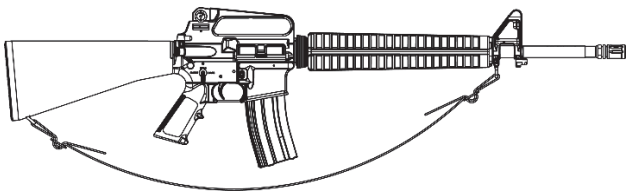
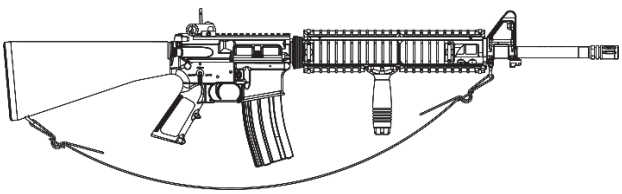
ARMY TM 9-1005-319-10
AIR FORCE T.O. 11W3-5-5-41
NAVY SW370-BU-OPI-010 Revision 2

OPERATOR MANUAL FOR RIFLE, 5.56 MM, M16A2 (NSN 1005-01-128-9936) (EIC: 4GM)



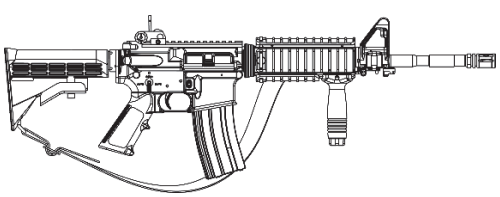
RIFLE, 5.56 MM, M16A3 (NSN 1005-01-357-5112)

RIFLE, 5.56 MM, M16A4 (NSN 1005-01-383-2872) (EIC: 4F9)



CARBINE, 5.56 MM, M4 (NSN 1005-01-231-0973) (EIC: 4FJ)

CARBINE, 5.56 MM, M4A1 (NSN 1005-01-382-0953) (EIC: 4GC)



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HEADQUARTERS, DEPARTMENTS OF THE ARMY,
AIR FORCE, AND NAVY

01 AUGUST 2016

WARNING SUMMARY

This warning summary contains general safety warning and hazardous materials warnings that must be understood and applied during operation and maintenance of this equipment. Failure to comply with these precautions may result in serious injury or death to personnel. If injury occurs, seek immediate medical attention. Also included are explanations of safety and hazardous materials icons that may be used within this Technical Manual (TM).

FIRST AID

- Army users should refer to TC 4-02.1.
- Air Force users should refer to AFMAN 44-163 (I) First Aid.
- Navy users should refer to TC 4-02.1.

GENERAL SAFETY WARNING DESCRIPTIONS

The weapon **MUST** be cleared before inspecting, cleaning, disassembling, transporting, or storing to be considered **SAFE**.

DO NOT squeeze the trigger until weapon is cleared.

ALWAYS clear weapon before installation of blank firing attachment.

DO NOT fire directly at anyone less than 20 feet away when using the blank firing attachment.

Blank firing attachment is used only with M200 blank 5.56mm round.

Weapon can chamber a round when dropped or jarred if loaded magazine is inserted regardless of whether the bolt carrier assembly is in forward position or locked to the rear.

Ensure weapon is always pointed in safe direction.

ALWAYS clear weapon before starting a functional check.

DO NOT squeeze the trigger until weapon is cleared. Ensure chamber is empty.

KEEP CLEAR of muzzle when inspecting malfunctions.

ALWAYS clear weapon before installing top sling adapter.

WARNING SUMMARY – continued

When weapon is loaded ensure it is pointed in a **SAFE** direction.

ALWAYS clear the weapon before cleaning.

Firing a weapon in excess of the sustained rate of fire (12 - 15 rounds per minute) rapidly and continuously may overheat the barrel. The number of rounds fired rapidly and continuously should not exceed the following: M16 Series Rifles - 140 rounds, M4 Carbine - 150 rounds, and M4A1 Carbine - 180 rounds. An overheated barrel may cause a cook off or catastrophic failure of the weapon. The sustained rate of fire should never be exceeded except under extreme circumstances. An overheated barrel may cause a cook off (detonation) of a live round in the chamber in as short a period as 10 seconds. If a live round is present in the chamber of a hot barrel, remove it quickly. If unable to remove the round within 10 seconds, remove the magazine and wait 15 minutes, keeping weapon pointed in a safe direction at all times. **ALWAYS** keep face away from the ejection port when clearing a hot chamber.

MISFIRE: If weapon stops firing with a live round in the chamber of a hot barrel, remove the round within 10 seconds. If the round is not removed within 10 seconds, remove magazine and wait 15 minutes with the weapon pointed in a safe direction to avoid injury during possible cookoff. **ALWAYS** keep face away from the ejection port when clearing a hot chamber.

STOP firing immediately if an audible **"POP"** is heard or reduced **RECOIL** is experienced while firing weapon. These could indicate an incomplete powder burn and/or a bullet stuck in the bore. Retract bolt slowly, clear weapon, and check for unburned powder grains in the receiver or bore and/or bullet stuck in bore. Remove unburned powder or bullet from bore before resuming firing. Return weapon to the field maintenance if the bullet is stuck in the bore.

DO NOT fire if water is present in barrel.

DO NOT interchange bolts between weapons.

There is risk of catastrophic weapon failure and serious injury if the weapons are fired without the cam pin installed.

ARMY TM 9-1005-319-10
AIR FORCE T.O. 11W3-5-5-41
NAVY SW 370-BU-OPI-010 Revision 2

CHANGE NO. 1

HEADQUARTERS
DEPARTMENTS OF THE
ARMY, AIR FORCE, AND
NAVY WASHINGTON, D.C.,
15 JANUARY 2018

OPERATOR MANUAL FOR

RIFLE, 5.56 MM, M16A2 (NSN 1005-01-128-9936) (EIC: 4GM)

RIFLE, 5.56 MM, M16A3 (NSN 1005-01-357-5112)

RIFLE, 5.56 MM, M16A4 (NSN 1005-01-383-2872) (EIC: 4F9)

CARBINE, 5.56 MM, M4 (NSN 1005-01-231-0973) (EIC: 4FJ)

CARBINE, 5.56 MM, M4A1 (NSN 1005-01-382-0953) (EIC: 4GC)

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TM 9-1005-319-10, 01 August 2016, is updated as follows:

1. File this sheet in front of the manual for reference.
2. This change is a result of new Additional Authorized Items and a correction to expendable/durable items.
3. New or updated text is indicated by a vertical bar in the outer maragin of the page.
4. Added illustrations are indicated by a vertical bar adjacent to the figure number. Changed illustrations are indicated by a miniature pointing hand adjacent to the updated area and a vertical bar adjacent to the figure number.
5. Remove old pages and insert new pages as indicated below:

Remove pages	Insert pages
Front cover	Front cover

6. Replace the following work packages with their revised version:

Work Package Number
WP 0022
WP 0023

By Order of the Secretary of the Army:

Official:

GERALD B. O'KEEFE
Administrative Assistant to the Secretary of the Army

1734860

MARK A. MILLEY
General, United States Army
Chief of Staff

By Order of the Secretary of the Air Force:

HEATHER WILSON
Secretary of United States Air Force

DAVID L. GOLDFEIN
General, United States Air Force
Chief of Staff

ELLEN M. PAWLIKOWSKI
General United States Air Force, Commander, Air Force Materiel Command (AFMC)

By Order of the Secretary of the Navy:

PETE B. GILL
Principal Aquisition Program Manager, Small Arms and Combat Support, Naval Sea Systems Command

DISTRIBUTION:

Initially published in electronic media only. When funds become available, this publication will be distributed in accordance with the initial distribution number (IDN) 400016 requirements for TM 9-1005-319-10.

LIST OF EFFECTIVE PAGES/WORK PACKAGES

NOTE: This manual supersedes TM 9-1005-319-10, T.O. 11W3-5-5-41, and SW 370-BU-OPI-010, Revision 1, dated 30 June 2010. Zero in the "Change No." column indicates an original page or work package.

Dates of issue or original manuals are:

Original .....01 August 2016

Change 1 .....15 January 2018

TOTAL NUMBER OF PAGES FOR FRONT AND REAR MATTER IS 28 AND TOTAL NUMBER OF WORK PACKAGES IS 23 CONSISTING OF THE FOLLOWING:

Page/WP No.	Change No.	Page/WP No.	Change No.
Front Cover……..	0	Chapter 4 Title.....	0
a – b…..……..	0	WP 0012 (2 pages).....	0
i – ix/blank……...0		WP 0013 (4 pages).....	0
Chapter 1 Title……	0	Chapter 5 Title.....	0
WP 0001 (10 pages)……..	0	WP 0014 (12 pages).....	0
WP 0002 (6 pages)……..	0	WP 0015 (14 pages).....	0
WP 0003 (2 pages)……..	0	WP 0016 (8 pages).....	0
Chapter 2 Title……	0	WP 0017 (12 pages).....	0
WP 0004 (8 pages)……..	0	WP 0018 (16 pages).....	0
WP 0005 (28 pages)…….	0	WP 0019 (2 pages).....	0
WP 0006 (8 pages)……..…	0	Chapter 6 Title.....	0
WP 0007 (6 pages)……..	0	WP 0020 (4 pages).....	0
WP 0008 (14 pages)…….	0	WP 0021 (8 pages).....	0
WP 0009 (14 pages)…….	0	WP 0022 (8 pages).....	1
Chapter 3 Title……	0	WP 0023 (4 pages).....	1
WP 0010 (2 pages)……..	0	Metric Chart.....	0
WP 0011 (10 pages)……..…	0	Back Cover.....	0

HEADQUARTERS
DEPARTMENTS OF THE ARMY,
AIR FORCE, AND NAVY
WASHINGTON, D.C., 01 August 2016

OPERATOR MANUAL
FOR

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(NSN 1005-01-128-9936) (EIC: 4GM)

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REPORTING ERRORS AND RECOMMENDING IMPROVEMENTS

You can help improve this publication. If you find any errors or if you would like to recommend any improvements to the procedures in this publication, please let us know. The preferred method is to submit your DA Form 2028 (Recommended Changes to Publications and Blank Forms) through the Internet on the TACOM Unique Logistics Support Applications (TULSA) Web site. The Internet address is https://tulsa.tacom.army.mil. Access to all applications requires CAC authentication, and you must complete the Access Request form the first time you use it. The DA Form 2028 is located under the TULSA Applications on the left-hand navigation bar. Fill out the form and click on SUBMIT. Using this form on the TULSA Web site will enable us to respond more quickly to your comments and to better manage the DA Form 2028 program. You may also mail, e-mail, or fax your comments or DA Form 2028 directly to the U.S. Army TACOM Life Cycle Management Command. The postal mail address is U.S. Army TACOM Life Cycle Management Command, ATTN: AMSTA-LCL-IMP/TECH PUBS, MS 727, 6501 E. 11 Mile Road, Warren, MI 48397-5000. The e-mail address is usarmy.detroit.tacom.mbx.ilsc-tech-pubs@mail.mil.

The fax number is DSN 786-1856 or Commercial (586) 282-1856. A reply will be furnished to you.

(F) Air Force – Air Force personnel proposing changes or reporting errors to this Technical Order (TO) shall be submitted on an AFTO Form 22 through their MAJCOM in accordance with TO 00-5-1. The MAJCOM will forward the completed AFTO Form 22 to the Technical Order Management Agency (TOMA) at: robins.ce.afto22@robins.af.mil.

Navy - Reporting errors and recommending improvements may be submitted using NAVSEA Form 4160/1 (NAVSEA/SPAWAR) Technical Manual Deficiency/Evaluation Report (TMDER) at web site https://nsdsa.nmci.navy.mil or mail directly to: Commander, Code 310 TMDERs, NAVSURFWARCENDIV NSDSA, 4363 Missile Way BLDG 1389, Port Hueneme, CA 934043-4307.

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TABLE OF CONTENTS

WP Sequence No.

TABLE OF CONTENTS – continued

TABLE OF CONTENTS – continued

TABLE OF CONTENTS – continued

TABLE OF CONTENTS – continued

HOW TO USE THIS MANUAL

USAGE

The safest, easiest, and best way to operate and maintain the M16A2, M16A3, and M16A4 Rifles and the M4 and M4A1 Carbines is to use this manual. Learning to use this TM is as easy as reading through this section. Knowing what is in this manual and how to use it will save you time, work, and will help you avoid exposing yourself to unnecessary hazards while performing your job.

ORGANIZATION

This manual covers the operator maintenance instructions of the M16A2, M16A3, and M16A4 Rifles and the M4 and M4A1 Carbines. The manual itself is divided into six chapters. The six chapters and what they contain are found in the Table of Contents in the front of this manual. For example, to learn about maintaining the M16A2, M16A3, and M16A4 Rifles and the M4 and M4A1 Carbines at the operator level, look in the table of contents and discover that Chapter 5 provides all pertinent information about maintaining the weapon system. Due to Chapter 5 covering a great deal of information, you will have to scan the chapter to find the specific information needed.

The manual itself is divided into six chapters:

Chapter 1: General Information, Equipment Description, and Theory of Operation
Chapter 2: Operator Instructions
Chapter 3: Operator Troubleshooting Procedures
Chapter 4: Preventative Maintenance Checks and Services (PMCS)
Chapter 5: Operator Maintenance Instructions
Chapter 6: Supporting Information

WARNINGS, CAUTIONS, AND NOTES

Throughout the manual you will encounter the headings WARNING, CAUTION, and NOTE. A warning identifies a clear danger to the person doing that procedure. A caution identifies risk of damage to the equipment. A note is used to provide essential information to the user performing the task.

SUPPORTING ILLUSTRATIONS

All supporting illustrations are located on the same or facing page as the text they support. Illustrations are labeled with callouts referenced in the text for clarity.

SUPPORTING INFORMATION

In Chapter 6 of this manual, you will find supporting information. Each work package provides specific information that will assist you in performing the various tasks. The work packages provide such information as additional references as in WP 0020, components of end items (COEI) and basic issue items (BII) as in WP 0021, additional authorization items as in WP 0022, and expendable and durable items as in WP 0023. Become familiar with all supporting information work packages before beginning any maintenance task.

USE OF SHALL, SHOULD, AND MAY

Within this technical manual the word **shall** is used to indicate a mandatory requirement. The word **should** is used to indicate a non-mandatory but preferred method of accomplishment. The word **may** is used to indicate an acceptable method of accomplishment.

READINESS TO USE THIS TM

If you've taken the time necessary to read this section, and are sure of the location and arrangement of the different sections of this TM, you are ready to begin. Remember, this TM has been arranged with you, the user, in mind. Your safety and ability to perform the maintenance tasks in the most efficient manner possible hinge on your ability to perform and understand the information contained in this manual. If you fully understand the arrangement and purpose of this TM and have taken the time to read through this section, you will have no trouble maintaining the M16A2, M16A3, and M16A4 Rifles and the M4 and M4A1 Carbines.

CHAPTER 1

GENERAL INFORMATION, EQUIPMENT DESCRIPTION, AND THEORY OF OPERATION

OPERATOR MANUAL
GENERAL INFORMATION

SCOPE

This Technical Manual contains operator instructions for the M16A2, M16A3, and M16A4 Rifles and the M4 and M4A1 Carbines to provide a stable weapon support system for use in various training applications of small arms weapon systems. The M16A2, M16A3, and M16A4 Rifles and the M4 and M4A1 Carbines are used as individual defensive or offensive weapons against direct targets.

Type of Manual: Operator Manual

Model Number and Equipment Name: M16A2, M16A3, and M16A4 Rifles and M4 and M4A1 Carbines

Purpose of Equipment: To provide personnel offensive/defensive capabilities for engagement of targets in the field.

MAINTENANCE FORMS, RECORDS, AND REPORTS

Army: Department of the Army forms and procedures used for equipment maintenance will be those prescribed by DA PAM 750-8, The Army Maintenance Management System (TAMMS) Users Manual; DA PAM 738-751, Functional Users Manual for The Army Maintenance Management Systems – Aviation (TAMMS-A); or AR 700-138, Army Logistics Readiness and Sustainability. Accidents involving injury to personnel or damage to materiel will be reported on DA Form 285, U.S. Army accident investigations and reporting in accordance with DA PAM 385-40. Explosives and malfunctions will be reported on DA Form 4379 in accordance with AR 75-1.

Air Force: Maintenance forms and records used by Air Force personnel are prescribed in Air Force Instruction (AFI) 21-101 and the applicable T.O. 00-20 Series Technical Orders (T.O.). Air Force users shall refer to T.O. 11W-1-10, Historical Data Recording of Inspection, Maintenance, and Firing Data for ground weapons and AFI 36-2654 Combat Arms Program for applicable forms and records.

Navy: Department of Navy organizations and commands will follow OPNAVINST 4790.16 Condition-Based Maintenance and Condition-Based Maintenance Plus Policy regarding the implementation of local maintenance policy.

REPORTING EQUIPMENT IMPROVEMENT RECOMMENDATIONS

Army: If your M16A2, M16A3, and M16A4 Rifles and M4 and M4A1 Carbines need improvement, let us know. Send us an EIR. You, the user, are the only one who can tell us what you do not like about your equipment. Let us know why you do not like the design or performance.

All non-Aviation/Missile Equipment Improvement Recommendations (EIRs) and Product Quality Deficiency Reports (PQDRs) must be submitted through the Product Data Reporting and Evaluation Program (PDREP) Web site. The PDREP site is: https://www.pdrep.csd.disa.mil/.

If you do not have Internet access, you may submit your information using an SF 368 (Product Quality Deficiency Report). You can send your SF 368 using email, regular mail, or fax using the addresses/fax numbers specified in DA PAM 750-8, The Army Maintenance Management System (TAMMS) Users Manual. We will send you a reply.

Air Force: Submit a PQDR through the Joint Discrepancy Reporting System (JDRS) at www.jdrs.mil/jdrs.html in accordance with T.O. 00-35D-54, USAF Deficiency Reporting Investigation and Resolution, and AFJMAN 23-215 Reporting of Supply Discrepancies.

Navy: EIRs shall be submitted via Product Quality Deficiency Report (PQDR) or Conventional Ordnance Deficiency Reports (CODR) at https://awis.navair.navy.mil/AWIS/index.asp using the Deficiency Report System (DRWEB) application. Users may also send EIRs via letter directly to: Commanding Officer, Code JXN, Bldg. 3422, NAVSURFWARCENDIV, 300 Hwy 361, Crane, IN 47522-5001 or submit via email: smallarms@navy.mil.

CORROSION PREVENTION AND CONTROL (CPC)

Corrosion prevention and control of Army materiel is a continuing concern. It is important that any corrosion problems with this item be reported so that the problem can be corrected and improvements can be made to prevent the problem in future items. The term “corrosion” means the deterioration of a material or its properties due to a reaction of that material with its chemical environment. An example is the rusting of iron. Corrosion damage in metals can be seen, depending on the metal, as tarnishing, pitting, fogging, surface residue, and/or cracking. Plastics, composites, and rubbers can also degrade (also considered to be corrosion based on the above definition of corrosion). Degradation is caused by thermal (heat), oxidation (oxygen), solvation (solvents), or photolytic (light, typically ultraviolet) processes.

CORROSION PREVENTION AND CONTROL (CPC) -- continued

The most common exposures are excessive heat or light. Damage from these processes will appear as cracking, softening, swelling, and/or breaking. The U.S. Army has defined the following nine (9) forms of corrosion used to evaluate the deterioration of metals. These shall be used when evaluating and documenting corrosion.

UNIFORM (or general attack): Affects a large area of exposed metal surface like rust on steel or tarnish on silver. It gradually reduces the thickness of the metal until it fails.
CREVICE: Occurs in crevices created by rubber seals, gaskets, bolt heads, lap joints, dirt, or other surface deposits. It will develop anywhere moisture or other corrosive agents are trapped and unable to drain or evaporate.
SELECTIVE LEACHING: One element, usually the anodic element of an alloy, corrodes away, leaving the cathodic element. This can create holes in metal.
INTERGRANULAR: Metal deterioration caused by corrosion on the bonds between or across the grain boundaries of the metal. The metal will appear to be peeling off in sheets, flaking, or being pushed apart by layers. A particular type of intergranular corrosion is exfoliation.
PITTING: This can result from conditions similar to those for crevice corrosion. Pits can develop on various materials due to their composition. Rifle boxes are big victims of pitting.
EROSION: Results when a moving fluid (liquid or gas) flows across a metal surface, particularly when solid particles are present in the fluid. Corrosion actually occurs on the surface of the metal, but the moving fluid washes away the corrosion and exposes a new metal surface, which also corrodes.
FRETTING: Occurs as a result of small repetitive movements (e.g., vibration) between two surfaces in contact with each other. It is usually identified by a black powder corrosion product or pits on the surface.
GALVANIC: Occurs when two different types of metal come in contact with each other, like steel bolts on aluminum, for example. This is a common problem on aircraft because of their mix of metals.
STRESS: Term used to describe corrosion cracking and corrosion fatigue.

Where an item is not ready/available due to one of these forms of corrosion, it shall be recorded as a corrosion failure in the inspection record. The appropriate code (170) for corrosion shall be used when requesting/performing maintenance.

SF Form 368, Product Quality Deficiency Report (PQDR) should be submitted to the address specified in DA PAM 750-8, The Army Maintenance Management System (TAMMS) Users Manual.

CORROSION PREVENTION AND CONTROL (CPC) -- continued

Air Force users shall submit any Material Deficiency Report (MDR) or PQDR through the JDRS at www.jdrs.mil/jdrs.html in accordance with T.O. 00-35D-54, USAF Deficiency Reporting Investigation and Resolution, and AFJMAN 23-215 Reporting of Supply Discrepancies.

Navy users shall submit letter or SF 368 (Product Quality Deficiency Report) directly to: Commander, Code JXN, Bldg 3422, NAVSURFWARCENDIV, 300 Hwy 361, Crane, IN 47522-5001, smallarms@navy.mil.

DESTRUCTION OF ARMY MATERIEL TO PREVENT ENEMY USE

Refer to TM 750-244-7 for procedure and materials used for the destruction of the M16A2, M16A3, and M16A4 Rifles and the M4 and M4A1 Carbines to prevent enemy use.

Air Force users will destroy by any method that will prevent disclosure of contents of this Technical Order or reconstruction of the M16A2 Rifle and the M4 and M4A1 Carbines.

Navy users shall refer to TM 750-244-7 for procedure and materials used for the destruction of the M16A2, M16A3, and M16A4 Rifles and the M4 and M4A1 Carbines to prevent enemy use.

PREPARATION FOR STORAGE AND SHIPMENT

CAUTION

Damage and corrosion of items in storage must be prevented. Store items in a clean and dry area out of the elements. Failure to comply may result in damage to equipment.

NOTE

Below instructions are for the installed M16A2, M16A3, and M16A4 Rifles and the M4 and M4A1 Carbines. Refer to TM 746-10, General Packaging Instructions for Field Units, Marking, Packing, and Shipment of Supplies and Equipment for in-depth instructions.

Air Force users will follow the guidance in Specialized Packaging Instruction (SPI) F008566885 for the M16A2 and SPI F009735685 for the M4/M4A1. This information can be accessed at https://spires.wpafb.af.mil

WARRANTY INFORMATION

To determine the M16A2, M16A3, and M16A4 Rifles and the M4 and M4A1 Carbines warranty you must submit a PQDR. PQDRs must be submitted through the Product Data Reporting and Evaluation Program (PDREP) Web site. The PDREP site is: https://www.pdrep.csd.disa.mil/.

If you do not have Internet access, you may submit your information using an SF 368 (Product Quality Deficiency Report). You can send your SF 368 using e-mail, regular mail, or fax using the addresses/fax numbers specified in DA PAM 750-8, The Army Maintenance Manage System/(TAMMS) Users Manual. We will send you a reply.

NON-WARRANTY INFORMATION

Contact your Property Book Officer (PBO) when the M16A2, M16A3, and M16A4 Rifles and the M4 and M4A1 Carbines are deemed non-warranty/unserviceable/excess. Demilitarization instructions can be found on the TACOM Unique Logistics Support Applications website at https://tulsa.tacom.army.mil/demil/demilmain.cfm.

NOMENCLATURE CROSS-REFERENCE LIST

Common Name	Official Name
M16A2	Rifle, 5.56mm, M16A2
M16A3	Rifle, 5.56mm, M16A3
M16A4	Rifle, 5.56mm, M16A4
M4	Carbine, 5.56mm, M4
M4A1	Carbine, 5.56mm, M4A1

LIST OF ABBREVIATIONS/ACRONMYS

Abbreviations/ Acronyms	Name
AAL	Additional Authorization List
AEL	Allowance Equipment List
AF	Air Force
AFI	Air Force Instruction
AFJMAN	Air Force Joint Manual
AFMAN	Air Force Manual
AFTO	Air Force Technical Order
AP	Armor Piercing
approx.	approximately

LIST OF ABBREVIATIONS/ACRONMYS – continued

Abbreviations/ Acronyms	Name
AR	Army Regulation
AY	Assembly
BE	Bale
BFA	Blank Firing Attachment
BII	Basic Issue Items
BLDG	Building
BT	Bottle
BUIS	Backup Iron Sight
BX	Box
BZO	Battlesight Zero
C	Crew
CAC	Common Access Card
CAGEC	Commercial and Government Entity Code
CARC	Chemical Agent Resistant Coatings
CBRNE	Chemical, Biological, Radiological, Nuclear, Explosive
CLP	Cleaner, Lubricant, and Preservative
cm	centimeters
CN	Can
CODR	Conventional Ordnance Deficiency Reports
COEI	Components of End Item
CPC	Corrosion Prevention and Control
CTA	Common Table of Allowance
DA	Department of the Army
DA PAM	Department of the Army Pamphlet
DoD	Department of Defense
DR	Drum
DRWEB	Deficiency Reporting System
EA	Each
EIC	End Item Code
EIR	Equipment Improvement Recommendations
F	Maintainer
FM	Field Manual
fps	feet per second
GL/GAL	Gallon
Illus	Illustration
in	inches
JDRS	Joint Discrepancy Reporting System

LIST OF ABBREVIATIONS/ACRONMYS – continued

Abbreviations/ Acronyms	Name
JTA	Joint Table of Allowance
LAW	Lubrication Oil, Arctic Weapons
lbs	pounds
LSA	Lubricant Small Arms
m	meters
MAJCOM	Major Commands
MDR	Material Deficiency Report
MILES	Multiple Integrated Laser Engagement System
mm	millimeter
MS	Mail Stop
MTOE	Modified Table of Organization and Equipment
N/A	Non-applicable
NAVSEA/SPAWAR	Naval Sea/Space Warfare
NBC	Nuclear, Biological, and Chemical
NCO	Non-Commissioned Officer
No	number
NSN	National Stock Number
O	Operator
OCONUS	Outside the Contiguous United States
PAM	Pamphlet
PBO	Property Book Office
PDREP	Product Data Reporting and Evaluation Program
PG	Package
PMCS	Preventative Maintenance Checks and Services
PQDR	Product Quality Deficiency Report
PR	Pair
psi	pounds per square inch
PT	Pint
QD	Quick Attach/Detach
QTY	Quantity
RBC	Rifle Bore Cleaner
RH	Right Hand
rpm	rounds per minute
Rqr	Required
SD	Dry Cleaning Solvent
SF	Standard Form
SFL	Solid Film Lubricant
TACOM	Tank-automotive Command

LIST OF ABBREVIATIONS/ACRONMYS – continued

Abbreviations/ Acronyms	Name
TAMMS	The Army Maintenance Management Systems
TAMMS-A	The Army Maintenance Management Systems – Aviation
TC	Training Circular
TDA	Table of Distribution and Allowances
TM	Technical Manual
TMDER	Technical Manual Deficiency/Evaluation Report
T.O.	Technical Order
TOE	Table of Organization and Equipment
TOMA	Technical Order Management Agency
TULSA	TACOM Unique Logistics Support Applications
U/I	Unit of Issue
U/M	Unit of Measure
UOC	Usable on Code
U.S.	United States
USAF	United States Air Force
w	with
w/o	without
WP	Work Package

SAFETY, CARE, AND HANDLING

Adequate safety precautions must be observed during performance of maintenance, overhaul, and repair of all M16A2, M16A3, and M16A4 Rifles and M4 and M4A1 Carbines components. These precautions will include thorough understanding of the warning summary, safety in work environment, selection and usage of equipment, and procedures provided for performing with all operations. Inspection, which follows completion of overhaul procedures, will ensure equipment compliance with applicable safety standards.

Supplies and materials such as solvents, cleaning fluids, sealers, adhesives, oils, and other products used in this manual may be dangerous or harmful if safety precautions are not observed. Read manufacturer's warnings and cautions on product labels before using and observe all recommended safety precautions. Ensure proper procedures are followed during lifting of heavy items. Follow all warnings and cautions identified in this manual. Facilities shall meet Code F Federal Regulations, Title 40, Protection of Environment, and all other state or federal environmental regulations.

Air Force only -- The only permissible coatings or coverings authorized for Air Force owned or Controlled weapons are the following:

Receiver -- color hardcoat anodizing applied by qualified Depot personnel or personnel assigned to the USAF Gunsmith Shop. Other coatings approved by the Small Arms Program Office Engineer and applied by qualified Depot personnel or personnel assigned to the USAF Gunsmith Shop.

Any Steel Components -- Phosphate coat applied by qualified Depot personnel or personnel assigned to the USAF Gunsmith Shop Other coatings approved by the Small Arms Program Office Engineer and applied by qualified Depot personnel or personnel assigned to the USAF Gunsmith Shop.

Touch-up of small damaged or shiny areas -- SFL applied by qualified Combat Arms personnel only. Painting or otherwise camouflaging of Air Force weapons is not authorized.

HAZARDOUS WASTE DISPOSAL INFORMATION

When servicing this weapon, performing maintenance, or disposing of materials such as cleaning fluids, dry cleaning solvents, lubricants, waste thread locking compounds, and waste CARC mixtures (or items, such as cleaning rags, contaminated with these substances), consult your unit/local hazardous waste disposal center or safety office for local regulatory guidance. If further information is needed, please contact The Army Environmental Command at 1-855-846-3940 / OCONUS: 210-466-1590 or online at http://aec.army.mil/ContactUs.aspx. Accidental or intentional introduction of contaminants into the environment violates military, state, and federal regulations. Failure to comply may adversely affect the public or environment.

END OF WORK PACKAGE

OPERATOR MAINTENANCE
EQUIPMENT DESCRIPTION AND DATA

EQUIPMENT CHARACTERISTICS, CAPABILITIES, AND FEATURES

Characteristics

The M16A2, M16A3, and M16A4 Rifles and the M4 and M4A1 Carbines are lightweight, gas-operated, air-cooled, magazine-fed, shoulder-fired weapons that fire in semi-automatic, three-round burst (M16A2/A4/M4) and automatic (M16A3/M4A1).

Capabilities

The rifles and carbines provide personnel with an offensive/defensive capability to engage targets with direct small arms fire. The portability and logistical values are greatly increased particularly when air transport is used.

Features

The receivers are made of light-weight aluminum alloys; however, the safety, durability, and function of the rifles/carbines are in no way reduced.

The bolt locking action is one of the mechanical features of the rifle/carbine. 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.

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.

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

LOCATION AND DESCRIPTION OF MAJOR COMPONENTS

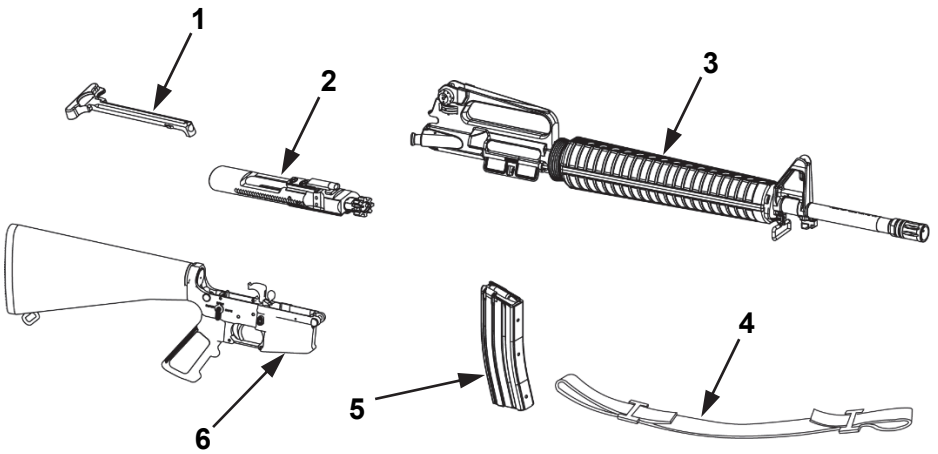


Figure 1. Major Components of M16A2.

Charging Handle Assembly (Figure 1, Item 1) provides initial charging of weapon. Locks forward during sustained fire.

Bolt and Bolt Carrier Assembly (Figure 1, Item 2) provides feeding, chambering, locking, firing, extracting, and ejecting of cartridges using the buffer spring and projectile propelling gases for power.

Upper Receiver and Barrel Assembly (Figure 1, Item 3) provides support for bolt carrier assembly. The barrel chambers the cartridge for firing and directs the projectile.

Small Arms Sling (Figure 1, Item 4) is used as a means to carry the weapon.

Cartridge Magazine (Figure 1, Item 5) holds 30 cartridges and positions the rounds for feeding.

Lower Receiver and Buttstock Assembly (Figure 1, Item 6) assists in basic function of weapon and shoulders the weapon.

LOCATION AND DESCRIPTION OF MAJOR COMPONENTS – continued

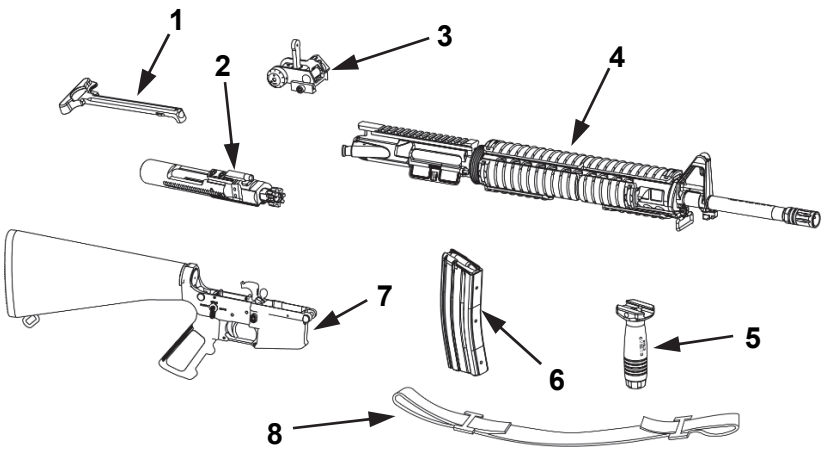


Figure 2. Major Components of M16A3/M16A4.

Charging Handle Assembly (Figure 2, Item 1) provides initial charging of weapon. Locks forward during sustained fire.

Bolt and Bolt Carrier Assembly (Figure 2, Item 2) provides feeding, chambering, locking, firing, extracting, and ejecting of cartridges using the buffer spring and projectile propelling gases for power.

Back-Up Iron Sight (Figure 2, Item 3) is used to aim weapon if optics are not present or inoperable.

Upper Receiver and Barrel Assembly (Figure 2, Item 4) provides support for bolt carrier assembly. The barrel chambers the cartridge for firing and directs the projectile.

Forward Pistol Grip Assembly (Figure 2, Item 5) is used to increase stability of weapon when firing.

Cartridge Magazine (Figure 2, Item 6) holds 30 cartridges and positions the rounds for feeding.

Lower Receiver and Buttstock Assembly (Figure 2, Item 7) assists in basic function of the weapon and shoulders the weapon.

Small Arms Sling (Figure 2, Item 8) is used as a means to carry the weapon.

LOCATION AND DESCRIPTION OF MAJOR COMPONENTS – continued

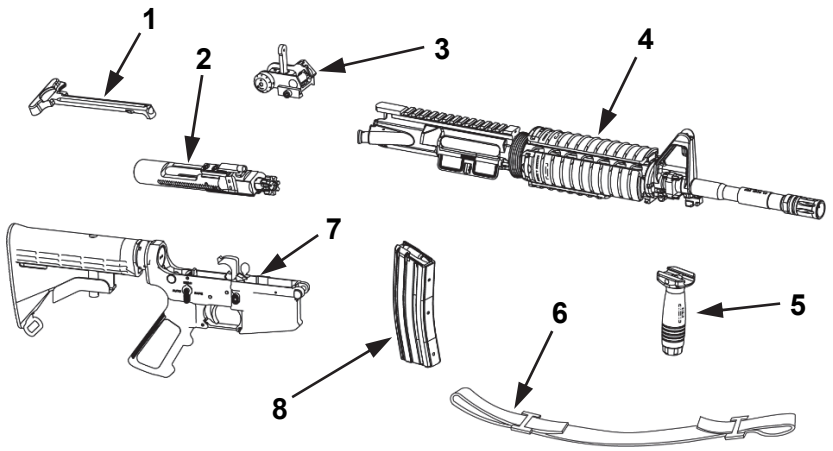


Figure 3. Major Components of M4/M4A1.

Charging Handle Assembly (Figure 3, Item 1) provides initial charging of weapon. Locks forward during sustained fire.

Bolt and Bolt Carrier Assembly (Figure 3, Item 2) provides feeding, chambering, locking, firing, extracting, and ejecting of cartridges using the buffer spring and projectile propelling gases for power.

Back-Up Iron Sight (Figure 3, Item 3) is used to aim weapon if optics are not present or inoperable.

Upper Receiver and Barrel Assembly (Figure 3, Item 4) provides support for bolt carrier assembly. The barrel chambers the cartridge for firing and directs the projectile.

Forward Pistol Grip Assembly (Figure 3, Item 5) is used to increase stability of weapon when firing.

Small Arms Sling (Figure 3, Item 6) is used as a means to carry the weapon.

Lower Receiver and Buttstock Assembly (Figure 3, Item 7) assists in basic function of the weapon and shoulders the weapon.

Cartridge Magazine (Figure 3, Item 8) holds 30 cartridges and positions rounds for feeding.

EQUIPMENT DATA

M16A2

Caliber	5.56mm
Weight	with sling and loaded 30 round magazine 7.96 lbs
Length	w/compensator 39-5/8 in
Mechanical Features	Rifling (RH 1/7 twist)
Firing Characteristics:	
Muzzle Velocity	3100 fps
Chamber Pressure	52000 psi
Cyclic Rate of Fire	700-900 rpm (approx.)
Max Effective Rates of Fire:	
Semi	45 rpm
Burst/Auto	90 rpm
Sustained Rate of Fire	12-15 rpm
Max Effective Range	550m (individual/points targets) 800m (area targets)
Max Range	3600m
Fire Selector	SAFE-SEMI-BURST (M16A2)

M16A3/M16A4

Caliber	5.56mm
Weight	with sling and loaded 30 round magazine 9.87 lbs
Length	w/compensator 39-5/8 in
Mechanical Features	Rifling (RH 1/7 twist)
Firing Characteristics:	
Muzzle Velocity	3100 fps
Chamber Pressure	52000 psi
Cyclic Rate of Fire	700-900 rpm (approx.)
Max Effective Rates of Fire	
Semi	45 rpm
Burst/Auto	90 rpm
Sustained Rate of Fire	12-15 rpm
Max Effective Range	550m (individual/point targets)
	800m (area targets)
Max Range	3600m
Fire Selector	SAFE-SEMI-AUTO (M16A3)
	SAFE-SEMI-BURST (M16A4)

EQUIPMENT DATA – continued

M4/M4A1 Carbine

Caliber	5.56mm
Weight	with sling and loaded 30 round magazine 7.26/7.62 lbs
Length	Buttstock closed: 29.75 in.
	Buttstock open: 33 in.
Mechanical Features	Rifling (RH 1/7 twist)
Buttstock	4 positions: closed, 1/2 open
	3/4 open, fully open
Firing Characteristics:	
Muzzle Velocity	2,970 fps
Chamber Pressure	52,000 psi
Cyclic Rate of Fire	700-970 rpm (approx.)
Max Effective Rate of Fire:	
Semi	45 rpm
Burst/Auto	90 rpm
Sustained Rate of Fire	12-15 rpm
Max Effective Range	500m (individual/point targets)
	600m (area targets)
Max Range	3600m
Fire Selector	SAFE-SEMI-BURST (M4)
	SAFE-SEMI-AUTO (M4A1)

END OF WORK PACKAGE

THEORY OF OPERATION

Squeezing the trigger releases the hammer. The hammer strikes the firing pin, which strikes the primer and ignites the propellant. Gases from the burning propellant push the projectile through the barrel of the weapon. Barrel rifling rotates the projectile providing stability during flight. When the round reaches the approximate end of barrel, expanding gases from the burning propellant pass through the gas port, gas tube, and into the bolt carrier assembly forcing it to the rear, which causes the bolt to extract and eject the spent cartridge case. The action spring then forces the bolt carrier assembly forward and chambers a new round.

END OF WORK PACKAGE

CHAPTER 2

OPERATOR INSTRUCTIONS

OPERATOR INSTRUCTIONS
DESCRIPTION AND USE OF OPERATOR CONTROLS AND INDICATORS

SCOPE

The M16 series rifles and M4 series carbines are lightweight, air-cooled, gas-operated, and magazine-fed weapons fired from the shoulder. They have a semi-automatic, three-round burst fire, or full automatic fire. The rifles and carbines provide personnel with an offensive/defensive capability to engage targets with direct small arms fire.

DESCRIPTION AND USE OF OPERATOR CONTROLS AND INDICATORS

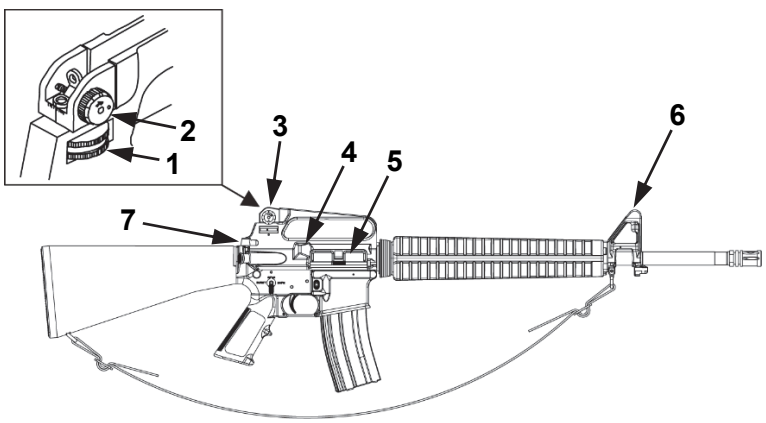


Figure 1. Right View of M16A2.

Elevation Knob (Figure 1, Item 1) adjusts the rear sight for range changes.

Windage Knob (Figure 1, Item 2) adjusts sight for effect of wind.

Rear Sight Assembly (Figure 1, Item 3) contains short range (0-200m) and long range (200m+) apertures and adjustment controls.

Brass Deflector (Figure 1, Item 4) deflects ejected cartridges.

Ejection Port Cover (Figure 1, Item 5) prevents debris from entering chamber. Keep closed when not firing.

Front Sight Assembly (Figure 1, Item 6) contains adjustable front sight post.

Charging Handle Assembly (Figure 1, Item 7) is used for initial charging of weapon and chambering of round.

DESCRIPTION AND USE OF OPERATOR CONTROLS AND INDICATORS - - continued

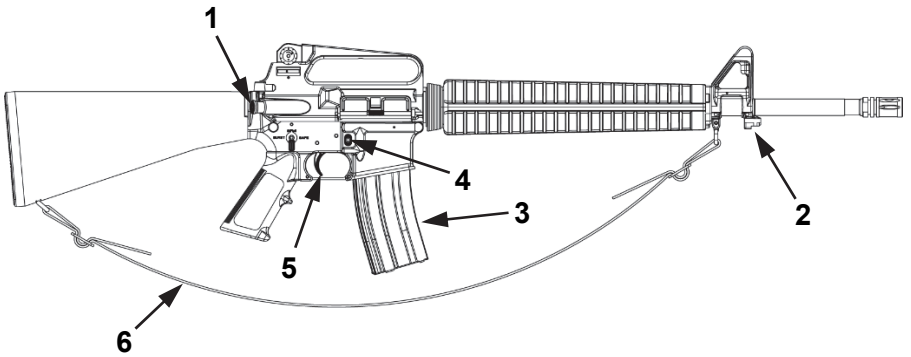


Figure 2. Right View of M16A2.

Forward Assist Assembly (Figure 2, Item 1) ensures the bolt is fully closed and locked.

Bayonet Lug (Figure 2, Item 2) provides bayonet attachment point.

Cartridge Magazine (Figure 2, Item 3) holds 5.56mm ammunition.

Magazine Catch Assembly (Figure 2, Item 4) locks magazine in place and also releases magazine from magazine well when depressed.

Trigger (Figure 2, Item 5) initiates firing sequence when squeezed.

Sling (Figure 2, Item 6) is an adjustable means to carry weapon.

DESCRIPTION AND USE OF OPERATOR CONTROLS AND INDICATORS -- continued

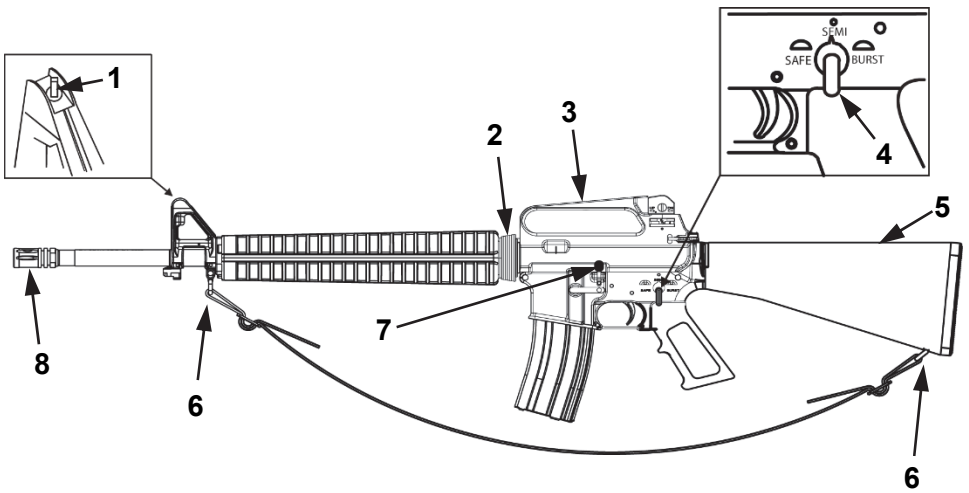


Figure 3. Left View of M16A2.

Front Sight Post (Figure 3, Item 1) adjusts strike of bullet up or down.

Slip Ring (Figure 3, Item 2) holds handguards or rail system in place.

Carrying Handle (Figure 3, Item 3) contains the Rear Sight Assembly and allows additional mounting capabilities.

Selector Lever (Figure 3, Item 4) selects mode of fire and places weapon on safe. With ambidextrous selector installed, can be manipulated on left and right hand side of weapon.

Buttstock Assembly (Figure 3, Item 5) houses buffer assembly, spring and lower receiver extension.

Sling Swivels (Figure 3, Item 6) allows sling to attach to weapon.

Bolt Catch (Figure 3, Item 7) holds bolt to rear after firing last round.

Compensator (Figure 3, Item 8) reduces muzzle rising while firing.

DESCRIPTION AND USE OF OPERATOR CONTROLS AND INDICATORS -- continued

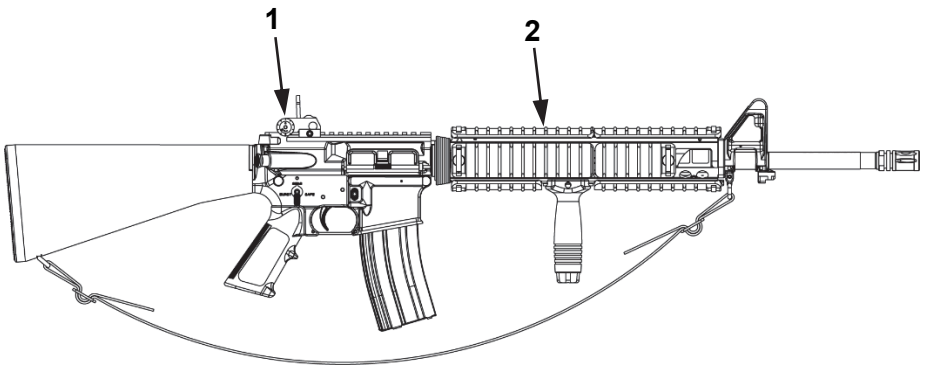


Figure 4. Right View of M16A3/A4.

NOTE

All controls and descriptions of the M16A2 are applicable to the M16A3 and M16A4 except the carrying handle, rear sight assembly, windage knob, and elevation knob, which have been replaced by the adapter rails and backup iron sight. The selector lever settings are SAFE/SEMI/AUTO for the M16A3.

Backup Iron Sight (Figure 4, Item 1) is used to aim weapon if optics are not present or inoperable.

M5 Adapter Rail (Figure 4, Item 2) allows attachment of various weapon accessories.

DESCRIPTION AND USE OF OPERATOR CONTROLS AND INDICATORS -- continued

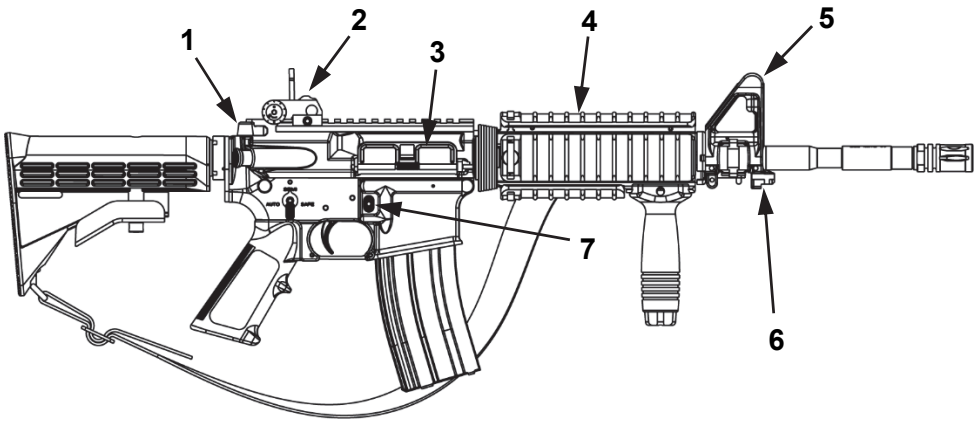


Figure 5. Right View of M4/M4A1.

Charging Handle (Figure 5, Item 1) is used for initial charging of weapon and chambering of round.

Backup Iron Sight (Figure 5, Item 2) is used to aim weapon if optics are not present or inoperable.

Ejection Port Cover (Figure 5, Item 3) prevents debris from entering chamber. Keep closed when not firing.

M4 Adapter Rail (Figure 5, Item 4) allows attachment of various weapon accessories.

Front Sight Assembly (Figure 5, Item 5) adjusts strike of bullet up or down.

Bayonet Lug (Figure 5, Item 6) provides bayonet attachment point.

Magazine Catch (Figure 5, Item 7) locks magazine in place and also releases magazine from magazine well when depressed.

DESCRIPTION AND USE OF OPERATOR CONTROLS AND INDICATORS -- continued

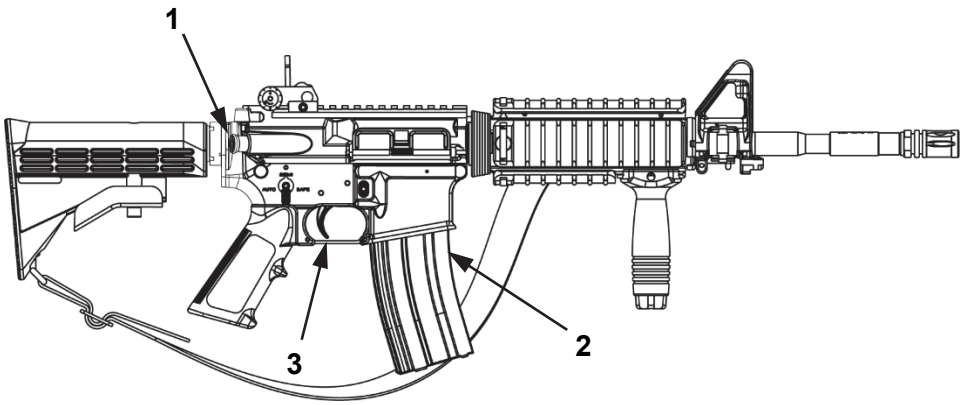


Figure 6. Right View of M4/M4A1.

Forward Assist Assembly (Figure 6, Item 1) allows the operator to ensure the bolt is fully closed and locked.

Cartridge Magazine (Figure 6, Item 2) holds 5.56mm ammunition.

Trigger (Figure 6, Item 3) initiates firing sequence when squeezed.

DESCRIPTION AND USE OF OPERATOR CONTROLS AND INDICATORS -- continued

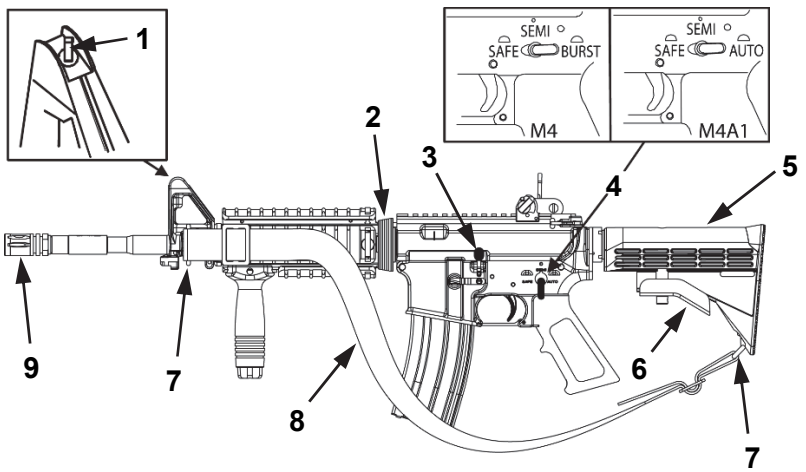


Figure 7. Left View of M4/M4A1.

Front Sight Post (Figure 7, Item 1) adjusts strike of bullet up or down.

Slip Ring (Figure 7, Item 2) holds rail system in place.

Bolt Catch (Figure 7, Item 3) holds bolt to rear after firing last round.

Selector Lever (Figure 7, Item 4) selects mode of fire and places weapon on safe. With ambidextrous selector installed, can be manipulated on left and right hand side of weapon.

Adjustable Buttstock Assembly (Figure 7, Item 5) houses spring and buffer assembly. Extends and collapses.

Lock/Release Lever (Figure 7, Item 6) locks buttstock in extended or collapsed position. Releases buttstock to move from extended position to collapsed position.

Sling Swivels (Figure 7, Item 7) allows sling to attach to the weapon.

Sling (Figure 7, Item 8) is an adjustable means to carry weapon.

Compensator (Figure 7, Item 9) helps reduces the muzzle from rising while firing.

END OF WORK PACKAGE

OPERATOR MAINTENANCE
OPERATION UNDER USUAL CONDITIONS

Initial Setup:

Tools and Special Tools
Cleaning Rod
(WP 0023, Item 18)
Handle
(WP 0023, Item 14)

Personnel Required
1

References
N/A

Materials/Parts
N/A

Equipment Condition
N/A

CLEARING WEAPON

WARNING

- The weapon MUST be cleared to be considered safe before disassembling, cleaning, inspecting, transporting or storing.
- If the weapon is not cocked, selector lever should not be pointed toward SAFE.
- Ensure weapon is always pointed in a safe direction.
- Failure to comply with above warnings may result in injury or death to personnel. Seek medical attention if injury occurs.

CLEARING WEAPON -- continued

1. Point weapon in a safe direction.

2. Place selector lever on SAFE (Figure 1).

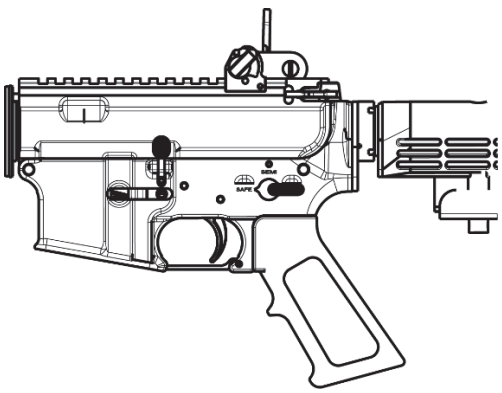


Figure 1. Selector on SAFE.

3. Remove magazine (Figure 2, Item 2) by pressing magazine catch (Figure 2, Item 1) and pulling the magazine (Figure 2, Item 2) down.

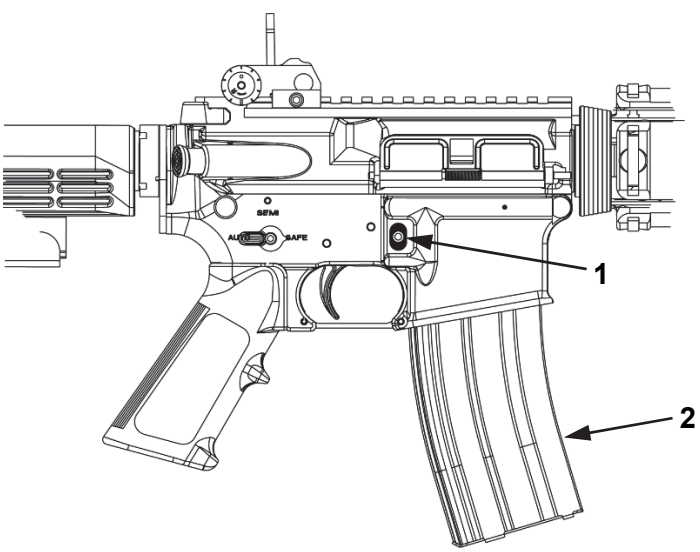


Figure 2. SAFE Mode.

CLEARING WEAPON – continued

NOTE

Observe chamber area for possible ejection of round or casing.

4. Pull the charging handle (Figure 3, Item 1) rearward.

5. Press and hold the bottom of the bolt catch (Figure 3, Item 3).

6. Allow the bolt to move forward until it engages the bolt catch (Figure 3, Item 3).

7. Return the charging handle (Figure 3, Item 1) to the forward locked position.

8. Ensure that the selector (Figure 3, Item 2) is on SAFE.

9. Visually inspect the chamber to ensure it contains no ammunition.

10. Allow the bolt to move forward by pressing the upper portion of the bolt catch (Figure 3, Item 3).

11. Close the ejection port cover.

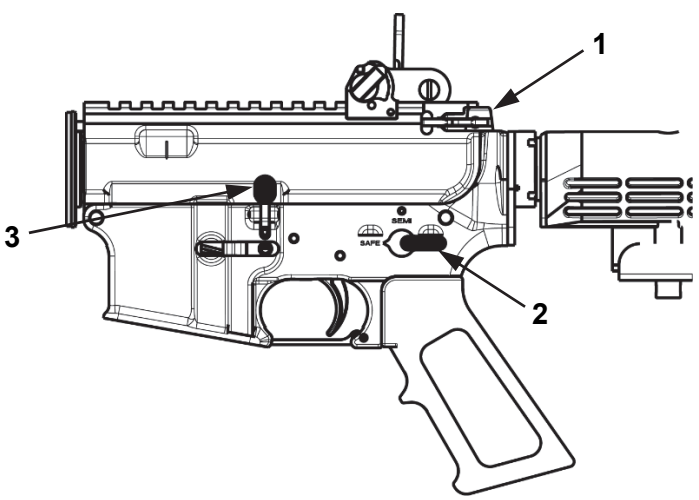


Figure 3. Lock Bolt Open.

END OF TASK

FIRING MODES

WARNING

Weapon can chamber a round when dropped or jarred if loaded magazine is inserted regardless of whether the bolt carrier assembly is in forward position or locked to the rear. Failure to comply may result in injury or death to personnel. Seek immediate medical attention if injury occurs.

NOTE

Hammer must be cocked to place selector lever on SAFE.

Selector Lever Positions

NOTE

Always place weapon on SAFE when loading and unloading.

SAFE (Figure 4). Weapon will not fire.

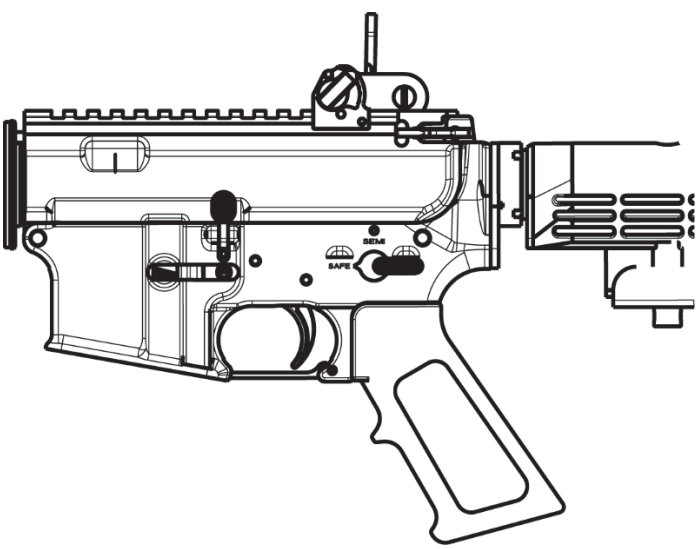


Figure 4. Selector Level Position – SAFE.

FIRING MODES – continued

SEMI (Figure 5). Weapon fires one round each time the trigger is squeezed.

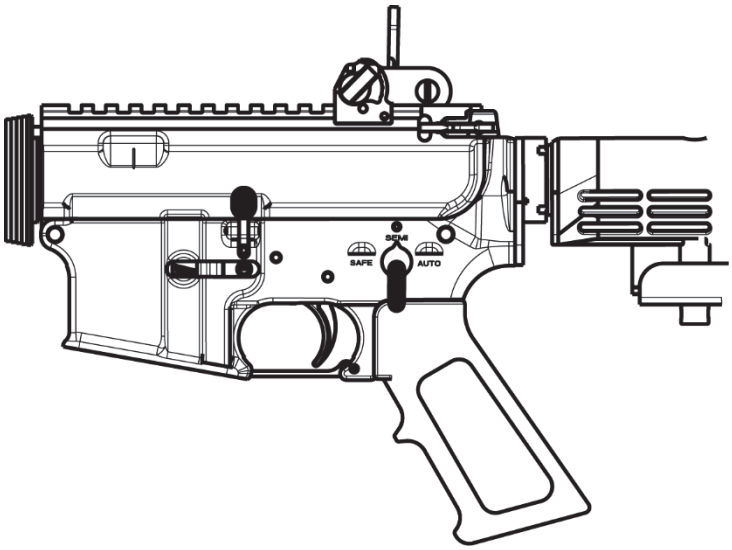


Figure 5. Selector Level Position – SEMI.

FIRING MODES – continued

BURST (Figure 6). (M16A2, M16A4, M4 only) Weapon fires a three rounds each time the trigger is squeezed.

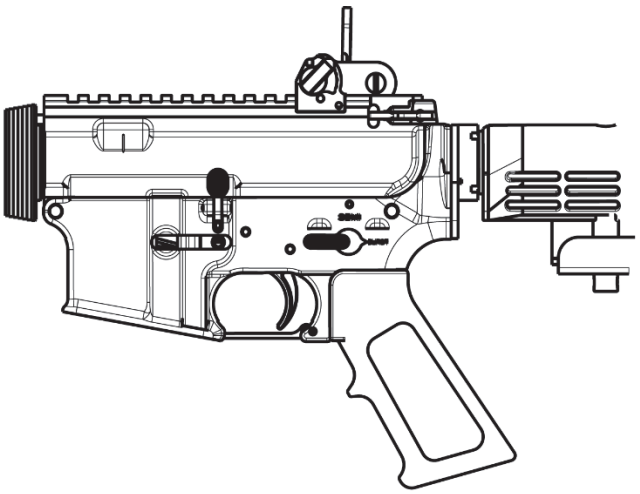


Figure 6. Selector Level Position – BURST.

FIRING MODES – continued

AUTO (Figure 7). (M4A1 & M16A3 only). Weapon will continue to fire as long as the trigger is being squeezed.

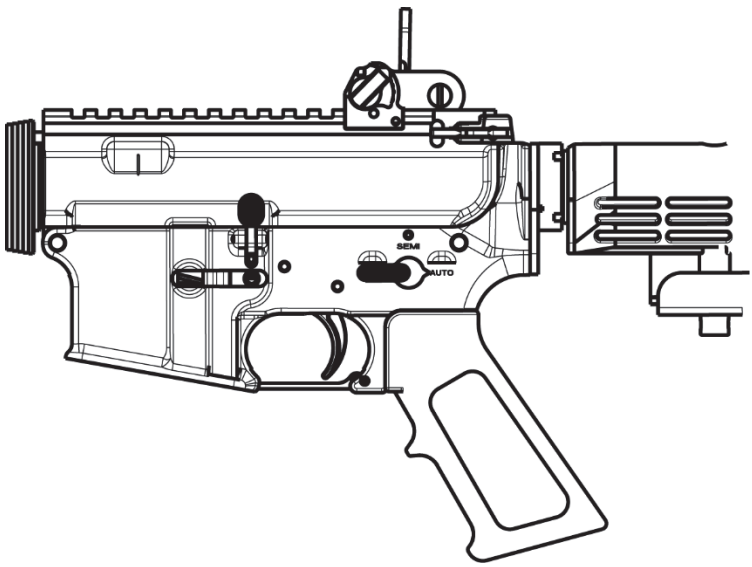


Figure 7. Selector Level Position – AUTO.

END OF TASK

Loading Weapon and Chambering Round

WARNING

Ensure weapon is always pointed in a safe direction. Failure to comply may result in injury or death to personnel. Seek immediate medical attention if injury occurs.

NOTE

- Magazine can be inserted with bolt assembly open or closed.
- Loading Weapon – (Air Force only), Clear the weapon, close the bolt, close the ejection port cover, and insert the magazine.

NOTE (Navy only)

- **Weapon Conditions:** A weapon's readiness is described by one of four conditions. The following steps in the loading and unloading process take the rifle through four specific conditions of readiness for live fire.
- **Condition 1:** Safety on, magazine inserted, round in chamber, bolt forward, ejection port cover closed.
- **Condition 2:** Not applicable to the M16 series rifle and M4/M4A1 carbine.
- **Condition 3.** Safety on, magazine inserted, chamber empty, bolt forward, ejection port cover closed.
- **Condition 4:** Safety on, magazine removed, chamber empty, bolt forward, ejection port cover closed.

Loading Weapon and Chambering Round -- continued

1. With muzzle pointed in a safe direction ensure hammer is cocked and place selector lever (Figure 8, Item 1) on SAFE.

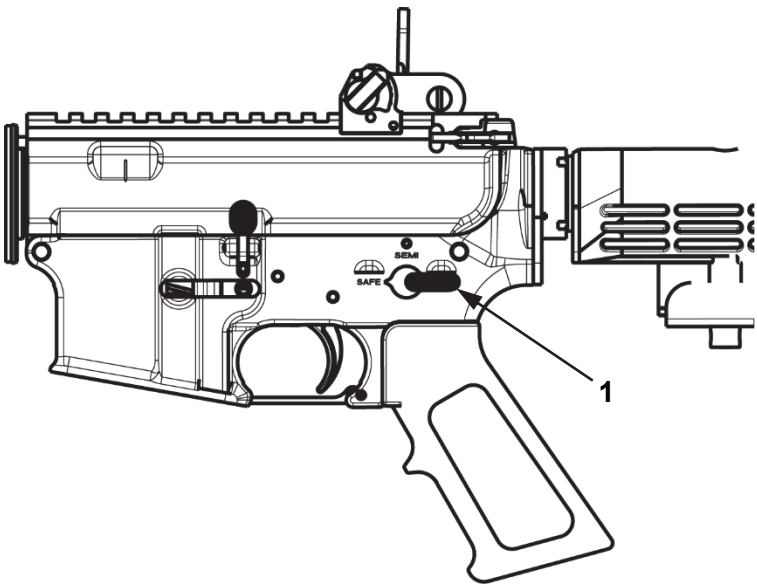


Figure 8. Weapon on SAFE.

Loading Weapon and Chambering Round -- continued

2. Pull back on charging handle (Figure 9, Item 1) to open bolt and check chamber (Figure 9, Item 2) to make sure the chamber is clear.

3. Press and hold bottom of bolt catch and allow bolt to move forward until bolt engages bolt catch.

4. Return charging handle (Figure 9, Item 1) to full forward position.

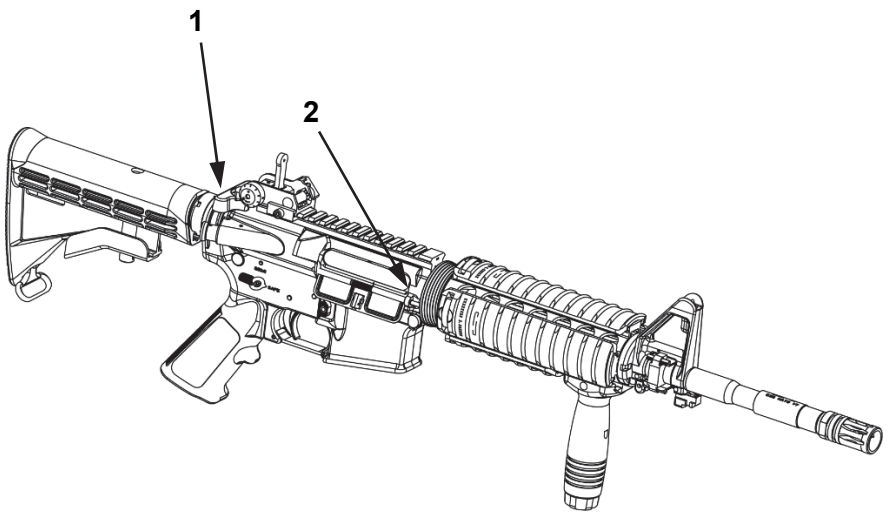


Figure 9. Chamber Check.

Loading Weapon and Chambering Round -- continued

NOTE

Magazine catch is internal to the weapon.

5. Push loaded magazine (Figure 10, Item 1) upward until magazine catch (Figure 10, Item 2) engages and holds magazine (Figure 10, Item 1).

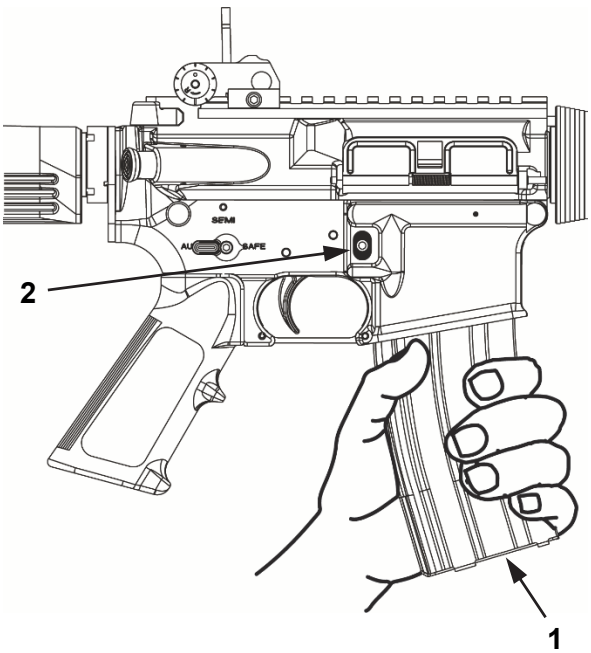


Figure 10. Insert Magazine.

Loading Weapon and Chambering Round -- continued

6. Tap upward to make sure the magazine (Figure 11, Item 1) is seated correctly.

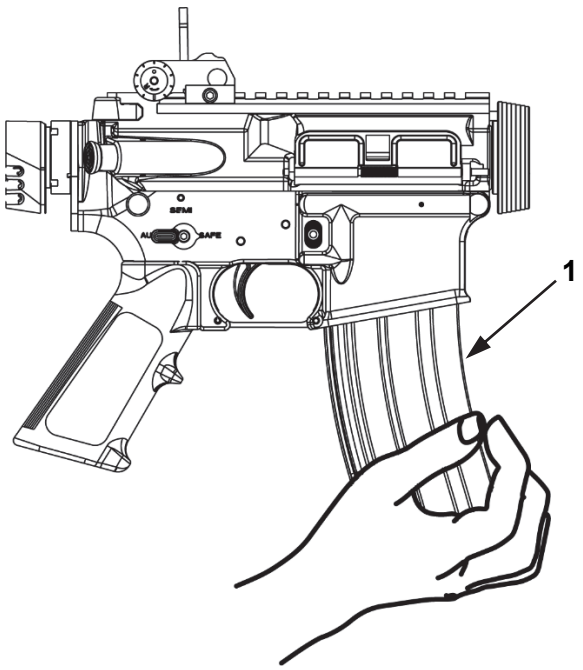


Figure 11. Insert Magazine.

Loading Weapon and Chambering Round -- continued

WARNING

Weapon is now loaded. Ensure weapon is pointed in a safe direction. Failure to comply may result in injury or death to personnel. Seek immediate medical attention if injury occurs.

7. Press upper portion of bolt catch (Figure 12, Item 1). Bolt should go forward.

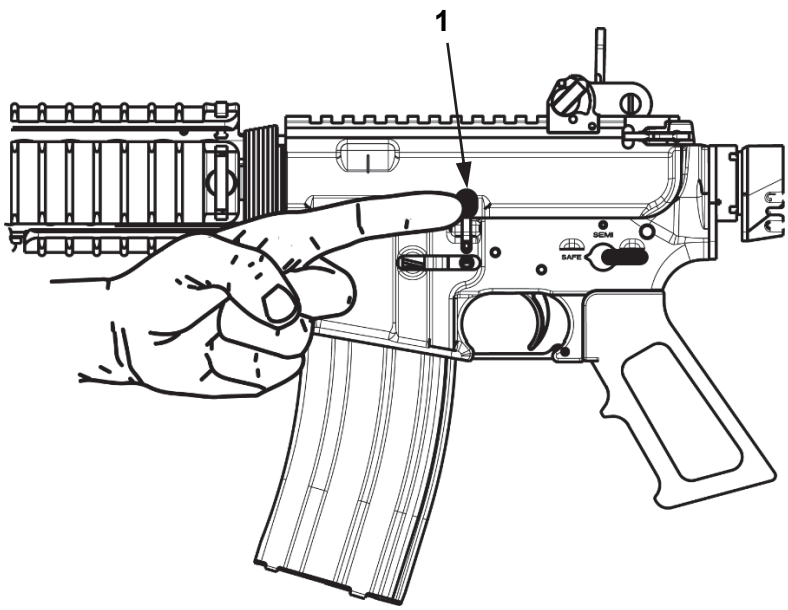


Figure 12. Close Bolt.

Loading Weapon and Chambering Round -- continued

8. Tap forward assist (Figure 13, Item 1) to ensure bolt is fully forward and locked.

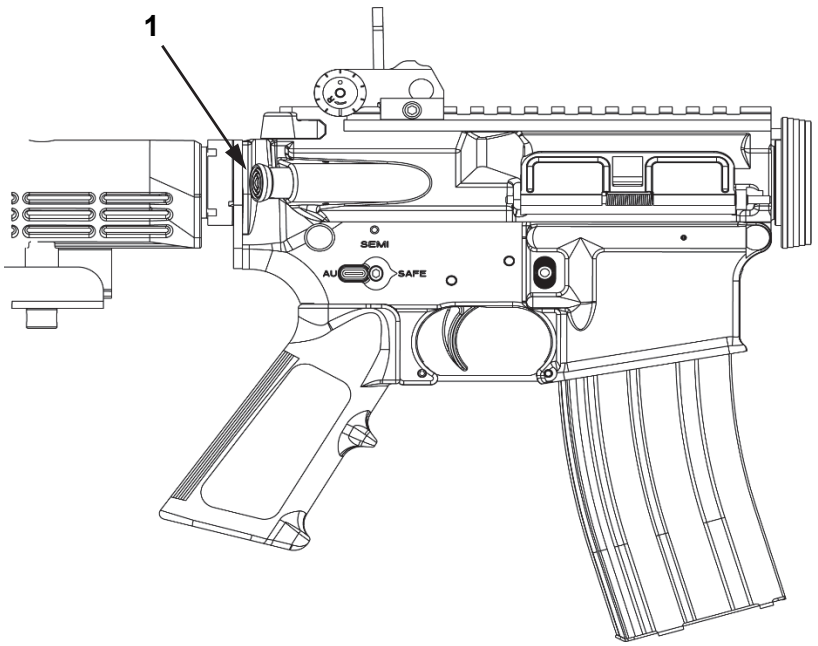


Figure 13. Forward Assist.

END OF TASK

Chambering Round from Bolt Closed Position

CAUTION

Do not ride the charging handle forward when chambering a round. Failure to comply may result in damage to equipment.

1. With loaded magazine (Figure 14, Item 2) inserted, pull the charging handle (Figure 14, Item 1) all the way to the rear.

2. Release charging handle.

NOTE

Step 3 is for the Air Force only.

3. Tap forward assist (Figure 14, Item 3) to ensure bolt assembly is fully forward and locked.

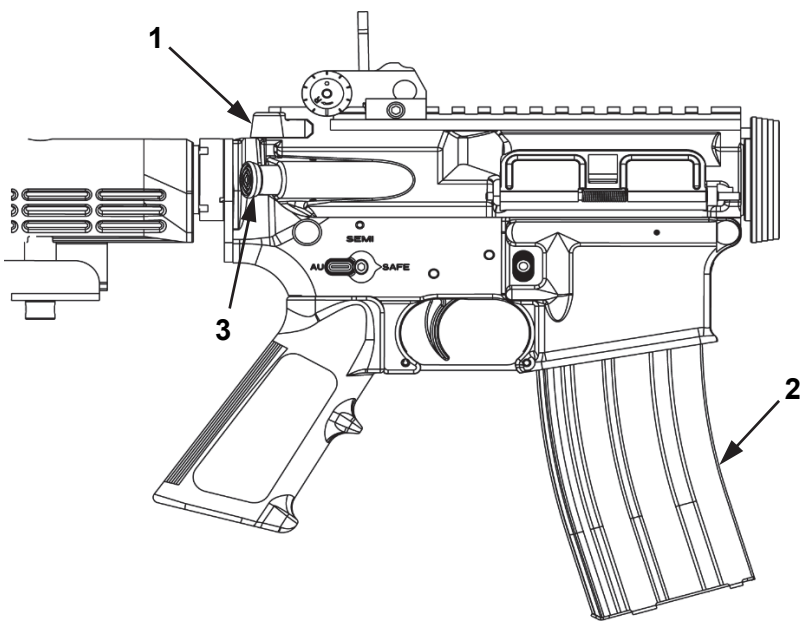


Figure 14. Chambering Round.

END OF TASK

Three Round Burst Control (M16A2, M16A4, M4 only)

WARNING

- Stop firing immediately if an audible POP is heard or reduced RECOIL is experienced while firing weapon. These could indicate an incomplete powder burn and/or a bullet stuck in the bore.
- Retract bolt slowly and remove fired cartridge case.
- Clear weapon and check for unburned powder grains in the receiver or bore and for a bullet stuck in the bore.
- Remove unburned powder or bullet from bore before resuming firing. If the bullet is stuck in bore, return the weapon to field maintenance.
- Ensure weapon is pointed in a safe direction when loaded.
- Failure to comply with above warnings may result in injury or death to personnel. Seek immediate medical attention if injury occurs.

NOTE

- When switching to BURST during fire, or changing magazine while firing in BURST, weapon may only fire 1 or 2 rounds on first trigger squeeze. The next trigger squeeze should fire 3 rounds.
- If the trigger is released before all three rounds have fired, the next squeeze of the trigger will only fire the one or two shots not fired in the previous trigger squeeze. A one or two shot BURST can also happen if firing is continued after changing magazines or switching from SEMI to BURST.

Three Round Burst Control (M16A2, M16A4, M4) -- continued

NOTE

Follow the steps below to ensure weapon fires 3 rounds on first trigger squeeze:

1. Ensure weapon is clear.
2. Place selector lever (Figure 15, Item 3) on BURST.
3. Squeeze trigger (Figure 15, Item 4) and hold.
4. Pull charging handle (Figure 15, Item 2) completely rearward and release three times.
5. Release trigger (Figure 15, Item 4).
6. Pull bolt fully rearward and press bottom of bolt catch (Figure 15, Item 1) to lock bolt in place.
7. Slide charging handle (Figure 15, Item 2) to forward locked position.
8. Place selector lever (Figure 15, Item 3) on SAFE.
9. Insert a loaded magazine (Figure 15, Item 5).
10. Push top of bolt catch (Figure 15, Item 1) to allow bolt to go forward.
11. Place selector lever (Figure 15, Item 3) on BURST.
12. Squeeze trigger (Figure 15, Item 4) and hold until all three rounds have fired.

Three Round Burst Control (M16A2, M16A4, M4 only) -- continued

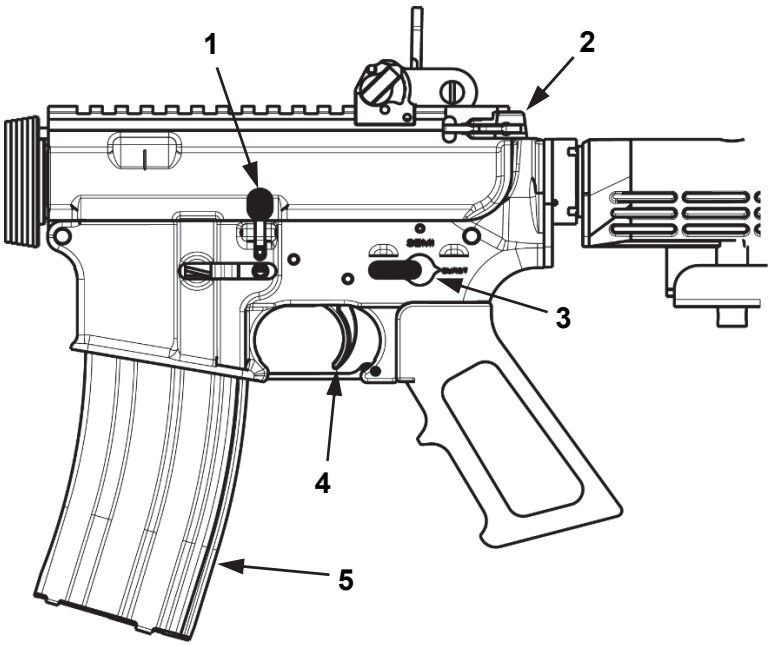


Figure 15. Burst Fire.

END OF TASK

Immediate Action

WARNING

- Firing a weapon in excess of the sustained rate of fire (12 - 15 rounds per minute) rapidly and continuously may overheat the barrel.

- The number of rounds fired rapidly and continuously should not exceed the following: M16 Series Rifles - 140 rounds, M4 Carbine - 150 rounds, and M4A1 Carbine - 180 rounds. An overheated barrel may cause a cook off or catastrophic failure of the weapon.

- The sustained rate of fire should never be exceeded except under extreme circumstances. An overheated barrel may cause a cook off (detonation) of a live round in the chamber in as short a period as 10 seconds.

- If a live round is present in the chamber of a hot barrel, remove it quickly. If unable to remove the round within 10 seconds, remove the magazine and wait 15 minutes keeping weapon pointed in a safe direction at all times.

- ALWAYS keep face away from the ejection port when clearing a hot chamber.

- STOP firing immediately if an audible “POP” is heard or reduced RECOIL is experienced while firing weapon. These could indicate an incomplete powder burn and/or a bullet stuck in the bore. Retract bolt slowly and remove fired cartridge case. Clear weapon and check for unburned powder grains in the receiver or bore and for a bullet stuck in the bore. Remove unburned powder or bullet from bore before resuming firing. If the bullet is stuck in bore, return the weapon to field maintenance.

- Ensure weapon is always pointed in a safe direction.

Immediate Action -- continued

WARNING

- Perform following immediate action when weapon stops firing.
- Failure to comply with above warnings may result in injury or death to personnel. Seek immediate medical attention if injury occurs.

Immediate Action -- continued

1. Slap upward on magazine (Figure 16, Item 2) to make sure it is properly seated.

2. Pull charging handle (Figure 16, Item 1) completely rearward and hold.

3. Observe for ejection of case or cartridge. Ensure cartridge or case is ejected and chamber is clear.

CAUTION

Do not ride the charging handle forward. Failure to comply may result in damage to equipment.

4. Release charging handle (Figure 16, Item 1) to feed new round. DO NOT ride the charging handle (Figure 16, Item 1) forward.

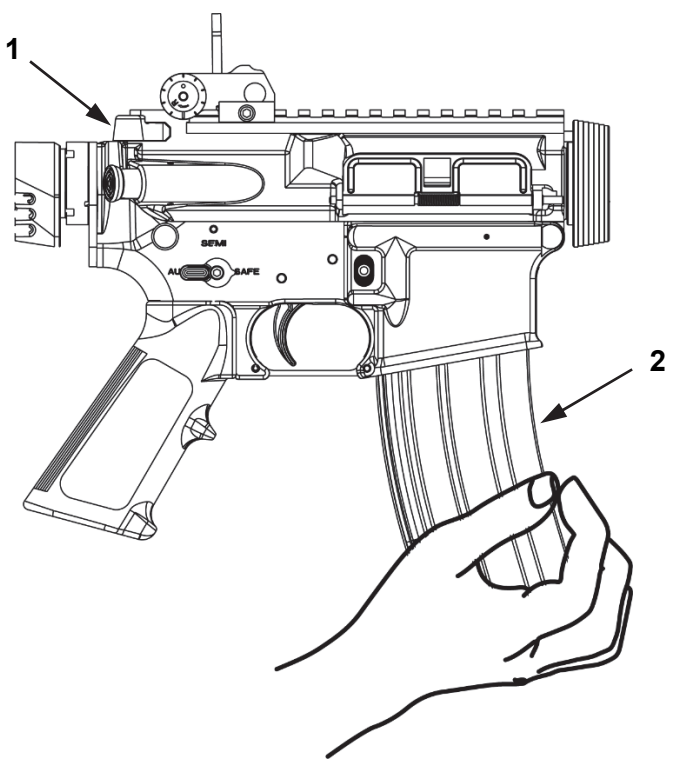


Figure 16. Immediate Action.

Immediate Action -- continued

5. Tap on the forward assist (Figure 17, Item 1) to ensure bolt is closed.

6. Squeeze trigger (Figure 17, Item 2). Weapon should FIRE.

7. If weapon still does not fire, apply remedial action.

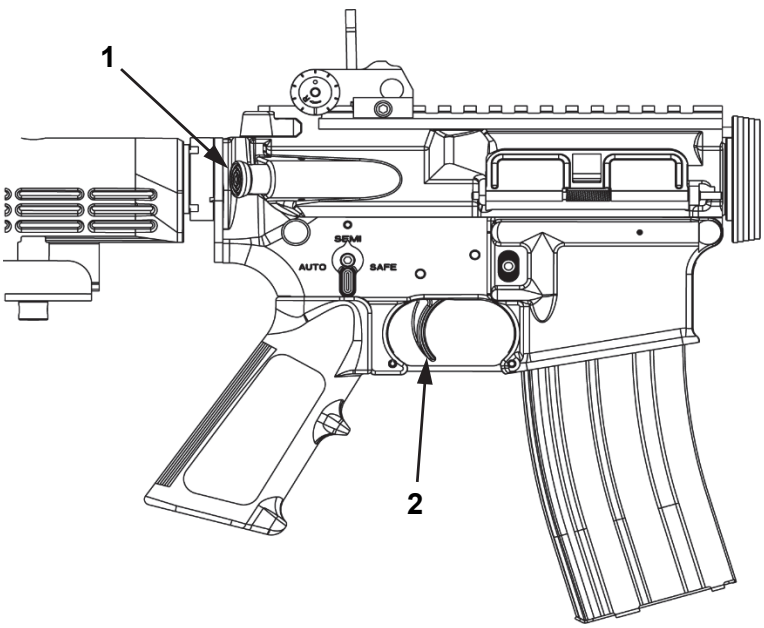


Figure 17. Immediate Action.

END OF TASK

Remedial Action

WARNING

- If weapon stops firing with a live round in the chamber of a hot barrel, remove the round quickly. However, if you cannot remove it within 10 seconds, remove magazine and wait 15 minutes with the weapon pointed in a safe direction.
- Always keep face away from the ejection port when clearing a hot chamber.
- Failure to comply with above warnings may result in injury or death to personnel.

1. If your weapon still fails to fire after performing immediate action, check chamber (Figure 18, Item 1) again for jammed cartridge case.

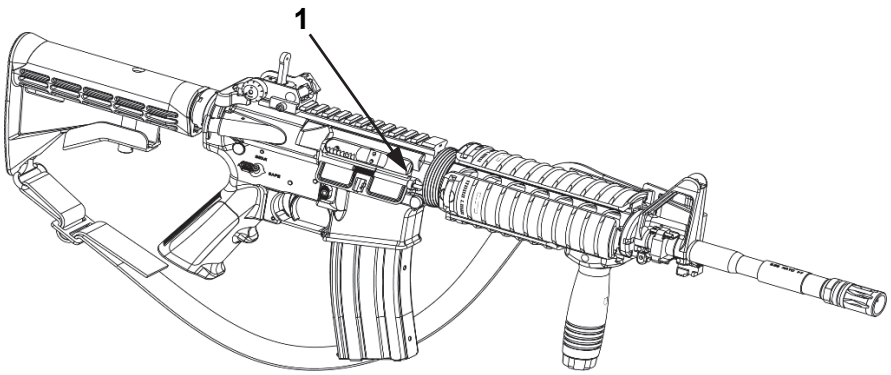


Figure 18. Chamber Check.

Remedial Action -- continued

NOTE

Chamber is internal to the weapon.

2. If a cartridge case is still in the chamber tap it out with a cleaning rod (Figure 19, Item 1).

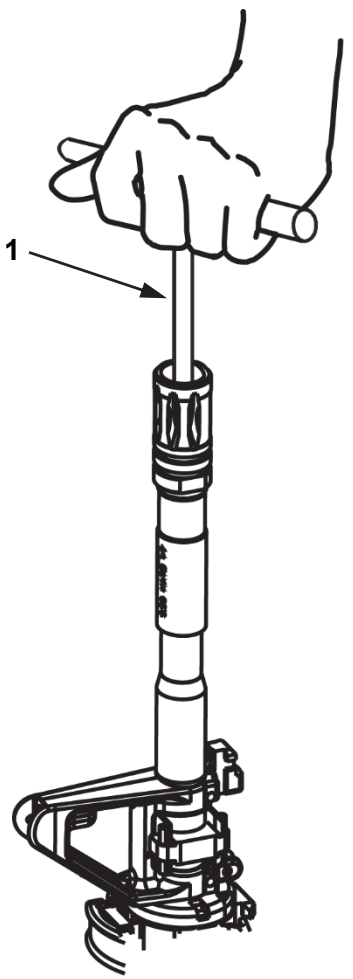


Figure 19. Clear Cartridge Case.

END OF TASK

Bullet Stuck In Bore

WARNING

- Ensure weapon is always pointed in a safe direction.
- STOP firing immediately if an audible “POP” is heard or REDUCED RECOIL is experienced while firing weapon.
- DO NOT apply immediate action.
- DO NOT attempt to remove a bullet stuck in the barrel of a weapon. Turn the weapon in to field maintenance.
- Failure to comply may result in injury or death to personnel. Seek immediate medical attention if injury occurs.

Bullet Stuck In Bore -- continued

1. Remove the magazine (Figure 20, Item 3).

2. Pull bolt to rear and press bottom of bolt catch (Figure 20, Item 1) to lock bolt in place.

3. Place the selector lever (Figure 20, Item 2) on SAFE.

4. Visually inspect chamber to see if chamber is clear.

5. Insert cleaning rod into the bore to ensure there is not a bullet stuck in the bore.

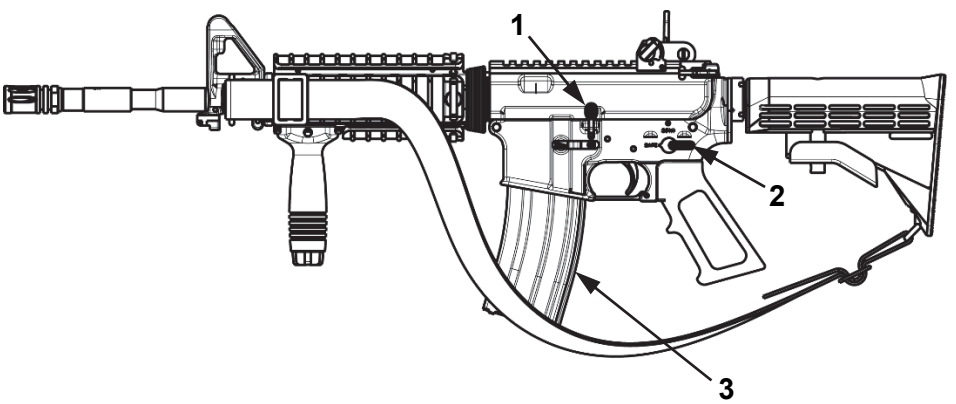


Figure 20. Unload.

END OF TASK

LOADING MAGAZINE

NOTE

Magazines can be loaded quickly using ten-round stripper clips and the magazine filler found in each bandoleer.

Loose ammunition can be loaded by hand, one round at a time. Rounds should be counted as inserted so magazine is not overloaded.

1. Place the magazine filler (Figure 21) on the back of the magazine.

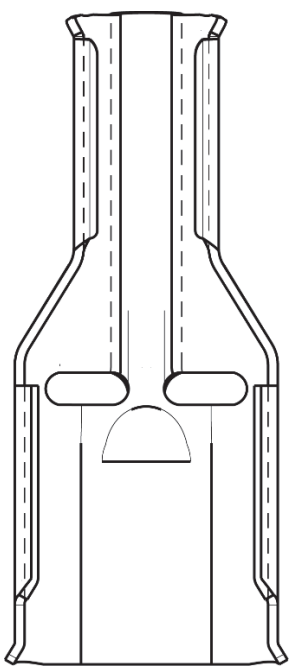


Figure 21. Magazine Filler.

LOADING MAGAZINE -- continued

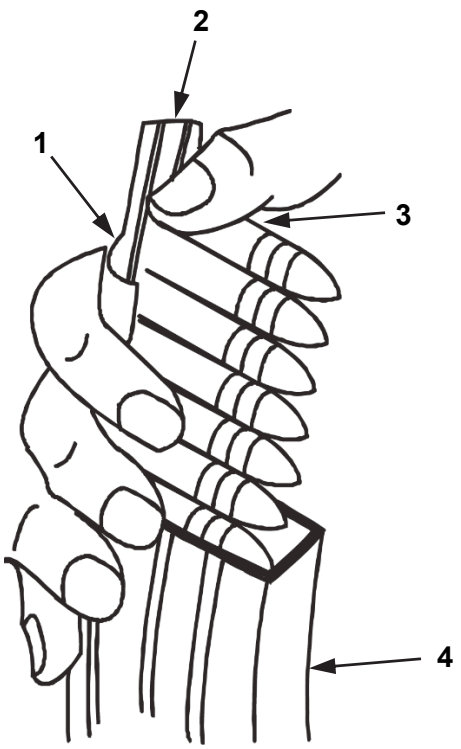


Figure 22. Loading Magazine.

2. Place a ten round stripper clip in the magazine filler (Figure 22, Item 1).

3. Using thumb pressure on the rear of the top cartridge (Figure 22, Item 3), press down firmly until all ten rounds are below the feed lips of the magazine (Figure 22, Item 4).

4. Remove the empty stripper clip (Figure 22, Item 2) while holding magazine filler (Figure 22, Item 1) in place.

5. Repeat steps 2 - 4 until three ten-round clips are loaded.

6. Remove magazine filler (Figure 22, Item 1) and retain for future use.

END OF TASK

END OF WORK PACKAGE

OPERATOR MAINTENANCE
OPERATION UNDER UNUSUAL CONDITIONS

Initial Setup:

Tools and Special Tools
- Cleaner, Lubricative, and Preservative (CLP) (WP 0023, Item 7)
- Lubricating Oil, Arctic Weapons (LAW) (WP 0023, Item 15)
- Rifle Protective Cover (WP 0023, Item 11)
- Cleaner, Tobacco Pipe (WP 0023, Item 8)
- Cap, Protective Dust (WP 0022)
- Bag, Protective, Magazine (WP 0023, Item 22)

Personnel Required
1

References
FM 3-3
FM 3-5
FM 3-100
WP 0013
WP 0017

Material/Parts
N/A

Equipment Condition
N/A

EXTREME COLD CLIMATE -- ARCTIC

WARNING

- Special care should be taken to avoid accidental discharge when trigger guard is opened for use with arctic mittens. Failure to comply may result in injury or death to personnel. Seek immediate medical attention if injury occurs.

NOTE

- A small amount of CLP on moving parts can freeze and prevent weapon from firing in extreme cold conditions.

- General Chemical, Biological, Radiological, Nuclear Explosive procedures can be found in FM 3-3, FM 3-5, and FM 3-100.

EXTREME COLD CLIMATE – ARCTIC -- continued

Thoroughly remove CLP from weapon and apply LAW for operations in extreme cold weather (See Lubrication Instructions WP 0017).

To operate weapon in extreme cold, press trigger guard plunger (Figure 1, Item 1) and open the trigger guard (Figure 1, Item 2) to allow for easy access to the trigger (Figure 1, Item 3) while wearing arctic mittens.

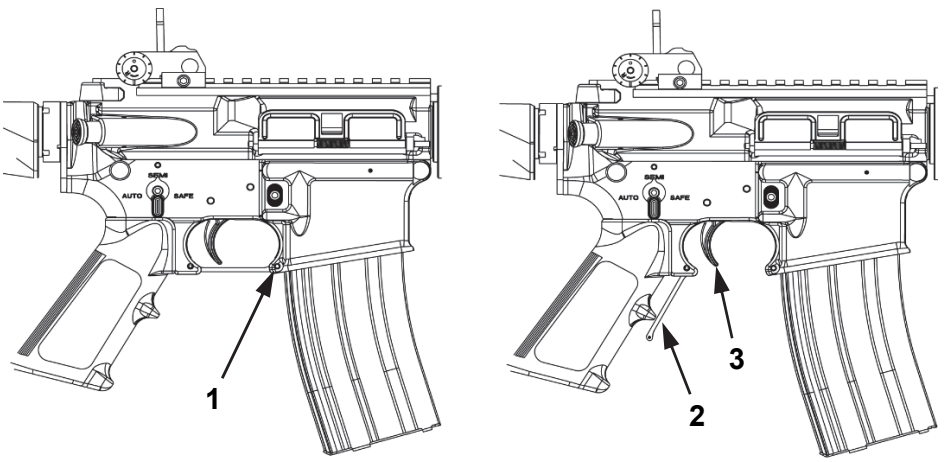


Figure 1. Winter Operations.

EXTREME COLD CLIMATE – ARCTIC – continued

Cleaning and Lubrication

NOTE

- Clean and lubricate weapon in warm room with weapon at room temperature if possible.
- Do not lay warm weapon directly on ice or in snow.
- Condensation will form on weapon when moved from a cold area to a warm area. Weapon should be disassembled and wiped dry several times as it warms to room temperature.
- Keep ammunition and the inside of magazines wiped dry. Moisture will freeze and cause weapon malfunction.
- Do not lubricate ammunition.
- Use muzzle cap, protective magazine bag, and weapon cover to protect weapon in extreme cold weather whenever the tactical situation permits.
- Field maintenance should remove trigger guard for extended operations in extreme cold weather.

1. Apply a light coat of Lubricating Oil Arctic Weapons (LAW) to all functional parts.

2. Keep weapon covered when moving from warm to cold areas to prevent condensation and/or freezing. Allow weapon to cool gradually when possible.

3. Keep weapon dry whenever possible.

4. Unload and perform function check every 30 minutes to help prevent freezing of functional parts.

END OF TASK

HOT, WET CLIMATE -- JUNGLE

NOTE

Use magazine bag, muzzle cap or rifle cover for protection when the tactical situation permits.

1. Perform normal maintenance as outlined in the PMCS table (WP 0013).

2. Clean and lubricate with CLP more frequently than normal as needed.

3. Inspect all parts of the weapon for corrosion more frequently and more completely than normal.

4. Remove handprints from weapon with dry rag and lubricate lightly with CLP.

5. Unload and check inside magazines for corrosion and moisture frequently. Ensure ammunition is dry before reloading magazines.

END OF TASK

HOT, DRY CLIMATE – DESERT

NOTE

- Deserts are usually areas containing blowing sand and fine dust.
- Deserts can be hot during daylight hours and cold during the night.
- The harsh environment will severely tax weapons and other equipment.
- Consistent operation of weapons depends on following detailed cleaning and lubricating procedures outlined in PMCS table.

CAUTION

Use magazine bag, muzzle cap or rifle cover for protection when the tactical situation permits. Failure to comply may result in damage to equipment.

1. Clean inside and functional areas of the weapon every day and after firing missions in desert environments. Dust and sand will get into the weapon and magazines and cause malfunctions.

NOTE

Do not lubricate magazines.

2. In a desert environment, generous amounts of lubrication should be applied to the internal working surfaces and functional parts of the weapon only. Unload and dry ammunition and the inside of magazines daily.

3. Keep the bolt and ejection port cover closed, magazine in the magazine well, and muzzle cap on to keep sand and dust out of the weapon.

END OF TASK

HEAVY RAIN AND WATER CROSSING – ALL CLIMATES

NOTE

Use magazine bag, muzzle cap or rifle cover for protection when the tactical situation permits.

1. Perform regular maintenance according to PMCS table (WP 0013).

2. Always attempt to keep weapon dry.

3. Always drain water from barrel before firing. Dry the bore with a swab and cleaning rod if wet.

END OF TASK

AFTER WATER CROSSING

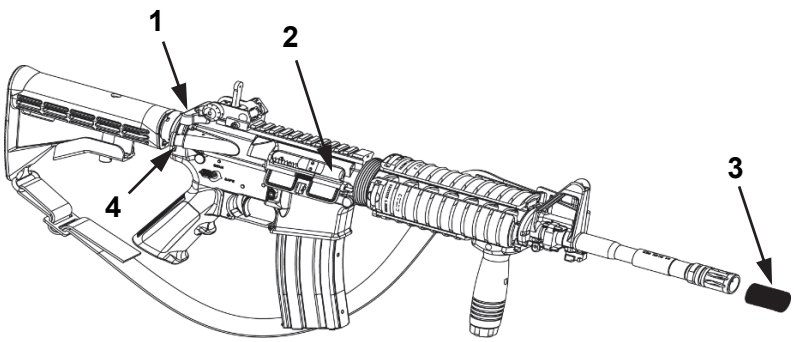


Figure 2. After Water Crossing.

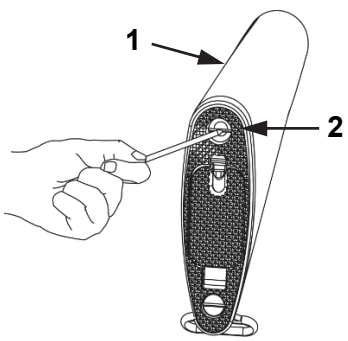


Figure 3. Clear Drain Hole.

AFTER WATER CROSSING -- continued

WARNING

- Do not fire if water is present in barrel.
- Ensure weapon is always pointed in a safe direction.
- Failure to comply with above warnings may result in injury or death to personnel. Seek immediate medical attention if injury occurs.

1. Remove muzzle cap (Figure 2, Item 3).

2. Point weapon downward and shake vigorously.

3. Pull charging handle (Figure 2, Item 1) two to three inches rearward and allow water to drain.

4. Release charging handle (Figure 2, Item 1) and tap forward assist (Figure 2, Item 4) to seat round and lock bolt (Figure 2, Item 2).

5. Clear the drain hole (Figure 3, Item 2) in the stock (Figure 3, Item 1) with a pipe cleaner and drain.

END OF TASK

AFTER SALT WATER OPERATIONS

1. Clean and lubricate entire weapon as soon as tactically possible, paying special attention to the rear sight (Figure 4, Item 1).

2. If situation does not permit using CLP, wash rear sight (Figure 4, Item 1) with fresh water from canteen or other fresh water source.

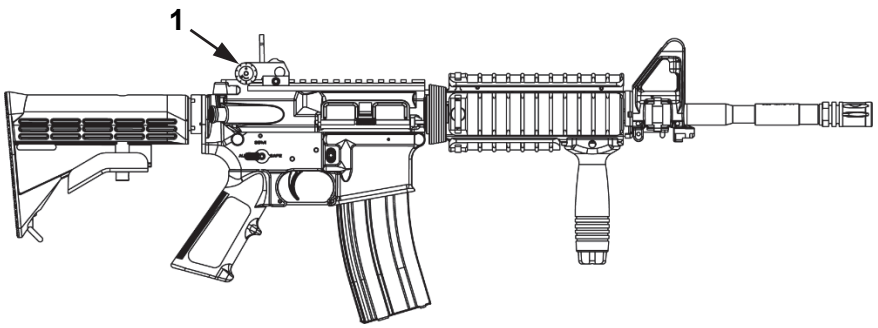


Figure 4. Wash With Fresh Water.

END OF TASK

END OF WORK PACKAGE

OPERATOR MAINTENANCE
FUNCTION CHECK

Initial Setup:

Tools and Special Tools
N/A

References
WP 0005

Materials/Parts
N/A

Equipment Condition
N/A

Personnel Required
1

CLEAR WEAPON

WARNING

- Always clear weapon before starting a function check.
- Do not squeeze trigger until weapon has been cleared.
- Ensure weapon is always pointed in a safe direction.
- Failure to comply with above warnings may result in injury or death to personnel. Seek immediate medical attention if injury occurs.

Clear weapon (WP 0005).

END OF TASK

FUNCTION CHECK

SAFE

1. Place selector lever (Figure 1, Item 2) on SAFE.
2. Pull and release charging handle (Figure 1, Item 1).

NOTE

Hammer should not fall when trigger is squeezed.

3. Squeeze trigger (Figure 1, Item 3).

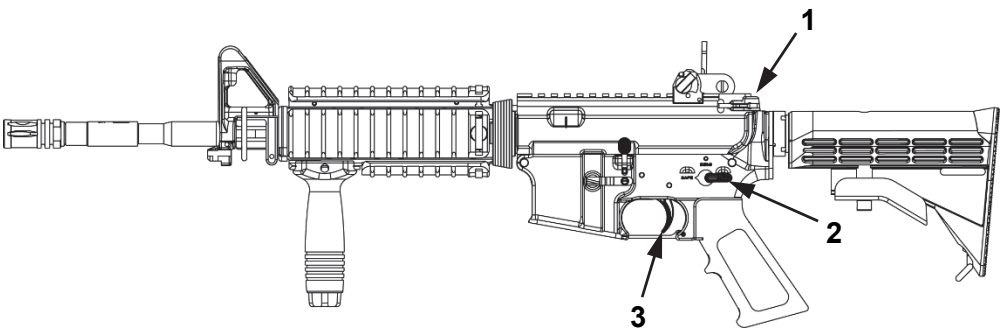


Figure 1. SAFE.

END OF TASK

SEMI

1. Place selector lever (Figure 2, Item 1) on SEMI.

NOTE

Hammer should fall when trigger is squeezed.

2. Squeeze and hold trigger (Figure 2, Item 2) rearward and charge the weapon.

NOTE

Slow is defined as ¼ to ½ the normal rate of trigger release.

3. Release the trigger (Figure 2, Item 2) with a slow smooth motion until the trigger (Figure 2, Item 2) is fully forward (an audible click should be heard).

NOTE

Hammer should fall when trigger is squeezed.

4. Squeeze trigger (Figure 2, Item 2).

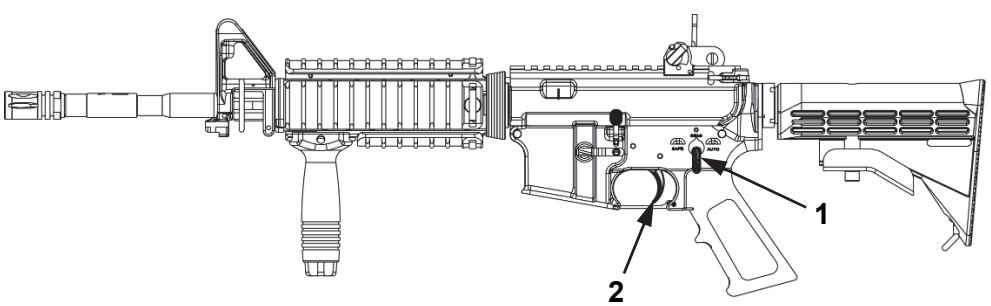


Figure 2. SEMI.

END OF TASK

BURST (M16A2, M16A4, and M4)

1. Place selector lever (Figure 3, Item 2) on BURST.

2. Charge weapon.

NOTE

Hammer should fall when trigger is squeezed.

3. Squeeze and hold trigger (Figure 3, Item 3) rearward.

4. Pull the charging handle (Figure 3, Item 1) completely rearward and release three times.

5. Release trigger (Figure 3, Item 3) with a slow smooth motion until the trigger is fully forward (audible click should be heard).

NOTE

Hammer should fall when trigger is squeezed.

6. Squeeze trigger (Figure 3, Item 3).

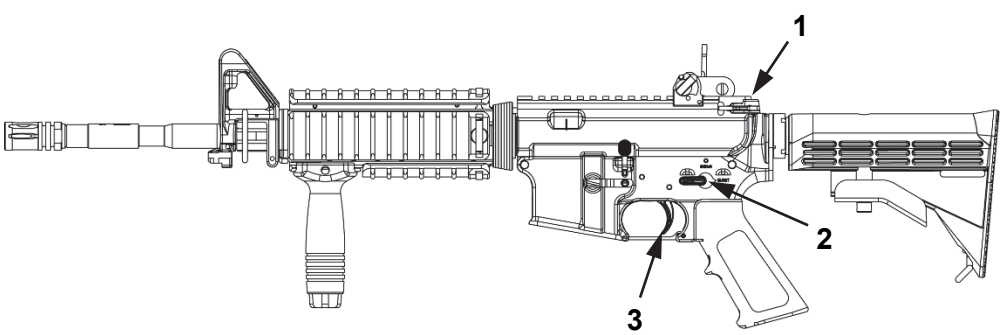


Figure 3. BURST.

END OF TASK

AUTO (M16A3 and M4A1)

1. Place selector (Figure 4, Item 1) on AUTO.

2. Charge the weapon.

NOTE

Hammer should fall when trigger is squeezed.

3. Squeeze and hold the trigger (Figure 4, Item 2) rearward and cock the weapon again.

NOTE

The hammer should not fall when the trigger is squeezed because it should have fallen when the bolt was allowed to move forward during the chambering and locking sequences.

4. Release the trigger (Figure 4, Item 2) then squeeze the trigger (Figure 4, Item 2) again.

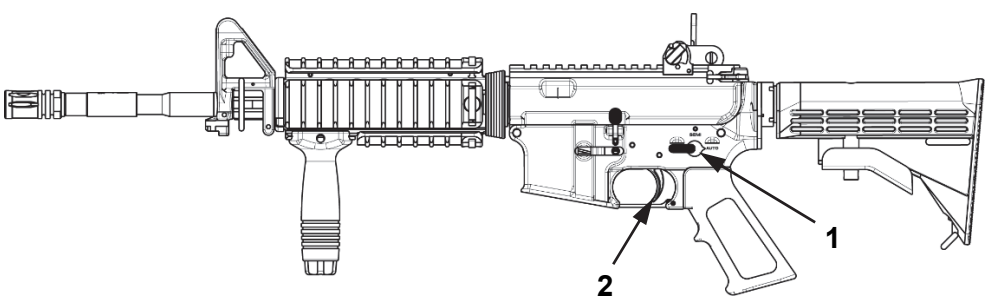


Figure 4. AUTO.

END OF TASK

END OF WORK PACKAGE

OPERATOR MAINTENANCE
25 METER ZEROING

Initial Setup:

Tools and Special Tools
N/A

References
N/A

Materials/Parts
Target, 25 Meter Zeroing
(WP 0023, Item 21)

Equipment Condition
N/A

Personnel Required
1

SIGHT ADJUSTMENT AND ZEROING

Adjustable Rear Sight. Two apertures for different ranges (Figure 1 and Figure 2).

Short Range or Night/Low Light. Larger aperture sight used for 0 - 200 meters range, night, and moving targets. Rear sight elevation knob is rotated so the rear sight assembly is all the way down when using larger aperture sight (Figure 1).

Normal Range. Smaller aperture sight used for most firing situations. Used with elevation knob for 200 - 800 meters range (Figure 2).

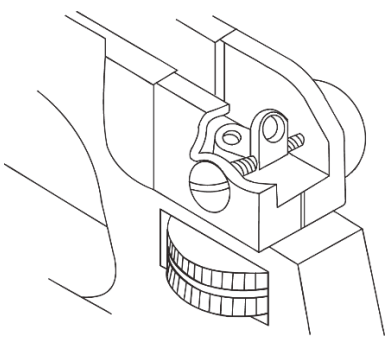


Figure 1. Range (0 – 200 Meters).

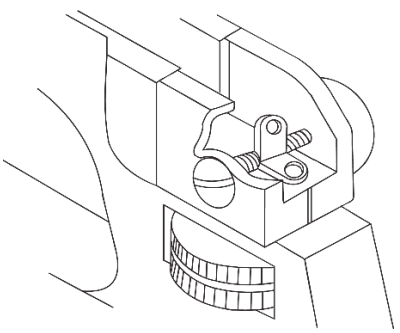


Figure 2. Range (200 – 800 and 200 – 600 Meters).

SIGHT ADJUSTMENT AND ZEROING -- continued

Battlesight Zeroing Adjustments

During zeroing procedures, only the front sight post (Figure 3, Item 2) and windage knob (Figure 3, Item 1) are adjusted to move the strike of the bullet on the target.

If you are zeroing on a 25-meter range, the rear sight elevation knob (Figure 3, Item 3) is adjusted in accordance to whichever weapon you are using.

Detailed zeroing procedures are on the target and the following pages.

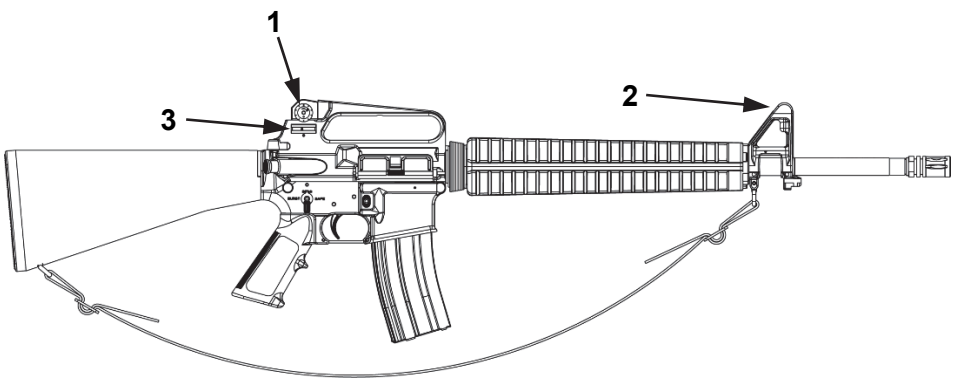


Figure 3. Battlesight Zero (BZO).

SIGHT ADJUSTMENT AND ZEROING -- continued

Front Sight.

NOTE

The front sight post is moved up or down when zeroing the weapon. Once the weapon is zeroed, the front sight post should not be moved.

Each graduation (notch) moves the point of impact of bullet as indicated.

1. To adjust elevation, depress detent (Figure 4, Item 2) and rotate post (Figure 4, Item 1)

2. To raise strike of bullet, rotate post (Figure 4, Item 1) in the direction of arrow marked UP.

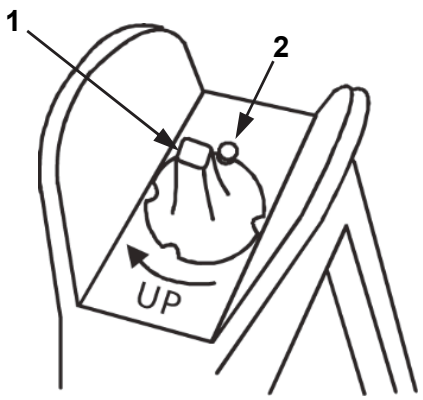


Figure 4. Front Sight Adjustment.

3. Reverse the direction of rotation to lower strike of bullet.

END OF TASK

SIGHT ADJUSTMENT AND ZEROING -- continued

FOR ELEVATION (per click)

Impact	**Distance**	**(M16A2/M16A3/M16A4)**
0.9 cm	(3/8 in)	25 meters
3.5 cm	(1 3/8 in)	100 meters
7.0 cm	(2 3/4 in)	200 meters

FOR WINDAGE KNOB (per click)

Impact Distance		**(M16A2/M16A3/M16A4)**
0.3 cm	(1/8 in)	25 meters
1.25 cm	(1/2 in)	100 meters
2.60 cm	(1 in)	200 meters
3.8 cm	(1 1/2 in)	300 meters
5.0 cm	(2.0 in)	400 meters
6.3 cm	(2 ½ in)	500 meters
7.8 cm	(3 in)	600 meters
8.8 cm	(3 1/2 in)	700 meters
10.0 cm	(4 in)	800 meters

FOR ELEVATION (per click)

Impact Distance (M4/M4A1)		
1.2 cm	(1/2 in)	25 meters
4.8 cm	(1 7/8 in)	100 meters
9.6 cm	(3 3/4in)	200 meters

FOR WINDAGE KNOB (per click)

Impact Distance		**(M4/M4A1)**
0.5 cm	(3/16 in)	25 meters
1.9 cm	(3/4 in)	100 meters
4.8 cm	(1 ½ in)	200 meters
5.7 cm	(2 ¼ in)	300 meters
7.6 cm	(3 in)	400 meters
9.5 cm	(3 ¾ in)	500 meters
11.4 cm	(4 ½ in)	600 meters

Setting Battlesight Zero

NOTE

- Do not center rear sight aperture for inspections. Keep your Correct battlesight zero windage on your weapon at all times.
- Do not move front sight post at this time. It was set at the factory or by a previous shooter and should be very close to your zero.

NOTE

- To remember your correct battlesight zero windage, note location of windage scale and windage knob pointer (heavy mark on outside of knob).
- Center the rear sight aperture by turning the windage knob left or right. (This is called mechanical zero windage.)
- By following the steps below and establishing a zero at 25 meters, your sights will be set with a 300-meter battlesight.

END OF TASK

Setting Battlesight Zero

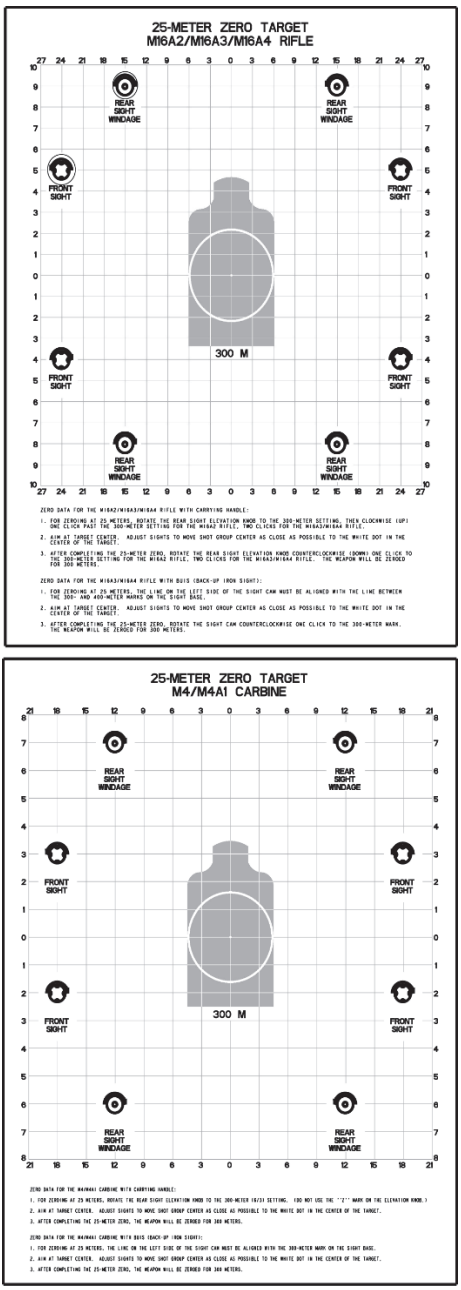


Figure 5. Zero Target.

Setting Battlesight Zero -- continued

NOTE

The unmarked long range aperture should be up.

1. Position a 25 Meter Zero Target (NSN 6920-01-482-0098) 25 meters from firing line. The rifle target (Figure 5) is on one side and the carbine target (Figure 5) is on the other side.

NOTE

- The elevation knob should stop on the 300-meter mark 8/3 on the M16A2 and 6/3 on the M16A3/A4/M4/M4A1.
- The rear sight should be all the way down on the last whole “click” before it bottoms out. This is mechanical zero for the rear sight.

2. Rotate elevation knob (Figure 6, Item 1) downward, counter-clockwise.

NOTE

- Take weapon to field maintenance if rear sight elevation does not line up with mechanical zero. 8/3 on the M16A2 or 6/3 on the M16A3/A4/M4/M4A1.
- The M4/M4A1 carbine should stay at the mechanical zero. Any further corrections required in elevation are made to the front sight post only.

3. Rotate the elevation knob (Figure 6, Item 1) clockwise one click up past the mechanical zero setting for the M16A2 and two clicks up for the M16A3/A4.

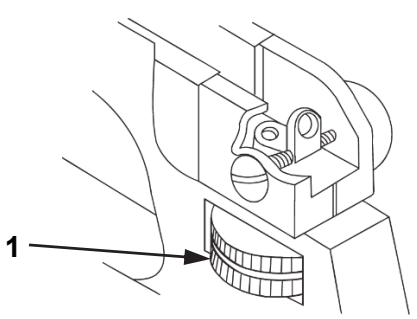


Figure 6. Range (0 – 200 meters).

Setting Battlesight Zero -- continued

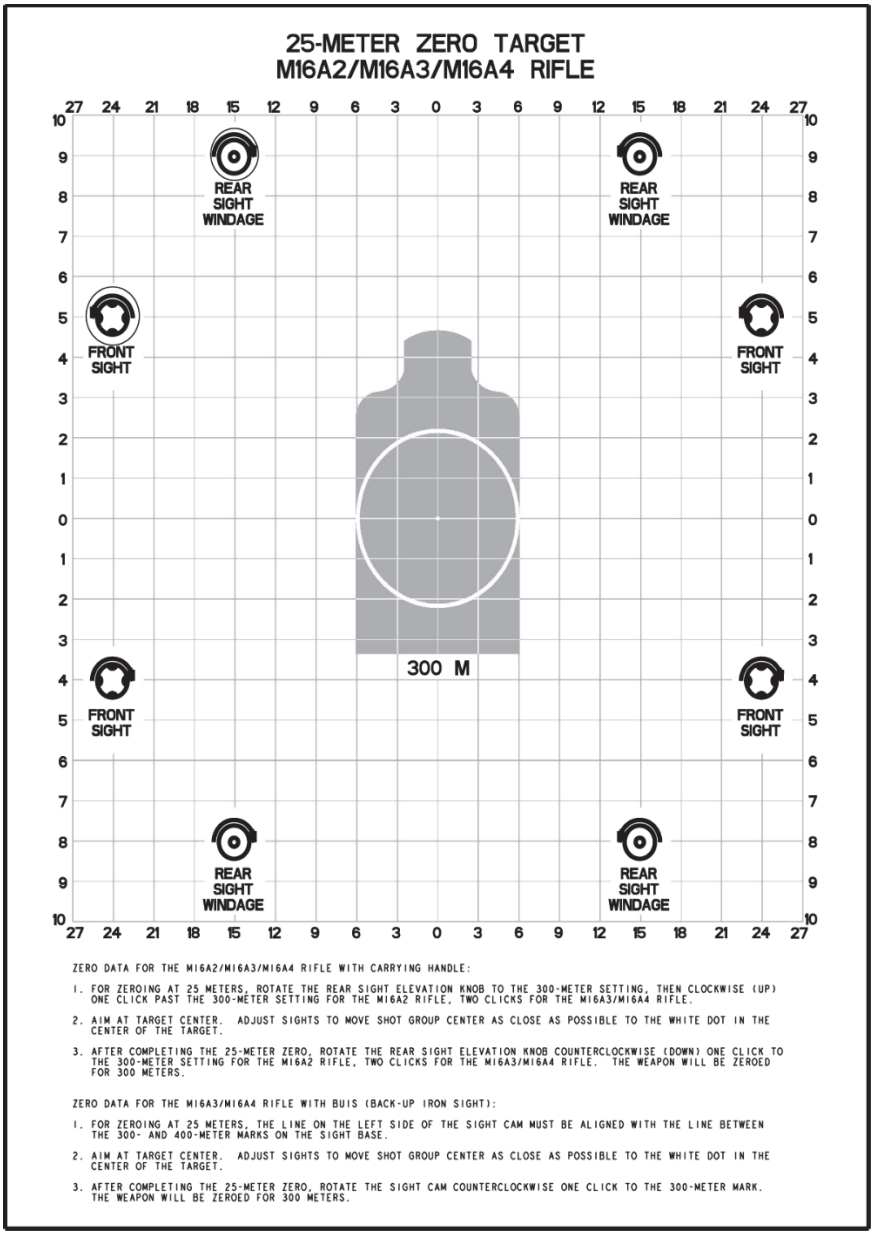


Figure 7. Zero Target.

Setting Battlesight Zero -- continued

4. Aim at target center (Figure 7). Adjust front sight and rear windage (Figure 8, Item 1) to move shot group center as close as possible to the white dot in the center of target (Figure 7).

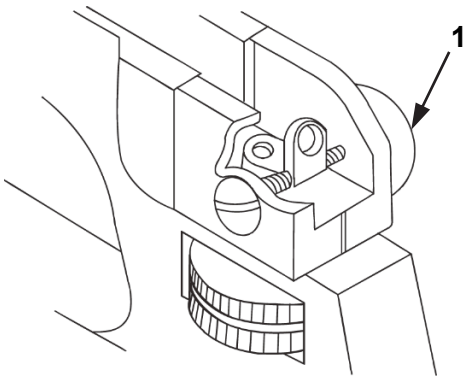


Figure 8. Range (0 – 200 meters).

NOTE

- If your shot group is not in the center of the bullseye, use the squares on the target sheet to calculate the required clicks necessary to move your next shot group into the bullseye. Remember, any changes in elevation are made by moving the front sight post. The squares are numbered around the edges of the target to equal the number of clicks required to move the shot group to the bullseye.

5. In order to raise your next shot group, rotate the front sight post clockwise. One click moves the strike of the bullet one vertical square on the target sheet. In order to lower your next shot group, rotate the front sight post counterclockwise, one click equals one square. Changes in windage are made with the windage knob. Three clicks move the strike of the bullet one horizontal square on the target sheet. In order to move the shot group to the left, turn the windage knob counterclockwise. In order to move the shot group to the right, turn the windage knob clockwise.

6. Carefully aim and fire another group at the center of the target bullseye (Figure 7).

Setting Battlesight Zero -- continued

7. Repeat Steps 4 through 6, if required.

NOTE

Rotate the rear sight elevation knob counterclockwise down one click to the 300-meter setting for the M16A2/M16A3 Rifle and down two clicks to the 300-meter setting for the M16A4 Rifle. The weapon is zeroed for 300 meters.

8. If your group is center, your weapon is now zeroed.

END OF TASK

RIFLES

Zeroing with Back-Up Iron Sight (BUIS)

1. To zero the M4/M4A1 Carbine, the line on the sight cam (Figure 9, Item 1) on the left side needs to align with the 300-meter mark (Figure 9, Item 2).

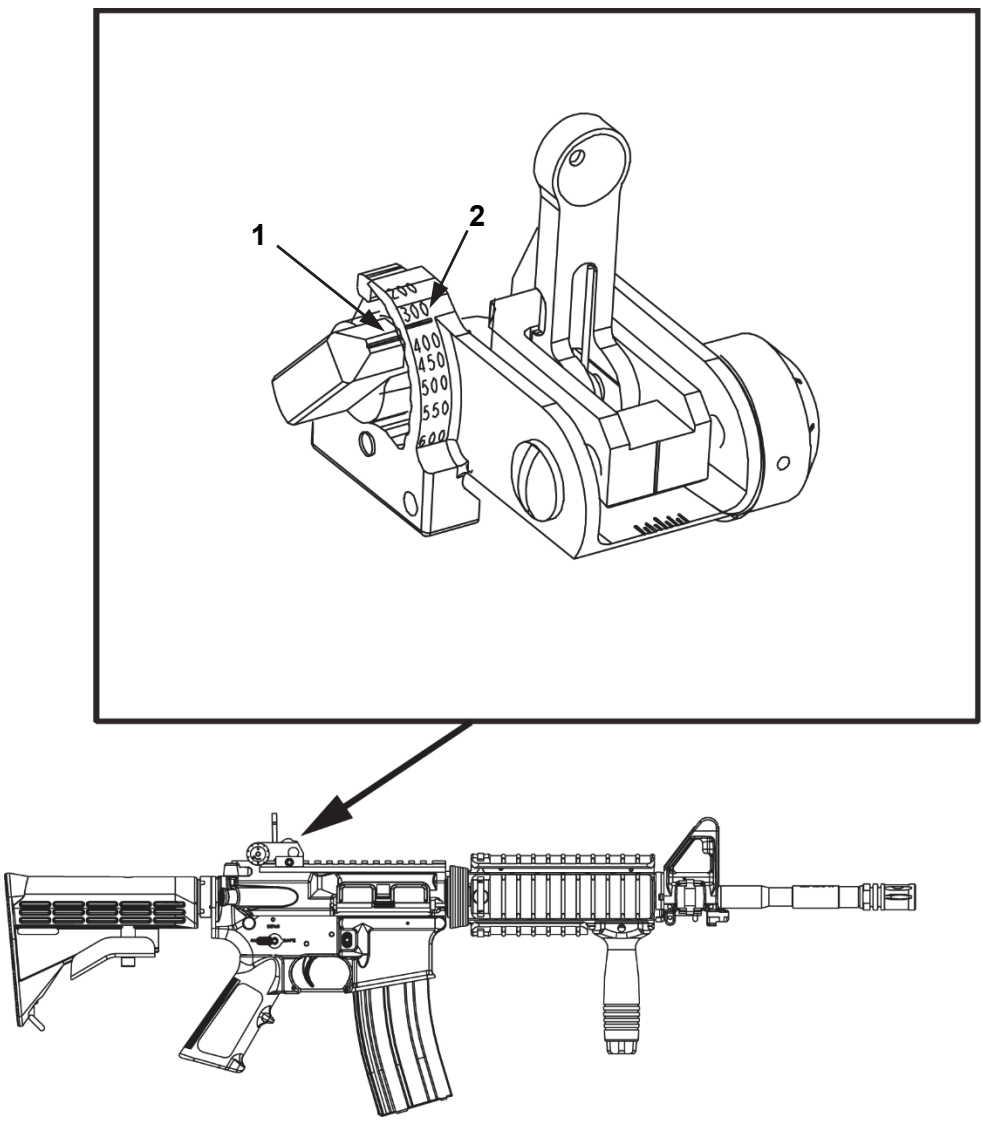


Figure 9. Backup Iron Sight (BUIS) Zero.

RIFLES – continued

Zeroing with Back-Up Iron Sight (BUIS)

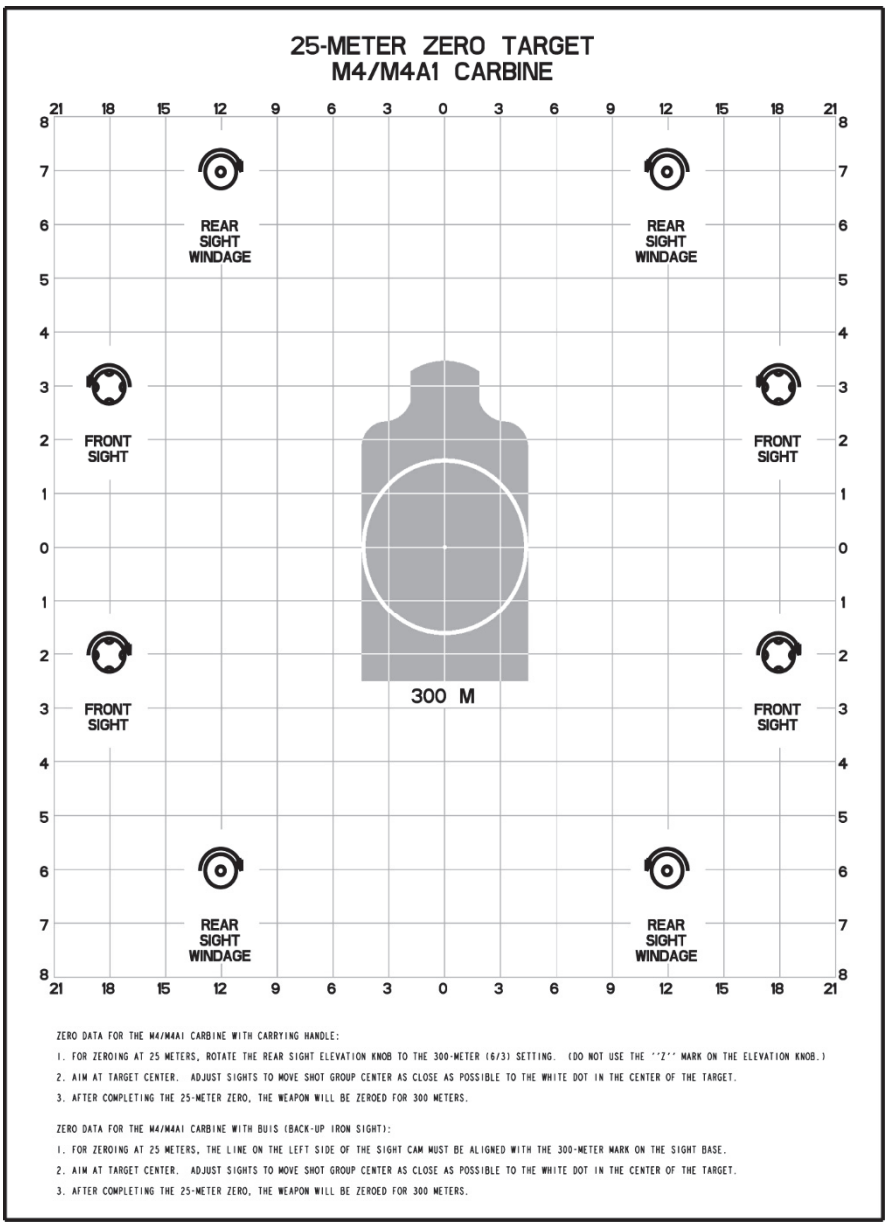


Figure 10. Zero Target.

RIFLES – continued

Zeroing with Back-Up Iron Sight -- continued

NOTE

- To zero the M16A4 Rifle, the line on the left side of the sight cam needs to align with the white line between the 300 - 400 meter zero target marks. The mark may be difficult to align as it is a half notch location.

- Use the 25 meter zero target for the M16A4 Rifle and center your rounds by adjusting the weapon's front sight post and the BUIS windage adjustment knob.

2. Use the 25 meter zero target (Figure 10) for the M4 Carbine and center your rounds by adjusting the weapon's front sight post (Figure 11, Item 2) and the BUIS windage adjustment knob (Figure 11, Item 1).

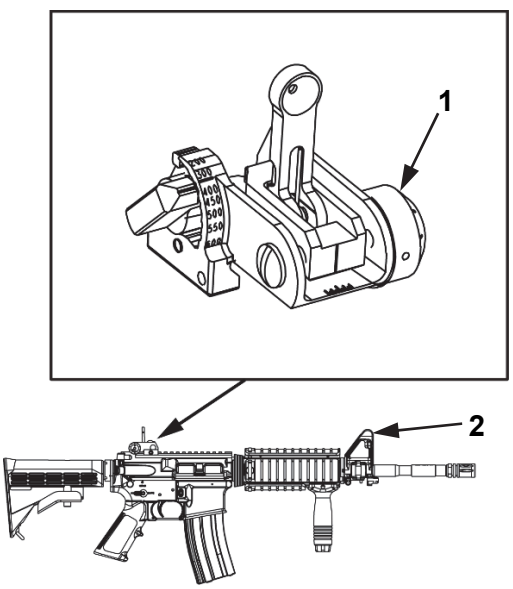


Figure 11. BUIS Zero.

END OF TASK

END OF WORK PACKAGE

OPERATOR MAINTENANCE
INSTALLATION OF EQUIPMENT

Initial Setup:

Tools and Special Tools
N/A

Personnel Required
1

Materials/Parts
Blank Firing Attachment, M152 Carbine
(WP 0022)
Blank Firing Attachment, M23 Rifle
(WP 0022)
Sling, Small Arms
(WP 0022)
Top Sling Adapter
(WP 0022)
Forward Pistol Grip Assembly
(WP 0022)

References
TM 9-1010-221-23&P
SW 370-AE-MMI-010

Equipment Condition
N/A

M15A2/M23 BLANK FIRING ATTACHMENT (BFA)

WARNING

- Always clear weapon before installation of blank firing attachment.
- Do not fire directly at anyone less than 20 feet away when using the blank firing attachment.
- Blank firing attachment shall be used only with M200 blank 5.56mm round.
- Failure to comply with above warnings may result in injury or death to personnel. Seek immediate medical attention if injury occurs.

M15A2/M23 BLANK FIRING ATTACHMENT (BFA) -- continued

CAUTION

- Do not use tools to tighten attachment. Hand tighten only.
- M23 BFA: Painted yellow, stamped “M4 Carbine Only”, for use with M4 and M4A1 Carbines.
- M15A2 BFA: Painted red, for use with M16A2/M16A3/ M16A4.
- Failure to comply with above cautions may result in damage to equipment.

NOTE

- Clean carbon buildup after every use.
- Check BFA for tightness after 50 rounds.

1. Unscrew and pull BFA slide (Figure 1) completely out.

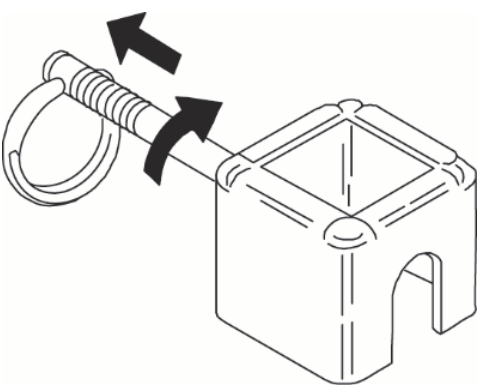


Figure 1. Blank Firing Attachment (BFA).

M15A2/M23 BLANK FIRING ATTACHMENT (BFA) -- continued

2. Slide BFA (Figure 2, Item 1) over compensator (Figure 2, Item 4) of weapon.

3. Hook arc opening (Figure 2, Item 2) of BFA (Figure 2, Item 1) behind first groove (Figure 2, Item 3) of compensator (Figure 2, Item 4).

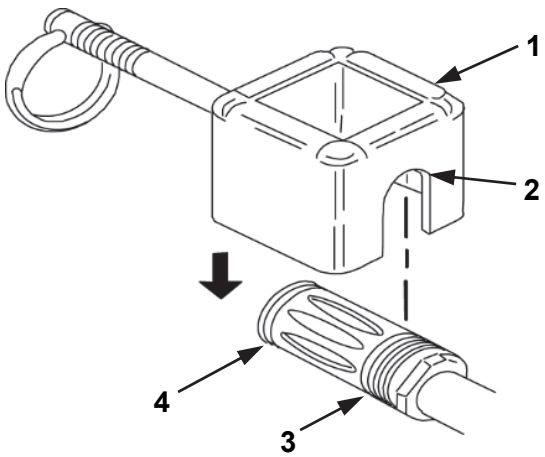


Figure 2. Install BFA.

4. Screw BFA slide (Figure 3, Item 1) slide into compensator (Figure 3, Item 2).

5. Hand tighten BFA slide (Figure 3, Item 1).

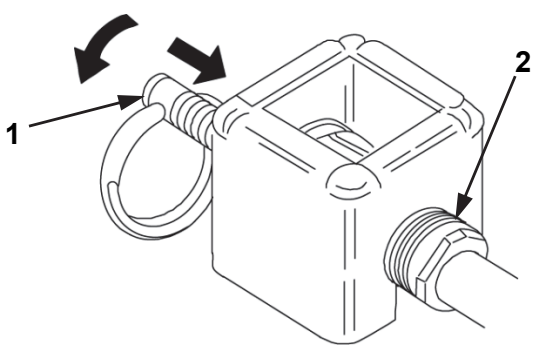


Figure 3. Tighten BFA.

END OF TASK

TOP SLING ADAPTER

Rifle

WARNING

Always clear weapon before installing top sling adapter.
Failure to comply may result in injury or death to personnel.
Seek immediate medical attention if injury occurs.

1. Install top sling adapter strap (Figure 4, Item 1) through sling swivel (Figure 4, Item 2) and tie.

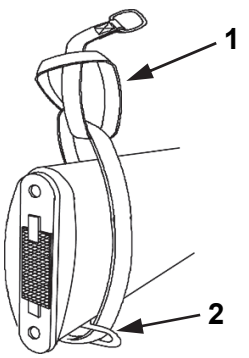


Figure 4. Rifle Buttstock.

2. Work the clamp (Figure 5, Item 3) on to the front sight base (Figure 5, Item 1) and spin so the loop (Figure 5, Item 2) is outward.

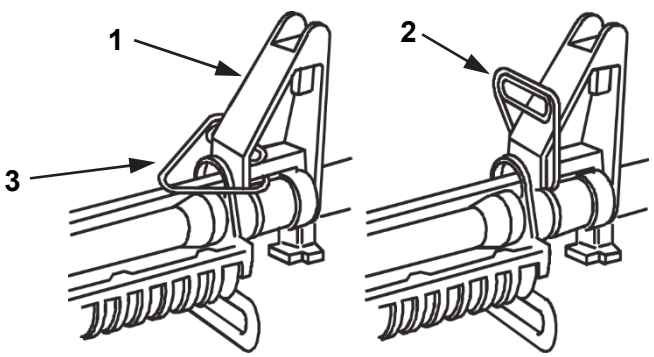


Figure 5. Front Sight.

TOP SLING ADAPTER -- continued

Rifle -- continued

3. Loop sling (Figure 6, Item 1) through the sling adapter strap (Figure 6, Item 3) in the rear and clamp (Figure 6, Item 2) in the front.

4. Tighten sling (Figure 6, Item 1).

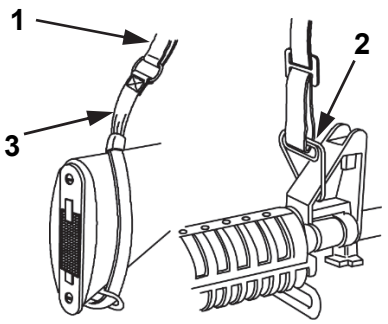


Figure 6. Attach Sling.

END OF TASK

Carbine

1. Install top sling adapter strap (Figure 7, Item 1) through sling opening (Figure 7, Item 2) and tie.

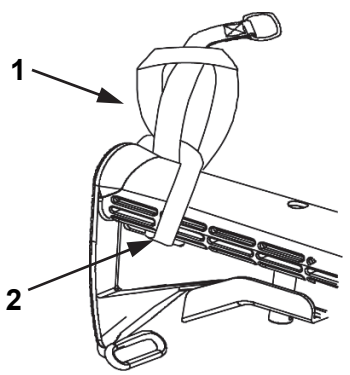


Figure 7. Carbine Buttstock.

TOP SLING ADAPTER -- continued

Carbine -- continued

NOTE

Figure 8 shows alternate carbine buttstock with alternate sling opening.

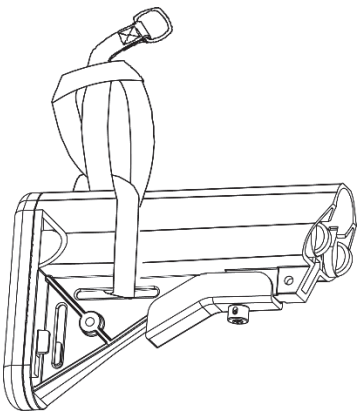


Figure 8. Carbine Enhanced Buttstock.

2. Work the clamp (Figure 9, Item 3) on to the front sight base (Figure 9, Item 1) and spin so the loop (Figure 9, Item 2) is outward.

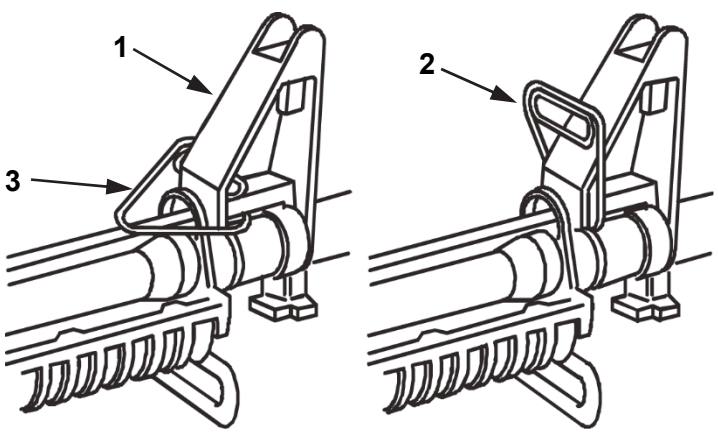


Figure 9. Front Sight.

TOP SLING ADAPTER – continued

Carbine -- continued

3. Loop sling (Figure 10, Item 2) through the sling adapter strap (Figure 10, Item 1) in the rear of the weapon and clamp (Figure 10, Item 3) in the front of the weapon.

4. Tighten sling (Figure 10, Item 2).

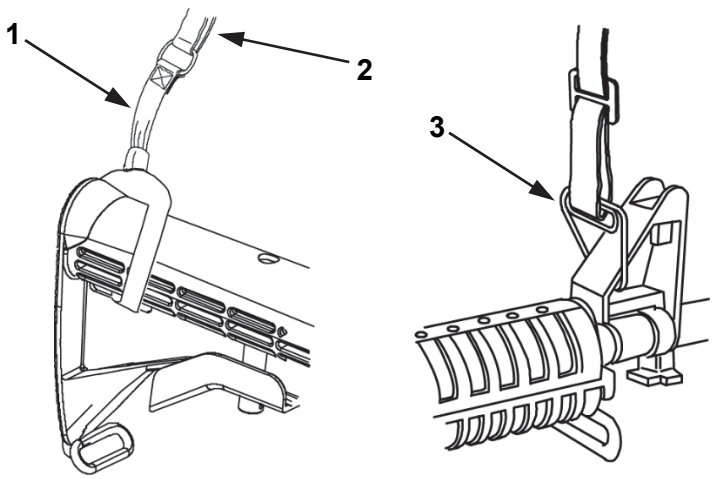


Figure 10. Attach Sling.

END OF TASK

REMOVE SLING ADAPTER

1. Remove sling (Figure 11, Item 2) from clamp (Figure 11, Item 3) and top sling adapter strap (Figure 11, Item 1).

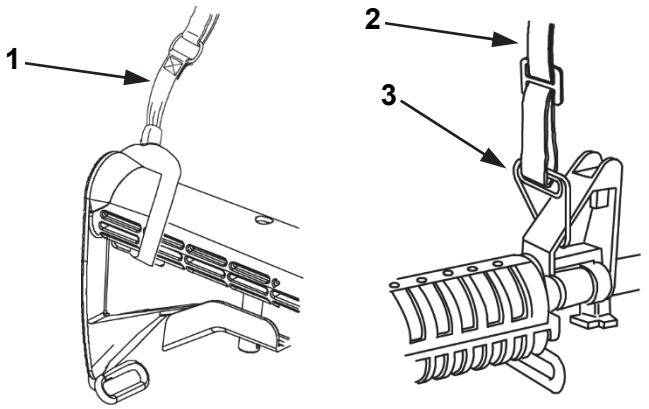


Figure 11. Remove Sling.

2. Remove clamp (Figure 12, Item 1) from front sight base (Figure 12, Item 2).

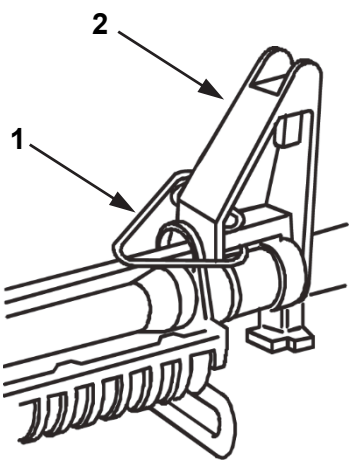


Figure 12. Remove From Front Sight.

REMOVE SLING ADAPTER -- continued

3. Untie top sling adapter strap (Figure 13, Item 1) and remove from buttstock (Figure 13, Item 2).

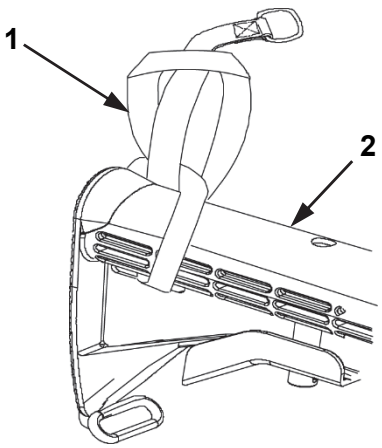


Figure 13. Remove From Buttstock.

5. Install sling (Figure 14, Item 1) in normal configuration.

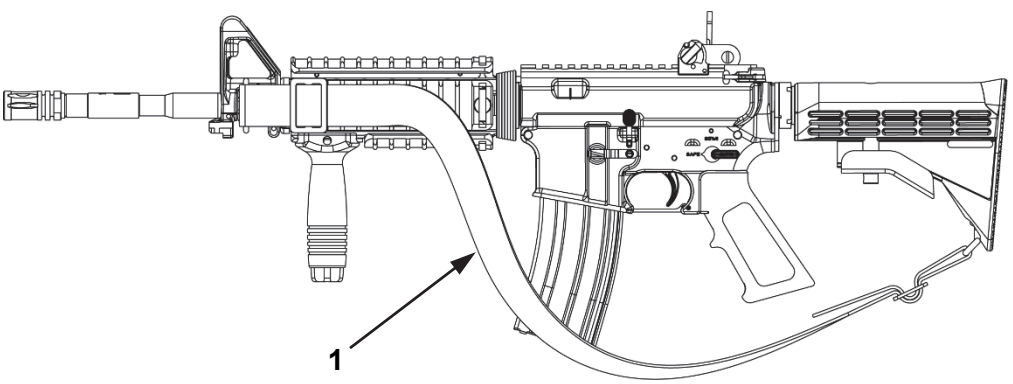


Figure 14. Attach Sling.

END OF TASK

SWIVEL MOUNT

The standard side sling adapter must be positioned so the sling swivel is to the right side of the swivel mount (Figure 15) in accordance with Army TM 9-1010-221-23&P and Navy SW 370-AE-MMI-010, Maintenance Manual for M203 Grenade Launcher, and TM 9-1010-232-23&P Maintenance Manual for M320 Grenade Launcher.

The side sling adapter should be attached with the integral stop to the rear allowing the swivel to fold towards the compensator. This will allow accessories to be installed on the rails of the weapon. Side sling adapter may also be positioned to the right side to accommodate left handed operators.

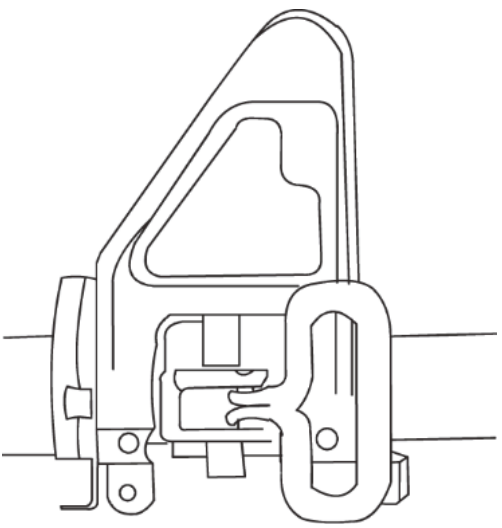


Figure 15. Swivel Mount.

END OF TASK

FORWARD PISTOL GRIP

WARNING

- When installing forward pistol grip in different positions, experiment with different lengths of rail covers around the forward pistol grip to fully cover and protect the rail surface and keep the operator's hand from contact with metal parts of the rail.
- Ensure weapon is always pointed in a safe direction.
- Failure to comply with above warning may result in injury to personnel. Seek immediate attention if injury occurs.

NOTE

Rail covers will only lock into the end slots on the rails.

1. Detach rail cover (Figure 16, Item 1) from rail (Figure 16, Item 2) where the forward pistol grip (Figure 16, Item 5) will be installed.

2. Unscrew forward pistol grip lock (Figure 16, Item 6) in bottom of forward pistol grip (Figure 16, Item 5) until the upper tip (Figure 16, Item 3) rests below the surface.

3. Slide the forward pistol grip (Figure 16, Item 5) on to the adapter rail (Figure 16, Item 2) from the muzzle end (Figure 16, Item 4) of the weapon.

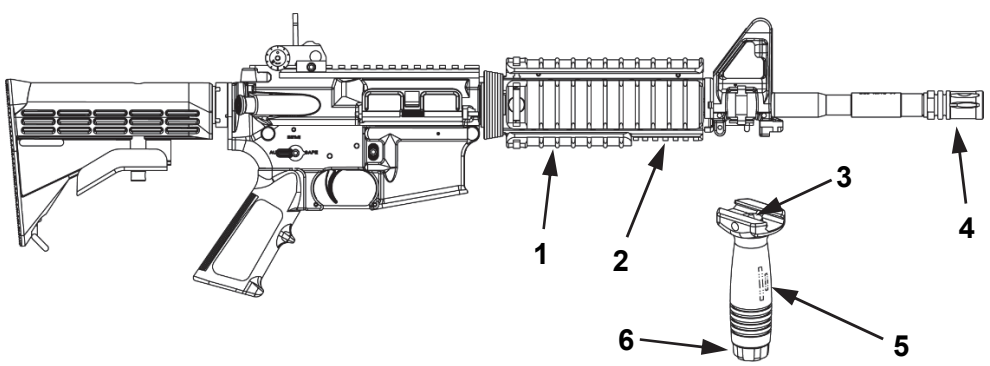


Figure 16. Install Forward Pistol Grip.

FORWARD PISTOL GRIP -- continued

CAUTION

Align the upper tip of the forward pistol grip with a rail slot so the forward pistol grip can be properly tightened on the adapter rail and the upper tip does not get damaged.

4. Hand tighten the forward pistol grip (Figure 17) on to the adapter rail. Look through the observation holes in the forward pistol grip (Figure 17) to ensure the upper tip is in a rail groove before tightening.

6. Install the proper sized rail covers for use with the forward pistol grip (Figure 17).

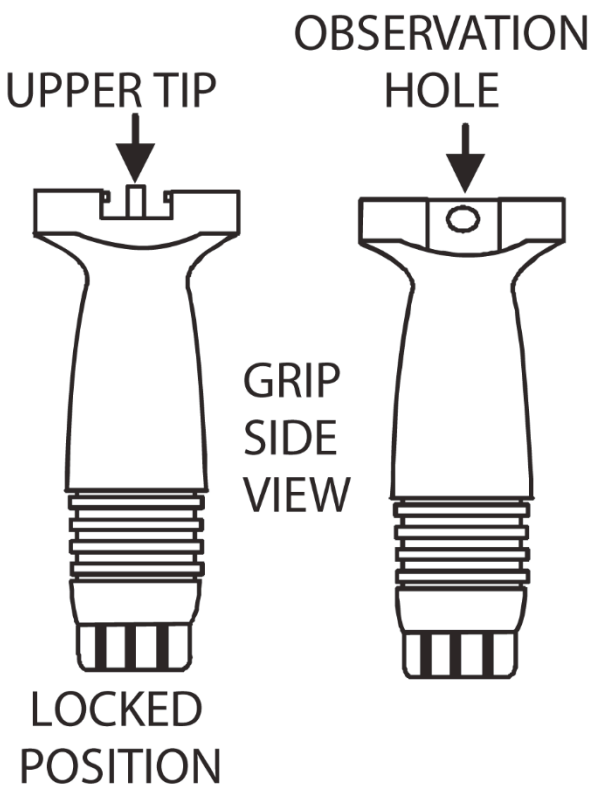


Figure 17. Forward Pistol Grip.

FORWARD PISTOL GRIP -- continued

7. **Rifle only.** Install 9-rib rail cover (Figure 18, Item 1) then forward pistol grip (Figure 18, Item 3) then a 6-rib cover on the lower adapter rail (Figure 18, Item 2). Forward pistol grip (Figure 18, Item 3) can also be installed on the muzzle end of the rail.

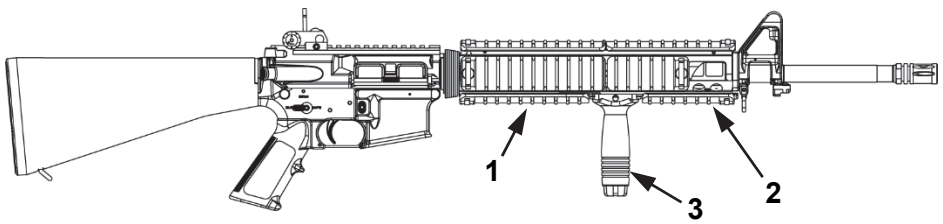


Figure 18. Rifle Forward Pistol Grip.

7. **Carbine only.** Install 6-rib rail cover (Figure 19, Item 2) and then the forward pistol grip (Figure 19, Item 1) on the lower adapter rail.

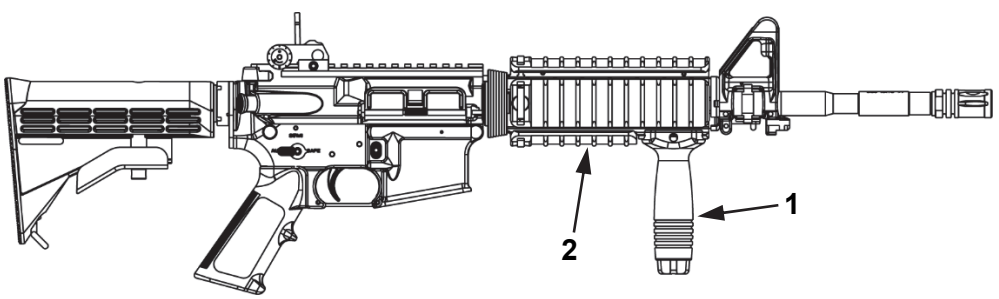


Figure 19. Carbine Forward Pistol Grip.

END OF TASK

CLEANING AND INSPECTION OF THE FORWARD PISTOL GRIP

Weekly Cleaning

NOTE

The shaft and threads of the forward pistol grip are self-lubricating and should not require lubrication.

1. Unscrew forward pistol grip lock (Figure 20, Item 6) on bottom of forward pistol grip (Figure 20, Item 5) until upper tip (Figure 20, Item 3) disengages from rail slot (Figure 20, Item 2).

2. Slide forward pistol grip (Figure 20, Item 5) off rail (Figure 20, Item 2) towards the muzzle (Figure 20, Item 4).

3. Clean the lock and base (Figure 20, Item 6) (including internal threads).

4. Clean rail surface (Figure 20, Item 2) under the forward pistol grip (Figure 20, Item 5) and rail covers (Figure 20, Item 1).

5. Lightly lubricate the rail surfaces (Figure 20, Item 2) but not the forward pistol grip (Figure 20, Item 5).

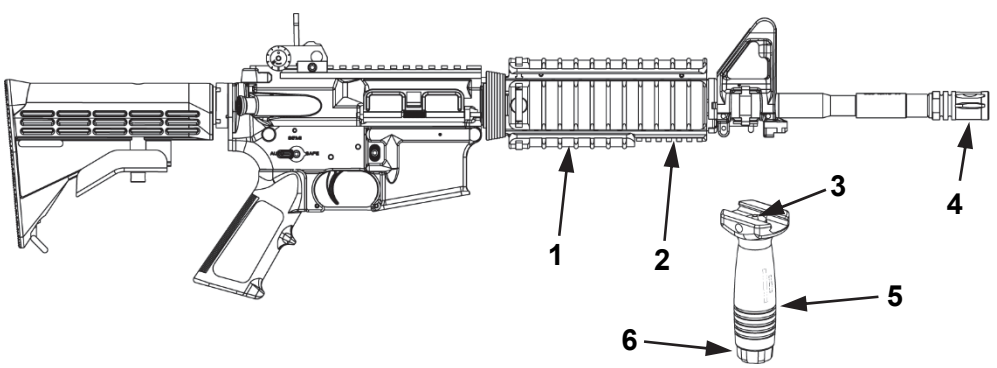


Figure 20. Forward Pistol Grip.

END OF TASK

END OF WORK PACKAGE

CHAPTER 3

OPERATOR TROUBLESHOOTING PROCEDURES

OPERATOR MAINTENANCE
TROUBLESHOOTING INDEX

GENERAL

Troubleshooting procedures are limited to those listed in the troubleshooting symptom index. Possible malfunctions are listed in cycle of function order with a page number reference to the symptom table where a test or inspection and corrective action are provided.

This manual cannot list all malfunctions that may occur nor all tests or inspections and connective actions. If a malfunction is not listed or is not corrected by listed corrections actions, notify next higher level maintenance.

SYMPTOM INDEX

END OF WORK PACKAGE

OPERATOR MAINTENANCE
TROUBLESHOOTING PROCEDURES

Initial Setup:

Tools and Special Tools
N/A

Materials/Parts
N/A

Personnel Required
1

References
WP 0005
WP 0014
WP 0015
WP 0017
WP 0018
WP 0019
WP 0021

Equipment Condition
Misfire procedures have been performed.
(WP 0005)

WARNING

- Keep clear of muzzle when inspecting malfunctions.
- Ensure weapon is always pointed in a safe direction.
- Failure to comply may result in injury or death to personnel. Seek immediate medical attention if injury occurs.

SYMPTOM

Weapon will not fire.

MALFUNCTION

Selector lever on SAFE.

CORRECTIVE ACTION

Place selector lever in firing position (WP 0005).

MALFUNCTION

Improper installation of firing pin.

CORRECTIVE ACTION

Install firing pin correctly with retaining pin behind large shoulder of firing pin (WP 0018).

MALFUNCTION

Excess oil in firing pin recess.

CORRECTIVE ACTION

Clean firing pin recess (WP 0015).

MALFUNCTION

Excess carbon on firing pin or in recess.

CORRECTIVE ACTION

Clean firing pin and recess (WP 0015).

MALFUNCTION

Damaged firing pin.

CORRECTIVE ACTION

Notify Field Maintenance

MALFUNCTION

Defective ammunition.

CORRECTIVE ACTION

Discard and replace ammunition (WP 0019).

MALFUNCTION

Light indentation on round primer.

CORRECTIVE ACTION

Notify Field Maintenance.

SYMPTOM

Bolt will not unlock.

MALFUNCTION

Dirty or burred bolt.

CORRECTIVE ACTION

Notify Field Maintenance.

SYMPTOM

Weapon will not feed.

MALFUNCTION

Dirty or corroded ammunition.

CORRECTIVE ACTION

Clean or replace ammunition (WP 0019).

MALFUNCTION

Dirty magazine.

CORRECTIVE ACTION

Clean magazine (WP 0014).

MALFUNCTION

Defective magazine.

CORRECTIVE ACTION

Replace magazine (WP 0021).

MALFUNCTION

Overloaded magazine.

CORRECTIVE ACTION

Remove excess rounds (WP 0005).

MALFUNCTION

Buffer assembly action is restricted.

CORRECTIVE ACTION

Clean buffer and spring (WP 0015).

MALFUNCTION

Magazine not fully seated.

CORRECTIVE ACTION

Tap on magazine or adjust magazine catch (WP 0005).

SYMPTOM

Double feed.

MALFUNCTION

Defective magazine.

CORRECTIVE ACTION

Replace magazine (WP 0021).

SYMPTOM

Round will not chamber.

MALFUNCTION

Dirty or corroded ammunition.

CORRECTIVE ACTION

Clean or replace ammunition (WP 0019).

MALFUNCTION

Damaged ammunition.

CORRECTIVE ACTION

Replace ammunition (WP 0019).

MALFUNCTION

Carbon in chamber or gas tube.

CORRECTIVE ACTION

Clean chamber or gas tube (WP 0015).

MALFUNCTION

Weak action spring.

CORRECTIVE ACTION

Notify Field Maintenance.

SYMPTOM

Bolt will not lock.

MALFUNCTION

Dirt, corrosion, or carbon in barrel or bolt locking lugs.

CORRECTIVE ACTION

Clean bolt locking lugs and chamber (WP 0015).

SYMPTOM

Bolt will not extract round.

MALFUNCTION

Frozen extractor.

CORRECTIVE ACTION

Remove bolt and clean extractor (WP 0015).

MALFUNCTION

Restricted buffer assembly.

CORRECTIVE ACTION

Clean buffer and spring (WP 0015).

MALFUNCTION

Restricted movement of bolt carrier group.

CORRECTIVE ACTION

Remove, clean, and lubricate bolt (ensure gas tube fits into carrier key and moves freely) (WP 0015).

MALFUNCTION

Dirty or corroded ammunition.

CORRECTIVE ACTION

Clean or replace ammunition (WP 0019).

MALFUNCTION

Dirty chamber.

CORRECTIVE ACTION

Clean chamber (WP 0015).

MALFUNCTION

Cartridge stuck.

CORRECTIVE ACTION

Push cartridge out with cleaning rod (WP 0005).

MALFUNCTION

Broken or weak extractor spring.

CORRECTIVE ACTION

Notify Field Maintenance.

SYMPTOM

Short recoil.

MALFUNCTION

Gaps in bolt rings not staggered.

CORRECTIVE ACTION

Spin bolt rings to stagger gaps (WP 0018).

MALFUNCTION

Carbon or dirt in carrier key or on gas tube.

CORRECTIVE ACTION

Clean carrier key and gas tube (WP 0015).

MALFUNCTION

Broken or missing bolt rings (three rings required).

CORRECTIVE ACTION

Notify Field Maintenance.

MALFUNCTION

Obstruction in carrier key.

CORRECTIVE ACTION

Notify Field Maintenance.

SYMPTOM

Bolt fails to lock after last round.

MALFUNCTION

Dirty or corroded bolt latch.

CORRECTIVE ACTION

Clean bolt latch (WP 0015).

MALFUNCTION

Faulty magazine

CORRECTIVE ACTION

Replace magazine (WP 0021).

SYMPTOM

Selector lever binds.

MALFUNCTION

Overly dry selector lever.

CORRECTIVE ACTION

Lubricate selector lever (WP 0017).

MALFUNCTION

Dirt or sand under trigger.

CORRECTIVE ACTION

Clean trigger assembly (WP 0015).

SYMPTOM

Bolt carrier hung up.

MALFUNCTION

CAUTION

Bolt may slam forward when removing rounds.

Round jammed between bolt and upper receiver and/or double feed.

CORRECTIVE ACTION

Remove magazine and remove rounds (WP 0005).

Notify Field Maintenance if rounds cannot be removed.

END OF WORK PACKAGE

CHAPTER 4

PREVENTATIVE MAINTENANCE CHECKS AND SERVICES (PMCS)

OPERATOR MAINTENANCE
PREVENTATIVE MAINTENANCE CHECKS AND SERVICES (PMCS) INTRODUCTION

SCOPE

The Preventative Maintenance Checks and Services (PMCS) table (WP 0013) provides easy access to the schedule of checks and services for the M16A2, M16A3, and M16A4 Rifles and the M4 and M4A1 Carbines. Service intervals are periods of time within which the equipment must be checked and serviced to maintain full operation and reduce failures. PMCS must be performed to ensure the M16A2, M16A3, and M16A4 Rifles and the M4 and M4A1 Carbines are in good operating condition and are ready for their primary mission.

WARNINGS AND CAUTIONS

Always observe the **WARNINGS** and **CAUTIONS** appearing in the PMCS table. These warnings and cautions must be observed to prevent injury or death to personnel and damage to equipment. **WARNINGS** and **CAUTIONS** appear before applicable procedures.

RECORDS

Prepare PMCS entries and results on DA Form 5988-E or DA 2404, Equipment Inspection and Maintenance Worksheet.

EXPLANATION OF PMCS TABLE ENTRIES

Item No. Column

Numbers in this column are for reference only. When completing DA Form 2404 (Equipment Inspection and Maintenance Record) and/or DA Form 5988-E (Equipment Inspection and Maintenance Record) do PMCS for the intervals listed in the sequence described in accordance with DA PAM 750-8 Army Maintenance Management System (TAAMS) Users Manual.

Interval Column

This column lists the designated interval for performing the procedure on the item. Be sure to complete the appropriate maintenance forms whenever a check, test, or service is performed. There are three intervals list: Before, During, and After operation of the M16A2, M16A3, and M16A4 Rifles and the M4 and M4A1 Carbines.

BEFORE – just before using the M16A2, M16A3, and M16A4 Rifles and the M4 and M4A1 Carbines for a mission.

DURING - while the M16A2, M16A3, and M16A4 Rifles and the M4 and M4A1 Carbines are being used.

AFTER – right after the M16A2, M16A3, and M16A4 Rifles and the M4 and M4A1 Carbines are taken out of mission mode.

Item to Be Checked or Serviced Column
This column provides the location and the item to be checked or serviced.

Procedure Column

This column gives the procedure used to check or service the item listed in the Item to be Checked or Serviced column to know if the equipment is ready or available for its intended mission or for operation. The procedure must be done at the time stated in the Interval column. No scheduled maintenance is required by dedicated maintenance level maintainers.

NOTE

Damaged accessory items do not cause the entire end item to be “not fully mission capable”. However, the damaged item should be replaced as soon as practical to restore full capability of the M16A2, M16A3, and M16A4 Rifles and the M4 and M4A1 Carbines.

Equipment Not Ready/Available If Column

Information in this column contains criteria that will cause the equipment from being capable of performing its primary mission. If check and service procedures show faults listed in this column, do not operate the equipment. Follow standing operating procedures for maintaining the equipment or reporting equipment failure.

END OF WORK PACKAGE

OPERATOR MAINTENANCE
PREVENTATIVE MAINTENANCE CHECKS AND SERVICES (PMCS)

Initial Setup:

Tools and Special Tools
N/A

Materials/Parts
N/A

Personnel Required
1

References
WP 0007
WP 0015
WP 0017

Equipment Condition
N/A

WARNING

- Do not operate weapon if faults in this column are present. Faults in this column indicate the weapon is not mission capable. Follow standard procedures for reporting or servicing equipment.
- The weapon must be cleared before inspecting, cleaning, disassembling, transporting, or storing to be considered safe.
- Ensure weapon is always pointed in a safe direction.
- Failure to comply with above warnings may result in injury or death to personnel. Seek immediate medical attention if injury occurs.

NOTE

An inactive weapon is a weapon stored in an arms room for a period of 90 days or more. PMCS must be performed on all inactive weapons every 90 days.

Table 1. Preventative Maintenance Checks and Services for M16A2, M16A3, M16A4 Rifles and M4 and M4A1 Carbines

ITEM NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/AVAILABLE IF:
1	BEFORE	Magazine	(1) Ensure magazine slips easily into magazine well. Locks in place. (2) Ensure magazine follower moves easily/spring has tension. (3) Check magazine lips and welds for damage. (4) Check magazine for corrosion and/or dirt.	(1) Magazine is distorted, hard to seat, and does not lock in place. (2) Magazine follower is stuck/spring is weak. (3) Magazine lips or welds are bent or broken. (4) Magazine corroded, rusted, or dirty.
2	BEFORE	Upper Receiver/ Barrel	Check barrel tightness (hand pressure only).	Barrel is loose.
3	BEFORE	Detachable Carrying Handle (M16A4/M4/ M4A1 if present).	(1) Check for missing/damaged parts. (2) Ensure handle mounts to rail. (3) Hand tighten handle nuts.	(1) Handle is damaged, or has missing parts. (2) Handle will not mount on rail. (3) Handle nuts will not tighten.

Table 1. Preventative Maintenance Checks and Services for M16A2, M16A3, M16A4 Rifles and M4 and M4A1 Carbines – continued

ITEM NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/AVAILABLE IF:
4	BEFORE	Sights (Zero Adjustment)	(1) Check sights for adjustment/ movement. (2) Return sights to zero setting after check	(1) Sights are damaged, missing, or cannot be adjusted. (2) Sights will not return to zero.
5	BEFORE	Magazine Catch	(1) Ensure catch holds magazine in place. (2) Press the magazine catch button to release the magazine.	(1) Catch does not hold magazine in place. (2) Catch does not release magazine when pressed.
6	BEFORE	Visual Inspection of entire weapon	(1) Look for missing or damaged parts. (2) Report missing or damaged parts to field maintenance.	(1) Parts are missing or damaged. (2) Parts are missing or damaged.
7	DURING	Periodic Inspection of entire weapon.	(1) Make sure weapon is clean and bore is free of foreign material. (2) Clean bore if foreign material is present in bore. (Refer to WP 0015).	(1) Foreign material found in bore. (2) Foreign material found in bore.

Table 1. Preventative Maintenance Checks and Services for M16A2, M16A3, M16A4 Rifles and M4 and M4A1 Carbines – continued

ITEM NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/AVAILABLE IF:
8	DURING	Service during firing.	Clean and lubricate weapon after firing approximately 200 rounds or at end of day.	Weapon is dirty or not lubricated.
9	AFTER	Service weapon/ equipment	(1) Disassemble weapon and magazine. (2) Clean and lubricate both. (Refer to WP 0015 and WP 0017.) (3) Report any damaged or missing parts to Field Maintenance.	(1) Parts are missing, damaged, or unserviceable. (2) Parts are missing, damaged, or unserviceable. (3) Parts are missing, damaged, or unserviceable.
10	AFTER	Function Check	Perform Function Check. (Refer to WP 0007).	Weapon fails.

END OF WORK PACKAGE

CHAPTER 5

OPERATOR MAINTENANCE INSTRUCTIONS

OPERATOR MAINTENANCE INSTRUCTIONS
DISASSEMBLY

Initial Setup:

Tools and Special Tools
Cleaning Rod
(WP 0023, Item 18)

Materials/Parts
N/A

Personnel Required
1

References
WP 0005

Equipment Condition
N/A

DISASSEMBLY

WARNING

- The weapon must be cleared before inspecting, cleaning, disassembling, transporting, or storing to be considered safe.
- Ensure weapon is always pointed in a safe direction.
- Failure to comply with above warnings may result in injury or death to personnel. See immediate medical attention if injury occurs.

1. Clear the weapon (WP 0005).
2. Remove sling.
3. Remove handguards or lower adapter rail.

CAUTION

DO NOT use a screwdriver or any other tool when removing handguards/lower rail as it may cause damage to the handguards/lower rail and/or slip ring.

DISASSEMBLY – continued

4. **Handguards.** Place the weapon on the buttstock (Figure 1, Item 3) and press down on the slip ring (Figure 1, Item 2) with both hands. Using the "buddy system", have another person pivot the handguards (Figure 1, Item 1) free.

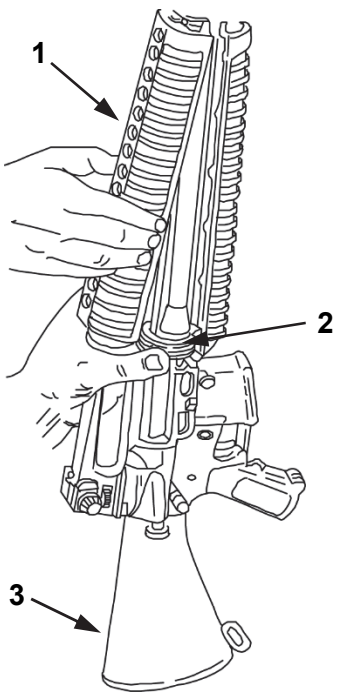


Figure 1. Remove Handguard.

DISASSEMBLY -- continued

NOTE

- The operator is only authorized to remove the lower adapter rail and rail covers for cleaning, lubrication, or attaching accessories.
- The adapter rails for the M16A4 rifle and M4 carbine series replaced the handguards.

5. **Lower Adapter Rail.** Place the weapon on the buttstock (Figure 2, Item 1).

6. Press down on the slip ring (Figure 2, Item 2).

7. Pivot lower rail away (Figure 2, Item 4) from weapon.

8. Pull lower rail (Figure 2, Item 4) back out of the forward handguard cap (Figure 2, Item 3).

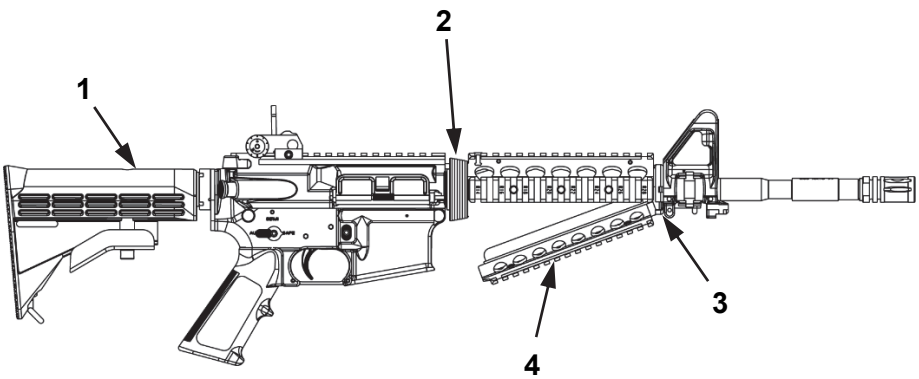


Figure 2. Remove Lower Rail.

DISASSEMBLY – continued

9. Push takedown pin (Figure 3, Item 2) left to right as far as it will go.

10. Pivot upper receiver (Figure 3, Item 1) from lower receiver (Figure 3, Item 3).

11. Push receiver pivot pin (Figure 3, Item 4) left to right as far as it will go.

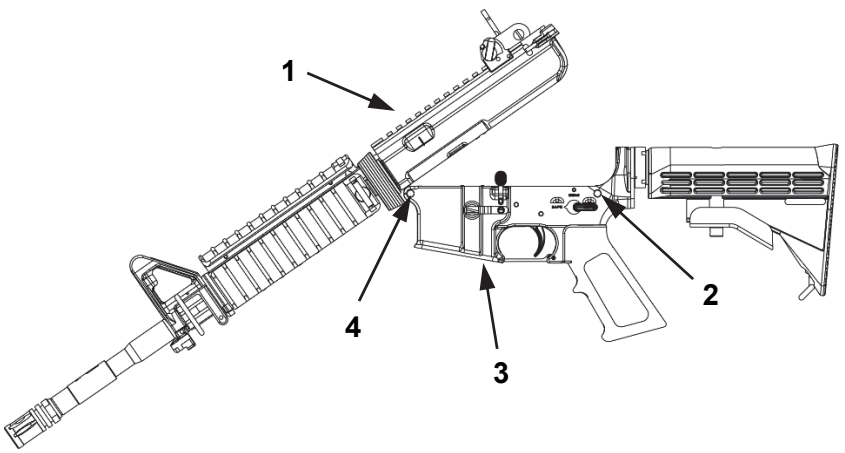


Figure 3. Remove Upper Receiver.

12. Separate upper and lower receivers. (Figure 4).

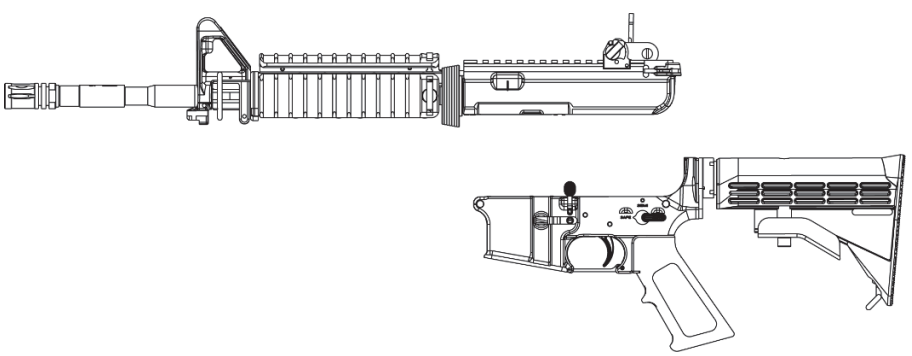


Figure 4. Separate Receivers.

DISASSEMBLY -- continued

13. Remove carrying handle (Figure 5) if applicable.

14. Loosen the screws (Figure 5, Item 2) on the left side of the clamping bar (Figure 5, Item 3) (DO NOT remove screws completely). The handle (Figure 5, Item 1) will lift off easily once the clamping bar (Figure 5, Item 3) is loose.

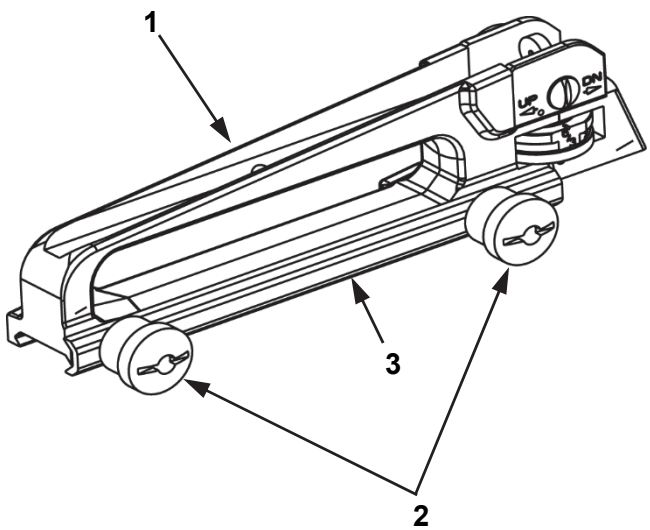


Figure 5. Removable Carrying Handle

DISASSEMBLY -- continued

15. Pull back charging handle (Figure 6, Item 1) and bolt carrier (Figure 6, Item 2).

16. Remove bolt and bolt carrier assembly (Figure 6, Item 2).

17. Remove charging handle (Figure 6, Item 1).

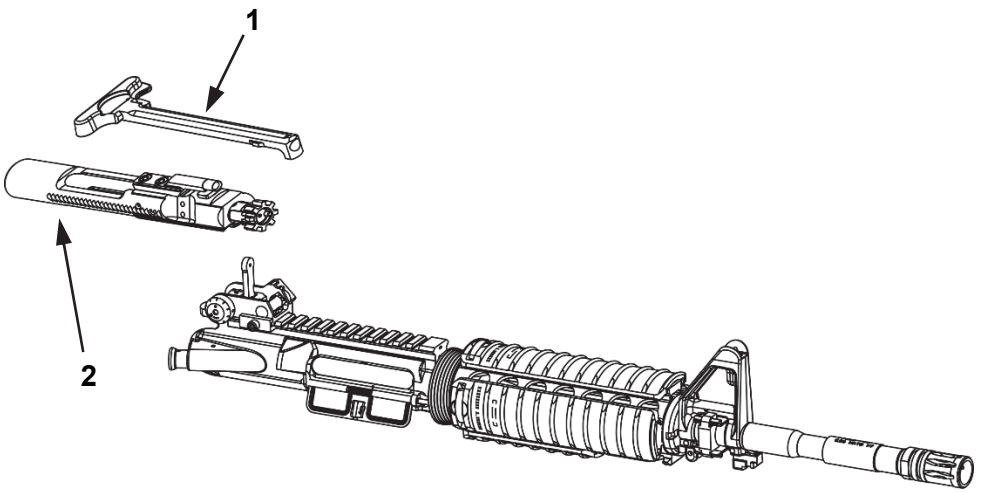


Figure 6. Charging Handle and Bolt Carrier.

DISASSEMBLY -- continued

18. Remove firing pin retaining pin (Figure 7, Item 2).

19. Push in bolt assembly (Figure 7, Item 4) to locked position.

20. Drop firing pin (Figure 7, Item 1) out of rear of bolt carrier (Figure 7, Item 5).

21. Remove bolt cam pin (Figure 7, Item 3) by giving it a ¼ turn and lifting out of the bolt carrier.

22. Remove bolt assembly (Figure 7, Item 4) from carrier (Figure 7, Item 5).

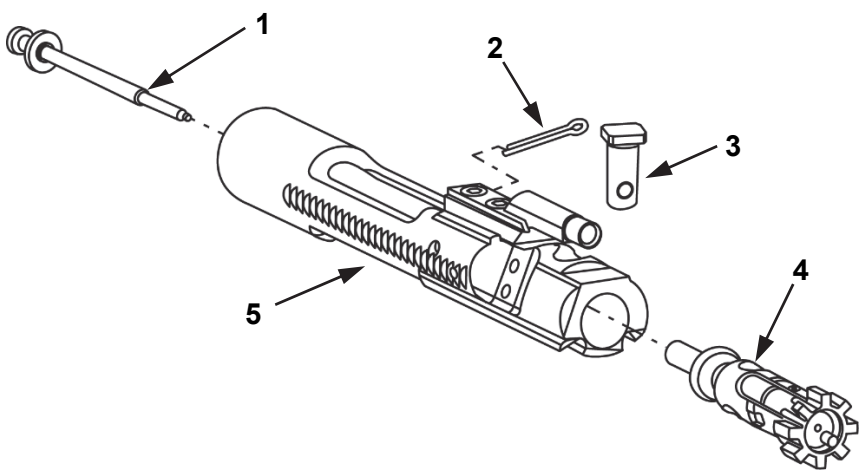


Figure 7. Bolt and Bolt Carrier Assembly.

DISASSEMBLY -- continued

CAUTION

- If spring assembly is removed, it must be replaced by maintenance personnel.
- Do not separate spring assembly from extractor.
- Failure to comply with above cautions may result in damage to equipment.

NOTE

Disassemble using steps 23 thru 29 only when dirty or damaged.

23. Remove extractor pin (Figure 8, Item 1).

NOTE

- Press rear of extractor before removing to check spring function.
- Notify Field Maintenance if spring is damaged or missing.

24. Remove extractor and spring assembly (Figure 8, Item 3) from bolt (Figure 8, Item 2).

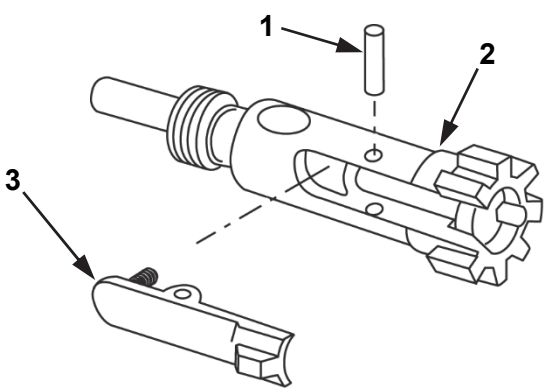


Figure 8. Remove Extractor

DISASSEMBLY -- continued

25. Press in buffer (Figure 9, Item 1), depress retainer (Figure 9, Item 2), and release buffer (Figure 9, Item 1).

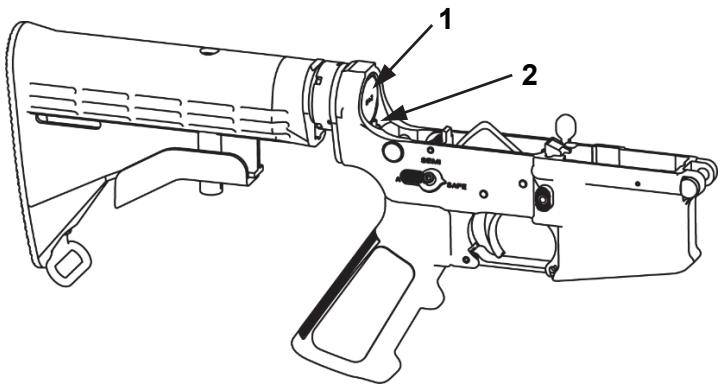


Figure 9. Buffer Retainer.

26. Remove buffer (Figure 10, Item 2) and action spring (Figure 10, Item 1).

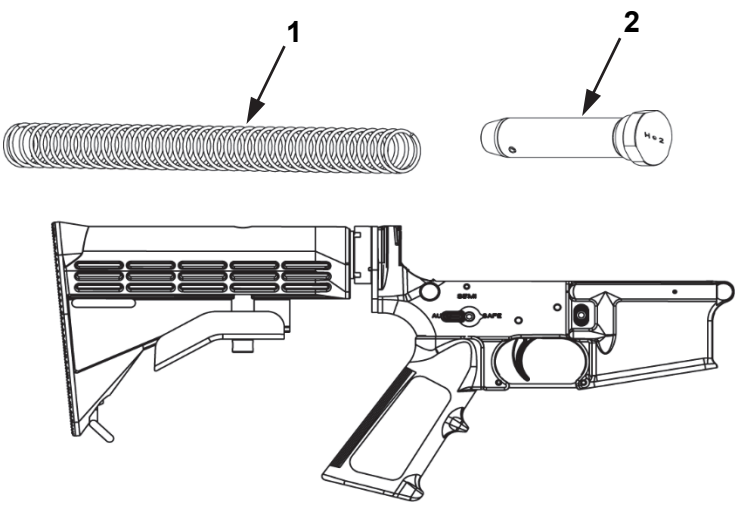


Figure 10. Buffer and Action Spring.

DISASSEMBLY -- continued

27. **Carbine.** Fully extend buttstock assembly (Figure 11, Item 1).

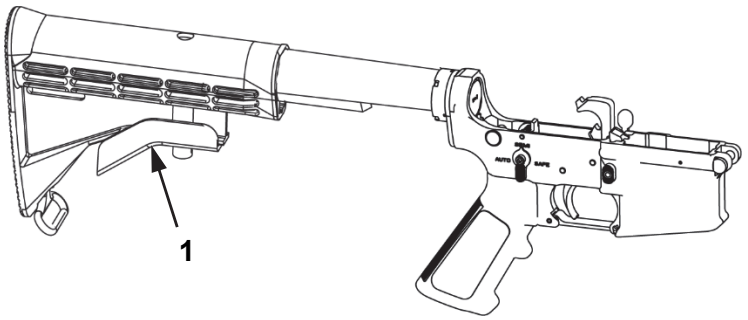


Figure 11. Buttstock Extended.

28. Grasp the lock release lever (Figure 12, Item 4), in the area of the retaining nut (Figure 12, Item 3).

29. Pull downward and slide buttstock (Figure 12, Item 1) rearward to separate the buttstock assembly (Figure 12, Item 1) from the lower receiver extension (Figure 12, Item 2).

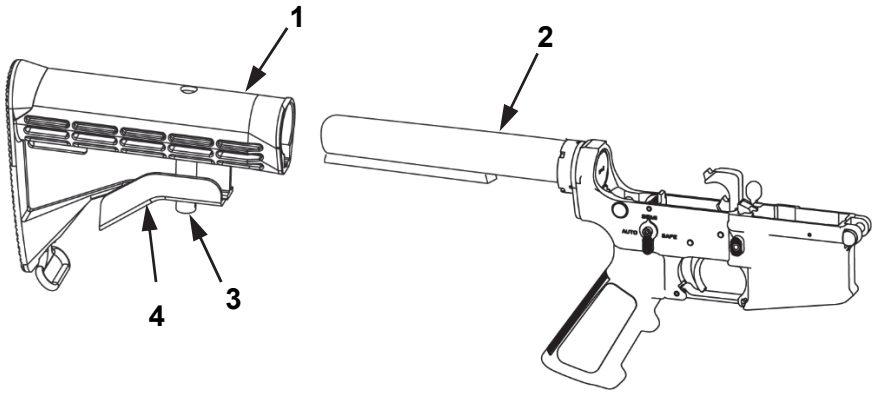


Figure 12. Buttock Removed.

NOTE

No further disassembly allowed for carbine.

END OF TASK

DISASSEMBLY -- continued

Removal of Rail Adapter Covers

- Rail covers quickly detach and attach to adapter rails.
- Rail covers have a retaining clip at the end of each handguard section that automatically engages a slot at either end of all the rail sections.

Remove cover (Figure 13, Item 1) by pushing in on the middle of retaining clip (Figure 13, Item 2) and sliding cover (Figure 13, Item 1) off the rail end closest to the clip (Figure 13, Item 2).

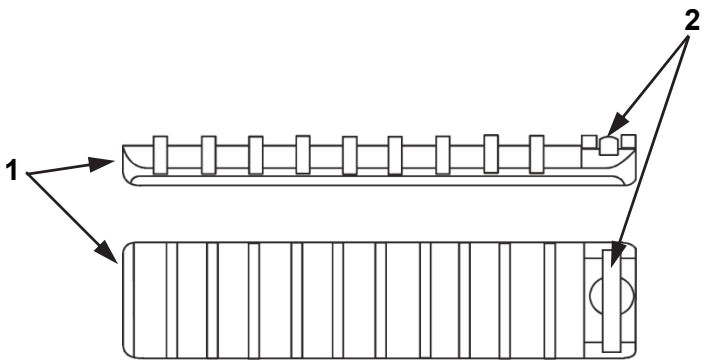


Figure 13. Rail Cover.

END OF TASK

DISASSEMBLY -- continued

Magazine

WARNING

- Parts under spring tension may become projectiles when released. Exercise care when removing or installing spring loaded components.
- Failure to comply may result in injury to personnel or damage to components.
- Wear adequate eye protection and seek medical assistance at once if injury occurs.

1. Release base catch (Figure 14, Item 3) with the end of a cleaning rod.

2. Remove base (Figure 14, Item 2).

3. Jiggle spring (Figure 14, Item 4) and follower (Figure 14, Item 1) to remove the spring and follower.

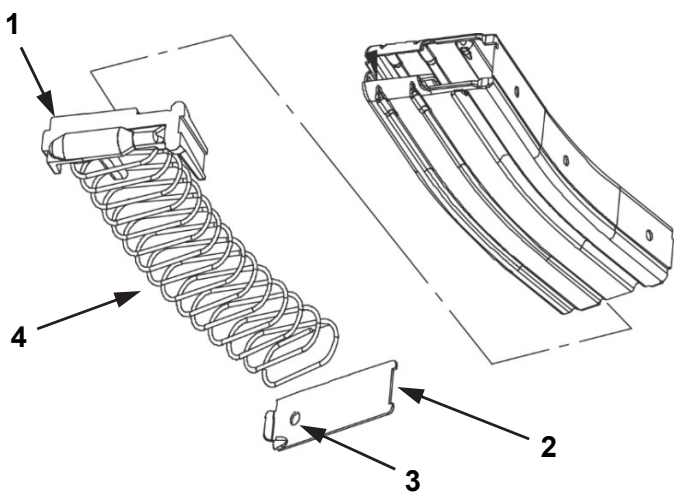


Figure 14. Magazine.

END OF TASK

END OF WORK PACKAGE

OPERATOR MAINTENANCE INSTRUCTIONS
CLEANING

Initial Setup:

Tools and Special Tools
- Cleaning Rod (WP 0023, Item 18)
- Handle (WP 0023, Item 14)
- Bore Brush (WP 0023, Item 3)
- Chamber Brush (WP 0023, Item 4)
- Swab Holder (WP 0023, Item 19)
- Small Arms Cleaning Brush (WP 0023, Item 5)

Materials/Parts
- RBC-Rifle Bore Cleaner (WP 0023, Item 9)
- Wiping Rags (WP 0023, Item 17)
- CLP (WP 0023, Item 7)

Materials/Parts -- continued
- LSA (WP 0023, Item 16)
- LAW (WP 0023, Item 15)
- Pipe Cleaner (WP 0023, Item 8)
- Cleaning Swab (WP 0023, Item 20)
- Dry Cleaning Solvent (WP 0023, Item 12)

Personnel Required
1

References
N/A

Equipment Condition
N/A

WARNING

- Always clear the weapon before cleaning.
- Ensure weapon is always pointed in a safe direction.
- Failure to comply with above warnings may result in injury or death to personnel. Seek immediate medical attention if injury occurs.

CAUTION

- Do not mix parts of one weapon with other weapons. Parts are not interchangeable.
- Do not use hot water, or other solvents, or lubricant that has been building up as a result of using CLP will be washed away.
- Failure to comply with above cautions may result in damage to equipment.

GENERAL

CAUTION

Do not mix lubricants on the same weapon. Failure to comply may result in malfunction or damage to equipment.

The term Cleaner, Lubricant, and Preservative (CLP) in this TM is to be interpreted to mean that CLP, Lubricant, Small Arms (LSA), and Lubricant, Arctic Weapons (LAW) can be utilized as applicable. The weapon must be thoroughly cleaned during change from one lubricant to another using dry cleaning solvent (SD).

CLEANING

Supplies

NOTE

- Always shake CLP before using.
- Cleaning materials (swabs, pipe cleaners, and CLP) are expendable items available from supply.

Cleaning gear (Figure 1, Item 1) can be stored in buttstock (Figure 1, Item 2) of M16 Rifles.

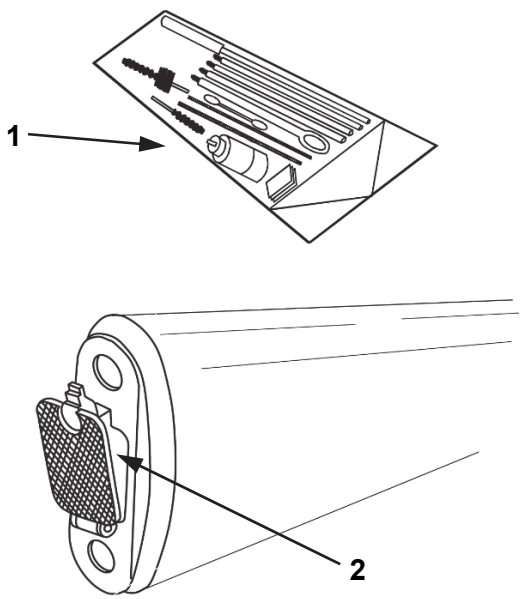


Figure 1. Cleaning Gear.

END OF TASK

CLEANING -- continued

Bore

1. Disassemble weapon (WP 0014).

NOTE

- The bore of the weapon has lands and grooves called rifling. Rifling makes the bullet spin very fast as it moves down the bore and down range. Because the rifling twists so quickly, it is difficult to push a new, stiff bore brush through the bore. You will find it easier to pull your bore brush through the bore.

- The bore brush will clean better if the bristles follow the grooves (called tracking), allow the bore brush to turn as you pull the bore brush

2. Attach three cleaning rods (Figure 2, Item 1) sections together.

3. Swab out the bore with a patch moistened with CLP or rifle bore cleaner rifle bore cleaner (RBC).

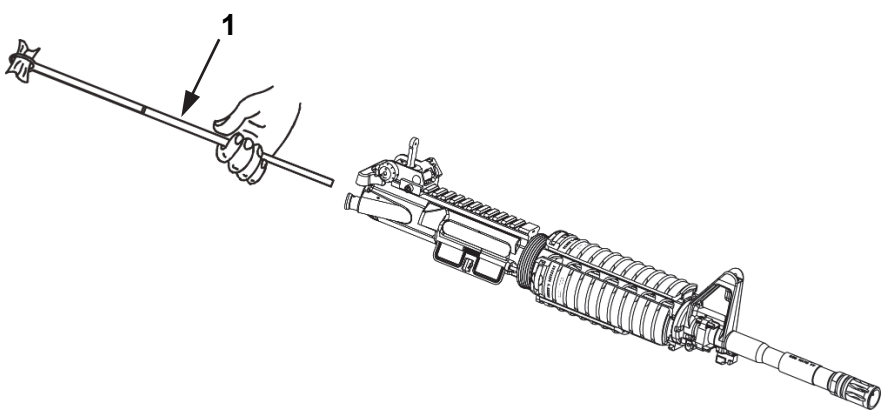


Figure 2. Insert Bore Brush.

CLEANING -- continued

Bore -- continued

NOTE

When using bore brush, do not reverse direction while in bore.

4. Attach the bore brush (Figure 3, Item 1) to the cleaning rods.

5. Point muzzle (Figure 3, Item 4) down.

6. Hold the upper receiver (Figure 3, Item 3) in one hand while inserting the end of the rod (Figure 3, Item 2) without the brush (Figure 3, Item 1) into the chamber (Figure 3, Item 5).

7. Let the rod fall (Figure 3, Item 2) straight through the bore. Approximately 2 - 3 inches will be sticking out of the muzzle (Figure 3, Item 4) at this point.

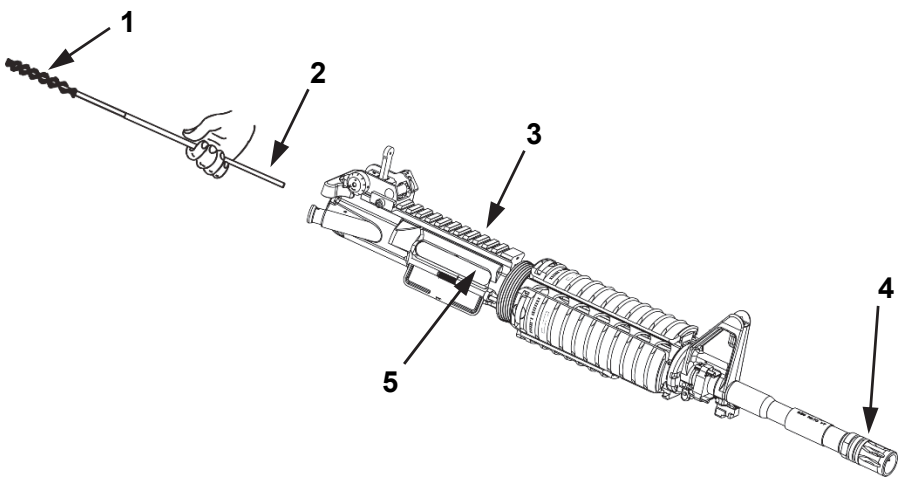


Figure 3. Insert Bore Brush.

CLEANING -- continued

Bore -- continued

8. Attach the handle section (Figure 4, Item 2) of the cleaning rod to the end of the rod (Figure 4, Item 3) sticking out of the muzzle (Figure 4, Item 1).

9. Pull the brush through the bore and out the muzzle (Figure 4, Item 1).

10. After one pull, take off the handle section (Figure 4, Item 2) and repeat steps 5 through 10.

11. Send a patch through the bore after three pulls of the bore brush through the barrel to help clean out the dirt that the brush is getting loose.

12. Replace the bore brush with the rod tip patch holder and a wet patch.

NOTE

You will not need to attach the handle to pull only a patch through the bore.

13. Drop the cleaning rod with patch holder and wet patch through the bore.

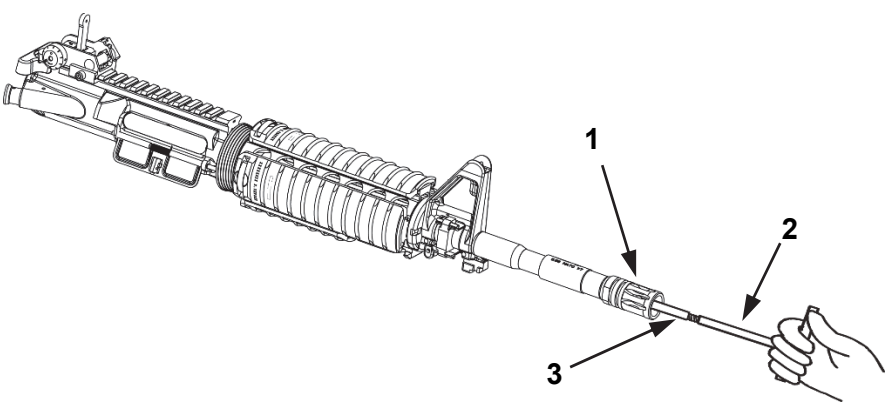


Figure 4. Pull Bore Brush Through Bore.

END OF TASK

CLEANING -- continued

Upper Receiver

1. Connect chamber brush (Figure 5. Item 3) to cleaning rod handle (Figure 4, Item 1).

2. Coat chamber brush (Figure 5, Item 3) in CLP and insert in chamber and locking lugs (Figure 5, Item 2).

3. Push and twist the chamber brush to clean.

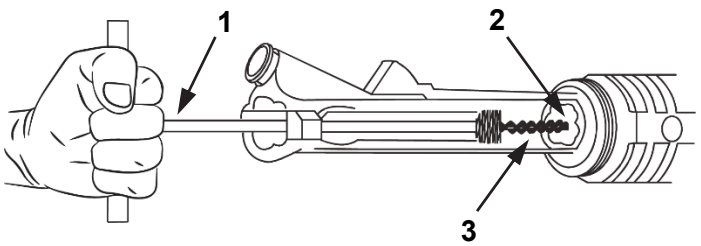


Figure 5. Chamber Brush.

CLEANING -- continued

Upper Receiver -- continued

4. Use a worn out bore brush (Figure 6, Item 3) to clean outside of gas tube (Figure 6, Item 2).

CAUTION

Do not attempt to remove discoloration. Failure to comply may result in damage to equipment.

NOTE

Gas tubes will discolor from heat.

5. Wipe down and clean entire upper receiver (Figure 6, Item 1).

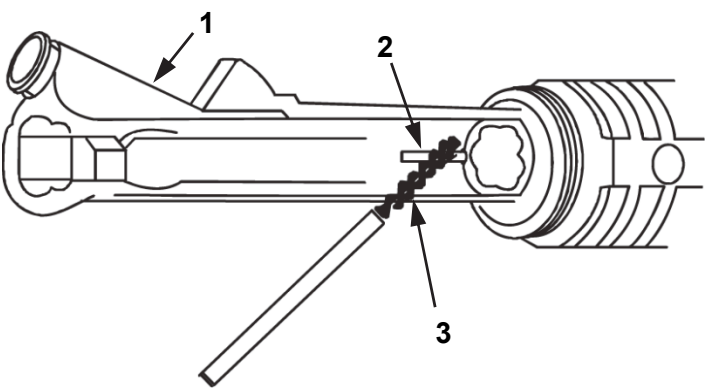


Figure 6. Clean Gas Tube.

END OF TASK

CLEANING -- continued

Bolt and Bolt Carrier Assembly

1. Clean carbon and oil from firing pin (Figure 7, Item 7).

2. Clean inside bolt carrier key (Figure 7, Item 6) with worn bore brush.

3. Clean firing pin recess (Figure 7, Item 1) with pipe cleaner.

4. Clean firing pin hole (Figure 7, Item 4) with pipe cleaner.

5. Clean behind bolt rings (Figure 7, Item 2) and lip of extractor (Figure 7, Item 5)

6. Clean carbon deposits and dirt from locking lugs (Figure 7, Item 3).

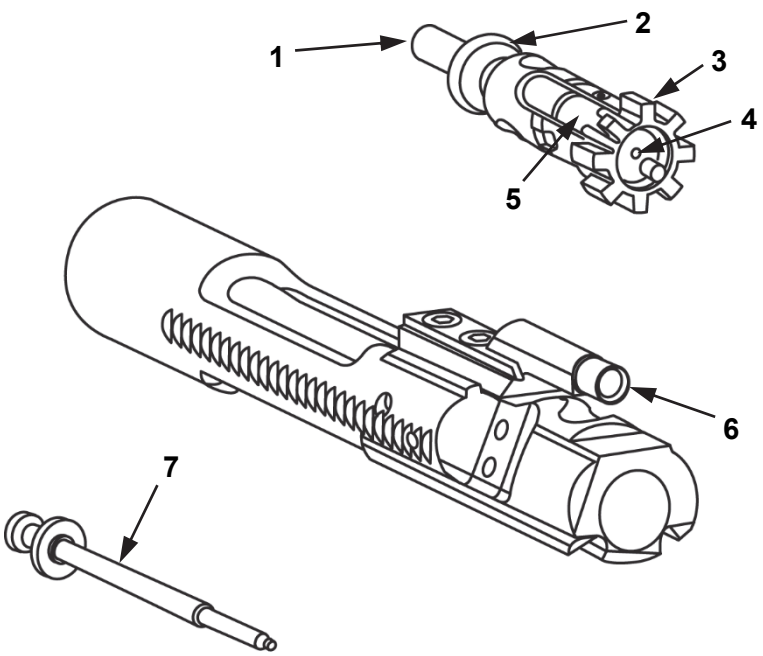


Figure 7. Bolt Carrier Assembly.

END OF TASK

CLEANING -- continued

Lower Receiver and Buttstock Assembly

CAUTION

Do not use wire brush or any other type of abrasive material to clean aluminum surfaces. Failure to comply may result in damage to equipment.

1. Wipe dirt from trigger (Figure 8, Item 5) with a swab.

2. Use a swab dampened with CLP to clean powder fouling, corrosion, and dirt from outside parts of lower receiver and extension assembly (Figure 8, Item 4).

3. Use pipe cleaner to clean buttstock drain hole (Figure 8, Item 3).

4. Clean buffer assembly (Figure 8, Item 2), spring, (Figure 8, Item 1) and inside receiver extension (Figure 8, Item 6) with swab dampened with CLP.

5. Wipe the exterior of lower receiver and extension assembly (Figure 8, Item 4).

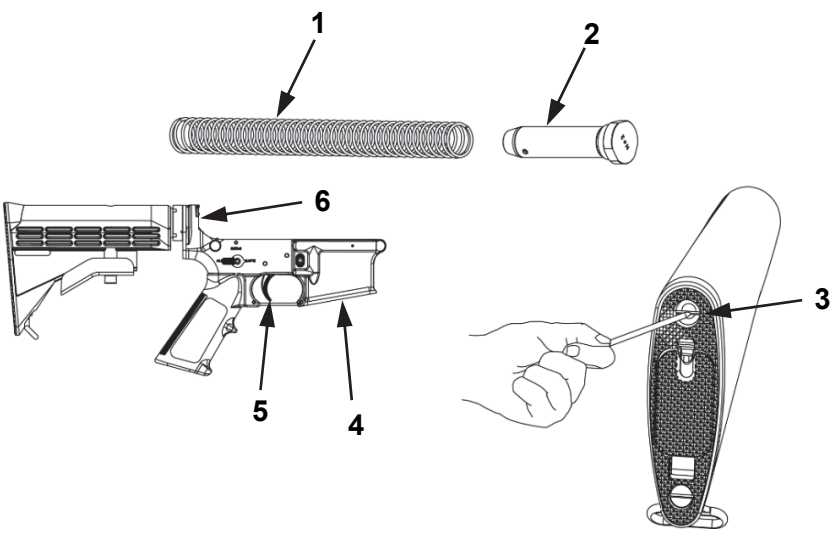


Figure 8. Lower Receiver and Buttstock Assembly.

END OF TASK

CLEANING -- continued

Ejector

1. Place three drops of CLP on the ejector (Figure 9, Item 1).

WARNING

Do not use a live round to perform this process. Failure to comply may result in injury or death to personnel. Seek immediate medical attention if necessary.

2. Press down against the ejector (Figure 9, Item 1). Ejector is spring loaded; some resistance will be felt.

3. Ease off and press down again. Repeat several times. Add CLP as needed. Once spring action of ejector (Figure 9, Item 1) is smooth and strong, dry excess CLP off bolt (Figure 9, Item 2).

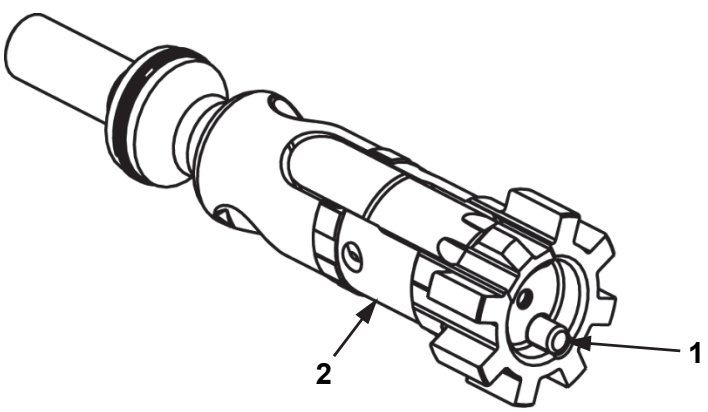


Figure 9. Lubricate Ejector.

4. Dry off excess CLP when process is completed.

END OF TASK

CLEANING -- continued

Cleaning Adapter Rails and Covers

NOTE

Do not apply CLP to the plastic surfaces of the rail covers.

1. Remove rail covers (Figure 10, Item 1).

2. Use a general-purpose brush (Figure 10, Item 4) from the standard cleaning kit to clean the adapter rails (Figure 10, Item 3) and rail covers (Figure 10, Item 1).

3. Lightly lubricate the upper and lower rail assemblies (Figure 10, Item 3) and retaining clips (Figure 10, Item 2) in the rail covers (Figure 10, Item 1).

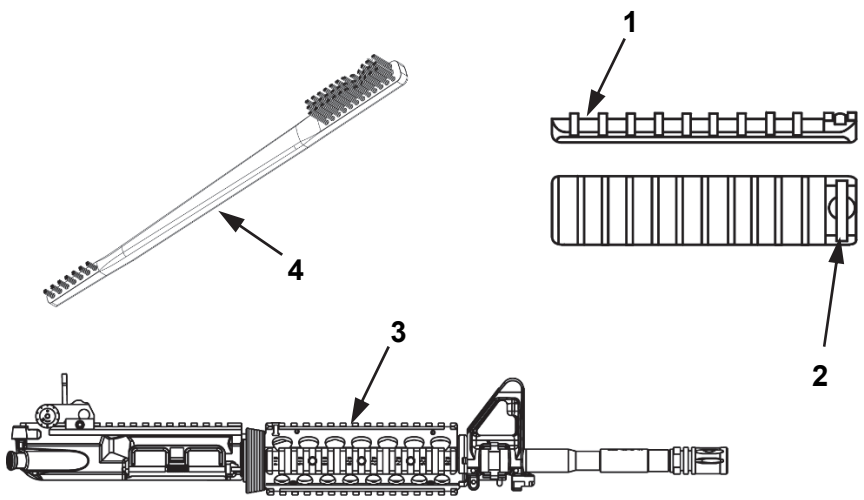


Figure 10. Cleaning Rail System and Covers.

CLEANING -- continued

Cleaning Adapter Rails and Covers

4. Remove the lower rail assembly (Figure 11, Item 2) when debris is present and thoroughly clean the thermal liner (Figure 11, Item 3) to maintain heat reflective surface.

CAUTION

Do not remove the heat reflective surface from lower adapter rail. Failure to comply may result in damage to equipment.

5. When exposed to salt water or corrosive materials, rinse the upper and lower rail assemblies (Figure 11, Item 1 and Item 2) in fresh water as soon as tactically possible.

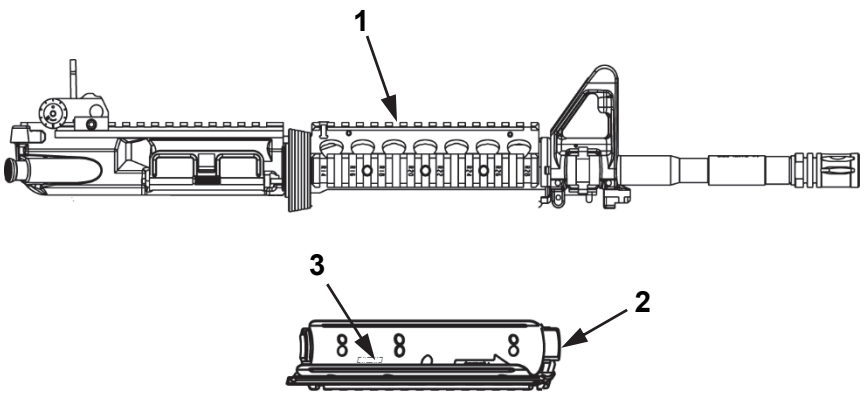


Figure 11. Cleaning Rail System.

6. Thoroughly clean, inspect, and lubricate the upper and lower rail assemblies as required.

END OF TASK

END OF WORK PACKAGE

OPERATOR MAINTENANCE INSTRUCTIONS
INSPECTION

Initial Setup:

Tools and Special Tools
N/A

References
N/A

Materials/Parts
N/A

Equipment Condition
N/A

Personnel Required
1

Upper Receiver and Barrel Assembly

WARNING

Do not interchange bolts between weapons. Failure to comply may result in injury or death to personnel. Seek immediate medical attention if injury occurs.

Upper Receiver and Barrel Assembly -- continued

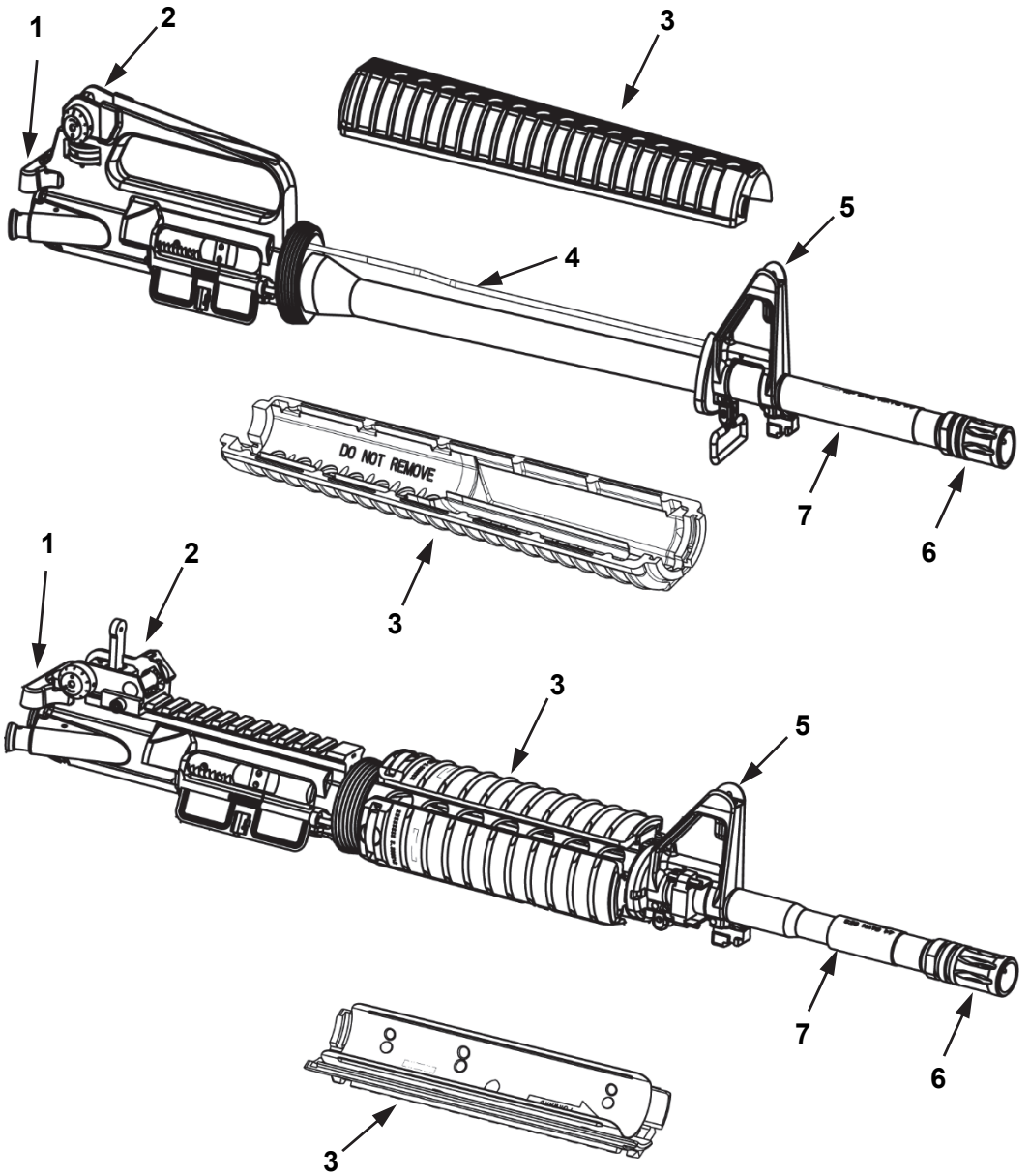


Figure 1. Upper Receiver and Barrel Assembly.

Upper Receiver and Barrel Assembly -- continued

1. Inspect handguards or rails (Figure 1, Item 3) for cracks, broken tabs, proper installation, and loose heat shields.

2. Inspect front sight post (Figure 1, Item 5) for straightness and check spring compression of the front detent.

3. Inspect compensator (Figure 1, Item 6) for looseness.

4. Inspect barrel (Figure 1, Item 7) for straightness, cracks, burrs, bulging, pitting, or looseness.

5. Inspect charging handle (Figure 1, Item 1) for cracks, bends, or breaks.

6. Inspect rear sight assembly (Figure 1, Item 2) for properly working windage and elevation adjustments. Ensure the short and long range sight spring holds the selected sight in place.

7. Inspect gas tube (Figure 1, Item 4) for bends and retention to barrel (Figure 1, Item 7).

END OF TASK

Bolt and Bolt Carrier Assembly

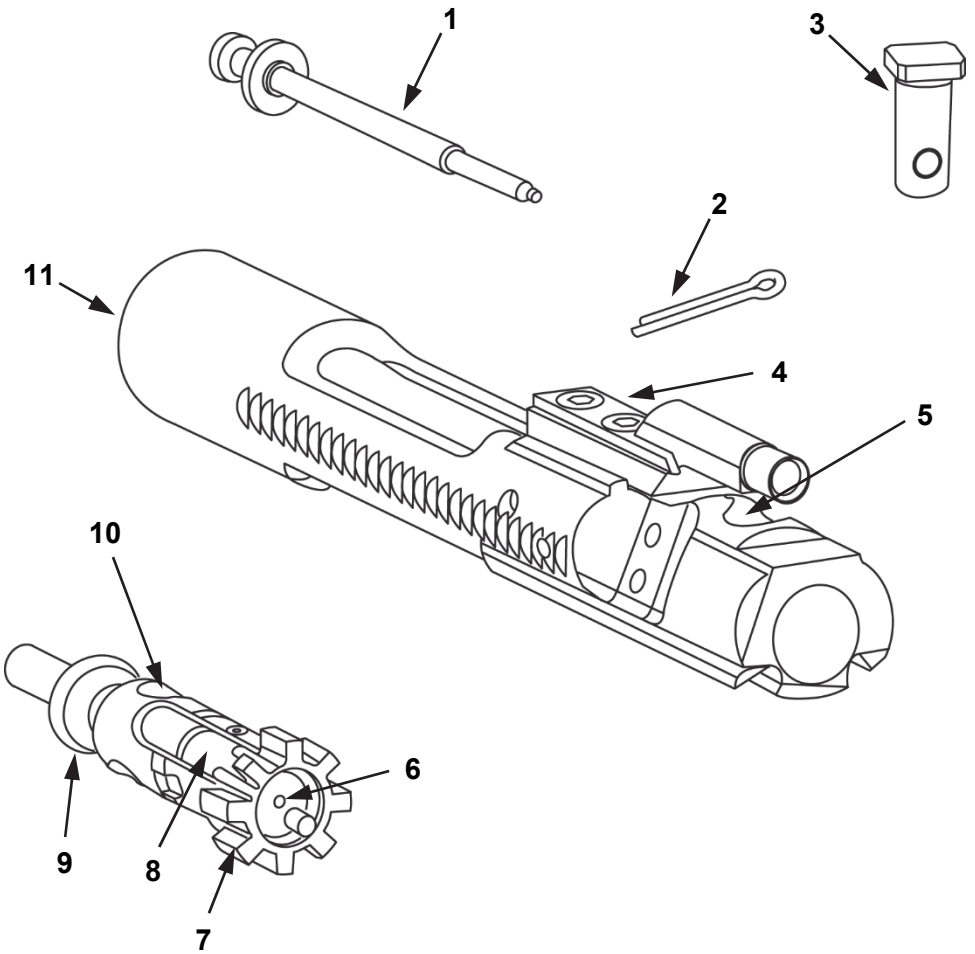


Figure 2. Bolt and Bolt Carrier Assembly.

Bolt and Bolt Carrier Assembly -- continued

1. Inspect bolt cam pin (Figure 2, Item 3) for cracking or chipping.

2. Inspect firing pin (Figure 2, Item 1) for bends, cracks, and sharp or blunted tip.

3. Inspect for missing, broken, and properly aligned gas rings (Figure 2, Item 9).

4. Inspect bolt cam pin area (Figure 2, Item 10) for cracking or chipping.

5. Inspect locking lugs (Figure 2, Item 7) for cracking, burs and chipping.

6. Inspect bolt face (Figure 2, Item 6) for excessive pitting.

7. Inspect extractor assembly (Figure 2, Item 8) for missing extractor spring assembly with insert and for chipped or rounded edges.

8. Inspect firing pin retaining pin (Figure 2, Item 2) to determine if bent or unserviceable.

9. Inspect bolt carrier (Figure 2, Item 11) for loose bolt carrier key (Figure 2, Item 4).

10. Inspect for cracking or chipping in cam pin hole slot (Figure 2, Item 5).

END OF TASK

Lower Receiver and Buttstock Assembly

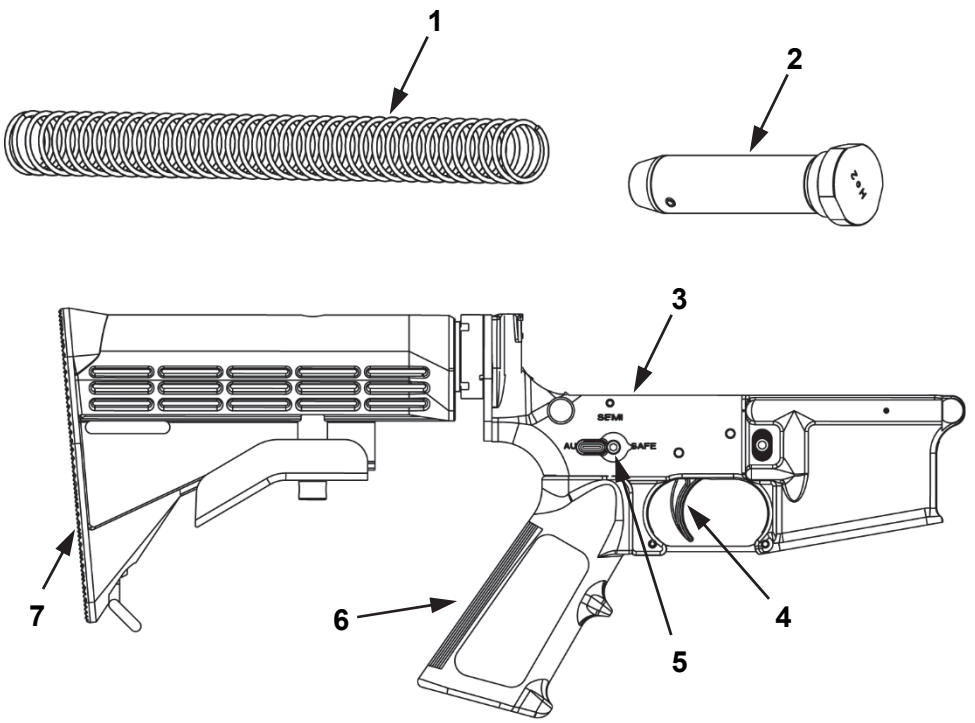


Figure 3. Lower Receiver and Buttstock Assembly.

Lower Receiver and Buttstock Assembly – continued

1. Inspect buffer (Figure 3, Item 2) for cracks or damage.

2. Inspect buffer spring (Figure 3, Item 1) for kinks.

3. Inspect buttstock (Figure 3, Item 7) for broken buttplate or cracks.

4. Inspect for bent or broken selector lever (Figure 3, Item 5).

5. Inspect rifle grip (Figure 3, Item 6) for cracks or damage.

6. Inspect for broken or bent trigger (Figure 3, Item 4).

7. Visually inspect the inside parts of the lower receiver (Figure 3, Items 3) for broken or missing parts.

END OF TASK

Magazine

1. Inspect feeder lips (Figure 15, Item 1) for damage.
2. Replace magazine (Figure 15, Item 2) if damaged or bent.

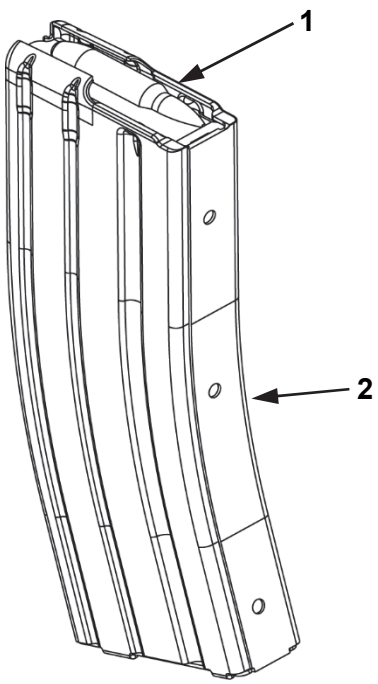


Figure 4. Magazine.

END OF TASK

END OF WORK PACKAGE

OPERATOR MAINTENANCE INSTRUCTIONS
LUBRICATION

Initial Setup:

Tools and Special Tools
- Cleaning Rod (WP 0023, Item 18)
- Handle (WP 0023, Item 14)
- Chamber Brush (WP 0023, Item 4)
- Swab Holder (WP 0023, Item 19)

Materials/Parts
- Swab, Small Arms (WP 0023, Item 20)
- CLP (WP 0023, Item 7)
- LSA (WP 0023, Item 16)

Materials/Parts -- (con't)
- LAW (WP 0023, Item 15)
- Dry Cleaning Solvent (WP 0023, Item 12)
- Wiping Rags (WP 0023, Item 17)

Personnel Required
1

References
N/A

Equipment Condition
N/A

CAUTION

- Do not use hot water or other solvents or you will wash away the Teflon lubricant that has been building up as a result of you using CLP.
- Failure to comply with above cautions may result in damage to equipment.

NOTE

- If CLP is not used, RBC may be used to remove carbon within the bore.
- Dry cleaning solvent may be used to completely remove lubricants. For example, when moving to extreme cold weather operations, remove traces of CLP before applying LAW.

CLP-Cleaner, Lubricant, and Preservative

1. Always shake bottle well before use.
2. Place a few drops on rag or swab.
3. Clean weapon with CLP dampened rag or swabs.
4. Apply a fresh, light coat of CLP with new rag or swab.

END OF TASK

Lubricant Guide

NOTE

- Remove excessive lubricant from the bore and chamber before firing.
- Under all but the coldest Arctic conditions, CLP or LSA are the lubricants to use on your weapon (Figure 1).

Lightly Lubricated — A barely visible film of lubricant.

Generously Lubricated — Lubricant is thick enough to spread with finger.

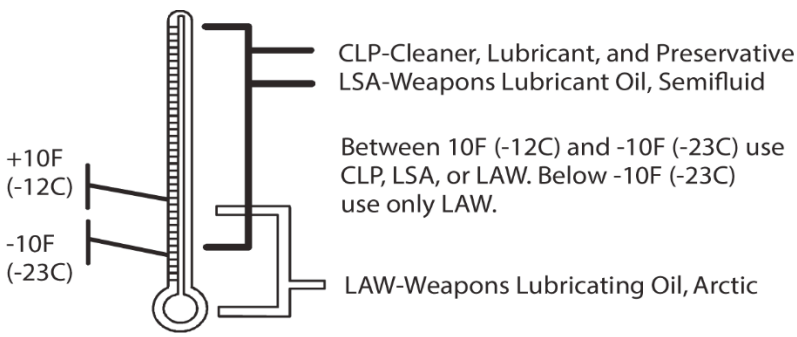


Figure 1. Lubricant Temperature Guide.

END OF TASK

Upper Receiver

1. Lightly lubricate inside of upper receiver (Figure 2, Item 6), bore (Figure 2, Item 4), chamber (Figure 2, Item 1), front sight (Figure 2, Item 2), outer surfaces of barrel (Figure 2, Item 3), and under the handguards (Figure 2, Item 5).

2. Lubricate front sight detent (Figure 2, Item 7).

3. Depress front sight detent (Figure 2, Item 7), add a drop of lubricant and exercise the detent (Figure 2, Item 7) up and down to work lubricant into the spring.

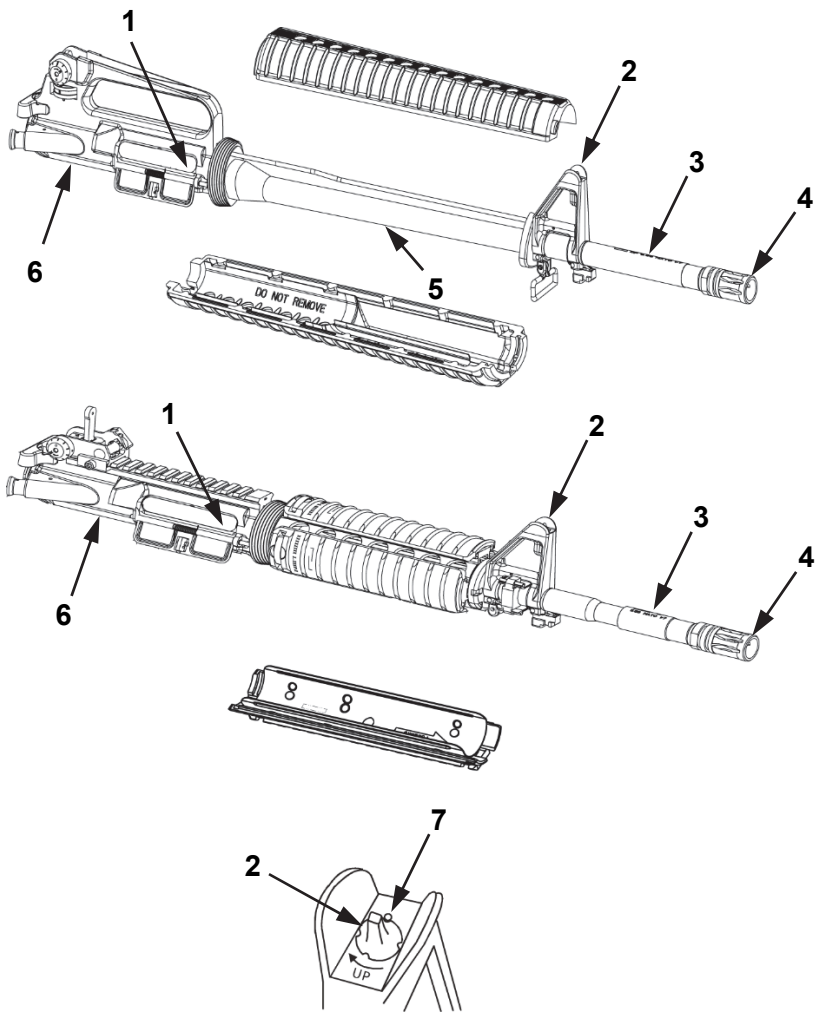


Figure 2. Lubricate Upper Receiver.

Upper Receiver -- continued

4. Lubricate locking lugs (Figure 3, Item 1).

5. Add a few drops of lubricant to the chamber brush (Figure 3, Item 2) and insert into the chamber and locking lugs (Figure 3, Item 1).

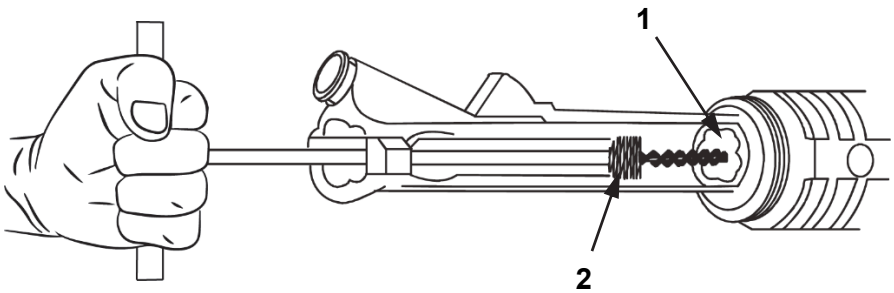


Figure 3. Lubricate Chamber.

Upper Receiver -- continued

6. Lubricate inside of barrel (Figure 4, Item 2).

7. Add a few drops of lubricant to a swab patch on cleaning rod (Figure 4, Item 1).

CAUTION

Do not change direction in bore. Failure to comply may result in damage to equipment.

8. Send the cleaning rod (Figure 4, Item 1) through the bore (Figure 4, Item 2) from chamber (Figure 4, Item 4) to muzzle (Figure 4, Item 3).

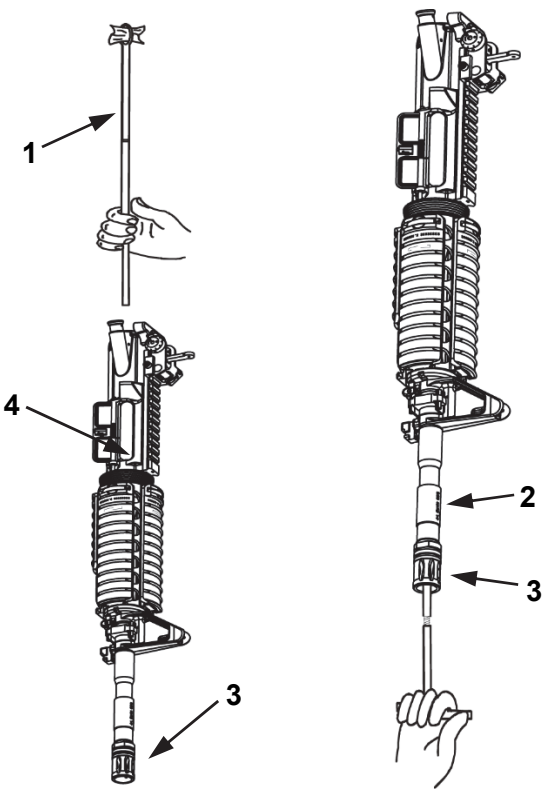


Figure 4. Lubricate Bore.

END OF TASK

Carrying Handle and Upper Rail for M4, M4A1, M16A3, and M16A4

1. Apply a drop or two of lubricant to both threaded studs (Figure 5, Item 1).

2. Lightly lubricate the clamping bar (Figure 5, Item 2) and both round nuts (Figure 5, Item 1).

NOTE

Do not switch carrying handles between weapons. Switching carrying handles may change your weapon's zero.

3. Lightly lubricate the mating surfaces of the carrying handle assembly (Figure 5, Item 4) and upper rail (Figure 5, Item 3).

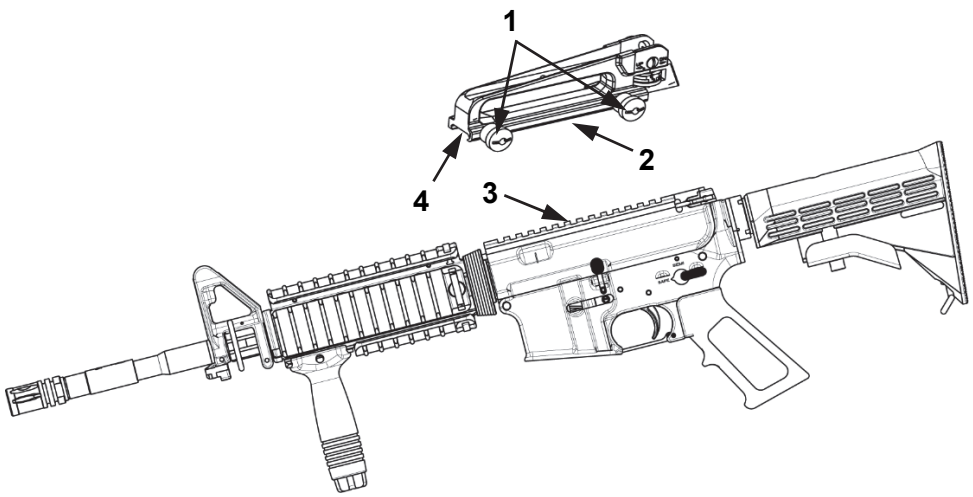


Figure 5. Lubricate Carrying Handle and Upper Rail.

END OF TASK

Bolt Carrier Assembly

1. Lightly lubricate firing pin (Figure 6, Item 7) and firing pin recess (Figure 6, Item 9) in bolt (Figure 6, Item 5).

2. Place one drop of lubricant in carrier key (Figure 6, Item 2).

3. Generously lubricate the outside of the parts: Cam pin area (Figure 6, Item 3), bolt rings (Figure 6, Item 8), and outside of bolt body (Figure 6, Item 5).

4. Lubricate extractor (Figure 6, Item 6) and pin (Figure 6, Item 4).

5. Lightly lubricate charging handle (Figure 6, Item 1) and inner/outer surfaces of bolt carrier (Figure 6, Item 10).

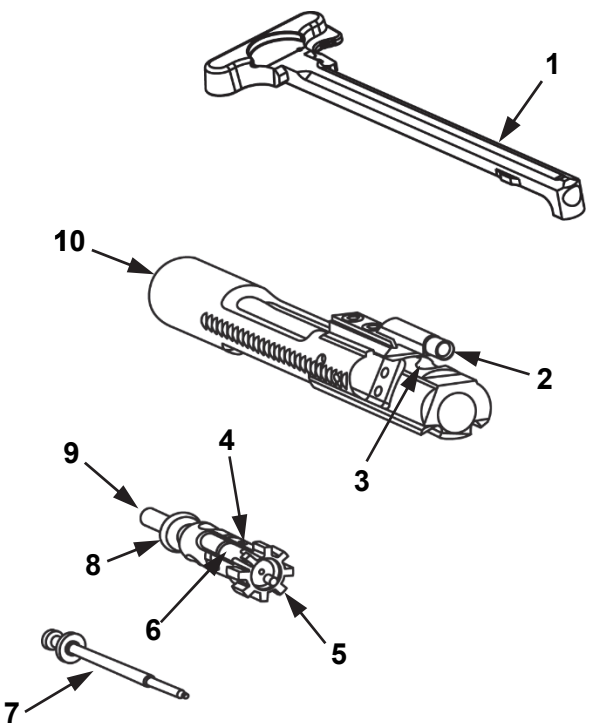


Figure 6. Lubricate Bolt Carrier Assembly and Charging Handle.

END OF TASK

Lower Receiver Assembly

NOTE

Do not lubricate stock or pistol grip.

1. Lightly lubricate inside the buffer tube (Figure 7, Item 2).

2. Lightly lubricate action spring (Figure 7, Item 1).

3. Generously lubricate takedown (Figure 7, Item 5) and pivot pins (Figure 7, Item 4) and detents.

4. Lightly lubricate all moving parts and pins inside lower receiver (Figure 7, Item 3).

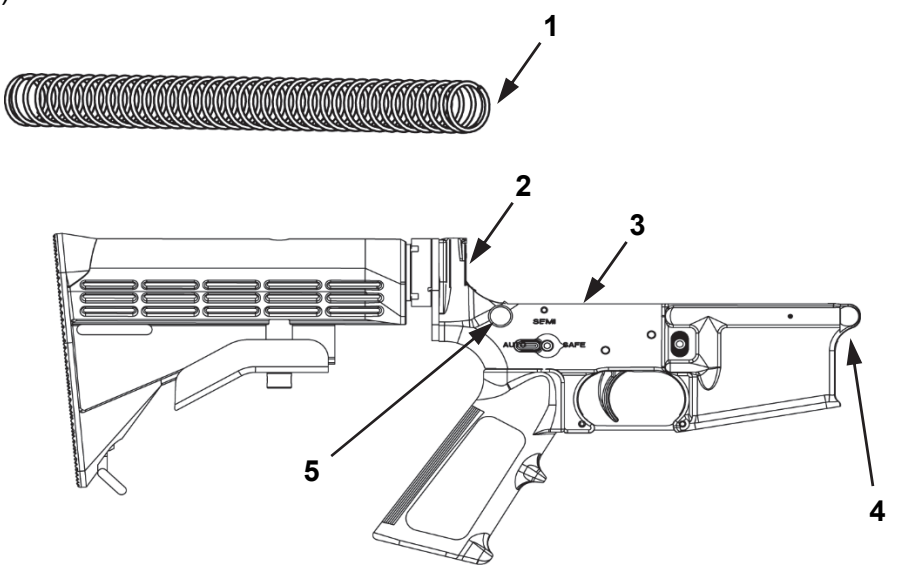


Figure 7. Lubricate Lower Receiver Assembly.

END OF TASK

Adjustable Rear Sight

NOTE

Make a note of how far you move the sight so it can be returned to the original position after completion of this task.

1. Use one drop of lubricant and rotate each part to ensure lubricant is spread evenly.

2. Elevation Screw Shaft. Lubricate from the inside of the upper receiver.

NOTE

- M16A2: Turn upper receiver upside down and remove charging handle.
- M4, M4A1, M16A3, and M16A4: Remove carrying handle.

3. Put two or three drops around the bottom edge of the elevation screw shaft (Figure 8, Item 4) and in elevation detent spring hole (Figure 8, Item 3).

4. Rotate the elevation dial (Figure 8, Item 1) up and down as far as possible three times while holding receiver (Figure 8, Item 2) upside down.

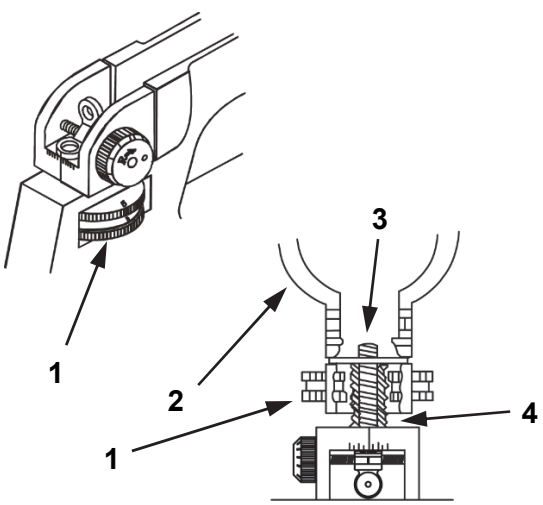


Figure 8. Lubricate Rear Sight Assembly.

END OF TASK

Back Up Iron Sight (BUIS)

1. Lubricate entire BUIS with light coat of lubricant.

2. Rotate sight cam (Figure 9, Item 4) to 600-meter mark.

3. Apply 2 or 3 drops of lubricant to index spring and ball bearing through hole in bottom of sight cam (Figure 9, Item 4).

4. Apply 2 or 3 drops of lubricant to plunger and compression spring beneath flip-up aperture sight (Figure 9, Item 1).

5. Apply 2 or 3 drops of lubricant to index spring and ball bearing through hole in the side of windage knob (Figure 9, Item 2).

6. Apply two or three drops of lubricant to threads of the windage screw (Figure 9, Item 3).

7. Turn screw (Figure 9, Item 3) side-to-side before returning to original zeroing mark.

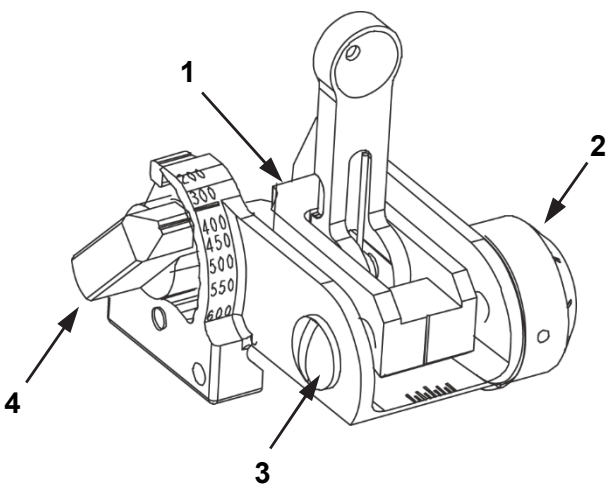


Figure 9. Lubricate BUIS.

END OF TASK

After Lubricating Rear Sight

1. Reset correct battlesight zero. Notice the rear sight comes down when the “3” is aligned with the mark on the left side of the receiver.

2. Carry weapon with the “3” aligned with the mark.

3. Keep the sight on 300 meters to keep dirt and water out of sight mechanism and protect the sight from damage.

END OF TASK

END OF WORK PACKAGE

OPERATOR MAINTENANCE INSTRUCTIONS
REASSEMBLY

Initial Setup:

Tools and Special Tools
N/A

Materials/Parts
N/A

Personnel Required
1

References
TM 9-1010-221-10
TM 9-1010-232-10

Equipment Condition
N/A

REASSEMBLY

NOTE

- Be sure not to lose extractor spring and rubber insert.
- Navy only: Ensure enhanced reliability o-ring is installed.

1. Ensure extractor spring (Figure 1, Item 1) is installed in the extractor (Figure 1, Item 2).

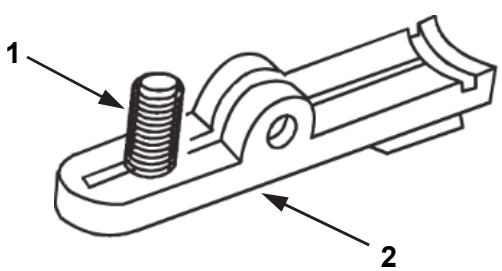


Figure 1. Extractor Assembly.

REASSEMBLY – continued

2. Insert extractor assembly (Figure 2, Item 3) into bolt (Figure 2, Item 2).

3. Install extractor pin (Figure 2, Item 1).

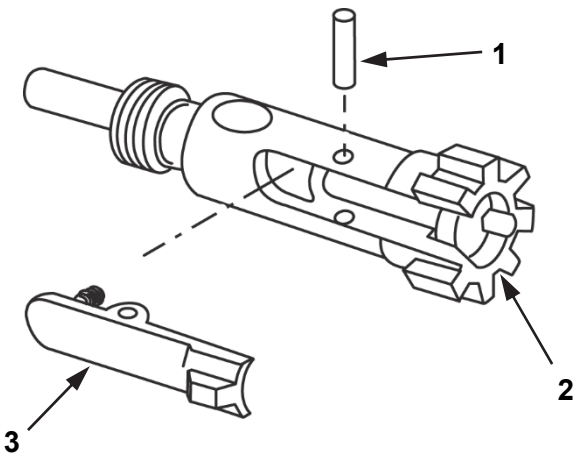


Figure 2. Install Extractor.

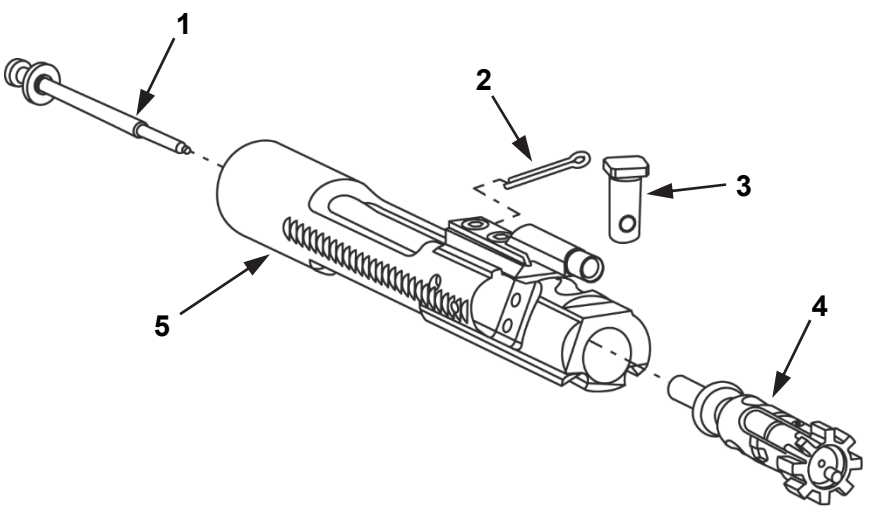


Figure 3. Assemble Bolt Carrier Assembly.

REASSEMBLY – continued

CAUTION

- Do not switch bolts between weapons.
- Ensure that the bolt ring gaps are staggered (approximately 1/3 turn apart). Failure to do so will cause cycling and recoil problems.
- Failure to comply with above cautions may result in damage to equipment.

4. Slide bolt (Figure 3, Item 4) into carrier (Figure 3, Item 5).

WARNING

Ensure cam pin is installed in the bolt carrier assembly. The weapon will explode when fired if cam pin is not installed. Failure to comply may result in injury or death to personnel. Seek immediate medical attention if injury occurs.

5. Insert bolt cam pin (Figure 3, Item 3).

6. Turn cam pin (Figure 3, Item 3) a ¼ turn after reassembly.

7. Drop firing pin (Figure 3, Item 1) into carrier (Figure 3, Item 5).

8. Seat the firing pin (Figure 3, Item 1).

9. Pull bolt (Figure 3, Item 4) forward.

NOTE

Firing pin should not fall out when bolt carrier assembly is turned upside down.

10. Insert firing pin retaining pin (Figure 3, Item 2).

REASSEMBLY – continued

11. Insert charging handle (Figure 4, Item 1) part way.

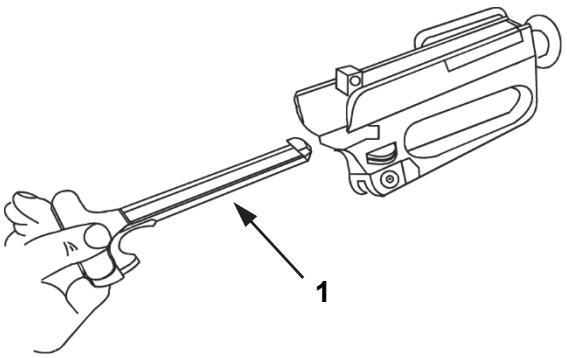


Figure 4. Insert Charging Handle.

12. Slide bolt carrier assembly (Figure 5, Item 1) into charging handle groove (Figure 5, Item 2).

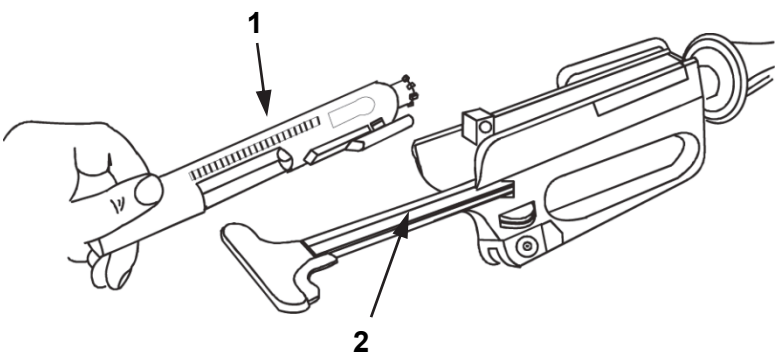


Figure 5. Install Bolt Carrier Assembly.

REASSEMBLY – continued

13. Push charging handle (Figure 6, Item 3) and bolt carrier assembly (Figure 6 Item 1) together into upper receiver (Figure 6, Item 2) until fully seated.

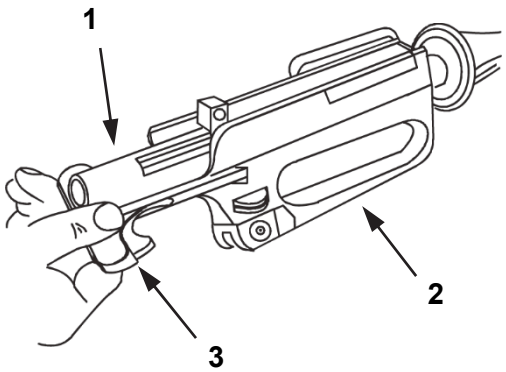


Figure 6. Seat Charging Handle and Bolt Carrier Assembly.

REASSEMBLY -- continued

CAUTION

- If round nuts and clamping bar is removed, reinstall clamping bar on threaded studs. Clamping bar should not extend beyond the front of the carrying handle.
- Reinstall round nuts on the threaded studs.
- Failure to comply with above cautions may result in damage to equipment.

NOTE

Do not reflare end of threaded studs if nuts have been removed.

NOTE

M4/M4A1/M16A3/M16A4 only: The carrying handle assembly should be reinstalled on the front notch of the upper receiver rail.

14. **M4/M4A1/M16A3/M16A4 only.** Slide the clamping bar (Figure 7, Item 2) against the receiver (Figure 7, Item 3) with the lower edge of the carrying handle underneath the slotted section. Hand tighten round nuts (Figure 7, Item 1).

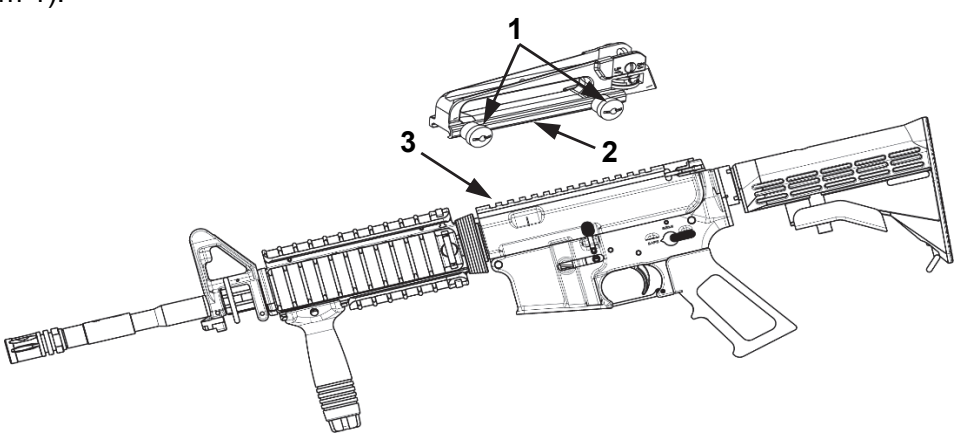


Figure 7. Install Carrying Handle.

REASSEMBLY – continued

15. **Reassemble buttstock (M4/M4A1 only).** Grasp the lock release lever (Figure 8, Item 4) in the area of the retaining nut (Figure 8, Item 3) and pull downward to reinstall the buttstock assembly (Figure 8, Item 1) onto the lower receiver extension (Figure 8, Item 2).

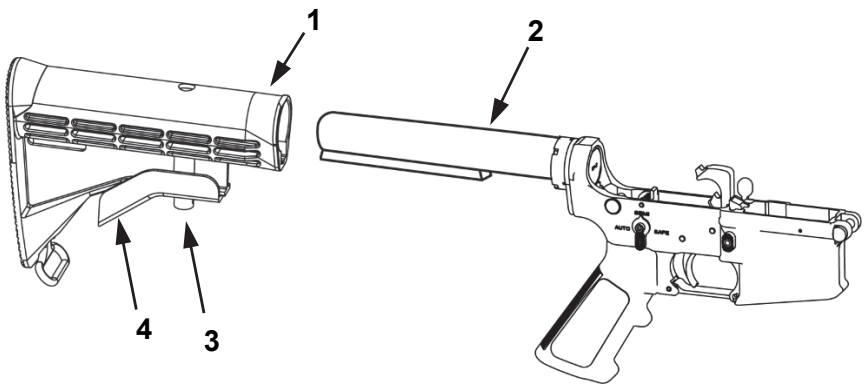


Figure 8. Install Buttstock.

16. Insert buffer spring (Figure 9, Item 1) and buffer (Figure 9, Item 2) into lower receiver extension (Figure 9, Item 3).

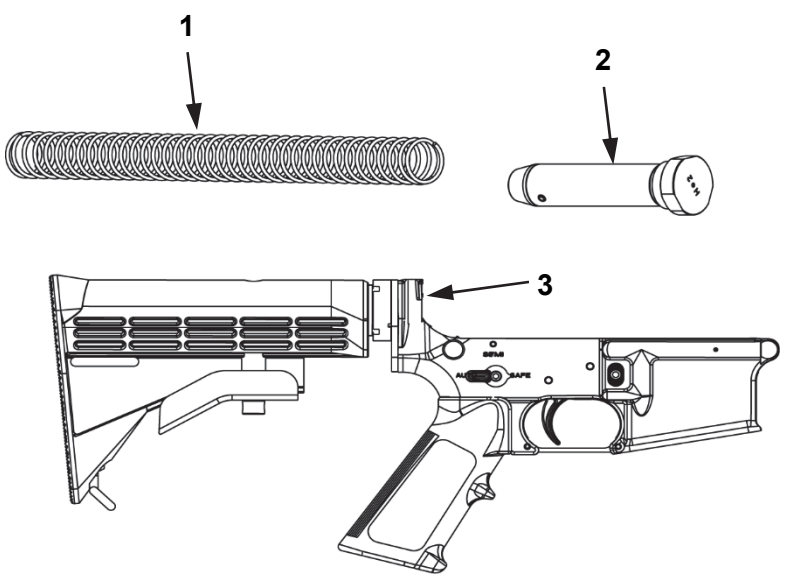


Figure 9. Install Buffer and Buffer Spring.

REASSEMBLY – continued

17. **Reassemble buttstock (M16A2/A3/A4 only)**. Insert buffer (Figure 10, Item 2) and buffer spring (Figure 10, Item 1) into buttstock (Figure 10, Item 3).

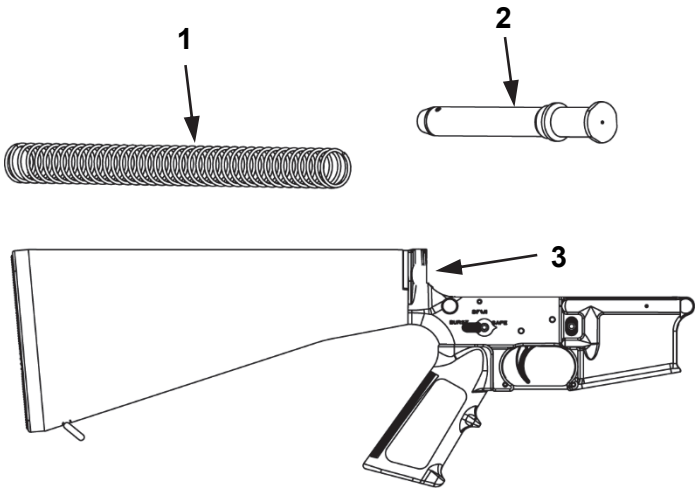


Figure 10. Reassembly Buttstock.

18. Join upper (Figure 11, Item 1) and lower receivers (Figure 11, Item 2).

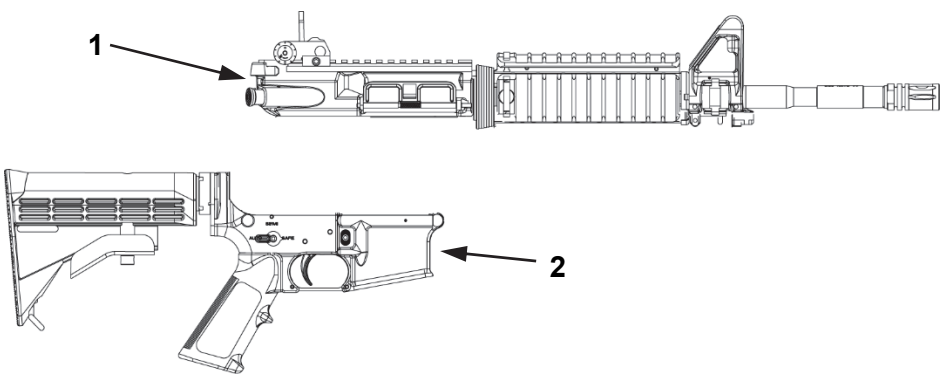


Figure 11. Join Receivers.

REASSEMBLY – continued

CAUTION

Selector lever must be on **SAFE** or **SEMI** before closing upper receiver.

19. Engage receiver pivot pin (Figure 12, Item 4).

20. Close upper (Figure 12, Item 1) and lower receiver assemblies (Figure 12, Item 3).

21. Push in takedown pin (Figure 12, Item 2).

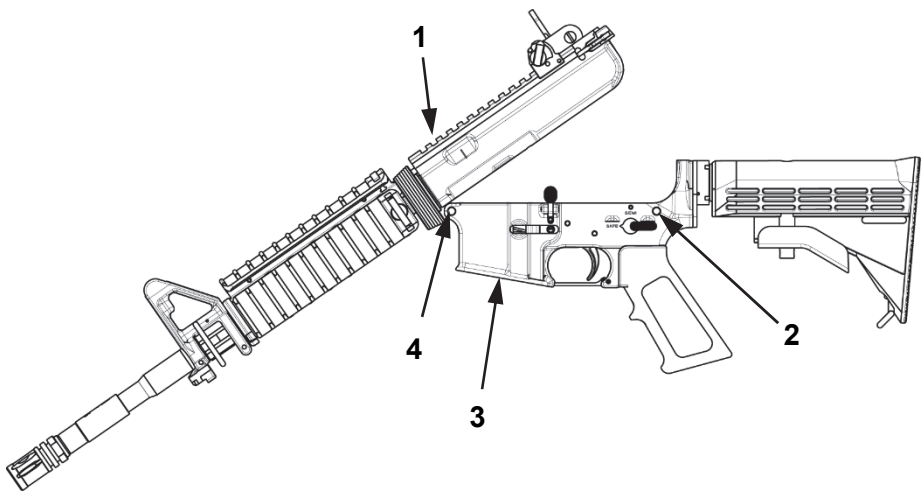


Figure 12. Engage Pivot Pin.

REASSEMBLY – continued

Assemble Handguards

CAUTION

Do not use a screwdriver or any other tool when assembling handguards/lower rail as it may cause damage to the handguards/lower rail and/or slip ring. Failure to comply may result in damage to equipment.

Place the weapon on the buttstock (Figure 13, Item 3) and press down on the slip ring (Figure 13, Item 4) with both hands. Have another person place the top handguard (Figure 13, Item 1) and the bottom handguard (Figure 13, Item 2) on the weapon. (Buddy System).

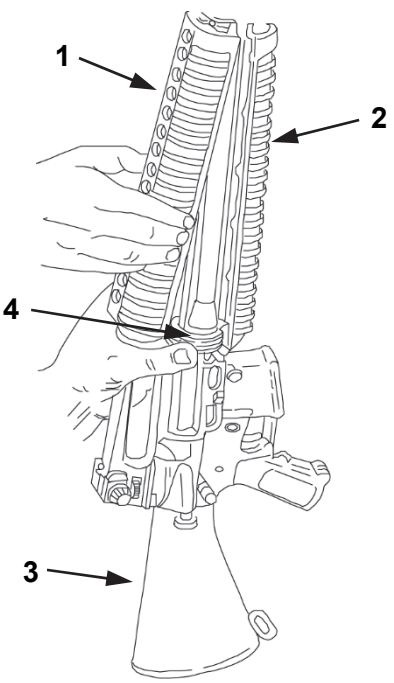


Figure 13. Install Handguards.

END OF TASK

REASSEMBLY – continued

Lower Adapter Rail

CAUTION

Do not use a screwdriver or any other tool when assembling handguards/lower rail as it may cause damage to the handguards/lower rail and/or slip ring. Failure to comply may result in damage to equipment.

NOTE

- The front of the lower adapter rail is identified by an arrow on the heat shield inside the rail.
- Installation of the rail has no effect on the attachment or operation of the Multiple Integrated Laser Engagement System (MILES), the M7 and M9 bayonets, the M15A2 and M23 blank firing adapters, the top carry sling adapter, and the standard sling.
- Remove the lower adapter rail to mount the M203 Grenade Launcher in its standard location using the M203 Quick Attach/Detach (QD) Mount. Refer to TM 9-1010-221-10.
- Remove the lower adapter rail to mount the M320 Grenade Launcher in its standard location using the appropriate front and rear mounting adapters. Refer to TM 9-1010-232-10

REASSEMBLY – continued

Lower Adapter Rail -- continued

1. Insert the front flange of the lower rail (Figure 14, Item 3) under the front handguard cap (Figure 14, Item 2).

2. Pull back on the handguard slip ring (Figure 14, Item 1).

3. Pivot rear flange of adapter rail (Figure 14, Item 3) over the edge of the handguard slip ring (Figure 14, Item 1) and release the slip ring (Figure 14, Item 1). Ensure the handguard slip ring (Figure 14, Item 1) engages completely around the flange.

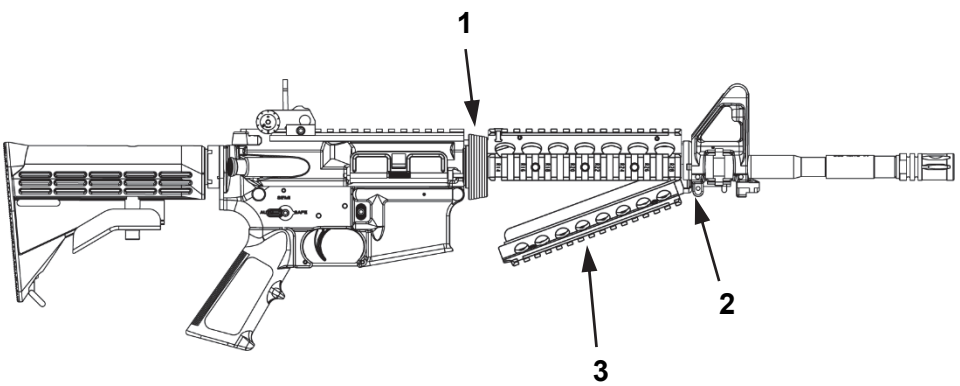


Figure 14. Install Lower Adapter Rail.

REASSEMBLY – continued

Lower Adapter Rail -- continued

4. Install sling (Figure 15, Item 1).

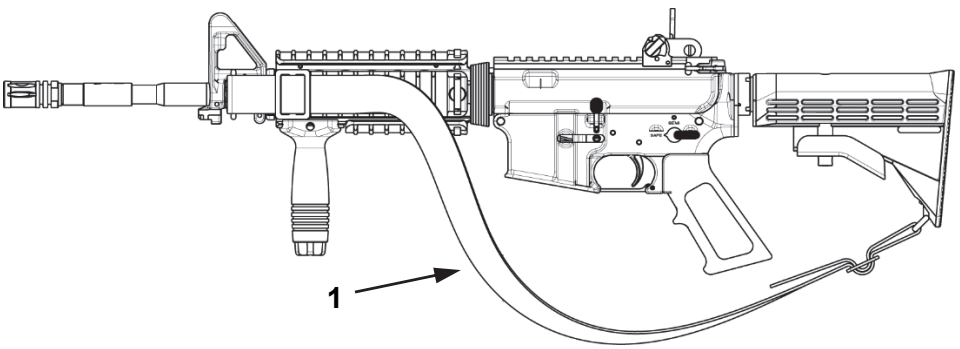


Figure 15. Install Sling.

END OF TASK

REASSEMBLY – continued

Installation of Adapter Rail Covers

1. Install the right, left, and bottom rail covers (Figure 16, Item 5) from the muzzle end (Figure 16, Item 4) of the adapter rails (Figure 16, Item 3).

2. Ensure all rail covers have the retaining clip (Figure 16, Item 6) secured in the slot on the adapter rail (Figure 16, Item 3).

3. Install top adapter rail covers (Figure 16, Item 2) from the receiver end (Figure 16, Item 1) of the rail assembly (Figure 16, Item 3).

4. Retaining clips on the rail covers (Figure 16, Item 6) will lock into the slots at either end of the adapter rail (Figure 16, Item 3). Rail covers will not lock into any other part of the adapter rail.

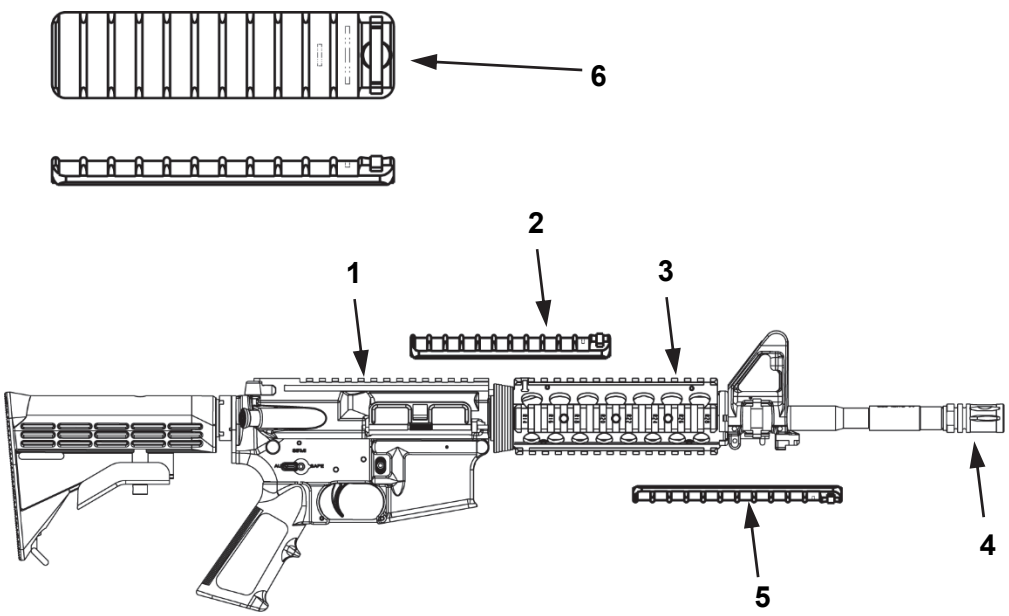


Figure 16. Install Rail Covers.

END OF TASK

REASSEMBLY – continued

Magazine Reassembly

CAUTION

If the spring detaches from the follower, turn in for repair. Do not try to fix yourself. Failure to comply may result in damage to equipment.

1. Clean and lubricate magazine.

2. Wipe dirt from magazine box (Figure 17, Item 2), spring (Figure 17, Item 4), and follower (Figure 17, Item 1).

3. Insert follower (Figure 17, Item 1) and jiggle spring (Figure 17, Item 4) to install.

NOTE

Make sure printing on base is on the outside, if present.

4. Compress spring (Figure 17, Item 4) and slide the base (Figure 17, Item 3) under all four tabs on the bottom of the magazine box (Figure 17, Item 2) until base (Figure 17, Item 3) catches.

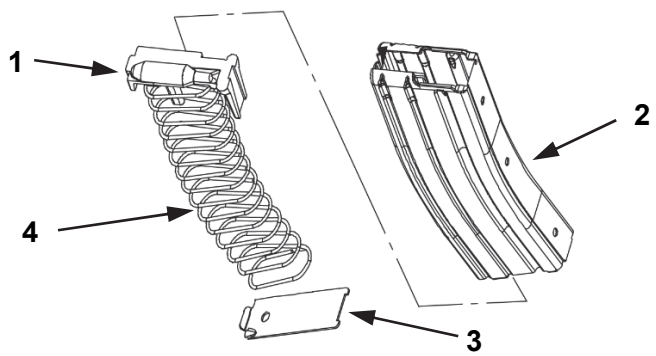


Figure 17. Magazine.

END OF TASK

END OF WORK PACKAGE

OPERATOR MAINTENANCE
AMMUNITION

Initial Setup:

Tools and Special Tools
N/A

Personnel Required
1

Materials/Parts
N/A

References
N/A

Equipment Condition
N/A

5.56MM

WARNING

- Do not fire corroded ammunition.
- Do not fire dented cartridges.
- Do not fire cartridges with loose bullets.
- Do not fire cartridges exposed to extreme heat (135° Fahrenheit / 57° Celsius) until cartridges have cooled.
- Do not fire cartridges with the bullet pushed in (short rounds).
- Turn in all unserviceable rounds to range Non-Commissioned Officer (NCO).
- Use only authorized ammunition.
- Failure to comply with above warnings may result in injury or death to personnel. Seek immediate medical attention if injury occurs.

5.56MM – continued

M200 Blank | M193 Ball | M855 Ball | M855A1 Ball | M856 Tracer | M856A1 Tracer | M995 Armor Piercing (AP)

Dummy M199A1 | CCMCK M1042 Blue | CCMCK M1042 Red | CCMCK M1042 Yellow | SRTA M862 | SRTA M1037 | Frangible Mk311 (Air Force Only) | Dim Tracer Mk301

END OF WORK PACKAGE

CHAPTER 6

SUPPORTING INFORMATION

OPERATOR REFERENCES

SCOPE

This work package lists all Army regulations, field manuals, forms, pamphlets, technical bulletins, technical manuals, and miscellaneous publications referenced in this manual.

ARMY REGULATIONS

AR 75-1	Malfunctions Involving Ammunition and Explosives
AR 700-138	Army Logistics Readiness and Sustainability

FIELD MANUALS

AFMAN 44-163 (I)	First Aid
FM 3-3	Chemical and Biological Contamination Avoidance
FM 3-5	NBC Decontamination
FM 3-100	Chemical Operations Principles and Fundamentals
TC 4-02.1	First Aid

FORMS

AFJMAN 23-215	Reporting of Supply Discrepancies
AFTO Form 22	Technical Manual (TM) Change Recommendation and Reply Form
DA Form 285	U.S. Army Accident Report
DA Form 2028	Recommended Changes to Publications and Blank Forms
DA Form 2404	Equipment Inspection and Maintenance Worksheet
DA Form 4379	Ammunition Malfunction Report
DA Form 5988-E	Equipment Inspection and Maintenance Record
NAVSEA/SPAWAR Form 4160/1	Technical Manual Deficiency/Evaluation Report (TMDER)

REFERENCES -- continued

FORMS – continued

SF Form 368	Product Quality Deficiency Report (PQDR)

MISCELLANEOUS PUBLICATIONS

AFI 21-101	Aircraft and Equipment Maintenance Management
AFI 36-2654	Combat Arms Program for Applicable Forms and Records
CTA 50-909	Field and Garrison Furnishings and Equipment
CTA 50-970	Expendable/Durable Items
CTA 8-100	Army Medical Department Expendable/Durable Items
MIL-PRF-14107	Lubricating Oil, Weapons, Low Temperature
MIL-PRF-63460	Lubricant, Cleaner, and Preservative for Weapons and Weapons Systems
Navy SW 370-AE-MMI-010	Maintenance Manual for M203 Grenade Launcher
OPNAVINST 4790.16	Condition-Based Maintenance and Condition-Based Maintenance Plus Policy

PAMPHLETS

DA PAM 385-40	Army Accident Investigations and Reporting
DA PAM 738-751	Functional Users Manual for the Army Maintenance Management Systems – Aviation (TAMMS-A)
DA PAM 750-8	The Army Maintenance Management System (TAMMS) Users Manual
SF 368	Product Quality Deficiency Report

REFERENCES -- continued

TECHNICAL MANUALS

TM 746-10	General Packaging Instructions for Field Units, Marking, Packing, and Shipment of Supplies and Equipment
TM 750-244-7	Procedures for Destruction of Equipment in Federal Supply Classifications 1000, 1005, 1010, 1015, 1020, 1025, 1030, 1055, 1090, and 1095 to Prevent Enemy Use
TM 9-1005-319-10	Operator's Manual for M16A2, M16A3, and M16A4 Rifles and the M4 and M4A1 Carbines
TM 9-1010-221-10	Operator's Manual for Launcher, Grenade, 40-MM, M203, W/E, Launcher, Grenade, 40-MM, M203A1 W/E, Launcher, Grenade, 40-MM, M203A2, W/E
TM 9-1010-221-23&P	Field Maintenance Manual Including Repair Parts and Special Tools List for Launcher, Grenade, 40-MM, M203 W/E, Launcher, Grenade, 40-MM, M203A1 W/E, Launcher, Grenade, 40-MM, M203A2, W/E
TM 9-1010-232-10	Operator's Manual for Grenade Launcher, 40MM, M320, W/E, Grenade Launcher, 40 MM, M320A1, W/E
TM 9-1010-232-23&P	Field Maintenance Manual Including Repair Parts and Special Tools List for Grenade Launcher, 40MM, M320, W/E, Grenade Launcher, 40 MM, M320A1, W/E

REFERENCES -- continued

TECHNICAL ORDERS

T.O. 00-20	Series Technical Orders
T.O. 00-35D-54	USAF Deficiency Reporting Investigation and Resolution
T.O. 11W-1-10	Historical Data Recording of Inspection, Maintenance, and Firing Data for Ground Weapons

END OF WORK PACKAGE

OPERATOR
COMPONENTS OF END ITEMS (COEI) AND BASIC ISSUE ITEMS (BII)

SCOPE

This work package lists COEI and BII for the M16A2, M16A3, and M16A4 Rifles and the M4 and M4A1 Carbines to help you inventory items for safe and efficient operation of the equipment.

GENERAL

The COEI and BII information is divided into the following lists:

Components of End Items (COEI). This list is for information purposes only and is not authority to requisition replacements. These items are part of the M16A2, M16A3, and M16A4 Rifles and the M4 and M4A1 Carbines. As part of the end item, these items must be with the end item whenever it is issued or transferred between property accounts. Items of COEI are removed and separately packaged for transportation or shipment only when necessary. Illustrations are furnished to help you find and identify the items.

Basic Issue Items (BII). These essential items are required to place the M16A2, M16A3, and M16A4 Rifles and the M4 and M4A1 Carbines in operation, operate it, and to do emergency repairs. Although shipped separately packaged, BII must be with the M16A2, M16A3, and M16A4 Rifles and the M4 and M4A1 Carbines during operation and when it is transferred between property accounts. Listing these items is your authority to request/requisition them for replacement based on authorization of the end item by the TOE/MTOE. Illustrations are furnished to help you identify the items.

EXPLANATION OF COLUMNS IN THE COEI LIST AND BII LIST

Column (1) Illus Number. Gives you the number of the item illustrated.

Column (2) National Stock Number (NSN). Identifies the stock number of the item to be used for requisitioning purposes.

Column (3) Description, Part Number, and Commercial and Government Entity Code (CAGEC). Identifies the Federal item name (in all capital letters) followed by a minimum description when needed. The stowage location of

EXPLANATION OF COLUMNS IN THE COEI LIST AND BII LIST -- continued

COEI and BII is also included in this column. The last line below the description is the CAGEC (in parenthesis) and the part number.

Column (4) – Use On Code (UOC): This code is used to identify items that are not the same for different models of the same equipment.

- M16A2 – AR8
- M16A3 – AW4
- M16A4 – AZ1
- M4 – AS1
- M4A1 – AY6

Column (5) – Unit of Measure (U/M): Indicates the physical measurement or count of the item as issued per the NSN shown in Column (2).

Column (6) – Qty Rqr: Indicates the quantity required.

NOTE (Navy only):

Allowance Equipage List (AEL)

- Blue Water M4A1/M16A3, 5.56 Series, AEL #1: 0-006400257
- Blue Water M4A1/M16A3, 5.56 Series, AEL #2: 0-006400273
- Blue Water M4A1/M16A3, 5.56 Series, AEL #3: 0-006400279
- Enhanced M4A1/M16A3, 5.56 Series, AEL: 0-00640A849

EXPLANATION OF COLUMNS IN THE COEI LIST AND BII LIST -- continued

Components of End Items

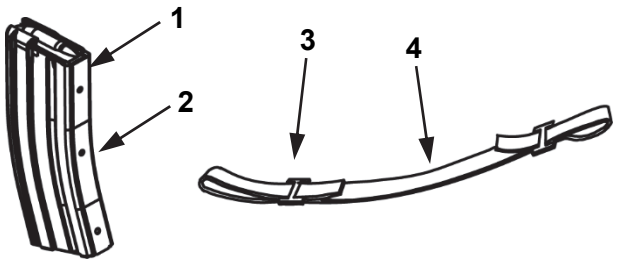


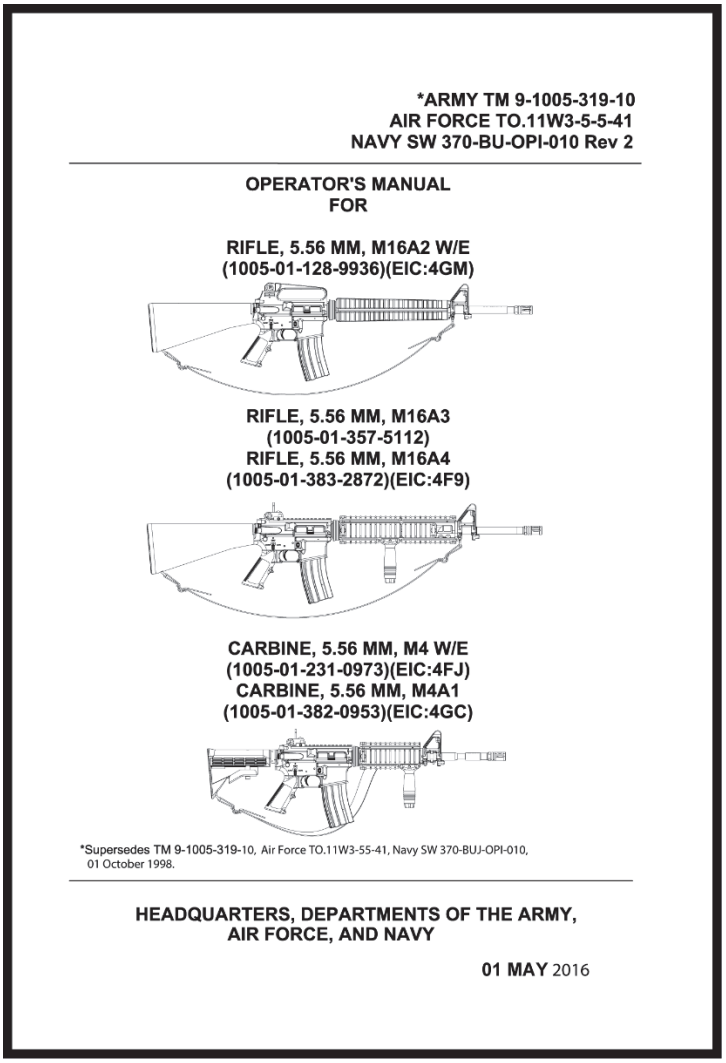
Figure 1. Components of End Items

Table 1. Components of End Items List

(1) Illus No.	(2) National Stock Number	(3) Description, CAGEC, and Part Number	(4) UOC	(5) U/M	(6) Qty Rqr
1	1005-01-561-7200	Magazine, Cartridge: 30 Round (19200) 13021312	AR8 AW4 AZ1 AS1 AY6	EA	1
2	1005-01-630-9508	Magazine, Cartridge 30 Round, Tan (19200) 13058014	AR8 AW4 AZ1 AS1 AY6	EA	1
3	1005-01-216-4510	Sling, Small Arms (19204) 12624561	AR8 AW4 AZ1	EA	1
4	1005-01-368-9852	Sling, Small Arms, Carbine (19200) 12011996	AS1 AY6	EA	1

EXPLANATION OF COLUMNS IN THE COEI LIST AND BII LIST – continued

Basic Issue Items



*ARMY TM 9-1005-319-10
AIR FORCE TO.11W3-5-5-41
NAVY SW 370-BU-OPI-010 Rev 2

OPERATOR'S MANUAL
FOR

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

RIFLE, 5.56 MM, M16A3
(1005-01-357-5112)
RIFLE, 5.56 MM, M16A4
(1005-01-383-2872)(EIC:4F9)

CARBINE, 5.56 MM, M4 W/E
(1005-01-231-0973)(EIC:4FJ)
CARBINE, 5.56 MM, M4A1
(1005-01-382-0953)(EIC:4GC)

*Supersedes TM 9-1005-319-10, Air Force TO.11W3-55-41, Navy SW 370-BUJ-OPI-010, 01 October 1998.

HEADQUARTERS, DEPARTMENTS OF THE ARMY,
AIR FORCE, AND NAVY

01 MAY 2016

Figure 2. TM 9-1005-319-10, Revision 2

EXPLANATION OF COLUMNS IN THE COEI LIST AND BII LIST – continued

Table 2. Basic Issue Items List

(1) Illus No.	(2) National Stock Number	(3) Description, CAGEC, and Part Number	(4) UOC	(5) U/M	(6) Qty Rqr
1	N/A	TM 9-1005-319-10, Revision 2	AR8 AW4 AZ1 AS1 AY6	EA	1

EXPLANATION OF COLUMNS IN THE COEI LIST AND BII LIST – continued

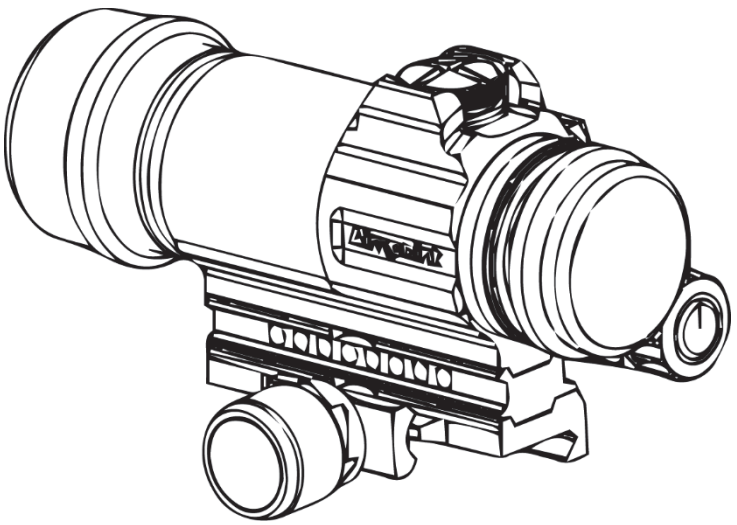


Table 3. Basic Issue Item List for U.S. Air Force Only

(1) Illus No.	(2) National Stock Number	(3) Description, CAGEC, and Part Number	(4) UOC	(5) U/M	(6) Qty Rqr
1	1240-01-576-6134	M68 Optic (Comp M4S)	AS1	EA	1

EXPLANATION OF COLUMNS IN THE COEI LIST AND BII LIST -- continued

Table 4. Basic Issue Items List for U.S. Navy Only

(1) National Stock Number	(2) Description	(3) UOC	(4) U/I	(5) Qty Rec
N/A	Weapon Record Book: For current revision contact smallarms@navy.mil	AR8 AW4 AZ1 AS1 AY6	EA	1
1005-01-561-7200	Magazine Assy, 30 Round	AR8 AW4 AZ1 AS1 AY6	EA	6
1005-01-630-9508	Magazine Assy, 30 Round: Alt for NSN 1005-01-561-7200	AR8 AW4 AZ1 AS1 AY6	EA	1
1005-01-368-9852	Sling, Combat Small Arms	AR8 AW4 AZ1 AS1 AY6	EA	1
1005-01-361-8208	Blank Firing Attachment (Yellow)	AS1 AY6	EA	1
1005-01-113-0321	Handle, Cleaning Rod Small Arms	AR8 AW4 AZ1 AS1 AY6	EA	1

EXPLANATION OF COLUMNS IN THE COEI LIST AND BII LIST -- continued

Table 4. Basic Issue Items List for U.S. Navy Only -- continued

(1) National Stock Number	(2) Description	(3) UOC	(4) U/I	(5) Qty Rec
1005-00-050-6357	Rod Section, Cleaning Small Arms	AR8 AW4 AZ1 AS1 AY6	EA	3
1005-00-937-2250	Swab Holder Section, Cleaning Rod, Small Arms	AR8 AW4 AZ1 AS1 AY6	EA	1
1005-00-903-1296	Bore Brush, Cleaning Small Arms	AW4 AZ1 AS1 AY6	EA	1
1005-00-999-1435	Chamber Brush, Cleaning Small Arms	AR8 AW4 AZ1 AS1 AY6	EA	1
1005-00-781-9564	Case, Maintenance Equipment Small Arms	AR8 AW4 AZ1 AS1 AY6	EA	1
1005-00-494-6602	Brush, Cleaning General Purpose	AR8 AW4 AZ1 AS1 AY6	EA	1
1005-00-001-6482	Case, Small Arms Ammunition	AR8 AW4 AZ1 AS1 AY6	EA	2

END OF WORK PACKAGE

OPERATOR
ADDITIONAL AUTHORIZATION LIST (AAL)

SCOPE

This work package lists additional items you are authorized for the support of the M16A2, M16A3, and M16A4 Rifles and the M4 and M4A1 Carbines.

GENERAL

This list identifies items that do not have to accompany the M16A2, M16A3, and M16A4 Rifles and the M4 and M4A1 Carbines and that do not have to be turned in with it. These items are all authorized to the operator by CTA, MTOE, TDA, or JTA.

EXPLANATION OF COLUMNS IN THE AAL

Column (1) – NSN. The National Stock Number (NSN) identifies the item to be used for requisitioning purposes.

Column (2) – Description. Includes the Part Number/Commercial and Government Entity Code (CAGEC), nomenclature, followed by additional details.

Column (3) – UOC. Useable On Code (UOC) is used when item needed is not the same for a different model of equipment.

- M16A2 – AR8
- M16A3 – AW4
- M16A4 – AZ1
- M4 – AS1
- M4A1 – AY6

Column (4) – U/I. Unit of Issue (U/I) indicates the physical measurement or count of the item as issued per the National Stock Number shown in column (1).

Column (5) – Qty. Indicates the quantity recommended.

EXPLANATION OF COLUMNS IN THE AAL -- continued

NOTE (Navy only):

Allowance Equipage List (AEL)

- Blue Water M4A1/M16A3, 5.56 Series, AEL #1: 0-006400257
- Blue Water M4A1/M16A3, 5.56 Series, AEL #2: 0-006400273
- Blue Water M4A1/M16A3, 5.56 Series, AEL #3: 0-006400279
- Enhanced M4A1/M16A3, 5.56 Series, AEL: 0-00640A849

Table 1. Additional Authorization List (AAL)

(1) National Stock Number	(2) Description, CAGEC, and Part Number	(3) UOC	(4) U/I	(5) Qty Rec
1005-01-562-1866	ADAPTER RAIL, WEAPON MOUNTED: forward rail bracket used on weapons without a rail system, (19200), 13014773	AR8	EA	1
1005-01-563-8451	BIPOD, RIFLE: grip bipod used with rail system or in conjunction with forward rail bracket (1005-01-541-2476), (19200), 13014772	AR8 AW4 AZ1 AS1 AY6	EA	1
1005-01-563-0152	BIPOD, RIFLE: squad designated marksman bipod used with rail system or in conjunction with forward rail bracket (1005-01-562-1866), (19200), 13021105	AR8 AW4 AZ1 AS1 AY6	EA	1
1005-00-118-6192	BLANK FIRING ATTACHMENT M15A2: (for training only) (Rifle only) (Red), (19204) 12002900	AR8 AW4 AZ1	EA	1
1005-01-361-8208	BLANK FIRING ATTACHMENT M23 (for training only) (Carbine only) (Yellow), (19200), 12597837	AS1 AY6	EA	1
5340-01-230-3181	BRACKET, MOUNTING: required to restrain M4/A1 in M12 arms rack (19200) 12556036	AS1 AY6	EA	1
5340-01-485-1916	BRACKET, MOUNTING: flashlight mount used with rail system, (19200), 12997559	AS1 AY6 AZ1 AW4	EA	1
1005-01-544-9825	BUTTSTOCK, SUBASSEMBLY: enhanced sliding buttstock, (19200), 13020680	AS1 AY6	EA	1
5340-00-880-7666	CAP, PROTECTIVE, DUST, (19204), 8445067	AR8 AW4 AZ1 AS1 AY6	EA	1

Table 1. Additional Authorization List (AAL) – continued

(1) National Stock Number	(2) Description, CAGEC, and Part Number	(3) UOC	(4) U/I	(5) Qty Rec
1005-00-403-5804	CASE, SMALL ARMS: for rifles with buttstock storage, (19204), 8448751	AR8 AW4 AZ1	EA	1
8465-00-781-9564	CASE, MAINTENANCE EQUIPMENT: for weapons without buttstock storage, (81349), MIL-C-43737	AS1 AY6	EA	1
1005-01-465-0401	HANDLE, GUN CARRYING: needed to install quadrant sight when M203A2 is applied to weapon, (19200), 12951011	AW4 AZ1 AS1 AY6	EA	1
1005-01-562-9455	HOLDER, MULTIPLE MAGAZINE: allows for two magazines to be attached for more efficient loading, (19200), 13015255	AR8 AW4 AZ1 AS1 AY6	EA	1
1005-01-478-0848	KIT, CLOSE QUARTERS COMBAT SLING ADAPTER, (19200), 12956271	AR8 AW4 AZ1 AS1 AY6	EA	1
1005-01-562-7393	KIT, CLEANING, IMPROVED WEAPON, (19200), 13015257	AR8 AW4 AZ1 AS1 AY6	EA	1
5340-00-233-9031	LOCKING PLATE: for riot control use, prevents selector from automatic Fire (refer to unit maintenance for installation and instructions on use), (19204), 844676	AR8 AW4 AZ1 AS1 AY6	EA	1
1005-01-561-7200	MAGAZINE, CARTRIDGE: 30 round, (19200), 13021312	AR8 AW4 AZ1 AS1 AY6	EA	6

Table 1. Additional Authorization List (AAL) – continued

(1) National Stock Number	(2) Description, CAGEC, and Part Number	(3) UOC	(4) U/I	(5) Qty Rec
1005-01-394-7677	PROTECTOR, RAIL: protects M4/A1 rail from being damaged when placed in arms rack, (19200), 12972676	AS1 AY6	EA	1
1005-01-562-9457	SLING, SMALL ARMS: tactical quick release sling, (19200) 13014775	AR8 AW4 AZ1 AS1 AY6	EA	1
1005-01-569-6938	**NOTE** M4/A1 buffer should NOT be used with this buttstock. STOCK, GUN, SHOULDER: collapsible buttstock for M16A2/A4, (19200), 13023910	AR8 AZ1 AW4	EA	1
1005-00-406-1570	TOP SLING ADAPTER KIT, (19204), 8448471	AR8 AW4 AZ1 AS1 AY6	EA	1
1005-01-452-6771	Adapter Rail System, M5, (19200), (12973020)	AR8 AW4 AZ1	EA	1
1005-01-653-9588	CLEANING KIT, GUN, INDIVIDUAL, (19200), 13008830, W/O TOOL	AR8 AW4 AZ1 AS1 AY6	EA	1
1005-01-453-6655	FORWARD PISTOL GRIP ASSEMBLY, (19200), 12973101	AW4 AZ1 AS1 AY6	EA	1

Table 1. Additional Authorization List (AAL) – continued

(1) National Stock Number	(2) Description, CAGEC, and Part Number	(3) UOC	(4) U/I	(5) Qty Rec
1005-01-630-9508	MAGAZINE, CARTRIDGE 30 Round, Tan, (19200), 13058014	AR8 AW4 AZ1 AS1 AY6	EA	6
1005-01-597-2402	RECEIVER END PLATE: rear sling attachment point *Navy only item*, (19200), 13008833	AS1, AY6	EA	1
1005-01-653-9567	CLEANING KIT, GUN, TEAM KIT: Issue per Fire Team, (19200), 13008831	AR8 AW4 AZ1 AS1 AY6	EA	1
1005-01-624-1673	CLEANING KIT, GUN, INDIVIDUAL W/TOOL (19200), 13008843	AR8 AW4 AZ1 AS1 AY6	EA	1
1005-01-453-5386	11 RIB RAIL COVER ASSEMBLY, (19200), 12973132	AW4 AZ1 AS1 AY6	EA	V
1005-01-453-5383	9 RIB RAIL COVER ASSEMBLY, (19200), 12973134	AW4 AZ1 AS1 AY6	EA	V
1005-01-453-4222	6 RIB RAIL COVER ASSEMBLY, (19200), 12973135	AW4 AZ1 AS1 AY6	EA	V
1005-01-453-4221	5 RIB RAIL COVER ASSEMBLY, (19200), 12973136	AW4 AZ1 AS1 AY6	EA	V

(1) National Stock Number	(2) Description, CAGEC, and Part Number	(3) UOC	(4) U/I	(5) Qty Rec
1005-01-453-4223	4 RIB RAIL COVER ASSEMBLY, (19200), 12973137	AW4 AZ1 AS1 AY6	EA	V
1005-01-453-4228	2 RIB RAIL COVER ASSEMBLY, (19200), 12973138	AW4 AZ1 AS1 AY6	EA	V
1005-01-615-5169	PMAG Gen 3 Black, (1LX50), MAG556-BLK	AR8 AW4 AZ1 AS1 AY6	EA	1
1005-01-659-7086	PMAG Gen 3 Coyote Tan, (1LX50), MAG556-MCT	AR8 AW4 AZ1 AS1 AY6	EA	1

END OF WORK PACKAGE

OPERATOR
EXPENDABLE AND DURABLE ITEMS LIST

INTRODUCTION

Scope

This work package lists expendable and durable items that you will need to operate and maintain the M16A2, M16A3, and M16A4 Rifles and the M4 and M4A1 Carbines. This list is for information only and is not authority to requisition the listed items. These items are authorized to you by CTA 50-970, Expendable/Durable Items (Except Medical, Class V Repair Parts and Heraldic Items), CTA 50-909, Field and Garrison Furnishings and Equipment or CTA 8-100, Army Medical Department Expendable/Durable Items.

Explanation of Columns

Column (1) Item No. This number is assigned to the entry in the list and is referenced in the narrative instructions to identify the item, (e.g., Use brake fluid (WP 0098, item 5).

Column (2) Level. This column identifies the lowest level of maintenance that requires the listed item, (C = Operator/Crew, F = Maintainer).

Column (3) National Stock Number (NSN). This is the NSN assigned to the item which you can use to requisition it.

Column (4) Item Name, Description, Part Number/(CAGEC). This column provides the other information you need to identify the item. The last line below the description is the part number and the Commercial and Government Entity Code (CAGEC) (in parentheses).

Column (5) Unit of Issue (U/I). U/I code shows the physical measurement or count of an item such as gallon, dozen, gross, etc.

NOTE (Navy only):

Allowance Equipage List (AEL)

- SA Clean Compounds, Lubes, Common Tools, AEL #1: 0-006400180
- SA Clean Compounds, Lubes, Common Tools, AEL #2: 0-006400181
- SA Clean Compounds, Lubes, Common Tools, AEL #3: 0-006400182

Table 1. Expendable and Durable Items List.

(1) Item No.	(2) Level	(3) National Stock Number (NSN)	(4) Item Name, Description, CAGEC, and Part Number	(5) U/I
1	C	1005-00-242-5687	BOTTLE ASSEMBLY, CYLINDRICAL, (19204), 8448444	AY
2	C	8020-00-244-0153	BRUSH, ARTISTS, (80244), H-B-241	EA
3	C	1005-00-903-1296	BRUSH, CLEANING, SMALL ARMS: bore, (19204), 11686340	EA
4	C	1005-00-999-1435	BRUSH, CLEANING, SMALL ARMS: chamber, (19204), 8432358	EA
5	C	1005-00-494-6602	BRUSH, CLEANING, SMALL ARMS: toothbrush, (19204), 8448462	EA
6	C	7920-00-205-2401	BRUSH, CLEANING, TOOLS AND PARTS, (81349), MILS43871	EA
7	C		CLEANER, LUBRICANT AND PRESERVATIVE (CLP), (81349) MIL-PRF-63460	
		9150-01-102-1473	1/2 oz bottle	BT
		9150-01-079-6124	4 oz bottle	BT
		9150-01-054-6453	1 pt can	PT
		9150-01-053-6688	1 gal	GL
8	C	9920-00-292-9946	CLEANER, TOBACCO PIPE: cotton fibers, wire core (1344 per box), (19203) 840507	BX
9	C		CLEANING COMPOUND, RIFLE BORE (RBC), (81349), MIL-PRF-372	
		6850-00-224-6656	2oz bottle	BT
		6850-00-224-6657	8 oz can	CN
		6850-00-224-6663	1 gal can	GL

Table 1. Expendable and Durable Items List. – continued

(1) Item No.	(2) Level	(3) National Stock Number (NSN)	(4) Item Name, Description, CAGEC, and Part Number	(5) U/I
10	C	5350-00-221-0872	CLOTH, ABRASIVE (50 sheets), (81348), P-C-458	PG
11	C	1005-00-809-2190	COVER, PROTECTIVE, RIFLE for M16 Series Rifles (25 per box), (19204), 8448213	BX
12	C		DRY CLEANING SOLVENT, (58536), MIL-PRF-680 TYPE II	
		6850-01-474-2319	1 gal	GL
		6850-01-474-2317	5 gal	GL
		6850-01-474-2316	55 gal.	DR
13	C		GLOVES, RUBBER, INDUSTRIAL, (81349), MIL-DTL-32066	
		8415-00-823-7458	Size 9	PR
		8415-00-823-7459	Size 10	PR
		8415-00-823-7460	Size 11	PR
14	C	1005-01-113-0321	HANDLE SECTION, CLEANING ROD, SMALL, ARMS (19204), 8436776	EA
15	C	9150-00-292-9689	LUBRICATING OIL, ARCTIC WEAPONS (LAW) (1 quart can), (81349), MIL-PRF-14107	QT
16	C		LUBRICATING OIL, WEAPONS (LSA): Semifluid, (81349), MILL46000	
		9150-00-935-6597	2 oz bottle	BT
		9150-00-889-3522	4 oz bottle	BT
17	C	7920-00-205-1711	RAG, WIPING: 50 lb bale, (58536), A-A-531	BE
18	C	1005-00-050-6357	ROD SECTION, CLEANING, SMALL ARMS (25 per box), (19204), 8436775 QTY Needed 3	BX

Table 1. Expendable and Durable Items List. – continued

(1) Item No.	(2) Level	(3) National Stock Number (NSN)	(4) Item Name, Description, CAGEC, and Part Number	(5) U/I
19	C	1005-00-937-2250	SWAB HOLDER SECTION, SMALL ARMS CLEANING, (19204), 11686327	EA
20	C	1005-00-912-4248	SWAB, SMALL ARMS CLEANING: cotton (1000 per package), (19204), 11686408	PG
21	C	6920-01-482-0098	TARGET, 25 METER ZEROING, (19200), 12988975	BX
22	C	1005-00-193-8306	BAG, PROTECTIVE, MAGAZINE (19204), 8448464	PG

END OF WORK PACKAGE

Ref: NAVSEAINST 4160.3 NAVSEA S0005-AA-GYD-030/TMMP

NAVSEA/SPAWAR TECHNICAL MANUAL DEFICIENCY/EVALUATION REPORT (TMDER)

INSTRUCTIONS: Continue on 8 ½" x 11" on page if additional space is needed.
1. Use this report to indicate deficiencies, problems and recommendations relating to publications.
2. For **CLASSIFIED** TMDERs see OPNAVINST 5510H for mailing requirements.
3. For TMDERs that affect more than one publication, submit a separate TMDER for each.
4. Submit TMDERs at web site https://nsdsa.nmci.navy.mil or mail to: **COMMANDER, CODE 310 TMDERs, NAVSURFWARCENDIV NSDSA, 4363 MISSILE WAY BLDG 1389, PORT HUENEME CA 93043-4307**

1. PUBLICATION NUMBER	2. VOL/PART	3. REV/DATE OR CHG/DATE	4. SYSTEM/EQUIPMENT ID

5. TITLE OF PUBLICATION	6. REPORT CONTROL NUMBER (6 digit UIC-YY-any four: xxxxxx-10-xxxx)

7. RECOMMEND CHANGES TO PUBLICATION

7a. Page #	7b. Para #	7c. RECOMMENDED CHANGES AND REASONS

8. ORIGINATOR'S NAME AND WORK CENTER	9. DATE	10. ORIGINATOR'S E-MAIL ADDRESS	11. TMMA of Manual (NSDSA will complete)

12. SHIP OR ACTIVITY Name and Address (Include UIC/CAGE/HULL)	13. Phone Numbers:
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	DSN -
	FAX ( ) -

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RECOMMENDED CHANGES TO PUBLICATIONS AND BLANK FORMS For use of this form, see AR 25-30; the proponent agency is OAASA	Use Part II *(reverse)* for Repair Parts and Special Tool Lists (RPSTL) and Supply Catalogs/Supply Manuals (SC/SM).	DATE *Date you filled out this form.*

TO: *(Forward to proponent of publication or form) (Include ZIP Code)* U.S. Army TACOM Life Cycle Management Command ATTN: AMSTA-LCL-IMP/TECH PUBS MS 727 6501 E. 11 Mile Road, Warren, MI 48397-5000	**FROM:** *(Activity and location) (Include ZIP Code)* *Your mailing address*

PART I - ALL PUBLICATIONS (EXCEPT RPSTL AND SC/SM) AND BLANK FORMS

PUBLICATION/FORM NUMBER	DATE	TITLE
TM Number	*Date of the TM*	*Title of the TM*

ITEM	PAGE	PARA-GRAPH	LINE	FIGURE NO.	TABLE	RECOMMENDED CHANGES AND REASON
						SAMPLE

** Reference to line numbers within the paragraph or subparagraph.*

TYPED NAME, GRADE OR TITLE	TELEPHONE EXCHANGE/AUTOVON, PLUS EXTENSION	SIGNATURE
Your Name	*Your Phone Number*	*Your Signature*

TO: *(Forward direct to addressee listed in publication)*	FROM: *(Activity and location) (Include ZIP Code)*	DATE
U.S. Army TACOM Life Cycle Management Command ATTN: AMSTA-LCL-IMP/TECH PUBS MS 727 6501 E. 11 Mile Road, Warren, MI 48397-5000		

PART II - REPAIR PARTS AND SPECIAL TOOL LISTS AND SUPPLY CATALOGS/SUPPLY MANUALS

PUBLICATION NUMBER	DATE	TITLE
TM Number	*Date of the TM*	*Title of the TM*

PAGE NO.	COLM NO.	LINE NO.	NATIONAL STOCK NUMBER	REFERENCE NO.	FIGURE NO.	ITEM NO.	TOTAL NO. OF MAJOR ITEMS SUPPORTED	RECOMMENDED ACTION

PART III - REMARKS *(Any general remarks or recommendations, or suggestions for improvement of publications and blank forms. Additional blank sheets may be used if more space is needed.)*

SAMPLE

TYPED NAME, GRADE OR TITLE	TELEPHONE EXCHANGE/AUTOVON, PLUS EXTENSION	SIGNATURE

USAPA V3.01

RECOMMENDED CHANGES TO PUBLICATIONS AND BLANK FORMS For use of this form, see AR 25-30; the proponent agency is OAASA	Use Part II *(reverse)* for Repair Parts and Special Tool Lists (RPSTL) and Supply Catalogs/Supply Manuals (SC/SM).	DATE
TO: *(Forward to proponent of publication or form) (Include ZIP Code)* U.S. Army TACOM Life Cycle Management Command ATTN: AMSTA-LCL-IMP/TECH PUBS MS 727 6501 E. 11 Mile Road, Warren, MI 48397-5000	**FROM:** *(Activity and location) (Include ZIP Code)*	

PART I - ALL PUBLICATIONS (EXCEPT RPSTL AND SC/SM) AND BLANK FORMS

PUBLICATION/FORM NUMBER	DATE	TITLE
TM 9-1005-319-10	01 August 2016	M16A2, M16A3, and M16A4 Rifles and M4 and M4A1 Carbines

ITEM	PAGE	PARA-GRAPH	LINE	FIGURE NO.	TABLE	RECOMMENDED CHANGES AND REASON

** Reference to line numbers within the paragraph or subparagraph.*

TYPED NAME, GRADE OR TITLE	TELEPHONE EXCHANGE/AUTOVON, PLUS EXTENSION	SIGNATURE

TO: *(Forward direct to addressee listed in publication)*	FROM: *(Activity and location) (Include ZIP Code)*	DATE
U.S. Army TACOM Life Cycle Management Command ATTN: AMSTA-LCL-IMP/TECH PUBS MS 727 6501 E. 11 Mile Road, Warren, MI 48397-5000		

PART II - REPAIR PARTS AND SPECIAL TOOL LISTS AND SUPPLY CATALOGS/SUPPLY MANUALS

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TYPED NAME, GRADE OR TITLE	TELEPHONE EXCHANGE/AUTOVON, PLUS EXTENSION	SIGNATURE

USAPA V3.01

By Order of the Secretary of the Army:

Official:

GERALD B. O'KEEFE
Administrative Assistant to
the Secretary of the Army
1617501

MARK A. MILLEY
General, United States Army
Chief of Staff

By Order of the Secretary of the Air Force:

DEBORAH LEE JAMES
Secretary of the United States
Air Force (USAF)

MARK A. WELSH, III
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Commander, Air Force Materiel
Command (AFMC)

By Order of the Secretary of the Navy:

JOHN G. TAYLOR
Lieutenant Commander, Small Arms
Program Manager
Naval Sea Systems Command

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THE METRIC SYSTEM AND EQUIVALENTS

Linear Measure

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

Weights

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

Liquid Measure

1 Milliliter = 0.001 Liters = 0.0338 Fluid Ounces
1 Liter = 1000 Milliliters = 33.82 Fluid Ounces

Square Measure

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

Cubic Measure

1 Cu Centimeter = 1,000 Cu Millimeters = 0.06 Cu Inches
1 Cu Meter = 1,000,000 Cu Centimeters = 35.31 Cu Feet

Temperature

9/5 °C +32 = °F
5/9 (°F - 32) = °C
212° Fahrenheit is equivalent to 100° Celsius
90° Fahrenheit is equivalent to 32.2° Celsius
32° Fahrenheit is equivalent to 0° Celsius

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

PIN: 059875-000