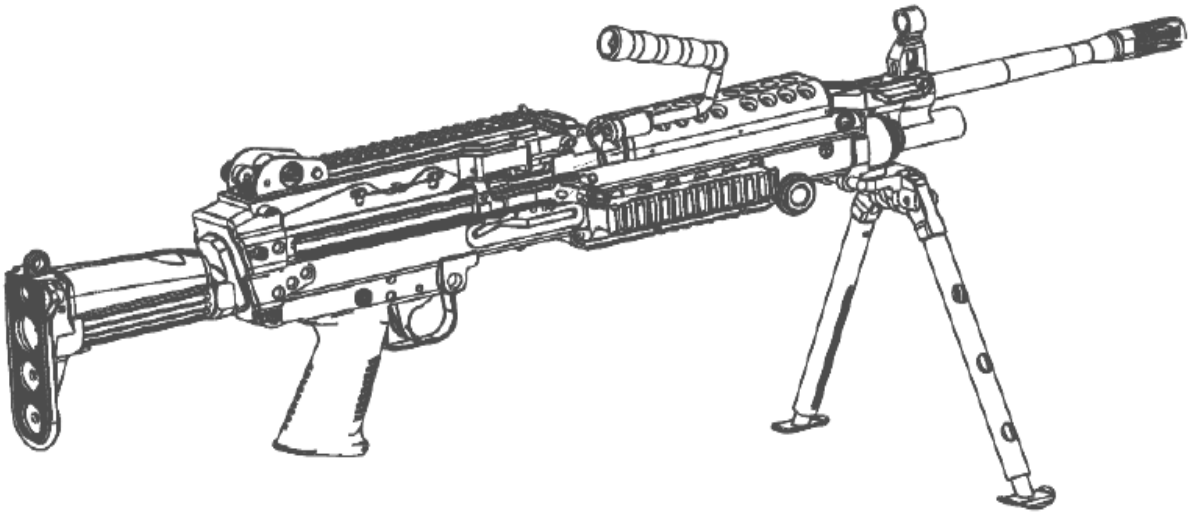
* ARMY TM 9-1005-201-23&P
AIR FORCE TO 1W 3-5-5-52
MARINE CORPS TM 08671A-OI /1A

TECHNICAL MANUAL
FIELD MAINTENANCE MANUAL
(INCLUDING REPAIR PARTS AND SPECIAL TOOLS LIST)
FOR
MACHINE GUN, 5.56 MM, M249 W/EQUIPMENT (AR ROLE)
NSN 1005-01-127-7510 (EIC 4BG)
MACHINE GUN, 5.56 MM, M249 W/ EQUIPMENT (LMG ROLE)
NSN 1005-01-451-6769 (EIC 4BK)



***SUPERSEDURE NOTICE –** *TM 9-1005-201-23&P dated 15 April 2013, including all changes.

DISTRIBUTION STATEMENT D – Distribution authorized to the Department of Defense and U.S. DoD contractors only. This publication is critical technology, as determined on 31 October 1990. Other requests for this document shall be referred to US Army TACOM Life Cycle Command, ATTN: AMSTA-LCL-MMP/TECH PUBS, MS 727, 6501 E. 11 Mile, Warren, MI 48397-5000. Air Force requests shall be forwarded to 406 SCMS/GULA, Robins AFB GA 31098.

WARNING – This document contains technical data whose export is restricted by the Arms Export Control Act (Title 22, U.S.C., Sec 2751, et seq.) or the Export Administration Act of 1979 (Title 50, U.S.C. App. 2401 et seq.), as amended. Violation of these export laws are subject to severe criminal penalties. Disseminate in accordance with provisions of DoD Directive 5230.25.

DESTRUCTION NOTICE -- Destroy by any method that will prevent disclosure of contents or reconstruction of contents.

HEADQUARTERS,DEPARTMENTS OF THE ARMY, AIR FORCE, AND HEADQUARTERS, U.S. MARINE CORPS
15 OCTOBER 2014

PCN 184 079828 00

WARNING SUMMARY

This warning summary contains general safety warnings and hazardous materials warnings that must be understood and applied during operation and maintenance of this equipment. Failure to observe these precautions could result in serious injury or death to personnel.

FIRST AID

Army (A) - personnel refer to FM 4-25.11

USAF (F) - personnel refer to AFMAN 44-163(1)

USMC (MC) - personnel refer to MCRP 3-02G

WARNING SUMMARY - Continued

GENERAL SAFETY WARNINGS DESCRIPTION

WARNING

MOVING PARTS

- Do not allow the top cover to slam shut from raised position when loading. Hand injury or equipment damage may result.
- Be sure to put bolt in forward position before removing the lightweight collapsible buttstock assembly. Failure to observe this warning may result in injury.
- In case of a runaway gun, break the ammo belt while keeping the weapon pointed in a safe direction.

WARNING

ACCIDENTAL DISCHARGE

Failure to properly clear the weapon can result in an accidental discharge of a round. Be sure to clear weapon before disassembling, cleaning, inspecting, transporting, or storing. Clearing consists of unloading the weapon and visually inspecting weapon and chamber to ensure all rounds have been removed.

HAZARDOUS MATERIALS DESCRIPTION

WARNING

EXPLOSION

- Before performing any procedure, ensure weapon is clear of any ammunition. Performing maintenance on a loaded weapon can lead to unexpected firing. Failure to comply may result in injury to personnel or damage to equipment.
- Any unusual occurrence during firing (e.g., short recoil, excess smoke, flash, muffled report, malfunction, or stoppage) warrants immediate inspection of the weapon: Clear weapon; check barrel for obstruction; and inspect magazine well, bolt face, and receiver for damage and/or unusual debris.
- If the bolt jams during firing, do not let the bolt slam forward as top cover is being opened; it could fire a round.
- Keep ammunition dry, clean, and away from direct heat.
- Do not drop, strike, or destroy ammunition by mechanical means.
- Use only ammunition authorized for use with the M249 machine gun: M193 ball , M196 tracer, M855 ball , M855A1ball , M856/M856A1 tracer, M955 armor piercing, M200 blank , and M232 dummy.
- When firing approved 5.56 mm ammunition, observe all WARNINGS in the front of this manual.

WARNING SUMMARY - Continued

HAZARDOUS MATERIALS DESCRIPTION - Continued

WARNING

CHEMICAL, FIRE, AND VAPOR

Cleaner, Lubricant, and Preservative (CLP) MIL-PRF-63460 may be irritating to the eyes and skin. Use protective gloves and goggles. First aid for skin contact: wash skin thoroughly with soap and water. First aid for eye contact: flush with water for 15 minutes or until irritation subsides. If symptoms persist, seek medical attention. Failure to comply may result in personnel injury.

Use CLP MIL-PRF-63460 in a well-ventilated area. Breathing in small amounts of this material during normal handling is not likely to cause harmful effects. Accidental ingestion can cause irritation of digestive tract and respiratory tract. Inhalation of high/massive concentrations can cause headache, dizziness, and loss of cognitive functions. First aid for ingestion: DO NOT induce vomiting. Seek medical attention if symptoms appear. First aid for inhalation: Move to fresh air. If not breathing, provide artificial respiration. Loosen tight clothing. If symptoms persist, seek medical attention. Failure to comply may result in personnel death or injury.

CLP MIL-PRF-63460 is combustible. DO NOT use or store near heat, sparks, flame, or other ignition sources. Keep container sealed with not in use. Failure to comply may result in personnel death or injury.

Cloths or rags saturated with CLP-MIL-PRF 63460 must be disposed of in accordance with authorized facility procedures. Failure to comply may result personnel injury or contamination of the environment.

(F) Air Force personnel will use only those cleaning, lubricating, and protective substances specifically noted in the Technical Order. Ultrasonic cleaners are not authorized for this weapon.

LIST OF EFFECTIVE PAGES/WORK PACKAGES

Note: Zero in the "Change No." column indicates an orginal page or work package.
This manual supersedes TM 9-1005-201-23P dated 15 April 2013

Date of issue for the original manual is: 15 OCTOBER 2014

TOTAL NUMBER OF PAGES FOR FRONT AND REAR MATTER IS 30 AND TOTAL NUMBER OF WORK PACKAGES IS 52, CONSISTING OF THE FOLLOWING:

Page/WP No.	Change No.
Front Cover	0
a-d	0
A/B	0
i-vi	0
Chapter 1 title page	0
WP 0001 (4 pages)	0
WP 0002 (4 pages)	0
WP 0003 (2 pages)	0
Chapter 2 title page	0
WP 0004 (2 pages)	0
WP 0005 (16 pages)	0
Chapter 3 Title Page	0
WP 0006 (2 pages)	0
WP 0007 (16 pages)	0
Chapter 4 title page	0
WP 0008 (2 pages)	0
WP 0009 (2 pages)	0
WP 0010 (2 pages)	0
WP 0011 (30 pages)	0
WP 0012 (2 pages)	0
WP 0013 (4 pages)	0
WP 0014 (6 pages)	0
WP 0015 (2 pages)	0
WP 0016 (2 pages)	0
WP 0017 (12 pages)	0
WP 0018 (10 pages)	0
WP 0019 (10 pages)	0
WP 0020 (6 pages)	0
WP 0021 (2 pages)	0
WP 0022 (4 pages)	0
WP 0023 (18 pages)	0
WP 0024 (4 pages)	0
WP 0025 (2 pages)	0
Chapter 5 title page	0
WP 0026 (6 pages)	0
WP 0027 (2 pages)	0
WP 0028 (4 pages)	0
WP 0029 (4 pages)	0
WP 0030 (2 pages)	0
WP 0031 (2 pages)	0
WP 0032 (2 pages)	0
WP 0033 (2 pages)	0
WP 0034 (4 pages)	0
WP 0035 (4 pages)	0
WP 0036 (2 pages)	0
WP 0037 (4 pages)	0
WP 0038 (2 pages)	0
WP 0039 (4 pages)	0
WP 0040 (4 pages)	0
WP 0041 (2 pages)	0
WP 0042 (2 pages)	0
WP 0043 (4 pages)	0
WP 0044 (2 pages)	0
WP 0045 (2 pages)	0
WP 0046 (4 pages)	0
WP 0047 (6 pages)	0
Chapter 6 Title Page	0
WP 0048 (2 pages)	0
WP 0049 (4 pages)	0
WP 0050 (4 pages)	0
WP 0051 (2 pages)	0
WP 0052 (2 pages)	0
Alphabetical Index	0
Back Cover	0

HEADQUARTERS, DEPARTMENTS OF
THE ARMY, AIR FORCE, AND
HEADQUARTERS, U.S MARINE CORPS
WASHINGTON, D.C., 15 OCTOBER 2014

TECHNICAL MANUAL
FIELD MAINTENANCE MANUAL
INCLUDING REPAIR PARTS AND SPECIAL TOOLS LIST

FOR

MACHINE GUN, 5.56MM, M249 W / EQUIPMENT (AR ROLE)
NSN 1005-01-127-7510 (EIC 4BG)
MACHINE GUN, 5.56MM, M249 W / EQUIPMENT (LMG ROLE)
NSN 1005-01-451-6769 (EIC 4BK)

REPORTING ERRORS AND RECOMMENDING IMPROVEMENTS

You can help improve this manual. If you and any mistakes, or if you would like to recommend any improvements to the procedures in this publication, please let us know. Reports, as applicable by the requiring service, should be submitted as follows:

(a) Army (A) - 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) website. The Internet address is https://tulsa.tacom.army.mil. Access to all applications 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 website 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, The postal mail address is U.S Army TACOM Life Cycle Management Command ATTN: AMSTA-LCL-IM/TECH PUBS, MS 727, 6501 E. 11 Mile Road, Warren, MI 48397-5000. The e-mail address is tacomlcmc.daform2028@us.army.mil. The fax number is DSN 786-1856 or Com. (586) 282-1856. A reply will be furnished to you.

(b) Air Force (F) Proposed changes or reporting errors shall be submitted on an AFTO Form 22 through the 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.

(c) Marine Corps (MC) Submit notice of discrepancies or suggested changes on an NAVMC Form 10772. The NAVMC may be submitted using either of the following:

a. The preferred method of submittal is using https://portal.logcom.usmc.mil/sites/pubs/default.aspx. Problems or questions regarding the NAVMC 10772 program should be reported by calling DSN 567-5017 or Com. (229) 639-7628 or 639-5017.

b. The alternate method of submittal does not require a CAC to access the form. Click on http://navalforms.daps.dla.mil/web/public/forms, select the "Keyword Search" button, enter "10772" in the Search Criteria Box. Under "type" click on download page button. Click the PDF icon. Enter user data in the appropriate fields. Must have users contact information block filled with Unit address and telephone number. Click on the "Envelope" icon in the tool bar. Select "Send Copy", click on "OK". When the PDF document is created, an Outlook Email screen will open with the PDF as an attachment. On the TO: line type SMB.LOG.Tech.Pubs.fct@usmc.mil. In the body of the email, type any information you wish to provide. Click "SEND".

(d) A reply will be furnished to you.

PCN 184 079828 00

***SUPERSEDURE NOTICE** -- *TM 9-1005-201-23&P dated 15 April 2013, including all changes.

DISTRIBUTION STATEMENT D -- Distribution authorized to the Department of Defense and U.S. DoD contractors only. This publication is critical technology, as determined 31 October 1990. Other requests for this document shall be referred to the U.S. Army TACOM Life Cycle Command, ATTN: AMSTA-LCL-IM/TECH PUBS, MS 727, 6501 E. 11 Mile, Warren MI 48397-5000. Air Force requests shall be forwarded to 406 SCMS/GULA, Robins AFB GA 31098.

WARNING -- This document contains technical data whose export is restricted by the Arms Export Control Act (Title 22, U.S.C., 2751 et seq.) or the Export Administration Act of 1979 (Title 50, U.S.C., App. 2401 et seq.), as amended. Violations of these export laws are subject to severe criminal penalties. Disseminate in accordance with provisions of DoD Directive 5230.25.

DESTRUCTION NOTICE -- Destroy by any method that will prevent disclosure of contents or reconstruction of the document.

TABLE OF CONTENTS

TABLE OF CONTENTS – (Continued)

HOW TO USE THIS MANUAL

GENERAL

SCOPE

The front matter in this manual consists of Front Cover, Warning Summary, List of Effective Pages/ Work Packages (WP), Title Block Page, and Table of Contents.

MANUAL CONTENT

The front matter in this manual consists of Front Cover, Warning Summary, List of Effective Pages/Work Packages (WP), Title Block Page, and Table of Contents.

FRONT MATTER

The Warning Summary starts on the first right-hand page immediately after the cover and should be read before performing any maintenance on the M249 Machine Gun.

The Title Block Page includes the Reporting of Errors and Recommending Improvements statement.

The Table of Contents lists the chapters and WPs in this manual. Figures and tables follow their related WP.

CHAPTERS

The information contained in this manual is presented in six chapters. Each chapter is divided into WP that covers operating procedures, maintenance procedures, troubleshooting procedures, and other information for specific systems or components. Each WP starts on a right-hand page. Page numbers consist of the WP number followed by a dash and another number. For example, “0001-9” means WP 0001, page 9.

Chapter 1 includes General Information, Equipment Description, and Theory of Operation.

Chapter 2 includes Field Troubleshooting Procedures.

Chapter 3 includes Field Preventive Maintenance Checks and Services (PMCS).

Chapter 4 includes Field Maintenance Instructions.

Chapter 5 includes the RPSTL.

Chapter 6 includes Supporting Information, including the titles of documents and publications referenced in this manual (References), Maintenance Allocation Chart (MAC) Introduction, the MAC Commercial, Expendable and Durable Items List (EDIL), and Government Entity (CAGE) Codes.

WARNINGS, CAUTIONS AND NOTES

Throughout this manual you will see WARNING, CAUTION, and NOTE headings. There are good reasons for each of the following headings:

Warning: A Warning identifies a clear danger to the person doing the procedure. Warnings must be strictly observed.

Caution: A Caution identifies risk of damage to equipment. Cautions must be strictly observed.

Note: A Note highlights an essential operating or maintenance procedure, condition, or statement or conveys important instructional data to the user.

Warnings and Cautions appear immediately preceding the step to which they pertain. It is important to read and thoroughly understand the Warnings and Cautions before beginning maintenance.

INITIAL SETUP

Before starting a task, the user must obtain all the tools, supplies, and personnel listed in the Initial Setup. Read the task before performing the maintenance. If any other tasks are referenced, go to the Initial Setup page for each of those tasks to find out which tools, supplies, and personnel will be needed.

REAR MATTER

The end of this manual contains an Alphabetical Index, DA Form 2028. Authentication Page and Metric Conversion Chart.

HOW TO USE THIS MANUAL – Continued

ALPHABETICAL INDEX

An index is located after the last WP in this manual and provides an alphabetical listing of WPs.

DA FORM 2028

DA Form 2028 is used to report errors and to recommend improvements for the tasks in this manual. (F) AFTO Form 22 is used to recommend changes and report errors for Air Force personnel.

METRIC CONVERSION CHART

The Metric Conversion Chart converts U.S. units to Metric equivalents. Measurements in this manual are provided in both U.S. and Metric units.

CHAPTER 1

GENERAL INFORMATION, EQUIPMENT DESCRIPTION AND THEORY OF OPERATION

FIELD MAINTENANCE

GENERAL INFORMATION

SCOPE

Type of Manual

Field manual containing instructions for operation, checks, and maintenance including Repair Parts and Special Tools List (RPSTL) for the M249 Machine Gun.

Model Number and Equipment Name

M249 (5.56MM), NSN: 1005-01-127-7510, LIN: M09009 (AR).
M249 (5.56MM). NSN: 1005-01-451-6769, LIN: M39263 (LMG).

Purpose of Equipment

The M249 fires a 5.56MM round and is designed as a fire team Automatic Rifle or Light Machine Gun weapon providing suppressive fire at extended ranges, allowing fire and movement to make contact with and destroy the enemy.

MAINTENANCE FORMS, RECORDS AND REPORTS

(A) Forms and procedures used for equipment maintenance will be those prescribed by DA PAM 750-8, Functional Users Manual for The Army Maintenance Management System (TAMMS) Users Manual. DA PAM 738-751 or AR 700-138: Army Logisitcs Readiness and Sustainablity.Accidents invovling injury to personnel or damage to equipment will be reported on DA Form 285, U.S Army Accident Report in accordance with AR 75-1.

(F) Users refer to TO 11W-1-10 for applicable forms and records.

(MC) Users refer to those forms and procedures used for equipment maintenance as prescribed by the current edition of TM 4700-15/1_.

REPORTING EQUIPMENT IMPROVEMENT RECOMMENDATIONS (EIR)

(A) If your M249 machine gun needs 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 EIR and PQDRs must be submitted through the Product Data Reporting and Evaluation Program (PDREP) Web site. The PDREP site is: https://pdrep.cssd.disa.mil/.

If you do not have Internet access, you may also 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 address/fax numbers specified in DA PAM 750-8, The Army Maintenance Management System (TAMMS) Users Manual. We will send you a reply.

(F) Users submit PQDR through the Joint Discrepancy Reporting System (JDRS) at www.jdrs.mil/jdrs.html in accordance with Technical Order (TO) 00-35D-54, USAF Deficiency Reporting Investigation and Resolution, and Air Force Joint Manual (AFJMAN) 23-215 Reporting of Supply Discrepancies.

(MC) If the M249 needs improvement, 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. The preferred method for submitting Product Quality Deficiency Reports (PDQR) is through the Marine Corps Electronic Product Support Web site at http://logcom.usmc.mil/pdqr/. If the above method is not available to you, put it on a standard Form (SF) 368, Product Quality Defiency Report, and mail it to us at Marine Corps Logistics Command, PDQR SEction (L15), 814 Radford Blvd., Ste 20330, Albany GA 31704.

CORROSION PREVENTION AND CONTROL (CPC)

(ARMY) 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. The most common exposures are excessive heat or light. Damage from these processes will appear as cracking, softening, swelling, and/or breaking. The US 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’s 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 and the appropriate code (170) for corrosion shall be used when requesting/performing maintenance.

SF Form 368, Product Quality Deficiency Report 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

(F) Submit any Material Deficiency Report (MDR) or Product Quality Deficiency Report (QDR) through the JDRS at www.jdrs.mil/jdrs.mil in accordance with Technical Order (TO) 00-35D-54, USAF Deficiency Reporting Investigation and Resolution, and Air Force Joint Manual (AFJMAN) 23-215 Report of Supply Discrepancies.

(MC) Carry out corrosion prevention in accordance with TM 4795-12/1, Organizational Corrosion Prevention and Control Procedures for USMC Equipment Report a recurring corrosion problem on SF 368 in accordance with MCO 4855.10. Use key words such as "corrosion", "rust", "deterioration", or "cracking" to ensure that the information is identified as a CPC problem.

HAZARDOUS WASTE DISPOSAL INFORMATION

When servicing this weapon, performing maintenance, or disposing of materials such as cleaning fluids, cleaning compounds, sealants, and lubricants (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 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.

DESTRUCTION OF ARMY MATERIEL TO PREVENT ENEMY USE

(A) For destruction of materiel to prevent enemy use, refer to TM 750-24407.

(F) Detroy or mutilate by any method avaiable that will prevent enemy use or reconstruction of the weapons.

(MC) Destroy by any method that will prevent disclosure of contents or reconstruction.

DEMILITARIZATION OF SMALL ARMS RESIDUE

To prevent the unauthorized use of replaced (used) components/sub-assemblies of weapons and associated small arms equipment following repair, demilitarization is normally performed by the Defense Logistics Agency (DLA) in accordance with DoD M4160.28-M-V1, V2, V3.

PREPARATION FOR STORAGE OR SHIPMENT

(A) Prepare materiel for storage or shipment in accordance with TB 9-1000-247-34 and TM 9-1005-201-23&P (WP 0053).

(MC) Prepare materiel for storage or shipment in accordance with TM 43-0197.

LIST OF ABBREVIATIONS AND ACRONYMS

Acronym/Abbreviation	Name
AFJMAN	Air Force Joint Manual MDR
AFTO	Air Force Technical Order
AMCOM	Aviation and Missile Command
AR	Army Regulation
BII	Basic Issue Item
BOD	Bore Obstruction Detector
BOI	Basis of Issue
CAC	Common Access Card
CAGEC	Commercial and Government Entity Code
CLP	Cleaner, lubricant, preservative
cm	Centimeter
CPC	Corrosion Prevention and Control
CTA	Common Table of Allowances
DA PAM	Department of Army Pamphlet
dia.	Diameter
DLA	Defense Logistics Agency
DMWR	Depot Maintenance Work Request
DOD	Department of Defense DSN Defense Switched Network
DTI	Detailed Technical Inspection
EIR	Equipment Improvement Recommendation(s)
EOD	Expended Ordnance Disposal
"F"	Fire
FGC	Functional Group Code
FM	Field Manual
GMD	Grease, Molybdenum Disulfide
HCI	Hardness Critical Item
HE	High-Explosive
IAW	In Accordance With
in.	Inch
kg	Kilogram
LAW	Lubricating Oil
lb	Pound
LH	Left-Hand
LIW	Logistics Information Warehouse
LSA/LSAT	Lubricating Oil
LTI	Limited Technical Inspection
MAC	Maintenance Allocation Chart
MAJCOM	Major Command
MDR	Material Deficiency Report
MG	Machine Gun
mm	Millimeter
MOD	Modified
MOS	Military Operational Specialty
MTOE	Modified Table of Organization and Equipment
MWO	Modification Work Order
NAVMC	Navy Marine Corps
NMC	Non-mission capable NSN
National Stock Number PDF	Portable Document Format
PDREP	Product Data Reporting and Evaluation Program
PKI	Public Key Infrastructure
PMCS	Preventive Maintenance Checks and Services

LIST OF ABBREVIATIONS AND ACRONYMS - Continued

Acronym/Abbreviation	Name
P/N	Part Number
PQDR	Product Quality Deficiency Report
QDR	Quality Deficiency Report
QTY	Quantity
RBC	Rifle Bore Cleaner
RH	Right hand
ROD	Report of Discrepancy
RPSTL	Repair Parts and Special Tool List
"S"	Safe
SDR	Supply Discrepancy Report
SF	Standard Form
SMR	Source, Maintenance, and Recovery
SRA	Specialized Repair Activity
TACOM	Tank-Automotive Command
TAMMS	The Army Maintenance Management System
TB	Technical Bulletin
T&E	Traversing and Elevating
TIL	Tool Identification List
TM	Technical Manual
TMDE	Test, Measurement, and Diagnostic Equipment
TO	Technical Order
TULSA	TACOM Unique Logistics Support Applications
UOC	Usable On Code
URL	Uniform Resource Locator
WP	Work Package

QUALITY OF MATERIAL

Material used for replacement, repair, or modification must meet the requirements of this manual. If quality or material requirements are not stated in this manual, the material must meet the requirements of the drawings, standards, specifications, or approved engineering change proposals applicable to the subject equipment.

SAFETY, CARE, AND HANDLING

Refer to AR 385-64 and DA PAM 385-64 for general ammunition safety, care, and handling.
Air Force users will refer to AFMAN 91-201 for general ammunition safety, care, and handling.

SUPPORTING INFORMATION FOR REPAIR PARTS, SPECIAL TOOLS, TMDE, AND SUPPORT EQUIPMENT

Common Tools and Equipment

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

Repair Parts

Repair parts are listed and illustrated in Chapter 5 of this manual.

END OF WORK PACKAGE

FIELD MAINTENANCE

EQUIPMENT DESCRIPTION AND DATA

EQUIPMENT CHARACTERISTICS, CAPABILITIES, AND FEATURES

The M249 SAW is belt-fed, gas operated, air cooled and fires from the open bolt position. It can be used as an Automatic Rifle (AR) or as a Light Machine Gun (LMG). It can be fired from the shoulder or hand-held position, bipod steadied position, the tripod mounted machine gun position, or from the pedestal or ring mount position. The quick-change barrel is air-cooled and has a fixed head space.

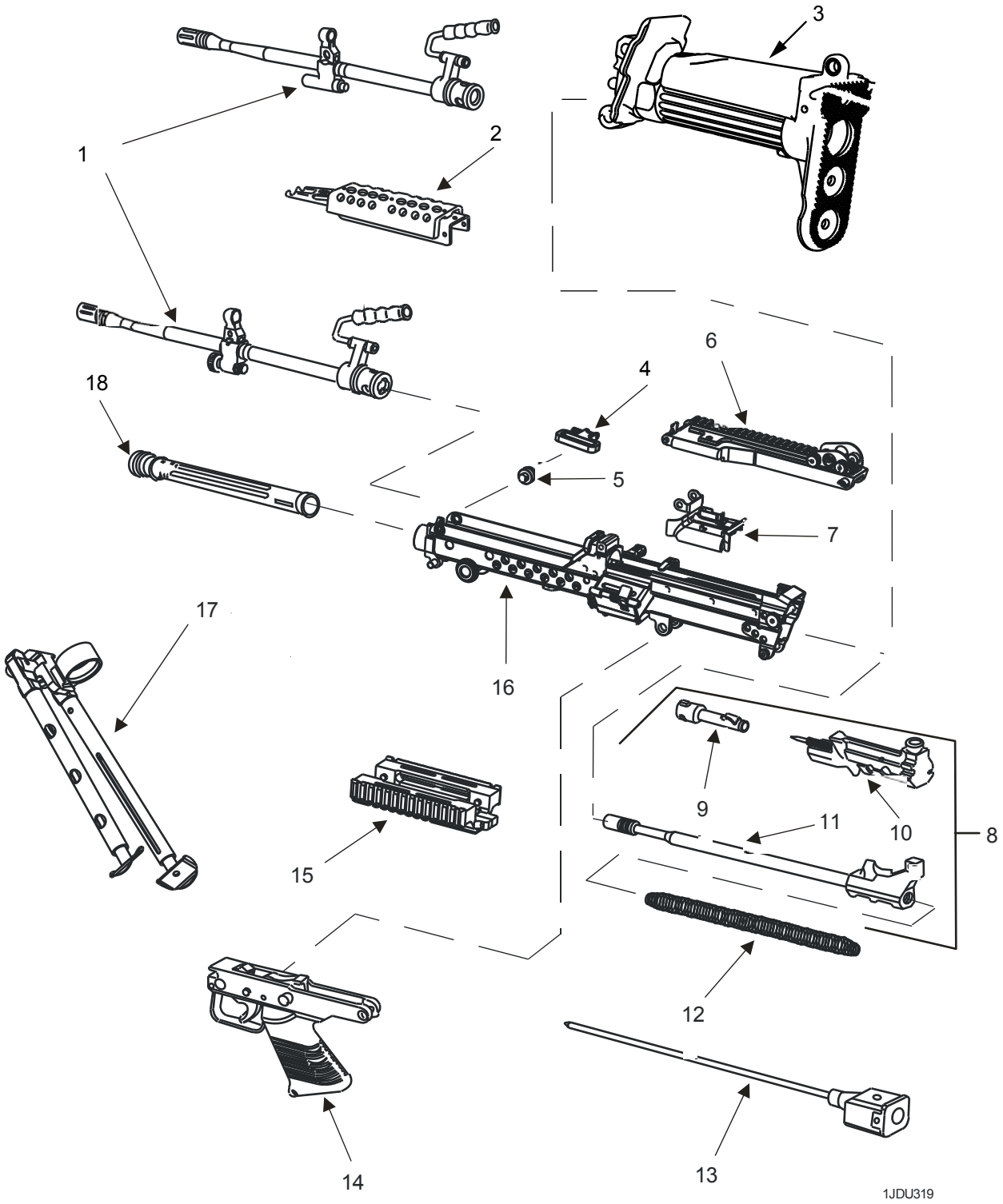


Figure 1. M249 Machine Gun with Equipment.

Table 1. Description of M249 Machine Gun with Equipment

1. BARREL ASSEMBLY	Houses cartridge for firing and directs projectile.
2. HEATSHIELD ASSEMBLY	Provides protection for the operator's hand from a heated barrel.
3. LIGHTWEIGHT COLLAPSIBLE BUTTSTOCK ASSEMBLY	Serves as a shoulder support for aiming and firing machine gun. It is lightweight and adjustable to five different lengths and contains both a wire shoulder rest and hydraulic buffer.
4. SWIVEL, QUICK RELEASE	Provides a means of carrying the weapon.
5. SWIVEL, STUD	Eyelet protects sling hole from wear.
6. COVER AND FEED MECHANISM	Feeds linked belt, positions and holds cartridges in position for feeding and chambering. Optics rail to mount various objects.
7. FEED TRAY ASSEMBLY	Positions belted ammunition for firing
8. BOLT AND PISTON ASSEMBLY	Combination of the bolt, slide, and piston group.
9. BOLT ASSEMBLY	Provides feeding, stripping, chambering, firing, and extraction, using the projectile gases for power.
10. SLIDE ASSEMBLY	Houses firing pin and roller assembly.
11. PISTON	Holds the bolt and slide assemblies and houses the return spring.
12. DRIVE SPRING	Returns bolt, slide and piston assemblies to locked position during counter-recoil cycle.
13. RETURN ROD AND TRANSFER MECHANISM ASSEMBLY	Absorbs recoil for bolt and operating rod assembly at the end of recoil movement.
14. TRIGGER MECHANISM ASSEMBLY	Controls the firing of the machine gun.
15. ACCESSORY RAIL ASSEMBLY	Provides the user a secure, easy to attach and use MIL-STD-1913 rail surfaces for mounting optical or electronic devices.
16. RECEIVER ASSEMBLY	Serves as a support for all major components. Houses action of weapon and through a series of cam ways, controls functioning of weapon.
17. MACHINE GUN BIPOD	The telescopic legs individually adjust to three different lengths.
18. GAS CYLINDER ASSEMBLY	Locks bipod in place and provides passage-way for operating gases.

DIFFERENCES BETWEEN MODELS

The M249 machine gun has been designated as two separate models. The Automatic Rifle (AR) and the Light Machine Gun (LMG). The basic M249 machine gun is the same for both versions. However, during handoff, the LMG version is fielded with additional equipment as identified below:

AR ROLE (AR):

STD LIN M09009 - The AR role is to replace selected M16 Rifles. The magazine cartridge (NSN 1005-01-334-1507) 100 round assault pack is included for the M249 MG AR model.

LMG ROLE (LMG):

STD LIN M39263 - The LMG role is to replace selected M60 machine guns. The M249 LMG is fielded with the following equipment for the machine gun role:

1. Adapter Assembly, Tripod (NSN 1005-01-225-1156).
2. Adapter, Ammunition Bracket (NSN 1005-01-425-6541).

EQUIPMENT DATA

Weight:

Weapon (complete)..... 8.30 kg (18.30 lbs)
200 round box (filled) ..... 3.04 kg (6.71 lbs)

Length:

Weapon..... 946.15-1025.5 mm (37.25-40.37in.)

Barrel assembly..... 520 mm (20.50 in.)
Rifling ..... 412.75 mm (16.25 in.)

Rifling Twist (RH) ..... 1 turn in 178 mm (7 in.)

Range:

Maximum..... 3600 M (2.24 mi.)

Maximum effective..... 1000 M (0.62 mi.)
(area target)

Rate of Fire:

Cyclic..... 700-850 rds/min.

Sustained:

3-5 round burst, 4-5 seconds between each burst..... 35-75 rds/min.
(Barrel should be changed after firing 200 rounds and allowed to cool.)

Rapid, 8-10 round burst, 2-3 seconds between each burst..... 160-300 rds/min.
(Barrel should be changed after firing 200 rounds and allowed to cool.)

END OF WORK PACKAGE

FIELD MAINTENANCE

THEORY OF OPERATION

CYCLE OF OPERATION

The cycle of operation for the M249 Machine Gun is broken down into eight basic steps (more than one step may occur at the same time).

Feeding:

As the bolt starts its forward movement, the feed lever is forced to the right, causing the feed pawl assembly to turn in the opposite direction. This forces the feed pawl assembly over the next round in the belt, and it is ready to place the next round into the tray groove when the rearward action occurs again. As the bolt moves to the rear after firing, the feed roller forces the feed lever to the left. The feed lever is forced to turn, moving the feed pawl to the right. This places a round in the tray groove.

Chambering:

As the bolt travels forward, the stripping lug engages the rim of the round. The pressure of the front and rear cartridge retaining pawl holds the round so that positive contact is made with the stripping lug of the bolt. The front cartridge retaining pawl prevents forward movement of the link as the round is stripped from the belt. The stripping lug carries the round forward. The chambering ramp causes the nose of the round to be cammed downward into the chamber. When the round is fully seated in the chamber, the extractor snaps over the rim of the round, and the ejector on the rail inside the receiver is depressed.

Locking:

As the round is chambered, the bolt enters the barrel socket. The locking lugs contact the bolt camming surfaces inside the barrel and start turning the bolt counter clockwise. The action of the bolt into the slide assembly, as the piston continues forward, turns the bolt to complete its counter clockwise rotation. Locking is now complete.

Firing:

After the bolt is fully forward and locked, the piston continues to go forward, independent of the bolt, for a short distance. The slide assembly carries the firing pin through the face of the bolt. The firing pin strikes the primer of the round and the primer fires the round.

Unlocking:

After the round is fired and the bullet passes the gas port, part of the expanding gases go into the gas regulator. The rapidly expanding gases enter into the gas cylinder from the gas regulator, forcing the piston to the rear. As the piston continues to the rear, the slide assembly, also moving to the rear, causes the bolt to begin its clockwise rotation. The locking lugs of the bolt contact the bolt camming surfaces inside the barrel and, as the bolt continues toward the rear, it completes the clockwise rotation. The rotation and movement to the rear unlocks the bolt from the barrel socket.

Cocking:

The recoiling piston assembly retracts the slide and firing pin, allowing the bolt to return to the extended position after unlocking. As long as the trigger is held to the rear, the M249 SAW will continue to complete the eight steps of functioning automatically. When the trigger is released and the sear engages the sear notch of the piston assembly, the cycle of functioning is stopped and the weapon is cocked.

CYCLE OF OPERATION - Continued

Extracting:

Extracting begins during the unlocking cycle. As the piston and bolt move to the rear, the extractor will pull the cartridge case from the chamber.

Ejecting:

As the cartridge case is pulled from the chamber, the bolt passes the ejector. As the bolt presents the ejector to the boltface, the cartridge impacts the ejector. The extractor continues to grip the right side of the cartridge and causes it to spin from the weapon through the ejection port. The empty belt links are forced off the right side of the feed tray by the next round being positioned for feeding.

END OF WORK PACKAGE

CHAPTER 2

TROUBLESHOOTING PROCEDURES

FIELD MAINTENANCE

TROUBLESHOOTING INDEX

GENERAL

This section contains Field Maintenance troubleshooting information for locating and correcting most of the operating troubles that may develop for the M249. Each malfunction for the individual part or assembly is followed by a list of tests or inspections that will help you to determine the corrective actions to take.
You should perform the tests/inspections and corrective actions in the order listed.

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

MALFUNCTION / SYMPTOM INDEX

Refer to Troubleshooting Work Packages for malfunctions, tests, and corrective actions. The Malfunction/Symptom Index is provided for a quick reference to the malfunctions covered.

END OF WORK PACKAGE

FIELD MAINTENANCE
MACHINE GUN, 5.56MM. M249 W / EQUIPMENT
(NSN: 1005-01-127-7510) AND (NSN: 1005-01-451-6759 – LMG ROLE)
TROUBLESHOOTING PROCEDURES

INITIAL SETUP:

Tools and Special Tools:
Small Arms Repair Tool Kit (SARTK)
(WP 0052, Item 11)

Tools and Special Tools (cont)
USMC TAM No E7900
(WP 0052, Item 12)

References:
TM 9-1005-201-10

TROUBLESHOOTING PROCEDURE
M249 MACHINE GUN

NOTE

Be sure to read all WARNINGS in the front of this manual before performing any troubleshooting procedures.

In some cases it is necessary to complete all disassemble procedures in the work packages (WPs) in order to perform the repair. However, in many cases it is only necessary to skip to that specific portion of the WP in order to perform disassembly and assembly for the maintenance task.

SYMPTOM
Sluggish Operation

MALFUNCTION
Sluggish operation malfunction is characterized by a dirty receiver assembly and a lack of, or an excess of, lubricant.

CORRECTIVE ACTION
Clean and lubricate receiver assembly (Figure 1) as required.

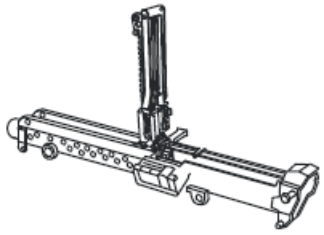


Figure 1. Receiver Assembly.

CAUTION

DO NOT lubricate gas piston . The mono-block should insert into cylinder assembly smoothly, without force. Failure to comply may cause equipment damage.

MALFUNCTION
Sluggish operation is characterized by insufficient gas pressure.

CORRECTIVE ACTION
Check for caked carbon in grooves (Figure 2, Item 1) and inside of gas piston (Figure 2, Item 2). Clean as required.

TROUBLESHOOTING PROCEDURES-Continued

Sluggish Operations

Figure 2. Gas Piston

CORRECTIVE ACTIONS

Check operating rods with the tower portion (Figure 3, Item 2) welded to the tube portion (Figure 3, item 1) for looseness between these parts. If looseness exists, replace the gas piston assembly (Figure 3). Welded piston assembly should be replace before deploying.

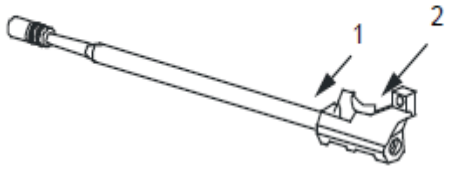


Figure 3. Gas Piston Assembly

CAUTION

DO NOT lubricate mono-block

Check for caked carbon on the internal and external surfaces of the outlet of the mono-block barrel (Figure 4, item 1). Clean as required.

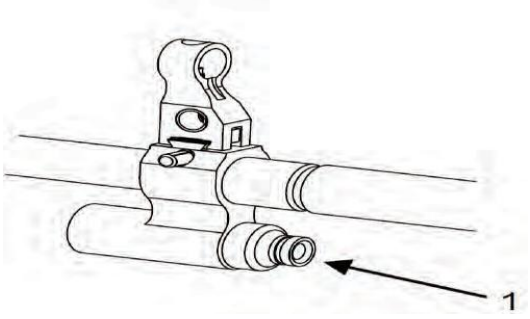


Figure 4. Mono-Block Barrel.

TROUBLESHOOTING PROCEDURES – Continued

Sluggish Operation

MALFUNCTION

Sluggish operation malfunction is characterized by drag on internal rail.

CORRECTIVE ACTION

NOTE

If the firing pin retaining pins (Figure 5, Item 2) are not flush or below the surface of the body, they will drag on the internal rail of the receiver and slow the functioning. If binding occurs, check both firing pin retaining pins (Figure 5, Item 2) and bolt assembly in receiver. If binding occurs, check both firing pin retaining pins for proper assembly (Figure 5, Item 2). Both firing pin retaining pins (Figure 5, Item 2) must be flush or below the body of the slide assembly (Figure 5, Item 1) on the left side of the slide. Replace firing pin retaining pins as needed (WP 0014).

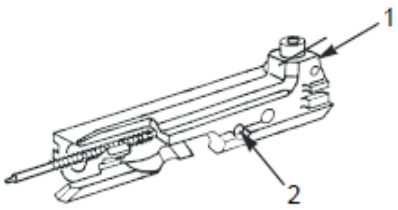


Figure 5. Slide Assembly.

SYMPTOM

Failure to Charge

MALFUNCTION

Failure to charge malfunction is characterized by the cocking handle arm (Figure 6 Item 2), overriding the slide assembly (Figure 6, Item 4) and slipping behind the roller assembly (Figure 6, Item 3). This occurs as a result of a loose fit between the cocking handle assembly and the reciever or a deformed cocking handle arm or both have taken place .

TROUBLESHOOTING PROCEDURES – Continued

Failure to Charge

NOTE

Open cover before checking. To check for this condition, the filed mechanic is authorized To apply slightly downward pressure (palm down) on the cocking handle assembly and Attempt to change the weapons (Figure 6, Item1)

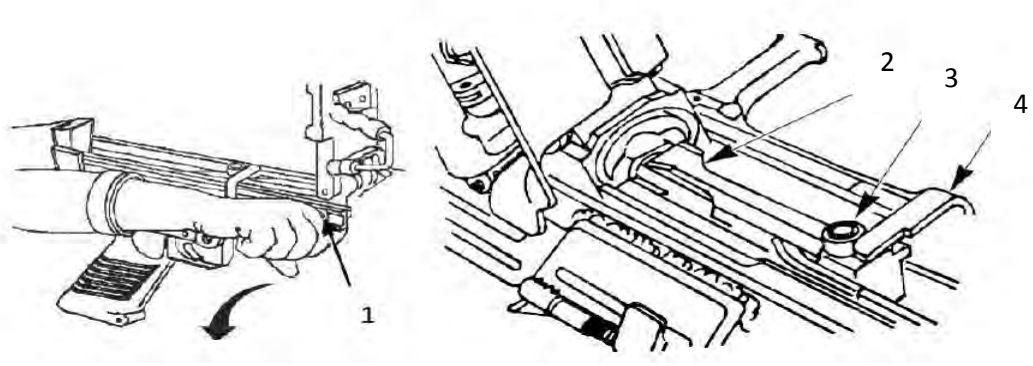


Figure 6. Cocking Handle Assembly

NOTE

Several conditions can cause extreme looseness bewtween the cocking handle assembly and the reciever. Looseness sgiykd be diagnosed in the following order:

1. Check the upper rail of the cocking handle channel (Figure 7, Item 2) for a bulge just rear of the cocking handle stop (Figure 7, Item 1).

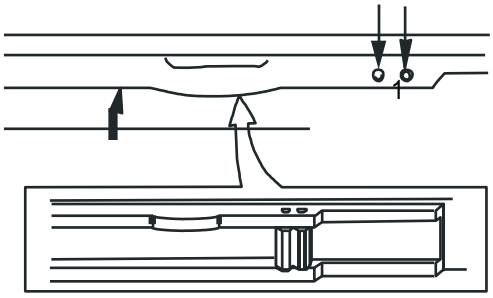


Figure 7. Upper Rail Bulge

2. Check rail for gouges or burrs that may contribute to malfunction.

NOTE

Separation generally occurs in the cut-out area just rear of the cocking handle stop (Figure 8, Item 2). Weapons should be coded out. Receiver is non-repairable.

3. Check the cocking handle channel (Figure 8, Item1) for separation (Figure 8, Item 2) from receiver (Figure 9). Replace receiver as needed.

TROUBLESHOOTING PROCEDURES-Continues
Failure to Charge

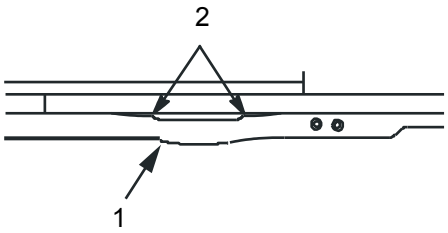


Figure 8. Upper Rail Separation

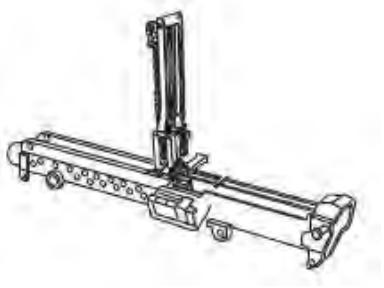


Figure 9. Receiver Assembly.

4. Check for cracks in areas around the retaining pin holes and the radii of cocking handle channel, indicated with arrows in Figure 10. Code out receiver as needed and order new weapon.

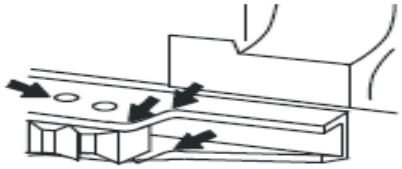


Figure 10. Retaining Pin Holes and Radii of Cocking Handle Channel.

5. Check for bent arm (figure 11, Item 1) on cocking handle assembly (Figure 11, Item 4). If bend replace. Check cocking handle assembly for wear of the feet that travel inside the rails of cocking handle channel (Figure 11, Item 2). Wear is difficult to determine, since the feet are internal to the channel. However, if the channel is not bulged or separated, wear on the feet of the cocking handle can be assumed. If binding occurs while charging the cocking handle, replace cocking handle assembly as required. (WP0023)

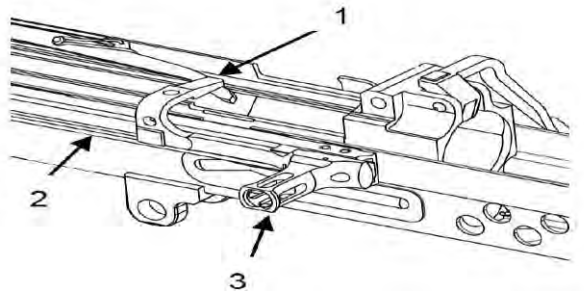


Figure 11. Cocking Handle Channel.

TROUBLESHOOTING PROCEDURES – Continued

SYMPTOM

Failure to Feed / Strip

MALFUNCTION

Failure to Feed / Strip malfunction is characterized by feed tray damage.

CORRECTIVE ACTION

1. Check feed tray (Figure 12, Item 2), for cracks, damaged, or loose rivets (Figure 12, Item 3), and gouges in area (Figure 12, Item 4). Replace as needed (WP 0011).
2. Check for damaged, weak, or worn operation parts in feed tray assembly (Figure 12, Item 2).
3. Check feed pawls (Figure 12, Item 1) for excessive wear, and that they move freely without binding.

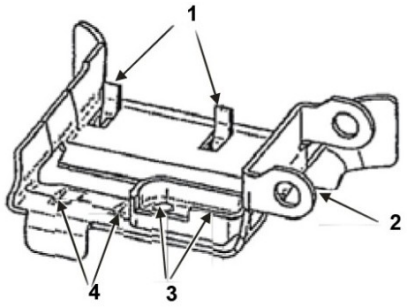


Figure 12. Tray Assembly.

4. Check for damaged, weak, or worn operating parts in cover and feed mechanism assembly (Figure 13, Item 3). Replace as needed (WP 0011).
5. Check for broken, improperly assembled, or missing springs under the cartridge retaining pawls (Figure 13, Item 1). Replace as needed (WP 0011).

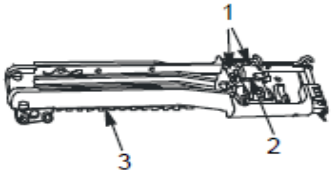


Figure 13. Cover and Feed Mechanism.

6. Check for excessive wear (rounded) on feed pawl assembly (Figure 13, Item 2) and cartridge retaining pawls (Figure 13, Item 1). Replace as needed. (WP 0011).

7. Check drive spring (Figure 14) if for broken strands, replace if any found broken.

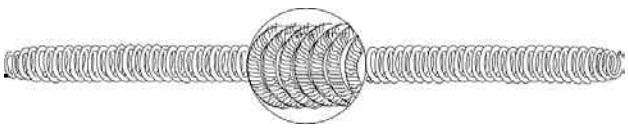


Figure 14. Drive Spring.

TROUBLESHOOTING PROCEDURES - Continued

SYMPTOM

Failure to Chamber

MALFUNCTION

Failure to chamber malfunction is characterized by a round of ammunition not fully seating in the barrel. The unchambered round usually exhibits a damaged/bent condition similar to the llustration (Figure 15).

Figure 15. Example of Damaged Round.

CORRECTIVE ACTION

1. Check for a spent cartridge case in the bottom of the receiver which would not allow the bolt to chamber a round. If a spent cartridge is found in the bottom of the receiver, refer to Troubleshooting procedures in this Work Package for "Failure to Extract" and "Failure to Eject" (WP 0005).

2. Check for missing, weak, or improperly installed springs under cartridge retaining pawls (Figure 16, Item 1). Replace as needed.

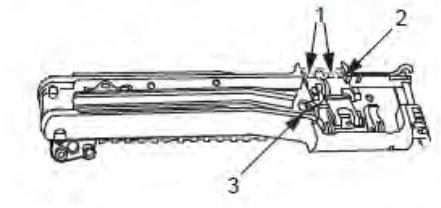


Figure 16. Springs and Cartridge Retaining Pawls .

3. Check for excessive wear (rounded), chipped, broken, or bent cartridge retaining pawls (Figure 16, Item 1). If damaged, replace (WP 0011).

4. Check for bent hinge pin retaining pin (Figure 17, Item 2) by rotating the pin and observing any change in the parallel gap (Figure 17, Item 4) compared to the unparallel gap (Figure 17, Item 1) between the cartridge retaining pawls (Figure 17, Item 3). If hinge pin retaining pin is bent, replace (WP 0011). It is not necessary to disassemble the cartridge retaining pawls and hinge pin to perform this check.

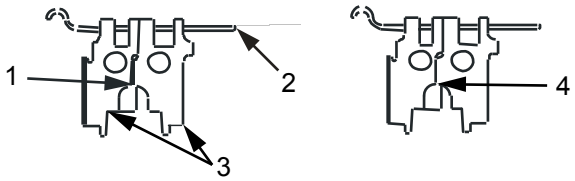


Figure 17. Hinge Pins - Bad versus Good Condition.

5. Check for kinked, damaged, or broken drive spring (Figure 18).

6. Check for broken strands on drive spring (FIgure 18), replace if any are found.

TROUBLESHOOTING PROCEDURES -- Continued

Failure to Chamber

NOTE

Flat spots on drive spring appear shiny.

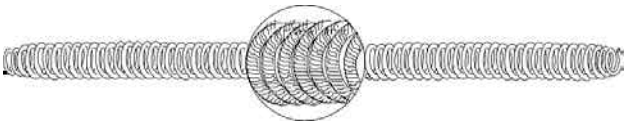


Figure 18. Drive Spring.

7. Check for damaged mono-block barrel and for excessive carbon. Clean barrel as required.

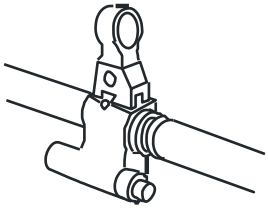


Figure 19. Mono-Block Barrel.

CAUTION

DO NOT lubricate the mono-block, chamber, or bore. Clean Only.
DO NOT lubricate the gas piston assembly. The mono-block should insert into cylinder assembly smoothly, without force.
Failure to comply may cause equipment damange.

8. Check for caked carbon in grooves and inside of gas piston. Clean as required (TM 9-1005-201-10).

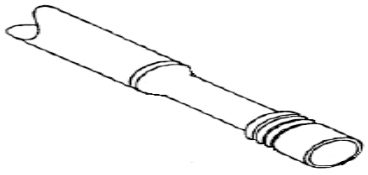


Figure 20. Gas Piston.

SYMPTOM

Failure to Fire

MALFUNCTION

Failure to fire malfunction is characterized by a failure of a cartridge to fire, despite the fact that a round has been chambered and the bolt and piston assembly has closed. This occurs when the firing pin fails to strike the primer with enough force or ammunition is defective.

CORRECTIVE ACTION

WARNING

This weapon must be treated as through it has a live round in the chamber if the bolt is locked and it cannot be discharged. Failure to comply may cause personnel death or injury, and damage to equipment

TROUBLESHOOTING PROCEDURES -- Failure to Fire - Continued

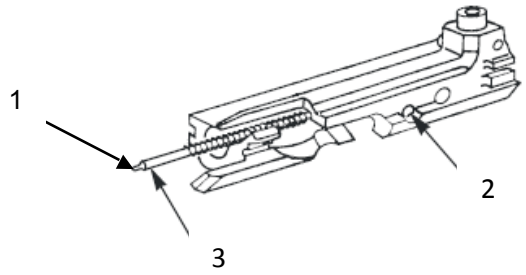


Figure 21. Slide Body and Firing Pin Retaining Pin.

1. Check for broken or damaged firing pin (Figure 21, Item 3). Check to ensure firing pin tip (Figure 21, Item 1) is round and smooth. Replace firing pin (WP 0014) as necessary.
2. Check the two firing pin retaining pins (Figure 21, Item 2) for proper installation if installed incorrectly. Drive the retaining pins (Figure 21, Item 2) ln hole with punch until flush or below surface of the slide body (left side). Replace as necessary (WP 0014).

NOTE

Flrlng pln retalnlng pln must be flush or below surface of the slide body (left slde).

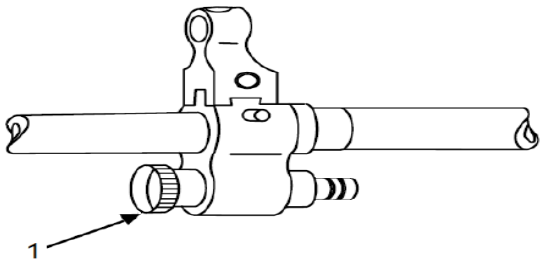


Figure 22. Gas Collar on Barrel.

3. Check for loose gas collar on barrel (Flgure 22, Item 1). If loose, replace (TM 9-1005-201-10).

4. On gas piston assemblies (Figure 23) that have the tower portion welded to the tube portion, check for looseness between these parts. If loose, replace (WP 0015).

CAUTION

DO NOT lubricate gas piston. The mono-block barrel should insert into cylinder assembly smoothly, without force. Failure to comply may cause equipment damage.

Figure 23. Gas Piston Assembly

TROUBLESHOOTING PROCEDURES

Failure to Fire

5. If trigger is hard to pull, check for improperly installed sear spring (Fig 24, Item 2), or worn out tripping lever mechanism (Figure 24, Item 1). If sear spring (Figure 24, Item 2) is improperly installed (leg between trigger and trigger pin) or the tripping lever mechanism (Figure 24, Item 1) is suspected of being worn out, replace as needed (WP 0020) .

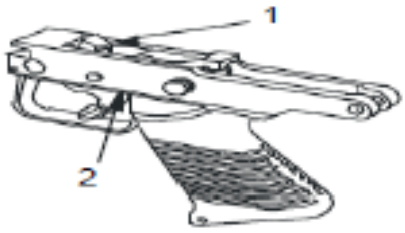


Figure 24. Sear Spring and Tripping Lever Mechanism.

6. Check feed pawl assembly (figure 25, item 3) and feed lever (Figure 25, Item 1) for burrs, breaks, and wear (rounded). Check for sticking and broken springs. Replace as needed.

7. Check front and rear cartridge retaining pawls (Figure 25,Item 2) for burrs, breaks, wear (rounded) and check springs for broken or kinked coils. Replace as needed (WP 0011).

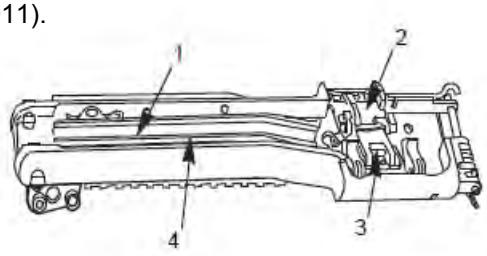


Figure 25. Feed Tray Mechanism.

TROUBLESHOOTING PROCEDURES - CONTINUED
Failure to Fire

8. Check feed pawl assembly (Figure 25, Item 3) for burrs or excessive wear (looseness) and springs for broken or kinked coils. Replace as needed (WP 0011).

9. Check for interference between the inner and outer feed pawls (Figure 25, Item 3) when actuated by feed lever (Figure 25, Item 1). If interference exists, replace as needed(WP 0011).

SYMPTOM

Failure to Extract

MALFUNCTION

Failure to extract malfunction is characterized by a spent cartridge case not clearing the chamber, or clearing the chamber but not clearing the ejection port. If the spent cartridge clears the chamber, but does not clear the ejection port, it can cause a failure to chamber malfunction.

CORRECTIVE ACTION

1. Check for damaged or broken extractor (Figure 26, Item 1). Extractor should be difficult to remove if assembled. Replace unserviceable parts (WP 0013).

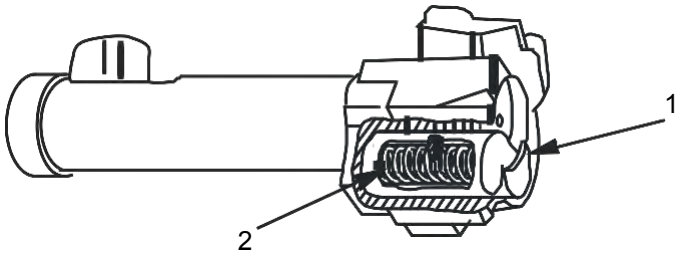


Figure 26. Extractor, Extractor Spring.

2. Check extractor spring (Figure 26, Item 2) for tension by pushing the extractor (Figure 26, Item 1) toward the outer portion of the bolt. There should be firm tension when pushed. Replace unserviceable parts (WP 0013).

SYMPTOM

Failure to Eject

MALFUNCTION

Failure to eject malfunction is characterized by a spent cartridge case not clearing the ejection port opening and remaining in the mechanism. The spent cartridge case (Figure 27) usually exhibits the “crunched” condition similar to the illustration and can be found in the bottom of the receiver assembly.

CORRECTIVE ACTION

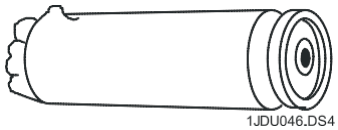


Figure 27. Spent Cartridge Case.

TROUBLESHOOTING PROCEDURES - CONTINUED
Failure to Eject

NOTE

Tip of ejector must be well defined to ensure proper ejection. Cleaning rods can easily damage ejector tips when they are used to assure weapons are cleared on the training ranges.

1. Check for chipped, distorted or rounded tip on ejector (Figure 28, Item 3), bent, broken, or missing ejector clip (Figure 28, Item 2) or damaged or missing ejector pin (Figure 28, Item 1).

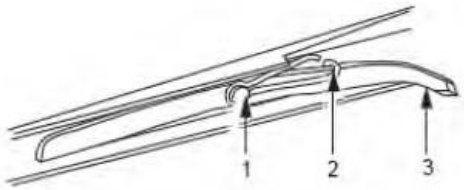


Figure 28. Ejector, Clip, and Pin.

CAUTION

DO NOT lubricate gas cylinder and piston assembly. The mono-block barrel should insert into cylinder assembly smoothly, without force. Failure to comply may cause equipment damage.

2. Insufficient gas pressure. Check for caked carbon on mono-block barrel (Figure 29), and grooves of the piston assembly (Figure 29, Item 1), and internal grooves of the gas cylinder assembly (Figure 29, Item 2). Clean as required.

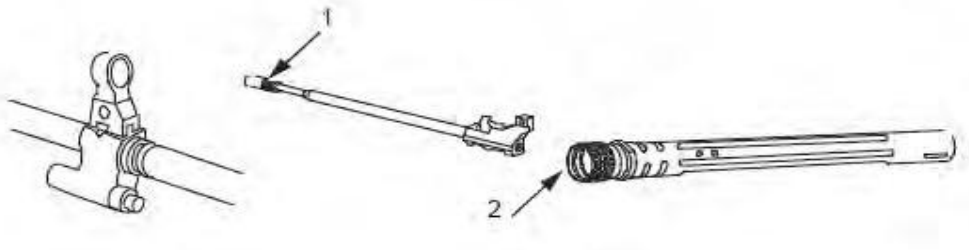


Figure 29. Mono-block Barrel, Gas Cylinder, and Piston Assembly.

3. Check for gas leakage (white deposit) between cylinder (Figure 30, Item 2) and knurled head (Figure 30, Item 1) of gas cylinder. If evidence of gas leakage is present, replace gas cylinder assembly.

TROUBLESHOOTING PROCEDURES-CONTINUED
Failure to Eject

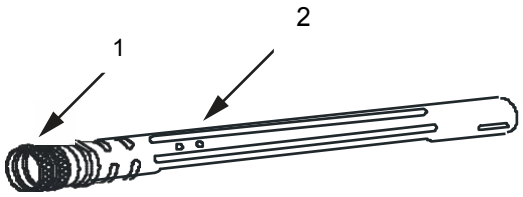


Figure 30. Gas Cylinder

4. Check for looseness in operating rods that have the tower portion (Figure 31, Item 2) welded to the tube portion (Figure 31, Item 1), check for looseness between these parts. If loose between tower portion and tube portion, replace piston assembly (WP 0015).

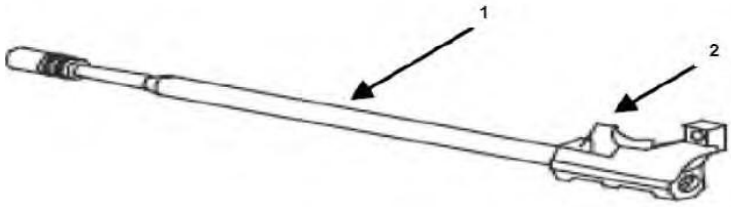


Figure 31. Gas Piston Assembly.

SYMPTOM
Failure to cock or runaway gun.

MALFUNCTION

Failure to cock or runaway gun malfunction is characterized by inoperability and uncontrolled firing.

CORRECTIVE ACTION

WARNING

If you try to charge the weapon and the cocking handle will not unlock the bolt, **DO NOT** try to force the cocking handle to the rear with your foot or heavy object. Failure to comply may cause injury to personnel and damage to equipment.

1. Check for broken, stuck, or worn sear (Figure 32, Item 2), broken, stuck, or worn Tripping lever (Figure 32, Item 1), and broken or damaged sear spring (Figure 32, Item 3) in trigger mechanism assembly. If defective or damaged, replace (WP 0020).

TROUBLESHOOTING PROCEDURES -- CONTINUED

Failure to Cock or Runaway Gun

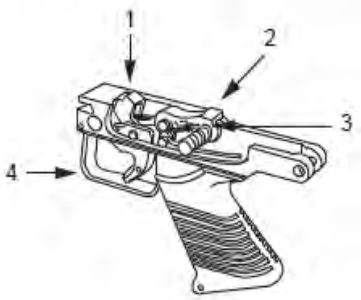


Figure 32. Trigger Mechanism.

2. Check for bent or damaged trigger guard (Figure 32, Item 4). If defective or damaged, replace (WP 0020).

CAUTION

DO NOT lubricate gas piston. The mono-block barrel should insert into the cylinder assembly smoothly, without force. Failure to comply can cause equipment damage.

3. Check for rounded edges on sear notches (Figure 33, Item 1) of gas piston assembly. Replace as necessary (WP 0015).

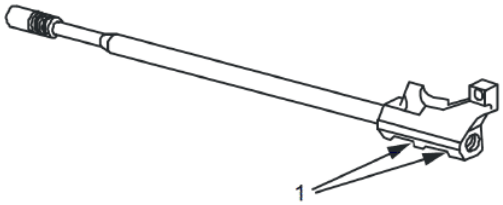


Figure 33. Gas Piston Assembly, Sear Notches.

SYMPTOM

Failure to Lock Weapon in Open Bolt Position

MALFUNCTION

Failure to lock weapon in open bolt position malfunction is characterized by failure to hold either safe “S” or fire “F” position.

TROUBLESHOOTING PROCEDURES - CONTINUED

Failure to Lock Weapon in Open Bolt Position

CORRECTIVE ACTION

After cleaning and lubricating, check to ensure safety slides properly and positively and holds in either fire “F” position with red band visible (Figure 34, Item 1), or safe “S” with red band NOT visible. Replace as necessary (WP 0020).

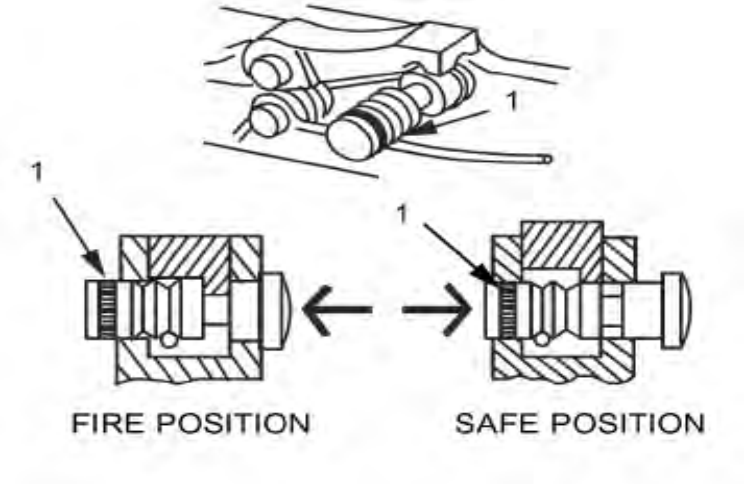


Figure 34. Fire Position and Safe Position.

END OF WORK PACKAGE

CHAPTER 3

PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS)

FIELD MAINTENANCE

PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS) INTRODUCTION

GENERAL

1. Unit personnel must perform Preventive Maintenance Checks and Services (PMCS) (WP 0007) to ensure the M249 Machine Gun is in good operating condition and ready for its primary mission.
2. To ensure maximum operational readiness, it is necessary that the M249 Machine Gun be inspected at regular intervals so that any defects can be discovered and corrected before serious damage or failure occurs. Any discovered maintenance problems beyond your authorization will be referred to field maintenance for correction.
3. Always observe the WARNINGS and CAUTIONS before and during operation. A WARNING means someone could be injured or killed. A CAUTION means equipment could be damaged. If the equipment fails to operate/troubleshoot, report any deficiencies using the proper forms. See DA PAM 750-8.

PREVENTIVE MAINTENANCE PROCEDURES

U.S. Army performs quarterly inspections found in WP 0007. To minimize malfunction, training units such as basic combat training (BCT) and on-site training (OST)), elements should perform field maintenance checks every 15 days or 15,000 rounds, whichever comes first. If the weapon has not been used for 90 days, PMCS in the Operator's Manual (TM 9-1005-201-10) should also be performed.

USAF and USMC perform PMCS every 90 days to keep the weapon in proper operating condition, in accordance with Table 1 in WP 0007. If the weapon has not been used in 90 days, place it in storage according to instructions in WP 0001. If rust is observed on a weapon, perform PMCS immediately.

INSPECTION

Fieldstrip the weapon in accordance with TM 9-1005-201-10. Inspect all assemblies for missing, broken, or loose parts. Inspect all parts for cracks, dents, burrs, excessive wear, rust, or corrosion. Ensure that all items are cleaned and lubricated in accordance with TM 9-1005-201-10. Evacuate the weapon to a higher level of maintenance if repairs are not authorized. Refer to Source, Maintenance, and Recoverability (SMR) codes in WP 0026.

EXPLANATION OF COLUMNS

When recording results of PMCS, entries in the PMCS ITEM NO. column will be used for the TM Item No. column on DA Form 2404, Equipment Inspection and Maintenance Worksheet.

The ITEM TO BE CHECKED OR SERVICED column indicates the component of the M249 Machine Gun to be checked.

The INTERVAL column tells you when to do the check or service in the PROCEDURE column. BEFORE checks and services are performed prior to the M249 Machine Gun leaves its containment area or performs its mission. DURING checks begin when the M249 Machine Gun is being used and AFTER checks and services begin when the M249 Machine Gun is taken out of its mission mode or is returned to its containment area.

The EQUIPMENT NOT READY / AVAILABLE IF column indicates deficiencies that must be corrected before the M249 Machine Gun can be operated.

END OF WORK PACKAGE

FIELD MAINTENANCE

PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS) INCLUDING LUBRICATION INSTRUCTIONS

INITIAL SETUP:

Tools and Special Tools

Small Arms Repair Tool Kit (SARTK) (WP 0050, Item 10)
USMC TAM No. E7900 (WP 0050, Item 11)

Materials/Parts

Cleaner, Lubricant, and Preservative (CLP) (WP 0049, Item 3)

Materials/Parts (cont)

Lubricating Oil, Lubricant Arctic Weather (LAW) (WP 0049, Item 8)
Rag, Wiping (WP 0049, Item 11)

References

TM 9-1005-201-10

WARNING

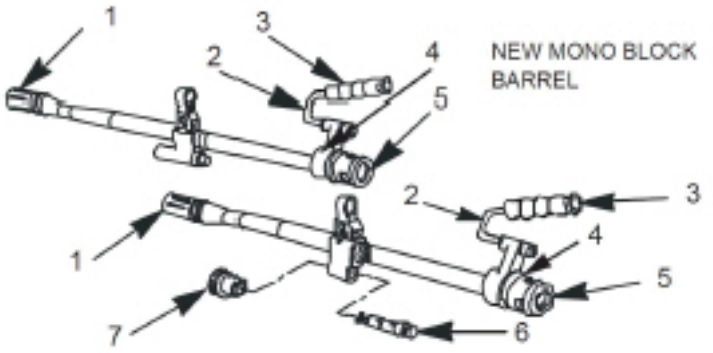
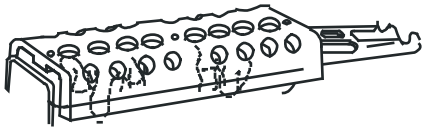
Failure to properly clear the M249 can result in an accidental discharge of a round. Clean the weapon before disassembling, cleaning, inspecting, transporting, or storing. Use the field strip procedures in TM 9-1005-201-10 to clean the weapon.

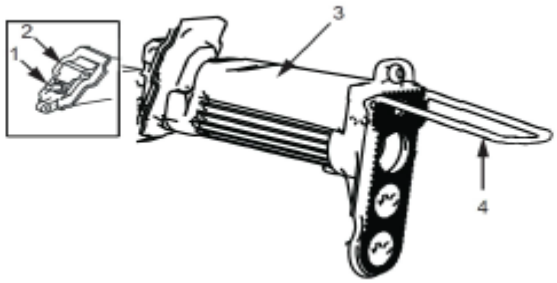
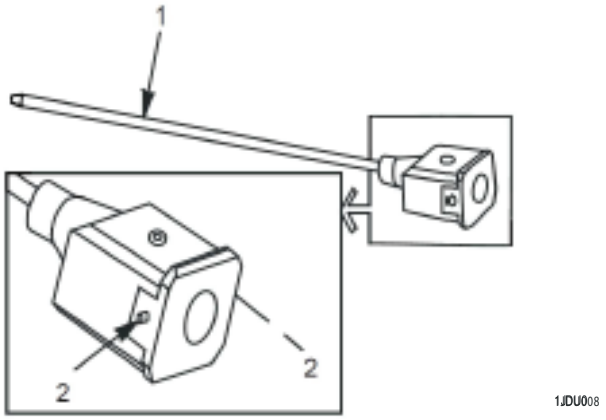
NOTE

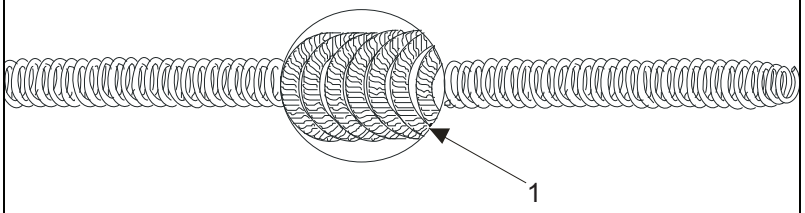
All small arms must be inspected at least once annually for safety and serviceability unless usage, deployment, or other maintenance indicates need for more inspection. Within designated intervals, these checks are to be performed in the order listed.

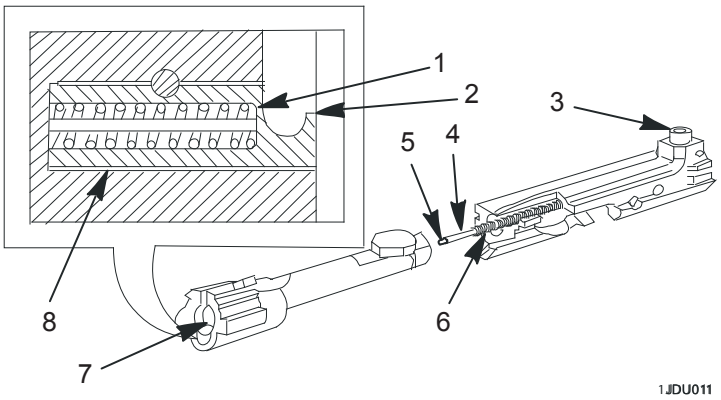
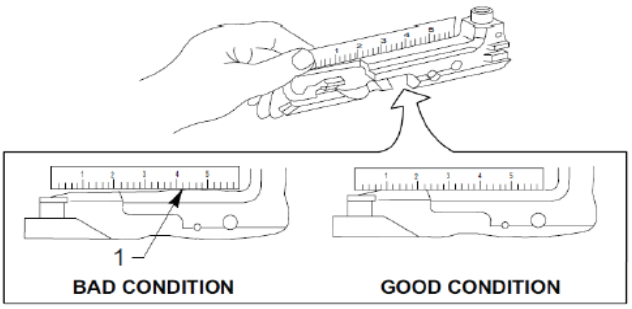
Table 1. Preventive Maintenance Checks And Services (PMCS) For M249 Machine Gun, 5.56mm.

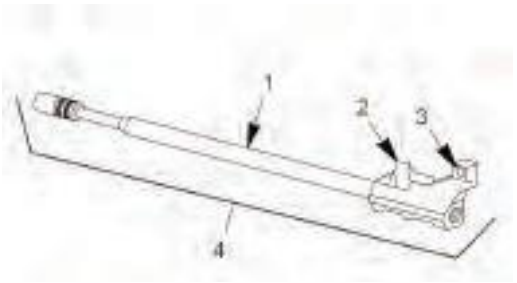
ITEM NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
1	Quarterly	M249 Machine Gun	**NOTE** Prior to field stripping old style barrel assembly, check collar (Figure 1, Item 7) for looseness. Field strip weapon (TM 9-1005-201-10) Check for compliance with annual gauging requirements. Notify Field Maintenance for scheduling of annual gauging and complete technical inspection.	If weapon has not been gauged.
2	Quarterly	Barrel Assembly and Spare Barrel Assembly	1. Check barrel (Figure 1, Item 5) for bulges, cracks, bends, burrs, obstructions, or pits in chamber and bore and loose front sights. Inspect collar (Figure 1, Item 7) for cracks or burrs. Make sure compensator (Figure 1, Item 1) is not cracked and fastened securely. Grip (Figure 1, Item 3) should not be cracked or missing. Handle (Figure 1, Item 2) should not be bent. Pull back on handle (Figure 1, Item 2) to make sure spring is not missing or weak. Ensure gas regulator (Figure 1, Item 6) can be removed and inserted on old style barrel.	Barrel assembly damaged. Compensator cracked or loose. If barrel and spare barrel are not clearly marked/identified with the serial number of the weapon the barrels are gaged to (match set).

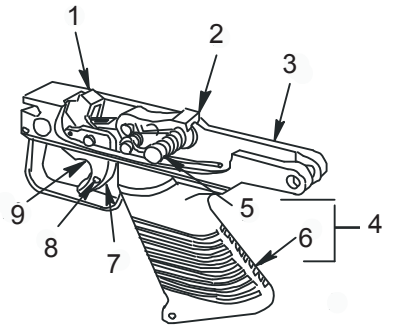
ITEM NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
	Quarterly (cont.)	Barrel Assembly and Spare Barrel Assembly (cont.)	2. Check carrying handle collar (Figure 1, Item 4) to ensure there is no movement. 3. Check that barrel and spare barrel are either painted or tagged with with the serial number of the receiver for the weapon.  Figure 1. Old and New Barrels.	
3	Quarterly	Heatshield Assembly	**NOTE** Some heat distortion or charring may be observed on the outer non-metallic portion of the heatshield assembly and is not cause for replacement. Check heatshield for bent, broken, or missing components.  Figure 2. Heatshield.	Bent, broken, or missing components.
4	Quarterly	Lightweight Collapsible Buttstock Assembly	1. Check buttstock and buffer assembly (Figure 3, Item 3) for cracks, breaks, or missing components. Ensure shoulder rest (Figure 3, Item 4) locks in both positions. Check for spring tension of 2. buffer by pressing in the bu˜er plunger (Figure 3, item 1), several times. Ensure there is no hydraulic °uid leaking from buffer plunger (Figure 3, Item 1).	Cracked, broken, or components missing.

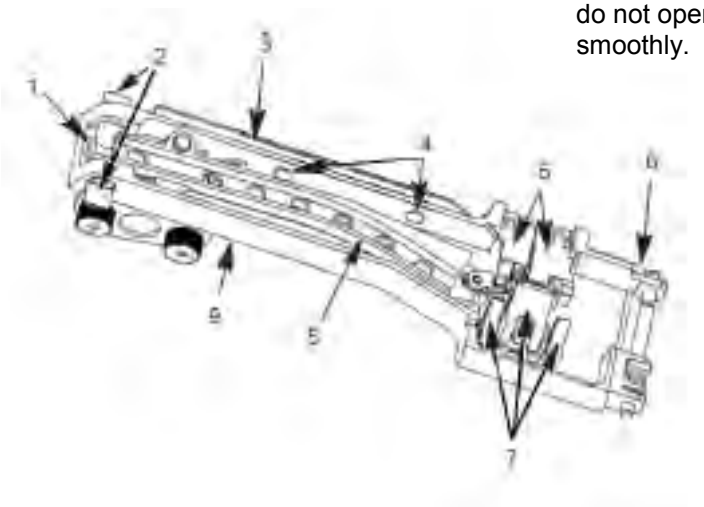
ITEM NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
			3. Ensure backplate (Figure 3, Item 2) does not have extensive damage dents due to recoil. 4. Push in on buffer plunger (Figure 3, Item 1) to ensure it has full travel and does not bind. 5. Check for oil leaks on face of backplate(Figure 3, Item 2) 6. Ensure that thee buttstock can be extended, collapsed, and locked at each detent postiion.  Figure 3. Collapsible Buttstock.	
5	Quarterly	Return Rod and Transfer Mechanism Assembly	Inspect gudie rod (Figure 4, Item 1) for Cracks , breaks, or bends. Ensure two pins (Figure 4, Item 2) are not missing or broken.  Figure 4. Guide Rod and 2 Pins.	Cracked ,broken or bent, Missing or broken pins.
6	Quarterly	Spring, Helical Compression	**NOTE** Flat spots on driving spring (Figure 5, Item 1) appear shinny.	

ITEM NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
	Quarterly (cont.)	Spring, Helical Compression (cont.)	Check spring for kinks, damaged, or broken strands. Spring should not have more than one broken strand on the same coil, or more than two broken strands, regardless of location on entire spring. Check for flat spots and excessive wear on spring.	Kinked, broken strands on the same coil or more than two regardless of location. If it has excessive flat spots on wear.
			 Figure 5. Drive Spring.	
7	Quarterly	Bolt and Slide Assembly	**NOTE** A chipped/broken extractor claw (Figure 6, Item 2), weak extractor spring (Figure 6, Item 1) or impeded extractor (Figure 6, Item 8) can cause a weapon stoppage, more commonly referred to as a failure to extract malfunction.	
			1. Check cartridge extractor (Figure 6, Item 8) for cracks or weak extractor spring (Figure 6, Item 1). Check firing pin (Figure 6, Item 4) for straightness and make sure the tip (Figure 6, Item 5) is completely rounded. Check feed roller (Figure 6, Item 3) for spring tension when compressed. Check firing pin spring (Figure 6, Item 6) for kinks, breaks and retention capability. Spring should cover entire firing fin to prevent damage to bolt. Inspect for pits on bolt face. Make sure that firing pin hole (Figure 6, Item 7) is round and not elongated. Remove firing pin to verify pin protrusion. Replace if necessary.	Cracked or weak extractor spring. Firing pin bent, chipped, broken, or not rounded. Spring is weak, kinked or broken. Excessive pitting on face of bolt and/or elongated firing pin hole. Broken firing pin, firing pin not rounded.

ITEM NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
	Quarterly (cont.)	Bolt and Slide Assembly (cont.)	 Figure 6. Bolt and Slide Assembly. 2. Check for bulges (Figure 7, Item 1) on the top of slide assembly by placing a straight edge (e.g. six inch steel rule) on the top and sighting across. If light is detected between the top of the slide assembly and the straight edge, a bulge exists.	Top of slide assembly is bulged.
			 Figure 7. Bad Condition , Good Condition .	
8	Quarterly	Piston Assembly	**NOTE** Looseness between tower portion and tube portion of piston rod can cause sluggish operation and contribute to malfunctions. Screw type piston rod is prefered, but welded type is authorized.	

ITEM NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
	Quarterly (cont.)	Piston Assembly (cont.)	1. Inspect piston rod (Figure8, Item 4) for bends, breaks, burrs, or cracks. 2. Inspect tower portion (Figure 8, Item 2) and tube portion (Figure 8, Item 1) for looseness. Inspect hole (Figure 8, Item 3) for cracks.  Figure 8. Piston Assembly.	Bent, broken, burred or cracked. Tube portion loose. Gas piston is excessively worn.
9	Quarterly	Trigger Mechanism Assembly	**NOTE** A bent or improperly installed sear spring (Figure 9, Item 7) can cause the trigger (Figure 9, Item 8) to be extremely hard to pull. If this happens, the sear (Figure 9, Item 2) does not release the piston assembly and causes a weapon stoppage, more commonly referred to as a failure to feed/strip malfunction. If the sear spring (Figure 9, Item 7) is not bent or broken and is properly installed, but the trigger (Figure 9,Item8) is hard to pull, the tripping lever(Figure 9, Item 1) may be worn out. 1. Inspect tripping lever (Figure 9, Item 1) and sear (Figure 9, Item 2) for burrs on edges or rounded shoulders. In addition, ensure that the sear and sear spring pin as well as the trigger housing are not excessively worn. Push back on tripping lever (Figure 9, Item 1) to raise sear (Figure 9, Item 2). 2. Place safety (Figure 9, Item 5) in SAFE position (red band not visible). Pull trigger (Figure 9, Item 8), sear (Figure 9, Item 2) should not drop down far enough to lock in the downward position. Place piston (Figure 9, Item 5) in FIRE position (red band visible). Pull trigger (Figure 9, Item 9), sear (Figure 9, Item 2) should drop down and lock in the downward position.	Trigger assembly is bent or damaged, preventing operation. Sear is excessively worn/cracked or broken. Safety does not function properly. Parts are missing/broken. Springs are deformed/weak and prevent proper functioning.

ITEM NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
	Quarterly (cont.)	Trigger Mechanism Assembly (cont.)	3. Check grip assembly (Figure 9, Item 4) for cracks and looseness between pistol grip (Figure 9, Item 4) and housing (Figure 9, Item 3). Check sear spring (Figure 9, Item 7) to ensure the leg of spring is behind trigger pin (Figure 9, Item 8) and not between the trigger (Figure 9, Item 9) and the trigger pin (Figure 9, Item 8).  Figure 9. Pistol Grip.	
10	Quarterly	Cover and Feed Mechanism Assembly	**NOTE** Weak or improperly installed springs under the feed pawls can allow the bolt to under-ride the cartridge base and cause a weapon stoppage, more commonly referred to as a failure to feed/strip malfunction. **NOTE** Bent hinge pins can allow a spreading of the cartridge guides and cause a weapon stoppage, more commonly referred to as a failure to chamber malfunction. **NOTE** Weak or improperly installed springs under the cartridge guides, can allow uncontrolled/loose rounds in the receiver mechanism during the feeding cycle and cause a weapon stoppage, more commonly referred to as a failure to chamber.	

ITEM NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
	Quarterly (cont.)	Cover and Feed Mechanism Assembly	**NOTE** It is extremely important that when the cover is fully open, the cover catches hooks under the barrel locking lever. This assures sufficient access to the feed tray during loading. 1. Move feed lever (Figure 10, Item 8) back and forth to make sure the feed mechanism operates smoothly without binding. 2. Push in on the two latch cover latches (Figure 10, Item 2) to make sure retaining clip (Figure 10, Item 1) is not weak or missing and the cover latches (Figure 10, Item 2) do not bind in cover assembly (Figure 10, Item 9) 3. Push on two cartridge guides (Figure 10, Item 5) and three feed pawls (Figure 10, Item 7) to make sure the springs are not weak, missing or improperly installed. 4. Check feed pawls for excessive play or looseness.  Figure 10. Cover and Feed Mechanism Assembly.	Feed lever does not operate smoothly. Latches bind missing or improperly installed. Cover latch does not hold cover close Parts missing, loose or damaged Cover components do not operate smoothly.

ITEM NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
	Quarterly (cont.)	Cover and Feed Mechanism Assembly (cont.)	5. Ensure two pins (Figure 10, Item 4) are in place and that cover, cocking channel (Figure 10, Item 3) functions properly under spring tension. 6. Ensure hinge pin retaining pin (Figure 10, Item 8) is not bent. This can be checked by rotating the hinge pin retaining pin (Figure 11, Item 1) and observing any change in the parallel gap (Figure 11, Item 2) between the cartridge guides (Figure 11, Item 3) during the rotation of the pin. It is not necessary to disassemble the cartridge guides and hinge pin retaining pin to perform this check. 7. Ensure feed pawls (Figure 10, Item 9) retaining C-clip is present and secure.	Bent, broken or missing parts. Gap is not parallel.
11	Quarterly	Feed Tray	**NOTE** Severe gouges can catch the link ends which can contribute to feeding malfunctions.	

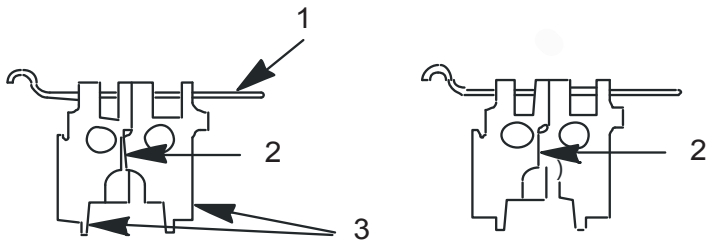


Figure 11. Gap Not Parallel versus Parallel Gap.

ITEM NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
	Quarterly (cont.)	Feed Tray (cont.)	Check feed tray (Figure 12, Item 4) for cracks, deformation, and two rivets (Figure 12, Item 1) for looseness. Check for gouges (Figure 12, Item 3) just below the depression of the link locators (Figure 12, Item 2). Check feed tray pawls (Figure 12, Item 5) for inability to move below tray surface and return to position under spring pressure.	Feed tray cracked or distorted. Gouges deep enough to cause malfunctions. Feed tray pawls missing or lacking proper movement.
12	Quarterly	Rear Sight Assembly	Assure rear sight (Figure 13, Item 2) is securely attached to cover (Figure 13, Item 1). Check windage knob (Figure 13, Item 6) and elevation knob (Figure 13, Item 5) through full range of motion and turn left to right, for looseness, binding, or slippage. Ensure windage scale (Figure 13, Item 4) is read-, able, not bent or missing. Ensure peep sight (Figure 13, Item 3) not bent or damaged.	Rear sight is loose, windage/elevation knobs do not rotate. Parts are missing, bent, damaged, or broken.

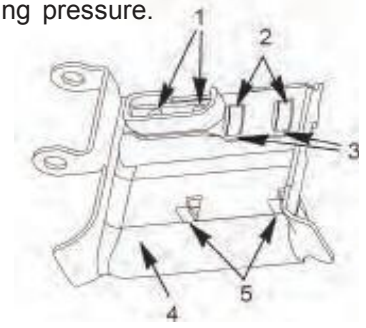


Figure 12. Feed Tray, Assembly

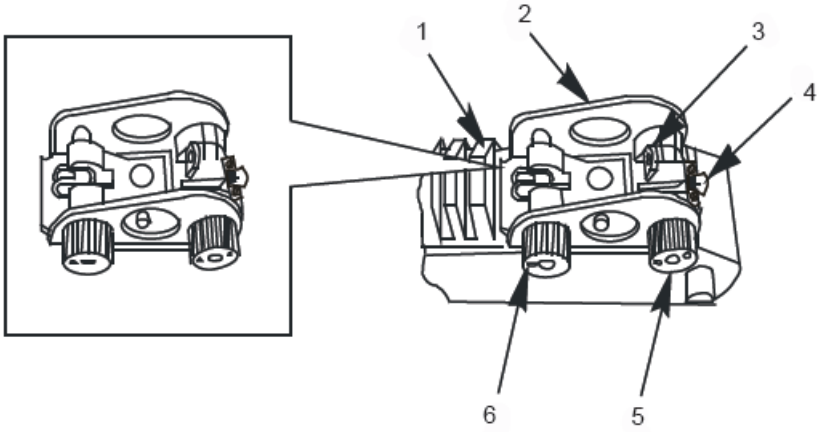
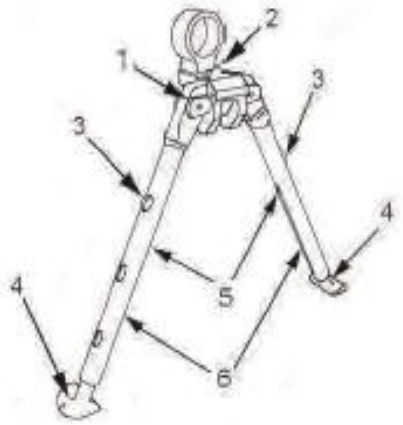


Figure 13. Rear Sight Assembly.

ITEM NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
13	Quarterly (cont.)	New Bipod Assembly	**NOTE** Spring pins (Figure 14, Item 5) protrude on inside of bipod legs (Figure 14, Item 6). Check both bipod legs (Figure 14, Item 4) and head (Figure 14, Item 4) for cracks in welds. Check ends of pivot rod (Figure 14, Item 1) Inner leg (Figure 14, Item 2) must not bind. Inspect bipod legs (Figure 14, Item 4) to ensure they remain spread apart under spring tension.  Figure 14. Bipod Assembly.	Bipod legs do not extend, retract, or remain locked. Parts are missing, bent, damaged, or broken.

ITEM NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
15	Quarterly	Rail	1. Check to ensure the accessory rails are tight and do not have excess wear preventing accessories to be securely mounted. 2. Ensure rail is not loose on receiver or missing studs.	Rail is damaged preventing adapters from mounting. If rails are loose and no damage to receiver, replace rails.

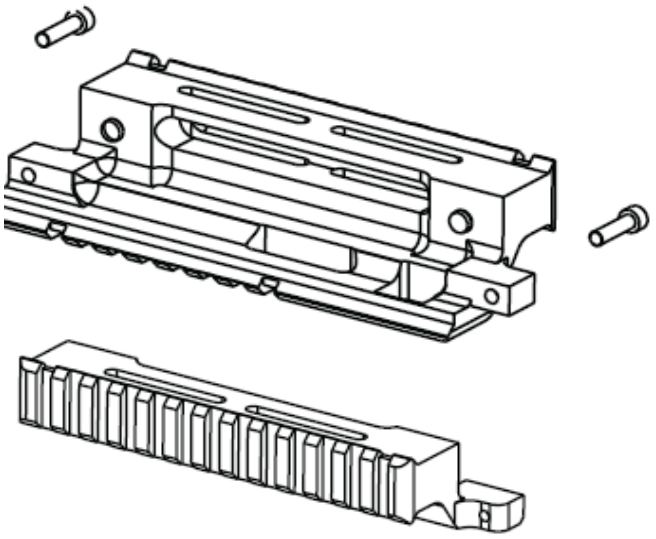


Figure 16. Accessory Rail.

ITEM NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
16	Quarterly (cont.)	Receiver Assembly	**NOTE** A chipped, distorted or rounded tip on the ejector can cause a weapon stoppage, more commonly referred to as a failure to eject.	Ejector chipped, distorted, or has rounded tip.
			1. Check cocking handle (Figure 17, Item 7) for cracks or distortions, and make sure when handle is pushed all the way forward, that the detent secures it in the	Cocking handle has cracks or is distorted.

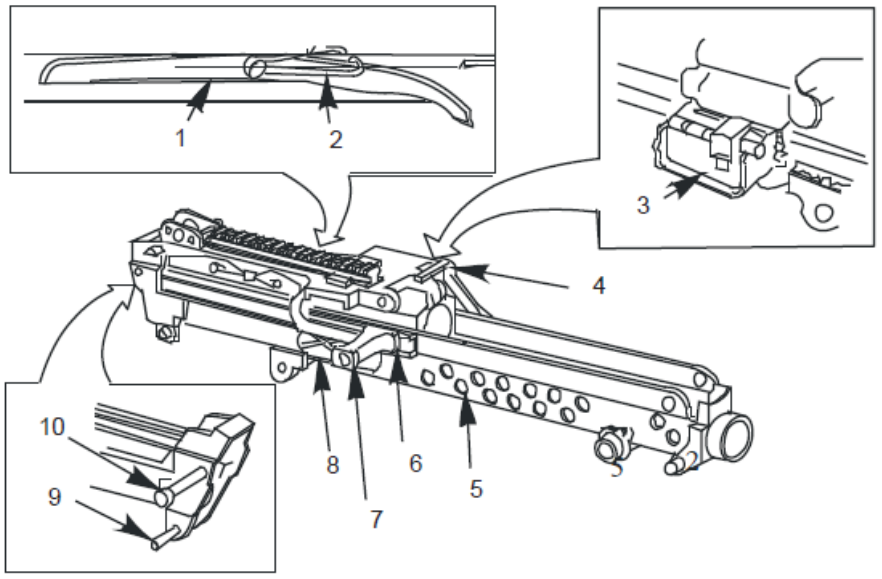
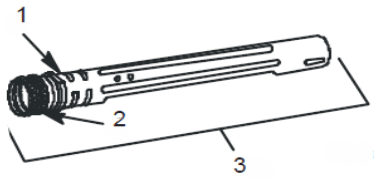
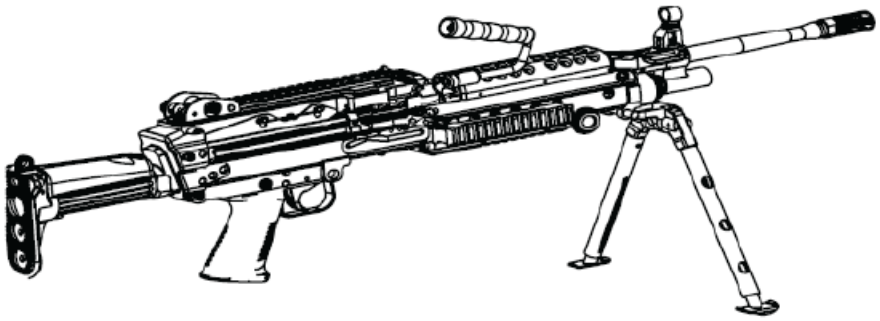


Figure 17. Receiver Assembly.

			2. Push in on the barrel locking lever (Figure 17, Item 4) to make sure the lever spring is not missing or weak.	Barrel locking lever fails to lock in barrel.
			3. Check the magazine cover (Figure 17, Item 3) for spring tension, it should return to the closed position when	Missing or improperly installed parts.

ITEM NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
	Quarterly (cont.)	Receiver Assembly (cont.)	4. Check the ejection port cover (Figure 17, Item 8) for spring tension and latching function. 5. Check the ejector (Figure 17, Item 1) for chipped, distorted, or rounded tip. 6. Check ejector clip (Figure 17, Item 2) for tension. 7. Ensure pins (Figure 17, Item 10) and (Figure 17, Item 9) are securely held in receiver when pushed fully to the left. 8. Check the receiver (Figure 17, Item 5) for presence of black surface finish and ensure surfaces do not reflect light. 9. Check for cracked or a broken sling holes on both sides. 10. If the grommet is in the eyelet hole of the receiver, the weapon does not need to be coded out.	Sling holes cracked or broken weapon must be coded out.
17	Quarterly	Gas Cylinder Assembly	**NOTE** Gas leakage between the cylinder and knurled head can cause sluggish operation and contribute to malfunctions. Inspect gas cylinder assembly (Figure 18, Item 3) for cracks or distortions, or for gas leakage (white deposit) between cylinder (Figure 17, Item 1) and knurled head (Figure 17, Item 2).  Figure 18. Gas Cylinder Assembly	Cracked, distorted, or gas leaks.

ITEM NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
18	Quarterly (cont.)	Machine Gun M249	1. Assemble weapon (TM 9-1005-201-23&P). Ensure parts are in good working condition. Ensure cocking handle assembly charges the weapon without overriding the slide assembly. Check weapon functioning using linked DUMMY ammunition (TM 9-1005-201-23&P)	Parts worn, missing, cocking handle overrides, and weapon won't function.
			 Figure 19. M249 Machine Gun Whole	
			2. Ensure annual headspace gaging and inspection has been done and that the next gaging and inspection are scheduled as a minimum requirement Active Duty M249 machine guns headspace gaging and inspection for both weapon and spare barrel assembly should be verified annually by Field Maintenance. This requirement could be increased to four times a year or after each training cycle, depending on usage factors. For Army Reserve and National Guard weapons, the period is 2 years unless inspection shows need for gaging more often due to usage.	Headspace gaging and inspection not performed.

END OF WORK PACKAGE

CHAPTER 4

MAINTENANCE INSTRUCTIONS

FIELD MAINTENANCE

SERVICE UPON RECEIPT

INITIAL SETUP:

AR 735-11-2
DA PAM 25-30
SF 361
SF 364
SF 368

References (cont.)

TM 9-1005-201-10
TM 08671A-10/1A
TO 11W-1-10

WARNING

DO NOT keep live ammunition near work/ maintenance area. Failure to comply can result in explosion, resulting in death or injury to personnel.

Be sure to clear the weapon before disassembling, cleaning, inspecting, transporting, or storing. Clearing consists of unloading the weapon and visually inspecting weapon and chamber to ensure all rounds have been removed. Failure to comply can result in accidental discharge, resulting in death or injury to personnel.

NOTE

Weapon must be inspected and/or gaged at least once annually for safety and serviceability. Guard and reserve weapons are to be gaged and inspected at least once every two years after initial gaging unless usage, deployment or other maintenance indicates a need for more frequent inspection/gaging after every training cycle. Regardless of weapon ownership, initial gaging/inspection will be one year after receipt of new or overhauled weapons. The appropriate interval starts at this time.

Condition Code “A” weapons when received from a weapons manufacturer or a DA overhaul program do not require gaging prior to first use. Scheduling of annual gaging should begin with the weapons’ receipt date.

(MC) only requires to conduct acceptance limited technical inspection (LTI) to include gaging on all new or rebuilt weapons.

(F) Conduct inspections in accordance with Air Force Instruction 36-2226, Combat Arms Program.

Unpacking

When a new or reconditioned M249 Machine Gun is received, check for any shipping damage to packaging container and packaging material. Report any damage on SF 364, Supply Discrepancy Report (SDR), as prescribed in AR 735-11-2. Retain packaging materiel for future use.

Checking Unpacked Equipment

Inspect the equipment for damage incurred during shipment. If the equipment has been damaged, report the damage on DD Form 361, Transportation Discrepancy Report. See TM 9-1005-201-10.

Check the equipment against the packing slip to see if the shipment is complete in accordance with the following instructions:

SERVICE UPON RECEIPT - Continued

(A) Army users submit SF 364 to report discrepancies in accordance with PAM 750-8.

(F) Air Force users submit MDR and Quality Deficiency Report (QDR) through the Joint Discrepancy Reporting System (JDRS) at www.jdrs.mil/jdrs.html, in accordance with TO 00-35 D-54, USAF Deficiency Reporting Investigation and Resolution, and Air Force Joint Manual (AFJMAN) 23-215, Reporting of Supply Discrepancies.

(MC) Marine Corps users submit SF 368 in accordance with MCO 4855.10, PDQR, to: Commander, Marine Corps Logistics Bases (Code 856), 814 Radford Blvd, Albany, GA 31704-1128.

Check to see whether the equipment has been modified. Refer to authorized equipment configuration changes listed in DA PAM 25-30.
(F) Air Force personnel will contact the Small Arms Program Office and HQ AFSFC/SFXW if they suspect the weapon has been modified to see if the modification was authorized.

Table 1. Service Upon Receipt.

LOCATION	ITEM	ACTION	REMARKS
Machine Gun	Barrel Assembly and Spare Barrel Assembly	Remove corrosion inhibitor from barrels. Discard.	See TM 9-1005-201-10; TM 08671A-10/1A; TO11W3-5-5-52
	Machine Gun	1. Field-strip machine gun and inspect for missing parts. 2. Clean and lubricate. 3. Re-assemble. 4. Function using both belted and magazine fed dummy ammunition.	

END OF TASK

END OF WORK PACKAGE

FIELD MAINTENANCE
LUBRICATION INSTRUCTIONS

INITIAL SETUP:

Materials/Parts

Cleaner, Lubricant and Preservative (CLP)
(WP 0049, Item 3)
Lubricating Oil, Weapons (LAW) (WP 0049, Item 8)

WARNING

Cleaner, Lubricant, and Preservative (CLP MIL-PRF-63460) may be irritating to the eyes and skin. Use protective gloves and goggles. First aid for skin contact: wash skin thoroughly with soap and water. First aid and eye contact: flush with water for 15 minutes or until irritation subsides. If symptoms persist, seek medical attention. Failure to comply may result in personnel injury. Seek medical attention in event of injury.

Use CLP MIL-PRF-63460 in a well-ventilated area. Breathing in small amounts of this material during normal handling is not likely to cause harmful effects. Accidental ingestion can cause irritation of digestive tract and respiratory tract. Inhalation of high/massive concentrations can cause headache, dizziness and loss of cognitive functions. First aid for ingestion: DO NOT induce vomiting. Seek medical attention if symptoms appear. First aid for inhalation: Move to fresh air. If not breathing, provide artificial respiration. Loosen tight clothing. If symptoms persist, seek medical attention. Failure to comply may result in personnel injury. Seek medical attention in event of injury.

CLP MIL-PRF-63460 is combustible; DO NOT use or store near heat, sparks, flame, or other ignition sources. Keep container sealed when not in use. Failure to comply may result in personnel injury or death. Seek medical attention in event of injury.

Cloths or rags saturated with CLP MIL-PRF-63460 must be disposed of in accordance with authorized facility procedures. Failure to comply may result in personnel injury. Seek medical attention in event of injury.

CAUTION

Any oil/CLP residue in the chamber must be removed before firing the weapon. Failure to remove the residue may result in ruptured cartridges, personnel injuries, and damaged equipment.

NOTE

Cleaning fluids, dry cleaning solvents, lubricants and other such materials used in servicing this weapon (or items, such as cleaning rags, contaminated with these substances) must be disposed of properly. Please refer to the Hazardous Waste Disposal Information Section on page 0001-2 for additional information.

1. Two-week Intervals. If the weapon is not being fired for periods up to two weeks, renew the oil film in the bore and chamber as required by local climatic conditions.
2. 90-Day Intervals. If the weapon is not to be fired for periods up to 90 days, coat with CLP.
3. When operating M249 in extremely cold climates, clean and lubricate M249 indoors at room temperature. CLP is the authorized lubricant on the SAW for temperatures of -10 degrees F (-23 degrees C) and above. At temperatures below -10 degrees F (-23 degrees C), use LAW. LAW may be used for temperatures of +10 degrees F (-12 degrees C) and below. Never mix lubricants on weapons, always completely remove one lubricant before using another.
4. Remember to remove excessive oil from the bore before firing. **(A/F only)** Air Force personnel will use only those lubricating and protective substances specifically noted in this Technical Order.

END OF WORK PACKAGE

FIELD MAINTENANCE

GENERAL MAINTENANCE OF M249 MACHINE GUN

INITIAL SETUP:

Tools and Special Tools

Shop Set, Small Arms: Field Maintenance, Basic Less Power (WP 0050, Item 7)
Small Arms Repairman Tool Kit (SARTK) (WP 0050, Item 10)
USMC TAM No. E7900 (WP 0050, Item 11)

Materials/Parts

Cleaner, Lubricant and Preservative (CLP WP 0049, Item 3)
Crocus Cloth (WP 0049, Item 4)
Masking Tape (WP 0049, Item 16)

Material/Parts (cont)

Solid Film Lubricant (WP 0049, Item 9)
Rags, Wiping (WP 0049, Item 11)

References

TM 9-1005-201-10
TM 08671A-10/1A
TO 11W3-5-5-51

DISASSEMBLY / INSPECTION

When a machine gun is received at field maintenance, all gaging requirements must be checked as a standing maintenance procedure. In addition, the weapon must be inspected and any other deficiencies found will be repaired, and noted for repair at field maintenance. Weapons must be inspected and/or gaged at least once annually for safety and serviceability. Guard and reserve weapons are to be gaged and inspected at least once every two years after initial gaging unless usage, deployment, or other maintenance indicates a need for more frequent inspection.gaging. It is recommended that training field weapons be inspected/gaged after every training cycle. Regardless of weapon ownership, initial gaging/inspection will be one year after receipt of new or overhauled weapons. The appropriate interval starts at this time.

(F) Air Force personnel, to include Air Force Reserve and Air Force National Guard units, will conduct inspections of the weapons in accoardance with the criteria and intervals in AFI 36-2226.

WARNING

Ensure weapon is cleared and that there is no obstruction in the barrel or chamber (to include the spare barrel). Failure to comply may cause death or injury to personnel.

CLP MIL-PRF-63460 is flammable and toxic. Ensure there is adequate ventilation. Keep away from ignition source. Make sure safety equipment (safety glasses/chemical splash goggles, safety gloves and eye wash station) is available when using this solvent. Failure to comply may result in personnel injury.

NOTE

On the outside of the weapon, burrs or raised surfaces may be removed or smoothed using a fine grit sharpening stone or crocus cloth. Do not change the dimensions of any component by stoning. Cracks, chips, dents or gouges on components shall be reported to field maintenance for repairs or replacement.

DISASSEMBLY / INSPECTION -- Continued

1. Field strip weapon in accordance with:
   (A) TM 9-1005-201-10
   (F) TO 11W3-5-5-51
   (MC) TM 08671A-1-/1A
2. Visually inspect assemblies for damage.

NOTE

It may be necessary during unusual conditions to flush out sand and other debris from assemblies and components using CLP MIL-PRF-63460.

3. Touch-up external surfaces (surfaces should not reflect light) as required, using solid film lubricant WP 0049, Item 9). Mask off areas that do not require touch-up, using masking tape (WP 0049, Item 16).
4. Lightly lubricate all metal surfaces of components, using CLP (WP 0049, Item 3) and wiping rags (WP 0049, Item 11), except as noted.

END OF TASK

ASSEMBLY

WARNING

Barrels (to include spare barrel) and bolts must not be interchanged with other M249 Machine Guns unless they have been checked for proper headspace. Failure to comply may result in injury to personnel and/or damage to weapon.

Reassemble in accordance with:
(A) TM 9-1005-201-10
(F) TO 11W3-5-5-5
(MC) TM 08671A-10/1A

END OF TASK

END OF WORK PACKAGE

FIELD MAINTENANCE

COVER AND FEED MECHANISM ASSEMBLY MAINTENANCE

INITIAL SETUP:

Tools and Special Tools

Shop Set, Small Arms: Field Maintenance, Basic
Less Power (WP 0050, Item 7)
Small Arms Repairman Tool Kit (SARTK) WP 0050, Item 10)
USMC TAM No. E7900 (WP 0050, Item 11)

DISASSEMBLY / INSPECTION OF COVER AND FEED MECHANISM ASSEMBLY

1. Open cover and feed mechanism assembly (Figure 1, Item 1) and rotate hooked, retaining pin (Figure 1, Item 2) 180 degrees.

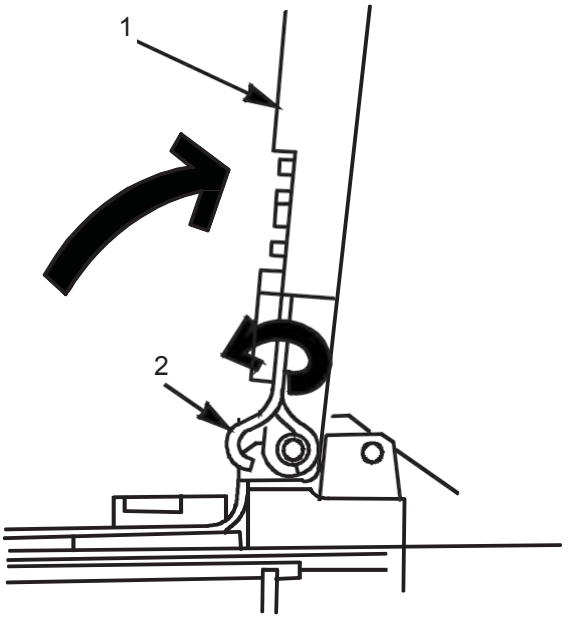


Figure 1. Cover and Feed Mechanism Assembly, Retaining Pin.

DISASSEMBLY / INSPECTION OF COVER AND FEED MECHANISM ASSEMBLY -- Continued

2. Push out headless pin (Figure 2, Item 2). Slide feed tray (Figure 2, Item 1) rearward and remove.

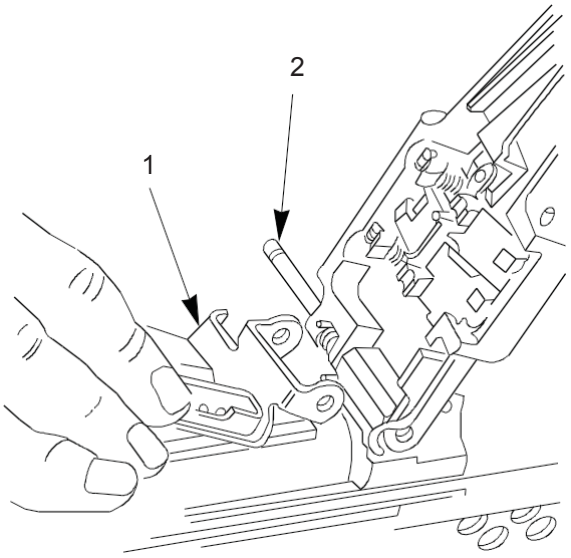


Figure 2. Feed Tray, Headless Pin.

3. Visually inspect feed tray assembly (Figure 3, Item 1) for burrs, cracks, bends and loose or missing rivets (Figure 3, Item 2). If damaged or worn,replace feed tray assembly (Figure 3, Item 1). If feed pawls are worn, remove e-clips, worn feed pawls, spring pawl, and pawl pin and replace.

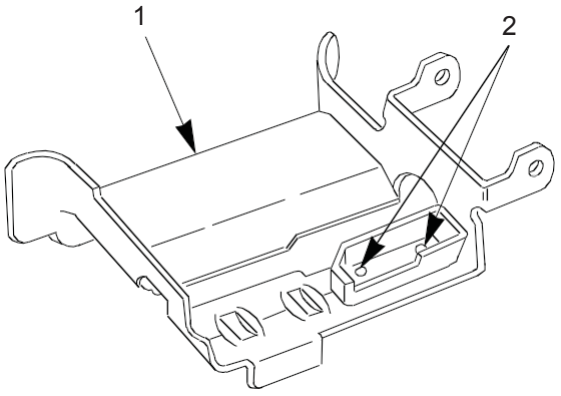


Figure 3. Feed Tray Assembly

DISASSEMBLY / INSPECTION OF COVER AND FEED MECHANISM ASSEMBLY -- Continued

4. Pivot cover and feed mechanism assembly (Figure 4, Item 1) to left of receiver assembly (Figure 4, Item 4), freeing torsion spring (Figure 4, Item 3) from hole (Figure 4, Item 2). Separate cover and feed mechanism assembly (Figure 4, Item 1) from receiver assembly (Figure 4, Item 4).

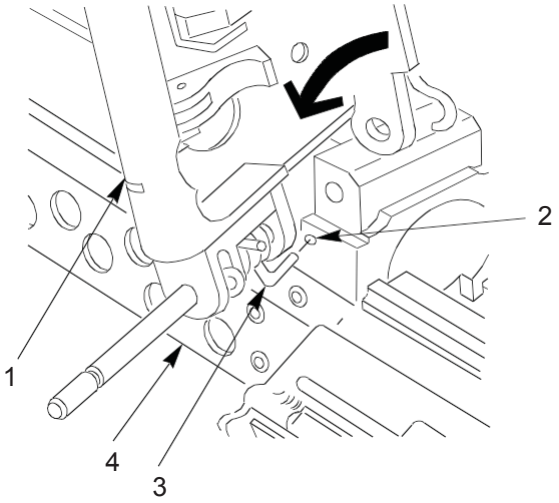


Figure 4. Feed Mechanism Assembly, Receiver Assembly, Freeing Torsion Spring.

5. Remove retaining clip (Figure 5, Item 1). Remove headless pin (Figure 5, Item 2) and separate torsion spring (Figure 5, Item 3) and catch cover (Figure 5, Item 4).

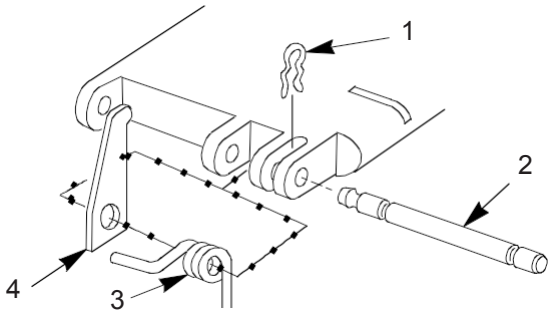


Figure 5. Retaining Clip, Headless Pin, Torsion Spring, Catch Cover.

6. Visually inspect headless pin (Figure 5, Item 2) for burrs and bends, and replace if damaged.
7. Visually inspect torsion spring (Figure 5, Item 3) for broken coils and bent or broken legs. Replace if damaged.
8. Insert screwdriver into loop of retaining clip (Figure 6, Item 1) and pull toward front of cover and feed mechanism assembly (Figure 6, Item 2) and remove.

DISASSEMBLY / INSPECTION OF COVER AND FEED MECHANISM ASSEMBLY -- Continued

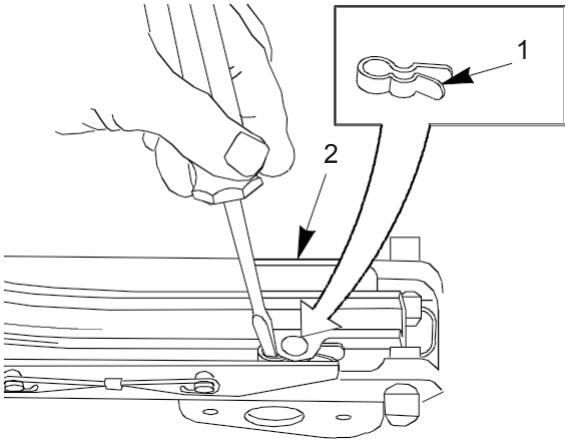


Figure 6. Retaining Clip, Cover and Feed Mechanism Assembly.

9. Visually inspect retaining clip (Figure 6, Item 1) for bends, or cracks and replace if damaged.

10. Lift feed lever (Figure 7, Item 1) up and out from rear. Separate spring (Figure 7, Item 3) from cover assembly (Figure 7, Item 2).

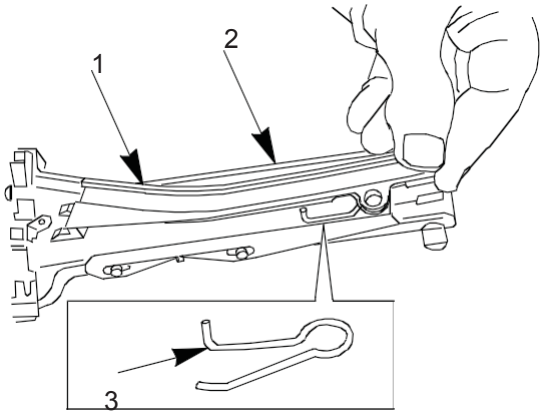


Figure 7. Feed Lever, Spring, Cover Assembly.

11. Visually inspect spring (Figure 7, Item 3) for bent or broken legs and replace if damaged.

12. Visually inspect feed lever (Figure 8, Item 1) for burrs and cracks and replace if damaged. If enlargement or elongation exists in pivot hole (Figure 8, Item 3), replace feed lever (Figure 8, Item 1). Visually inspect channel (Figure 8, Item 2) for distortion, burrs, or ripples and if damaged, replace feed lever (Figure 8, Item 1).

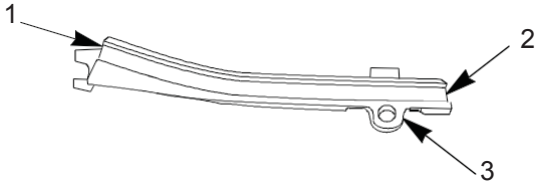


Figure 8. Feed Lever, Spring, Cover Assembly.

DISASSEMBLY / INSPECTION OF COVER AND FEED MECHANISM ASSEMBLY -- Continued

13. Apply slight pressure to cartridge retaining pawls (Figure 9, Item 2) and remove hooked retaining pin (Figure 9, Item 1).

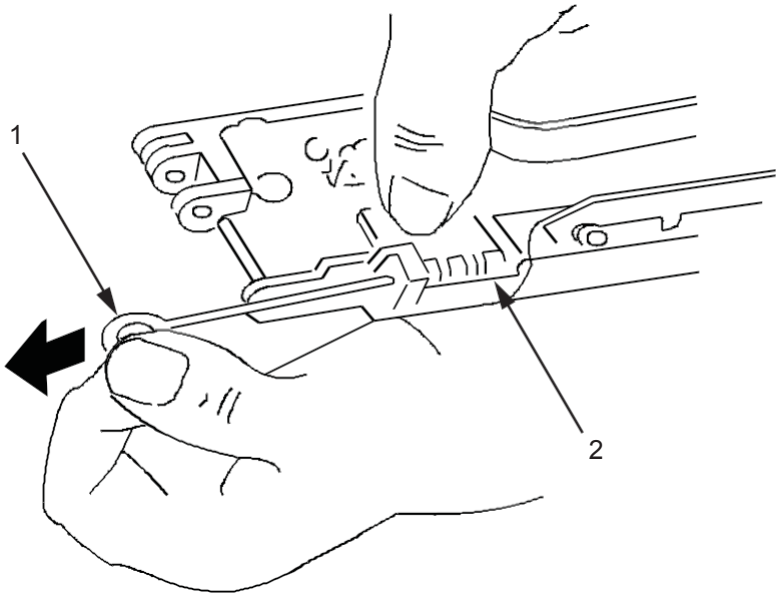


Figure 9. Cartridge Retaining Pawls, Hooked Retaining Pin.

14. Visually inspect pin (Figure 9, Item 1) for bends or breaks. Replace if damaged.

15. Separate front (Figure 10, Item 1) and rear (Figure 10, Item 2) cartridge retaining pawls and remove two springs (Figure 10, Item 3).

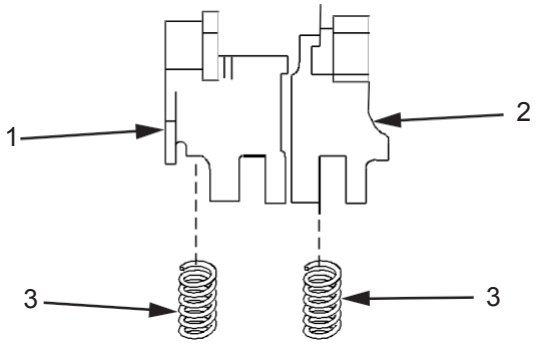


Figure 10. Front, Rear, Cartridge Retaining Pawls, Springs.

16. Visually inspect front (Figure 10, Item 1) and rear (Figure 10, Item 2) cartridge retaining pawls for bends, breaks, or cracks. Replace if damaged. Visually inspect springs (Figure 10, Item 3) for broken or kinked coils and replace if damaged. If either spring (Figure 10, Item 3) is broken, kinked or missing, replace both springs (Figure 10, Item 3).

DISASSEMBLY / INSPECTION OF COVER AND FEED MECHANISM ASSEMBLY -- Continued

17. Using small screwdriver, remove retaining ring (Figure 11, Item 1) and discard. Separate feed pawl assembly (Figure 11, Item 2) from feed pawl pivot post (Figure 11, Item 3).

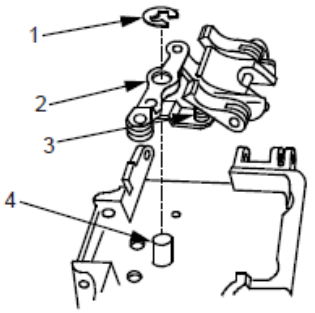


Figure 11. Retaining Ring, Feed Pawl Assembly, Feed Pawl Pivot Post.

18. Visually inspect feed pawl assembly (Figure 11, Item 2) for distortions, cracks, burrs or excessive wear. Replace if damaged. Visually inspect springs (Figure 12, Item 1) for breaks, kinks, or lost tension. If any spring (Figure 12, Item 1) is damaged, disassemble by holding onto feed pawl assembly and insert flat tip screwdriver between first and second coil of spring (Figure 12, Item 1) just above the feed pawl assembly base and apply slight pressure upward to remove spring (Figure 12, Item 1). Remove the other three springs (Figure 12, Item 1) in the same manner. If any spring (Figure 12, Item 1) is weak, kinked, broken or missing, replace all four springs.

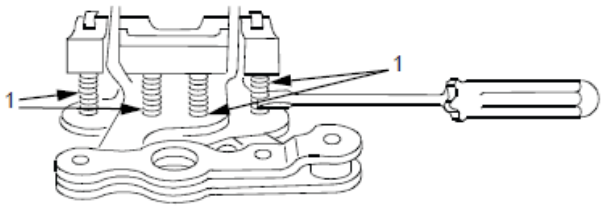


Figure 12. Retaining Ring, Feed Pawl Assembly, Feed Pawl Pivot Post.

DISASSEMBLY / ASSEMBLY OF COVER AND FEED MECHANISM ASSEMBLY -- Continued

WARNING

Retaining clip is under spring tension. Wear safety glasses to prevent potential eye injury.

19. Compress cover latches (Figure 13, Item 2) and using flat tip screwdriver, pry out retaining clip (Figure 13, Item 1). Remove two cover latches (Figure 13, Item 2).

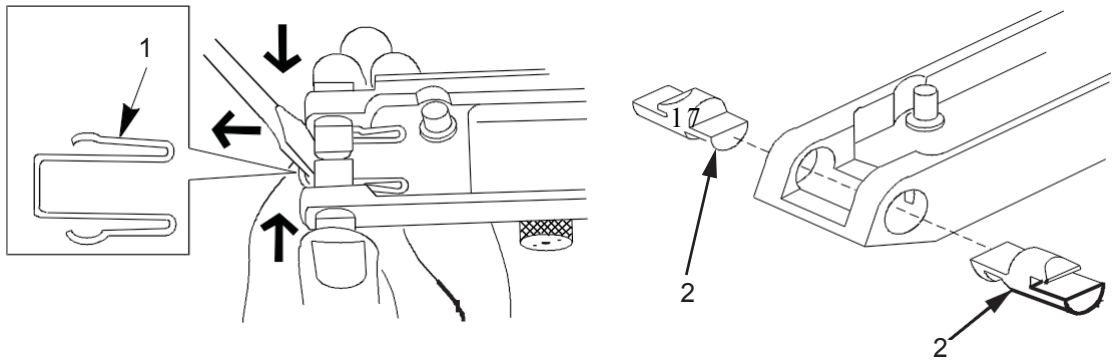


Figure 13. Cover Latches, Retaining Clip.

20. Visually inspect retaining clip (Figure 13, Item 1) for bends or breaks. Replace if damaged. Visually inspect cover latches (Figure 13, Item 2) for burrs or bends. Replace if damaged.

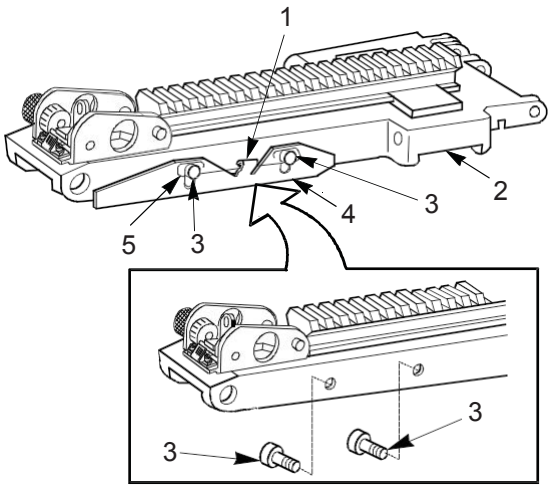


Figure 14. Cover Latches, Retaining Clip Breakout View.

21. Pry retaining spring (Figure 14, Item 5) over two retaining pins (Figure 14, Item 3). Remove two retaining pins (Figure 14, Item 3), retaining spring (Figure 14, Item 5) and cocking channel cover (Figure 14, Item 4) from cover assembly (Figure 14, Item 2) and separate retaining spring (Figure 14, Item 5) from cocking channel cover (Figure 14, Item 4).

DISASSEMBLY / INSPECTION OF COVER AND FEED MECHANISM ASSEMBLY -- Continued

22. Visually inspect two retaining pins (Figure 15, Item 3) for burrs, and replace if damaged. Visually inspect cocking channel cover (Figure 15, Item 4) for bends or broken clip (Figure 15, Item 1) and replace if broken or damaged. Visually inspect retaining spring (Figure 15, Item 5) for bends or broken ends and replace if damaged.

23. Remove two screws (Figure 15, Item 4). Remove two lock washers (Figure 15, Item 3) and discard. Separate rear sight assembly (Figure 16, Item 1) from cover assembly (Figure 15, Item 2).

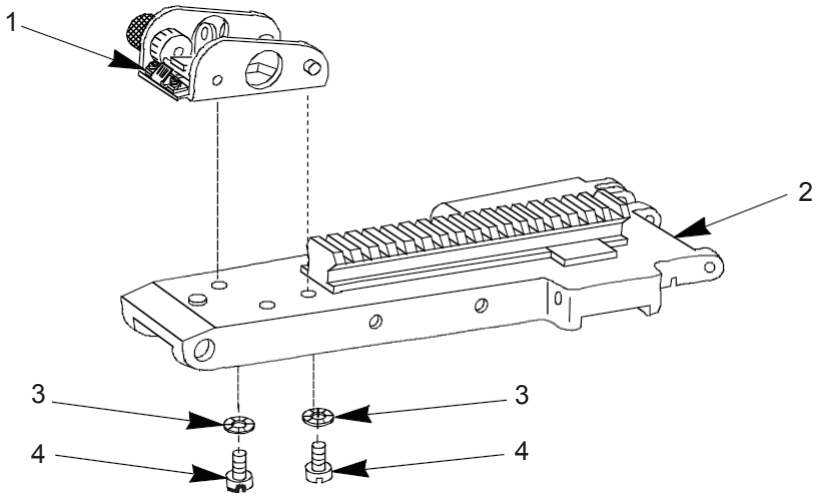


Figure 15. Rear Sight Assembly Cover Assembly.

24. Visually inspect two screws (Figure 15, Item 4) for burred head and damaged threads. Replace if damaged.

25. Rotate elevation knob assembly (Figure 16, Item 1) so that cross bar of elevator assembly (Figure 16, Item 2) is rearward.

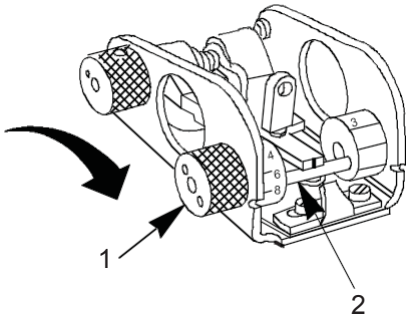


Figure 16. Elevation Knob Assembly.

26. Push lock spring (Figure 17, Item 1) to the front and lift sight leaf assembly (Figure 17, Item 2) up and away from elevator assembly (Figure 17, Item 3).

DISASSEMBLY / INSPECTION OF COVER AND FEED MECHANISM ASSEMBLY -- Continued

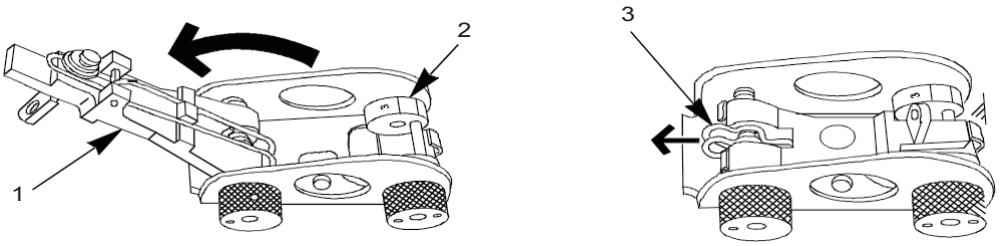


Figure 17. Lock Spring, Sight Leaf Assembly, Elevator Assembly.

WARNING

Assembly is under spring tension. Always secure pin when disassembling. Failure to comply can cause personnel injury.

27. Place rear sight assembly (Figure 18, Item 1) in protective jawed vise. Remove spring pin (Figure 18, Item 2) and discard.

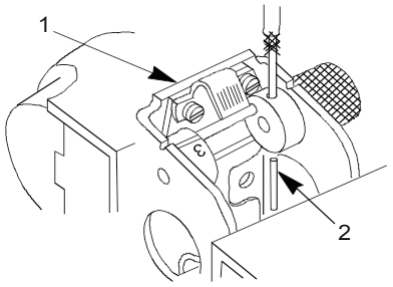


Figure 18. Rear Sight Assembly, Spring Pin.

28. Separate elevation knob assembly (Figure 19, Item 6) from elevator assembly (Figure 19, Item 1) Separate and discard two ball detents (Figure 19, Item 2), two plungers (Figure 19, Item 3), two detent springs (Figure 19, Item 4) and two detent springs (Figure 19, Item 5),from elevation knob assembly (Figure 19, Item 6).

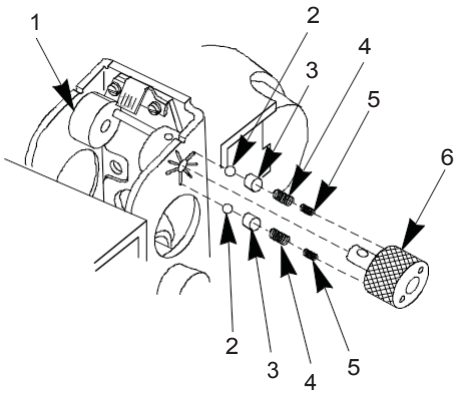


Figure 19. Elevation Knob Assembly, Elevator Assembly, Ball Detents, Plungers, Detent Springs

DISASSEMBLY / INSPECTION OF COVER AND FEED MECHANISM ASSEMBLY -- Continued

29. Visually inspect elevation knob assembly (Figure 20, Item 1) for bent or broken shaft and replace if damaged.

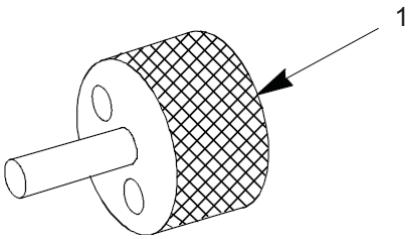


Figure 20. Elevation Knob.

30. Visually inspect elevator assembly (Figure 21, Item 1) for bent or broken cross bar. If not damaged, do not remove.

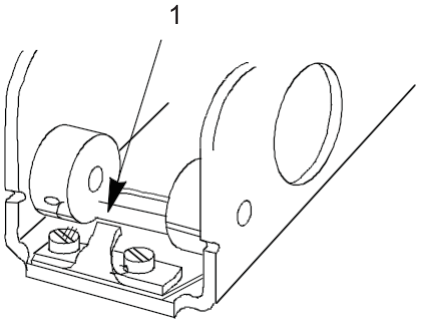


Figure 21. Elevator Assembly.

31. If elevator assembly (Figure 22, Item 3) is damaged, place rear sight base (Figure 22, Item 2) on vise with jaws slightly apart. Remove shaft (Figure 22, Item 1) and discard. Separate elevator assembly (Figure 22, Item 3) and replace.

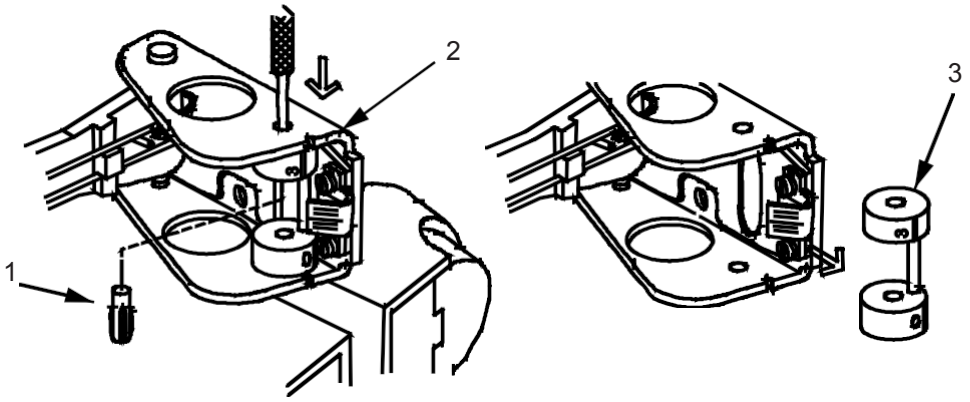


Figure 22. Elevator Assembly, Rear Sight Base, Shaft.

DISASSEMBLY / INSPECTION OF COVER AND FEED MECHANISM ASSEMBLY -- Continued

WARNING

Assembly is under spring tension. Always secure pin when disassembling.
Failure to comply can cause personnel injury.

32. Place rear sight base (Figure 23, Item 2) in protective jawed vise. Remove and discard spring pin (Figure 23, Item 3) from windage knob (Figure 23, Item 1).

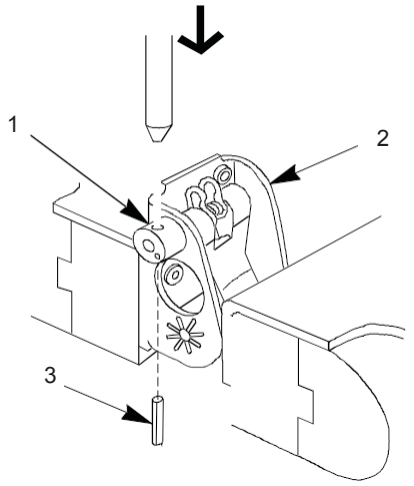


Figure 23. Rear Sight Base, Spring Pin, Windage Knob.

33. Remove windage knob (Figure 24, Item 2) from machine screw shaft (Figure 24, Item 1). Separate and discard the ball detent (Figure 24, Item 6), plunger (Figure 24, Item 5), detent spring (Figure 24, Item 4) and detent spring (Figure 24, Item 3) from windage knob (Figure 24, Item 2).

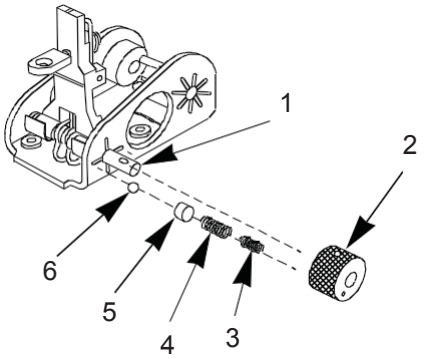


Figure 24. Ball Detent, Plunger, Detent Spring.

34. Visually inspect windage knob (Figure 25, Item 2) for burrs. Replace if damaged.

DISASSEMBLY / INSPECTION OF COVER AND FEED MECHANISM ASSEMBLY -- Continued

35. Unscrew machine screw (Figure 25, Item 1) and separate sight leaf assembly (Figure 25, Item 2) from rear sight body (Figure 25, Item 3).

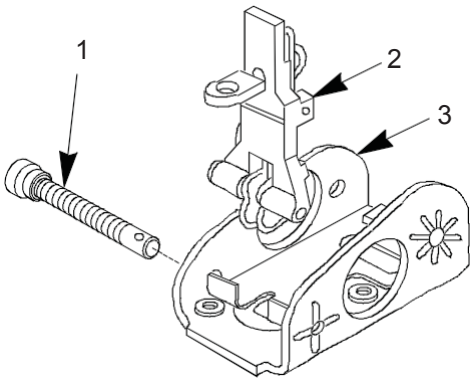


Figure 25. Machine Screw, Sight Leaf Assembly, Rear Sight Body

36. Visually inspect machine screw (Figure 25 Item 1) for distorted threads or bent shaft. Replace if damaged.

37. Remove retaining clip (Figure 26, Item 1) and discard. Separate washer (Figure 26, Item 2) from peep sight (Figure 26, Item 3) and visually inspect for bends. Replace if damaged.

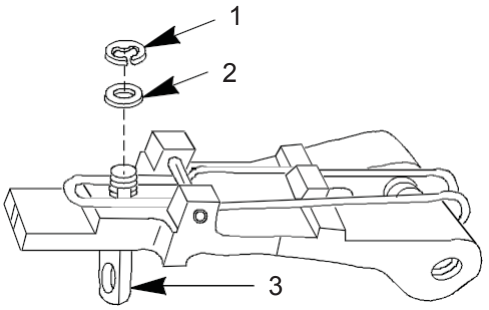


Figure 26. Retaining Clip, Washer, Peep Sight.

38. Place sight leaf assembly (Figure 27, Item 1) in vise with protective jaws. Remove spring pin (Figure 27, Item 2) and discard.

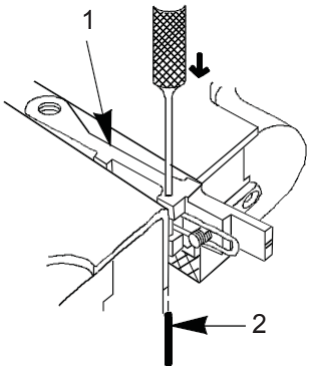


Figure 27. Sight Leaf Assembly, Spring Pin .

DISASSEMBLY / INSPECTION OF COVER AND FEED MECHANISM ASSEMBLY -- Continued

39. Separate lock spring (Figure 28 , Item 1) from sight leaf (Figure 28, Item 2). Visually inspect for bends or broken ends. Replace if damaged.

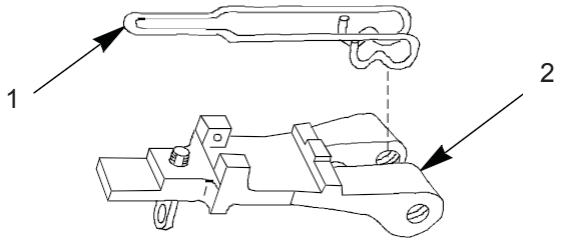


Figure 28. Lock Spring, Sight Leaf Assembly.

NOTE

Prior to disassembly of peep sight, count the number of threads exposed on the top of sight leaf.

40. Unscrew peep sight (Figure 29, Item 2) from sight leaf (Figure 29, Item 3) and visually inspect for bent shaft, damaged threads, burred thread flats and burrs on peep hole (Figure 29. Item 1). Replace peep sight (Figure 29, Item 2) if damaged. Visually inspect sight leaf (Figure 29, Item 3) for bends, cracks, or broken portions, and replace the entire sight leaf assembly if damaged.

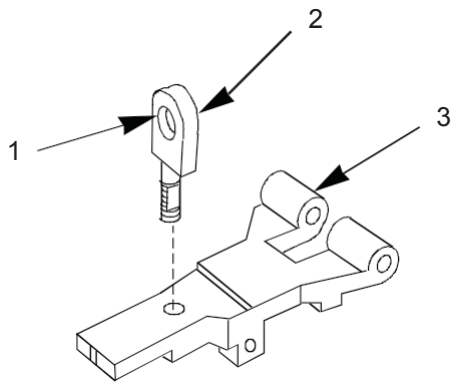


Figure 29. Peep Sight, Sight Leaf, Peep Hole.

DISASSEMBLY / INSPECTION OF COVER AND FEED MECHANISM ASSEMBLY -- Continued

41. Remove two screws (Figure 30, Item 2) and two lock washers (Figure 30, Item 1). Discard the two lock washers (Figure 30, Item 1). Visually inspect screws (Figure 30, Item 2) for distorted threads and replace is damaged.

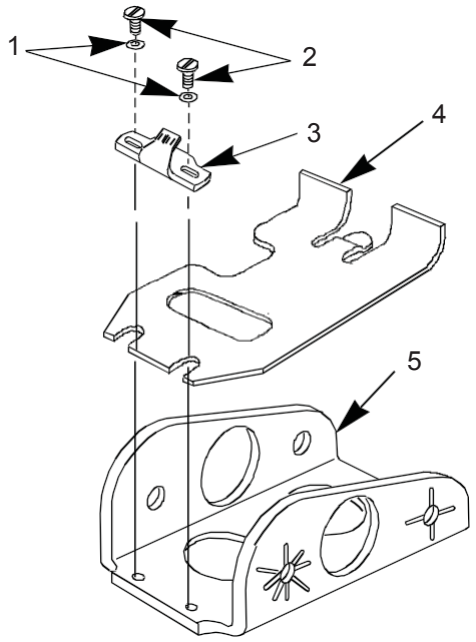


Figure 30. Screws, Lock Washers.

42. Separate windage scale (Figure 30, Item 3) from rear sight body (Figure 30, Item 5) and visually inspect windage scale (Figure 30, Item 3) for bends, breaks, or missing white paint on scale. If damaged, replace scale.
43. Separate slack plate (Figure 30, Item 4) from rear sight body (Figure 30, item 5). Visually inspect slack plate (Figure 30, Item 4) for bends, breaks or cracks and replace if damaged.
44. Visually inspect rear sight base (Figure 30, Item 5) for bends, cracks or distorted threads and if damaged, replace the entire rear sight assembly.

END OF TASK

ASSEMBLY OF COVER AND FEED MECHANISM -Continued

1. Center slack plate (Figure 31, Item 2) and windage scale (Figure 31, Item 4) on rear signt base (Figure 31, Item 3) and install two new washers (Figure 31, Item 5) and two screws (Figure 31, Item 1) into rear sight base (Figure 31, Item 3), and tighten securely.

NOTE

Ensure tab of slack plate is positioned in hole of rear sight base as illustrated. Tab must not be positioned under the rear sight base since this can cause the rear sight assembly to not fully seat on top of the cover assembly. If that occurs, it will prevent the rear sight assembly from securely fastening with screws and washers.

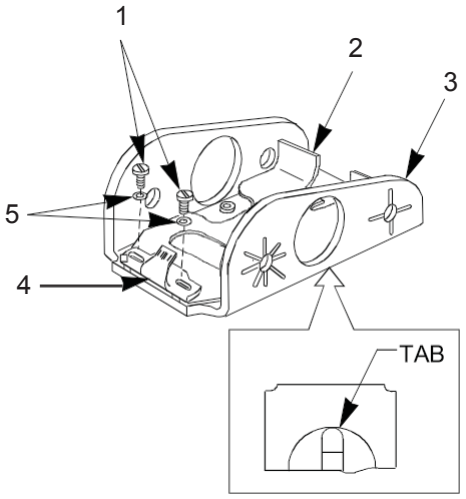


Figure 31. Slack Plate, Windage Scale, Rear Sight Base.

2. Screw peep sight (Figure 32, Item 2), into sight leaf (Figure 34, Item 3) until threads on peep sight (Figure 32, Item 2) are even with the number of threads exposed before removal. Install lock spring (Figure 32, Item 1) onto sight leaf (Figure 33, Item 1) and peep sight (Figure 32, Item 2). With lock spring (Figure 32, Item 1) installed, position in vise with protective jaws and drive in new spring pin (Figure 32, Item 2) flush.

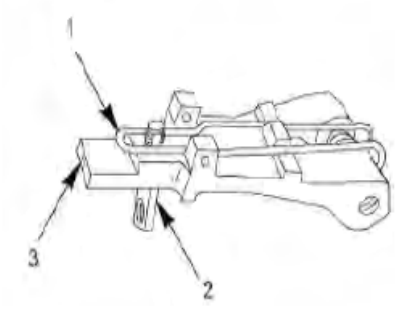


Figure 32. Screw Peep Sight, Sight Leaf .

ASSEMBLY OF COVER AND FEED MECHANISM-Continued

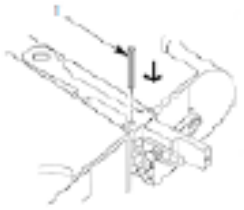


Figure 33.. Peep Sight, Sight Leaf, Spring

3. Install washer (Figure 34, Item 3) and new retaining clip (Figure 34, Item 2) on end of peep sight (Figure 34, Item 5).

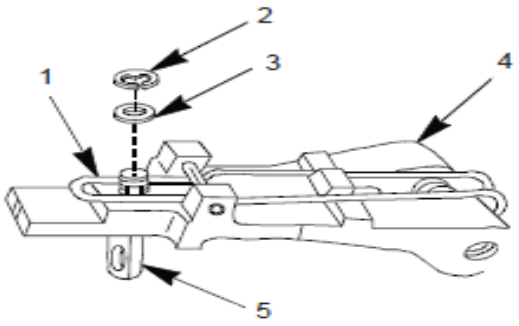


Figure 34. Washer, Retaining Clip.

4. Position sight leaf assembly (Figure 35, Item 2) into rear sight base (Figure 35, Item 3). Install machine screw (Figure 35, Item 1) through right side front hole and screw through both sight leaf assembly (Figure 35, Item 2) and left side front hole of rear sight base (Figure 35, Item 3).

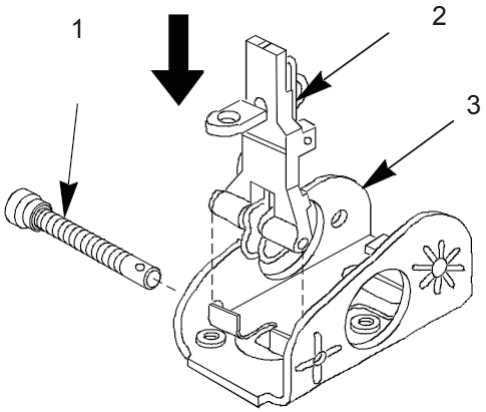


Figure 35. Sight Leaf Assembly, Rear Sight Base, Machine Screw.

ASSEMBLY OF COVER AND FEED MECHANISM -- Continued

5. If machine screw (Figure 36, Item 1) is not being replaced, install new detent spring (Figure 36, Item 4), new detent spring (Figure 36, Item 5), new plunger (Figure 36, Item 6), and new ball detent (Figure 36, Item 7) into windage knob (Figure 36, Item 3) and install windage knob (Figure 36, Item 3) onto machine screw (Figure 36, Item 1). Drive in new spring pin (Figure 36, Item 2) flush.

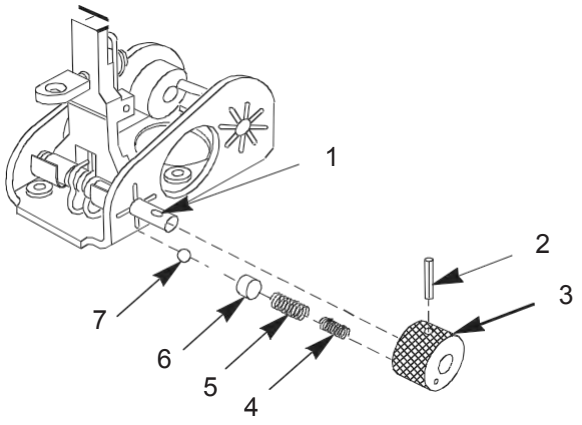


Figure 36. Machine Screw, Detent Spring, Plunger, Ball Detent, Windage Knob.

NOTE

If new machine screw is being installed, it must be drilled. An alternate method of assembly can be utilized by assembling steps 7 and 8 prior to installing parts described in assembly step 6.

6. If machine screw (Figure 36, Item 1) is being replaced, install new detent spring (Figure 36, Item 4), new detent spring (Figure 36, Item 5), new plunger (Figure 36, Item 6) and new ball detent (Figure 36, Item 7) into windage knob (Figure 36, Item 3).
7. Position windage knob (Figure 37, Item 3) onto machine screw (Figure 37, Item 2) and insert .012 in./0.305mm blade of feeler gage between windage knob (Figure 37, Item 3) and rear sight base (Figure 37, Item 1). With blade installed and hole of knob in vertical position, clamp in protective jawed vise.
8. Using the hole in windage knob (Figure 37, Item 3) as a guide, drill a hole through the new machine screw (Figure 37, Item 2) using a No. 53 (.0595) drill bit. Remove feeler gage.

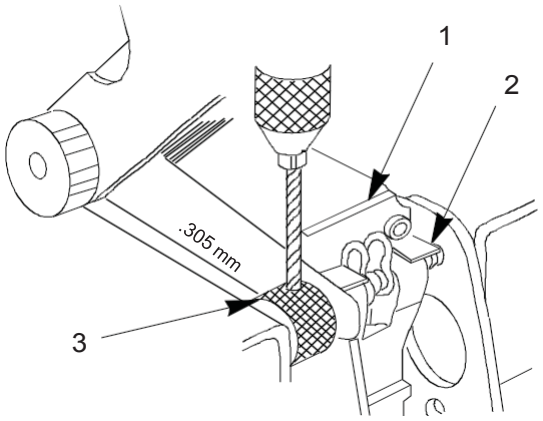


Figure 37. Windage Knob, Machine Screw, Sight Base.

ASSEMBLY OF COVER AND FEED MECHANISM -- Continued

9. Position rear sight base (Figure 38, Item 2) in protective jawed vise. Align holes in windage knob (Figure 38, Item 4) and machine screw (Figure 39, Item 3). Insert new spring pin (Figure 38, Item 1) and drive in flush.

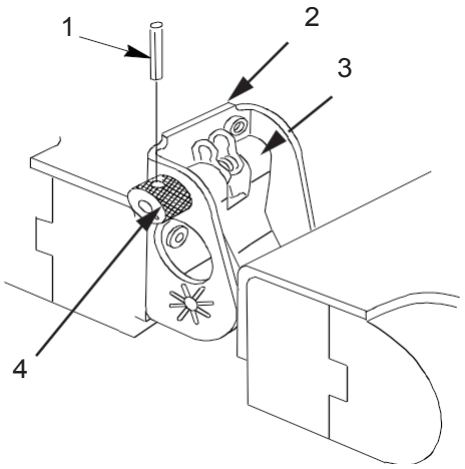


Figure 38. Rear Sight Base, Windage Knob, Machine Screw, Spring Pin.

10. Start smooth end of new shaft (Figure 39, Item 1) into hole inside of elevator assembly (Figure 39, Item 2) (the side marked with the numeral 3).

NOTE

Grooved end of shaft is to be embedded into elevator assembly and smooth end to rotate in rear hole of the rear sight base on right.

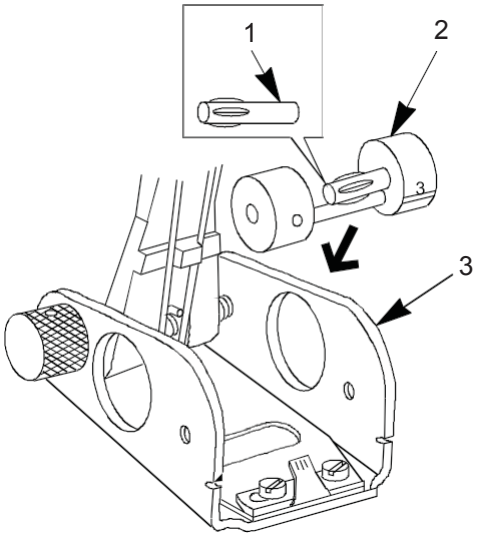


Figure 39. Shaft, Elevator Assembly.

ASSEMBLY OF COVER AND FEED MECHANISM -- Continued

11. Position rear sight base (Figure 40, Item 1) on flat surface. Position elevator assembly (Figure 40, Item 3) into rear sight base (Figure 40, Item 1) (the side marked with the numeral 3 toward the right rear hole). Drive shaft (Figure 40, Item 2) in flush with outside surfact of rear sight base (Figure 40, Item 1).

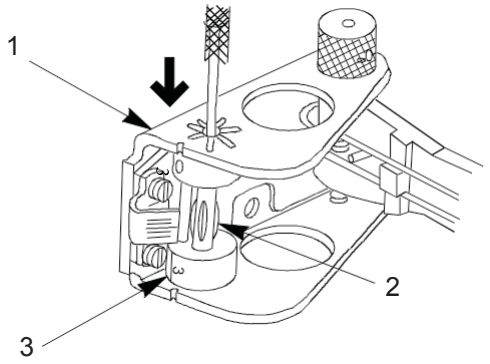


Figure 40. Rear Sight Base, Elevator Assembly, Shaft on Flat Surface.

NOTE

If the elevation knob assembly IS NOT being replaced, complete step 12 and skip to step 18. If the elevation knob assembly IS being replaced, start with step 13.

12. If elevation knob assembly (Figure 41, Item 8) is not being replaced, install two new detent springs (Figure 41, Item 7), two new detent springs (Figure 41, Item 6), two new plungers (Figure 41, Item 5) and two new ball detents (Figure 41, Item 4) (Parts Kit) into elevation knob assembly (Figure 41, Item 8) and install through left rear hole of rear sight base (Figure 41, Item 3) and into elevator assembly (Figure 42, Item 1). Align holes in elevation knob assembly and elevator assembly, and drive in new spring pin (Figure 41, Item 2) flush.

13. If elevation knob assembly (Figure 41, Item 8) is being replaced, install two new detent springs (Figure 41, Item 7), two new detent springs (Figure 41, Item 6), two new plungers (Figure 41, Item 5) and two new ball detents (Figure 41, Item 4) (Parts Kit) into elevation knob assembly (Figure 41, Item 8). Insert shaft of elevation knob assembly (Figure 41, Item 8) through left rear hole of rear sight base (Figure 41, Item 3) and into elevator assembly (Figure 41, Item 1).

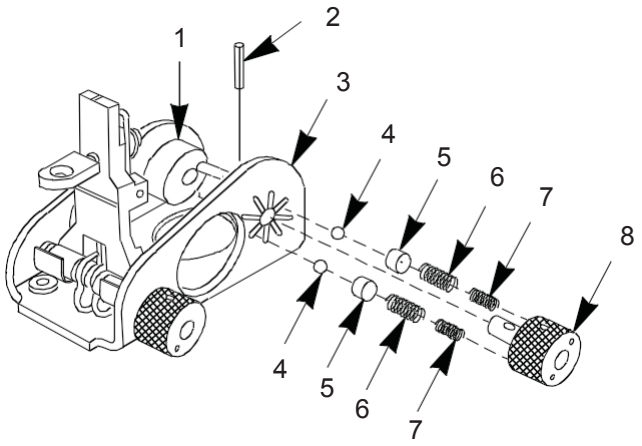


Figure 41. Elevation Knob Assembly, Rear Sight Base, Elevation Knob Assembly.

ASSEMBLY OF COVER AND FEED MECHANISM -- Continued

14. With the numeral 3 of the elevator assembly (Figure 42, Item 3) aligned with the notch (Figure 42, Item 2) on the vertical leg of rear sight base (Figure 42, Item 1) and the ball detent holes of the elevation knob assembly (Figure 42. Item 4), positioned into the vertical grooves (Figure 42, Item 5) of the rear sight base (Figure 42, Item 1), insert .012 in / 0.305 mm blade of feeler gage between elevation knob assembly (Figure 42, Item 4) and rear sight base (Figure 42, Item 1).

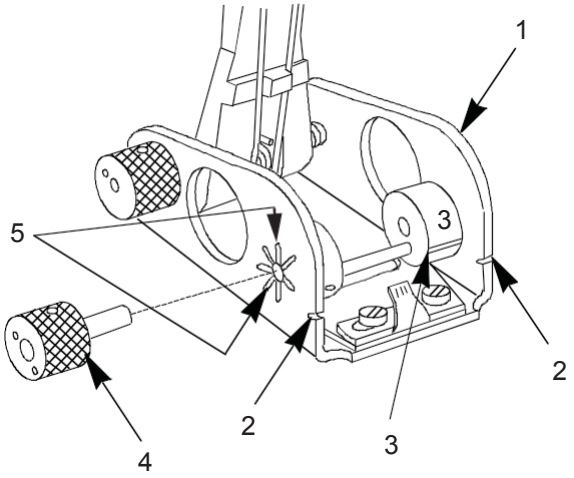


Figure 42. Elevator Assembly, Detent Springs, Plungers, Rear Sight Base .

15. With blade of feeler gage installed and hole in elevator assembly (Figure 43, Item 1) in vertical position, clamp in protective jawed vise.

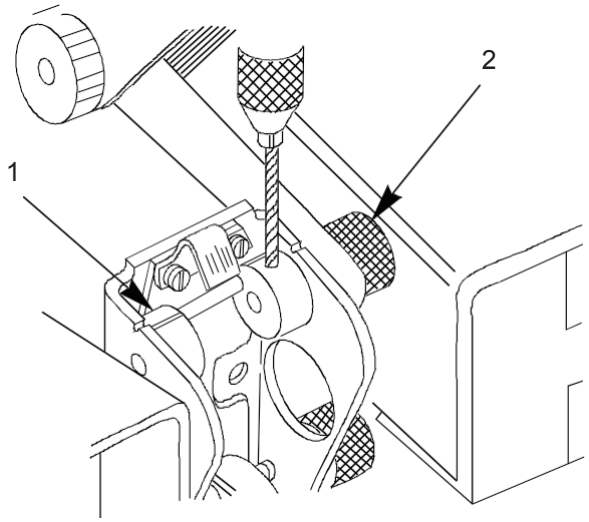


Figure 43. Elevator Assembly, Rear Sight Base.

16. Using hole in elevator assembly (Figure 43, Item 1) as a guide, drill a hole through the shaft of the elevation knob assembly (Figure 43, Item 2) using a No. 53 drill bit. Remove feeler gage from rear sight base (Figure 44, Item 1).

ASSEMBLY OF COVER AND FEED MECHANISM -- Continued

17. Insert new spring pin (Figure 44, Item 2) and drive in flush.

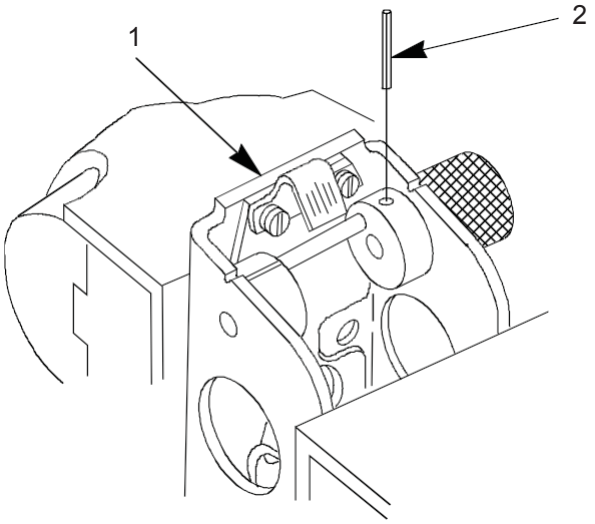


Figure 44. Spring Pin

18. Rotate elevation knob assembly (Figure 45, Item 4), so that crossbar of elevator assembly (Figure 45, Item 3) is rearward. Center sight leaf assembly (Figure 45, Item 2) by turning windage knob (Figure 45 , Item 1).

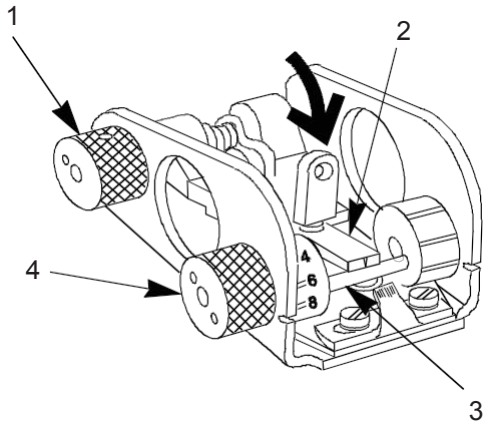


Figure 45. Elevation Knob Assembly, Center Sight Leaf Assembly.

19. Rotate sight leaf assembly (Figure 45, Item 2) down on elevator assembly (Figure 45, Item 3) and push lock spring (Figure 46, Item 1) to the rear.

ASSEMBLY OF COVER AND FEED MECHINISM - Continued

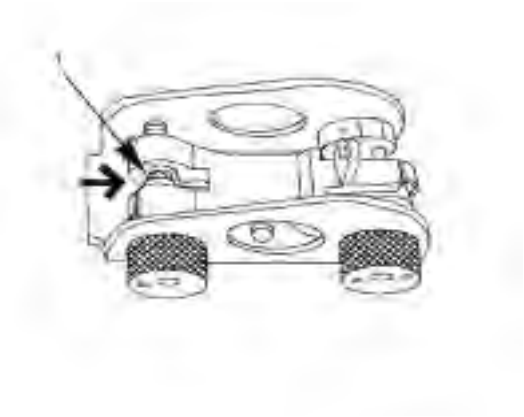


Figure 46. Position Lock spring.

20. Position rear sight assembly (Figure 47, Item 1) onto cover (Figure 47, Item 2) with peep sight to the rear. Install two screws (Figure 47, Item 4) with two new lock washers (Figure 47, Item 3) through bottom of cover (Figure 47, Item 2) and tighten securely.

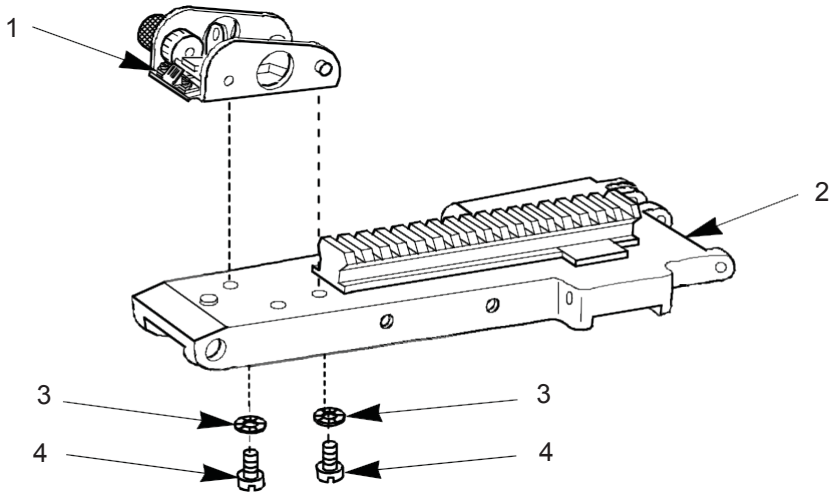


Figure 47. Rear Sight Assembly, Cover, Two Screws, Washers.

21. Install two retaining pins (Figure 48, Item 2) from inside of cover (Figure 48, Item 1).

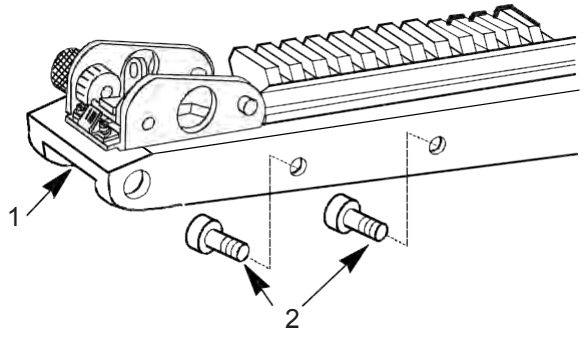


Figure 48. Retaining Pins, Cover.

ASSEMBLY OF COVER AND FEED MECHANISM -- Continued

22. Attach retaining spring (Figure 49, Item 2) to cocking channel cover (Figure 49, Item 1) and secure to retaining pins (Figure 49, Item 3).

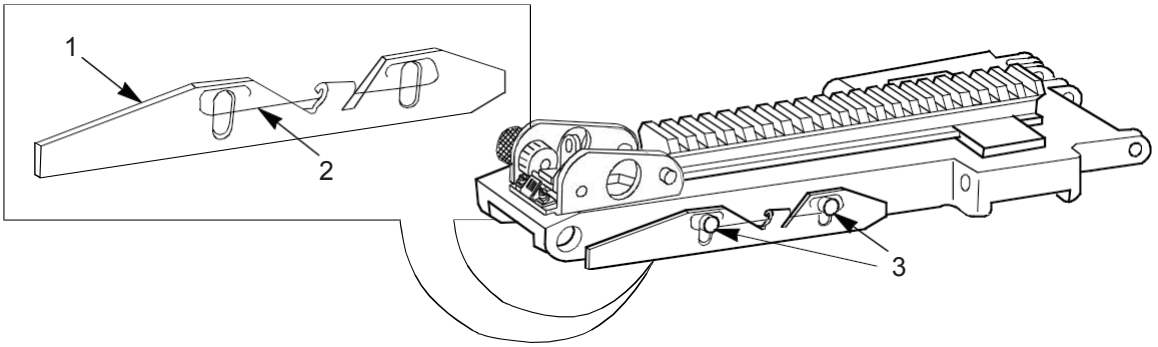


Figure 49. Retaining Spring, Cocking Channel Cover, Retaining Pins.

23. Install cover latches (Figure 50, Item 1) with finger grip ends out and flats down. Center cover latches (Figure 51, Item 1) and install retaining clip (Figure 51, Item 2).

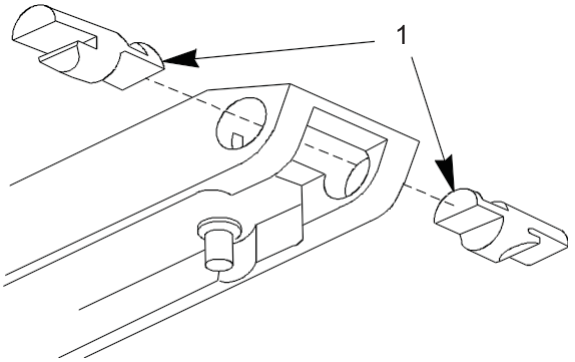


Figure 50. Cover Latches

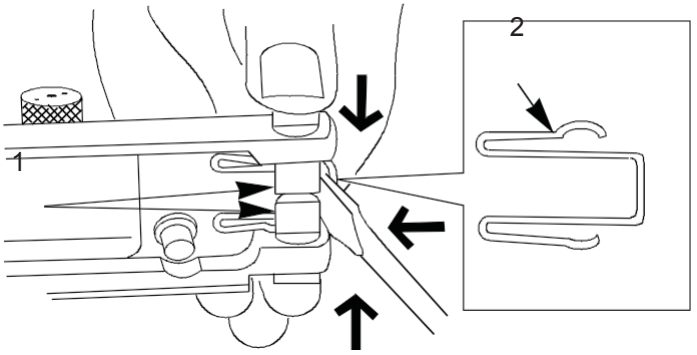


Figure 51. Cover Latches, Retaining Clip.

24. Insert spring (Figure 52, Item 1) into recessed hole in underside of feed pawl (Figure 52, Item 2). Insert tip of screwdriver between the first and second coil of spring (Figure 52, Item 1) just above feed pawl assembly base (Figure 52, Item 3) and apply slight pressure upward to install spring (Figure 52, Item 1). Install the other three springs (Figure 52, Item 1) in the same manner.

ASSEMBLY OF COVER AND FEED MECHANISM -- Continued

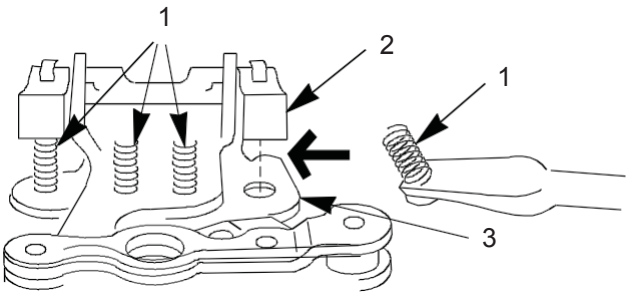


Figure 52. Feed Pawl Assembly.

25. Place feed pawl assembly (Figure 53, Item 2) on feed pawl pivot post (Figure 53, Item 3), and secure by inserting new retaining ring (Figure 53, Item 1) into groove of feed pawl pivot post (Figure 53 Item 3).

Figure 53. Retaining Ring, Feed Pawl Assembly , Feed Pawl Pivot Post

26. Start hooked retaining pin (Figure 54, Item 3) into cover. Place two springs (Figure 54, Item 1) into recesses in cover (Figure 54, Item 2).

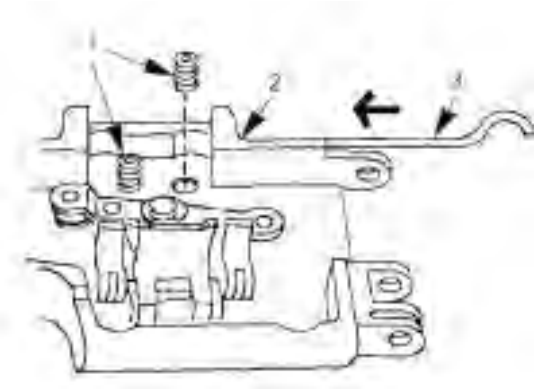


Figure 54. Springs, Retaining Pin.

ASSEMBLY OF COVER AND FEED MECHANISM -- Continued

27. Place together front (Figure 55 Item 1) and rear (Figure 55, Item 2) cartridge retaining pawls and position on springs (Figure 55, Item 3).

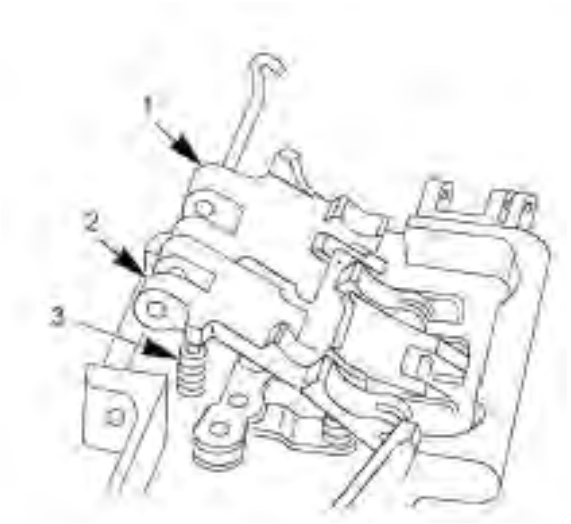


Figure 55. Front & Rear Cartridge Retaining Pawls, Springs.

28. Compress front (Figure 56, Item 3) and rear (Figure 56, Item 2) cartridge retaining pawls and springs (not shown) to align holes in cover (Figure 56, Item 1). Push in hooked retaining pin (Figure 56, Item 4) through all aligned holes.

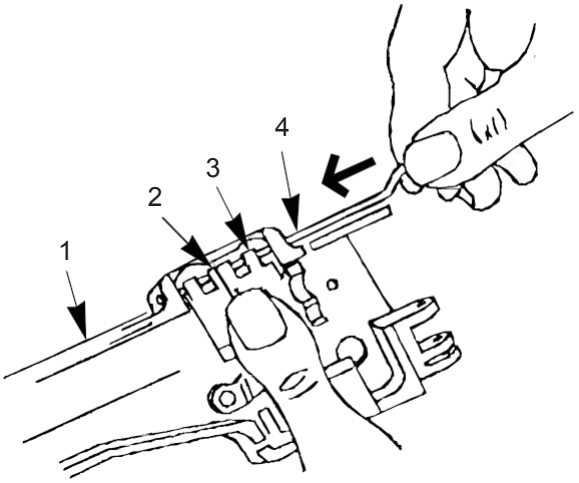


Figure 56. Front and Rear Retainging Pawls, Retaining Pin.

ASSEMBLY OF COVER AND FEED MECHANISM -- Continued

29. Lift straight leg over hooked leg of spring (Figure 57, Item 2). Install loop of spring (Figure 57, Item 2) over the base of feed lever pivot (Figure 57, Item 1) with legs of spring (Figure 57, Item 2) pointing forward and down. It may be necessary to use a screwdriver to force loop over base of feed lever pivot (Figure 57, Item 1).

NOTE

Illustration shows cover assembly bottom-side up.

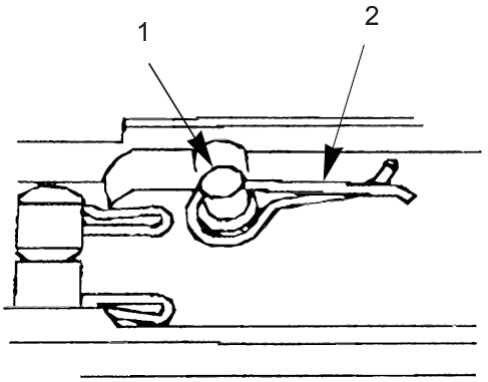


Figure 57. Spring, Feed Lever Pivot.

30. Engage feed lever (Figure 58, Item 2) on roller (Figure 58, Item 1). Place on feed lever pivot (Figure 58, Item 3) and drop in place. Be sure feed lever (Figure 58, Item 2) is flush with top of feed lever pivot (Figure 58, Item 3).

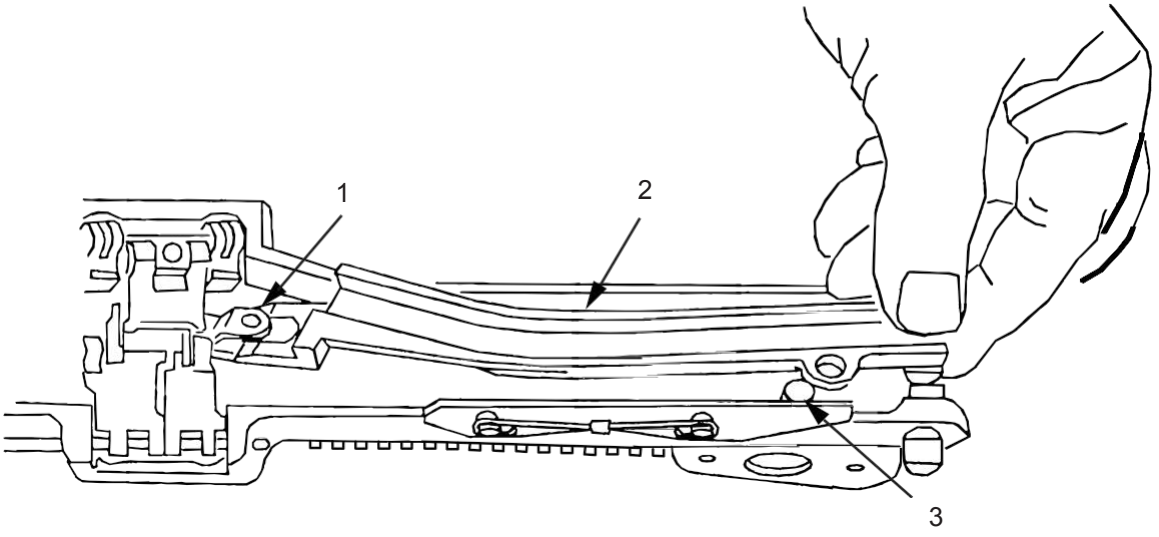


Figure 58. Engage Feed Lever on Roller.

ASSEMBLY OF COVER AND FEED MECHANISM -- Continued

31. Position retaining clip (Figure 59, Item 2) with legs pointed rearward and straight leg of clip toward feed lever (Figure 59, Item 3) and push into position on feed lever pivot (Figure 59, Item 1).

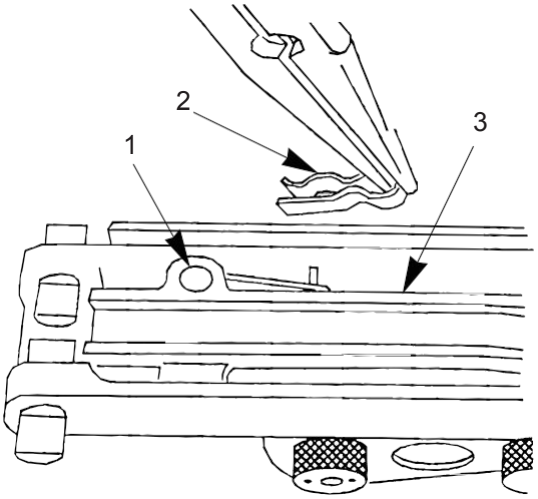


Figure 59. Retaining Clip, Feed Lever, Feed Lever Pivot.

32. Unhook straight leg of spring (Figure 60, Item 1) by holding hooked leg in place with screwdriver and prying up straight leg with another screwdriver.

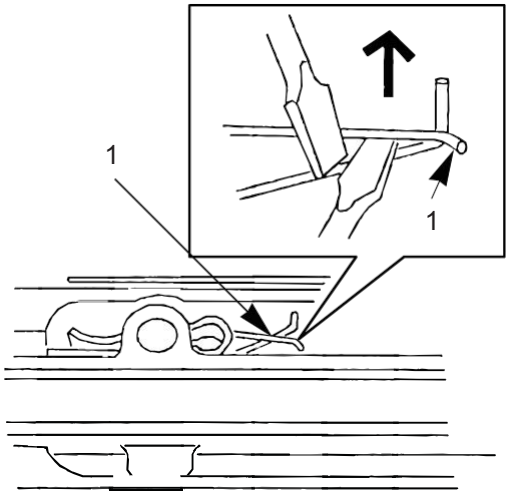


Figure 60. Spring, Prying Screw driver.

33. Position catch cover (Figure 61, Item 8) as shown and torsion spring (Figure 61, Item 7) with straight leg toward cover and feed mechanism assembly (Figure 61, Item 3) in slot (Figure61 , Item 1).

34. Partially insert the end with two notches of grooved, headless pin (Figure 61,Item 4) into left side of cover and feed mechanism assembly (Figure61, Item 3) and through torsion spring (Figure 61, Item 7) and catch cover (Figure 61, Item 8) until middle notch (Figure 61, Item 5) of grooved headless pin (Figure 61, Item 4) aligns with slot (Figure61, item 6), and insert retaining c lip (Figure 61, Item 2).

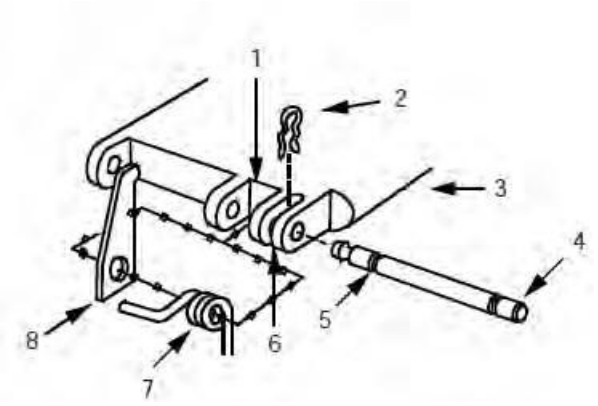


Figure 61. Headless Pin, Feed Mechanism Assembly, Torsion Spring, Middle Notch Slot.

35. With cover and feed mechanism assembly (Figure 62, Item 1) in vertical position, guide tang of torsion spring (Figure 62, Item 3) into hole (Figure 62, Item 4) on left side of receiver assembly (Figure 62, Item 2) and rotate over to p of receiver assembly (Figure 62, Item 2).

36. Place feed tray (Figure 63, Item 2) on receiver assembly (Figure 63, Item 5) and slide forward into place. Push grooved headless pin (Figure 63, Item 4) through feed tray (Figure 63, Item 2), receiver assembly (Figure 63, Item 5) and cover and feed mechanism assembly (Figure 63, Item 1) until left notch of grooved headless pin (Figure 63, Item 4) is secured by retaining clip (Figure 63, Item 3).

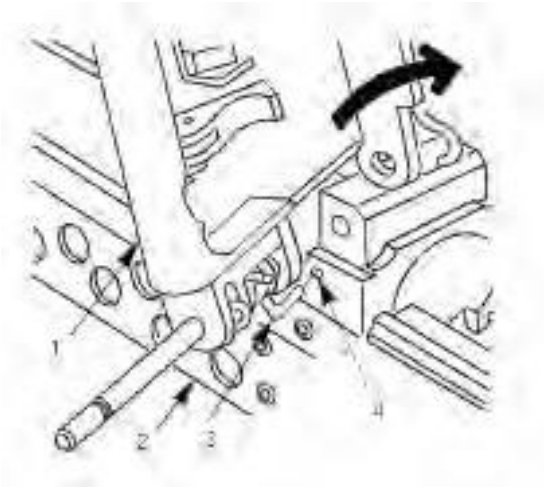


Figure 62. Receiver Assembly, Feed Mechanism Assembly, Headless Pin

ASSEMBLY OF COVER AND FEED MECHANISM -- Continued

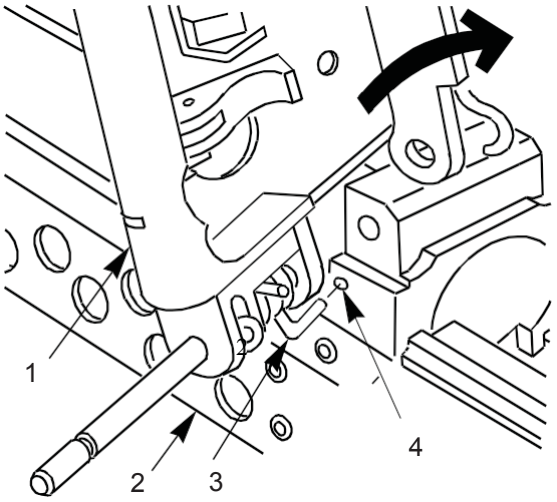


Figure 64. Receiver Assembly, Headless Pin, Feed Mechanism Assembly.

37. Pivot hooked retaining pin (Figure 65, Item 2) over end (right side) of grooved, headless pin Figure 65, Item 1).

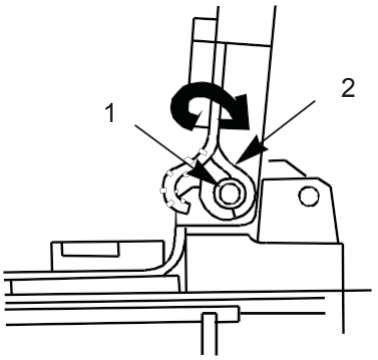


Figure 65. Retaining Pin, Headless Pin.

END OF TASK

END OF WORK PACKAGE

FIELD MAINTENANCE

RETURN ROD AND TRANSFER MECHANSIM ASSEMBLY MAINTENANCE

INITIAL SETUP:

Tools and Special Tools

Small Arms Repairman Tool Kit (SARTK) (WP 0050, Item 10)
USMC TAM No. E7900 (WP 0050, Item 11)

Equipment Condition

Return Rod and Transfer Mechanism Assembly Removed from weapon (TM 9-1005-201-10
Drive Spring removed from Return Rod (TM 9-1005-201-10)

INSPECTION/REPAIR

NOTE

Rotational and lateral movement (looseness) between the rod (Figure 1, Item1) and the plunger (Figure 1, Item 3) is acceptable.

1. Visually inspect return rod (Figure1, Item 1). If bent or broken, replace entire assembly.

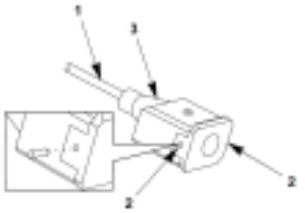


Figure 1. Return Rod and Transfer Mechanism Assembly.

2. Inspect two springs pins (Figure 1, Item 2). If bent, damaged or missing, replace spring pin (Figure 1, Item 2).If either pin is broken, replace entire assembly.
3. Using pliers (w/cutters), grip the bent or damaged spring pin (Figure 1, Item 2(90 degrees to the split, gently squeeze and pry out of hole.
4. To install new spring pin (Figure 1, Item 2) , place return rod and transfer mechanism assembly on vise with jaws slightly apart. With charmfered end of spring pin (Figure 1,Item 2) in hole and the split to the front, drive in pin until it stops.

NOTE

The flat end (uncharmfered end) of spring pins must be protruding for proper retention in the receiver.

5. Inspect drive spring (Figure 2, Item 1). Check for kinks, damage, flat spots, or broken strands. Replace spring if it has kinks, broken strands, or excessive flat spots or damage.

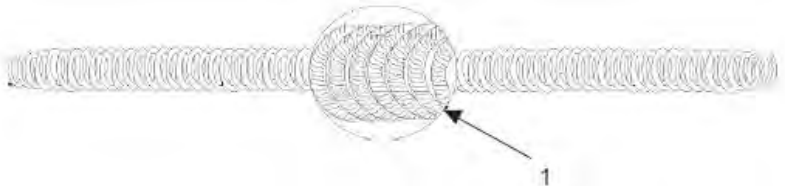


Figure 2. Drive Spring

END OF TASK

END OF WORK PACKAGE

FIELD MAINTENANCE

BOLT ASSEMBLY MAINTENANCE

INITIAL SETUP:

Tools and Special Tools

Small Arms Repairman Tool Kit (SARTK) (WP 0050, Item 10)
USMC TAM No. E7900 (WP 0050, Item 11)

Materials/Parts

Cleaner, Lubricant and Preservative (CLP MIL-PRF-63460) (WP 0049, Item 3)

Materials/Parts (cont.)

Wiping Rag (WP 0049, Item 11)

Equipment Condition

Bolt Assembly removed and disassembled

DISASSEMBLY

WARNING

Bolt assemblies must not be interchanged with other M249 machine guns unless they have been checked for proper headspace. Failure to comply may result in personnel injury or damage to equipment.

CAUTION

Extractor pin, extractor, pin guide, and extractor spring are not to be reused. Replace the entire parts kit to prevent weapons from malfunctioning.

1. Position bolt assembly (Figure 1, Item 4) in a protective jawed vise with cam lobe (Figure 1, Item 5) in an up position.

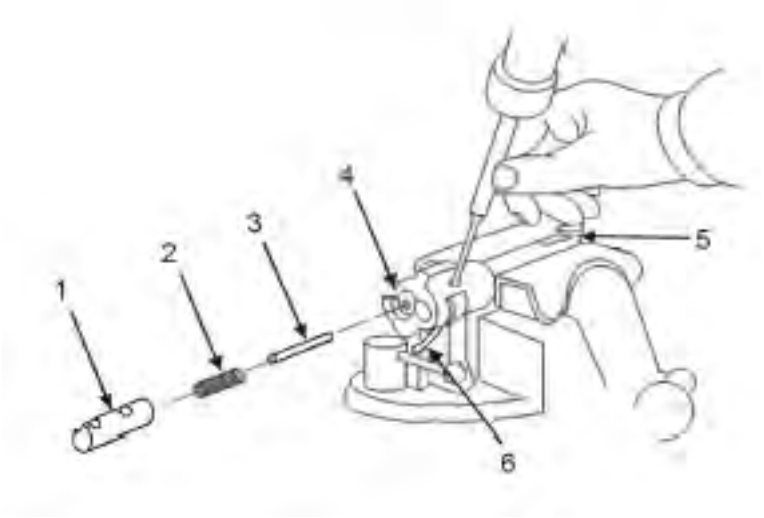


Figure 1. Bolt Assembly in Vise with Cam Lobe.

2. Drive out extractor pin (Figure 1, Item 6) and discard.
3. Remove extractor (Figure 1, Item 1), pin guide (Figure 1, Item 3), and extractor spring (Figure 1, Item 2) and discard.

END OF TASK

CLEANING / INSPECTION OF BOLT ASSEMBLY

1. Thoroughly clean bolt (Figure 2, Item 1) using CLP MIL-PRF-63640 (WP 0049, Item 3) and wipe dry with wiping rag (WP 0049, Item 11). Bolt must be free of oil, dirt, corrosion and carbon prior to inspection.

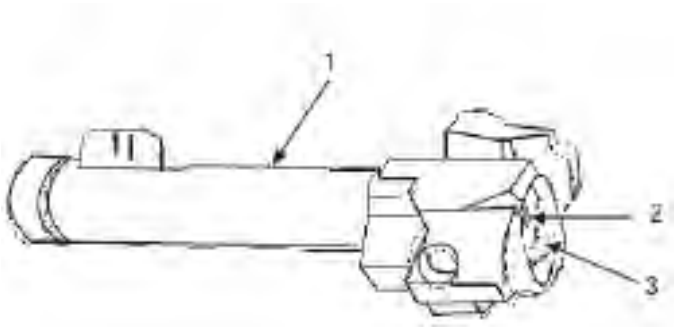


Figure 2. Bolt Assembly, Firing Pin Hole, Bolt Face.

2. Inspect bolt body (Figure 2, Item 1) for cracks using inspection penetrant, firing pin hole (Figure 2, Item 2) for elongation and bolt face (Figure 2, Item 3) for pits.
3. If bolt body (Figure 2, Item 1) is cracked, firing pin hole (Figure 2, Item 2) is elongated, or bolt face (Figure 2, Item 3) exhibits more than minor pits, replace with a new bolt.

END OF TASK

ASSEMBLY OF BOLT ASSEMBLY

WARNING

Bolt must not be interchanged with other M249 Machine Guns unless they have been headspace by Field Maintenance. Failure to comply may result in injury to personnel and damage to equipment.

CAUTION

DO NOT reuse the old extractor parts. Replace the entire parts kit to prevent weapons from malfunctioning.

ASSEMBLY OF BOLT ASSEMBLY -- Continued

1. Position bolt body (Figure 3, Item 5) in protective jawed vise with cam lobe (Figure 3, Item 6) in down position.

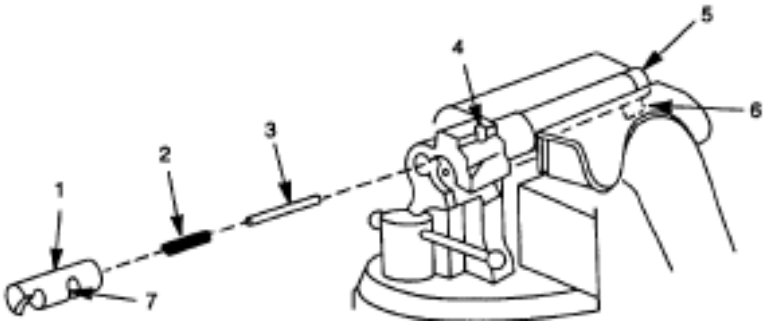


Figure 3. Bolt Assembly in Vise.

2. Install new pin guide (Figure 3, Item 3), new extractor spring (Figure 3 , Item 2), and new extractor (Figure 3, Item 1) (all components of parts kit, gun, extractor) into extractor hole and align slot (Figure 3, Item 7) of extractor (Figure 3, Item1) with hole (Figure 3, Item 4) for extractor pin.
3. Insert chamfered end of new extractor pin (Figure 4, Item 2) (component of parts kit, gun, extractor) with bend toward the center (firing pin hole) of bolt to hold extractor (Figure 4, Item 1) in place.
4. Using a 5/32 (4 MM) punch, seat the extractor pin (Figure 4, Item 2) to countersink depth as shown. Visually check that the extractor pin is below the surface of the other side of the bolt.

ASSEMBLY OF BOLT ASSEMBLY-Continued

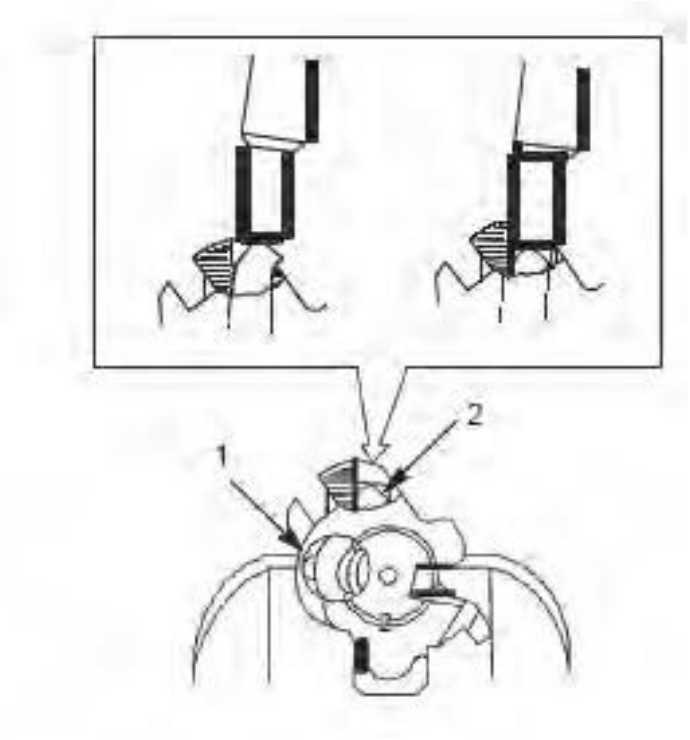


Figure 4. Extractor Pin, Extractor.

END OF TASK

END OF WORK PACKAGE

FIELD MAINTENANCE

SLIDE ASSEMBLY MAINTENANCE

INITIAL SETUP:

Tools and Special Tools

Small Arms Repairman Tool Kit (SARTK) (WP 0050, Item 10)
USMC TAM No. E7900 (WP 0050, Item 11)

Materials/Parts

Cleaner, Lubricant, and Preservative (CLP MIL-PRF-63460) (WP 0049, Item 3)

Materials/Parts (cont.)

Wiping Rag (WP 0049, Item 11)

Equipment Condition

Slide Assembly removed. (TM 9-1005-201-10)

DISASSEMBLY OF SLIDE ASSEMBLY

1. Place slide assembly (Figure 1, Item 3) in protective jawed vise. Drive out spring pins (Figure 1, Item 4) and (Figure 1, Item 5) from slide assembly (Figure 1, Item 3). Discard both spring pins (Figure 1, Item 4) and (Figure 1, Item 5).

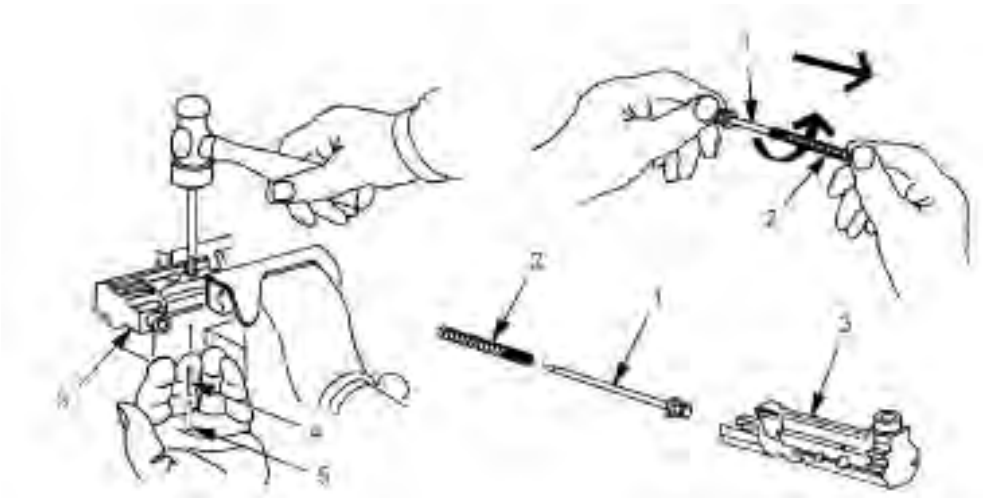


Figure 1. Slide Assembly in Vise.

2. Remove firing pin (Figure 1, Item 1) and separate firing pin spring (Figure 1, Item 2) by holding firing pin (Figure 1, Item 1) in left hand and rotating spring counterclockwise (CCW) while withdrawing from firing pin (Figure 1, Item 1).
3. Replace firing pin (Figure 1, Item 1) if bent, chipped, broken, or not rounded.
4. Replace firing pin spring (Figure 1, Item 2) if broken, kinked, or elongated coils exist.

DISASSEMBLY OF SLIDE ASSEMBLY- Continued

5. Place slide assembly (Figure 2, Item 1) in protective jawed vise with feed roller assembly (Figure 2,Item 1) facing you and spring pin (Figure 2, Item 3) accessible.
6. Drive out spring pin (Figure 2, Item 3) and discard.

Figure 2. Feed Roller Assembly, Spring Pin Removal.

7. Remove feed roller assembly (Figure 3, Item 1) and spring (Figure 3, Item 2). Discard spring.

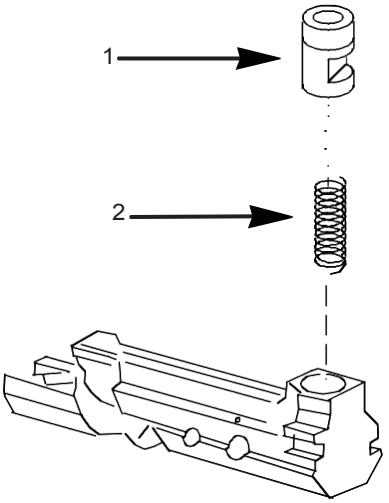


Figure 3. Feed Roller Assembly and Spring.

WARNING

Spring roller assembly is under spring tension.Always secure roller when disassembling. Ensure parts are not lost when pin is removed. Failure to comply may cause personnel injury.

8. Reposition slide assembly (Figure 4, Item 1) on top of vise with jaws slightly open. Drive out spring (Figure 4, Item 3) and discard.

DISASSEMBLY OF SLIDE ASSEMBLY- Contiued

9. Remove pivot slide (Figure 4, Item 2).

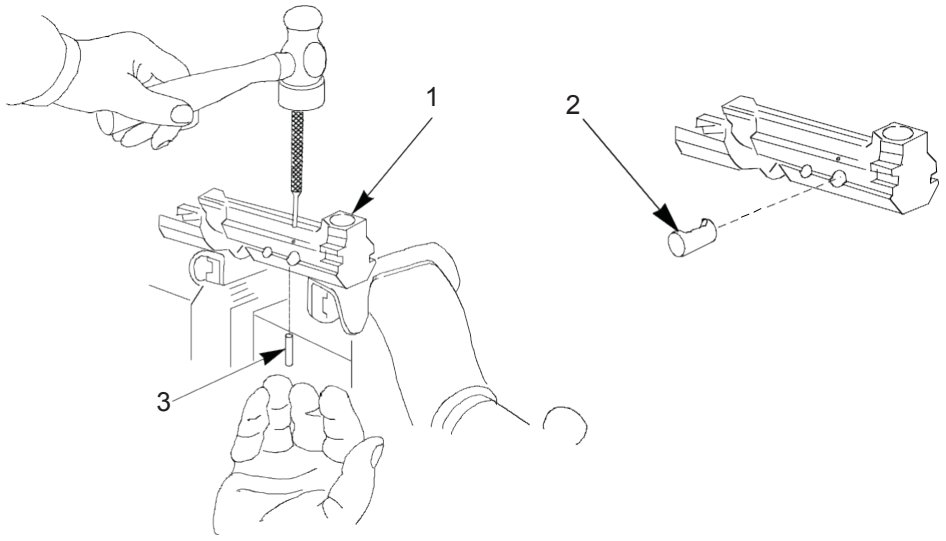


Figure 4. Pivot Slide Removal.

END OF TASK

CLEANING/ INSPECTION OF SLIDE ASSEMBLY

1. Thoroughly clean slide body (Figure 5, Item 3) using CLP MIL-PRF-63460 (WP 0050, Item 3) and wipe dry with rag. Slide body mustbe oil free of oil, dirt, corrosion and carbon prior to inspection.

2. Inspect slide body (Figure 5, Item 3) for cracks using inspection pentrant. Inspect top of slide body (Figure 5, Item 3) for bulges caused by cookoff.cracked or bulged, replace..

3. Inspect feed rollor assembly (Figure 5,Item 1). It must rotate freely.Replace if bent, broken or does not rotate freely..

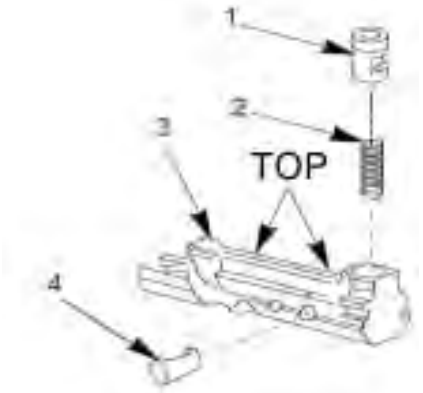


Figure 5. Slide Body , Roller Assembly, Spring, Pivot Slide.

CLEANING / INSPECTION OF SLIDE ASSEMBLY -- Continued

4. Replace spring (Figure 5, Item 2) with new spring.
5. Visually inspect pivot slide (Figure 5, Item 4). Replace if broken or cracked.

END OF TASK

ASSEMBLY OF SLIDE ASSEMBLY

1. Install pivot slide (Figure 7, Item 3) into slide assembly (Figure 7, Item 2) with flat portion facing spring pin hole. Drive in new spring pin (Figure 7, Item 1) flush with bottom of slide body (Figure 7, Item 2).

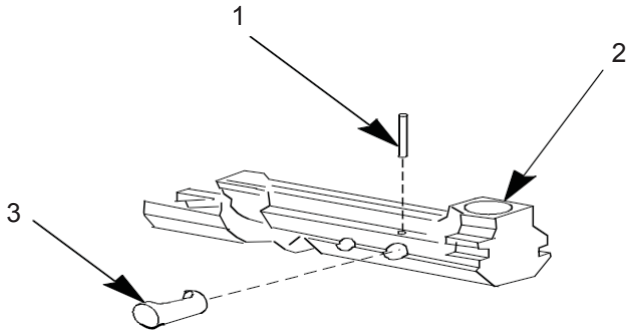


Figure 7. Slide Body, Spring Pin, Pivot Slide.

2. Place slide body (Figure 8, Item 2) in a protected jawed vise with feed roller hole facing you.

ASSEMBLY OF SLIDE ASSEMBLY -- Continued

3. Install spring (Figure 8, Item 4) and feed roller assembly (Figure 8, Item 3) in slide assembly (Figure 8, Item 2). Align flat portion of feed roller assembly (Figure 8, Item 3) with pin hole in slide body (Figure 8, Item 2).
4. Compress feed roller assembly (Figure 8, Item 3) and install new spring pin (Figure 8, Item 1). Spring pin (Figure 8, Item 1) must not protrude from either side.

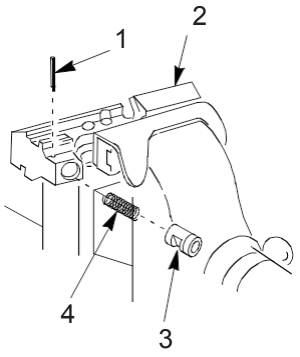


Figure 8. Spring Feed Roller Assembly and Slide Body.

NOTE

Ensure both springs are installed with flat (open) sides toward non -functional side of pivot slide and roller assembly. See Figure 9.

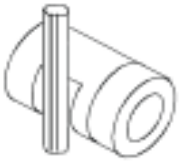


Figure 9. Roller and Spring Pin.

5. Install firing pin spring (Figure 10, Item 2) by holding firing pin (Figure 10, Item 1) in the left hand and with tightly coiled end first, rotate firing pin spring (Figure 10, Item 2) CCW onto firing pin (Figure 10, Item 1).

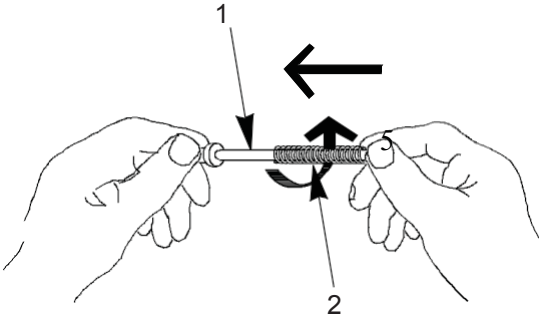


Figure 10. Firing Pin Spring, Firing Pin.

ASSEMBLY OF SLIDE ASSEMBLY -- Continued

6. Install firing pin (Figure 11, Item 3) into slide body (Figure 11, Item 1) . Align notch in firing pin (Figure 11, Item 3) with hole for new large sping pin (Figure 11, Item 2).

NOTE

Any time firing pin has been replaced, firing pin protrusion must be verified (WP 0052).

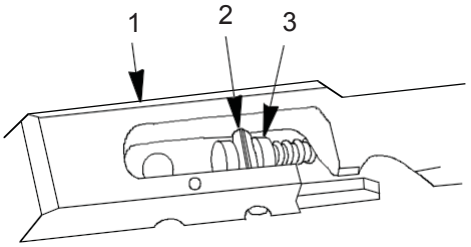


Figure 11. Firing Pin and Slide Body, Bottom View.

7. Place slide body (Figure 12, Item 1) in protected jaw vise with surface (Figure 12, Item 2) facing up.

8. Drive new large spring pin (Figure 2, Item 3) into slide body (Figure 12, Item 1). Slot of new large spring pin (Figure 12, Item 3) must be installed to bottom of slide body (Figure 12, Item 3) as shown. Drive in spring pin (Figure 12, Item 3) flush with surface (Figure 12, Item 2).

9. After positioning slot of new small spring pin (Figure 12, Item 4), opposite the slot of the new large spring pin (Figure 12, Item 3) (see insert), drive in flush (equal distance) below both sides of slide body (Figure 12, Item 1).

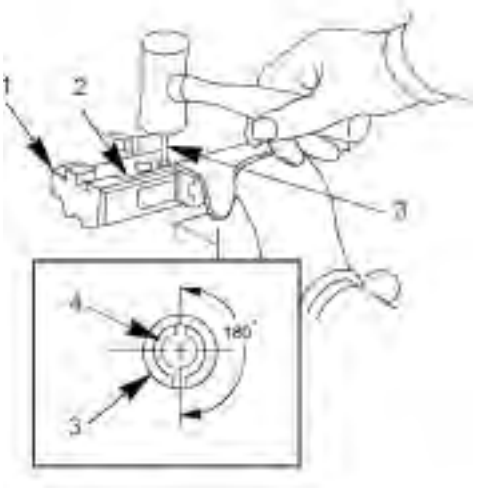


Figure 12. Small Spring Pin.

END OF TASK

END OF WORK PACKAGE

FIELD MAINTENANCE

PISTON ASSEMBLY INSPECTION

INITIAL SETUP:

Tools and Special Tools

Small Arms Repairman Tool Kit (SARTK)
(WP 0050, Item 10)
USMC TAM No. E7900 (WP 0050, Item 11)

Equipment Condition

Piston Assembly removed. (TM 9-1005-201-10)
Bolt and Slide Assemblies removed from Piston Assembly (TM 9-1005-201-10)

NOTE

Slight rotational and lateral movement (looseness) of the piston is normal and not cause for rejection. Do not lubricate.

INSPECTION OF PISTON ASSEMBLY

1. Visually inspect piston assembly (Figure 1) for bends, breaks, burrs or cracks. Visually inspect hole (Figure 1, Item 5) for cracks. Inspect the tower portion (Figure 1, Item 4) and tube portion (Figure 1, Item 3). Visually inspect piston for missing spring pins (Figure 1, Item 2).

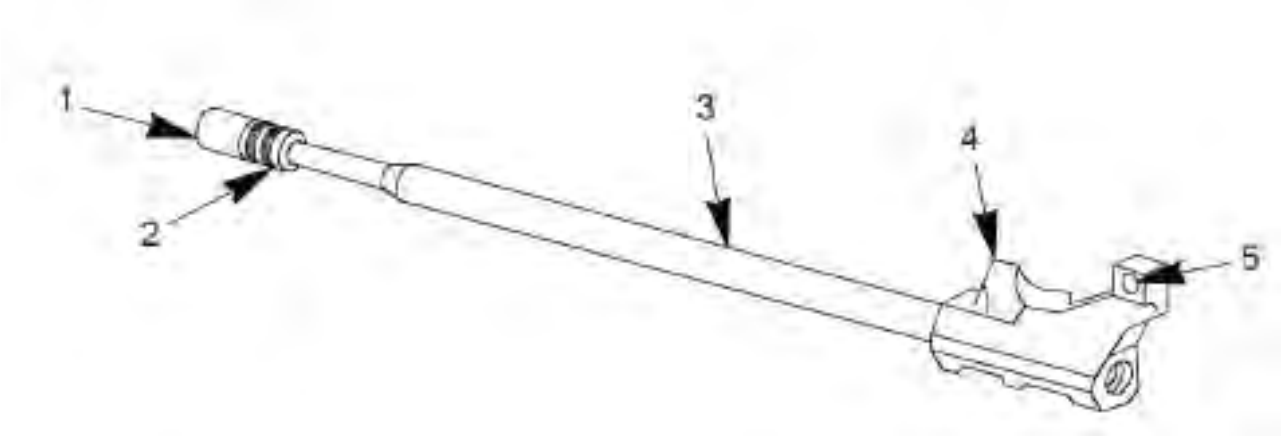


Figure 1. Piston Assembly, Gun Gas Cylinder.

2. If any parts are damaged or missing,or if looseness exist between tower portion (Figure 1,Item 4) and tube portion (Figure 1, Item 3) , replace piston assembly (Figure 1).

END OF TASK

END OF WORK PACKAGE

FIELD MAINTENANCE

HEAT SHIELD ASSEMBLY INSPECTION

INITIAL SETUP:

Tools and Special Tools

Small Arms Repairman Tool Kit (SARTK) (WP 0050, Item 10)
USMC TAM No. E7900 (WP 0050, Item 11)

Equipment Condition

Heat Shield Assembly removed (TM 9-1005-201-10)

INSPECTION OF HEAT SHIELD ASSEMBLY

1. Visually inspect shield for cracks and/or breaks; liner (Figure1, Item 5) for bends and/or dents; two barrel clips (Figure 1, Item 6) for bends; four clip ends (Figure 1, Item 2) for cracks or breaks; barrel locator (Figure 1, Item 4) for bends; and four rivets (Figure 1, Item 1) and six rivets (Figure 1, Item 3) for looseness.

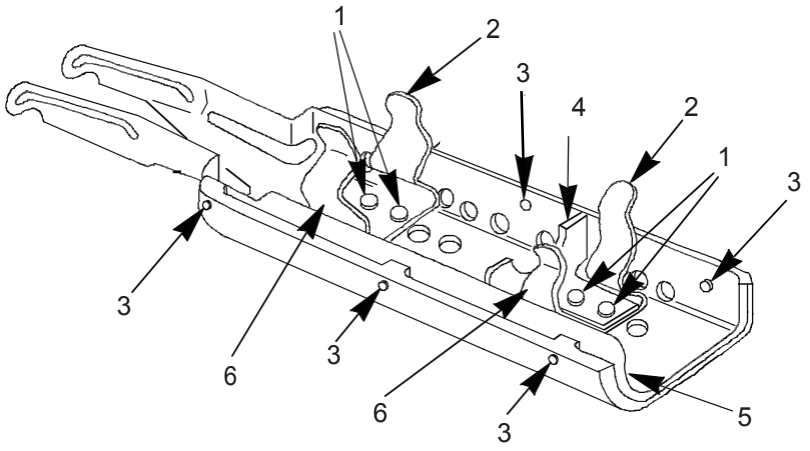


Figure 1. Heat Shield Assembly (Bottom View).

2. Replace heat shield assembly if any components are damaged or missing.

END OF TASK

END OF WORK PACKAGE

FIELD MAINTENANCE

BARREL ASSEMBLY, MAINTENANCE

INITIAL SETUP:

Tools and Special Tools

Box, Spanner (WP 0050, Item 1)
Small Arms Repair Kit (SARTK) (WP 0050, Item 10)
USMC T AM No. E7900 (WP 005 0 Item 11)
Wrench, Spanner, Front Sight (WP 005 0, Item 12)
Tool, Assembly, Front, Sight (WP 0050, Item 8)

Equipment Condition

Barrel Assembly removed (TM 9-1005-201-10)

DISASSEMBLY OF BARREL ASSEMBLY

WARNING

Barrel assemblies or bolt assemblies must not be interchanged with other M249 Machine Guns unless they have been checked for proper headspace. Failure to comply may result in personnel injury or damage to equipment.

NOTE

Short barrel assemblies P/N 12556953 are authorized for use when stored in the M13 arms rack adapter P/N 13037945 (WP 0051).

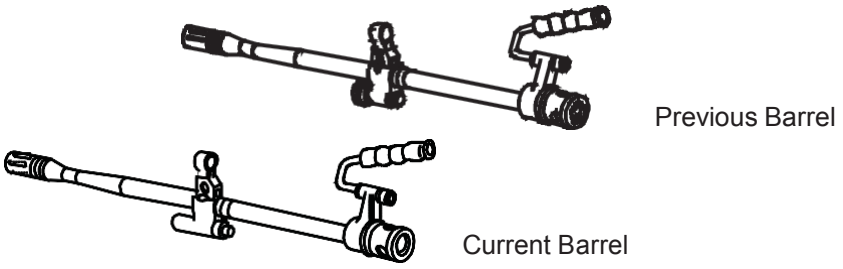


Figure 1. Previous Barrel and Current Barrel.

1. Remove gas collar and gas regulator from old style barrel before putting barrel assembly (Figure 2, Item 4) in vise which must have protective barrel jaws (Figure 2, Item 1).

2. Use an adjustable wrench to remove compensator (Figure 2, Item 2) from both old and current version barrel. Turn counterclockwise (CCW) to remove compensator from long barrels, turn clockwise (CW) to remove compensator from short barrels.

3. Remove compensator washer (Figure 2, Item 3) from new and old style barrel and discard.

DISASSEMBLY OF BARREL ASSEMBLY -- Continued

NOTE
Turn clockwise to remove from short barrel.

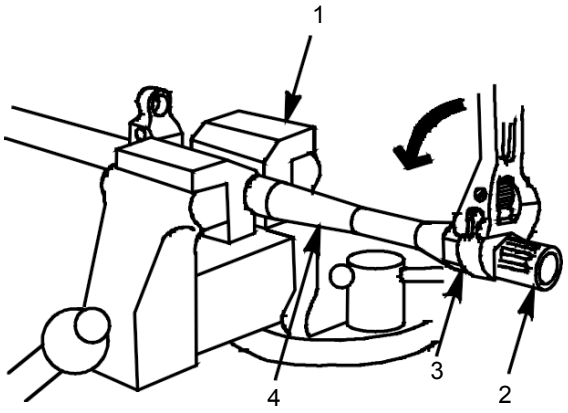


Figure 2. Currennt Style Barrel in Vise.

4. Using 10mm end of box spanner (Figure 3, Item 1), remove nut (Figure 3, Item 4) and discard. Separate washer (Figure 3, Item 3) and grip (Figure 3, Item 2). Use same procedure to disassemble grip, washer and nut from previous verision barrel.

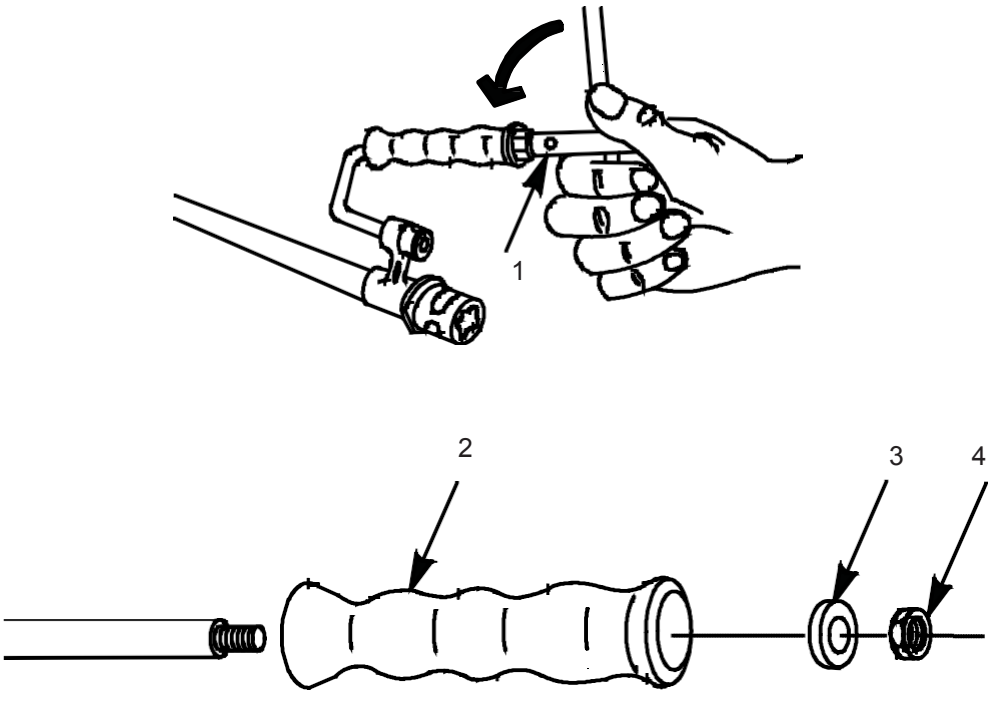


Figure 3. Box Spanner, Nut, Washer, Grip.

DISASSEMBLY OF BARREL ASSEMBLY -- Continued

5. Rotate handle (Figure 4, Item 1) to the folded down position (along side of receiver). Drive out spring pin (Figure 4, Item 4) and discard. Remove collar (Figure 4, Item 3). Remove handle (Figure 4, Item 1), spring (Figure 4, Item 5), and bushing (Figure 4, Item 6) from handle bracket (Figure 4, Item 2).

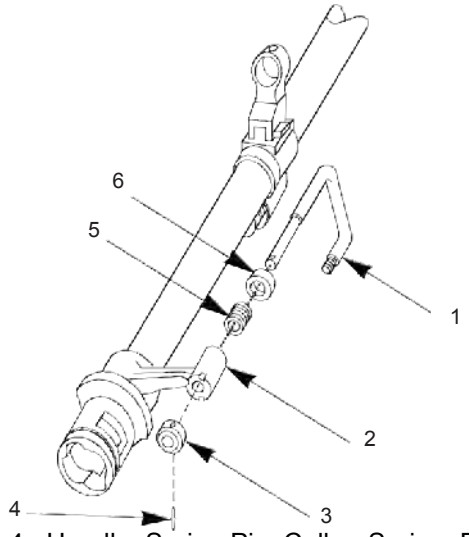


Figure 4. Handle, Spring Pin, Collar, Spring, Bushing.

NOTE

Prior to disassembly of Front Sight Post (Figure 5, Item 2), count the number of threads exposed. This will be needed during the barrel assembly procedures.

6. Using front sight post spanner wrench (Figure 5, Item 1) unscrew front sight post (Figure 5, Item 1) counterclockwise (CCW) and discard.

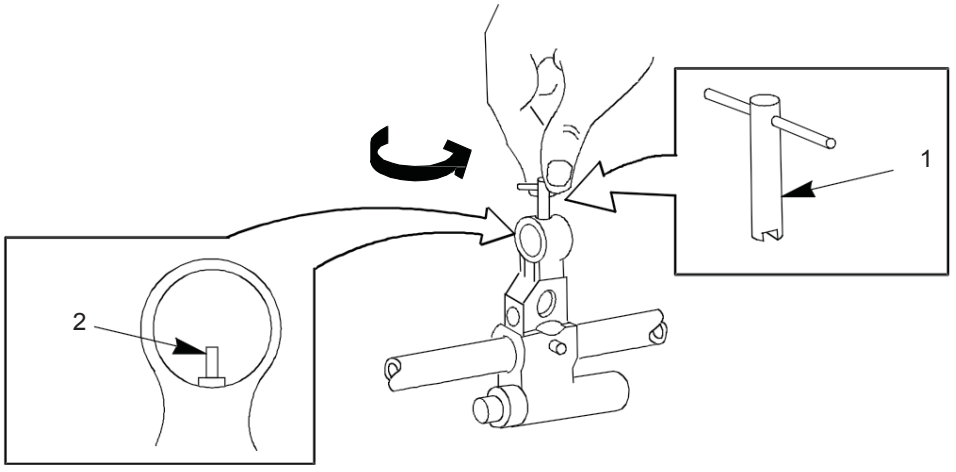


Figure 5. Spanner Wrench, Sight Post (Current Verision Barrel shown).

DISASSEMBLY OF BARREL ASSEMBLY - Continued

NOTE

Disassembly instructions are identical for both previous and current version barrel assembly.

7. Drive out spring pin (Figure 6, Item 1) from right to left side of front sight base (Figure 6, Item 2) Using 5/16 punch and alternating strikes from top to bottom to reduce binding. Discard spring pin (Figure 6, Item 1).
8. Remove front sight base (Figure 6, Item 2) and key (Figure 6, Item 3)

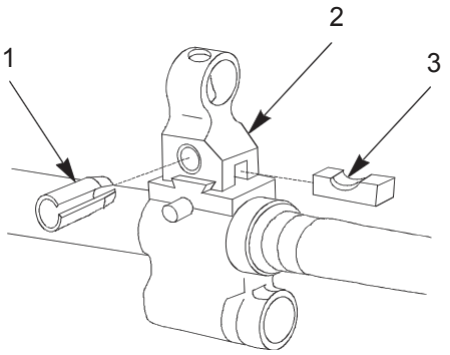


Figure 6. Removal of Front Sight Base.

END OF TASK

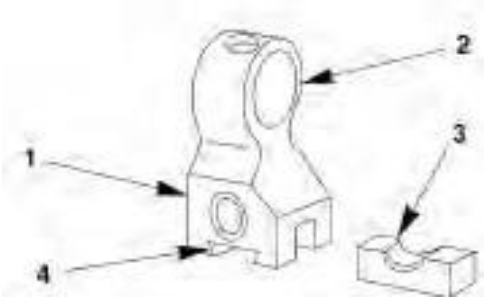
INSPECTION OF BARREL ASSEMBLY

NOTE

Inspection and repair procedures are identical for both old and current version barrel assemblies.

1. Visually inspect front sight base (Figure 7, Item 1) in hooded area (Figure 7, Item 2) for bends and in dovetailed area (Figure 7, Item 4) for damage. If damaged replace front sight base (Figure 7, Item 1).

2. Visually inspect key (Figure 7, Item 3) for burrs. Replace if damage or missing.



Flgure 7. Inspection of Front Sight Base.

INSPECTION OF BARREL ASSEMBLY - Continued

NOTE

Barrel bore and chamber must be clean and dry before the following inspections.

3. Visual inspect barrel (Figure 8, Item 2) for bends and the dovetail area (Figure 8,Item 1) of the gas block (Figure 8,Item 3) for damage. Replace barrel (Figure 8,Item 2) if bent or gas block (Figure 8,Item 3) is damaged.

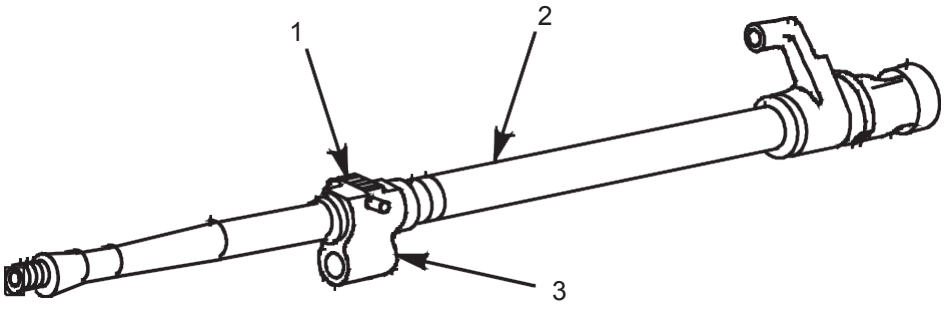


Figure 8. Inspection of Barrel.

NOTE

Barrel bore and chamber must be cleaned and dry before the following inspections.

4. Visually inspect bore (Figure 9, Item 1) ,and chamber (Figure 9 Item 3) for pits, using the following criteria:

   a. Pits in the chamber (Figure 9,Item 3) are allowable if they are not large enough to cause extraction difficulties. If extraction difficulties are experienced, replace the barrel (Figure 8, Item 2).

   b. Pits in the bore (Figure 9, Item 1) are allowed if they are less than the width of a land or groove (Figure 9, Item 2) in width or length. If pits are greater than the width of a land or groove (Figure 9, Item 2) in width or length, replace the barrel (Figure 8, Item 2).

   c. Scattered or uniformly fine pits in chamber (Figure 9, Item 3) are allowable.

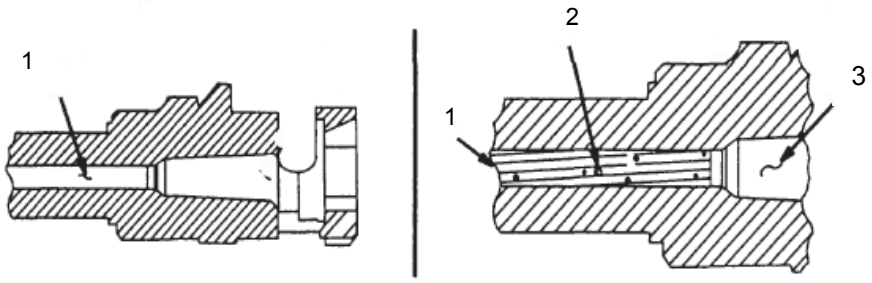


Figure 9. Bore Inspection for Pits.

INSPECTION OF BARREL ASSEMBLY- Continued

5. Inspect compensator (Figure 10, Item12) for dents, cracks,or burrs. Replace if damaged or missing.

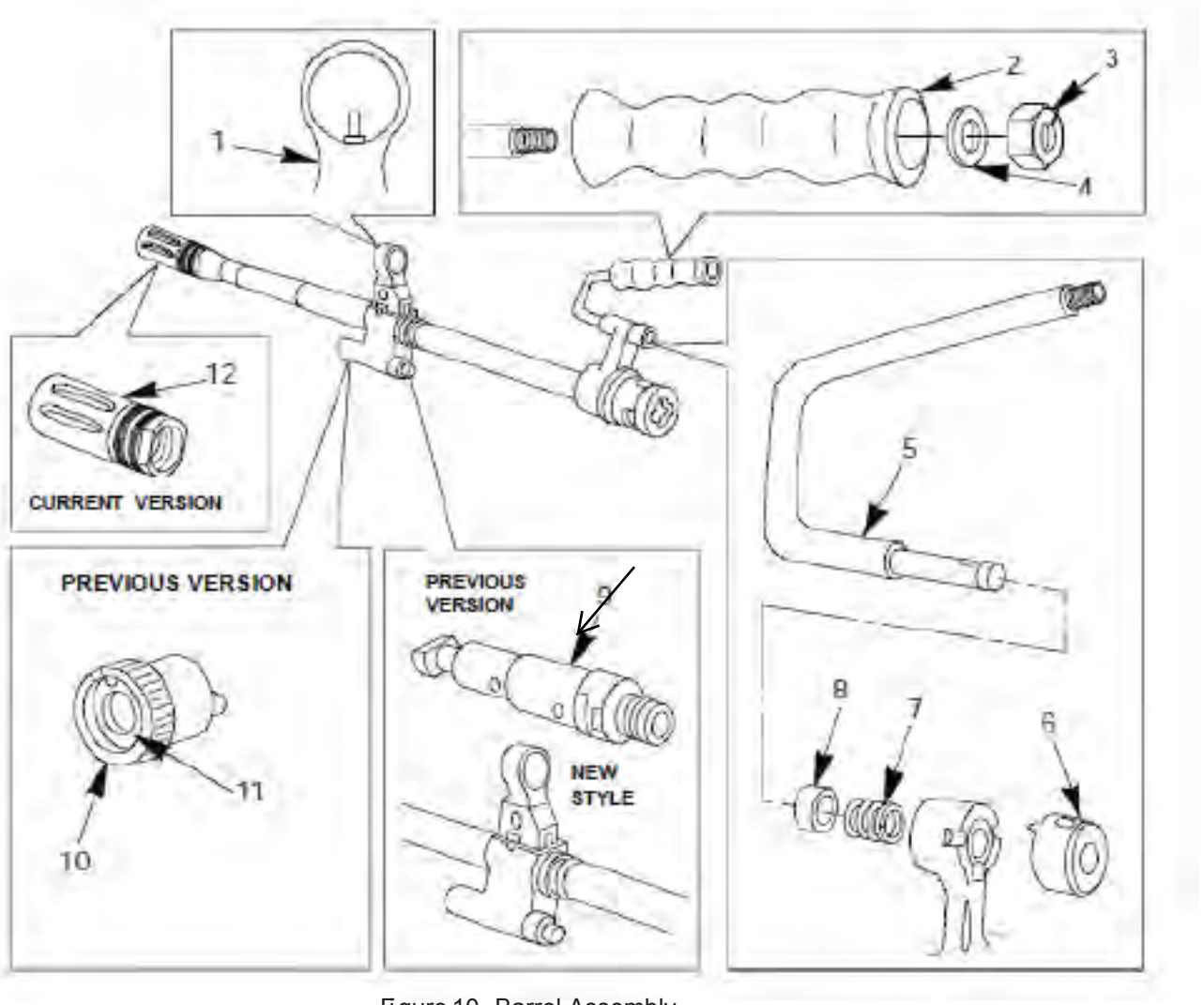


Figure 10. Barrel Assembly.

6. Inspect gas collar (Figure 10, Item 10) of previous verision barrel for bent or missing spring washer (Figure 10, Item 11) and gas regulator (Figure 10, Item 9) for burrs. Replace if damaged or missing.
7. Inspect grip (Figure 10, It em 2) for cracks or breaks. Replace if broken or missing. Inspect washer (Figure 10, Item 4) and nut (Figure 10, Item 4) for burrs. Nut is discarded and replaced when reassembled. Replace if damaged or missing.
8. Inspect collar (Figure 10, Item 6), handle (Figure 10,Item 5), spring (figure 10, Item 7) and bushing (Figure 10, Item 8) for damage. Replace unserviceable components.
9. Inspect front sight base (Figure 10, Item 1) for looseness or damage. If loose or damaged notify Field Maintenance.
10. Check current verision barrel gas regulator (Figure 10, Item 9) for burrs. Replace if damaged.
11. Inspect to ensure that barrel handle bracket is not loose.

INSPECTION OF BARREL ASSEMBLY - Continued

Bore Procedures

12. Inspect bore for erosion using the following procedures:

    a. Insert the breech bore erosion gage (Figure 11, Item 2) as far as it will go firmly, but without forcing.

    b. There are two gage lines on the breech bore erosion gage (Figure 11, Item 2). The line farthest from the front of the gage is the "reject line" (Figure 11, Item 3). Read the gage by looking across the end of the barrel breech (Figure 11, Item 1). If the reject line (Figure 11, Item 3) on the gage enters the barrel breech (Figure 11, Item 1), the barrel is unserviceable and must be replaced.

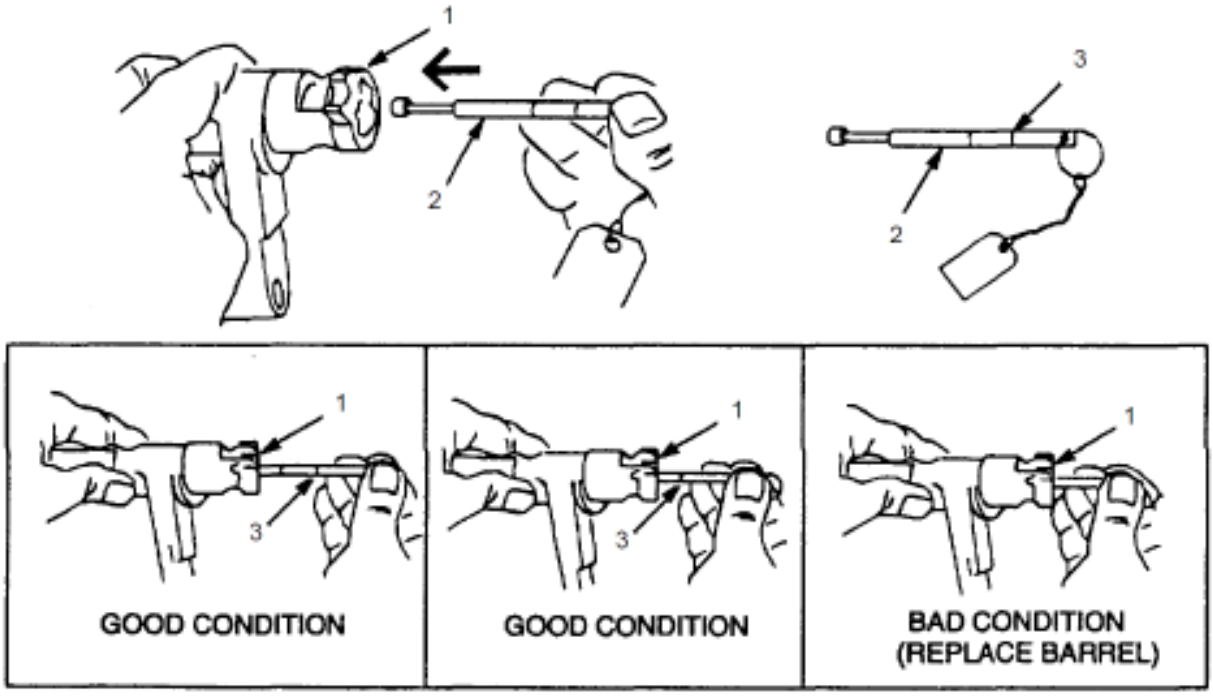


Figure 11. Insertion of Bore Erosion Gage.

NOTE

Use the bolt assembly that accompanied the weapon/barrel assembly for head spacing. Prior to head spacing, lock bolt in the barrel to get a feel for the natural friction and identify where the cam lug is located when the bolt is locked.

13. Inspect both weapon and spare barrels (Figure 12, Item 1) for proper headspace using the following procedures:

    a. Insert end of headspace gage (Figure 12, Item 2) into barrel (Figure 12, Item 1).

    b. Insert bolt (Figure 12, Item 3) into barrel (Figure 12, Item 1) and attempt to lock bolt (Figure 12, Item 3) with headspace gage (Figure12, Item 2) installed, by rotating to the left counterclockwise with slight pressure.

INSPECTION OF BARREL ASSEMBLY - Continued

Bore Procedures

WARNING

If bolt locks into barrel with headspace gage installed, barrel and/or bolt may be defective and result in death or injury to personnel or damage to equipment.

CAUTION

Forcing the bolt closed will damage the gage and give you an incorrect reading.

c. The barrel (Figure 12, Item 1) and bolt (Figure 12, Item 3) are considered to have proper headspace if bolt (Figure 10, Item 3) does not lock into barrel (Figure 12, Item 1) when headspace gage (Figure 12, Item 2) is installed.

d. If bolt (Figure 12, Item 3) locks into barrel (Figure 12, Item1) with no resistance, headspace is faulty and the defective component must be identified.

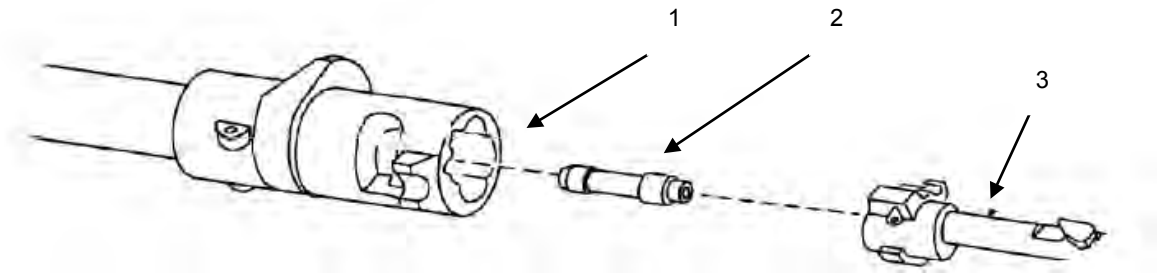
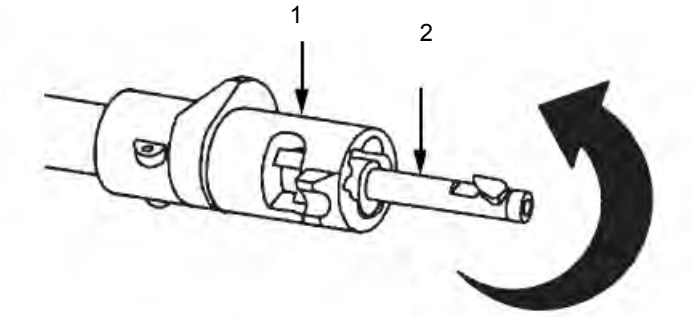


Figure 12. Inspecting Barrels for Headspace.

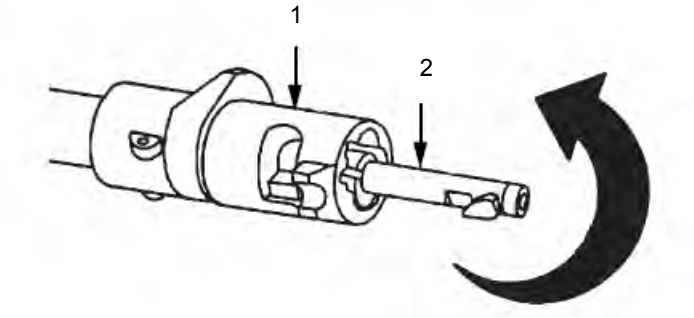
INSPECTION OF BARREL ASSEMBLY - Continued

Bore Procedures

e. To determine the defective component, repeat headspacing using OLD bolt (Figure 13, Item 2) with the NEW barrel (Figure 13, Item 1). If headspace is still incorrect (bolt locks into barrel), the bolt (Figure 13, Item 2) is unserviceable and should be replaced.



Bolt does not lock into barrel -- Proper Headspacing.



Bolt locks into barrel -- Bolt Unserviceable

Figure 13. Checking for Unserviceable Bolt.

INSPECTION OF BARREL ASSEMBLY- Continued

Bore Procedures

f. If bolt is not defective, repeat head spacing using NEW Bolt (Figure 14, Item 2) and OLD barrel (Figure 14, Item 1). If headspace is still incorrect (bolt locks into barrel) the barrel is unserviceable and should be replaced.

NOTE

Both barrels and bolt assigned to the weapon must pass head spacing check. If the bolt is replaced, ensure that both barrels pass the headspace check. If a new barrel AND a new bolt does not fit in the headspace properly, take action to have headspace gage calibrated.

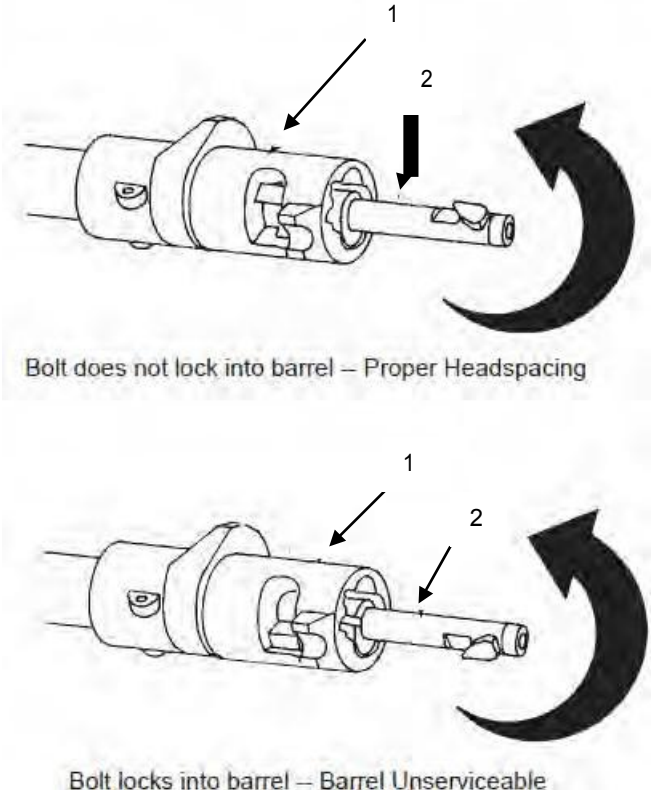


Figure 14. Checking for Unserviceable Barrel.

END OF TASK

ASSEMBLY OF BARREL ASSEMBLY

NOTE

Assembly instructions are identical for both old and current barrel assemblies, except for assembly step 9.

1. Place barrel (Figure 15, Item 4) in a protective jawed vise, clamp in gas block area (Figure 15, Item 2) with the front sight portion up.
2. Center front sight base (Figure 15, Item 1) so one serration (Figure 15, Item 5) is visible each side of front sight base (Figure 15, Item 1). Install key (Figure 15, Item 3) with the large chamfered (beveled) edge to the left side of sight.

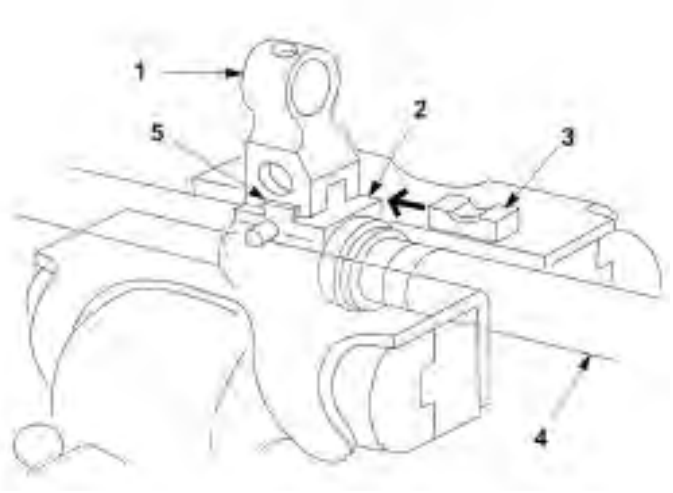


Figure 15. Alignment of Sight Key.

3. Position the front sight assembly tool (Figure 16, Item 1) over the front sight base (Figure 16, Item 2) and gas block pin (Figure 16, Item 3).

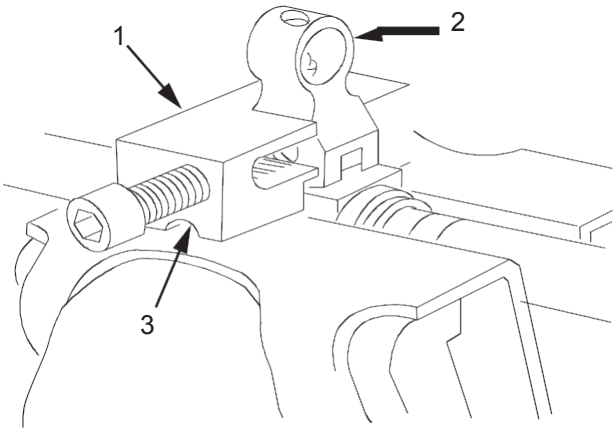


Figure 16. Assembly of Front Sight Base.

ASSEMBLY OF BARREL ASSEMBLY -Continued

4. With slot of new spring pin (Figure 17, Item 4) facing rear of front sight base (Figure 17, Item 3) position into side cutout of front sight assembly tool (Figure 17, Item 2). Hold spring pin (Figure 13, Item 4) in position on, using blade of flat tip screwdriver. By turning screw (Figure 17, Item 1) press spring pin (Figure 17, Item 4) into front sight base (Figure 17, Item 2) until it stops.

5. Backout screw (Figure 17, Item 1) and remove front sight assembly tool (Figure 17, Item 2).

6. Using 5/ 16 inch punch and alternating strikes from top to bottom, to reduce binding, drive in spring pin (Figure 17, Item 4) until pin stops against right side of front sight base (Figure 17,Item 3).

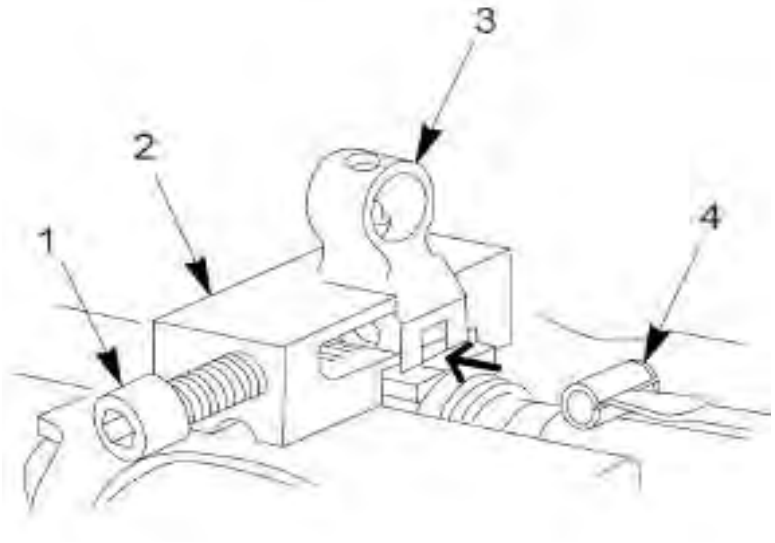


Figure 17. Front Sight Assembly.

ASSEMBLY OF BARREL ASSEMBLY - Continued

7. Secure barrel assembly (Figure 18, Item 2) in a vise with protective barrel jaws (Figure 18, Item 1).

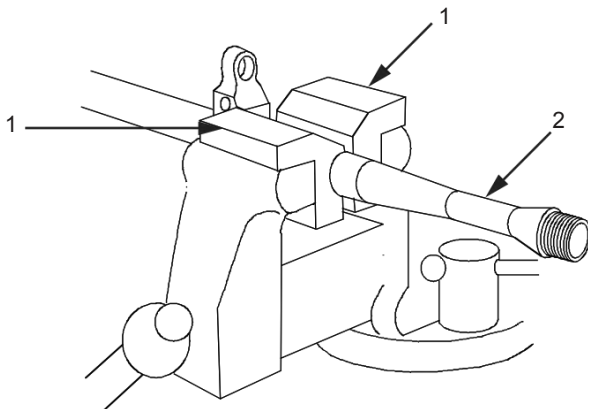


Figure 18. Barrel Assembly in Vise.

8. a. For long barrels, install new washer (Figure 19a, Item 3), with lip of recess toward the barrel shoulder as shown and compensator (Figure 19a, Item 4) on barrel assembly (Figure 19a, Item 2) by turning clockwise (right-handed threads) until snug against washer (Figure 19a, Item 3). Continue to tighten compensator (Figure 19a, Item 4) securely with adjustable wrench until third/middle slot (Figure 19a,Item 5) is straight up or top dead center. Remove from protective barrel jaws (Figure 19a, Item 1).

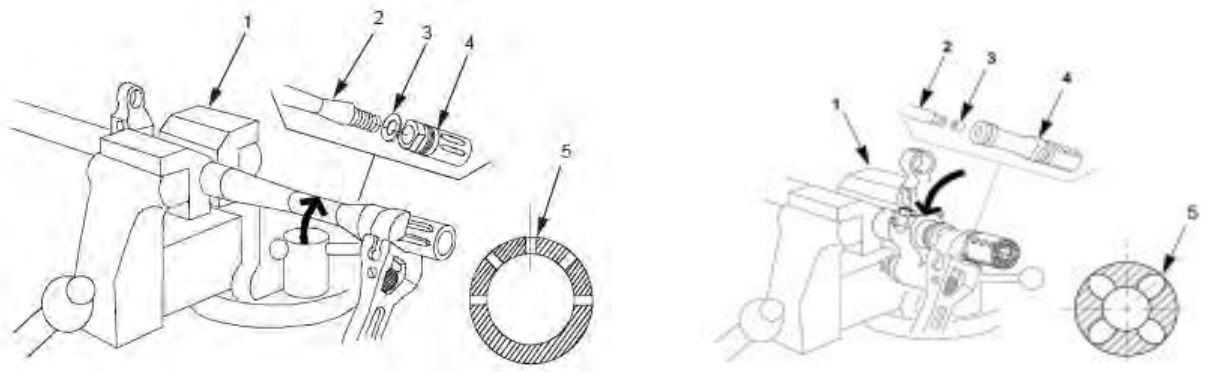


Figure 19. Long Barrel (a), Short Barrel (b).

b. For short barrels, install new washer (Figure 19b, Item 3), with thinner contact surface into the compensator (Figure 19b, Item 4) and install on barrel assembly (Figure 19b, Item 2) by turning counterclockwise(left-handed threads) until snug. Continue to tighten compensator (Figure 19b, Item 4) securely with adjustable wrench until hole (Figure 19b, Item 5) is at 45 degree angle or holes are equally spaced from top dead center. Remove from protective barrel jaws (Figure 19b, Item 1).

ASSEMBLY OF BARREL ASSEMBLY -- Continued

9. **For previous version barrels, reinstalling gas regulator(Figure 20, Item 4) and gas collar (Figure 20, Item 1) on barrel assembly (Figure 20, Item 2). Do not lubricate gas regulator (Figure 20, Item 4) inside of gas block (Figure 20, Item 3) or inside of collar (Figure 20, Item 1).**

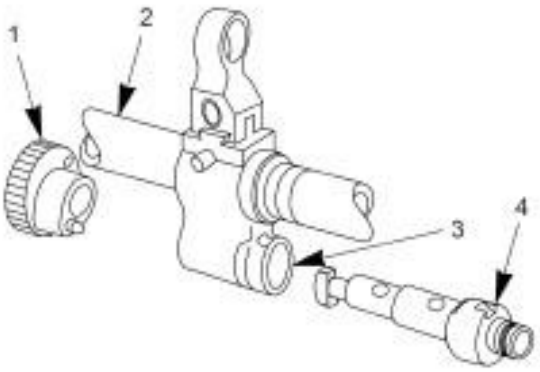


Figure 20. Previous Style Barrel Assembly

10. **Place collar (Figure 21, Item 3) on hard surface with lug (Figure 21, Item 5) down and start spring pin(Figure 21, Item 4) into collar (Figure 21, Item 3) being careful not to allow spring to protrude into center hole collar (Figure 21, Item 3). Install bushing (Figure 21, Item 1)) and spring (Figure 21, Item 7) onto handle (Figure 21, Item 2). In the folded down position along side of reciever reinstall into handle bracket. Install collar (Figure 21, Item 3) onto handle (Figure 21, Item 2) with lug (Figure 21, Item 5) facing handle bracket (Figure 21, Item 6) and align hole in collar (Figure 21, Item 3) with hole in handle (Figure 21, Item 2). Drive in spring pin (Figure 21, Item 4) until flush with collar(Figure 21, Item 3).**

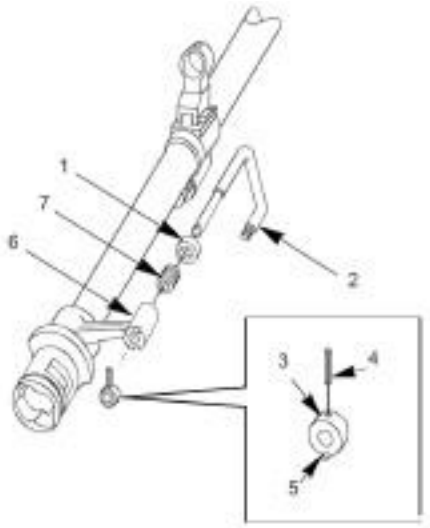


Figure 21. Barrel Assembly, Collar, Spring Pin, Bushing, Spring Handle

ASSEMBLY OF BARREL ASSEMBLY -- Continued

11. Install grip (Figure 22, Item 2), washer (Figure 22, Item 3), and new nut (Figure 22, Item 4) onto handle (Figure 22, Item 1) and tighten with10 mm end of box wrench (Figure 22, Item 5).

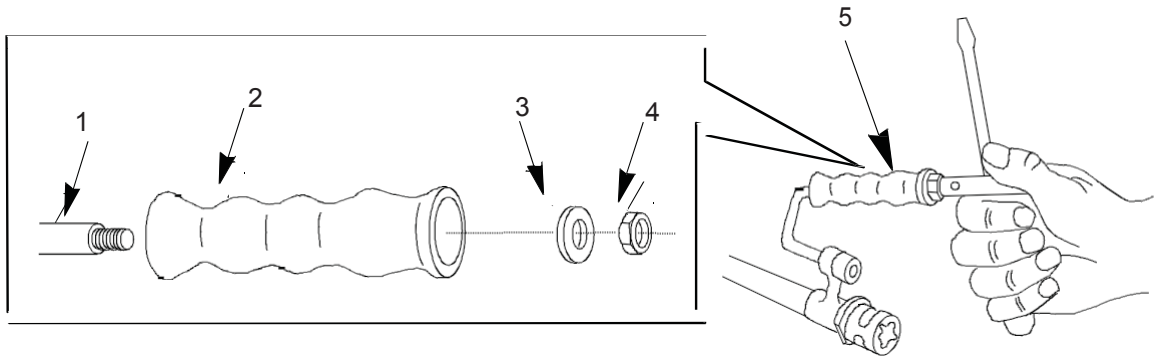


Figure 22. Grip, Washer, Nut, Wrench.

12. Screw in new front sight post (Figure 23, Item 1) clockwise (CW) using front sight post spanner wrench (Figure 23, Item 2) until threads on front sight post (Figure 23, Item 1) are even with the number of threads exposed before removal.

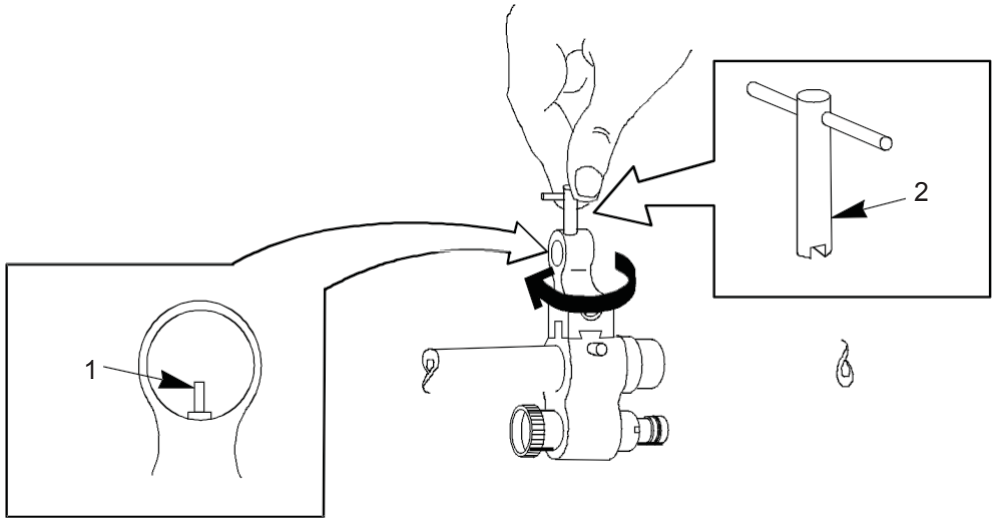


Figure 23. Barrel, Front Sight Post, Spanner Wrench.

ASSEMBLY OF BARREL ASSEMBLY -- Continued

NOTE

Rezeroing a weapon will be required by the using Unit if any parts of the front sight assembly are removed or repaired. If a gunner has a problem in zeroing the weapon in elevation, a front sight post adjustment may be required. Each 1/2 turn of the sight post is equal to 1 mil of elevation. Each mil of elevation moves the group on the target approximately 30 cm (12 inches) at 300 meters and 50 cm (20 inches) at 500 meters.

13. To raise the impact group, screw the front sight post (Figure 24, Item 1) down clockwise (CW).

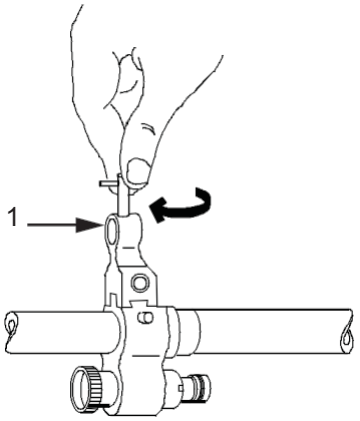


Figure 24. Raise Impact Group Sight Post.

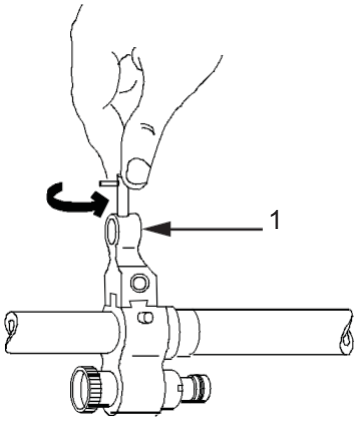


Figure 25. Lower Impact Group Sight Post.

14. To lower the impact group, screw the front sight post (Figure 25, Item 1) up counterclockwise (CCW).

END OF TASK

END OF WORK PACKAGE

FIELD MAINTENANCE

ACCESSORY RAIL ASSEMBLY MAINTENANCE

INITIAL SETUP:

Tools and Special Tools

Small Arms Repairman Tool Kit (SARTK) (WP 0050, Item 10)
USMC TAM No. E7900 (WP 0050, Item 11)

Equipment Condition
Accessory Rail Assembly attached to Weapon (TM 9-1005-201-10)

DIASSEMBLY OF ACCESSORY RAIL ASSEMBLY

1. Rail covers (Figure 1, Item 1) are quickly removed and detached from the accessory rail. A retaining clip (Figure 1, Item 2) at one end of each rail cover (Figure 1, Item 1) automatically engages cutouts positioned at either end of the three rails sections. To remove side rail covers (Figure 1, Item 1), slide forward while applying thumb pressure to the retaining clip (Figure 1, Item 2). Remove bottom rail cover (Figure 1, Item 1) to the rear while applying thumb pressure to the retaining clip (Figure 1, Item 2).

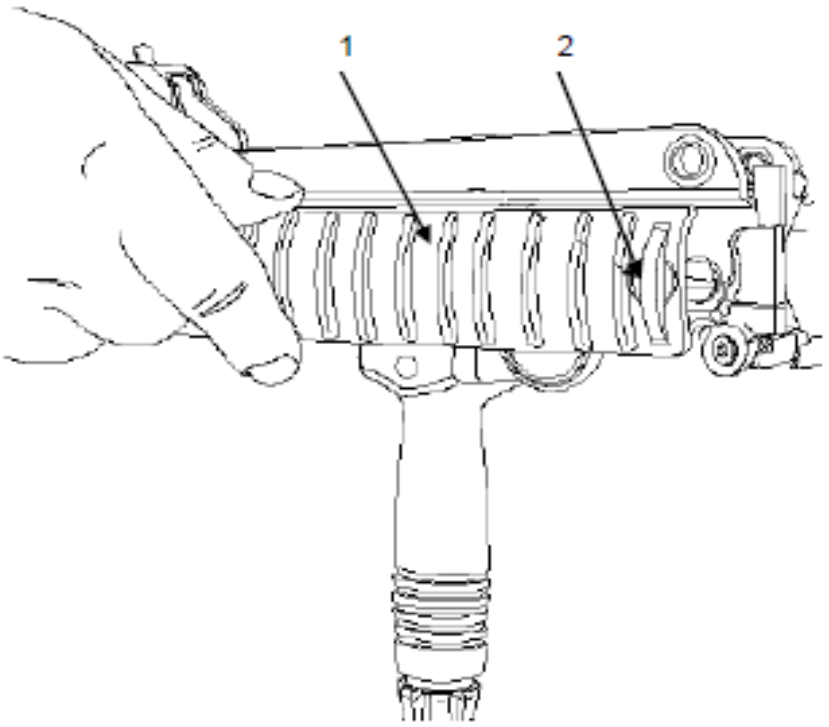


Figure 1. Rail Assembly

DISASSEMBLY OF ACCESSORY RAIL ASSEMBLY- Continued

2. Loosen the O-ring clutch on the bottom of the forward hand grip (Figure 2, Item 2) by turning in a counterclockwise (CCW) direction. Remove the hand grip (Figure 2, Item 2) by sliding it rearward and on rail (Figure 2, Item 1).

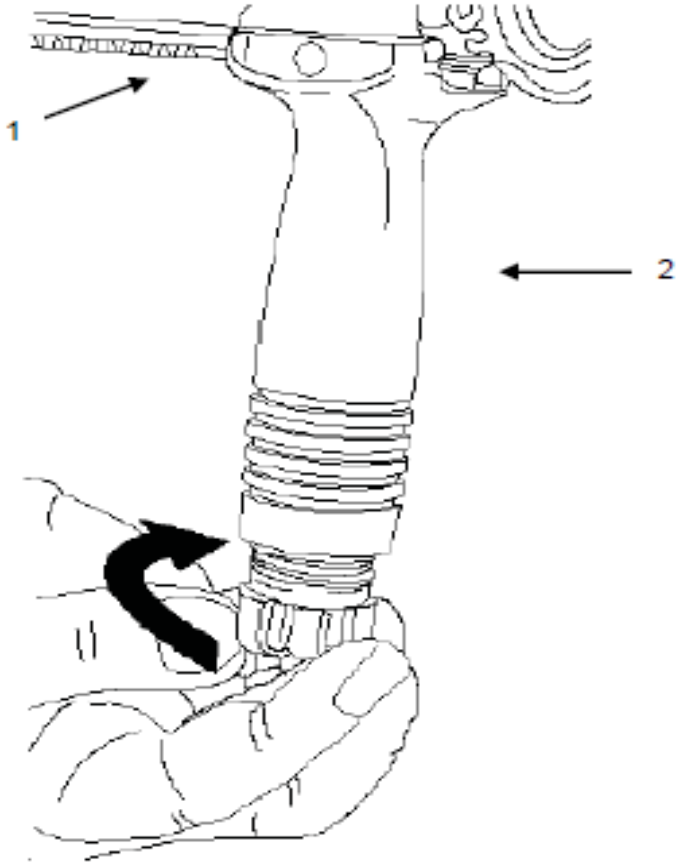


Figure 2. O-Ring Clutch, Hand Grip, Rail.

DISASSEMBLY OF ACCESSORY RAIL ASSEMBLY -- Continued

NOTE

There are two screws one at each end of the rail. Screws are self-locking and must be replaced.

3. Using a 9/64 hex key wrench, remove and discard two screws (Figure 3, Item 2),from the right side of the rail adapter(Figure 3, Item 1).

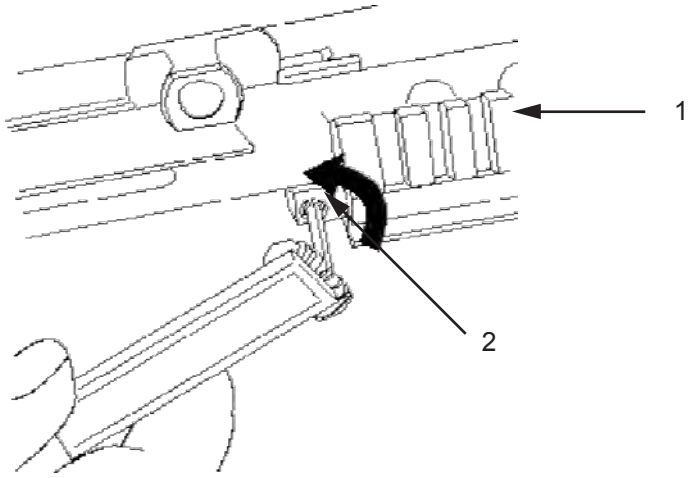


Figure 3. Rail Adapter Screw Removal.

4. Remove the left and right side rail adapters (Figure 4, Item 1).

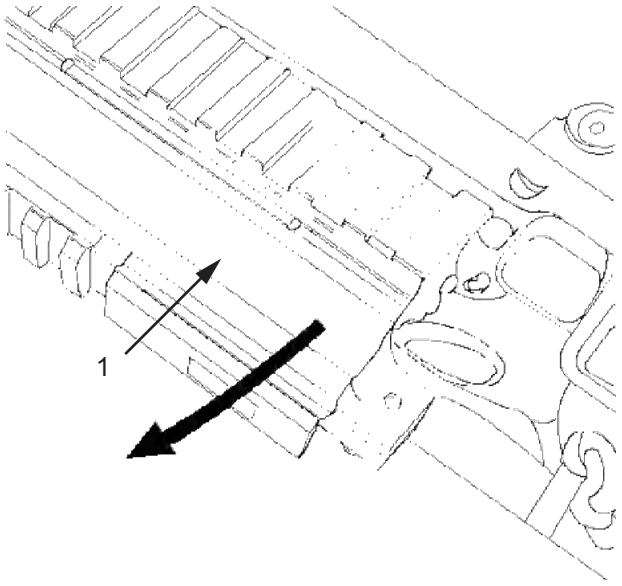


Figure 4. Right Side Rail Adapters.

END OF TASK

ASSEMBLY OF ACCESSORY RAIL ASSEMBLY

WARNING

Before starting an installation, do not actuate the trigger until the weapon has been cleared. Inspect the chamber to be sure that it is empty and check to see that there are no obstructions in barrel. Failure to comply may result in death or injury to personnel, and/or damage to equipment.

1. Install the right rail adapter (the one with two rails) (Figure 5, Item 3) on the right side of the receiver. This rail has a relief cut (Figure 5, Item 2) for the tab located on the bottom of the receiver to allow the rail to fit flush against the bottom of the receiver. This allows the two studs (Figure 5, Item 1) to fit into the holes on the side of the receiver (Figure 6, Item 1 and Figure 6, Item 2).

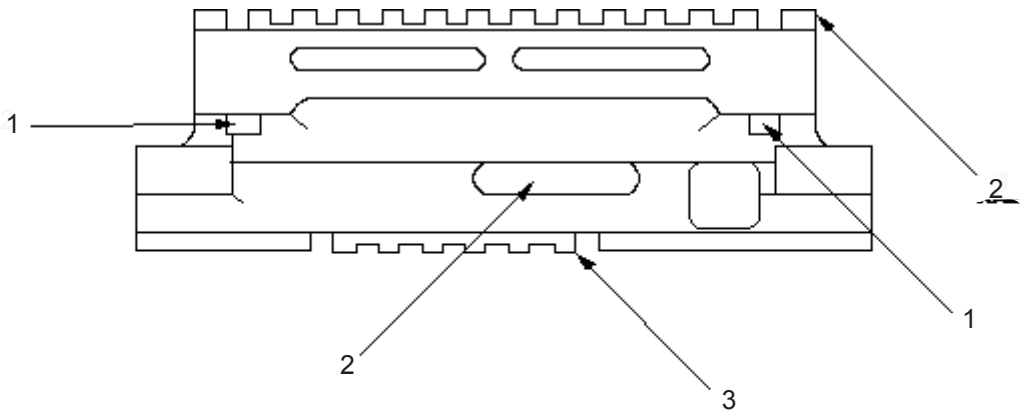


Figure 5. Right Rail Adapter

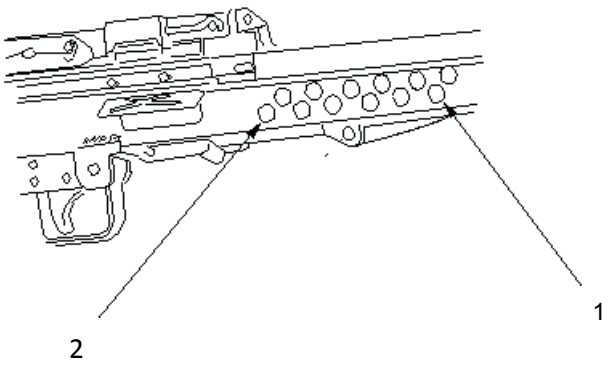


Figure 6 Holes for Accessory Rails Studs.

ASSEMBLY OF ACCESSORY RAIL ASSEMBLY -- Continued

2. Install the left side rail adapter (Figure 7, Item 2) so the adapter (Figure 7, Item 2) fits on the bottom of the receiver and ends on the two rail adapters (Figure 7, Item 1) are aligning with each other. The two studs will also fit into the holes on the side of the receiver.

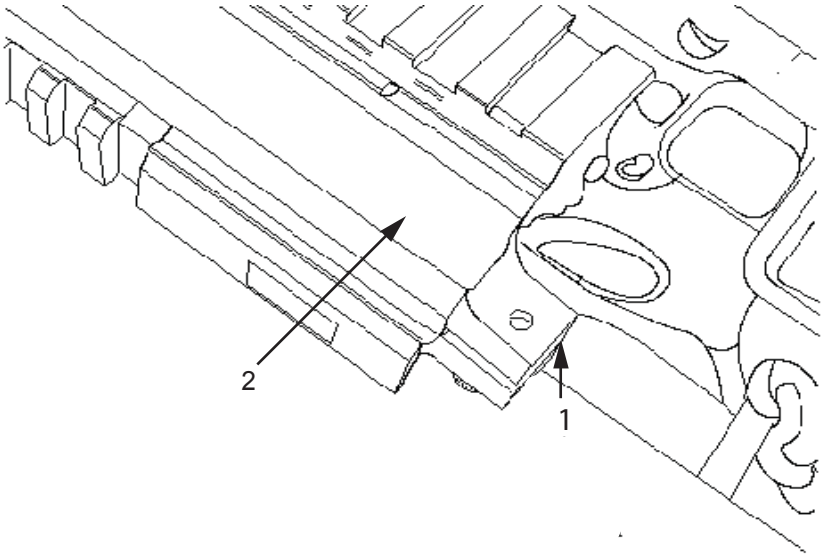


Figure 7. Left Side Rail Adapter, Receiver.

3. Using a 9/64 hex key wrench, install the two new screws (one at each end of the rail adapter) (Figure 8, Item 1) from the right side of the rail adapter and tighten snug. Do not over tighten.

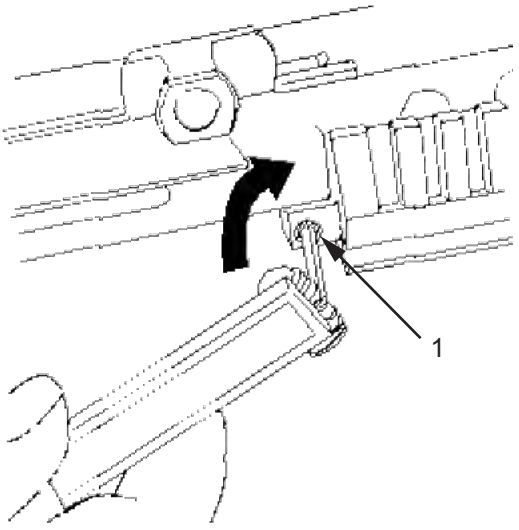


Figure 8. Rail Adapter Screw Installation.

ASSEMBLY OF ACCESSORY RAIL ASSEMBLY-- Continued

4. Install the forward hand grip (Figure 9, Item 2) on the bottom rail by sliding it from the rear to the front until the locking lug of the forward hand grip (Figure 9, Item 2) lines up with a slot on the rail adapter. View rail slot through hole in forward hand grip (Figure 9, Item 1).

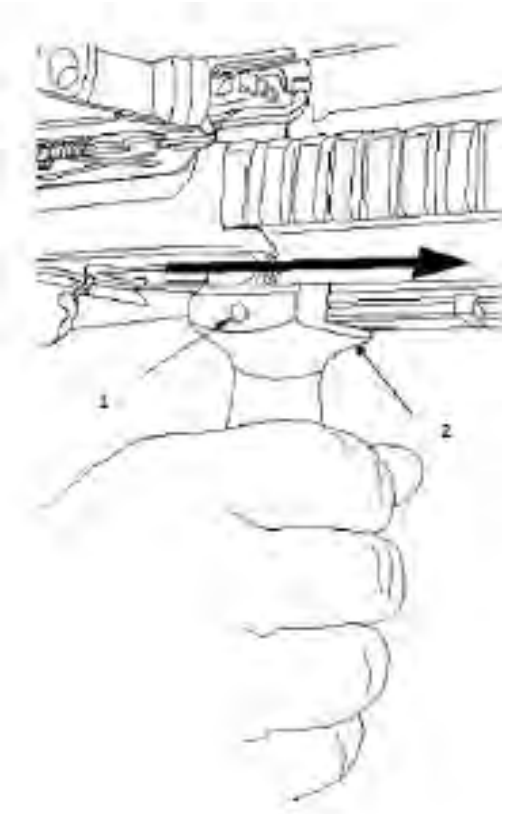


Figure 9. Hand Grip.

ASSEMBLY OF ACCESSORY RAIL ASSEMBLY -- Continued

5. Tighten the O-ring clutch (Figure 10, Item 1) on the bottom of the forward hand grip by turning in a clockwise (CW) direction.

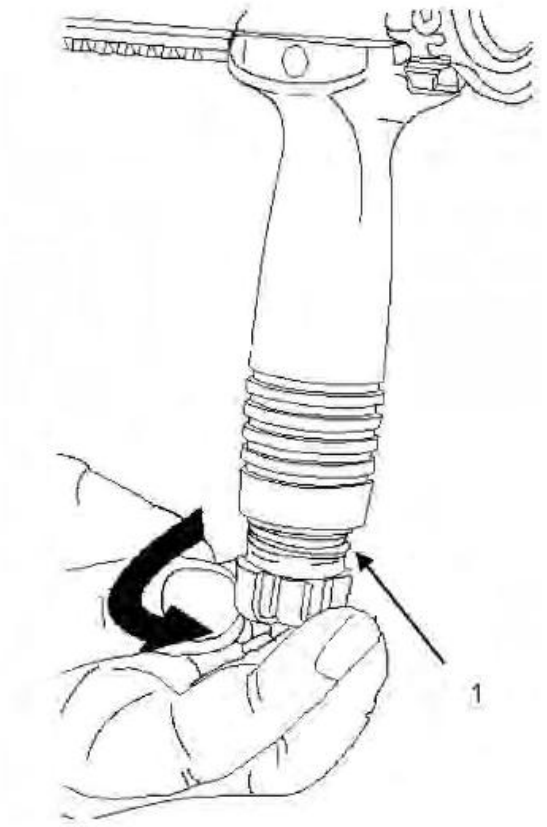


Figure 10. O-Ring Clutch on Hand Grip.

ASSEMBLY OF ACCESSORY RAIL ASSEM BLY -- Continued

6. Rail covers (Figure 11, Item 1) are quickly attached and detached from the rail adapter. A retaining clip (Figure 11, Item 2) at one end of each rail cover (Figure 11, Item 1) automatically engages cutouts positioned at either end of the three rail sections. To slide a rail cover (Figure 11, Item 1) beyond cutout, or to move it, slide it in t he desired direction while applying thumb pressure to the retaining clip (Figure 11, Item 2).

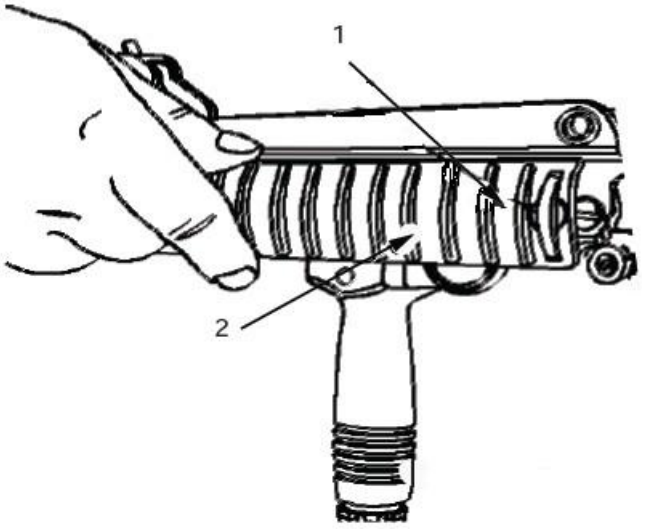


Figure 11. Vertical Pistol in Full Rearward Position and current version Forward Hand Grip.

7. To cover the side rail surfaces, install the rail covers (Figure 11, Item 1) from the muzzle end of the adapter rail with the retaining clip (Figure 11, Item 2) forward. To cover the bottom rail surface, install from the rear with the retaining clip (Figure 11, Item 2) forward.

END OF TASK

CLEANING / INSPECTION OF ACCESSORY RAIL ASSEMBLY

WARNING

Before starting an inspection, do not actuate the trigger until the weapon has been cleared. Inspect the chamber to ensure that it is empty and there are no obstructions in the barrel. Failure to comply may result in death or injury to personnel, and/or damage to equipment.

CAUTION

DO NOT apply lubricant to the plastic surfaces of the rail covers.

1. Clean, inspect, and lubricate the rail surfaces and recoil slots of the adapter rails when the weapon is cleaned and/or when rail covers or accessories are being installed or repositioned on the rails.
2. Use the general purpose brush from the standard carbine rifle cleaning kit to clean the adapter rails and rail covers.
3. If debris are observed inside the adapter rails, thoroughly clean without removing the rail assembly.
4. If the adapter rail is exposed to salt water or corrosive chemicals, thoroughly rinse the upper and lower assemblies in fresh water as soon as the tactical situation allows. Thoroughly clean, inspect, and lubricate as required; this includes the retaining clip in the rail covers.
5. In less adverse environments, lightly lubricate the right, left, and bottom rail assemblies and the retaining clips in the rail covers during normal weapon cleaning.
6. Repair is by replacement of authorized parts.

END OF TASK

END OF WORK PACKAGE

FIELD MAINTENANCE

LIGHTWEIGHT COLLAPSIBLE BUTTSTOCK ASSEMBLY MAINTENANCE

INITIAL SETUP:

Tools and Special Tools

Shop Set, Small Arms: Field Maintenance, Basic Less Power (WP 0050, Item 7)
Small Arms Repairman Tool Kit (SARTK) (WP 0050, Item 10)
USMC TAM No. E7900 (WP 0050, Item 11)

References

TM 9-1005-201-10
TM 08671A-10/1A
TO 11W3-5-5-52

Equipment Condition

Lightweight Collapsible Buttstock attached to weapon (TM 9-1005-201-10)

DISASSEMBLY OF LIGHTWEIGHT COLLAPSIBLE BUTTSTOCK ASSEMBLY.

1. Grasp shoulder rest (Figure 1, Item 2) with both hands, spread and separate from lightweight collaspible buttstock assembly (Figure 1, Item 1). Replace if damaged.

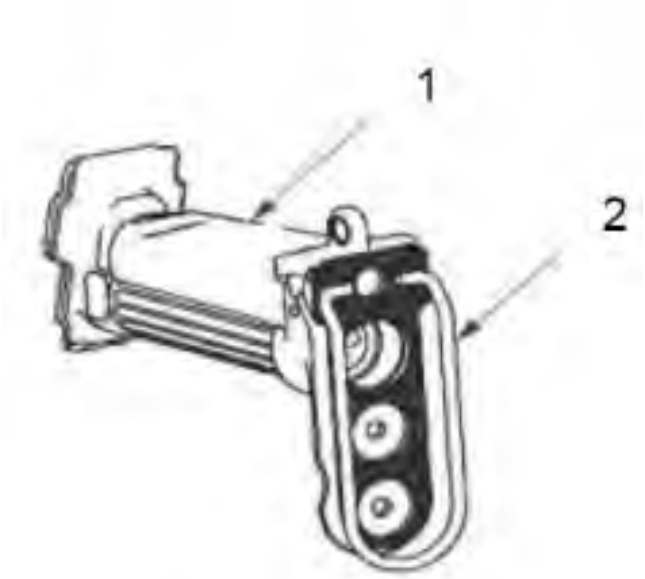


Figure 1. Shoulder Rest, Buttstock Assembly.

DISASSEMBLY OF LIGHTWEIGHT COLLAPSIBLE BUTTSTOCK ASSEMBLY -Continued

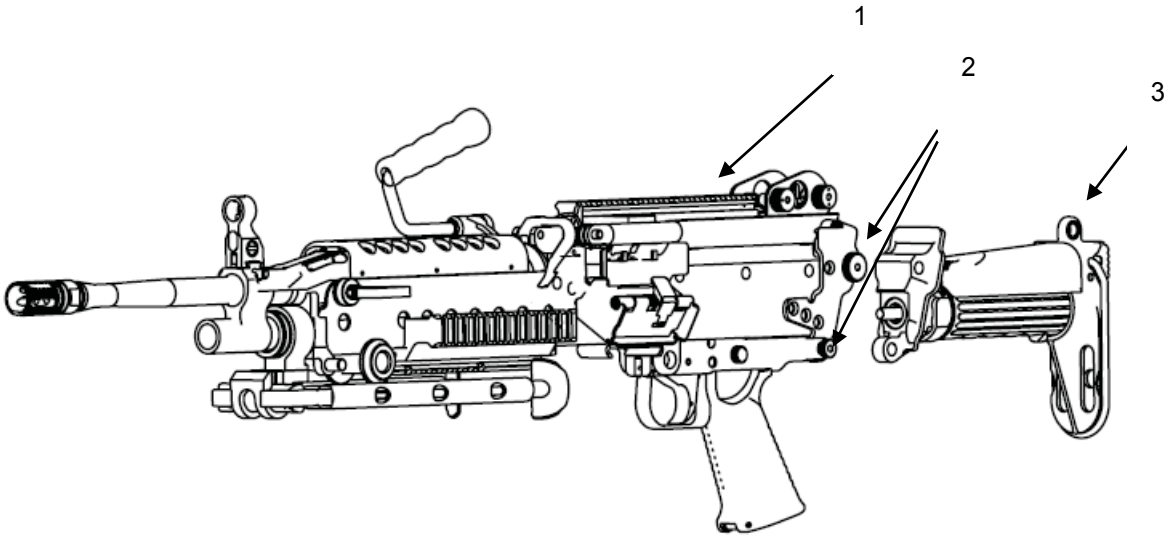


Figure 2. Lightweight Collapsible Buttstock Assembly Removal.

2. Raise cover assembly (Figure 2, Item 1). Ensure that weapon is clear and operating group is forward.
3. Pull the upper and lower retaining pin (Figure 2, Item 2) at the rear of t he receive r, to the left.
4. Remove lightweight collapsible buttstock assembly (Figure 1, Item 2) from receiver. Inspect for cracks or damage.
5. Visually inspect pivot tab (Figure 3, Item 3) and hole for cracks and breaks. If damaged, replace buttstock and buffer assembly.
6. Inspect buffer plunger (Figure 3, Item 2) for spring tension and oil leaks on face of backplate (Figure 3, Item 1). If spring tension does not exist or oil leak is detected, replace buttstock and buffer assembly.

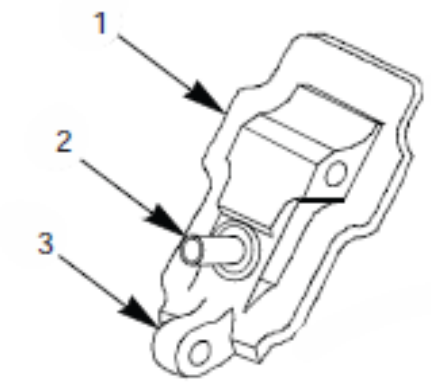


Figure 3. Buffer Plunger, Backplate

END OF TASK

DISASSEMBLY OF LIGHTWEIGHT COLLAPSIBLE BUTTSTOCK

1. Fully extend collapsible buttstock assembly (Figure 4).

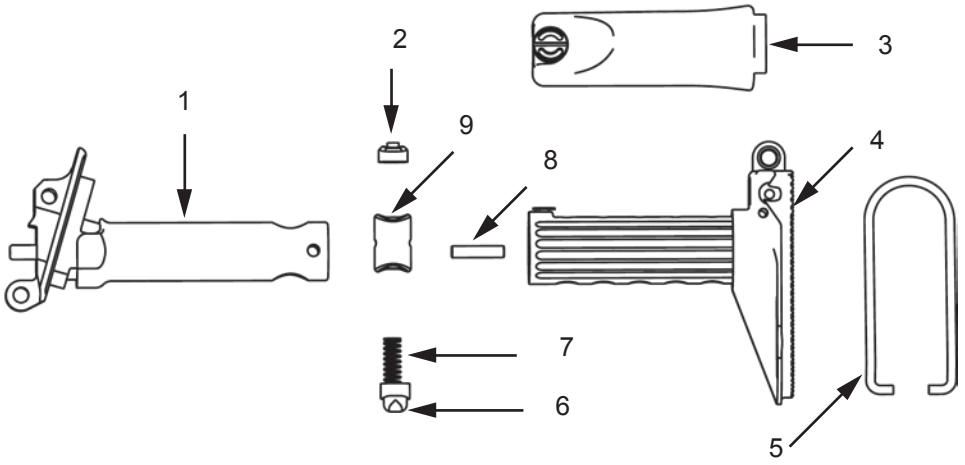


Figure 4. Lightweight Collapsible Buttstock Disassembly.

2. Remove cheekrest (Figure 4, Item 3) from buttplate and stock assembly (Figure 4, Item 4) by loosening the thumbscrew in cheekrest (Figure 4, Item 3). Do not remove thumbscrew from cheekrest.
3. Completely depress adjustment detent (Figure 4, Item 6) and retaining detent (Figure 4, Item 2) while rotating the buttplate assembly (Figure 4, Item 4) counter clockwise (CCW).

WARNING

Adjustment detent and retaining detent are under spring tension. Always secure the detents when disassembling. Failure to comply can cause personnel injury.

4. Remove buffer and backplate assembly (Figure 4, Item 1) from buttplate and stock assembly (Figure 4, Item 4).
5. Remove adjustment detent (Figure 4, Item 6), spring helical compression (Figure 4, Item 7), and retaining detent (Figure 4, Item 2) from buffer and backplate assembly (Figure 4, Item 1).

NOTE

When removing straight pin , sleeve will fall from buffer and backplate assembly.

6. Remove straight pin (Figure 4, Item 8) from bufffer and backplate assembly (Figure 4, Item 1).

END OF TASK

INSPECTION/CLEANING

1. Visually inspect cheekrest (Figure 4, Item 3) for cracks and screw for burrs, and replace if damaged.
2. Visually inspect pivot tab and hole of buffer and backplate assembly for cracks and breaks. Replace backplate and buffer assembly if damaged.

DISASSEMBLY OF LIGHTWEIGHT COLLAPSIBLE BUTTSTOCK - Continued

3. Inspect buffer plunger for spring tension and oil leaks on face of buttstock and buffer assembly. If spring tension does not exist or an oil leak is detected, replace backplate and buffer assembly.
4. Visually inspect buttstock for holes, cracks, or breaks, and replace if damaged.
5. Inspect sling swivel tab and hole for cracks or loose grommet. If cracks exist or grommet is loose, replace the buttplate assembly.

END OF TASK

ASSEMBLY OF LIGHTWEIGHT COLLAPSIBLE BUTTSTOCK

1. Install sleeve (Figure 4, Item 9) into buffer and backplate assembly (Figure 4, Item 1) then straight pin (Figure 4, Item 8) into buffer and backplate assembly (Figure 4, Item1).

WARNING

Adjustment detent and retaining detent will be under spring tension. Always secure the detents when assembling. Failure to comply can cause personnel injury.

2. Install adjustment detent (Figure 4, Item 6), spring helical compression (Figure 4, Item 7), and retaining detent (Figure 4, Item 2) into buffer and backplate assembly (Figure 4, Item 1).
3. Install buttplate assembly (Figure 4, Item 4) onto buffer and backplate assembly (Figure 4, Item 1).
4. Completely depress adjustment detent (Figure 4, Item 6) and retaining detent (Figure 4, Item 2) while rotating the buttplate assembly (Figure 4, Item 4) clockwise (CW).
5. Install cheekrest (Figure 4, Item 3) onto buttplate and stock assembly (Figure 4, Item 4) by screwing thumbscrew of the cheekrest (Figure 4, Item 3).
6. Install the Lightweight Collapsible Buttstock assembly onto weapon.
7. Spread shoulder rest (Figure 5, Item 1) apart with both hands and place into position on buttstock/ buffer assembly.

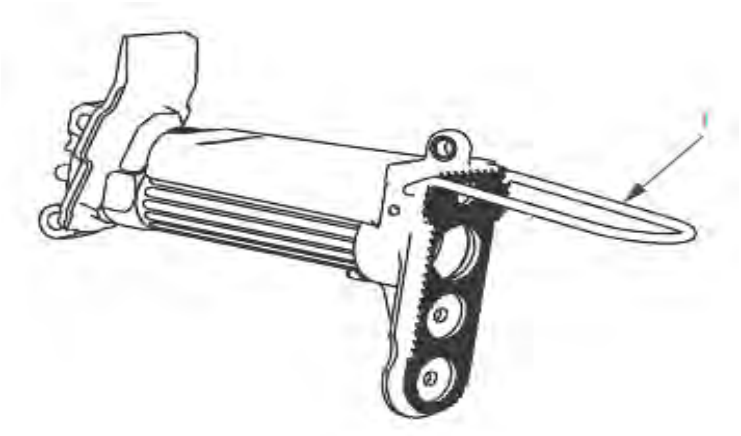


Figure 5. Collapsible Buttstock and Shoulder Rest.

END OF TASK

FIELD MAINTENANCE

TRIGGER MECHANISM ASSEMBLY MAINTENANCE

INITIAL SETUP:

Tools and Special Tools
Box, Spanner Wrench (WP 0050, Item 1)
Small Arms Repairman Tool Kit (SARTK) (WP 0050, Item 10)
USMC TAM No. E7900 (WP 0050, Item 11)

Equipment Condition
Trigger Mechanism removed (TM 9-1005-201-10)

DISASSEMBLY OF TRIGGER MECHANISM ASSEMBLY

1. Apply rearward pressure to front of trigger guard (Figure 1, Item 1) until it clears spring pin (Figure 1, Item 3) and separate.

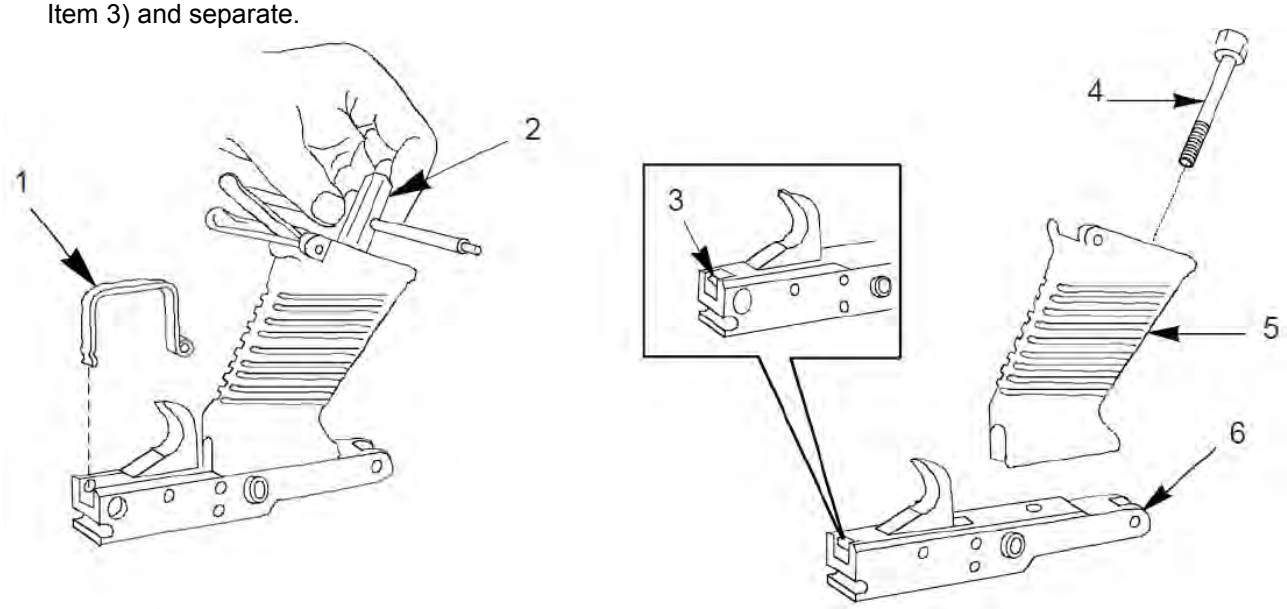


Figure 1. Machine Bolt, Grip, Trigger Guard

2. Visually inspect trigger guard (Figure 1, Item 1) and replace if bent or cracked.

3. Using 11mm end of box spanner wrench (Figure 1, Item 2) remove machine bolt (Figure 1, Item 4) and pistol grip (Figure 1, Item 5) from trigger mechanism (Figure 1, Item 6).

4. Visually inspect pistol grip (Figure 1, Item 5) and replace if cracked or broken.

5. Visually inspect trigger mechanism (figure 1, Item 6) for missing parts, damaged holes, or burrs. Inspect for bent, broken, or improperly assembled sear spring. The leg of the sear spring must be behind the trigger pin to function properly and not between the trigger and the trigger pin. Replace or repair if trigger mechanism is damaged, incomplete, or improperly assembled.

DISASSEMBLY OF TRIGGER MECHANISM ASSEMBLY – Continued

6. Apply slight pressure on sear (Figure 2, Item 2) and push out headless straight pin (Figure 2, Item 1).

7. Remove sear (Figure 2, Item 2) by pulling trigger (Figure 2, Item 3) and give sear 1/4 turn, freeing it from the slot in the tripping lever (Figure 3, Item 4).

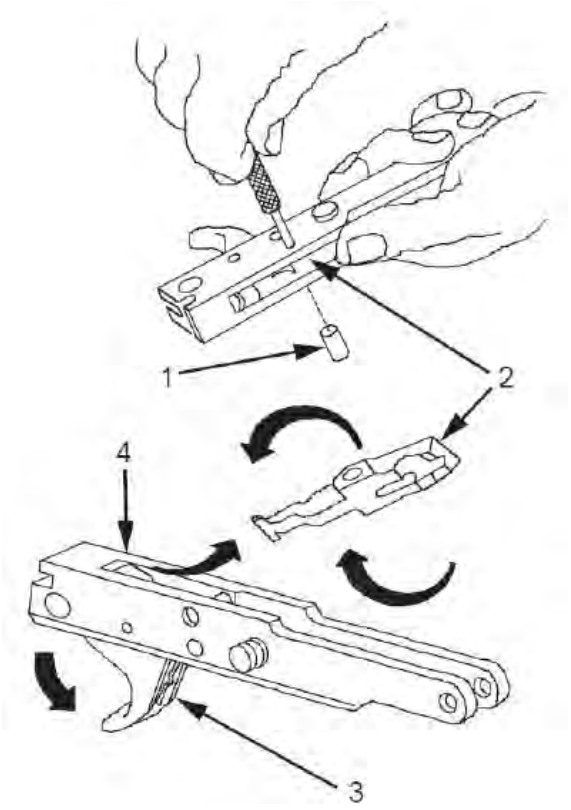


Figure 2. Sear, Sear Pin, Trigger, Tripping Lever

DISASSEMBLY OF TRIGGER MECHANISM ASSEMBLY – Continued

8. Depress retaining spring (Figure 3, Item 1) and remove safety (Figure 3, Item 2) and retaining spring (Figure 3, Item 1) using a small, flat-tipped screwdriver.

9. Remove grooved pin (Figure 3, Item 5) and sear spring (Figure 3, Item 4).

10. Remove spring pin (Figure 3, Item 6) and discard. Remove trigger assembly (Figure 3, Item 3).

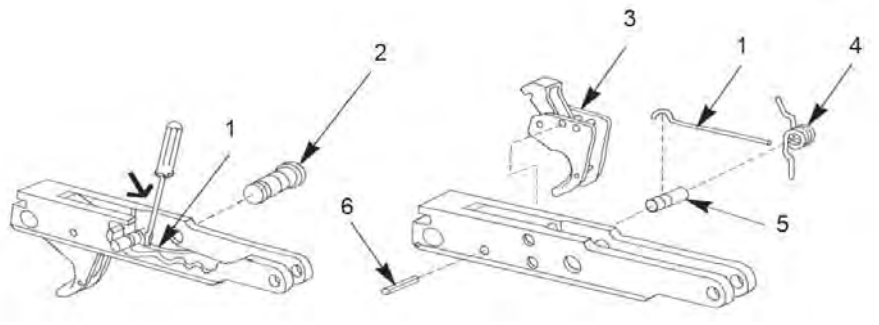


Figure 3. Grooved Pin and Spring Pin Removal.

INSPECTION OF TRIGGER MECHANISM ASSEMBLY

1. Visually inspect front edge of trigger assembly (Figure 4, Item 1). If chipped, cracked or broken, replace trigger assembly (Figure 4, Item 1).

2. Visually inspect tripping lever spring (Figure 4, Item 3) for broken or bent legs. With trigger mechanism assembly completely assembled, functionally inspect trigger for proper function. If the trigger assembly (Figure 4, Item 1) is hard to pull, the tripping lever (Figure 4, Item 2) may be worn out, replace trigger assembly (Figure 4, Item 1).

3. Visually inspect safety (Figure 4, Item 10) for burrs. Replace if burrs cannot be removed or is otherwise damaged.

4. Visually inspect headless straight pin (Figure 4, Item 6) and grooved pin (Figure 4, Item 7) for burrs and bends. Replace if bent or if burrs cannot be removed.

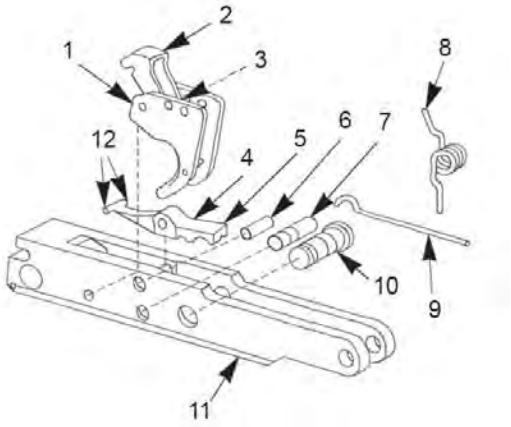


Figure 4. Inspection of Safety and Tripping Lever.

INSPECTION OF TRIGGER MECHANISM ASSEMBLY - Continued

5. Visually inspect sear (Figure 4, Item 4) for cracked or broken trigger tabs (Figure 4, Item 12), for well-defined edge (Figure 4, Item 5) for chips, burrs, or rounding. Replace if broken or damaged.
6. Visually inspect sear spring (Figure 4, Item 8) for broken or bent legs. Replace if damaged.
7. Visually inspect retaining spring (Figure 4, Item 9), and replace if broken or bent.
8. Visually inspect trigger housing (Figure 4, Item 11) for cracks or burrs and replace if damaged.

END OF TASK

ASSEMBLY OF TRIGGER MECHANISM ASSEMBLY

1. Put trigger assembly (Figure 5, Item 1) into trigger housing (Figure 5, Item 5), aligning holes.

CAUTION

To prevent marring the trigger housing, use a brass hammer to install spring pin.

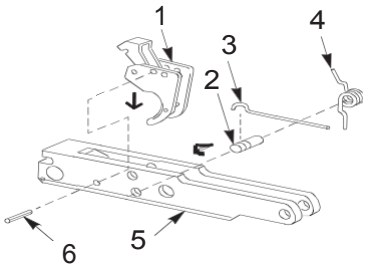


Figure 5. Trigger Assembly Installation

2. Install NEW spring pin (Figure 5, Item 6) through trigger housing (Figure 5, Item 5) and trigger assembly (Figure 5, Item 5).
3. Orient sear spring (Figure 5, Item 4) with both legs forward (toward trigger assembly) and long leg pointing down into trigger housing (Figure 5, Item 5).

NOTE

When properly assembled, bottom leg of sear spring must behind the trigger and spring pin (Figure 6, Item 4).

4. Align hole of sear spring (Figure 5, Item 4) with hole in trigger housing (Figure 5, Item 5) and install grooved pin (Figure 5, Item 2) with notch to the left.
5. Install retaining spring (Figure 5, Item 3) with hook end down in the notch of the grooved pin (Figure 5, Item 2).
6. Compress retaining spring (Figure 6, Item 1) and install safety (Figure 6, Item 2) in trigger housing (Figure 6, Item 3) with red ring end to the left. using small flat-tipped screw.

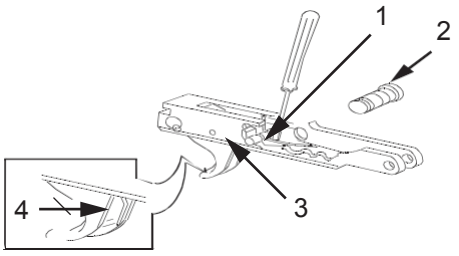


Figure 6. Safety and Trigger Housing.

ASSEMBLY OF TRIGGER MECHANISM ASSEMBLY - Continued

7. Pull trigger (Figure 7, Item 4) to rear to insert sear (Figure 7, Item 2), and hold sear sideways to insert into tripping lever slot (Figure 7, Item 1). Give 1/4 turn to hold in place with spring slot (Figure 7, Item 3) down.
8. Align holes in sear (Figure 7, Item 2) and trigger housing (Figure 6, Item 3) and push in headless straight pin (Figure 7, Item 5).

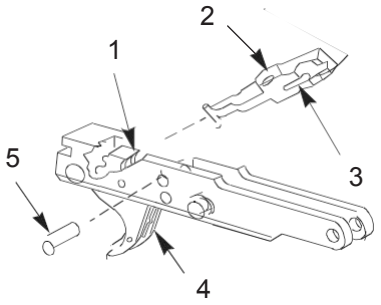


Figure 7. Sear and Trigger Housing Installation.

9. Position trigger mechanism (Figure 8, Item 3) with trigger facing upward.
10. Insert machine bolt (Figure 8, Item 2) into pistol grip (Figure 8, Item 1) and place on trigger mechanism (Figure 8, Item 3). Using 11mm end of box spanner tool (Figure 8, Item 4), tighten machine bolt (Figure 8, Item 2).

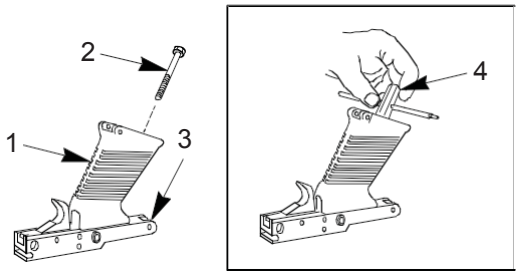


Figure 8. Trigger Mechanism.

11. Place loop of trigger guard (Figure 9, Item 1) in pistol grip slot and apply rearward pressure to front of trigger guard until it clears and fits behind spring pin (Figure 9, Item 2).

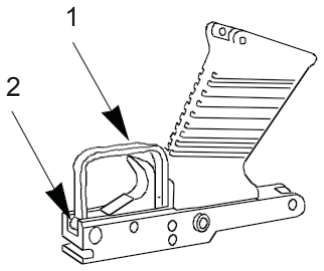


Figure 9. Trigger Guard, Spring Pin.

END OF TASK

END OF WORK PACKAGE

FIELD MAINTENANCE

GAS CYLINDER MAINTENANCE

INITIAL SETUP:

Tools and Special Tools

Small Arms Repairman Tool Kit (SARTK) (WP 0050, Item 10)
USMC TAM No. E7900 (WP 0050, Item 11)

Equipment Condition

Gas Cylinder Assembly removed (TM 9-1005-201-10)

INSPECTION OF GAS CYLINDER

NOTE

DO NOT lubricate inside of gas cylinder assembly.

1. Visually inspect gas cylinder assembly for dents and burrs, and inspect tube (Figure 1, Item 2), and head (Figure 1, Item 1) for rotational movement. Visually inspect tube (Figure 1, Item 2) and head (Figure 1, Item 1) for leakage (evidence of white deposit) between tube (Figure 1, Item 2) and head (Figure 1, Item 1) of gas cylinder assembly.

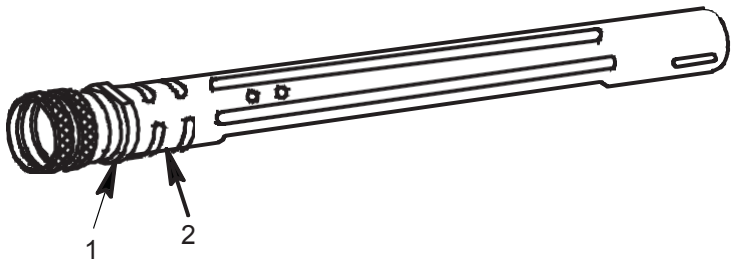


Figure 1. Gas Cylinder Assembly

2. Replace gas cylinder assembly if parts are damaged or loose, or evidence of gas leakage exists.

END OF TASK

END OF WORK PACKAGE

FIELD MAINTENANCE

BIPOD ASSEMBLY MAINTENANCE

INITIAL SETUP:

Tools and Special Tools

Small Arms Repairman Tool Kit (SARTK) (WP 0050, Item 10)
USMC TAM No. E7900 (WP 0050, Item 11)

References

TM 9-1005-201-10
TM 08671A-10/1A
TO 11W3-5-5-52

Equipment Condition

Bipod Assembly removed. (TM 9-1005-201-10)

DISASSEMBLY OF BIPOD ASSEMBLY

1. Place bipod assembly in a vise with protective jaws. Drive spring pin (Figure 1, Item 2) out of bipod assembly using a 5/32 inch punch. Discard spring pin (Figure 1, Item 2).
2. Remove the punch from the bipod assembly (Figure 1). Remove spring, helical, compressed (Figure 1, Item 5) and bipod leg assembly (Figure 1, Item 6).

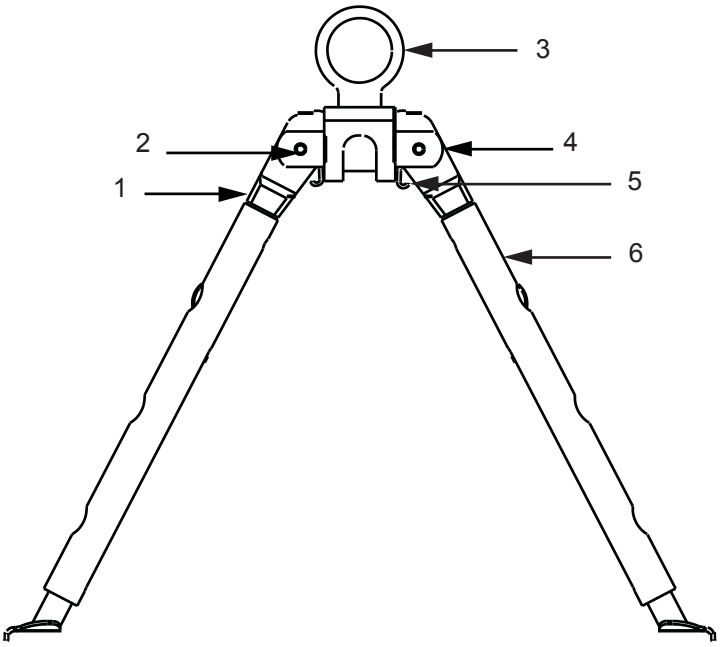


Figure 1. Bipod Collar and Pivot Rod.

WARNING

Bipod legs are under spring tension. Release carefully during disassembly. Failure to comply can cause personnel injury.

3. Remove pivot rod (Figure 1, Item 4) from collar (Figure 1, Item 3).

NOTE

Repeat steps 1 and 2 to remove the other leg assembly from pivot rod.

END OF TASK

DISASSEMBLY OF BIPOD ASSEMBLY -- Continued

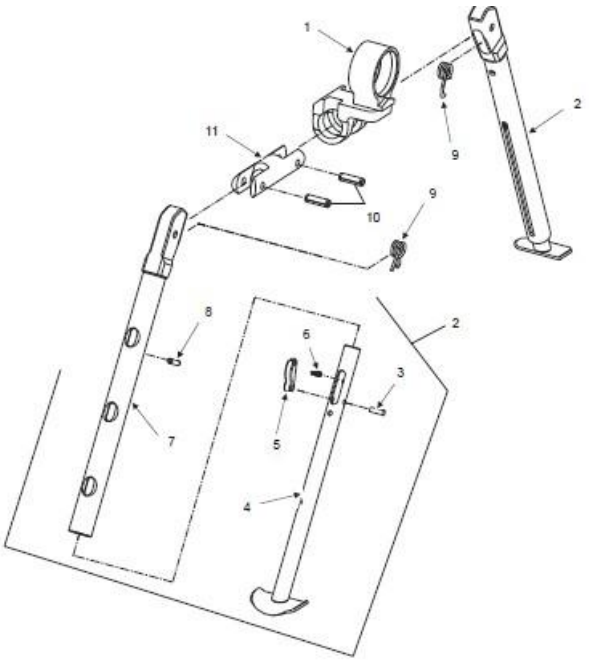


Figure 2. Bipod Assembly

4. Extend the bipod leg until the spring pin (Figure 2, item 8) is visible in the center slot. Drive spring pins (Figure 2, Item 8) out of the leg assemblies (Figure 2, Item 11) with a 1/8 inch punch. Remove inner leg (Figure 2, Item 10) carefully to catch springs (Figure 2, Item 5). Discard springs and spring pins (Figure 2, Items 5 and 8).

WARNING

Latch is under spring tension. Release carefully during disassembly.
Failure to comply can result in personnel injury..

5. Push headless pins (Figure 2, Item 7) out of inner legs (Figure 2, Item 10) and remove latches (Figure 2, Item 6).

END OF TASK

ASSEMBLY OF BIPOD ASSEMBLY

1. Place helical spring (Figure 2, Item 5) and bipod leg latch (Figure 2, Item 6) into inner leg (Figure 2, Item 10). Ensure helical spring is seated in cut out area in inner leg (Figure 2, Item 10). Align bipod leg latch (Figure 2, Item 6) hole with inner leg (Figure 2, Item 10) hole and insert headless pin (Figure 2, Item 7) until flush.
2. Insert inner leg (Figure 2, Item 9) into outer leg (Figure 2, Item 9) pushing down on bipod leg latch (Figure 2, Item 6) until it enters and snaps into the cut out area of outer leg (Figure 2, Item 9). Extend the leg until the hole is visible in the center slot.
3. While observing the center notch, extend the inner leg approximately 1.5 inches below the outer leg. Insert the new spring pin (Figure 2, Item 8) until flush.
4. Insert pivot rod (Figure 2, Item 3) vertically into a vise with protective jaws. Preseat new spring pin (Figure 2, Item 1) into into pivot rod (Figure 2, Item 3).
5. Install spring (Figure 2, Item 4) into outer leg assembly (Figure 2, Item 9) and tap into place.
6. Insert outer leg assembly (Figure 2, Item 9) into pivot rod (Figure 2, Item 3). Do not allow extended portion of spring (Figure 2, Item 4) to enter the center of the pivot rod (Figure 2, Item 3).
7. Drive new spring pin (Figure 2, Item 1) into pivot rod (Figure 2, Item 3) capturing the bipod leg assembly (Figure 2, item 11), until fully seated.
8. Remove pivot rod (Figure 2, Item 3) from protective jaws of vice and install collar (Figure 2, Item 2) onto pivot rod (Figure 2, Item 3).

NOTE

Repeat steps 4 and 7 for installation of second leg.

END OF TASK

END OF WORK PACKAGE

FIELD MAINTENANCE

RECEIVER ASSEMBLY MAINTENANCE

INITIAL SETUP:

Tools and Special Tools

Combination Tool (WP 0050, Item 9)
Small Arms Repairman Tool Kit (SARTK) (WP 0050, Item 10)
USMC TAM No. E7900 (WP 0050, Item 11)

Materials/Parts

Sealing Compound (WP 0049, Item 13)
Tape, Pressure Sensitive Masking (WP 0049, Item 16)
Wiping Rag (WP 0049, Item 11)

Equipment Condition

Weapon fieldstripped (TM 9-1005-201-10)
Cover and Feed Mechanism Removed (WP 0011)

DISASSEMBLY OF RECEIVER ASSEMBLY

1. Compress retaining clip (Figure 1, Item 1) loose from receiver (Figure 1, Item 2) and lift ejector (Figure 1, Item 3) from receiver (Figure 1, Item 2).

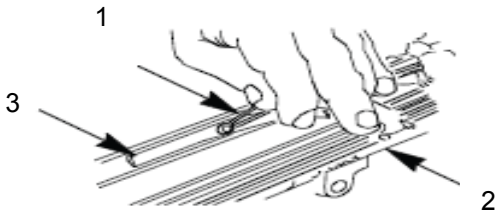


Figure 1. Retaining Clip, Receiver, Ejector.

2. Remove retaining clip (Figure 1, Item 1) and cartridge ejector pin (Figure 2, Item 1) from cartridge ejector (Figure 3, Item 1). Discard retaining clip (Figure 2, Item 3).

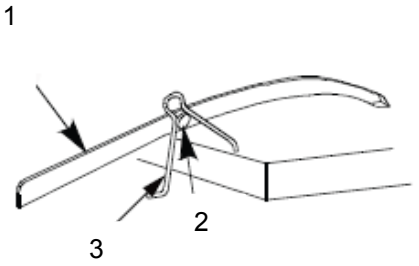


Figure 2. Ejector, Retaining Clip, Cartridge Ejector Pin.

3. Visually inspect ejector tip and pin for damage. Replace any unserviceable parts.

DISASSEMBLY OF RECEIVER ASSEMBLY - Continued

4. Remove and discard retaining clips (Figure 3, Item 3) and (Figure 3, Item 6) from headed grooved pin.
5. Remove headed grooved pin (Figure 3, Item 1) from receiver assembly (Figure 3, Item 2).
6. Remove headed grooved pin (Figure 3, Item 8) and retaining clip (Figure 3, Item 7) from receiver assembly (Figure 3, Item 2).

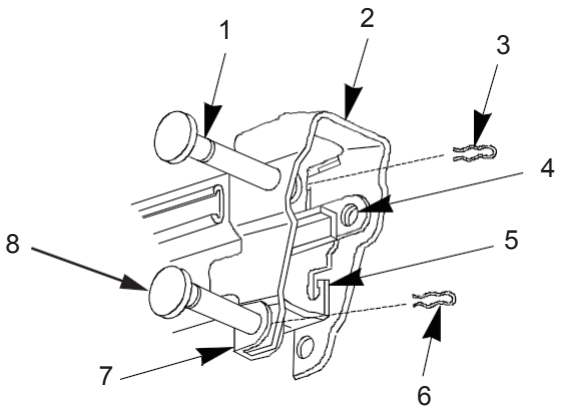


Figure 3. Retaining Clips Headed Grooved Pin.

END OF TASK

INSPECTION OF RECEIVER ASSEMBLY

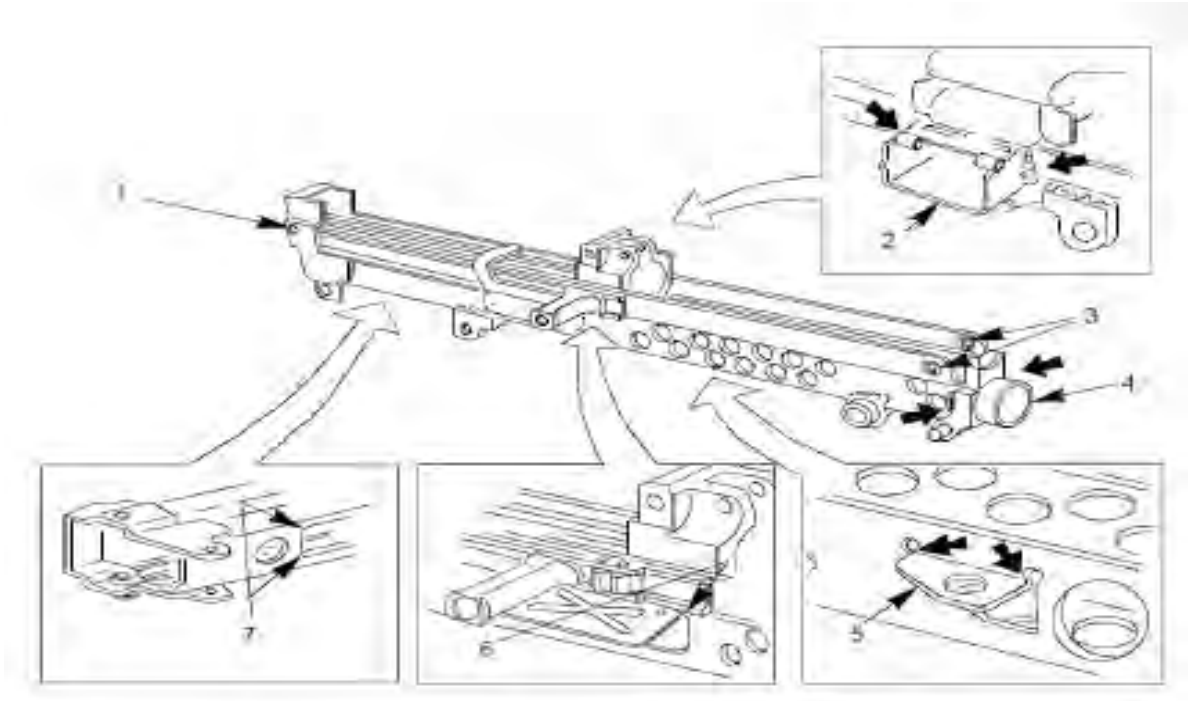


Figure 4. Receiver Assembly.

INSPECTION OF RECEIVER ASSEMBLY -- Continued

a. Visually inspect receiver for cracks, bends, or damage.
b. Inspect for cracks in welds around magazine sleeve (Figure 4, Item 2), both sides in areas indicated by arrows.
c. Inspect for cracked, bent or missing tab (Figure 4, Item 5) in areas indicated by arrows.
d. Inspect for cracked or broken sling holes (Figure 4, Item 3) both sides.
e. Inspect for cracks in welds of gas cylinder support (Figure 4, Item 4) both sides in areas indicated by arrows.
f. Inspect for cracks in the rear radii of the trigger mechanism slot (Figure 4, Item 7) on the bottom of the receiver in areas indicated by arrows.
g. Inspect for cracks in the upper front radius (Figure 4, Item 6) on the ejection port cut out.
h. Inspect for elongation and cracks of the take down pin hole (Figure 3, Item 4) in the inner rail, at the rear of the receiver in areas indicated, both sides.
i. Inspect for cracked or bent transfer mechanism assembly catches/hooks (Figure 3, Item 5) inside the receiver, both sides.
j. Visually inspect parts for cracks, breaks, or burrs. Replace all unserviceable parts
k. Inspect for loose cocking handle stop. Inspect for cracks in the radii (just forward of the stop) of the cocking handle channel (Figure 5, Item 1).

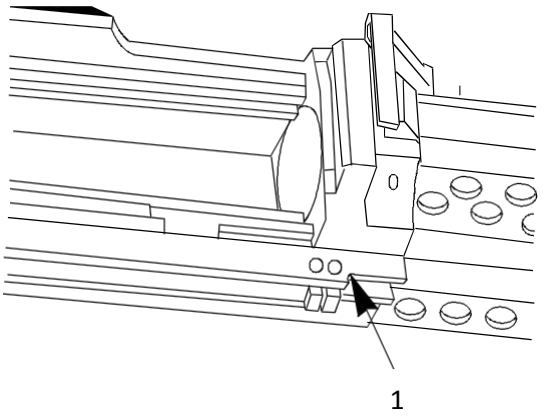


Figure 5. Cocking Handle Stop.

2. Inspect receiver for bends/damage:

a. Inspect for bent or damaged pivot/trigger mechanism flanges (Figure 6) on bottom rear of receiver, both sides.

INSPECTION OF RECEIVER ASSEMBLY -- Continued

b. Inspect for damaged or bent rails by charging and clearing the weapon to detect if binding occurs.

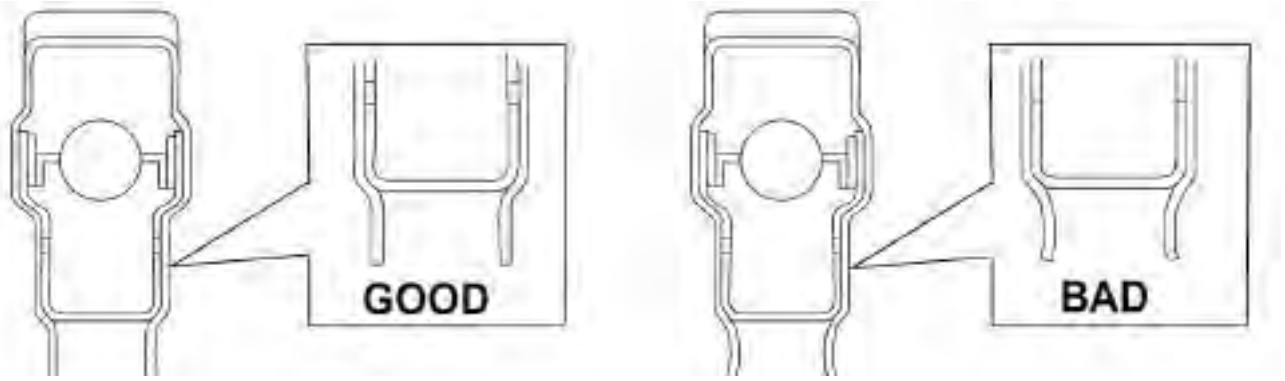


Figure 6. Bent or Damaged Flanges.

3. Inspect cocking handle channel for damage:
   a. Inspect for separation of cocking handle channel (Figure 7, Item 1) from the receiver side wall.

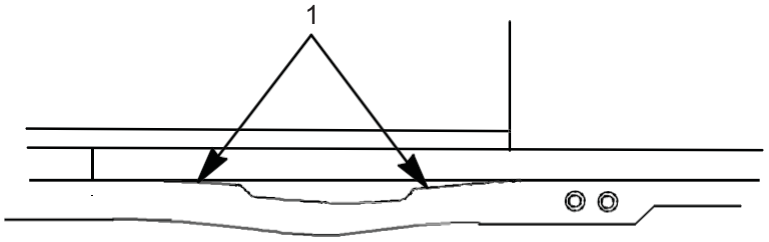


Figure 7. Separation of Cocking Handle Channel.

   b. Inspect the upper rail of the cocking handle channel for a bulge (Figure 8, Item 1) just rear of the cocking handle stop (Figure 10, Item 2).

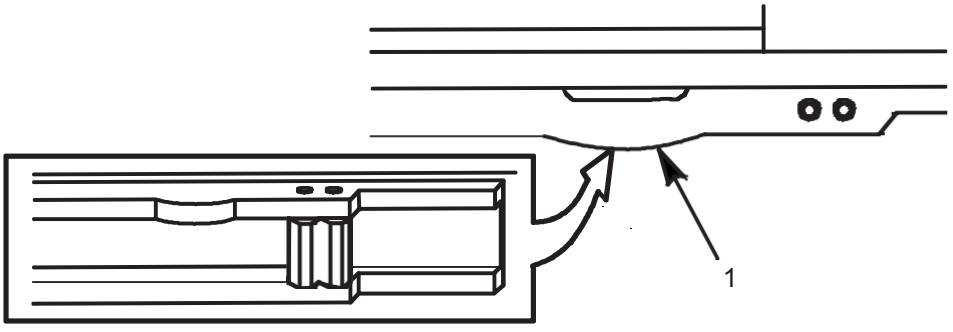


Figure 8. Bulge on Cocking Handle Channel.

   c. Inspect for worn rails and for presence of notches, burrs, and chips.

INSPECTION OF RECEIVER ASSEMBLY -- Continued

NOTE

The Feed Support Improvement Kit (FSIK) is used to enhance the magazine dovetails. Receivers with a stamped "I" on dovetail do not require a FSIK.

4. Inspect for damaged/bent magazine dovetails (Figure 9, Item 1) on bottom of receiver. Inspect FSIK for damage.

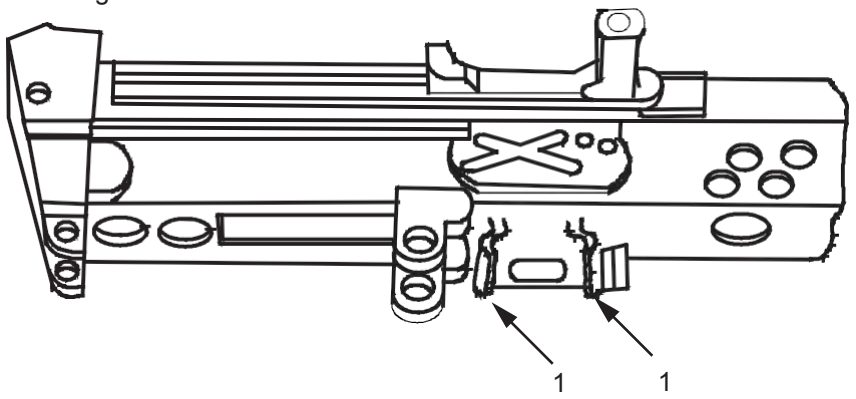


Figure 9. Dovetails on Bottom of Receiver.

5. Inspect left side slide rail (Figure 10, Item 1) (inside receiver) for looseness.

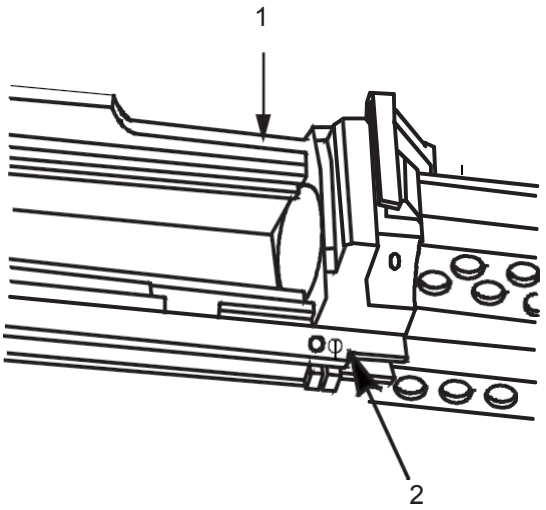


Figure 10. Cocking Handle Stop.

6. Inspect receiver assembly (Figure 11, Item 3) for presence of exterior protective finish. If more than 1/3 of the exterior finish is missing, resulting in an unprotected, light-reflecting surface, turn in receiver for replacement.

INSPECTION OF THE RECEIVER ASSEMBLY -- Continued

7. If the receiver is suspected of being bent or the moving parts bind when charging and clearing the weapon, or cracks exist, turn in receiver for replacement.
8. Drive out two spring pins (Figure 11, Item 1) and discard. Remove tripod retaining pin (Figure 11, Item 2) from receiver (Figure 11, Item 3).

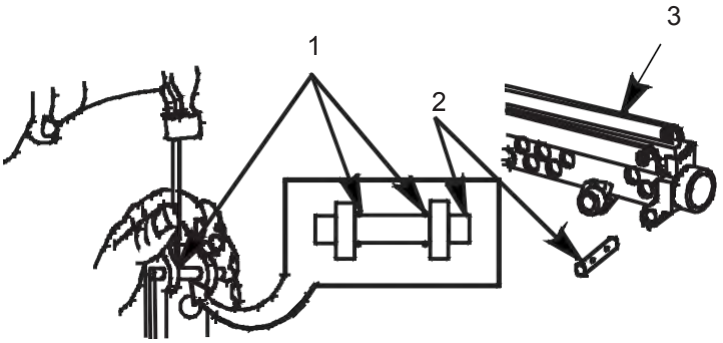


Figure 11. Spring Pins, Retaining Pin, Receiver.

9. Inspect tripod retaining pin (Figure 11, Item 2) for bends or burrs and replace if damaged.

END OF TASK

GAS TUBE SPRING REPLACEMENT

NOTE

It is not necessary to remove the gas cylinder retaining spring from the receiver assembly for inspection. If it does not retain the gas cylinder in the receiver assembly, replace the gas cylinder retaining spring.

1. On lower inside housing of receiver assembly (Figure 12, Item 1), depress tang of gas cylinder retaining spring (Figure 12, Item 2) using a flat-tip screwdriver. At the same time, pull on hooked end of gas cylinder retaining spring (Figure 12, Item 2) with needle-nose pliers and remove. Discard gas cylinder retaining spring (Figure 12, Item 2).

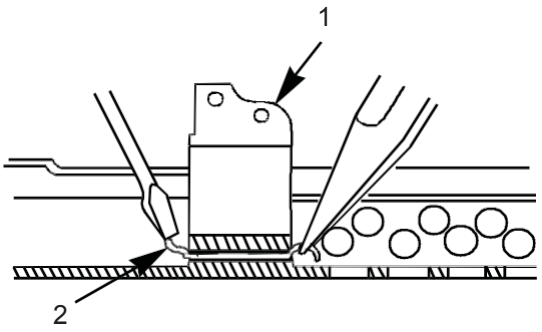


Figure 12. Removal of Gas Cylinder Retaining Spring.

GAS TUBE SPRING REPLACEMENT - Continued

2. Grab hooked end of new replacement gas cylinder retaining spring (Figure 13, Item 2) with needle-nose pliers and install in lower left hole of the receiver block (Figure 13, Item 1) until tang of spring is exposed at the rear of the block.

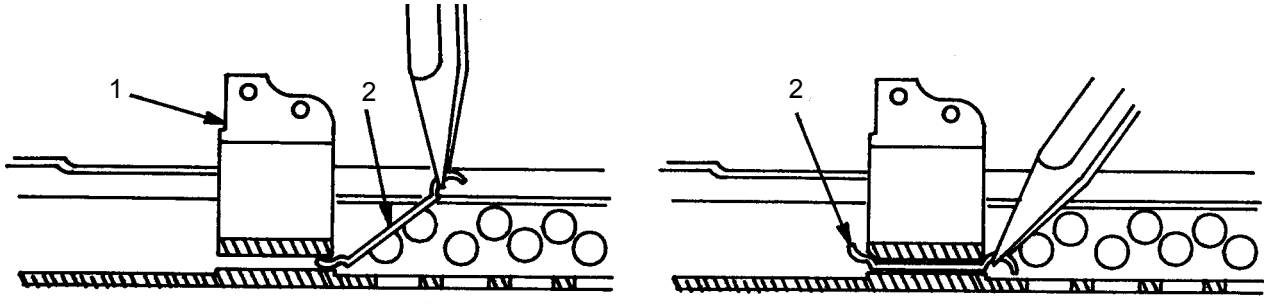


Figure 13. Installation of Gas Cylinder Retaining Spring.

END OF TASK

EJECTION PORT COVER REMOVAL

NOTE

DO NOT disassemble ejection port cover for inspection.

1. Reach inside receiver assembly (Figure 14, Item 1) with combination tool (Figure 14, Item 2) and lift out grooved headless pin (Figure 14, Item 3) from raised edge. At the same time, pull grooved headless pin (Figure 14, Item 3) to rear of receiver assembly (Figure 14, tem 1). Separate grooved headless pin (Figure 14, Item 3), ejection port cover (Figure 14, Item 4), and torsion spring (Figure 14, Item 5).

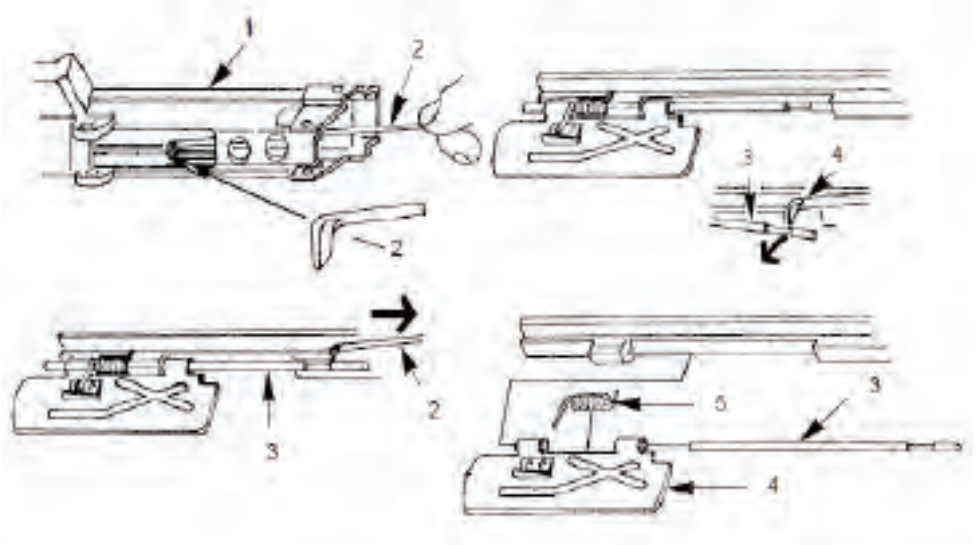


Figure 14. Removal of Ejection Port Cover.

EJECTION PORT COVER REMOVAL - Continued

2. If catch (Figure 14, Item 6) cannot keep ejection port cover (Figure 14, Item 4) latched, or if legs of torsion spring (Figure 14, Item 5) are bent or broken, replace.
3. If ejection port cover (Figure 14, Item 4) is cracked or bent, or catch (Figure 14, Item 6) is loose, replace.
4. Visually inspect grooved headless pin (Figure 14, Item 3) for bends, breaks, or burrs and replace if damaged.

END OF TASK

EJECTION PORT COVER ASSEMBLY

1. Start the grooved headless pin into the right-hand hinge while holding the ejection port cover with the catch toward you with the hinges up (Figure 15, Item 2) and the grooved headless pin with the notch to the right (Figure 15, Item 1).

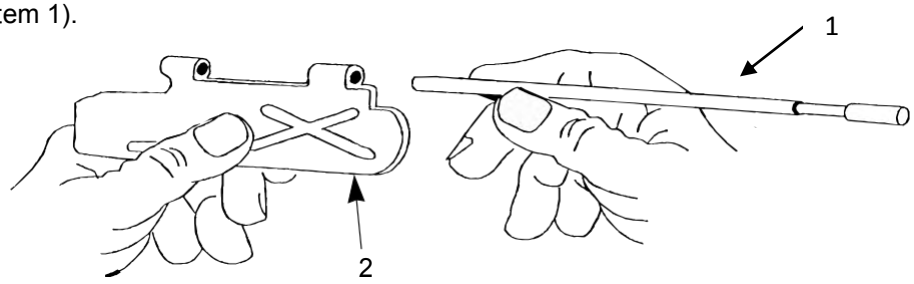


Figure 15. Ejection Port Cover Assembly and Grooved Headless Pin.

2. Insert the ejection port cover (Figure 16, Item 1) with the grooved headless pin (Figure 16, Item 4) into the ejection port of the receiver assembly (Figure 16, Item 2). Then push the grooved headless pin (Figure 16, Item 4) through the receiver hinge (Figure 16, Item 3) exposing about 1/2 inch of the pin (Figure 16, Item 4).

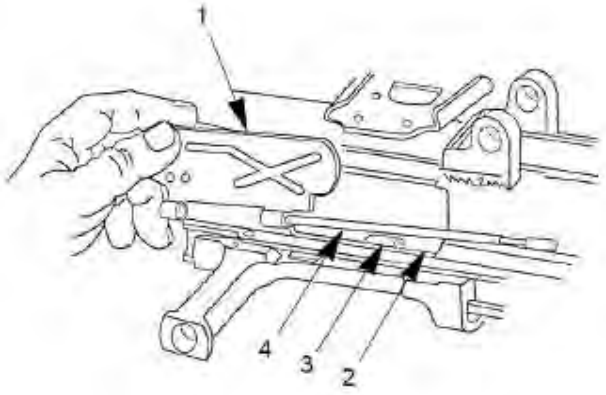


Figure 16. Installation of Grooved Headless Pin.

3. With the short leg of the torsion spring to the right and down (Figure 17, Item 1), position spring on to the exposed end of the grooved headless pin (Figure 17, Item 2).

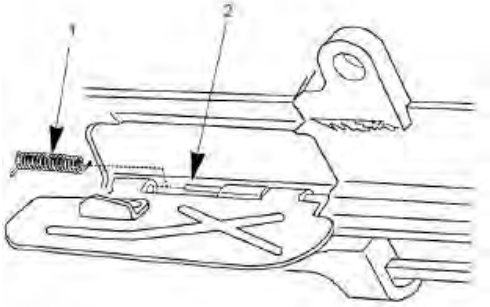


Figure 17. Installation of Torsion Spring.

EJECTION PORT COVER ASSEMBLY - Continued

4. Insert a flat-tipped screwdriver between the second and third coil of the torsion spring (Figure 18, Item 2), and compress slightly. Position spring into alignment with the second cover hinge (Figure 18, Item 1), with the long leg of the spring against the catch (Figure 18, Item 3).

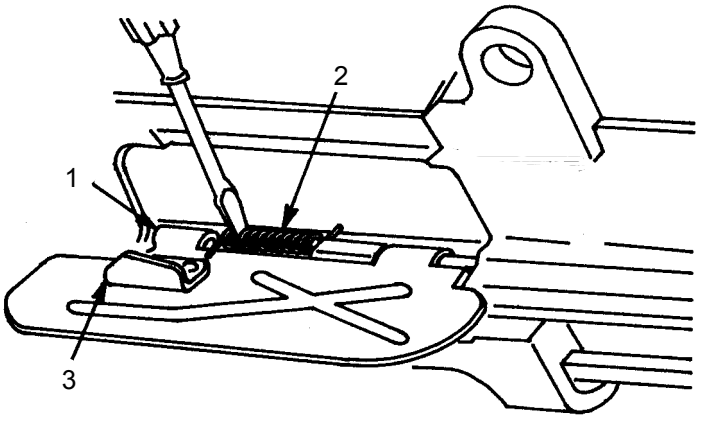


Figure 18. Installation of Torsion Spring.

5. Push the grooved headless pin (Figure 19, Item 3) through the torsion spring (Figure 19, Item 2) and into the hole (Figure 19, Item 1) of the receiver assembly (Figure 19, Item 5), allowing the notched end to snap into slot (Figure 19, Item 4) of the receiver.

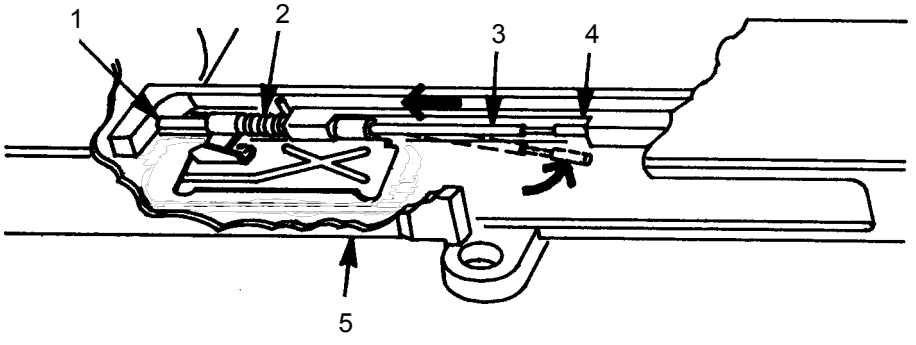


Figure 19. Assembly of Grooved Headless Pin and Torsion Spring into Receiver.

END OF TASK

COCKING HANDLE ASSEMBLY DISASSEMBLY

1. Drive out two spring pins (Figure 20, Item 3) while supporting lower rail of receiver assembly (Figure 20, Item 1). Discard spring pins.
2. Remove cocking handle stop (Figure 20, Item 2) from receiver assembly (Figure 20 Item 1).

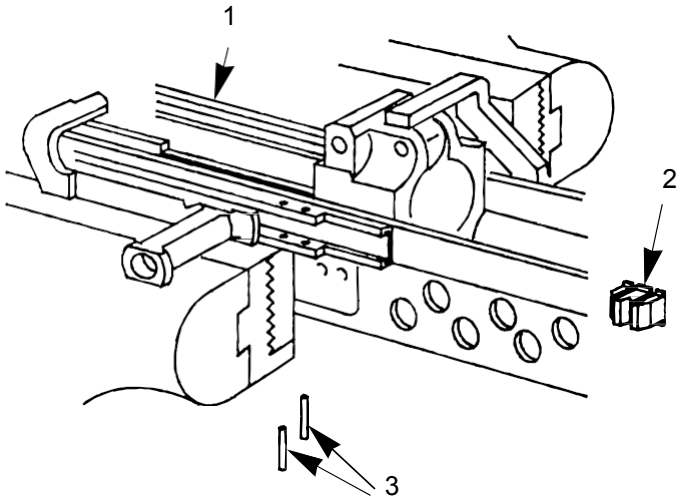


Figure 20. Removal of Spring Pins, Cocking Handle Stop.

3. Remove cocking handle assembly (Figure 21, Item 2) from receiver assembly (Figure 21, Item 1) by sliding it forward and tilting it down.

COCKING HANDLE ASSSEMBLY INSPECTION

1. Visually inspect cocking handle stop (Figure 20, Item 2) for cracks or damage, and replace if damaged.
2. Visually inspect cocking handle and if bent or broken, replace cocking handle assembly (Figure 21, Item 2).

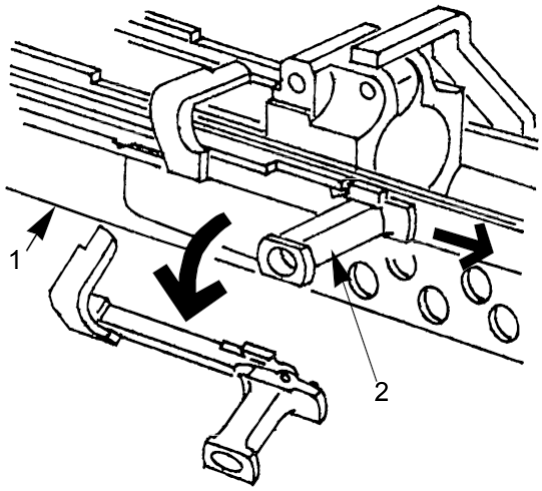
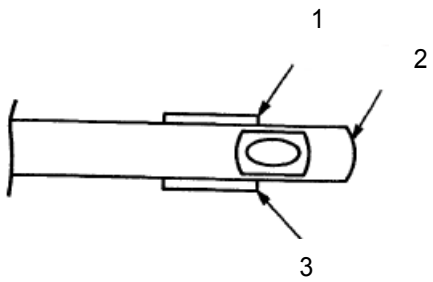


Figure 21. Removal of Cocking Handle Assembly.

COCKING HANDLE ASSEMBLY INSPECTION - Continued

3. If the cocking handle (Figure 22, Item 2) is not bent or broken, and the weapon is in a condition diagnosed as an override, inspect the cocking handle (Figure 22, Item 2) for worn feet (Figure 22, Item 1) that travel inside the rails of the cocking handle channel. The degree of wear is difficult to determine. However, if an unused cocking handle assembly (Figure 22, Item 2) is placed in the cocking handle channel and the override condition disappears, replace the used cocking handle assembly. No further disassembly is required.



END OF TASK

Figure 22. Inspection of Cocking Handle Assembly.

COCKING HANDLE ASSEMBLY

1. Tilt cocking handle down (Figure 23, Item 5). Place rear tab (Figure 23, Item 4) into lower rail of cocking handle channel (Figure 23, Item 6) with cocking arm (Figure 23, Item 1) to rear of receiver block (Figure 23, Item 2). Tilt cocking handle up (Figure 23, Item 5) and slide to the rear, while engaging front tabs (Figure 23, Item 3), into upper and lower rails of cocking handle channel (Figure 23, Item 6).

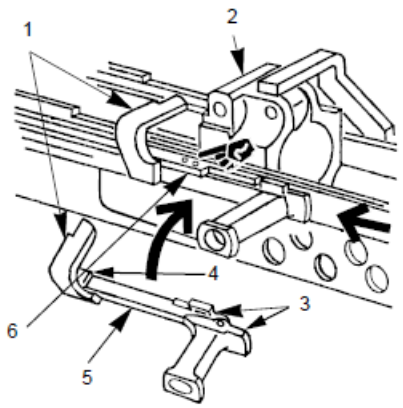


Figure 23. Assembly of Cocking Handle.

COCKING HANDLE ASSEMBLY - Continued

CAUTION

Tape faces of vise jaws to prevent damage to finish of the receiver assembly.

2. Position receiver assembly (Figure 24, Item 1) into vise with jaws apart to provide support without crushing assembly in vise, and support cocking handle channel (Figure 24, Item 4) of receiver assembly (Figure 24, Item 1) under pin holes.

3. Place tabs of cocking handle stop (Figure 23, Item 3) into cocking handle channel (Figure 24,Item 4) slide toward the rear, and align both holes of cocking handle channel (Figure 24, Item 4) with slots in cocking handle stop (Figure 23, Item 3). Apply a drop of sealing compound (WP 0051, Item 13) (Figure 24, Item 2) to both upper and lower holes in the cocking handle channel (Figure 24, Item 4).

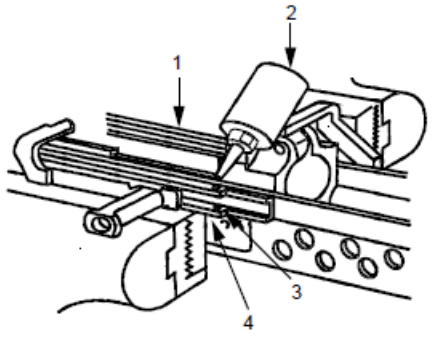


Figure 24 . Receiver Assembly and cocking handle Channel.

4. Insert two new spring pins (Figure 25, Item 1) into holes of cocking handle channel (Figure 25, Item 2). Drive in the two new spring pins (Figure 25, Item 1) until equal distance above the cocking handle channel (Figure 25, Item 2).

5. Wipe off excess sealant from pin body with wiping rag (WP 0049, Item 11) and allow to cure for one hour minimum before firing.

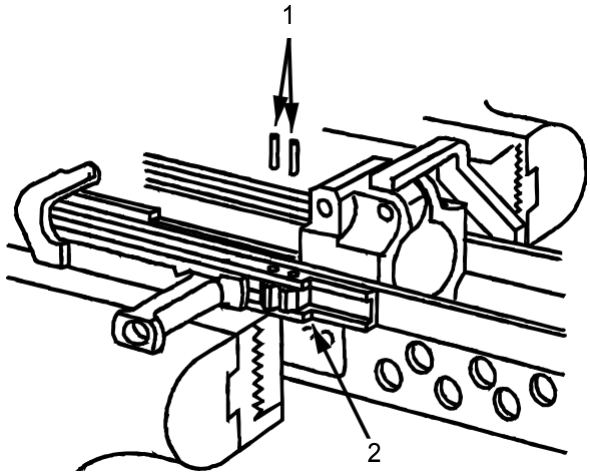


Figure 25. Installation of Spring Pins.

END OF TASK

MAGAZINE COVER DISASSEMBLY

1. Remove and discard retaining clip (Figure 26, Item 1) from grooved headless pin (Figure 26, Item 3). Push out grooved headless pin (Figure 26, Item 3) using straight end of combination tool (Figure 26, Item 6).
2. Separate torsion spring (Figure 26, Item 5) and magazine cover (Figure 26, Item 4) from receiver assembly (Figure 26, Item 2).
3. If magazine cover (Figure 26, Item 4) is cracked or bent, replace.
4. If legs of torsion spring (Figure 26, Item 5) are bent or broken, replace.
5. Visually inspect grooved headless pin (Figure 26, Item 3) for bends, breaks, burrs , and replace if damaged.

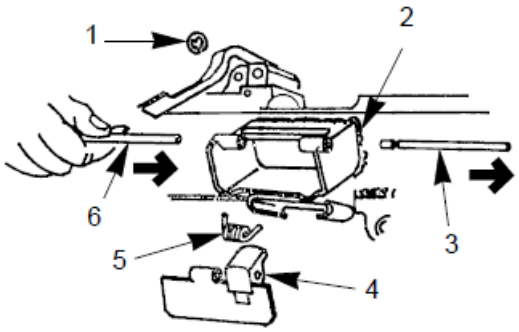


Figure 26. Removal of Magazine cover.

END OF TASK

MAGAZINE COVER ASSEMBLY

1. Start notched end of grooved headless pin (Figure 27, Item 4) into rear hinge hole of magazine well on receiver assembly (Figure 27, Item 3).
2. Place torsion spring (Figure 27, Item 2) between hinges of magazine cover (Figure 27, Item 1), with left leg of torsion spring (Figure 27, Item 2) inside magazine cover (Figure 27, Item 1). Push aligning pin (Figure 27, Item 7) through hinges of magazine cover (Figure 27, Item 1) and torsion spring (Figure 27, Item 2) until they are flush.
3. Insert this temporary assembly between hinges of magazine well on receiver assembly (Figure 27, Item 3) with other leg of torsion spring (Figure 27, Item 2) inside magazine well. Push in headless pin (Figure 27, Item 6), forcing out aligning pin (Figure 27, Item 7). Align notch in grooved headless pin (Figure 27, Item 6) with space between front hinges and install new retaining clip (Figure 27, Item 5) into notch of grooved headless pin (Figure 27, Item 6).

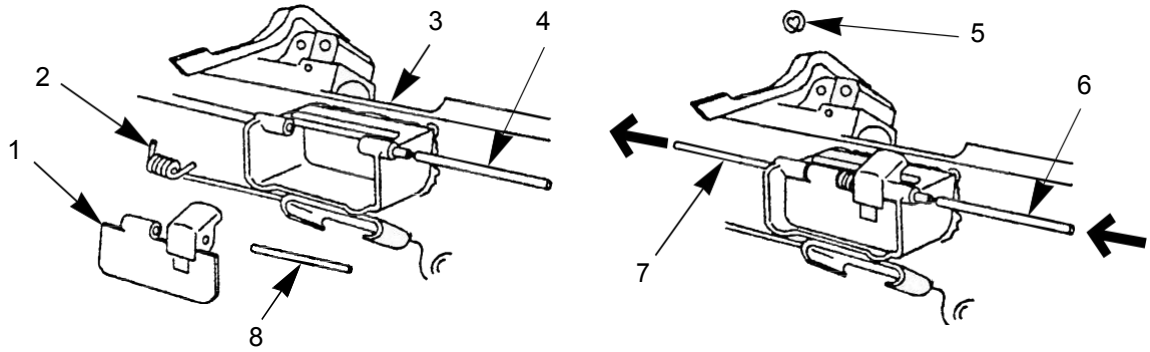


Figure 27. Magazine Well Assembly.

END OF TASK

BARREL LOCKING LEVER DISASSEMBLY

1. Drive out grooved headless pin (Figure 28, Item 1) from the right to the left.
2. Remove barrel locking lever (Figure 28, Item 2) and torsion spring (Figure 28, Item 2) from receiver assembly (Figure 28, Item 4) and discard torsion spring (Figure 28, Item 2).
3. If barrel locking lever (Figure 28, Item 2) does not lock, barrel assembly into receiver assembly (Figure 28, Item 4) or if locking area (Figure 29, Item 2) is chipped or rounded, replace barrel locking lever (Figure 28, Item 2).

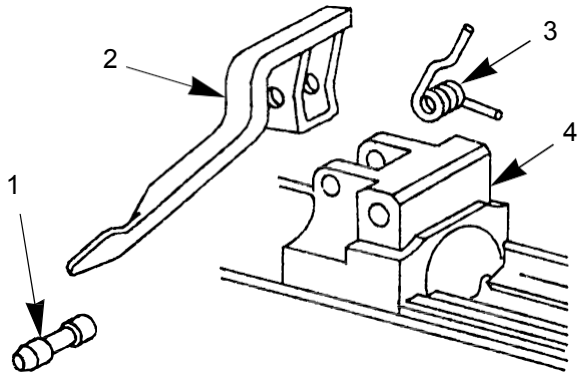


Figure 28. Removal of Barrel Locking Lever.

END OF TASK

BARREL LOCKING LEVER INSPECTION

1. Visually inspect barrel locking lever (Figure 29, Item 1) for bent, cracked or broken arm, and replace if damaged.
2. Visually inspect grooved headless pin (Figure 29, Item 3) for burrs or breaks, and replace if damaged.

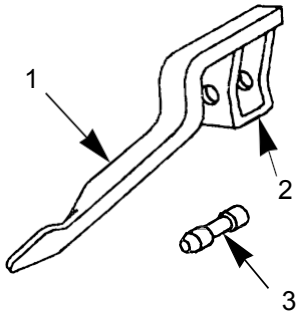


Figure 29. Inspection of Barrel Locking Lever and Grooved Headless Pin.

END OF TASK

BARREL LOCKING LEVER ASSEMBLY

1. Place new torsion spring (Figure 30, Item 2) into barrel locking lever (Figure 30, Item 1) with shorter leg (Figure 30, Item 7) toward bottom of recess.
2. Insert aligning pin (Figure 30, Item 6) through barrel locking lever (Figure 30, Item 1) and torsion spring (Figure 30, Item 2) flush with sides, and place this temporary assembly into position on receiver assembly (Figure 30, Item 5, with bent leg of torsion spring (Figure 30, Item 2) hooked under lip of receiver block (Figure 30, Item 3).
3. Install grooved headless pin (Figure 30, Item 4) into receiver assembly (Figure 30, Item 5), from right to left, forcing out aligning pin (Figure 30, Item 6).

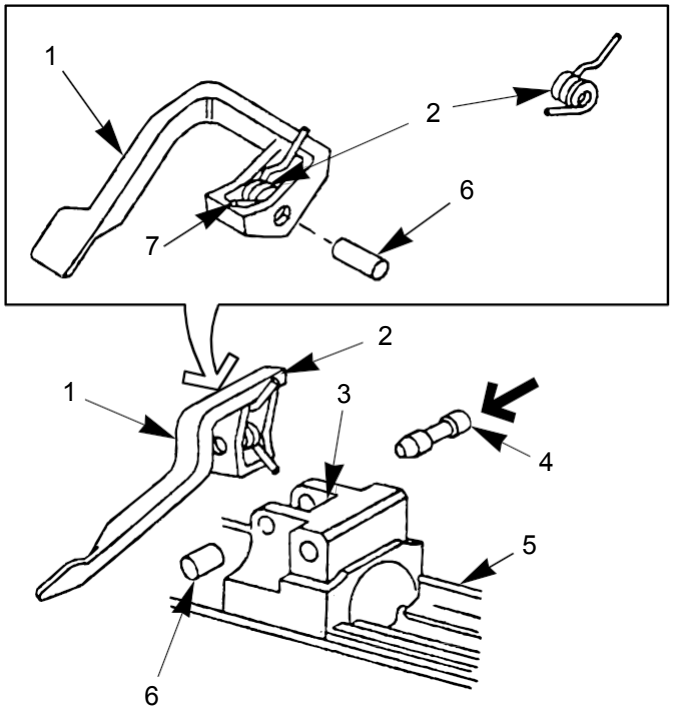


Figure 30. Assembly of Barrel Locking Lever.

END OF TASK

ASSEMBLY OF RECEIVER ASSEMBLY

1. Install tripod retaining pin (Figure 31a, Item 2) into receiver (Figure 31a, Item 3) and drive in two new spring pins (Figure 31a, Item 1) to protrude equally both sides of tripod retaining pin (Figure 31a, Item 2).
2. Install retaining clip (Figure 31b, Item 1) on the left side flange of receiver (Figure 31b, Item 4) with square end to the front of the receiver.
3. Install headed, grooved pin (Figure 31b, Item 2) from left side of receiver (Figure 31b, Item 4).
4. Insert new retaining clip (Figure 31b, Item 6) between outside of flange of receiver (Figure 31b, Item 4) and inside of retaining clip (Figure 31b, Item 1) and install into first notch of headed, grooved pin (Figure 31b , Item 2).
5. Install headed grooved pin (Figure 31b, Item 3) from left-side of receiver (Figure 31b, Item 4).
6. Insert new retaining clip (Figure 31b, Item 5) between receiver side wall and rail extension on left side of the receiver.

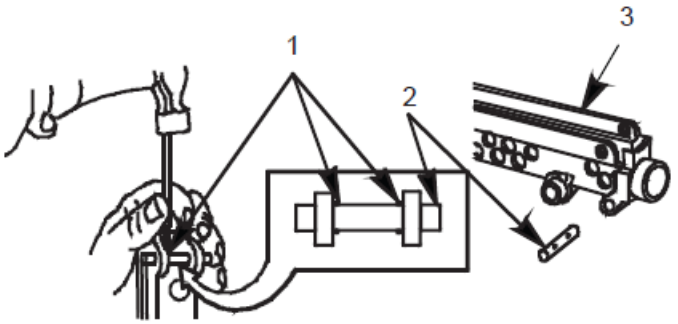


Figure 31a.Tripod Retaining Pin, Spring Pins

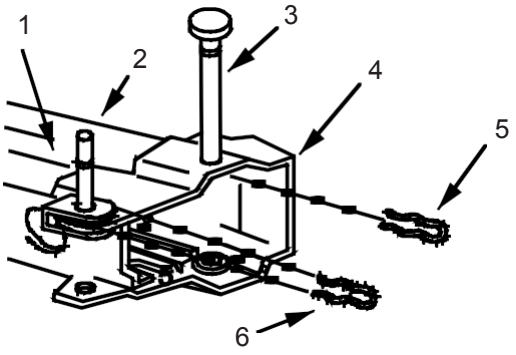


Figure 31b. Retaining Clip, Receiver.

ASSEMBLY OF RECEIVER ASSEMBLY -- Continued

7. Position ejector (Figure 32, Item 1) with cartridge ejector end to the right and insert grooved pin (Figure 32, Item 2) from the rear side of the ejector.

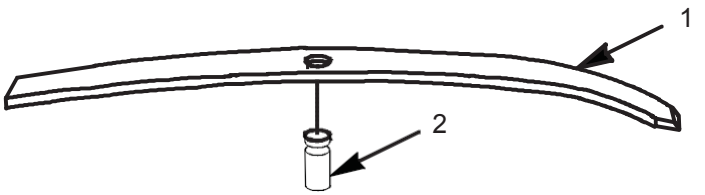


Figure 32. Ejector, Grooved Pin.

8. Position new retaining clip (Figure 33, Item 1) with hooked leg up and to the right. Snap retaining clip (Figure 33, Item 1) into notch of ejector pin (Figure 33, Item 2).

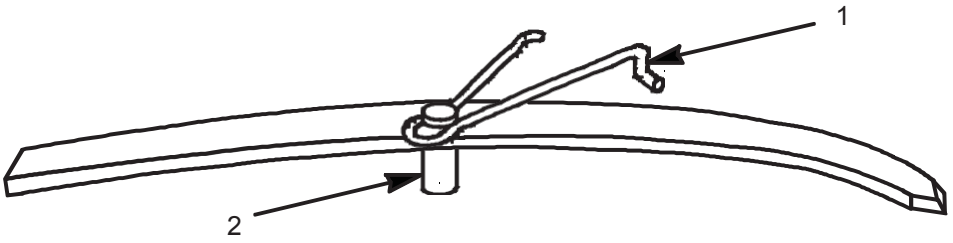


Figure 33. New Retaining Clip, Ejector Pin.

9. Position cartridge ejector end of ejector (Figure 34, Item 2) to the front of the receiver and position hooked end of retaining clip (Figure 34, Item 1) behind ejector (Figure 34, Item 2).

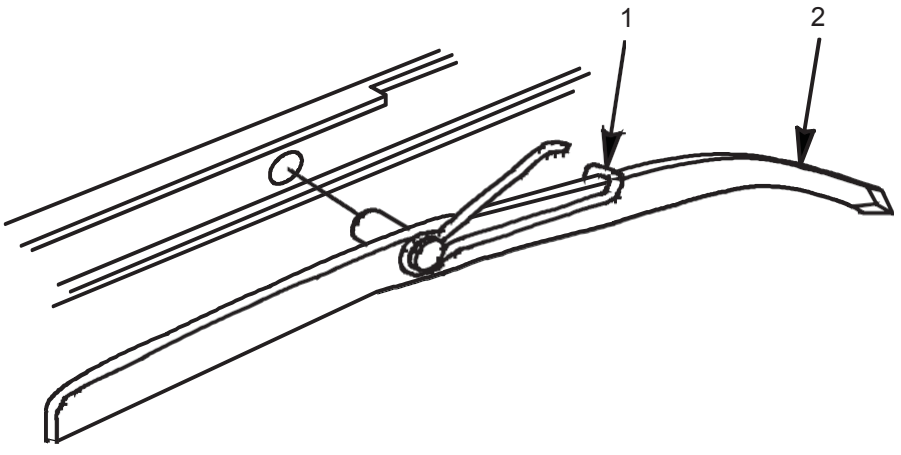


Figure 34. Ejector, Retaining Clip.

ASSEMBLY OF RECEIVER ASSEMBLY -- Continued

10. Install ejector pin (Figure 35, Item 3) into hole in left side of receiver and compress short leg of retaining clip (Figure 35, Item 1) and install in receiver recess of receiver (Figure 35, Item 2).

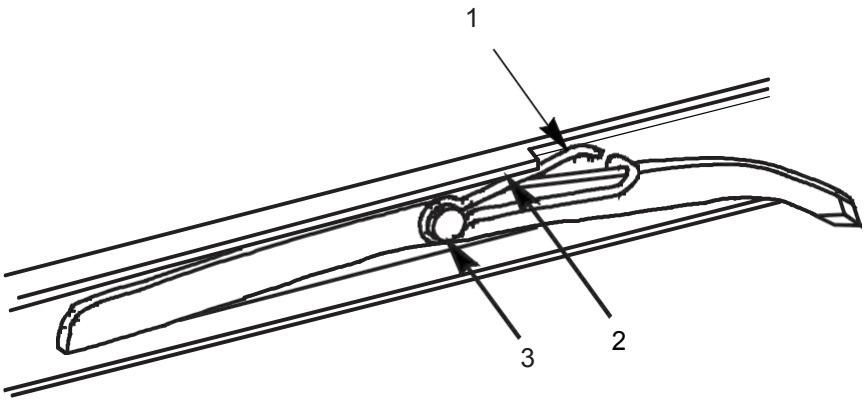


Figure 35. Ejector Pin, Retaining Clip.

END OF TASK

END OF WORK PACKAGE

FIELD MAINTENANCE

SLING AND SWIVEL ASSEMBLY MAINTENANCE

INITIAL SETUP:

Tools and Special Tools

Small Arms Repairman Tool Kit (SARTK) (WP 0050, Item 10)
USMC TAM No. E7900 (WP 0050, Item 11)

Materials/Parts

Sealing Compound 246 (WP0049, Item 12)

References:

TM 9-1005-201-10
TM 08671A-10-1A
TO 11W3-5-52

Equipment Condition

Sling and Swivel Assembly removed. (TM 9-1005-201-10)

DISASSEMBLY OF SLING

1. Remove ends of sling small arms (Figure 1, Item 1) from front mount swivel and Light weight Collapsible Buttstock (Figure 1, Item 2).

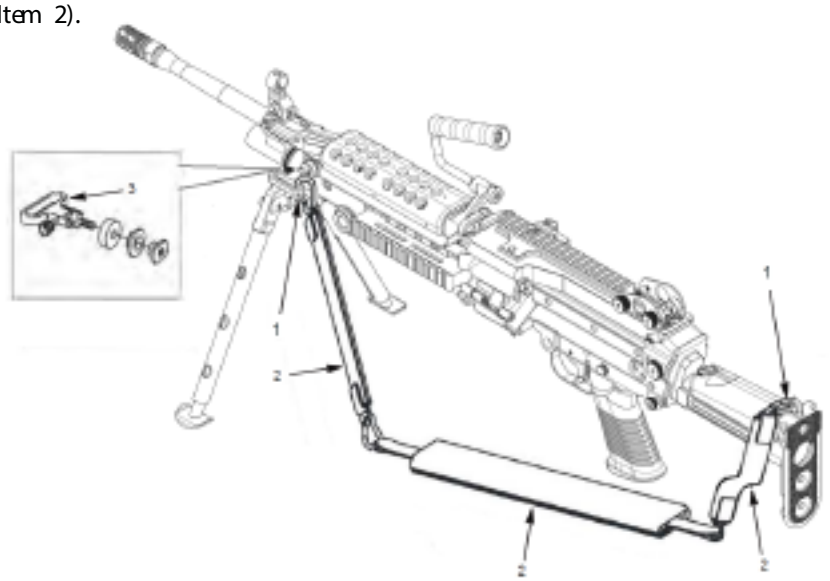


Figure 1.Sling attached to M249

END OF TASK

INSPECTION/REPAIR OF SLING

1. Visually inspect sling small arms (Figure 1, Item 2) for torn webbing or stitches and three carabiners for bends or breaks. Replace sling, small arms (Figure 1, Item 2) if unserviceable.

2. Visually inspect swivel (Figure 1, Item 3) for bends or breaks and for proper securing. Replace swivel (Figure 1, Item 3) if unserviceable.

END OF TASK

ASSEMBLY OF FRONT MOUNT

NOTE

If grommet (Figure 2, Item 3) is in the eyelet hole of the receiver,(Figure 2, Item 1) follow steps 1 through 4 below.

1. Place stud (Figure 2, Item 5) into thick spacer (Figure 2, Item 4).
2. Place and hold lug (Figure 2, Item 2) in the inside of receiver grommet(Figure 2, Item 3) lip end first.
3. Add one drop of blue loctite 246 (WP 0049, Item 12) to threads of stud (Figure 2, Item 5).
4. Screw stud (Figure 2, Item 5) with spacer (Figure 2, Item 4) into lug (Figure 2, Item 4) and snug down stud (Figure 2, Item 5).

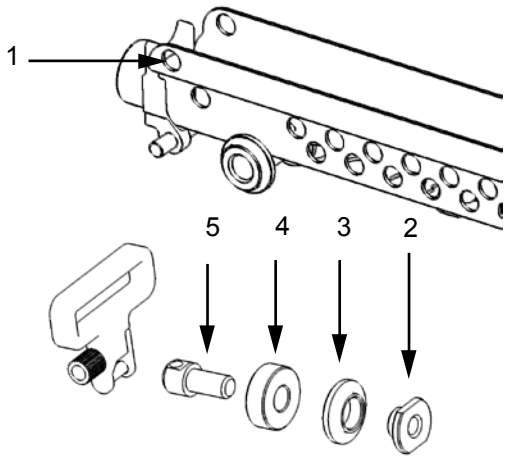


Figure 2. Receiver with Grommet Assembly.

NOTE

If the receiver is missing a grommet(Figure 2, Item 3), follow the steps 5 through 8 below.

5. Place stud (Figure 2, Item 5) into thick spacer (Figure 2, Item 4).
6. Place replacement grommet (Figure 2, Item 3), lip end first, into the inside of receiver (Figure 2, Item 1) where the missing grommet would normally be found.
7. Place and hold lug (Figure 2, Item 2), lip end first, in the inside of receiver and into spacer (Figure 2, Item 4).
8. Add one drop of blue loctite 246 (WP 0049, Item 12) to threads of stud (Figure 2, Item 5) and screw stud (Figure 2, Item 5) with spacer (Figure 2, Item 4) into lug (Figure 2, Item 2) and snug down stud (Figure 2, Item 5).

END OF TASK

ASSEMBLY OF REAR MOUNTED SLING

1. Place lug (Figure 3, Item 2) through hole in butt plate eyelet (Figure 3, Item 4).
2. Install stud lug (Figure 3, Item 1) on opposite side of butt plate eyelet (Figure 3, Item 4).
3. Apply one drop of blue loctite 246 to threads of cap screw (Figure 3, Item 3).
4. Attach lug (Figure 3, Item 2) to stud lug (Figure 3, Item 1) by screwing cap screw (Figure 3, Item 3) through lug (Figure 3, Item 2) and into stud lug (Figure 3, Item 1) and snug down 9/64 cap screw (Figure 3, Item 3).

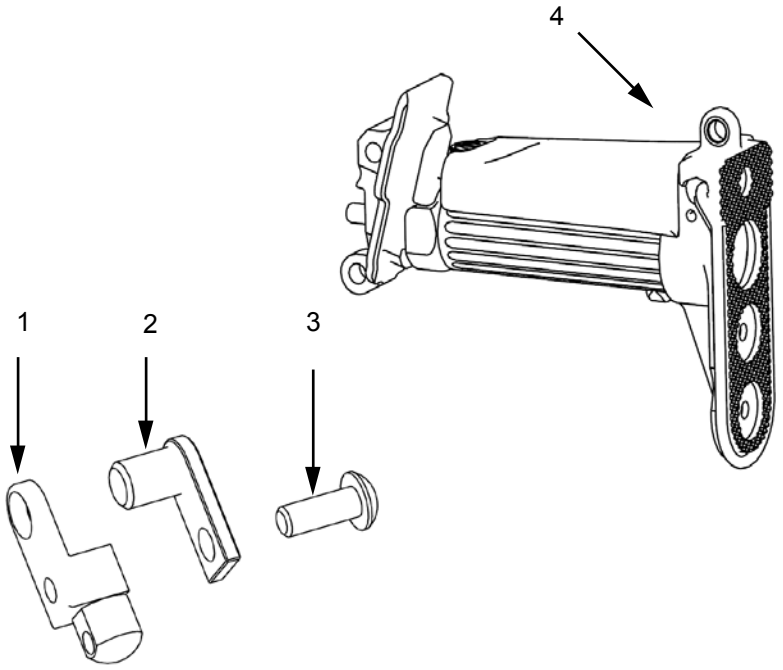


Figure 3. Rear Mounted Sling.

END OF TASK

ATTACHING QUICK RELEASE SWIVEL TO STUD LUG

1. Loosen thumb screw (Figure 3, Item 5) turn counter clockwise (CCW).
2. Push in on thumb screw (Figure 3, Item 5) and turn pivot plate (Figure 3, Item 2) exposing sling swivel post (Figure 3, Item 4).
3. Attach sling swivel post (Figure 3, Item 4) to stud (Figure 3, Item 3).
4. Push in on thumb screw (Figure 3, Item 5) and turn pivot plate (Figure 3, Item 2) up and onto sling swivel post (figure 3, Item 4).

NOTE

Thumb screw will spin on shaft and will not lock down.

5. Screw the thumb screw (Figure 3, Item 5) clockwise (CW) down to retain sling swivel (Figure 3, Item 1) in place.

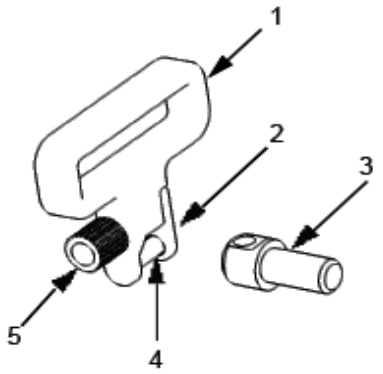


Figure 3. Quick Release Swivel Assembly.

END OF TASK

END OF WORK PACKAGE

FIELD MAINTENANCE

BLANK FIRING ATTACHMENT MAINTENANCE

INITIAL SETUP:

Tools and Special Tools

Small Arms Repairman Tool Kit (SARTK) (WP 0050, Item 10)
USMC TAM No. E7900 (WP 0050, Item 11)

Materials/Parts

Cleaner, Lubricant, and Preservative (CLP MIL-PFR-63460)(WP 0049, Item 3)

Materials/Parts (cont.)

Enamel (WP 0049, Item 6)
Tape, Pressure Sensitive, Masking (WP 0049, Item 16)
Solvent, General (MIL-PRF-680) (WP 0049, Item 17)

INSPECTION OF BLANK FIRING ATTACHMENT

1. Inspect blank firing attachment for cracks or distortion and replace if damaged.

WARNING

MIL-PRF- 680 is toxic. Use , Keep it in a well-ventilated area .It may be irritating to the eyes and skin. Use protective gloves and goggles. First aid for skin contact: wash thoroughly with soap and water. First aid for eye contact: flush with water for 15 minutes. Seek medical attention in event of injury.

2. Cleaning using General Solvent MIL-PRF- 680 (WP 0049, Item 17), and wipe dry prior to applying paint.
3. Mask off areas using tape (WP 0049, Item 16) (restrictor tube and ring) that do not require painting.
4. Touch-up or repaint body of blank firing attachment with enamel (WP 0049, Item 6), as required.

END OF TASK

END OF WORK PACKAGE

CHAPTER 5

PARTS INFORMATION

FIELD MAINTENANCE

REPAIR PARTS AND SPECIAL TOOLS LIST INTRODUCTION

REPAIR PARTS AND SPECIAL TOOLS LIST INTRODUCTION

SCOPE

The Repair Parts and Special Tools List (RPSTL) work package lists and authorizes spares and repair parts; special tools; special test, measurement, and diagnostic equipment (TMDE); and other special support equipment required for performance of maintenance of the . It authorizes the requisitioning, issue, and disposition of spares, repair parts, and special tools as indicated by the, maintenance, and recoverability (SMR) codes.

GENERAL

In addition to the Introduction work package, this RPSTL is divided into the following work packages.

1. **Repair Parts List Work Packages.** Work packages containing lists of spares and repair parts authorized by this RPSTL for use in the performance of maintenance. These work packages also include parts which must be removed for replacement of the authorized parts. Parts lists are composed of functional groups in ascending alphanumeric sequence, with the parts in each group listed in ascending figure and item number sequence. Sending units, brackets, filters, and bolts are listed with the component they mount on. Bulk materials are listed by item name in FIG. BULK at the end of the work packages.
2. **Special Tools List Work Packages.** Work packages containing lists of special tools, special TMDE, and special support equipment authorized by this RPSTL (as indicated by Basis of Issue (BOI) information in the DESCRIPTION AND USABLE ON CODE (UOC) column). Tools that are components of common tool sets and/or Class VII are not listed.
3. **Cross-Reference Indexes Work Packages.** There are two cross-reference indexes work packages in this RPSTL: the National Stock Number (NSN) Index work package and the Part Number (P/N) Index work package. The National Stock Number Index work package refers you to the figure and item number. The Part Number Index work package refers you to the figure and item number.

EXPLANATION OF COLUMNS IN THE REPAIR PARTS LIST AND SPECIAL TOOLS LIST WORK PACKAGES

ITEM NO. (Column 1). Indicates the number used to identify items called out in the illustration.

SMR CODE (Column 2). The SMR code contains supply/requisitioning information, maintenance level authorization criteria, and disposition instruction, as shown in the following breakout. This entry may be subdivided into four subentries, one for each service.

Table 1. SMR Code Explanation

Source Code	Maintenance Code	Recoverability Code
XX	XX	X
1st two positions: How to get an item.	3rd position: Who can install, replace, or use the item. 4th position: Who can do complete repair on the item.	5th position: Who determines disposition action on unserviceable items.

Source Code. The source code tells you how to get an item needed for maintenance, repair, or overhaul of an end item/equipment. Explanations of source codes follow:

Table 2. SMR Code Explanation First Position.

Source Code	Application/Explanation
PA PB PC PD PE PF PG PH PR PZ	**NOTE** Items coded PC are subject to deterioration. Stock items; use the applicable NSN to requisition/request items with these source codes. They are authorized to the level indicated by the code entered in the third position of the SMR code.
KD KF KB	Items with these codes are not to be requested/requisitioned individually. They are part of a kit which is authorized to the maintenance level indicated in the third position of the SMR code. The complete kit must be requisitioned and applied.
MF-Made at field MH-Made at below depot/sustainment level ML-Made at SRA MD-Made at depot MG-Navy only	Items with these codes are not to be requisitioned/ requested individually. They must be made from bulk material which is identified by the part number in the DESCRIPTION AND USABLE ON CODE (UOC) column and listed in the bulk material group work package of the RPSTL. If the item is authorized to you by the third position code of the SMR code, but the source code indicates it is made at a higher level, order the item from the higher level of maintenance.
AF-Assembled by field AH-Assembled by below depot sustainment level AL-Assembled by SRA AD-Assembled by depot AG-Navy only	Items with these codes are not to be requested/requisitioned individually. The parts that make up the assembled item must be requisitioned or fabricated and assembled at the level of maintenance indicated by the source code. If the third position of the SMR code authorizes you to replace the item, but the source code indicates the item is assembled at a higher level, order the item from the higher level of maintenance.
XA	**NOTE** Cannibalization or controlled exchange, when authorized, may be used as a source of supply for items with the above source codes except for those items source coded "XA" or those aircraft support items restricted by requirements of AR 750-1. Do not requisition an "XA" coded item. Order the next higher assembly.
XB	If an item is not available from salvage, order it using the CAGEC and part number.

TABLE 2. SMR CODE EXPLANATION FIRST POSITION - Continued

XC	Installation drawings, diagrams, instruction sheets, field service drawings; identified by manufacturer's part number.
XD	Item is not stocked. Order an XD-coded item through local purchase or normal supply channels using the CAGEC and part number given, if no NSN is available.

Maintenance Code. Maintenance codes tell you the level(s) of maintenance authorized to use and repair support items. The maintenance codes are entered in the third and fourth positions of the SMR code as follows:

Third Position. The maintenance code entered in the third position tells you the lowest maintenance level authorized to remove, replace, and use an item. The maintenance code entered in the third position will indicate authorization to the following levels of maintenance:

Table 3. SMR Code Explanation Third Position.

Maintenance Code.	Application/Explanation
C-	Crew Maintenance can service, remove, replace, and use the item.
F-	Field Maintenance can remove, replace, and use the item.
H-	Below Depot Sustainment maintenance can remove, replace, and use the item.
L-	Specialized repair activity can remove, replace, and use the item.
G-	Afloat and ashore itermediate matenance can remove, replace, and use the item (**NAVY ONLY).**
K-	Contractor facility can remove, replace, and use the item.
Z-	Item is not authorized to be removed, replaced, or used at any maintenance level.
D-	Depot can remove, replace, and use the item.
O-	Organizational Maintenance can service, remove, replace, and use the item (**USMC ONLY**).

Fourth Position. The maintenance code entered in the fourth position tells you whether or not the item is to be repaired and identifies the lowest maintenance level with the capability to do complete repair (perform all authorized repair functions).

Table 4. SMR Code Explanation Fourth Position.

NOTE

Some limited repair may be done on the item at a lower level of maintenance, if authorized by the Maintenance Allocation Chart (MAC) and SMR codes.

Maintenance Code	Application/Explanation
F-	Field is the lowest level that can do complete repair of the item.
H-	Below Depot Sustainment is the lowest level that can do complete repair of the item.
L-	Specialized repair activity (enter specialized repair activity or TASMG designator) is the lowest level that can do complete repair of the item.
D-	Depot is the lowest level that can do complete repair of the item.

TABLE 4. SMR CODE EXPLANATION FOR THE 4TH POSITION - Continued

G-	Both afloat and shore intermediate levels are capable of complete repair of the item (Navy only).
K-	Complete repair is done at contractor facility.
Z-	Non-repairable. No repair is authorized.
B-	No repair is authorized. No parts of special tools are authorized for maintenance of "B" coded item. However, the item may be reconditioned by adjusting, lubricating, etc., at the user level.

Recoverability Code. Recoverability codes are assigned to items to indicate the disposition action on unserviceable items. The recoverability code is shown in the fifth position of the SMR code as follows:

Table 5. Recoverability Code

Recoverability Code	Application/Explanation
Z-	Non-repairable item. When unserviceable, condemn and dispose of the item at the level of maintenance shown in the third position of the SMR code.
F-	Reparable item. When uneconomically reparable, condemn and dispose of the item at the field level.
H-	Reparable item. When uneconomically reparable, condemn and dispose of the item at the below depot sustainment level.
D-	Reparable item. When beyond lower level repair capability, return the item to depot. Condemnation and disposal of the item are not authorized below depot level.
L-	Reparable item. Condemnation and disposal are not authorized below Specialized Repair Activity (SRA).
A-	Item requires special handling or condemnation procedures because of specific reasons (such as) precious metal content, high dollar value, critical material, or hazardous material). Refer to appropriate manuals/directives for specific instructions.
G-	Field level reparable item. Condemnation and disposal to be performed at either afloat or ashore intermediate levels (Navy only).
K-	Reparable item. Condemnation and disposal to be performed at contractor facility.

NSN (Column (3)). The NSN for the item is listed in this column.

CAGEC (Column (4)). The Commercial and Government Entity Code (CAGEC) is a five-digit code which is used to identify the manufacturer, distributor, or Government agency/activity that supplies the item.

NOTE

When you use an NSN to requisition an item, the item you receive may have a different part number than the number listed.

PART NUMBER (Column (5)). Indicates the primary number used by the manufacturer (individual, company, firm, corporation, or Government activity), which controls the design and characteristics of the item by means of its engineering drawings, specifications, standards, and inspection requirements to identify an item or range of items.

DESCRIPTION AND USABLE ON CODE (UOC) (Column (6)). This column includes the following information:

1. The federal item name, and when required, a minimum description to identify the item.

DESCRIPTION OF USABLE ON CODE (UOC) (Column (6) - Continued

2. Part numbers of bulk materials are referenced in this column in the line entry to be manufactured or fabricated.
3. Hardness Critical Item (HCI). A support item that provides the equipment with special protection from electromagnetic pulse (EMP) damage during a nuclear attack.
4. The statement END OF FIGURE appears just below the last item description in Column 6 for a given figure in both the repair parts list and special tools list work packages.

QTY (Column (7) The QTY (quantity per figure) column indicates the quantity of the item used in the breakout shown on the illustration/figure, which is prepared for a functional group, sub functional group, or an assembly. A "V" appearing in this column instead of a quantity indicates that the quantity is variable and quantity may change from application to application.

EXPLANATION OF CROSS-REFERENCE INDEXES WORK PACKAGES FORMAT AND COLUMNS

1. **National Stock Number (NSN) Index Work Package**. NSNs in this index are listed in National Item Identification Number (NIIN) sequences.
   a. STOCK NUMBER Column. This column lists the NSN in NIIN sequence. The NIIN consists of the last nine digits of the NSN. When using this column to locate an item, ignore the first four digits of the NSN. However, the complete NSN should be used when ordering items by stock number For example, if the NSN is 5385-01-574-1476, the NIIN is 01-574-1476.
   b. FIG. Column. This column lists the number of the figure where the item is identified/located. The figures are in numerical order in the repair parts list and special tools list work packages.
   c. ITEM column. The item number identifies the item associated with the figure listed in the adjacent FIG. column. This item is also identified by the NSN listed on the same list.
2. **Part Number (P/N) Index Work Package**. Part numbers in this index are listed in ascending alphanumeric sequence (vertical arrangement of letter and number combinations which places the first letter of digit of each group in order A through Z, followed by the numbers 0 through 9 and each following letter or digit in like order).
   a. PART NUMBER Column. Indicates the part number assigned to the item.
   b. FIG. column. This column lists the number of the figure where the item is identified/located in the repair parts list and special tools list (RPSTL) work packages.
   c. ITEM column. The item number is the number assigned to the item as it appears in the figure referenced in the adjacent figure number column.

SPECIAL INFORMATION

UOC. The UOC appears in the lower left corner of the Description Column heading. Usable on codes are shown as “UOC:...” in the Description Column (justified left) on the first line under the application item/nomenclature. Unencoded items are applicable to all models. Identification of the UOCs used in the RPSTL are:

Fabrication Instructions. Bulk materials required to manufacture items are listed in the bulk material functional group of this RPSTL. Part numbers for bulk material are also referenced in the Description Column of the line item entry for the item to be manufactured/fabricated. Detailed fabrication instructions for items source coded to be manufactured or fabricated are found in TM 9-1005-201-23&P.

Index Numbers. Items which have the work BULK in the figure column will have an index number shown in the item number column. This index number is a cross-reference between the NSN / Part Number (P/N) Index work packages and the bulk material list in the repair parts list work package.

SPECIAL INFORMATION - Continued

Associated Publications. The publication(s) listed below pertains to the (enter item name):

Publication	Short Title
TM 9–1005–201–10	Operator's Manual: M249

Illustrations List. The illustrations in this RPSTL contain field authorized items. Illustrations published in TM 9-1--5-201-23&P that contain field authorized items also appear in this RPSTL. The tabular list in the repair parts list work package contains only those parts coded "F" in the third position of the SMR code, therefore, there may be a break in the item number sequence.

HOW TO LOCATE REPAIR PARTS

1. **When NSNs or Part Numbers Are Not Known**.
   a. First. Using the table of contents, determine the assembly group to which the item belongs. This is necessary since figures are prepared for assembly groups and subassembly groups, and lists are
   b. Second. Find the figure covering the functional group or the sub functional group to which the item belongs.
   c. Third. Identify the item on the figure and note the number (s).
2. **When NSN is Known**.
   a. First. If you have the NSN, look in the STOCK NUMBER column of the NSN index work package. The NSN is arranged in NIIN sequence. Note the figure and item number next to the NSN.
   b. Second. Turn to the figure and locate the item number. Verify that the item is the one you are looking for.
3. **When Part Number Is Known**.
   a. First. If you have the part number and not the NSN, look in the PART NUMBER column of the part number index work package. Identify the figure and item number.
   b. Second. Look up the item on the figure in the applicable repair parts list work package.

END OF WORK PACKAGE

FIELD MAINTENANCE
MACHINE GUN, 5.56MM, M249 W / EQUIPMENT
REPAIR PARTS LIST
GROUP 00

Figure 1. Machine Gun, 5.56MM, M249, W / Equipment.

(1) ITEM NO. ARMY	(2) SMR CODE USMC	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODE (UOC)	(7) QTY
					GROUP 00. MG, 5.56MM, M249, W/EQUIP 9348199	
					FIGURE 1. MG, 5.56MM, M249, W/EQUIP	
1. PAFDA		1005-01-127-7510	19200	9348199	MACHINE GUN, 5.56MM,	1
2. XAFDA			19200	9348200	MACHINE GUN, 5.56mm (SAW)(ICOEI FOR M249	1
3. AOOOO			19200	13011767	SLING ASSEMBLY (ICOEI) FOR M249 GROUP 14	1

END OF FIGURE

END OF WORK PACKAGE

FIELD MAINTENANCE
MACHINE GUN, 5.56MM, M249 W/ EQUIPMENT
REPAIR PARTS LIST
GROUP 01

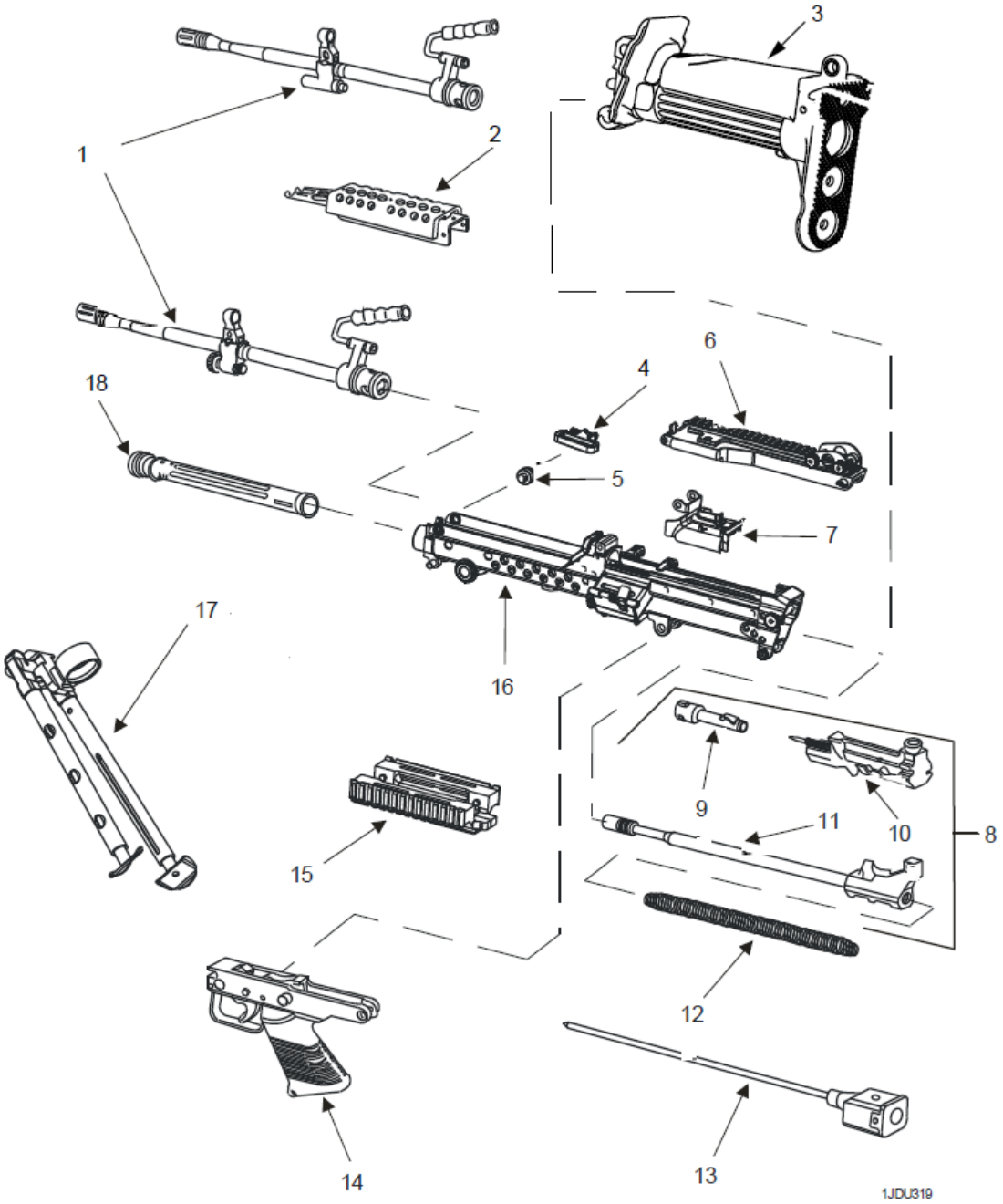


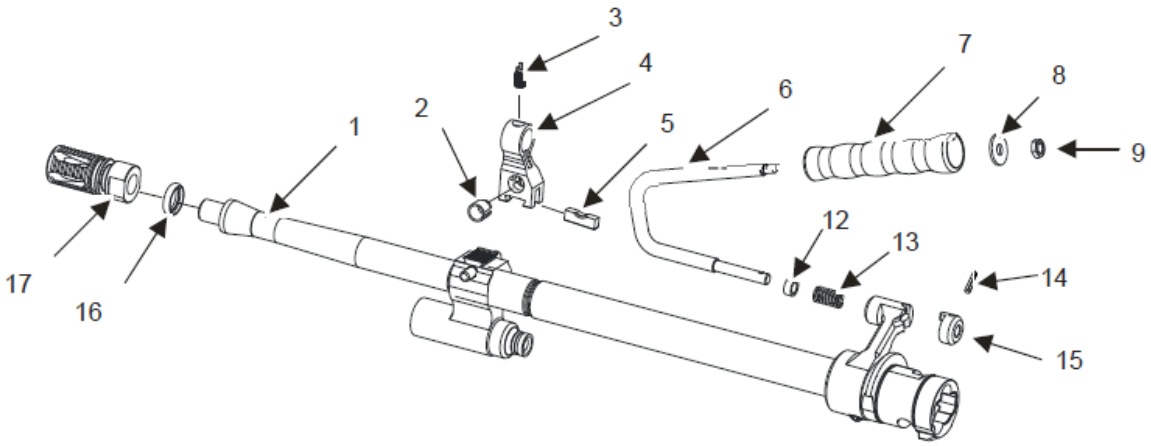
Figure 1. M249 Machine Gun with Equipment.

(1) ITEM NO.	(2) SMR CODE ARMY	(2) SMR CODE USMC	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODE (UOC)	(7) QTY
						GROUP 01 MACHINE GUN, 5.56MM M249	
						FIGURE 2. MACHINE GUN, 5.56MM M249, 9348200	
1	PAFFF		1005-01-470-5046	192 00	120 11 986	BARREL ASSEMBLY, MO NO (GROUP 0 2)	1
1	PRFFF		100 5-01-387- 85 16	192 00	125 56 957	BARREL ASSEMBLY (REPLACED BY ABOVE BARREL ASSEMBLY BY ATTRITION) (GROUP 02)	1
2	PAFZZ	PAOZ	1005-01-249-0184	192 00	12540405	HEAT SHIELD ASSEMBLY	1
3	PACFF		1005-01-576-8901	19200	13026046	LIGHTWEIGHT COLLAPSI BLE BUTTSTOCK (GROUP 03)	1
4	PAFZZ	P AOZ	1005-01-529-9309	192 00	129 56277	SW IVEL, QU ICK RELEASE	1
5	PAFZZ	PAOZ	1005-01-529-8406	192 00	130 06 531	FRONT SLING MO UNT ASSEMBLY/KIT	1
6	AFFFF			192 00	125 56 985	COVER, FEED MECH AN ISM (GROUP 12)	1
7	PAFFF	PAOF	1005-01-547-2616	192 00	130 13 736	FEE D TRAY ASSEMBLY	1
8	AFFFF			192 00	934 83 90	BOLT AND PISTON ASSEMBLY	1
9	AFFFF			192 00	934 84 12	BOLT ASSEMBLY (GROUP 05)	1
10	AFFFF			192 00	934 83 91	SLIDE ASSEMBLY (GROUP 06)	1
11	PAFFF	PAOF	1005-01-134-6737	192 00	934 84 05	PISTON, GUN GAS CYLIN DER	1
12	PAFZZ	PAOZ	5360-01-128-5632	192 00	934 84 52	SPRIN G, HELICAL, COMPRESSION	1
13	PAFFF	PAOFF	100 5-01-254- 98 01	192 00	125 40 416	ROD, RETURN AND T RANSFER ASSEMBLY (G ROUP 04)	1
14	AFFFF			192 00	934 83 50	TRIGGER MECHANISM ASSEMBLY (GROUP	1
15	AFFFF			192 00	129 93 771	07) ACCESSORY	1
16	XAFDA			192 00	934 82 01	RECIVER ASSEMBLY (G ROUP 10)	1
17	PAFFF	PAOFF	100 5-01- 521 -7962	192 00	130 22 945	BIPOD, M ACHINE GUN (GROUP 08)	1
18	PAFZZ	PAOZ	10-05-0 1-128-5492	192 00	934 83 45	BIPOD BY ATTRITION) GAS CYLINDER ASSEMBLY	1

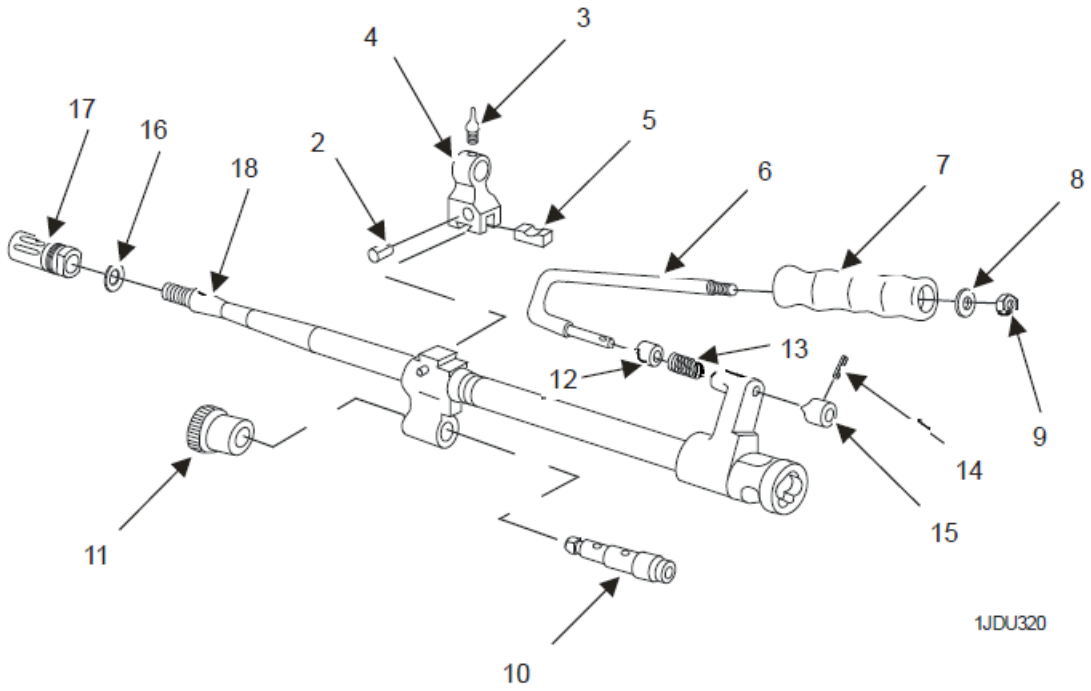
END OF FIGURE

END OF WORK PACKAGE

FIELD MAINTENANCE
MACHINE GUN, 5.56, M249 W / EQUIPMENT
REPAIR PARTS LIST
GROUP 02



MONO-BLOCK STYLE BARREL ASSEMBLY, 12011986



PREVIOUS VERSION BARREL ASSEMBLY, 12556957

Figure 3. Barrel Assemblies 12011986 and 12556957

(1) ITEM NO.	(2) SMR CODE ARMY	(2) SMR CODE USMC	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODE (UOC)	(7) QTY
						GROUP 02 NEW BARREL ASSEMBLY FIGURE 3. BARREL ASSEMBLIES, 12011986 & 12556957	
1	XAFZZ			19200	12011985	BARREL SUBASSEMBLY (USED ON BARREL ASSEMBLY 12011986)	1
2	PAFZZ	PAOZZ	5315-01-211-8392	19200	9350048	PIN, SPRING	1
3	PAFZZ	PAOZZ	1005-01-128-5465	19200	9348442	POST, FRONT SIGHT	1
4	PAFZZ	PAOZZ	1055-01-128-5466	19200	9348441	BASE, FRONT SIGHT	1
5	PAFZZ	PAOZZ	1005-01-211-8368	19200	9350047	KEY, BASE	1
6	PAFZZ	PAOZZ	5340-01-301-8218	19200	12557008	HANDLE, BOW	1
7	PAFZZ	PAOZZ	1005-01-135-4765	19200	9348438	GRIP, CARRYING HANDLE	1
8	PAFZZ	PAOZZ	5310-01-128-5676	19200	9348439	WASHER, SPRING TENSION	1
9	PAFZZ	PAOZZ	5310-01-128-5651	19200	9348440	NUT, SELF-LOCKING HEXAGON	1
10	PAFZZ	PAOZZ	1005-01-128-5464	19200	9348437	PLUG, GAS REGULATOR (USED ON BARREL ASSEMBLY 1255697)	1
11	PAFZZ	PAOZZ	1005-01-036-7160	19200	11825992	COLLAR, GAS REGULATOR (USED ON BARREL ASSEMBLY 12556957)	1
12	PAFZZ	PAOZZ	3120-01-299-4159	19200	12557009	BUSHING, SLEEVE	1
13	PAFZZ	PAOZZ	5360-00-078-0122	96906	MS24585C 279	SPRING, HELICAL, COMP	1
14	PAFZZ	PAOZZ	5315-01-299-4164	19200	12557012	PIN, SPRING	1
15	PAFZZ	PAOZZ	1005-01-299-4657	19200	12557020	RING, CARRYING HANDLE	1
16	PAFZZ	PAOZZ	5310-01-284-8541	19200	12557006	WASHER, RECESSED COMPENSATOR	1
17	PAFZZ	PAOZZ	1005-01-566-1924	19200	13020739	COMPENSATOR	1
18	XAFZZ			19200	12557001	BARREL SUBASSMBLY (USED ON BARREL ASSEMBLY 12556957)	1

END OF FIGURE

END OF WORK PACKAGE

FIELD MAINTENANCE
MACHINE GUN, 5.56MM, M249 W / EQUIPMENT
REPAIR PARTS LIST
GROUP 03

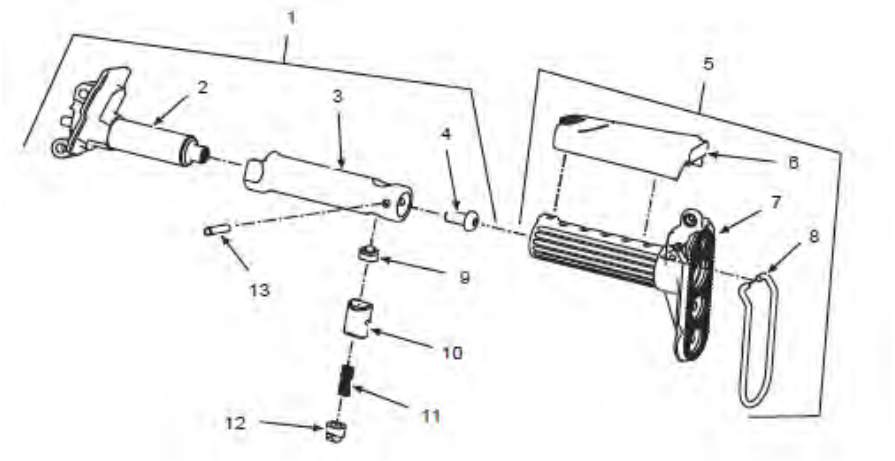


Figure 4. Buttstock Assembly, Collapsible, Lightweight, 13026046.

(1) ITEM NO.	(2) SMR CODE		(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODE (UOC)	(7) QTY
	ARMY	USMC				**GROUP 03 BUTTSTOCK ASSY**	
						FIGURE 4. BUTTSTOCK ASSEMBLY, COLLAPSIBLE, LIGHTWEIGHT, PN 13026046	
1	AFFFF			19200	13026047	BACKPLATE ASSEMBLY	1
2	PAFZZ	PAOZZ	1005-01-306-2700	19200	12556951	BUFFER AND BACK PLATE ASSEMBLY	1
3	PAFZZ	PAOZZ	1005-01-619-4736	19200	13026048	STOCK, INNER	1
4	PAFZZ	PAOZZ		05047	B1834A10 020N ASME B18.3.4M	SCREW, CAP	1
5	PAFFF	PAOZZ	1005-01-576-2492	19200	13026033	STOCK,GUN	1
6	PAFZZ	PAOZZ	1005-01-577-3035	19200	13026039	CHEEKREST ASSEBLY	1
6	PAFZZ	PAOZZ	1005-01-591-5779	19200	13026056	CHEEKREST ASSEMBLY, EXTENDED	1
7	XAFZZ	XAOZZ		19200	NPN	BUTTPLATE AND STOCK ASSEMBLY	1
8	PAFZZ	PAOZZ	1005-01-577-2088	19200	13026038	REST, WIRE	1
9	PAFZZ	PAOZZ	5340-01-577-3036	19200	13026043	DETENT, RETAINING	1
10	PAFZZ	PAOZZ	5365-01-576-4662	19200	13026045	SLEEVE	1
11	PAFZZ	PAOZZ	5360-01-299-7826	96906	MS24585 C254	SPRING, HELICAL, COMPRESSION	1
12	PAFZZ	PAOZZ	5340-01-577-3037	19200	13026042	DETENT, ADJUSTMENT	1
13	PAFZZ	PAOZZ	5315-01-366-2977	81349	M21143/1-71	PIN, STRAIGHT	1

END OF FIGURE

END OF WORK PACKAGE

FIELD MAINTENANCE
MACHINE GUN, 5.56MM, M249 W / EQUIPMENT
REPAIR PARTS LIST
GROUP 04

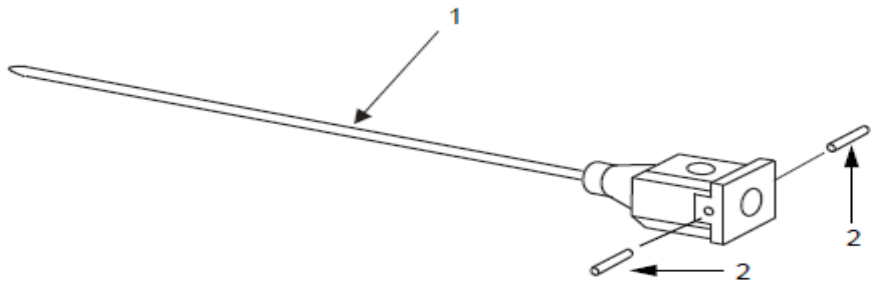


Figure 5. Return Rod and Transfer Mechanism Assembly,

(1) ITEM NO.	(2) SMR CODE ARMY	(2) SMR CODE USMC	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODE (UOC)	(7) QTY
						GROUP 04 RETURN ROD AND TRANSFER MECHANISM ASSEMBLY	
						FIGURE 5. RETURN ROD AND TRANSFER MECHANISM ASSEMBLY, 12540416	
1	XAFZZ	XAOZZ		19200	12540415	RETURN ROD AND TRANSFER ASSEMBLY	1
2	PAFZZ	PAOZZ	5315-01-362-5071	19200	12556963	PIN, SPRING	2

END OF FIGURE

END OF WORK PACKAGE

**FIELD MAINTENANCE MACHINE GUN,
5.56MM, M249 W/EQUIP REPAIR PARTS
LIST
GROUP 05**

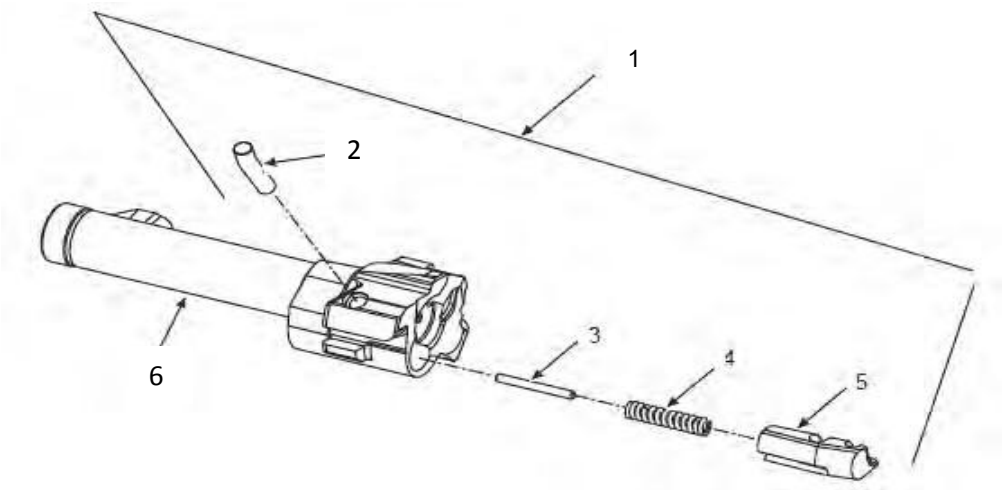


Figure 6. Bolt Assembly, 9348412.

(1) ITEM NO.	(2) SMR CODE ARMY	USMC	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODE (UOC)	(7) QTY
						GROUP 05 BOLT ASSEMBLY	
						FIGURE 6. BOLT ASSEMBLY, 9348412	
1	PAFZZ	PAOZZ	1005-01-383-0168	19200	12557025	PARTS KIT, GUN EXTRACTOR	1
2	KFFZZ	KFOZZ		19200	9350086	PIN, EXTRACTOR	1
3	KFFZZ	KFOZZ		19200	9348416	PIN, STRAIGHT, HEADLESS	1
4	KFFZZ	KFOZZ		19200	9348415	SPRING, HELICAL, COMPRESSION	1
5	KFFZZ	KFOZZ		19200	12540400	EXTRACTOR, CARTRIDGE	1
6	PAFZZ		1005-01-392-6194	19200	12540412	BOLT,BREECH	1

END OF FIGURE

END OF WORK PACKAGE

FIELD MAINTENANCE MACHINE GUN, 5.56MM, M249 W/EQUIP REPAIR PARTS LIST
GROUP 06

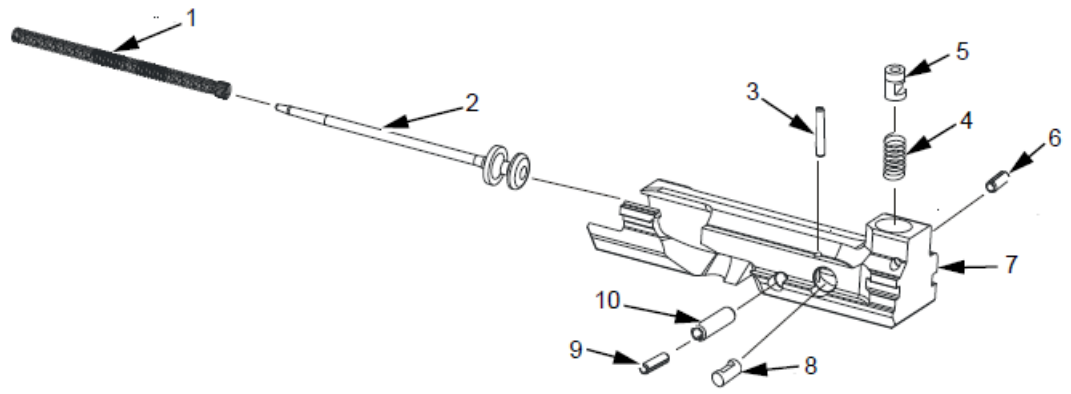


Figure 7. Slide Assembly, 9348391.

(1) ITEM NO.	(2) SMR CODE ARMY	(2) SMR CODE USMC	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODE (UOC)	(7) QTY
						GROUP 06 SLIDE ASSEMBLY	
						FIGURE 7 SLIDE ASSEMBLY, 9348391	
1	PAFZZ	PAOZZ	5360-01-236-0285	19200	9350090	SPRING, HELICAL, COMPRESSION	1
2	PAFZZ		1005-01-128-5705	19200	9348395	PIN, FIRING	1
3	PAFZZ		5315-01-128-5626	19200	9348394	PIN, STRAIGHT, HEADLESS	1
4	PAFZZ		5360-01-133-8874	19200	11826046	SPRING, HELICAL, COMPRESSION	1
5	PAFZZ		3120-01-127-8980	19200	11826042	ROLLER, LINEAR-ROTAR	1
6	PAFZZ		5315-01-128-5625	19200	9348404	PIN, STRAIGHT, HEADLESS	1
7	PAFZZ		1005-01-128-5468	19200	9348392	SLIDE	1
8	PAFZZ		1005-01-128-5470	19200	9348393	PIVOT, SLIDE	1
9	PAFZZ		5315-01-128-5615	19200	9348398	PIN, RETAINING	1
10	PAFZZ		5315-01-128-5616	19200	9348397	PIN, RETAINING	1

END OF FIGURE

END OF WORK PACKAGE

FIELD MAINTENANCE
MACHINE GUN, 5.56MM, M249 W / EQUIPMENT
REPAIR PARTS LIST
GROUP 07

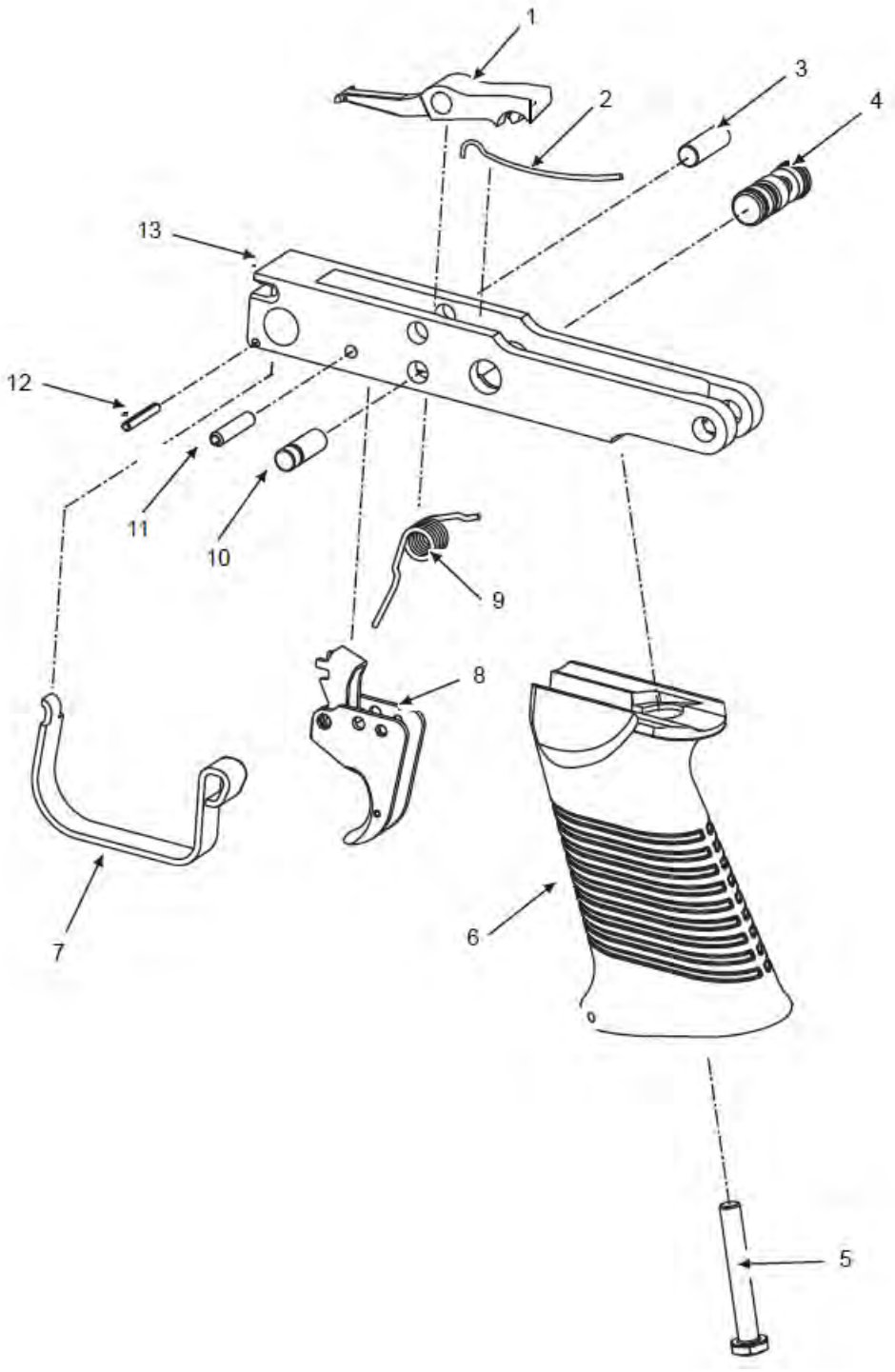


Figure 8. Trigger Mechanism Assembly, 9348350.

(1) ITEM NO.	(2) SMR CODE ARMY	(2) SMR CODE USMC	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODE (UOC)	(7) QTY
						GROUP 07 TRIGGER MECHANISM ASSEMBLY	
						FIGURE 8. TRIGGER MECHANISM ASSEMBLY, 9348350	
1	PAFZZ		1005-01-128-5710	19200	9348368	SEAR	1
2	PAFZZ		5360-01-128-5490	19200	9348365	SPRING, RETAINING	1
3	PAFZZ		5315-01-033-3890	19200	11826255	PIN, STRAIGHT, HEADLESS	1
4	PAFZZ		1005-01-128-5714	19200	9348364	SAFETY, SMALL ARMS	1
5	PAFZZ	PAOZZ	5306-01-128-5597	19200	9348372	BOLT, MACHINE	1
6	PAFZZ	PAOZZ	1005-01-306-9442	19200	12556995	GRIP, PISTOL	1
7	PAFZZ	PAOZZ	1005-01-128-5712	19200	9348370	GUARD, TRIGGER	1
8	PAFZZ		1005-01-128-5491	19200	9348354	TRIGGER, ASSEMBLY	1
9	PAFZZ		5360-01-482-1426	19200	12540414	SPRING, HELICAL, COMPRESSION	1
10	PAFZZ		5315-01-128-5610	19200	9348367	PIN, GROOVED, HEADLESS	1
11	PAFZZ		5315-01-128-5621	19200	9348363	PIN, SPRING	1
12	PAFZZ	PAOZZ	5315-01-135-4801	19200	9348353	PIN, SPRING	1
13	PAFZZ		1005-01-128-5489	19200	9348352	FRAME, TRIGGER	1

END OF FIGURE

END OF WORK PACKAGE

FIELD MAINTENANCE
MACHINE GUN, 5.56MM, M249 W / EQUIPMENT
REPAIR PARTS LIST
GROUP 08

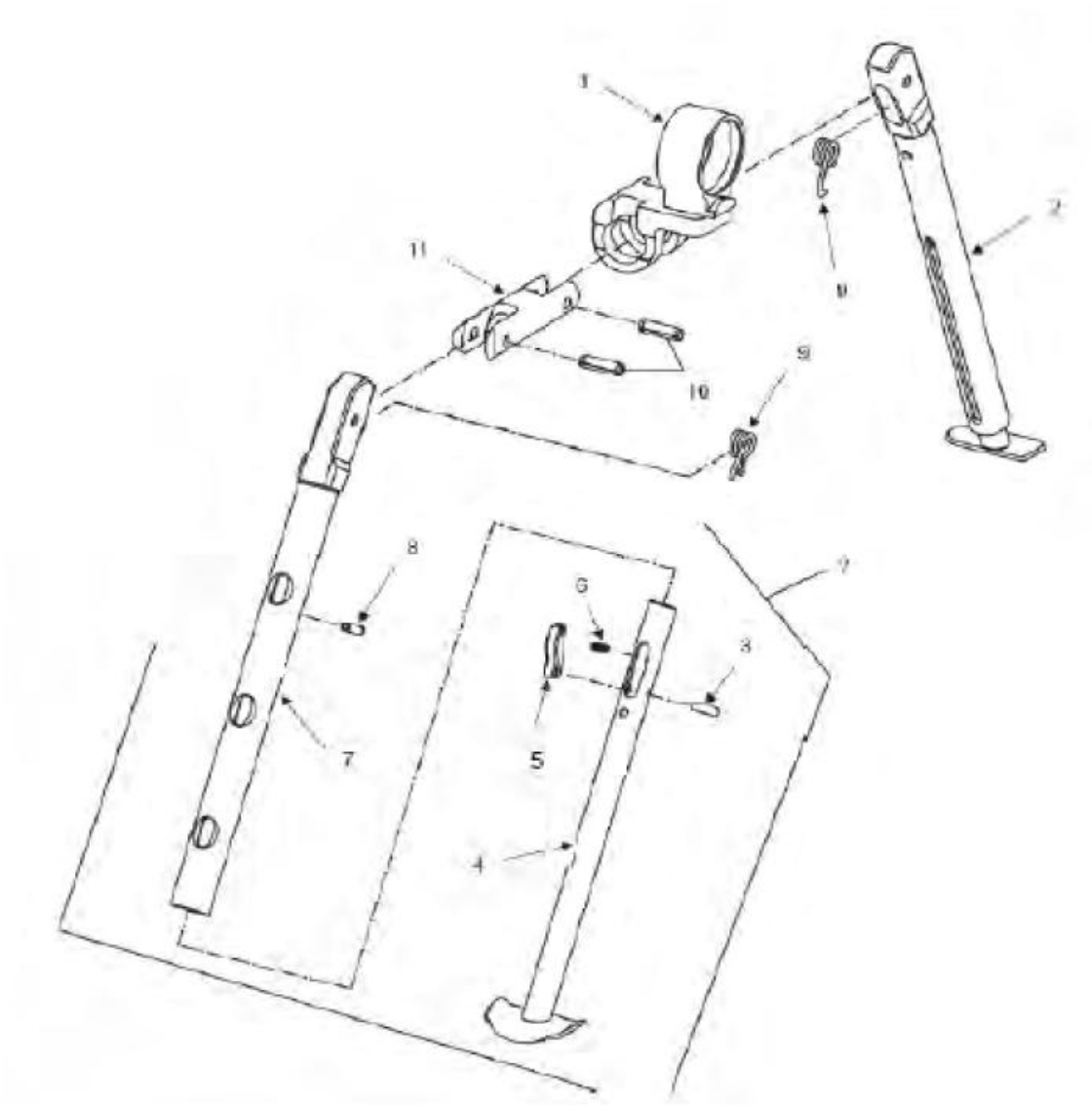


FIGURE 9. Bipod Assembly, Machine Gun 13022945

(1) ITEM NO.	(2) SMR CODE ARMY	(2) SMR CODE USMC	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODE (UOC)	(7) QTY
						GROUP 8. BIPOD, ASSEMBLY MACHINE GUN	
						FIGURE 9. BIPOD, ASSEMBLY MACHINE GUN, 13022945	
1	XAFZZ	XAOZZ		19200	13019970	YOKE, BIPOD	1
2	PAFZZ	PAOZZ	1005-01-525-7971	19200	13002196	LEG ASSEMBLY	2
3	PAFZZ	PAOZZ	5315-01-526-4779	19200	13002206	PIN, STRAIGHT, HEADLESS	2
4	PAFZZ	PAOZZ	1005-01-525-7970	19200	13002200	INNER LEG ASSEMBLY	2
5	PAFZZ	PAOZZ	1005-01-525-9320	19200	13002205	LEG BIPOD LATCH	2
6	PAFZZ	PAOZZ	5360-01-525-7968	19200	13002207	COMPRESSION HELICAL SPRING	2
7	PAFZZ	PAOZZ	1005-01-525-7972	19200	13002197	OUTER LEG ASSEMBLY	2
8	PAFZZ	PAOZZ	5315-00-846-1791	80205	MS16562-128	TUBULAR SPRING PIN	2
9	PAFZZ	PAOZZ	5360-01-525-7018	19200	13002204	HELICAL SPRING	2
10	PAFZZ	PAOZZ	5315-01-525-7969	19200	13002203	TUBULAR SPRING PIN	2
11	PAFZZ	PAOZZ	1005-01-527-1696	19200	13002195	PIVOT ROD	1

END OF FIGURE

END OF WORK PACKAGE

FIELD MAINTENANCE
MACHINE GUN, 5.56MM, M249 W / EQUIPMENT
REPAIR PARTS LIST
GROUP 09

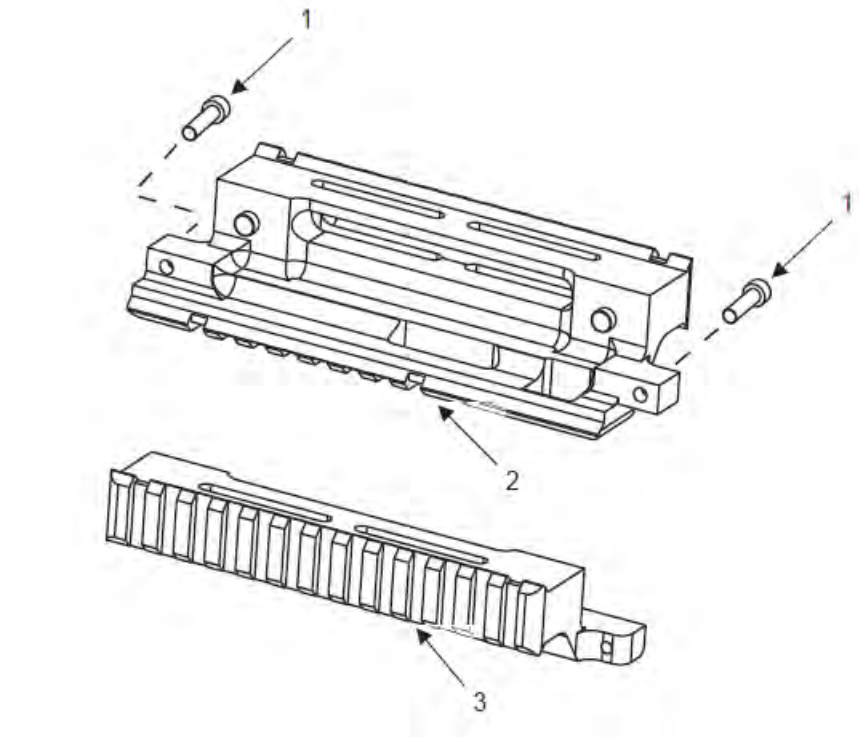


Figure 10. Accessory Rail Assembly, 12993771

(1) ITEM NO.	(2) SMR CODE ARMY	(2) SMR CODE USMC	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODE (UOC)	(7) QTY
						GROUP 9. ACCESSORY RAIL ASSEMBLY	
						FIGURE 10. ACCESSORY RAIL ASSEMBLY, 12993771	
1	PAFZZ	PAOZZ	5305-01-101-9426	80205	NAS 1352-08LB10P	SCREW, CAP, SOCKET HEAD	2
2	PAFZZ	PAOZZ	1005-01-559-1947	19200	12993772	ACCESSORY RAIL, RIGHT	1
3	PAFZZ	PAOZZ	1005-01-559-1948	19200	12993773	ACCESSORY RAIL, LEFT	1

END OF FIGURE

END OF WORK PACKAGE

FIELD MAINTENANCE
MACHINE GUN, 5.56MM, M249 W / EQUIPMENT
REPAIR PARTS LIST
GROUP 10

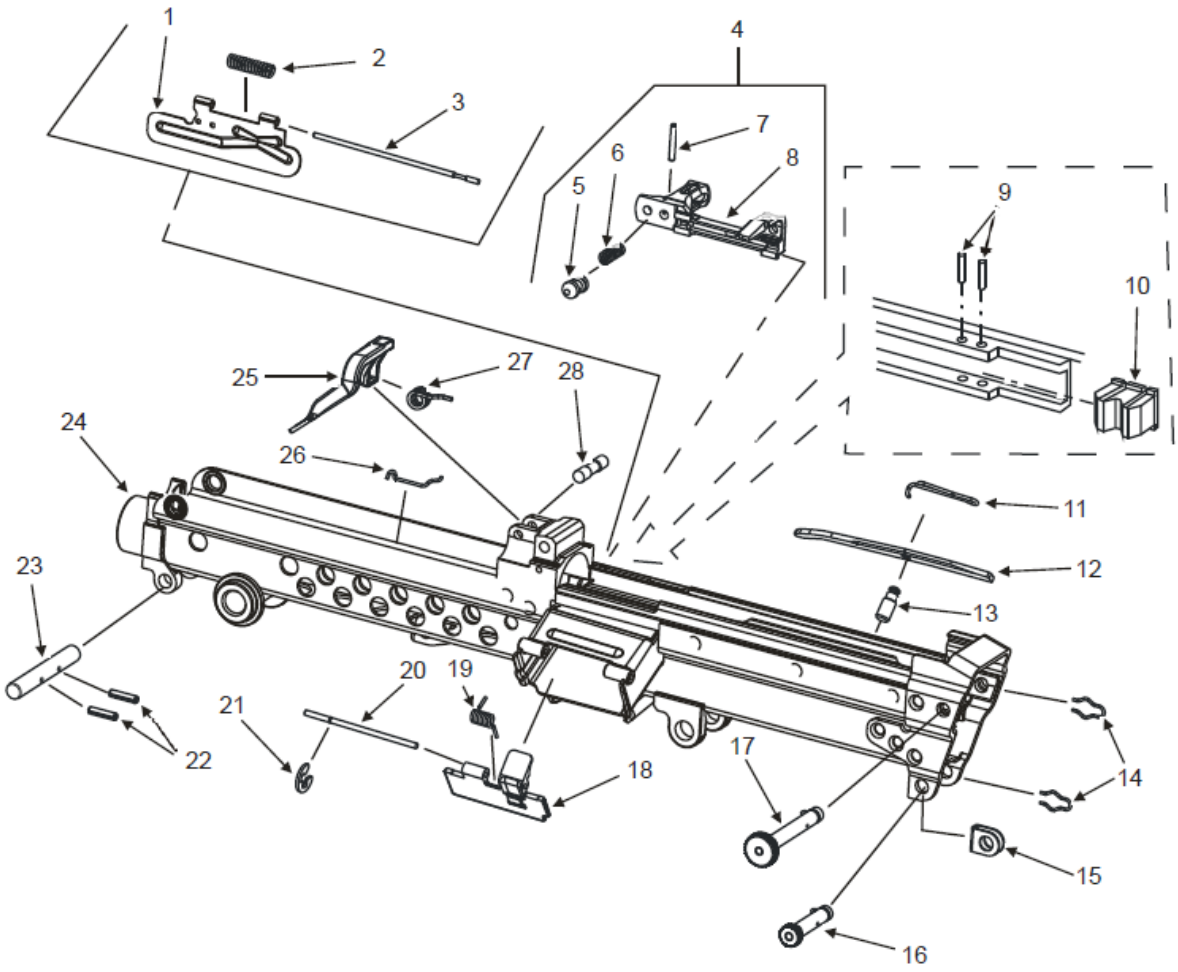


Figure 11. Receiver Assembly, 9348201.

(1) ITEM NO.	(2) SMR CODE ARMY	(2) SMR CODE USMC	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLEON CODE UOC	(7) QTY
						GROUP 10. RECEIVER ASSEMBLY	
						FIGURE 11. RECEIVER ASSEMBLY 93482 01	
1	PAFZZ		1005-01-236-0238	19200	9350067	COVER,EJECTION PORT OPENING	1
2	PAFZZ		5360-01-128-5641	19200	9348231	SPRING,HELICAL,TORSION	1
3	PAFZZ		5315-01-128-5613	19200	9348230	PIN,GROOVED,HEADLESS	1
4	PAFFF	PAOFF	1005-01-547-2610	19200	13013732	COCKING HANDLE ASSEMBLY	1
5	PAFZZ	PAOZZ	5340-01-128-5742	19200	9348239	PLUNGER, DETENT	1
6	PAFZZ	PAOZZ	5360-01-128-5642	19200	9348238	SPRING, HELICAL, COMPRESSION	1
7	PAFZZ	PAOZZ	5315-01-128-5622	19200	9348240	PIN, SPRING	1
8	XAFZZ	XAOZZ		19200	13013733	BODY,COCKING HANDLE	1
9	PAFZZ	PAOZZ	5315-00-690-0544	19200	MS3908693	PIN, SPRING,TUBULAR	2
10	PAFZZ	PAOZZ	5340-01-324-9189	19200	12556980	STOP, MECHANICAL	1
11	PAFZZ	PAOZZ	5340-01-128-5605	19200	9348225	CLIP, RETANNING	1
12	PAFZZ	PAOZZ	1005-01-128-5721	19200	9348223	EJECTOR CARTRIDGE	1
13	PAFZZ	PAOZZ	5315-01-128-5494	19200	9348224	PIN, EJECTOR	1
14	PAFZZ	PAOZZ	5340-01-128-5607	19200	9348245	CLIP, RETAINING	2
15	PAFZZ	PAOZZ	5340-01-128-5608	19200	9348219	CLIP, RETAINING	1
16	PAFZZ	PAOZZ	5315-01-561-4004	19200	13020690	PIN, GROOVED	1
17	PAFZZ	PAOZZ	5315-01-561-6066	19200	13020691	PIN, GROOVED, HEADED	1
18	PAFZZ	PAOZZ	1005-01-128-5497	19200	9348232	COVER, MAGAZINE	1
19	PAFZZ	PAOZZ	5360-01-128-5643	19200	9348233	SPRING,HELICAL,TORSION	1
20	PAFZZ	PAOZZ	5315-01-128-5614	19200	9348234	PIN, GROOVED, HEADLESS	1
21	PAFZZ	PAOZZ	5340-01-128-5606	19200	9348235	CLIP, RETAIING	1
22	PAFZZ	PAOZZ	5315-01-131-2060	19200	9348218	PIN, SPRING	2
23	PAFZZ	PAOZZ	5315-01-131-2058	19200	9348217	PIN, RETAINING FRONT	1
24	XADDA			19200	9348202	RECEIVER SUBASSEMBLY	1
25	PAFZZ		1005-01-130-2128	19200	9348220	LEVER, BARREL LOCKING	1
26	PAFZZ		5360-01-128-5493	19200	9348216	SPRING, RETAINING	1
27	PAFZZ		5360-01-128-5640	19200	9348221	SPRING, HELICAL, TORSION	1
28	PAFZZ		5315-01-128-5612	19200	9348222	PIN, GROOVED, HEADLESS	1

END OF TASK

END OF WORPACKAGE

FIELD MAINTENANCE
MACHINE GUN, 5.56MM, M249 W / EQUIPMENT
REPAIR PARTS LIST
GROUP 11

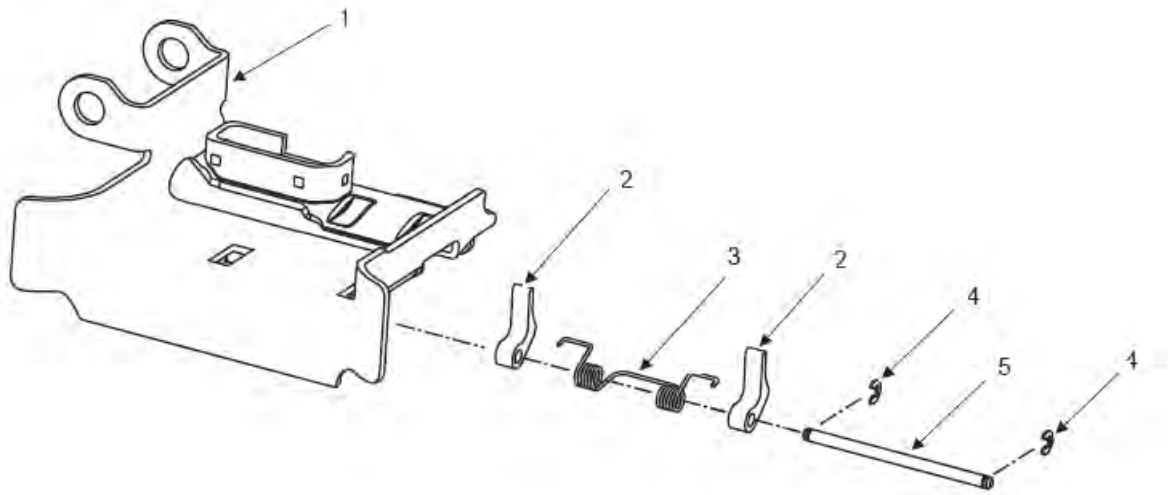


Figure 12. Feed Tray Assembly, 13013736.

(1) ITEM NO.	(2) SMR CODE		(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODE (UOC)	(7) QTY
	ARMY	USMC					
						GROUP 11. FEED TRAY ASSEMBLY	
						FIGURE 12. FEED TRAY ASSEMBLY, PN 13013736	
1	XAFZZ	XAOZZ		19200	13013743	FEED TRAY WELDMENT	1
2	PAFZZ	PAOZZ	1005-01-547-2613	19200	13013741	PAWL, FEED	2
3	PAFZZ	PAOZZ	1005-01-547-2612	19200	13013740	SPRING, PAWL	1
4	PAFZZ	PAOZZ	5340-01-547-2611	05049	NA3-S9	E-CLIP, PAWL	2
5	PAFZZ	PAOZZ	1005-01-547-2609	19200	13013739	PAWL, PIN	1

END OF FIGURE

END OF WORK PACKAGE

FIELD MAINTENANCE
MACHINE GUN, 5.56MM, M249 W / EQUIPMENT
REPAIR PARTS LIST
GROUP 12

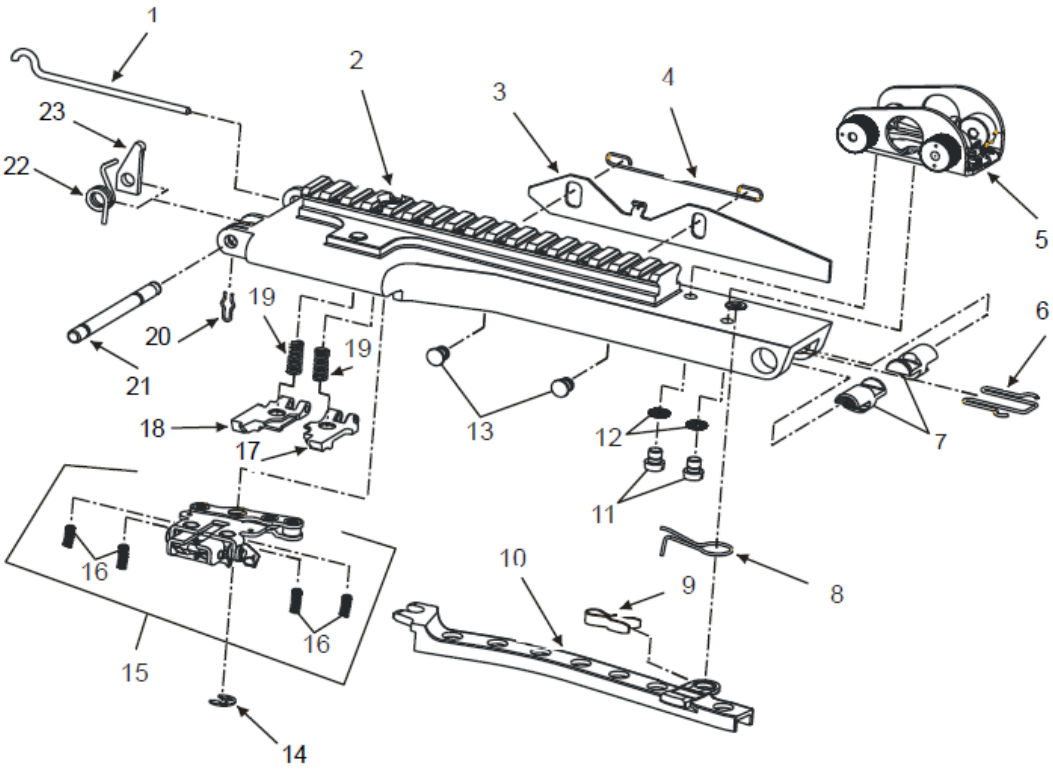


Figure 13. Cover, Feed Mechanism Assembly 12556985.

(1) ITEM NO.	(2) SMR CODE		(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODE (UOC)	(7) QTY
	ARMY	USMC				GROUP 12 COVER, FEED MECHANISM ASSEMBLY	
						FIGURE 13. COVER, FEED ASSEMBLY, 12556985	
1	PAFZZ	PAOZZ	5315-01-128-5617	19200	9348298	PIN, RETAINING	1
2	PAFZZ	PAOZZ	1005-01-547-2614	19200	13013734	COVER, RAIL ASSEMBLY	1
3	PAFZZ	PAOZZ	1005-01-128-5480	19200	9348302	COVER, COCKING CHANNEL	1
4	PAFZZ	PAOZZ	5360-01-128-5481	19200	9348304	SPRING, RETAINING	1
5	PAFFF	PAOZZ	1005-01-461-0328	19200	12556988	SIGHT, REAR, ASSEMBLY (CLEARANCE NOTCH)	1
6	PAFZZ	PAOZZ	5340-01-128-5604	19200	9348306	CLIP, RETAINING	1
7	PAFZZ	PAOZZ	5340-01-128-5482	19200	9348305	LATCH, COVER	2
8	PAFZZ	PAOZZ	5360-01-128-5474	19200	9348300	SPRING, RETAINING	1
9	PAFZZ	PAOZZ	5315-01-033-8872	19200	11826202	PIN, LOCK	1
10	PAFZZ	PAOZZ	1005-01-547-2615	19200	13015462	LEVER, FEED	1
11	PAFZZ	PAOZZ	5305-01-132-0439	19200	9350023	SCREW, MACHINE	2
12	PAFZZ	PAOZZ	5310-01-131-2084	19200	9350022	WASHER, LOCKING	2
13	PAFZZ	PAOZZ	5315-01-128-5618	19200	9348303	PIN, RETAINING	2
14	PAFZZ	PAOZZ	5325-01-134-6818	19200	9348291	RING, RETAINING	1
15	PAFFF	PAOZZ	1005-01-128-5477	19200	9348278	FEED PAWL ASSEMBLY (GROUP 01110101)	1
16	PAFZZ	PAOZZ	5360-01-128-5637	19200	9348287	SPRING, HELICAL COMPRESSION	4
17	PAFZZ	PAOZZ	3040-01-128-5476	19200	9348295	PAWL, CARTRIDGE, RETAINING, REAR	1
18	PAFZZ	PAOZZ	3040-01-128-5475	19200	9348294	PAWL, CARTRIDGE, RETAINING, FRONT	1
19	PAFZZ	PAOZZ	5360-01-128-5636	19200	9348296	SPRING, HELICAL, COMPRESSION	2
20	PAFZZ	PAOZZ	3540-01-128-5602	19200	9348314	CLIP RETAINING	1
21	PAFZZ	PAOZZ	5315-01-129-3050	19200	9348312	PIN, SHOULDER, HEADLESS	1
22	PAFZZ	PAOZZ	5360-01-463-1009	19200	12556983	SPRING, HELICAL TORSION	1
23	PAFZZ	PAOZZ	3040-21-907-6341	19200	12556984	COVER, CATCH	1

END OF FIGURE

END OF WORK PACKAGE

FIELD MAINTENANCE
MACHINE GUN, 5.56MM, MM249W / EQUIPMENT
REPAIR PARTS LIST
GROUP 13

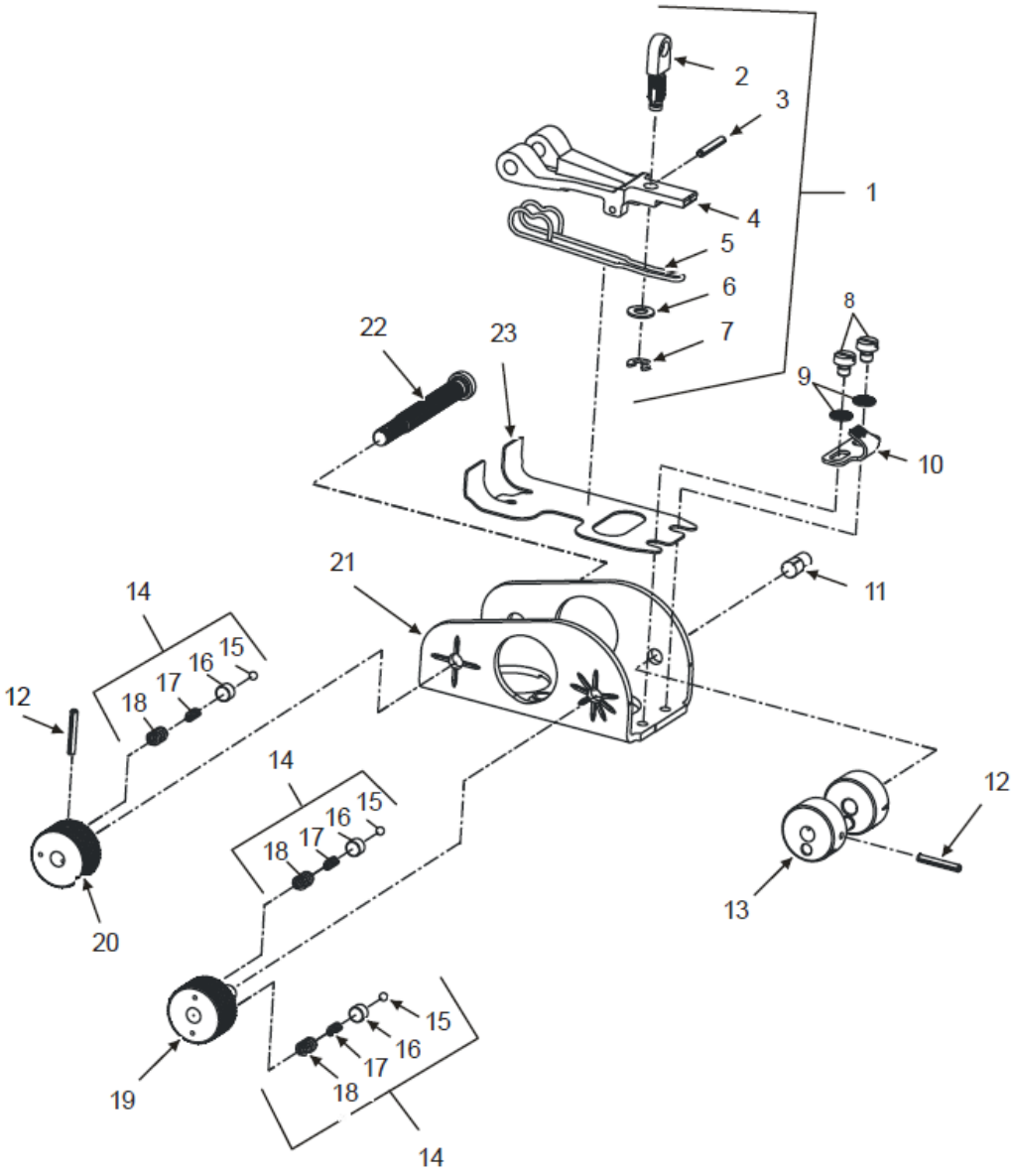


Figure 14. Rear Sight Assembly 12556988

(1) ITEM NO.	(2) SMR CODE ARMY	(2) SMR CODE USMC	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODE (UOC)	(7) QTY
						GROUP 13 REAR SIGHT ASSEMBLY	
						FIGURE 14. REAR SIGHT ASSEMBLY, 12556988	
1	PAFFF		1005-01-131-1905	19200	9349999	SIGHT, REAR LEAF ASSEMBLY (GROUP 0111010201)	1
2	PAFZZ		1005-01-131-1908	19200	9350001	SIGHT, PEEP	1
3	PAFZZ		5315-01-128-5622	19200	9348240	PIN, SPRING	1
4	XAFZZ			19200	9350000	LEAF	1
5	PAFZZ		5315-01-131-1909	19200	9350004	SPRING, LOCK	1
6	PAFZZ		5310-01-131-1907	19200	9350002	WASHER, LEAF	1
7	PAFZZ		5340-01-128-5606	19200	9348235	CLIP, RETAINING	1
8	PAFZZ		5305-01-326-3791	19200	12556979	SCREW, MACHINE	2
9	PAFZZ		5310-01-131-2089	19200	9350020	WASHER, LOCKING	2
10	PAFZZ		1005-01-326-7291	19200	12556978	SCALE, WINDAGE	1
11	PAFZZ		3040-01-131-1903	19200	9350018	SHAFT, ELEVATOR PIVOT	1
12	PAFZZ		5315-01-128-5622	19200	9348240	PIN, SPRING	2
13	PAFZZ		1005-01-131-1902	19200	9350011	ELEVATOR ASSEMBLY	1
14	PAFZZ		1005-01-327-4583	19200	12557030	PARTS KIT, GUN	3
15	KFFZZ			96906	MS19060-505	BALL, BEARING	1
16	KFFZZ			19200	12556976	PLUNGER, INDEX ING	1
17	KFFZZ			19200	12556977	SPRING, HELICAL, COMPRESSION	1
18	KFFZZ			19200	9350088	SPRING, HELICAL, COMPRESSION	1
19	PAFZZ		5355-01-131-1901	19200	9350015	KNOB ELEVATION	1
20	PAFZZ		5355-01-131-1899	19200	9350007	KNOB, WINDAGE	1
21	XAFZZ			19200	12556989	BASE, REAR SIGHT	1
22	PAFZZ		5305-01-131-2076	19200	9350006	SCREW, MACHINE	1
23	PAFZZ		5360-01-326-5390	19200	12556975	PLATE, METAL	1

END OF FIGURE

END OF WORK PACKAGE

FIELD MAINTENANCE
MACHINE GUN, 5.56MM, M249 W/EQUIPMENT
REPAIR PARTS LIST
GROUP 14

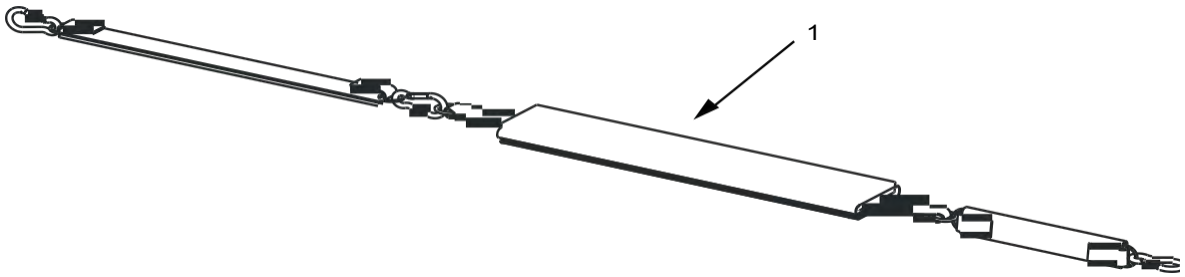


Figure 15. Sling

(1) ITEM NO.	(2) SMR CODE		(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODE (UOC)	(7) QTY
	ARMY	USMC				**GROUP 14 SLING ASSEMBLY FIGURE 15. SLING**	
1	PAFZZ	PAOZZ	1005-01-533-4093	19200	13011767	SLING	1

END OF FIGURE

END OF WORK PACKAGE

FIELD MAINTENANCE
MACHINE GUN, 5.56MM, M249 W / EQUIPMENT
REPAIR PARTS LIST
GROUP 15

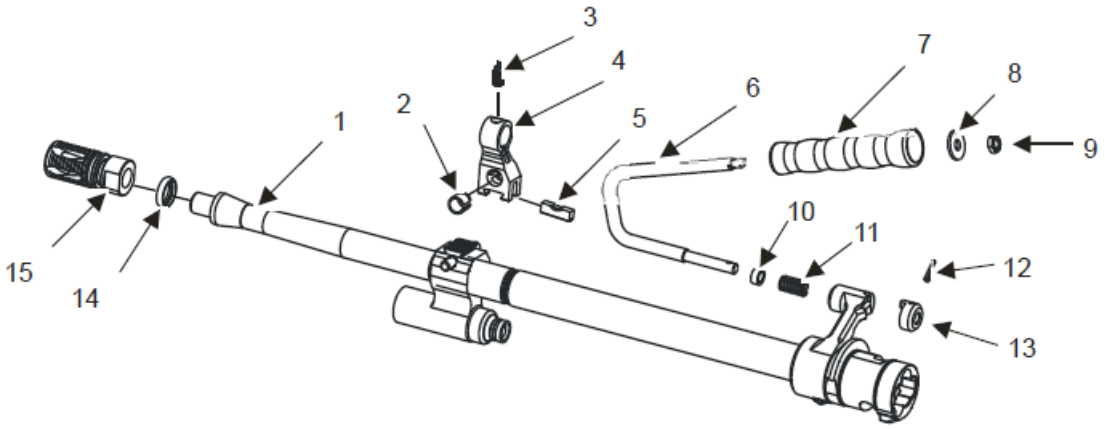


Figure 16. Additional Authorized Equipment, Short Barrel Assembly 12556953.

(1) ITEM NO.	(2) SMR CODE ARMY	(2) SMR CODE USMC	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODE (UOC)	(7) QTY
						GROUP 15 ADDITIONAL AUTHORIZED EQUIPMENT, SHORT BARREL	
						FIGURE 16. SHORT BARREL ASSEMBLY, 12556953	
1	XAFZZ	XAOZZ		19200	13022949	BARREL SUBASSEMBLY	1
2	PAFZZ	PAOZZ	5315-01-211-8392	19200	9350048	PIN, SPRING	1
3	PAFZZ	PAOZZ	1005-01-128-5465	19200	9348442	POST, FRONT SIGHT	1
4	PAFZZ	PAOZZ	1005-01-128-5466	19200	9348441	BASE, FRONT SIGHT	1
5	PAFZZ	PAOZZ	1005-01-211-8368	19200	9350047	KEY, BASE	1
6	PAFZZ	PAOZZ	5340-01-301-8218	19200	12557008	HANDLE, BOW	1
7	PAFZZ	PAOZZ	1005-01-135-4765	19200	9348438	GRIP, CARRYING HANDLE	1
8	PAFZZ	PAOZZ	5310-01-128-5676	19200	9348439	WASHER, SPRING TENSION	1
9	PAFZZ	PAOZZ	5310-01-128-5651	19200	9348440	NUT, SELF-LOCKING HEXAGON	1
10	PAFZZ	PAOZZ	3120-01-299-4159	19200	12557009	BUSHING, SLEEVE	1

GROUP ADDITIONAL AUTHORIZED EQUIPMENT FOR MACHINE GUN, 5.56MM, M249 W / EQUIPMENT, SHORT BARREL ASSEMBLY, 12556953 - Continued

(1) ITEM NO.	(2) SMR CODE ARMY	(2) SMR CODE USMC	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODE (UOC)	(7) QTY
11	PAFZZ	PAOZZ	5360-00-078-0122	96906	MS24585 C279	SPRING, HELICAL, COMP	1
12	PAFZZ	PAOZZ	5315-01-299-4164	19200	12557012	PIN, SPRING	1
13	PAFZZ	PAOZZ	1005-01-299-4657	19200	12557020	RING, CARRYING HANDLE	1
14	PAFZZ	PAOZZ	1005-01-528-5007	19200	13022947	WASHER, RECESSED COMPENSATOR	1
15	PAFZZ	PAOZZ	1005-01-529-6234	19200	13022948	COMPENSATOR	1

END OF FIGURE

END OF WORK PACKAGE

FIELD MAINTENANCE
MACHINE GUN, 5.56MM, M249 W /EQUIPMENT
REPAIR PARTS LIST
GROUP 16

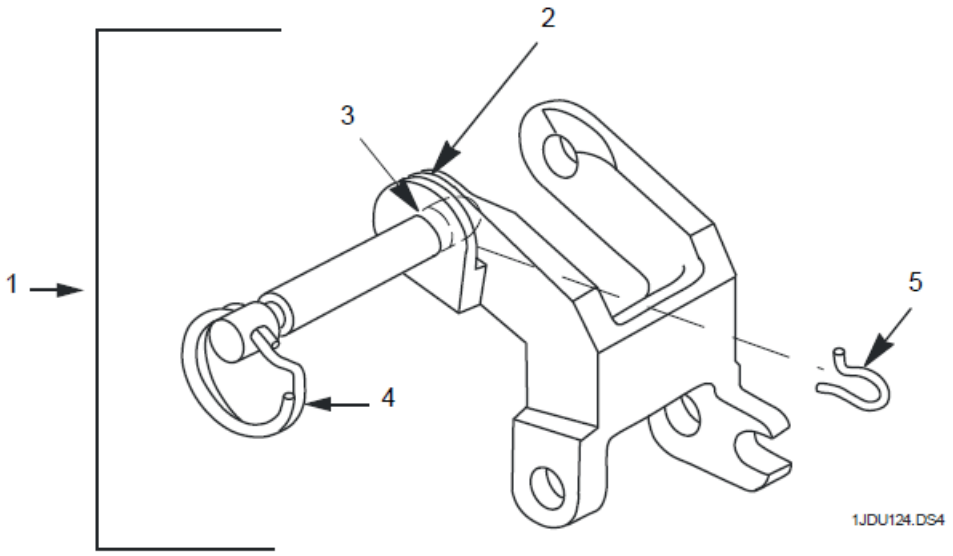


Figure 17. Adapter Assembly Tripod, 9378233.

(1) ITEM NO.	(2) SMR CODE ARMY	USMC	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODE (UOC)	(7) QTY
						GROUP 16 ADAPTER ASSEMBLY, TRIPOD	
						FIGURE 17. ADAPTER ASSEMBLY, TRIPOD 9378233	
1	PAFFF	PAOFF	1005-01-225-1156	19200	9378233	*ADAPTER ASSMBLY, TRIPOD	1
2	XAFZZ	XAOZZ		19200	9378232	*FORK TRIPOD	1
3	PAFZZ	PAOZZ	5315-01-225-8635	19200	9378228	*PIN, GROOVED, HEADLESS	1
4	PAFZZ	PAOZZ	1005-01-223-2892	19200	9378229	*RING, PULL	1
5	PAFZZ	PAOZZ	5340-01-225-8545	19200	9378231	*CLIP, RETAINING	1

***USMC ONLY**

END OF FIGURE

END OF WORK PACKAGE

FIELD MAINTENANCE
NATIONAL STOCK NUMBER (NSN) INDEX

STOCK NUMBER	FIG	ITEM
1005-01-127-7510	1	1
1005-01-470-5046	2	1
1005-01-387-8516	2	1
1005-01-249-0184	2	2
1005-01-529-9309	2	4
1005-01-529-8406	2	5
1005-01-547-2616	2	7
1005-01-134-6737	2	11
5360-01-128-5632	2	12
1005-01-254-9801	2	13
1005-01-521-7962	2	17
1005-01-128-5492	2	18
5315-01-211-8392	3	2
1005-01-128-5465	3	3
1055-01-128-5466	3	4
1005-01-211-8368	3	5
5340-01-301-8218	3	6
1005-01-135-4765	3	7
5310-01-128-5676	3	8
5310-01-128-5651	3	9
1005-01-128-5464	3	10
1005-01-036-7160	3	11
3120-01-299-4159	3	12
5360-00-078-0122	3	13
5315-01-299-4164	3	14
1005-01-299-4657	3	15
5310-01-284-8541	3	16
1005-01-566-1924	3	17
1005-01-306-2700	4	2
1005-01-576-2492	4	5
1005-01-577-3035	4	6
1005-01-591-5779	4	6
1005-01-577-2088	4	8
5340-01-577-3036	4	9
5365-01-576-4662	4	10
5360-01-299-7826	4	11
5340-01-577-3037	4	12
5315-01-366-2977	4	13

STOCK NUMBER	FIG.	ITEM
5315-01-362-5071	5	2
1005-01-392-6194	6	1
1005-01-383-0168	6	2
5360-01-236-0285	7	1
1005-01-128-5705	7	2
5315-01-128-5626	7	3
5360-01-133-8874	7	4
3120-01-127-8980	7	5
5315-01-128-5625	7	6
1005-01-128-5468	7	7
1005-01-128-5470	7	8
5315-01-128-5615	7	9
5315-01-128-5616	7	10
1005-01-128-5710	8	1
5360-01-128-5490	8	2
5315-01-033-3890	8	3
1005-01-128-5714	8	4
5360-01-128-5597	8	5
1005-01-306-9442	8	6
1005-01-128-5712	8	7
1005-01-128-5491	8	8
5360-01-482-1426	8	9
5315-01-128-5610	8	10
5315-01-128-5621	8	11
5315-01-135-4801	8	12
1005-01-128-5489	8	13
1005-01-525-7971	9	2
5315-01-526-4779	9	3
1005-01-525-7970	9	4
1005-01-525-9320	9	5
5360-01-525-7968	9	6
1005-01-525-7972	9	7
5315-00-846-1791	9	8
5360-01-525-7018	9	9
5315-01-525-7969	9	10
1005-01-527-1696	9	11
5305-01-101-9426	10	1
1005-01-559-1947	10	2
1005-01-559-1948	10	3
1005-01-236-0238	11	1
5360-01-128-5641	11	2
5315-01-128-5613	11	3
1005-01-547-2610	11	4
5340-01-128-5742	11	5
5360-01-128-5642	11	6
5315-01-128-5622	11	7
5315-00-690-0544	11	9
5340-01-324-9189	11	10
5340-01-128-5605	11	11
1005-01-128-5721	11	12

STOCK NUMBER	FIG.	ITEM
5315-01-128-5494	11	13
5340-01-128-5607	11	14
5340-01-128-5608	11	15
5315-01-561-4004	11	16
5315-01-561-6066	11	17
1005-01-128-5497	11	18
5360-01-128-5643	11	19
5315-01-128-5614	11	20
5340-01-128-5606	11	21
5315-01-131-2060	11	22
5315-01-131-2058	11	23
1005-01-130-2128	11	25
5360-01-128-5493	11	26
5360-01-128-5640	11	27
5315-01-128-5612	11	28
1005-01-547-2613	12	2
1005-01-547-2612	12	3
5340-01-547-2611	12	4
1005-01-547-2609	12	5
5315-01-128-5617	13	1
1005-01-547-2614	13	2
1005-01-128-5480	13	3
5360-01-128-5481	13	4
1005-01-461-0328	13	5
5340-01-128-5604	13	6
5340-01-128-5482	13	7
5360-01-128-5474	13	8
5315-01-033-8872	13	9
1005-01-547-2615	13	10
5305-01-132-0439	13	11
5310-01-131-2084	13	12
5315-01-128-5618	13	13
5325-01-134-6818	13	14
1005-01-128-5477	13	15
5360-01-128-5637	13	16
3040-01-128-5476	13	17
3040-01-128-5475	13	18
5360-01-128-5636	13	19
3540-01-128-5602	13	20
5315-01-129-3050	13	21
5360-01-463-1009	13	22
3040-21-907-6341	13	23
1005-01-131-1905	14	1
1005-01-131-1908	14	2
5315-01-128-5622	14	3
5315-01-131-1909	14	5
5310-01-131-1907	14	6
5340-01-128-5606	14	7
5305-01-326-3791	14	8
5310-01-131-2089	14	9
1005-01-326-7291	14	10
3040-01-131-1903	14	11
5315-01-128-5622	14	12
1005-01-131-1902	14	13
1005-01-327-4583	14	14
5355-01-131-1901	14	19

STOCK NUMBERS	FIG.	ITEM
5355-01-131-1899	14	20
5305-01-131-2076	14	22
5360-01-326-5390	14	23
1005-01-502-4326	15	1
1005-01-502-4323	15	2
1005-01-502-4324	15	3
1005-01-511-2152	16	1
1005-01-533-4093	16	2
1005-01-529-9309	16	3
1005-01-529-8408	16	4
1005-01-529-8406	16	5
1005-01-525-2601	17	1
1005-01-527-8497	17	3
5305-01-526-8950	17	4
1005-01-525-2599	17	5
5315-01-233-8608	17	6
5360-01-233-8616	17	7
1005-01-525-2603	17	8
1005-01-274-6345	17	9
1005-01-274-5102	17	10
5305-01-525-2600	17	11
1005-01-525-4644	17	12
5310-01-233-8626	17	13
5315-00-843-9487	17	14
5315-01-211-8392	18	2
1005-01-128-5465	18	3
1005-01-128-5466	18	4
1005-01-211-8368	18	5
5340-01-301-8218	18	6
1005-01-135-4765	18	7
5310-01-128-5676	18	8
5310-01-128-5651	18	9
3120-01-299-4159	18	10
5360-00-078-0122	18	11
5315-01-299-4164	18	12
1005-01-299-4657	18	13
1005-01-528-5007	18	14
1005-01-529-6234	18	15
1005-01-225-1156	19	1
5315-01-225-8635	19	3
1005-01-223-2892	19	4
5340-01-225-8545	19	5
1005-01-141-3826	TABLE1	1
5210-01-259-3454	TABLE1	2
4933-00-070-9151	TABLE1	3
5220-01-141-4732	TABLE1	4
5200-01-141-3830	TABLE1	5
5120-01-141-4612	TABLE1	6
1005-01-315-5229	TABLE1	7
5120-01-143-9317	TABLE1	8
5120-13-112-9600	TABLE1	9
5180-01-559-5981	TABLE2	1
4933-00-754-0664	TABLE2	3
5120-01-141-3839	TABLE2	5
5120-01-143-4732	TABLE2	10

FIELD MAINTENANCE
PART NUMBER INDEX

PART NUMBER	FIG.	ITEM
93 48199	1	1
93 48200	1	2
93 48467	1	3
120 11986	2	1
125 56957	2	1
125 40405	2	2
125 56935	2	3
129 56277	2	4
130 06531	2	5
125 56985	2	6
130 13736	2	7
934 8390	2	8
934 8412	2	9
934 8391	2	10
934 8405	2	11
934 8452	2	12
125 40416	2	13
934 8350	2	14
129 93771	2	15
934 8201	2	16
130 22945	2	17
934 8345	2	18
120 11986	3	1
125 56957	3	18
120 11985	3	1
935 0048	3	2
934 84 42	3	3
934 8441	3	4
935 0047	3	5
125 57008	3	6
934 8438	3	7
934 8439	3	8
934 8440	3	9
934 8437	3	10
118 25992	3	11
125 57009	3	12
MS 2458 5C279	3	13
125 57012	3	14
125 57020	3	15
125 57006	3	16
130 20739	3	17
125 57001	3	18
130 26046	2	3
130 26047	4	1
125 56951	4	2
130 26048	4	3

PART NUMBER	FIG.	ITEM
B1834A10	4	4
13026033	4	5
13026039	4	6
13026056	4	6
13026035	4	7
13026038	4	8
13026043	4	9
13026045	4	10
MS24585C25	4	11
13026042	4	12
M21143/171	4	13
12540415	5	1
12556963	5	2
12540412	6	1
12557025	6	2
9348416	6	3
9348415	6	4
12540400	6	5
9350086	6	6
9348391	2	10
9350090	7	1
9348395	7	2
9348394	7	3
11826046	7	4
11826042	7	5
9348404	7	6
9348392	7	7
9348393	7	8
9348398	7	9
9348397	7	10
9348350	2	14
9348368	8	1
9348365	8	2
11826255	8	3
9348364	8	4
9348372	8	5
12556995	8	6
9348370	8	7
9348354	8	8
12540414	8	9
9348367	8	10
9348363	8	11
9348353	8	12
9348352	8	13
13022945	2	17
13019970	9	1
13002196	9	2
13002206	9	3
13002200	9	4
13002205	9	5
13002207	9	6
13002197	9	7
MS16562I	9	8
13002204	9	9
13002203	9	10
13002195	9	11
12993771	2	15
NAS1352 08LB 10P	10	1
12993772	10	2
12993773	10	3
9348201	2	16
9350067	11	1

PART NUMBER	FIG.	ITEM
9348231	11	2
9348230	11	3
13013732	11	4
9348239	11	5
9348238	11	6
9348240	11	7
13013733	11	8
7793470	11	9
12556980	11	10
9348225	11	11
9348223	11	12
9348224	11	13
9348245	11	14
9348219	11	15
13020690	11	16
13020691	11	17
9348232	11	18
9348233	11	19
9348234	11	20
9348235	11	21
9348218	11	22
9348217	11	23
9348202	11	24
9348220	11	25
9348216	11	26
9348221	11	27
9348222	11	28
13013736	2	7
13013743	12	1
13013741	12	2
13013740	12	3
NA3-S9	12	4
13013739	12	5
12556985	2	6
9348298	13	1
13013734	13	2
9348302	13	3
9348304	13	4
12556988	13	5
9348306	13	6
9348305	13	7
9348300	13	8
11826202	13	9
13015462	13	10
9350023	13	11
9350022	13	12
9348303	13	13
9348291	13	14
9348278	13	15
9348287	13	16
9348295	13	17
9348294	13	18
9348296	13	19
9348314	13	20
9348312	13	21
12556983	13	22
12556984	13	23
12556988	13	5
9349999	14	1
9350001	14	2

PART NUMBER	FIG.	ITEM
9348240	14	3
9350000	14	4
9350004	14	5
9350002	14	6
9348235	14	7
12556979	14	8
9350020	14	9
12556978	14	10
9350018	14	11
9348240	14	12
9350011	14	13
12557030	14	14
MS19060-505	14	15
12556976	14	16
12556977	14	17
9350088	14	18
9350015	14	19
9350007	14	20
12556989	14	21
9350006	14	22
12556975	14	23
9348405	2	11
9348406	15	1
9348407	15	2
12556960	15	3
9348408	15	4
13000150	16	1
13011767	16	2
12956277	16	3
13006534	16	4
13006531	16	5
13006209	17	1
13022949	18	1
9350048	18	2
9348442	18	3
9348441	18	4
9350047	18	5
12557008	18	6
9348438	18	7
9348439	18	8
9348440	18	9
12557009	18	10
MS24585-C279	18	11
12557012	18	12
12557020	18	13
13022947	18	14
13022948	18	15
9378233	19	1
9378232	19	2
9378228	19	3
9378229	19	4
9378231	19	5
9350031	TABLE1	1
9350096	TABLE1	2
11010032	TABLE1	3
9350104	TABLE1	4
9350102	TABLE1	5

PART NUMBER	FIG.	INDEX
9350034	TABLE 1	6
12540422	TABLE 1	7
9348248	TABLE 1	8
9350033	TABLE 1	9
SC5180-95-CL-A07 DFP 509	TABLE 2	1
USMC TAM NO. E2900	TABLE 2	2
SC 4933-95-CL-A11	TABLE 2	3

CHAPTER 6

SUPPORTING INFORMATION

FIELD MAINTENANCE
REFERENCES

SCOPE

This work package lists all field manuals, forms, technical manuals/technical orders, pamphlets, and other publications referenced in this manual.

FIELD MANUALS

AFMAN 44-163(I)	Air Force First Aid
FM 4-25.11	Army First Aid
MCRP 3-02G	Marine Corps First Aid

FORMS

AFTO Form 22	Technical Manual (TM) Change Recommendation and Reply
AFTO Form 105	Ground Weapons Maintenance
DA Form 2028	Recommended Changes to Publications
DA Form 2404	Equipment Inspection and Maintenance Worksheet
DD Form 361	Transportation Discrepancy Report
DD Form 1225	Storage Quality Control Report
MCO 4855.1 0_	Product Quality Deficiency Report (PDQR)
NAVMC Form 10772	Notice of Discrepancies
SECNAVINST 4355.18	Reporting of Supply Discrepancies
SF 364	Report of Discrepancy (ROD)
SF 368	Product Quality Deficiency Report (PQDR)

TECHNICAL BULLETINS

TB 9-1000-247-34	Standards for Overseas Shipment of Small Arms

TECHNICAL MANUALS / TECHNICAL ORDERS

TM 9-1005-201-10	Operator Manual for M249 MG 5.56mm
TM 43-0197	Preparation for Storage or Shipment
TM 4700-15/1 _	Ground Equipment Record Procedures Manual
TM 4795-12/1	Organizational Corrosion Prevention and Control Procedures for USMC
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
TO 00-35D-54	USAF Deficiency Reporting, Investigation, and Resolution
TO 11W-1-10	Historical Date Recording of Inspection, Maintenance, and Firing Data for Ground Weapons

TECHNICAL MANUALS / TECHNICAL ORDERS - Continued

TM 08671A-10/1A	MC Operator's Technical Manual for M249 MG
TM 08671A-23&P/2A	MC Field Maintenance Manual for M249 MG
TO 11W2-5-5-52	AF Field Maintenance Manual for M249 MG

MILITARY SPECIFICATIONS

MIL-PRF-63460	Lubricant, Cleaner, and Preservative for Weapons and Weapons Systems

MISCELLANEOUS PUBLICATIONS

AFJMAN 23-215	Reporting of Supply Discrepancies
AFMAN 91-201	Explosives Safety Standards
AFI 36-2226	Combat Arms Program
AR 385-10	The Army Safety Program
AR 385-64	U.S.Army Explosives Safety Program
AR 735-11-2	Reporting of Supply Discrepancies
AR 750-1	Army Material Maintenance Policies and Retail Maintenance Operations
ASTM D5118/D5118M	American Society for Testing and Materials, Standard Practice for Fabrication of Fiberboard Shipping Boxes
ASTM D6880	American Society for Testing and Materials, Standard Specification for Wood Boxes
CTA 50-970	Expendable/Durable Items (Except: Medical, Class V Repair Parts, and Heraldic Items)
CTA 50-909	Field and Garrison Furnishings and Equipment
CTA 8-100	Army Medical Department Expendable/Durable Items
DoD 4160-21-M-1-V1,V2,V3	Defense Demilitarization Manual
DTR 4500.9-R Part II, Ch. 210	Defense Transportation Regulations, Transportation Discrepancy Report (TDR)
MIL-STD-129	Military Marking for Shipment and Storage
SPI 00-322-9715	Special Packaging Instructions, Machine Gun, Caliber

PAMPHLETS

DA PAM 25-30	Consolidated Index of Army Publications and Blank Forms
DA PAM 385-64	Ammunition and Explosives Safety Standards
PAM 750-8	The Army Maintenance Management System (TAMMS) Users Manual

END OF WORK PACKAGE

FIELD MAINTENANCE
MAINTENANCE ALLOCATION CHART (MAC) INTRODUCTION

The Army Maintenance System MAC

This introduction provides a general explanation of all maintenance and repair functions authorized at the two maintenance levels under the Two-Level Maintenance System concept.

This MAC (immediately following the introduction) designates overall authority and responsibility for the performance of maintenance functions on the identified end item or component. The application of the maintenance functions to the end item or component shall be consistent with the capacities and capabilities of the designated maintenance levels, which are shown on the MAC in column (4) as:

Field - includes two subcolumns, C (Crew) and F (Maintainer).
Sustainment - includes two subcolumns, H (Below Depot) and D (Depot).

The maintenance to be performed at field and sustainment levels is described as follows:

1. **Crew Maintenance.** The responsibility of a using organization to perform maintenance on its assigned equipment. It normally consists of inspecting, servicing, lubricating, adjusting, and replacing parts, minor assemblies, and subassemblies. The replace function for this level of maintenance is indicated by the letter "C" in the third position of the SMR code. A "C" appearing in the fourth position of the SMR code indicates complete repair is possible at the crew maintenance level.
2. **Field Maintenance.** Maintenance accomplished on a component, accessory, assembly, subassembly, plug-in unit, or other portion either on the system or after it is removed. The replace function for this level of maintenance is indicated by the letter "F" appearing in the third position of the SMR code. An "F" appearing in the fourth position of the SMR code indicates complete repair is possible at the Field Maintenance level. Items are returned to the user after maintenance is performed at this level.
3. **Below Depot Sustainment**. Maintenance accomplished on a component, accessory, assembly, subassembly, plug-in unit, or other portion either on the system or after it is removed. The replace function for this level of maintenance is indicated by the letter "H" appearing in the third position of the SMR code. An "H" appearing in the fourth position of the SMR code indicates complete repair is possible at the below depot sustainment maintenance level. Items are returned to the supply system after maintenance is performed at this level.
4. **Depot Sustainment**. Maintenance accomplished on a component, accessory, assembly, subassembly, plug-in unit, or other portion either on the system or after it is removed. The replace function for this level of maintenance is indicated by the letter "D" or "K" appearing in the third position of the SMR code. Depot sustainment maintenance can be performed by either depot personnel or contractor personnel. A "D" or "K" appearing in the fourth position of the SMR code indicates complete repair is possible at the depot sustainment maintenance level. Items are returned to the supply systems after maintenance is performed at this level.

   The tools and test equipment requirements table (immediately following the MAC) lists the tools and test equipment (both special tools and common tool sets) required for each maintenance function as referenced from the MAC.

   The remarks table (immediately following the tools and test equipment requirements) contains supplemental instructions and explanatory notes for a particular maintenance function.

MAINTENANCE FUNCTIONS

Maintenance functions are limited to and defined as follows:

1. **Inspect**. To determine the serviceability of an item by comparing its physical, mechanical, and/or electrical characteristics with established standards through examination (e.g., by sight, sound, or feel). This includes scheduled inspection and gagings and evaluation of cannon tubes.
2. **Test.** To verify serviceability by measuring the mechanical, pneumatic, hydraulic, or electrical characteristics of an item and comparing those characteristics with prescribed standards on a scheduled basis, i.e., load testing of lift devices and hydrostatic testing of pressure hoses.
3. **Service**. Operations required periodically to keep an item in proper operating condition; e.g., to clean (includes decontaminate, when required), to preserve, to drain, to paint, or to replenish fuel, lubricants, chemical fluids, or gases. This includes scheduled exercising and purging of recoil mechanisms. The following are examples of service functions:
    a. Unpack. To remove from packing box for service or when required for the performance of maintenance operations.
    b. Repack. To return item to packing box after service and other maintenance operations.
    c. Clean. To rid the item of contamination.
    d. Touch up. To spot paint scratched or blistered surfaces.
    e. Mark. To restore obliterated identification.
4. **Adjust**. To maintain or regulate, within prescribed limits, by bringing into proper position, or by setting the operating characteristics to specified parameters.
5. **Align**. To adjust specified variable elements of an item to bring about optimum or desired performance.
6. **Calibrate.** To determine and cause corrections to be made or to be adjusted on instruments of test, measuring, and diagnostic equipment used in precision measurement. Consists of comparisons of two instruments, one of which is a certified standard of known accuracy, to detect and adjust any discrepancy in the accuracy of the instrument being compared.
7. **Remove/Install**. To remove and install the same item when required to perform service or other maintenance functions. Install may be the act of emplacing, seating, or fixing into position a spare, repair part, or module (component or assembly) in a manner to allow the proper functioning of an equipment or system.
8. **Paint (ammunition only)**. To prepare and spray color coats of paint so that the ammunition can be identified and protected. The color indicating primary use is applied, preferably, to the entire exterior surface as the background color of the item. Other markings are to be repainted as original so as to retain proper ammunition identification.
9. **Replace.** To remove an unserviceable item and install a serviceable counterpart in its place. "Replace" is authorized by the MAC and assigned maintenance level is shown as the third position code of the Source, Maintenance and Recoverability (SMR) code.
10. **Repair.** The application of maintenance services, including fault location/troubleshooting, removal/ installation, disassembly/assembly procedures and maintenance actions to identify troubles and restore serviceability to an item by correcting specific damage, fault, malfunction, or failure in a part, subassembly, module (component or assembly), end item, or system.

MAINTENANCE FUNCTIONS - Continued

NOTE

The following definitions are applicable to the "repair" maintenance function:

- Services. Inspect, test, service, adjust, align, calibrate, and/or replace.
- Fault location/troubleshooting. The process of investigating and detecting the cause of equipment malfunctioning; the act of isolating a fault within a system or Unit Under Test (UUT).
- Disassembly/assembly. The step-by-step breakdown (taking apart) of a spare/ functional group coded item to the level of its least component, that is assigned an SMR code for the level of maintenance under consideration (i.e., identified as maintenance significant).
- Actions. Welding, grinding, riveting, straightening, facing, machining, and/or resurfacing.

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

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

EXPLANATION OF COLUMNS IN THE MAC

Column (1), Group Number. Column (1) lists functional group code numbers, the purpose of which is to identify maintenance significant components, assemblies, subassemblies, and modules with the next higher assembly.

Column (2), Component/Assembly. Column (2) contains the item names of components, assemblies, subassemblies, and modules for which maintenance is authorized.

Column (3), Maintenance Function. Column (3) lists the functions to be performed on the item listed in Column (2).

Column (4), Maintenance Level. Specifies each level of maintenance authorized to perform each function Column 3, by indicating work-time required (expressed as man-hours in whole hours or decimals) in the appropriate subcolumns. This work-time figure represents the active time required to perform that maintenance function. The work-time figure represents the average time required to restore an item to a serviceable condition under typical field operating conditions. This time includes preparation time (including any necessary disassembly/assembly troubleshooting/fault location time), and quality assurance time in addition to the time required to perform the tasks identified for the maintenance functions. The symbol designations for the various maintenance levels are as follows:

Field:
- C Crew maintenance
- F Maintainer maintenance

Sustainment:
- L Specialized Repair Activity (SRA)
- H Below depot maintenance
- D Depot maintenance

EXPLANATION OF COLUMNS IN THE MAC -- Continued

NOTE

The "L" maintenance level is not included in column (4) of the MAC. Functions to this level of maintenance are identified by work time figure in the "H" column of column (4), and an associated reference code is used in the REMARKS column (6). This code is keyed to the remarks and the SRA complete repair application is explained there.

Column (5) Tools and Equipment Reference Code. Column (5) specifies, by code, those common tool sets (not individual tools), common Test, Measurement and Diagnostic Equipment (TMDE), and special tools, special TMDE and special support equipment required to perform the designated function. Codes are keyed to the entries in the tools and test equipment table.

Column (6) Remarks Code. When applicable, this column contains a letter code, in alphabetical order, which is keyed to the remarks table entries.

Explanation of Columns in the Tools and Test Equipment Requirements

Column (1) - Tool or Test Equipment Reference Code. The tool or test equipment reference code correlates with a code used in column (5) of the MAC.

Column (2) - Maintenance Level. The lowest level of maintenance authorized to use the tool or test equipment.

Column (3) - Nomenclature. Name or identification of the tool or test equipment.

Column (4) - National Stock Number (NSN). The NSN of the tool or test equipment.

Column (5) - Tool Number. The manufacturer's part number.

Explanation of Columns in the Remarks

Column (1) - Remarks Code. The code recorded in column (6) of the MAC.

Column (2) - Remarks. This column lists information pertinent to the maintenance function being performed as indicated in the MAC.

END OF WORK PACKAGE

FIELD MAINTENANCE
MAINTENANCE ALLOCATION CHART (MAC)

Table 1. MAC for 5.56mm Machine Gun M249 with Equipment

(1) GROUP NUMBER	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL				(5) TOOLS AND EQUIPMENT REFERENCE CODE	(6) REMARKS CODE
			FIELD		SUSTAINMENT			
			CREW	MAINTAINER	BELOW DEPOT	DEPOT		
			C	F	H	D		
00	Machine Gun 5.56 mm M249 w/Equip							
01	Machine Gun 5.56mm M249	Inspect Test Service Remove Install Replace Repair Overhaul	0.2 0.2 0.1 0.1 0.1	0.5 0.3 0.3 0.3 0.1		 10	1, 2, 3 6,7,8	A,B C,D
0101	Barrel Assembly includes spare assembly	Inspect Service Remove Install Replace Repair	0.1 0.1 0.1 0.1	0.2 0.1 0.3			1,2,3 4,5,6 7,8,9	A,B
0102	Buttstock/Buffer Assembly	Inspect Service Replace Repair	0.1 0.1	0.2 0.1 0.2 0.2			1,2,3	A
0103	Return Rod and Transfer Mechanism Assembly	Inspect Service Replace	0.1 0.1	0.1 0.1 0.1				A
0104	Piston Assembly	Inspect Replace	0.1	0.2 0.1				A
0105	Bolt Assembly	Inspect Service Replace Repair	0.1 0.1	0.2 0.1 0.1 0.2			1,2	A,B
0106	Slide Assembly	Inspect Service Replace Repair	0.1 0.1	0.2 0.1 0.1 0.2			1,2,3	A

FIELD MAINTENANCE
MAINTENANCE ALLOCATION CHART (MAC)

Table 1. MAC for 5.56mm Machine Gun M249 with Equipment -- Continued

(1) GROUP NUMBER	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL				(5) TOOLS AND EQUIPMENT REFERENCE CODE	(6) REMARKS CODE
			FIELD		SUSTAINMENT			
			CREW	MAINTAINER	BELOW DEPOT	DEPOT		
			C	F	H	D		
0108	Trigger Mechanism Assembly	Inspect Test Service Replace Repair	0.1 0.1	0.2 0.1 0.1 0.1 0.4			1, 2, 3 4	A,B
010801	Pistol Grip Assembly	Inspect Service Replace Repair	0.1 0.1	0.1 0.1 0.1 0.1			1,2,4	A
0110	Bipod, Machine Gun	Inspect Service Replace Repair	0.1 0.1	0.2 0.1 0.1 0.5			2,3	A
011001	Leg Assembly Bipod Mount, Left	Inspect Service Replace Repair	0.1 0.1	0.2 0.1 0.2 0.2			2,3	A
011002	Leg Assembly, Bipod Mount, Right	Inspect Service Replace Repair	0.1 0.1	0.2 0.1 0.2 0.2			2,3	A
0111	Receiver Assembly	Inspect Service Repair	0.1 0.1	0.2 0.1 0.6			1,2,3 10	A,B C,D
011101	Cover and Feed Mechanism Assembly	Inspect Service Replace Repair	0.1 0.1	0.2 0.1 0.2 0.3			2,3	A
01110101	Feed Pawl Assembly	Inspect Service Replace Repair	0.1 0.1	0.2 0.1 0.2 0.3			2,3	A

FIELD MAINTENANCE
MAINTENANCE ALLOCATION CHART (MAC)

Table 1. MAC for 5.56mm Machine Gun M249 with Equipment -- Continued

(1) GROUP NUMBER	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL				(5) TOOLS AND EQUIPMENT REFERENCE CODE	(6) REMARKS CODE
			FIELD		SUSTAINMENT			
			CREW	MAINTAINER	BELOW DEPOT	DEPOT		
			C	F	H	D		
01110102	Rear Sight Assembly	Inspect Service Replace Repair	0.1 0.1	0.2 0.1 0.2 0.3			2, 3	A
0111010201	Leaf Assembly, Rear Sight	Inspect Service Replace Repair	0.1 0.1	0.2 0.1 0.2 0.2			2, 3	A
011102	Cocking Handle	Inspect Service Replace Repair	0.1 0.1	0.2 0.1 0.2 0.2			2,3	A
011103	Accessory Rails	Inspect Service Replace Repair	0.1 0.1	0.1 0.1 0.1 0.1			1,2	A
0112	Sling and Snap Hook Assembly	Inspect Service Replace	0.1 0.1	0.1 0.1 0.1				A
0113	Lightweight Collapsible Buttstock	Inspect Service Remove/ Install Replace Repair	0.1 0.1 0.1	0.2 0.1 0.2 0.3			1,2	A
0114	Adapter Assembly	Inspect Service Replace Repair	0.1 0.1	0.1 0.1 0.1 0.1			1,2	A

Table 2. Tool and Test Equipment for 5.56mm Machine Gun M249 with Equipment

(1) TOOL OR TEST EQUIPMENT REF CODE	(2) MAINTENANCE CATEGORY	(3) NOMENCLATURE	(4) NATIONAL/NATO STOCK NUMBER	(5) TOOL NUMBER
1	F	Tool Kit, Small Arms Repairman (A)	5180-01-559-5981	SC 5180-95-CL-A07 DFP 509
2	F	Tool Kit, Small Arms Repairman (MC)	5180-01-559-5981	USMC TAM NO. E2900
3	F	Shop Set, Small Arms, Field Maintenance, Basic, Less Power	4933-00-754-0664	SC 4933-95-CL-A11
4	F	Box Spanner	1005-01-141-3826	9350031
5	F	Wrench, Spanner, Front Sight Post	5120-01-141-3839	9350033
6	F	Gage, Breech Bore Erosion	5210-01-259-3454	9350096
7	F	Gage, Headspace Reject	1005-01-141-3830	9350102
8	F	Tool, Front Sight, Assembly	1005-01-315-5229	12540422
9	F	Tool Combination	5120-01-143-9317	9348248

END OF WORK PACKAGE

FIELD MAINTENANCE
EXPENDABLE AND DURABLE ITEMS LIST

INTRODUCTION

Scope

This work package lists expendable and durable items that you will need to operate and maintain the M249 Machine Gun. 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), or CTA 8-100, Army Medical Department Expendable/Durable Items.

Explanation of Columns in the Expendable/Durable Items List

Column (1) – Item Number. This number is assigned to the entry in the list and is listed in the narrative instructions to identify the item (e.g., Use brake fluid (item 5, WP 0098 00).

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

C – Operator/Crew
O – Unit Maintenance
F – Direct Support Maintenance

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, Commercial and Government Entity Code (CAGEC), and Part Number (P/N). This column identifies the other information you need to identify the item.

Column (5) – Unit of Measure. This code shows the physical measurement or count of an item, such as gallon, dozen, gross, etc.

EXPENDABLE AND DURABLE ITEMS LIST

Table 1. Expendable / Durable Items List

(1) ITEM NUMBER	(2) LEVEL	(3) NATIONAL STOCK NUMBER	(4) DESCRIPTION	(5) QTY
			NOTE Use CLP to clean and lubricate weapon. LAW can only be used as a lubricant for the weapon. Do not mix lubricants on the same weapon.	
1	F	8115-00-190-4858 8115-00-190-5020	BOX, FIBERBOARD (81348) PPP-B-636 15 EA BDL - 9” X 6-1/2” X 32” 10 EA BDL – 14” X 14” X 36”	EA EA
2	F	8115-01-023-0301 8115-01-019-1632	BOX, SHIPPING (81348) PPP-B-601 15-1/5” X 21-1/4” X 37-1/4” 33-1/4” X 37-1/4” X 45-1/2”	EA EA
3	O	9150-01-054-6453 9150-01-053-6688	CLEANER, LUBRICANT AND PRESERVATIVE: Grade 2 (CLP) (81349) MIL-PRF-63460 1 pint bottle 1 gal bottle	PT GL

EXPENDABLE AND DURABLE ITEMS LIST -- Continued

Table 1. Expendable / Durable Items List -- Continued

(1) ITEM NUMBER	(2) LEVEL	(3) NATIONAL STOCK NUMBER	(4) DESCRIPTION	(5) QTY
4	O	5350-00-221-0872	CLOTH, ABRASIVE, CROCUS (76381) 051144-02435 50-sheet package	SH
5	F	8135-00-855-6969	CUSHIONING MATERIAL, PACKAGING (81348) PPP-C-843 24 in wide, 100-ft roll	FT
6	O	8010-00-079-3760	ENAMEL (81348) TT-E-488	PT
7	O	9150-00-231-6689 9150-00-231-9062	LUBRICATING OIL, P-9 (81349) MIL-PRF-32033 1 qt can 5 gal can	QT GL
8	C	9150-00-292-9689	LUBRICATING OIL (LAW) 1-QUART BOTTLE (81349) MIL-PRF-14107	QT
9	O	9150-01-260-2534	LUBRICANT, SOLID FILM (81349) MIL-L-23398 16 oz aerosol can	CN
10	F	5315-00-010-4657	NAIL, COMMON 6D 50-LB BOX 55907135 (96906)	LB
11	C	7920-00-205-1711	RAG, WIPING 50-LB BALE (58536) A-A-531	LB
12	F	8030-01-069-3046	SEALING COMPOUND 10-OUNCE BOTTLE (104197-01) 246	BT
13	F	8030-00-111-2763	SEALING COMPOUND 10-OUNCE BOTTLE (05972) 290-21 Green, Type 3, Grade R	BT
14	F	8135-00-286-8565	STEEL STRAPPING, FLAT (81348 QQ-S-781 5/8” wide, 100-lb coil	LB
15	F	8135-00-269-8088	TAPE, PRESSURE, SENSITIVE (81348) PPP-T-60 60 yd roll, 2 inch wide	YD
16	F	7510-00-266-6712	TAPE, PRESSURE, SENSITIVE, MASKING (58536) A-A-883 60-yd roll. 1 in wide	YD
17	F	6850-01-474-2319	GENERAL SOLVENT 1-GALLON (3.79L) (81349) MIL-PRF-680	GL

END OF WORK PACKAGE

FIELD MAINTENANCE TOOL IDENTIFICATION LIST

INTRODUCTION

Scope

This work package lists all common tools and supplements and special tools/fixtures needed to maintain the M249.

Explanation of Columns in the Tool Identification List

Column (1) - Item No. This number is assigned to the entry in the list and is referenced in the initial setup to identify the item (e.g., "Extractor (WP 0090, Item 32").

Column (2) - Item Name. This column lists the item by noun nomenclature and other descriptive features (e.g., "Gage, belt tension").

Column (3) - National Stock Number (NSN). This is the National Stock Number (NSN) assigned to the item; use it to requisition the item.

Column (4) - Part Number/(CAGEC). Indicates the primary number used by the manufacturer (individual, company, firm, corporation, or Government activity) which controls the design and characteristics of the item by means of its engineering drawings, specifications, standards, and inspection requirements to identify an item or range of items. The manufacturer's Commercial and Government Entity Code (CAGEC) is also included.

Column (5) - Reference. This column identifies the authorizing supply catalog or RPSTL for items listed in this work package.

Table 1. Tool Identification List.

(1) ITEM NO.	(2) ITEM NAME	(3) NATIONAL STOCK NUMBER (NSN)	(4) PART NUMBER /(CAGEC)	(5) REFERENCE
1	Box Spanner Wrench	1005-01-141-3826	9350031 19200	
2	Case, Accessory	1005-01-158-2226	9362860 19200	
3	Fixture, Barrel	4933-00-070-9151	11010032 19204	
4	Gage, Breech, Bore Barrel Erosion	5210-01-259-3454	9350096 19200	
5	Gage, Firing Pin Protrusion	5220-01-141-4732	9350104 19200	
6	Gage, Headspace	5200-01-141-3830	9350102 19200	
7	Shop Set, Small Arms, Basic, Less Power	4933-00-754-0664	SC 4933-95-CL-A1 19204	
8	Tool, Assembly, Front Sight	1005-01-315-5229	12540422 19200	
9	Tool, Combination	5120-01-143-9317	9348248 19200	
10	Tool Kit, Small Arms Repairman (A) (SARTK)	5180-01-559-5981	SC 5180-95-CL-A07 DFP 509 59678	
11	Tool Kit, Small Arms Repairman (M)	5180-01-559-5981	USMC TAM NO. E7900 59678	
12	Wrench, Spanner Front, Sight Post	5120-13-112-9600	9350033 19200	

END OF WORK PACKAGE

FIELD MAINTENANCE

UNIT AUXILIARY EQUIPMENT: M13 RACK

INITIAL SETUP:

Tools and Special Tools

Small Arms Repairman Tool Kit (SARTK)
WP 0050,Item 10)
USMC TAM No. E7900 (WP 0050,, Item 11)

Equipment Condition

Arms Rack open

INSTALLATION OF SMALL ARMS INTO M13 RACKS

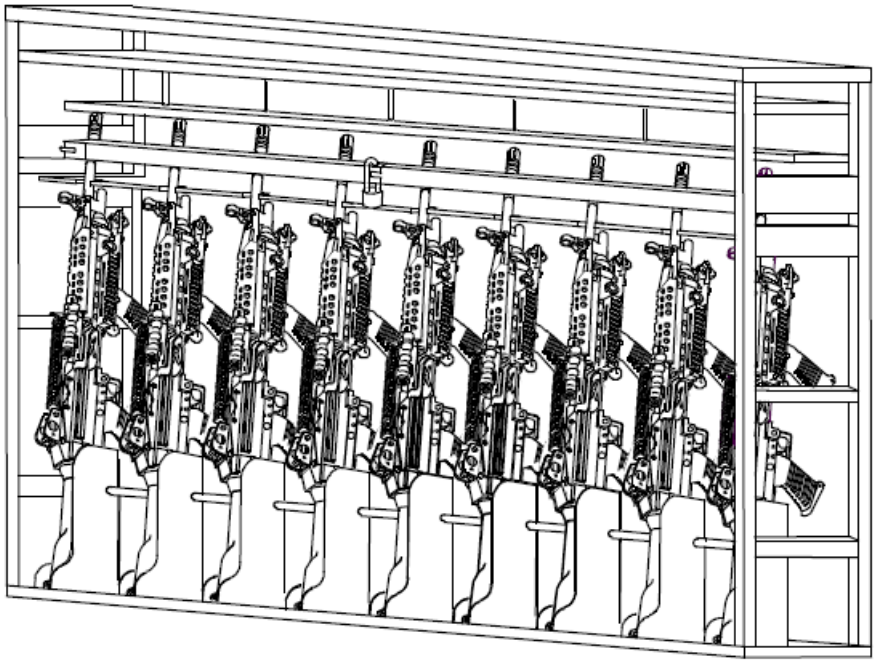


Figure 1. M13 Rack with Nine M249 Machine Guns Stored.

NOTE

Rack storage, small arms, M13, LIN S66490, NSN 1095-01-197-7902, is authorized by CTA 50-909 and is a non-repairable item. This rack is 51-1/8 inches long, 43-3/8 inches high, 12 inches thick and stackable. If required, touch-up with Olive Drab (OD) Enamel, NSN 8010-00-848-9272.

INSTALLATION OF M249 WITH SHORT BARREL INTO M13 ARMS RACK

1. Place the storage rack adapter over the end of the M249 short barrel so that the single slot (Figure 2, Item 1) is positioned above the pair of grooves (Figure 2, Item 2).

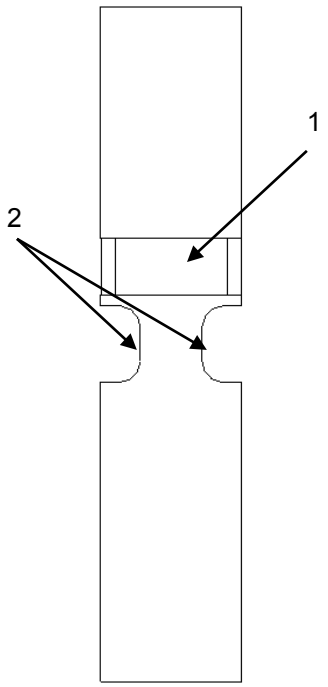


Figure 2. Storage Rack Adapter.

2. Place the M249 into the M13 rack, buttstock first (Figure 3).

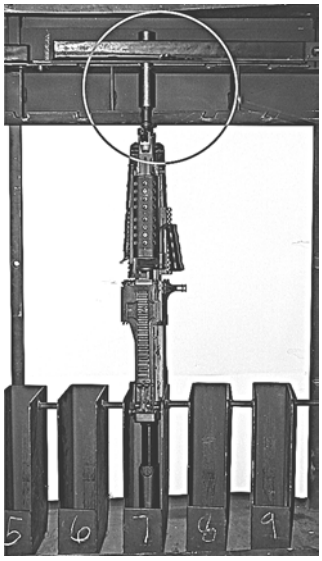


Figure 3. M13 Arms Rack used with Storage Rack Adapter.

INSTALLATION OF M249 WITH SHORT BARREL INTO M13 ARMS RACK - Continued

3. Position storage rack adapter so that the single slot is facing outward (Figure 4).
4. Position storage rack adapter on the barrel so that the pair of grooves slides between the two sides of the top slot of the rack (Figure 4).
5. Place locking bar across the storage rack adapter with the bar inserted into the single slot (Figure 3).
6. Lock the locking bar on the arms rack.

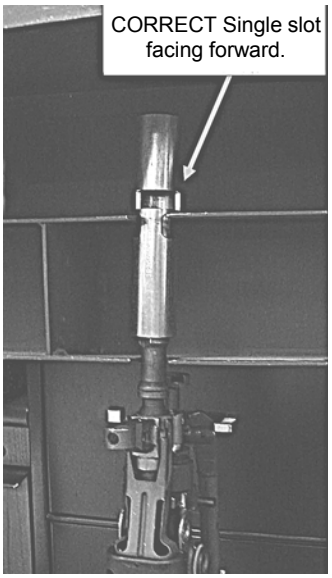


Figure 4. Storage Rack Adapter Correctly Positioned in Rack.

SECURE M249 IN THE M13 ARMS RACK

1. Fully collapse the lightweight collapsible buttstock.
2. Unscrew the bolt (Figure 5, Item 3) on the mounting bracket so that roughly 1 inch of thread is showing. (This may need to be adjusted, depending on the rack).
3. Hand-tighten nut (Figure 4, Item 2) against the tube (Figure 4, Item 1).

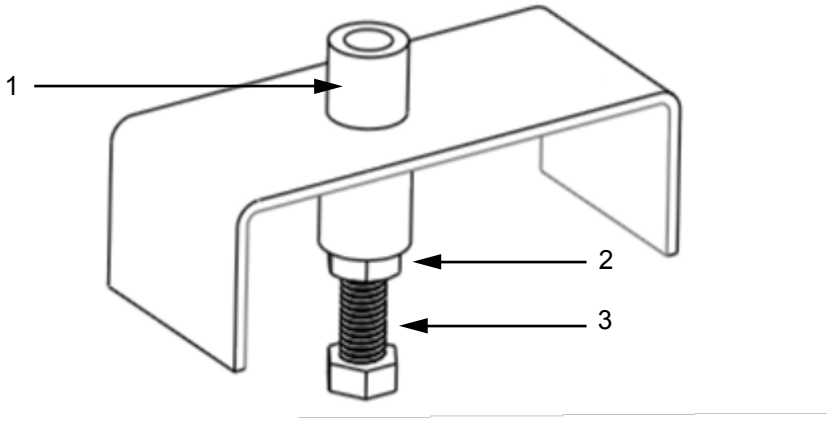


Figure 5. Mounting Bracket.

SECURE M249 IN THE M13 ARMS RACK - Continued

4. Place the mounting bracket into the arms rack boot with the part number identification (Figure 6, Item 1) facing upward to the rear of the arms rack boot (bolt head facing downward), and with the tube and bolt (Figure 6, Item 2) off-center toward the front of the rack.

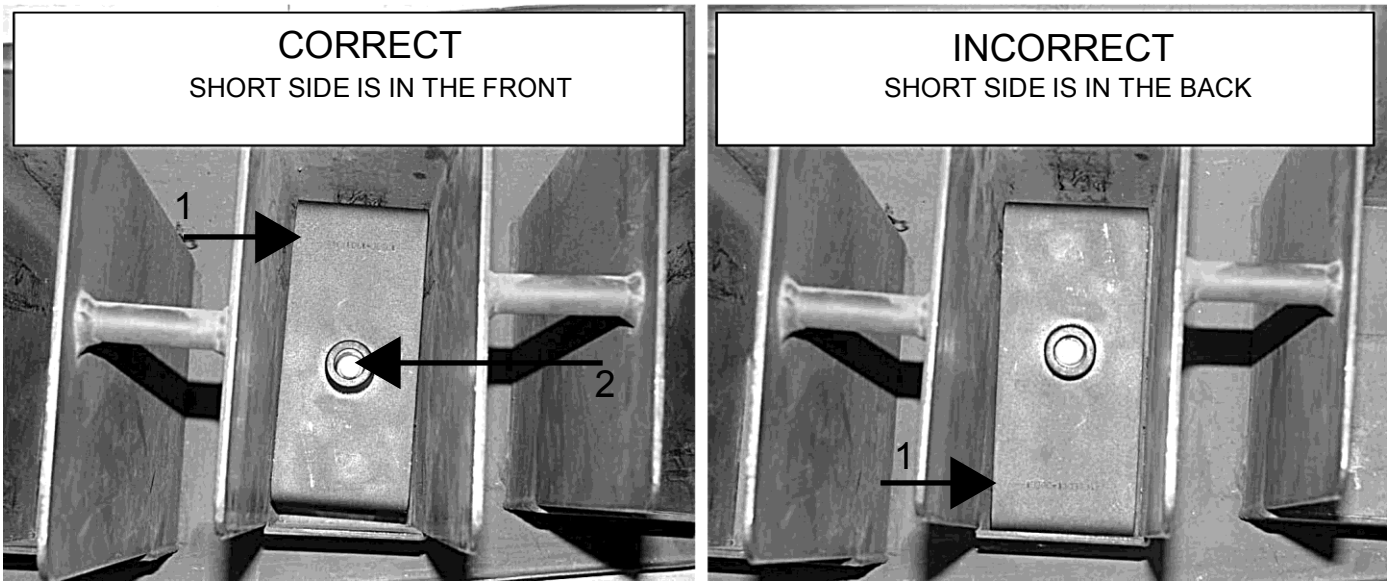


Figure 6. Correct Placement of Mounting Bracket into Arms Rack Boot.

5. Place the M249 into the rack by placing the hole in the buttplate over the tube of the mounting bracket.

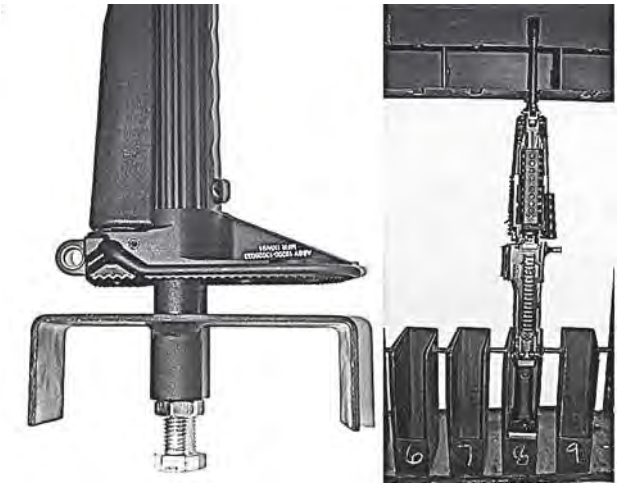


Figure 7. Buttplate on Mounting Bracket.

SECURE M249 IN THE M13 ARMS RACK - Continued

6. Ensure that there is less than 1 inch (Figure 8) between the top of the monoblock and the bottom of the rack.

WARNING

If there is more than 1 inch of clearance, the barrel can be removed and the weapon will not be secure. Failure to comply may cause injury to personnel.

7. If there is more than 1 inch of clearance, remove M249 and unthread bolt in the mounting bracket until there is no longer more than an inch of clearance between the monoblock and the bottom of the rack. Then repeat steps 3-6.

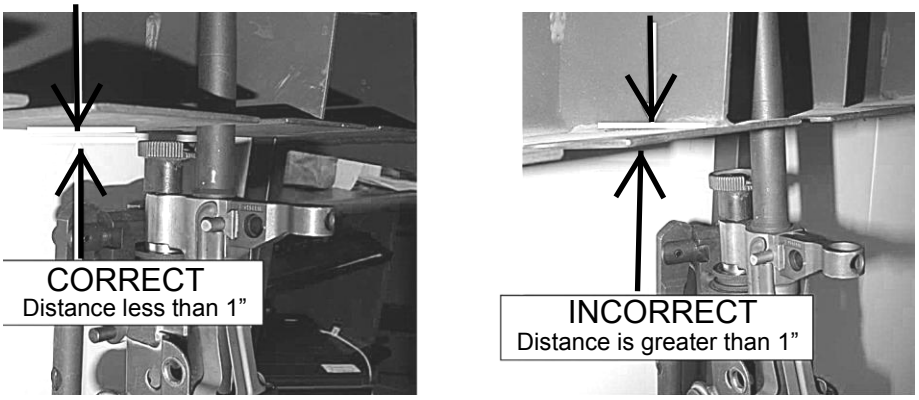


Figure 8. Correct Distance in Arms Rack.

8. Lock the locking bar on the arms rack.

END OF WORK PACKAGE

FIELD MAINTENANCE
FINAL INSPECTION PROCEDURES

INITIAL SETUP:

Tools and Special Tools

Gage Firing Pin Protrusion (WP 0050, Item 5)
Headspace Gage (WP 0050, Item 6)
Shop Set, Small Arms: Field Maintenance, Basic Less Power (WP 0050, Item 7)
Small Arms Repairman Tool Kit (SARTK) (WP 0050, Item 10)
Trigger Pull Test Fixture (Component of SC 4933-95-CL-A11 and USMC TAM No. E7900)
USMC TAM No. E7900 (WP 0050, Item 11)

References

TM 9-1005-201-10
TM 08671A-10/1A
TB 9-1999-247-34

Equipment Condition

Machine Gun assembled (TM 9-1005-201-10)

HEADSPACE PROCEDURE

WARNING

DO NOT insert headspace gage with the barrel assembly fully installed in the latched position. If bolt and slide assembly is accidently released while inserting headspace gage through the ammo feed area of the receiver assembly, injury can occur to fingers.

NOTE

Bolt face and chamber must be cleaned and dry prior to checking with headspace gage.

FINAL INSPECTION PROCEDURES - Continued

Headspace Procedure - Continued

1. With the weapon in the cocked position and the safety in SAFE position (red band not visible), depress the barrel locking lever (Figure 1, Item 3) lift and slide barrel assembly (Figure 1, Item 1) slightly forward.
2. Insert tapered end of headspace gage (Figure 1, Item 2) into chamber of barrel assembly (Figure1, Item 1).
3. Carefully return barrel assembly (Figure 1, Item 1) to locked position without disturbing headspace gage (Figure 1, Item 2).

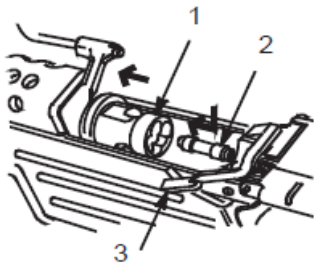


Figure 1. Inserting Headspace Gage.

4. Holding cocking handle assembly (Figure 2, Item 2) to the rear, release the bolt and slide assembly (Figure 2, Item 3), and ease forward gently against headspace gage (Figure 1, Item 2).

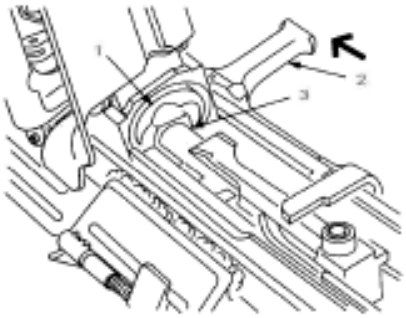


Figure 2. Headspace Alignment Prep.

NOTE

Follow the same headspace procedure for spare barrel.

5. Barrel assembly (Figure 3, Item 1) and bolt (Figure 3, Item 5) are considered to have proper headspace if bolt (Figure 3, Item 5) does not lock into barrel (Figure 3, Item 1) with headspace gage (Figure 1, Item 3) installed.
6. If bolt (Figure 3, Item 5) locks into barrel (Figure 3, Item 1), incorrect head spacing exists. Disassemble and replace defective parts and repeat headspace gage.

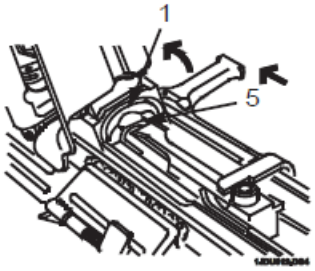


Figure 3. Headspace Verification.

FINAL INSPECTION PROCEDURES - Continued

Firing Pin Protrusion Procedure

NOTE

Machine Gun must be assembled with bolt face and barrel clean and dry prior to checking with gage.

1. Place machine gun on floor in vertical position with bolt forward and locked.
2. Insert Firing Pin Protrusion Gage (Figure 4, Item 1) in barrel until the bottom end of Firing Pin Protrusion Gage (Figure 4, Item 1) seats firmly against the Bolt Face (Figure 4, Item 2).

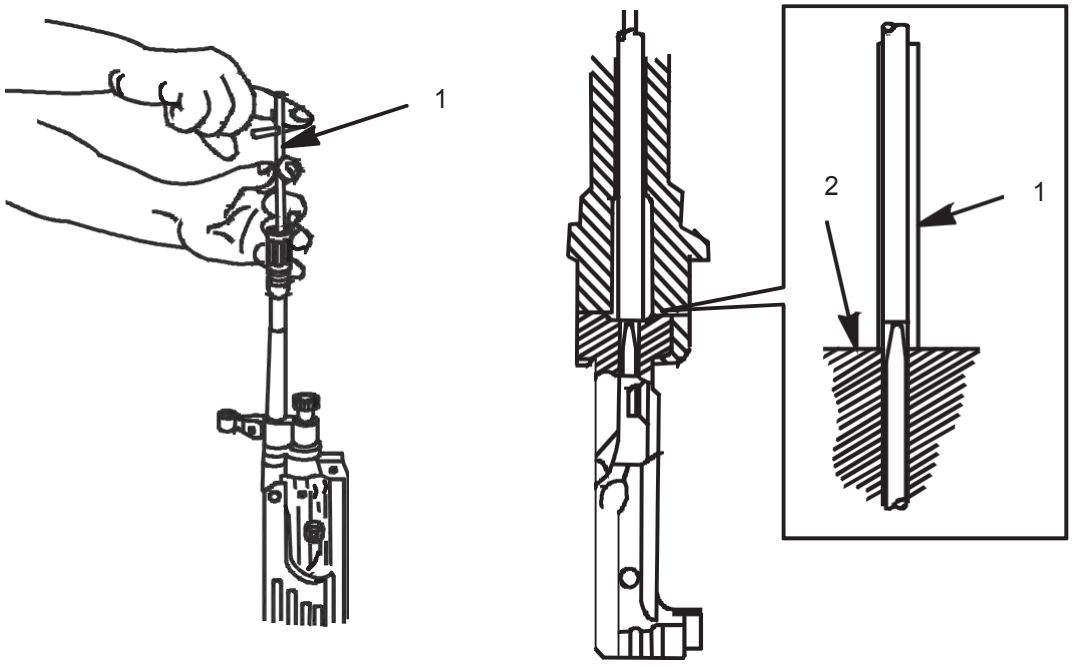


Figure 4. Insertion of Firing Pin Protrusion Gage.

3. Center Rod (Figure 5, Item 1) of firing pin protrusion gage should appear within area indicated. If this condition is not met, replace defective parts and repeat test.

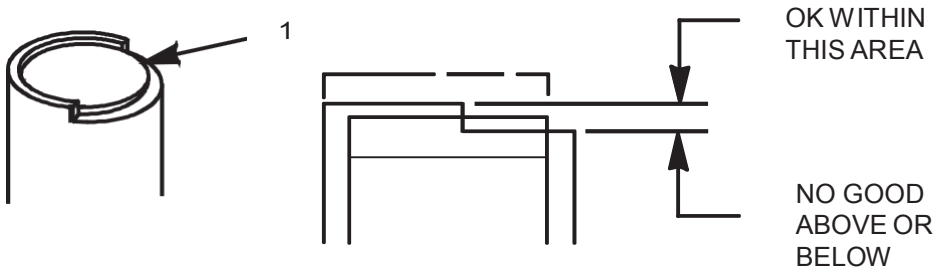


Figure 5. Firing Pin Verification.

FINAL INSPECTION PROCEDURES - Continued

Trigger Pull Test

1. Place test fixture (Figure 6, Item 1) on bench and add test weights (Figure 6, Item 2) until minimum load of 8.0 lbs (3.63 Kg) is reached.

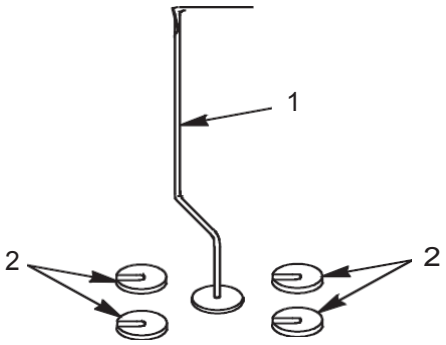


Figure 6. Preparing Test Weights.

2. Charge weapon by pulling cocking handle (Figure 7 Item 1) to rear and place safety in FIRE position (red band visible).

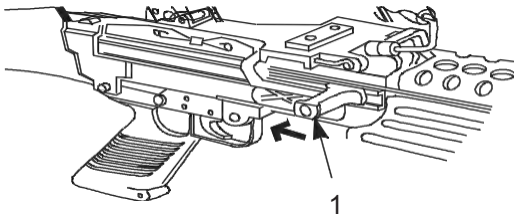


Figure 7. Charging Weapon in Preparation of Trigger Pull Test.

3. Hold machine gun (Figure 8, Item 1) in vertical position. Hook end of test fixture (Figure 8, Item 3) over trigger (Figure 8, Item, 2) and slowly raise the machine gun vertically until test weights (Figure 8, Item 4) are suspended. The bolt assembly should not move forward to firing position. If machine gun (Figure 8, Item 1) fails trigger pull test, replace defective parts and repeat test.
4. Remove test fixture (Figure 8, Item 3) and add weights (Figure 8, Item 4) until maximum load of 15.5 lbs (7.03 Kg) is reached. Repeat above procedures. Bolt assembly should move forward to firing position. If machine gun (Figure 8, Item 1) fails trigger pull test, replace defective parts and repeat test.

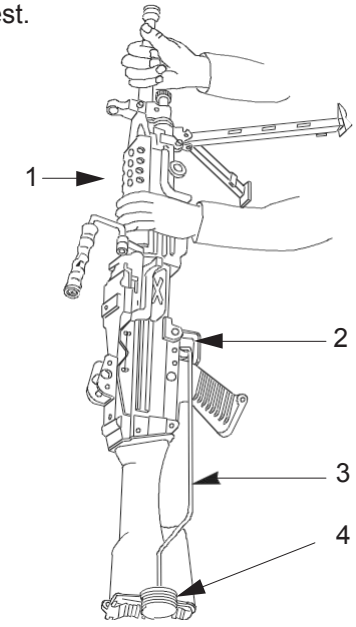


Figure 8. Trigger Pull Verification.

FINAL INSPECTION PROCEDURES - Continued

Functional Test of Machine Gun

NOTE

When base or repair activity has range facilities, function fire each weapon.

1. If range facilities are not available place weapon on workbench with bipod legs down and spread.
2. Following loading instructions in operator's manual open Cover and Feed Mechanism Assembly and insert several linked DUMMY rounds, and close cover.
3. Pull cocking handle rearward to sear bolt. Push cocking handle forward until latched in that position. Place in SAFE position (red band not visible) and pull trigger. Bolt should not release.
4. Place weapon safety in FIRE position (red band visible) and pull trigger. Bolt should release and a round should be stripped and chambered.
5. Pull cocking handle rearward. Ejection of round and link should occur.
6. Repeat steps four and five until all dummy rounds are cycled.
7. If machine gun fails Functional Test, replace defective parts and repeat test.

PRE-EMBARKATION INSPECTION OF MATERIAL

Refer to TB 9-1000-247-34 for this inspection.

END OF WORK PACKAGE

ALPHABETICAL INDEX

ALPHABETICAL INDEX – Continued

ALPHABETICAL INDEX - Continued

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-MPP/TECH PUBS
6501 E. 11 Mile Road, Warren, 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 9-1005-201-23&P	15 OCT 2013	Machine Gun, 5.56MM, M249 W/Equipment (AR Role) and LMG Role.

ITEM	PAGE	PARA-GRAPH	LINE	FIGURE NO.	TABLE	RECOMMENDED CHANGES AND REASON (Exact wording of recommended change must be given)
	0007-3					*Figure 2, Item 9 should show a lockwasher. Currently shows a flat washer.*
	0018-2					*Cleaning and inspection, Step 6, reference to governor support pin (14) is wrong reference. Reference should be change to (12).*

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-MPP/TECH PUBS 6501 E. 11 Mile Road, Warren, MI 48397-5000	Your Address	*Date you filled out this form*

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

PUBLICATION/FORM NUMBER	DATE	TITLE
TM 9-1005-213-23&P	15 OCT 2013	Machine Gun, 5.56MM, M249 W/Equipment (Air Role) and LMG Role.

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.)

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

APD V4.00

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-MPP/TECH PUBS
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 9-1005-213-23&P	15 OCT 2013	Maching Gun, 5.56MM, M249 W/Equipment (AR Role) and LMG Role

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

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

DA FORM 2028, FEB 74 REPLACES DA FORM 2028, 1 DEC 68, WHICH WILL BE USED. APD V4.00

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

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

PUBLICATION/FORM NUMBER	DATE	TITLE
TM 9-1005-213-23&P	15 OCT 2013	Machine Gun, 5.56MM, M249 W/Equipment (AR Role) and LMG Role

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.)

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

APD V4.00

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-MPP/TECH PUBS
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 9-1005-213-23&P	15 OCT 2013	Maching Gun, 5.56MM, M249 W/Equipment (AR Role) and LMG Role

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

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

DA FORM 2028, FEB 74 REPLACES DA FORM 2028, 1 DEC 68, WHICH WILL BE USED. APD V4.00

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

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

PUBLICATION/FORM NUMBER	DATE	TITLE
TM 9-1005-213-23&P	15 OCT 2013	Machine Gun, 5.56MM, M249 W/Equipment (AR Role) and LMG Role

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.)

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

APD V4.00

By Order of the Secretary of the Army:

RAYMOND T. ODIERNO
General, United States Army
Chief of Staff

Official:

GERALD B. O'KEEFE
Administrative Assistant to the
Secretary of the Army
1424605

By Order of the Secretary of the Air Force:

Official:

JANET C. WOLFENBARGER
General, United States Air
Force Commander, AFMC

MARK A. WELSH III
General, United States Air
Force Chief of Staff

By Order of the Marine Corps:

J.E. Smith
Program Manager
Infantry Weapons (PMM113.3)
Marine Corps Systems Command

Army Distribution:

Initially published in electronic media only. If at a later date this publication is printed, it will be distributed in accordance with the initial distribution number (IDN) 400572 requirements for TM 9-1005-201-23P.

Marine Corps Distribution:

To be distributed in accordance with PCN 184 0798280 00

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 = 0.0386 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: 055520-000