Carbine, 5.56 mm, M4 and M4A1 CQBW
Charging Handle Assembly	Handle Assembly
Disconnecter Springs.....	Compression Helical Springs
Ejector Spring	Helical Spring
Extractor Spring Assembly	Spring Assembly
Hammer Spring	Torsion Helical Spring
Lower Receiver Extension.....	Spring Receiver Holder
Magazine.....	Cartridge Magazine
Magazine Catch Spring.....	Compression Helical Spring
Peel Washer.....	Shim
Pistol Grip	Rifle Grip
Pin Pivot Detent	Takedown Pin Detent
Rifle	Rifle, 5.56 mm, M16A2 and M16A4
Rifle Barrel Assembly	Barrel Assembly
Selector Lever	Fire Control Selector
Semi-automatic Disconnecter.....	Lock-Release Lever
Sling	Small Arms Sling
Trigger Spring.....	Torsion Helical Spring
Upper Receiver	Upper Cartridge Receiver

LIST OF ABBREVIATIONS/ACRONYMS

ABBREVIATION/ACRONYM	DEFINITION
BFA	Blank Firing Attachment
BUIS	Back Up Iron Sight
CAGEC	Commercial and Government Entity Code
CLP	Cleaner, Lubricant, and Preservative
CQBW	Close Quarters Battle Weapon
fps	Feet per Second
ft	Foot/Feet
IAW	In Accordance With
IMA	Intermediate Maintenance Activity
in	Inch
Kg	Kilogram
LAW	Lubricant, Arctic, Weapons
lb	Pound
LSA	Lubricant, Small Arms
LSA-T	Lubricant, Small Arms
LTI	Limited Technical Inspection
m	Meter
MI	Modification Instruction
mps	Meters per Second
NATO	North Atlantic Treaty Organization
Nm	Newton Meter
NSN	National Stock Number
oz.	Ounce
PMCS	Preventive Maintenance Checks and Services
PQDR	Product Quality Deficiency Report
psi	Pounds per Square Inch
QD	Quick Disconnect
QRB	Quick-Release Bracket
RAS	Rail Adapter System
RBC	Rifle Bore Cleaner
rds/min.	Rounds per Minute
SF	Standard Form
SFL	Solid Film Lubricant
SMR	Source, Maintenance, and Recoverability
TB	Technical Bulletin
TDC	Top Dead Center
TI	Technical Instruction
VCI	Volatile Corrosion Inhibitor

ISSUE AND RECOVERY OF INDIVIDUAL WEAPONS

Weapons will be issued and recovered in the same manner as other individual weapons. NAVMC 10576, *Memorandum Receipt for Individual Weapons and Accessories*, will be used as the issue document. NAVMC 10520, *Weapon Custody Receipt Card*, will be used when the weapon is drawn from the armory for use. Detailed instructions for using these forms are contained in TM 4700-15/1_, *Ground Equipment Record Procedures*.

DEPOT MAINTENANCE

All depot repairs will be accomplished by Marine Corps Logistics Bases, Albany, Georgia, and Barstow, California. In the event a weapon requires depot repair, ship it as a complete assembly.

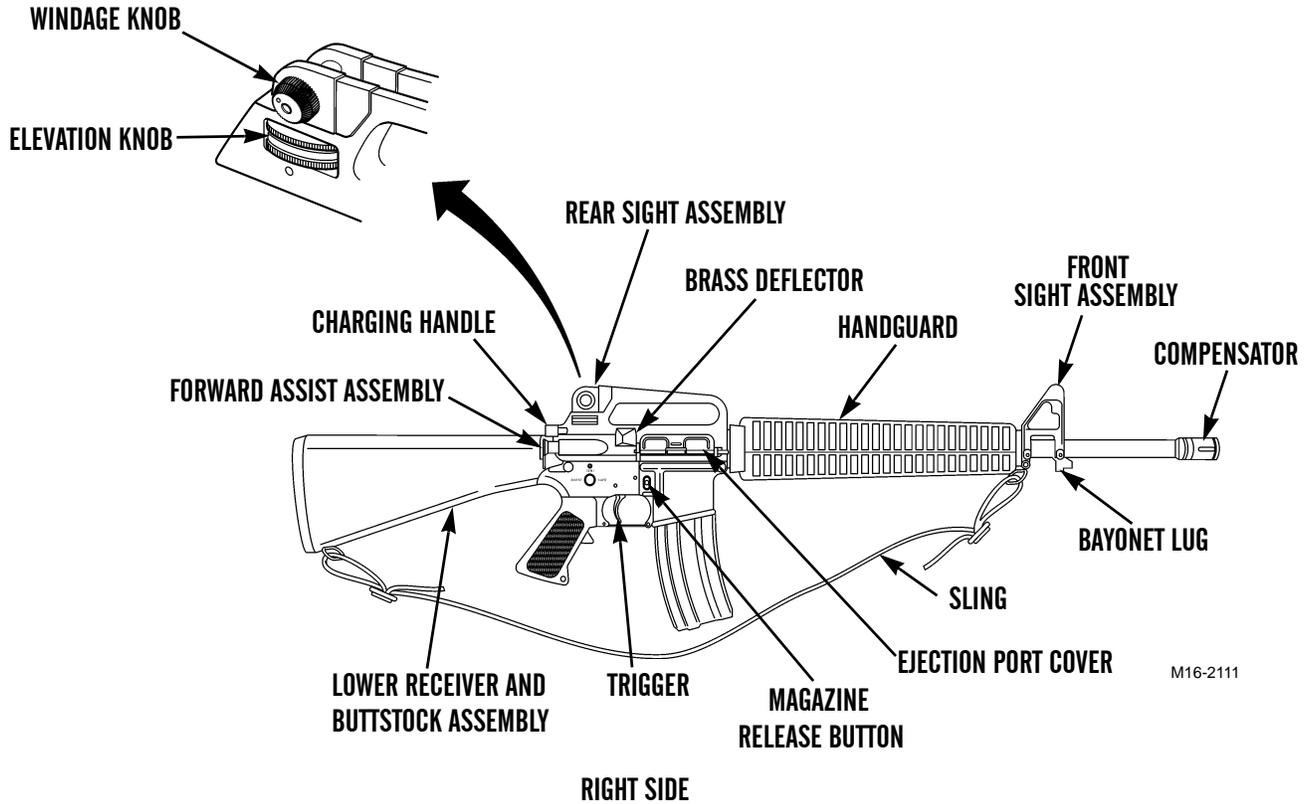
END OF WORK PACKAGE

DESCRIPTION

1. **General.** The M16 series weapons are 5.56 mm, lightweight, air-cooled, gas-operated, magazine-fed, shoulder-fired weapons that can be fired in semi-automatic, three-round burst, or full automatic fire.
2. **Capabilities.** Provides personnel with an offensive/defensive capability to engage targets with direct small-arms fire.
3. **Difference Between Models.** The M16A2 and M16A4 are configured as rifles. The M4 and M4A1 Close Quarters Battle Weapon (CQBW) are configured as carbines. The M16A4 is a modified M16A2. The M16A4, M4, and M4A1 CQBW weapons are configured with a flat-top upper receiver and barrel assembly, a detachable carrying handle, and an integral rear aperture sight. The M16A4 is equipped with the M5 Rail Adapter System (RAS), which replaces the weapon's handguards. The M4 and M4A1 CQBW are equipped with the M4 Rail Adapter System, which replaces the weapon's handguards. Both Rail Adapter Systems provide four additional mounting rails for the attachment of accessories to mission-tailor the weapons. The M16A4, M4, and M4A1 CQBW will also accommodate an M203 Quick Disconnect Mounting Bracket.

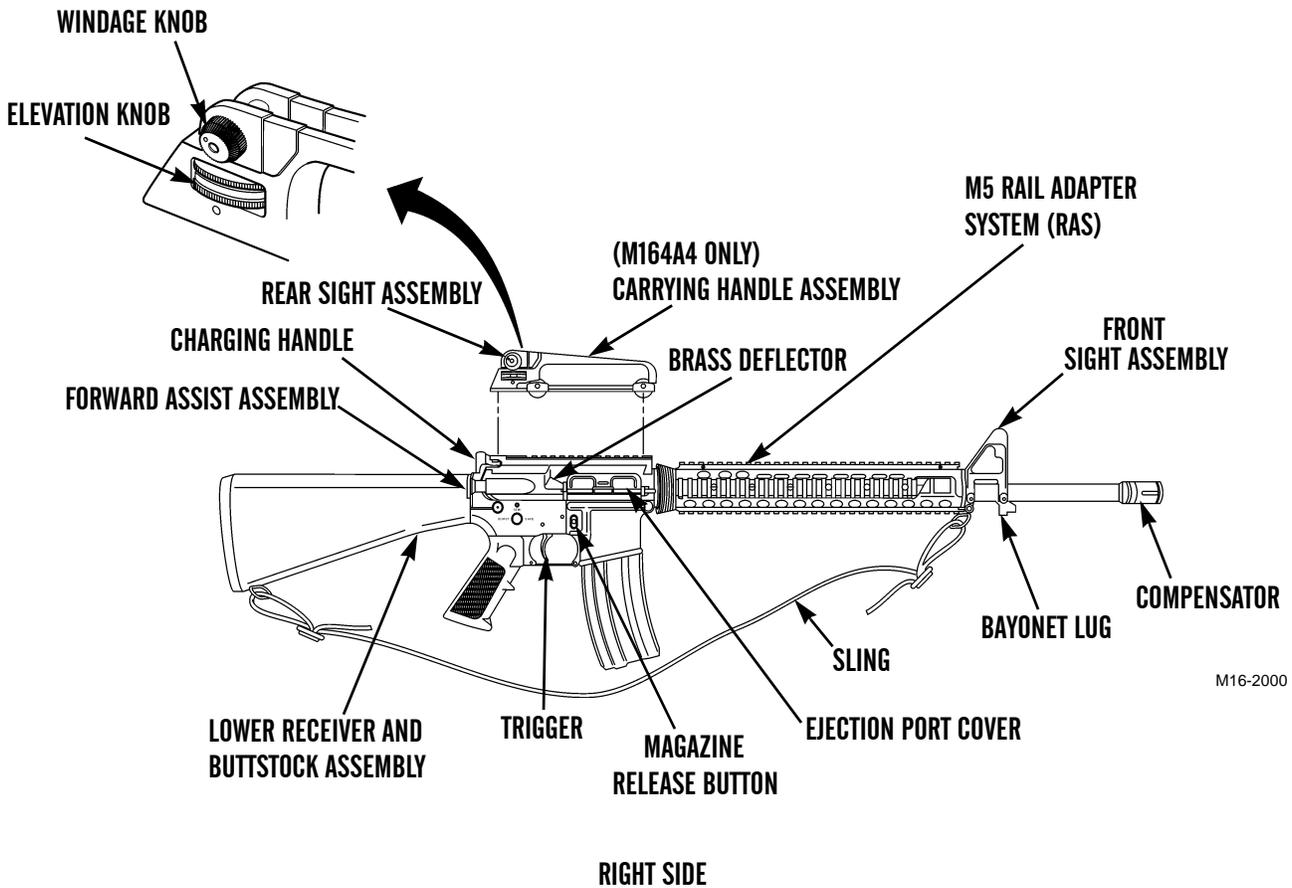
DESCRIPTION - CONTINUED

EXTERNAL VIEW OF 5.56 MM M16A2 RIFLE



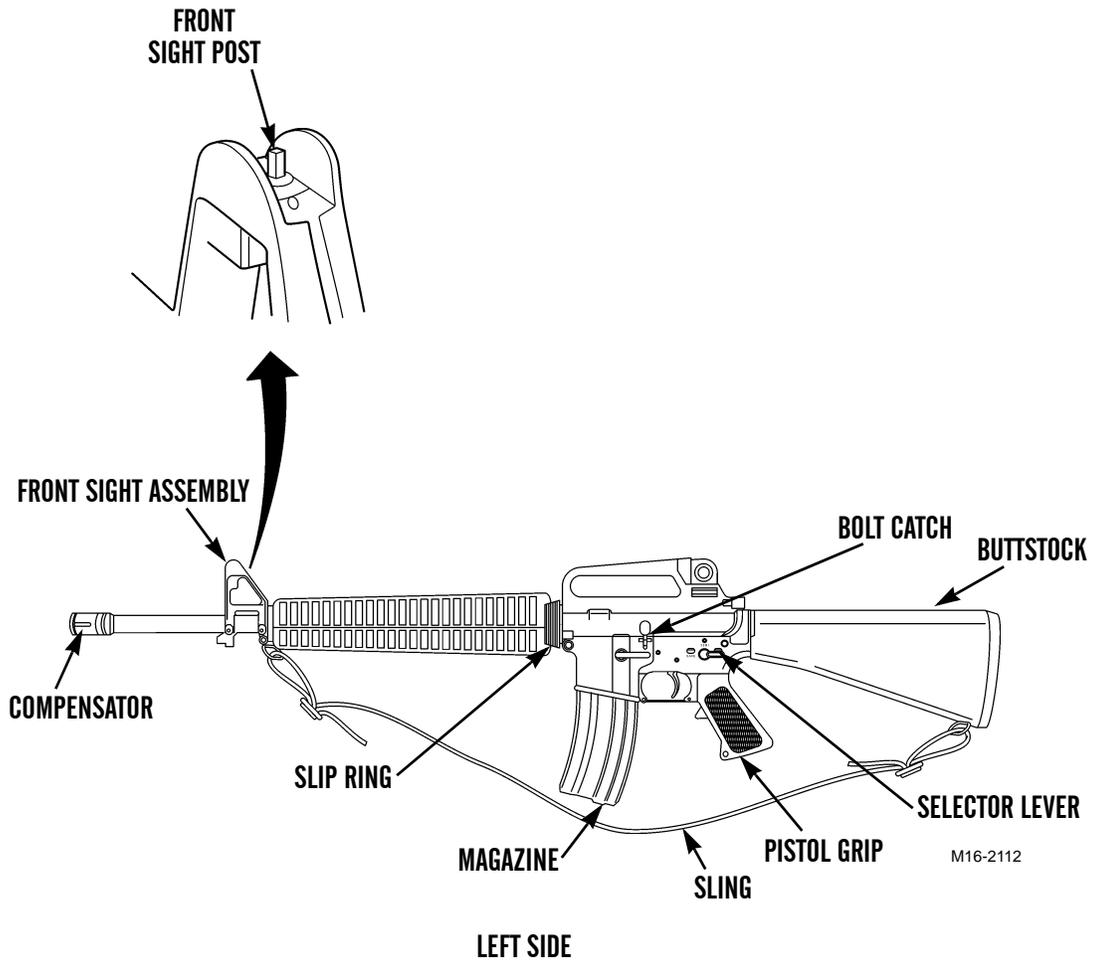
DESCRIPTION - CONTINUED

EXTERNAL VIEW OF 5.56 MM M164A4 RIFLE



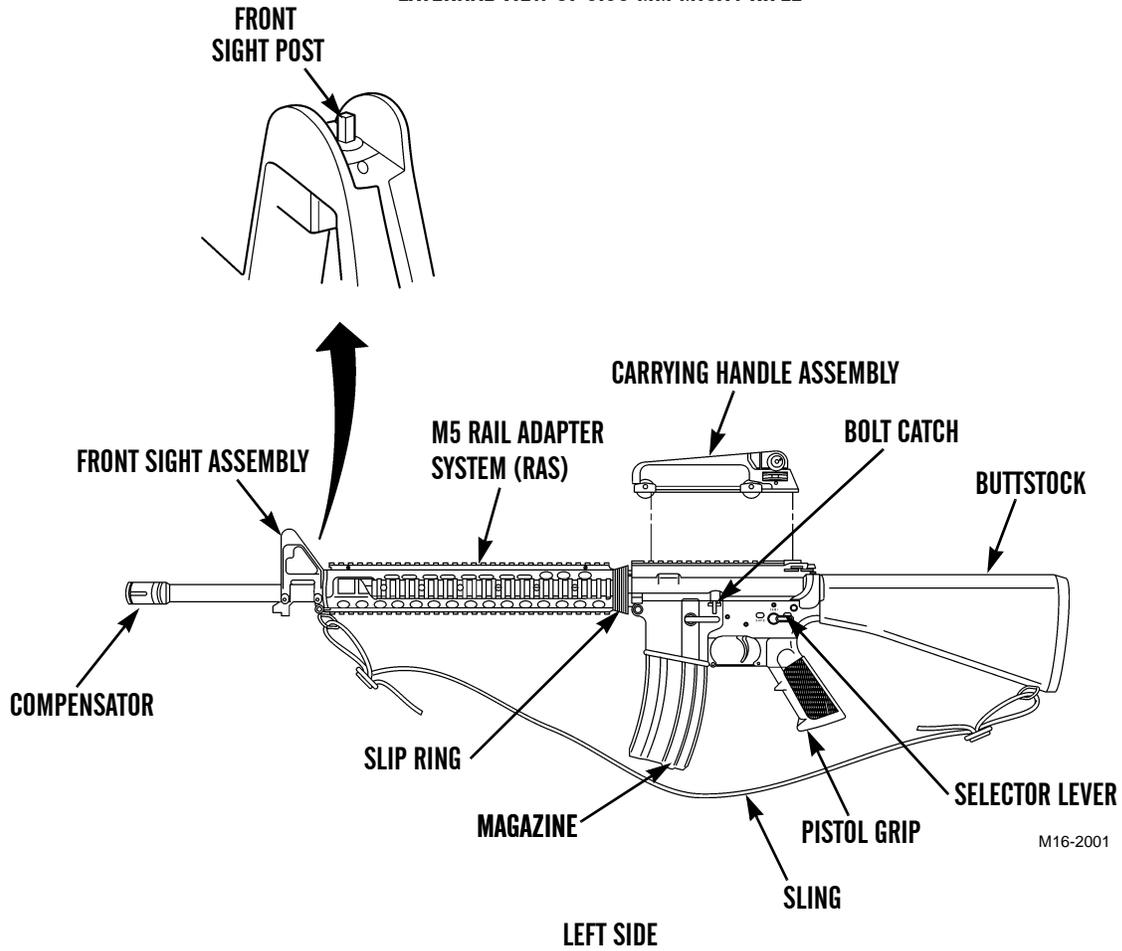
DESCRIPTION - CONTINUED

EXTERNAL VIEW OF 5.56 MM M16A2 RIFLE



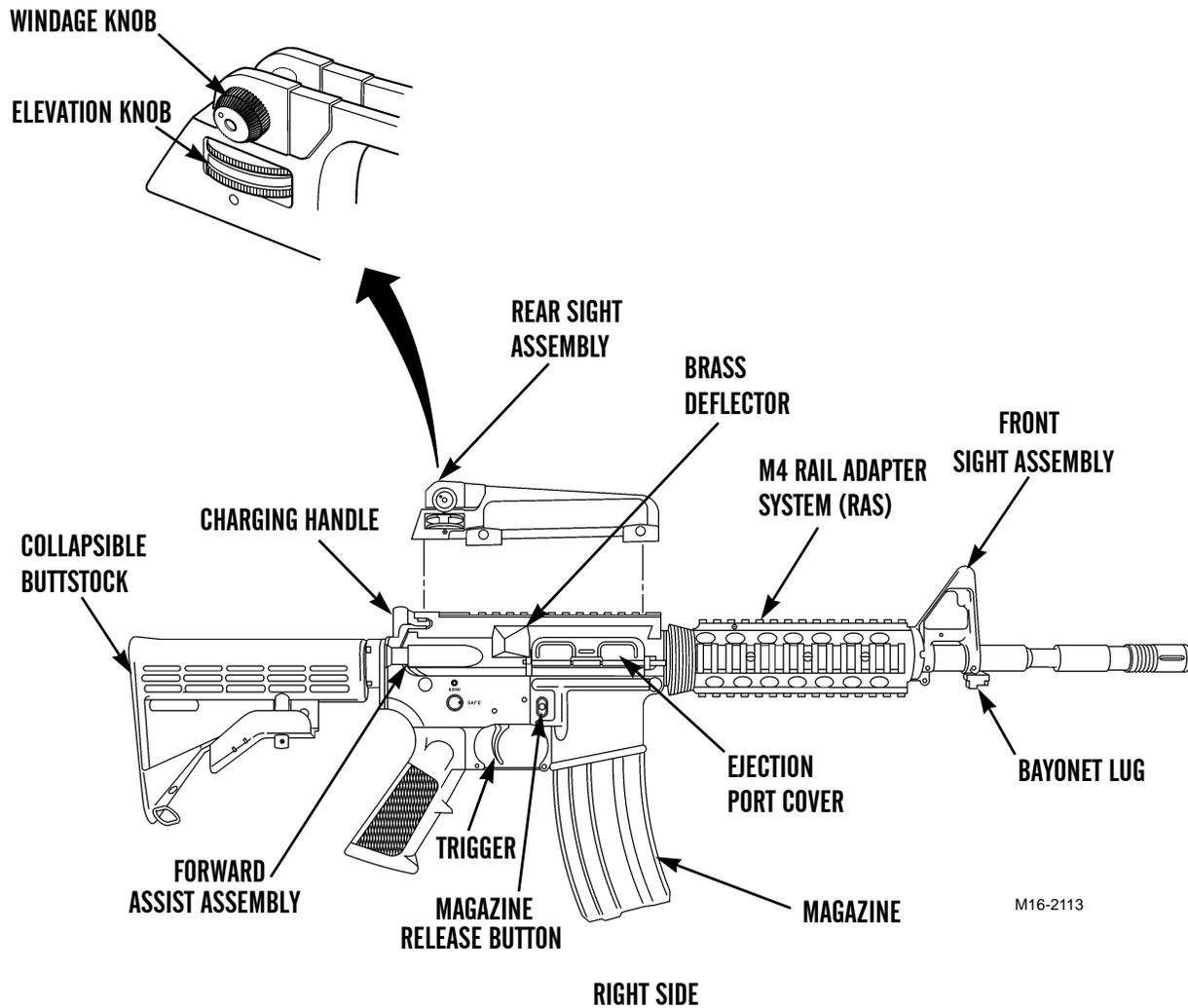
DESCRIPTION - CONTINUED

EXTERNAL VIEW OF 5.56 MM M16A4 RIFLE



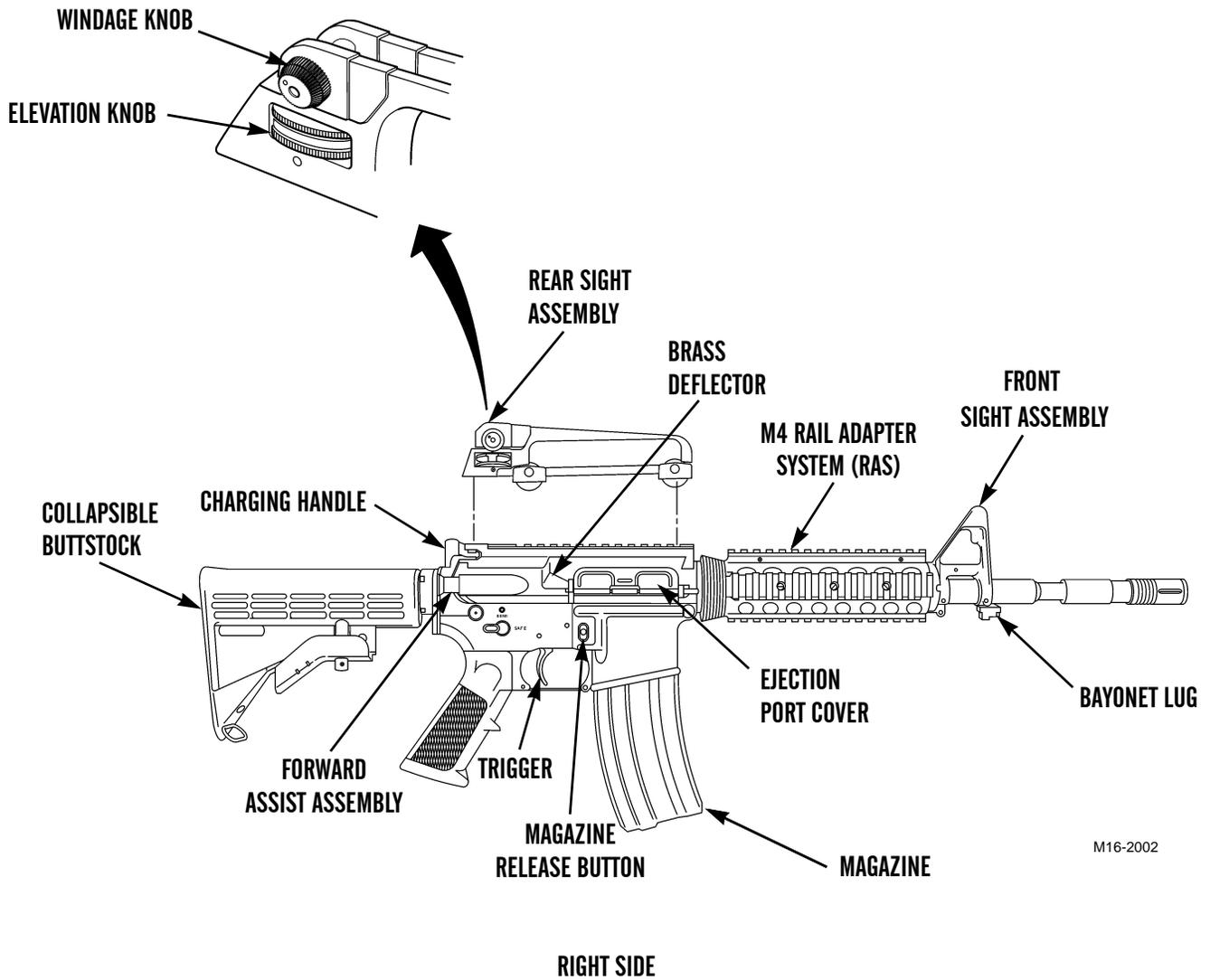
DESCRIPTION - CONTINUED

EXTERNAL VIEW OF 5.56 MM M4 CARBINE



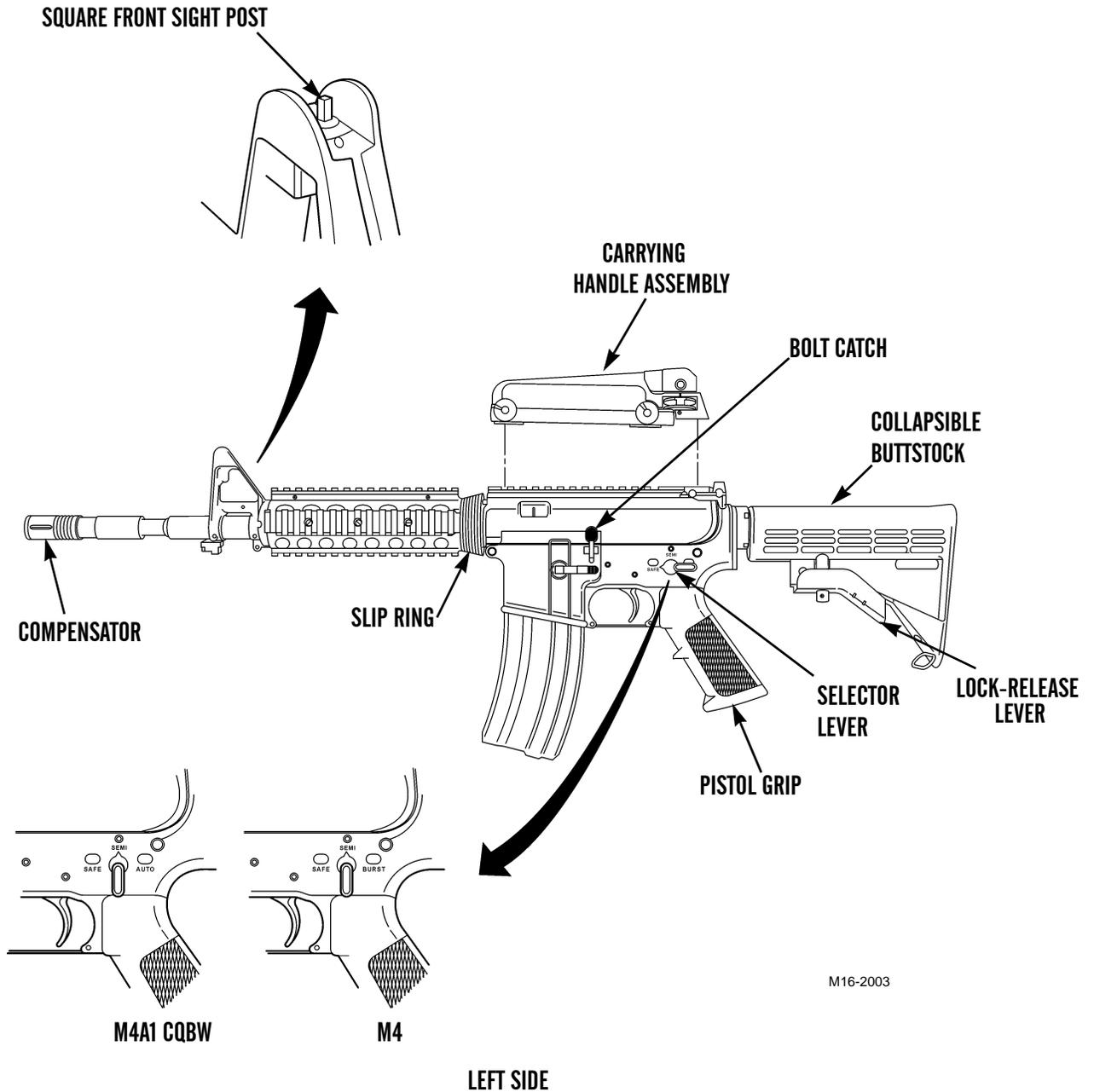
DESCRIPTION - CONTINUED

EXTERNAL VIEW OF 5.56 MM M4A1 CQBW CARBINE



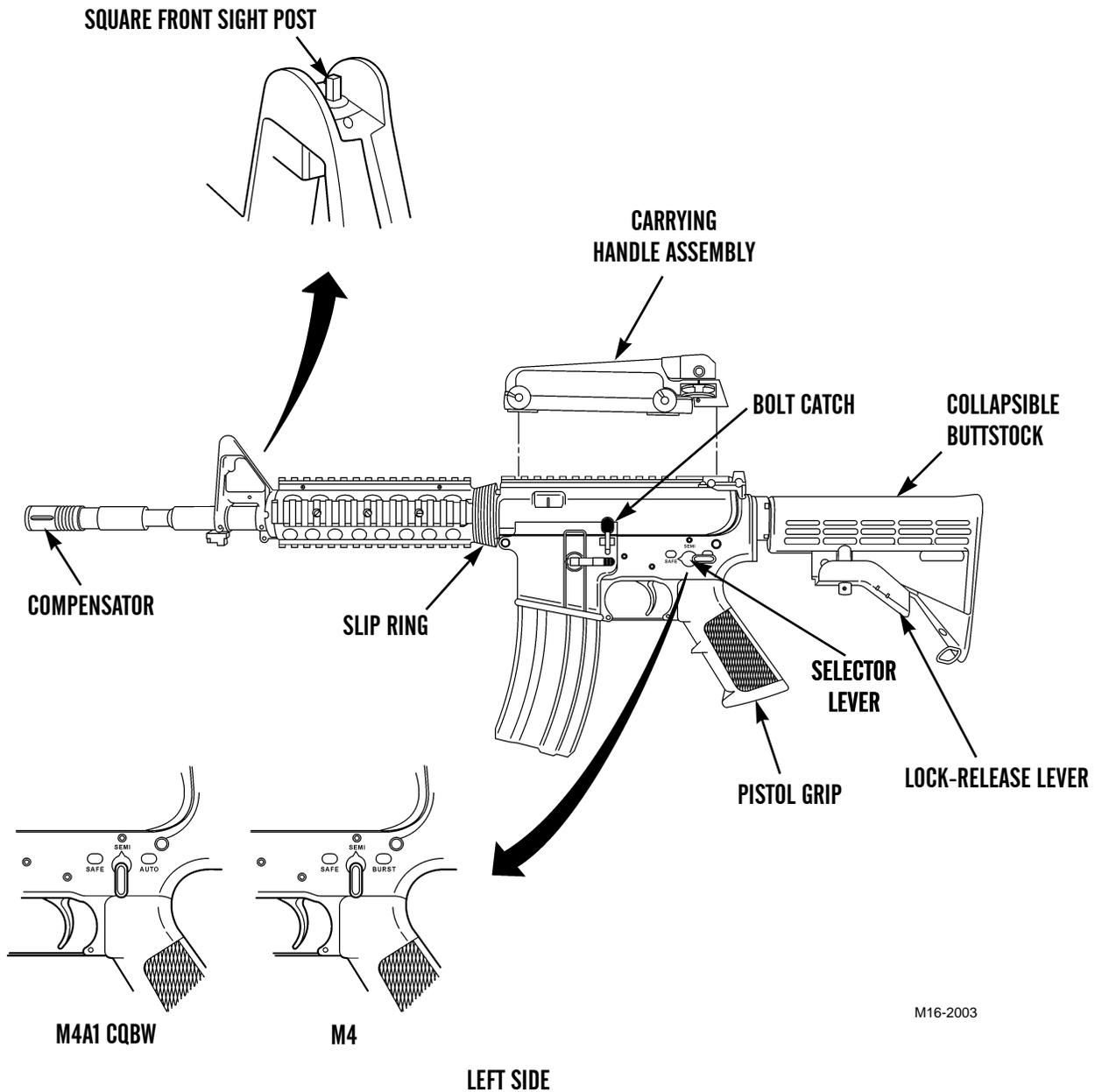
DESCRIPTION - CONTINUED

EXTERNAL VIEW OF 5.56 MM M4 CARBINE



DESCRIPTION - CONTINUED

EXTERNAL VIEW OF 5.56 MM M4A1 CQBW CARBINE



M16-2003

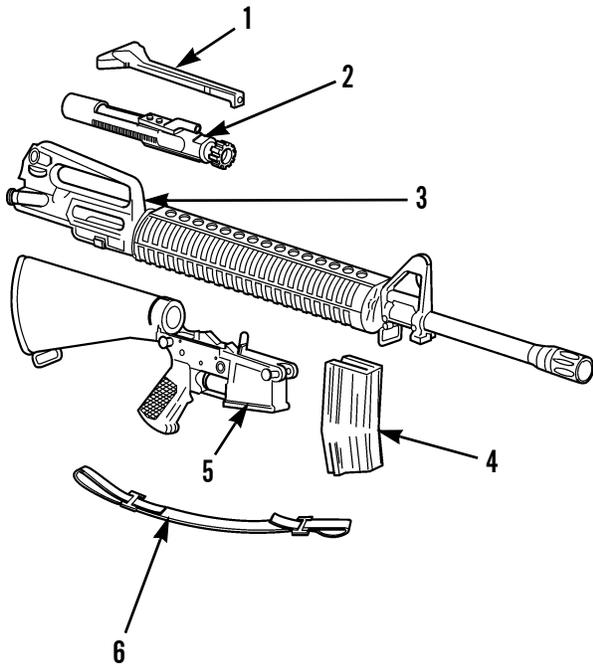
DESCRIPTION - CONTINUED4. **Features.**

- a. Receivers are made of light-weight aluminum alloys. However, the safety, durability, and function of the weapons are in no way reduced. The portability and logistical values are greatly increased, particularly when air transport is used.
- b. The bolt locking action is one of the mechanical features of the M16 series weapons. The bolt assembly and barrel extension contain locking lugs that engage and lock the bolt assembly firmly in the barrel extension. The initial force of the explosion of the cartridge is absorbed by the barrel, barrel extension, and bolt assembly.
- c. The trigger guard is easily adaptable to winter operations. A spring-loaded retaining pin is depressed to allow ready access to the trigger when wearing arctic mittens.
- d. The ejection port cover prevents dirt or sand from entering the ejection port. The ejection port cover must be closed during periods when firing is not anticipated. It opens automatically by the forward or rearward movement of the bolt carrier.

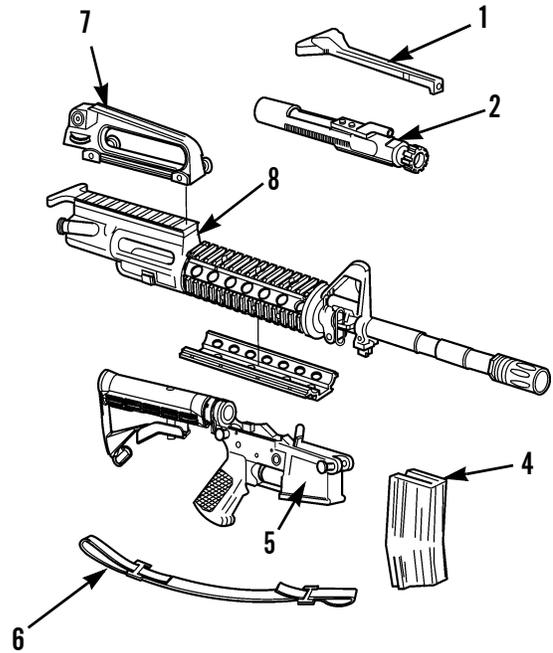
LOCATION AND DESCRIPTION OF MAJOR COMPONENTS

1. **Charging Handle Assembly.** Provides a means of charging the weapon.
2. **Bolt Carrier Assembly.** Carries bolt assembly to chamber and fires the weapon. Contains the firing pin, cartridge extractor, bolt assembly, cartridge ejector, and bolt cam pin.
3. **M16A2 Upper Receiver and Barrel Assembly.** Upper receiver contains rear sight assembly, ejection port, ejection port cover, and housing for the key, bolt carrier assembly, and bolt assembly. The rifle barrel assembly is air-cooled, contains a compensator and front sight assembly, and holds the two handguard assemblies and sling swivel.
4. **Magazine.** 30-cartridge capacity.
5. **Lower Receiver and Buttstock Assembly.** Lower receiver contains the trigger assembly, sear, hammer assembly, selector lever, rifle grip, magazine release, bolt catch, and buttstock assembly. The buttstock assembly houses the action spring, buffer assembly, and extension assembly. M4A1 CQBW weapons have ambidextrous selector levers and magazine releases.
6. **Sling.** The sling is adjustable and provides a means to carry the weapon.
7. **M16A4, M4, and M4A1 COBW Carrying Handle Assembly.** Contains rear sight assembly and provides a means of carrying the weapon.
8. **M4 and M4A1 COBW Upper Receiver and Barrel Assembly.** Upper receiver contains ejection port, ejection port cover, a housing for key and bolt carrier assembly, and a mounting surface for the carrying handle assembly. The rifle barrel assembly is air-cooled, contains a compensator and front sight assembly, and holds the two handguard assemblies and sling swivel.
9. **M16A4 Upper Receiver and Barrel Assembly.** Upper receiver contains ejection port, ejection port cover, a housing for key and bolt carrier assembly, and a mounting surface for the carrying handle assembly. The rifle barrel assembly is air-cooled, contains a compensator and front sight assembly, and holds the two handguard assemblies and sling swivel.

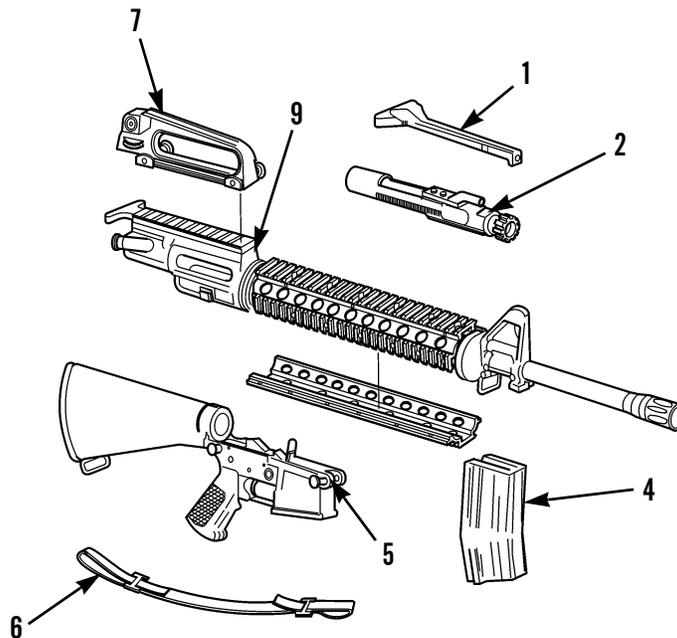
LOCATION AND DESCRIPTION OF MAJOR COMPONENTS - CONTINUED



M16A2



M4, M4A1 CQBW



M16A4

M16-2004

EQUIPMENT DESCRIPTION AND DATA - CONTINUED

0002 00

EQUIPMENT DATA

	U.S. CUSTOMARY	METRIC
Weight:		
M4 and M4A1 CQBW without magazine and sling	6 lb 7 oz	2.91 kg
M16A2 and M16A4 without magazine and sling	7 lb 8 oz	3.40 kg
Sling, adjustable	4 oz	0.11 kg
Empty magazine	4 oz	0.11 kg
Loaded magazine	1 lb 1 oz	0.48 kg
M4 and M4A1 CQBW with sling and loaded magazine	7 lb 12 oz	3.51 kg
M16A2 and M16A4 with sling and loaded magazine	8 lb 13 oz	4.00 kg
Bayonet-knife M7	10.5 oz	0.30 kg
Scabbard M10	5 oz	0.14 kg
Length:		
Carbine with compensator, buttstock extended	33 in.	83.82 cm
Carbine with compensator, buttstock collapsed	29.75 in.	75.57 cm
Rifle with compensator	39.63 in.	100.66 cm
Barrel (carbine)	14.5 in.	36.83 cm
Barrel (rifle)	20 in.	50.8 cm
Barrel with compensator (carbine)	15.5 in.	39.37 cm
Barrel with compensator (rifle)	21 in.	53.34 cm
Mechanical Features:		
Rifling	Right-hand twist, 6 grooves, 1 turn in 7 in. (17.78 cm)	
Method of operation	Direct gas	
Type of breech mechanism	Rotating bolt	
Method of feeding	Magazine	
Cooling	Air	
Trigger pull (M16A2, M16A4, and M4)	5.5 to 9.5 lb	2.49 to 4.31 kg
Trigger pull (M4A1 CQBW)	5.5 to 8.5 lb	2.49 to 3.86 kg
Ammunition:		
Caliber	0.223 in.	5.66 mm
Type	Ball, blank, tracer, controlled penetra- tion, and frangible	
Firing Characteristics:		
Muzzle velocity (carbine) (approximate)	2,970 fps	905.85 mps
Muzzle velocity (rifle) (approximate)	3,100 fps	944.8 mps
Chamber pressure	52,000 psi	358,527 kPa
Cyclic rate of fire (carbine) (approximate)	700 to 970 rds/min	
Cyclic rate of fire (rifle) (approximate)	700 to 900 rds/min	

EQUIPMENT DESCRIPTION AND DATA - CONTINUED

0002 00

EQUIPMENT DATA - CONTINUED

	U.S. CUSTOMARY	METRIC
Maximum Rate of Fire:		
Semi-automatic	45 rds/min	
Burst	90 rds/min	
Sustained rate of fire	12 to 15 rds/min	
Maximum range	3,938 yd	3,600 m (approximately)
 Maximum Effective Range:		
Individual/point targets (M4 and M4A1 CQBW).....	547 yd	500 m
Individual/point targets (M16A2 and M16A4).....	602 yd	550 m
Area targets (M4 and M4A1 CQBW).....	650 yd	594 m
Area targets (M16A2 and M16A4).....	875 yd	800 m

ASSOCIATED EQUIPMENT

Refer to the Supply System Responsibility Items (SSRI) list in TM 05538/10012-OR_ for a list of the associated equipment.

END OF WORK PACKAGE

GENERAL

The 5.56 mm M16A2, M16A4, M4, and M4A1 CQBW:

- a. Are gas-operated. They fire in either the automatic (M4A1 CQBW only), semi-automatic, or burst mode.
- b. Have positive locking of the bolt. The firing pin is part of the bolt carrier assembly and cannot strike the primer until the bolt assembly is fully locked.

CYCLE OF OPERATION

The cycle of operation is similar in all small arms. Knowledge of what happens during the cycle of operation will help both the operator and the maintainer understand the cause of and remedy for various stoppages.

1. **Eight Steps.** The cycle of operation contains eight steps:
 - a. Feeding
 - b. Chambering
 - c. Locking
 - d. Firing
 - e. Unlocking
 - f. Extracting
 - g. Ejecting
 - h. Cocking
2. **Description of Eight Steps.** The eight steps that make up the cycle of operation are explained below, along with a brief description of what occurs inside the rifle during each step. Assume that a full magazine is loaded in the weapon, the first cartridge is chambered, and the bolt is forward and locked.
 - a. **Feeding.** The magazine follower feeds the top cartridge into the path of the bolt. The magazine follower is under pressure from the magazine spring.
 - b. **Chambering.** Chambering occurs when a cartridge is fed into the chamber as the bolt and bolt carrier assembly go forward under pressure from the action spring. The bolt and bolt carrier assembly push the top cartridge in the magazine from beneath the feeder lips of the magazine and drive it forward into the chamber. Chambering is complete when the extractor snaps into the extracting groove on the cartridge and the ejector is forced into the face of the bolt.
 - c. **Locking.** Locking occurs when the bolt is fully closed. The closed bolt prevents the loss of gas pressure until the bullet has left the muzzle. The bolt is locked by the bolt cam pin rotating the bolt within the bolt carrier as the bolt carrier completes its travel. This engages the locking lugs on the bolt with the locking lugs on the barrel assembly.
 - d. **Firing.** Firing occurs when the firing pin strikes the primer in the head of the cartridge. When the trigger is pressed, the trigger lugs disengage from the hammer hooks, and the hammer releases. The hammer moves forward under pressure of the hammer spring and strikes the rear of the firing pin. This drives the firing pin against the primer, which in turn ignites the propellant in the cartridge case and propels the bullet into its trajectory.
 - e. **Unlocking.** Unlocking occurs after a cartridge is fired. As the bullet is forced through the barrel by expanding gases, a small amount of gas enters through the gas port into the gas tube and travels through the gas tube to the carrier key of the bolt carrier assembly. As the gas pressure builds, it forces the bolt carrier assembly rearward against pressure from the action spring. As the bolt carrier assembly begins to move rearward, the bolt cam pin rotates the bolt assembly within the bolt carrier to unlock the locking lugs of the bolt from the locking lugs on the barrel assembly. As the bolt carrier assembly continues to move rearward, the gas tube and carrier key are no longer engaged and any remaining gas pressure either exits through the ejection port or follows the bullet out of the muzzle.

CYCLE OF OPERATION - CONTINUED

- f. **Extracting.** Extracting removes the empty cartridge case from the chamber. As the bolt unlocks, it is rotated slightly, causing the extractor to rotate the cartridge case within the chamber. The expanded case breaks contact with the chamber walls, allowing extraction to occur as the bolt and bolt carrier assembly travel rearward.
- g. **Ejecting.** Ejecting throws the empty cartridge case out of the receiver. As soon as the bolt has drawn the cartridge case clear of the chamber, the force of the ejector spring and plunger pushes the cartridge case head away from the bolt face. This causes the forward end of the cartridge case to move outward to the right. The bolt's rapid rearward movement causes the cartridge case to turn sideways and be ejected clear of the weapon. When the last cartridge has been fired, and the bolt and bolt carrier assembly is held in a rearward position by the bolt lock, the ejector propels the last case out and away from the receiver.
- h. **Cocking.** Cocking occurs when the hammer is forced into position for fitting the next cartridge. This happens as the bolt and bolt carrier assembly travels toward the rear. The rear end of the bolt forces the hammer back and rides over it. The hammer is caught by the sear if the trigger is still held to the rear and by the trigger lugs if the trigger has been released.

CHAPTER 2
TROUBLESHOOTING

GENERAL

This chapter contains troubleshooting information for locating and correcting most of the operating troubles that may occur with the M16 series weapons.

This manual cannot list all of the possible malfunctions, tests or inspections, and corrective actions of the M16 series weapons. If a malfunction is not listed (except when the malfunction and cause are obvious), or if it is not corrected by the listed action, evacuate the weapon to the next higher maintenance level. Table 1, in *Troubleshooting Procedures* (WP 0006 00), lists possible malfunctions, tests or inspections, and corrective action taken for troubleshooting the M16 series weapons at the organizational and intermediate levels.

END OF WORK PACKAGE

TROUBLESHOOTING SYMPTOM INDEX

0005 00

INTRODUCTION

Refer to the Table 1 in *Troubleshooting Procedures* (WP 0006 00) for malfunctions, tests or inspections, and corrective actions. The malfunction/symptom index provides a quick reference of the malfunctions covered in Table 1.

Malfunction/Symptom	Troubleshooting Procedure Page
1. Failure of Magazine to Lock in Weapon.....	0006 00-1
2. Failure to Feed.	0006 00-2
3. Failure to Chamber.	0006 00-3
4. Failure to Lock.	0006 00-4
5. Failure to Fire.	0006 00-6
6. Failure to Unlock.	0006 00-8
7. Failure to Extract.....	0006 00-9
8. Failure to Eject.	0006 00-10
9. Failure to Cock.	0006 00-11
10. Short Recoil.....	0006 00-13
11. Rifle Cannot be Zeroed.....	0006 00-17
12. Failure to Cycle with Selector Lever Set on BURST (M16A2, M16A4, and M4).	0006 00-18
13. Failure to Cycle with Selector Lever Set on AUTO (M4A1 CQBW).	0006 00-20
14. Fires Two Rounds with One Pull of Trigger with the Selector Lever Set on SEMI (Double Firing).....	0006 00-21
15. Fires with Selector Lever on SAFE or when Trigger is Released with Selector Lever on SEMI.	0006 00-23
16. Bolt Assembly Fails to Lock to Rear After Firing Last Round.	0006 00-24
17. Hammer Pin "Walks".	0006 00-26

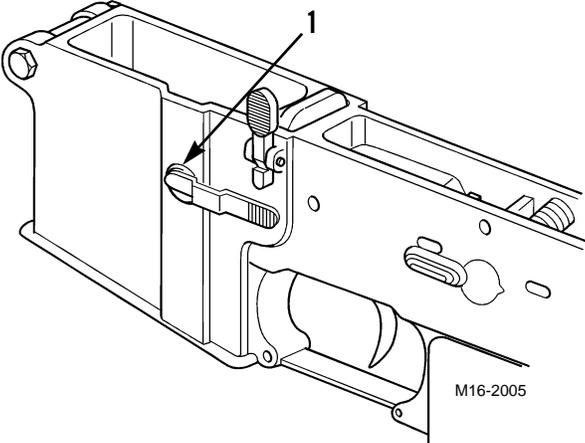
END OF WORK PACKAGE

GENERAL

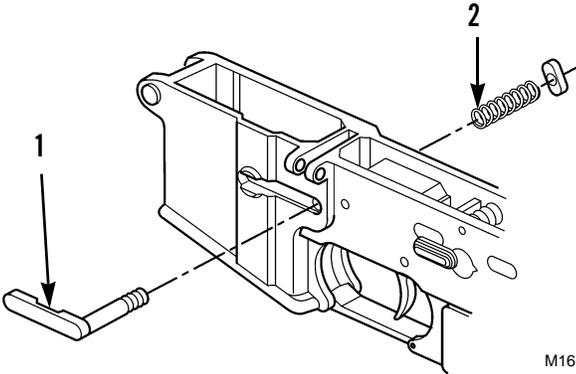
Table 1 lists possible malfunctions, tests or inspections and corrective action taken for troubleshooting M16 series weapons at the Organizational and Intermediate levels.

Table 1. Organizational and Intermediate Troubleshooting Procedures.

MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
<p>1. Failure of Magazine to Lock in Weapon.</p> <p>Organizational Level</p>	<ol style="list-style-type: none"> 1. Magazine catch out of adjustment. 2. Dirty or corroded magazine catch (1). <ol style="list-style-type: none"> 3. Defective magazine catch spring (2). 4. Worn or broke magazine catch (1). 	<p>Adjust magazine catch. Refer to WP 0016 00.</p> <p>Disassemble and clean. Refer to WP 0016 00.</p> <p>Replace magazine catch spring. Refer to WP 0016 00.</p> <p>Replace magazine catch. Refer to WP 0016 00.</p>



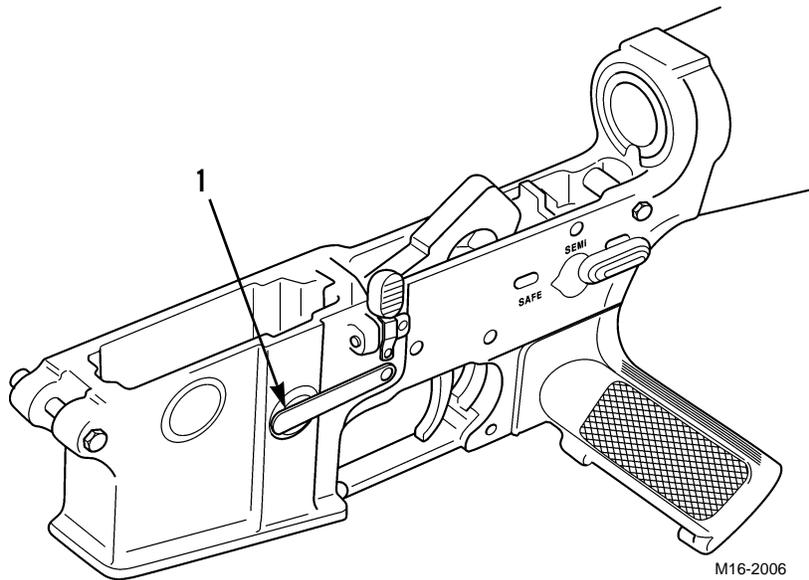
M16-2005



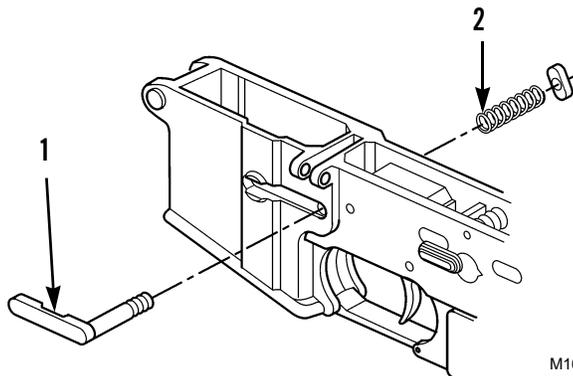
M16-2023

Table 1. Organizational and Intermediate Troubleshooting Procedures - Continued.

MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
<p>2. Failure to Feed.</p> <p>Organizational Level</p>	<p>1. Magazine catch (1) out of adjustment (will not retain magazine).</p> <p>2. Short recoil.</p>	<p>Refer to TM 05538/10012-OR_.</p> <p>Refer to <i>Short Recoil</i> in this table.</p>
<p>Intermediate Level</p>	<p>3. Magazine catch spring (2) weak or broken.</p> <p>4. Magazine catch (1) defective.</p> <p>Short recoil.</p>	<p>Replace magazine catch spring. Refer to WP 0016 00.</p> <p>Replace magazine catch. Refer to WP 0016 00.</p> <p>Refer to <i>Short Recoil</i> in this table.</p>



M16-2006



M16-2023

Table 1. Organizational and Intermediate Troubleshooting Procedures - Continued.

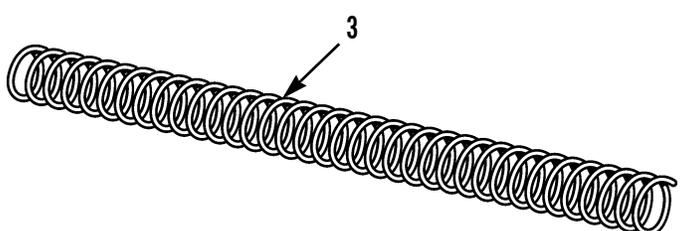
MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
<p>3. Failure to Chamber.</p> <p>Organizational Level</p>	<p>1. Weak or broken action spring (3):</p> <p>RIFLE ONLY: free length 11-3/4 in. (29.85 cm) minimum to 13-1/2 in. (34.29 cm) maximum.</p> <p>CARBINE ONLY: free length 10-1/6 in. (25.56 cm) minimum to 11-1/4 in. (28.58 cm) maximum.</p> <p>2. Short recoil.</p>	<p>Replace action spring. Refer to WP 0016 00.</p> <p>Refer to <i>Short Recoil</i> in this table.</p>
 <p>M16-2007</p>		
<p>Intermediate Level</p>	<p>Short recoil.</p>	<p>Refer to <i>Short Recoil</i> in this table.</p>

Table 1. Organizational and Intermediate Troubleshooting Procedures - Continued.

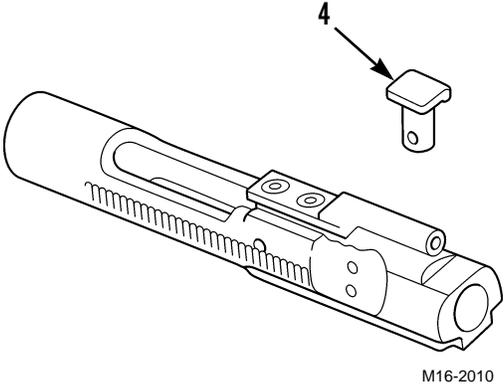
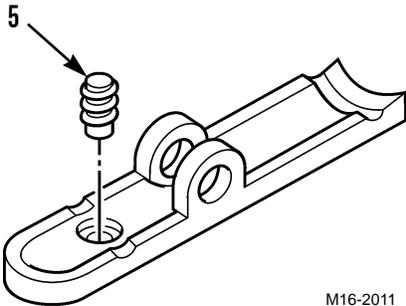
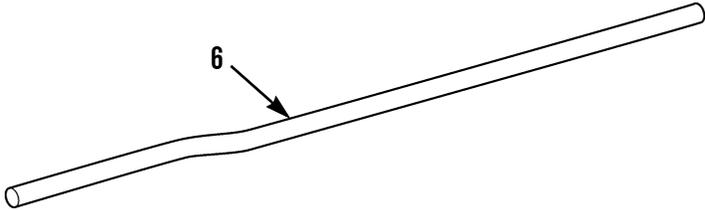
MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
<p>4. Failure to Lock.</p> <p>Organizational Level</p>	<p>1. Missing bolt cam pin (4).</p>  <p>M16-2010</p> <p>2. Improperly assembled extractor spring assembly (5).</p>  <p>M16-2011</p> <p>3. Bent gas tube (6).</p>  <p>M16-2008</p>	<p>Replace missing bolt cam pin. Refer to WP 0012 00.</p> <p>Assemble correctly. Refer to WP 0013 00.</p> <p>1. Adjust to its original configuration by bending in area of handguard. 2. If the gas tube cannot be returned to its original configuration, evacuate weapon to higher level of maintenance.</p>

Table 1. Organizational and Intermediate Troubleshooting Procedures - Continued.

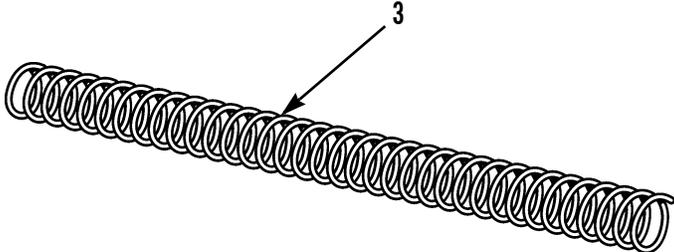
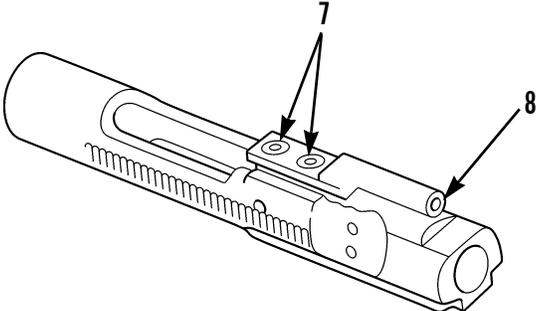
MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
<p>4. Failure to Lock-Continued.</p> <p>Organizational Level</p>	<p>4. Weak or broken action spring (3):</p> <p>RIFLE ONLY: free length 11-3/4 in. (29.85 cm) minimum to 13-1/2 in. (34.29 cm) maximum.</p> <p>CARBINE ONLY: free length (10-1/6 in. (25.56 cm) minimum to 11-1/4 in. (28.58 cm) maximum.</p>	<p>Replace action spring. Refer to WP 0016 00.</p>
 <p>M16-2007</p>		
<p>Intermediate Level</p>	<ol style="list-style-type: none"> 1. Damaged bolt carrier key (8). 2. Loose screws (7) on bolt carrier key (8). 	<p>Dented bolt carrier key may be repaired. Refer to WP 0022 00. Reassemble using new screws.</p> <p>Disassemble and repair. Refer to WP 0022 00. Reassemble using new screws.</p>
 <p>M16-2017</p>		

Table 1. Organizational and Intermediate Troubleshooting Procedures - Continued.

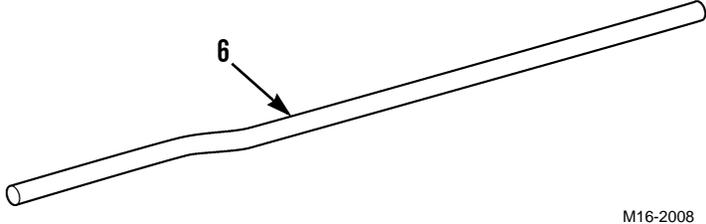
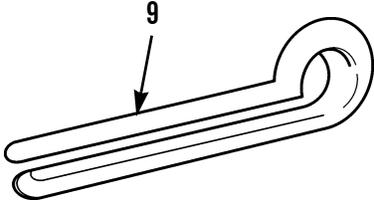
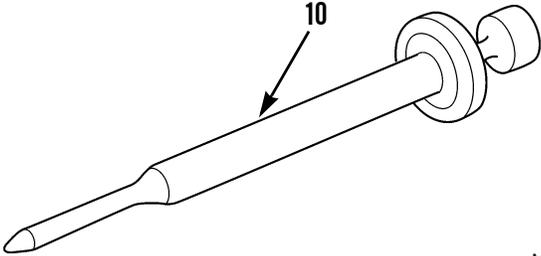
MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
<p>4. Failure to Lock - Continued.</p> <p>Intermediate Level</p>	<p>3. Bent gas tube (6).</p> <p>4. Short recoil.</p>	<p>Replace gas tube and check alignment. Refer to WP 0025 00.</p> <p>Refer to <i>Short Recoil</i> in this table.</p>
		
<p>M16-2008</p>		
<p>5. Failure to Fire.</p> <p>Organizational Level</p>	<p>1. Carbon buildup in firing pin recess inside bolt assembly.</p> <p>2. Broken, defective, or missing firing pin retaining pin (9).</p>	<p>Remove cartridge extractor and clean recess with pipe cleaner. Refer to TM 05538/10012-OR_.</p> <p>Replace firing pin retaining pin. Refer to WP 0012 00.</p>
		
<p>M16-2012</p>		
<p>3. Broken or chipped firing pin (10) or firing pin does not meet protrusion gage requirement.</p>		
		
<p>M16-2009</p>		

Table 1. Organizational and Intermediate Troubleshooting Procedures - Continued.

MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
<p>5. Failure to Fire - Continued.</p> <p>Intermediate Level</p>	<p>1. Firing mechanism (12) and/or lower receiver assembly (11) improperly assembled or has worn, broken, or missing parts.</p> <div> <p>A line drawing of a handgun's receiver and firing mechanism. Callout 11 points to the lower receiver assembly, and callout 12 points to the firing mechanism. The words 'SAFE' and 'SEMI' are visible on the receiver.</p> </div> <p>M16-2006</p>	<p>Evacuate to higher level of maintenance.</p> <p>2. Selector lever (13) frozen on SAFE position.</p> <div> <p>A close-up line drawing of the selector lever. Callout 13 points to the lever, which has 'SAFE' and 'SEMI' markings. The lever is shown in the 'SAFE' position.</p> </div> <p>M16-2026b</p>
		<p>Disassemble and clean. Refer to WP 0028 00.</p>

Table 1. Organizational and Intermediate Troubleshooting Procedures - Continued.

MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
<p>5. Failure to Fire - Continued.</p> <p>Intermediate Level</p>	<ol style="list-style-type: none"> 3. Broken hammer (17). 4. Weak or broken hammer spring (14). 5. Hammer spring (14) improperly assembled. 6. (M16A2, M16A4, AND M4 ONLY) Burst cam (16) and/or cam clutch spring (15) frozen or improperly assembled. 	<p>Replace hammer. Refer to WP 0029 00.</p> <p>Replace hammer spring. Refer to WP 0029 00.</p> <p>Assemble properly. Refer to WP 0029 00.</p> <p>Disassemble, clean, lubricate, and reassemble correctly. Refer to WP 0029 00.</p>
<p>6. Failure to Unlock.</p> <p>Organizational Level</p>	<ol style="list-style-type: none"> 1. Burred locking lugs (18) on bolt assembly. 2. Burred lugs (19) on barrel assembly. 3. Short recoil. 	<p>Remove burrs.</p> <p>Remove burrs.</p> <p>Refer to <i>Short Recoil</i> in this table.</p>

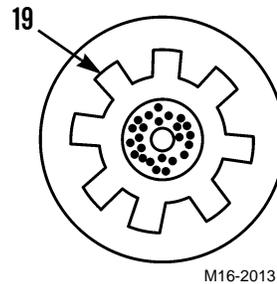
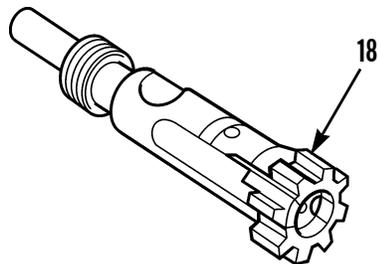
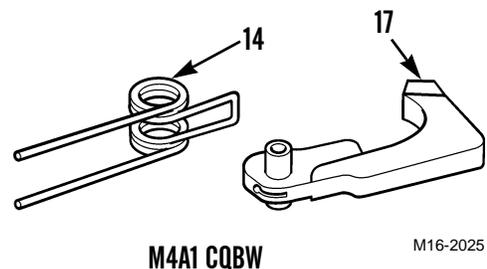
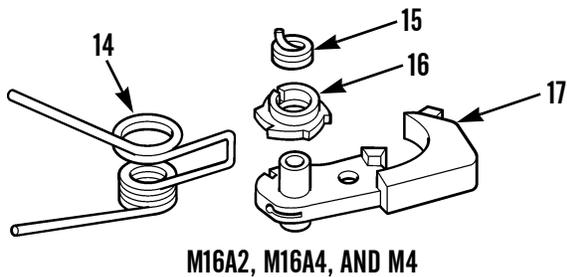


Table 1. Organizational and Intermediate Troubleshooting Procedures - Continued.

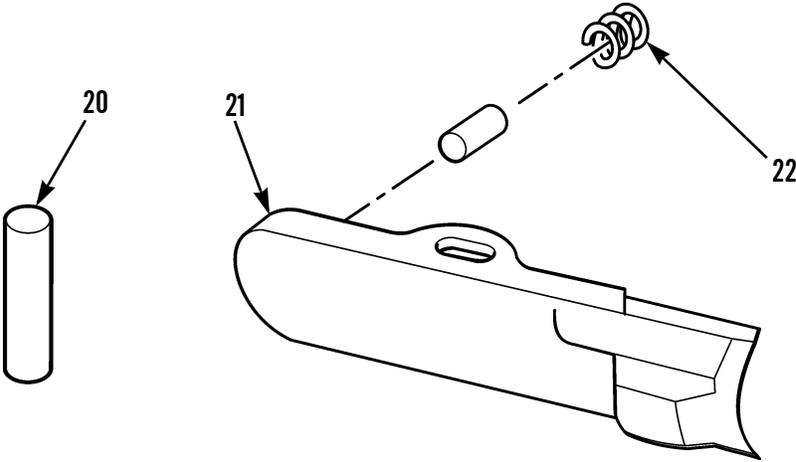
MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
<p>7. Failure to Extract.</p> <p>Organizational Level</p>	<p>1. Defective extractor pin (20), cartridge extractor (21), and/or extractor spring assembly (22).</p> <p>2. Short recoil.</p> <p style="text-align: center;">NOTE</p> <p style="text-align: center;">Rubber insert and spring are an assembly. Illustration shows insert removed from assembly for clarification only.</p> <div style="text-align: center;">  <p>M16-2014</p> </div>	<p>Replace extractor pin, cartridge extractor, and/or extractor spring assembly. Refer to WP 0013 00.</p> <p>Refer to <i>Short Recoil</i> in this table.</p>
<p>Intermediate Level</p>	<p>Inspect the barrel for badly pitted chamber with reflector tool.</p>	<p>Replace barrel assembly if chamber is badly pitted. Refer to WP 0025 00.</p>

Table 1. Organizational and Intermediate Troubleshooting Procedures - Continued.

MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
<p>8. Failure to Eject.</p> <p>Organizational Level</p>	<ol style="list-style-type: none"> 1. Broken cartridge ejector (25). 2. Cartridge ejector (25) stuck in bolt body (23). 3. Weak or broken ejector spring (24). 	<p>Replace cartridge ejector. Refer to WP 0013 00.</p> <p>Disassemble and clean cartridge ejector. Refer to WP 0013 00.</p> <p>Replace ejector spring. Refer to WP 0013 00.</p>
<p>Intermediate Level</p>	<p>Short recoil.</p>	<p>Refer to <i>Short Recoil</i> in this table.</p>

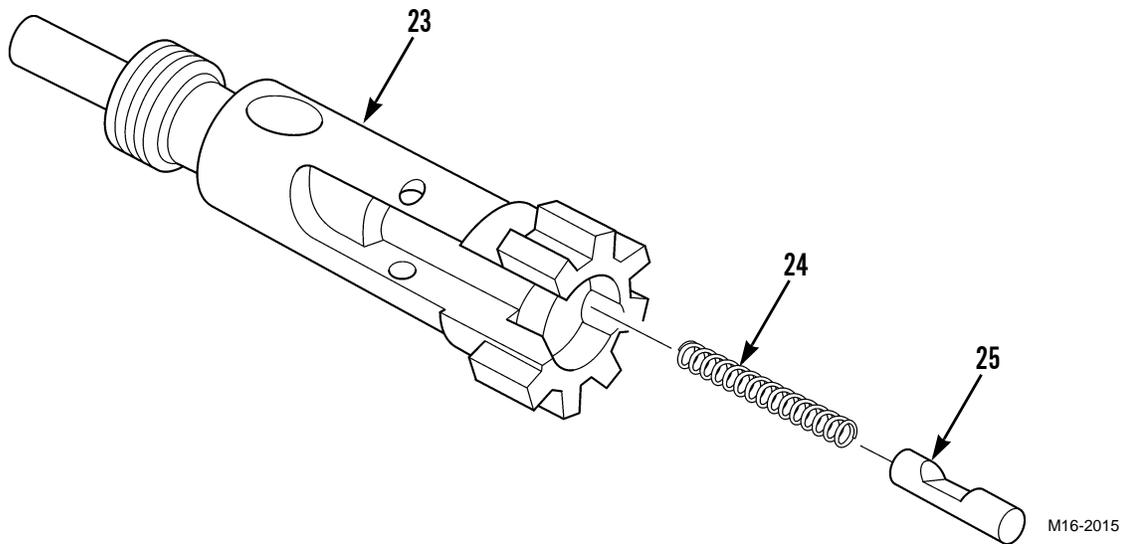


Table 1. Organizational and Intermediate Troubleshooting Procedures - Continued.

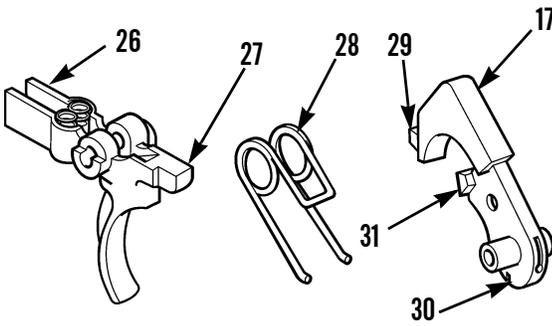
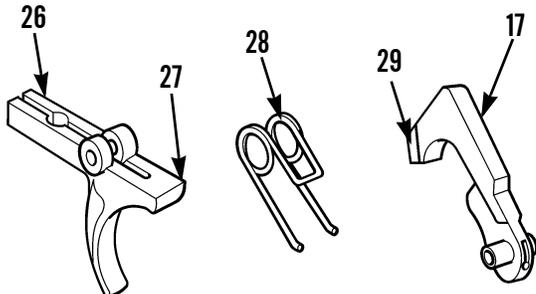
MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
<p>9. Failure to Cock.</p> <p>Organizational Level</p> <p>Intermediate Level</p>	<p>Worn, broken, or missing parts of firing mechanism.</p> <ol style="list-style-type: none"> 1. Short recoil. 2. Worn or broken trigger nose (27) or trigger spring (28). 3. Worn or broken hammer trigger notch (30) (M16A2, M16A4, and M4 ONLY). 4. Worn or broken hammer disconnecter hook (31) (M16A2, M16A4, and M4 ONLY). 5. Worn or broken hammer automatic sear hook (29). 	<p>Evacuate to higher level of maintenance.</p> <p>Refer to <i>Short Recoil</i> in this table.</p> <p>Replace trigger (26) or trigger spring (28). Refer to WP 0030 00.</p> <p>Replace hammer (17). Refer to WP 0029 00.</p> <p>Replace hammer (17). Refer to WP 0029 00.</p> <p>Replace hammer (17). Refer to WP 0029 00.</p>
 <p style="text-align: center;">M16A2, M16A4, AND M4</p>		 <p style="text-align: center;">M4A1 CQBW</p> <p style="text-align: right;">M16-2027</p>

Table 1. Organizational and Intermediate Troubleshooting Procedures - Continued.

MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
<p>9. Failure to Cock - Continued.</p> <p>Intermediate Level</p>	<p>6. Worn or broken disconnecter hook(s) (33) (M4A1 CQBW has only one disconnecter hook).</p> <p>7. Weak, broken, or missing disconnecter spring(s) (37) (M4A1 CQBW has only one spring).</p> <p>8. Worn, broken, or missing automatic sear (36).</p> <p>9. Weak or broken automatic sear spring (34).</p> <p>10. Long leg (35) of automatic sear spring (34) incorrectly assembled in receiver.</p> <p>11. Burst cam (16) or cam clutch spring (15) frozen or improperly assembled (M16A2, M16A4, and M4 ONLY).</p>	<p>Replace disconnecter(s) (32). Refer to WP 0030 00.</p> <p>Replace disconnecter spring(s). Refer to WP 0030 00.</p> <p>Replace automatic sear assembly. Refer to WP 0030 00.</p> <p>Replace automatic sear assembly (36). Refer to WP 0028 00.</p> <p>Remove automatic sear assembly (36) and install correctly. Refer to WP 0028 00.</p> <p>Disassemble, inspect, clean, lubricate, or replace as required. Refer to WP 0029 00.</p>

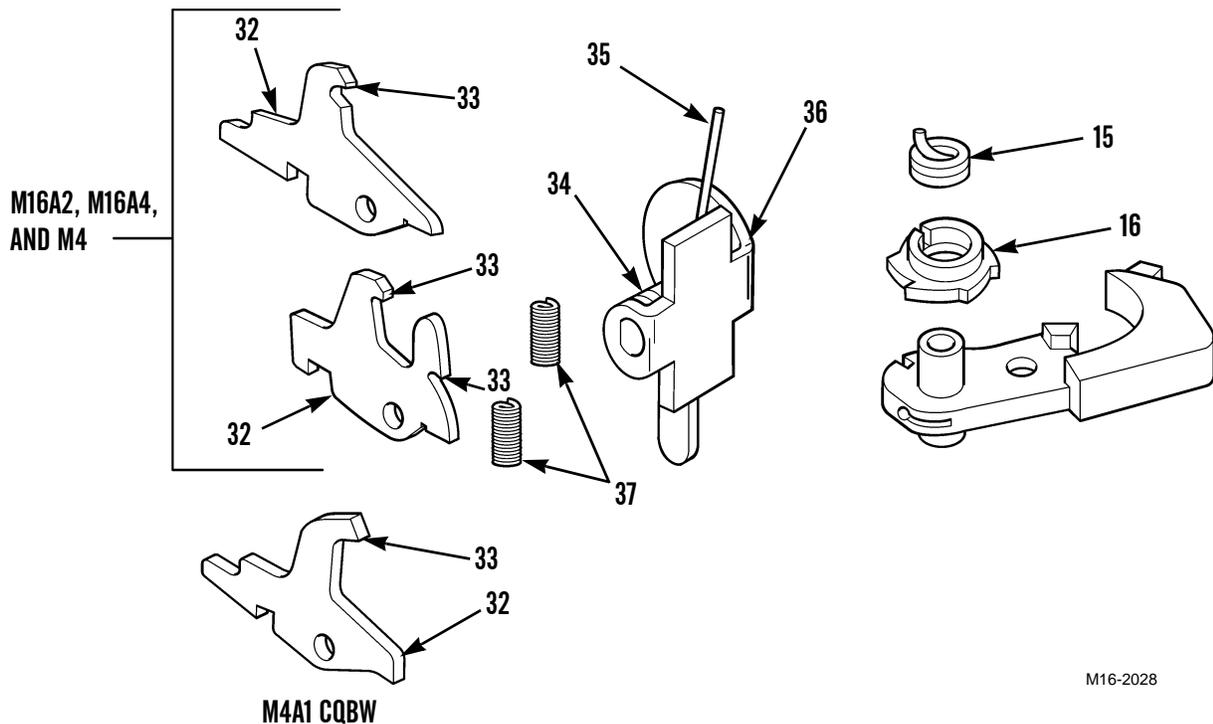


Table 1. Organizational and Intermediate Troubleshooting Procedures - Continued.

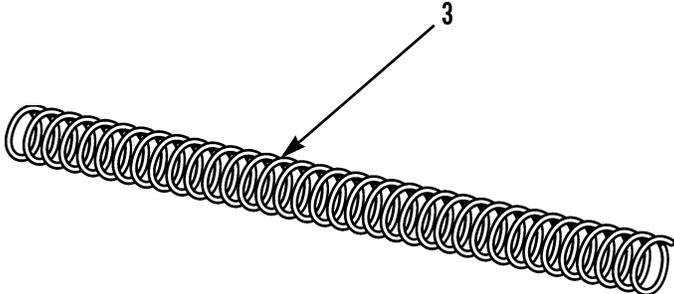
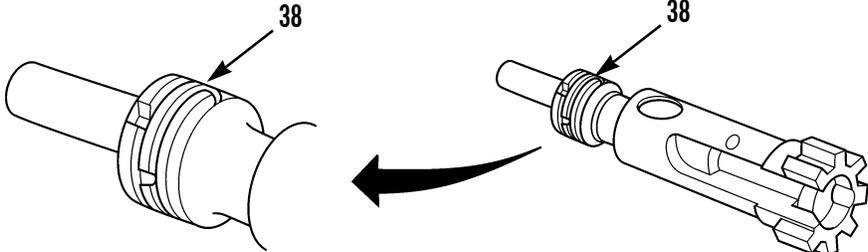
MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
<p>10. Short Recoil.</p> <p>Organizational Level</p>	<p>1. Broken or damaged action spring (3).</p>  <p>M16-2007</p> <p>2. Unlubricated or dirty action spring (3) and receiver extension.</p> <p>3. Improper gap space, or worn, missing, or broken bolt rings (38).</p>  <p>M16-2016</p>	<p>Replace action spring. Refer to WP 0016 00.</p> <p>Clean and lubricate action spring and receiver extension.</p> <p>1. Stagger bolt ring gaps (approximately 1/3 turn apart). Refer to WP 0013 00.</p> <p>2. Replace bolt rings and stagger gaps. Refer to WP 0013 00.</p>

Table 1. Organizational and Intermediate Troubleshooting Procedures - Continued.

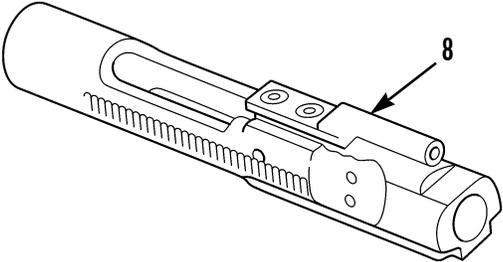
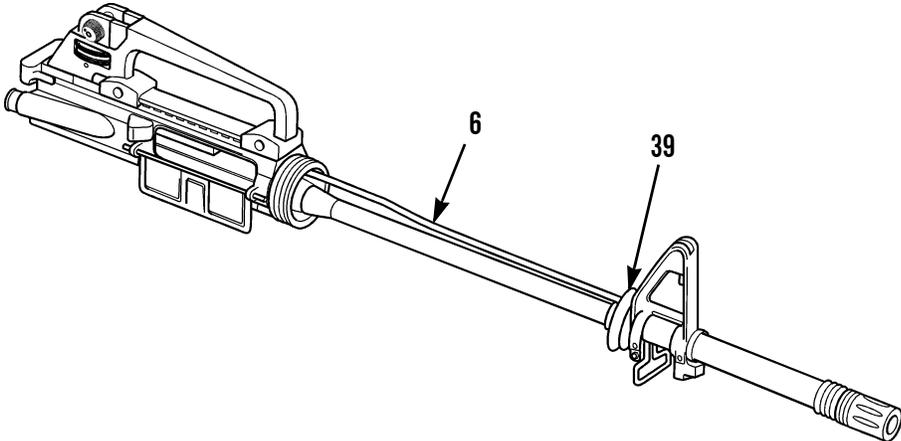
MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
<p>10. Short Recoil - Continued.</p> <p>Organizational Level</p>	<p>4. Carbon buildup or foreign matter in narrow passage of the bolt carrier key (8).</p>  <p>M16-2017</p> <p>5. Gas leakage caused by broken or loose gas tube (6) around front sight base (39).</p> <p>6. Improper alignment of gas tube (6) and bolt carrier key.</p>  <p>M16-2018</p>	<p>Clean bolt carrier key with CLP and a pipe cleaner. Refer to WP 0012 00.</p> <p>Evacuate to higher level of maintenance.</p> <p>1. Adjust gas tube alignment by bending gas tube in area of handguard to its original configuration.</p> <p>2. If gas tube cannot be returned to its original configuration, evacuate weapon to higher level of maintenance.</p>

Table 1. Organizational and Intermediate Troubleshooting Procedures - Continued.

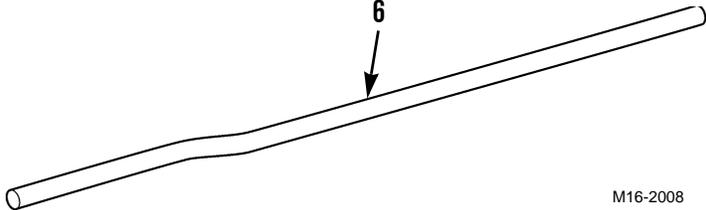
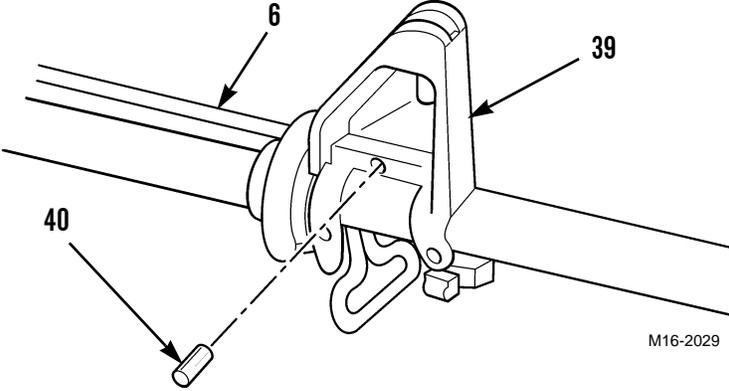
MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
<p>10. Short Recoil - Continued.</p> <p>Intermediate Level</p>	<ol style="list-style-type: none"> 1. Broken or bent gas tube (6).  <p style="text-align: right; margin-right: 100px;">M16-2008</p> <ol style="list-style-type: none"> 2. Gas tube spring pin (40) missing from front sight base (39). 3. Partially plugged gas system due to carbon buildup in the gas tube (6).  <p style="text-align: right; margin-right: 100px;">M16-2029</p>	<ol style="list-style-type: none"> 1. Adjust by bending gas tube in area of handguards. 2. Replace gas tube. Refer to WP 0025 00. <ol style="list-style-type: none"> Replace gas tube spring pin. Refer to WP 0025 00. Replace gas tube. Refer to WP 0025 00.

Table 1. Organizational and Intermediate Troubleshooting Procedures - Continued.

MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
<p>10. Short Recoil - Continued.</p> <p>Intermediate Level</p>	<div> </div> <p>WARNING</p> <p>When using carbon-removing compound, avoid skin contact. If carbon-removing compound comes in contact with 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. Failure to follow this warning may cause injury or death to personnel.</p> <p>4. Carbon buildup in barrel gas port (41).</p>	<p>Remove carbon buildup by soaking barrel in carbon-removing compound. Use rubber gloves with carbon-removing compound. Use a small arms bore cleaning brush to clean gas port.</p> <div> </div> <p>M16-2030</p>

Table 1. Organizational and Intermediate Troubleshooting Procedures - Continued.

MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
<p>11. Rifle Cannot be Zeroed.</p> <p>Organizational Level</p>	<p>1. Defective front sight post (42).</p>	<p>Remove front sight post, front sight detent (43), and front sight detent spring (44). If damaged, replace. Refer to WP 0015 00.</p>
<p>Intermediate Level</p>	<p>1. Inspect for defective or bent barrel assembly (46).</p> <p>2. (For windage) barrel assembly (46) out of alignment with rear sight (45) on upper receiver (47).</p>	<p>Replace barrel assembly. Refer to WP 0025 00.</p> <p>Align barrel assembly and upper receiver. Refer to WP 0025 00.</p>

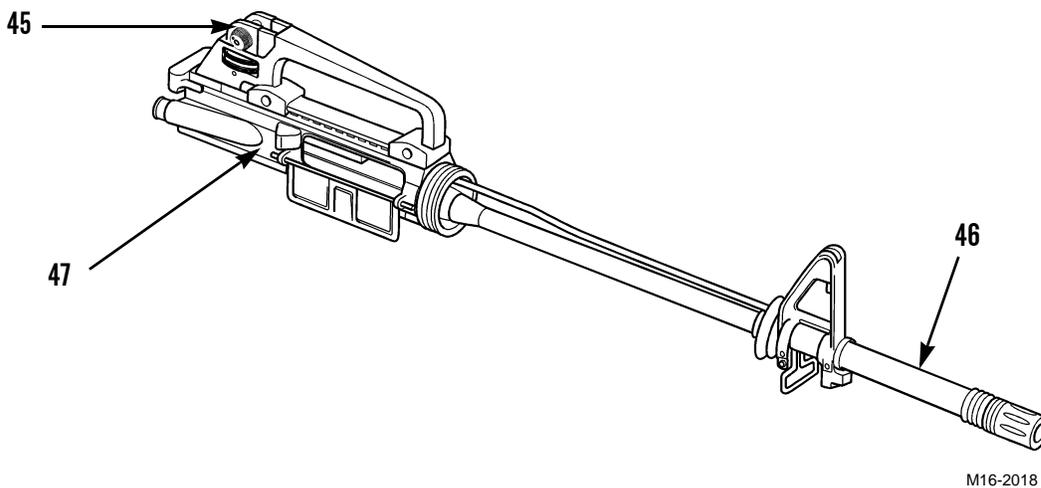
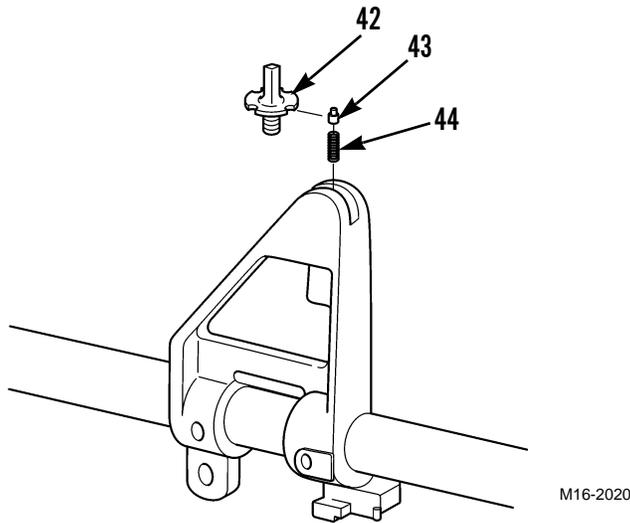


Table 1. Organizational and Intermediate Troubleshooting Procedures - Continued.

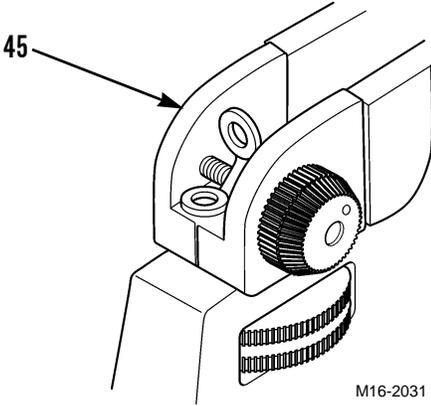
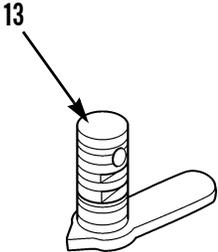
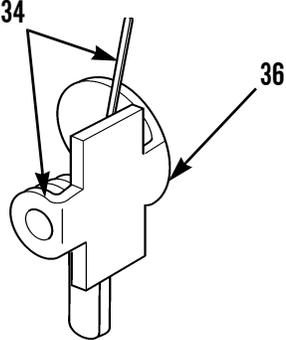
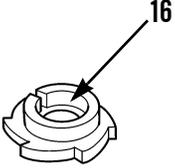
MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
<p>11. Rifle Cannot be Zeroed - Continued.</p> <p>Intermediate Level</p>	<p>3. (For elevation) defective rear sight (45).</p>  <p style="text-align: right; font-size: small;">M16-2031</p>	<p>Repair rear sight as required. Refer to WP 0026 00.</p>
<p>12. Failure to Cycle with Selector Lever Set on BURST (M16A2, M16A4, and M4).</p> <p>Organizational Level</p> <p>Intermediate Level</p>	<p>Faulty selector lever, or broken cam, cam clutch spring, or burst disconnector.</p> <ol style="list-style-type: none"> 1. Broken automatic sear assembly (36) or automatic sear spring (34). 2. Faulty selector lever (13). 3. Broken or worn tooth on burst cam (16).   <p style="text-align: center; font-weight: bold;">M16A2, M16A4, AND M4</p>  <p style="text-align: right; font-size: small;">M16-2032</p>	<p>Evacuate to higher level of maintenance.</p> <p>Replace automatic sear assembly (36). Refer to WP 0028 00.</p> <p>Replace selector lever. Refer to WP 0028 00.</p> <p>Replace burst cam. Refer to WP 0029 00.</p>

Table 1. Organizational and Intermediate Troubleshooting Procedures - Continued.

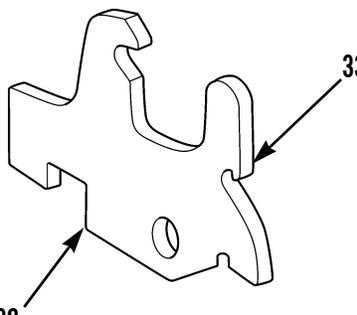
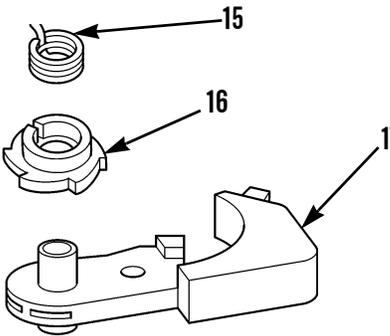
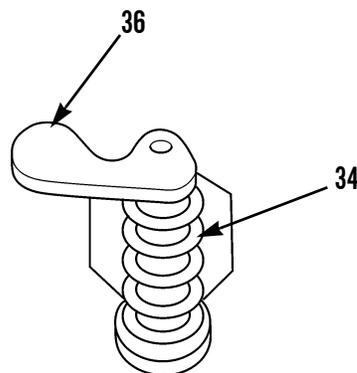
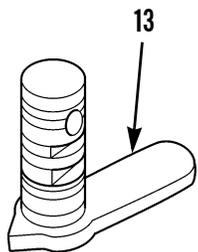
MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
<p>12. Failure to Cycle with Selector Lever Set on BURST (M16A2, M16A4, and M4) - Continued.</p> <p>Intermediate Level</p>	<p>4. Broken cam clutch spring (15). Cam clutch spring should be bent and properly formed without any sharp edges or corners.</p> <p>5. The bend in the cam clutch spring (15) is installed backwards (toward outside).</p> <p style="text-align: center;">NOTE</p> <p style="text-align: center;">When hammer is rotated back to cocked position, cam should rotate to allow the burst disconnecter to latch into the next notch.</p> <p>6. The cam clutch spring (15) fails to “clutch” and burst cam (16) fails to rotate back with hammer (17).</p> <p>7. Broken or worn front disconnecter hook (33) on burst disconnecter (32).</p> <p>8. Short recoil.</p>	<p>Inspect and replace if required. Refer to WP 0029 00.</p> <p>Install cam clutch spring properly with the bend to the inside. Refer to WP 0029 00.</p> <p>1. Replace cam clutch spring. Refer to WP 0029 00.</p> <p>2. If problem continues, replace hammer and burst cam. Refer to WP 0029 00.</p> <p>Replace burst disconnecter. Refer to WP 0028 00.</p> <p>Refer to <i>Short Recoil</i> in this table.</p>
		
<p>M16A2, M16A4, AND M4</p>		<p>M16-2033</p>

Table 1. Organizational and Intermediate Troubleshooting Procedures - Continued.

MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
<p>13. Failure to Cycle with Selector Lever Set on AUTO (M4A1 CQBW).</p> <p>Organizational Level</p> <p>Intermediate Level</p>	<p>Faulty selector lever.</p> <ol style="list-style-type: none"> 1. Broken or worn automatic sear (36) or spring (34). 2. Faulty selector lever (13). 3. Short recoil. 	<p>Evacuate to higher level of maintenance.</p> <p>Replace automatic sear assembly. Refer to WP 0028 00.</p> <p>Replace selector lever. Refer to WP 0028 00.</p> <p>Refer to <i>Short Recoil</i> in this table.</p>



M16-2034

Table 1. Organizational and Intermediate Troubleshooting Procedures - Continued.

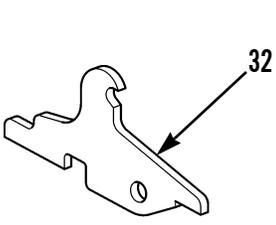
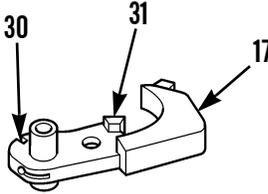
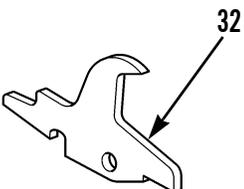
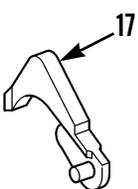
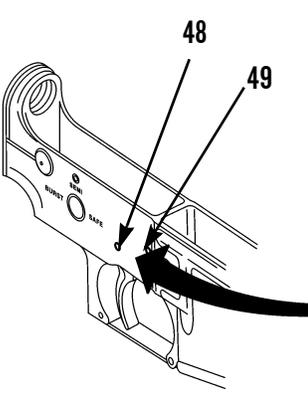
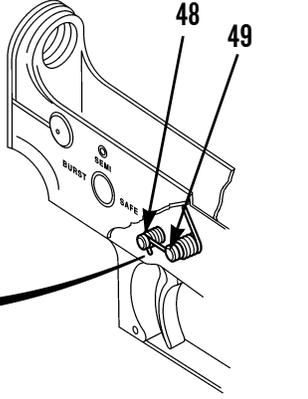
MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
<p>14. Fires Two Rounds with One Pull of Trigger with the Selector Lever Set on SEMI (Double Firing).</p> <p>Organizational Level</p> <p>Intermediate Level</p>	<p>Perform function test.</p> <ol style="list-style-type: none"> 1. Defective semi-automatic disconnecter (32). 2. Worn or broken trigger notch (30) of hammer (17) (searing portion). 3. Worn or broken disconnecter hook (31) of hammer (17). 	<p>If any part of function test fails, evacuate to higher level of maintenance.</p> <p>Replace semi-automatic disconnecter. Refer to WP 0028 00.</p> <p>Replace hammer. Refer to WP 0029 00.</p> <p>Replace hammer. Refer to WP 0029 00.</p>
	<div style="text-align: center;">  <p>M16A2, M16A4, AND M4</p> </div> <div style="text-align: center;">  </div>	<div style="text-align: center;">  <p>M4A1 CQBW</p> </div> <div style="text-align: center;">  <p>M16-2035B</p> </div>

Table 1. Organizational and Intermediate Troubleshooting Procedures - Continued.

MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
<p>14. Fires Two Rounds with One Pull of Trigger with the Selector Lever Set on SEMI (Double Firing) - Continued.</p> <p>Intermediate Level</p>	<p>4. Worn or broken trigger nose (27) (searing portion).</p> <p>5. Worn trigger pin hole (48) or hammer pin hole (49).</p>	<p>Replace trigger (26). Refer to WP 0030 00.</p> <p>1. Gage trigger pin hole and hammer pin hole. Refer to WP 0031 00.</p> <p>2. If test fails, replace weapon.</p>



M16A2, M16A4, AND M4

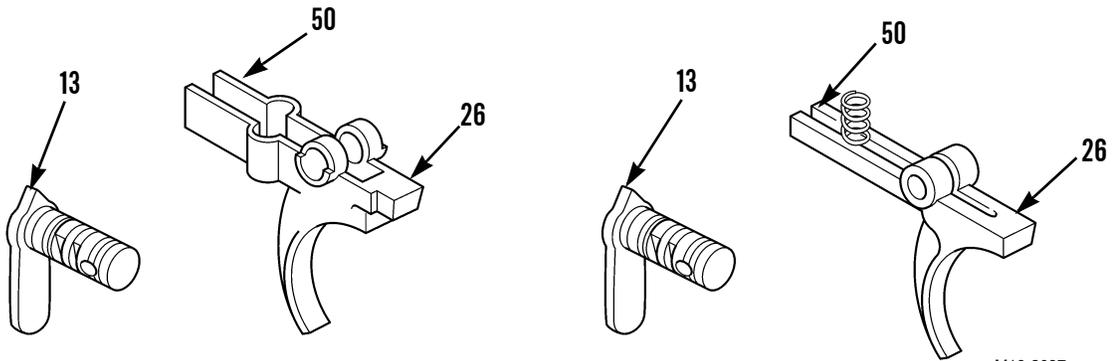


M4A1 CQBW

M16-2036

Table 1. Organizational and Intermediate Troubleshooting Procedures - Continued.

MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
<p>15. Fires with Selector Lever on SAFE or when Trigger is Released with Selector Lever on SEMI.</p> <p>Organizational Level</p> <p>Intermediate Level</p>	<p>Worn, broken, or missing parts of firing mechanism.</p> <ol style="list-style-type: none"> Defective selector lever (13). Worn or broken trigger (rear portion) (50). 	<p>Evacuate to higher level of maintenance.</p> <p>Replace selector lever. Refer to WP 0028 00.</p> <p>Replace trigger (26). Refer to WP 0030 00.</p>



M16-2037

M16A2, M16A4, AND M4

M4A1 CQBW

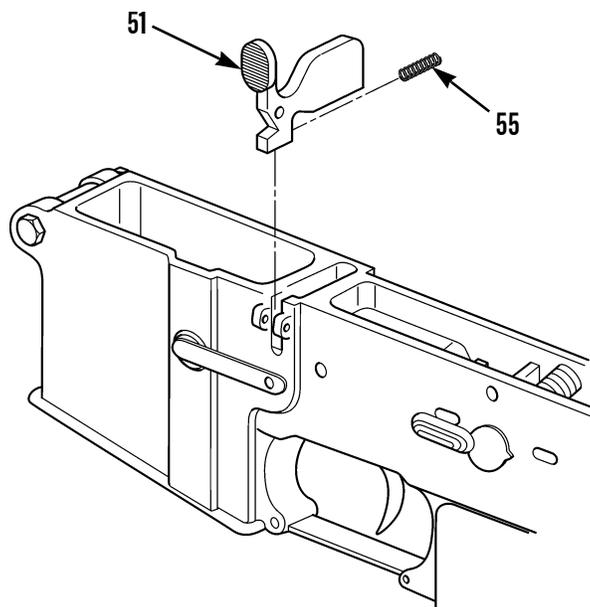
Table 1. Organizational and Intermediate Troubleshooting Procedures - Continued.

MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
<p>16. Bolt Assembly Fails to Lock to Rear After Firing Last Round.</p> <p>Organizational Level</p>	<ol style="list-style-type: none"> 1. Magazine follower (53) worn, broken, or separated from spring (52). 2. Magazine spring (52) weak or broken. 3. Magazine feeder lips (54) bent or broken. 4. Magazine follower (53) binds during operation. 5. Broken bolt catch (51) and/or spring. 	<p>Replace magazine.</p> <p>Replace magazine.</p> <p>Replace magazine.</p> <p>Replace magazine.</p> <p>Evacuate to higher level of maintenance.</p>

M16-2022

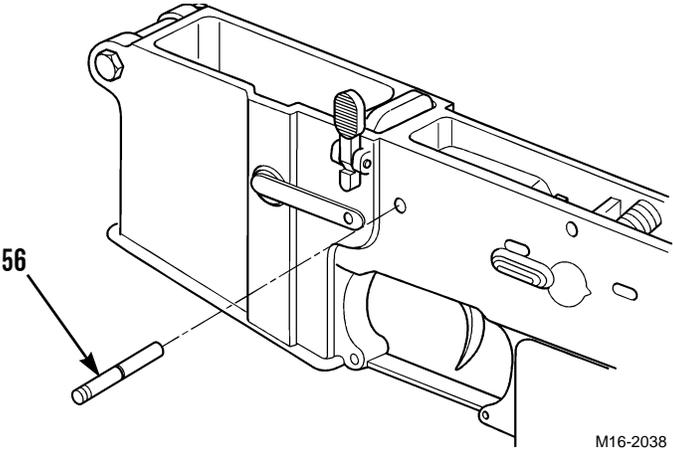
Table 1. Organizational and Intermediate Troubleshooting Procedures - Continued.

MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
<p>16. Bolt Assembly Fails to Lock to Rear After Firing Last Round - Continued.</p> <p>Intermediate Level</p>	<ol style="list-style-type: none"> 1. Worn or broken bolt catch (51). 2. Weak or broken bolt catch spring (55). 3. Restricted movement of bolt catch (51). 	<p>Replace bolt catch. Refer to WP 0028 00.</p> <p>Replace bolt catch spring. Refer to WP 0028 00.</p> <p>Disassemble and clean. Refer to WP 0028 00.</p>



M16-2039B

Table 1. Organizational and Intermediate Troubleshooting Procedures - Continued.

MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
<p>17. Hammer Pin “Walks”.</p> <p>Intermediate Level</p>	<p>Hammer pin (56) “walks” or works loose during firing, or hammer pin is very easy to push out of receiver when hammer is installed.</p>  <p style="text-align: right;">M16-2038</p>	<p>Replace hammer assembly. Refer to WP 0029 00.</p>

END OF WORK PACKAGE

CHAPTER 3
ORGANIZATIONAL MAINTENANCE

GENERAL

1. Inspect the weapon for damage incurred during shipment. If the weapon has been damaged, report the damage on SF 364, *Report of Discrepancy (ROD)*.
2. Check the weapon against the packing slip to determine if shipment is complete.
3. Check to determine if the weapon has been modified.
4. Check the weapon for damage upon receipt. Perform limited technical inspection as outlined in Table 1 of this work package.

Table 1. Service Upon Receipt.

LOCATION	ITEM	ACTION	REMARKS
1. Container	a. M16A2, M16A4, M4, or M4A1 CQBW	a. Remove weapon from container. b. Inspect the weapon for damage incurred during shipment. c. Check the weapon against the packing list to determine if the shipment is complete.	If the weapon has been damaged, report damage on SF Form 364, <i>Report of Discrepancy (ROD)</i> . Report all discrepancies.
	b. Supply System Responsibility Items (SSRI)	Check for missing items.	Refer to TM 05538/10012-OR_.
2. M16A2, M16A4, M4, or M4A1 CQBW	a. Barrel assembly	If Volatile Corrosion Inhibitor (VCI) is in barrel, remove and discard.	
	b. All parts	a. Field-strip weapon and inspect for missing, damaged, and rusted or corroded parts.	Refer to TM 05538/10012-OR_.
		b. Clean and lubricate.	Refer to TM 05538/10012-OR_.
		c. Reassemble.	Refer to TM 05538/10012-OR_.
	d. Function check.	Refer to WP 0019 00.	
	e. Check to determine if the weapon has been modified.	Report all modifications.	
	c. Magazine	Check for positive retention and functioning of bolt catch.	Refer to TM 05538/10012-OR_.

END OF WORK PACKAGE

**PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS),
INCLUDING LUBRICATION INSTRUCTIONS**

0008 00

GENERAL

This work package contains procedures and instructions necessary to perform Organizational and Intermediate Preventive Maintenance Checks and Services (PMCS), along with disassembly and reassembly procedures required for corrective maintenance for the M16 series weapons (W/E).

1. **Organizational Maintenance.** Organizational maintenance is performed at the using unit beyond the capabilities of the operator as identified in TM 05538/10012-OR_. Organizational maintenance is authorized to service/replace/adjust the parts and assemblies covered in the Organizational portion of this manual. For all other inspections and repairs, evacuate the weapon to the next higher level of maintenance.
2. **Intermediate Through Depot Maintenance.** Intermediate maintenance repairs include the total replacement of barrels, lower receivers, gas tubes, and internal fire control components.
3. **Special Tools; Test, Measuring, and Diagnostic Equipment (TMDE); and Support Equipment.** Special tools required for support are listed in WP 0041 00. Fabricated tools are listed in WP 0042 00.
4. **Repair Parts.** Repair parts are listed and illustrated in WP 0045 00.

WARNING

- **Before starting an inspection, be sure to clear the weapon. DO NOT pull the trigger until the weapon has been cleared. Inspect the chamber to ensure it is empty and no ammunition is in position to be chambered.**
 - **DO NOT keep live ammunition near the work area.**
 - **Failure to follow these warnings may cause injury or death to personnel.**
1. **General.** The PMCS procedures are contained in the following table. They are arranged in logical sequence requiring a minimum amount of time and motion on the part of the persons performing them. The procedures are arranged so that there will be minimum interference between persons performing checks simultaneously on the same end item.
 2. **Item No. Column.** Checks and services are numbered in disassembly sequence. This column shall be used as a source of item numbers for the "TM Number" column on Equipment Inspection and Maintenance Worksheets in recording results of PMCS.
 3. **Interval Column.** This column gives the designated interval for each check that is to be performed. For example, *Quarterly* procedures must be done every three months.
 4. **Item To Check/Service Column.** This column lists the items to be checked or serviced.
 5. **Procedure Column.** This column contains a brief description of the procedure by which the check is to be performed. It contains all the information required to accomplish the checks and services.
 6. **Not Fully Mission Capable If: Column.** This column contains a brief statement of the condition (e.g., malfunction, shortage) that would cause the covered equipment to be less than fully ready to perform its assigned mission.

**PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS),
INCLUDING LUBRICATION INSTRUCTIONS - CONTINUED**

0008 00

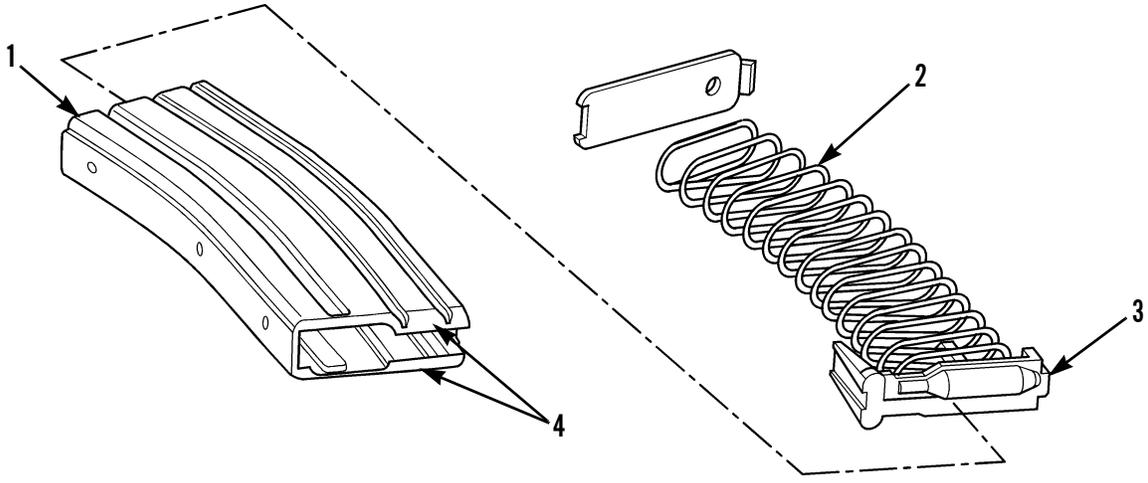
Table 1. Preventive Maintenance Checks and Services for M16 Series Weapons.

ITEM NO.	INTERVAL	<u>LOCATION</u> ITEM TO CHECK/ SERVICE	PROCEDURE	NOT FULLY MISSION CAPABLE IF:
			<p style="text-align: center;">WARNING</p> <p>Before starting an inspection, be sure to clear the weapon. DO NOT pull the trigger until the weapon 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 in work area. Failure to follow this warning may cause injury or death to personnel.</p> <p style="text-align: center;">NOTE</p> <ul style="list-style-type: none"> • An inactive weapon is a weapon that has been stored in an arms room for at least 90 days without use. The weapon may or may not have been assigned to an individual. • Inactive weapons shall receive semi-annual PMCS unless inspection reveals more frequent servicing is necessary. • Should the armorer detect corrosion on a weapon prior to the end of the 180-day period, PMCS should be performed immediately. • Solid Film Lubricant (SFL) is the authorized touch up for M16 series weapons and may be used on up to one-third of the exterior finish. 	

**PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS),
INCLUDING LUBRICATION INSTRUCTIONS - CONTINUED**

0008 00

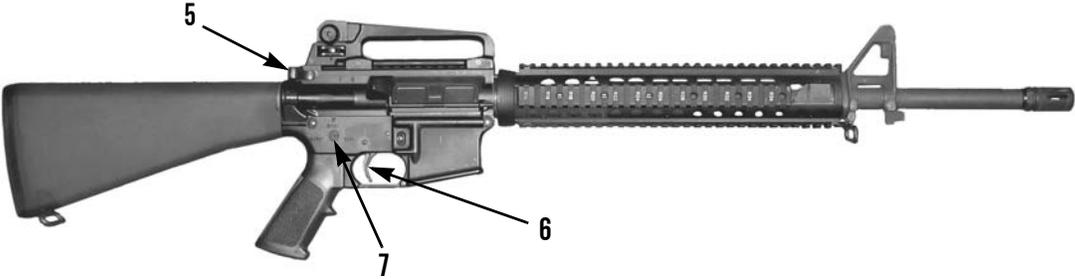
Table 1. Preventive Maintenance Checks and Services for M16 Series Weapons - Continued.

ITEM NO.	INTERVAL	<u>LOCATION</u> ITEM TO CHECK/ SERVICE	PROCEDURE	NOT FULLY MISSION CAPABLE IF:
1	Quarterly	Magazine (Serviceability Check)	a. Disassemble as in TM 05538/10012-OR_. Inspect magazine tube (1) for bulges, dents, or damaged feeder lips (4). Inspect spring (2) and follower (3) for kinks or damage. Replace the magazine if any of these conditions exist. b. Reassemble magazine and check for binding during operation of follower (3). Replace the magazine if the follower binds.	a. A magazine is not available for use with the weapon. b. Tube is dented or feeder lips are damaged. Spring is damaged or has flat spots. Follower binds.
 <p style="text-align: right; margin-right: 100px;">M16-2040</p>				

**PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS),
INCLUDING LUBRICATION INSTRUCTIONS - CONTINUED**

0008 00

Table 1. Preventive Maintenance Checks and Services for M16 Series Weapons - Continued.

ITEM NO.	INTERVAL	<u>LOCATION</u> ITEM TO CHECK/ SERVICE	PROCEDURE	NOT FULLY MISSION CAPABLE IF:
2	Quarterly	<p>Charging Handle Assembly and Selector Lever</p> <p>Selector Lever</p> <p>- SAFE</p> <p>- SEMI</p>	<p style="text-align: center;">WARNING</p> <p style="text-align: center;">If the weapon fails any of the following function tests, evacuate to higher maintenance level. Failure to follow this warning may cause injury or death to personnel.</p> <p>a. Pull charging handle (5) to rear. Check that chamber is clear. Let bolt carrier assembly close. Push charging handle forward to locked position.</p> <p>b. Leave hammer in cocked position. DO NOT pull trigger (6).</p> <p>c. Place selector lever (7) in SEMI position.</p> <p>a. Place selector lever (7) in SAFE position.</p> <p>b. Pull trigger (6). Hammer should not fall.</p> <p>a. Place selector lever (7) in SEMI position.</p> <p>b. Pull trigger (6). Hammer falls.</p>	<p>Charging handle does not lock in place when in the forward position.</p> <p>Hammer falls.</p> <p>Hammer does not fall.</p>
 <p style="text-align: right;">M16-2041</p>				

**PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS),
INCLUDING LUBRICATION INSTRUCTIONS - CONTINUED**

0008 00

Table 1. Preventive Maintenance Checks and Services for M16 Series Weapons - Continued.

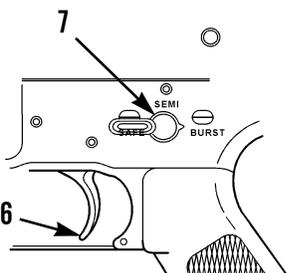
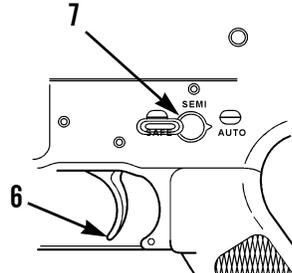
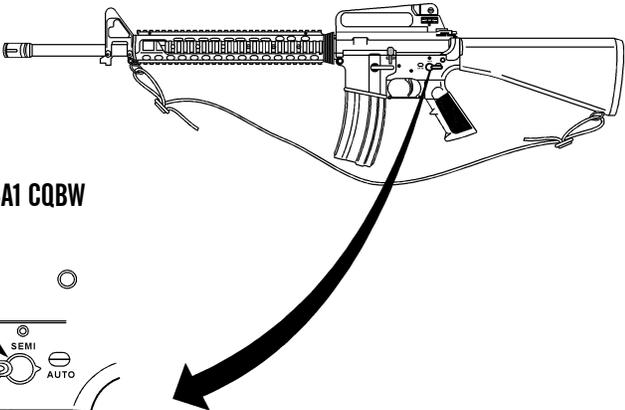
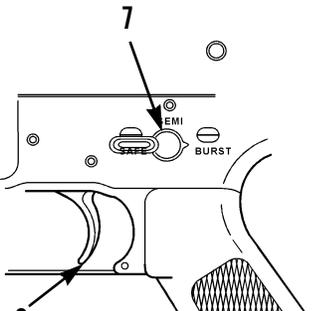
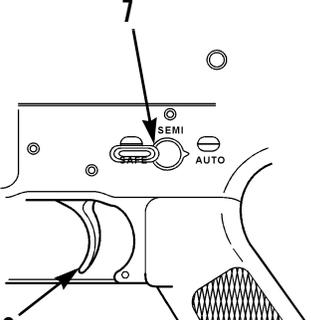
ITEM NO.	INTERVAL	LOCATION ITEM TO CHECK/ SERVICE	PROCEDURE	NOT FULLY MISSION CAPABLE IF:
2 Cont.	Quarterly	<p>Selector Lever</p> <p>- SEMI</p> <p>- BURST M16A2, M16A4, and M4 ONLY</p>	<p>NOTE</p> <ul style="list-style-type: none"> For the purpose of following test, "SLOW" is defined as 1/4 to 1/2 the normal rate of trigger release. DO NOT milk trigger; milking trigger can cause the hammer to fall. <p>c. Hold trigger to rear, charge weapon, and release trigger (6) with a slow, smooth motion, without hesitations or stops, until the trigger is fully forward (an audible click should be heard). The hammer should not fall. (Hammer should not fall until the trigger is pulled.)</p> <p>d. Repeat the above SEMI position test five times.</p> <p>a. Place selector lever (7) in BURST position. Charge the weapon and squeeze the trigger (6). Hammer should fall.</p> <p>b. Hold trigger (6) to rear, pull charging handle to the rear, and release it three times. Release trigger. You should hear an audible click. Squeeze trigger. Hammer should fall.</p>	<p>Hammer falls.</p> <p>The weapon malfunctions during any of the these five tests.</p> <p>Hammer does not fall.</p> <p>Hammer does not fall.</p>
<p>NOTE</p> <p>The burst disconnecter should have held the hammer to the rear when it engaged the deep notch of the burst cam.</p>				
<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;"> <p>M16A2, M16A4, and M4</p>  </div> <div style="text-align: center;"> <p>M4A1 CQBW</p>  </div> <div style="text-align: center;">  </div> </div> <p style="text-align: right;">M16-2042</p>				

Table 1. Preventive Maintenance Checks and Services for M16 Series Weapons - Continued.

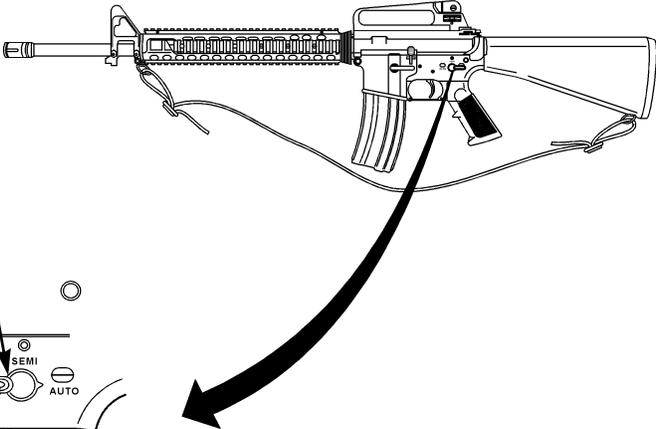
ITEM NO.	INTERVAL	LOCATION ITEM TO CHECK/ SERVICE	PROCEDURE	NOT FULLY MISSION CAPABLE IF:
2 Cont.	Quarterly	Selector Lever - AUTO (M4A1 CQBW ONLY)	a. Place selector lever (7) in AUTO position. Charge weapon and squeeze trigger (6). Hammer should fall. b. Hold trigger (6) to rear, charge weapon, and release trigger. You should hear an audible click. Squeeze trigger. Hammer should not fall. <p style="text-align: center;">NOTE</p> <p style="text-align: center;">Automatic sear should have released the hammer while holding trigger in rearward position before releasing and resqueezing the trigger.</p>	Hammer does not fall. Hammer falls.



M16A2, M16A4, and M4



M4A1 CQBW

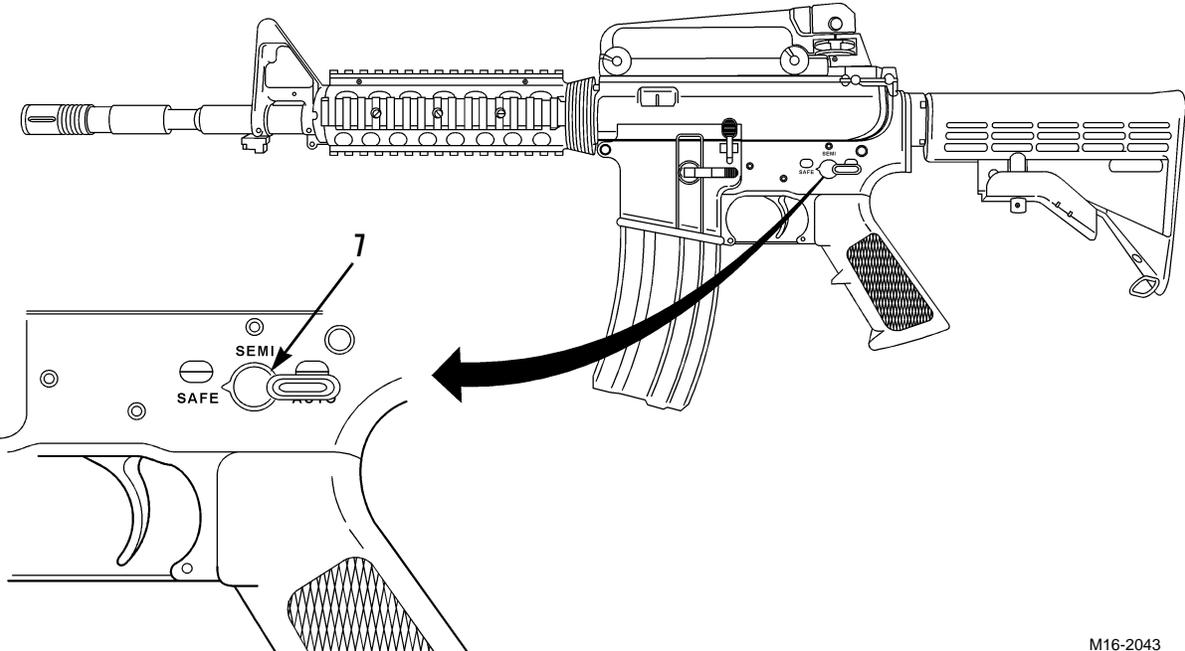


M16-2042

**PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS),
INCLUDING LUBRICATION INSTRUCTIONS - CONTINUED**

0008 00

Table 1. Preventive Maintenance Checks and Services for M16 Series Weapons - Continued.

ITEM NO.	INTERVAL	LOCATION ITEM TO CHECK/ SERVICE	PROCEDURE	NOT FULLY MISSION CAPABLE IF:
2 Cont.	Quarterly	Selector Lever - SAFE (ALL WEAPONS)	With hammer in forward position, using finger/thumb pressure, attempt to place selector lever (7) in SAFE position.	Moderate finger/thumb pressure moves selector lever to SAFE position.
				

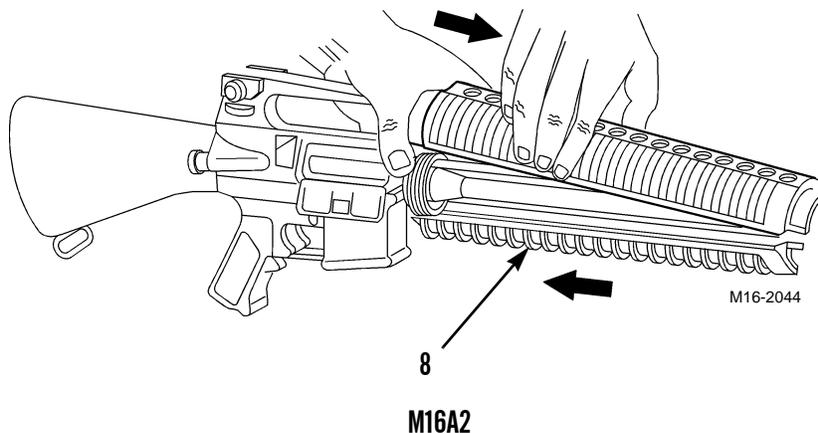
M16-2043

PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS),
INCLUDING LUBRICATION INSTRUCTIONS - CONTINUED

0008 00

Table 1. Preventive Maintenance Checks and Services for M16 Series Weapons - Continued.

ITEM NO.	INTERVAL	LOCATION ITEM TO CHECK/ SERVICE	PROCEDURE	NOT FULLY MISSION CAPABLE IF:
3	Quarterly	Upper Receiver and Barrel Assembly (Handguard Assemblies) M16A2 ONLY	<p style="text-align: center;">CAUTION</p> <p>DO NOT use screwdriver or other tool when removing the handguard assemblies. Doing so may damage handguard assemblies and/or slip ring.</p> <p style="text-align: center;">NOTE</p> <p>Refer to TM 05538/10012-OR_ for “buddy system” procedure on removing handguard assemblies.</p> <ol style="list-style-type: none"> a. Remove and inspect handguard assemblies (8) internally and externally for cracks and damage. b. Cracks are acceptable providing they do not extend into the handguard retaining flange, or adversely affect weapon operation, operator safety, or proper retention of handguard assembly (8). c. Discard and replace handguard assembly (8) if the heatshield is loose enough to rattle when installed on weapon. 	Handguard missing or unserviceable.



**PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS),
INCLUDING LUBRICATION INSTRUCTIONS - CONTINUED**

0008 00

Table 1. Preventive Maintenance Checks and Services for M16 Series Weapons - Continued.

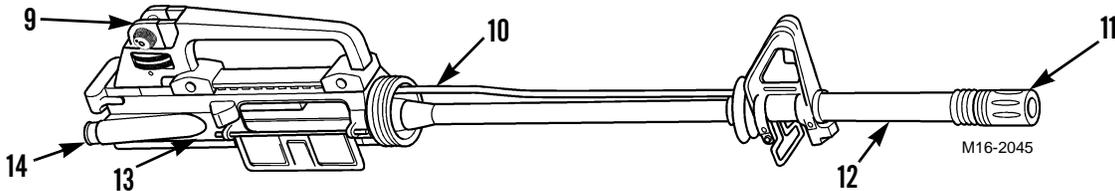
ITEM NO.	INTERVAL	<u>LOCATION</u> ITEM TO CHECK/ SERVICE	PROCEDURE	NOT FULLY MISSION CAPABLE IF:
3 Cont.	Quarterly	Upper Receiver and Barrel Assembly (RAS Assemblies) M16A4, M4, and M4A1 CQBW	<p style="text-align: center;">CAUTION</p> <p style="text-align: center;">DO NOT remove upper adapter rail unless replacement is necessary.</p> <ol style="list-style-type: none"> a. Inspect adapter rails for damaged or missing rail covers. b. Inspect adapter rails for looseness that may affect the zero of any sighting devices attached to the rail. c. Inspect adapter rail surfaces and slots for damage, corrosion, or dirt and debris that may affect the attachment of any devices to the adapter rail d. Inspect the adapter rail finish for worn, shiny spots/areas. 	<p>Adapter rail is unserviceable.</p> <p>Adapter rail is unserviceable.</p> <p>Adapter rail is unserviceable.</p> <p>Adapter rail is unserviceable.</p>

**PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS),
INCLUDING LUBRICATION INSTRUCTIONS - CONTINUED**

0008 00

Table 1. Preventive Maintenance Checks and Services for M16 Series Weapons - Continued.

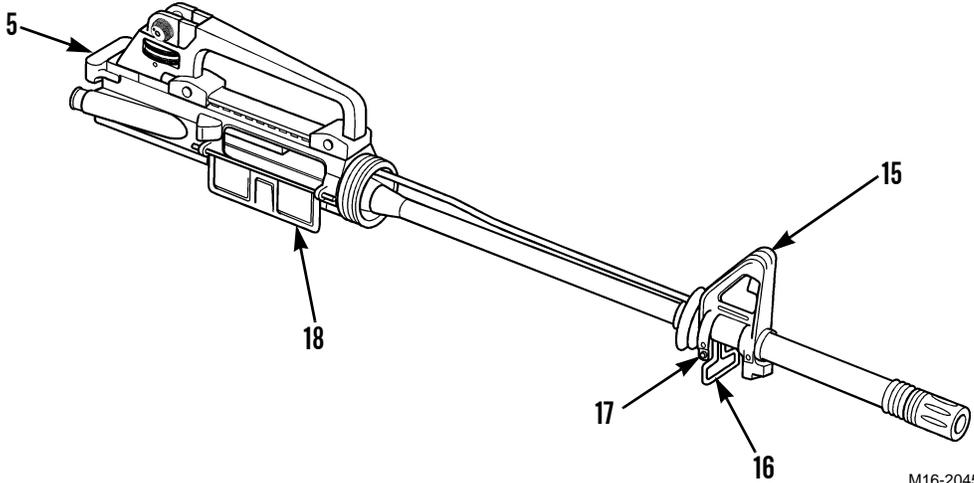
ITEM NO.	INTERVAL	<u>LOCATION</u> ITEM TO CHECK/ SERVICE	PROCEDURE	NOT FULLY MISSION CAPABLE IF:
4	Quarterly	Upper Receiver and Barrel Assembly (Serviceability Check)	<p style="text-align: center;">CAUTION</p> <p style="text-align: center;">Damage may occur if excessive force is used to release the takedown pin or pivot pin. Use hand pressure ONLY.</p> <ol style="list-style-type: none"> a. Release takedown pins and open and separate receivers. Hand check compensator (11) for looseness on barrel (12), then hand check barrel for looseness on upper receiver (13). Check compensator for proper alignment (WP 0015 00). If compensator or barrel is loose, evacuate to higher level maintenance. b. Check gas tube (10), forward assist assembly (14), and rear sight assembly (9) for damage. c. Push in on the forward assist assembly (14) several times to check for proper movement of forward assist pawl. d. Refer to lubrication in TM 05538/10012-OR_ . e. If the forward assist (14) is damaged, evacuate weapon to higher level maintenance. f. The rear sight spring should retain the rear sight assembly (9) in either position with firmness. 	<p>Compensator or barrel is loose.</p> <p>Forward assist pawl does not move freely.</p> <p>Rear sight will not maintain position or sight is damaged; evacuate to higher level of maintenance.</p>



**PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS),
INCLUDING LUBRICATION INSTRUCTIONS - CONTINUED**

0008 00

Table 1. Preventive Maintenance Checks and Services for M16 Series Weapons - Continued.

ITEM NO.	INTERVAL	<u>LOCATION</u> ITEM TO CHECK/ SERVICE	PROCEDURE	NOT FULLY MISSION CAPABLE IF:
4 Cont.	Quarterly	Upper Receiver and Barrel Assembly (Serviceability Check)	<p style="text-align: center;">NOTE</p> <p style="text-align: center;">If front or rear sight is moved, return to original position.</p> <p>g. Check front sight base, post, detent, and detent spring (15) for damage or corrosion. Clean and lubricate.</p> <p>h. Check charging handle (5) and ejection port cover (18) for defects and proper function.</p> <p>i. Check sling swivel (16) and rivet (17) for damage and proper function.</p>	<p>If front sight base, post, detent, and/or detent spring is damaged or corroded.</p> <p>Charging handle and ejection port cover is defective.</p> <p>Components are defective, replace as necessary.</p>
				

**PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS),
INCLUDING LUBRICATION INSTRUCTIONS - CONTINUED**

0008 00

Table 1. Preventive Maintenance Checks and Services for M16 Series Weapons - Continued.

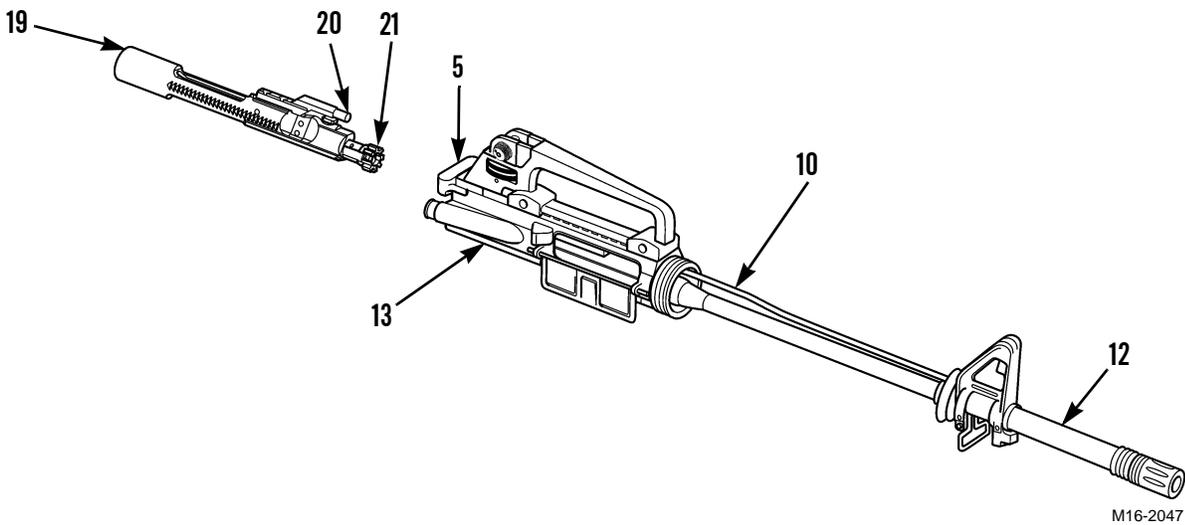
ITEM NO.	INTERVAL	<u>LOCATION</u> ITEM TO CHECK/ SERVICE	PROCEDURE	NOT FULLY MISSION CAPABLE IF:
4 Cont.	Quarterly	Upper Receiver and Barrel Assembly (Serviceability Check)	<div style="display: flex; justify-content: space-around; align-items: center;">  <div style="text-align: center;"> <p>WARNING</p> <p>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 weapon parts. Failure to follow this warning may cause injury or death.</p> <p>CAUTION</p> <p>DO NOT use a wire brush to roughen surfaces. Use a well-ventilated area during cleaning and application of solid film lubricant. If solid film lubricant comes in contact with moving parts or functioning surfaces of the weapon, remove immediately by washing with dry cleaning solvent.</p> <p>NOTE</p> <p>Shiny metal exterior surfaces of the weapon should be re-coated with solid film lubricant. Clean surface with dry cleaning solvent, dry, roughen with abrasive cloth, and apply solid film lubricant.</p> </div>   </div> <p>j. Inspect upper receiver finish for scratches or worn shiny spots.</p> <p>k. If scratched or worn shiny spots are present, disassemble and remove all lubricant from surface with dry cleaning solvent.</p> <p>l. Wear chemical and oil protective gloves and use a wash pan (tote box) to apply solvent. Let parts dry thoroughly. Roughen the surface using abrasive cloth and apply solid film lubricant. Allow 16 to 24 hours drying time before handling.</p>	

PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS),
INCLUDING LUBRICATION INSTRUCTIONS - CONTINUED

0008 00

Table 1. Preventive Maintenance Checks and Services for M16 Series Weapons - Continued.

ITEM NO.	INTERVAL	LOCATION ITEM TO CHECK/ SERVICE	PROCEDURE	NOT FULLY MISSION CAPABLE IF:
4 Cont.	Quarterly	Upper Receiver and Barrel Assembly (Serviceability Check)	<p>m. Hold barrel (12) down at 40-degree angle. Pull charging handle (5) to rear. Hold bolt carrier assembly (19) to rear and push charging handle forward. Release bolt carrier assembly. The bolt carrier assembly should close and lock under its own weight. If it does not, remove the bolt assembly (21) from the carrier key (20) and bolt carrier assembly, and slide the key and bolt carrier assembly without bolt back and forth in the upper receiver and barrel assembly.</p> <p>n. Inspect IAW Item No. 5i (<i>Key and Bolt Carrier Assembly (Serviceability Check)</i>). If the gas tube (10) hits the carrier key (20) on the inside of the upper receiver (13), or if the gas tube binds in the carrier key, try to correct the malfunction by adjusting (slightly bending) the gas tube in the area of the handguard assembly. If unable to adjust, evacuate to higher level of maintenance.</p>	<p>Adjustment does not correct the malfunction.</p> <p>Adjustment does not correct the malfunction.</p>



M16-2047

**PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS),
INCLUDING LUBRICATION INSTRUCTIONS - CONTINUED**

0008 00

Table 1. Preventive Maintenance Checks and Services for M16 Series Weapons - Continued.

ITEM NO.	INTERVAL	<u>LOCATION</u> ITEM TO CHECK/ SERVICE	PROCEDURE	NOT FULLY MISSION CAPABLE IF:
4 Cont.	Quarterly	Upper Receiver and Barrel Assembly (Serviceability Check) M16A4, M4, and M4A1 CQBW ONLY	a. Inspect carrying handle assembly (22) and mounting surface of upper receiver (13) for damage.	

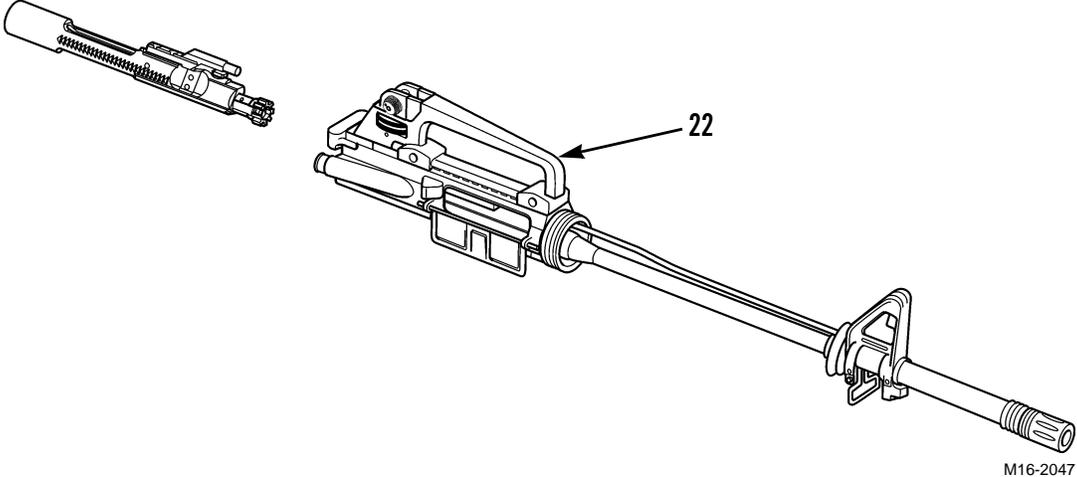
The diagram shows two views of an M16 series rifle. The top view is a side profile of the rifle with the carrying handle assembly (22) attached. The bottom view is a top-down perspective of the upper receiver and barrel assembly, showing the mounting surface (13) where the carrying handle assembly (22) is attached. Arrows point from the labels '22' and '13' to their respective parts.

M16-2048

**PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS),
INCLUDING LUBRICATION INSTRUCTIONS - CONTINUED**

0008 00

Table 1. Preventive Maintenance Checks and Services for M16 Series Weapons - Continued.

ITEM NO.	INTERVAL	<u>LOCATION</u> ITEM TO CHECK/ SERVICE	PROCEDURE	NOT FULLY MISSION CAPABLE IF:
4 Cont.	Quarterly	Upper Receiver and Barrel Assembly (Serviceability Check) M16A4, M4, and M4A1 CQBW Only	b. If the carrying handle is missing or cannot be correctly mounted, repair as authorized or evacuate to higher level of maintenance. c. Inspect carrying handle assembly (22) to ensure that unit-applied identification (ID) code matches unit-applied ID code on weapon. If it does not match, locate correct carrying handle assembly and match up to correct weapon. If a match cannot be found, the weapon should be re-zeroed by the operator.	
				

**PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS),
INCLUDING LUBRICATION INSTRUCTIONS - CONTINUED**

0008 00

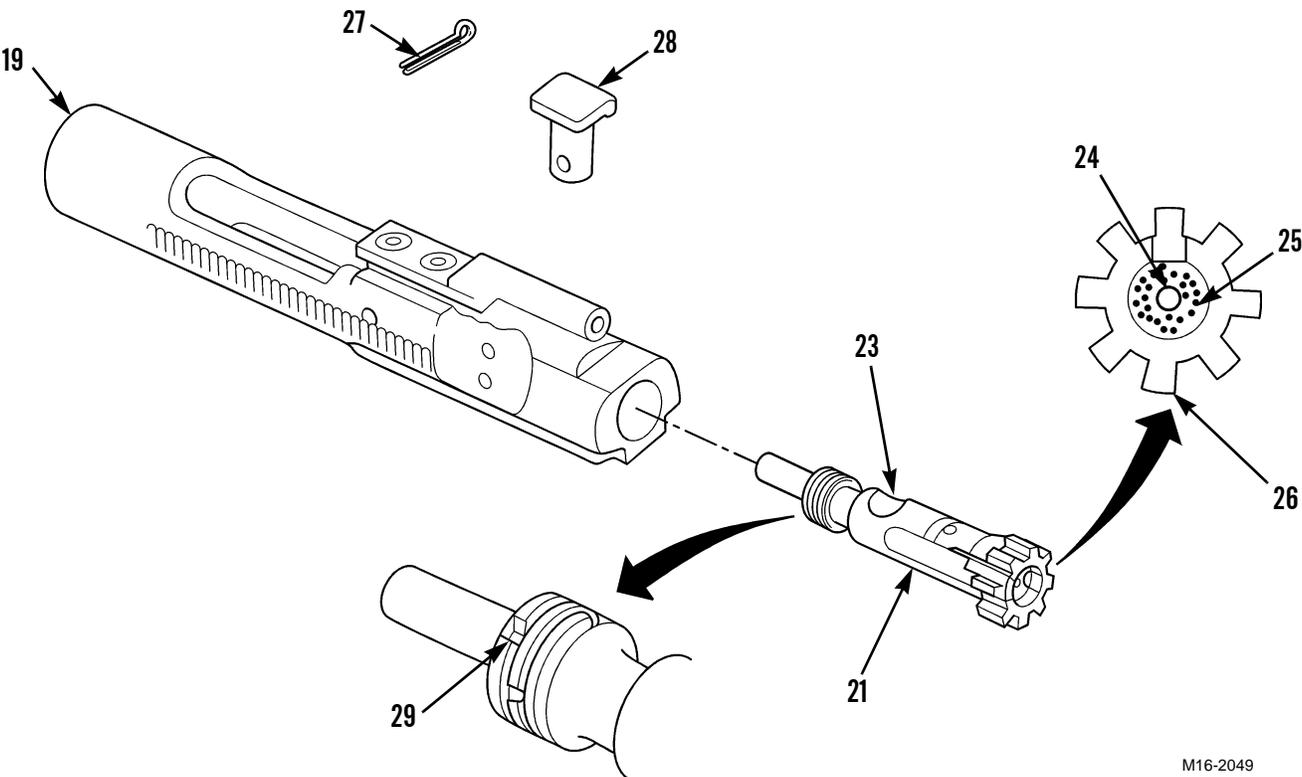
Table 1. Preventive Maintenance Checks and Services for M16 Series Weapons - Continued.

ITEM NO.	INTERVAL	<u>LOCATION</u> ITEM TO CHECK/ SERVICE	PROCEDURE	NOT FULLY MISSION CAPABLE IF:
5	Quarterly	Key and Bolt Carrier Assembly (Serviceability Check)	<p style="text-align: center;">WARNING</p> <p style="text-align: center;">Below Intermediate maintenance, DO NOT interchange bolt assemblies from one weapon to another. Doing so may cause injury or death to personnel.</p> <p>a. Remove and disassemble. Visually inspect bolt assembly (21) for cracks, especially in the area of the bolt cam pin hole (23).</p> <p>b. Check for cracks on locking lugs (26), a cluster of pits or chipped bolt face (25), and an elongated firing pin hole (24). If cracked or broken, evacuate to higher level of maintenance.</p> <p>c. Check for worn or missing bolt rings (29).</p> <p>d. Check for proper staggering of bolt rings (29).</p> <p>e. Insert the bolt assembly (21) into the bolt carrier assembly (19). Turn bolt carrier assembly so the bolt assembly points down. The bolt assembly must not drop out.</p> <p>f. Remove bolt assembly (21) (WP 0011 00).</p> <p>g. Check for broken or missing firing-pin retaining pin (27) and bolt cam pin (28); replace as necessary.</p>	<p>Defects are found.</p> <p>If cracked or broken.</p> <p>Missing bolt rings.</p> <p>The bolt assembly drops out of the bolt carrier assembly due to its own weight.</p> <p>Missing or broken firing-pin retaining pin or bolt cam pin.</p>

**PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS),
INCLUDING LUBRICATION INSTRUCTIONS - CONTINUED**

0008 00

Table 1. Preventive Maintenance Checks and Services for M16 Series Weapons - Continued.

ITEM NO.	INTERVAL	LOCATION ITEM TO CHECK/ SERVICE	PROCEDURE	NOT FULLY MISSION CAPABLE IF:
5 Cont.	Quarterly	Key and Bolt Carrier Assembly (Serviceability Check)	 <p>M16-2049</p>	

**PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS),
INCLUDING LUBRICATION INSTRUCTIONS - CONTINUED**

0008 00

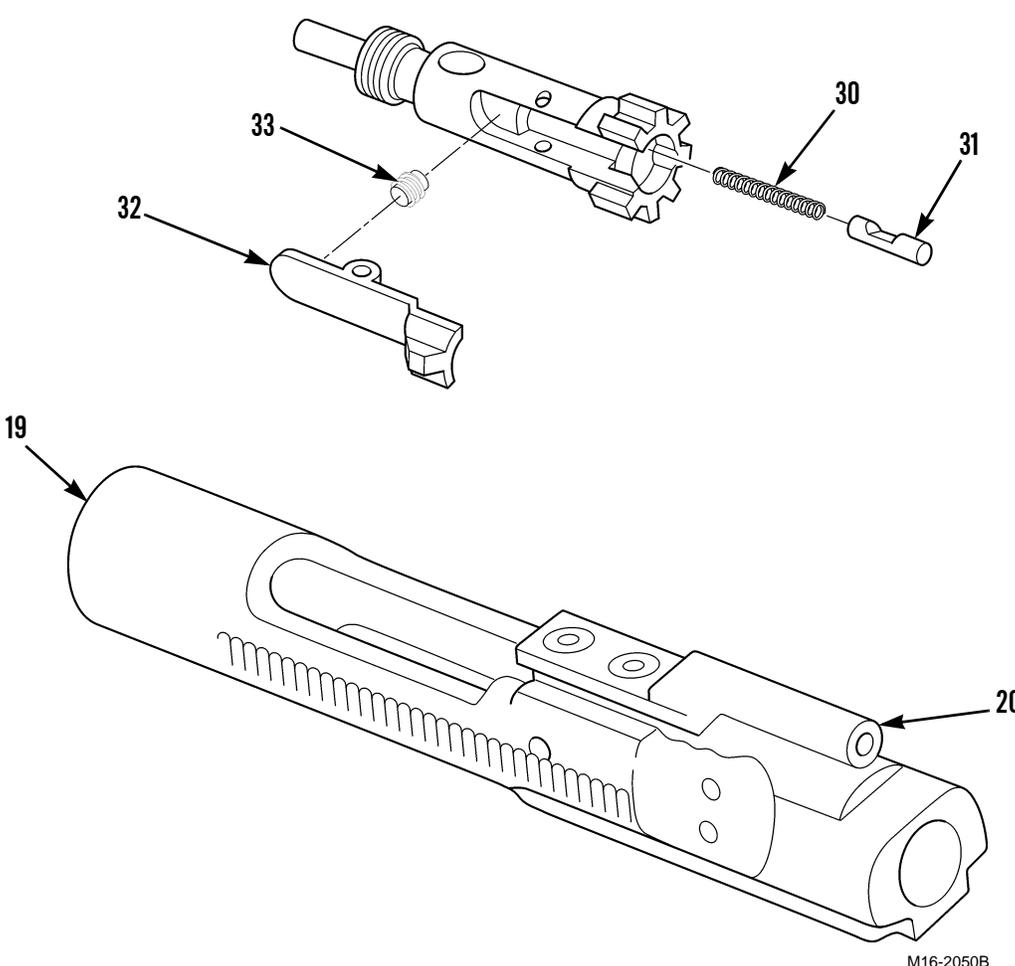
Table 1. Preventive Maintenance Checks and Services for M16 Series Weapons - Continued.

ITEM NO.	INTERVAL	<u>LOCATION</u> ITEM TO CHECK/ SERVICE	PROCEDURE	NOT FULLY MISSION CAPABLE IF:
5 Cont.	Quarterly	Key and Bolt Carrier Assembly (Serviceability Check)	h. Check cartridge extractor (32), extractor spring assembly (33), cartridge ejector (31), and ejector spring (30) for dirt and serviceability (WP 0013 00). If dirty, clean, lubricate, and assemble. If unserviceable, replace as necessary. i. Check carrier key (20) and bolt carrier (19) for damage or looseness. If damaged or loose, evacuate to higher level of maintenance.	Parts are missing or unserviceable. Bolt carrier or carrier key is damaged or carrier key is loose on bolt carrier.

**PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS),
INCLUDING LUBRICATION INSTRUCTIONS - CONTINUED**

0008 00

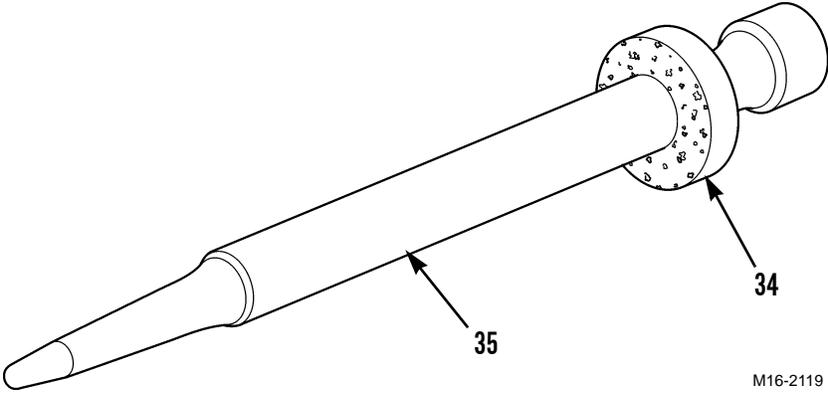
Table 1. Preventive Maintenance Checks and Services for M16 Series Weapons - Continued.

ITEM NO.	INTERVAL	<u>LOCATION</u> ITEM TO CHECK/ SERVICE	PROCEDURE	NOT FULLY MISSION CAPABLE IF:
5 Cont.	Quarterly	Key and Bolt Carrier Assembly (Serviceability Check)		
 <p style="text-align: right;">M16-2050B</p>				

**PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS),
INCLUDING LUBRICATION INSTRUCTIONS - CONTINUED**

0008 00

Table 1. Preventive Maintenance Checks and Services for M16 Series Weapons - Continued.

ITEM NO.	INTERVAL	<u>LOCATION</u> ITEM TO CHECK/ SERVICE	PROCEDURE	NOT FULLY MISSION CAPABLE IF:
5 Cont.	Quarterly	Key and Bolt Carrier Assembly (Serviceability Check)	<p style="text-align: center;">NOTE</p> <p>If carrier key is dented, evacuate to higher maintenance level.</p> <p>j. Check firing pin (35) for chips or breaks. If damaged, replace firing pin.</p> <p>k. Pits or wear in area illustrated (34) is permissible.</p>	Firing pin is damaged.
 <p style="text-align: right;">M16-2119</p>				

**PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS),
INCLUDING LUBRICATION INSTRUCTIONS - CONTINUED**

0008 00

Table 1. Preventive Maintenance Checks and Services for M16 Series Weapons - Continued.

ITEM NO.	INTERVAL	<u>LOCATION</u> ITEM TO CHECK/ SERVICE	PROCEDURE	NOT FULLY MISSION CAPABLE IF:
6	Quarterly	Lower Receiver and Buttstock Assembly (Serviceability Check)	a. Remove buffer assembly (37) and action spring (36). Check buffer assembly for cracks. b. Check action spring (36) for kinks and acceptable free length. c. Free length should be as follows: (1) Rifle: 11-3/4 in. (29.85 cm) minimum to 13-1/2 in. (34.29 cm) maximum. Do not attempt to adjust spring length. (2) Carbine: 10-1/16 in. (25.56 cm) minimum to 11-1/4 in. (28.58 cm) maximum. Do not attempt to adjust spring length.	Buffer assembly has cracks. Action spring has flat spots. Action spring is kinked or does not meet free length requirement. Action spring is kinked or does not meet free length requirement.
<p style="text-align: right;">M16-2051</p>				

**PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS),
INCLUDING LUBRICATION INSTRUCTIONS - CONTINUED**

0008 00

Table 1. Preventive Maintenance Checks and Services for M16 Series Weapons - Continued.

ITEM NO.	INTERVAL	<u>LOCATION</u> ITEM TO CHECK/ SERVICE	PROCEDURE	NOT FULLY MISSION CAPABLE IF:
6 Cont.	Quarterly	Lower Receiver and Buttstock Assembly (Serviceability Check)	<p style="text-align: center;">NOTE</p> <p style="text-align: center;">Components should not be removed unless a problem exists.</p> <p>d. Inspect pistol grip screw (41), lock-washer (42), pistol grip (43), safety detent spring (44), safety detent (45), pivot pin (40), pivot pin detent (39), and helical spring (38). Clean and lubricate metal components. Also clean and generously lubricate pivot pin holes and spring/detent holes. Replace defective or damaged components as necessary.</p> <p>e. Disengage takedown pin (46). Pull takedown pin out and push back in to re-engage it (an audible click should be heard). If an audible click is not heard, refer to WP 0016 00 for repair.</p>	<p>Components are damaged or defective and cannot be replaced.</p> <p>Components are damaged or defective.</p>

PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS),
INCLUDING LUBRICATION INSTRUCTIONS - CONTINUED

0008 00

Table 1. Preventive Maintenance Checks and Services for M16 Series Weapons - Continued.

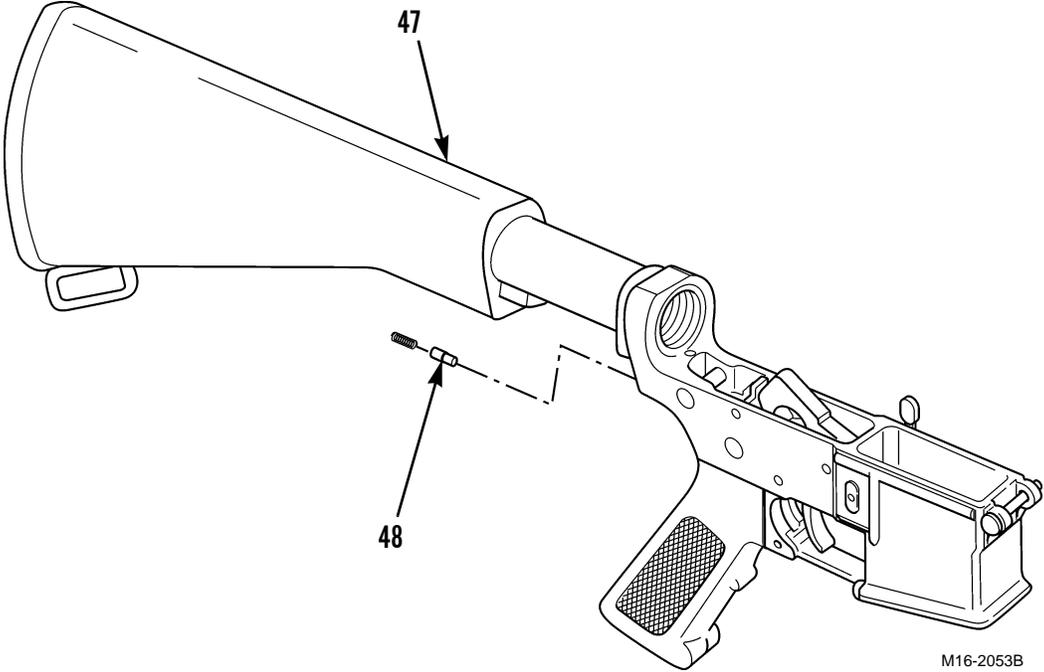
ITEM NO.	INTERVAL	<u>LOCATION</u> ITEM TO CHECK/ SERVICE	PROCEDURE	NOT FULLY MISSION CAPABLE IF:
6 Cont.	Quarterly	Lower Receiver and Buttstock Assembly (Serviceability Check)		

M16-2052

**PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS),
INCLUDING LUBRICATION INSTRUCTIONS - CONTINUED**

0008 00

Table 1. Preventive Maintenance Checks and Services for M16 Series Weapons - Continued.

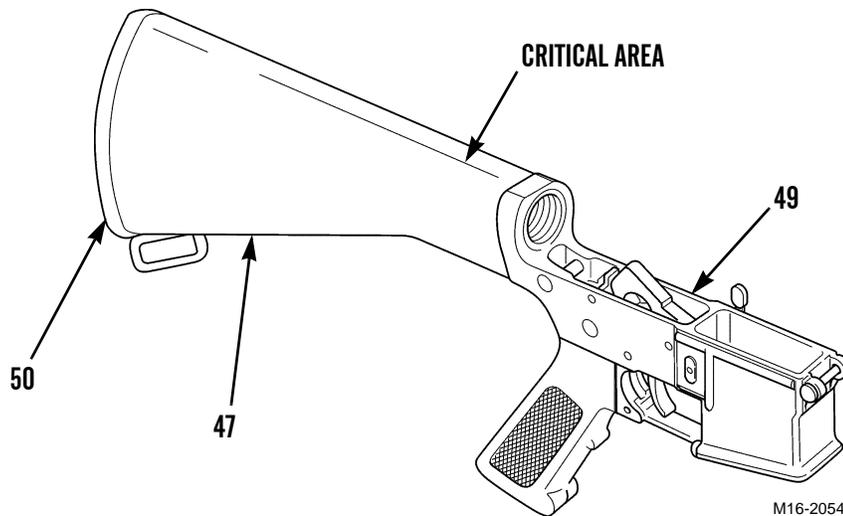
ITEM NO.	INTERVAL	<u>LOCATION</u> ITEM TO CHECK/ SERVICE	PROCEDURE	NOT FULLY MISSION CAPABLE IF:
6 Cont.	Quarterly	Lower Receiver and Buttstock Assembly (Serviceability Check)	f. Lubricate the takedown pin detent spring and takedown pin detent (48) by placing one drop of lubricant on takedown pin detent and lowering the buttstock assembly (47) to vertical position. Allow the lubricant to work its way around the helical compression spring and takedown pin detent. g. Check buttstock assembly (47) components for damage.	
		 <p style="text-align: right;">M16-2053B</p>		
		RIFLE ONLY	Under the following conditions, hairline cracks (no chipped-away material) originating from the buttplate end of the buttstock are acceptable.	Components are damaged.

**PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS),
INCLUDING LUBRICATION INSTRUCTIONS - CONTINUED**

0008 00

Table 1. Preventive Maintenance Checks and Services for M16 Series Weapons - Continued.

ITEM NO.	INTERVAL	<u>LOCATION</u> ITEM TO CHECK/ SERVICE	PROCEDURE	NOT FULLY MISSION CAPABLE IF:
6 Cont.	Quarterly	Lower Receiver and Buttstock Assembly (Serviceability Check) RIFLE ONLY	<ul style="list-style-type: none"> h. One hairline crack, not to exceed 1 in. (2.54 cm) long, per side of buttstock assembly (47). i. Two additional hairline cracks up to 0.25 in. (0.64 cm) long, per side of buttstock assembly (47). j. A total of three cracks per side of the buttstock assembly (47), originating from the buttplate (50) end, are allowable. k. Cracks in the critical area at the front of the buttstock assembly (47) are not acceptable. l. Check buttstock assembly (47) for front-to-rear movement and/or 1/32 in. (0.079 cm) gap between the buttstock assembly (47) and the lower receiver (49). If front-to-rear movement and/or a 1/32-in. (0.079 cm) gap appears, remove screw, clean threads, apply thread-locker, and reinstall screw or replace with new buttstock screw. 	<p>The buttstock is cracked in a critical area or does not meet the crack criteria.</p> <p>Cracks in critical area at front of buttstock.</p> <p>Cracks in uncritical area at front of buttstock.</p> <ul style="list-style-type: none"> a. Lower receiver extension cannot be tightened. b. Buttstock is loose.

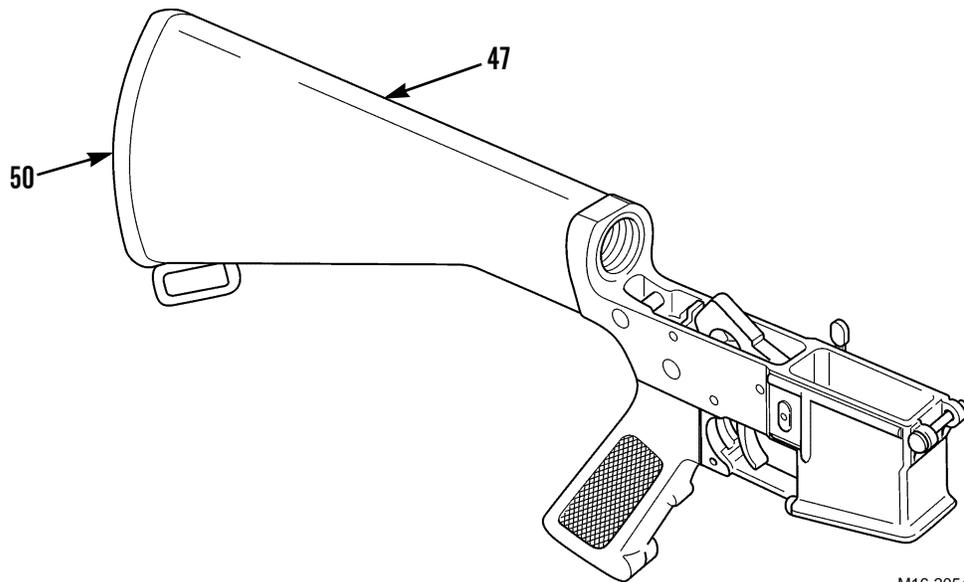


**PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS),
INCLUDING LUBRICATION INSTRUCTIONS - CONTINUED**

0008 00

Table 1. Preventive Maintenance Checks and Services for M16 Series Weapons - Continued.

ITEM NO.	INTERVAL	<u>LOCATION</u> ITEM TO CHECK/ SERVICE	PROCEDURE	NOT FULLY MISSION CAPABLE IF:
6 Cont.	Quarterly	Lower Receiver and Buttstock Assembly (Serviceability Check) RIFLE ONLY	<p>m. If movement and/or gap still exists, remove buttstock assembly (47) and check for loose lower receiver extension. If not loose, install new buttplate (50). If loose, evacuate to higher level of maintenance. Small amounts of side-to-side, up-and-down or rotational movement of the buttstock assembly (47) is acceptable.</p> <p>n. Check for cracks visible around the buttplate (50) mounting holes while screws are mounted.</p> <p>o. Check for cracks or separations around the door assembly that are visible when the door assembly is closed.</p> <p>p. If buttplate (50) is cracked less than 0.25 in. (0.64 cm) in length and does not extend through the buttplate, refer to WP 0016 00 for repair.</p> <p>q. The buttplate (50) should not be removed other than for repair or replacement of parts, at which time a new self-locking screw, NSN 5305-01-147-8585, must be installed.</p>	<p>Cracks are visible around mounting holes when installed on rifle.</p> <p>Cracks are visible when door assembly is closed.</p> <p>Cracked in excess of 0.25 in. (0.64 cm) in length and extends through the buttplate.</p>



M16-2054

**PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS),
INCLUDING LUBRICATION INSTRUCTIONS - CONTINUED**

0008 00

Table 1. Preventive Maintenance Checks and Services for M16 Series Weapons - Continued.

ITEM NO.	INTERVAL	<u>LOCATION</u> ITEM TO CHECK/ SERVICE	PROCEDURE	NOT FULLY MISSION CAPABLE IF:
6 Cont.	Quarterly	Lower Receiver and Buttstock Assembly (Serviceability Check) CARBINE ONLY	r. Extend buttstock assembly (51). s. Grasp the lock release lever (53) in the area of the retaining nut (52) and pull downward. Slide the buttstock assembly (51) to the rear to separate the buttstock assembly from the lower receiver extension (54).	

M16-2055b

**PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS),
INCLUDING LUBRICATION INSTRUCTIONS - CONTINUED**

0008 00

Table 1. Preventive Maintenance Checks and Services for M16 Series Weapons - Continued.

ITEM NO.	INTERVAL	<u>LOCATION</u> ITEM TO CHECK/ SERVICE	PROCEDURE	NOT FULLY MISSION CAPABLE IF:
6 Cont.	Quarterly	Lower Receiver and Buttstock Assembly (Serviceability Check) CARBINE ONLY	<p>t. Clean and lubricate the two takedown pins (46) and pivot pin (40). Lubricate the takedown pin detents and springs by placing lubricant on the detents and exercising it with a small screwdriver.</p> <p>u. Clean the buttstock assembly (51) inside and out. Check lock release lever (53) for free movement. Check for cracks, dents, and damage to buttstock assembly.</p>	Lock release lever is cracked, does not move freely, or is dented or damaged badly enough to interfere with functioning.

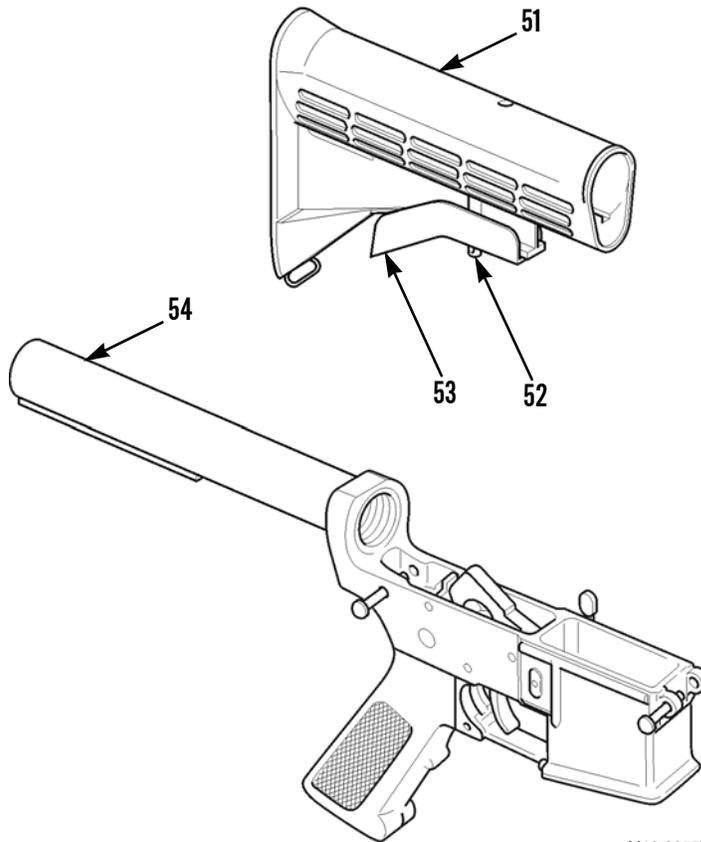
M16-2055

**PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS),
INCLUDING LUBRICATION INSTRUCTIONS - CONTINUED**

0008 00

Table 1. Preventive Maintenance Checks and Services for M16 Series Weapons - Continued.

ITEM NO.	INTERVAL	<u>LOCATION</u> ITEM TO CHECK/ SERVICE	PROCEDURE	NOT FULLY MISSION CAPABLE IF:
6 Cont.	Quarterly	Lower Receiver and Buttstock Assembly (Serviceability Check) CARBINE ONLY	<p>v. Buttstock assembly (51) can be repaired at Organizational level maintenance. Hand check lower receiver extension (54) for looseness and corrosion. If loose, evacuate to higher maintenance level. Clean and lubricate lower receiver extension.</p> <p>w. Grasp the lock release lever (53) in the area of the retaining nut (52) and pull down to reinstall the buttstock assembly (51) onto the lower receiver extension (54).</p>	Lower receiver extension (54) is loose.

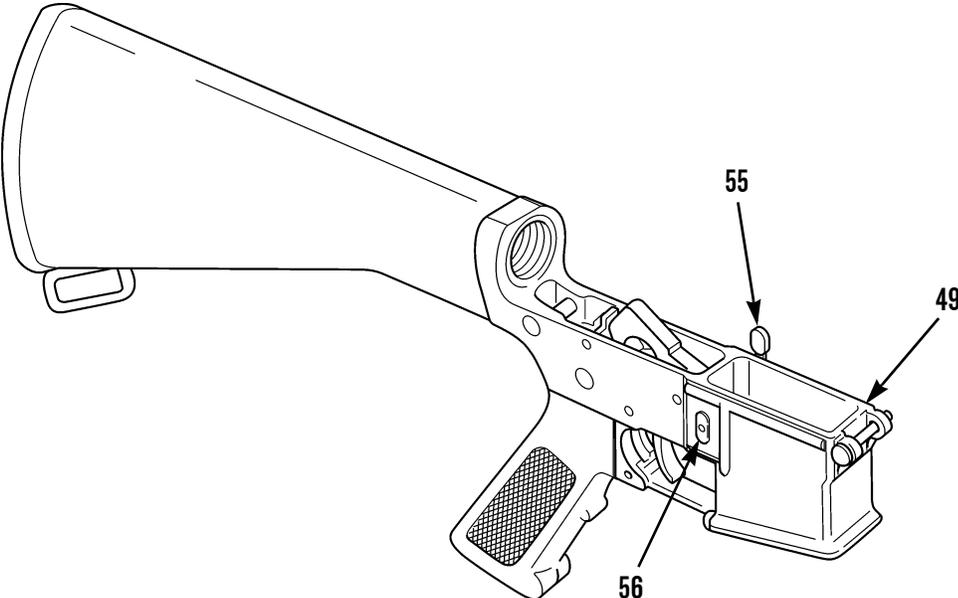


**PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS),
INCLUDING LUBRICATION INSTRUCTIONS - CONTINUED**

0008 00

Table 1. Preventive Maintenance Checks and Services for M16 Series Weapons - Continued.

ITEM NO.	INTERVAL	<u>LOCATION</u> ITEM TO CHECK/ SERVICE	PROCEDURE	NOT FULLY MISSION CAPABLE IF:
6 Cont.	Quarterly	Lower Receiver and Buttstock Assembly (Serviceability Check) ALL WEAPONS	x. Function check the magazine catch (56) and bolt catch (55). If defective, replace. y. Check lower receiver (49) finish for scratches and worn shiny spots. <p style="text-align: center;">NOTE</p> <p style="text-align: center;">If a weapon's lower receiver is missing one-third or more of its protective finish, resulting in an unprotected, light-reflecting surface, evacuate to higher level maintenance.</p> z. If lower receiver (49) is scratched or has worn shiny spots, repair in same manner as outlined for upper receiver (see Item No. 4 in this table).	Magazine catch or bolt catch is unserviceable.



M16-2053

**PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS),
INCLUDING LUBRICATION INSTRUCTIONS - CONTINUED**

0008 00

Table 1. Preventive Maintenance Checks and Services for M16 Series Weapons - Continued.

ITEM NO.	INTERVAL	<u>LOCATION</u> ITEM TO CHECK/ SERVICE	PROCEDURE	NOT FULLY MISSION CAPABLE IF:
7	Quarterly	M16A2, M16A4, M4, M4A1 CQBW	a. Assemble as in TM 05538/10012-OR_. b. Check sling for damage. If damaged, replace. c. Check for improperly assembled, broken, missing, or damaged parts. d. Check overall appearance. e. Replace parts authorized, as required. Evacuate to higher level of maintenance for repair. f. With magazine inserted, check for proper function of magazine catch and bolt catch.	
8	Quarterly	Annual Safety and Serviceability Inspection and Gaging	Check to ensure annual safety and serviceability inspection and gaging has been performed and that the next gaging and inspection is scheduled. If annual gaging has not been performed within the last year, notify Intermediate maintenance.	Annual gaging has not been performed.

END OF WORK PACKAGE

GENERAL MAINTENANCE INSTRUCTIONS

0009 00

THIS WORK PACKAGE COVERS

Scope	Repair Instructions
Work Safety	Lubrication Instructions
General Information	Standard Tool Requirements
Cleaning Instructions	Applying Torque
Inspection Instructions	Tagging Instructions

INITIAL SETUP

Maintenance Level

Organizational

References

TM 9-247_
WP 0008 00

SCOPE

These general maintenance instructions contain general shop practices and specific methods you must be familiar with to properly maintain the M16 series weapons W/E.

WORK SAFETY

1. Before starting a task, think about the risks and hazards to your safety as well as that of others. Wear protective gear such as safety goggles or lenses, safety shoes, rubber apron, or gloves. Protect yourself against injury.
2. Observe all WARNINGS, CAUTIONS, and NOTES.

GENERAL INFORMATION

1. Before beginning a task, find out how much repair, modification, or replacement is needed to repair the weapon as described in this manual. Sometimes the reason for equipment failure can be seen immediately and complete teardown is not necessary. Disassemble the weapon only as far as necessary to repair or replace damaged or broken parts.
2. All tags and forms attached to the equipment must be checked to learn the reason for removal from service. Check all Modification Instructions (MIs) and Technical Bulletins (TBs) for equipment changes and updates.
3. In some cases, a part may be damaged by removal. If the part appears to be good, and other parts behind it are not defective, leave it on and continue the procedure.

CLEANING INSTRUCTIONS**WARNING**

- Use only Cleaner, Lubricant, and Preservative (CLP) for cleaning and lubrication of the M16 series weapons in all but the most severe conditions.
- Improper cleaning methods and use of unauthorized cleaning solvents may injure personnel and damage equipment. Refer to TM 9-247, *Materials Used for Cleaning, Preserving, Abrading, and Cementing Ordnance Materials and Related Materials Including Chemicals* for correct information.
- Cloths or rags saturated with solvent cleaning compound must be disposed of IAW authorized facilities' procedures.
- Eye shields must be worn when cleaning with a wire brush. Flying rust and metal particles may cause injury to personnel.
- Particles blown by compressed air are hazardous. Use a maximum of 30 psi (207 kPa) when cleaning components. **DO NOT** exceed 15 psi (103 kPa) nozzle pressure when drying parts with compressed air. **DO NOT** direct compressed air against human skin. Make sure air stream is directed away from user and other personnel in the area. User must wear protective goggles or face shield.
- Failure to follow these warnings may cause injury or death to personnel.

NOTE

- Cleaning instructions are the same for the majority of the parts and components of the weapon.
- The importance of cleaning must be thoroughly understood by maintenance personnel. Great care and effort are required in cleaning. Dirt and foreign material are a constant threat to satisfactory maintenance. The following should apply to all cleaning, inspection, repair, and assembly operations.
 - (1) Clean all parts before inspection, after repair, and before assembly.
 - (2) To prevent contamination, hands should be kept free of any accumulation of grease, which can collect dust, dirt, or grit.
 - (3) After cleaning, all parts should be covered or wrapped to protect them from dust and dirt. Parts that are subject to rust should be lightly oiled.

1. Cleaning Disassembled Parts.

- a. Place all disassembled parts in wire baskets for cleaning.
- b. Dry and cover all cleaned parts.
- c. Place parts on or in "racks" and hold for inspection or repair.
- d. All parts subject to rusting must be lightly oiled and wrapped.
- e. Keep all related parts and components together. Do not mix parts.

2. Castings.

- a. Clean inner and outer surfaces of castings and all areas with CLP and/or bore solvent.
- b. Use a stiff brush to remove sludge and gum deposits.
- c. Clear out all tapped (threaded) holes with compressed air to remove dirt and cleaning solvent.

3. Machined Surfaces.

- a. Clean machined surfaces with pipe cleaner.
- b. Dry surfaces with compressed air.

4. Mated Surfaces. Lightly coat with oil and wrap all parts subject to rust before storing.

INSPECTION INSTRUCTIONS

1. **General.** All components and parts must be checked carefully to determine if they are serviceable for reuse, if they can be repaired, or if they must be scrapped.
2. **Drilled and Tapped (Threaded) Holes.**
 - a. Inspect for wear, distortion (stretching), cracks, or any other damage in or around holes.
 - b. Inspect threaded areas for wear, distortion, or evidence of cross-threading.
3. **Castings.**
 - a. Inspect all ferrous and non-ferrous castings for cracks using a magnifying glass and strong light. Particularly check areas around studs, pipe plugs, threaded inserts, and sharp corners. Replace all cracked castings.
 - b. Inspect machined surfaces for nicks, burrs, or raised metal. Mark damaged areas for repair or replacement.
 - c. Inspect all pipe plugs, pipe plug openings, screws, and screw openings for damaged or stripped threads.
 - d. Check all mating surfaces.
4. **Studs, Bolts, and Screws.** Replace if threads are damaged, bent, or stretched.
5. **Machine-Tooled Parts.** Inspect for cracks, breaks, elongated holes, wear, and chips. Replace any damaged parts.
6. **Machined Surfaces.** Inspect for cracks, evidence of wear, galled or pitted surface, burrs, nicks, and scratches.
7. **Mating Surfaces.** Inspect for seal, secure fit, and pitting.
8. **Rusted Surfaces.** Inspect for pitting, holes, and severe damage.
9. **Internal Parts.** Inspect for cracks, nicks, burrs, evidence of overheating, and wear.
10. **Externally Exposed Parts.** Inspect for breaks, cracks, rust damage, and wear.
11. **Springs.** Inspect for broken, collapsed, and twisted coils.

REPAIR INSTRUCTIONS

1. **General.**
 - a. Any repair procedure regarding a specific part or component is covered in the work package relating to that item.

CAUTION

Repaired items must be cleaned thoroughly to remove metal chips and abrasives to prevent those elements from entering working parts of the weapon. Failure to comply could damage equipment.

- b. After repair, clean all parts thoroughly.
2. **Castings.**

Only minor repairs to machined surfaces are permitted. Remove minor nicks, burrs, and scratches with:

 - a. Fine-mill file.
 - b. Crocus cloth dipped in solvent cleaning compound.

LUBRICATION INSTRUCTIONS

Refer to TM 4795-12/1_ for detailed instructions on proper lubrication. The following are some general practices to remember:

- a. Use correct lubricant IAW TM 4795-12/1_.
- b. Keep lubricants clean.
- c. Lubricate clean, disassembled, and new parts to prevent rust.

STANDARD TOOL REQUIREMENTS

Some maintenance tasks may require special or fabricated tools. The Initial Setup of the procedure will specify any special or fabricated tools needed to perform that procedure. Use these special tools only for the maintenance procedures for which they are designed or called out. If you are unfamiliar with a required tool, see your supervisor.

APPLYING TORQUE

If a unique torque value is required, it will be provided in a procedural step in the task.

TAGGING INSTRUCTIONS

1. Use marker tags to identify all parts that may be hard to identify or replace later. Fasten tags to parts during removal by wrapping wire fasteners around or through parts and twisting ends together. Position tags out of the way during cleaning, inspection, and repair. Mark tags with a pencil, pen, or marker.
2. Identify and tag other parts by name and installed location as required.

END OF WORK PACKAGE

CLEANING THE WEAPON

0010 00

THIS WORK PACKAGE COVERS

Cleaning

INITIAL SETUP

Maintenance Level

Organizational

References

TM 05538/10012-OR_

CLEANING

CAUTION

DO NOT allow Cleaner, Lubricant, and Preservative (CLP) or any other solvent to come in contact with telescopic sight lenses or other optical devices.

Cleaning is a vital part of organizational preventive maintenance. The weapon should be cleaned as soon as practical after firing and after each time it is exposed to field conditions or moisture. Use the procedures outlined in TM 05538/10012-OR_.

END OF WORK PACKAGE

THIS WORK PACKAGE COVERS

Disassembly

INITIAL SETUP

Maintenance Level

Organizational

Equipment Conditions

Weapon cleared (TM 05538/10012-OR_)

Sling assembly removed (TM 05538/10012-OR_)

WARNING

Always assume every weapon is loaded until it is determined through visual and physical inspection that it is not. Procedures for clearing/unloading the weapon are outlined in TM 05538/10012-OR_. Failure to follow this warning may cause injury or death to personnel.

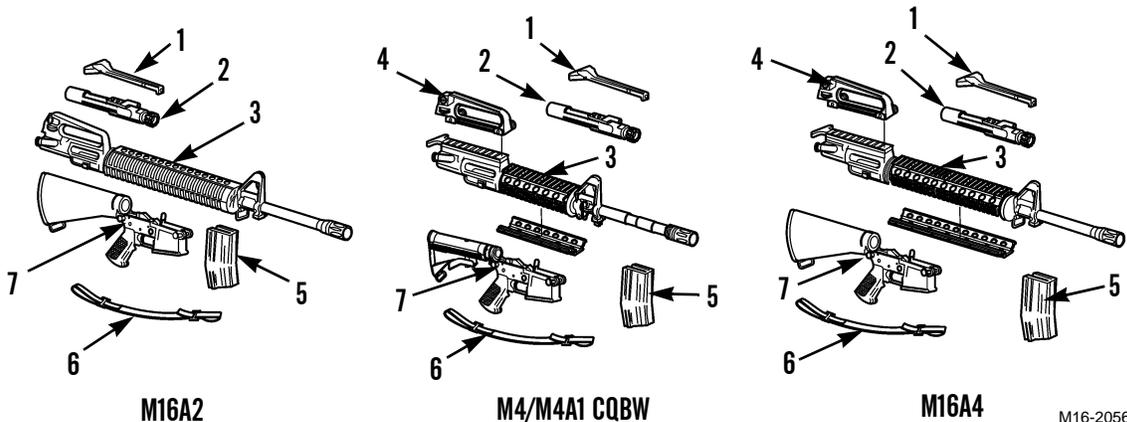
DISASSEMBLY

1. Remove the magazine (5), sling (6), bolt and bolt carrier assembly (2), charging handle assembly (1), upper receiver and barrel assembly (3) from the lower receiver and buttstock assembly (7).

NOTE

For M16A4, M4 and M4A1 CQBW models, perform step 2.

2. Remove the carrying handle assembly (4) from the upper receiver and barrel assembly (3).



END OF WORK PACKAGE

BOLT CARRIER ASSEMBLY MAINTENANCE

0012 00

THIS WORK PACKAGE COVERS

Disassembly, Cleaning, Inspection and Repair, Lubrication, Reassembly

INITIAL SETUP**Maintenance Level**

Organizational

Tools and Special Tools

E2900/E7900 Tool Kit

Bolt carrier key tool

Firing-pin protrusion gage

Materials/Parts

Cleaner, Lubricant, and Preservative (CLP)

Rag, wiping

References

TM 05538/10012-OR_

WP 0013 00

WP 0018 00

Equipment Conditions

Bolt carrier assembly removed (WP 0011 00)

WARNING

- **Bolt cam pin must be installed, or weapon will explode when first round is fired.**
- **Below Intermediate maintenance, DO NOT interchange bolt assemblies from one weapon to another.**
- **Failure to follow these warnings may cause injury to or death to personnel.**

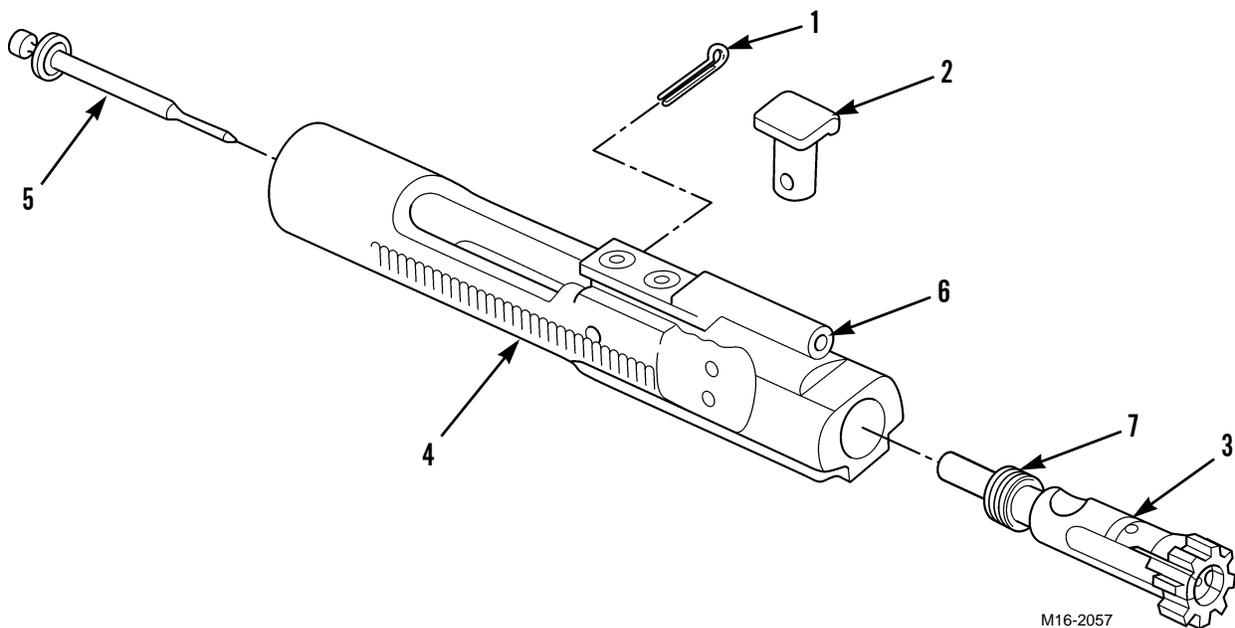
DISASSEMBLY**CAUTION**

DO NOT spread or close legs of firing-pin retaining pin.

1. Remove the firing-pin retaining pin (1). Turn bolt carrier (4) so bolt assembly (3) is up. Catch firing pin (5) as it drops out.
2. Rotate the bolt cam pin (2) one-quarter turn and lift straight up to remove.
3. Remove bolt assembly (3) from bolt carrier (4).

NOTE

Refer to WP 0013 00 for disassembly of bolt assembly.

**CLEANING**

Clean and remove all carbon deposits. Refer to TM 05538/10012-OR_.

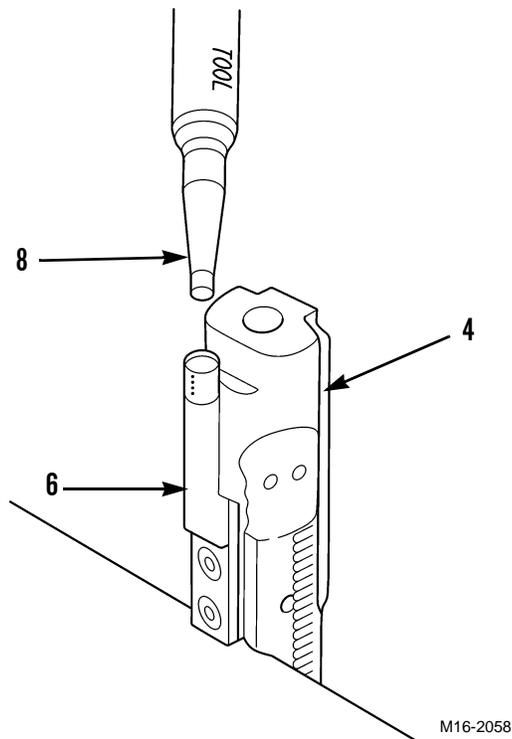
INSPECTION AND REPAIR

1. Inspect bolt assembly (3) as follows:
 - a. Ensure bolt ring (7) gaps are staggered.
 - b. Install bolt assembly (3) into bolt carrier (4). Check for worn bolt rings (7) by turning bolt carrier so bolt assembly is facing down. If bolt assembly falls out with the firing-pin retaining pin (1) and bolt cam pin (2) removed, the bolt rings are worn; replace.
2. Inspect carrier key (6) for dents, distortion, or looseness. If dented, distorted, or loose, evacuate to higher level of maintenance.
3. Inspect firing-pin retaining pin (1) and bolt cam pin (2) for cracks, damage, or excessive wear. Replace if unserviceable.
4. Inspect firing pin (5) for damage or a chipped tip. If damaged or chipped, replace and gage new firing pin using the firing-pin protrusion gage.
5. Inspect bolt carrier assembly (4) for damage or wear. If damaged or worn, evacuate to higher level of maintenance.

INSPECTION AND REPAIR - CONTINUED**CAUTION**

Extreme care must be exercised during the following procedures to ensure that the striking force is not directed to the attaching screws and that the tube portion is not enlarged (flared) beyond original equipment. Such enlargement would permit loss of gas pressure when the key and gas tube come together during functioning. The edge of a work bench is recommended for this procedure.

6. Repair small dents and/or distortions in carrier key (6) using tapered center punch (8), as follows:
 - a. Place the carrier key (6) and bolt carrier assembly (4) in a vertical position with the rear of the carrier key supported on the work surface.
 - b. Insert the small end of the tapered center punch (8) into the tube portion of the carrier key (6).
 - c. Strike the large end of the tapered center punch (8) lightly with a 3-oz soft brass hammer.
 - d. Repeat, striking gently until carrier key (6) is reformed to original configuration.
 - e. If carrier key (6) cannot be reformed to original configuration, evacuate to higher level of maintenance.

**LUBRICATION**

For all lubrication requirements, refer to TM 05538/10012-OR_.

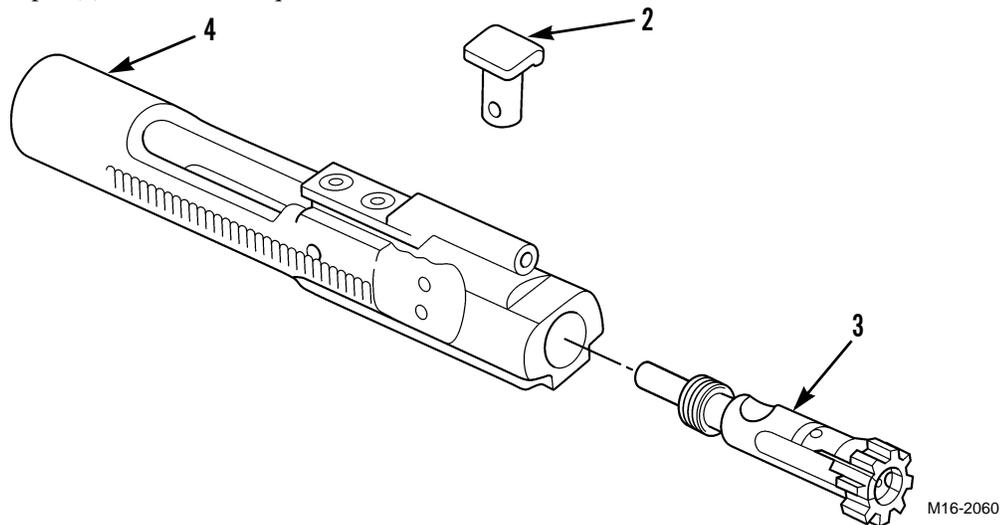
REASSEMBLY**WARNING**

- **DO NOT interchange bolt assemblies from one weapon to another.**
- **Bolt cam pin must be installed or rifle/carbine will explode when first round is fired.**
- **Failure to follow these warnings may cause injury or death to personnel.**

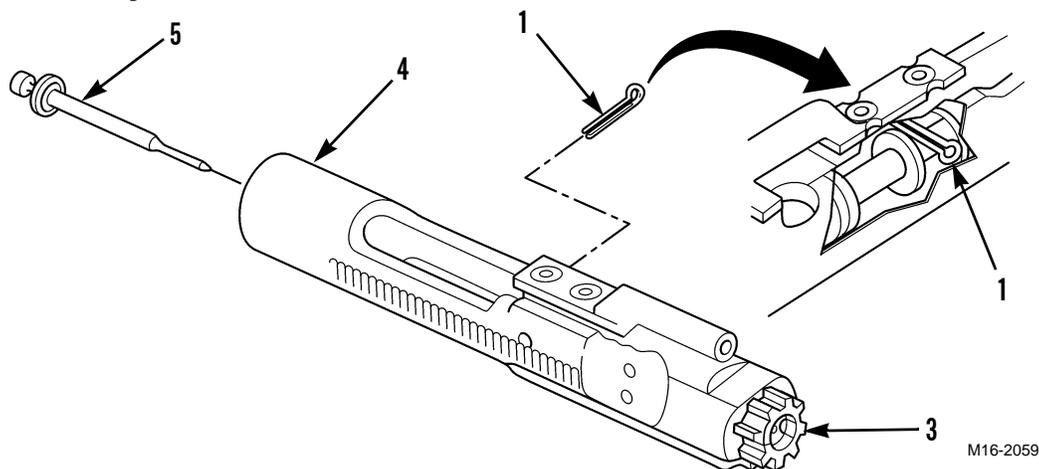
NOTE

Before installing bolt assembly, ensure bolt ring gaps are staggered to prevent loss of gas pressure.

1. Install the bolt assembly (3) into the bolt carrier (4).
2. Install bolt cam pin (2) and rotate one-quarter turn.



3. Hold the bolt carrier assembly (4) with the bolt (3) facing down. Drop in the firing pin (5).
4. Install the firing-pin retaining pin (1) from left side only to ensure proper installation. Check for proper installation by turning bolt carrier assembly (4) with the bolt assembly (3) facing up, and attempt to shake out the firing pin (5). The bolt assembly should be checked for proper smooth rotation and assembly by holding the bolt carrier assembly with bolt facing away from you and the bolt pushed in. Flick the bolt carrier down and ensure the bolt rotates out of the bolt carrier to its proper position.
5. Reassemble the weapon (WP 0018 00).

**END OF WORK PACKAGE**

THIS WORK PACKAGE COVERS

Disassembly, Cleaning, Inspection, Lubrication, Reassembly

INITIAL SETUP

Maintenance Level

Organizational

Tools and Special Tools

E2900/E7900 Tool Kit

Vise

Materials/Parts

Cleaner, Lubricant, and Preservative (CLP)

Rag, wiping

References

TM 05538/10012-OR_

WP 0018 00

WP 0023 00

Equipment Conditions

Bolt assembly removed (WP 0012 00)



WARNING

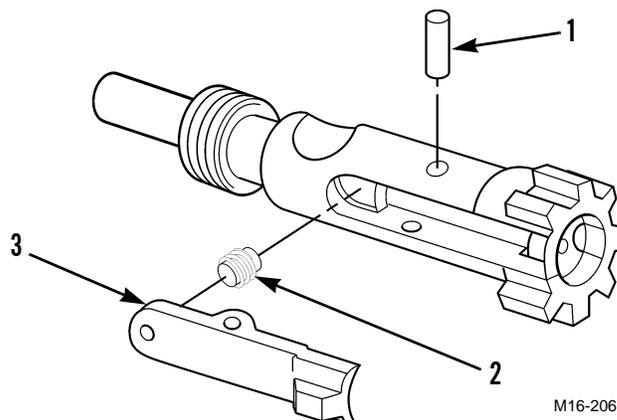
- **DO NOT interchange bolt assemblies between weapons.**
- **To avoid injury to eyes, use care when removing and installing spring-loaded parts.**
- **Failure to follow these warnings may result in injury or death to personnel.**

DISASSEMBLY

NOTE

- **DO NOT separate cartridge extractor and extractor spring assembly unless replacement of either or both is required.**
- **DO NOT remove the rubber insert from the extractor spring assembly.**

1. Push out extractor pin (1) and remove cartridge extractor (3) and extractor spring assembly (2) as a unit from the bolt body.
2. If required, twist extractor spring assembly (2) counterclockwise to remove from cartridge extractor (3).

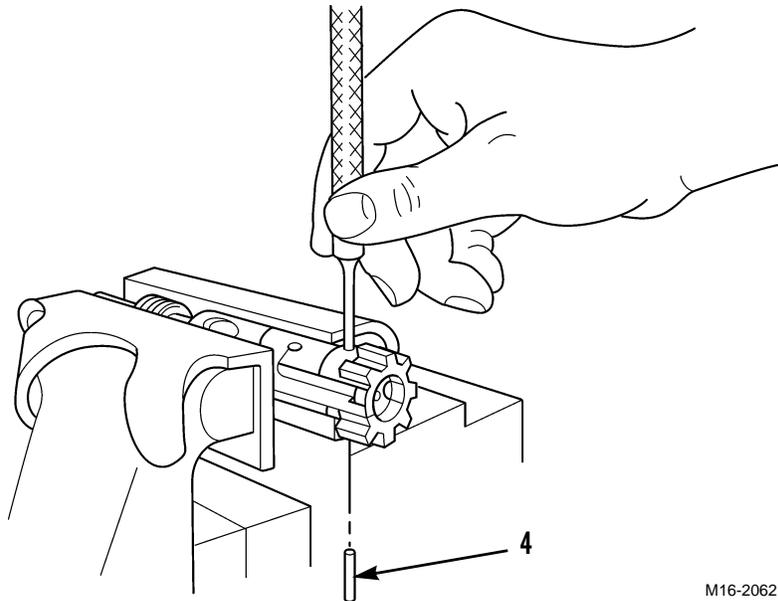


M16-2061

DISASSEMBLY - CONTINUED**CAUTION**

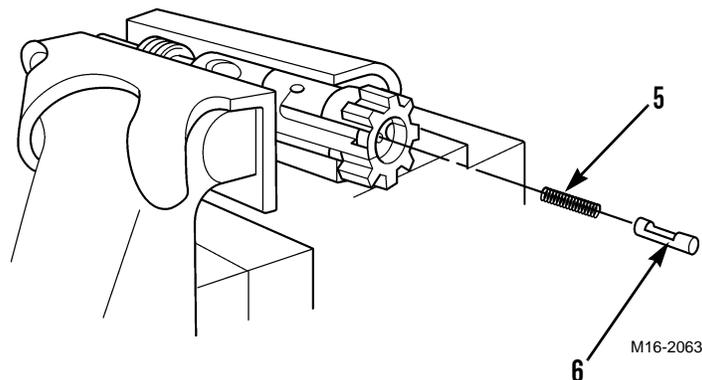
Be sure to use vise jaw protective caps.

3. Hold bolt body in vise and remove spring pin (4) using 1/16-in. pin punch and hammer.

**WARNING**

Use care when removing and installing spring-loaded parts. Failure to follow this warning may cause injury to personnel.

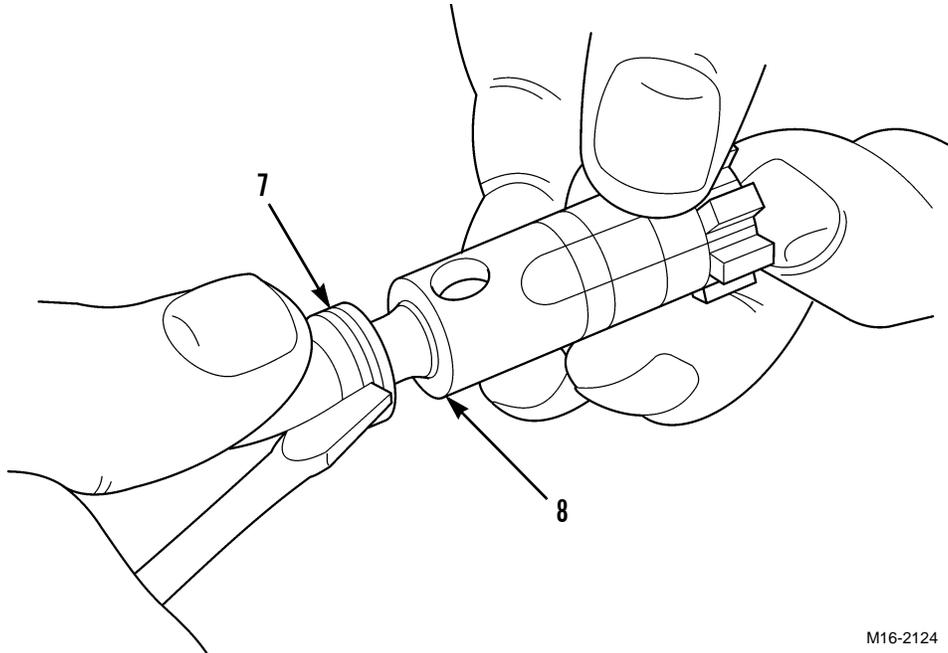
4. Before removing punch, place palm over bolt face to prevent cartridge ejector (6) and ejector spring (5) from shooting out of bolt. Remove punch, and catch cartridge ejector and ejector spring to prevent loss.



*DISASSEMBLY - CONTINUED***NOTE**

DO NOT remove bolt rings unless they require replacement and three new replacement rings are available.

5. Using a small flat-tip jeweler's screwdriver, remove the three bolt rings (7) from the bolt (8).



M16-2124

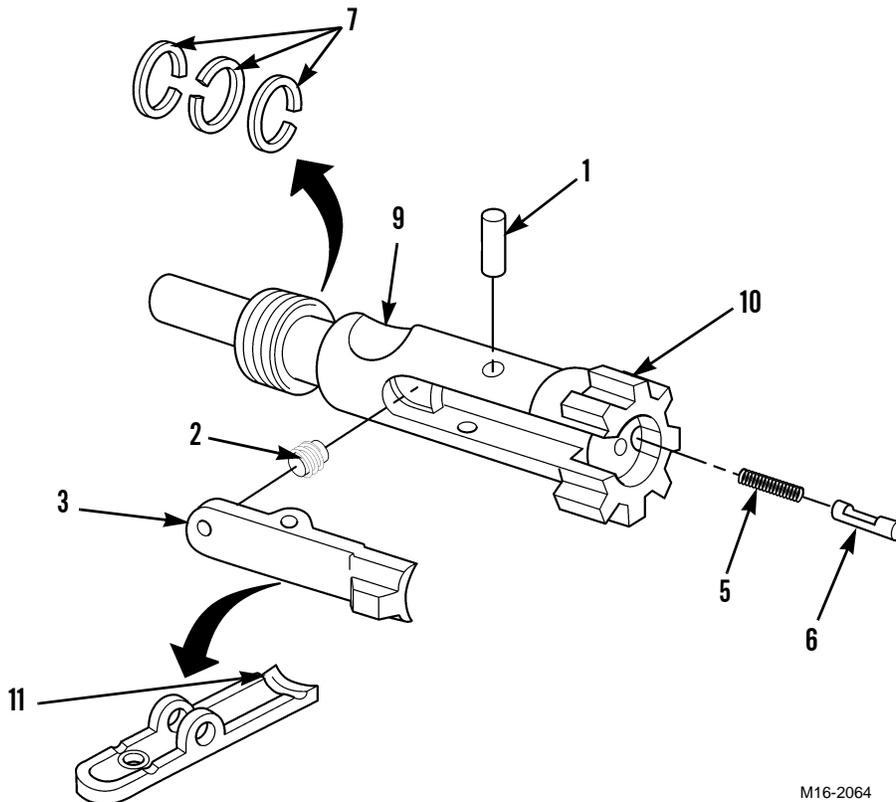
CLEANING**CAUTION**

DO NOT distort extractor spring assembly during cleaning.

Clean all items and remove carbon deposits. Refer to TM 05538/10012-OR_.

INSPECTION

1. Visually inspect bolt rings (7) for cracks, kinks, and bends. Replace all three bolt rings if one or more bolt ring is damaged. Refer to WP 0023 00 in this manual for bolt ring wear check.
2. Inspect for cracks and damage, especially bolt cam pin hole (9) and locking lugs (10). If cracked or damaged, evacuate to higher level of maintenance.
3. Inspect the cartridge extractor (3), extractor spring assembly (2), and extractor pin (1) for cracks, breaks, chips, and other damage. Pay close attention to the cartridge extractor lip (11). If damaged, replace as necessary.
4. Inspect the cartridge ejector (6) and ejector spring (5) for cracks, breaks, and chips. If damaged, replace as necessary.



M16-2064

LUBRICATION

Lightly lubricate all items. Refer to TM 05538/10012-OR_.

REASSEMBLY



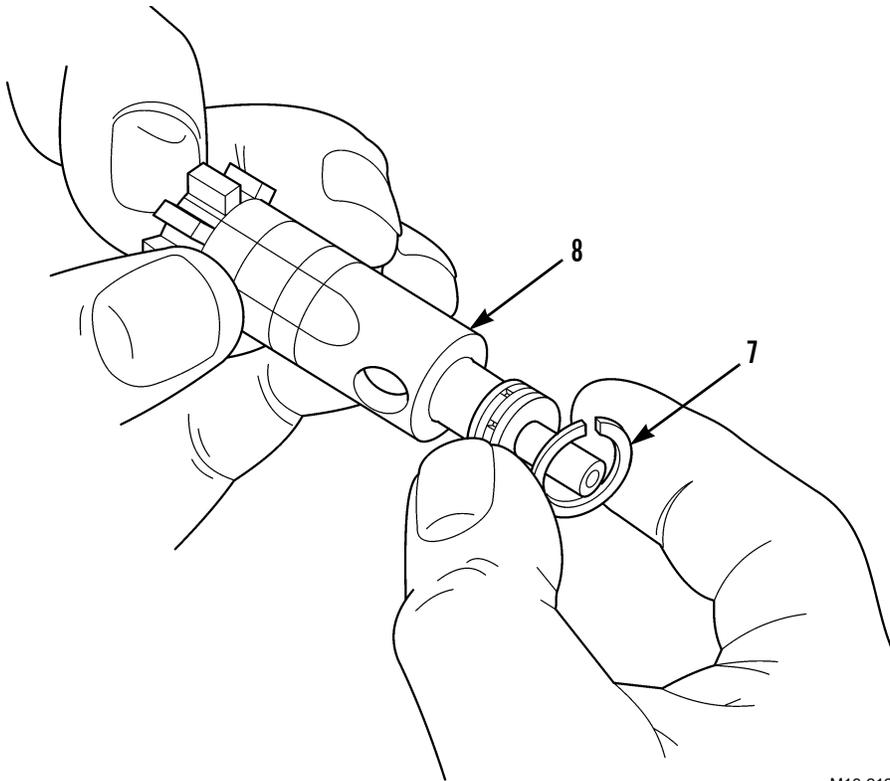
WARNING

- **DO NOT interchange bolt assemblies between weapons.**
- **Use care when removing and installing spring-loaded parts.**
- **Failure to follow these warnings may cause injury or death to personnel.**

NOTE

To install a bolt ring, carefully place the ring on 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 bolt ring into the groove a little bit at a time until the entire bolt ring is in place.

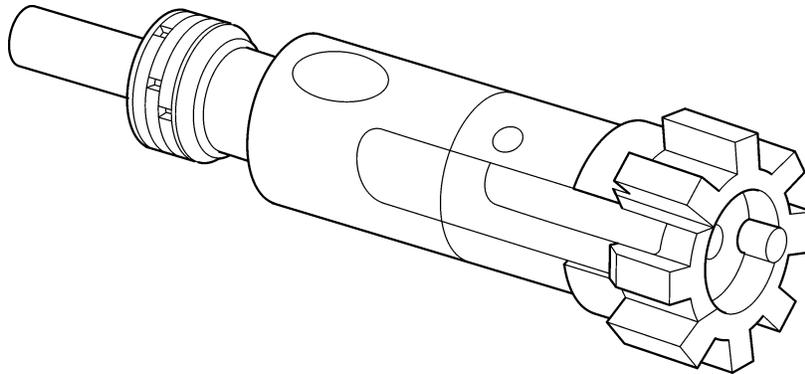
1. Install three bolt rings (7), one at a time, onto the bolt (8). Do not bend or “spring” new rings. Stagger the bolt ring gaps (approximately 1/3 turn apart).



M16-2128

REASSEMBLY - CONTINUED**NOTE**

Ensure bolt ring gaps are staggered to prevent loss of gas pressure. New bolt rings will make installation of the bolt assembly difficult. Lubricate inside of bolt carrier and key assembly, and use gentle pressure when installing.

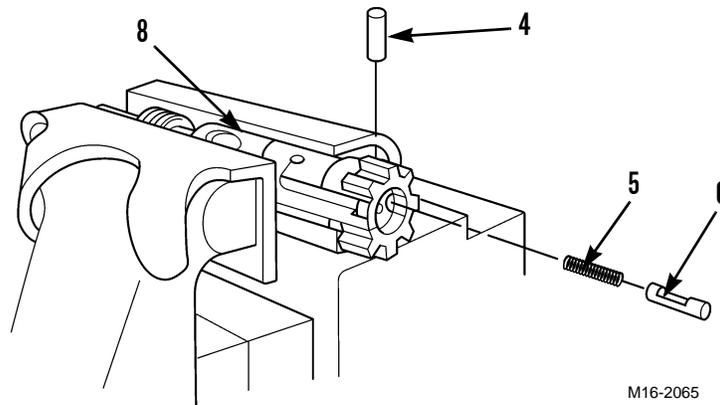


M16-2129

CAUTION

Be sure to use vise jaw protective caps.

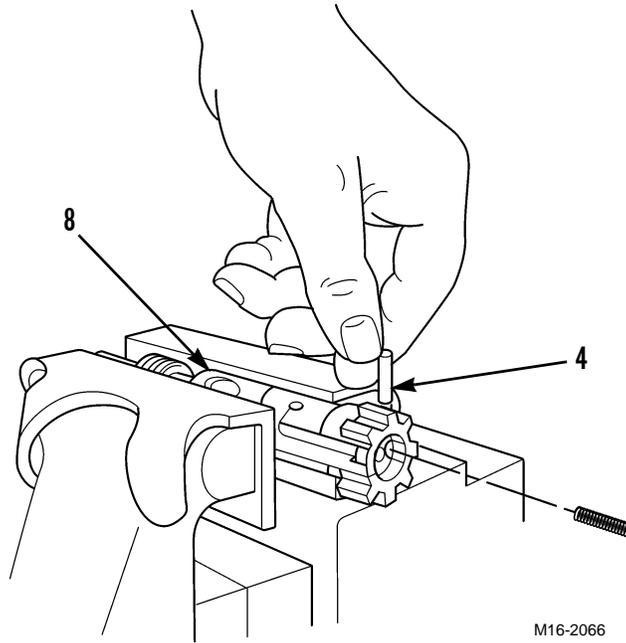
2. Place bolt (8) in a vise and start spring pin (4) in hole.
3. Install ejector spring (5) and cartridge ejector (6). Align groove on cartridge ejector so that spring pin (4) can be installed.
4. Compress and hold ejector spring (5) and cartridge ejector (6) in place with a 3/8-in. pin punch.



M16-2065

REASSEMBLY - CONTINUED

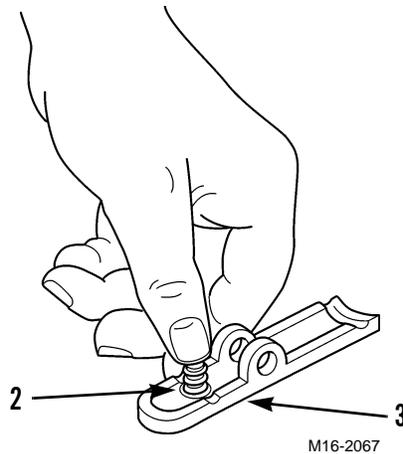
5. Using a hammer and 1/16-in. pin punch, install the spring pin (4) so that ends are flush with the outside of the bolt (8).



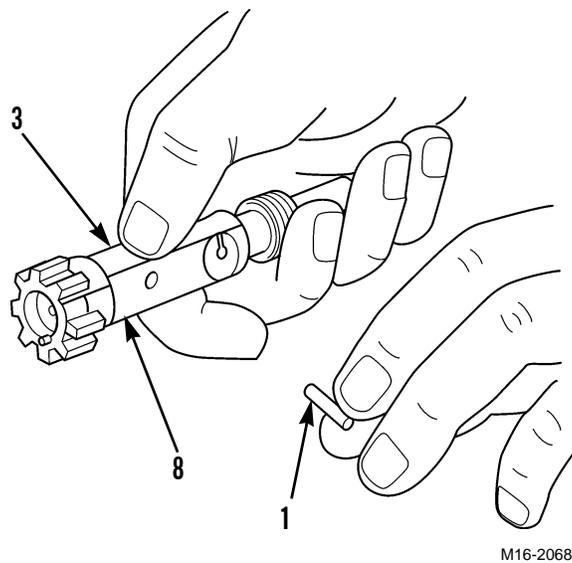
REASSEMBLY - CONTINUED**NOTE**

DO NOT disassemble rubber insert from extractor spring.

6. If removed, insert large end of extractor spring assembly (2) into cartridge extractor (3) and seat by pressing spring assembly into extractor and rotating clockwise.



7. Position cartridge extractor (3) and extractor spring assembly on bolt (8).
8. Compress extractor spring assembly (2) and cartridge extractor (3) to align holes.
9. Install extractor pin (1) by hand.



10. Reassemble the bolt assembly into the bolt carrier. Refer to WP 0012 00 of this manual.

END OF WORK PACKAGE

CHARGING HANDLE MAINTENANCE

0014 00

THIS WORK PACKAGE COVERS

Disassembly, Cleaning, Inspection and Repair, Lubrication, Reassembly

INITIAL SETUP

Maintenance Level

Organizational

Tools and Special Tools

E2900/E7900 Tool Kit

Materials/Parts

Lubricant

Materials/Parts - Continued

Rag, wiping

References

TM 05538/10012-OR_

WP 0018 00

Equipment Conditions

Charging handle assembly removed (WP 0011 00)

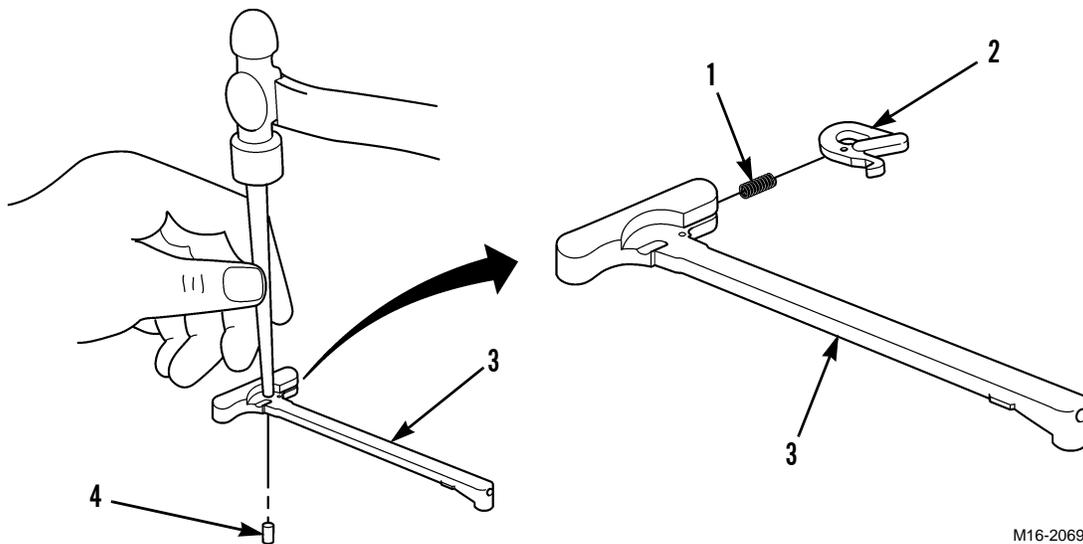
DISASSEMBLY



WARNING

Use care when removing and installing spring-loaded parts. Failure to follow this warning may cause injury or death to personnel.

1. Remove spring pin (4) from charging handle (3) using a hammer and 1/16-in. punch.
2. As spring pin (4) is withdrawn, catch the charging handle latch (2) and charging handle latch spring (1) to prevent loss.



M16-2069

CLEANING

Clean all items and remove carbon deposits. Refer to TM 05538/10012-OR_.

INSPECTION AND REPAIR

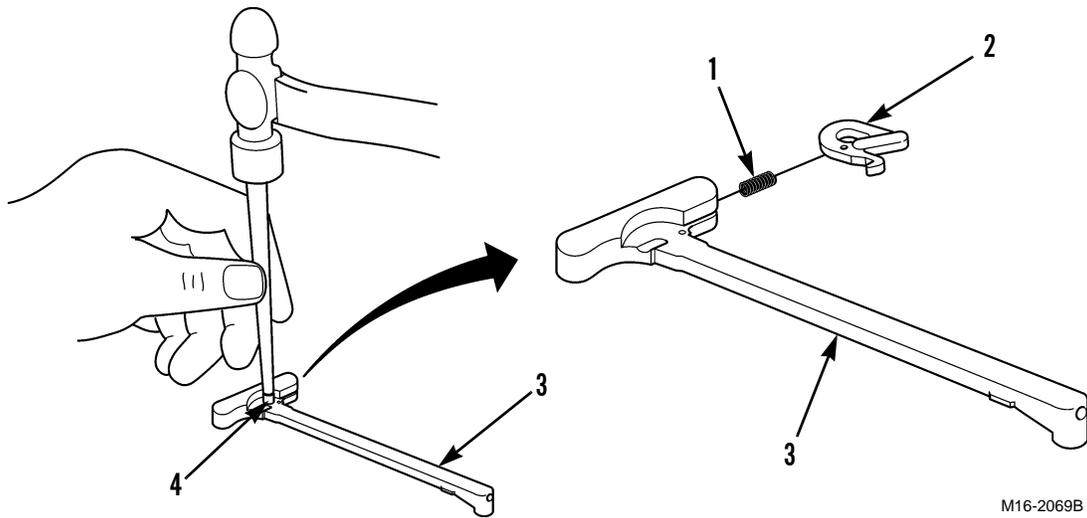
Inspect all items for breaks, cracks, or damage. Replace all unserviceable items.

LUBRICATION

Lightly lubricate all items. Refer to TM 05538/10012-OR_.

REASSEMBLY

1. Position the charging handle latch spring (1) and charging handle latch (2) in charging handle (3) and align holes.
2. Install the spring pin (4) using a hammer. Ensure spring pin is flush.
3. Reassemble weapon (WP 0018 00).



M16-2069B

END OF WORK PACKAGE

THIS WORK PACKAGE COVERS

Disassembly, Cleaning, Inspection, Repair, Lubrication, Reassembly

INITIAL SETUP

Maintenance Level

Organizational

Tools and Special Tools

Barrel removal fixture

Combination wrench

E2900/E7900 Tool Kit

Front sight post removal/installation tool

Vise

Materials/Parts

Cleaner, Lubricant, and Preservative (CLP)

Rag, wiping

Rivet, tubular (M16A2 and M16A4)

Materials/Parts - Continued

Rivet, tubular

(M4 and M4A1 CQBW front sling swivel)

Washer, recessed (P/N 12991533)

Personnel Required

Two

References

TM 05538/10012-OR_

WP 0018 00

WP 0036 00

Equipment Conditions

Weapon field stripped (WP 0011 00)



WARNING

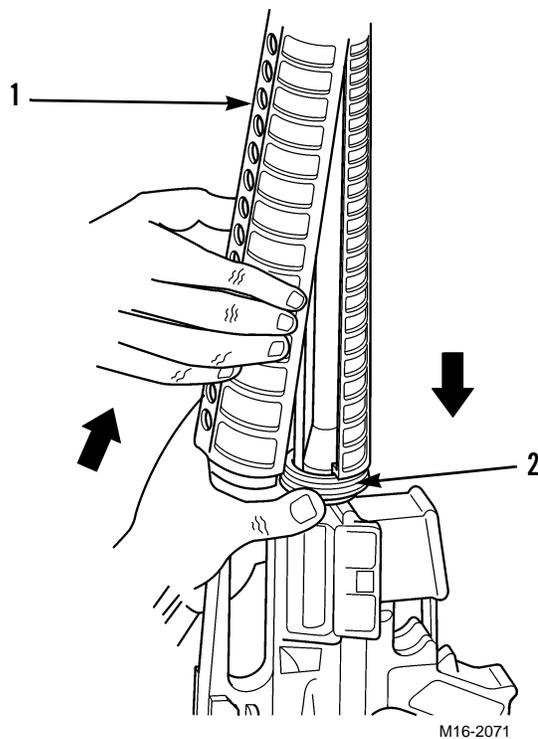
Use care when removing and installing spring-loaded parts. Failure to follow this warning may cause injury to personnel.

DISASSEMBLY**CAUTION**

- **DO NOT** use a screwdriver or any other tool when removing the handguard assemblies. Doing so may damage the handguard assemblies and/or the slip ring.
- **DO NOT** remove heat shield for any reason. Doing so will damage the heat shield, and the handguard assemblies will require replacement.

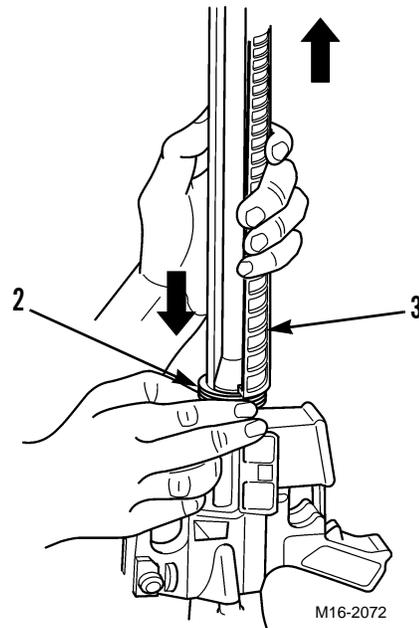
NOTE

- Steps 1 and 2 are for weapons equipped with handguards. For weapons equipped with Rail Adapter System (RAS), refer to WP 0036 00.
 - Refer to TM 05538/10012-OR_ for “buddy system” procedure on removing handguard assemblies.
1. Push down on handguard slip ring (2) and lift upper handguard assembly (1) up and out.



DISASSEMBLY - CONTINUED

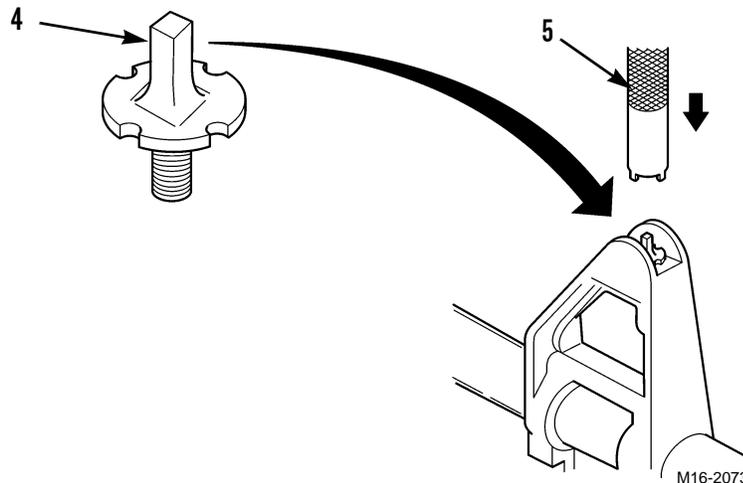
2. Push down on handguard slip ring (2) and lift lower handguard assembly (3) up and out.

**WARNING**

Use care when removing and installing spring-loaded parts. Failure to follow this warning may cause injury to personnel.

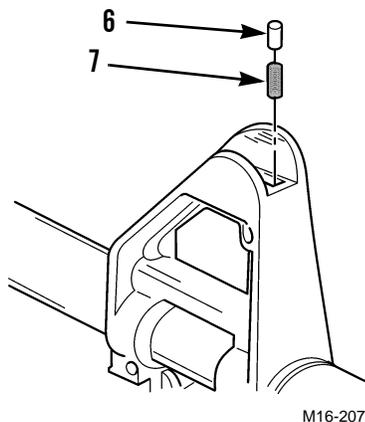
NOTE

- Remove front sight post only if parts are damaged.
 - A 1/16-in. punch and a pencil eraser may also be used to remove the front post if a dummy cartridge or front sight post removal/installation tool are not available.
3. Using a dummy cartridge or a front sight post removal/installation tool (5), remove front sight post (4) by turning counterclockwise.

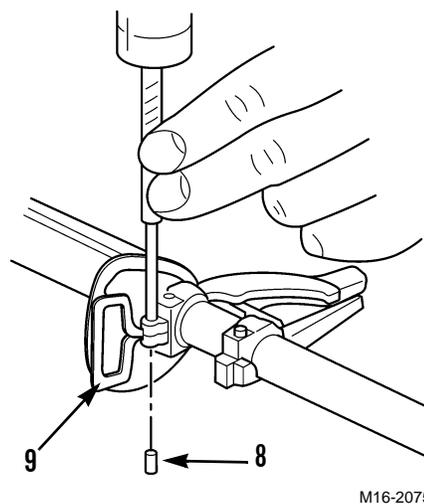


DISASSEMBLY - CONTINUED

4. Catch front sight detent (6) and front sight detent spring (7) to prevent loss.

**NOTE**

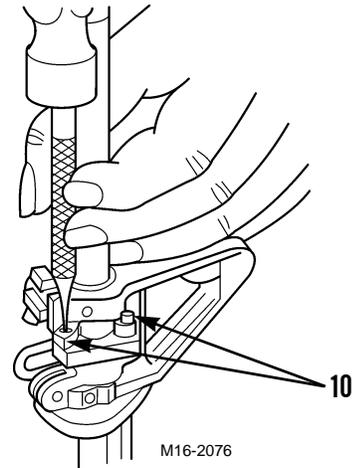
- **Disassemble small sling swivel only if repair is necessary.**
 - **Perform step 5 for M16A2/M16A4 weapons ONLY.**
5. If necessary, knock out tubular rivet (8) with a hammer and punch, and remove small sling swivel (9). Discard tubular rivet.



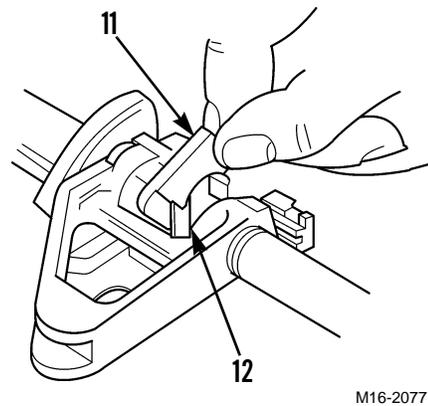
DISASSEMBLY - CONTINUED**NOTE**

Perform steps 6 through 9 for M4/M4A1 CQBW weapons ONLY.

6. Remove two spring pins (10).

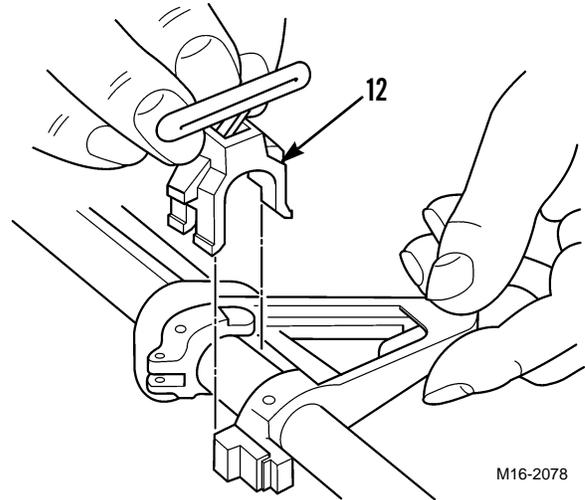


7. Lift swivel locking bar (11) up and out of swivel mount (12).



DISASSEMBLY - CONTINUED

8. Remove swivel mount (12).

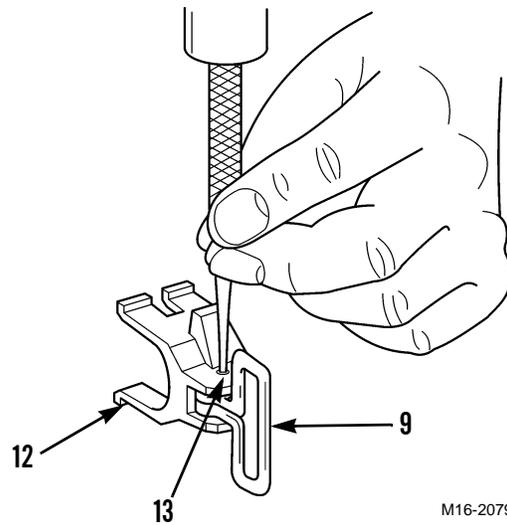


M16-2078

NOTE

Remove rivet only if replacement of sling swivel is necessary.

9. Remove tubular rivet (13). Separate small sling swivel (9) from swivel mount (12). Discard rivet.

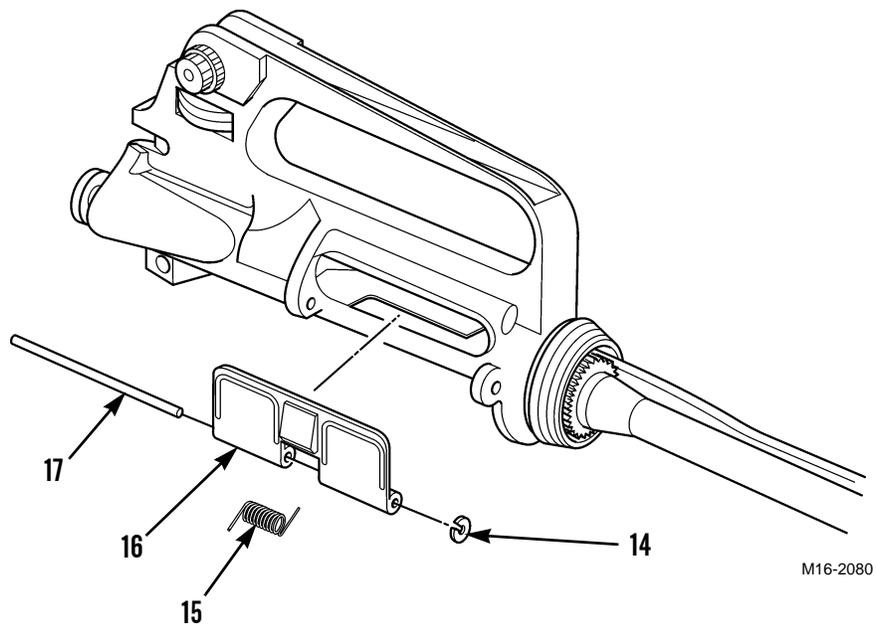


M16-2079

DISASSEMBLY - CONTINUED**NOTE**

DO NOT disassemble further unless repair is necessary. Headless grooved pin may bind against the forward assist housing and require additional force to remove.

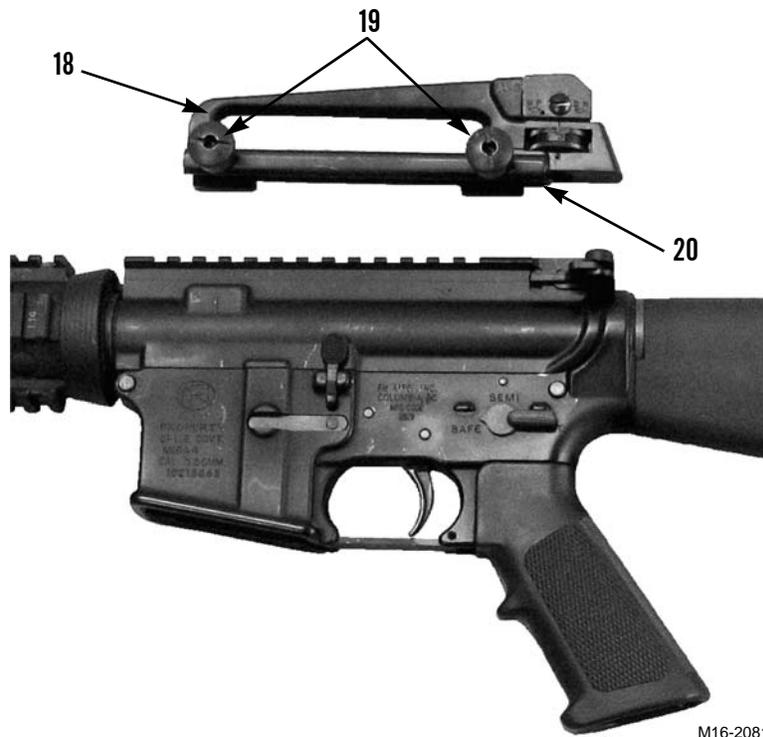
10. Remove retaining ring (14) and slide headless grooved pin (17) out to the rear.
11. Catch cover spring (15) and ejection port cover (16) to prevent loss as headless grooved pin is withdrawn.



DISASSEMBLY - CONTINUED**NOTE**

Perform step 12 for M16A4 and M4/M4A1 CQBW weapons ONLY.

12. Disassemble as follows, only if required to replace damaged or missing carrying handle assembly nuts or clamp:
 - a. Note position of the clamp (20) in relation to the carrying handle (18).
 - b. Using care not to damage the surface finish, remove carrying handle assembly nuts (19) and clamp (20) as required.
 - c. Inspect mating surfaces of the carrying handle (18) and clamp (20) for damage. Replace damaged parts as required.
 - d. Inspect for other damage, rust, etc. Repair or replace as required.
 - e. Apply a light coat of lubricant to all mating surfaces.
 - f. Install clamp (20) in its original position. The forward end of the clamp must not extend past the forward end of the carrying handle (18).
 - g. Using care to prevent cross threading, install handle assembly nuts (19).



M16-2081

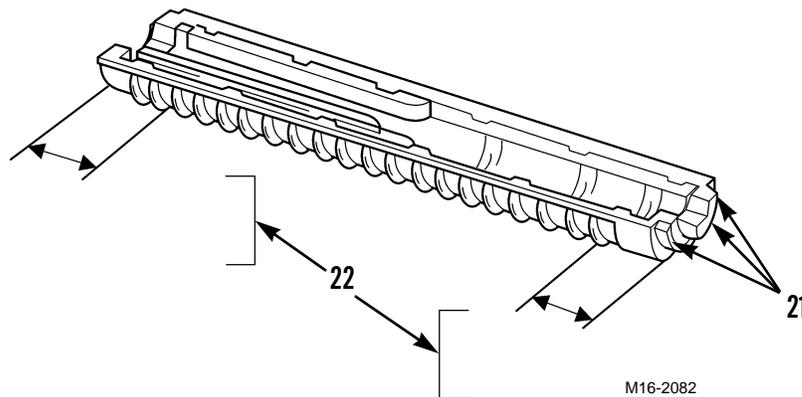
CLEANING

Clean all items. Refer to TM 05538/10012-OR_.

INSPECTION**NOTE**

Step 1 applies to weapons equipped with a handguard only and not a Rail Adapter System (RAS).

1. Inspect handguard assemblies for breaks, separation, and cracks using the following guidelines:
 - a. Breaks and separations of material that prevent proper retention or interfere with functioning of the rifle are cause for handguard assembly replacement.
 - b. **M16A2** handguard assemblies may have up to two of the three retaining tabs (21) missing. If all front retaining tabs for the **M16A2** are missing, handguard assemblies must be replaced.
 - c. Cracks up to 1 in. long are acceptable providing they do not extend into the retaining flange (CRITICAL AREA) (22).
 - d. Replace severely cracked or damaged handguard assemblies. Handguard assemblies that have a heat shield that is loose enough to rattle when installed on the weapon, must be replaced.



INSPECTION - CONTINUED**NOTE**

Step 2 applies to weapons (M16A4, M4, and M4A1 CQBW) equipped with Rail Adapter Systems (RAS) and not handguards.

2. Inspect adapter rails and covers in the following manner:
 - a. Inspect adapter rails for loose, damaged, or missing rail covers.

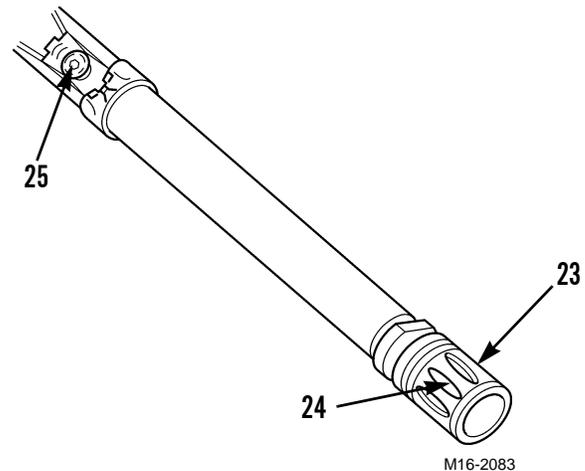
CAUTION

DO NOT remove upper adapter rail unless replacement of rail is necessary.

- b. Inspect adapter rails for looseness that may affect the zero of any attached sighting devices.
 - c. Inspect adapter rails' surfaces and slots for damage, corrosion, or dirt and debris that may affect the attachment of any devices to the adapter rails or the zeroing of any devices.
 - d. Inspect the adapter rails' finish for worn, shiny spots/areas.
 - e. If any of the above listed conditions are present, clean or replace the adapter rails as necessary.
3. Inspect front sight assembly for chips, bends, breaks, cracks, or other damage. Evacuate to higher maintenance level if damaged.
4. Inspect front sight area for evidence of gas leakage around gas tube. Evacuate to higher maintenance level if short recoil results from gas leakage.
5. Inspect front sight post, front sight detent, and front sight detent spring for damage. If damaged, replace as required.
6. Inspect the forward assist for slippage or actuation of the pawl. Lubricate pawl if not working properly, refer to TM 05538/10012-OR_.
 - a. Open the action, pull the bolt and bolt carrier assembly slightly to the rear, unlocking and unseating the bolt, and slowly release. Bolt and bolt carrier assembly should remain slightly rearward.
 - b. Push or tap on the forward assist. The bolt and bolt carrier assembly should move forward, and the bolt should move to the locked position. If the forward assist does not perform this function properly, evacuate to higher level of maintenance.

INSPECTION - CONTINUED

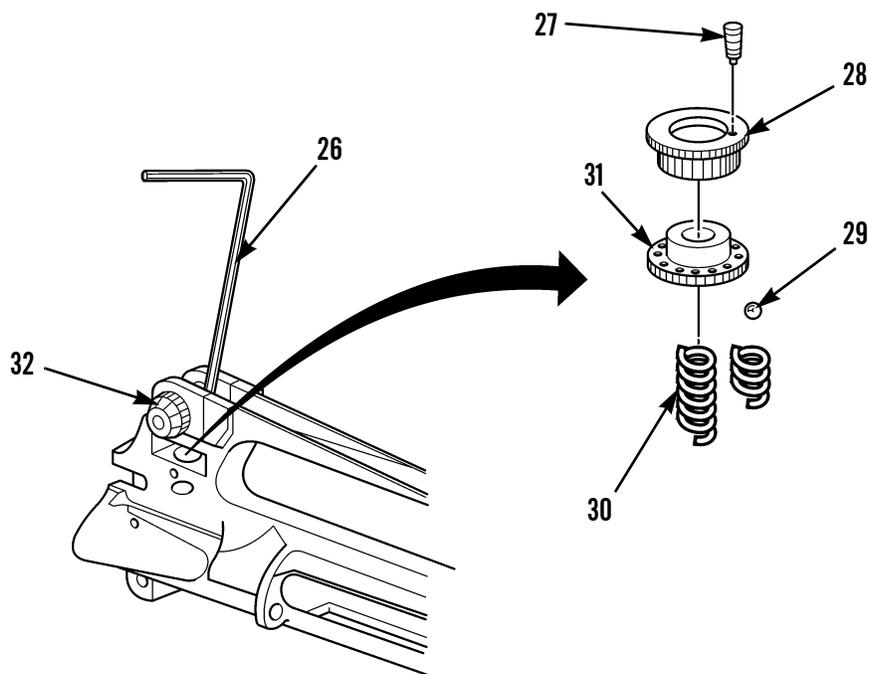
7. Inspect barrel for pits in bore, burrs, broken or worn locking lugs, and surface cracks and defects.
 - a. Pits no wider than a land or groove and 3/8 in. (0.953 cm) long or less are allowable in the bore.
 - b. Uniformly fine pits in a densely pitted area of the bore are allowable.
 - c. Lands that appear dark due to coating of gliding metal from projectiles are allowable.
 - d. Stripping of lands and grooves shall not be cause for rejection unless determined by Intermediate maintenance by use of the barrel erosion gage.
 - e. For pits other than those mentioned above, broken or burred locking lugs, or surface cracks, evacuate to higher level of maintenance.
8. Inspect bore for rings. Definitely ringed bores or bores ringed sufficiently to bulge the outside surfaces of the barrel are causes for rejection. Evacuate to higher level of maintenance.
9. Inspect chamber for pitting. Fine pits, or fine pits in a densely pitted area, are allowable. Pits 1/8 in. (0.318 cm) long are cause for rejection. Evacuate to higher level of maintenance.
10. Hand check compensator (23) for looseness on barrel. Align the third (middle) slot (24) straight up at top dead center (TDC) in line with the front sight (25). The alignment may vary as much as one-half the width of the slot in either direction. If loose or out of alignment, repair as necessary. Refer to *Repair* in this work package.



11. Inspect for loose barrel. If loose, evacuate to higher level of maintenance.
12. Inspect ejection port cover and tightness of latch assembly for serviceability. If items are damaged or non-functional, replace as necessary.

INSPECTION - CONTINUED

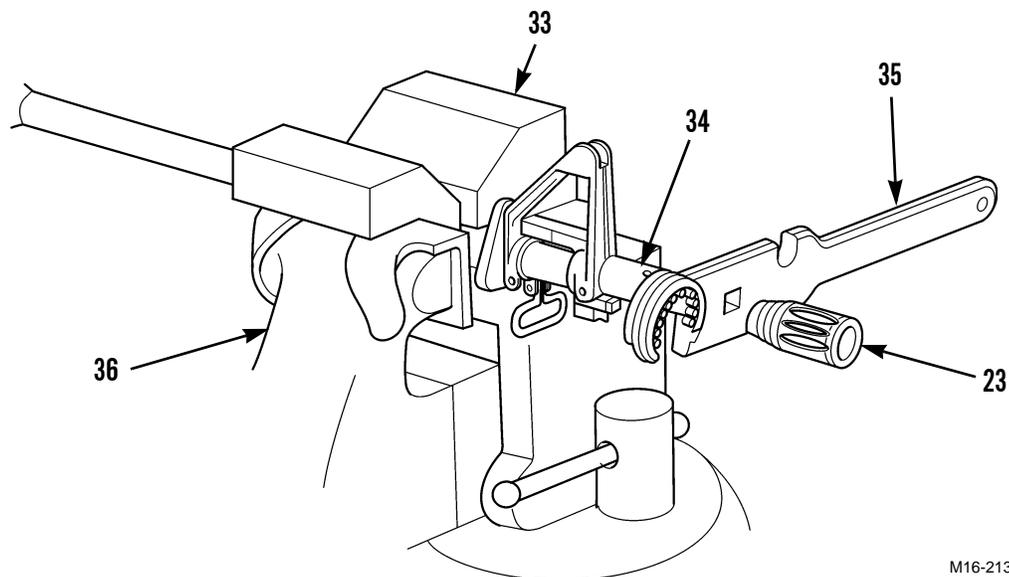
13. Rotate and test elevation index (28) and windage knob (32) for ease of functioning and legibility of markings.
14. Inspect elevation knob zero as follows:
 - a. Rotate elevation knob (31) counterclockwise until the rear sight assembly is all the way down. If a whole click is not felt as the rear sight assembly stops, the rear sight assembly has bottomed out and will not pivot freely.
 - b. Position elevation knob (31) back slightly to its last whole click so the rear sight assembly base is under tension of the ball bearing (29) and elevation spring (30). The 300-m mark should align with the index mark on the receiver.
 - c. If the 300-m mark is not aligned with the index mark on the receiver, slip the range scale in the following manner:
 - (1) Position the 300-m mark with the index mark on the receiver.
 - (2) Insert a 1/16-in. hex wrench (26) through the access hole in the rear sight assembly base and into the index screw (27).
 - (3) Loosen the index screw (27) three turns and leave the hex wrench (26) in place.
 - (4) Rotate the lower portion of elevation knob (31) counterclockwise until it stops (range scale should not have moved). The elevation knob should be positioned on its last whole click.
 - (5) Tighten the index screw (27) and remove the hex wrench (26).
 - (6) Check for proper setting.



M16-2084

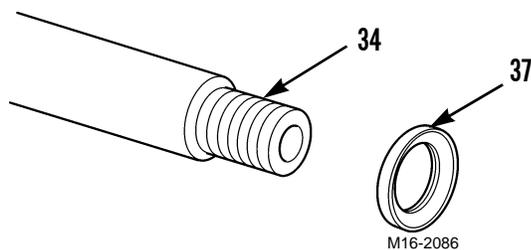
REPAIR

1. Replace all authorized unserviceable parts.
2. Unserviceable items are those items that are damaged.
3. Position upper receiver and barrel assembly (34) in barrel removal fixture (33) and secure both in a machinist's vise (36).
4. Using a combination wrench (35), remove the compensator (23).



M16-2135

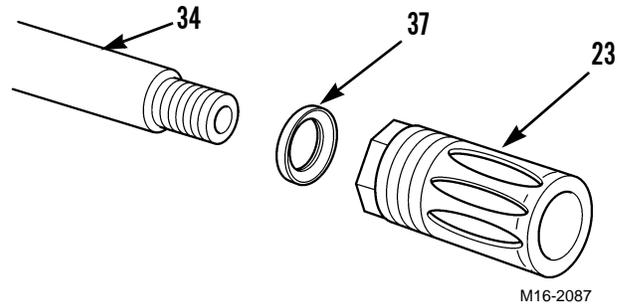
5. Remove recessed washer (37) and discard.
6. Remove upper receiver and barrel assembly (34) from barrel removal fixture and machinist's vise.



REPAIR - CONTINUED

7. Install new recessed washer (37) and compensator (23) on the barrel assembly (34) using the following directions:

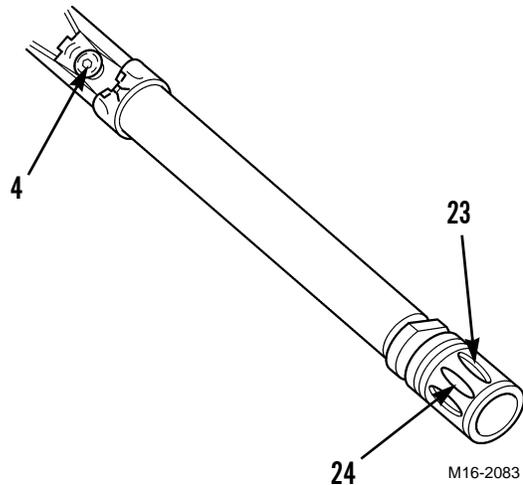
- a. Install new recessed washer (37) on barrel (34) with the large diameter of the recessed washer towards the compensator end of barrel.
- b. Install the compensator (23) on the barrel (34) and hand-tighten.



M16-2087

NOTE

- **Recessed washer does not require torquing.**
 - **If the compensator is turned counterclockwise, it will loosen, and the procedure must then be repeated using a new recessed washer.**
- c. Using a 3/4-in. open end wrench, tighten the compensator (23) in a clockwise direction, a minimum of 1/4 turn to align center slot (24) with front sight post (4). Do not exceed 1-1/4 turns to align slot with sight post.



M16-2083

LUBRICATION

Lightly lubricate all items. Refer to TM 05538/10012-OR_.

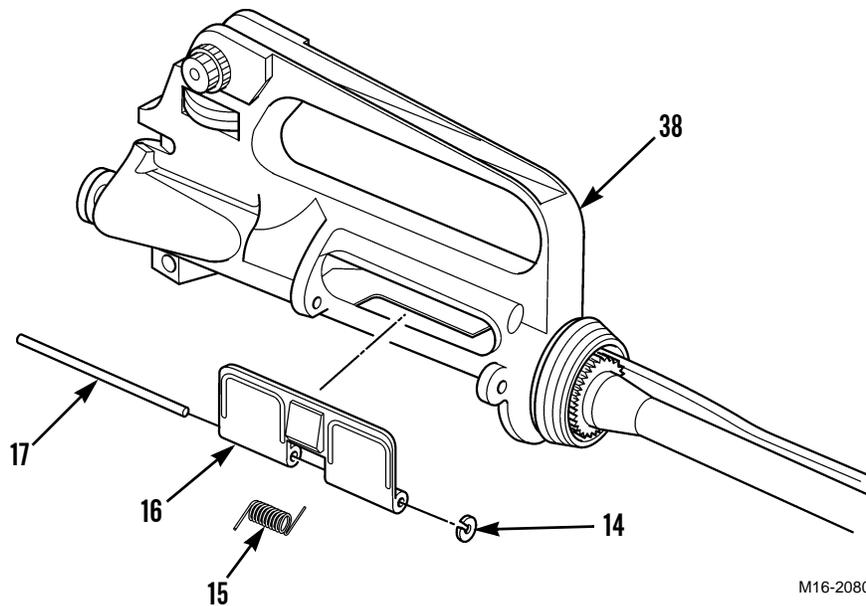
REASSEMBLY - CONTINUED

2. Position ejection port cover (16) and ejection port cover spring (15) on upper receiver (38) with the short leg of the ejection port cover spring positioned to the rear on inside of ejection port cover.

NOTE

Long leg of the ejection port cover spring must be positioned and pretensioned before the headless grooved pin is installed.

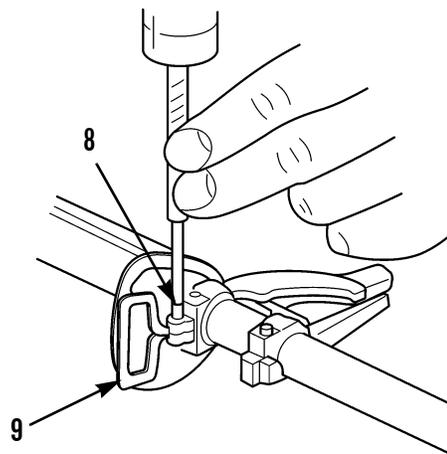
3. Hold ejection port cover spring (15) in position. Turn long leg one-half turn (180 degrees) with fingers of right hand.
4. Position long leg of ejection port cover spring (15) against ejection port cover (16) and install headless grooved pin (17). Check for proper tension during installation of retaining ring (14).



REASSEMBLY - CONTINUED**NOTE**

Perform step 4 for M16A2/M16A4 weapons ONLY.

5. If previously disassembled, position small sling swivel (9) and install new tubular rivet (8) using a center punch and hammer to spread and flare the hollow head of the tubular rivet.

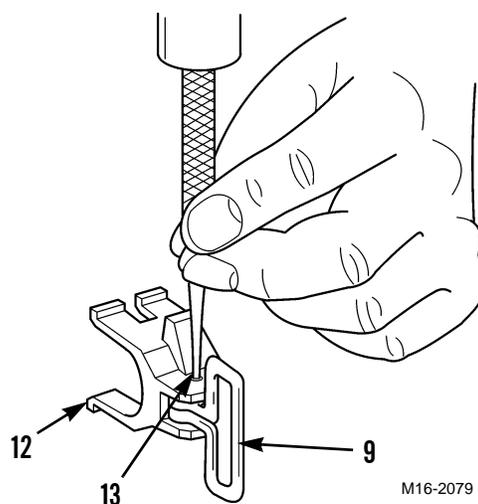


M16-2075

NOTE

Perform steps 5 through 8 for M4/M4A1 CQBW weapons ONLY.

6. If previously disassembled, install small sling swivel (9) to swivel mount (12) with new tubular rivet (13) using a center punch and hammer to spread and flare the hollow head of the tubular rivet.

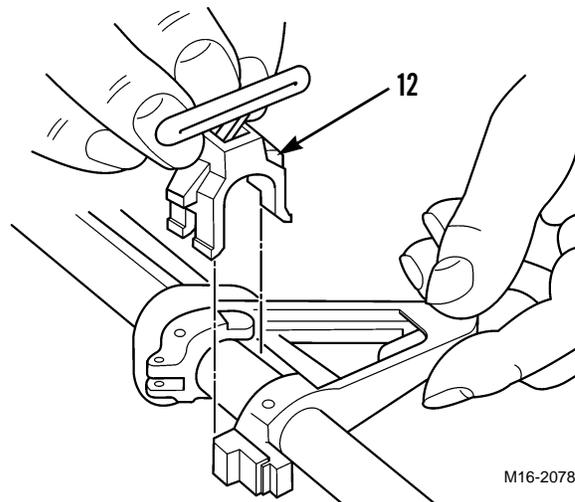


M16-2079

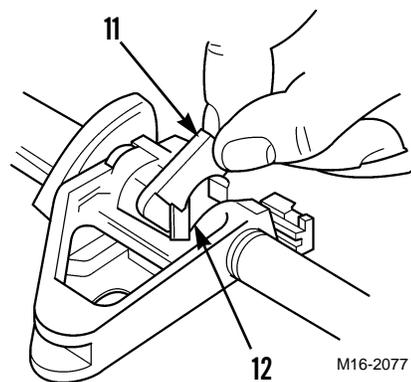
REASSEMBLY - CONTINUED**NOTE**

It is recommended that the swivel mount be placed on the left side of the weapon for right-handed operators and on the right side for left-handed operators. This will keep the sling out of the way when the weapon is used.

7. Install swivel mount (12).

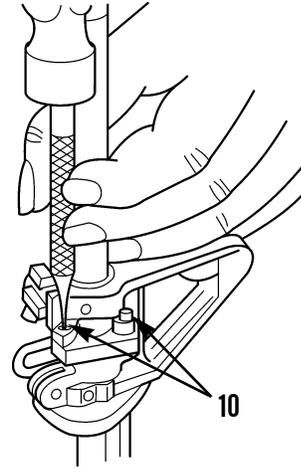


8. Place swivel locking bar (11) in swivel mount (12).



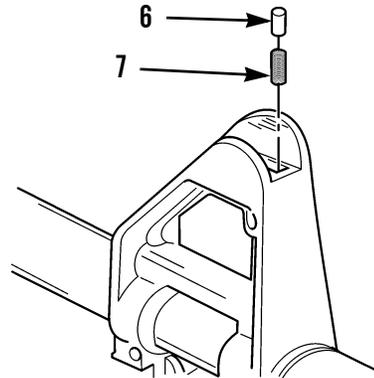
REASSEMBLY - CONTINUED

9. Install two spring pins (10).



M16-2076

10. Install front sight detent spring (7) and front sight detent (6).



M16-2074

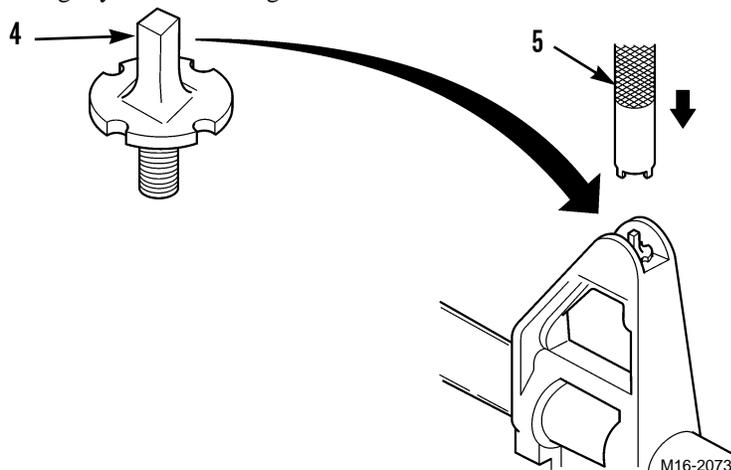
REASSEMBLY - CONTINUED



WARNING

Use care when removing and installing spring-loaded parts. Failure to follow this warning may cause injury to personnel.

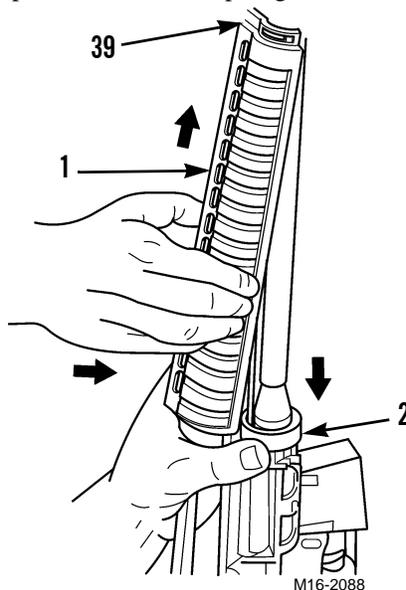
11. Install front sight post (4) by turning clockwise with front sight post removal/installation tool (5) until front sight post base is flush with or slightly below front sight frame.



NOTE

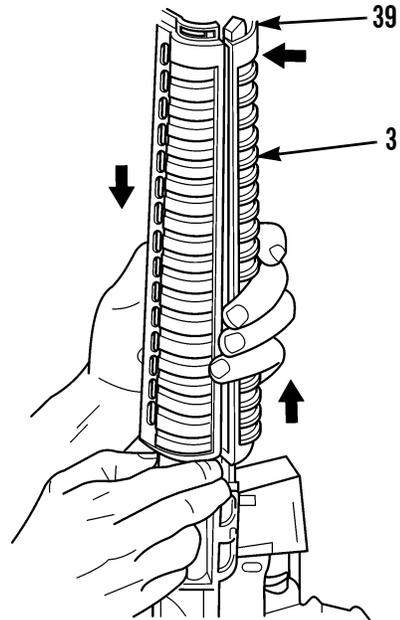
- Steps 12 and 13 are for weapons equipped with handguards. For weapons equipped with Rail Adapter System (RAS), refer to WP 0036 00.
- Refer to TM 05538/10012-OR_ for “buddy system” procedure on installing handguard assemblies.

12. Install top of upper handguard assembly (1) in tube cap (39) while pushing down on handguard slip ring (2). Push bottom of upper handguard assembly into place and release slip ring to lock handguard assembly in place.



REASSEMBLY - CONTINUED

13. Install top of lower handguard assembly (3) in tube cap (39) while pushing down on handguard slip ring. Push bottom of lower handguard assembly into place and release slip ring to lock both handguard assemblies in place.



M16-2089

14. Reassemble weapon. Refer to WP 0018 00.

END OF WORK PACKAGE

LOWER RECEIVER AND BUTTSTOCK ASSEMBLY MAINTENANCE

0016 00

THIS WORK PACKAGE COVERS

Disassembly, Cleaning, Inspection, Repair, Lubrication, Reassembly

INITIAL SETUP

Maintenance Level

Organizational

Tools and Special Tools

E2900/E7900 Tool Kit

Pivot pin installation tool

Pivot pin removal tool

Materials/Parts

Lockwasher

Materials/Parts - Continued

Rag, wiping

Screw, self-locking

References

TM 05538/10012-OR_

WP 0018 00

Equipment Conditions

Lower receiver and buttstock assembly removed
(WP 0011 00)



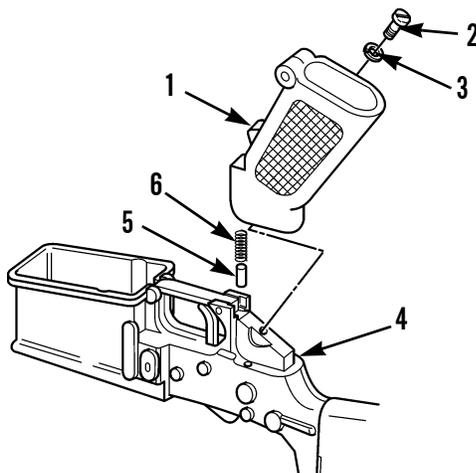
WARNING



- Use care when removing and installing spring-loaded parts.
- Failure to follow these warnings may cause injury or death to personnel.

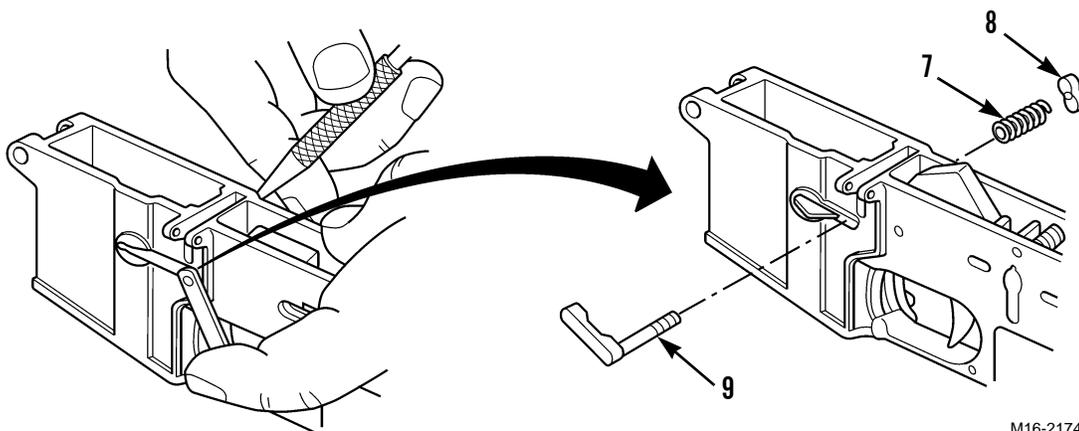
DISASSEMBLY

1. Remove the screw (2) and lockwasher (3). Discard lockwasher.
2. Carefully remove the rifle grip (1) from the lower receiver (4). Catch safety detent spring (6) and safety detent (5) to prevent loss.



M16-2090

3. Using a drive pin punch, press in on magazine button (8). Turn magazine catch (9) counterclockwise to unscrew and remove.
4. Remove the magazine button (8) and magazine catch spring (7).

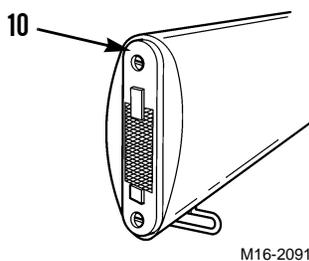


M16-2174

DISASSEMBLY - CONTINUED**NOTE**

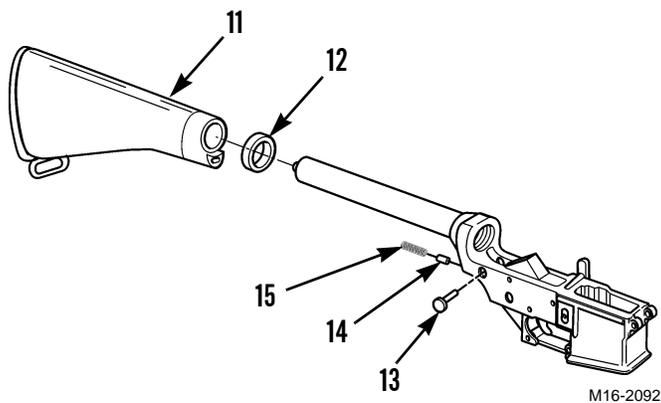
Perform steps 5 and 6 for M16A2 and M16A4 weapons ONLY.

5. Remove and discard self-locking screw (10).

**NOTE**

If takedown pin detent will not come out, push detent out using a wire.

6. Remove buttstock assembly (11) carefully and catch takedown pin detent spring (15), takedown pin detent (14), takedown pin (13), and stepped spacer (12) to prevent loss.



DISASSEMBLY - CONTINUED**NOTE**

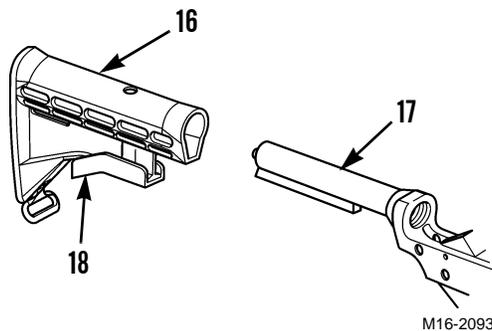
Perform steps 7 and 8 for M4 and M4A1 CQBW weapons ONLY.

7. Extend the buttstock assembly (16).

CAUTION

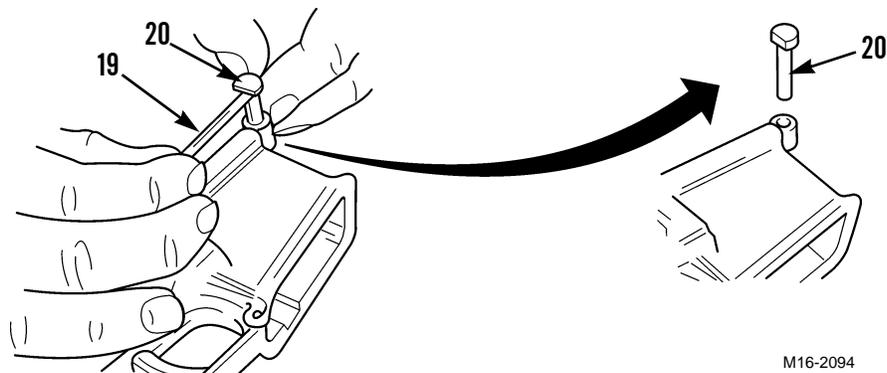
DO NOT pull on retaining nut.

8. Grasp the lock release lever (18), pull downward, and slide buttstock assembly (16) from the lower receiver extension (17).

**NOTE**

Catch pivot pin detent spring and pivot pin detent as pivot pin is removed.

9. Depress the pivot pin detent and pivot pin detent spring and remove pivot pin (20), or insert fabricated pivot pin removal tool (19) to compress pivot pin detent. Turn pivot pin 1/4 turn. Remove tool and pivot pin.

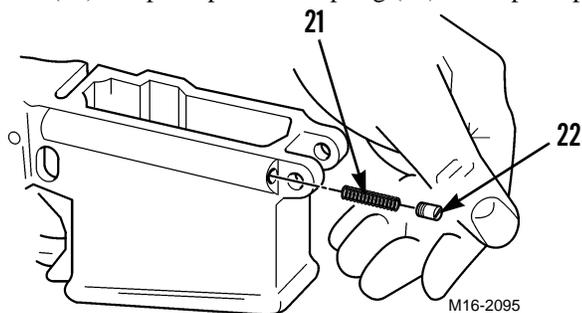


DISASSEMBLY - CONTINUED

NOTE

If pivot pin detent spring does not come out, use a wire to pull it out.

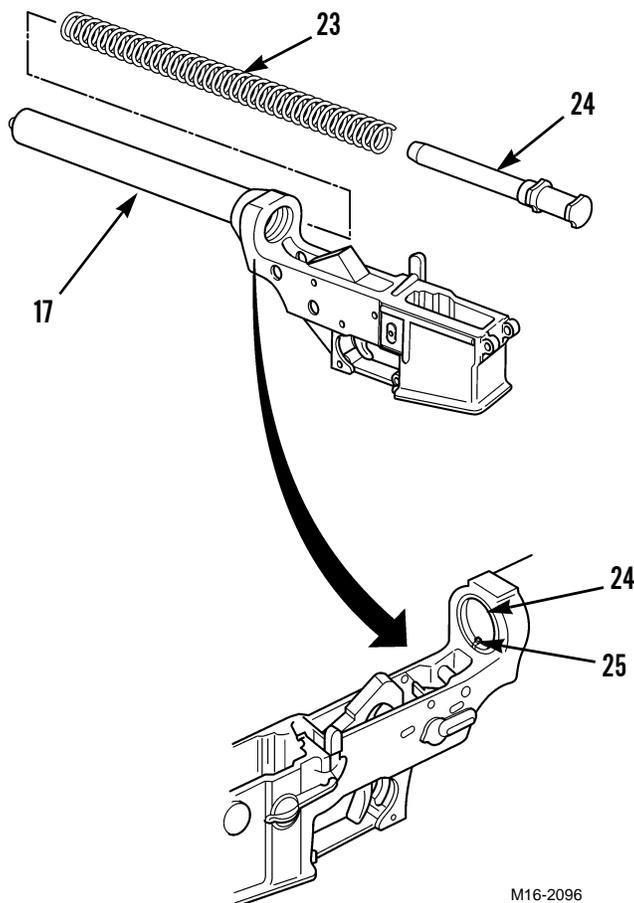
10. Be sure to catch the pivot pin detent (22) and pivot pin detent spring (21) as the pivot pin is removed.



NOTE

Make sure the hammer is cocked and the selector lever is not set on BURST or AUTO before removing the buffer assembly.

11. Press in the buffer assembly (24) about 1/4 in. (0.635 cm), depress the buffer retainer (25), and release the buffer assembly and action spring (23). With the buffer retainer depressed, remove the buffer assembly and action spring from the receiver extension (17).

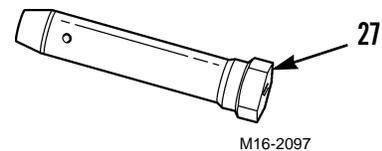
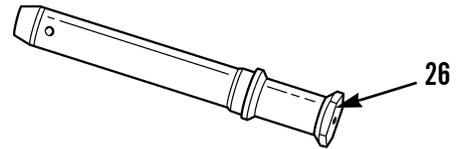


CLEANING

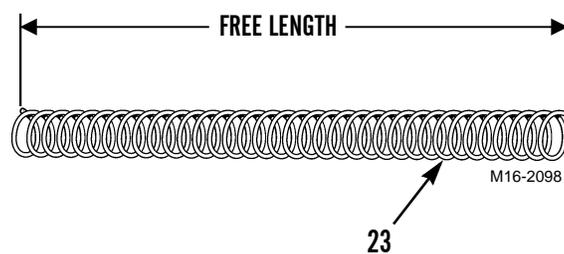
Clean all items and remove carbon deposits. Refer to TM 05538/10012-OR_.

INSPECTION

1. Inspect buffer assemblies for cracks or damage.
2. Rifle buffers (26) and carbine buffers (27) have a hole with a pin installed. The pin should protrude equally on each side approximately 1/32 in. (0.08 cm).

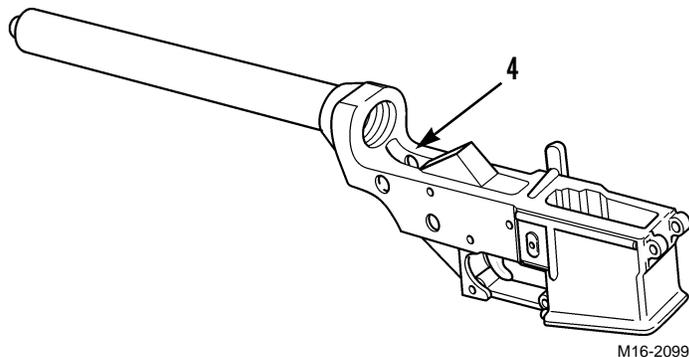


3. If the buffer assembly is cracked or damaged, replace it.
4. Check the free length of action spring (23).
 - a. **M16A2 and M16A4 Weapons.** Free length must be between 11-3/4 in. (29.85 cm) minimum and 13-1/2 in. (34.29 cm) maximum.
 - b. **M4 and M4A1 COBW Weapons.** Free length must be between 10-1/16 in. (25.56 cm) minimum and 11-1/4 in. (28.58 cm) maximum.
 - c. If the action spring (23) is not within specification, replace it. **DO NOT** attempt to adjust the free length by stretching the action spring.



INSPECTION - CONTINUED

5. Inspect lower receiver (4) (without further disassembly) for legibility of serial number.

**NOTE**

If a weapon's lower receiver is missing one-third or more of its exterior protective finish, resulting in an unprotected, light-reflecting surface, evacuate to higher level maintenance.

6. Inspect for missing or damaged parts. Inspect finish of lower receiver for shiny spots. Touch up with solid film lubricant as required.

REPAIR

Replace all authorized unserviceable parts. If repair is not authorized at current level of maintenance, evacuate to higher level of maintenance.

LUBRICATION

Lightly lubricate all metal components. Refer to TM 05538/10012-OR_.

REASSEMBLY



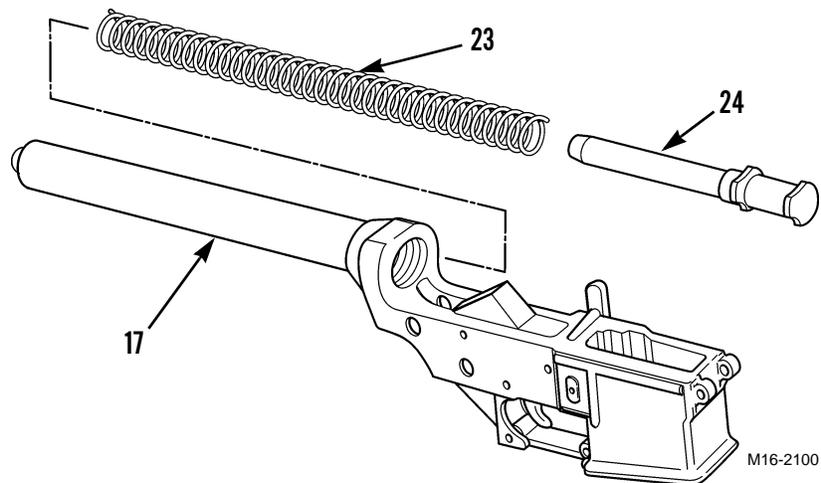
WARNING

Use care when removing and installing spring-loaded parts. Failure to follow this warning may cause injury to personnel.

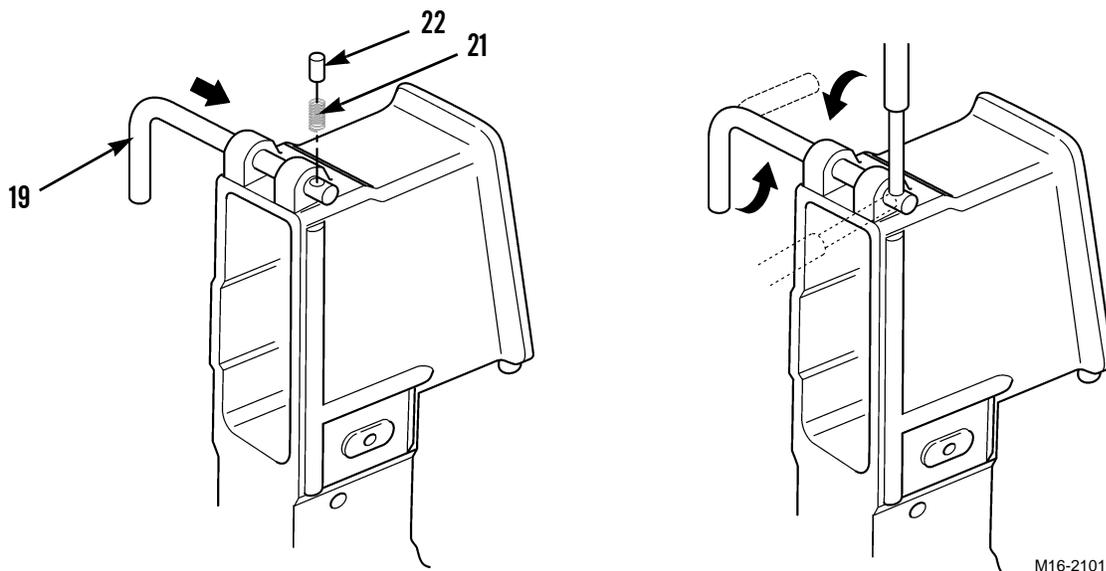
NOTE

Ensure hammer is cocked and the selector lever is not set on BURST or AUTO before installing the buffer assembly.

1. Press action spring (23) and buffer assembly (24) into receiver extension (17) until buffer retainer snaps up and holds them in place.



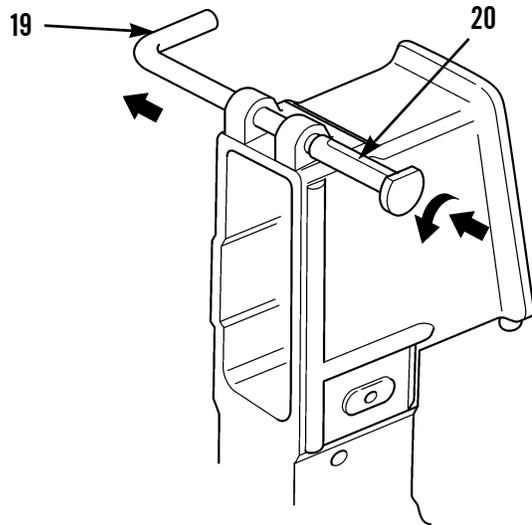
2. Insert fabricated pivot pin installation tool (19). Insert pivot pin detent spring (21) and pivot pin detent (22). Compress pivot pin detent in recess with a 3/32-in. punch, and rotate tool. Remove 3/32-in. punch.



REASSEMBLY - CONTINUED**NOTE**

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

3. Install pivot pin (20) while removing fabricated pivot pin installation tool (19). Maintain pressure while sliding pivot pin into hole. Rotate pivot pin until pivot pin detent is inserted into pivot pin groove.



M16-2102

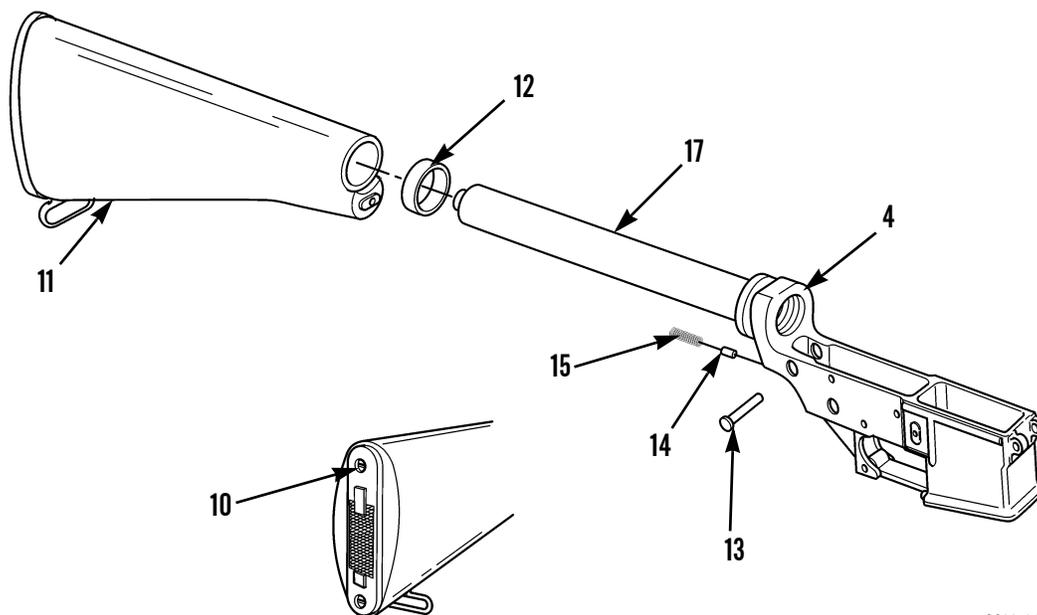
REASSEMBLY - CONTINUED**CAUTION**

DO NOT kink takedown pin detent spring during assembly.

NOTE

Perform steps 4 through 6 for M16A2 and M16A4 weapons ONLY.

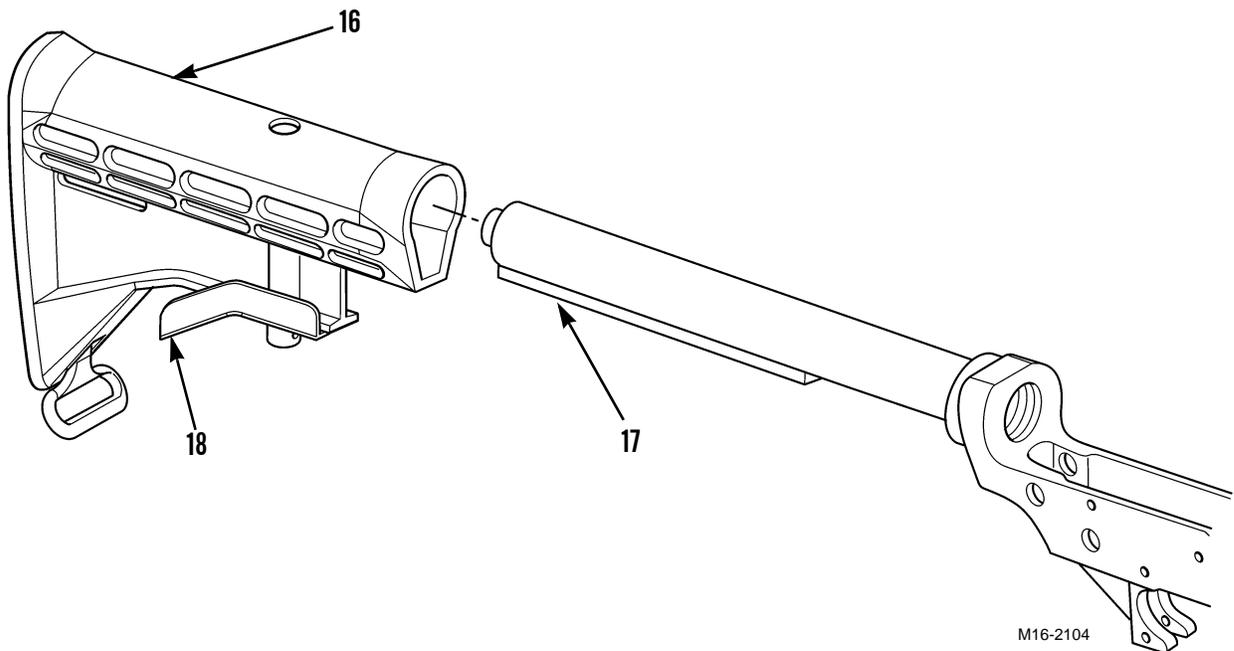
4. Install takedown pin (13) with groove toward the rear. Install takedown pin detent (14) and takedown pin detent spring (15) into lower receiver (4) from the rear.
5. Install stepped spacer (12) on lower receiver extension (17) and carefully slide buttstock assembly (11) onto receiver extension to compress the takedown pin detent spring (15).
6. Install new self-locking screw (10) to secure buttstock assembly (11).



M16-2103

REASSEMBLY - CONTINUED**CAUTION****DO NOT** pull on retaining nut.**NOTE****Perform step 7 for M4 and M4A1 CQBW weapons ONLY.**

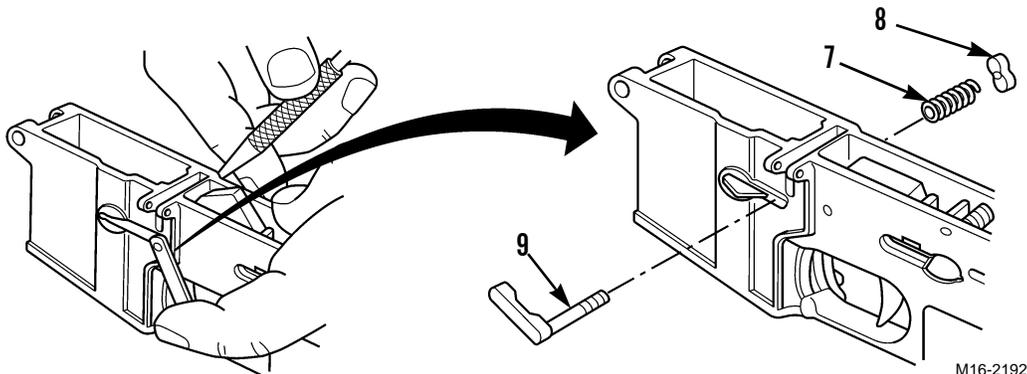
7. Grasp the lock release lever (18) and pull down to install the buttstock assembly (16) onto the lower receiver extension (17).



8. Install magazine catch spring (7) and magazine button (8).

NOTE**Drive pin punch should be larger than hole on magazine button.**

9. Install magazine catch (9). Push in on magazine button (8) using a drive pin punch and turn magazine catch clockwise until threaded end of magazine catch is flush with magazine button head.



REASSEMBLY - CONTINUED**CAUTION**

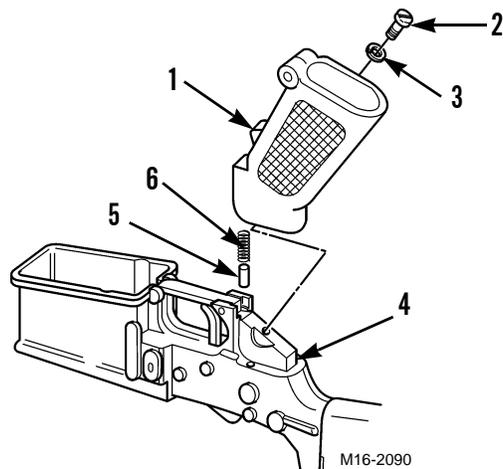
DO NOT kink the safety detent spring during assembly.

10. Install safety detent (5), pointed end first, and safety detent spring (6) into bottom of lower receiver (4).

NOTE

A portion of the safety detent spring will fit into a recess in the rifle grip.

11. Carefully install the rifle grip (1) onto the lower receiver (4), compressing the safety detent spring (6), and secure with new lockwasher (3) and new self-locking screw (2).
12. Reassemble the rifle. Refer to WP 0018 00.

**END OF WORK PACKAGE**

THIS WORK PACKAGE COVERS

Disassembly, Cleaning (M16A2/M16A4 Only), Inspection, Repair, Lubrication, Reassembly

INITIAL SETUP

Maintenance Level

Organizational

Tools and Special Tools

E2900/E7900 Tool Kit

Materials/Parts

Brush, general purpose

Cleaner, Lubricant, and Preservative
(M16A2/M16A4 Only)

Materials/Parts - Continued

Screw, self-locking

References

TM 05538/10012-OR_

WP 0016 00

WP 0018 00

Equipment Conditions

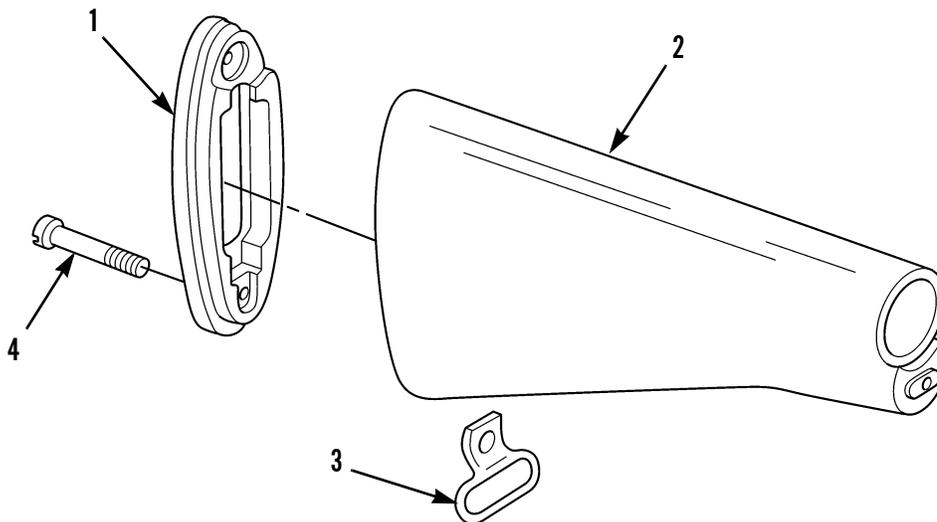
Buttstock assembly removed (WP 0011 00)

DISASSEMBLY

NOTE

Perform steps 1 through 3 for M16A2 and M16A4 weapons ONLY.

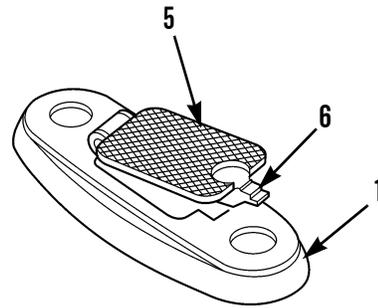
1. Remove self-locking screw (4), small sling swivel (3), and buttplate (1) from buttstock (2). Discard self-locking screw.



M16-2105

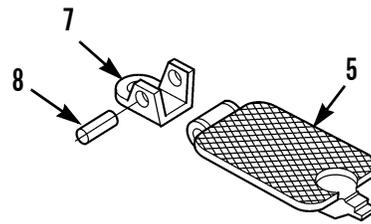
DISASSEMBLY - CONTINUED

2. Push down on plunger (6) and lift door assembly (5) out of buttplate (1).



M16-2106

3. Remove straight pin (8), then separate hinge (7) and door assembly (5).

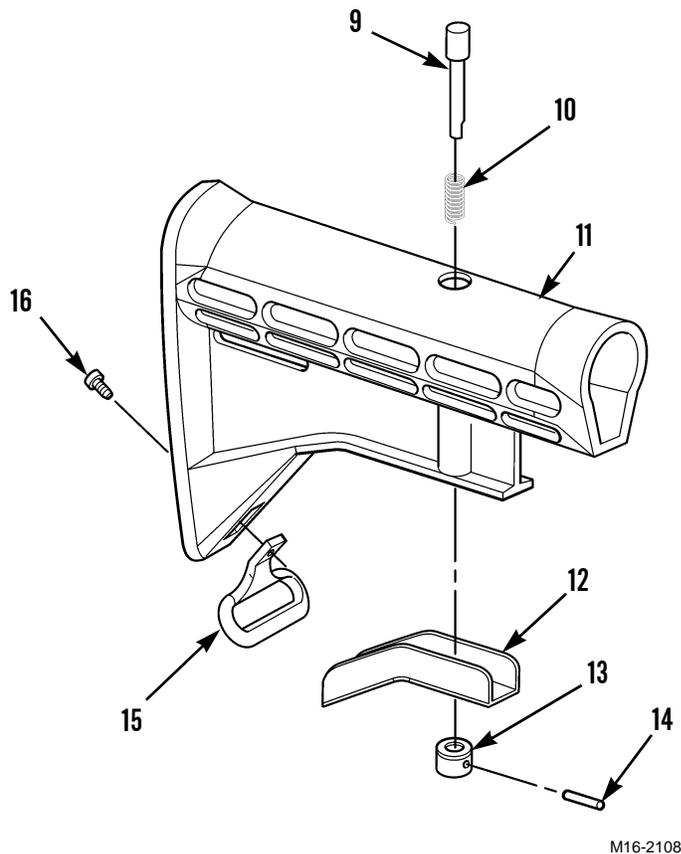


M16-2107

DISASSEMBLY - CONTINUED**NOTE**

Perform steps 4 and 5 for M4 and M4A1 CQBW weapons ONLY.

4. Disassemble the buttstock assembly by tapping out the spring pin (14) located in the oval slot of the retaining nut (13) using a 1/16-in. punch.
5. Insert index finger into the forward end of the buttstock (11) and push down on the locking pin (9). Unscrew the retaining nut (13) and remove the lock release lever (12) and locking pin spring (10). Remove machine screw (16) and swivel (15).

**CLEANING (M16A2/M16A4 ONLY)**

Clean all parts with CLP using a general purpose brush to clean knurled surface of door assembly. Refer to TM 05538/10012-OR_.

INSPECTION**NOTE**

Buttstocks with unauthorized markings may be used under the following conditions:

- a. The only authorized markings are those that are temporary in nature i.e., paint, tape, etc.
 - b. When marking a buttstock, only use temporary markings.
 - c. Buttstocks with unauthorized markings that have been stamped into the surface of the buttstock will not be used.
 - d. Unauthorized markings that have previously been scratched, etched, carved, etc., may continue in use if the marks do not extend into the fiber of the buttstock. Cutting into the fiber of the buttstock may weaken it.
 - e. These marks may be at any location in the buttstock. Unauthorized markings are not desirable. However, if previously applied, they will be allowed to continue in use due to the cost of the buttstock.
1. Inspect buttstock for cracks using the following guidelines:
 - a. Under the following conditions, hairline cracks (no chipped away material allowed) originating from buttplate end of buttstock are acceptable.
 - (1) One hairline crack, not to exceed 1 in. (2.54 cm) in length per side of buttstock.
 - (2) Two additional hairline cracks up to 0.25 in. (0.64 cm) in length per side of buttstock.
 - (3) A total of three cracks per side of buttstock, originating from the buttplate end, are allowable.
 - b. Cracks in the critical area at the front end of the buttstock are not acceptable. The buttstock must be replaced.
 2. While the buttplate is installed on the weapon, inspect for cracks around the mounting holes. Check for cracks more than 0.25 in. (0.64 cm) long that extend through the buttplate. Replace if cracked.
 3. Inspect door assembly for cracks, corrosion, stuck plunger, separations on outer face, or other damage.

REPAIR

Replace all authorized unserviceable items. Unserviceable items are those items that are damaged.

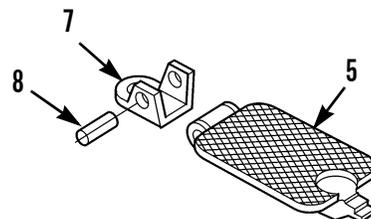
LUBRICATION

Lightly lubricate all metal components. Refer to TM 05538/10012-OR_.

REASSEMBLY**NOTE**

Perform steps 1 through 3 for M16A2 and M16A4 weapons ONLY.

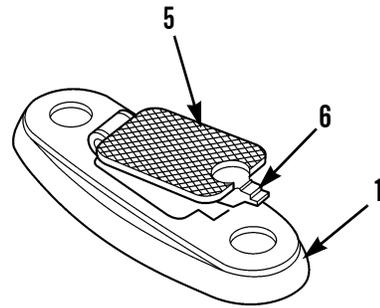
1. Position hinge (7) on door assembly (5) and install straight pin (8).



M16-2107

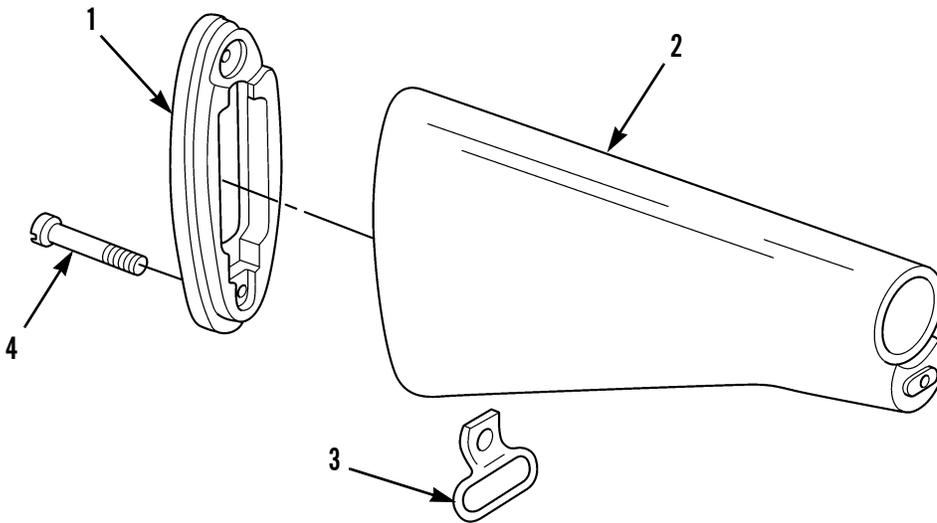
REASSEMBLY - CONTINUED

2. Install door assembly (5) into buttplate (1) and press plunger (6) to lock.



M16-2106

3. Position small sling swivel (3) and buttplate (1) to the buttstock (2). Secure with new self-locking screw (4).
4. Install buttstock on lower receiver. Refer to WP 0016 00.

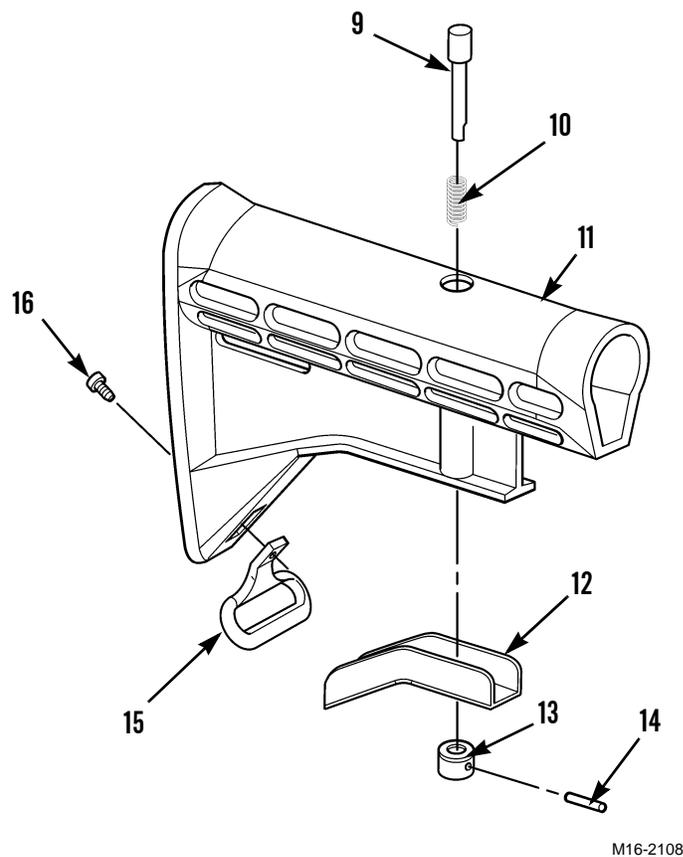


M16-2105

REASSEMBLY - CONTINUED**NOTE**

Perform steps 5 through 12 for M4 and M4A1 CQBW weapons ONLY.

5. Insert locking pin (9) into locking pin spring (10).
6. Insert locking pin (9) and locking pin spring (10) into hole on top of the buttstock (11), threaded end first.
7. Insert index finger into forward end of the buttstock (11) and push down on locking pin (9).
8. Install lock release lever (12) on threaded portion of locking pin (9), protruding through bottom of buttstock (11).
9. Install retaining nut (13) and tighten until flush with locking pin (9), aligning the slot in the retaining nut with the hole in the locking pin.
10. Install spring pin (14) through retaining nut (13) and locking pin (9) until spring pin is flush on both sides of retaining nut.
11. Attach swivel (15) and machine screw (16) onto buttstock (11).
12. Install buttstock (11) on lower receiver. Refer to WP 0016 00.
13. Reassemble the rifle. Refer to WP 0018 00.

**END OF WORK PACKAGE**

REASSEMBLY OF WEAPON

0018 00

THIS WORK PACKAGE COVERS

Reassembly

INITIAL SETUP

Maintenance Level

Organizational

Equipment Conditions

Weapon disassembled into major components

References

TM 05538/10012-OR_

WP 0019 00



WARNING

- Use care when removing and installing spring-loaded parts.
- **DO NOT** interchange bolt assemblies from one weapon to another.
- **DO NOT** keep live ammunition near work area.
- Failure to follow these warnings may cause injury or death to personnel.

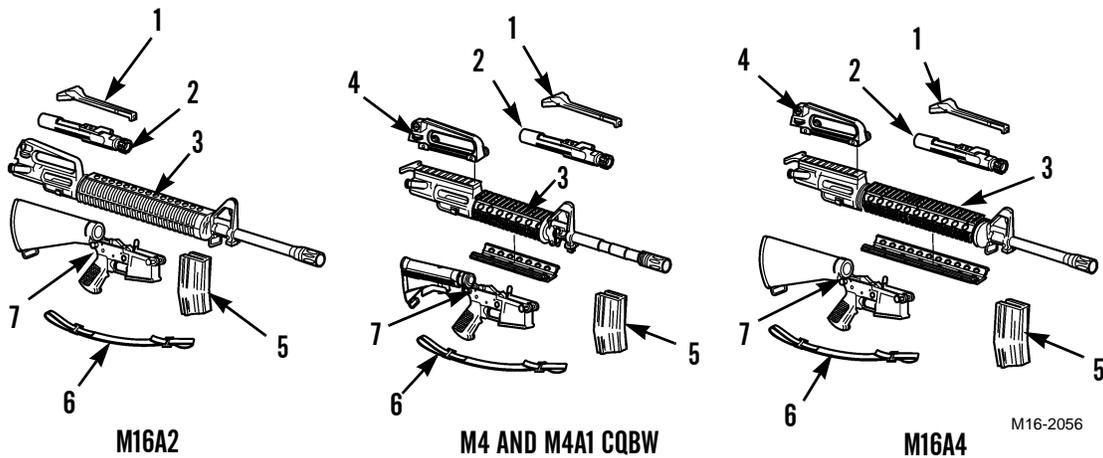
REASSEMBLY

1. Refer to TM 05538/10012-OR_.
2. Install the charging handle (1) and bolt and bolt carrier assembly (2) into the upper receiver and barrel assembly (3).
3. Assemble the upper receiver and barrel assembly (3) to the lower receiver and buttstock assembly (7).

NOTE

For M16A4, M4, and M4A1 CQBW models, perform step 4.

4. Install the carrying handle (4) to the upper receiver and barrel assembly (3).
5. Install the sling (6) and magazine (5).
6. Function check weapon. Refer to WP 0019 00.



END OF WORK PACKAGE

FUNCTION CHECK

0019 00

THIS WORK PACKAGE COVERS

Function Check

INITIAL SETUP

Maintenance Level

Organizational/Intermediate

Equipment Conditions

Weapon cleared (TM 05538/10012-OR_)

FUNCTION CHECK

The table contained in this chapter is for use in performing a complete function check of the M16 series weapons. Perform the following function checks on assembled weapons.

WARNING

If a weapon fails any function test, continued use of that weapon may cause injury or death to personnel.

Table 1. Function Check.

STEP	TEST	ACTION
1	Remove magazine if installed. Pull charging handle to rear. Ensure that the chamber is clear. Release the charging handle and allow the bolt and bolt carrier to close. DO NOT pull trigger. Leave hammer in the cocked position.	
2	Place selector lever in SAFE position and pull trigger. Hammer should not fall.	If hammer falls, evacuate the weapon to higher level maintenance.
3	Place selector lever in SEMI position and pull trigger. Hammer should fall.	If hammer does not fall, evacuate the weapon to higher level maintenance.
NOTE		
<p>For the purpose of the following function check, “SLOW” is defined as 1/4 to 1/2 the normal rate of trigger release.</p>		
4	Hold trigger to the rear, charge the weapon, and release the trigger with a slow, smooth motion, without hesitations or stops, until the trigger is fully forward. An audible click should be heard. The hammer should not fall.	If hammer falls, evacuate the weapon to higher level maintenance.
5	Repeat SEMI position test five times. The weapon must not malfunction during any of the five tests.	If the weapon malfunctions during any of the SEMI position tests, evacuate the weapon to higher level maintenance.

Table 1. Function Check - Continued.

STEP	TEST	ACTION
NOTE		
Perform steps 6 through 9 for M16A2, M16A4, and M4 weapons ONLY.		
6	Place the selector lever in BURST position. Charge the weapon and pull the trigger. Hammer should fall.	If hammer does not fall, evacuate the weapon to higher level maintenance.
7	Hold trigger to rear, pull charging handle assembly to rear, and release three times. Release trigger. Hammer should not fall. The burst disconnecter should have held the hammer to the rear while the trigger was in the pulled position.	If hammer falls, evacuate the weapon to higher level maintenance.
8	Pull trigger. Hammer should fall. This should be the first round of a three-round burst.	If hammer does not fall, evacuate the weapon to higher level maintenance.
9	With the hammer in the forward position, attempt to place the selector lever in SAFE position. The selector lever should not move to SAFE position.	If the selector lever does move to SAFE position, evacuate the weapon to higher level maintenance.
NOTE		
Perform steps 10 through 12 for M4A1 CQBW weapons ONLY.		
10	Place selector lever in AUTO position. Charge weapon and pull trigger. Hammer should fall.	If hammer does not fall, evacuate the weapon to higher level maintenance.
11	Hold trigger to rear, charge weapon, and release trigger. Hammer should not fall. AUTO sear should have released hammer while holding trigger in pulled position before releasing and repulling the trigger.	If hammer falls, evacuate the weapon to higher level maintenance.
12	With the hammer in the forward position, attempt to place the selector lever in SAFE position. The selector lever should not move to SAFE position.	If the selector lever does move to SAFE position, evacuate the weapon to higher level maintenance.

END OF WORK PACKAGE

STOWAGE0020 00

THIS WORK PACKAGE COVERSStowage

INITIAL SETUP**Maintenance Level**

Organizational/Intermediate

Tools and Special Tools

Drill

E2900/E7900 Tool Kit

Materials/Parts

3/8-in. X 2-in. machine screw (2)

Materials/Parts - Continued

Nut (2)

Olive drab enamel paint

Washer (4)

Equipment ConditionsWeapon cleared (TM 05538/10012-OR_)

WARNING

Before stowing a weapon, be sure to clear the weapon (TM 05538/10012-OR_). Inspect the chamber to ensure it is empty and no ammunition is in position to be chambered. Failure to follow this warning may cause injury or death to personnel.

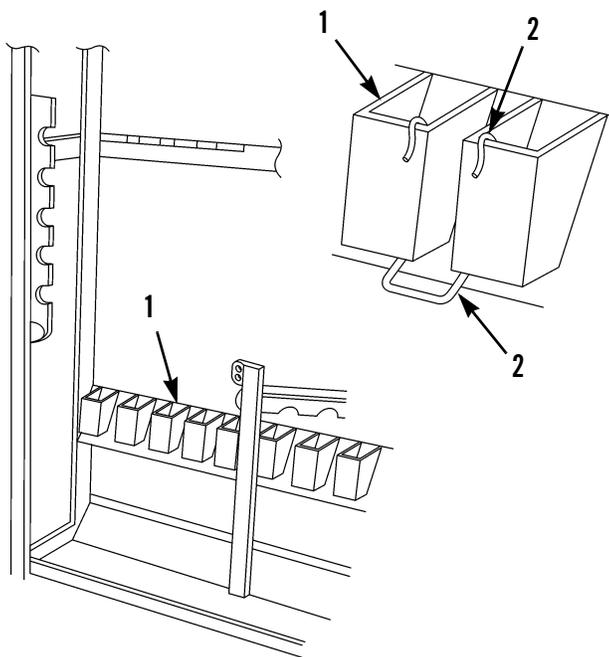
STOWAGE

Prior to stowing the weapon in arms room, perform the following procedures:

1. Place selector lever in SEMI position.
2. Pull trigger.
3. Close ejection port (dust) cover.
4. Place weapon in rack.

STOWAGE - CONTINUED

5. M4/M4A1 CQBW weapons only, use M12 arms rack, NSN 1095-00-407-0674.
- The M12 arms rack (1) is the correct rack in which to store the M4/M4A1 CQBW weapons. The weapons must be stored with the buttstock extended. The carrying handle must be moved rearward one notch. When storing weapons in the M12 arms rack, a mounting bracket (2), NSN 5340-01-230-3181, may be used for each weapon being stored. This option is for the convenience of the person who opens and closes the arms rack to store the weapons.
 - To install the mounting bracket (2) on the M12 arms rack (1), mount the hooks facing the weapon, so that the lower receiver extension will contact the bent end of the bracket. The bent end will hold the weapon upright when the arms rack is opened. The bracket can be turned around when not in use for M4/M4A1 CQBW weapon to allow for storage of M16A2 and M16A4 weapons.



M16-2109

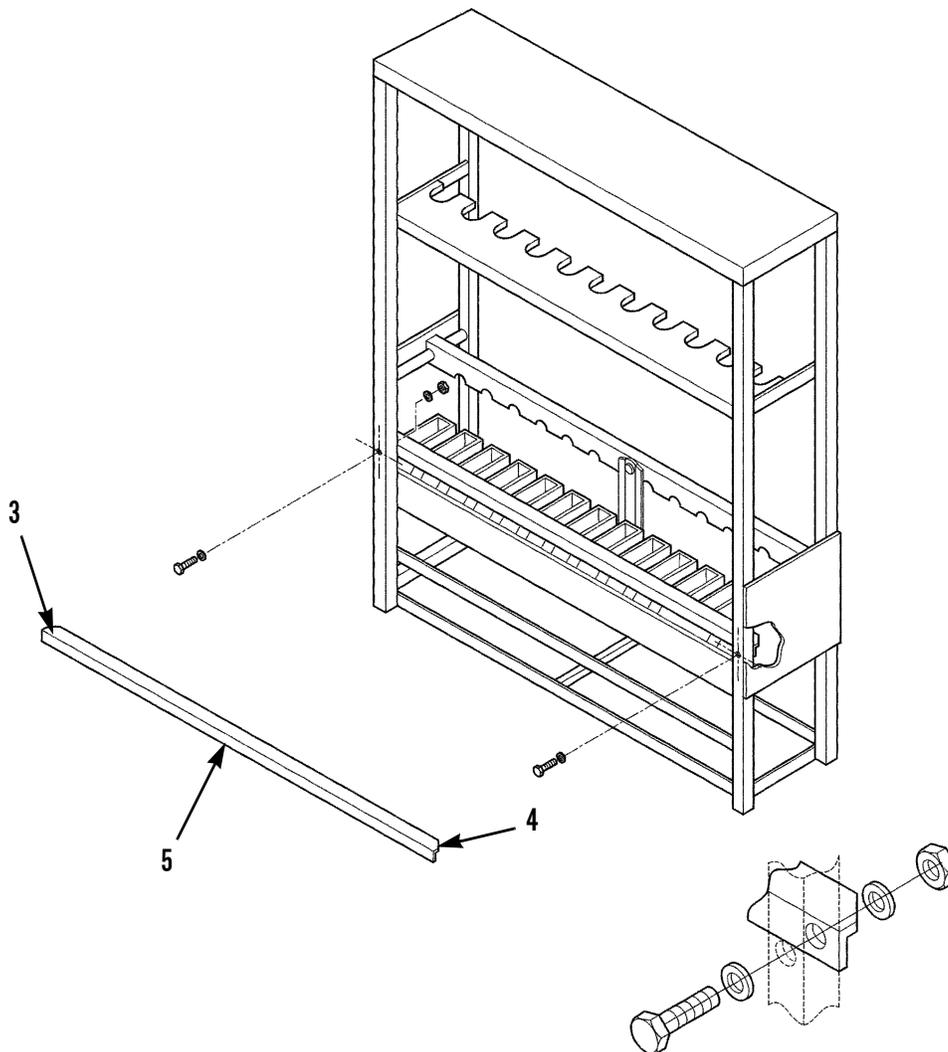
- When storing M4 and M4A1 CQBW weapons in the M12 arms rack, an adapter bar (5) **MUST** be used for security reasons. To install adapter bar to arms rack:
 - Remove all weapons from the arms rack and position the rack to gain access to the back.

STOWAGE - CONTINUED

NOTE

Minor alterations to the M12 arms rack MUST be performed by Intermediate level maintenance.

- (2) The side of the adapter bar (5) with the corners (3) cut off the top and the side with square corners (4) is the back of the rack. The position of the bar must be so that the cut off corners face the front of the rack.
- (3) Holding the adapter bar (5) at an angle, place one end into position inside the rear leg of the arms rack. Lower the other end of the bar into position. Allow the adapter bar to rest on the rack.
- (4) Clamp both ends of the adapter bar (5) into position. Mark the center line of the leg and adapter bar where they meet. Using a center punch, mark the location of the holes to be drilled where the centerlines cross. The holes must be centered on both the leg and the adapter bar. Drill a 1/8-in. pilot hole through both rack legs and the ends of the adapter bar. Drill a 3/8-in. hole through both rack legs and the ends of the adapter bar using the pilot holes as a guide. Remove the adapter bar and file the edges of all holes smooth. Paint all bare metal surfaces with olive drab enamel paint, NSN 8010-01-350-5249, or equivalent.



M16-2110

STOWAGE - CONTINUED

0020 00

STOWAGE - CONTINUED

- (5) Reinsert the adapter bar into position on the arms rack. Using two 3/8-in. X 2-in. machine screws (MS35206-315, NSN 5305-00-984-5695) or equivalent, four washers (MS27183-15, NSN 5310-00-809-4061) or equivalent, and two nuts (MS35649-2382, NSN 5310-00-056-3395) or equivalent, assemble adapter bar to the arms rack and tighten securely. The machine screws can be inserted from either the back or front to meet your requirements. If the rack is to be placed close to a wall or another rack, it is recommended that they be inserted from the back.
- (6) Tack weld, braze, or peen the threaded end of the machine screws to the nut to prevent easy removal.
- (7) Place rack into position and replace the weapons.

NOTE

Adapter bar must be removed from arms rack prior to turning in the arms rack to the supply system.

- d. To remove the adapter bar from the arms rack, remove the heads of the machine screws (or the nuts) using a hand-held grinder or file to avoid damage to the aluminum arms rack legs. A hammer and cold chisel may also be used if no other way to remove the adapter bar exists.

NOTE

- **It is necessary to either remove the carrying handle or move it rearward one notch to secure the locking bars of the M12 rack during storage of the M16A4, M4, and M4A1 CQBW weapons.**
 - **DO NOT mix carrying handles from one weapon to another; it may change the zero of the weapons.**
- e. It is recommended that the rail protector (NSN 1005-01-394-7677) be used during storage of M16A4, M4, and M4A1 CQBW weapons when the carrying handle assembly or another accessory is not installed on the upper receiver, to prevent damage to the mounting surface on the upper receiver.

END OF WORK PACKAGE

THIS WORK PACKAGE COVERS

Storage Procedures

INITIAL SETUP**Maintenance Level**

Organizational/Intermediate

References

TM 05538/10012-OR_

Materials/Parts

Cleaner, Lubricant, and Preservative

STORAGE PROCEDURES**WARNING**

- **DO NOT store the weapon with live ammunition in either the chamber or magazine.**
- **Always assume every weapon is loaded until it is determined through visual and physical inspection that it is not. Procedures for clearing/unloading the weapon are outlined in TM 05538/10012-OR_.**
- **Failure to follow these warnings may cause injury or death to personnel.**

1. **Storage Procedures.**

- a. Ensure the chamber and magazine do not contain live ammunition.
- b. Inspect the bore and chamber and apply a medium coat of Cleaner, Lubricant, and Preservative (CLP).
- c. Apply a light coat of CLP to all other metal surfaces of the weapon to provide extra lubrication and corrosion protection. Ensure the CLP does not contact the telescope.

2. **Stored for Extended Periods.** When the weapon is to be stored for an extended period (greater than 90 days), follow the procedures outlined in MCO P4450.7, *Preparation for Storage*. Ensure the weapon is thoroughly cleaned as outlined in TM 05538/10012-OR_.3. **Packaging.** For shipping or storage that will not exceed 90 days, follow the procedures below:

- a. Clean in accordance with TM 05538/10012-OR_.
- b. Wrap with MIL-B-12 waterproof material.
- c. Place in barrier bag MIL-B-117, Type I, Class C, or wrap with MIL-B-121, Type I, Grade A. Seal with tape, PPP-T-76.
- d. Place one or more of the item in minimum-size container. Block and brace in accordance with MIL-STD-1186. Cushion the weapon and similar weight items with PPP-C-843, and use PPP-B-320 as filler to create a tight pack.
 - (1) Fiber board containers shall be in accordance with PPP-B-636 and may be Class Domestic. Gross weight and size of material shall determine grade of fiberboard container. PPP-B-640 may also be used.
 - (2) Wood containers shall be in accordance with PPP-B-601 or PPP-B-621.
- e. Equivalent materials may be used.

4. NSNs are not assigned to all the specific material. If it is necessary to specify an NSN in the TMs, the packing materials will have to be spared and part numbers and NSNs assigned.

STORAGE PROCEDURES - CONTINUED

5. The specifications used are:
- a. MIL-B-117 - Bag, Sleeve, and Tubing - Interior Packaging (NSN 8135-00-543-6574)
 - b. MIL-B-121 - Barrier Material, Greaseproof, Waterproof, Flexible (NSN 8135-00-753-4661)
 - c. MIL-STD-129 - Marking for Shipment and Storage
 - d. MIL-STD-1186 - Cushioning, Anchoring, Bracing, Blocking, and Waterproofing with Appropriate Test Methods
 - e. PPP-B-601 - Boxes, Wood, Cleated Plywood
 - f. PPP-B-621 - Boxes, Wood, Nailed and Locked - Corner
 - g. PPP-B-636 - Boxes, Shipping, Fiberboard
 - h. PPP-B-640 - Boxes, Fiberboard, Corrugated, Triple-Wall
 - i. PPP-C-843 - Cushioning Material, Cellulosic
 - j. PPP-F-320 - Fiberboard, Corrugated and Solid Sheet Rock (Container Grade), and Cut Shapes
 - k. PPP-T-76 - Tape, Packaging, Paper

END OF WORK PACKAGE

CHAPTER 4
INTERMEDIATE MAINTENANCE

BOLT CARRIER ASSEMBLY

0022 00

THIS WORK PACKAGE COVERS

Disassembly, Cleaning, Inspection, Test, Repair, Reassembly

INITIAL SETUP

Maintenance Level

Intermediate

Tools and Special Tools

E2900/E7900 Tool Kit

Firing pin protrusion gage

Materials/Parts

Cleaner, Lubricant, and Preservative

Materials/Parts - Continued

Cleaning compound, rifle bore

Pipe cleaner

References

WP 0018 00

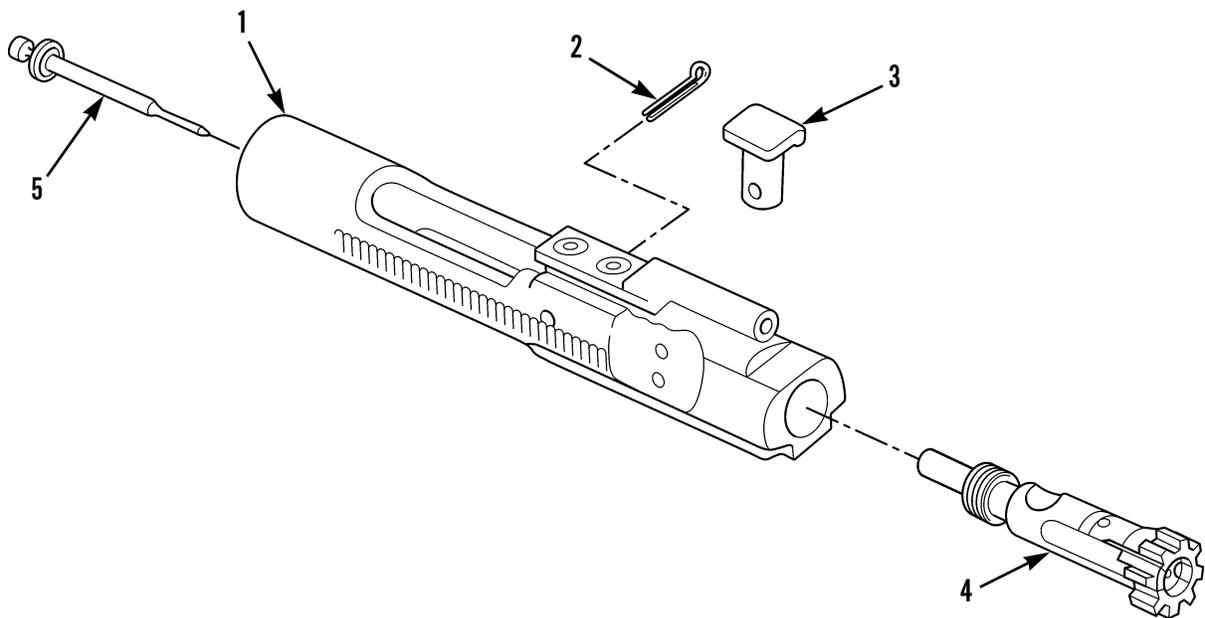
WP 0023 00

Equipment Conditions

Bolt carrier assembly removed (WP 0011 00)

DISASSEMBLY

1. Remove firing-pin retaining pin (2).
2. Tip bolt carrier and key assembly (1), and allow firing pin (5) to drop out. Catch the firing pin.
3. Rotate the bolt cam pin (3) 1/4 turn, and lift straight up to remove.
4. Remove the bolt assembly (4) from the bolt carrier and key assembly (1).



M16-2116

CLEANING

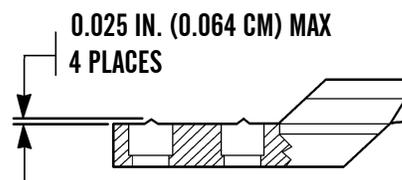
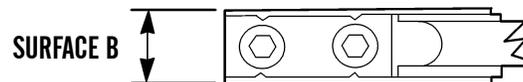
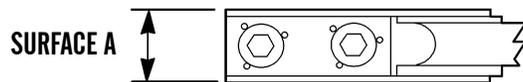
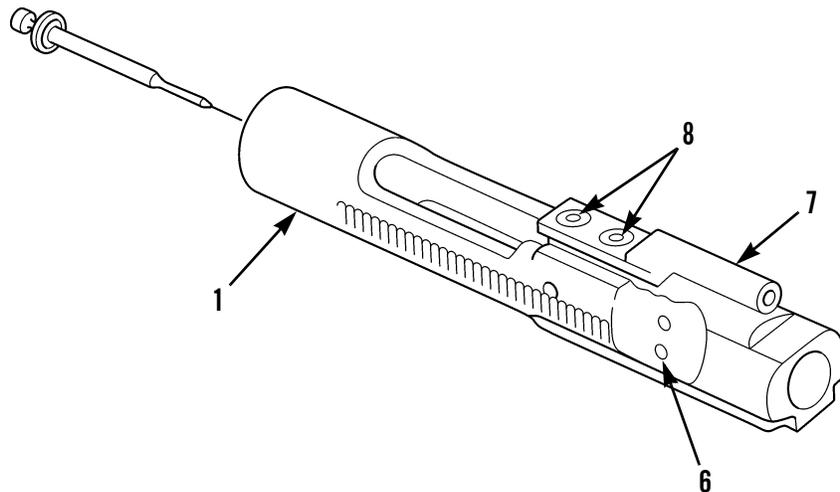
Clean carrier key (7) and gas relief ports (6) using a pipe cleaner and Cleaner, Lubricant, and Preservative (CLP) or rifle bore cleaning compound.

INSPECTION

1. Inspect bolt carrier assembly using the following guidelines.
 - a. Inspect bolt carrier and key assembly (1) for burrs, cracks, wear, and evidence of gas loss.
 - b. Visually inspect the carrier key (7) and screws (8) for looseness and proper staking.

NOTE

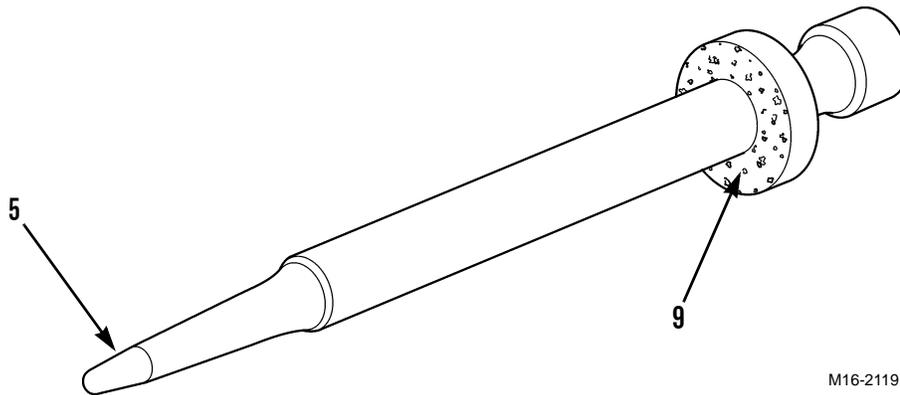
- **DO NOT attempt to re-torque if there is no loosening of the screws indicated by the staking marks.**
- **Surface "A" or "B" must not indicate distortion or damage, which impairs parallelism.**
- **A maximum of 0.025 in. (0.064 cm) protrusion in an upward direction is permissible at staking points.**



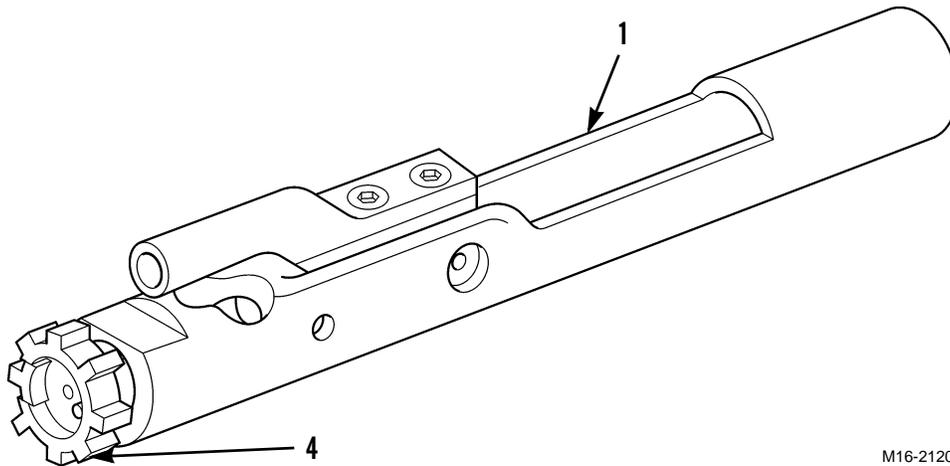
M16-2118

INSPECTION - CONTINUED

- Inspect firing pin (5) tip for proper contour, pitting, wear, or burrs. Pits or wear in area (9) is permissible. Replace firing pin if defective.



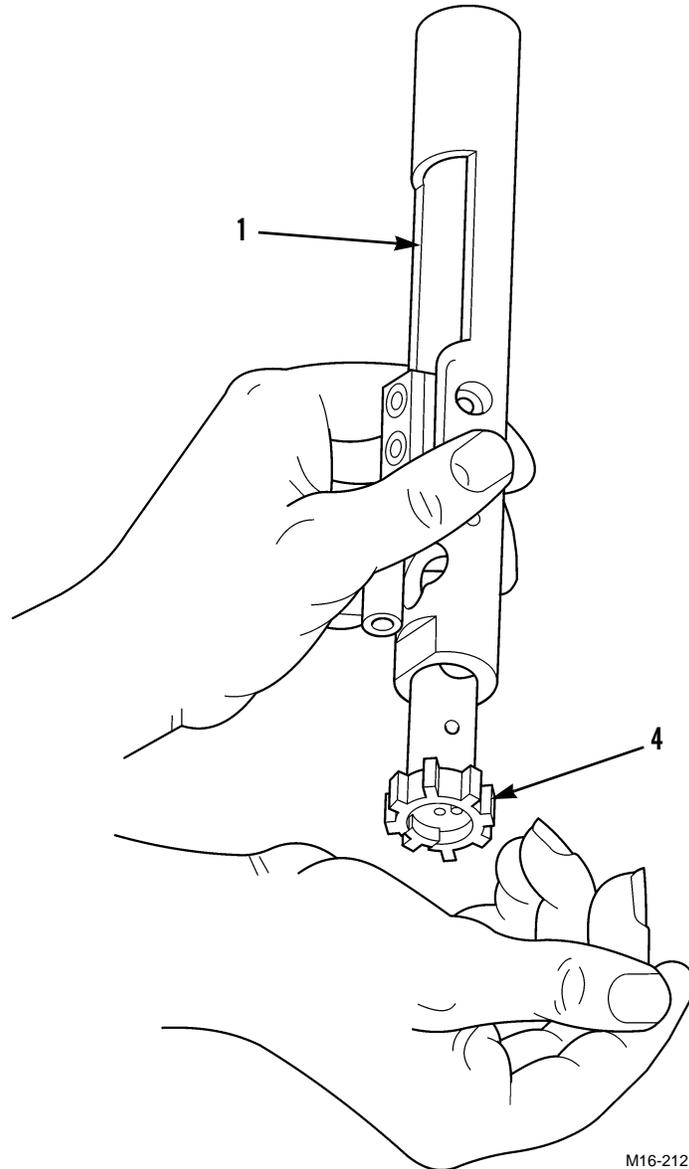
- Prior to reassembly, insert bolt assembly (4) into bolt carrier and key assembly (1) (do not insert bolt cam pin). Slide bolt assembly in and out of bolt carrier and key assembly to check for binding.



INSPECTION - CONTINUED**NOTE**

The bolt assembly must not drop out. If weight of bolt allows it to drop out of the bolt carrier and key assembly, replace bolt rings (WP 0023 00).

4. Check bolt assembly (4) for proper fit with bolt cam pin removed. Turn bolt carrier and key assembly (1) so that the bolt assembly is pointed down.



M16-2121

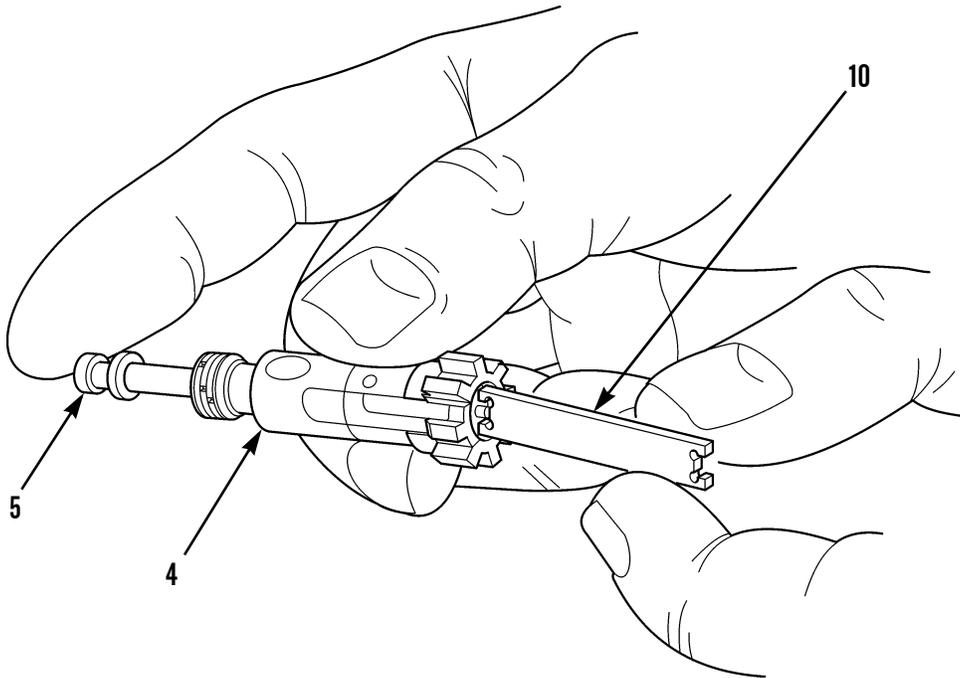
TEST

1. Insert firing pin (5) through bolt assembly (4).

NOTE

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

2. Position firing pin protrusion gage (10) to check for proper firing pin (5) protrusion (minimum 0.028 in. [0.07 cm], maximum 0.036 in. [0.09 cm]).
3. If defective, replace firing pin (5).



M16-2122

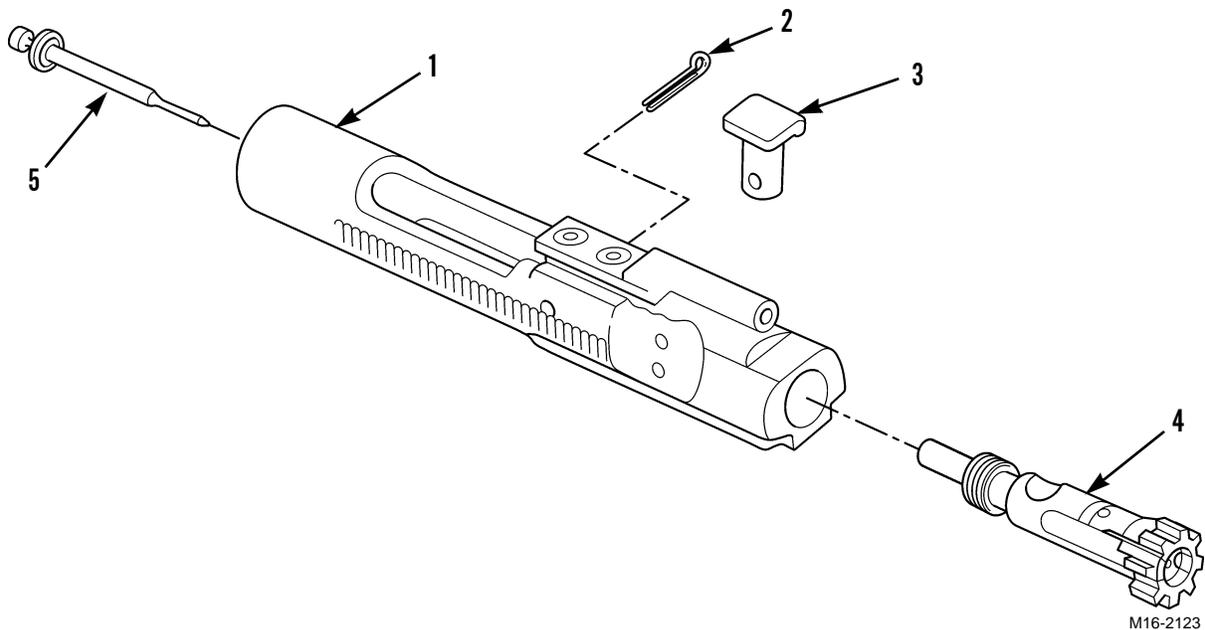
REPAIR

Replace all authorized unserviceable items. Retest all replaced items.

REASSEMBLY**NOTE**

Ensure bolt rings are evenly spaced around bolts prior to installing bolt into bolt carrier and key assembly.

1. Install bolt assembly (4) into bolt carrier and key assembly (1).
2. Install bolt cam pin (3) and rotate 1/4 turn to secure bolt assembly (4).
3. Hold bolt carrier and key assembly (1) with bolt assembly (4) down and drop in firing pin (5).
4. Install firing-pin retaining pin (2) in left side to ensure proper installation. Check installation by attempting to shake out firing pin. The bolt assembly (4) should be checked for proper smooth rotation and assembly by holding the bolt carrier and key assembly (1) with the bolt facing away from you and the bolt pushed in. Flick the bolt carrier down and ensure the bolt rotates out of the bolt carrier to its proper position.
5. Reassemble the weapon (WP 0018 00).



END OF WORK PACKAGE

BOLT ASSEMBLY

0023 00

THIS WORK PACKAGE COVERSDisassembly, Inspection and Repair, Test, Reassembly

INITIAL SETUP**Maintenance Level**

Intermediate

Tools and Special Tools

Cleaner, Lubricant, and Preservative

Penetrant kit

E2900/E7900 Tool Kit

Materials/Parts

Bolt ring (3)

Rag, wiping

References

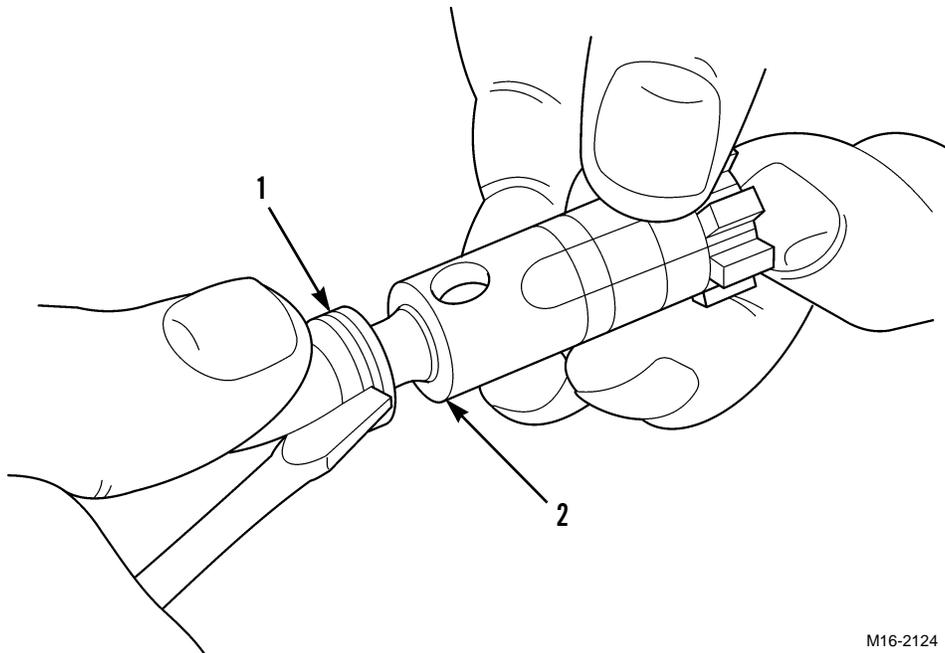
WP 0025 00

Equipment ConditionsBolt assembly removed (WP 0022 00)

DISASSEMBLY**NOTE**

DO NOT remove bolt rings unless they require replacement and three new replacement rings are available.

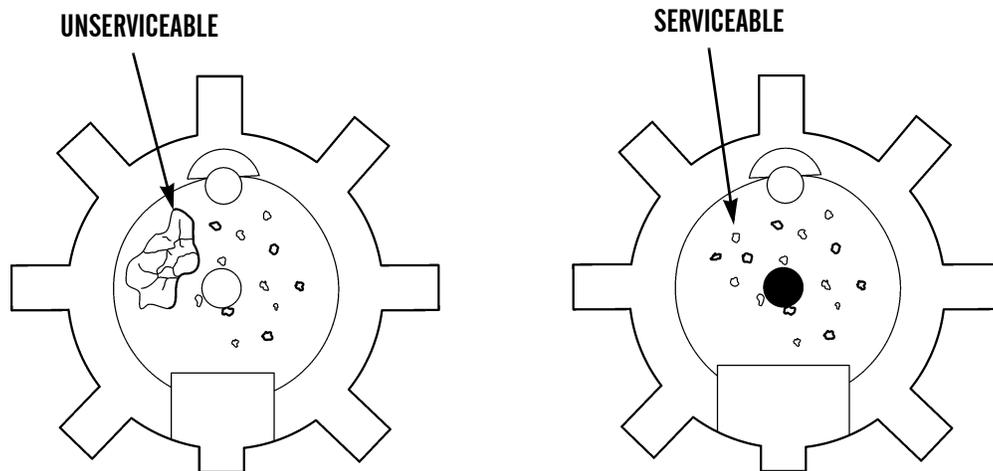
Using a small flat-tip jeweler's screwdriver, remove the three bolt rings (1) from the bolt (2).



M16-2124

INSPECTION AND REPAIR

1. Visually inspect bolt rings for cracks, kinks, and bends. Replace all three bolt rings if one or more bolt ring is damaged. Refer to WP 0022 00 for bolt ring wear check.
2. Inspect bolt for pits, burrs, and wear as follows:
 - a. Bolt faces with a cluster that are touching or lightly grouped, covering an area measuring approximately 1/8-in. across, must be rejected. Bolt must be replaced.
 - b. Bolts that contain individual pits or a scattered pattern are cause for rejection.
 - c. Bolts that contain pits extending into the firing pin hole should not be rejected unless a firing-pin-hole gaging check determines excess wear.
 - d. Rings on the bolt face (machine tool marks), grooves, or ridges less than approximately 0.010 in. (.025 cm) are not cause for rejection.



M16-2125

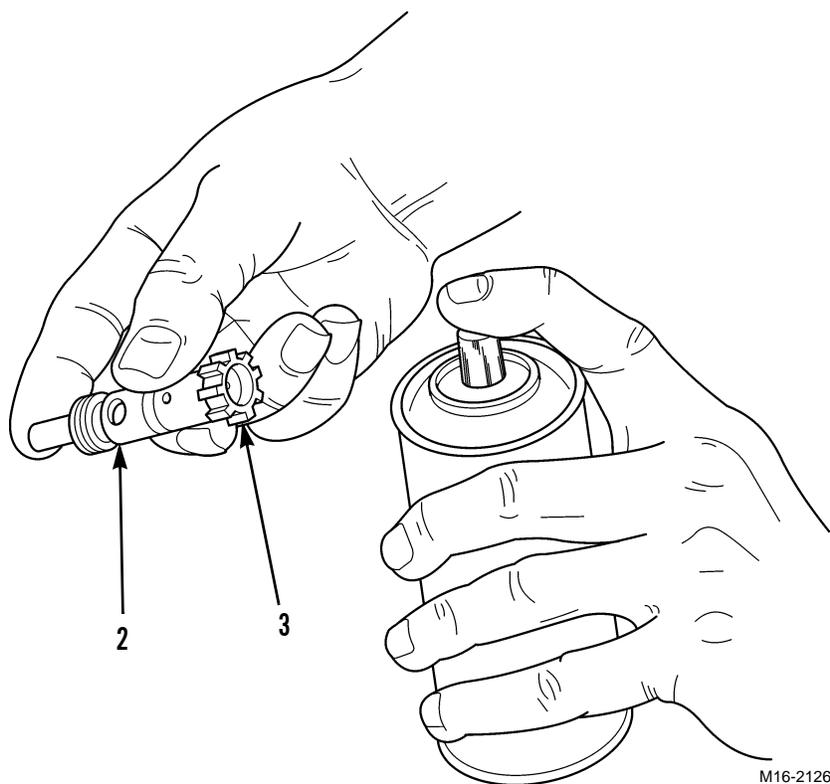
3. Inspect bolt for cracks in the locking lugs and the bolt cam pin area. Use a black light if available. Otherwise, use a magnifying glass (no more than 3X magnification) or a penetrant kit. Pay close attention to the area where the locking lugs meet the body. Replace bolt assembly if bolt is defective.

INSPECTION AND REPAIR - CONTINUED

4. Use penetrant kit to check for cracks in the bolt as follows:
 - a. 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.
 - b. Spray penetrant (only enough to wet the area) on the area of the bolt (2) to be inspected.
 - c. Spray developer over the penetrant and allow developer to work. Cracks are indicated by a change in color at the crack. If cracks are present, the bolt is unserviceable. Replace the bolt assembly.
 - d. Pay close attention to the area where the locking lugs (3) meet the body.
 - e. If no cracks are present, spray remover on the area, let dry, and remove with a wiping rag. Using CLP, oil the area to prevent corrosion. Replace bolt assembly (2) if bolt is defective.

NOTE

Replacement of the bolt assembly will require that the headspace be tested. Refer to WP 0022 00.

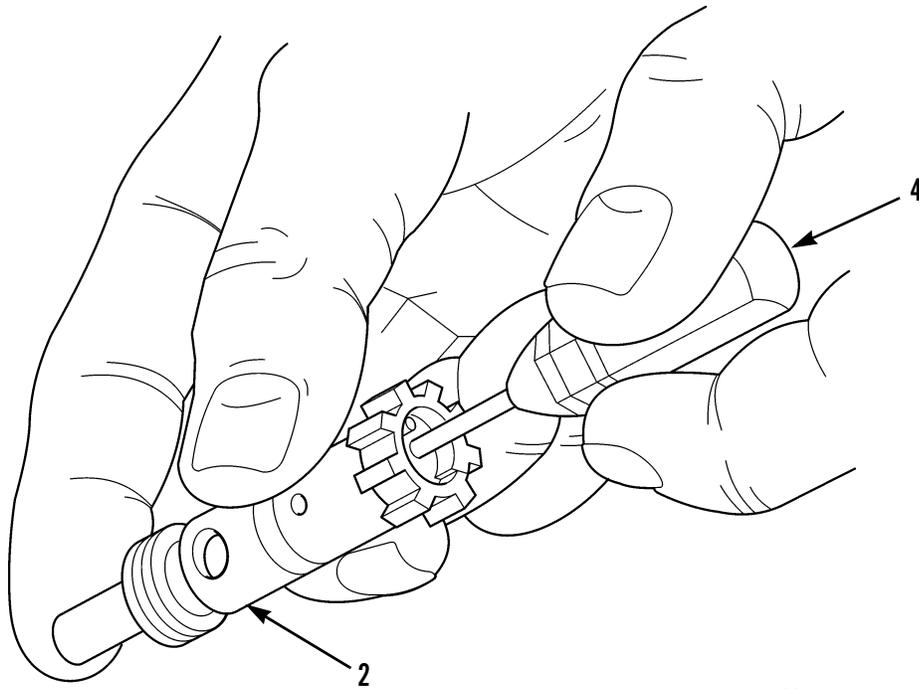


TEST

Test bolt (2) for elongated or oversized firing-pin hole using special no-go plug gage (4).

NOTE

Bolts with firing-pin holes that permit the special no-go gage to fully penetrate at any position on the circumference shall be rejected. The bolt assembly must be replaced.

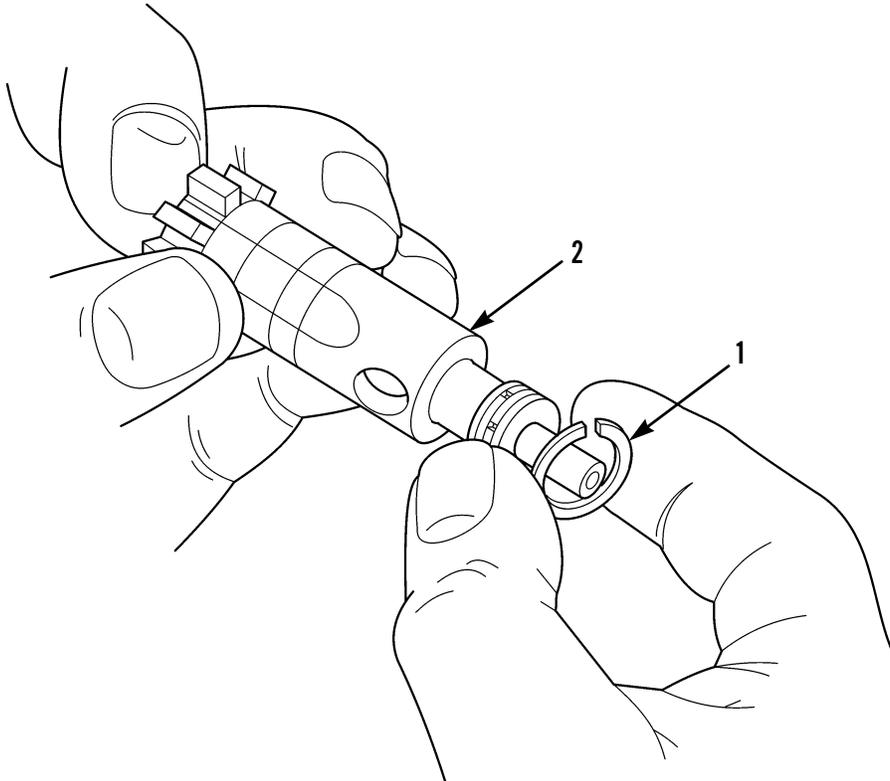


M16-2127

REASSEMBLY**NOTE**

To install a bolt ring, carefully place an end in the bolt ring groove. 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 bolt ring into the groove a little bit at a time, until the entire bolt ring is in place.

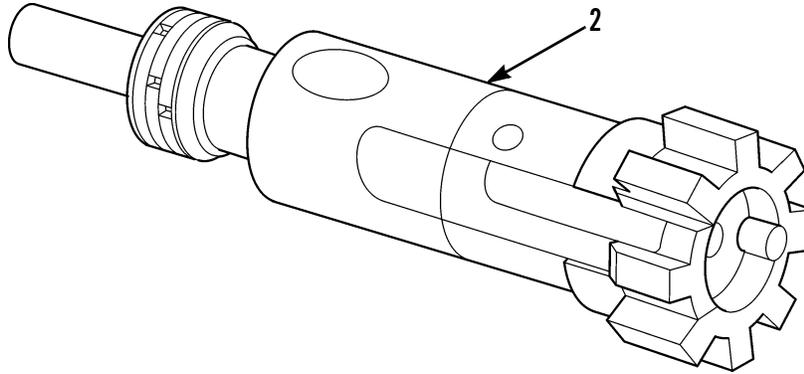
1. Install three bolt rings (1), one at a time, onto the bolt (2). Do not bend or “spring” new rings. Stagger the bolt ring gaps (approximately 1/3 turn apart).



M16-2128

REASSEMBLY - CONTINUED**NOTE**

Ensure bolt ring gaps are staggered to prevent loss of gas pressure. New bolt rings will make installation of the bolt assembly difficult. With CLP, lubricate inside of bolt carrier and key assembly, and use gentle pressure when installing.



M16-2129

2. Reassemble the bolt (2) in the bolt carrier assembly weapon (WP 0022 00).

END OF WORK PACKAGE

KEY AND BOLT CARRIER ASSEMBLY

0024 00

THIS WORK PACKAGE COVERS

Disassembly, Repair, Reassembly

INITIAL SETUP

Maintenance Level

Intermediate

Tools and Special Tools

E2900/E7900 Tool Kit

Vise

Materials/Parts

Carrier and key screw (2)

References

WP 0018 00

WP 0022 00

Equipment Conditions

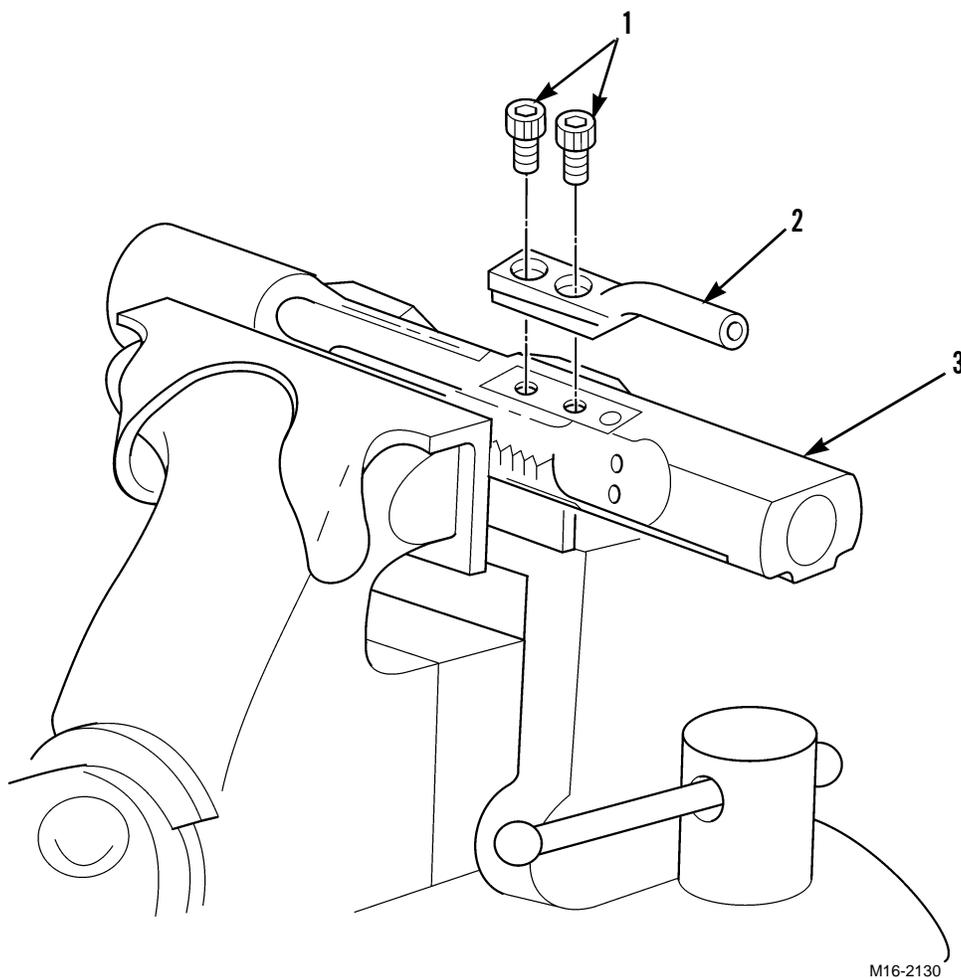
Key and bolt carrier assembly removed
(WP 0011 00)

DISASSEMBLY**NOTE**

DO NOT disassemble the key and bolt carrier assembly unless the bolt carrier key is determined by an inspection to be defective. Refer to WP 0022 00.

It may be necessary to grind away part of the heads of the carrier and key screws and bolt carrier key to facilitate removal of the bolt carrier key and screws.

1. Place bolt carrier (3) in a vise using vise jaw caps. Position the bolt carrier key (2) and carrier key screws (1) on top.
2. Using a socket wrench handle and a tight-fitting 1/8-in. socket head-screw wrench attachment, remove two carrier key screws (1). Discard carrier key screws.
3. Remove the bolt carrier key (2) from the bolt carrier (3).



M16-2130

REPAIR**NOTE**

DO NOT re-torque carrier and key screws if staking marks do not indicate loosening of screws.

Repair by replacing, torquing, and restaking carrier and key screws. Refer to *Reassembly* in this work package.

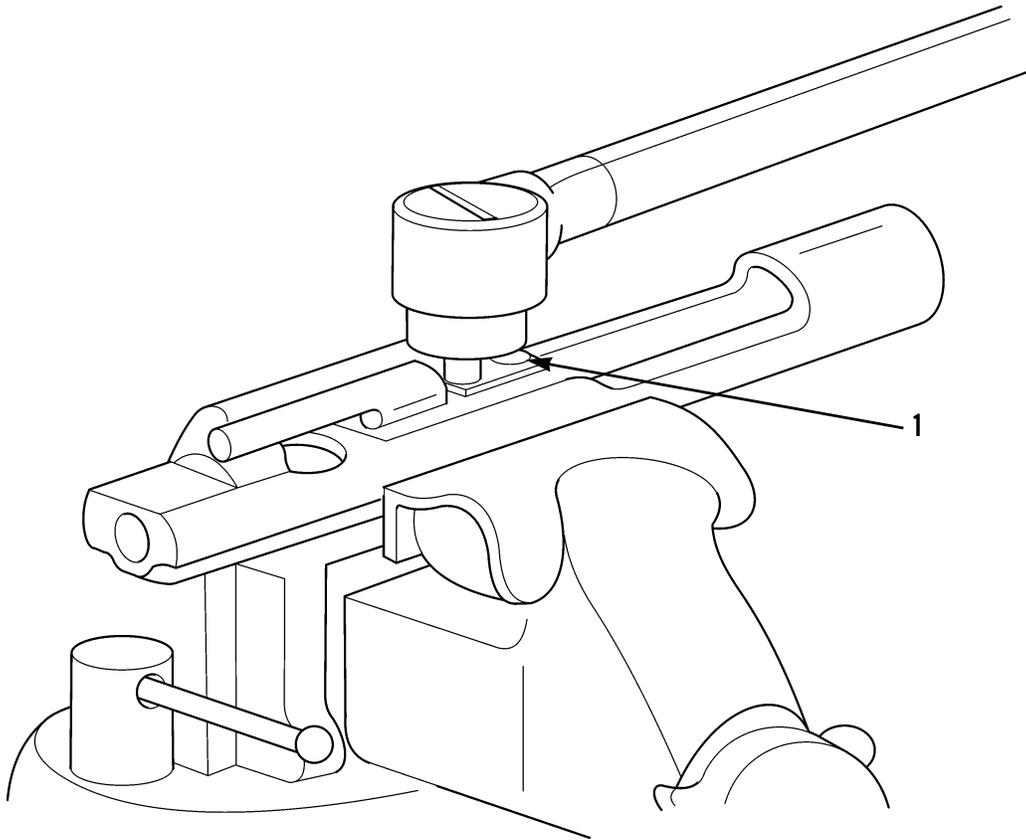
REASSEMBLY**NOTE**

DO NOT reuse old carrier and key screws. New carrier and key screws must be used at assembly.

1. Place bolt carrier (3) in a vise using vise jaw caps.
2. Position the bolt carrier key (2) on the bolt carrier (3) and install two new carrier key screws (1).

REASSEMBLY - CONTINUED

- Using a tight-fitting 1/8-in. socket head-screw wrench attachment and inch-pound torque wrench, torque the carrier key screws (1) to 50 to 58 lb-in. (5.65 to 6.55 Nm).



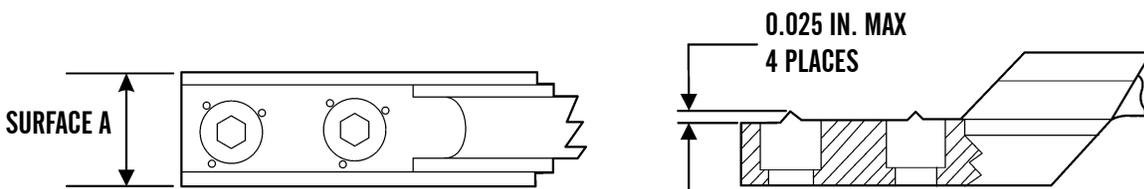
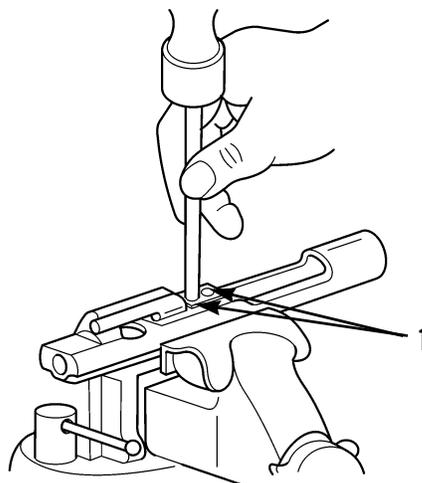
M16-2131

REASSEMBLY - CONTINUED

NOTE

Field staking method will be used by field units.

4. Use solid center punch and hammer to stake the two carrier key screws (1) in three places each.



FIELD REPLACEMENT STAKING

M16-2132

5. Reassemble weapon (WP 0018 00).

END OF WORK PACKAGE

UPPER RECEIVER AND BARREL ASSEMBLY

0025 00

THIS WORK PACKAGE COVERSDisassembly, Cleaning and Inspection, Repair, Reassembly, Test

INITIAL SETUP**Maintenance Level**

Intermediate

Tools and Special Tools

Barrel removal fixture

Combination wrench

E2900/E7900 Tool Kit

Fabricated spacer/weight

Tool and gage set

Vise

Materials/Parts

Brush, cleaning, small arms, bore

Carbon-removing compound

Cloth, abrasive

Materials/Parts - Continued

Dichloromethane, technical

Gloves, chemical and oil protective

Grease, molybdenum disulfide

Lubricant, solid film

Washer, recessed

References

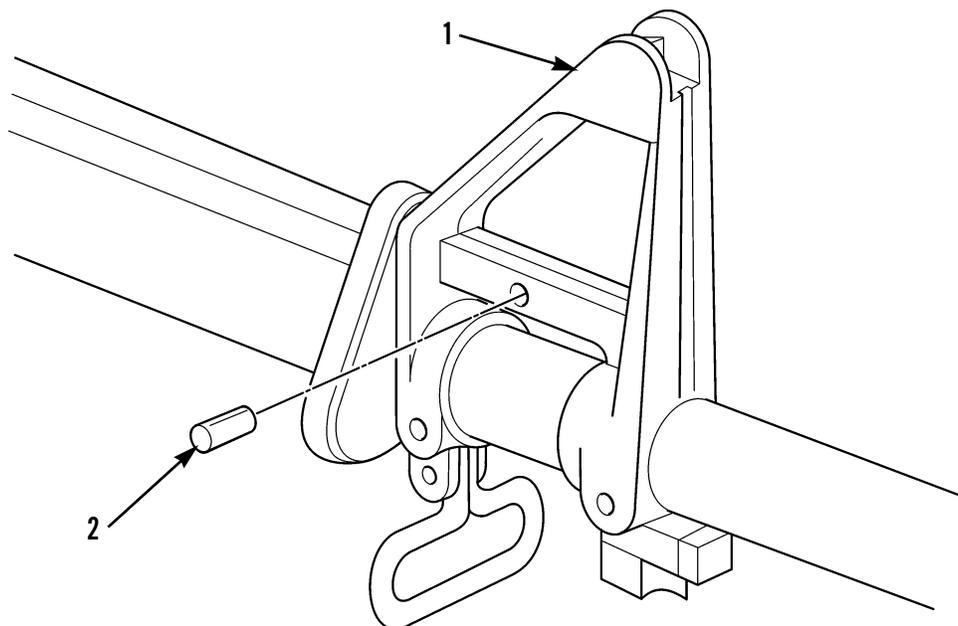
TM 05538/10012-OR_

WP 0018 00

Equipment ConditionsUpper receiver and barrel assembly removed
(WP 0011 00)Handguard assemblies removed (WP 0015 00)

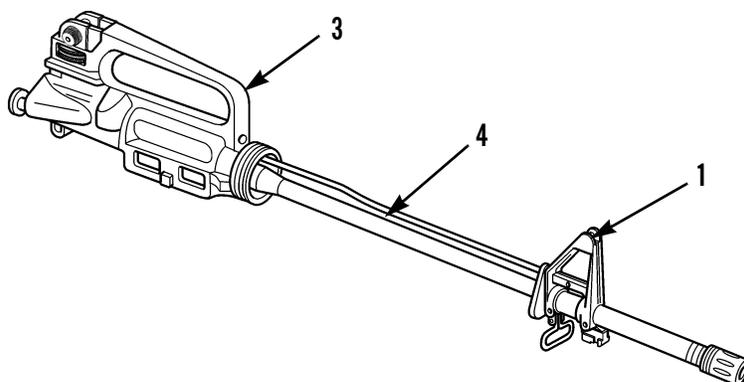
DISASSEMBLY

1. Using a ball-peen hammer and a 5/64-in. diameter drive pin punch, drive the spring pin (2), which retains the gas tube, out of front sight assembly base (1).



M16-2133

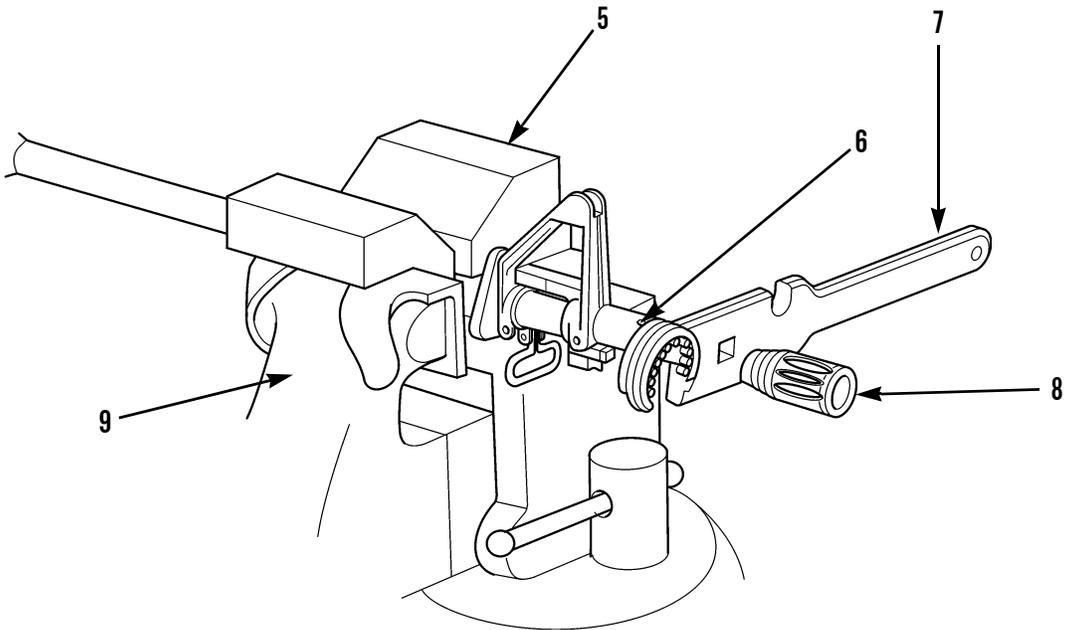
2. Slide the gas tube (4) back into upper receiver assembly (3) to clear the front sight assembly base (1). Then lift slightly, pull forward, and remove gas tube.



M16-2134

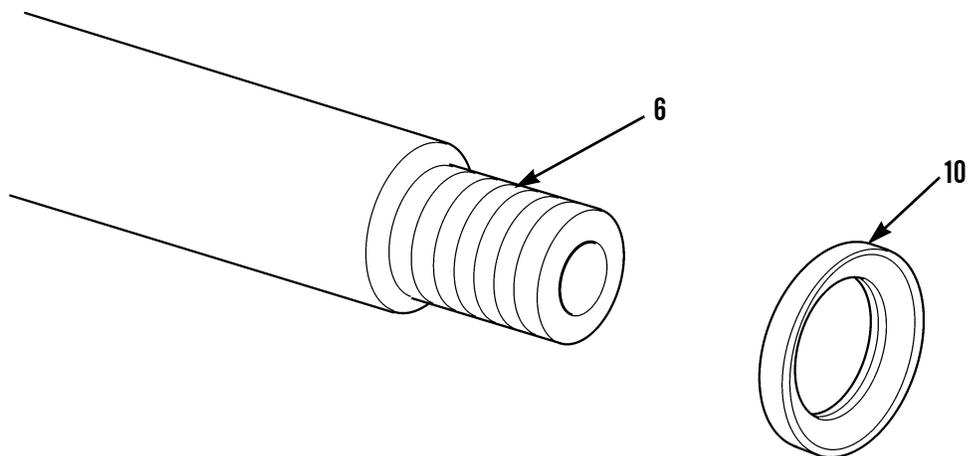
DISASSEMBLY - CONTINUED

3. Position the upper receiver and barrel assembly (6) in barrel removal fixture (5) and secure both in a machinist's vise (9).
4. Use a combination wrench (7) to remove the compensator (8).



M16-2135

5. Remove recessed washer (10) from upper receiver and barrel assembly (6). Discard recessed washer.



M16-2136

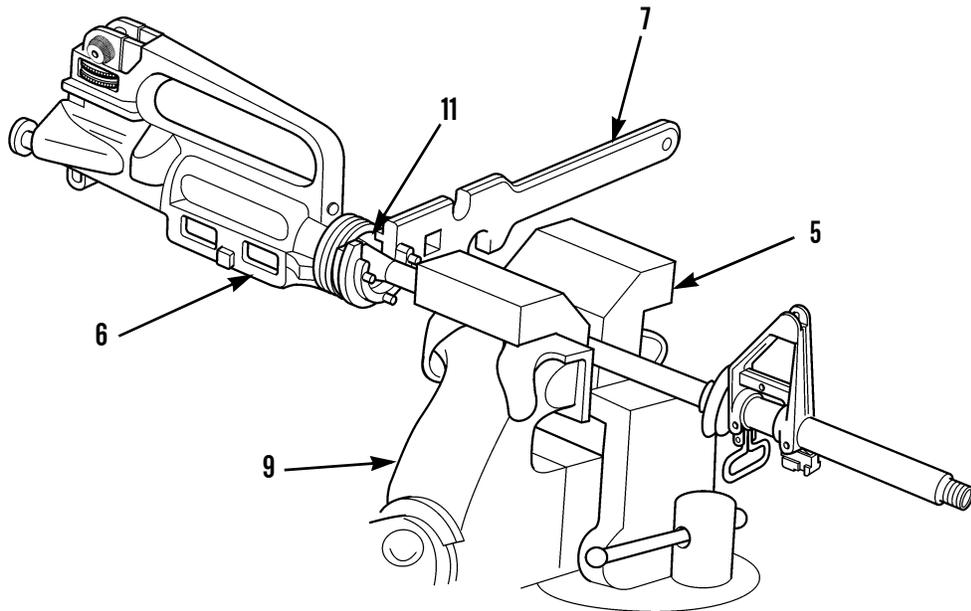
DISASSEMBLY - CONTINUED

6. Reposition upper receiver and barrel assembly (6) in barrel removal fixture (5) and machinist's vise (9).

NOTE

Combination wrench must be pushed toward upper receiver assembly to compress the slip ring spring in barrel nut assembly while using the other side. DO NOT use a torque wrench to loosen the barrel nut assembly.

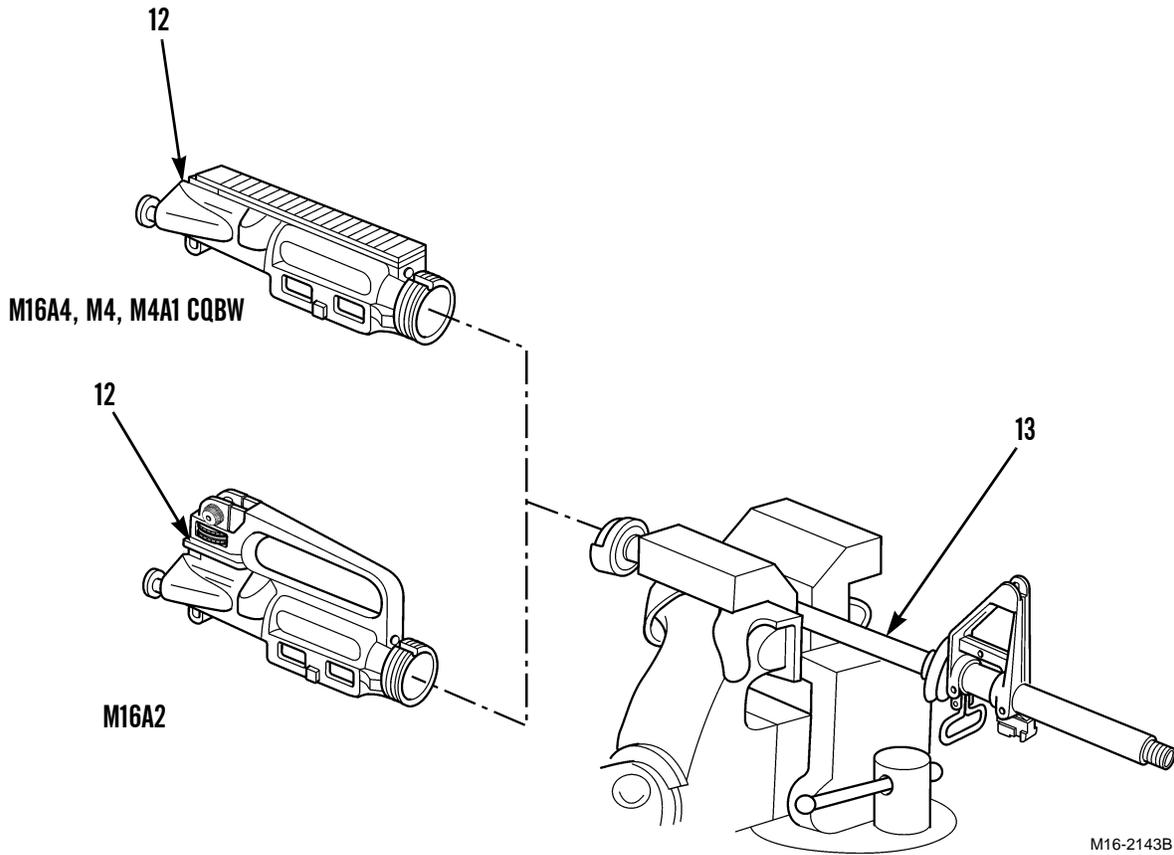
7. Using the combination wrench (7), loosen the barrel nut assembly (11).



M16-2137

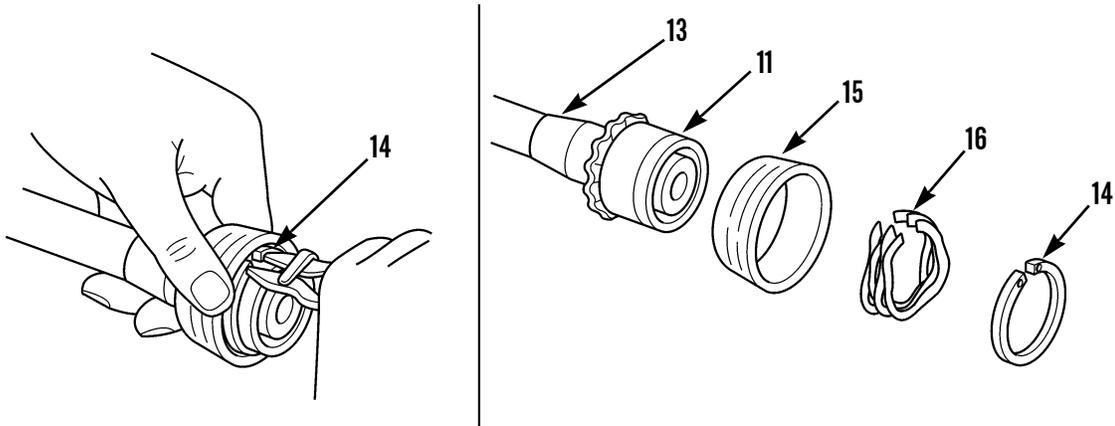
DISASSEMBLY - CONTINUED

8. Separate the upper receiver assembly (12) from the barrel assembly (13).
9. Remove the barrel assembly (13) from machinist's vise and barrel removal fixture.



DISASSEMBLY - CONTINUED

10. Remove the retaining ring (14) using retaining ring pliers.
11. Remove the slip ring spring (16) and handguard slip ring (15).
12. Do not remove the barrel nut (11) from barrel assembly (13).



M16-2139

CLEANING AND INSPECTION**WARNING**

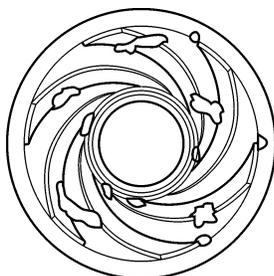
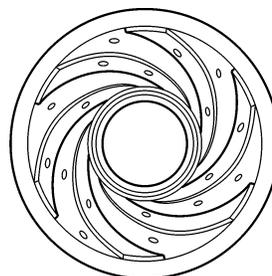
When using carbon-removing compounds, avoid skin contact. If carbon-removing compound comes in contact with skin, wash thoroughly with running water. Using a good lanolin-base cream after exposure to the compound is helpful. Using gloves and protective equipment is required. Failure to follow this warning may cause injury or death to personnel.

1. Inspect gas tube for cracks. Replace if defective.
2. Use carbon-removing compound 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 small arms bore cleaning brush may be used to clean the interior of front sight assembly where gas tube is secured.

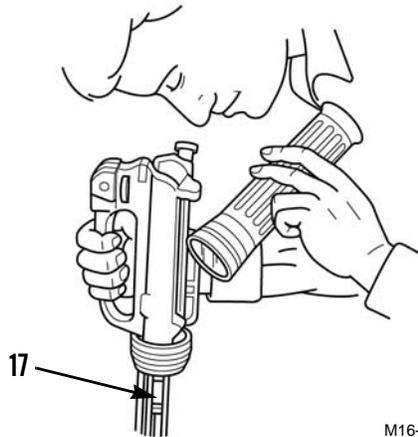
3. Inspect the bore for burrs, cracks, rust, bulges, and pits using the following guidelines.
 - a. Pits no wider than a land or groove and no longer than 3/8 in. (0.95 cm) are allowed in the bore.
 - b. Lands that appear dark blue due to coating of gilding metal from projectiles are allowable.
 - c. Ringed bores or bores ringed sufficiently to bulge the outside surface of the barrel are cause for rejection. Replace barrel assembly if defective.
4. If the upper receiver is separated from the barrel assembly, inspect chamber for pits using a flashlight. Pits 1/8 in. (0.32 cm) long are cause for rejection. Replace the barrel assembly if defective. If barrel assembly is replaced, inspect head-space. Refer to *Test* in this work package.

**NOT ACCEPTABLE****ACCEPTABLE**

M16-2140

CLEANING AND INSPECTION - CONTINUED

5. If the upper receiver and barrel assembly is assembled, inspect the chamber using a reflector tool (17) and flashlight. Pits 1/8 in. (0.32 cm) long are cause for rejection. Replace the barrel assembly if defective. If the barrel assembly is replaced, inspect headspace. Refer to *Test* in this work package.



M16-2141

6. Inspect the upper receiver assembly for cracks, corrosion, wear, or damage.
- Small dents or gouges that do not affect functioning are not cause for rejection.
 - If the upper receiver assembly contains cracks or holes, the upper receiver assembly will be replaced.
7. Inspect all parts for damage and wear. Replace all defective parts.

NOTE

Damaged or missing teeth of the barrel nut are not cause for rejection, provided the proper torque value can be obtained during installation using the tools depicted in the installation procedures. If removal of the barrel is not possible with the combination tool, a pipe wrench or other such tool may be used during removal.

8. Inspect front sight guards for bends. If bent, refer to *Repair* in this work package.

REPAIR**WARNING**

When using Solid Film Lubricant (SFL) or technical dichloromethane, ensure area is well ventilated. Failure to follow this warning may cause injury or death to personnel.

CAUTION

SFL is to be used only as an exterior surface protective finish and touchup. If SFL comes in contact with recoiling parts or functional surfaces of the weapon, remove immediately by washing with technical dichloromethane.

1. Repair shiny surfaces by spraying a coat of SFL in accordance with instructions supplied by the manufacturer. Allow 24 hours drying time before handling.
2. Straighten bent front sight guards (18) as follows:

NOTE

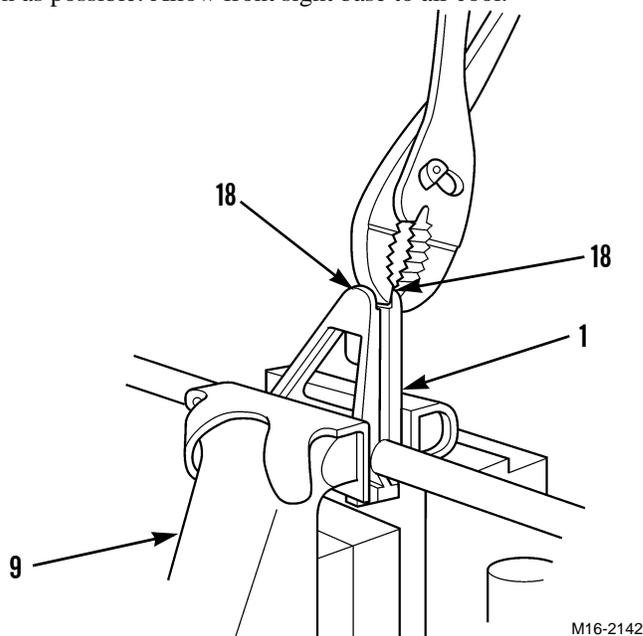
Remove front sight detent spring before heating. (Heat will damage the spring.) The sight post and plunger may be reused unless damaged.

- a. Remove front sight post, front sight detent, and front sight detent spring (WP 0015 00).

NOTE

Use copper or brass caps (jaw inserts) on machinist's vise to protect front sight base from damage during clamping.

- b. Place front sight assembly base (1) in a machinist's vise (9).
- c. Heat the front sight guards (18) and bend with pliers. The front sight guards should be put back as close to their original position as possible. Allow front sight base to air cool.



M16-2142

REPAIR - CONTINUED

- d. Roughen any damaged surface of front sight guards with abrasive cloth and clean with dry cleaning solvent. Always wear rubber gloves when using dry cleaning solvent.

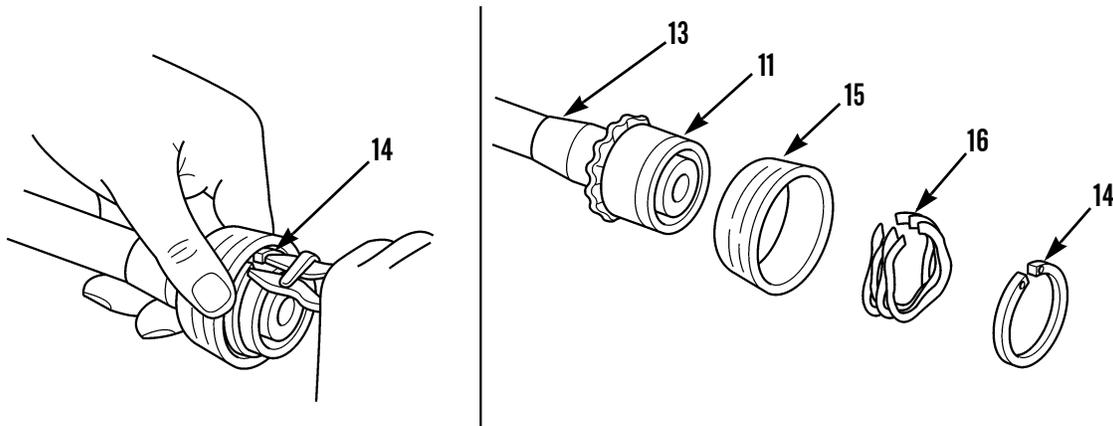
CAUTION

DO NOT allow Solid Film Lubricant (SFL) to flow into front sight post threaded well.

- e. Apply SFL to cover the damaged finish.
- f. If front sight guards cannot be straightened utilizing the above procedures, replace the weapon's barrel assembly.

REASSEMBLY

1. Position barrel nut (11) by sliding it to the rear of the barrel assembly (13) as far as possible.
2. Slide handguard slip ring (15) over barrel nut (11).
3. Press slip ring spring (16) from both sides and insert it into handguard slip ring (15).
4. Install retaining ring (14) against slip ring spring (16) using retaining ring pliers. Snap retaining ring to barrel nut (11)



M16-2139

REASSEMBLY - CONTINUED**NOTE**

- After cleaning, apply molybdenum disulfide grease to threads of barrel nut before installation.
- The alignment pin must not show any signs of looseness.

NOTE

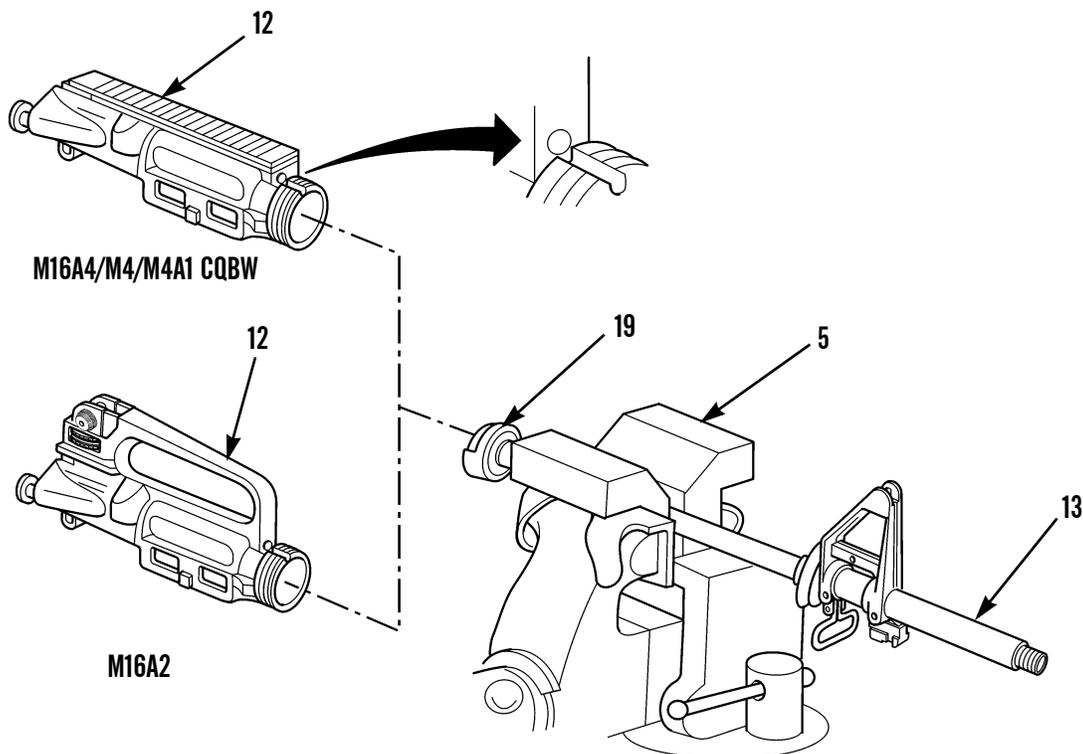
M16A4 barrels are marked with an “F”.

5. Position the barrel assembly (13) with the alignment pin (19) up. Using a barrel removal fixture (5), clamp the barrel assembly in a vise.

NOTE

The slot should fit the alignment pin perfectly with very little or no rotational play present. Note the play in the new barrel assembly and new upper receiver assembly and use this as a guide.

6. Align upper receiver assembly (12) using the alignment pin (19) and the slot in the upper receiver assembly. Install over the end of the barrel assembly (13).
7. Wipe upper receiver threads clean and ensure there are no burrs. Apply molybdenum disulfide grease to threads prior to installation.



M16-2143

REASSEMBLY - CONTINUED**NOTE**

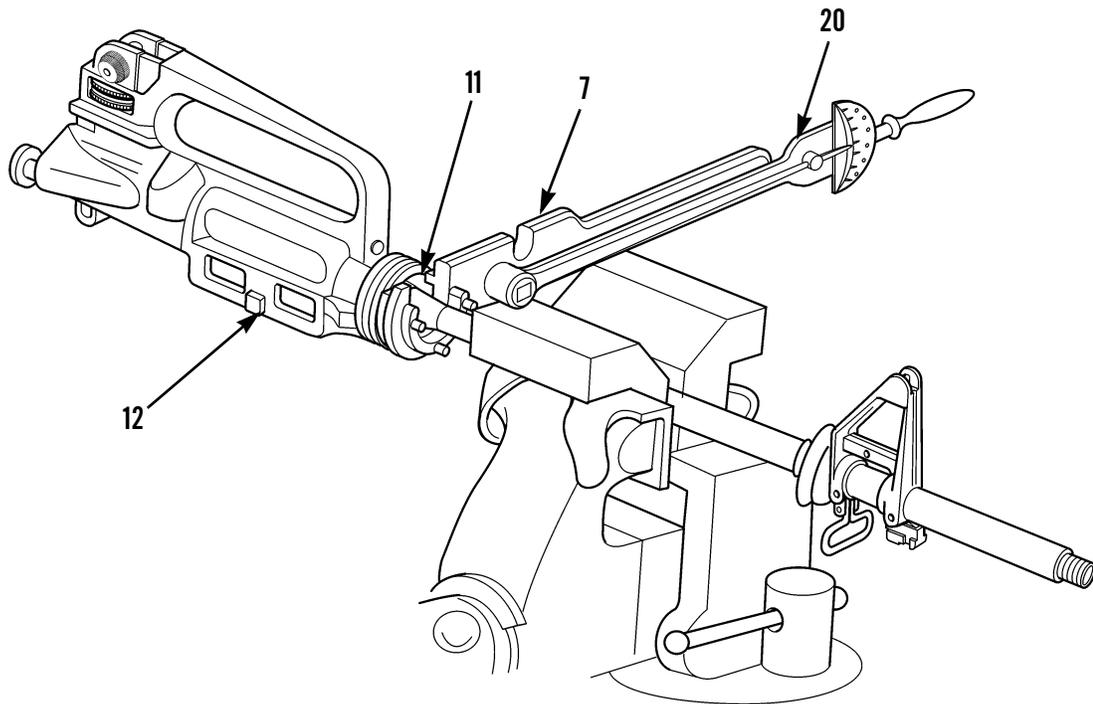
M16A4 barrels are marked with an "F".

8. Engage threads of barrel nut assembly (11) with upper receiver assembly (12).
9. Using combination wrench (7) and torque wrench (20), torque barrel nut assembly (11) to 30 lb-ft (40.7 Nm). Torque is measured when both wrenches are used together.

NOTE

Performing the torquing procedure three times provides a better thread fit and prevents barrel nuts from becoming loose. DO NOT use the torque wrench for loosening.

10. Ensure all three drive pins or the teeth on the combination wrench are engaged with barrel nut assembly (11). Loosen and repeat torque operation. Then loosen the barrel nut again.



M16-2144

REASSEMBLY - CONTINUED

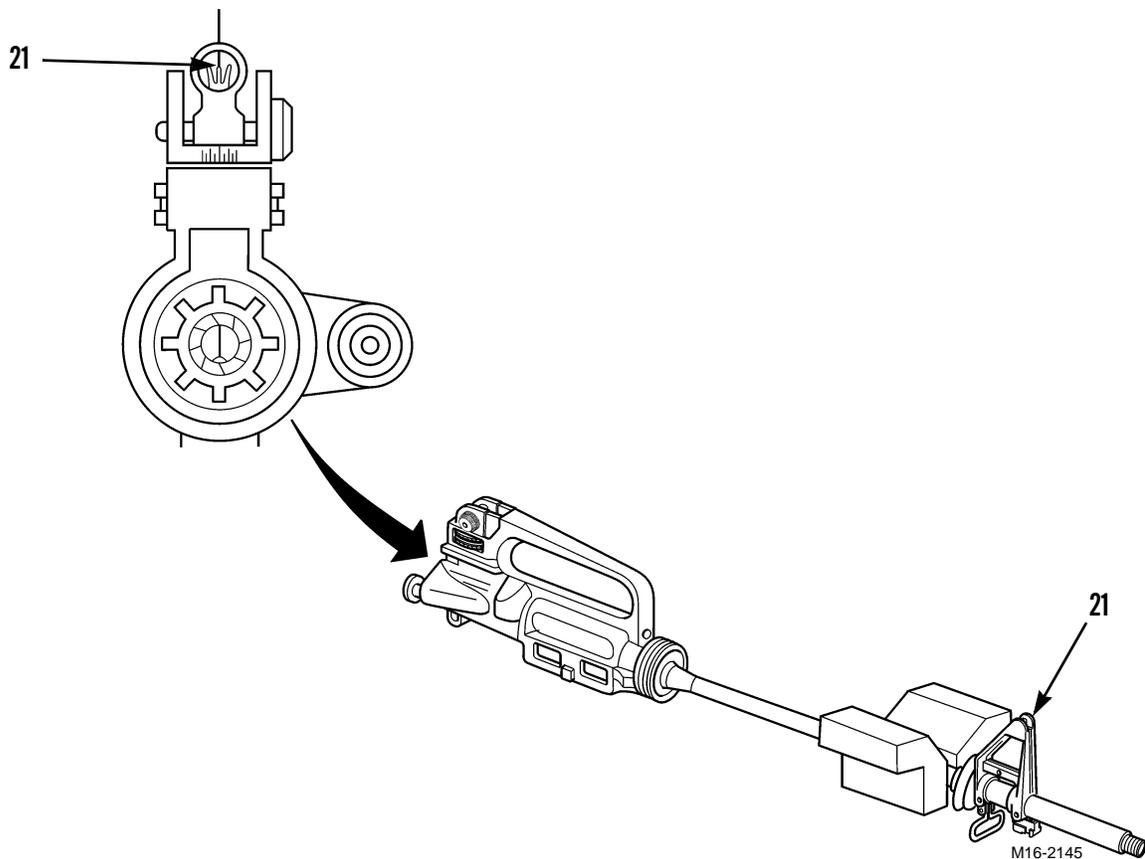
11. The front sight post (21) must be installed. Loosen the vise and align the bore on a distant vertical target. Center the target in the bore from 12 o'clock through 6 o'clock. The front sight post should be on line and vertical with the target. Tighten the vise. Adjust the rear sight windage until a proper sight picture is obtained on the vertical target. The rear sight aperture will be approximately in the center of the rear sight base if the barrel assembly is properly aligned in the upper receiver assembly.

CAUTION

DO NOT torque over 80 lb-ft (108 Nm) while tightening the barrel nut assembly to the next hole to allow for proper alignment of gas tube.

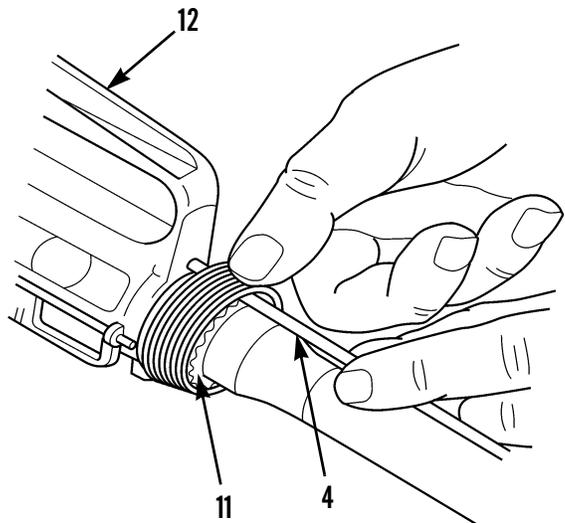
NOTE

- If the barrel assembly (usually new) is not properly aligned in the upper receiver assembly (usually an old part), excessive windage will be present. The upper receiver assembly will require replacement to obtain the proper fit between the alignment pin and the slot.
 - **DO NOT attempt to hold the upper receiver assembly with a pry bar. However, if the barrel assembly turns in the holding fixture, a pry bar can be used through the front sight assembly base to help prevent the barrel assembly from turning in the holding fixture. DO NOT distort or bend the front sight assembly base or retaining pins. Use "buddy system" to hold pry bar.**
12. Torque the barrel nut assembly again to 30 lb-ft (40.7 Nm) while maintaining sight alignment. The barrel nut assembly may be tightened beyond 30 lb-ft (40.7 Nm) to align the barrel nut assembly serrations for proper gas tube clearance. Never loosen the barrel nut assembly to align for gas tube clearance.

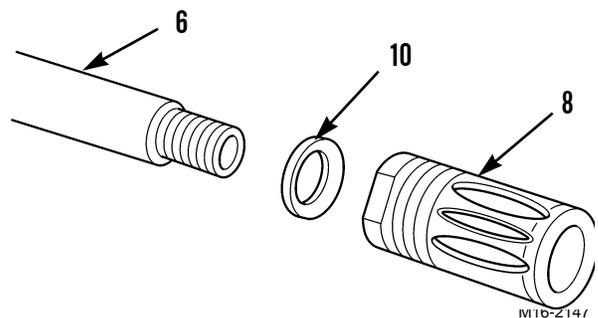


REASSEMBLY - CONTINUED

13. Check alignment of the barrel nut assembly (11) with upper receiver assembly (12). The front 8 in. (20.32 cm) of the gas tube (4) may be used as an alignment tool. This is inserted into the bolt carrier key and then into the rear of the upper receiver assembly, just as if assembling the bolt carrier and key into the upper receiver assembly. If the parts of the barrel nut assembly are properly aligned, the tool (gas tube) will pass through freely and lay top dead center along the top of the barrel. A #15 twist drill (0.180 in.) may also be used as an alignment tool. If necessary, tighten barrel nut assembly to next hole to allow proper alignment.



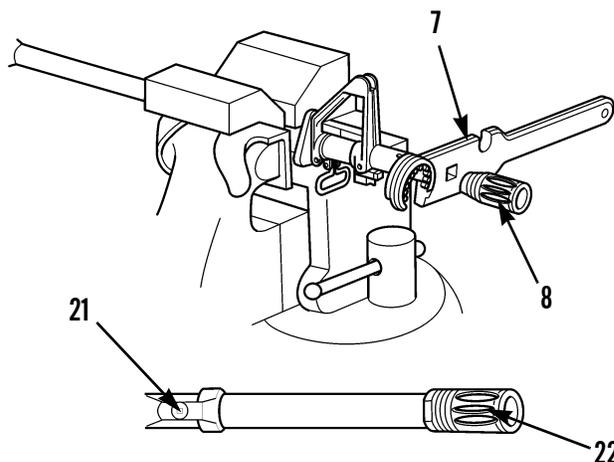
14. Install new recessed washer (10) and compensator (8) on upper receiver and barrel assembly (6).



REASSEMBLY - CONTINUED**NOTE**

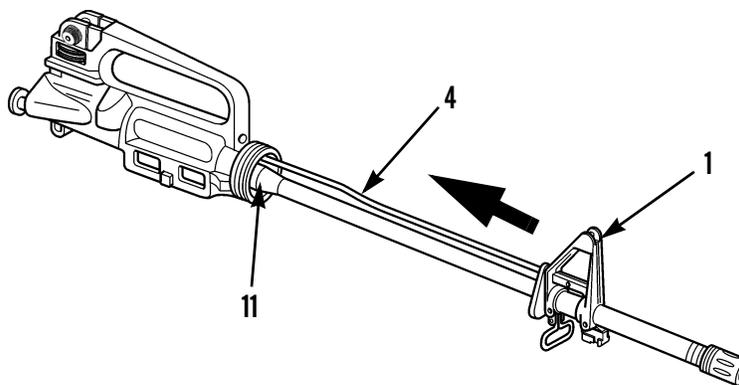
Recessed washer does not require torquing.

15. Tighten the compensator (8) hand tight. Using the combination wrench (7), tighten a minimum of 1/4 turn, but no more than 1-1/4 turns, to align the center of the middle slot (22) with the front sight post (21). Do not over rotate. If the compensator is turned backwards, the compensator will loosen when weapon is fired. Repeat steps 14 and 15 using a new recessed washer.



M16-2148

16. Slide the gas tube (4) through the barrel nut assembly (11). Then slide gas tube forward, inserting it into the hole in the front sight assembly base (1).



M16-2149

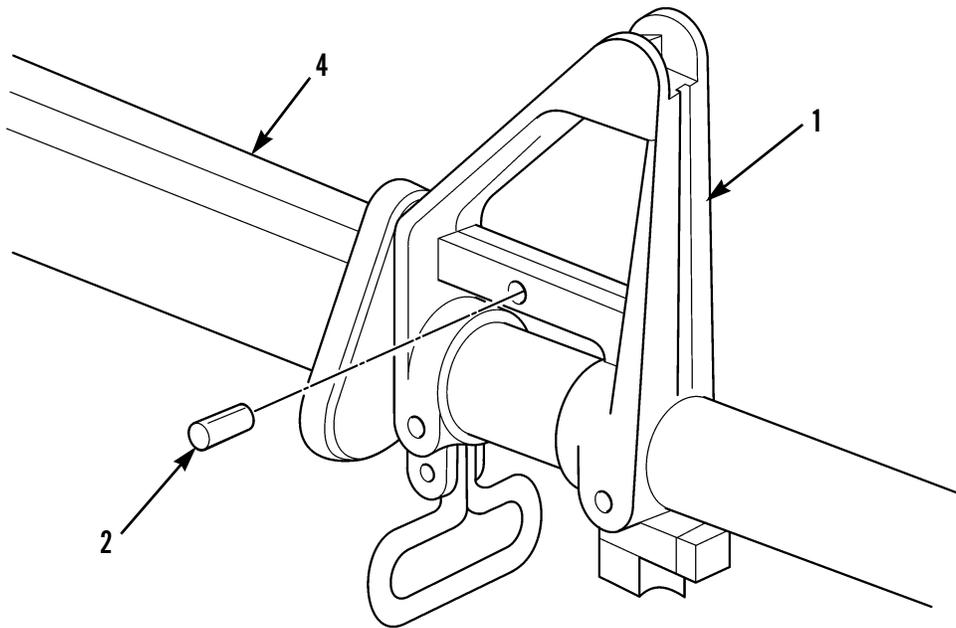
REASSEMBLY - CONTINUED

17. Align the holes in gas tube (4) and front sight assembly base (1).

NOTE

To assist in installing spring pin, modified nose pliers may be used.

18. Using a ball-peen hammer and a 5/64-in. diameter drive pin punch, drive spring pin (2) into front sight assembly base (1) to secure gas tube (4).
19. Install upper and lower handguard assemblies. Refer to *Upper Receiver and Barrel Assembly Maintenance* (WP 0015 00).



M16-2133

TEST

1. The following information pertains to the use of breech, bore, and other gages:
 - a. All M16A2 barrels and chambers are chromed.
 - b. Barrel erosion gage, P/N 8448496 (normally used on M16A1 fully chrome barrels), can be used to gage M16A2 barrels.
 - c. The bore straightness gage, P/N 8448202, is required for use on all barrels. The gage must pass through the barrel without being forced.

NOTE

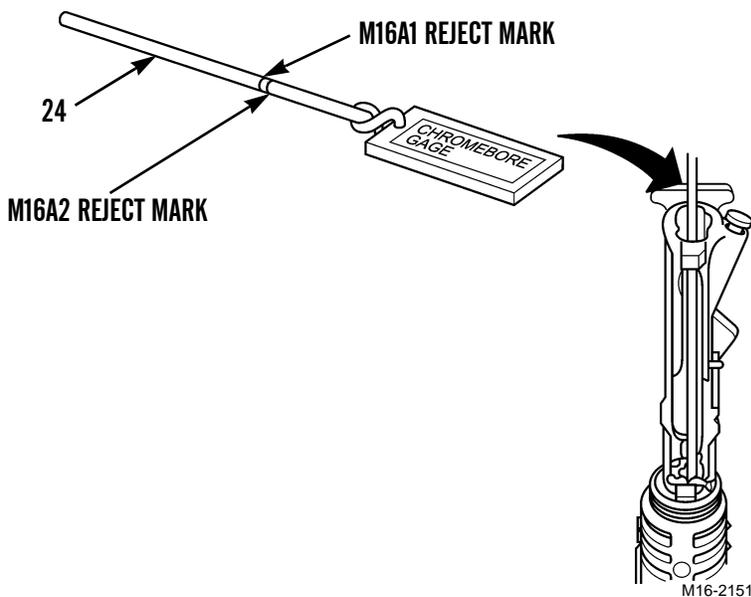
When gaging barrel erosion prior to deployment of weapons, use the first mark (M16A1 reject mark) as the pre-embarkation mark for the M16A2/M16A4 rifles and M4/M4A1 CQBW carbines.

2. Use barrel erosion gage (24), P/N 8448496. Install key and bolt carrier assembly with bolt assembly and firing pin removed. Hold weapon vertical with receiver up. Insert gage into rear of key and bolt carrier assembly. The M16A2 reject mark must be read at the rear edge of the key and bolt carrier assembly.

NOTE

The M16A2 reject mark will also be used when gaging M16A4 rifles and M4/M4A1 CQBW carbines.

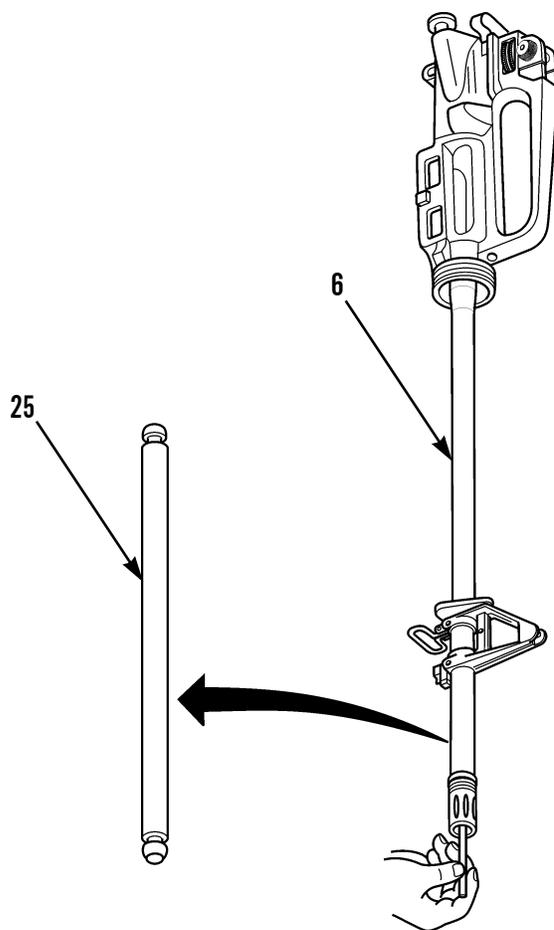
3. If the M16A2 reject mark passes beyond the rear surface of the key and bolt carrier assembly, the barrel is unserviceable and shall be replaced.



TEST - CONTINUED**NOTE**

Ensure barrel is clean prior to performing the following test.

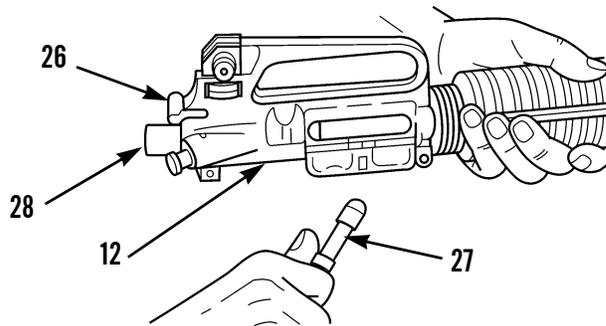
4. Check straightness of bore using straightness gage (25), P/N 8448202. Insert gage into upper receiver and barrel assembly (6). Tilt the barrel and allow gage to fall through. Catch gage.
5. Gage (25) must pass through the barrel. If gage does not pass through the barrel, recheck as follows. Hold upper receiver and barrel assembly (6) in vertical position with muzzle pointed down. Insert the straightness gage (25) into chamber end of barrel. Release gage and catch it as it exits muzzle end. If gage passes freely through the barrel, barrel is acceptable. If gage does not, the barrel must be replaced.



M16-2152

TEST - CONTINUED

6. Insert headspace gage (27), P/N 7799734, into chamber.
7. Assemble charging handle assembly (26), bolt assembly, and key and bolt carrier assembly (28) into upper receiver assembly (12).

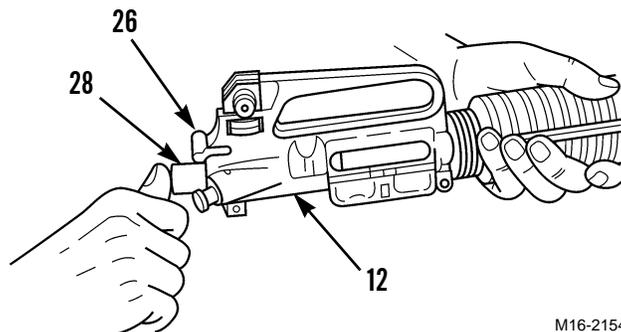


M16-2153

NOTE

For the purpose of this test, “light finger pressure” is defined as 8-1/2 to 8-3/4 lb (3.9 to 4 kg).

8. Check headspace by pressing key and bolt carrier assembly (28) and charging handle (26) forward using light finger pressure.
9. Bolt should not rotate to locked position. Key and bolt carrier assembly (28) must protrude from rear of upper receiver assembly (12) for proper headspace. If headspace is excessive, replace bolt assembly with an unused bolt assembly and recheck. If headspace is not corrected, replace barrel assembly. Then recheck with original bolt assembly to determine if the bolt assembly is still good or if it should also be replaced.
10. Remove the key and bolt carrier assembly (28), charging handle assembly (26), and headspace gage (27).



M16-2154

11. If headspace is excessive, first replace bolt assembly with an unused bolt assembly and recheck. If headspace is not corrected, replace barrel assembly; then recheck with original bolt assembly to determine if the bolt assembly is still good or if the bolt assembly should also be replaced.
12. Reassemble weapon (WP 0018 00).

END OF WORK PACKAGE

UPPER RECEIVER ASSEMBLY AND REAR SIGHT ASSEMBLY

0026 00

THIS WORK PACKAGE COVERS

Disassembly, Inspection, Repair, Lubrication, Reassembly

INITIAL SETUP

Maintenance Level

Intermediate

Tools and Special Tools

E2900/E7900 Tool Kit

Vise

Materials/Parts

Cleaner, Lubricant, and Preservative

Materials/Parts - Continued

Lubricant, solid film

Index screw

References

WP 0018 00

WP 0025 00

WP 0027 00

Equipment Conditions

Upper receiver assembly removed (WP 0011 00)

NOTE

- **The following procedures apply to all M16 series weapons. M16A2 is shown unless otherwise noted.**
- **The following procedures DO NOT cover the Back Up Iron Sight (BUIS) assembly, P/N 12996812.**

DISASSEMBLY



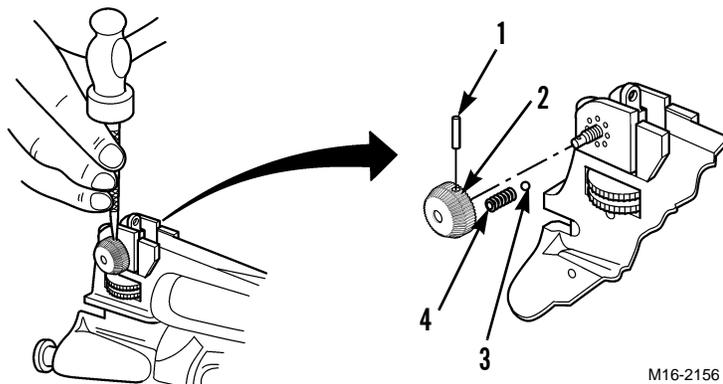
WARNING

To avoid injury to your eyes, use care when removing and installing spring-loaded parts. Failure to follow this warning may cause injury or death to personnel.

CAUTION

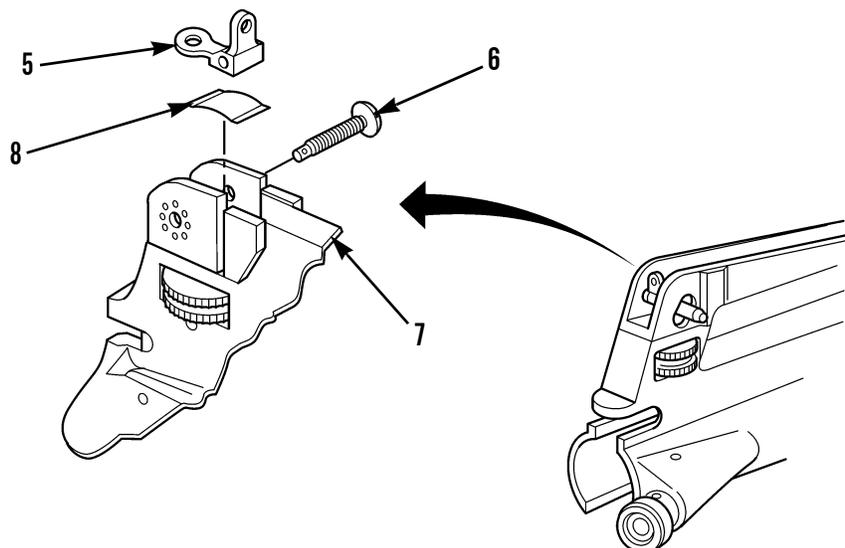
Be sure to catch small parts (1, 2, 3, and 4).

1. Using a hammer and a 1/16-in. punch, drive out and catch spring pin (1).
2. Catch rear sight assembly windage knob (2), windage knob spring (4), and ball bearing (3).



M16-2156

3. Using a flat-bladed screwdriver, remove the rear sight assembly windage screw (6).
4. Remove sight aperture (5) and flat spring (8) from upper receiver (7).



M16-2157

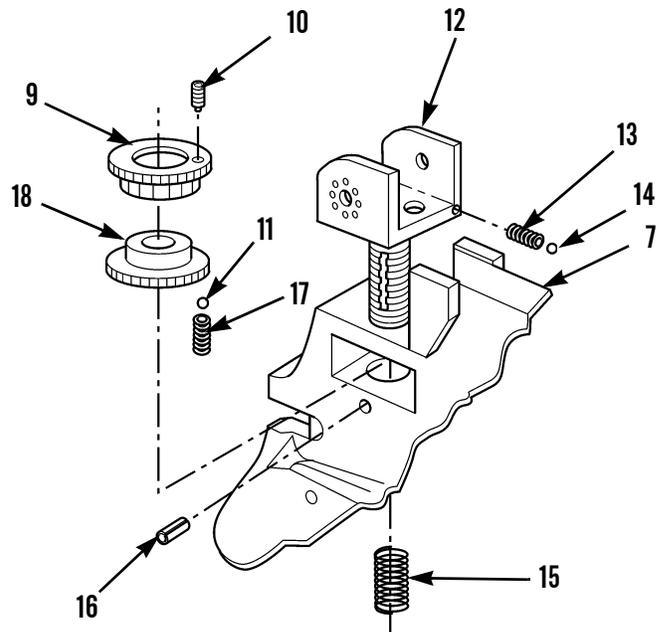
DISASSEMBLY - CONTINUED



WARNING

To avoid injury to your eyes, use care when removing and installing spring-loaded parts. Failure to follow this warning may cause injury or death to personnel.

5. Drive out spring pin (16) using a 3/32-in. punch. Catch rear sight elevation index spring (15) when punch is withdrawn.
6. Rotate elevation index (9) until rear sight assembly base (12) clears upper receiver (7). Catch ball bearing (14) and rear sight aperture spring (13) as rear sight base clears.
7. Push elevation index (9) out with thumb using slight rotation motion. Catch ball bearing (11) and elevation index spring (17).
8. Use a 1/16-in. hex wrench to remove index screw (10) from the elevation index (9). Discard index screw. Separate elevation index from elevation knob (18) by hand.
9. Remove spring pin (20) using a 3/32-in. drive pin punch and hammer.



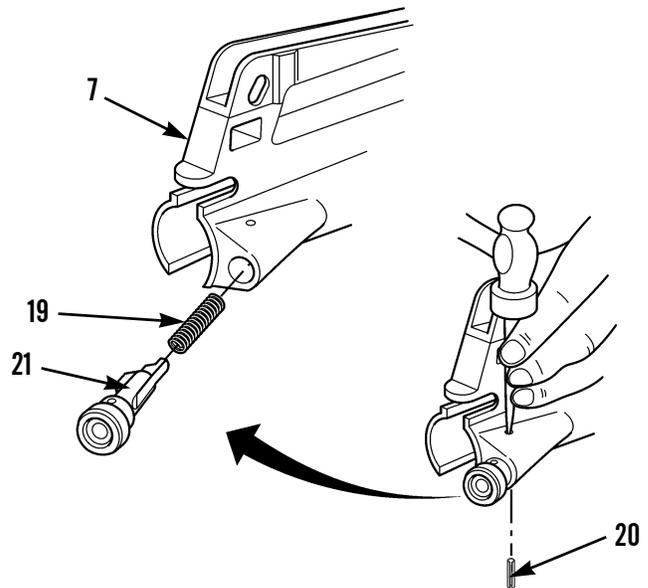
M16-2158



WARNING

To avoid injury to your eyes, use care when removing and installing spring-loaded parts. Failure to follow this warning may cause injury or death to personnel.

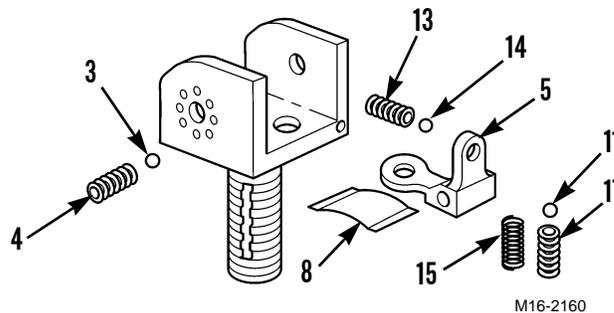
10. Remove forward assist assembly (21) and forward assist spring (19) from upper receiver (7). For further disassembly of forward assist assembly, refer to WP 0027 00.



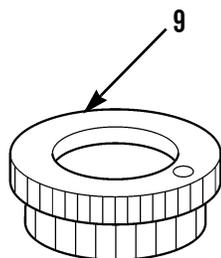
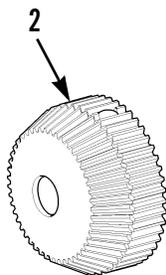
M16-2159

INSPECTION

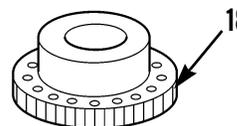
1. Check rear sight parts for serviceability. Aperture interior should be round and distinct. Replace if defective.
2. Visually inspect rear sight assembly helical springs (4, 13, and 17), ball bearings (3, 11, and 14), and elevation spring (15) for breaks, bends, and missing parts. Ball bearings should be smooth and round. Replace if defective.
3. Check upper receiver for cracks, corrosion, and damage. Clear drain hole using a piece of wire. Replace upper receiver if defective. Refer to WP 0025 00.
4. Check that flat spring (8) retains sight aperture (5) firmly in either position. Replace flat spring if sight aperture is not firm.



5. Check elevation index (9), windage knob (2), and elevation knob (18) for legibility of markings. Check underside of windage knob for cracks. Detent indexing surfaces should be well defined.



M16-2161

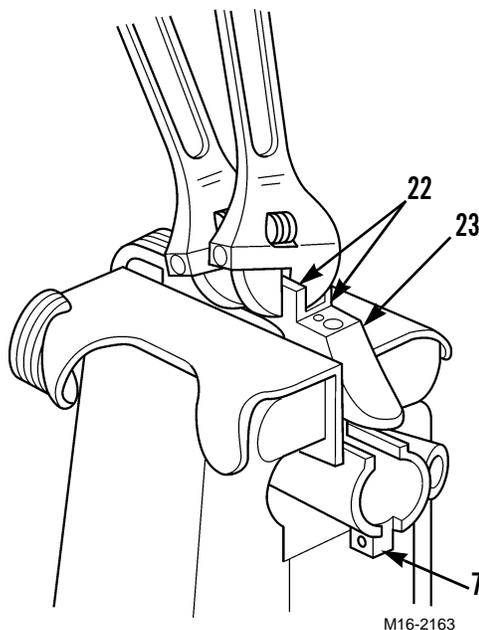


M16-2162

6. Check rear sight base for serviceability. Clear drain holes for springs. Threaded portion of rear sight assembly base and elevation knob should be well formed.
7. Inspect rear sight guards for bends. If bent, refer to *Repair* in this work package.
8. Inspect all parts for damage or wear. Replace all defective parts.

REPAIR

1. To straighten bent rear sight assembly guards (22), remove rear sight assembly components. Place carrying handle (23) in vise using jaw clamps. Tighten vise to firmly hold upper receiver (7).
2. Using two adjustable wrenches, gradually bend the rear sight assembly guards (22) to straighten. When bending the guards, gradually bend beyond the straight point, as the guard will partially return when bending pressure is stopped.



3. After straightening, use a flat file to remove any nicks, kinks, or burrs that remain on the inside of the rear sight assembly guards (22).

CAUTION

DO NOT use wire brush on aluminum surfaces.

4. Apply solid film lubricant (SFL) to brightened area for final protective coating.
5. Replace rear sight assembly components and check that rear sight assembly functions properly. If rear sight assembly functions properly, return upper receiver assembly to service.
6. If rear sight assembly guards (22) cannot be straightened utilizing these repair procedures, replace the upper receiver or carrying handle (23).

LUBRICATION

Lubricate upper receiver assembly and rear sight assembly. Apply Cleaner, Lubricant, and Preservative (CLP) to springs and ball bearings (three each) and threaded portion of screws prior to installation. Lubricate springs and ball bearings through their respective drain holes.

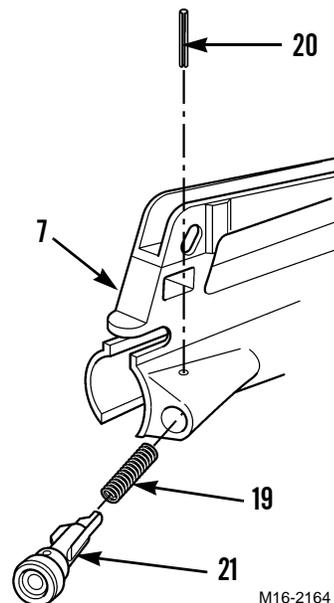
REASSEMBLY



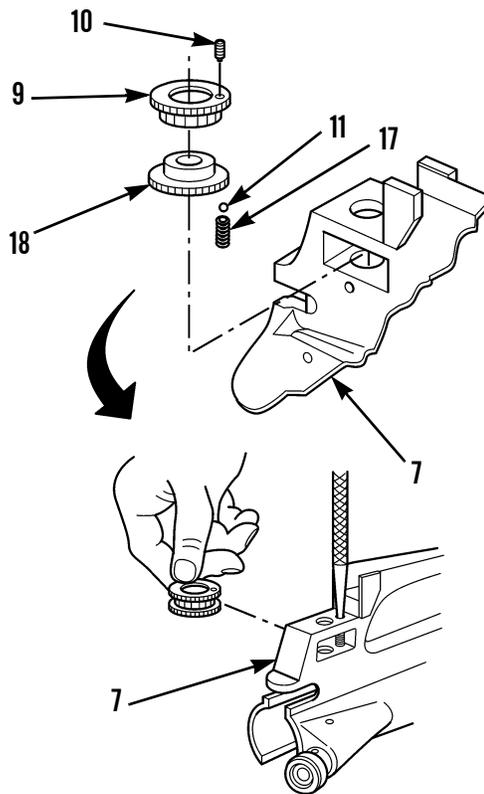
WARNING

Use care when removing and installing spring-loaded parts. Failure to follow this warning may cause injury to personnel.

1. Apply Cleaner, Lubricant, and Preservative (CLP) to forward assist spring (19) and forward assist assembly (21). Install both into upper receiver (7).
2. Install spring pin (20) using a 3/32-in. drive pin punch and hammer.



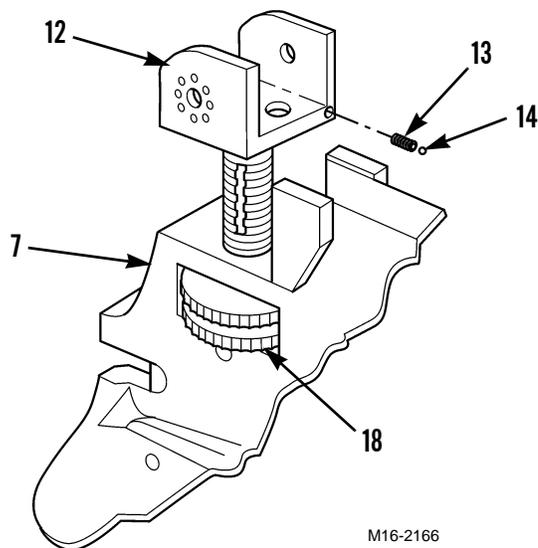
3. Assemble elevation knob (18), elevation index (9), and new index screw (10) using 1/16-in. hex wrench. Do not overtighten index screw as scale will require adjustment.
4. Install ball bearing (11) and elevation index spring (17) into the upper receiver (7) using needle-nose pliers or tweezers.
5. Insert a punch through access hole, depress ball bearing (11), and slide elevation knob assembly (18) in upper receiver (7) from the side. Center elevation knob assembly.



REASSEMBLY - CONTINUED**NOTE**

All springs are identical when new. Once disassembled from the weapon, their free length may vary due to different amounts of compression when installed. If the spring lengths vary, use the longest as the windage knob spring and the shortest as the elevation index spring.

6. Insert threaded portion of rear sight assembly base (12) into upper receiver (7) and rotate elevation knob assembly (18) until threads engage.
7. Insert rear sight aperture spring (13) and ball bearing (14) in their hole as the rear sight assembly base (12) is lowered into upper receiver (7) while the elevation knob assembly (18) is rotated. Rotate elevation knob assembly until rear sight assembly base is all the way down. Check spring action of rear sight aperture spring on upper receiver.

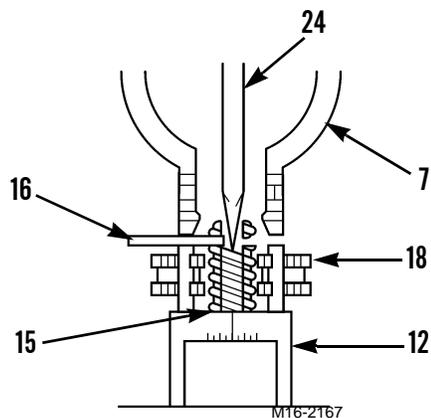


M16-2166

CAUTION

Ensure spring pin passes over the elevation index spring, not through its coils.

8. Rotate elevation knob assembly (18) in opposite direction 22 clicks, raising rear sight assembly base (12). Insert the rear sight elevation index spring (15) through underside of upper receiver (7). Compress rear sight elevation index spring with a small tip screwdriver (24) and install spring pin (16). Spring pin must pass over elevation index spring, not through its coils. Rotate elevation knob until rear sight assembly base is all the way down.



M16-2167

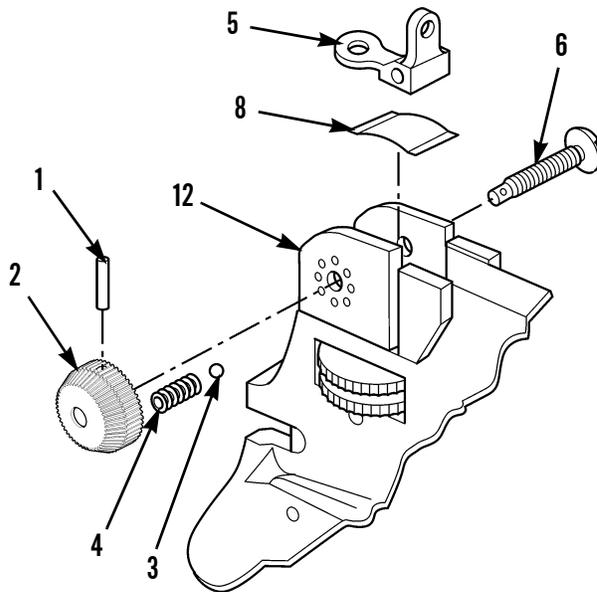
REASSEMBLY - CONTINUED

9. Install flat spring (8) and sight aperture (5) in rear sight assembly base (12). Install windage screw (6) with screwdriver.
10. Insert windage knob spring (4) and ball bearing (3) in windage knob (2).

NOTE

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

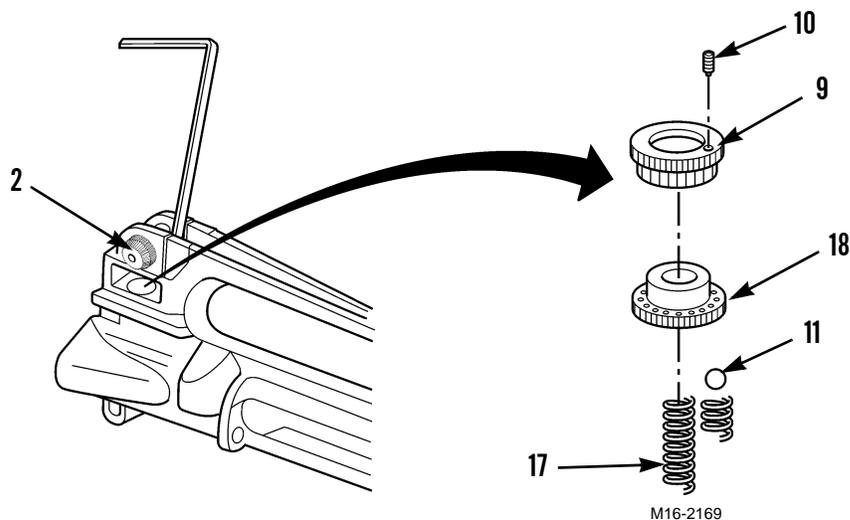
11. Position windage knob (2) on shaft of windage screw (6). Align holes in windage knob with hole in shaft of windage screw. Using a drive pin punch and hammer, install spring pin (1).



M16-2168

12. Rotate and test elevation index (9) and windage knob (2) for ease of operation.
13. Inspect elevation knob as follows:
 - a. Rotate elevation knob (18) counterclockwise until the rear sight assembly is all the way down. If a whole click is not felt as the rear sight assembly stops, the rear sight assembly has bottomed out and will not pivot freely.
 - b. Position elevation knob (18) back slightly to its last whole click so the rear sight assembly base is under tension of the ball bearing (11) and elevation index spring (17). The 300-m mark should align with the mark on the receiver.
 - c. If the 300-m mark is not aligned with the mark on the receiver, slip the range scale in the following manner:
 - (1) Position the 300-m mark with the mark on the receiver.
 - (2) Insert a 1/16-in. hex wrench through the access hole of the rear sight assembly base and into the index screw (10).
 - (3) Loosen the index screw (10) three turns and leave the hex wrench in place.
 - (4) Rotate the lower portion of the elevation knob (18) counterclockwise until it stops (range scale should not have moved). Elevation knob should be positioned on its last whole click.
 - (5) Tighten index screw (10) and remove hex wrench.
 - (6) Check for proper setting.

REASSEMBLY - CONTINUED



14. After the weapon is assembled, center the rear sight, place at the 300-m mark, and perform the following check:
 - a. While looking at a light background, obtain good sight alignment.
 - b. If the hole in the rear sight aperture is oval instead of round, the rear sight base or upper receiver should be replaced. To determine which part requires replacement, replace rear sight base first. If this does not resolve the problem, replace the upper receiver.
15. Assemble the weapon (WP 0018 00).

END OF WORK PACKAGE

THIS WORK PACKAGE COVERS

Disassembly, Inspection, Repair, Lubrication, Reassembly

INITIAL SETUP**Maintenance Level**

Intermediate

Tools and Special Tools

E2900/E7900 Tool Kit

Materials/Parts

Cleaner, Lubricant, and Preservative

References

WP 0018 00

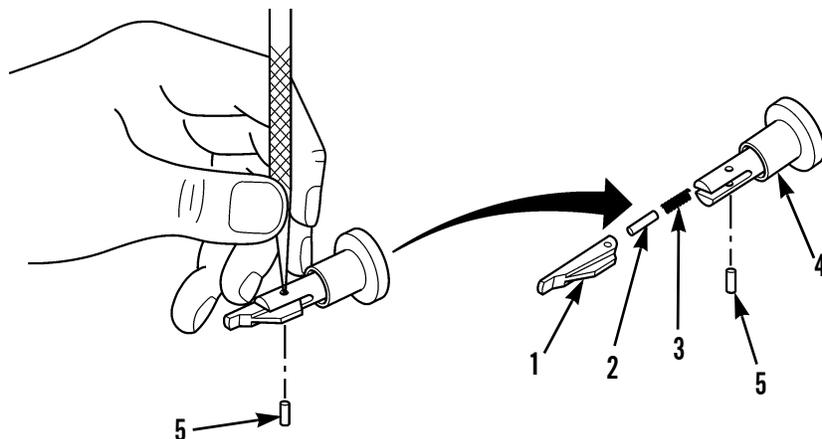
Equipment Conditions

Forward assist assembly removed (WP 0026 00)

DISASSEMBLY**WARNING**

Use care when removing and installing spring-loaded parts. Failure to do so may cause injury to personnel.

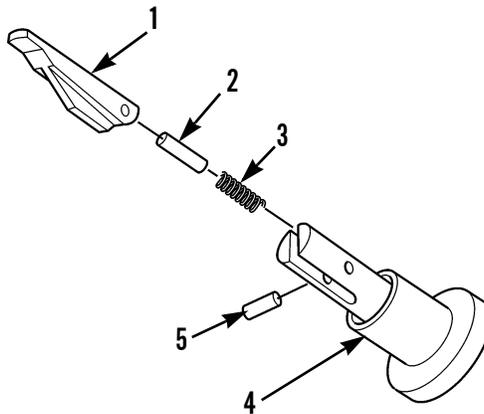
1. Drive out spring pin (5) using a 1/16-in. drive pin punch and hammer.
2. Remove forward assist pawl (1), pawl detent (2), and pawl detent spring (3) from plunger assembly (4).



M16-2170

INSPECTION

1. Inspect forward assist pawl (1) for burrs, chips, and cracks. Minor burrs may be removed using fine files or stones, as required. Replace forward assist pawl if defective.
2. Inspect pawl detent (2) for burrs and cracks. Minor burrs may be removed using files or stones, as required. Replace pawl detent if defective.
3. Inspect pawl detent spring (3) for kinks, breaks, or wear. Replace pawl detent spring if defective.
4. Inspect plunger assembly (4) for wear, burrs, chips, and breaks. Minor burrs may be removed using files or stones, as required. Replace forward assist assembly if defective.
5. Inspect spring pin (5) for wear. Replace if defective.



M16-2171

REPAIR

1. Repair forward assist pawl (1) using fine files or stones, as required, to remove burrs. Do not deform forward assist pawl.
2. Repair pawl detent (2) using fine files or stones, as required, to remove burrs. Do not deform pawl detent.
3. Repair plunger assembly (4) using fine files or stones, as required, to remove burrs. Do not deform plunger assembly.

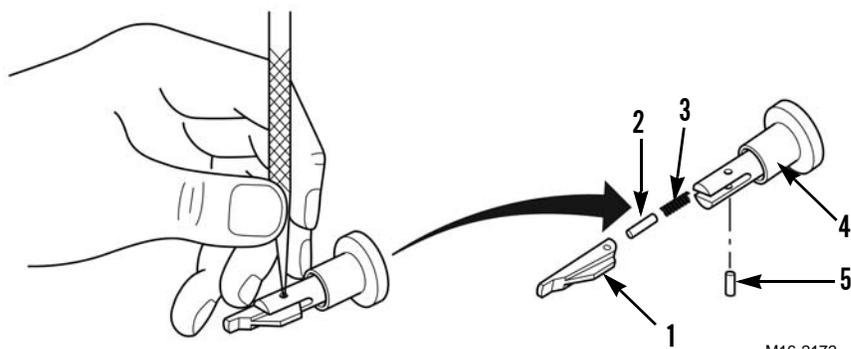
LUBRICATION

Lubricate pawl detent spring (3), pawl detent (2) and forward assist pawl (1) with CLP prior to installation.

REASSEMBLY**WARNING**

Use care when removing and installing spring-loaded parts. Failure to follow this warning may cause injury to personnel.

1. Install pawl detent spring (3), pawl detent (2), and forward assist pawl (1) into plunger assembly (4).
2. Align holes and install spring pin (5) using a 1/16-in. drive pin punch and hammer. Spring pin must be flush or slightly below flush after assembly.
3. Assemble weapon (WP 0018 00).

**END OF WORK PACKAGE**

LOWER RECEIVER AND RECEIVER EXTENSION ASSEMBLY

0028 00**THIS WORK PACKAGE COVERS**Disassembly, Inspection, Repair, Test, Reassembly

INITIAL SETUP**Maintenance Level**

Intermediate

Tools and Special Tools

Combination wrench

E2900/E7900 Tool Kit

Tool and gage set

Slave pin

Vise

Materials/Parts

Dichloromethane, technical

Lubricant, Solid Film

Materials/Parts - Continued

Cloth, abrasive

Grease, molybdenum disulfide

References

WP 0018 00

WP 0029 00

WP 0030 00

Equipment ConditionsLower receiver and buttstock assembly removed
(WP 0011 00)Buttstock assembly and pistol grip removed
(WP 0016 00)

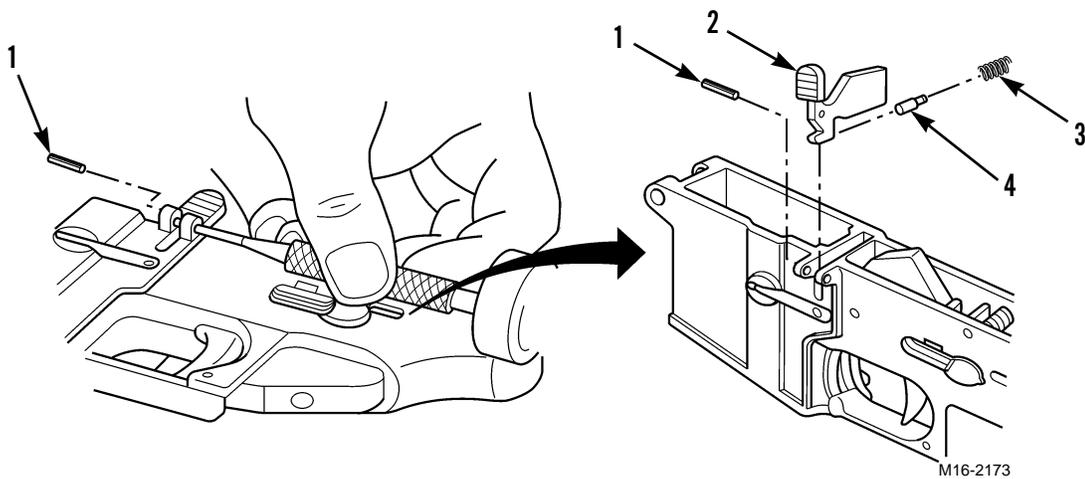
DISASSEMBLY



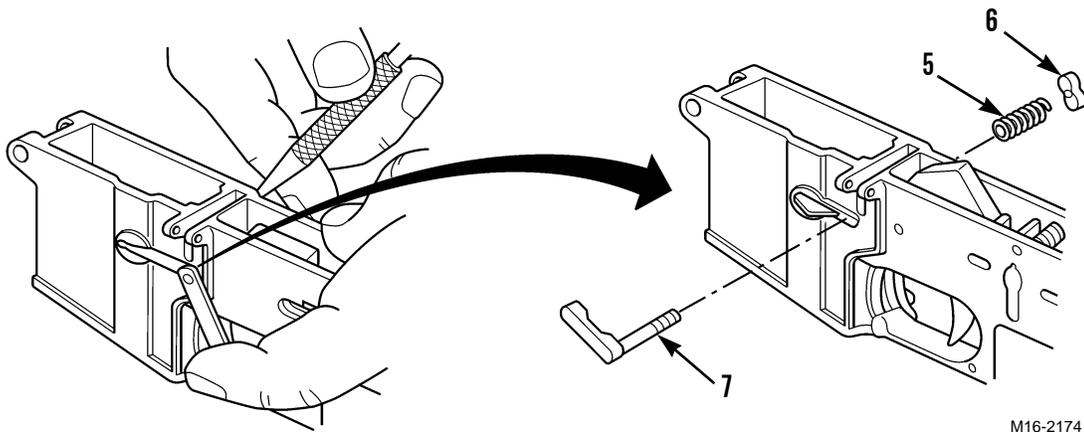
WARNING

Use care when removing and installing spring-loaded parts. Failure to follow this warning may cause injury to personnel.

1. Remove spring pin (1) using a 3/32-in. drive pin punch and hammer.
2. Remove bolt catch (2), bolt catch plunger (4), and bolt catch spring (3).



3. Using drive pin punch, press in on magazine button (6) and turn magazine catch (7) counterclockwise to unscrew and remove.
4. Remove magazine button (6) and magazine catch spring (5).



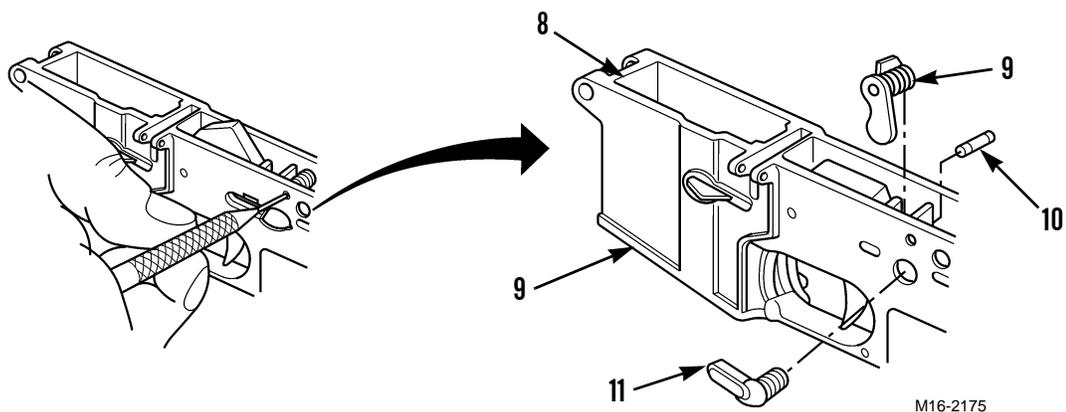
DISASSEMBLY - CONTINUED

5. Use a rounded-tip drive punch to push automatic sear pin (10) out of lower receiver (8).

NOTE

To remove automatic sear, selector lever must be positioned to BURST (if installed).

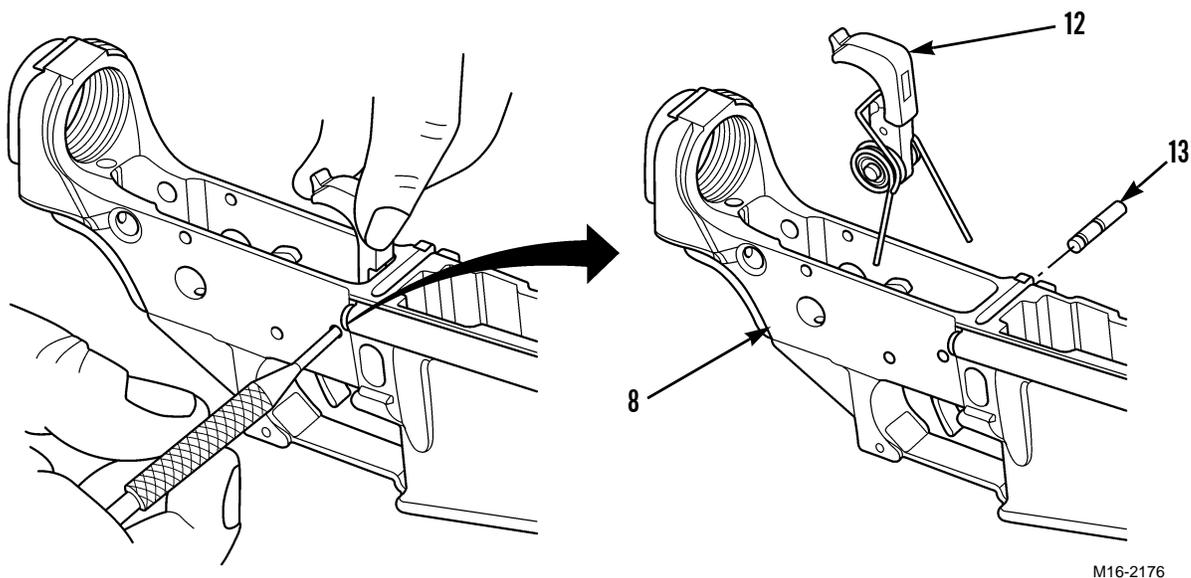
6. Remove automatic sear (9) and selector lever (11).



NOTE

To remove hammer assembly, hammer should be in the forward position and the selector lever positioned to SEMI (if installed).

7. Use drive pin punch to push hammer pin (13) from lower receiver (8).
8. Remove hammer assembly (12). If further disassembly of hammer assembly is required, refer to WP 0029 00.



DISASSEMBLY - CONTINUED**NOTE**

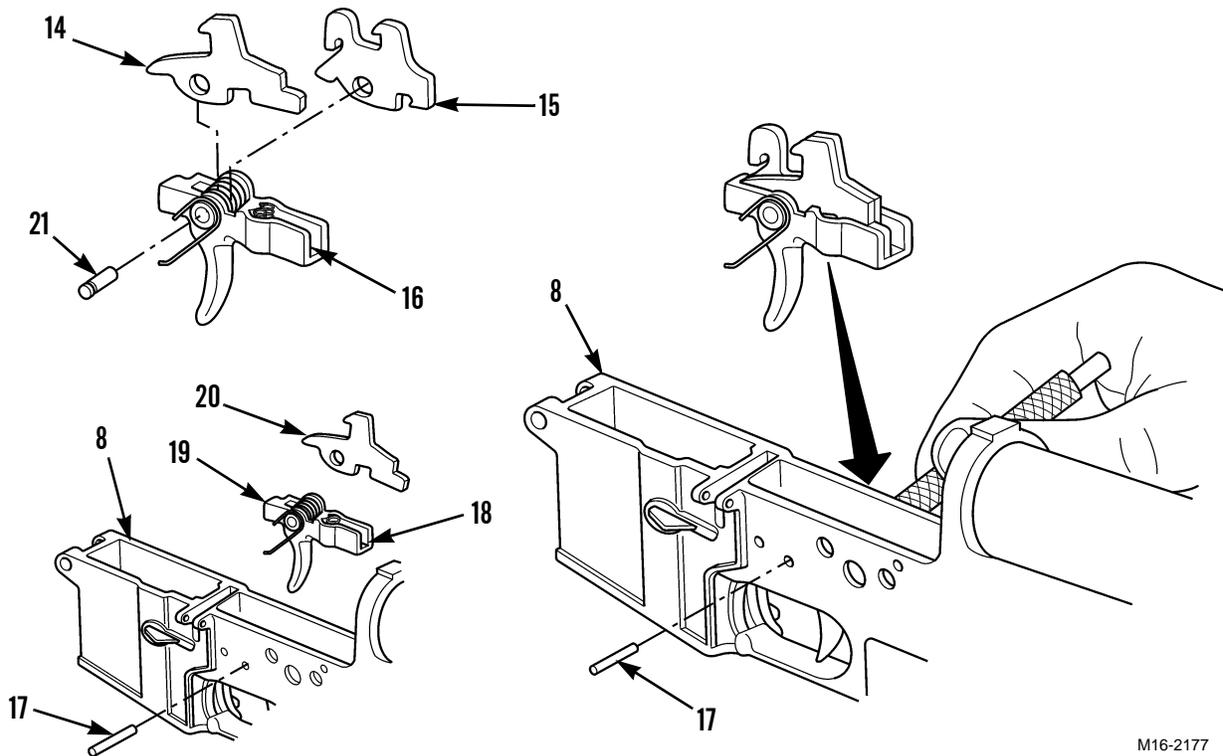
Use of a fabricated slave pin will allow removal of the following parts as a unit.

9. Remove trigger pin (17) by pushing from the left side of the lower receiver (8) with fabricated slave pin (21) and a drive pin punch.
10. Remove semi-automatic disconnecter (14), burst disconnecter (15), and trigger assembly (16). If further disassembly of trigger assembly is required, refer to WP 0030 00.

NOTE

Perform step 11 for M4A1 CQBW ONLY.

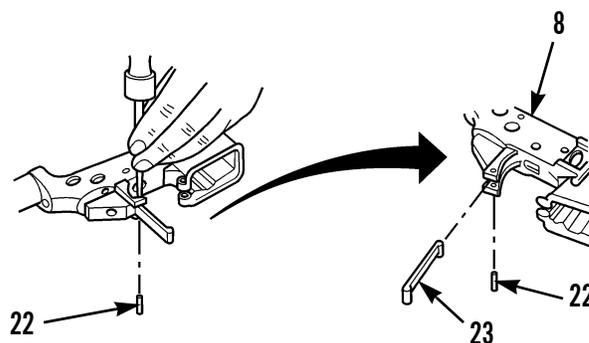
11. Remove disconnecter (20), disconnecter spring (18), and trigger assembly (19) from lower receiver (8).



M16-2177

DISASSEMBLY - CONTINUED

12. Remove spring pin (22) from lower receiver (8) using a 1/8-in. drive pin punch and hammer.
13. Remove trigger guard (23).



M16-2178

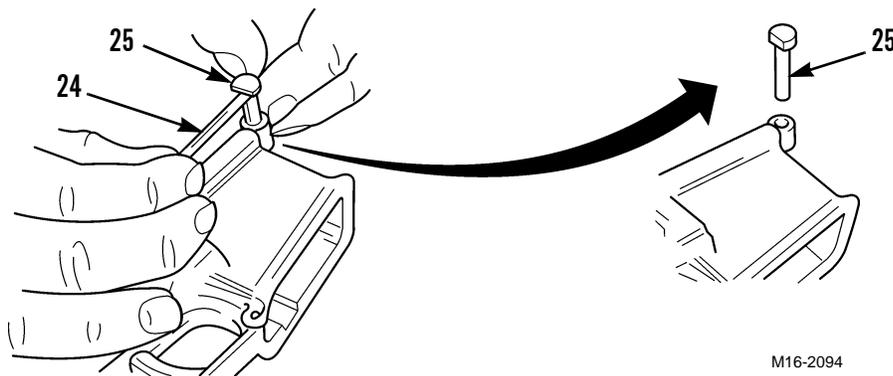
**WARNING**

Use care when removing and installing spring-loaded parts. Failure to follow this warning may cause injury or death to personnel.

NOTE

Catch pivot pin detent and pivot pin detent spring as pivot pin is removed.

14. Depress pivot pin detent and pivot pin detent spring and remove pivot pin, or insert fabricated pivot pin removal tool (24) to compress pivot pin detent. Rotate pivot pin (25) one-quarter turn. Remove tool and pivot pin.

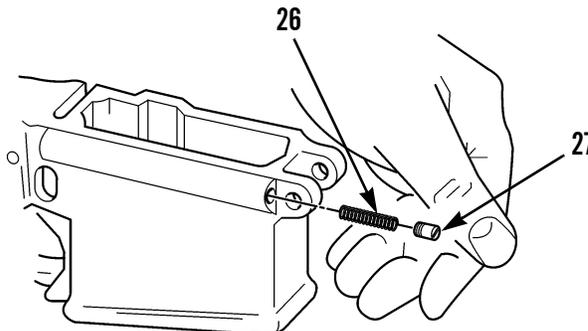


M16-2094

DISASSEMBLY - CONTINUED**NOTE**

If pivot pin detent spring will not come out, use a wire to remove it.

15. Be sure to hold cupped hand in front of pivot pin detent (27) and pivot pin detent spring (26) to prevent loss of pivot pin detent and pivot pin detent spring.



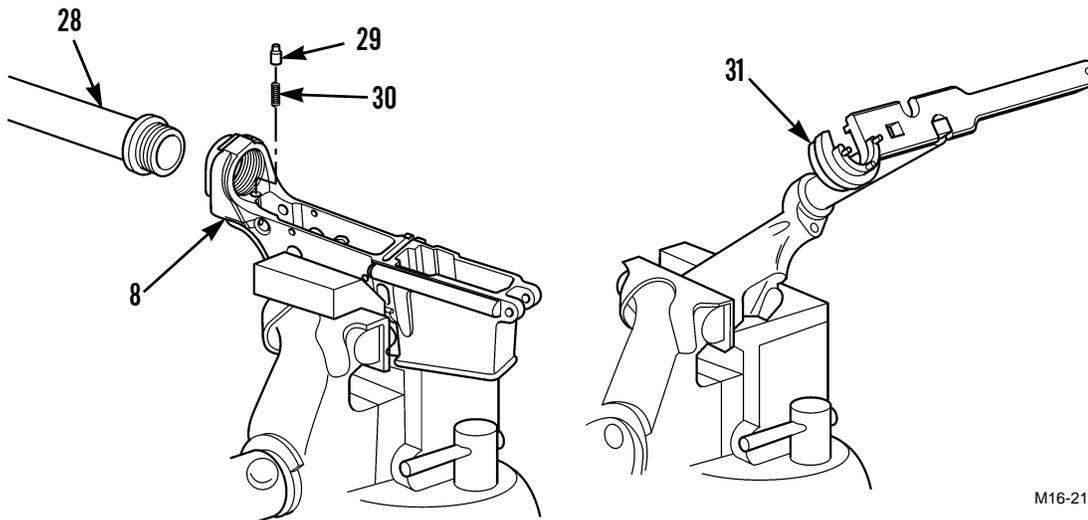
M16-2095

NOTE

- Use padding between the lower receiver and brass vise caps.
 - Perform steps 16 and 17 for M16A2 and M16A4 rifles ONLY.
16. Place the solid portion of the lower receiver (8) in a vise with brass caps and tighten on the solid portion of the lower receiver just tight enough to hold it in place.

NOTE

- As lower receiver extension is removed, catch buffer retainer and buffer retainer spring.
 - Lower receiver is a serial-number-controlled item.
17. Remove lower receiver extension (28) from lower receiver (8) using combination wrench (31). Catch buffer retainer (29) and buffer retainer spring (30).



M16-2179

DISASSEMBLY - CONTINUED**NOTE**

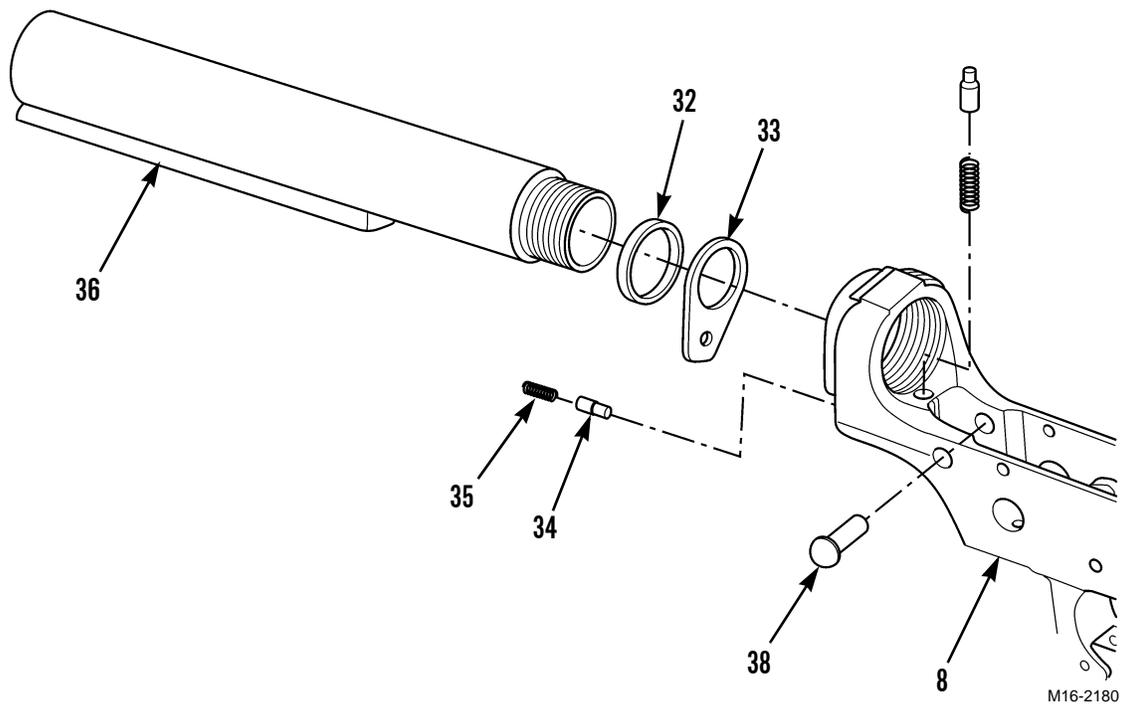
- Perform steps 18 through 20 for M4 and M4A1 CQBW carbines ONLY.
- Use wooden vise jaws in place of brass vise jaw caps.

18. Clamp lower receiver (8) in vise and tighten on solid portion just enough to hold.
19. Remove the lower receiver extension (36) by loosening the extension locking nut (32) using the combination wrench.

CAUTION

While performing the following step, care should be taken to restrain the takedown pin detent spring.

20. Loosen the extension locking nut (32) to allow the receiver end plate (33) to disengage from the lower receiver (8). Catch the takedown pin detent (34) and takedown pin detent spring (35), and remove the takedown pin (38). Unscrew the lower receiver extension (36) from the lower receiver.

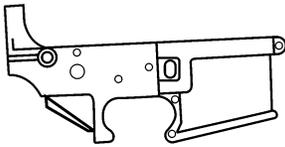


INSPECTION

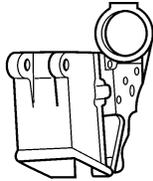
NOTE

Refer to *Repair* in this work package for repair of corroded and/or shiny (bare metal) surfaces.

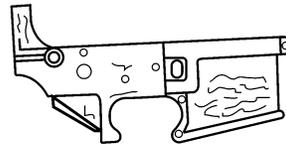
1. Inspect lower receiver for corrosion in the lower receiver lobes of the pivot area or hinge pin area. If extensive corrosion appears in these areas, the receiver cannot be repaired and must be replaced. Turn weapon in for replacement.



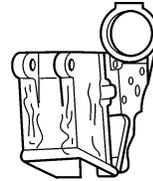
**SHINY SURFACES
(REPARABLE)**



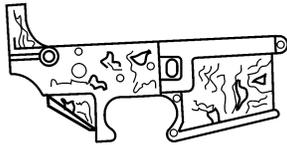
**SHINY SURFACES
(REPARABLE)**



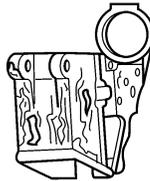
**CORRODED AND NO HOLES
(REPARABLE)**



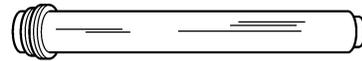
**CORRODED
(REPARABLE)**



**CORRODED WITH HOLE
(NONREPARABLE)**



**CORRODED LOBES WEAKENING
PIVOT PIN AREA
(NONREPARABLE)**



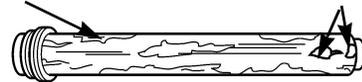
**SHINY SURFACES
(REPARABLE)**



**CORRODED
(REPARABLE)**

THIN WALLS

HOLES



**HOLES AND THIN WALL
(NONREPARABLE)**

M16-2181

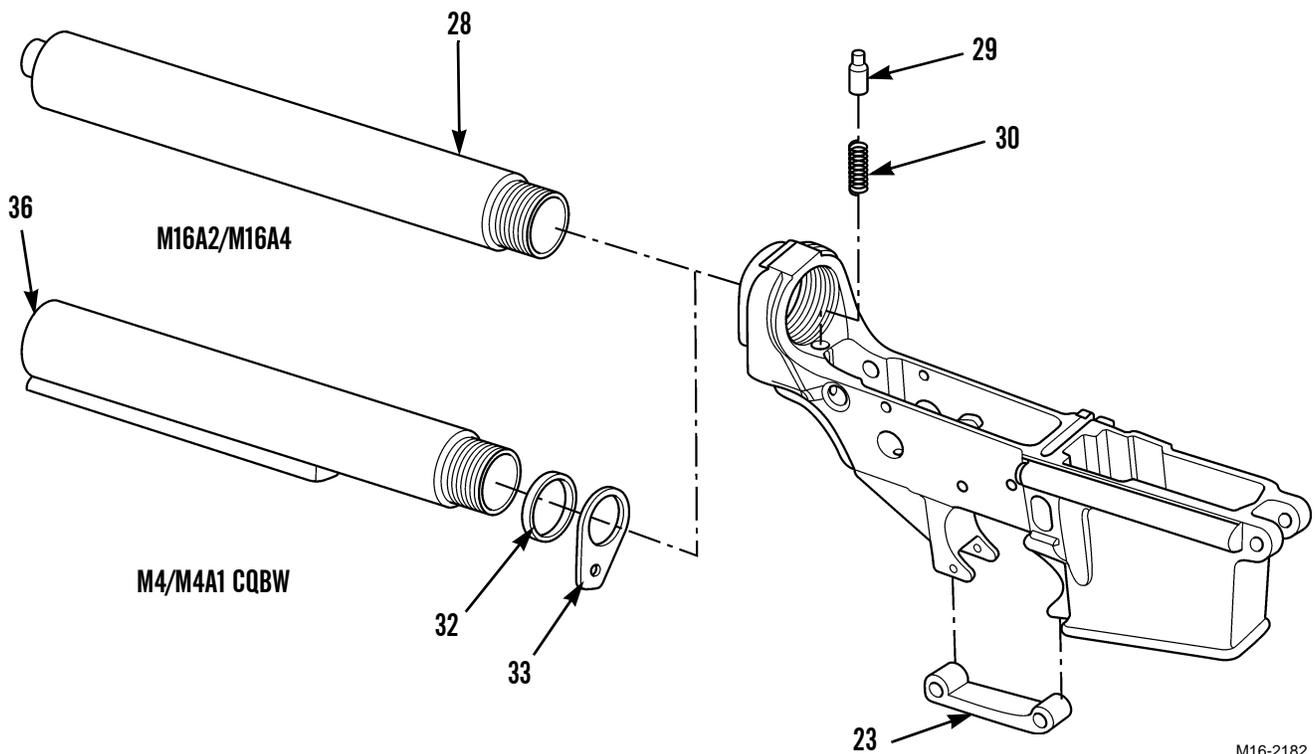
INSPECTION - CONTINUED

2. Inspect buffer retainer (29) for wear. Replace if defective.
3. Inspect buffer retainer spring (30) for deformities and breaks. Replace if defective.
4. Inspect trigger guard (23) for deformities, and check operation of plunger and spring. Replace trigger guard if defective.

NOTE

Perform step 5 for M4 and M4A1 CQBW weapons ONLY.

5. Inspect receiver end plate (33) and locking nut (32) for damage. Replace if damaged.
6. Inspect lower receiver extension (28 or 36) for dents and wear. Repair or replace if defective.
7. Lower receiver extensions (28 or 36) with shiny (bare metal) or corroded surfaces may be repaired. Lower receiver extensions with thin walls or holes must be replaced.



REPAIR**WARNING**

When using Solid Film Lubricant (SFL) or technical dichloromethane, ensure area is well ventilated. Failure to follow this warning may cause injury or death to personnel.

CAUTION

DO NOT use a wire brush on aluminum surfaces.

NOTE

- If a weapon's lower receiver is missing one-third or more of its exterior protective finish resulting in an unprotected, light-reflecting surface, it is candidate for overhaul. This missing finish is a shortcoming, which requires action to obtain a replacement weapon. Once a replacement has been received, evacuate the original weapon to higher level of maintenance for overhaul.
 - Solid Film Lubricant (SFL) is the only authorized touchup for M16 series weapons and may be used on up to one-third of the exterior finish of the weapon.
1. Repair or replace all parts of the lower receiver assembly if defective.
 2. Repair lower receiver extension by using abrasive cloth to remove light corrosion. Retouch using SFL.

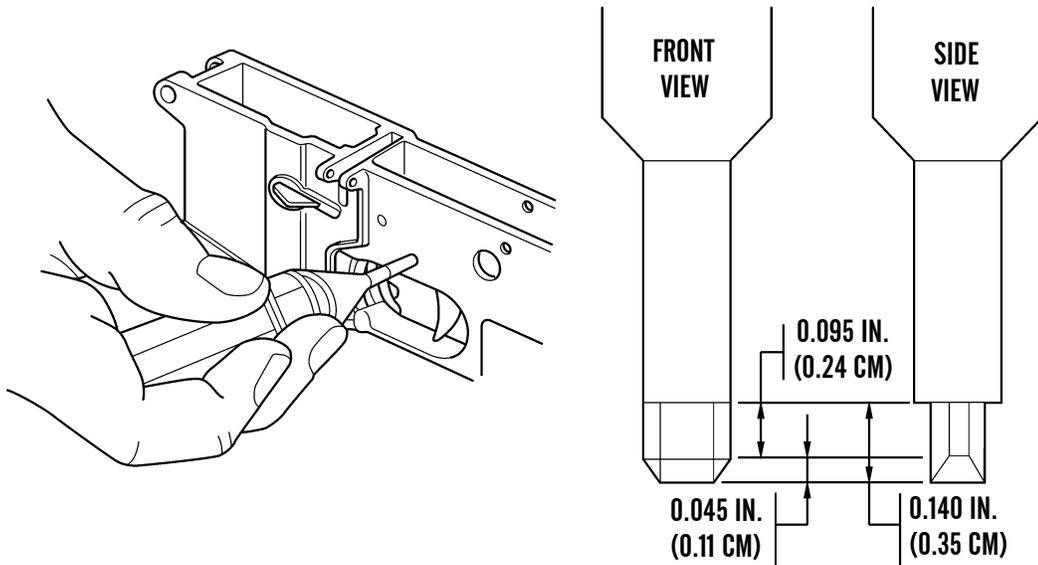
TEST

1. With the lower receiver attached to the upper receiver and the pivot pin and takedown pins in place, perform the following test:
 - a. Apply hand pressure to push the upper receiver as far to one side as possible.
 - b. Attempt to insert a 0.020-in. thickness gage between the pivot pin lugs or the upper and lower receivers.
 - c. If the thickness gage penetrates the pivot pin at all accessible locations, repair by replacement of the upper receiver (see step 2 below), or replacement of the weapon is required.
2. If the weapon fails the above test, remove the upper receiver and install a "new" upper receiver. Repeat test.
3. If the weapon now passes the above test, it shall be considered serviceable and continue in use.
4. If the weapon fails the test with a new upper receiver, this failure is a shortcoming which requires action to obtain a replacement weapon. Once a replacement been received, evacuate the original weapon to a higher level of maintenance for overhaul.

TEST - CONTINUED**NOTE**

If the lower receiver is not disassembled, visually inspect for broken or damaged parts to ensure the hammer and trigger springs are correctly installed before beginning this test. It is not always necessary to disassemble the lower receiver for the sole purpose of this visual inspection. If broken or damaged parts are found, disassemble and repair as authorized.

5. Test two hammer pin holes and two trigger pin holes using no-go plug gage, P/N 12006472. This test may be conducted by disassembly of the lower receiver or by pushing the pin far enough to disengage the end of the pin from the side of the receiver that is being tested. If the lower receiver is not disassembled, and the no-go plug gage enters any hole to the first shoulder, the lower receiver must be disassembled, and all four holes must be tested again.
6. Gently insert the no-go plug gage and rotate it 180 degrees. If the no-go plug gage passes through any of the four holes, the weapon is unserviceable and will be turned in for replacement. The gage must extend through the wall thickness to be unserviceable.
7. After completion of gaging operation, visually inspect hammer and trigger springs to ensure proper location of spring legs.



M16-2183

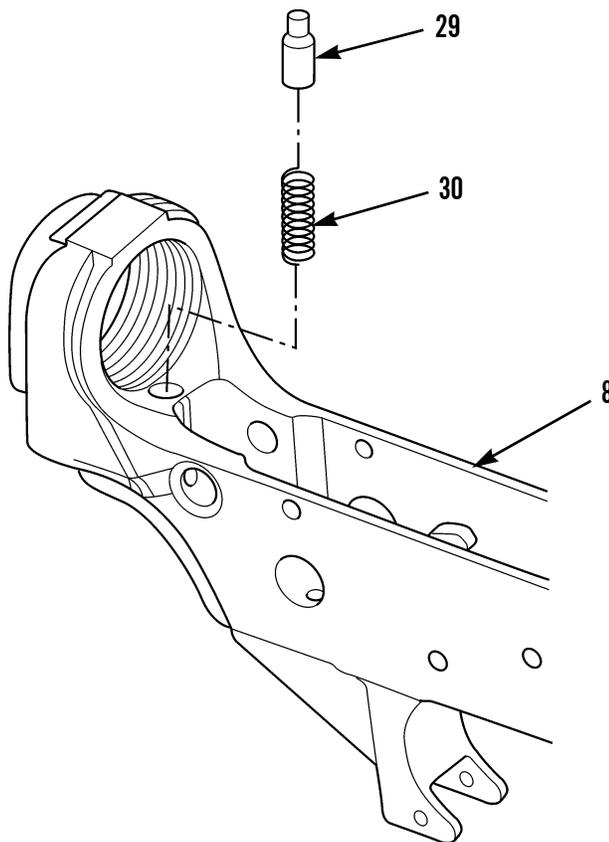
REASSEMBLY**WARNING**

Use care when removing and installing spring-loaded parts. Failure to follow this warning may cause injury or death to personnel.

NOTE

Perform steps 1 through 5 for M16A2 and M16A4 weapons ONLY.

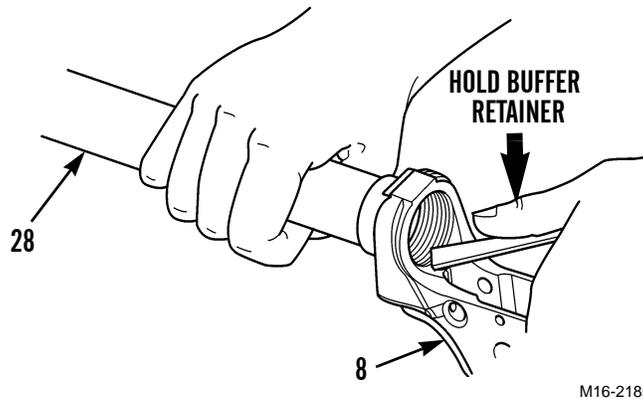
1. Install buffer retainer spring (30) and buffer retainer (29) into lower receiver (8).



M16-2184

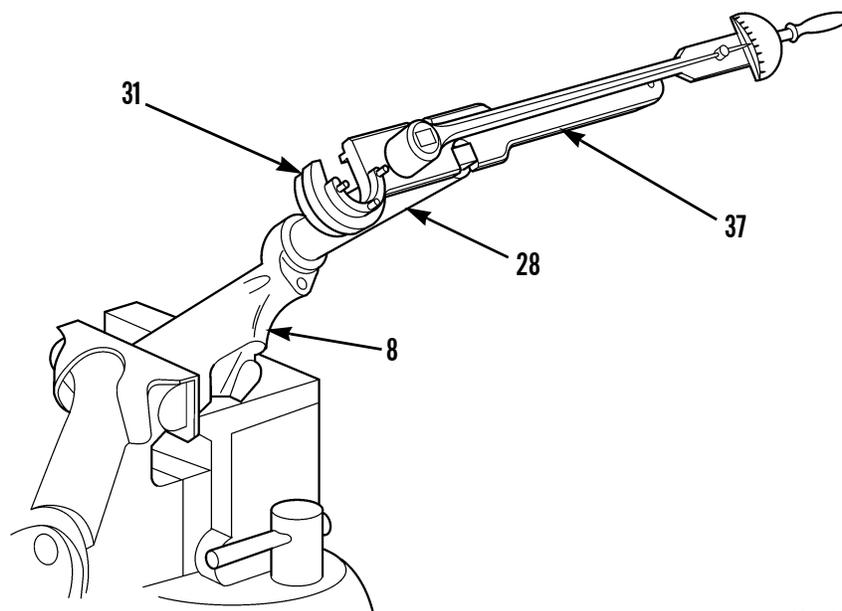
REASSEMBLY - CONTINUED

2. Lubricate threads of lower receiver (8) and lower receiver extension (28) with molybdenum disulfide grease prior to assembly.
3. Install lower receiver extension (28) into the lower receiver (8) while depressing buffer retainer.

**NOTE**

Use padding between lower receiver and brass vise jaws. Use vise jaws in vise and brass vise jaw caps, if available.

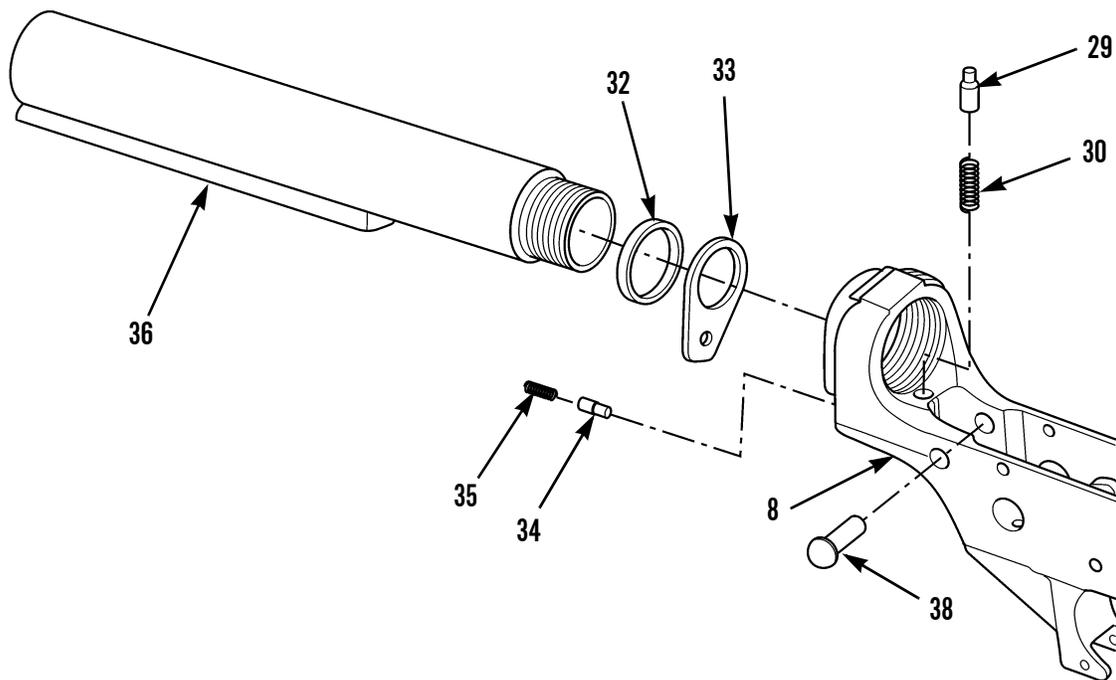
4. Clamp solid portion of lower receiver (8) in a machinist's vise using vise jaws. Grip the solid portion of the lower receiver with the vise jaws that conform to the shape of the lower receiver in this area.
5. Using combination wrench (31) and torque wrench (37), torque lower receiver extension (28) to 35 to 39 ft-lb (47.45 to 52.86 Nm). Torque is read when both wrenches are used together.



REASSEMBLY - CONTINUED**NOTE**

Perform steps 6 through 14 for M4 and M4A1 CQBW weapons ONLY.

6. Lubricate threads of lower receiver (8) and lower receiver extension (36) with molybdenum disulfide grease prior to reassembly.
7. Pre-position buffer retainer spring (30) and buffer retainer (29) into the retaining hole of the lower receiver (8). Screw the locking nut (32) onto the lower receiver extension (36) with the three notches on the locking nut facing forward.
8. Align the receiver end plate (33) onto the lower receiver extension (36) with the lug of the lower receiver end plate facing forward.
9. Pre-position the takedown pin (38), takedown pin detent (34), and takedown pin detent spring (35) in lower receiver (8).
10. Push down on the buffer retainer (29) and buffer retainer spring (30) while screwing the lower receiver extension (36) into the lower receiver (8) until it retains the buffer retainer in position.
11. Align the lug of the receiver end plate (33) into the rear of the lower receiver (8). Screw the locking nut (32) forward until it contacts the receiver end plate.
12. Using the spanner wrench, tighten the locking nut (32) until snug.
13. Using the spanner wrench and torque wrench, torque the locking nut (32) 38 to 42 lb-in. (4.29 to 4.74 Nm).
14. Stake the receiver end plate (33) in two places across from the notches in the locking nut (32).



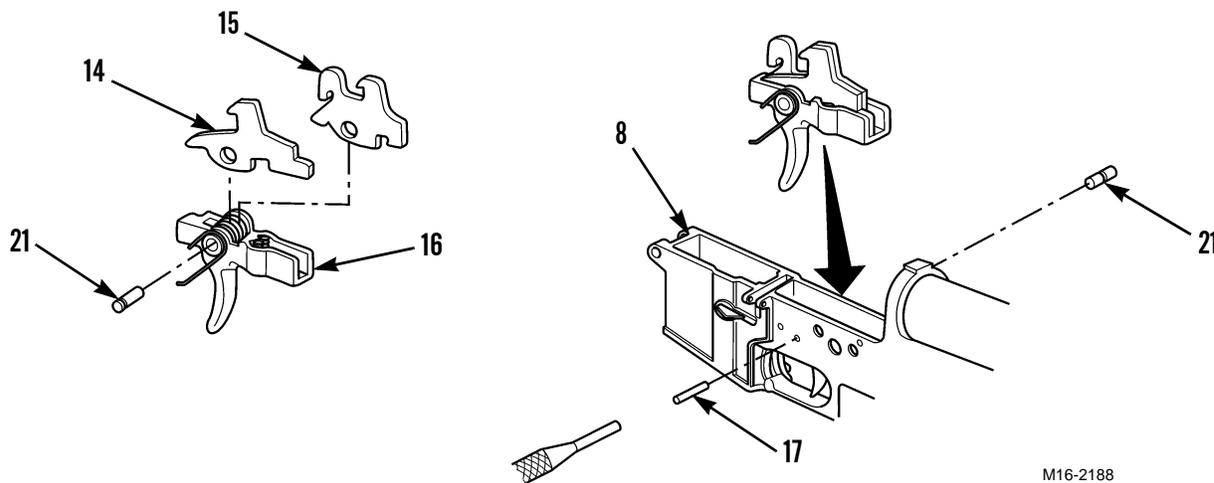
M16-2187

REASSEMBLY - CONTINUED

NOTE

Perform steps 15 and 16 for M16A2, M16A4, and M4 weapons ONLY.

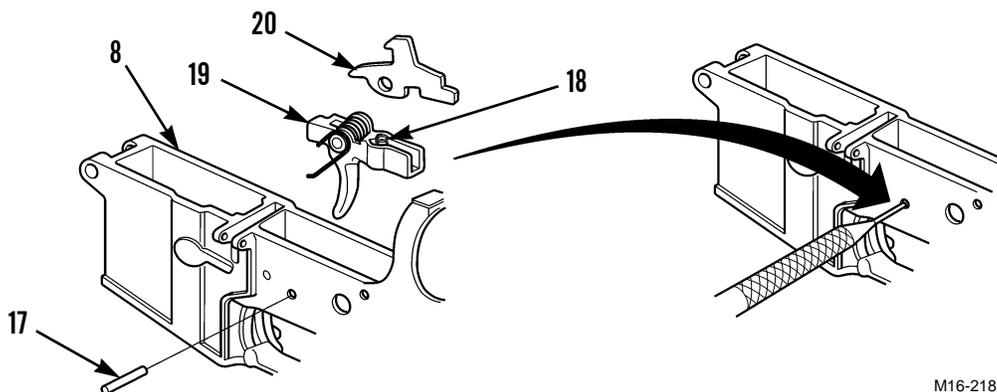
15. Assemble semi-automatic disconnecter (14), burst disconnecter (15), and trigger assembly (16). Install as a unit in lower receiver (8) using fabricated slave pin (21).
16. Install trigger pin (17) using drive pin punch. Push in until flush and fabricated slave pin (21) is pushed out.



NOTE

Perform steps 17 and 18 for M4A1 CQBW weapons ONLY.

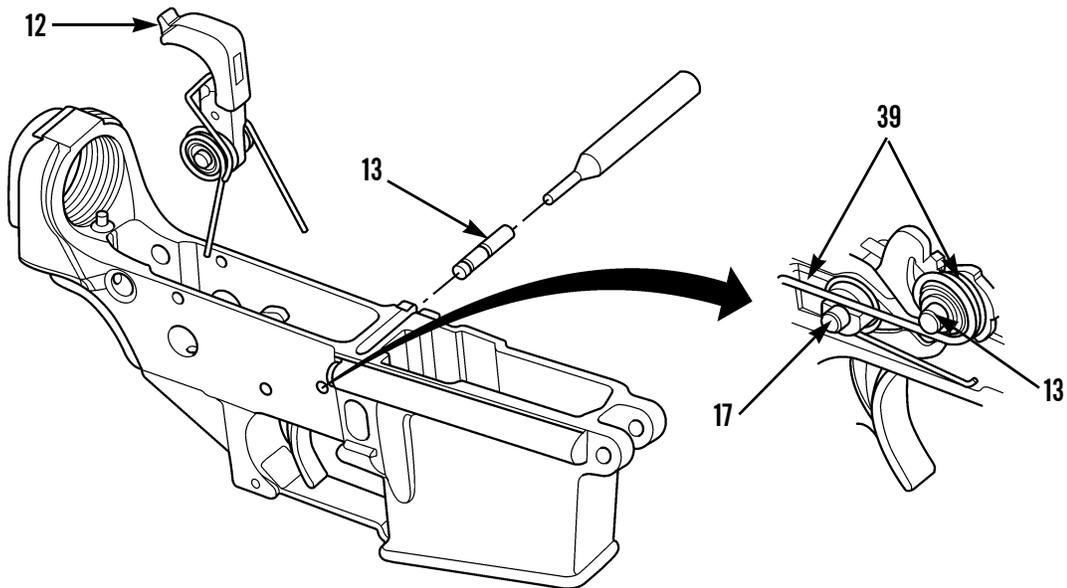
17. Install trigger assembly (19), disconnecter spring (18), and disconnecter (20) into lower receiver (8).
18. Install trigger pin (17) using drive pin punch. Push in until flush.



REASSEMBLY - CONTINUED**NOTE**

Ends of hammer spring (39) are installed to rear of trigger pin (17), resting in the annular groove on upper surface of trigger pin.

19. Install hammer assembly (12).
20. Install hammer pin (13) using drive pin punch. Push in until flush.

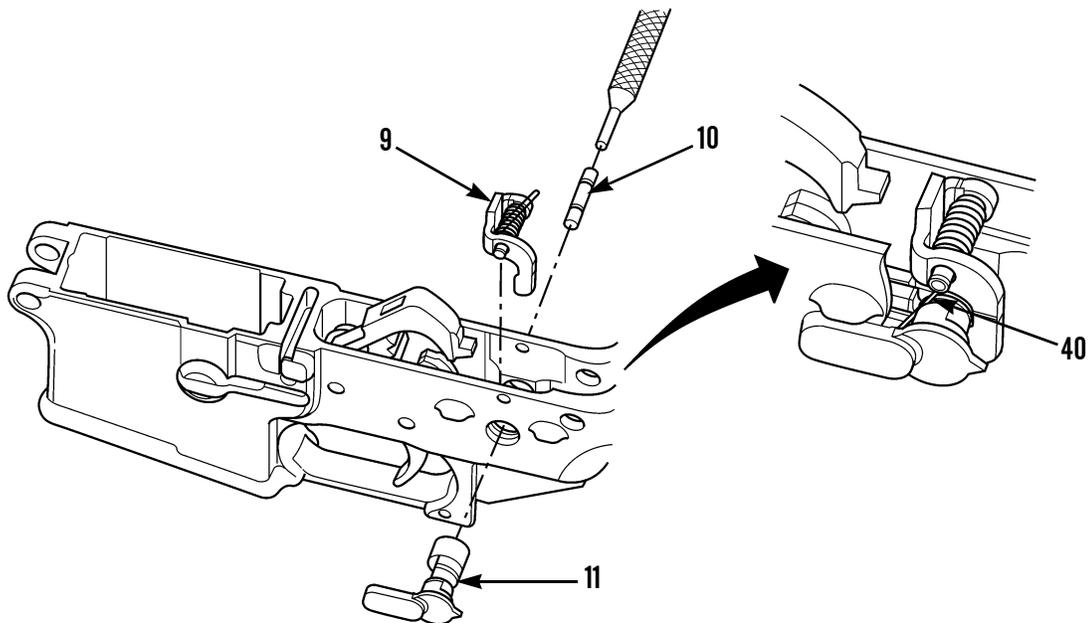


M16-2190

REASSEMBLY - CONTINUED**NOTE**

- Hammer assembly should be cocked prior to installing the selector lever.
- Selector lever, if installed, must be positioned to BURST. Long leg of automatic sear spring (40) must rest on top of selector lever.

21. Install selector lever (11) and automatic sear (9).
22. Install automatic sear pin (10) from the right side into the lower receiver using drive pin punch. Push in until flush.



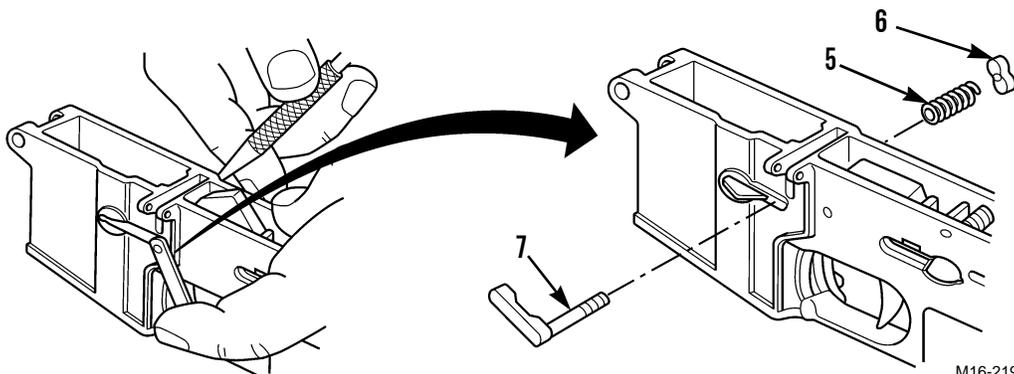
M16-2191

23. Install magazine catch spring (5) and magazine button (6).

NOTE

Drive pin punch should be larger than hole on magazine button.

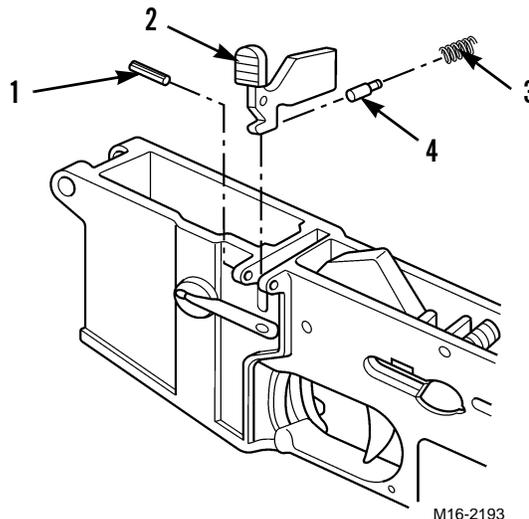
24. Install magazine catch (7). Push in on magazine button (6) using a drive pin punch, and turn magazine catch clockwise until threaded end of magazine catch is flush with magazine button head.



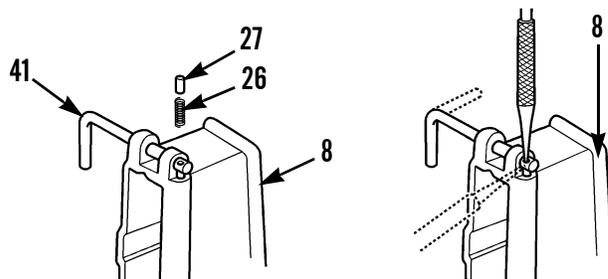
M16-2192

REASSEMBLY - CONTINUED

- 25. Install bolt catch spring (3), bolt catch plunger (4), and bolt catch (2).
- 26. Secure by installing spring pin (1) using 3/32-in. drive pin punch and hammer.



- 27. Install fabricated pivot pin installation tool (41). Insert pivot pin detent spring (26) and pivot pin detent (27) through the installation tool and into the lower receiver (8). Compress pivot pin detent into recess with punch and rotate tool. Remove punch.



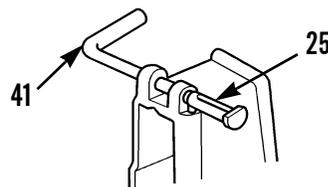
WARNING

Use care when removing and installing spring-loaded parts. Failure to follow this warning may cause injury to personnel.

NOTE

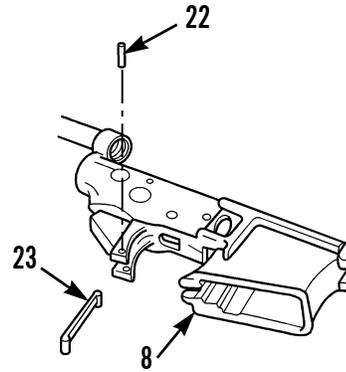
Rounded end of pivot pin detent must be in the groove of the pivot pin when assembly is complete.

- 28. Position pivot pin (25) and remove fabricated pivot pin installation tool (41). While maintaining pressure, slide pivot pin into hole. Rotate pivot to receive pivot pin detent.



REASSEMBLY - CONTINUED

29. Install trigger guard (23) into lower receiver (8).
30. Install spring pin (22) with 1/8-in. drive pin punch and hammer.



M16-2196

31. Assemble weapon (WP 0018 00).

END OF WORK PACKAGE

THIS WORK PACKAGE COVERS

Disassembly, Inspection and Repair, Reassembly

INITIAL SETUP

Maintenance Level

Intermediate

Equipment Conditions

Hammer assembly removed (WP 0028 00)

Tools and Special Tools

E2900/E7900 Tool Kit

DISASSEMBLY

NOTE

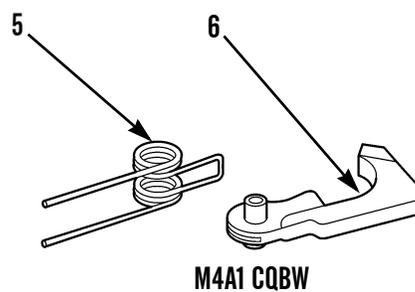
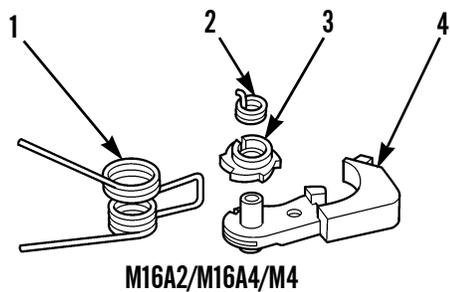
Burst cam for the M16A2 and M16A4 weapons is black. Burst cam for the M4 weapon is nickel-colored (shiny).

M16A2, M16A4, and M4

Remove hammer spring (1), cam clutch spring (2), and burst cam (3) from hammer (4).

M4A1 CQBW

Remove hammer spring (5) from hammer (6).



M16-2197

INSPECTION AND REPAIR

1. Inspect hammer spring for deformities, breaks, and bends. Pay close attention to the large coil. Replace hammer spring if defective.
2. Inspect cam clutch spring and burst cam for deformities, breaks, and bends. Replace if defective.
3. Inspect hammer and hammer pin retainer assembly for chips and breaks. Hammer pin should click into place under strong finger pressure. Install hammer pin into hole to check spring retention of the hammer pin. Replace hammer and hammer pin retainer assembly if defective.

REASSEMBLY**NOTE**

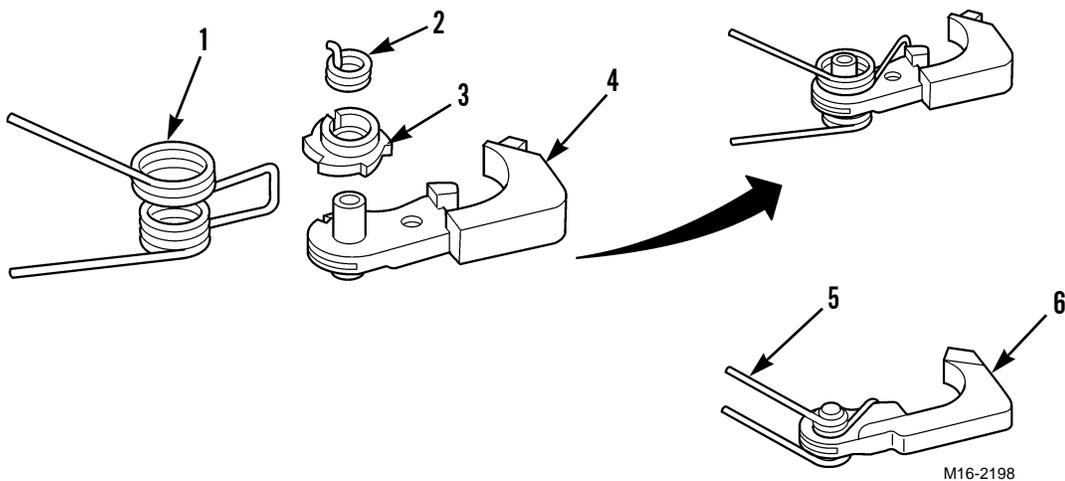
- **Burst cam for the M16A2 and M16A4 weapons is black. Burst cam for the M4 weapon is nickel-colored (shiny).**
- **Cam clutch spring should be assembled with bend to the inside. The large loop of the hammer spring should be assembled over the burst cam.**

M16A2, M16A4, and M4

Install burst cam (3), cam clutch spring (2), and hammer spring (1) on hammer (4).

M4A1 CQBW

Install hammer spring (5) on hammer (6).



END OF WORK PACKAGE

TRIGGER ASSEMBLY

0030 00

THIS WORK PACKAGE COVERS

Disassembly, Inspection and Repair, Reassembly

INITIAL SETUP

Maintenance Level

Intermediate

Tools and Special Tools

E2900/E7900 Tool Kit

Tools and Special Tools - Continued

Tapered center punch

Vise

Equipment Conditions

Trigger assembly removed (WP 0028 00)



WARNING

To avoid eye injury, use care when removing and installing spring-loaded parts. Failure to follow this warning may cause injury to personnel.

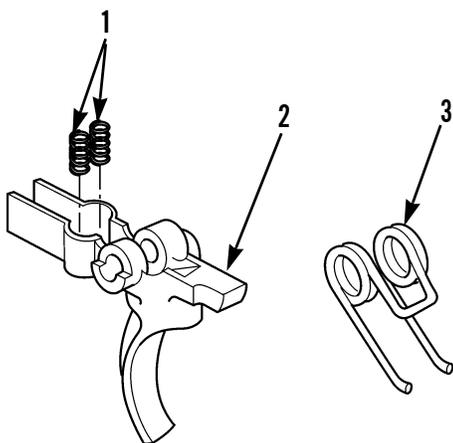
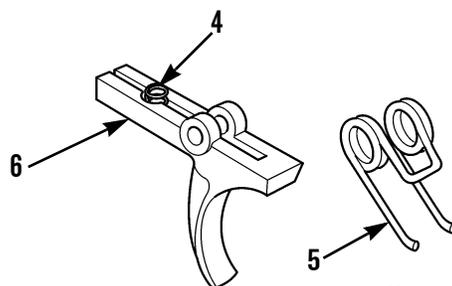
DISASSEMBLY**M16A2, M16A4, and M4****NOTE**

M16A2, M16A4, and M4 ONLY - DO NOT remove disconnecter springs unless required for repair.

Remove trigger spring (3) and two disconnecter springs (1) from trigger (2).

M4A1 CQBW

Remove disconnecter spring (4) and trigger spring (5) from trigger (6).

**M16A2, M16A4, AND M4****M4A1 CQBW**

M16-2199

INSPECTION AND REPAIR

1. Inspect trigger spring (5) for kinks, deformities, and weakness. Replace if defective.
2. Inspect disconnecter spring (4) for deformities, bends, breaks, and weakness. Replace if defective.
3. Inspect trigger (6) for chips, wear, and cracks. Inspect for damaged searing surface on the trigger nose. Replace if defective.

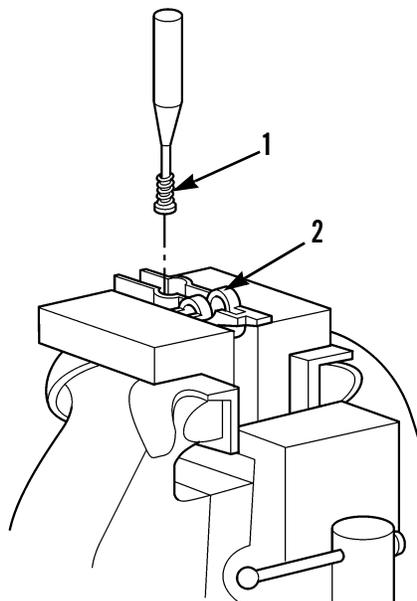
REASSEMBLY**M16A2, M16A4, and M4****NOTE**

Use tapered center punch to install disconnecter springs if removed.

NOTE

M4 ONLY - The semi and burst disconnecter springs are not the same. The semi disconnecter spring (left side) is black, while the burst disconnecter spring (right side) is nickel (shiny). Ensure the correct spring is installed on each side for proper functioning.

1. If removed, use the following steps to install two disconnecter springs (1) using the bolt carrier key tool:
 - a. Secure the trigger (2) in a vise with soft jaws or a similar device.
 - b. Place one disconnecter spring (1) firmly on the tool with large diameter coils outward.
 - c. Press disconnecter spring (1) into recess to solid height.
 - d. Hold disconnecter spring (1) at solid height and slide disconnecter spring into one of the holes until the tool is flush and perpendicular with the recess wall.
 - e. Turn the disconnecter spring (1) one to two turns opposite the coil windings of the disconnecter spring.
 - f. Stop winding when an audible click or snap is heard or felt, indicating that the disconnecter spring (1) is seated.
 - g. Hold the disconnecter spring (1) in place when removing the tool to avoid unseating or damaging the disconnecter spring.
 - h. Repeat steps a through g for second disconnecter spring.



M16-2200

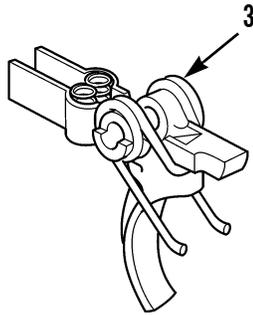
REASSEMBLY - CONTINUED

M16A2, M16A4, and M4 - Continued

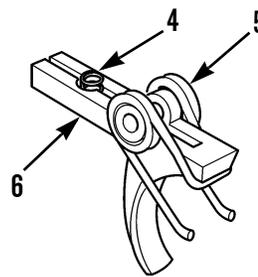
2. Install trigger spring (3).

M4A1 CQBW

1. If removed, install disconnecter spring (4) by inserting large end of disconnecter spring into trigger (6).
2. Install trigger spring (5) on trigger (6).



M16A2/M16A4/M4



M4A1 CQBW

M16-2201

END OF WORK PACKAGE

THIS WORK PACKAGE COVERS

Final Inspection, Function Test, Functional Theory of Three-Round Burst Control, Trigger Pull Measurement

INITIAL SETUP

Maintenance Level

Intermediate

Tools and Special Tools

E2900/E7900 Tool Kit

Tool and gage set

Trigger pull measuring fixture

References

WP 0005 00

WP 0022 00

WP 0025 00

Equipment Conditions

Weapon cleared (TM 05538/10012-OR_)

WARNING

DO NOT keep live ammunition near the work area. Failure to follow this warning may cause injury or death to personnel.

FINAL INSPECTION

1. Visually inspect general appearance of weapon. Weapons should appear almost new. All metal surfaces are to have a dull, rust- or corrosion-resistant finish with no burrs or deep scratches.
2. Visually inspect barrel for serviceability. Check for the following:
 - a. Barrels must be straight, clean, free of rust, powder fouling, bulges, and rings. Fine pitting is allowable.
 - b. Using moderate hand pressure, check for rotational movement of the front sight in relation to the barrel. If movement between the front sight and barrel exists, the barrel must be replaced.
 - c. Using moderate hand pressure, check for rotational movement of the barrel in relation to the upper receiver. If movement between the barrel and the upper receiver exists, the barrel must be aligned and tightened.
3. Visually inspect rifle for missing parts. All parts must be securely attached, and all modifications must be applied. Steel parts must be rust-free. Spring pins must be secure and screws must be tight.
4. Functionally inspect key and bolt carrier assembly and gas tube alignment. Refer to TM 05538/10012-OR_ and use the following procedures:
 - a. Disengage the takedown pin and open the receiver.
 - b. Remove the bolt carrier assembly.
 - c. Remove the bolt assembly from the bolt carrier assembly.
 - d. Insert key and bolt carrier assembly into upper receiver and barrel assembly. The bolt assembly must not be installed while performing test.
 - e. Slide key and bolt carrier assembly forward to detect binding key and bolt carrier assembly and gas tube by feel. Badly bent gas tube could damage both the key and bolt carrier assembly and gas tube. A slightly bent gas tube will cause unnecessary wear of the key and bolt carrier assembly and gas tube.

FINAL INSPECTION - CONTINUED

- f. Correct slight binding by removing handguard assemblies and slightly bending gas tube in the handguard area while repeating step (e) until no binding is detected. Badly bent gas tubes will be replaced and realigned.
 - g. Remove key and bolt carrier assembly from upper receiver and barrel assembly.
 - h. Reassemble bolt assembly into key and bolt carrier assembly.
 - i. Reinstall key and bolt carrier assembly into upper receiver and barrel assembly.
5. Make a functional check on an assembled weapon with selector lever in SAFE, SEMI, and BURST/AUTO positions. Any portion of this check may be used alone to determine the operation condition of any specific firing position selected.
 6. Check rear sight assembly as follows:
 - a. Rotate elevation knob counterclockwise until the rear sight assembly is all the way down. If a whole click is not felt as the rear sight assembly stops, the rear sight assembly has bottomed out and will not pivot freely.
 - b. Position elevation knob back slightly to its last whole click as the rear sight assembly base is under tension of the ball bearing and elevation index spring. The 300-m mark should align with the mark on the receiver.
 - c. If the mark on the receiver does not align with the 300-m mark on the rear sight, slip the range scale in the following manner:
 - (1) Align the 300-m mark with the mark on the receiver.
 - (2) Insert a 1/16-in. hex wrench through the access hole in the rear sight assembly base and into the index screw.
 - (3) Loosen the index screw three turns and leave the wrench in place.
 - (4) Rotate the lower portion of the elevation knob counterclockwise until it stops (range scale should not have moved). Elevation knob should be positioned on its last whole click.
 - (5) Tighten index screw and remove hex wrench.
 - (6) Check for proper setting.
 7. Perform the following additional checks:
 - a. Check headspace using headspace gage, P/N 7799734 (WP 0025 00).
 - b. Check firing pin protrusion using firing-pin protrusion gage, P/N 7799735 (WP 0022 00).
 - c. Check extent of barrel erosion using barrel erosion gage, P/N 8448496 (WP 0025 00).
 - d. Check barrel straightness using barrel straightness gage, P/N 8448202 (WP 0025 00).
 - e. Perform a function test. Refer to *Function Test* in this work package.
 - f. Measure trigger pull weight. Refer to *Trigger Pull Measurement* in this work package.

FUNCTION TEST**WARNING**

If the weapon fails any of the following function tests, evacuate to higher maintenance level. Failure to follow this warning may cause injury or death to personnel.

NOTE

For the purpose of the following tests, "SLOW" is defined as 1/4 to 1/2 the normal rate of trigger release.

1. Pull charging handle assembly to rear. Check that chamber is clear. Leave hammer in cocked position.
2. Place selector lever in SAFE position and pull trigger. Hammer should not fall.
3. Place selector lever in SEMI position.
4. Pull trigger. Hammer should fall.

FUNCTION TEST - CONTINUED

5. Hold trigger to the rear. Charge the weapon. Release the trigger with a slow, smooth motion without hesitation or stops until the trigger is fully forward. An audible click should be heard. Hammer should not fall.
6. With the selector lever in SEMI position, repeat steps 4 and 5 five times. The weapon must not malfunction during any of these repetitions. If the weapon malfunctions during any of these five tests, refer to WP 0005 00.

M16A2, M16A4, and M4 ONLY**NOTE**

A detailed explanation of the three-round burst control is included in this work package.

1. Place selector lever in BURST position. Charge weapon and pull trigger. Hammer should fall.
2. 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 third time the charging handle assembly is released. It may or may not fall the first or second time the charging handle assembly is released. When the burst disconnect reaches the deep notch of the burst cam, the burst disconnect should hold the hammer to the rear while the trigger is in the pulled position. Release the trigger with a slow, smooth motion without hesitation or stops until the trigger is fully forward. An audible click should be heard. Hammer should not fall.
3. Pull trigger. Hammer should fall. This is the first round of a three-round burst.

M4A1 CQBW ONLY

1. Place selector lever in AUTO position. Charge weapon and pull trigger. Hammer should fall.
2. Hold trigger to the rear, charge the weapon, and release the trigger. Hammer should not fall. Automatic sear assembly should have released the hammer as the bolt closed.

All Weapons

1. With the hammer in the forward position, attempt to place the selector lever in the SAFE position using moderate finger/thumb pressure. Selector lever should not go into the SAFE position.
2. Perform the following additional function checks and adjustments on assembled weapon:
 - a. Press magazine catch button to ensure it functions properly.
 - b. Press bolt catch. Ensure it operates smoothly and holds bolt in the open position.
 - c. Inspect front sight and rear assemblies. Ensure proper adjustment is possible with each.
 - d. Actuate forward assist assembly. It must work freely.
 - e. Inspect upper receiver and barrel assembly. Barrel assembly should not rotate/move within the upper receiver.
 - f. Ensure the middle slot in the compensator is straight up (top dead center).

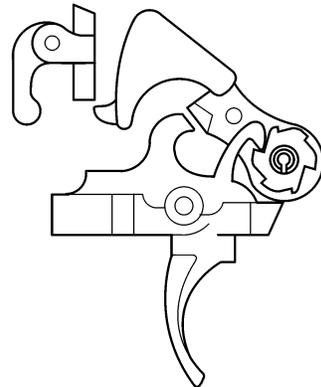
FUNCTIONAL THEORY OF THREE-ROUND BURST CONTROL

M16A2, M16A4, and M4 ONLY

NOTE

- **Become familiar with the functioning of the firing mechanism especially when in the SAFE and SEMI positions. One should also understand the role that the automatic sear plays when firing in the BURST position. Functioning of the mechanism is explained here in a step-by-step manner. This actually will seem to complicate something that is very simple and happens in less than one second. The diagrams below do not show the associated springs for the sake of simplicity and clarity. The positioning of the burst cam is shown in detail.**
- **Assume the weapon is fully loaded with a live round in the chamber and the selector lever on BURST.**

1. Hammer is cocked.
2. Front hook of burst disconnector is in stop notch.



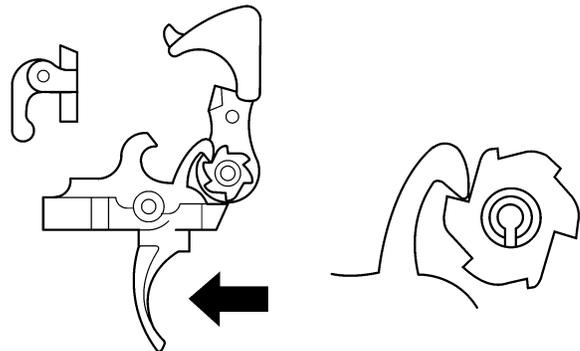
M16-2202

3. Trigger is pulled.
4. Trigger nose drops and hammer falls, firing the FIRST ROUND.

NOTE

Any time 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.

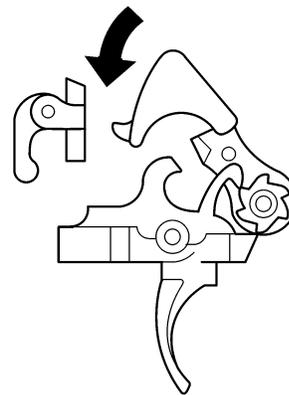
5. Front hook of burst disconnector holds burst cam in place as hammer falls.



M16-2203

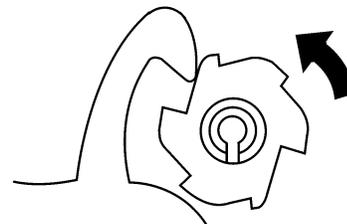
FUNCTIONAL THEORY OF THREE-ROUND BURST CONTROL - CONTINUED**M16A2, M16A4, and M4 ONLY - Continued**

6. As the key and bolt carrier assembly moves to the rear, the hammer is forced to the rear.



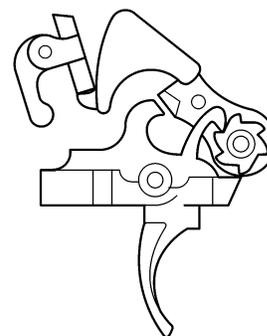
M16-2204

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



M16-2205

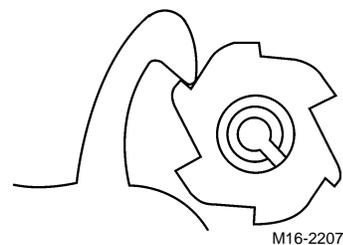
8. When the hammer is fully to the rear, it is caught by the automatic sear.



M16-2206

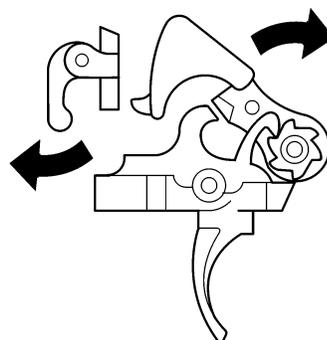
FUNCTIONAL THEORY OF THREE-ROUND BURST CONTROL - CONTINUED**M16A2, M16A4, and M4 ONLY - Continued**

9. The front hook of the burst disconnecter is now fully in the second notch.



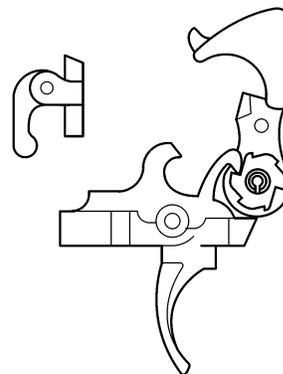
M16-2207

10. As the key and bolt carrier assembly travels forward, the automatic sear releases the hammer and the hammer falls.



M16-2208

11. When the hammer falls, the SECOND ROUND is fired.

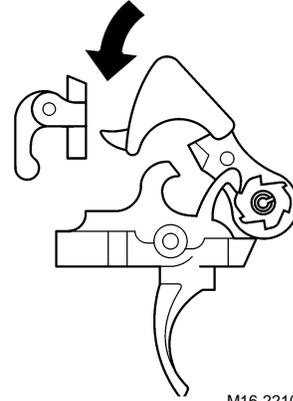


M16-2209

FUNCTIONAL THEORY OF THREE-ROUND BURST CONTROL - CONTINUED

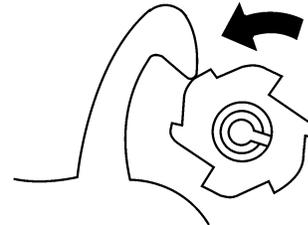
M16A2, M16A4, and M4 ONLY - Continued

12. As the key and bolt carrier assembly moves to the rear, the hammer is forced back to the rear.



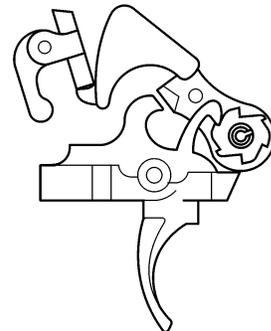
M16-2210

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



M16-2211

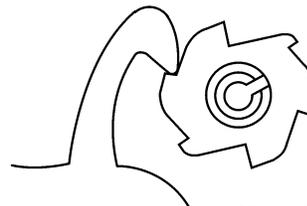
14. When the hammer is fully to the rear, it is caught by the automatic sear.



M16-2212

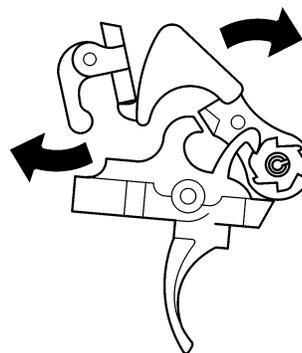
FUNCTIONAL THEORY OF THREE-ROUND BURST CONTROL - CONTINUED**M16A2, M16A4, and M4 ONLY - Continued**

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



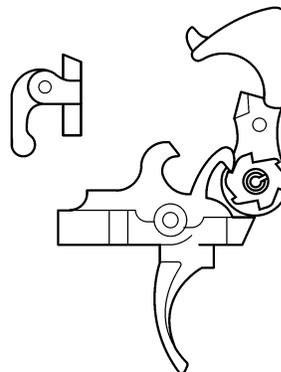
M16-2213

16. As the key and bolt carrier assembly travels forward, the automatic sear releases the hammer and the hammer falls.



M16-2214

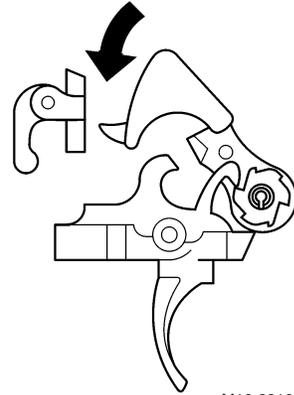
17. When the hammer falls, the THIRD ROUND is fired.



M16-2215

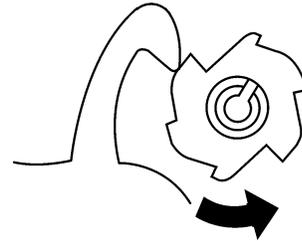
FUNCTIONAL THEORY OF THREE-ROUND BURST CONTROL - CONTINUED**M16A2, M16A4, and M4 ONLY - Continued**

18. As the key and bolt carrier assembly moves to the rear, the hammer is forced back to the rear.



M16-2216

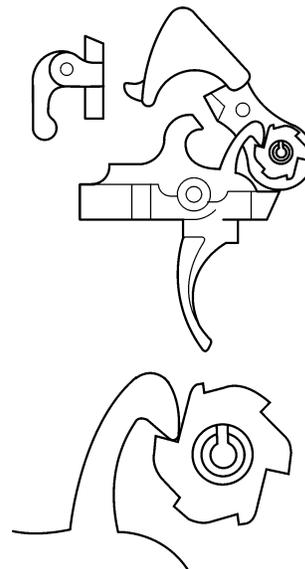
19. The clutch spring of the burst cam clutches the burst cam and causes it to rotate one notch as the hammer is forced back.



M16-2217

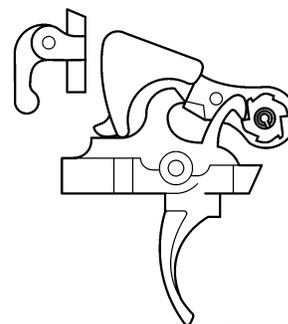
FUNCTIONAL THEORY OF THREE-ROUND BURST CONTROL - CONTINUED**M16A2, M16A4, and M4 ONLY - Continued**

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



M16-2218

21. Because the stop notch is deeper than the others, it allows the front hook of the burst disconnecter further forward than before. This allows the rear hook of the burst disconnecter 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.



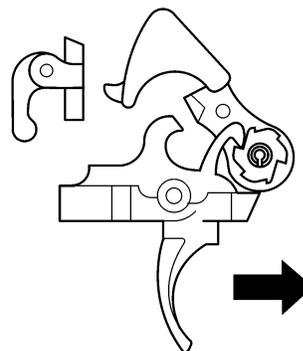
M16-2219

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 after each burst.

FUNCTIONAL THEORY OF THREE-ROUND BURST CONTROL - CONTINUED**M16A2, M16A4, and M4 ONLY - Continued**

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



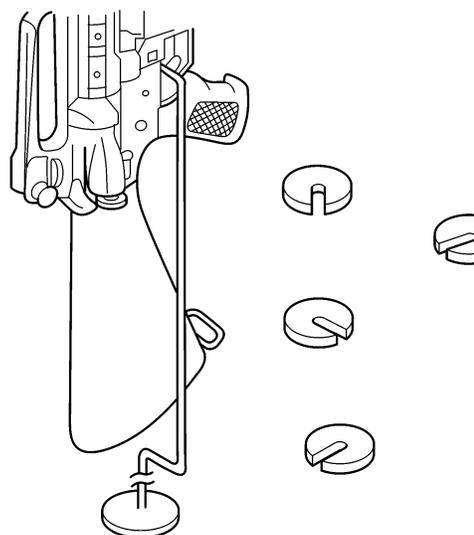
M16-2220

TRIGGER PULL MEASUREMENT

Test trigger pull as follows:

M16A2, M16A4, and M4 ONLY

1. Clear the weapon. Place the selector lever in BURST position. Pull the trigger and hold it to the rear. Pull the charging handle assembly to the rear and allow the bolt to return to the closed position three times. (This will place the BURST disconnecter in the deep notch of the burst cam.)
2. Release the trigger. Place the selector lever in SEMI position. Hold the weapon in a vertical position with the muzzle pointing up. Using trigger pull measuring fixture (P/N 7274758) attached to trigger, add weights until hammer trips. Determine weight applied.
3. Hammer must not trip when 5.5 lb (2.49 kg) have been applied. Hammer must trip on applying 9.5 lb (4.31 kg).



M16-2221

TRIGGER PULL MEASUREMENT - CONTINUED

M4A1 CQBW ONLY

4. Clear the weapon. Charge the weapon. Place selector lever in SEMI position and hold weapon in a vertical position with the muzzle pointing up.
5. Using trigger pull measuring fixture (P/N 7274758) attached to trigger, add weights until hammer trips. Determine weight applied.
6. Hammer must not trip when 5.5 lb (2.49 kg) have been applied. Hammer must trip on applying 8.5 lb (3.86 kg).

All Weapons

7. If weapon fails trigger pull test or excessive trigger creep is present, replace trigger and/or hammer.

NOTE

Always gage hammer and trigger pin holes with no-go plug gage, P/N 12006472, before replacing parts.

END OF WORK PACKAGE

THIS WORK PACKAGE COVERS

Inspection, Gaging

INITIAL SETUP

Maintenance Level

Intermediate

Tools and Special Tools

E2900/E7900 Tool Kit

Tool and gage set

Trigger-pull measuring fixture

References

TI 4733-15/11_

References - Continued

TI 8005-24/20E_

NAVMC 11003_

WP 0022 00

WP 0023 00

WP 0025 00

WP 0028 00

WP 0031 00

NOTE

- **Initial gaging is required upon receipt of the weapons.**
- **All weapons, rifles, and carbines, must be gaged and inspected at least once annually for safety.**
- **It is recommended that training units inspect/gage all weapons at the end of each training cycle.**

INSPECTION

1. Visually inspect general appearance of weapon. Overall appearance will be approximately that of a new weapon. For inspection criteria, refer to WP 0031 00. All visual and functional inspection requirements must be met.

NOTE

To perform the following test, disassemble weapon only as far as allowed in Chapter 3 of this manual unless a deficiency is uncovered.

2. Perform a general inspection of weapon (WP 0031 00). Repair as required and authorized.

NOTE

Small arms gages are precision tools used in the maintenance of small arms. They should be handled, used, and stored with care. Periodically, they should be cleaned with the authorized cleaning solvent for weapons and given a light coating of lubricant. DO NOT use force when using gages, and use them as prescribed in the appropriate current weapon TM. Per TI 4733-15/11_, uncalibrated gages are not authorized for use.

GAGING**NOTE**

- **Gaging requirements along with a Pre-Fire Inspection (PFI) are to be performed within 30 days of each 1,000 rounds fired.**
- **Refer to TI 8005-24/20E_ for further information.**

1. Gage bolt carrier assembly for firing pin protrusion using firing-pin protrusion gage, P/N 7799735 (WP 0022 00).
2. Gage bolt assembly for firing pin hole wear using no-go plug gage, P/N 12620101 (WP 0023 00).
3. Inspect chamber in upper receiver and barrel assembly using chamber reflector tool, P/N 8448201 (WP 0025 00).
4. Gage barrel erosion in upper receiver and barrel assembly using barrel erosion gage, P/N 8448496 (WP 0025 00).
5. Check headspace in upper receiver and barrel assembly by inserting headspace gage, P/N 7799734, in chamber (WP 0025 00).
6. Gage pivot pin lug area clearance in lower receiver assembly using a 0.020-in. thickness gage (WP 0028 00).
7. Gage hammer and trigger pin holes in lower receiver assembly using taper plug gage, P/N 12006472 (WP 0028 00).
8. Gage trigger pull using trigger-pull measuring fixture, P/N 7274758 (WP 0031 00).
9. Document inspection with NAVMC 11003_ when completed.

END OF WORK PACKAGE

PRE-EMBARKATION INSPECTION

0033 00

PRE-EMBARKATION INSPECTION

A pre-embarkation inspection ensures that the user is furnished equipment that will perform its mission without early failure or major maintenance problems.

Refer to TB 9-1000-247-34_, *Standards For Overseas Shipment of Small Arms, Aircraft Armament, Towed Howitzers, Mortars, Recoilless Rifles, Rocket Launchers, and Associated Fire Control Equipment*, for complete pre-embarkation inspection procedures.

END OF WORK PACKAGE

CHAPTER 5
AUXILIARY EQUIPMENT

GENERAL

1. The following items of auxiliary equipment are used in conjunction with the M16 series weapons:
 - a. 40 mm Grenade Launcher M203, NSN 1010-00-179-6447 (rifle only)
 - b. 40 mm Grenade Launcher M203A1, NSN 1010-01-434-9028 (carbine only)
 - c. 40 mm Grenade Launcher M203A2, NSN 1010-01-495-8511 (modular rifle or carbine only)
 - d. Conversion Kit, M261 (caliber .22 rimfire adapter), NSN 1005-01-010-1561
 - e. M30 Boresight, NSN 4933-01-394-7781
 - f. Flashlight Mount, NSN 5340-01-485-1916 (modular rifle or carbine only)
 - g. Target Pointer Illuminator/Aiming Light (TPIAL), AN/PEQ-2A, NSN 5585-01-447-8992 (M16/M4 Series)
 - h. Light Weapon Thermal Sight (LWTS), AN/PAS-13B(V)1, NSN 5855-01-464-3150 (M16/M4 Series)
 - i. Medium Weapon Thermal Sight (MWTS), AN/PAS-13A(V)2, NSN 5855-01-458-0210 (M16/M4 Series)
 - j. Monocular Night Vision Device, AN/PVS-14, NSN 5855-01-432-0524 (M16/M4 Series)
2. The following items of auxiliary equipment are used with the M16 series weapons:
 - a. Top Sling Adapter, NSN 1005-00-406-1570
 - b. Close Quarter Battle Sling Kit, NSN 1005-01-478-0848
 - c. Blank Firing Attachment, M15A2, NSN 1005-00-118-6192 (rifle only)
 - d. Blank Firing Attachment, M23, NSN 1005-01-361-8208 (carbine only)
 - e. M4 Adapter Rail System, NSN 1005-01-452-3527 (carbine only)
 - f. M5 Adapter Rail System, NSN 1005-01-452-6771 (M16A4 only)
 - g. Back Up Iron Sight (BUIS), NSN 1005-01-848-8000 (M4, M4A1 CQBW, and M16A4)
 - h. M9 Multi-Purpose Bayonet System, NSN 1005-01-227-1739
 - i. Suppressor, Quick Disconnect, NSN 1005-01-537-0027

END OF WORK PACKAGE

BLANK FIRING ATTACHMENT (BFA) - M15A2 (M16A2 AND M16A4 RIFLES) AND M23 (M4 AND M4A1 CQBW CARBINES)

0035 00

THIS WORK PACKAGE COVERS

Installation, Removal, Cleaning, Inspection, Repainting, Replacement

INITIAL SETUP

Maintenance Level

Intermediate

Tools and Special Tools

E2900/E7900 Tool Kit

Materials/Parts

Cleaner, Lubricant, and Preservative

Materials/Parts - Continued

Coating compound, enamel (red - M16A2/M16A4)

Coating compound, enamel
(yellow - M4/M4A1 CQBW)

Rag, wiping

INSTALLATION

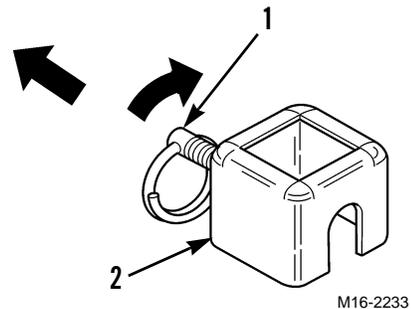
WARNING

- Only blank cartridge M200 is to be used when the Blank Firing Attachment (BFA) is attached to the weapon.
- DO NOT fire blank ammunition at a representative enemy at distances of less than 20 ft (6.10 m).
- Failure to follow these warnings may cause injury or death to personnel.

NOTE

M23 Blank Firing Attachment (BFA) is stamped "M4 Carbine Only", painted yellow, and may be used on both M4 and M4A1 CQBW weapons. The M15A2 BFA is painted red and may be used on both M16A2 and M16A4 weapons.

1. Unscrew and pull the slide (1) all the way out on the BFA (2).

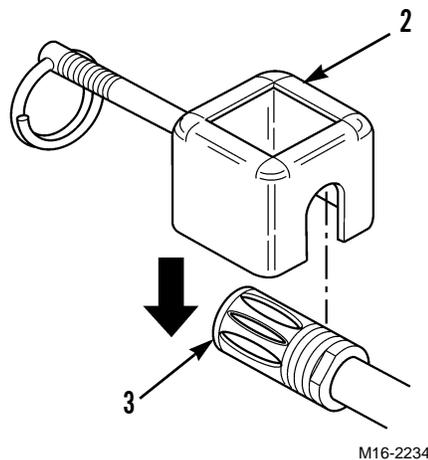


**BLANK FIRING ATTACHMENT (BFA) - M15A2 (M16A2 AND M16A4 RIFLES) AND
M23 (M4 AND M4A1 CQBW CARBINES) - CONTINUED**

0035 00

INSTALLATION - CONTINUED

- Hook BFA (2) behind the first groove of the compensator (3).



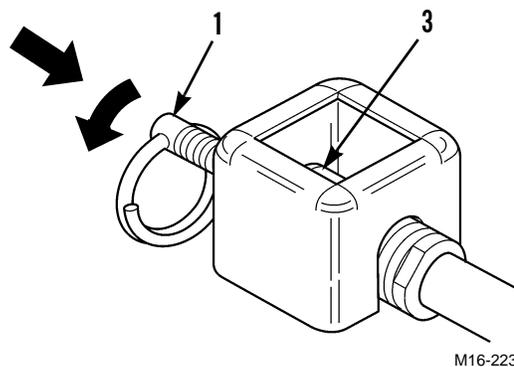
CAUTION

DO NOT use tools to tighten the BFA. Hand-tighten only.

- Push slide (1) into compensator (3) and hand-tighten.

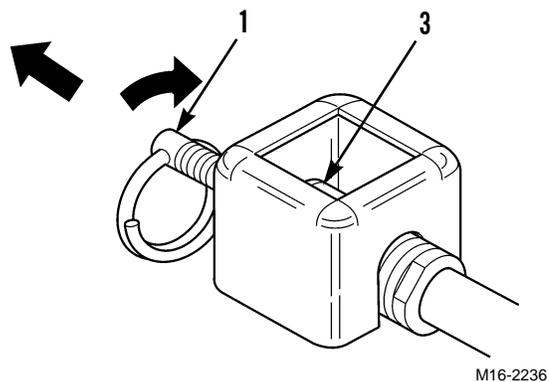
NOTE

Check tightness after firing approximately 50 blank rounds.



REMOVAL

- Unscrew slide (1) to remove from compensator (3).

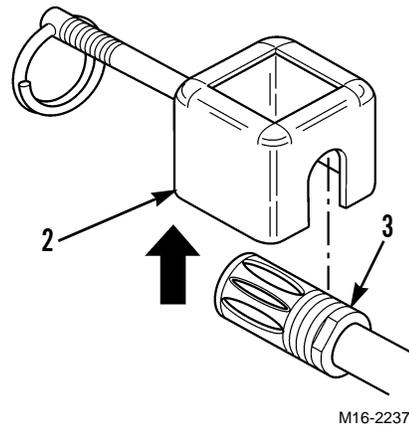


**BLANK FIRING ATTACHMENT (BFA) - M15A2 (M16A2 AND M16A4 RIFLES) AND
M23 (M4 AND M4A1 CQBW CARBINES) - CONTINUED**

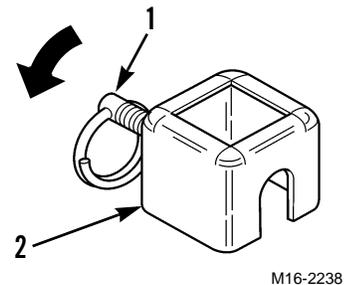
0035 00

REMOVAL - CONTINUED

2. Unhook BFA (2) from behind the first groove of the compensator (3).



3. Screw slide (1) all the way in on BFA (2).

**CLEANING**

Clean BFA with CLP, wipe dry, and coat with CLP.

INSPECTION

Inspect BFA for cracks or distortion. Ensure the parts of the slide are clear and clean. If blank firing attachment is cracked or distorted, it is unserviceable.

REPAINTING

Repaint BFA using enamel coating compound (red for M16A2/M16A4 rifles; yellow for M4/M4A1 CQBW carbines). Painting is the only authorized repair.

REPLACEMENT

Replace BFA if unserviceable.

END OF WORK PACKAGE

RAIL ADAPTER SYSTEM (RAS) (INCLUDES QUICK-RELEASE BRACKET [QRB] BARREL STOP) 0036 00

THIS WORK PACKAGE COVERS

Installation; Removal; Repair; Clean, Inspect, and Lubricate; Reinstall

INITIAL SETUP

Maintenance Level

Intermediate

Tools and Special Tools

E2900/E7900 Tool Kit

Materials/Parts

Clamp, rear-locking

Cleaner, Lubricant, and Preservative

General purpose brush

Pin, spring (2)

Materials/Parts - Continued

Rag, wiping

Retaining clip, rail cover

Screw, rear locking clamp

Spacer, handguard

Spring, handguard

Spring, quick-release bracket (2)

Equipment Condition

Weapon cleared (TM 05538/10012-OR_)

INSTALLATION

All Weapons

WARNING

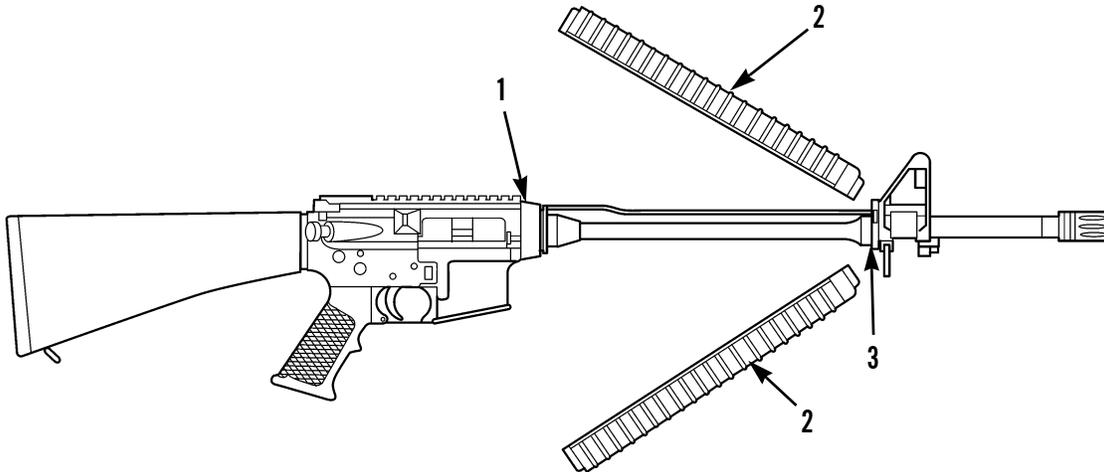
Before starting an inspection, be sure to clear the weapon. DO NOT pull the trigger until the weapon has been cleared. Inspect the chamber to ensure it is empty and no ammunition is in position to be chambered. Failure to follow this warning may cause injury or death to personnel.

1. Confirm the weapon is unloaded. Remove the magazine. Pull the charging handle to the rear, lock the key and bolt carrier assembly to the rear, and physically inspect the chamber and receiver, ensuring the weapon is unloaded and no ammunition is present. Release the key and bolt carrier assembly to battery, confirm the selector lever is in the SAFE position, and close the dust cover.

INSTALLATION - CONTINUED

All Weapons - Continued

2. Remove the standard handguards (2) by compressing the slip ring (1) and pivoting the handguards off the front handguard retaining cap (3).



M16-2239

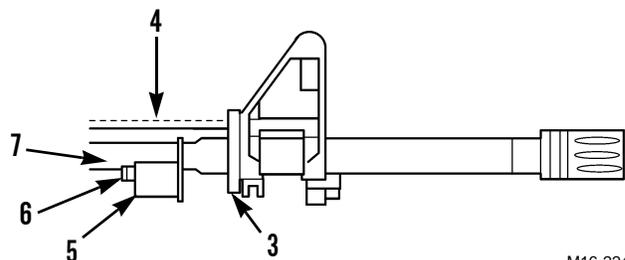
M16A4 Weapons Only

1. Installation instructions for M203A2 Quick-Release Bracket (QRB) Barrel Stop to M16A4 weapon are:
 - a. The M203A2 QRB barrel stop for the M16A4 weapon is provided as an integral component of the adapter rail and is included with it.
 - b. Installing the barrel stop to the weapon barrel provides a shoulder or “STOP”, which serves as the mounting point for the M203A2 QRB. Once the stop and adapter rail are installed, M203A2 grenade launchers can be mounted to the M16A4 weapon. All M16A4 weapons shall have this barrel stop installed as an integral component of the rail adapter system (RAS). Failure to install or maintain the barrel stop will prevent the M203A2 launcher from being mounted to the weapon.

NOTE

M4 and M4A1 CQBW weapons DO NOT require the QRB barrel stop.

- c. Install the QRB (5) by placing it over a thin section of the barrel (7) from the six o’clock position, while avoiding contact with the gas tube (4). Rotate the stop so its opening is pointed up towards the gas tube. Slide the stop forward until the flat vertical portion fits into the triangular sides of the handguard cap (3) with the springs (6) to the rear.



M16-2240

INSTALLATION - CONTINUED

M16A4 Weapons Only - Continued

NOTE

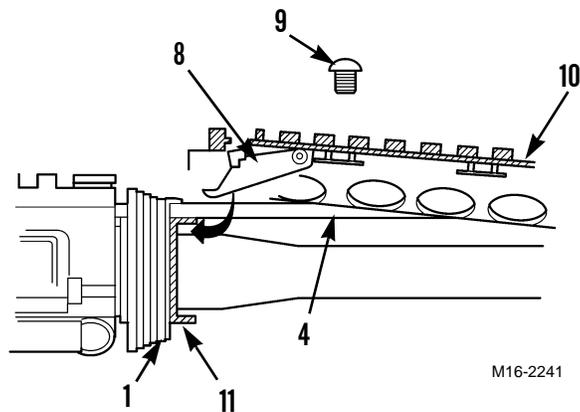
If the rear locking clamp screw is present in the rear locking clamp, it must be fully removed using a 1/8-in. hex wrench.

- Position the upper adapter rail (10) so the rear locking clamp (8) is hanging down after confirming that the arrow on its inner surface points toward the muzzle of the weapon. Insert the front end of the upper adapter rail into the handguard cap at an angle. Ensure the leaf spring at the front of the adapter rail fits inside the lip of the handguard cap.

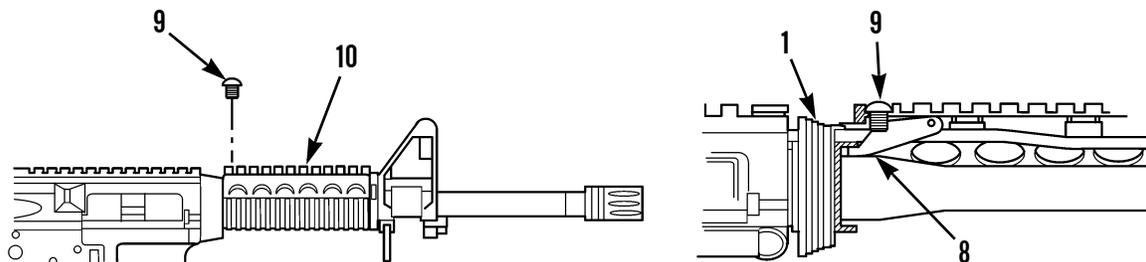
NOTE

For M16A4, M4, and M4A1 weapons, ensure the notches at the front edges of the upper adapter rail engage the tabs at the rear edges of the barrel stop as the adapter rail is engaged and lowered into its final position.

- Continue installing the upper adapter rail (10) in the same manner as the standard upper handguard by compressing the slip ring (1) and pivoting the upper adapter rail down into its fully locked position around the barrel nut (11). Ensure the rear locking clamp (8) is straddling the gas tube (4) and the rear legs of the rear locking clamp slip under the flange of the barrel nut as the adapter rail contacts the barrel nut and slip ring.



- Release the slip ring (1) and confirm that it slides forward evenly around the rear flange of the upper adapter rail (10). Ensure the two alignment pins automatically interface with cut-outs in the barrel nut at the 10 o'clock and 2 o'clock positions to remove rotational play of the upper adapter rail.
- Install the rear locking clamp screw (9) and tighten securely.



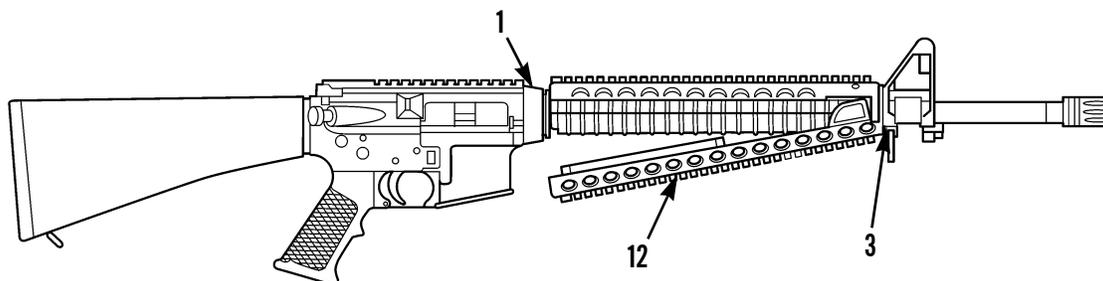
INSTALLATION - CONTINUED

M16A4 Weapons Only - Continued

NOTE

For all weapons, DO NOT remove the thermal liner from the lower adapter rail.

6. Position the lower adapter rail (12) with arrow on inner surface pointing towards the weapon's muzzle.
7. Install the lower adapter rail (12) by inserting its front edges into the front handguard retaining cap (3) at approximately the angle shown and compressing the slip ring (1) while pivoting the lower adapter rail into its final position.
8. Release the slip ring (1) and confirm it engages around the rear flange of the lower adapter rail (12).

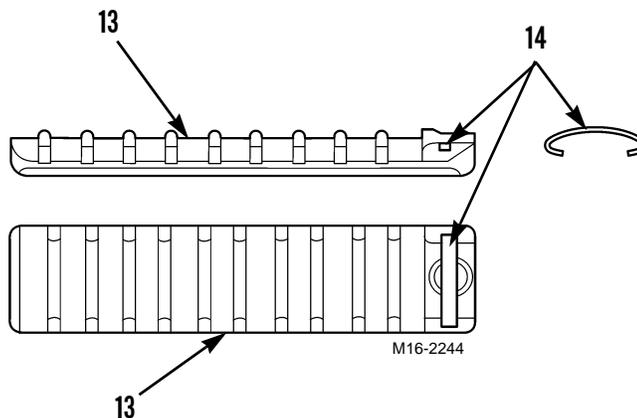


M16-2243

NOTE

Rail covers may be used on any M16 series weapon with adapter rails installed except for the M16A2 weapon, for which a rail cover cannot be installed on the upper adapter rail. Rail covers may be installed on both side and bottom rail surfaces.

9. Rail covers (13) are quickly attached to the adapter rail. A retaining clip (14) at one end of each rail cover automatically engages cutouts at either end of the four rail sections. To slide a rail cover beyond a cutout, apply thumb pressure to the retaining clip while sliding the cover in the desired direction on the rail.
10. To cover the side and bottom rail surfaces, install the rail covers (13) from the muzzle end of the adapter rail.



M16-2244

INSTALLATION - CONTINUED**M16A4, M4, and M4A1 CQBW ONLY****NOTE**

- For M4 and M4A1 CQBW weapons, longer rail covers should be oriented with the retaining clip toward the muzzle in location L-28, R-28, or B-28.
- For M16A4 weapons, longer rail covers should be oriented with the retaining clip toward the chamber in location L-14, R-14, or B-14.
- Shorter rail covers (used on rails partially occupied by accessories) should be oriented with their retaining clips away from the accessories. Several different lengths of rail covers are provided with the adapter rails. For ease of reference, they should be referred to by the number of ribs along their outer surface, i.e., “11-rib”, “9-rib”, “5-rib”, and “4-rib”.
- All rail covers are interchangeable between M16A4 (rifles) and M4 and M4A1 CQBW (carbines). (M4/M4A1 CQBW set includes two 2-rib and two 6-rib covers.) The rear clamp screw will be removed only to repair or replace the upper adapter rail, re-barrel the weapon, or reinstall the standard handguards for weapon turn-in.
- Rail covers perform two primary functions:
 - a. They protect the shooter’s hands from direct skin contact with the metal parts of the adapter rail, which gets hot during extended firing.
 - b. Protect rail surfaces from excess wear and damage.

For these reasons, rail covers should cover the unused sections of each adapter rail at all times.

1. To cover the top rail, remove the carrying handle and install the rail covers from the rear of the upper receiver group.
2. As the retaining clip meets the cutouts at either end of the rails, it will engage the cutouts and secure the cover.

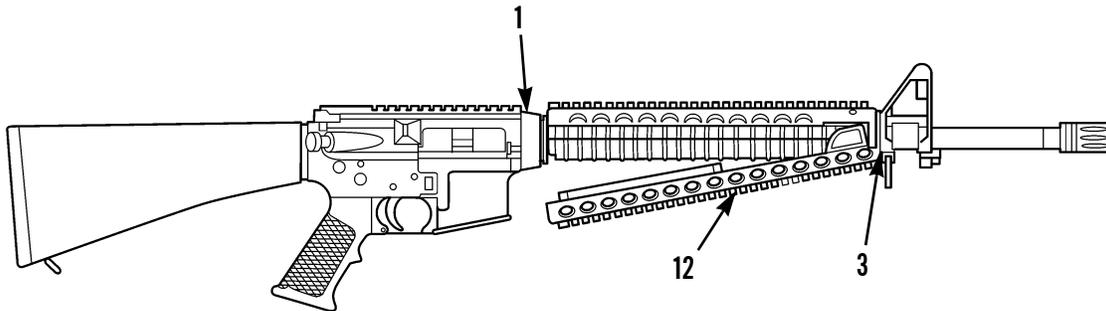
RAIL ADAPTER SYSTEM (RAS) (INCLUDES QUICK-RELEASE BRACKET [QRB] BARREL STOP) - CONTINUED

0036 00

REMOVAL**NOTE**

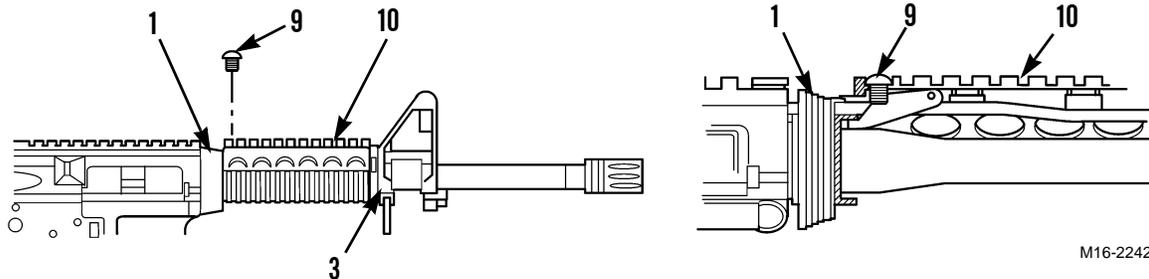
Rear locking clamp screw must be replaced with a new screw each time it is removed.

1. Remove rail covers if installed.
2. Compress slip ring (1) and pivot the lower adapter rail (12) out of front handguard retaining cap (3).



M16-2243

3. Fully remove rear locking clamp screw (9).
4. Compress slip ring (1) and pivot the upper adapter rail (10) out of front handguard retaining cap (3).
5. If installed, remove the QRB barrel stop assembly to prevent loss or damage.



M16-2242

REPAIR**CAUTION**

The adapter rails are made of aluminum. Therefore, care should always be taken not to damage or burr the sides of the adapter rails.

NOTE

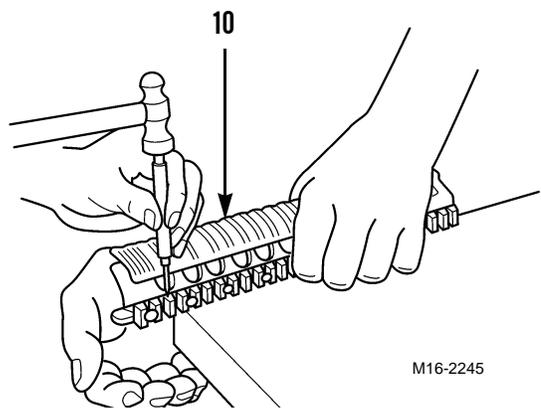
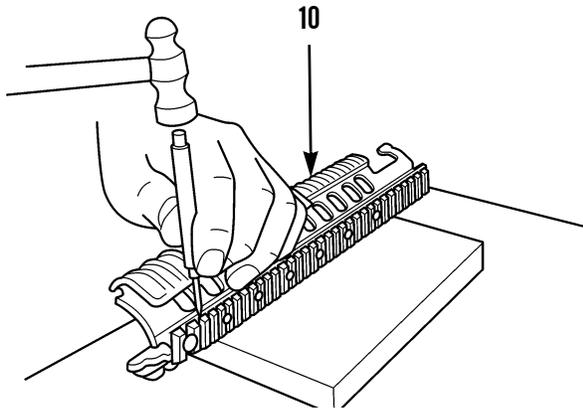
The spring pins in the upper adapter rail must be replaced each time they are removed to make repairs.

1. A good one-person method for removing the spring pins to make repairs is to place a short piece of 1-in. X 4-in. wooden block under the rails. A two-person method is to hold the adapter rail along the side and over a corner of a wooden work bench.

RAIL ADAPTER SYSTEM (RAS) (INCLUDES QUICK-RELEASE BRACKET [QRB] BARREL STOP) - CONTINUED

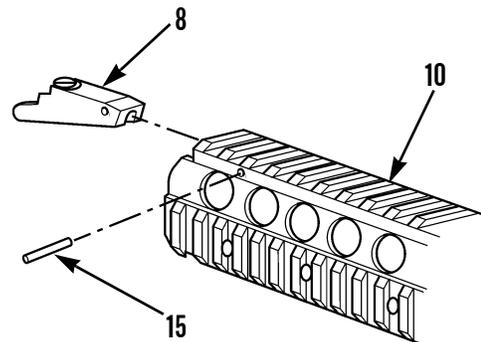
0036 00

REPAIR - CONTINUED



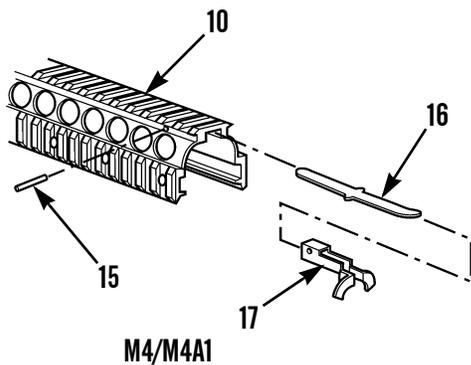
M16-2245

2. Using a 1/8-in. punch and taking care not to damage the upper adapter rail (10), drive out the spring pin (15) with a hammer. Discard spring pin and rear locking clamp (8).
3. Replace the rear locking clamp (8) using a new spring pin (15) to complete repair.

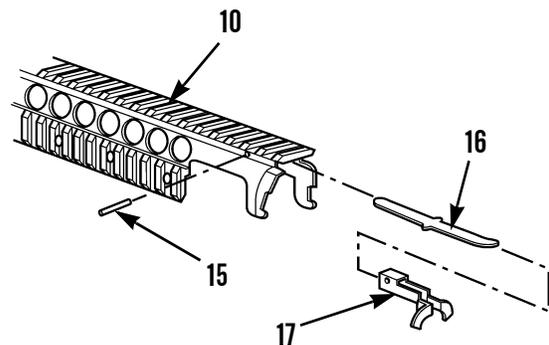


M16-2246

4. Using a 1/8-in punch and taking care not to damage the upper adapter rail (10), drive out the second spring pin (15) with a hammer. Discard the spring pin.
5. Replace the handguard spring (16) and spacer (17), if necessary, using a new spring pin (15).
6. A small stone may be used to remove any burrs or clean up any nicks that may interfere with proper location of various accessories.



M4/M4A1



M16A4

M16-2247

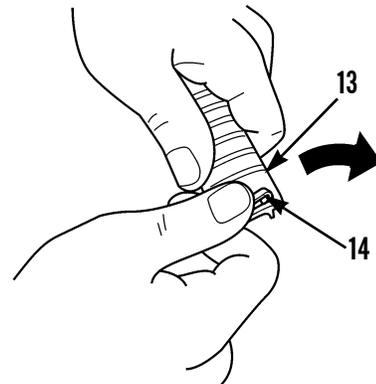
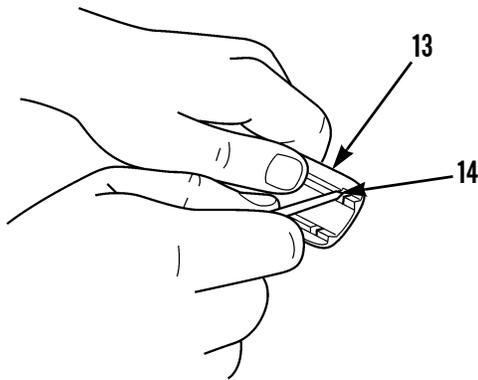
RAIL ADAPTER SYSTEM (RAS) (INCLUDES QUICK-RELEASE BRACKET [QRB] BARREL STOP) - CONTINUED

0036 00

REPAIR - CONTINUED**WARNING**

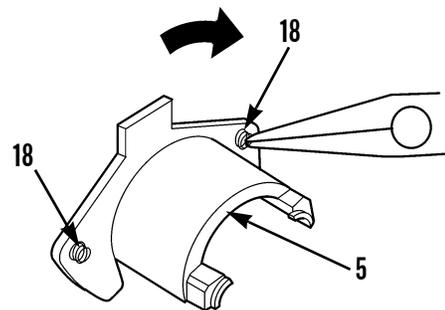
Be careful to keep hand and fingers back and out of way when pushing cover retaining clip with screwdriver.

7. To replace rail cover retaining clip (14), use a small 1/8-in. flat blade screwdriver to push either end of the retaining clip out through the hole in the rail cover (13). Remove the retaining clip from the other hole and discard retaining clip.
8. Replace the retaining clip (14) by inserting one end in its proper position and pushing on the middle of the retaining clip to snap the opposite end into position.



M16-2248

9. To repair the quick-release bracket (5), the spring (18) on both sides may be replaced. Using round nose pliers, pull out each spring with a counterclockwise twist. Discard springs.
10. Using round nose pliers, seat the larger end of each new spring (18) into the hole on the quick-release bracket (5) with a clockwise twist.



M16-2249

CLEAN, INSPECT, AND LUBRICATE

1. Clean, inspect, and lubricate (with CLP) the rail surfaces and recoil slots of the adapter rails when the weapon is cleaned and/or when handguards or accessories are being installed or repositioned on the rails.
2. Use the general purpose brush to clean the adapter rail and rail covers.
3. If debris is observed inside the adapter rail, remove the lower adapter rail or the M203 grenade launcher, and clean. It is not recommended or necessary to remove the upper adapter rail for routine cleaning, as this may cause the zero of attached accessories to shift when the upper adapter rail is reinstalled. Thoroughly clean the inner surface of the thermal liner to maintain its heat-reflective surface.

RAIL ADAPTER SYSTEM (RAS) (INCLUDES QUICK-RELEASE BRACKET [QRB] BARREL STOP) - CONTINUED

0036 00

CLEAN, INSPECT, AND LUBRICATE - CONTINUED

4. If the adapter rail is exposed to salt water or corrosive chemicals, thoroughly rinse the upper and lower assemblies in fresh water as soon as the tactical situation allows. Thoroughly clean, inspect, and lubricate as required, including the retaining clips in the rail covers.
5. In less adverse environments, lightly lubricate the upper and lower adapter rail assemblies and the spring latches in the handguards during normal weapon cleaning.
6. Clean and inspect the rail covers and rail grabbers of accessories to be mounted prior to embarking on tactical operations or training events.
7. Rail covers may usually be cleaned with an absorbent cloth. There is no reason to apply lubricant to the plastic surfaces of the rail covers.

REINSTALL

1. The recoil slots of each rail of the adapter rail are sequentially numbered within the recoil slots themselves. The numbers of the top rail have a "T" prefix, while those of the bottom rail have a "B". Additionally, the numbers of the rail to the shooter's left have an "L" prefix, while those of the rail to the shooter's right hand have an "R" prefix. The numbers and prefixes are provided to assist in remounting an accessory in the same position (memory aid) and to provide an "address" for every position on the system. The provision of addresses is useful to explain precisely where to mount certain accessories and which addresses are incompatible with other accessories.
2. The installation of the adapter rail has no effect on the attachment or operation of any current standard accessory. The adapter rail will not affect the use of the M9 bayonet, the M15A2 and M23 blank firing attachments, the top carry-sling adapter, and standard sling. All mount in their standard positions and operate the standard way. With the lower rail quadrant removed (in the same manner as the lower handguard), the M203 40 mm grenade launcher will mount under the barrel in its standard location. It can be secured by the M203 Quick-Release Bracket (QRB).
3. The standard side sling adapter, if installed, must be positioned with the sling swivel on the right side of the weapon (shooter's right side). Additionally, it should be oriented so the integral stop, normally positioned towards the muzzle, is to the rear. This change in orientation allows the swivel to fold flat towards the muzzle so the side sling adapter does not interfere with the installation of the rail covers, the forward handgrip, or other accessories that require installation from the end of the rail.

NOTE

The side sling adapter should be removed from the M4 weapon prior to mounting the M203 with the QRB. There is potential interference between the M203 receiver and the side sling adapter.

4. The top sling adapter is the primary sling to be used with the M4 and M5 adapter rails.

END OF WORK PACKAGE

BACK UP IRON SIGHT (BUIS)

0037 00

THIS WORK PACKAGE COVERS

Installation, Zeroing, Disassembly, Inspection, Reassembly, Lubrication

INITIAL SETUP

Maintenance Level

Intermediate

Tools and Special Tools

E2900/E7900 Tool Kit

Materials/Parts

Cleaner, Lubricant, and Preservative

Materials/Parts - Continued

Retaining ring, external

Screw, recoil

Spring pin

Equipment Conditions

Carrying handle removed from weapon
(WP 0015 00)

INSTALLATION

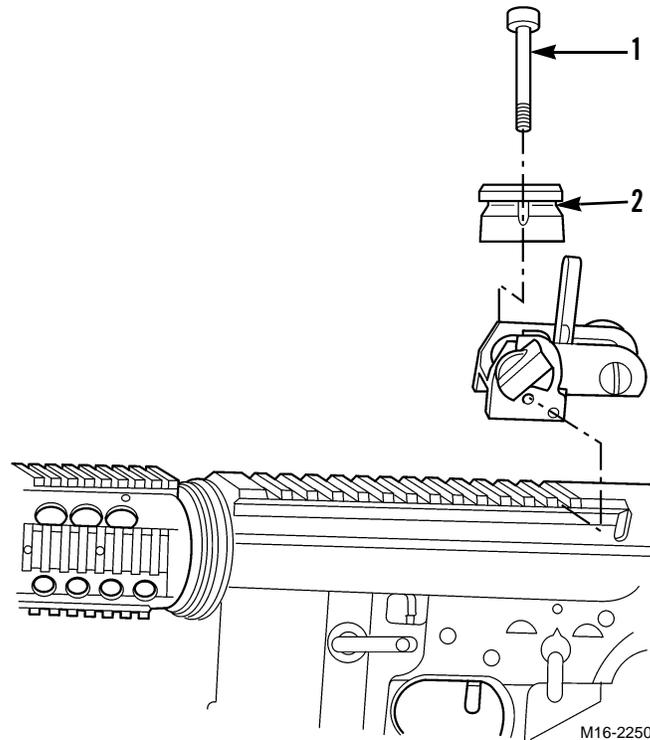
WARNING

Before starting, ensure the weapon has been cleared. Failure to follow this warning may cause injury or death to personnel.

1. Confirm the weapon is unloaded. Remove the magazine. Pull charging handle to the rear, lock the key and bolt carrier assembly to the rear, and physically inspect the chamber and receiver, ensuring the weapon is unloaded and no ammunition is present. Release the key and bolt carrier assembly to battery, confirm the selector lever is in the SAFE position, and close the dust cover.

INSTALLATION - CONTINUED

- The Back Up Iron Sight (BUIS) must be mounted in the rearmost slot on the upper receiver for the range adjustments and zeroing to be correct. Using the locking bar (2) and the recoil screw (1), align the recoil screw in the rear-most slot with the range scale facing forward. Make sure the BUIS is flat on the receiver rail with the angled edge under the upper receiver rail and tightened in place using a 1/8-in. hex wrench. The recoil screw has a locking patch on the threads, so it is recommended to initially install and not remove unless necessary. The recoil screw must be replaced each time it is removed.

**ZEROING**

- To zero the M4/M4A1 CQBW weapons, the line on the sight cam on the left side must align with the 300-m mark. Use the 25-m zero target for the M4, and center your rounds by adjusting the weapon's front sight post and the BUIS windage adjustment knob.
- To zero the M16A4 weapon, the line on the sight cam on the left side must align with the white line between the 300-m and 400-m marks. This mark is a half notch location, so it is more difficult to align. Use the 25-m zero target for the M16A4, and center your rounds by adjusting the weapon's front sight post and the BUIS windage adjustment knob.

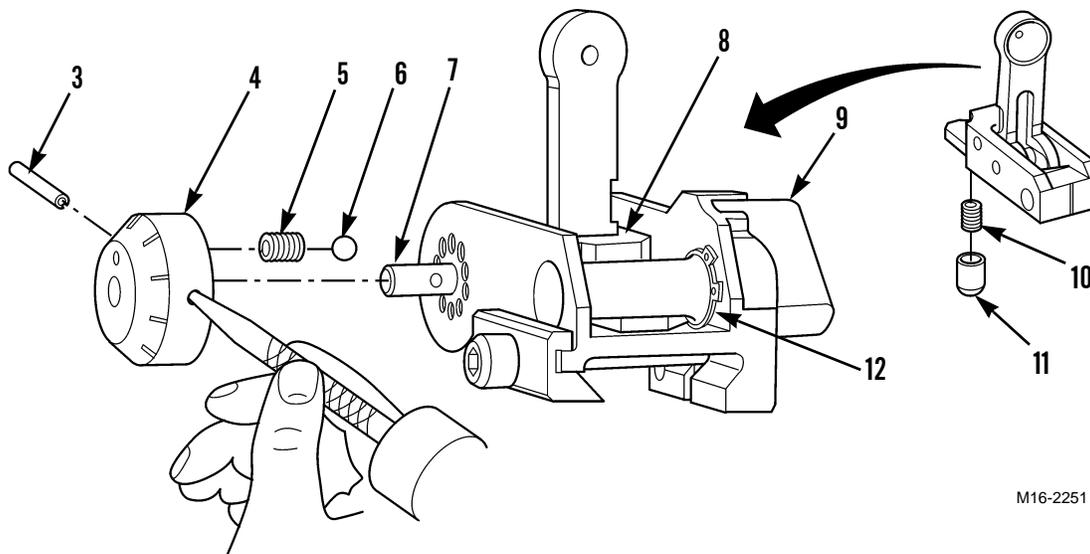
DISASSEMBLY**WARNING**

Use care when removing and installing spring-loaded parts. Failure to follow this warning may result in injury to personnel.

1. Using a 1/16-in. punch and hammer, drive out spring pin (3). Discard spring pin.
2. Catch rear sight assembly windage knob (4), windage knob spring (5), and ball bearing (6).
3. Using a flat blade screwdriver, remove sight-assembly windage screw (7).
4. Remove the frame assembly (with aperture sight) (8). Do not lose the aperture sight spring (10) and plunger (11) from underneath the frame assembly.

NOTE

- Only disassemble the sight cam when necessary.
 - External retaining ring must be replaced if removed.
5. Using retaining ring pliers, remove the external retaining ring (12) and slide out the sight cam (9). Do not lose the ball bearing and index spring underneath the sight cam. Discard external retaining ring.



M16-2251

INSPECTION

1. Check sight parts for serviceability. Visually inspect the sight base for cracks, corrosion, or damage. Check for legibility of markings. Detent indexing surfaces should be well formed. Replace if defective.
2. Visually inspect the frame assembly for cracks, corrosion, or damage. Sight aperture should be round. The flip-up sight arm must lock down. Replace if defective.
3. Check sight cam for function, corrosion, or damage. Replace if defective.
4. Visually check locking bar and recoil screw for damage. Replace if defective.

REASSEMBLY

NOTE

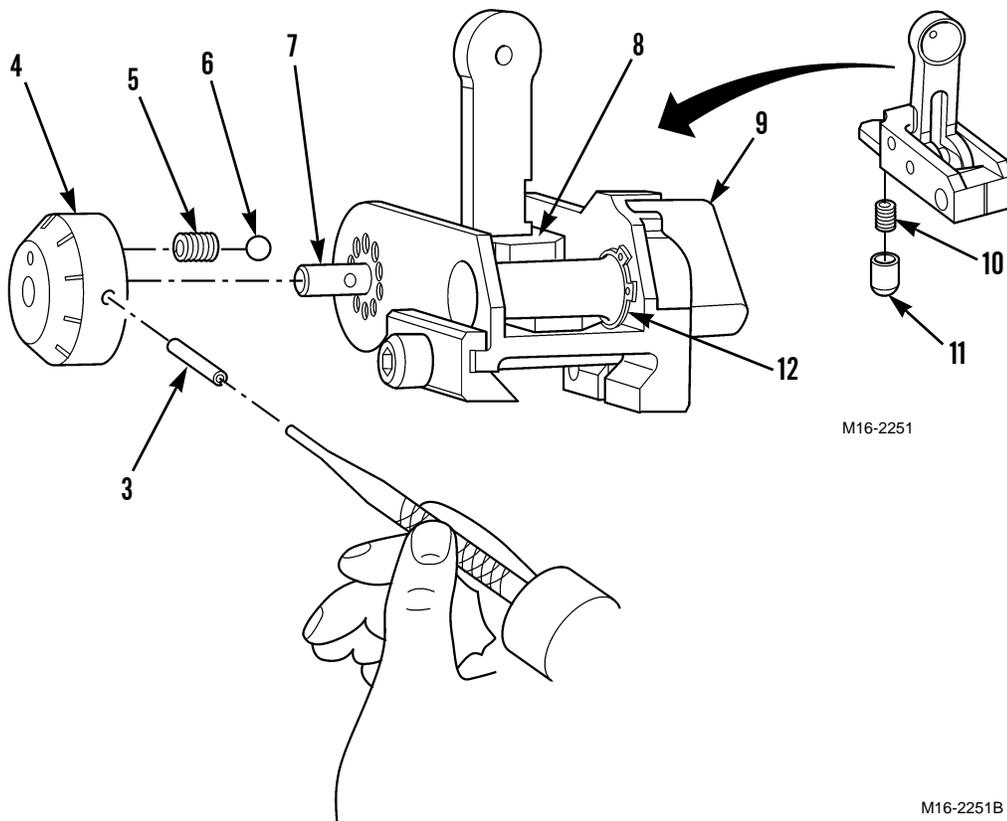
External retaining ring must be replaced if removed.

1. If removed, install sight cam (9) into sight base. Push the ball bearing and index spring into the hole in the sight cam and slide the cam all the way into the sight base. Secure with a new external retaining ring (12).
2. Install the frame assembly (8) into the sight base with the spring aperture sight (10) and plunger (11). It may be easier to rotate the sight cam (9) to the 200-m mark to slide into position, then rotate to the 600-m mark to hold the frame assembly while inserting the windage screw (7).
3. Install the ball bearing (6) and windage knob spring (5) into the hole in the windage knob (4). Line up the hole in the windage knob with the hole in the windage screw (7) and install the new spring pin (3).

NOTE

Recoil screw must be replaced if removed.

4. If removed, install the locking bar and a new recoil screw into the sight base and back onto the weapon.



LUBRICATION

1. The BUIS should be lubricated in the same manner as the weapon's rear sight assembly. It should be given an overall light coat of lubricant.
2. Rotate the sight cam to the 600-m mark to access the hole in the bottom, and apply two to three drops of lubricant to lubricate the spring and ball bearing inside.
3. Apply two to three drops of lubricant to the plunger and spring beneath the flip-up sight frame.
4. Apply two to three drops of lubricant into the hole in the side of the windage knob to lubricate the ball bearing and spring inside.
5. Apply a drop of lubricant to the threads of the windage screw, move the sight from side to side to fully lubricate screw, and return screw to the original zeroing mark.

END OF WORK PACKAGE

SUPPRESSOR, QUICK DISCONNECT**0038 00****THIS WORK PACKAGE COVERS**

Removal, Inspection, Cleaning, Repair, Reinstallation

INITIAL SETUP**Maintenance Level**

Intermediate

Tools and Special Tools

E2900/E7900 Tool Kit

General purpose brush

Materials/Parts

Cleaner, Lubricant, and Preservative

References

WP 0025 00

Equipment Conditions

Weapon cleared (TM 05538/10012-OR_)

**WARNING**

- The Quick Disconnect (QD) suppressor must only be used with the M4A1 CQBW and the quick disconnect compensator.
- After use, the QD suppressor will be extremely hot. To remove while hot, use a bayonet or other available tools to rotate the retainer ring and disengage the latch plate. Wear heat-resistant gloves when handling hot suppressors.
- Wear eye protection when operating a weapon with the suppressor attached, especially if the operator is left-handed or if water is placed in the suppressor to reduce muzzle flash.
- Up to 15 rounds per minute of continual fire is acceptable. Full automatic firing will cause excessive fumes.
- Failure to follow these warnings may cause injury or death to personnel.

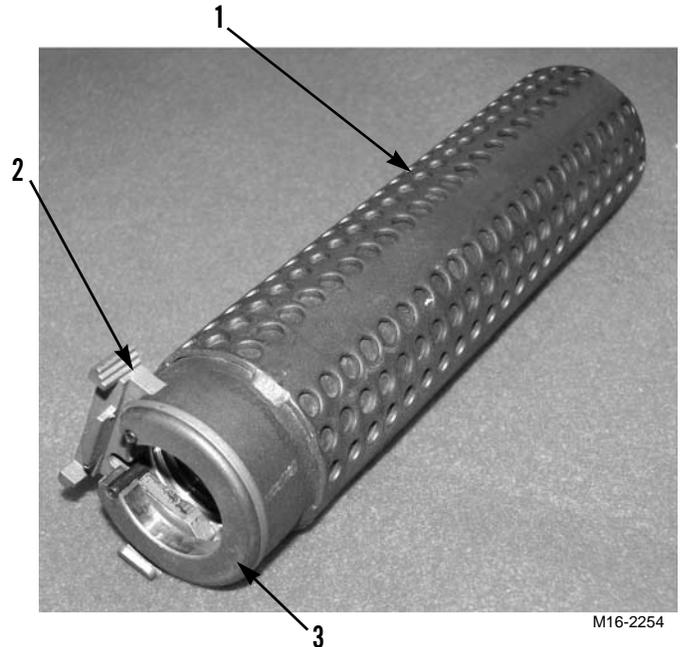
NOTE

All instructions and/or directions of motion are from the rear of the weapon or the suppressor with the muzzle end pointed away from the operator.

REMOVAL**NOTE**

If possible, remove the QD suppressor while hot. Carbon fouling solidifies as the unit cools, making removal more difficult.

From the rear of the weapon (muzzle pointed away from the operator), rotate retainer ring (3) clockwise, raise the quick disconnect latch plate (2) on the QD suppressor (1), then twist and slide the suppressor off the barrel. This allows the carbon-cutting grooves on the compensator to dislodge the carbon- and metal-fouling buildup in the QD compensator/QD suppressor interface surfaces.



M16-2254

INSPECTION

1. Inspect the suppressor for missing parts, corrosion, or other damage. Replace suppressor if defective.
2. Inspect compensator for looseness. If loose, remove and reinstall using a new recessed washer (WP 0025 00).
3. Inspect for proper fit of suppressor to compensator. Suppressor should fit securely without rattling when installed and latched in place. If suppressor does not fit securely, inspect suppressor and compensator for damage or wear. Replace suppressor/compensator if defective (WP 0025 00).

CLEANING**CAUTION**

DO NOT use wire brushes for cleaning of QD suppressor/compensator.

Clean the QD suppressor and compensator using the following procedure:

1. Install and remove the suppressor to/from the weapon several times using a twisting motion. This enables the carbon-cutting grooves in the compensator to dislodge carbon- and metal-fouling buildup.

NOTE

Orient parts to prevent carbon- and metal-fouling deposits from falling into the suppressor body.

2. Using the general purpose brush from the weapon cleaning kit, dry-brush any loosened carbon- and metal-fouling deposits from parts.

CAUTION

DO NOT allow CLP to flow into the suppressor body and contaminate the internal baffle areas. CLP and other oily residue in the suppressor body will cause excessive smoke when the weapon is fired.

CLEANING - CONTINUED

3. Use CLP to remove copper fouling from both the QD compensator and the corresponding internal surfaces of the QD suppressor that contact the QD compensator.
4. Use the short nylon bristles of the general purpose brush to scrub parts clean.
5. Clean and dry CLP-affected parts with an absorbent cloth.
 - a. Do not oil the QD suppressor body. Wipe it dry with a clean cloth.
 - b. Apply only a light coat of CLP to the QD compensator each time the weapon is cleaned to prevent corrosion.
 - c. Apply a very light coat of CLP to the suppressor latch plate legs to smooth operation.

NOTE

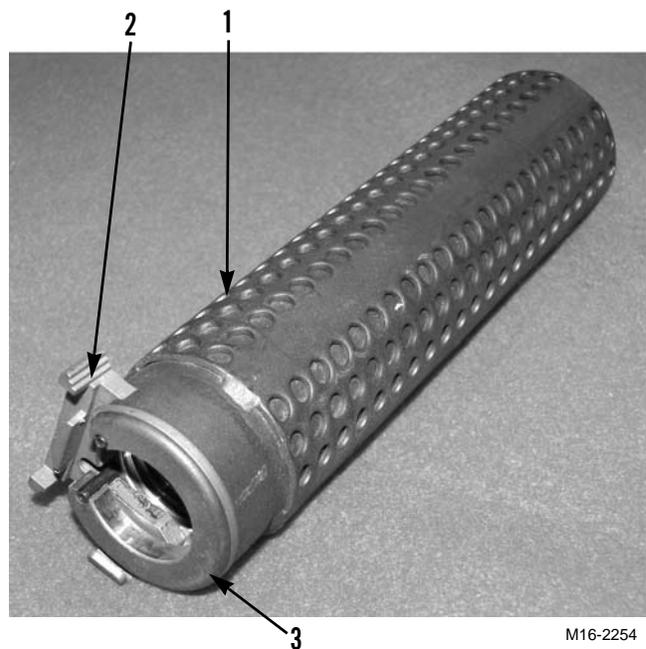
If CLP has entered the suppressor body, the suppressor should be thoroughly soaked and agitated vigorously in warm, soapy water. Rinse in clear, fresh water and allow to air dry. The interior of the suppressor must be thoroughly dry before use. The use of compressed air or a blow dryer is recommended.

REPAIR

No repair of the suppressor is authorized. Replace if defective.

REINSTALLATION

1. Rotate the retainer ring clockwise until it stops with the tab in approximately the 9 o'clock position. Raise the quick disconnect latch plate (2) and slide the QD suppressor (1) over the QD compensator. Rotate the QD suppressor counterclockwise until it engages the stop on the QD compensator.
2. Holding the QD suppressor (1) firmly to the rear against the stop in the QD compensator, push the quick disconnect latch plate (2) inward until nearly flush to secure the suppressor to the QD compensator.
3. Rotate the retainer ring (3) counterclockwise (to the left) until it stops against the QD latch plate (2). The QD latch plate should now be secured in the down/locked position.



M16-2254

END OF WORK PACKAGE

CHAPTER 6
SUPPORTING INFORMATION

REFERENCES

0039 00

SCOPE

This work package lists all forms, field manuals, technical manuals, tables, regulations, standards, and miscellaneous publications referenced in this manual.

TECHNICAL BULLETINS/INSTRUCTION MANUALS/ORDERS

Standards for Overseas Shipment of Domestic Issue of Small Arms, Aircraft Armament, Towed
 Howitzers, Motars, Recoilless Rifles, Rocket Launchers and Associated Fire Control Equipment . . . TB 9-1000-247-34_
 Prefire Inspection, Small Arms Weapons, Ordnance Material TI 8005-24/20E_
 Ground Equipment Record Procedures TM 4700-15/1
 Infantry Weapons Gage Calibration Program (IWGCP). TI 4733-15/11_
 Organizational/Corrosion Prevention and Control Procedures for USMC Equipment TM 4795-12/1_
 Memorandum Receipt for Individual Weapons and Accessories NAVMC 10576
 Weapon Custody Receipt Card NAVMC 10520
 Operator's Manual for Weapon, 5.56 MM, M16A2 W/E; 5.56 MM, M164A4 W/E;
 Carbine, 5.56 MM, M4 W/E; 5.56 MM, M4A1 CQBW W/E. TM 05538/10012-OR_
 Preparation for Storage MCO P4450.7

FORMS

Product Quality Deficiency Report SF 368
 Report of Discrepancy (ROD). SF 364

END OF WORK PACKAGE

EXPENDABLE AND DURABLE ITEMS LIST

0040 00

SCOPE

This work package lists expendable and durable items you are authorized to use for support and operation of the M16 series weapons W/E.

EXPLANATION OF COLUMNS

1. **Column (1) - Item Number.** This number is assigned to the entry in the list and is referenced in the narrative instructions to identify the item [e.g., Use Cloth, abrasive (Item 13, WP 0040 00).]
2. **Column (2) - Maintenance Level.** This column identifies the lowest level of maintenance that requires the listed item.
O - Organizational Maintenance, F - Field (Intermediate) Maintenance
3. **Column (3) - National Stock Number.** This is the NSN assigned to the item that is used to requisition it.
4. **Column (4) - Description, CAGEC, and Part Number.** This provides the other information needed to identify the item.
5. **Column (5) - Unit of Measure (U/M).** This code shows the physical measurement or count of an item, such as gallon (GAL.), pint (PT), each (EA), bottle (BT), package (PK), can (CN), quart-size container (QT), book (BK), bale (BE), etc.

Table 1. Expendable and Durable Items List for M16 Series Weapons W/E.

(1) ITEM NUMBER	(2) LEVEL	(3) NATIONAL STOCK NUMBER	(4) DESCRIPTION, CAGEC, AND PART NUMBER	(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. exposed bristle	EA
3	C	1005-00-716-2702	Brush, cleaning, small arms	EA
4	C	1005-00-903-1296	Brush, cleaning, small arms, bore	EA
5	C	1005-00-999-1435	Brush, cleaning, small arms, chamber	EA
6	C	1005-00-444-6602	Brush, cleaning, small arms, general purpose	EA
7	C	7920-00-205-2401	Brush, cleaning, tools and parts	EA
8	O	6850-00-965-2332	Carbon-removing compound	GAL.
9			Cleaner, Lubricant and Preservative	
	C	9150-01-079-6124	CLP- 4 oz (118.30 ml) bottle	BT
	C	9150-01-054-6453	CLP- 1 pt (0.47 L) bottle	BT
	C	9150-01-053-6688	CLP- 1 gal. (3.78 L) can	CN
10	C	9150-01-102-1473	Cleaner, Lubricant and Preservative, 1/2 oz.	BT
11	C	9920-00-292-9946	Cleaner, tobacco pipe, cotton turf, wire core pipe cleaner (36 per pkg)	PK
12			Cleaning compound, rifle bore, small arms bore cleaning solution	
	C	6850-00-224-6663	1 gal. (3.79 L) can	CN

EXPENDABLE AND DURABLE ITEMS LIST - CONTINUED

0040 00

Table 1. Expendable and Durable Items List for M16 Series Weapons W/E - Continued.

(1) ITEM NUMBER	(2) LEVEL	(3) NATIONAL STOCK NUMBER	(4) DESCRIPTION, CAGEC, AND PART NUMBER	(5) U/M
13	O	5350-00-221-0872	Cloth, abrasive	SH
14	O	6810-00-244-0290	Dichloromethane, technical 5 gal. (18.93 L) pail	
	O	6810-00-616-9188	600 lb (272.16 kg) drum	DR
15	O	6850-00-281-1985	Dry cleaning solvent 1 gal. (3.79 L) can	CN
16	O	8010-00-297-0560	Enamel, olive drab no. 3407 1 gal. (3.79 L) can	CN
17	O	8415-00-823-7458	Gloves, chemical and oil protective Size 9	PR
	O	8415-00-823-7459	Size 10	PR
	O	8415-00-823-7460	Size 11	PR
18	O	9150-00-754-2595	Grease, molybdenum disulfide	LB
19	C	1005-01-113-0321	Handle section, cleaning rod, small arms	EA
20	O	9150-01-260-2534	Lubricant, solid film 16 oz (473.18 mL) spray can	CN
21	C	9150-00-292-9689	Lubricating oil, weapons (LAW) 1 qt (0.95 L) can	CN
22	C	9150-00-935-6597	Lubricating oil, weapons, (LSA), semifluid 2 oz (59.15 ml) plastic bottle	BT
	C	9150-00-889-3522	4 oz (118.30 ml) plastic bottle	BT
	C	9150-00-687-4241	1 qt (0.95 L) can	CN
	C	9150-00-753-4686	1 gal. (3.79 L) can	CN
23	O	5340-01-230-3181	Mounting bracket (M4/M4A1 ONLY)	EA
24	O	8010-00-087-0102	Paint, enamel, semigloss: paint for blank firing attachment (M15A2) 1-qt can (red - rifle)	CN
25	O	8010-01-031-1274	Paint, enamel, semigloss: paint for blank firing attachment (M23) 1-pt can (yellow - carbine)	CN

EXPENDABLE AND DURABLE ITEMS LIST - CONTINUED

0040 00

Table 1. Expendable and Durable Items List for M16 Series Weapons W/E - Continued.

(1) ITEM NUMBER	(2) LEVEL	(3) NATIONAL STOCK NUMBER	(4) DESCRIPTION, CAGEC, AND PART NUMBER	(5) U/M
26	O	3990-00-795-3595	Pan, wash (box, tote)	EA
27	F	6850-00-826-0981	Penetrant kit	KT
28	F	8135-01-019-1691	Polyethylene sheet	EA
29	O	1005-01-394-7677	Protector, rail (M16A4, M4/M4A1 ONLY)	EA
30	C	7920-00-205-1711	Rag, wiping 50 lb (22.68 kg) bundle	BD
31	C	1005-00-050-6357	Rod section, cleaning small arms (3 required)	EA
32	F	8030-00-670-8553	Sealing compound, DEVCONF	KT
33			Solvent, general MIL-PRF-680 Type II	
	O	6850-01-474-2319	1 gal. (3.79 L)	GAL.
	O	6850-01-474-2317	5 gal. (18.93 L)	GAL.
	O	6850-01-474-2316	55 gallon drum	DR
34	C	1005-00-937-2250	Swab holder section, cleaning rod, small arms	EA
35	C	1005-00-912-4248	Swab, small arms	SH

END OF WORK PACKAGE

TOOL IDENTIFICATION LIST (INCLUDES SPECIAL TOOLS)

0041 00**SCOPE**

This work package lists all common tools and supplements, and special tools/fixtures needed to maintain the M16 series weapons W/E.

EXPLANATION OF COLUMNS IN THE TOOL IDENTIFICATION LIST

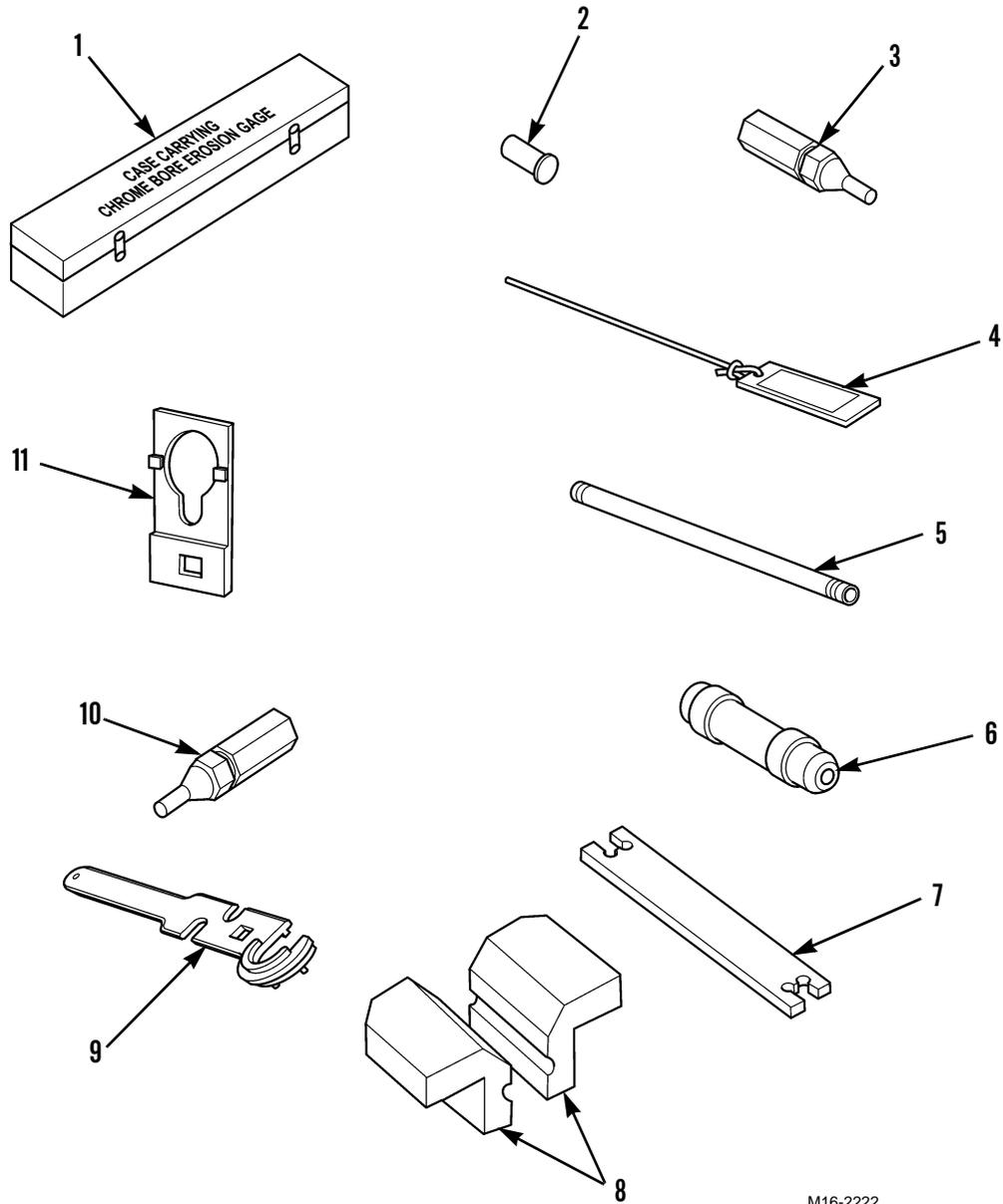
1. **Column (1) - Item Number.** This column indicates the number of the illustration that shows the item.
2. **Column (2) - Item Name.** This column lists the item by noun nomenclature and other descriptive features (e.g., handle, driver).
3. **Column (3) - National Stock Number.** This is the National Stock Number (NSN) assigned to the item. Use it to requisition the item.
4. **Column (4) - Part Number/CAGEC.** Indicates the primary number used by the manufacturer (individual, company, firm, corporation, or Government activity) that 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. The manufacturer's Commercial and Government Entity Code (CAGEC) is also included.
5. **Column (5) - Unit of Measure (U/M).** Indicates how the item is issued for the National Stock Number shown in Column (2), such as each (EA) or kit (KT).
6. **Column (6) - Quantity Recommended (Qty Rec'm).** Qty Rec'm indicates the quantity recommended.

TOOL IDENTIFICATION LIST (INCLUDES SPECIAL TOOLS) - CONTINUED

0041 00

Table 1. Organizational and Intermediate Maintenance Special Tools and Equipment.

(1) ITEM NUMBER	(2) ITEM NAME	(3) NATIONAL STOCK NUMBER	(4) PART NUMBER/ CAGEC	(5) U/M	(6) QTY REC'M
1	Case, Bore Gage	4933-01-035-5607	12006359/19204	EA	2
2	Reflector Tool, Chamber	4933-00-800-7508	8448201/19204	EA	2
3	Gage, Plug, Plain	5220-01-075-5004	12620101/19200	EA	2
4	Gage, Barrel, Erosion Barrel Erosion (Chrome Barrel)	5220-01-014-8183	8448496/19204	EA	2
5	Gage, Straightness	5220-00-221-9391	8448202/19204	EA	2
6	Gage, Headspace	5220-00-070-7814	7799734/19204	EA	2
7	Gage, Firing Pin Protrusion	5220-00-070-7815	7799735/19204	EA	2
8	Fixture, Barrel Removal	4933-00-070-9151	11010032/19204	EA	2
9	Wrench, Combination	5120-01-505-1677	12997571/19200	EA	2
10	Gage, Plug, Taper Cylinder	5220-01-043-9473	12006472/19204	EA	2
11	Wrench, Spanner A/R For M4/ M4A1 CQBW Weapons UOC: AS1, AY6	5120-01-324-6631	9390035/19200	EA	2
12	Tool Kit, USMC E2900			EA	1
13	Tool Kit, USMC E7900	5180-01-504-5663		EA	1



M16-2222

END OF WORK PACKAGE

THIS WORK PACKAGE COVERS

Manufactured Items Illustrations

INITIAL SETUP

Maintenance Level

Intermediate

SCOPE

This work package includes complete instructions for making items authorized to be manufactured or fabricated at the Intermediate maintenance level. A part number in alphanumeric order is provided for cross-referencing the part number of the item to be manufactured to the figure which covers fabrication criteria. All bulk materials needed for the manufacture of an item are listed by part number or specification number in a list on the illustration.

MANUFACTURED ITEMS

NOTE

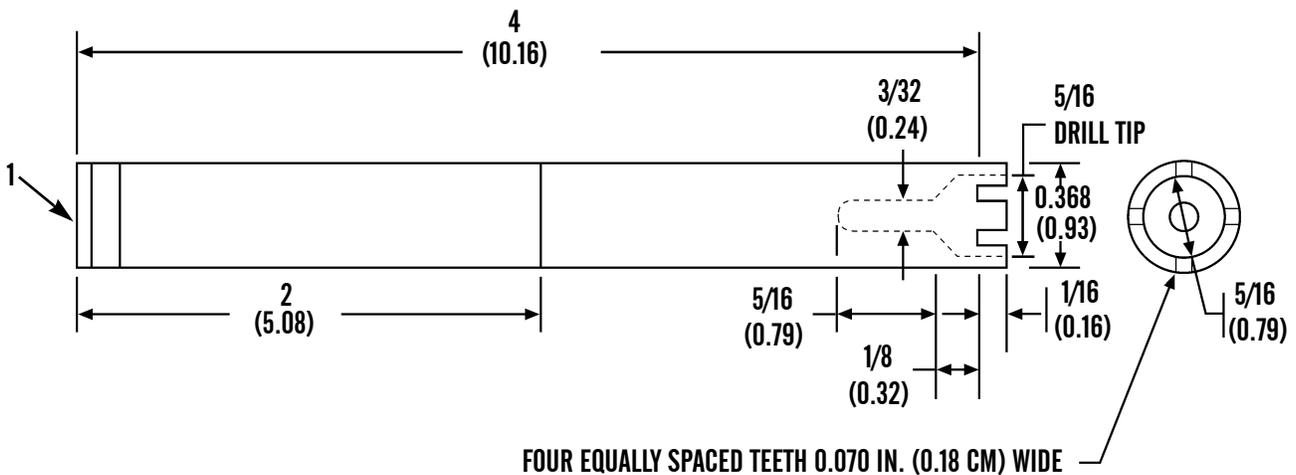
All dimensions shown are in inches with the metric conversion to centimeters in parenthesis.

1. Front sight post removal/installation tool (1).

Fabricate from 0.375-in. round metal bar, ASTM A686, FSCM 81346, Grade C. Class W2-09 9510-00-640-4407 or equivalent.

NOTE

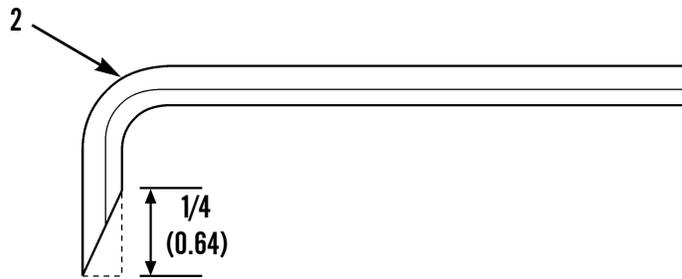
Teeth must be hand filed to fit front sight post.



MANUFACTURED ITEMS - CONTINUED**NOTE**

All dimensions shown are in inches with the metric conversion to centimeters in parenthesis.

2. Detent removal tool (2).
Fabricate from 1/16-in. socket head screw key, NSN 5120-00-198-5398.



M16-2256

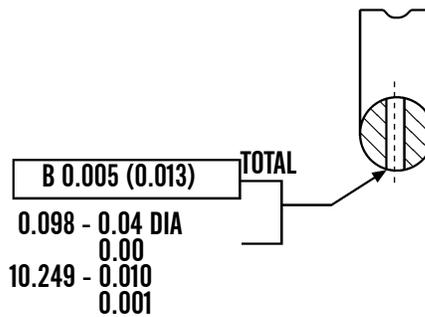
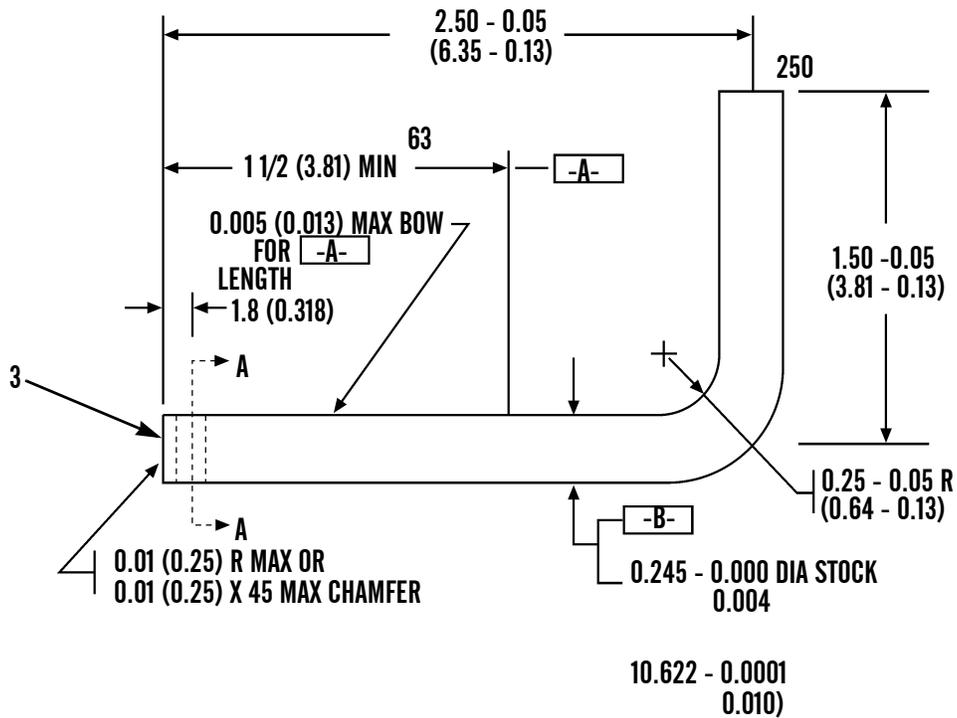
MANUFACTURED ITEMS - CONTINUED

NOTE

All dimensions shown are in inches with the metric conversion to centimeters in parenthesis.

3. Pivot pin removal tool (3).

Fabricate from 0.245-in. steel AISI 1095 or equivalent. Harden and temper to RC-57-61 for length-A-finish 5 3 1.2 or 5 3.2.2 of MIL-STD-171.



M16-2257

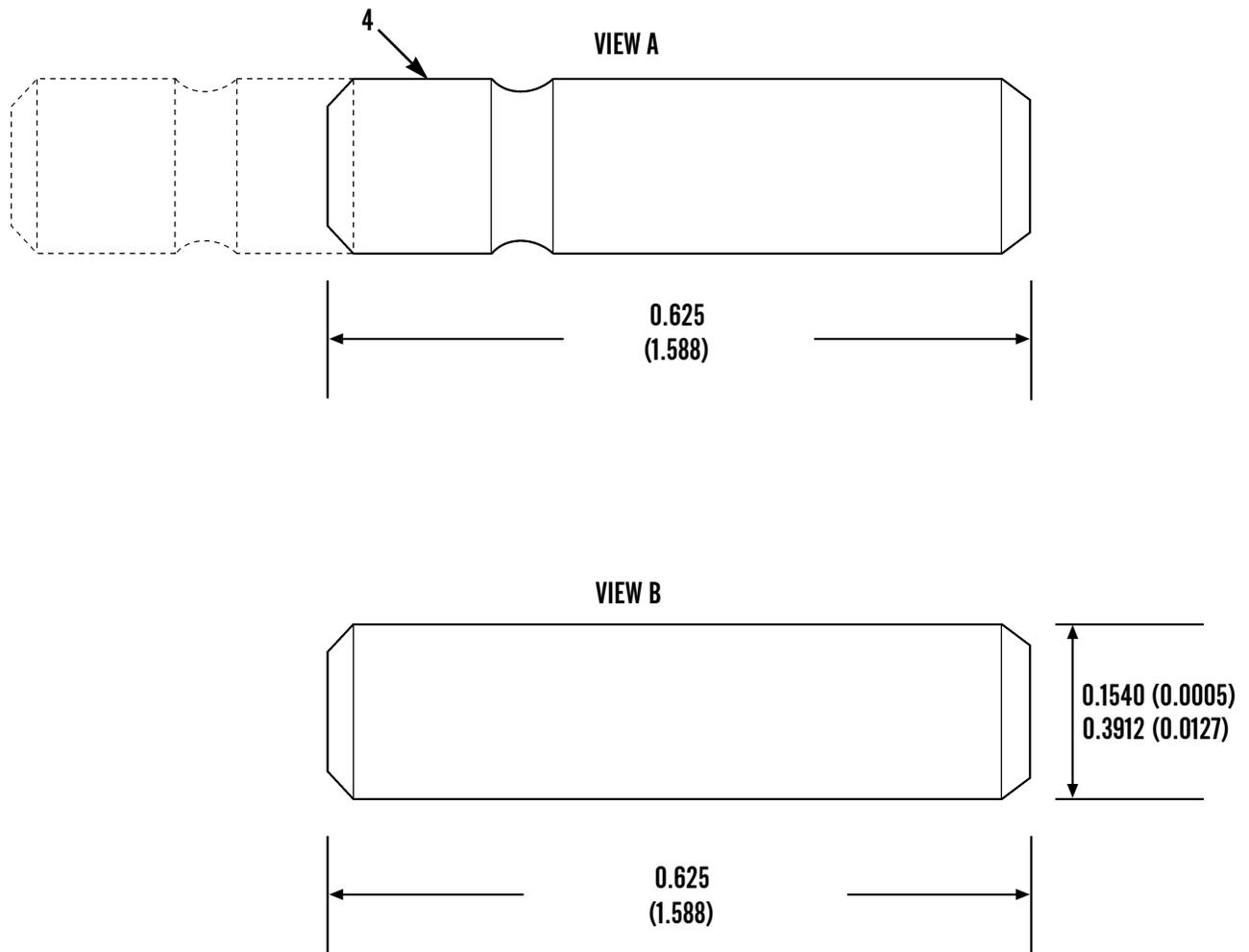
MANUFACTURED ITEMS - CONTINUED

NOTE

All dimensions shown are in inches with the metric conversion to centimeters in parenthesis.

- Pivot pin installation tool (4).

Fabricate from old trigger pin (View A) I P/N 8448609 or fabricate slave pin (View B) from material block, wire, steel alloy, grade 4140. AST<-A547 or equivalent.



M16-2258

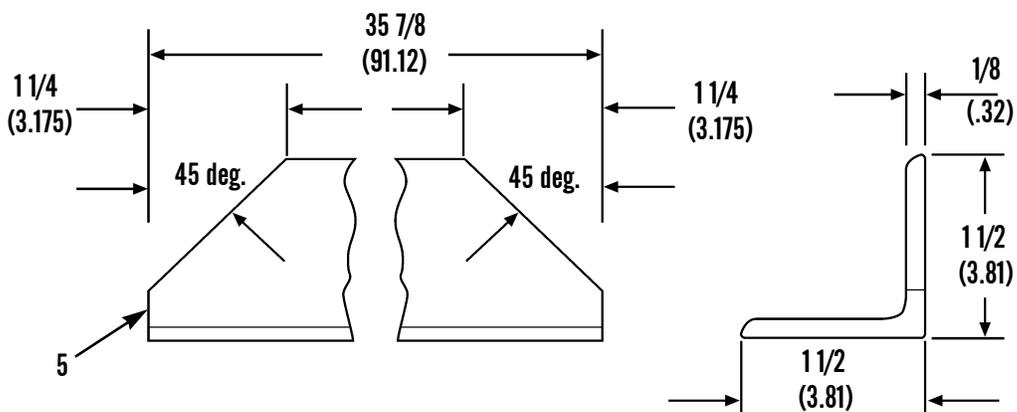
MANUFACTURED ITEMS - CONTINUED

NOTE

All dimensions shown are in inches with the metric conversion to centimeters in parenthesis.

- 5. Slave pin (5).

Fabricate from 1-1/2 in. X 1-1/2 in. X 1/8 in. angle iron, NSN 9520-00-277-4902 or equivalent. Paint with olive drab enamel paint, NSN 8010-01-350-5249 or equivalent.



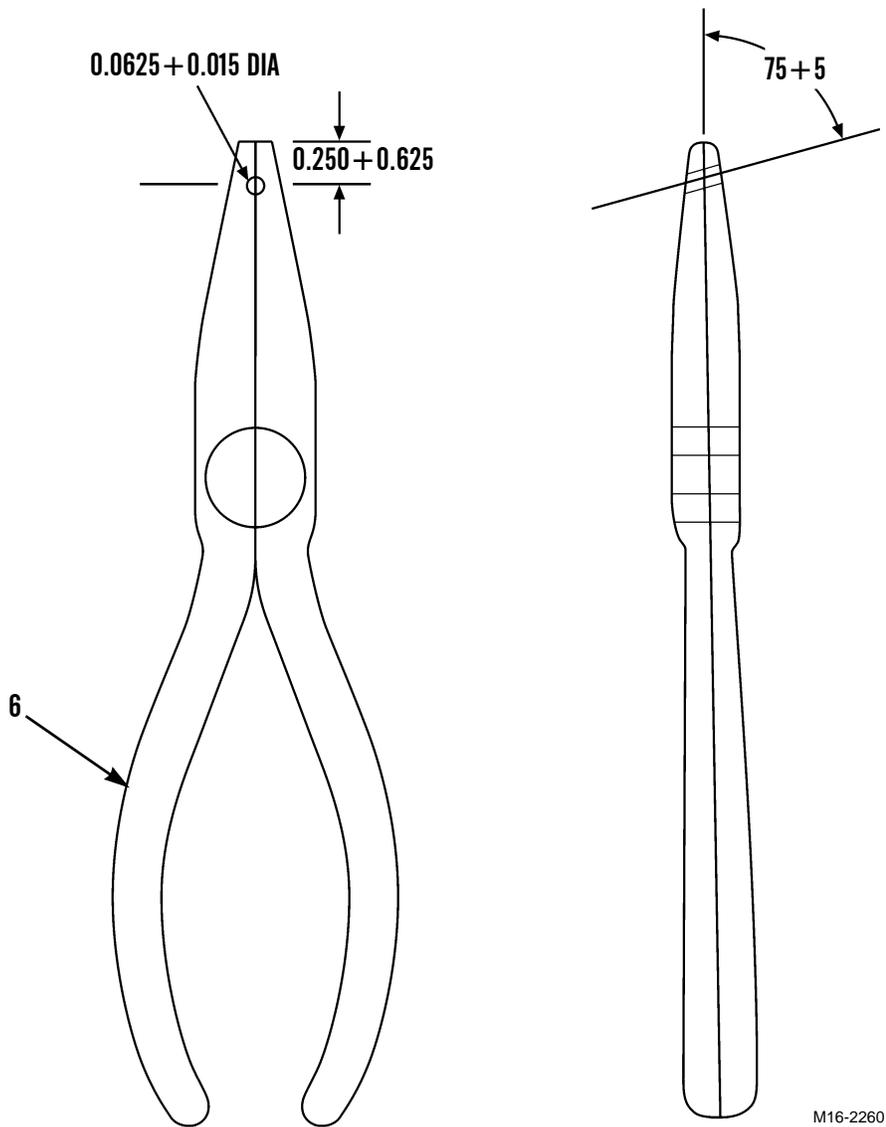
M16-2259

MANUFACTURED ITEMS - CONTINUED

NOTE

All dimensions shown are in inches with the metric conversion to centimeters in parenthesis.

- 6. Modified needle nose pliers (6).
Fabricate from needle nose pliers, NSN 5120-00-268-3579.



END OF WORK PACKAGE

QUALITY ASSURANCE CHECKLIST

QC CHECKLIST		
SECTION ONE		
1. Perform Safety Check		
QC	QA	
		A. Remove magazine.
		B. Inspect chamber for ammunition.
		C. Function test the safety. There will be distinct clicks, positive catch, and no "mushiness".
2. Inspect Flash Suppressor		
QC	QA	
		A. No cracks.
		B. Centered.
		C. Refinished (blued or parker).
		D. Barrel crown clean, uniform, smooth. Crown cut at 45 degrees.
		E. Front sight square, serviceable, and tight.
3. Rear Sight		
QC	QA	
		A. Elevation "clicks" crisp and distinct; no "mushiness" or "dead" clicks.
		B. Elevate aperture, hold the cartridge clip guide, and lightly push down on the rear of aperture. Aperture must not slip down (running).
		C. Without windage and elevation pinion installed, rear sight base should spring back when pushed forward.
		D. Windage knob tight, but moves freely. Push elevation pinion toward right and check for average windage knob clearance of 1/32 in., and if it springs back into place.
		E. Sight has lubrication.
4. Front Sling Swivel and Bipod		
QC	QA	
		A. Check for proper installation of sling swivel (if equipped).

QUALITY ASSURANCE CHECKLIST - CONTINUED

QC CHECKLIST		
5. Apparent Misalignment		
QC	QA	
		A. Check fit of magazine with bolt closed.
		B. With magazine inserted, pull charging handle to rear to simulate firing, engaging bolt lock.
		C. Bolt lock should retain bolt to rear with magazine removed.
		D. Check fit of magazine with bolt locked to rear.
		E. Magazine must not bind on stock or receiver.
6. Firing Mechanism		
QC	QA	
		A. Bolt lock should retain bolt to rear with magazine removed or magazine empty.
		B. Check fit of magazine with bolt locked to rear.
7. Stock		
QC	QA	
		A. Check for cracks around screw holes and rear sling swivel area.
		B. Check buttstock to ensure it pulls in and out.
8. Barrel and Receiver Group		
QC	QA	
		A. Inspect optical platform welds for cracks (M16A4, M4A, and M4A1 CQBW only).
		B. Barrel will be free of carbon and rust.
		C. Charging handle should not be loose. Ensure the barrel is knurled.
		D. Receivers will be free of cracks and corrosion.
		E. Rifle will be refinished and have a new appearance.
9. Bolt		
QC	QA	
		A. Firing pin will have a smooth round top and no chips or cracks.
		B. Face of bolt will not be chipped or cracked.
		C. Inspect the lugs and rest of bolt body for cracks.

QUALITY ASSURANCE CHECKLIST - CONTINUED

QC CHECKLIST		
10. Headspace and Breechbore		
QC	QA	
		A. Bolt will not close on a headspace gage.
11. Trigger Weight		
QC	QA	
		A. Perform safety function test. Refer to WP 0031 00.
		B. Dry fire the rifle and leave hammer forward. Hold trigger to rear and quickly cycle the charging handle. Release trigger completely, then pull trigger again. Hammer should fall. This ensures hammer will cock on firing and not go to full automatic fire. Perform this procedure three times.
		C. Minimum trigger weight for M16A2, M16A4, and M4 is 5.5 lb. Maximum weight is 9.5 lb.
		D. Minimum trigger weight for M4A1 is 5.5 lb. Maximum weight is 8.5 lb.
12. Final Check		
QC	QA	
		A. Inspect for proper lubrication.

SECTION TWO

Quality Control Inspector's Verification

Rifle Serial Number _____

QC Rank and Name (Last, First, Middle)

QA Rank and Name (Last, First, Middle)

QC Inspector's Signature

QA Inspector's Signature

Inspection Date

Inspection Date

END OF WORK PACKAGE

REPAIR PARTS LIST (RPL) INTRODUCTION

0044 00

SCOPE

This Repair Parts List (RPL) authorizes spares, repair parts, and other special support equipment required for performance of Organizational and Intermediate maintenance of the M16A2 and M16A4 rifles and the M4 and M4A1 CQBW carbines. It authorizes the requisitioning, issue, and disposition of spare and repair parts indicated by the Source, Maintenance, and Recoverability (SMR) codes.

EXPLANATION OF COLUMNS

1. **Item No. (Column 1).** The item number indicates the number used to identify items called out in an illustration.
2. **SMR Code (Column 2).** The SMR code is a five-position code containing supply/requisition information, maintenance level authorization criteria, and disposition instructions as shown in the following manner:

SOURCE CODE	MAINTENANCE CODE		RECOVERABILITY CODE
<p style="text-align: center;">XX</p> <p style="text-align: center;">1st two positions How to obtain an item.</p>	<p style="text-align: center;">X</p> <p style="text-align: center;">3rd position Who can install, replace, or use the item.</p>	<p style="text-align: center;">X</p> <p style="text-align: center;">4th position Who can perform repair* on the item.</p>	<p style="text-align: center;">X</p> <p style="text-align: center;">5th position Who determines disposition action on an unserviceable item.</p>

NOTE

Complete repair: maintenance capacity, capability, and authority to perform all corrective maintenance tasks of the repair function in a user environment in order to restore serviceability to a failed item.

EXPLANATION OF COLUMNS - CONTINUED

- a. **Source Code.** The source code indicates how to obtain an item needed for maintenance, repair, or overhaul of equipment and is entered in the first and second positions of the SMR code as follows:

SOURCE CODE	ECHELON	APPLICATION/EXPLANATION
PA		Item: Stocked
PB		Item: Stocked, insurance
PC		Item: Stocked, deteriorative
PD		Item: Support, initial issue, or outfitting and stocking only for additional initial issue.
PE		Equip: Support, stocked, initial issue, or outfitting of specified maintenance activities (also used for "Special Tools").
PF		Equip: Support, non-stocked, centrally procured on demand.
PG		Item: Stocked, for sustained support, uneconomical to produce at later time.
KD		Items with these codes are not to be requested/requisitioned individually. These items are part of a kit authorized to the maintenance level indicated in the 3rd position of the SMR code. The complete kit must be requisitioned and applied for this weapon.
KF		
KB		
MO	Org	Items with these codes are not to be requisitioned individually. They must be made from bulk material identified by the part number in the description column. No bulk material items are applicable for this weapon.
MF	3rd	
MH	4th	
ML	MH	
MD	Depot	
AO	Org	Items with these codes are not to be requested/requisitioned individually. The parts that make the assembled items must be requisitioned, fabricated, or assembled at the level of maintenance indicated by source code. If the 3rd position code of the SMR code authorizes the item to be replaced, but the source code indicates the item is assembled at a higher level, order the item from the higher level of maintenance.
AF	3rd	
AH	4th	
AD	Depot	
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 CAGE and part number given.
XC		XC installation drawing, diagram, instruction sheet, and field service drawing identified by the manufacturer's part number.
XD		XD items not stocked. Order an XD-coded item through normal supply channels using the CAGE and part number given.

NOTE

- Cannibalizing or controlled exchange, when authorized, may be used as a source of supply for items with the above source codes, except for those coded XA.
- Items coded PC are subject to deterioration.

EXPLANATION OF COLUMNS - CONTINUED

b. **Maintenance Code.** The maintenance code indicates the levels of maintenance authorized to use and repair support items and is entered in the third and fourth positions of the SMR code as follows:

- (1) The maintenance code entered in the third position indicates the lowest maintenance level authorized to remove, replace, and use an item. The maintenance code indicates one of the following maintenance levels:

MAINTENANCE CODE	APPLICATION/EXPLANATION
C	Crew or operator maintenance done within unit maintenance.
O	Organizational level can remove, replace, and use the item.
F	Third echelon can remove, replace, and use the item.
H	Fourth echelon can remove, replace, and use the item.
L	Specialized repair activity can remove, replace, and use the item.
D	Depot level can remove, replace, and use the item.

- (2) The maintenance code entered in the fourth position indicates whether or not the item is to be repaired and identifies the lowest maintenance level with the capability to do complete repair (i.e., perform all authorized repair functions). The maintenance code indicates one of the following maintenance levels:

NOTE

Some limited repair may be done on the item at a lower level of maintenance, if authorized by the SMR codes.

MAINTENANCE CODE	APPLICATION/EXPLANATION
O	Organizational level is the lowest level that can completely repair the item.
F	Intermediate third echelon is the lowest level that can completely repair the item.
H	Intermediate fourth echelon is the lowest level that can completely repair the item.
L	Specialized repair activity is the lowest level that can completely repair the item.
D	Depot level is the lowest level that can completely repair the item.
Z	Non-repairable. No repair is authorized.
B	No repair authorized. No parts or special tools are authorized for maintenance of a B-coded item. However, the item may be reconditioned by adjusting or lubricating at the user level.

EXPLANATION OF COLUMNS - CONTINUED

- c. **Recoverability Code.** The recoverability code indicates the disposition action on unserviceable items and is entered in the fifth position of the SMR code as follows:

RECOVERABILITY CODE	APPLICATION/EXPLANATION
Z	Non-repairable item. When unserviceable, condemn and dispose of the item at the level of maintenance shown in the third position of the SMR code.
O	Repairable item. When uneconomically repairable, condemn and dispose of at the organizational level.
F	Repairable item. When uneconomically repairable, condemn and dispose of at the third echelon level.
H	Repairable item. When uneconomically repairable, condemn and dispose of at the fourth echelon level.
D	Repairable item. When uneconomically repairable, condemn and dispose of at the depot level.
L	Repairable item. Condemnation and disposal not authorized below specialized repair activity.
A	Item requires special handling or condemnation procedures for specific reason (i.e., precious metal content, high dollar value, critical material, or hazardous material). Refer to appropriate manuals/directives for specific instructions.

3. **NSN (Column 3).** The national stock number for the item is listed in this column.
4. **CAGE (Column 4).** The Commercial and Government Entity Code is a five-digit code used to identify the manufacturer, distributor, or government activity that supplies the item.
5. **Part Number (Column 5).** Indicates the primary number used by the manufacturer (individual, company, firm, corporation, or government activity) that controls the design and characteristics of the items by means of its engineering drawings, specifications, standards, and inspection requirements to identify an item or range of items.

NOTE

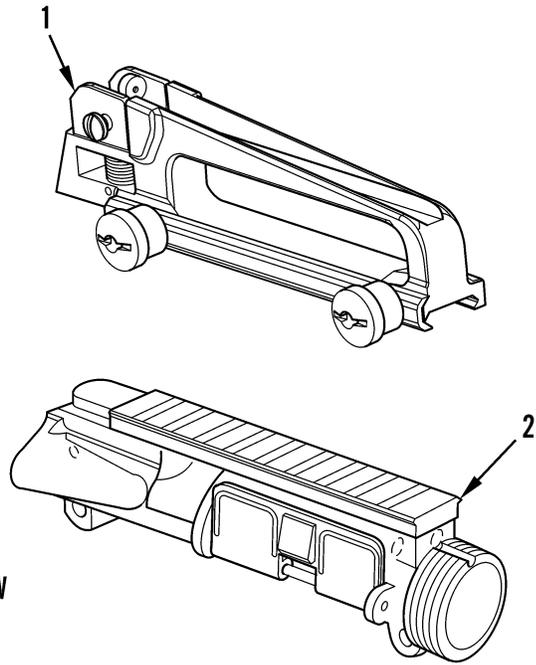
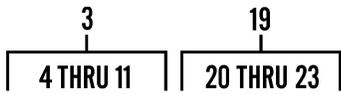
When a NSN is used to requisition an item, the item received may be a different part number from the part ordered.

6. **Item Identification (Column 6).** This column includes the following information:
 - a. Federal item name and, when required, a minimum description identifying the item.
 - b. The statement END OF FIGURE appears just below the last item description in columns 6 and 7 for a given figure in both Sections II and III.
7. **QTY (Column 7).** The quantity (QTY) column indicates the quantity of the item used in the breakout shown on the illustration figure, which is prepared for a functional group, sub-functional group, or an assembly. The letter V appearing in this column in lieu of a quantity indicates the quantity is variable and may vary from application to application.

HOW TO LOCATE REPAIR PARTS

1. Unknown National Stock Number (NSN) or Part Number.
 - a. Identify the item from the illustration and note the item number.
 - b. Look in the Repair Parts List (RPL) for the figure and item numbers. The NSNs and part numbers are on the same line as the associated item numbers.
2. Known NSN or Part Number.
 - a. Using the NSN or part number, locate the item in the RPL. Note the pertinent information.
 - b. Verify the identity of the item.

END OF WORK PACKAGE



M16A4/M4/M4A1 CQBW

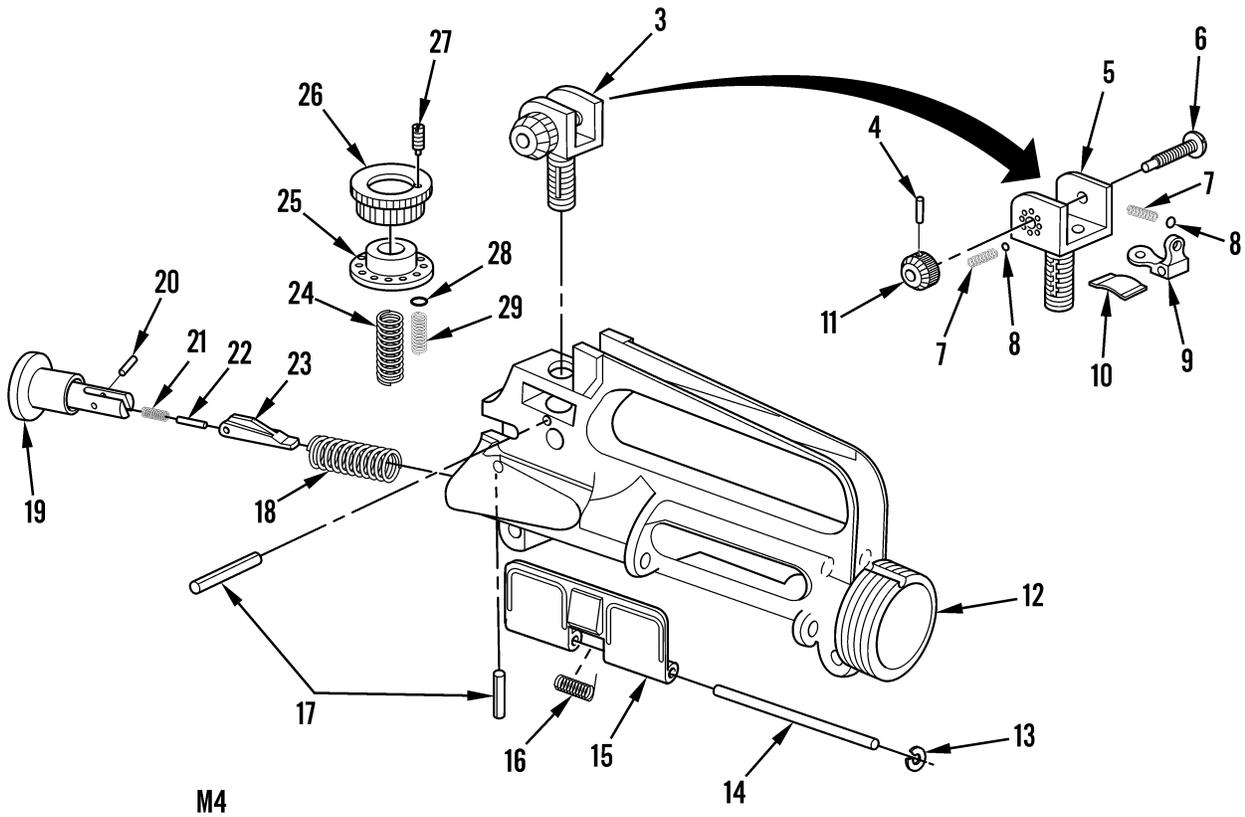


Figure 1. Upper Receiver, Rear Sight, and Forward Assist Assembly

(1) ITEM NO	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USEABLE ON CODES (UOC)	(7) QTY
					FIG. 1 UPPER RECEIVER, REAR SIGHT, AND FORWARD ASSIST ASSEMBLY	
1	PAOZZ	1005-01-382-7083	19200	12951021	HANDLE, GUN CARRYING..... UOC:AS1, AY6, AZ1	1
2	PAFZZ	1005-01-382-6795	19200	12972670	RECEIVER, UPPER..... UOC:AS1,AY6	1
2	PAFZZ	1005-01-454-9880	19200	12973012	RECEIVER, UPPER..... UOC:AZ1	1
3	PAOOO	1005-01-464-9716	19200	9349072	REAR SIGHT ASSEMBLY..... UOC:AR8	1
3	PAOOO	1005-01-481-8502	19200	12951026	REAR SIGHT ASSEMBLY..... UOC:AS1, AY6, AZ1	1
4	PAOZZ	5315-00-058-6678	80205	MS16562- 103	.PIN, SPRING..... UOC:	1
5	PAOZZ	1005-01-134-3631	19200	9309074	.BASE, REAR SIGHT..... UOC:AR8	1
5	PAOZZ	1005-01-382-7086	19200	12951028	.BASE, REAR SIGHT..... UOC:AS1, AY6, AZ1	1
6	PAOZZ	5305-01-144-1490	19200	9349076	.SCREW, EXTERNALLY REAR..... UOC:	1
7	PAOZZ	5360-01-148-1751	19200	9349069	.SPRING, HELICAL COMPRESSION..... UOC:	2
8	PAOZZ	3110-00-183-9175	96906	MS19060- 4808	.BALL, BEARING..... UOC:	2
9	PAOZZ	1005-01-135-3697	19200	9349075	.APERTURE, SIGHT..... UOC:	1
10	PAOZZ	5360-01-381-6183	19200	12011987	.SPRING, FLAT..... UOC:	1
11	PAOZZ	5355-01-134-3627	19200	9349077	.KNOB, WINDAGE..... UOC:	1
12	PAFZZ	1005-01-134-3701	19200	9349063	RECEIVER, UPPER..... UOC:AR8	1
13	PAOZZ	5325-00-999-0864	96906	MS16632- 3012	RING, RETAINING, COVER..... UOC:AR8	1
14	PAOZZ	5315-00-978-1023	19204	8448533	PIN, GROOVED, HEADLESS COVER..... UOC:AR8	1
15	PAOZZ	1005-00-978-1022	19204	8448525	COVER, EJECTION PORT..... UOC:AR8	1
16	PAOZZ	5360-00-978-1025	19200	8448532	SPRING, HELICAL, TORSION, COVER.... UOC:AR8	1
17	PAOZZ	5315-00-840-3812	80205	MS16562- 121	PIN, SPRING FORWARD ASSIST..... UOC:AR8	2
18	PAOZZ	5360-00-017-9541	19200	8448540	SPRING, HELICAL, COMPRESSION..... UOC:AR8	1
19	PAOFF	1005-01-442-0160	19200	9349086	FORWARD ASSIST ASSEMBLY..... UOC:	1

(1) ITEM NO	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USEABLE ON CODES (UOC)	(7) QTY
20	PAOZZ	5315-01-048-9372	19204	8448521-2	.PIN, SPRING, PAWL..... UOC:	1
21	PAOZZ	5360-00-523-8084	19200	8448542	.SPRING, HELICAL, COMPRESSION PAWL. UOC:	1
22	PAOZZ	1005-00-017-9540	19204	8448544	.DETENT, PAWL..... UOC:	1
23	PAOZZ	3040-00-017-9539	19204	8448543	.PAWL, FORWARD ASSIST.....	1
24	PAOZZ	5360-01-134-3710	19200	9349070	SPRING, HELICAL, COMPRESSION, ELEVATION..... UOC:AR8	1
25	PAOZZ	5355-01-135-4972	13629	SP64515	KNOB, ELEVATION..... UOC:AR8	1
26	PAOZZ	1005-01-134-3621	19200	9349066	INDEX, ELEVATION..... UOC:AR8	1
27	PAOZZ	5305-01-134-3622	19200	9349065	SCREW, INDEX..... UOC:AR8	1
28	PAOZZ	3110-00-183-9175	96906	MS19060- 4808	BALL, BEARING..... UOC:AR8	1
29	PAOZZ	5360-01-148-1751	19200	9349069	SPRING, HELICAL,..... UOC:AR8	1

END OF FIGURE

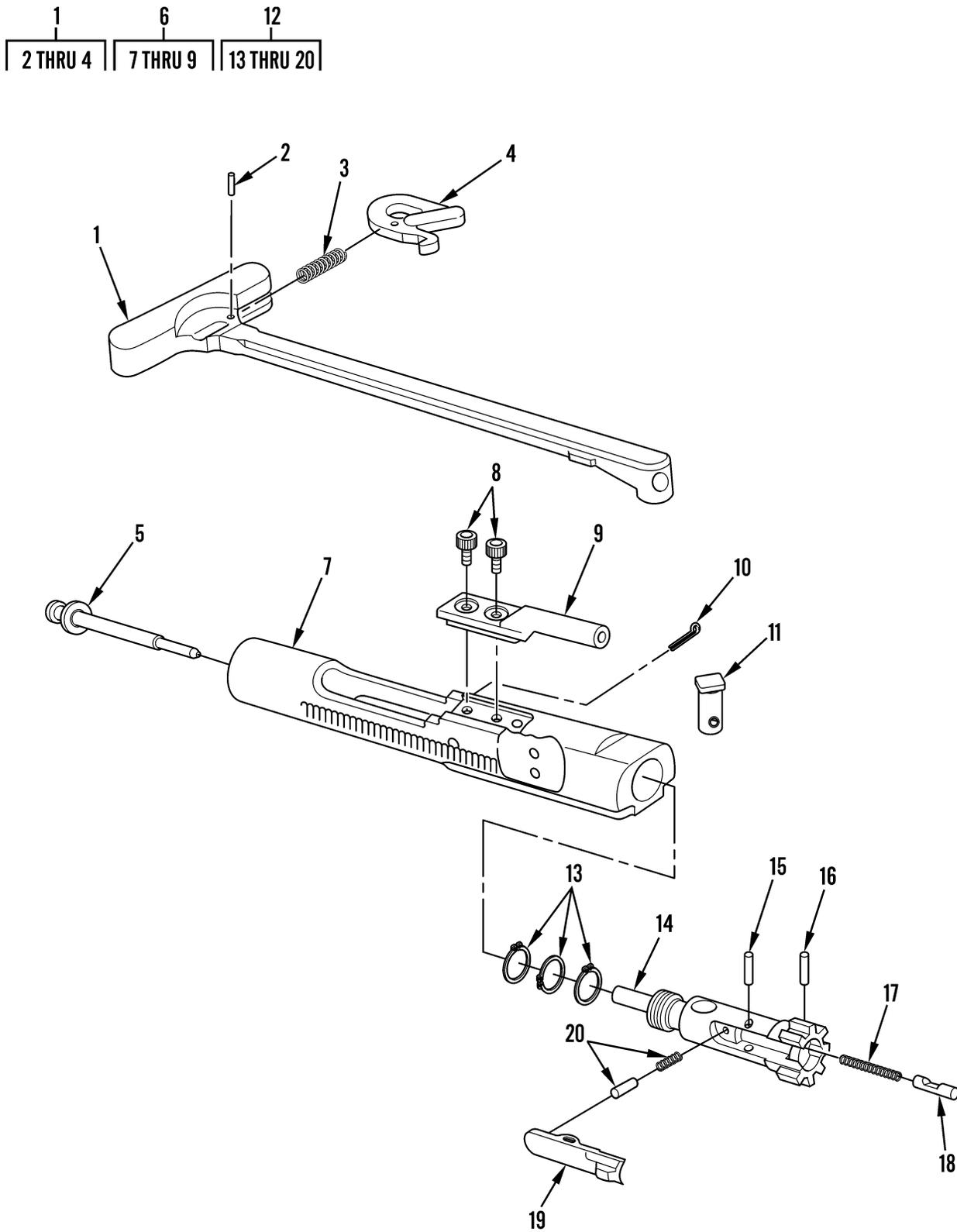


Figure 2. Charge Handle, Bolt, and Carrier Assembly

(1) ITEM NO	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USEABLE ON CODES (UOC)	(7) QTY
FIG. 2 CHARGE HANDLE, BOLT, AND CARRIER ASSEMBLY						
1	PAOOO	1005-01-537-0026	0A8R7	05-0031	M84 CHARGING HANDLE.....	1
2	PAOZZ	5315-01-048-9372	19204	8448521-2	.PIN, SPRING CHARGING HANDLE.....	1
3	PAOZZ	5360-00-999-0404	19204	8448520	.SPRING, HELICAL, COMPRESSION.....	1
4	PAOZZ		19200	TBD-05-0031	.LATCH, CHARGING HANDLE.....	1
5	PAOZZ	1005-00-017-9547	19204	8448503	PIN, FIRING.....	1
6	PAOFF	1005-01-441-1619	19204	8448505	KEY AND BOLT CARRIER ASSEMBLY.....	1
7	PAFZZ	1005-00-738-6213	19204	8448507	.CARRIER, BOLT.....	1
8	PAFZZ	5305-00-992-7284	19204	8448508	.SCREW, CARRIER KEY.....	2
9	PAFZZ	1005-00-992-7283	19204	8448506	.KEY, BOLT CARRIER.....	1
10	PAOZZ	1005-00-017-9547	19204	8448504	PIN, FIRING RETAINING.....	1
11	PAOZZ	5315-00-992-7294	19204	8448502	PIN, GROOVED, HEADED BOLT CAM.....	1
12	PAOOO	1005-01-422-3770	19200	12972691	BOLT, BREECH ASSEMBLY..... UOC:AR8, AZ1	1
12	PAOOO	1005-01-505-1035	19200	13004787	BOLT, BREECH ASSEMBLY..... UOC:AS1, AY6	1
13	PAOZZ	1005-00-992-7287	19204	8448511	.RING, BOLT.....	3
14	PAOZZ	1005-01-465-0080	19204	8448510	.BOLT, BREECH.....	1
15	PAOZZ	1005-00-992-7290	19204	8448513	.PIN, EXTRACTOR.....	1
16	PAOZZ	5315-00-597-5086	80205	MS16562-98	.PIN, SPRING EJECTOR.....	1
17	PAOZZ	5360-00-992-7292	19204	8448516	.SPRING, HELICAL, COMPRESSION.....	1
18	PAOZZ	1005-00-992-7291	19204	8448515	.EJECTOR, CARTRIDGE.....	1
19	PAOZZ	1005-00-992-7288	19204	8448512	.EXTRACTOR, CARTRIDGE.....	1
20	PAOZZ	1005-01-424-5899	19200	12972692	.SPRING ASSEMBLY, EXTRACTOR..... UOC:AR8, AZ1	1
20	PAOZZ	1005-01-505-2886	19200	13004786	.SPRING ASSEMBLY, EXTRACTOR..... UOC:AS1, AY6	1

END OF FIGURE

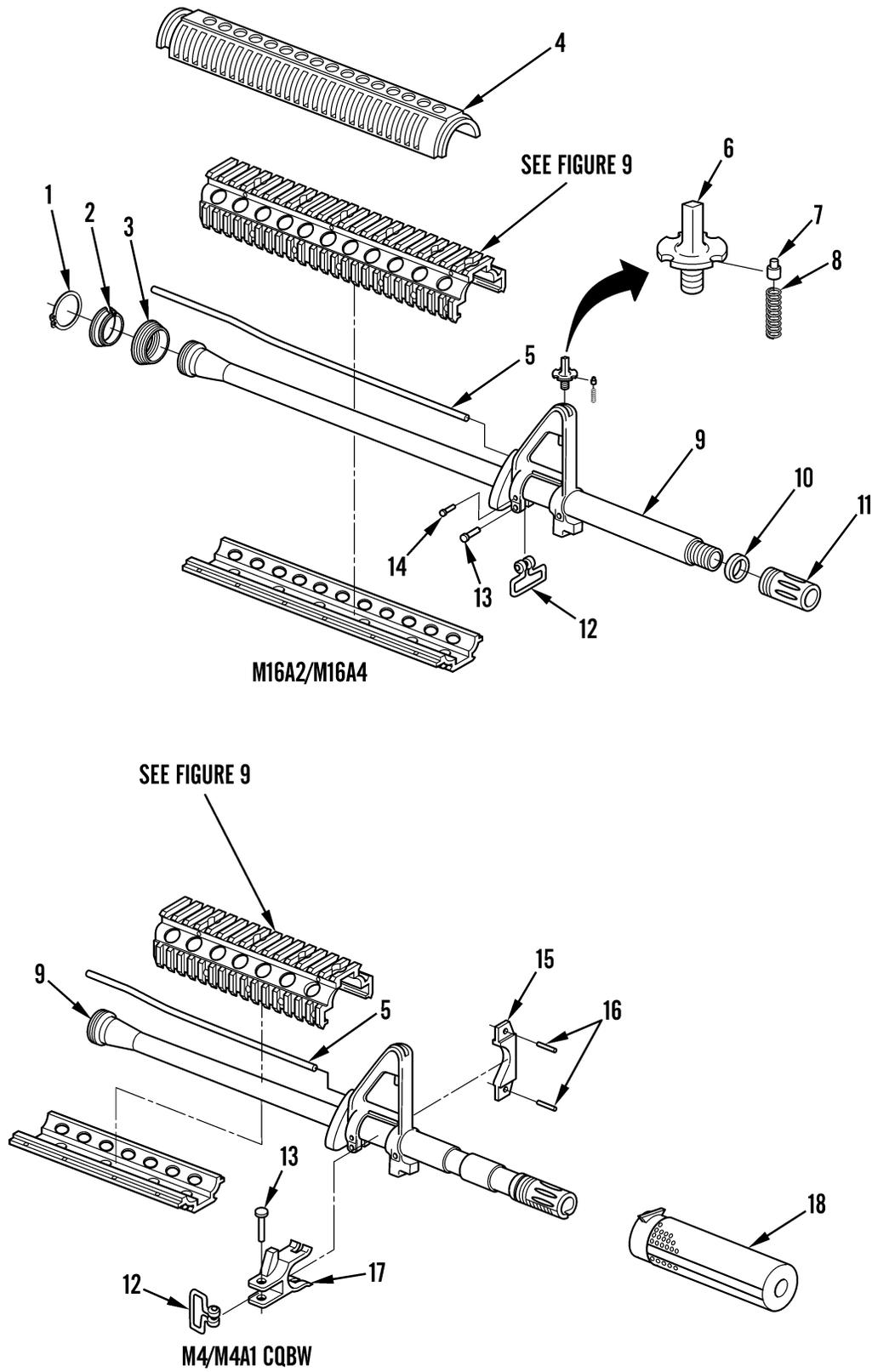


Figure 3. Barrel, Front Sight, and Handguard Assembly

(1) ITEM NO	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USEABLE ON CODES (UOC)	(7) QTY
FIG. 3 BARREL, FRONT SIGHT, AND HANDGUARD ASSEMBLY						
1	PAFZZ	5325-00-999-0863	19204	MS16626-3137	RING, RETAINING.....	1
2	PAFZZ	5360-00-978-1036	19204	8448555	SPRING, SLIP RING, HANDGUARD.....	1
3	PAFZZ	1005-00-087-8998	80205	8448712	RING, SLIP, HANDGUARD.....	1
4	PAOZZ	1005-01-134-3629	19200	9349059	HANDGUARD ASSEMBLY..... UOC:AR8, AZ1	2
4	PAOZZ	1005-01-234-2297	19200	9390003	HANDGUARD ASSEMBLY..... UOC:AS1, AY6	2
5	PAOZZ	4710-00-978-1038	13625	8448567	TUBE, BENT, METALLIC..... UOC:AR8, AZ1	1
5	PAOZZ	4710-01-233-8637	19200	9390016	TUBE, BENT, METALLIC..... UOC:AS1, AY6	1
6	PAOOO	1005-01-134-3625	19200	9349056	POST, FRONT SIGHT.....	1
7	PAOZZ	5315-00-979-3930	19204	8448573	PIN, SHOULDER, HEADLESS.....	1
8	PAOZZ	5360-00-979-3931	19204	8448574	SPRING, HELICAL, COMPRESSION.....	1
9	PAFFF	1005-01-146-7684	19200	9349124	BARREL ASSEMBLY..... UOC:AR8	1
9	PAFFF	1005-01-454-1629	19200	12598107	BARREL ASSEMBLY..... UOC:AZ1	1
9	PAFFF	1005-01-233-8529	19200	9390007	BARREL ASSEMBLY..... UOC:AS1	1
9	PAFFF	1005-01-471-5456	19200	12991851	BARREL ASSEMBLY..... UOC:AY6	1
10	PAOZZ	5310-01-475-9652	19200	12991533	WASHER, RECESSED.....	1
11	PAOZZ	1005-01-134-3633	19200	9349051	COMPENSATOR.....	1
12	PAOZZ	1005-00-017-9543	19204	8448571	SWIVEL, SLING, SMALL.....	1
13	PAOZZ	5320-01-063-7635	19204	8448697	RIVET, TUBULAR.....	1
14	PAOZZ	5315-00-058-6044	80205	MS16562-106	PIN, SPRING.....	1
15	PAOZZ	5340-01-474-2845	19200	12991254	CLAMP, SYNCHRO..... UOC:AS1, AY6	1
16	PAOZZ	5315-00-690-0544	80205	MS39086-93	PIN, SPRING..... UOC:AS1, AY6	1
17	PAOZZ	1010-01-264-6517	19200	12598617	MOUNT, SWIVEL..... UOC:AS1, AY6	1
18	PAOZF	1005-01-437-0234	1S002	96062-1	SILENCER, GUN	1

END OF FIGURE

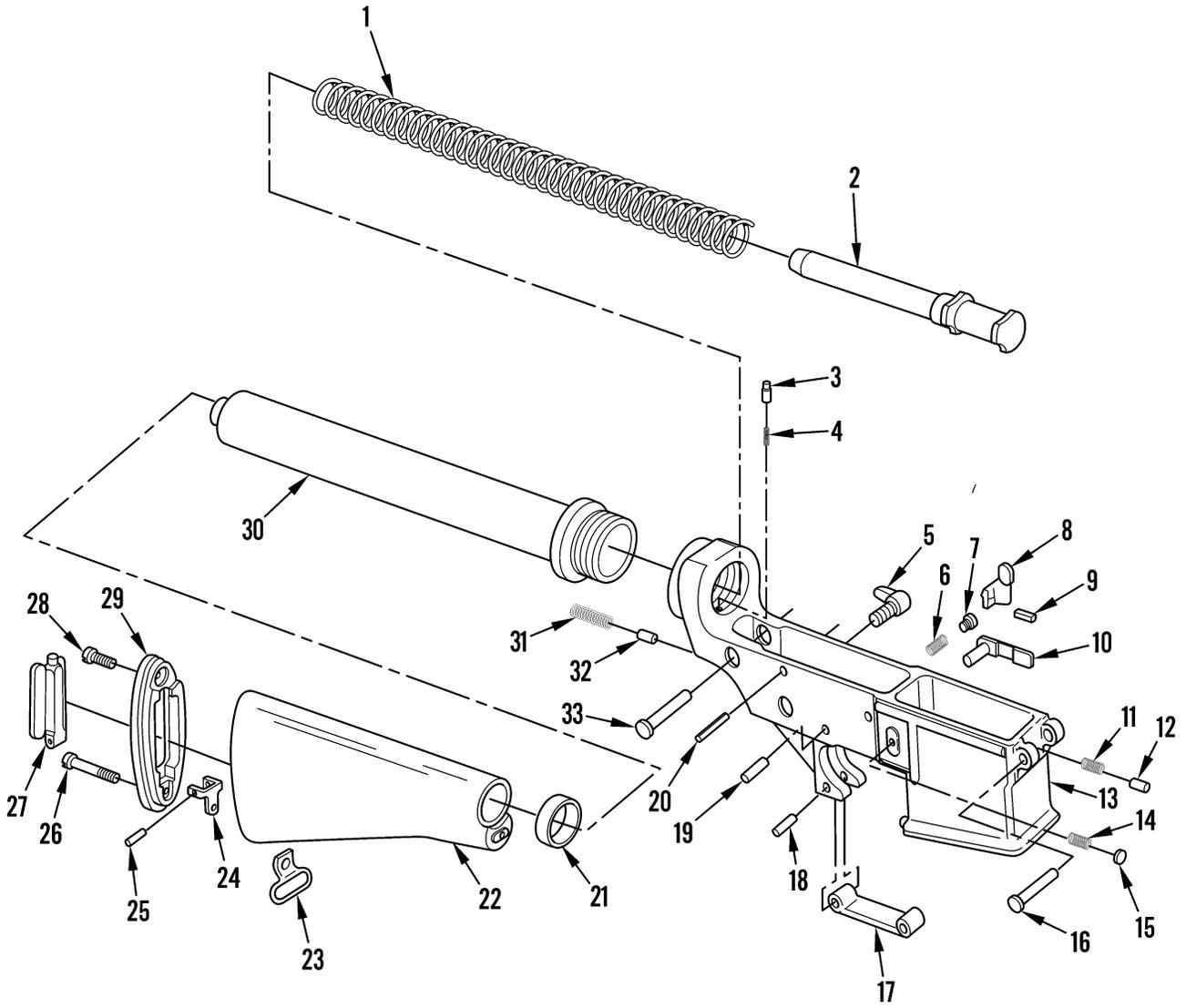


Figure 4. Lower Receiver and Buttstock Assembly (M16A2 and M16A4)

(1) ITEM NO	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USEABLE ON CODES (UOC)	(7) QTY
FIG. 4 LOWER RECEIVER AND BUTTSTOCK ASSEMBLY (M16A2 AND M16A4)						
1	PAOZZ	5360-00-992-6665	19204	8448629	SPRING, HELICAL, COMPRESSION..... UOC:AR8, AZ1	1
2	PAOZZ	1005-00-937-3078	19200	8448615	BUFFER ASSEMBLY (M16A2, M16A3,..... UOC:AR8, AZ1	1
3	PAOZZ	5315-00-992-6651	19204	8448582	PIN, SHOULDER, HEADLESS.....	1
4	PAOZZ	5360-00-992-6652	19204	8448583	SPRING, HELICAL.....	1
5	PAOZZ	5360-00-056-2246	19200	9381367	SELECTOR, FIRE CONTROL.....	1
6	PAOZZ	1005-00-056-2247	13629	62177	SPRING, HELICAL, COMPRESSION.....	1
7	PAOZZ	1005-00-017-9548	19204	8448634	PLUNGER, BOLT CATCH.....	1
8	PAOZZ	1005-00-017-9548	19200	8448628	CATCH, BOLT.....	1
9	PAOZZ	5315-00-812-3312	80205	MS16562-119	PIN, SPRING, BOLT CATCH.....	1
10	PAOZZ	1005-00-056-2201	19204	8448638	CATCH MAGAZINE.....	1
11	PAOZZ	5360-00-992-6655	19204	8448586	SPRING, HELICAL COMPRESSION.....	1
12	PAOZZ	5315-00-992-6654	19204	8448585	PIN, STRAIGHT, HEADLESS.....	1
13	XAODD		19200	9349102	RECEIVER..... UOC:AR8	1
13	XAODD		19200	12598103	RECEIVER..... UOC:AW4	1
14	PAOZZ	5360-00-992-7301	19204	8448637	SPRING, HELICAL, COMPRESSION.....	1
15	PAOZZ	1005-00-992-7302	19204	8448636	BUTTON, MAGAZINE CATCH.....	1
16	PAOZZ	5315-00-017-9537	19200	8448621	PIN, GROOVED, HEADED.....	1
17	PAOZZ	1005-00-992-7299	13629	61970	GUARD, TRIGGER..... UOC:AR8, AZ1	1
18	PAOZZ	5315-00-058-6081	80205	MS16562-129	PIN, SPRING TRIGGER GUARD..... UOC:AR8, AZ1	1
19	PAOZZ	5315-00-992-7309	19204	8448609	PIN, GROOVED, HEADLESS TRIGGER AND HAMMER.....	2
20	PAOZZ	5315-00-992-6650	19204	8448599	PIN, GROOVED, HEADLESS, AUTOMATIC SEAR.....	1
21	PAOZZ	5365-01-267-2169	19204	12597640	SPACER, STEPPED.....	1
22	PAOZZ	1005-01-464-8662	19200	9349121	BUTTSTOCK..... UOC:AR8, AZ1	1
23	PAOZZ	1005-00-403-0964	19204	8448652	SWIVEL, SLING, SMALL..... UOC:AR8, AZ1	1
24	PAOZZ	5340-00-463-3892	19200	8448653	HINGE, ACCESS DOOR BUTT PLATE..... UOC:AR8, AZ1	1
25	PAOZZ	5315-00-463-3894	19204	8448655	PIN, STRAIGHT, HEADLESS, ACCESS.... UOC:AR8, AZ1	1
26	PAOZZ	5305-01-144-1494	19200	9349120	SCREW, MACHINE BUTT PLATE..... UOC:AR8, AZ1	1
27	PAOZZ	1005-01-520-7064	19200	12999220	DOOR ASSEMBLY, THUMB..... UOC:AR8, AZ1	1

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(1) ITEM NO	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USEABLE ON CODES (UOC)	(7) QTY
28	PAOZZ	5305-01-147-8585	19200	9349128	SCREW, MACHINE, BUTTCAP..... UOC:AR8, AZ1	1
29	PAOZZ	1005-01-146-7685	19200	9349130	PLATE, BUTT, SHOULDER GUN..... UOC:AR8, AZ1	1
30	PAOZZ	5340-00-992-7297	19200	8448581	EXTENSION, LOWER RECEIVER..... UOC:AR8, AZ1	1
31	PAOZZ	5360-00-992-6655	19204	8448586	SPRING, HELICAL COMPRESSION, TAKE.. DOWN/PIVOT PIN UOC:AR8, AZ1	1
32	PAOZZ	5315-00-992-6654	19204	8448585	PIN, STRAIGHT, HEADLESS DETENT, TAKEDOWN PIN UOC:AR8, AZ1	1
33	PAOZZ	5315-00-992-6653	19204	8448584	PIN, GROOVED, HEADED..... UOC:AR8, AZ1	1

END OF FIGURE

1
2 THRU 5

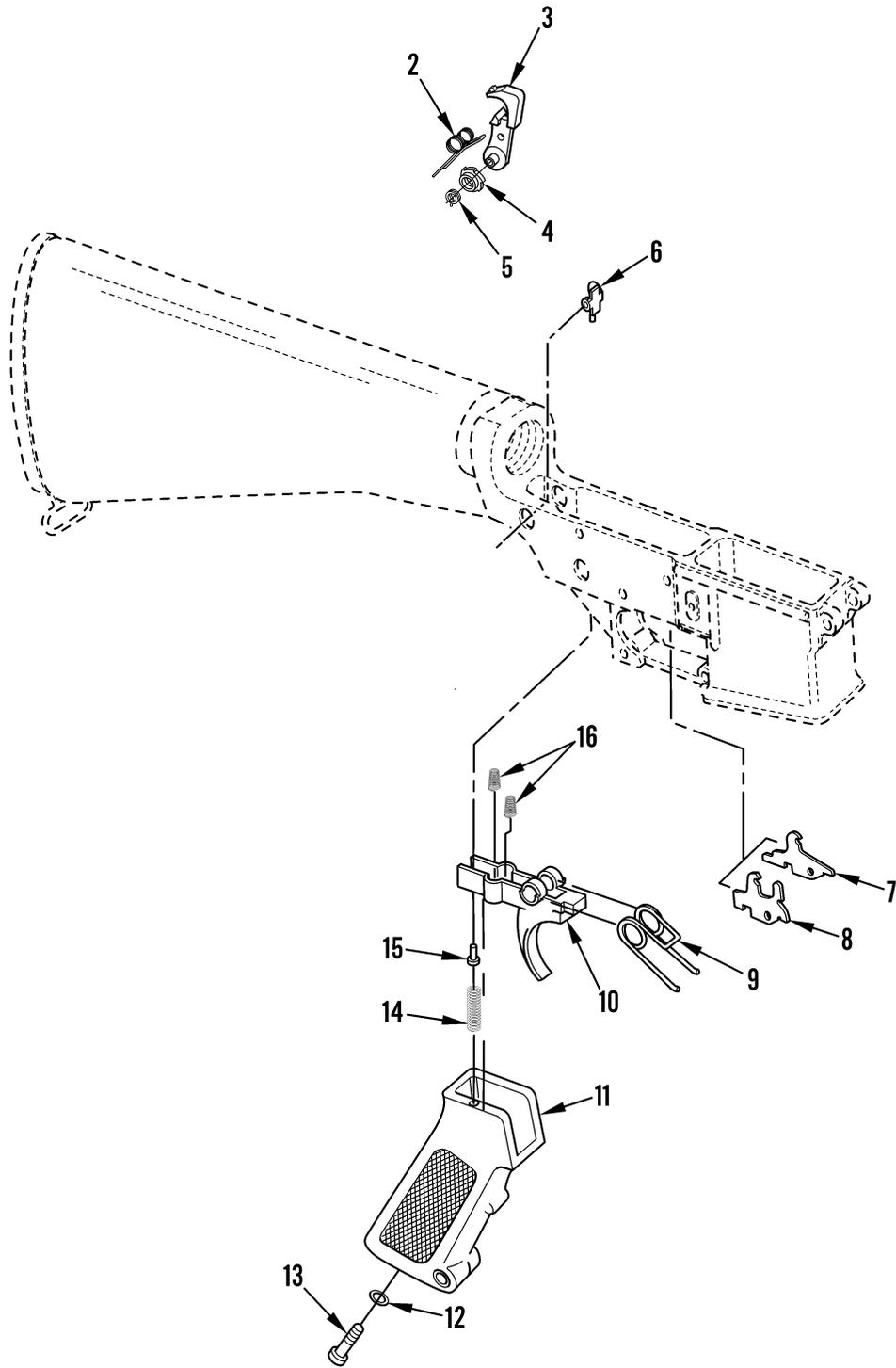


Figure 5. Rifle Grip and Trigger Assembly (M16A2 and M16A4)

(1) ITEM NO	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USEABLE ON CODES (UOC)	(7) QTY
FIG. 5 RIFLE GRIP AND TRIGGER ASSEMBLY (M16A2 AND M16A4)						
1	PAOZZ	1005-01-464-9717	19200	9349106	HAMMER ASSEMBLY..... UOC:AR8, AZ1	1
2	PAOZZ	5360-01-144-1492	19200	9349107	.SPRING, HELICAL, TORSION..... UOC:AR8, AZ1	1
3	PAOZZ	1005-01-134-3630	19200	9349110	.HAMMER AND HAMMER PIN RETAINER.... UOC:AR8, AZ1	1
4	PAOZZ	1005-01-148-0172	19200	9349108	.CAM, CONTROL..... UOC:AR8, AZ1	1
5	PAOZZ	5360-01-136-5471	19200	9349109	.SPRING, HELICAL, TORSION..... CAM BURST UOC:AR8, AZ1	1
6	PAOZZ	1005-01-225-8339	19200	8448595	SEAR.....	1
7	PAOZZ	5340-01-145-7910	19200	9349114	LEVER, LOCK-RELEASE SEMI..... UOC:AR8, AZ1	1
8	PAOZZ	5340-01-144-1499	19200	9349113	LEVER, LOCK-RELEASE, BURST..... UOC:AR8, AZ1	1
9	PAFZZ	5360-00-992-7308	19204	8448593	SPRING, HELICAL, TORSION, TRIGGER.....	1
10	PAOZZ	1005-01-464-9757	19200	9390736	TRIGGER.....	1
11	PAOZZ	1005-01-148-4805	19200	9349127	GRIP, RIFLE PLASTIC, BLACK.....	1
12	PAOZZ	5310-00-527-3634	80205	MS35335-61	WASHER, LOCK RIFLE GRIP.....	1
13	PAOZZ	5305-01-268-1191	88044	AN501D416-18	SCREW, MACHINE, RIFLE GRIP.....	1
14	PAOZZ	5360-00-992-7292	19204	8448516	SPRING, HELICAL, COMPRESSION.....	1
15	PAOZZ	1005-00-992-6667	19204	8448631	DETENT, SAFETY.....	1
16	PAFZZ	5360-01-135-0353	19200	9349116	SPRING, HELICAL, COMP DISCONNECT.....	2

END OF FIGURE

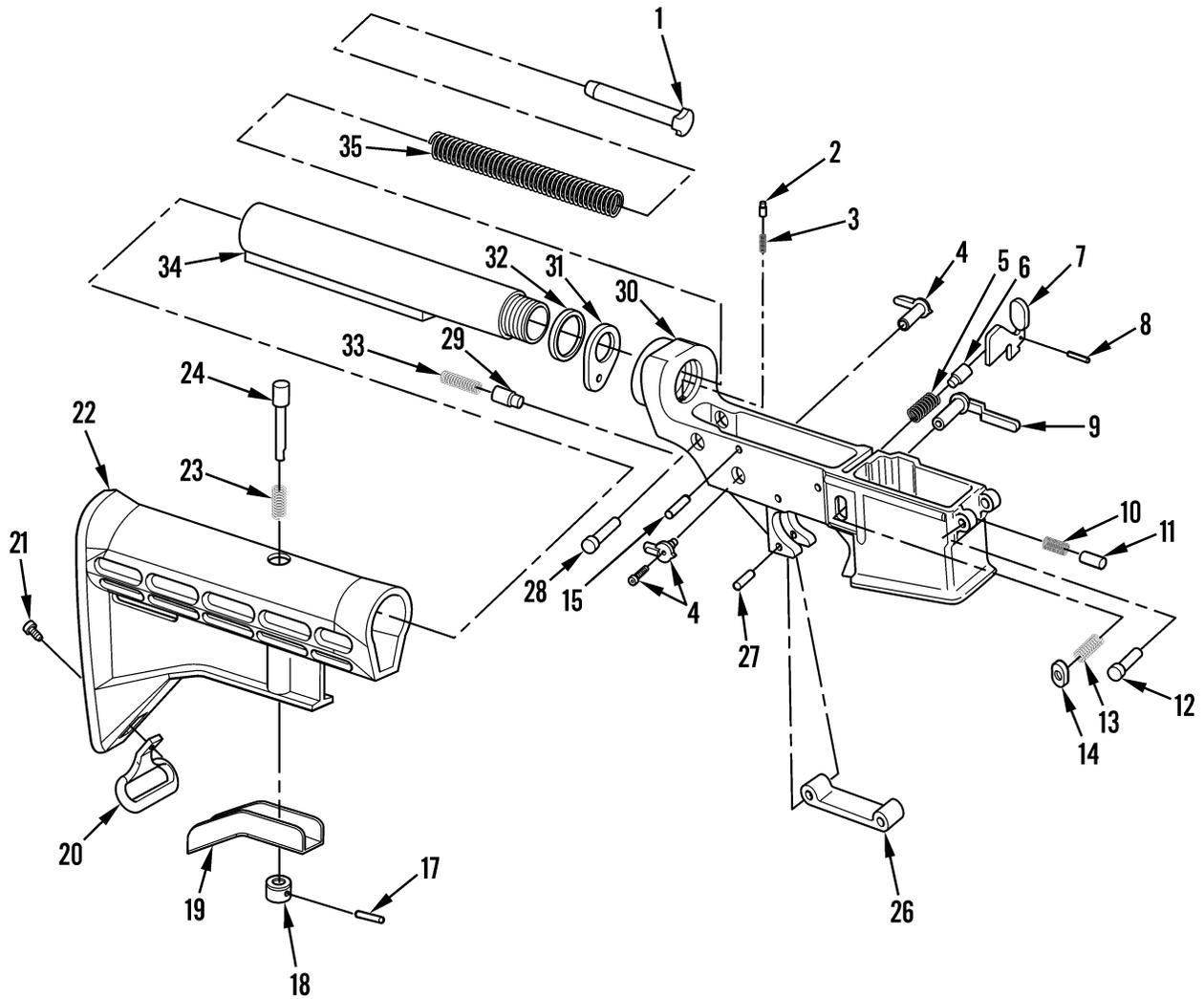
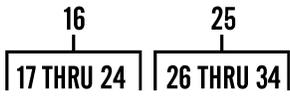


Figure 6. Lower Receiver and Buttstock Assembly (M4 and M4A1 CQBW)

(1) ITEM NO	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USEABLE ON CODES (UOC)	(7) QTY
FIG. 6 LOWER RECEIVER AND BUTTSTOCK ASSEMBLY (M4 AND M4A1 CQBW)						
1	PAOZZ	1005-01-522-0772	19200	13004468	BUFFER ASSEMBLY..... UOC:AS1, AY6	1
2	PAOZZ	5315-00-992-6651	19204	8448582	PIN, SHOULDER HEADLESS..... UOC:AS1, AY6	1
3	PAOZZ	5315-00-992-6652	19200	8448583	SPRING, HELICAL, COMP..... UOC:AS1, AY6	1
4	PAOZZ	1005-01-225-8339	19200	9381367	SELECTOR, FIRE CONTROL.....	1
5	PAOZZ	5360-00-056-2246	19204	8448633	SPRING, HELICAL, COMPRESSION, BOLT CATCH.....	1
6	PAOZZ	1005-00-056-2247	19204	8448634	PLUNGER, BOLT CATCH.....	1
7	PAOZZ	1005-00-017-9548	19200	8448628	CATCH, BOLT.....	1
8	PAOZZ	5315-00-812-3312	80205	MS16562-119	PIN, SPRING, BOLT CATCH.....	1
9	PAOZZ	1005-00-056-2201	19204	8448638	CATCH MAGAZINE.....	1
10	PAOZZ	5360-00-992-6655	19204	8448586	SPRING, HELICAL COMPRESSION.....	1
11	PAOZZ	5315-00-992-6654	19204	8448585	PIN, STRAIGHT, HEADLESS.....	1
12	PAOZZ	5315-00-017-9537	19204	8448621	PIN, GROOVED, HEADED.....	1
13	PAOZZ	5360-00-992-7301	19204	8448637	SPRING, HELICAL, COMPRESSION, MAGAZINE CATCH.....	1
14	PAOZZ	1005-00-992-7302	19204	8448636	BUTTON, MAGAZINE CATCH.....	1
15	PAOZZ	5315-00-992-6650	19204	8448599	PIN, GROOVED, HEADLESS AUTOMATIC SEAR.....	1
16	PAOOO	1005-01-465-5080	19200	9390012	BUTTSTOCK ASSEMBLY..... UOC:AS1, AY6	1
17	PAOZZ	5315-00-843-9487	80205	MS16562-202	.PIN, SPRING..... UOC:AS1, AY6	1
18	PAOZZ	5310-01-233-8626	19200	9390026	.NUT, SELF-LOCKING..... UOC:AS1, AY6	1
19	PAOZZ	1005-01-233-8638	19200	9390014	.LEVER, LOCK-RELEASE..... UOC:AS1, AY6	1
20	PAOZZ	1005-00-403-0964	19200	8448652	. SWIVEL..... UOC:AS1, AY6	1
21	PAOZZ	5305-01-459-5982	19200	12012083	.MACHINE SCREW..... UOC:AS1, AY6	1
22	PAOZZ	1005-01-459-0734	19200	12012081	.BUTTSTOCK..... UOC:AS1, AY6	1
23	PAOZZ	5360-01-233-8616	19200	9390027	.SPRING, HELICAL, COMPRESS..... UOC:AS1, AY6	1
24	PAOZZ	5315-01-233-8608	19200	9390025	.PIN, SHOULDER, HEADLESS..... UOC:AS1, AY6	1
25	PADDD	1005-01-465-3719	19200	9390011	RECEIVER CARTRIDGE ASSEMBLY..... UOC:AS1	1

(1) ITEM NO	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USEABLE ON CODES (UOC)	(7) QTY
25	PAODD		19200	12972690	LOWER RECEIVER AND RECEIVER..... EXTENSION ASSEMBLY UOC:AY6	1
26	PAOZZ	1005-00-992-7299	19204	8448587	.GUARD, TRIGGER..... UOC:AS1, AY6	1
27	PAOZZ	5315-00-058-6081	80205	MS16562-129	.PIN, SPRING TRIGGER GUARD PIN).... UOC:AS1, AY6	1
28	PAOZZ	5315-00-992-6653	19204	8448584	.PIN, GROOVED, HEADED..... UOC:AS1, AY6	1
29	PAOZZ	5315-00-992-6654	19204	8448585	.PIN, STRAIGHT, HEADLESS..... UOC:AS1, AY6	1
30	PAODD	1005-01-465-3395	19200	9390015	.RECEIVER, CARTRIDGE..... UOC:AS1	1
30	PAODD		19200	12972652	.LOWER RECEIVER..... UOC:AY6	1
31	PAOZZ	1005-01-233-8530	19200	9390021	.PLATE, RECEIVER END..... UOC:AS1, AY6	1
32	PAOZZ	5310-01-233-8625	19200	9390020	.NUT, PLAIN, ROUND..... UOC:AS1, AY6	1
33	PAOZZ	5360-00-992-6655	19204	8448586	.SPRING, HELICAL, COMPRESSION..... UOC:AS1, AY6	1
34	PAOZZ	1005-01-233-8531	19200	9390019	.EXTENSION, LOWER RECEIVER..... UOC:AS1, AY6	1
35	PAOZZ	5360-01-233-8617	19200	9390022	SPRING, HELICAL, COMPRESSION..... UOC:AS1, AY6	1

END OF FIGURE

1	9	18
2 THRU 5	10 AND 11	19 THRU 21

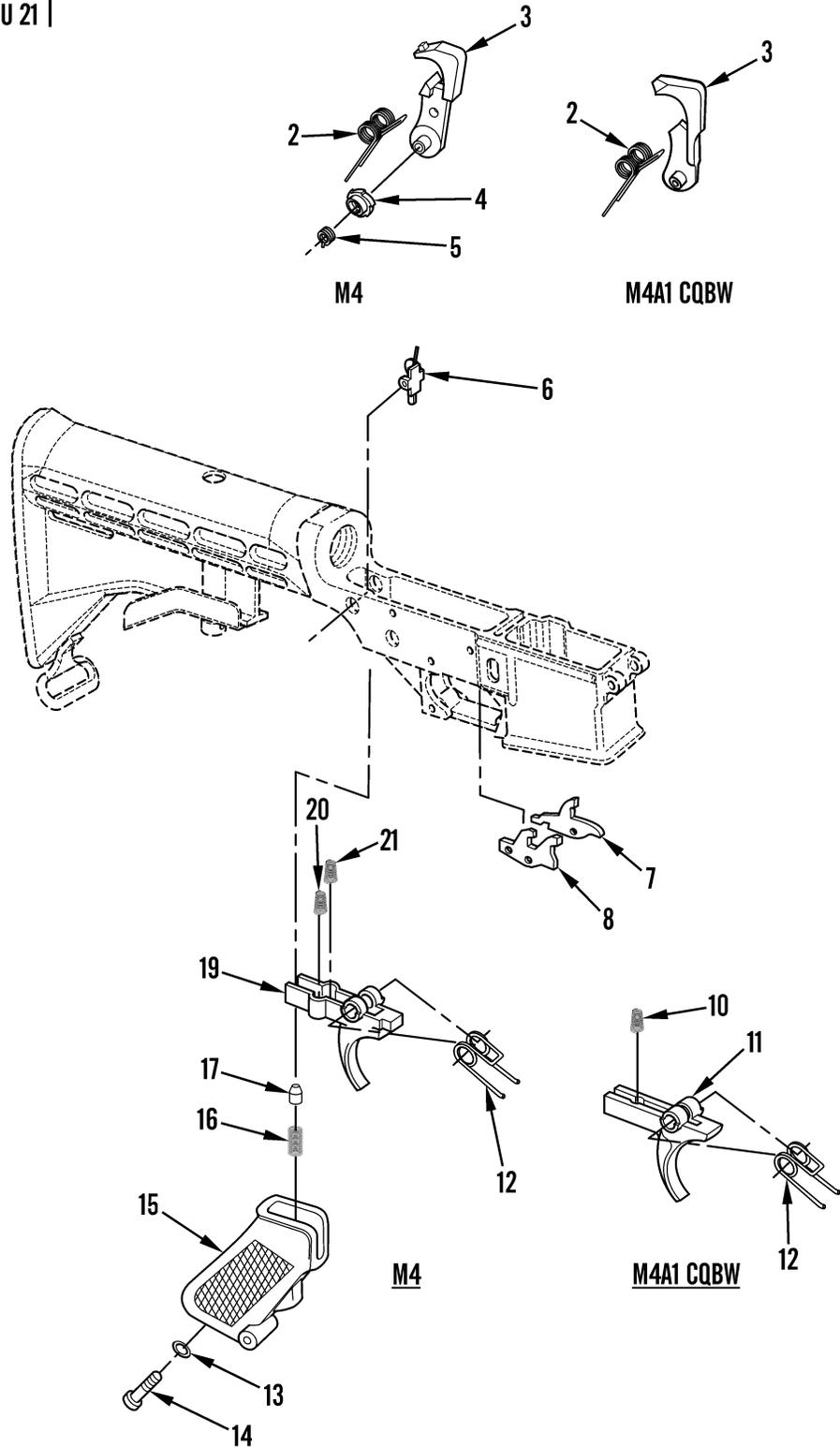


Figure 7. Rifle Grip and Trigger Assembly (M4 and M4A1 CQBW)

(1) ITEM NO	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USEABLE ON CODES (UOC)	(7) QTY
					FIG. 7 RIFLE GRIP AND TRIGGER ASSEMBLY (M4 AND M4A1 CQBW)	
1	PAOOO	1005-01-465-4750	19200	9390032	FIRING MECHANISM,GUN UOC:AS1	1
1	PAOOO		19204	8448610	HAMMER ASSEMBLY UOC:AY6	1
2	PAOZZ	5360-01-144-1492	19200	9349107	.SPRING, HELICAL, TORSION UOC:AS1	1
2	PAOZZ	5360-00-992-6648	19204	8448611	.SPRING, HELICAL, TORSION UOC:AY6	1
3	PAOZZ	1005-01-134-3630	19200	9349110	.HAMMER AND HAMMER PIN RETAINER ... UOC:AS1	1
3	PAOZZ	1005-00-017-9551	19200	8448612	.HAMMER, FIRING, SMALL UOC:AY6	1
4	PAOZZ	5360-01-136-5471	19200	9349109	.SPRING, HELICAL TORSION BURST CAM	1
5	PAOZZ	1005-01-148-0172	19200	9349108	.CAM, BURST	1
5	PAOZZ	3040-01-247-7969	19200	9390031	.CAM, CONTROL	1
6	PAOZZ	1005-00-992-6649	19200	8448595	SEAR	1
7	PAOZZ	1005-00-999-0406	19200	8448635	DISCONNECTOR	1
7	PAOZZ	5340-01-145-7910	19200	9349114	LEVER, LOCK-RELEASE SEMI UOC:AS1	1
8	PAOZZ	5340-01-144-1499	19200	9349113	LEVER, LOCK-RELEASE, BURST UOC:AS1	1
9	PAOOO		19200	12972698	TRIGGER ASSEMBLY	1
10	PAOZZ	5360-01-396-0256	19200	12972695	.SPRING,HELICAL, COMPRESSION DISCONNECT,BLACK UOC:AY6	1
11	PAOZZ	1005-00-992-7307	19204	8448592	.TRIGGER	1
12	PAOZZ	5360-00-992-7308	19204	8448593	SPRING, HELICAL, TORSION UOC:AS1	1
13	PAOZZ	5310-00-527-3634	96906	MS35335-61	WASHER, LOCK RIFLE GRIP	1
14	PAOZZ	5305-01-268-1191	88044	AN501D416-18	SCREW, MACHINE, RIFLE GRIP	1
15	PAOZZ	1005-01-148-4805	19200	9349127	GRIP, RIFLE PLASTIC, BLACK	1
16	PAOZZ	5360-00-992-7292	19204	8448516	SPRING, HELICAL, COMPRESSION SAFETY	1
17	PAOZZ	1005-00-992-6667	19204	8448631	DETENT, SAFETY	1

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TM 05538/10012-IN

(1) ITEM NO	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USEABLE ON CODES (UOC)	(7) QTY
18	PAOOO	1005-01-482-7522	19200	12972697	TRIGGER ASSEMBLY UOC:AS1	1
19	PAOZZ	1005-01-464-9757	19200	9390736	.TRIGGER UOC:AS1	1
20	PAOZZ	5360-01-135-0353	19200	9349116	.SPRING, HELICAL, COMP DISCONNECT NICKEL/SHINY UOC:AS1	1
21	PAOZZ	5360-01-396-0256	19200	12972695	.SPRING, HELICAL, COMP DISCONNECT BLACK UOC:AS1	1

END OF FIGURE

(1) ITEM NO	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USEABLE ON CODES (UOC)	(7) QTY
FIG. 8 RAIL ADAPTER SYSTEM (M16A4)						
1	PAOOO	1002-01-452-6771	19200	12973020	M5 ADAPTER RAIL SYSTEM..... UOC:AR8	1
2	PAOOO	1005-01-453-4225	19200	12973021	.UPPER HAND GUARD ASSEMBLY..... UOC:AR8	1
3	PAOZZ	5360-01-453-2727	19200	12973026	..FLAT SPRING..... UOC:AR8	1
4	PAOZZ	5365-01-452-8632	19200	12973024	..SPACER,SPECIAL SHAPED..... UOC:AR8	1
5	PAOZZ	5315-00-826-3251	80205	MS16562-223	..PIN,SPRING..... UOC:AR8	2
6	PAOZZ	1005-01-453-4226	19200	12973027	..CLAMP,REAR HANDGUARD..... UOC:AR8	1
7	PAOZZ	5305-01-453-2725	19200	12973028	..SCREW,CAP,SOCKET HEAD..... UOC:AR8	1
8	PAOZZ	1005-01-453-1635	19200	12973029	.GUARD,HAND,GUN..... UOC:AR8	1
9	PAOOO	1005-01-453-4224	19200	12973139	.STOP,BARREL..... UOC:AR8	1
10	PAOZZ	5360-01-452-9636	19200	12973035	..SPRING,HELICAL COMPRESSION..... UOC:AR8	2
11	PAOOO	1005-01-453-5386	19200	12973132	.RAIL COVER,11-RIB..... UOC:AR8	4
12	PAOOO	1005-01-453-5383	19200	12973134	.RAIL COVER,9-RIB..... UOC:AR8	2
13	PAOOO	1005-01-453-4222	19200	12973135	.RAIL COVER,6-RIB..... UOC:AR8	1
14	PAOOO	1005-01-453-4221	19200	12973136	.RAIL COVER,5-RIB..... UOC:AR8	2
15	PAOOO	1005-01-453-4223	19200	12973137	.RAIL COVER,4-RIB..... UOC:AR8	1
16	PAOZZ	1005-01-453-6655	19200	12973101	.GRIP,RIFLE..... UOC:AR8	1
17	PAOZZ	5340-01-452-7984	19200	12973131	CLIP,SPRING TENSION..... UOC:AR8	1

END OF FIGURE

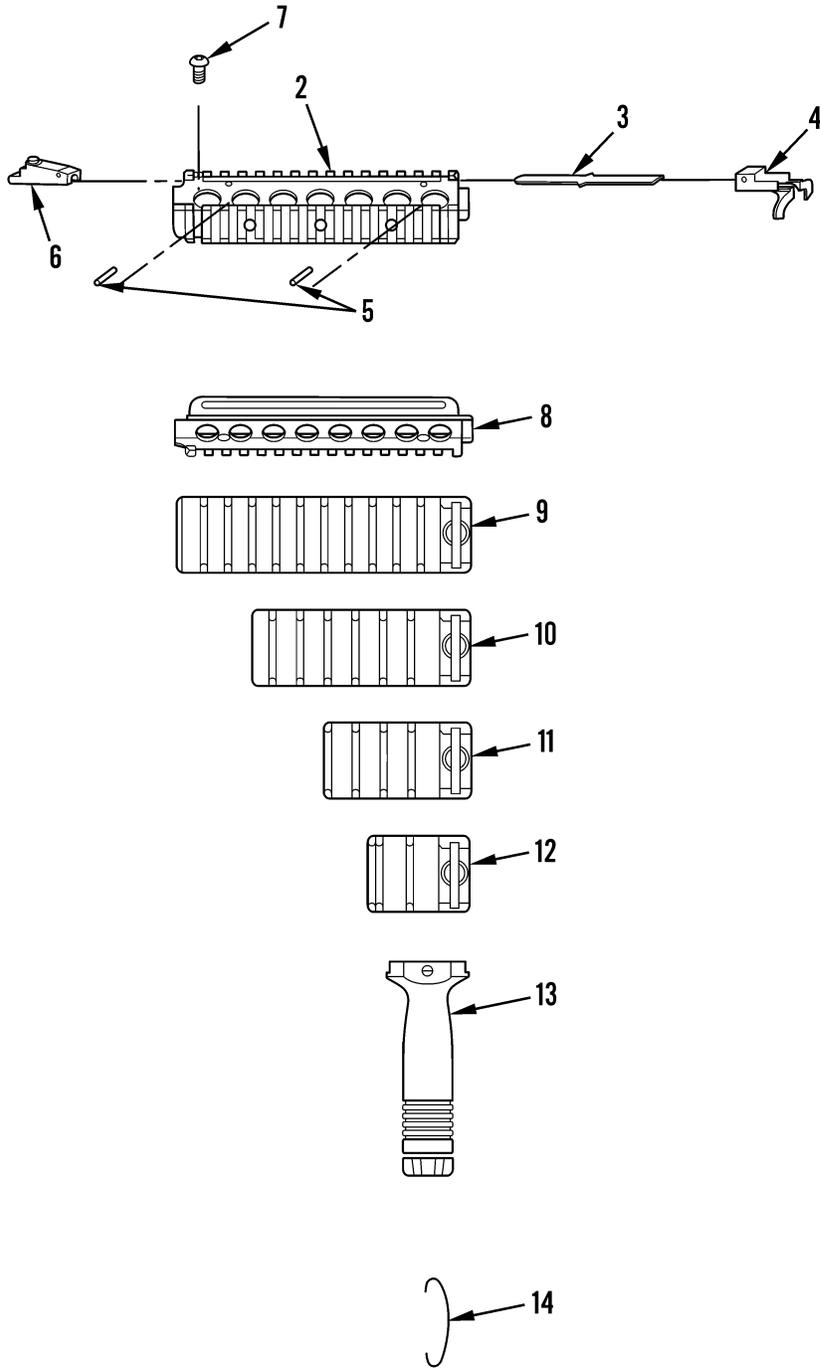
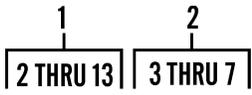


Figure 9. Rail Adapter System (M4 and M4A1 CQBW)

(1) ITEM NO	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USEABLE ON CODES (UOC)	(7) QTY
FIG. 9 RAIL ADAPTER SYSTEM (M4 AND M4A1 CQBW)						
1	PAOOO	1005-01-452-3527	19200	12973095	M4 ADAPTER RAIL SYSTEM..... UOC:AS1, AY6	1
2	PAOZZ	1005-01-453-4227	19200	12973096	.HANDGUARD,UPPER..... UOC:AS1, AY6	1
3	PAOZZ	5360-01-453-2726	19200	12973098	..SPRING,FLAT..... UOC:AS1, AY6	1
4	PAOZZ	5365-01452-8632	19200	12973024	..SPACER,SPECIAL SHAPED..... UOC:AS1, AY6	1
5	PAOZZ	5315-00-826-3251	80205	MS16562-223	..PIN,SPRING..... UOC:AS1, AY6	2
6	PAOZZ	1005-01-453-4226	19200	12973027	..CLAMP,REAR HANDGUARD..... UOC:AS1, AY6	1
7	PAOZZ	5305-01-453-2725	19200	12973028	..SCREW,CAP,SOCKET HEAD..... UOC:AS1, AY6	1
8	PAOZZ	1005-01-453-1633	19200	12973099	.HANDGUARD,LOWER..... UOC:AS1, AY6	1
9	PAOZZ	1005-01-453-5386	19200	12973132	.RAIL COVER,11-RIB..... UOC:AS1, AY6	4
10	PAOZZ	1005-01-453-4222	19200	12973135	.RAIL COVER,6-RIB..... UOC:AS1, AY6	2
11	PAOZZ	1005-01-453-4223	19200	12973137	.RAIL COVER,4-RIB..... UOC:AS1, AY6	1
12	PAOZZ	1005-01-453-4228	19200	12973138	.RAIL COVER,2-RIB..... UOC:AS1, AY6	2
13	PAOZZ	1005-01-453-6655	19200	12973101	.GRIP,RIFLE..... UOC:AS1, AY6	1
14	PAOZZ	5340-01-452-7984	19200	12973131	CLIP,SPRING TENSION..... UOC:AS1, AY6	1

END OF FIGURE

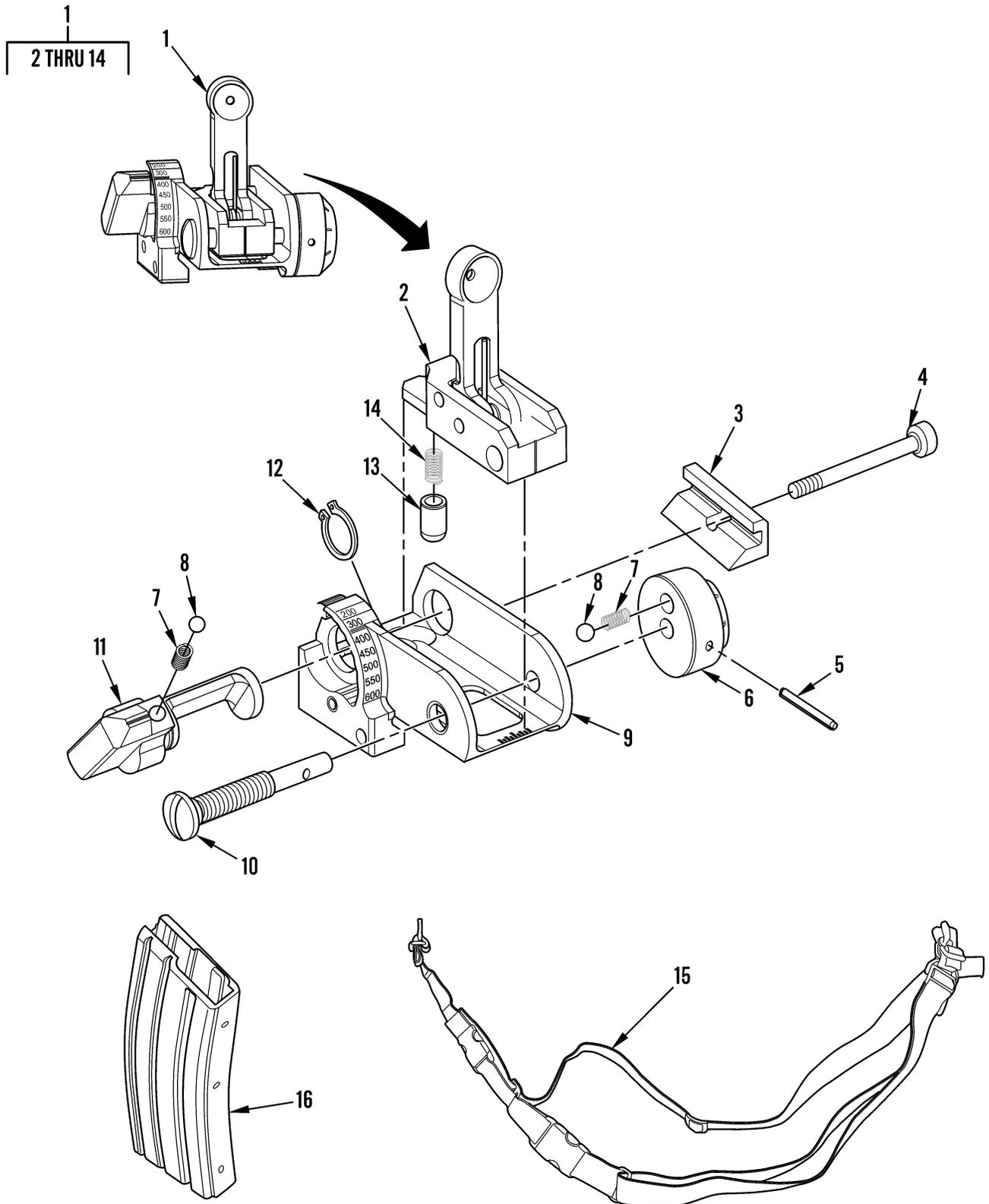


Figure 10. Backup Sight, Magazine, and Sling

(1) ITEM NO	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USEABLE ON CODES (UOC)	(7) QTY
FIG. 10 BACKUP SIGHT, MAGAZINE, AND SLING						
1	PAOOO	1005-01-484-8000	19200	12996812	SIGHT, REAR 5.56 MM UOC:AS1, AY6, AZ1	1
2	PAOZZ	1005-01-497-2592	19200	12996813	.APERTURE, SIGHT UOC:AS1, AY6, AZ1	1
3	PAOZZ	5340-01-484-7999	19200	12996823	.CLAMP, SYNCHRO UOC:AS1, AY6, AZ1	1
4	PAOZZ	5305-01-484-7075	19200	12996824	.SCREW, CAP, HEXAGON H UOC:AS1, AY6, AZ1	1
5	PAOZZ	5315-00-058-6678	96906	MS16562-103	.PIN, SPRING UOC:AS1, AY6, AZ1	1
6	PAOZZ	5355-01-134-3627	19200	9349077	.KNOB, WINDAGE UOC:AS1, AY6, AZ1	1
7	PAOZZ	5360-01-148-1751	19200	9349069	.SPRING, HELICAL COMP UOC:AS1, AY6, AZ1	2
8	PAOZZ	3110-00-183-9175	96906	MS19060-4808	.BALL, BEARING UOC:AS1, AY6, AZ1	2
9	XAOZZ		19200	12996818	.SIGHT, BASE UOC:AS1, AY6, AZ1	1
10	PAOZZ	5305-01-484-7074	19200	12996822	.SCREW, WINDAGE UOC:AS1, AY6, AZ1	1
11	XAOZZ		19200	12996819	.SIGHT, CAM UOC:AS1, AY6, AZ1	1
12	PAOZZ	5325-01-486-7585	96906	MS16624-3035	.RING, RETAINING UOC:AS1, AY6, AZ1	1
13	PAOZZ	5315-01-484-7071	19200	12996821	.PLUNGER UOC:AS1, AY6, AZ1	1
14	PAOZZ	5360-01-484-7076	19200	12996820	.SPRING, COMPRESSION UOC:AS1, AY6, AZ1	1
15	PAOZZ	1005-01-216-4510	19200	12624561	SLING, SMALL ARMS UOC:AR8, AZ1	1
15	PAOZZ	1005-01-368-9852	19200	12011996	SLING, SMALL ARMS UOC:AS1, AY6	1
15	PAOZZ	8465-01-524-8847	4J8W9	AF-4111BLK	SLING, 3 POINT COMBAT ASSAULT	1
16	PAOZZ	1005-00-921-5004	19200	8448670	MAGAZINE, CARTRIDGE 30 ROUND UOC:AS1, AY6, AZ1	1

END OF FIGURE

CROSS-REFERENCE INDICES
NATIONAL STOCK NUMBER INDEX

STOCK NUMBER	FIG.	ITEM	STOCK NUMBER	FIG.	ITEM
5315-00-017-9537	4	16	1005-00-738-6213	2	7
5315-00-017-9537	6	12	4933-00-800-7508	11	3
3040-00-017-9539	1	23	5315-00-812-3312	4	9
				6	8
1005-00-017-9540	1	22	5315-00-826-3251	8	5
				9	5
5360-00-017-9541	1	18	5315-00-840-3812	1	17
1005-00-017-9543	3	12	5315-00-843-9487	6	17
1005-00-017-9547	2	5	1005-00-921-5004	10	16
1005-00-017-9547	2	10	1005-00-937-3078	4	2
1005-00-017-9548	4	8	1005-00-978-1022	1	15
	6	7			
1005-00-017-9548	4	7	5315-00-978-1023	1	14
	6	6			
1005-00-017-9551	7	3	5360-00-978-1025	1	16
1005-00-056-2201	4	10	5360-00-978-1036	3	2
	6	9			
5360-00-056-2246	6	5	4710-00-978-1038	3	5
5360-00-056-2246	4	5	5315-00-979-3930	3	7
1005-00-056-2247	4	6	5360-00-979-3931	3	8
1005-00-056-7106	11	1	5360-00-992-6648	7	2
5315-00-058-6044	3	14	5315-00-992-6650	4	20
				6	15
5315-00-058-6081	4	18	5315-00-992-6651	4	3
	6	27		6	2
5315-00-058-6678	1	4	5360-00-992-6652	4	4
				6	3
5315-00-058-6678	10	5	5315-00-992-6653	4	33
				6	28
5220-00-070-7814	11	7	5315-00-992-6654	4	12
				4	32
5220-00-070-7815	11	8	5360-00-992-6655	4	11
				4	31
4933-00-070-9151	11	9	5360-00-992-6665	4	1
1005-00-087-8998	3	3	1005-00-992-6667	5	15
				7	17
3110-00-183-9175	1	8	1005-00-992-7283	2	9
	1	28			
5220-00-221-9391	11	6	5305-00-992-7284	2	8
1005-00-403-0964	4	23	1005-00-992-7287	2	13
1005-00-403-0964	6	26	1005-00-992-7288	2	19
5340-00-463-3892	4	24	1005-00-992-7290	2	15
5315-00-463-3894	4	25	1005-00-992-7291	2	18

CROSS-REFERENCE INDICES

NATIONAL STOCK NUMBER INDEX

STOCK NUMBER	FIG.	ITEM	STOCK NUMBER	FIG.	ITEM
5360-00-523-8084	1	21	5360-00-992-7292	2	17
				5	10
5310-00-527-3634	5	12	5315-00-992-7294	2	11
5310-00-527-3634	7	13	5340-00-992-7297	4	30
5315-00-597-5086	2	16	1005-00-992-7299	4	17
5315-00-690-0544	3	16	1005-00-992-7299	6	26
1005-00-978-1022	1	15	1005-00-999-0406	7	7
5315-00-978-1023	1	14	5325-00-999-0863	3	1
5360-00-978-1025	1	16	5325-00-999-0864	1	13
5360-00-978-1036	3	2	5220-01-014-8183	11	5
4710-00-978-1038	3	5	4933-01-035-5607	11	2
5315-00-979-3930	3	7	5220-01-043-9473	11	11
5360-00-979-3931	3	8	5315-01-048-9372	1	20
				2	2
5360-00-992-6648	7	2	5320-01-063-7635	3	13
5315-00-992-6650	4	20	5220-01-075-5004	11	4
	6	15			
5315-00-992-6651	4	3	1005-01-134-3621	1	26
	6	2			
5360-00-992-6652	4	4	5305-01-134-3622	1	27
	6	3			
5315-00-992-6653	4	33	1005-01-134-3625	3	6
	6	28			
5315-00-992-6654	4	12	5355-01-134-3627	1	11
	4	32		10	6
5360-00-992-6655	4	11	1005-01-134-3629	3	4
	4	31			
5360-00-992-6665	4	1	1005-01-134-3630	7	3
				5	3
1005-00-992-6667	5	11	1005-01-134-3631	1	5
	7	17			
1005-00-992-7283	2	9	1005-01-134-3633	3	11
5305-00-992-7284	2	8	1005-01-134-3701	1	12
1005-00-992-7287	2	13	5360-01-134-3710	1	24
1005-00-992-7288	2	19	5360-01-135-0353	5	16
				7	20
1005-00-992-7290	2	15	1005-01-135-3697	1	9
1005-00-992-7291	2	18	5355-01-135-4972	1	25
5360-00-992-7292	2	17	5360-01-136-5471	7	4
	5	14		5	5
5315-00-992-7294	2	11	5305-01-144-1490	1	6
5340-00-992-7297	4	28	5360-01-144-1492	7	2
				5	2
1005-00-992-7299	4	17	5305-01-144-1494	4	26
1005-00-992-7299	6	26	5340-01-144-1499	5	8
				7	8

CROSS-REFERENCE INDICES

NATIONAL STOCK NUMBER INDEX

STOCK NUMBER	FIG.	ITEM	STOCK NUMBER	FIG.	ITEM
5360-00-992-7301	4	14	5340-01-145-7910	5	7
	6	13		7	7
1005-00-992-7302	4	15	1005-01-146-7684	3	9
	6	14			
1005-00-992-7307	7	11	1005-01-146-7685	4	29
5360-00-992-7308	5	9	5305-01-147-8585	4	28
	7	12			
5315-00-992-7309	4	19	1005-01-148-0172	7	5
				5	4
5360-00-999-0404	2	3	5360-01-148-1751	1	7
				1	29
1005-01-148-4805	5	11	5360-01-453-2726	9	3
	7	15			
1005-01-216-4510	10	15	5360-01-453-2727	8	3
1005-01-225-8339	5	6	1005-01-453-4221	8	14
	7	6			
1005-01-233-8529	3	9	1005-01-453-4222	8	13
				9	10
1005-01-233-8530	6	31	1005-01-453-4223	8	15
				9	11
1005-01-233-8531	6	34	1005-01-453-4224	8	9
5315-01-233-8608	6	24	1005-01-453-4225	8	2
5360-01-233-8616	6	23	1005-01-453-4226	8	6
				9	6
5360-01-233-8617	6	35	1005-01-453-4227	9	2
5310-01-233-8625	6	32	1005-01-453-4228	9	12
5310-01-233-8626	6	18	1005-01-453-5383	8	12
4710-01-233-8637	3	5	1005-01-453-5386	8	11
				9	9
1005-01-233-8638	6	19	1005-01-453-6655	8	16
				9	13
1005-01-234-2297	3	4	1005-01-454-1629	3	9
3040-01-247-7969	7	5	1005-01-454-9880	1	2
1010-01-264-6517	3	17	1005-01-459-0734	6	22
5365-01-267-2169	4	21	5305-01-459-5982	6	21
5305-01-268-1191	5	13	1005-01-464-8662	4	22
	7	14			
5315-01-310-0370	11	12	1005-01-464-9716	1	3
5120-01-324-6631	11	13	1005-01-464-9717	5	1
1005-01-368-9852	10	15	1005-01-464-9757	5	10
				7	19
5360-01-381-6183	1	10	1005-01-465-0080	2	14
1005-01-382-6795	1	2	1005-01-465-3395	6	30
1005-01-382-7083	1	1	1005-01-465-3719	6	25
1005-01-382-7086	1	5	1005-01-465-4750	7	1

CROSS-REFERENCE INDICES

NATIONAL STOCK NUMBER INDEX

STOCK NUMBER	FIG.	ITEM	STOCK NUMBER	FIG.	ITEM
5360-01-396-0256	7	10	1005-01-465-5080	6	16
	7	21			
1005-01-422-3770	2	12	1005-01-471-5456	3	9
1005-01-424-5899	2	20	5340-01-474-2845	3	15
1005-01-441-1619	2	6	5310-01-475-9652	3	10
1005-01-442-0160	1	19	1005-01-481-8502	1	3
1005-01-452-3527	9	1	1005-01-482-7522	7	18
1002-01-452-6771	8	1	5315-01-484-7071	10	13
5340-01-452-7984	8	17	5305-01-484-7074	10	10
	9	14			
5365-01-452-8632	8	4	5305-01-484-7075	10	4
	9	4			
5360-01-452-9636	8	10	5360-01-484-7076	10	14
1005-01-453-1633	9	8	5340-01-484-7999	10	3
1005-01-453-1635	8	8	1005-01-484-8000	10	1
5305-01-453-2725	8	7	5325-01-486-7585	10	12
	9	7			
1005-01-497-2592	10	2	1005-01-520-7064	4	27
1005-01-505-1035	2	12	1005-01-522-0772	6	1
5120-01-505-1677	11	10	8465-01-524-8847	10	15
1005-01-505-2886	2	20	1005-01-537-0026	2	1

CROSS-REFERENCE INDICES

PART NUMBER INDEX

CAGEC	PART NUMBER	STOCK NUMBER	FIG.	ITEM
0A8R7	05-0031	1005-01-537-0026	2	1
19204	11010032	4933-00-070-9151	11	9
19204	12006359	4933-01-035-5607	11	2
19204	12006472	5220-01-043-9473	11	11
19200	12011987	5360-01-381-6183	1	10
19200	12011996	1005-01-368-9852	10	15
19200	12012081	1005-01-459-0734	6	22
19200	12012083	5305-01-459-5982	6	21
19204	12597640	5365-01-267-2169	4	21
19200	12598103		4	13
19200	12598107	1005-01-454-1629	3	9
19200	12598617	1010-01-264-6517	3	17
19200	12620101	5220-01-075-5004	11	4
19200	12624561	1005-01-216-4510	10	15
19200	12926769	5315-01-310-0370	11	12
19200	12951021	1005-01-382-7083	1	1
19200	12951026	1005-01-481-8502	1	3
19200	12951028	1005-01-382-7086	1	5
19200	12972652		6	30
19200	12972670	1005-01-382-6795	1	2
19200	12972690		6	25
19200	12972691	1005-01-422-3770	2	12
19200	12972692	1005-01-424-5899	2	20
19200	12972695	5360-01-396-0256	7	10
			7	21
19200	12972697	1005-01-482-7522	7	18
19200	12972698		7	9
19200	12973012	1005-01-454-9880	1	2
19200	12973020	1002-01-452-6771	8	1
19200	12973021	1005-01-453-4225	8	2
19200	12973024	5365-01-452-8632	8	4
			9	4
19200	12973026	5360-01-453-2727	8	3
19200	12973027	1005-01-453-4226	8	6
			9	6
19200	12973028	5305-01-453-2725	8	7
			9	7
19200	12973029	1005-01-453-1635	8	8
19200	12973035	5360-01-452-9636	8	10
19200	12973095	1005-01-452-3527	9	1
19200	12973096	1005-01-453-4227	9	2
19200	12973098	5360-01-453-2726	9	3
19200	12973099	1005-01-453-1633	9	8

CROSS-REFERENCE INDICES

PART NUMBER INDEX

CAGEC	PART NUMBER	STOCK NUMBER	FIG.	ITEM
19200	12973101	1005-01-453-6655	8	16
			9	13
19200	12973131	5340-01-452-7984	8	17
			9	14
19200	12973132	1005-01-453-5386	8	11
			9	9
19200	12973134	1005-01-453-5383	8	12
19200	12973135	1005-01-453-4222	8	13
			9	10
19200	12973136	1005-01-453-4221	8	14
19200	12973137	1005-01-453-4223	8	15
			9	11
19200	12973138	1005-01-453-4228	9	12
19200	12973139	1005-01-453-4224	8	9
19200	12991254	5340-01-474-2845	3	15
19200	12991533	5310-01-475-9652	3	10
19200	12991851	1005-01-471-5456	3	9
19200	12996812	1005-01-484-8000	10	1
19200	12996813	1005-01-497-2592	10	2
19200	12996818		10	9
19200	12996819		10	11
19200	12996820	5360-01-484-7076	10	14
19200	12996821	5315-01-484-7071	10	13
19200	12996822	5305-01-484-7074	10	10
19200	12996823	5340-01-484-7999	10	3
19200	12996824	5305-01-484-7075	10	4
19200	12997571	5120-01-505-1677	11	10
19200	12999220	1005-01-520-7064	4	27
19200	13004468	1005-01-522-0772	6	1
19200	13004786	1005-01-505-2886	2	20
19200	13004787	1005-01-505-1035	2	12
13629	61970	1005-00-992-7299	4	17
13629	62177	1005-00-056-2247	4	6
19204	7799734	5220-00-070-7814	11	7
19204	7799735	5220-00-070-7815	11	8
19204	8426685	1005-00-056-7106	11	1
19204	8448201	4933-00-800-7508	11	3
19204	8448202	5220-00-221-9391	11	6
19204	8448496	5220-01-014-8183	11	5
19204	8448502	5315-00-992-7294	2	11
19204	8448503	1005-00-017-9547	2	5
19204	8448504	1005-00-017-9547	2	10
19204	8448505	1005-01-441-1619	2	6
19204	8448506	1005-00-992-7283	2	9
19204	8448507	1005-00-738-6213	2	7

CROSS-REFERENCE INDICES

PART NUMBER INDEX

CAGEC	PART NUMBER	STOCK NUMBER	FIG.	ITEM
19204	8448508	5305-00-992-7284	2	8
19204	8448510	1005-01-465-0080	2	14
19204	8448511	1005-00-992-7287	2	13
19204	8448512	1005-00-992-7288	2	19
19204	8448513	1005-00-992-7290	2	15
19204	8448515	1005-00-992-7291	2	18
19204	8448516	5360-00-992-7292	2	17
			5	14
19204	8448520	5360-00-999-0404	2	3
19204	8448521-2	5315-01-048-9372	1	20
			2	2
19204	8448525	1005-00-978-1022	1	15
19200	8448532	5360-00-978-1025	1	16
19204	8448533	5315-00-978-1023	1	14
19200	8448540	5360-00-017-9541	1	18
19200	8448542	5360-00-523-8084	1	21
19204	8448543	3040-00-017-9539	1	23
19204	8448544	1005-00-017-9540	1	22
19204	8448555	5360-00-978-1036	3	2
13625	8448567	4710-00-978-1038	3	5
19204	8448571	1005-00-017-9543	3	12
19204	8448573	5315-00-979-3930	3	7
19204	8448574	5360-00-979-3931	3	8
19200	8448581	5340-00-992-7297	4	30
19204	8448582	5315-00-992-6651	4	3
			6	2
19200	8448583	5360-00-992-6652	4	4
			6	3
19204	8448584	5315-00-992-6653	4	33
			6	28
19204	8448585	5315-00-992-6654	4	12
			4	32
19204	8448586	5360-00-992-6655	4	11
			4	31
19204	8448587	1005-00-992-7299	6	26
19204	8448592	1005-00-992-7307	7	11
19204	8448593	5360-00-992-7308	5	9
			7	12
19200	8448595	1005-01-225-8339	5	6
			7	6
19204	8448599	5315-00-992-6650	4	20
			6	15
19204	8448609	5315-00-992-7309	4	19
19204	8448610		7	1
19204	8448611	5360-00-992-6648	7	2
19200	8448612	1005-00-017-9551	7	3

CROSS-REFERENCE INDICES

PART NUMBER INDEX

CAGEC	PART NUMBER	STOCK NUMBER	FIG.	ITEM
19200	8448615	1005-00-937-3078	4	2
19200	8448621	5315-00-017-9537	4	16
19204	8448621	5315-00-017-9537	6	12
19200	8448628	1005-00-017-9548	4	8
			6	7
19204	8448629	5360-00-992-6665	4	1
19204	8448631	1005-00-992-6667	5	15
			7	17
19204	8448633	5360-00-056-2246	6	5
19204	8448634	1005-00-017-9548	4	7
			6	6
19200	8448635	1005-00-999-0406	7	7
19204	8448636	1005-00-992-7302	4	15
			6	14
19204	8448637	5360-00-992-7301	4	14
			6	13
19204	8448638	1005-00-056-2201	4	10
			6	9
19204	8448652	1005-00-403-0964	4	23
19200	8448652	1005-00-403-0964	6	20
19200	8448653	5340-00-463-3892	4	24
19204	8448655	5315-00-463-3894	4	25
19200	8448670	1005-00-921-5004	10	16
19204	8448697	5320-01-063-7635	3	13
80205	8448712	1005-00-087-8998	3	3
19200	9309074	1005-01-134-3631	1	5
19200	9349051	1005-01-134-3633	3	11
19200	9349056	1005-01-134-3625	3	6
19200	9349059	1005-01-134-3629	3	4
19200	9349063	1005-01-134-3701	1	12
19200	9349065	5305-01-134-3622	1	27
19200	9349066	1005-01-134-3621	1	26
19200	9349069	5360-01-148-1751	1	7
			1	29
19200	9349070	5360-01-134-3710	1	24
19200	9349072	1005-01-464-9716	1	3
19200	9349075	1005-01-135-3697	1	9
19200	9349076	5305-01-144-1490	1	6
19200	9349077	5355-01-134-3627	1	11
			10	6
19200	9349086	1005-01-442-0160	1	19
19200	9349102		4	13
19200	9349106	1005-01-464-9717	5	1
19200	9349107	5360-01-144-1492	7	2
			5	2
19200	9349108	1005-01-148-0172	7	5
			5	4

CROSS-REFERENCE INDICES

PART NUMBER INDEX

CAGEC	PART NUMBER	STOCK NUMBER	FIG.	ITEM
19200	9349109	5360-01-136-5471	7	4
			5	5
19200	9349110	1005-01-134-3630	7	3
			5	3
19200	9349113	5340-01-144-1499	5	4
			7	8
19200	9349114	5340-01-145-7910	5	7
			7	7
19200	9349116	5360-01-135-0353	5	16
			7	20
19200	9349120	5305-01-144-1494	4	26
19200	9349121	1005-01-464-8662	4	22
19200	9349124	1005-01-146-7684	3	9
19200	9349127	1005-01-148-4805	5	11
			7	15
19200	9349128	5305-01-147-8585	4	28
19200	9349130	1005-01-146-7685	4	29
19200	9381367	5360-00-056-2246	4	5
			6	4
19200	9390003	1005-01-234-2297	3	4
19200	9390007	1005-01-233-8529	3	9
19200	9390011	1005-01-465-3719	6	25
19200	9390012	1005-01-465-5080	6	16
19200	9390014	1005-01-233-8638	6	19
19200	9390015	1005-01-465-3395	6	30
19200	9390016	4710-01-233-8637	3	5
19200	9390019	1005-01-233-8531	6	34
19200	9390020	5310-01-233-8625	6	32
19200	9390021	1005-01-233-8530	6	31
19200	9390022	5360-01-233-8617	6	35
19200	9390025	5315-01-233-8608	6	24
19200	9390026	5310-01-233-8626	6	18
19200	9390027	5360-01-233-8616	6	23
19200	9390031	3040-01-247-7969	7	5
19200	9390032	1005-01-465-4750	7	1
19200	9390035	5120-01-324-6631	11	13
19200	9390736	1005-01-464-9757	5	10
			7	19
4J8W9	AF-4111BLK	8465-01-524-8847	10	15
88044	AN501D416-18	5305-01-268-1191	5	13
			7	14
80205	MS16562-103	5315-00-058-6678	1	4
96906	MS16562-103	5315-00-058-6678	10	5
80205	MS16562-106	5315-00-058-6044	3	14
80205	MS16562-119	5315-00-812-3312	4	9
			6	8
80205	MS16562-121	5315-00-840-3812	1	17

CROSS-REFERENCE INDICES

PART NUMBER INDEX

CAGEC	PART NUMBER	STOCK NUMBER	FIG.	ITEM
80205	MS16562-129	5315-00-058-6081	4	18
			6	27
80205	MS16562-202	5315-00-843-9487	6	17
80205	MS16562-223	5315-00-826-3251	8	5
			9	5
80205	MS16562-98	5315-00-597-5086	2	16
96906	MS16624-3035	5325-01-486-7585	10	12
19204	MS16626-3137	5325-00-999-0863	3	1
96906	MS16632-3012	5325-00-999-0864	1	13
96906	MS19060-4808	3110-00-183-9175	1	8
			1	28
80205	MS35335-61	5310-00-527-3634	5	12
96906	MS35335-61	5310-00-527-3634	7	13
80205	MS39086-93	5315-00-690-0544	3	16
13629	SP64515	5355-01-135-4972	1	25
19200	TBD-05-0031		2	4

INDEX

<i>Subject</i>	<i>Work Package/Page</i>
A	
Abbreviations/Acronyms, List of	0001 00-3
Auxiliary Equipment - General	0034 00-1
B	
Back Up Iron Sight (BUIS)	0037 00-1
Blank Firing Attachment (BFA) - M15A2 (M16A2 and M16A4 Rifles) and M23 (M4 and M4A1 CQBW Carbines)	0035 00-1
Bolt	
Assembly	0023 00-1
Carrier Assembly	0022 00-1
Bolt Assembly Maintenance	0013 00-1
Bolt Carrier Assembly Maintenance	0012 00-1
Buttstock Assembly Maintenance	0017 00-1
C	
Charging Handle Maintenance	0014 00-1
Cleaning the Weapon	0010 00-1
D	
Disassembly of Weapon	0011 00-1
E	
Equipment Description and Data	0002 00-1
Expendable and Durable Items List	0040 00-1
F	
Final Inspection, Function Test, and Trigger Pull Test	0031 00-1
Forward Assist Assembly	0027 00-1
Function Check	0019 00-1
G	
Gaging Requirements (Annual)	0032 00-1
General	
Information	0001 00-1
Maintenance Instructions	0009 00-1
H	
Hammer Assembly	0029 00-1
How To Use This Manual	-v
K	
Key and Bolt Carrier Assembly	0024 00-1

INDEX - Continued

<i>Subject</i>	<i>Work Package/Page</i>
L	
List	
Abbreviations/Acronyms	0001 00-3
Expendable and Durable Items	0040 00-1
Tool Identification (Includes Special Tools)	0041 00-1
Lower Receiver and Buttstock Assembly Maintenance	0016 00-1
Lower Receiver and Receiver Extension Assembly	0028 00-1
M	
Manufactured Items Illustrations	0042 00-1
O	
Operation, Principles of	0003 00-1
P	
Pre-Embarkation Inspection	0033 00-1
Preparation for Storage and Shipment	0021 00-1
Preventive Maintenance Checks and Services (PMCS)	
Including Lubrication Instructions	0008 00-1
Principles of Operation	0003 00-1
Q	
Quality Assurance Checklist	0043 00-1
R	
Rail Adapter System (Includes Quick-Release Bracket [QRB] Barrel Stop)	0036 00-1
Reassembly of Weapon	0018 00-1
References	0039 00-1
Repair Parts List (RPL) Introduction	0044 00-1
Repair Parts List (RPL)	0045 00-1
S	
Service Upon Receipt	0007 00-1
Stowage	0020 00-1
Suppressor, Quick Disconnect	0038 00-1
T	
Tool Identification List (Includes Special Tools)	0041 00-1
Trigger Assembly	0030 00-1
Troubleshooting	
Introduction	0004 00-1
Procedures	0006 00-1
Symptom Index	0005 00-1

INDEX - Continued

<i>Subject</i>	<i>Work Package/Page</i>
U	
Upper Receiver and Barrel Assembly	0025 00-1
Upper Receiver and Barrel Assembly Maintenance	0015 00-1
Upper Receiver Assembly and Rear Sight Assembly	0026 00-1
W	
Weapon	
Disassembly of	0011 00-1
Reassembly of	0018 00-1

THE METRIC SYSTEM AND EQUIVALENTS

<p>Linear Measure</p> <p>1 Centimeter = 10 Millimeters = 0.01 Meters = 0.3937 Inches 1 Meter = 100 Centimeters = 1000 Millimeters = 39.37 Inches 1 Kilometer = 1000 Meters = 0.621 Miles</p> <p>Weights</p> <p>1 Gram = 0.001 Kilograms = 1000 Milligrams = 0.035 Ounces 1 Kilogram = 1000 Grams = 2.2 Pounds 1 Metric Ton = 1000 Kilograms = 1 Megagram = 1.1 Short Tons</p> <p>Liquid Measure</p> <p>1 Milliliter = 0.001 Liters = 0.0338 Fluid Ounces 1 Liter = 1000 Milliliters = 33.82 Fluid Ounces</p>	<p>Square Measure</p> <p>1 Sq Centimeter = 100 Sq Millimeters = 0.155 Sq Inches 1 Sq Meter = 10,000 Sq Centimeters = 10.76 Sq Feet 1 Sq Kilometer = 1,000,000 Sq Meters = 0.386 Sq Miles</p> <p>Cubic Measure</p> <p>1 Cu Centimeter = 1,000 Cu Millimeters = 0.06 Cu Inches 1 Cu Meter = 1,000,000 Cu Centimeters = 35.31 Cu Feet</p> <p>Temperature</p> <p>$5/9 (^{\circ}\text{F} - 32) = ^{\circ}\text{C}$ 212° Fahrenheit is equivalent to 100° Celsius 90° Fahrenheit is equivalent to 32.2° Celsius 32° Fahrenheit is equivalent to 0° Celsius $9/5 \text{ C}^{\circ} + 32 = \text{F}^{\circ}$</p>
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APPROXIMATE CONVERSION FACTORS

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

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

