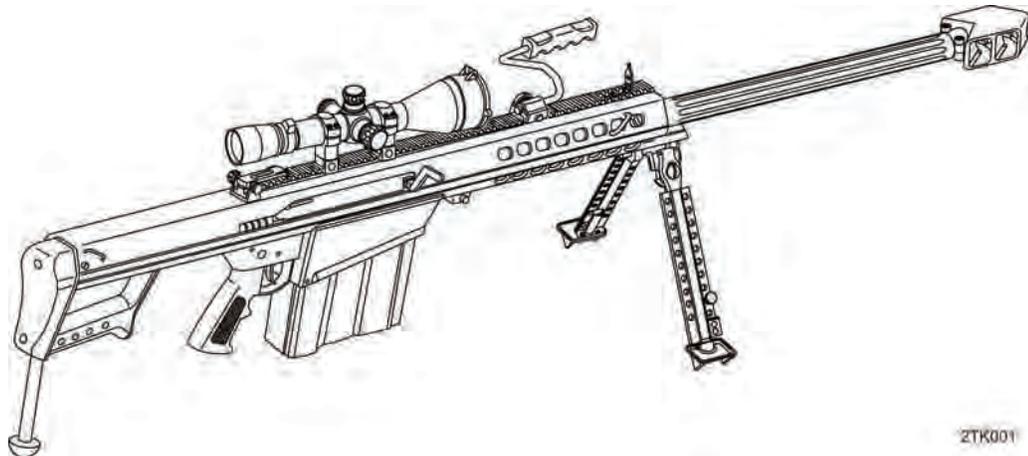


# ARMY \*TM 9-1005-239-23&P AIR FORCE TO 11W2-5-7-2 MARINE CORPS TM 11110A-OI/A

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## TECHNICAL MANUAL FIELD MAINTENANCE MANUAL INCLUDING REPAIR PARTS AND SPECIAL TOOLS LIST FOR LONG RANGE SNIPER RIFLE (LRSR)/ SPECIAL APPLICATION SCOPED RIFLE (SASR) (USMC ONLY) CALIBER .50, M107 NSN 1005-01-469-2133 (EIC 4HA)



\*Supersedes TM 9-1005-239-23&P, 14 February 2006.

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SEPTEMBER 2010**

Marine Corps PCN: 184 111101 00



## WARNING SUMMARY

This warning summary contains general safety warnings and hazardous material warnings that must be understood and applied during the operation and maintenance of the M107 Long Range Sniper Rifle (LRSR) to ensure personnel against injury, long-term health hazards, or death. Failure to observe these precautions could result in serious injury or death to personnel. Also included are explanations of safety and hazardous materials icons used within the technical manual.

### FIRST AID

Refer to FM 4-25.11 for First Aid Information.

Air Force personnel, refer to AFMAN 44-163(I).

Marine Corps personnel, refer to MCRP 3-02G.

### EXPLANATION OF SAFETY WARNING ICONS



**EXPLOSION** – rapidly expanding symbol shows that the material may explode if subjected to high temperatures, sources of ignition, or high pressure.



**EYE PROTECTION** – person with goggles shows that the material will injure the eyes.



**FLYING PARTICLES** – arrows bouncing off face shield show that particles flying through the air will harm face.



**WEAPON FIRE** – accidental discharge of a weapon could cause serious injury or death.

## GENERAL SAFETY WARNING DESCRIPTION

### WARNING



Ensure the rear lock pin is inserted to secure the mainspring buffer and mainspring. Failure to comply may result in personnel injury.

Wear eye protection and point firing pin extension assembly away from face when removing compression helical spring. Failure to do so may cause injury to personnel.

Wear eye protection to prevent injury from spring-loaded parts, particularly when removing or replacing the magazine cover. Failure to comply may result in personnel injury.

The tension on the barrel springs is about 70 lb (31.8 kg), which may cause the springs to release suddenly. Failure to comply may result in personnel injury.

### WARNING



Wear eye protection during removal of the mainspring or mainspring buffer, because parts may release suddenly. Failure to comply may result in personnel injury.

Point bolt away from face while disassembling extractor/ejector, because parts may fly free. Failure to comply may result in personnel injury.

### WARNING



Always assume that every weapon is loaded until personal inspection has determined that it is not. Procedures for clearing/unloading the weapon are outlined in TM 9-1005-239-10, Operator's Manual. Failure to comply may result in personnel injury or death.

Do not fire the rifle without the muzzle brake firmly in place on the barrel. Failure to comply may result in personnel injury or death.

## GENERAL SAFETY WARNING DESCRIPTION – Continued

### WARNING



Do not fire the rifle without the midlock and rear lock pins firmly in place. Failure to comply may result in personnel injury or death.

### WARNING



### EXPLOSION AND ACCIDENTAL DISCHARGE

If the spring-loaded cam is lifted too far, the cam pin spring could bend and lose tension. The weapon could malfunction or allow the weapon to fire when unlocked. Failure to comply may result in personnel injury or death.

## EXPLANATION OF HAZARDOUS MATERIALS ICONS



**CHEMICAL** – drops of liquid on hand shows that the material will cause burns or irritation to human skin or tissue.



**FIRE** – flame shows that a material may ignite and cause burns.



**VAPOR** – human figure in a cloud shows that material vapors present a danger to life or health.

**GENERAL HAZARDOUS MATERIALS WARNING DESCRIPTION**

**WARNING**



Isopropyl alcohol 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. Seek medical attention in event of injury.

Use isopropyl alcohol 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.

Isopropyl alcohol 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.

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. 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.

**LIST OF EFFECTIVE PAGES/WORK PACKAGES**

**NOTE:** \*Supersedes TM 9-1005-239-23&P, 14 February 2006.  
Zero in the "Change No." column indicates an original page or work package.

Date of issue for original manual is:

Original 30 September 2010

**TOTAL NUMBER OF PAGES FOR FRONT AND REAR MATTER IS 22 AND TOTAL NUMBER OF WORK PACKAGES IN THIS MANUAL IS 59 CONSISTING OF THE FOLLOWING:**

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WASHINGTON, D.C., 30 September 2010

TECHNICAL MANUAL  
FIELD MAINTENANCE MANUAL  
INCLUDING REPAIR PARTS AND SPECIAL TOOLS LISTS  
FOR  
LONG RANGE SNIPER RIFLE (LRSR)/  
SPECIAL APPLICATION SCOPED RIFLE (SASR) (USMC ONLY)  
CALIBER .50, M107  
NSN 1005-01-469-2133 (EIC 4HA)

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**CURRENT AS OF 29 DECEMBER 2009**

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## HOW TO USE THIS MANUAL

### SCOPE

This Technical Manual (TM) contains field maintenance including Repair Parts and Special Tools List (RPSTL) for M107 Long Range Sniper Rifle (LRSR)/Special Application Scoped Rifle, (SASR), United States Marine Corps (USMC).

### 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 M107 LRSR/SASR.

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 cover 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.

Notes may precede or follow the steps to which they pertain, depending on what makes the most sense.

## HOW TO USE THIS MANUAL – Continued

### 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.

#### **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.

#### **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**

**FOR**

**LONG RANGE SNIPER RIFLE, M107**



---

**FIELD MAINTENANCE****GENERAL INFORMATION**

---

**SCOPE**

This technical manual contains instructions for operation, checks, and maintenance including Repair Parts and Special Tools List (RPSTL) for the M107 Long Range Sniper Rifle (LRSR)/Special Application Scoped Rifle (SASR) (USMC only).

**Type of Manual**

Field Maintenance Manual with RPSTL.

**Model Number and Equipment Name**

Rifle, M107, Caliber .50, Sniper with Day Optical Sight and Carrying Case.

**Purpose of Equipment**

The M107 LRSR/SASR (USMC only) is a man-portable, direct line-of-sight weapon system capable of providing precision fire on targets at a distance of up to 2,000 yd (1,830 m).

**MAINTENANCE FORMS, RECORDS, AND REPORTS**

Department of the Army forms and procedures used for equipment maintenance will be those prescribed by DA PAM 750-8, The Army Maintenance Management System (TAMMS) Users Manual.

Air Force personnel will use AFI 36-2226, TO 11W-1-10, and AFTO 105.

Marine Corps personnel refer to the online Marine Corps Publication Distribution System (MCPDS) or Marine Corps Stock List SL-1-2, Index of Technical Publications.

The Marine Corps forms and procedures used for equipment maintenance will be those prescribed by the current edition of TM 4700-15/1, Equipment Record Procedures. Reference, WP 0055, lists specific forms to be used with the SASR, but is not to be considered inclusive. Responsibility for the proper execution of forms and records rests with the using unit. In order to maintain accurate records, it is imperative that the units follow these instructions:

1. **NAVMC 1018, Inspection Tag.** This form must be attached to each SASR that requires repair. The instructions for completing this form are found in TM 4700-15/1.

**MAINTENANCE FORMS, RECORDS, AND REPORTS – Continued**

2. **NAVMC 10558A, Weapon Record Book, Part II.** This form is the most important of the three forms used with the SASR and must be filled out according to the paragraphs below. Each SASR, when received from the supply system, will have an NAVMC 10558A attached. Receiving units must verify the serial number of the weapon with the serial number recorded on the front of the Weapon Record Book to ensure they are identical. The NAVMC 10558A must be filled out in the following manner, without reference to any other publications:
- Front Cover. The manufacturer will have filled out this page. No further entries will be made on it.
  - Page 3. This page will have been filled out when the weapon is received at the using unit. The only further entries required are the telescope serial number, if replaced. The accumulated rounds fired count should be recorded from the previous Weapon Record Book, when replaced.
  - Page 5. Unit Commander's Record. Record the daily total of rounds fired. Make entries as shown in Table 1.

**Table 1. Unit Commander's Record.**

1. DATE	2. TYPE OF ROUND	3. ZONE	4. NO. OF ROUNDS EFC VALUE
24 MAY 2000	.50 BALL	N/A	30
28 MAY 2000	.50 BALL	N/A	35
12 JUN 2000	.50 API	N/A	35
23 JUN 2000	.50 API	N/A	30
		PAGE TOTAL	5. 130
		TOTAL FROM PREVIOUS PAGE	6. 280
		ACCUMULATIVE TOTAL	7. 410

2TK143

- Pages 40 through 49. Pullover Gage Inspection Record. These pages are left blank. Do not use.

**MAINTENANCE FORMS, RECORDS, AND REPORTS – Continued**

- e. Page 51. Bore Inspection Record. This record contains all of the maintenance data performed by organizational and higher level maintenance. The telescope serial number will be annotated in the Weapon Record Book when initially received. Entries will be made as shown in Table 2.

**Table 2. Bore Inspection Record.**

1. DATE	2. REMARKS ON CONDITION OF BORE AND CHAMBER RESULTS OF BALLISTIC CALIBRATION FIRINGS, DAMAGE TO TUBE, SERVICEABILITY, ETC. <i>(Reasons for condemnation)</i>
21 MAY 04	SERVICEABLE CONDITION CODE A <i>Ssgt Packman</i> (handwritten signature) Ssgt Packman, 2112 PWS, QUANTICO, VA
27 JULY 00	SERVICEABLE CONDITION CODE A Telescope replaced at 2nd FSSG this date New serial number 1898 <i>SSgt Baker</i> (handwritten signature) SSgt Baker, 2112 PWS, QUANTICO, VA

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- f. Lost, destroyed, or misplaced Weapon Record Book. In the event a Weapon Record Book must be reconstructed, a limited technical inspection at the intermediate maintenance activity must be performed. Request assistance in recovering data from the address below:  
  
 Commanding Officer  
 Weapons Training Battalion  
 Marine Corps Combat Development Center  
 27211 Garand Road  
 Quantico, VA 22134-5036  
 Attn: Precision Weapons Section
- g. Accidents and Malfunctions. Report accidents involving injury to personnel or damage to equipment in accordance with the current edition of MCO 5101.8, Ground Mishap Report. Report explosive and ammunition malfunctions in accordance with MCO 8025.1E, Class V (W) Malfunctions and Deficiencies.

**REPORTING EQUIPMENT IMPROVEMENT RECOMMENDATIONS (EIR) AND PRODUCT QUALITY DEFICIENCY REPORTS (PQDR)**

If your M107 Sniper Rifle needs improvement, let us know. Send us an EIR. You, the user, are the only one who can tell us what you don't like about your equipment. Let us know why you don't like the design or performance. If you have internet access, the easiest and fastest way to report problems or suggestions is to go to <http://aeps.ria.army.mil/aepspublic.cfm> (scroll down and choose the "Submit Quality Deficiency Report" bar). The internet form lets you choose to submit an Equipment Improvement Recommendation (EIR), a Product Quality Deficiency Report (PQDR) or a Warranty Claim Action (WCA).

You may also submit your information using an SF Form 368, PQDR. You can send your SF Form 368 via e-mail, regular mail, or facsimile using the addresses/facsimile numbers specified on DA PAM 750-8, TAMMS Users Manual. We will send you a reply.

Submit PQDRs In Accordance With (IAW) Technical Order (TO) 00-35D-54, Material Deficiency Reporting and Investigating System and Air Force Joint Manual (AFJMAN) 23-215, Reporting of Supply Discrepancies. We will send you a reply. (Air Force only)

**REPORTING EQUIPMENT IMPROVEMENT RECOMMENDATIONS (EIR) AND PRODUCT QUALITY DEFICIENCY REPORTS (PQDR) – Continued**

Marine Corps personnel shall submit SF Form 368 in accordance with MCO 4855.10B. PQDRs should be submitted via the Product Data Reporting and Evaluation Program (PDREP) at <http://www.nslcptsmh.csd.disa.mil/pdrep/pdrep.htm>. As an alternative, non-encrypted PQDRs may be submitted via the same site using the On-Line EZ-PQDR feature (when submitted via EZ, a PDREP User ID is not required; however a CAC is required). (USMC only)

**CORROSION PREVENTION AND CONTROL (CPC)**

Corrosion Prevention and Control (CPC) 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.

Corrosion specifically occurs with metals. It is an electrochemical process that causes the degradation of metals. It is commonly caused by exposure to moisture, acids, bases, or salts. 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. Degradation is caused by thermal (heat), oxidation (oxygen), solvation (solvents), or photoelectric (light, typically UV) processes. The most common exposures are excessive heat or light. Damage from these processes will appear as cracking, softening, swelling, and/or breaking.

SF Form 368, PQDR should be submitted to the address specified in DA PAM 750-8, TAMMS Users Manual.

The form should be submitted to:

ATTN: AMSTA-AR-QAW-C  
TACOM-ARDEC  
1 Rock Island Arsenal  
Rock Island, IL 61299-7300  
Fax: DSN 793-6653, Commercial (309) 782-6653  
E-Mail: qawqdrs@ria.army.mil

**DESTRUCTION OF ARMY MATERIEL TO PREVENT ENEMY USE**

Army users: Refer to TM 750-244-7.

Air Force and Marine Corps users: Destroy by smashing, disassembling and scattering of parts, or by any manner that will render the weapon useless to the enemy.

**TURN-IN PROCEDURES****Procedures for Repair and Return****NOTE**

Failure to follow these procedures will mandate the TACOM Accountable Property Officer to contact the local Provost Marshal office to report noncompliance with weapon accountability regulations. This report may result in an investigation against the unit and possible criminal penalties to an individual for deviating from regulations.

M107 LRSRs are repaired at the Original Equipment Manufacturer (OEM):

Barrett Firearms Manufacturing, Inc.  
5926 Miller Lane  
ATTN: Repair/Upgrade Dept.  
Christiana, TN 37037-5612

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**TURN-IN PROCEDURES – Continued**

To obtain turn-in procedures for repair and return to the unit, contact the item manager. (Go to website <https://aeps2.ria.army.mil/>, click on Item Manager Look-up, enter NIIN 014692133). Detailed turn-in instructions will be provided by the item manager.

**Procedures for Repair and Return (USAF only)**

The unit will contact their servicing supply section, who will contact the item manager at Robins AFB for disposition/shipping instructions prior to returning a weapon to the OEM for any weapon that cannot be repaired using the procedures contained in this manual.

**Procedures for Repair and Return (USMC only)**

M107 SASR users are to submit Recoverable Item Report (WIR) for repair through the WIR On-Line Process Handler (WOLPH) system. (Go to website <https://logway.logcom.usmc.mil/>, click on WOLPH link). Follow material manager's guidance accordingly.

**Permanent Turn-in Procedures**

For permanent turn-in of the M107 Sniper Rifle, units must turn in a complete system (rifle, scope, cases, deployment kit, etc.) using the Report of Excess (FTE) IAW AR 725-50, chapter 7, 15 Nov. 1995. The unit must bring the system back up to standard configuration prior to shipment. Report of Discrepancy (ROD) will be filed to address any shortages.

All permanent turn-in weapon shipments must be accomplished through the use of the Defense Transportation System (DTS) and require Category IV Transportation Protection Service (TPS) in transit. Weapons returned through DTS shall have the container marked in accordance with MIL-STD-129P.

Applicable publications are listed below:

1. MIL-PRF-121: Barrier Material
2. ASTM D 5118: Standard Practice for Fabrication of Fiberboard Shipping Boxes
3. A-A-1898: Cushioning Material, Cellulosic Packaging
4. A-A-3129: Cushioning Material, Open Cell Plastic Film
5. A-A-1051: Paperboard, Wrapping and Cushioning
6. ASTM D 5486: Standard Specification for Pressure Sensitive Tape for Box Closure and Sealing
7. MIL-STD-129P: Standard Practice for Military Marking

**ISSUE AND RECOVERY OF INDIVIDUAL WEAPONS (USMC ONLY)**

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

## PREPARATION FOR STORAGE OR SHIPPING

### WARNING



### EXPLOSION AND ACCIDENTAL DISCHARGE

Do not store the weapon with live ammunition in either the chamber or magazine. Failure to comply may result in personnel injury or death.

#### 1. Storage for Extended Periods (USMC only).

When the weapon is to be stored for an extended period (greater than 90 days), follow procedures outlined in MCO P4450.7E, Preparation for Storage. Ensure the weapon is thoroughly cleaned as outlined in TM 9-1005-239-10.

#### 2. Storage Procedures.

Disassemble the weapon into three major assemblies, upper receiver assembly, bolt and carrier assembly, and lower receiver assembly as follows:

- a. Remove rear lock and midlock pins (Figure 1).

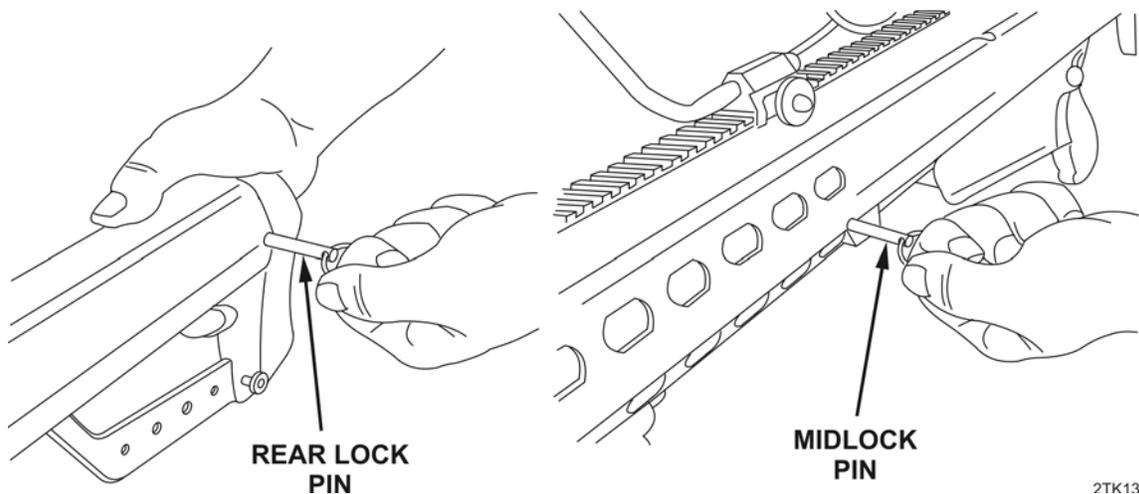


Figure 1. Rear and Midlock Pins.

- b. Retract bolt until it clears barrel extension and lift rear of upper receiver. Slowly release tension on bolt. Separate lower and upper receiver (Figure 2).

PREPARATION FOR STORAGE OR SHIPPING – Continued

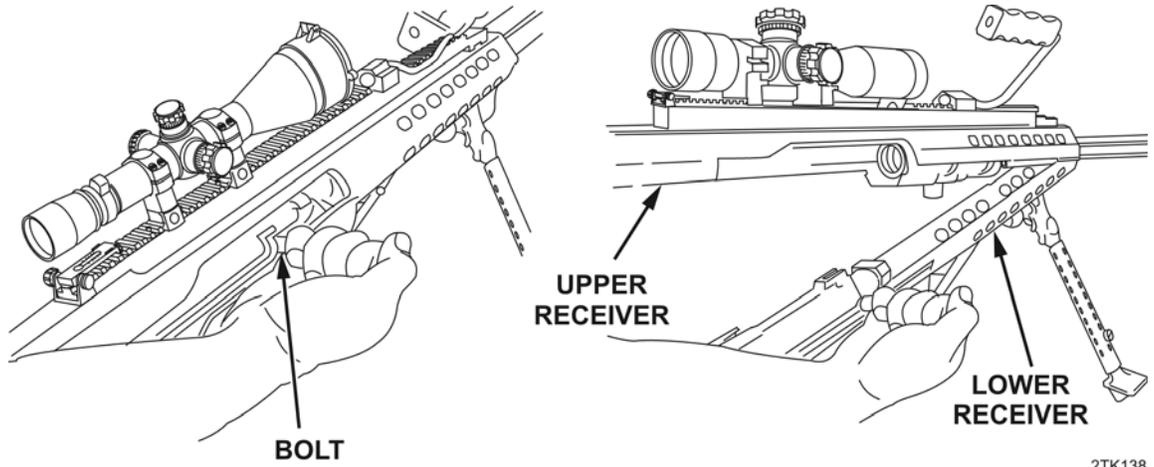


Figure 2. Lower and Upper Receiver.

**CAUTION**

Do not pull on barrel springs to remove the barrel key assembly. Doing so may damage the springs. Failure to comply may result in equipment damage.

- c. Turn upper receiver upside down and remove barrel key from barrel (Figure 3).

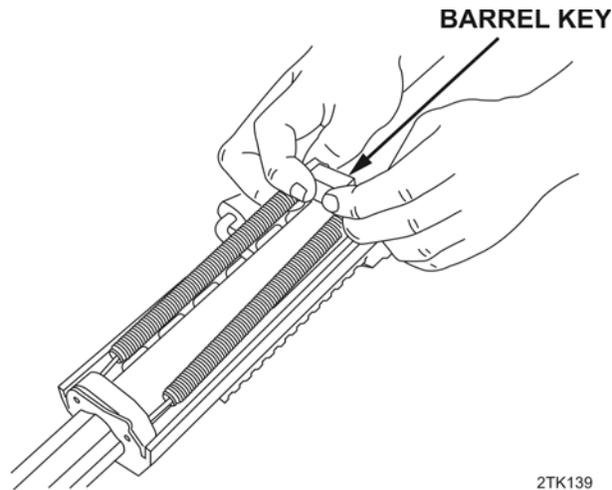


Figure 3. Barrel Springs.

- d. Slide barrel back into receiver and rotate 1/2 turn (Figure 4).

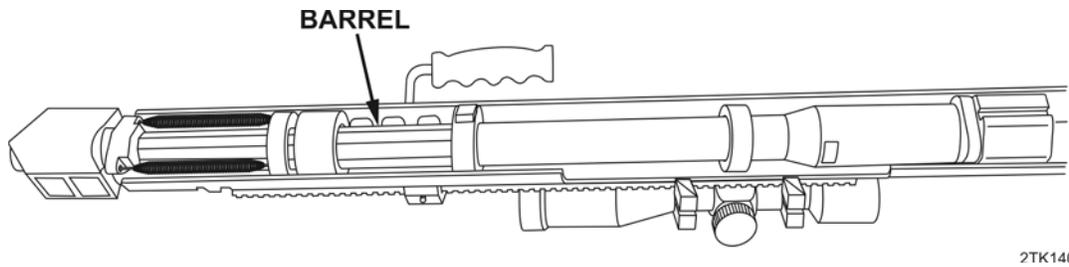


Figure 4. Barrel.

**PREPARATION FOR STORAGE OR SHIPPING – Continued**

- e. Retract bolt until hole in bolt is visible through first hole in lower receiver. Insert midlock pin into hole (Figure 5).

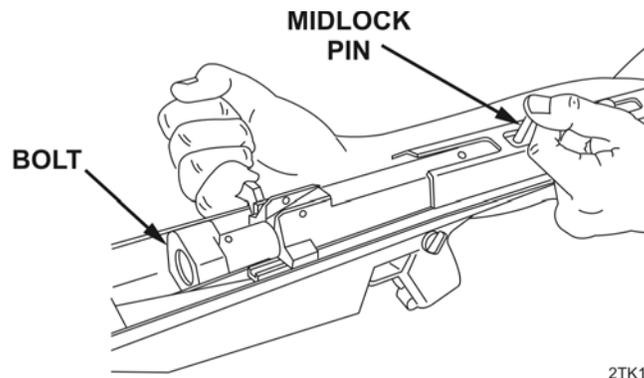


Figure 5. Midlock Pin.

- f. Fold bipod legs.

**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 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. 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.

**PREPARATION FOR STORAGE OR SHIPPING – Continued****NOTE**

When servicing this weapon, performing maintenance, or disposing of materials such as cleaning fluids, cleaning compounds, lubricants, and sealing compounds as well as items contaminated with these substances (such as cleaning rags) 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 Hotline at 1-800-872-3845 / OCONUS: 410-436-1244 or online at <http://aec.army.mil/usaec/contactus.html>. 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.

- g. Apply a coat of CLP (WP 0058, Item 12). Place all weapon pieces in their proper locations in the storage case (Figure 6).

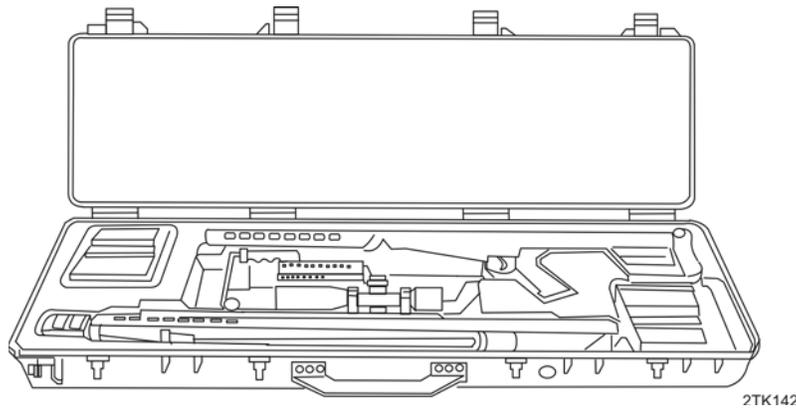


Figure 6. Storage Case.

**PREPARATION FOR STORAGE OR SHIPPING – Continued****Shipping Procedures****NOTE**

Do not ship weapon with live ammunition in chamber, magazine, or shipping box.

Ship weapons requiring depot level maintenance in accordance with the disposition instructions and pertinent auto-retrograde message.

1. Ensure that no ammunition is present by following the clearing procedures found in TM 9-1005-239-10.
2. Clean the weapon by following the procedures outlined in TM 9-1005-239-10.
3. Disassemble weapon into three major assemblies: upper receiver assembly, bolt and carrier assembly, and lower receiver assembly.
4. Place weapon in its carrying case with its Supply System Responsibility Items (SSRI) and place the case in a shipping box. Fill shipping box with a cushioning material. Close box and seal all seams and joints with tape or caulk.
5. Mark the box in accordance with MIL-STD-129P, Military Standard, Marking for Shipment and Storage.

**Shipping Procedures (USMC only)****NOTE**

Do not ship weapon with live ammunition in chamber, magazine, or shipping box.

Ship weapons requiring depot level maintenance in accordance with the disposition instructions and pertinent auto-retrograde message.

1. Ensure that no ammunition is present by following the clearing procedures found in TM 9-1005-239-10.
2. Complete NAVMC 1018 in accordance with TM 4700-15/1 and detail the required maintenance as thoroughly as possible.
3. Clean the weapon by following the procedures outlined in TM 9-1005-239-10.
4. Disassemble weapon into three major assemblies: upper receiver assembly, bolt and carrier assembly, and lower receiver assembly.
5. Place weapon in its carrying case with its Supply System Responsibility Items (SSRI) and place the case in a shipping box. Fill shipping box with a cushioning material. Close box and seal all seams and joints with tape or caulk.
6. Mark the box in accordance with MIL-STD-129P, Military Standard, Marking for Shipment and Storage.

**NOMENCLATURE CROSS-REFERENCE LIST**

<u>Common Name</u>	<u>Official Nomenclature</u>
Accelerator	Rifle accelerator
Adjustment turret cap	Dust protective cap
Anti-reflective device	Optical eyeshield
Barrel	Rifle barrel
Base plate	Magazine floor plate
Battery bumper	Nonmetallic bumper
Bipod detent	Headed straight pin
Bipod locking pin	Quick release pin
Bipod pin	Spring pin
Bipod spring	Helical compression spring
Bolt	Breech bolt
Bolt alignment insert	Locking insert
Bolt keeper	Lock washer
Bolt latch	Lock-release lever
Bolt latch spring	Compression helical spring
Cam pin assembly	Machine breechlock cam
Carrying handle	Rifle grip
Cocking lever pin	Bolt carrier pin
Extension stop pin	Bolt carrier pin
Extractor	Cartridge extractor
Extractor plunger	Cartridge extractor
Eyepiece lens cover	Lens cap
Impact barrel bumper	Nonmetallic bumper
Iron sight	Rear sight
Knurled lock ring	Knurled plain nut
Laser filter unit	Telescope light filter
Magazine catch pin	Spring pin
Magazine follower	Cartridge follower
Midlock pin	Quick release pin
Monopod	Gun mount
Muzzle brake screw	Socket head cap screw
Muzzle brake shim	Shim set
Muzzle brake washer	Flat washer
Pistol grip	Rifle grip
Rear lock pin	Quick release pin
Rear sight scale	Rear slide assembly
Scope ring assembly	Telescope mount
Scope ring bolt	Machine bolt
Scope ring screw	Machine screw
Sear pin	Sear pin
Telescope	Optic mount system
Windage knob pin	Spring pin
Yoke mount washer	Lock washer

## LIST OF ABBREVIATIONS/ACRONYMS

Abbreviations and acronyms appearing in this manual are defined in the paragraph where they first appear, after which only the abbreviation or acronym is used. The following is a quick-reference list of all abbreviations and acronyms and their corresponding word or compound term used in this manual.

<u>Abbreviation/Acronym</u>	<u>Name</u>
°C	Degrees Celsius
°F	Degrees Fahrenheit
AFI	Air Force Instruction
API	Armor-Piercing Incendiary
APIT	Armor-Piercing Incendiary Tracer
CAGE (USMC only)	Commercial and Government Entity
CAGEC	Commercial and Government Entity Code
CLP	Cleaner, Lubricant, and Preservative
cm	centimeter/centimeters
CPC	Corrosion Prevention and Control
DTS	Defense Transportation System
EIR	Equipment Improvement Recommendation
EMP	Electromagnetic Pulse
FGC	Functional Group Code
fps	feet per second
FSSG	Force Service Support Group
FTE	Report of Excess
HCI	Hardness Critical Item
IAW	In Accordance With
IDN	Initial Distribution Number
IMA	Intermediate Maintenance Activity
in.	inch/inches
J	Joules
kg	kilogram(s)
lb-in.	pound-force inch
LAW	Lubricant, Arctic Weather
lb-ft	pound-force foot
LRSR	Long Range Sniper Rifle
LSA	Lubricant, Small Arms
LSAT	Lubricant, Small Arms (with Teflon)
LRSR	Long Range Sniper Rifle
MAC	Maintenance Allocation Chart
MCO	Marine Corps Order
MCPDS	Marine Corps Publication Distribution System
mm	millimeter(s)
MOA	Minute of Angle
MOS	Military Occupational Specialty
m/s	Meters per Second
NAVMC	Navy Marine Corps

**LIST OF ABBREVIATIONS/ACRONYMS – Continued**

<u>Abbreviation/Acronym</u>	<u>Name</u>
NHA	Next Higher Assembly
NIIN	National Item Identification Number
NSN	National Stock Number
OEM	Original Equipment Manufacturer
PMCS	Preventive Maintenance Checks and Services
P/N	Part Number
PQDR	Product Quality Deficiency Report
qt	Quart
ROD	Report of Discrepancy
RPSTL	Repair Parts And Special Tools List
SASR	Special Application Scoped Rifle
SLAP	Saboted Light Armor Piercing
SMR	Source, Maintenance, and Recoverability
SRA	Specialized Repair Activity
SSRI	Supply System Responsibility Item
TAMMS	The Army Maintenance Management System
TASMG	Theater Aviation Sustainment Maintenance Group
TM	Technical Manual
TMDE	Test, Measurement, and Diagnostic Equipment
TO	Technical Order
TPS	Transportation Protection Service
U/I	Unit of Issue
U/M	Unit of Measure
UOC	Usable On Code
USAF	United States Air Force
USMC	United States Marine Corps
UUT	Unit Under Test
WIR	Recoverable Item Report
WOLPH	WIR On-Line Process Handler
WP	Work Package
yd	Yard(s)

**QUALITY OF MATERIAL**

Material used for replacement, repair, or modification must meet the requirements of this manual. If quality of 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 PAM 385-64 for general ammunition safety, care, and handling.

**END OF WORK PACKAGE**

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**FIELD MAINTENANCE**  
**EQUIPMENT DESCRIPTION AND DATA**

---

**EQUIPMENT CHARACTERISTICS, CAPABILITIES, AND FEATURES****EQUIPMENT DESCRIPTION****Characteristics**

The basic M107 rifle is equipped with bipod, muzzle brake, carrying handle, and 10-round removable magazine. The M107 system is composed of the rifle and a sniper scope, plus spare magazines. The rifle is also supplied with fitted carrying case, the requisite cleaning kit, drag bag, cleaning equipment, and the telescope adjustment tools.

The M107 is a semiautomatic, air-cooled, box magazine-fed rifle chambered for .50 caliber ammunition. This rifle operates by means of the short recoil principle, rather than gas.

**Capabilities**

The M107 is a long-range sniper weapon system which utilizes standard .50 caliber ammunition. The M107 is a man-portable, direct line-of-sight system capable of providing precision fire on targets at distances up to 2,000 yd (1,830 m).

**Features**

The left side of the M107 rifle reveals the carrying handle, upper receiver, recoil pad, monopod, pistol grip, trigger, safety, lower receiver, and barrel.

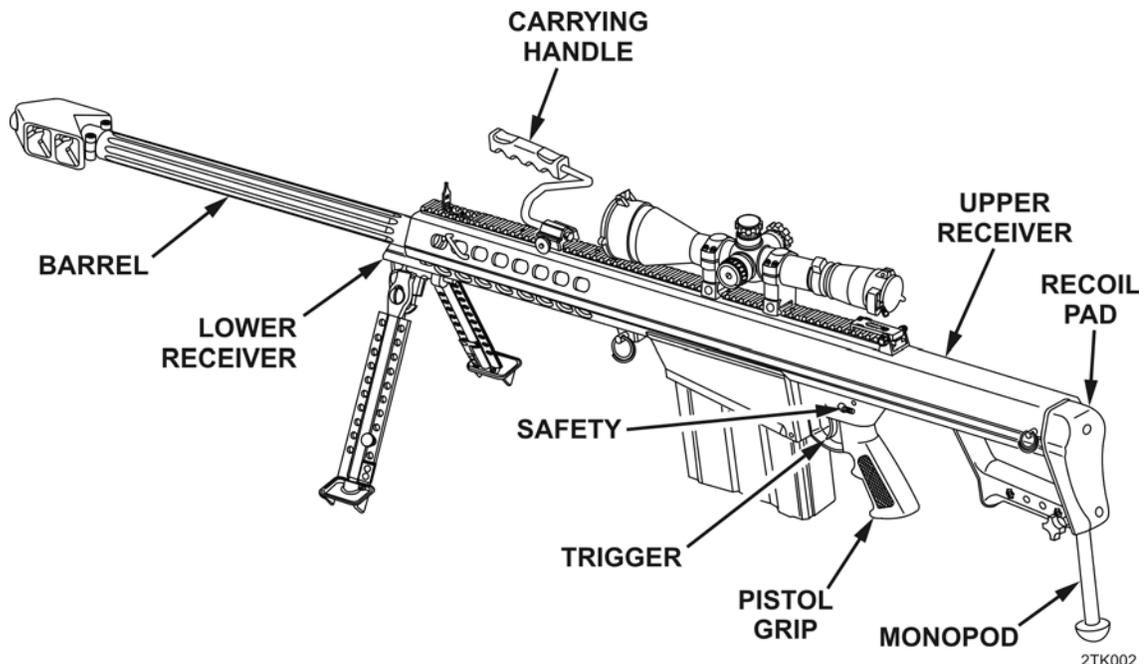
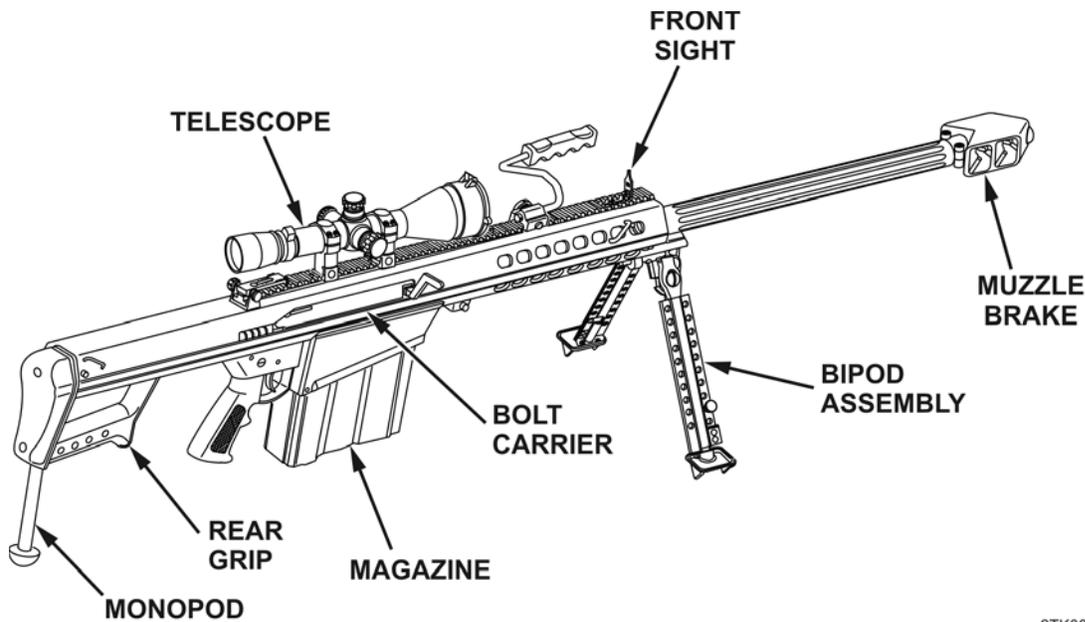


Figure 1. Left Side.

**EQUIPMENT DESCRIPTION – Continued**

The right side of the M107 rifle reveals the telescope, front sight, muzzle brake, bipod assembly, bolt carrier, magazine, rear grip, and monopod.



2TK003

Figure 2. Right Side.

**LOCATION AND DESCRIPTION OF MAJOR COMPONENTS****Table 1. Components and Description.**

<b>COMPONENTS</b>	<b>DESCRIPTION</b>
Upper receiver assembly	Includes the front sight, accessory base, carrying handle, muzzle brake, and barrel.
Rail	Used to attach the scope, the carrying handle, and accessory optic sights.
Carrying handle	Steel stock with a hard plastic handle.
Front sight	A 0.075-in. (0.19 cm) post.
Muzzle brake	Critical to the functioning of the weapon; absorbs approximately 70 percent of the recoil.
Barrel	Length is 29 in. (73.7 cm), with eight lands and grooves in a uniform right hand twist, one turn in 15 in. (38.1 cm). Muzzle end is threaded to accept a muzzle brake; breech end has a barrel extension integral to the locking function.
Bolt assembly	Houses the firing pin, extractor, and ejector.
Bolt and carrier assembly	Consists of the bolt, firing pin, all extraction and ejection mechanisms, cocking lever, and sear.
Bipod assembly	Detachable forward support system composed of retractable legs and extending foot pads.
Lower receiver assembly	Includes detachable bipod assembly, buffer assembly, midlock pin, and trigger mechanism.

LOCATION AND DESCRIPTION OF MAJOR COMPONENTS – Continued

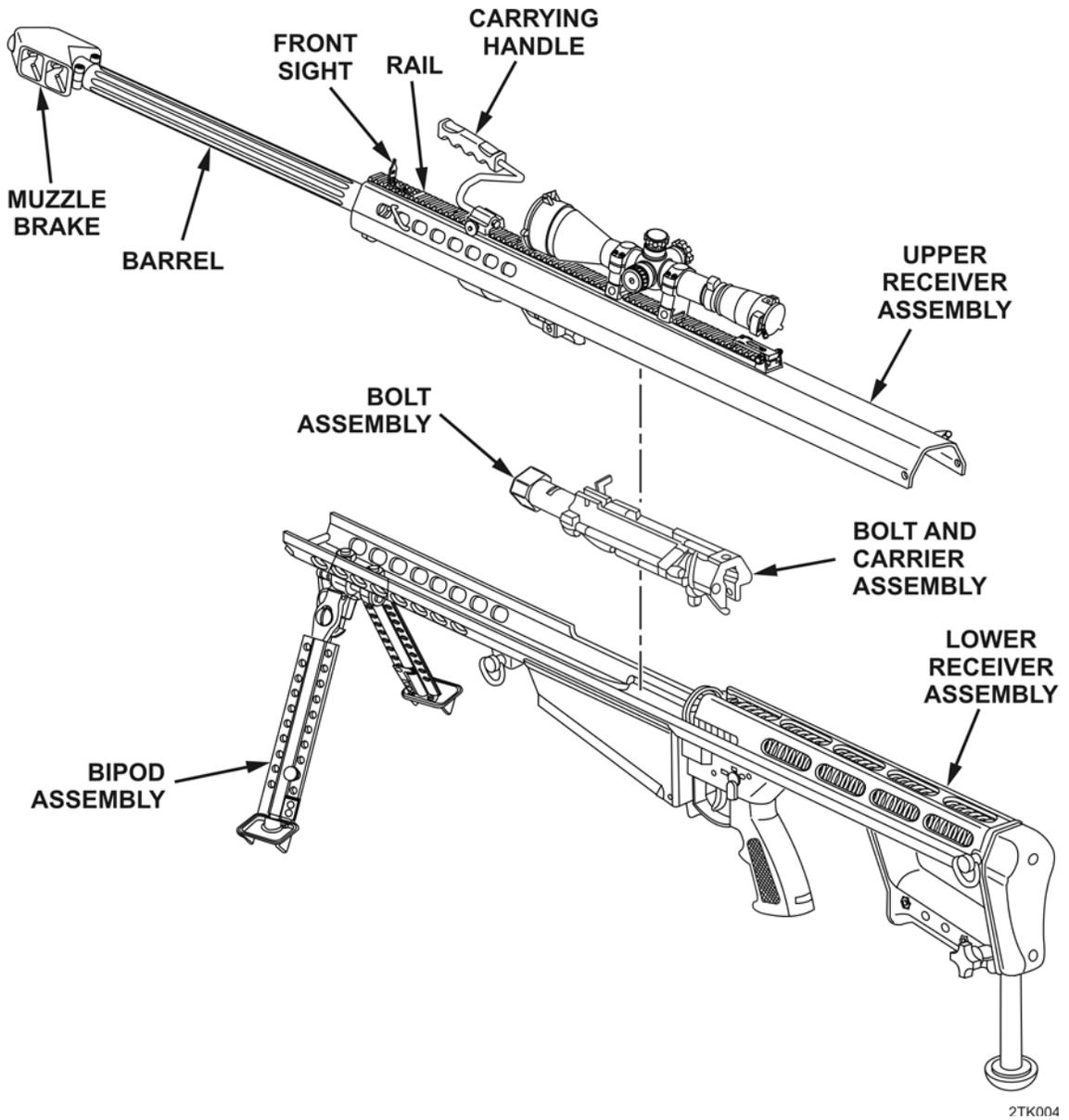


Figure 3. M107 Rifle Components.

## EQUIPMENT DATA

The M107 Rifle System comprises the rifle with a fixed variable 4.5X14 power sniper scope, and 6 magazines. The rifle is also supplied with a fitted dirt-tight and watertight carrying case, cleaning kit, and telescope adjustment tools.

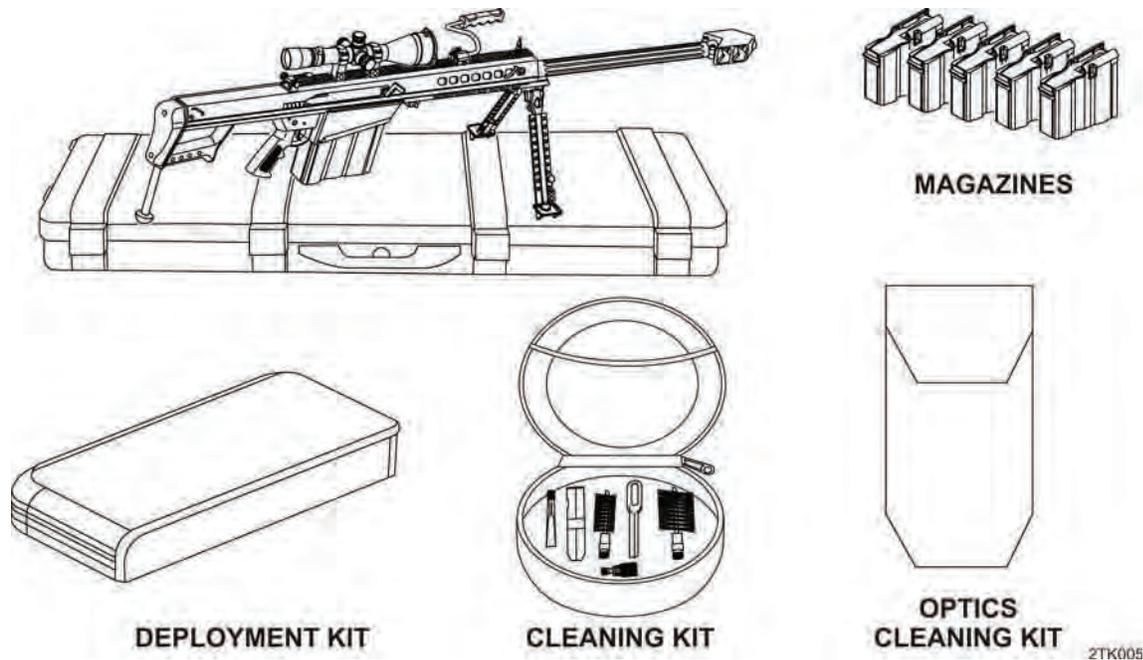


Figure 4. M107 Rifle System.

Table 2. M107 Rifle Equipment Data.

SPECIFICATIONS	
Caliber	.50 (12.7 x 99 mm)
Weight (gun and scope)	28.5 lb (12.9 kg) unloaded
Overall length (assembled)	57 in. (144.8 cm)
Length (take-down mode)	38 in. (96.5 cm)
Barrel length	29 in. (73.7 cm)
Magazine capacity	10 rounds
Magazine weight	10 rounds - 4.12 lb (1.87 kg) 8 rounds - 3.62 lb (1.64 kg)
Stock	Integral with lower receiver (steel)
Safety	Manual thumb lever
Sights	Telescope
Sight type	Leupold 4.5X14 Vary X
Length	12.63 in. (32.08 cm)
Reticle	Mil dot
Lens	50 mm
Elevation	1 click equals 1/4 MOA at 109 yd (100 m)
Windage	1 click equals 1/4 MOA at 109 yd (100 m)
Eye relief	3 to 6 in. (7.6 to 15.2 cm)

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**EQUIPMENT DATA – Continued****Table 3. Capabilities.**

Muzzle velocity	Approx. 2,800 fps (853 m/s) (with standard 660-grain bullet)
Muzzle energy	11,500 lb-ft (15,582 J)
Maximum range	Approx. 7,450 yd (6,812 m) (with standard 660-grain bullet)
Max. effective range	Approx. 2,000 yd (1,830 m) (with standard 660-grain bullet)

**Compatible Ammunition**

MK211, Mod 0, Caliber .50 API Cartridge

M33, Caliber .50 Ball Cartridge

M17, Caliber .50 Tracer Cartridge

M8, Caliber .50 API Cartridge

M20, Caliber .50 APIT Cartridge

**END OF WORK PACKAGE**



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**FIELD MAINTENANCE**  
**THEORY OF OPERATION**

---

**CYCLE OF OPERATION**

The cycle of operation for the M107 Rifle is broken down into eight basic steps (more than one step may occur at the same time).

1. Feeding: The force of the mainspring pushes the bolt forward toward the barrel extension, stripping a cartridge from the magazine and loading it into the chamber (by hand when first loading, by semiautomatic action afterwards).
2. Chambering: The bolt forces the round fully into the firing chamber, and the extractor snaps over the case rim. Blockages (dirt or debris) can prevent full chambering, as can dirty, bent, dented, or otherwise faulty ammunition.
3. Locking: During chambering, the bolt enters the barrel extension and the bolt latch engages the bolt latch trip (inside top of the upper receiver, just behind barrel extension). The bolt latch is then depressed, allowing the bolt to retract into the bolt carrier. The bolt, in turn, rotates due to the cam slot and is locked when its three locking lugs rotate into place in the barrel extension, closing the firing chamber.
4. Firing: Pulling the trigger pivots it on the trigger housing pin and presses on the transfer bar, causing the bar to rise. The transfer bar engages the sear (housed in the bolt carrier), forcing it upward and out of engagement with the firing pin extension. The firing pin extension, under spring power, forces the firing pin forward to strike the primer of the cartridge.
5. Unlocking: When the cartridge is fired, gas pressure exerts a thrust on the bolt face via the case head. The bolt carrier carries the bolt and barrel extension to the rear until the accelerator, protruding beneath the bolt carrier, contacts a shoulder in the trigger housing area. The accelerator is then pivoted up, causing the accelerator rod to be pushed out of the bolt carrier. As it protrudes from the front of the bolt carrier, it separates the bolt carrier from the barrel extension. Because of the cam slot in the side of the bolt, the bolt rotates as it is pulled and unlocks from the barrel extension.
6. Cocking: As the bolt recoils to the rear, the cocking lever "rides" the transfer bar back and down, causing it to disconnect from the trigger. The transfer bar is then held down in this position by the disconnect and is not released until pressure is released from the trigger. After disconnection, the cocking lever swings on its pin and overrides the transfer bar. The other end of the cocking lever protrudes into the bolt carrier and into the firing pin extension. As the cocking lever pivots, it withdraws the firing pin and compresses the firing pin extension spring. The firing pin extension then catches the sear.
7. Extraction: As the bolt locking lugs rotate away from the barrel extension, the bolt withdraws from the barrel and the bolt latch locks the bolt in its extended position. The extractor, located on the bolt face and hooked over the rim of the fired case, pulls the case from the firing chamber.
8. Ejection: As soon as the fired case has been extracted and has cleared the rear of the barrel extension, the spring-powered ejector expels it from the rifle.

**END OF WORK PACKAGE**



**CHAPTER 2**  
**TROUBLESHOOTING PROCEDURES**  
**FOR**  
**LONG RANGE SNIPER RIFLE, M107**



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## FIELD MAINTENANCE

### TROUBLESHOOTING INTRODUCTION

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#### GENERAL

1. This section provides information for identifying and correcting malfunctions that may develop while operating or maintaining the M107 Sniper Rifle.
2. The Malfunction/Symptom Index WP 0005 or WP 0007 (USMC and USAF only) lists common malfunctions that may occur and refers you to the proper page in WP 0006 or WP 0008 (USMC and USAF only) for a troubleshooting procedure.
3. If you are unsure of an item mentioned, refer to WP 0002 or the maintenance task where the item is replaced.
4. Before performing a troubleshooting procedure, read and follow all safety instructions found in the Warning Summary at the front of this manual.
5. This section cannot list all malfunctions that may occur, or all tests, inspections, and corrective actions. If a malfunction is not listed, or is not corrected by the listed corrective actions, notify your supervisor.
6. When troubleshooting a symptom:
  - a. Locate the malfunction in the Malfunction/Symptom Index in WP 0005 or WP 0007 (USMC and USAF only) that best describes the malfunction.
  - b. Turn to WP 0006 or WP 0008 (USMC and USAF only) where the troubleshooting procedure for the malfunction in question is described. Headings for each troubleshooting procedure are organized as follows: Symptom, Malfunction, and Corrective Action.

#### EXPLANATION OF HEADINGS

The headings in WP 0006 or WP 0008 (USMC and USAF only) are defined as follows:

1. SYMPTOM. A visual or operational indication that something is wrong with the equipment.
2. MALFUNCTION. Equipment defect that may cause the symptom.
3. CORRECTIVE ACTION. A procedure to correct the problem.

#### END OF WORK PACKAGE



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**FIELD MAINTENANCE  
TROUBLESHOOTING INDEX**

---

<u>Malfunction/Symptom</u>	<u>Troubleshooting Procedure</u>
1. Failure to Feed . . . . .	WP 0006
2. Failure to Chamber . . . . .	WP 0006
3. Failure to Cock . . . . .	WP 0006
4. Failure to Lock or Unlock . . . . .	WP 0006
5. Failure to Fire . . . . .	WP 0006
6. Failure to Extract . . . . .	WP 0006
7. Failure to Eject . . . . .	WP 0006
8. Very Hard Recoil . . . . .	WP 0006

**END OF WORK PACKAGE**



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**FIELD MAINTENANCE**  
**TROUBLESHOOTING PROCEDURES**

---

**INITIAL SETUP:****Tools and Special Tools**

Small Arms Repairer Tool Kit  
(WP 0057, Table 2, Item 9)

**References**

TM 9-1005-239-10  
WP 0001  
WP 0015

**References - Continued**

WP 0016  
WP 0024  
WP 0025  
WP 0027  
WP 0028

---

**TROUBLESHOOTING PROCEDURE****SYMPTOM**

Failure to feed

**MALFUNCTION**

Sluggish action

**CORRECTIVE ACTION**

Clean and lubricate or (if cold) check for over lubrication (TM 9-1005-239-10).

**MALFUNCTION**

Short cycling

**CORRECTIVE ACTION**

Support receiver more firmly in shoulder.

**MALFUNCTION**

Damaged magazine

**CORRECTIVE ACTION**

Replace magazine (WP 0015).

**MALFUNCTION**

Improper seating of magazine

**CORRECTIVE ACTION**

Reinsert magazine properly (WP 0015).

**MALFUNCTION**

Weak or broken mainspring

**CORRECTIVE ACTION**

Replace mainspring (WP 0016).

**TROUBLESHOOTING PROCEDURE – Continued****MALFUNCTION**

Binding of bolt carrier assembly in receiver

**CORRECTIVE ACTION**

Replace bolt carrier assembly (WP 0015).

**SYMPTOM**

Failure to chamber

**MALFUNCTION**

Damaged cartridge

**CORRECTIVE ACTION**

Step 1. Remove damaged cartridge.

Step 2. Recharge/reload.

**MALFUNCTION**

Dirty chamber

**CORRECTIVE ACTION**

Clear and clean chamber.

**MALFUNCTION**

Faulty mainspring

**CORRECTIVE ACTION**

Replace mainspring (WP 0016).

**MALFUNCTION**

Bent or damaged lower receiver housing

**CORRECTIVE ACTION**

Return to sustainment maintenance activity (Barrett Firearms) for repair (WP 0001).

**SYMPTOM**

Failure to cock

**MALFUNCTION**

Worn or broken trigger and/or trigger spring

**CORRECTIVE ACTION**

Replace trigger and/or spring (WP 0016).

**MALFUNCTION**

Worn or broken sear assembly

**CORRECTIVE ACTION**

Replace sear assembly (WP 0028).

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**TROUBLESHOOTING PROCEDURE – Continued****MALFUNCTION**

Worn or broken disconnecter

**CORRECTIVE ACTION**

Replace disconnecter (WP 0016).

**MALFUNCTION**

Worn or broken disconnecter spring

**CORRECTIVE ACTION**

Replace disconnecter spring (WP 0016).

**SYMPTOM**

Failure to lock or unlock

**MALFUNCTION**

Obstruction between firing pin and bolt

**CORRECTIVE ACTION**

Disassemble and clean (TM 9-1005-239-10).

**MALFUNCTION**

Blown primer wedged between firing pin and bolt

**CORRECTIVE ACTION**

Return to sustainment maintenance activity (Barrett Firearms) if problem persists (WP 0001).

**MALFUNCTION**

Excessive dirt, sand, etc. in locking area

**CORRECTIVE ACTION**

Clean chamber.

**MALFUNCTION**

Bolt spring is bent or not seated properly

**CORRECTIVE ACTION**

Replace bolt spring or reinstall properly (WP 0027).

**MALFUNCTION**

Broken or burred bolt latch or bolt latch spring

**CORRECTIVE ACTION**

Replace bolt latch or bolt latch spring (WP 0025).

**TROUBLESHOOTING PROCEDURE – Continued****SYMPTOM**

Failure to fire

**MALFUNCTION**

Faulty ammunition

**CORRECTIVE ACTION**

Replace ammunition.

**MALFUNCTION**

Bolt carrier is not in battery

**CORRECTIVE ACTION**

Manually cycle round.

**MALFUNCTION**

Improper installation of firing mechanism

**CORRECTIVE ACTION**

Install properly.

**MALFUNCTION**

Incorrect installation of trigger components

**CORRECTIVE ACTION**

Reinstall trigger components correctly.

**MALFUNCTION**

Faulty/broken trigger components

**CORRECTIVE ACTION**

Replace trigger components as necessary (WP 0016).

**SYMPTOM**

Failure to extract

**MALFUNCTION**

Broken extractor

**CORRECTIVE ACTION**

Replace extractor (WP 0027).

**MALFUNCTION**

Extractor is not moving freely

**CORRECTIVE ACTION**

Remove and clean extractor.

---

**TROUBLESHOOTING PROCEDURE – Continued****MALFUNCTION**

Dirty chamber

**CORRECTIVE ACTION**

Clean chamber.

**SYMPTOM**

Failure to eject

**MALFUNCTION**

Frozen or damaged ejector or ejector spring.

**CORRECTIVE ACTION**

Remove and replace ejector and/or ejector spring (WP 0027).

**SYMPTOM**

Very hard recoil

**MALFUNCTION**

Faulty/hot ammunition

**CORRECTIVE ACTION**

Replace or cool ammunition.

**MALFUNCTION**

Damaged mainspring buffer or mainspring

**CORRECTIVE ACTION**

Remove mainspring buffer and mainspring. Replace as necessary (WP 0016).

**MALFUNCTION**

Missing, loose, clogged, or damaged muzzle brake

**CORRECTIVE ACTION**

Step 1. Install muzzle brake (WP 0024).

Step 2. Tighten muzzle brake screws.

Step 3. Replace damaged muzzle brake (WP 0024).

**END OF WORK PACKAGE**



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**FIELD MAINTENANCE**  
**TROUBLESHOOTING INDEX (USMC AND USAF ONLY)**

---

<u>Malfunction/Symptom</u>	<u>Troubleshooting Procedure</u>
1. Failure to Feed . . . . .	WP 0008
2. Failure to Chamber . . . . .	WP 0008
3. Failure to Lock or Unlock . . . . .	WP 0008
4. Failure to Fire . . . . .	WP 0008
5. Failure to Extract . . . . .	WP 0008
6. Failure to Eject . . . . .	WP 0008
7. Very Hard Recoil . . . . .	WP 0008

**END OF WORK PACKAGE**



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**FIELD MAINTENANCE**  
**TROUBLESHOOTING PROCEDURES (USMC AND USAF ONLY)**

---

**INITIAL SETUP:****Tools and Special Tools**

Small Arms Repairer Tool Kit (USMC only)  
(WP 0057, Table 2, Item 10)

**References**

TM 9-1005-239-10  
WP 0015

**References - Continued**

WP 0016  
WP 0024  
WP 0026  
WP 0027

---

**TROUBLESHOOTING PROCEDURE****SYMPTOM**

Failure to feed (bolt moves forward without feeding cartridge)

**MALFUNCTION**

Sluggish Action

**CORRECTIVE ACTION**

Clean and lubricate or (if cold) check for over lubrication (TM 9-1005-239-10).

**MALFUNCTION**

Short cycling

**CORRECTIVE ACTION**

Support receiver more firmly in shoulder.

**MALFUNCTION**

Damaged magazine

**CORRECTIVE ACTION**

Replace magazine (WP 0015).

**MALFUNCTION**

Magazine not properly seated

**CORRECTIVE ACTION**

Reinsert magazine properly.

**MALFUNCTION**

Bolt carrier assembly binding in receiver

**CORRECTIVE ACTION**

Step 1. Straighten receiver as required.  
Step 2. Bend lips slightly until no binding is present.

**TROUBLESHOOTING PROCEDURE – Continued****SYMPTOM**

Failure to chamber (bolt does not completely close, bolt binds)

**MALFUNCTION**

Damaged Cartridge

**CORRECTIVE ACTION**

Step 1. Remove damaged cartridge.

Step 2. Recharge/reload.

**MALFUNCTION**

Dirty Chamber

**CORRECTIVE ACTION**

Clear and clean chamber.

**MALFUNCTION**

Faulty mainspring

**CORRECTIVE ACTION**

Replace mainspring (WP 0016).

**MALFUNCTION**

Bent receiver housing

**CORRECTIVE ACTION**

Replace receiver housing (WP 0016).

**SYMPTOM**

Failure to lock or unlock

**MALFUNCTION**

Obstruction between firing pin and bolt

**CORRECTIVE ACTION**

Disassemble and clean firing pin and bolt.

**MALFUNCTION**

Blown primer wedged between firing pin and bolt

**CORRECTIVE ACTION**

Step 1. Replace ammunition.

Step 2. Report faulty ammunition lot number.

Step 3. Evacuate to Intermediate Maintenance Activity (IMA).

---

**TROUBLESHOOTING PROCEDURE – Continued****MALFUNCTION**

Excessive dirt or sand in locking area

**CORRECTIVE ACTION**

Clean chamber (TM 9-1005-239-10).

**MALFUNCTION**

Broken or burred bolt latch or bolt latch spring

**CORRECTIVE ACTION**

Repair or replace if bolt is rounded over (WP 0026).

**MALFUNCTION**

Bolt spring is bent or not seated properly

**CORRECTIVE ACTION**

Replace bolt spring or reinstall properly (WP 0027).

**SYMPTOM**

Failure to fire (cartridge does not ignite)

**MALFUNCTION**

Broken/frozen firing pin

**CORRECTIVE ACTION**

Evacuate weapon to IMA.

**MALFUNCTION**

Faulty ammunition

**CORRECTIVE ACTION**

Step 1. Replace ammunition.

Step 2. Report faulty ammunition lot number.

**MALFUNCTION**

Bolt carrier is not in battery

**CORRECTIVE ACTION**

Cycle round manually.

**MALFUNCTION**

Excessive lift in bolt carrier when trigger is squeezed

**CORRECTIVE ACTION**

Bend recoil spring housing lips.

**TROUBLESHOOTING PROCEDURE – Continued****MALFUNCTION**

Improper installation of firing mechanism

**CORRECTIVE ACTION**

Install firing mechanism properly.

**MALFUNCTION**

Incorrect installation of trigger components

**CORRECTIVE ACTION**

Install trigger components correctly.

**MALFUNCTION**

Faulty/broken trigger components

**CORRECTIVE ACTION**

Repair or replace trigger components (WP 0016).

**SYMPTOM**

Failure to extract (cartridge case will not extract)

**MALFUNCTION**

Bent, broken, or frozen extractor

**CORRECTIVE ACTION**

Replace extractor (WP 0027).

**MALFUNCTION**

Extractor does not move freely in slot

**CORRECTIVE ACTION**

Remove, clean, and replace extractor.

**MALFUNCTION**

Dirty chamber or receiver

**CORRECTIVE ACTION**

Clean and lubricate (TM 9-1005-239-10).

**SYMPTOM**

Failure to eject (cartridge case will not eject)

**MALFUNCTION**

Frozen or damaged ejector or ejector spring

**CORRECTIVE ACTION**

Remove and replace ejector and/or ejector spring (WP 0027).

---

**TROUBLESHOOTING PROCEDURE – Continued****SYMPTOM**

Very hard recoil

**MALFUNCTION**

Hot or faulty ammunition

**CORRECTIVE ACTION**

- Step 1. Cool ammunition.
- Step 2. Replace ammunition.
- Step 3. Report faulty ammunition lot number.

**MALFUNCTION**

Missing, loose, clogged, or damaged muzzle brake

**CORRECTIVE ACTION**

- Step 1. Install muzzle brake (WP 0024).
- Step 2. Tighten muzzle brake screws.
- Step 3. Replace damaged muzzle brake (WP 0024).

**MALFUNCTION**

Damaged mainspring buffer and/or mainspring

**CORRECTIVE ACTION**

- Remove mainspring buffer and mainspring. Replace as necessary (WP 0016).

**END OF WORK PACKAGE**



**CHAPTER 3**  
**PREVENTIVE MAINTENANCE INSTRUCTIONS**  
**FOR**  
**LONG RANGE SNIPER RIFLE, M107**



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**FIELD MAINTENANCE****PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS) INTRODUCTION**

---

**GENERAL**

1. Unit personnel must perform Preventive Maintenance Checks and Services (PMCS) (WP 0010) to ensure the sniper rifle is in good operating condition and ready for its primary mission.
2. To ensure maximum operational readiness, it is necessary that the sniper rifle 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 direct support 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****NOTE**

Tools and equipment listed in WP 0054 are authorized at the organizational maintenance level for the proper care and cleaning of the Special Application Scoped Rifle (SASR). (USMC Only)

US Army performs quarterly inspections found in WP 0010 and the semiannual inspection found in WP 0012.

USAF and USMC perform PMCS every 180 days to keep the weapon in proper operating condition, in accordance with Table 1 in WP 0012. 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 9-1005-239-10. 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 9-1005-239-10. Evacuate the weapon to higher level of maintenance if repairs are not authorized at organizational maintenance. Refer to Source, Maintenance, and Recoverability (SMR) codes in WP 0035.

**EXPLANATION OF COLUMNS**

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 sniper rifle leaving its containment area or performing its mission. DURING checks begin when the sniper rifle is being used and AFTER checks and services begin when the sniper rifle is taken out of its mission mode or is returned to its containment area.

The ITEM TO BE CHECKED OR SERVICED column indicates the component of the sniper rifle to be checked.

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 EQUIPMENT NOT READY/AVAILABLE IF column indicates deficiencies that must be corrected before the sniper rifle can be operated.

**END OF WORK PACKAGE**



**FIELD MAINTENANCE**

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

**INITIAL SETUP:**

**Tools and Special Tools**

Small Arms Repairer Tool Kit  
(WP 0057, Table 2, Item 9)

**Materials/Parts**

Cleaner, Lubricant, and Preservative (CLP)  
(WP 0058, Item 12)  
Lubricating Oil, Lubricant Small Arms (LSA)  
(WP 0058, Item 16)

**Materials/Parts - Continued**

Lubricating Oil, Lubricant Small Arms with Teflon  
(LSAT) (WP 0058, Item 20)  
Lubricating Oil, Lubricant Arctic Weather (LAW)  
(WP 0058, Item 21)  
Rag, Wiping (WP 0058, Item 24)

**References**

TM 9-1005-239-10

**Table 1. Preventive Maintenance Checks and Services for M107 Long Range Sniper Rifle.**

ITEM NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
1	Quarterly	M107	<p><b>NOTE</b></p> <p>Always keep live ammunition far from work/maintenance area.</p> <p>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. Do not release the bolt or press the trigger.</p>	
2	Quarterly	M107	Hand function the weapon to ensure it is functional. Visually check the exterior of the weapon and components for rust or damage. Check components for cracks, breaks, and damage.	Parts are missing, damaged, or broken.
3	Quarterly	M107	Clean exterior of weapon to remove dirt and debris (TM 9-1005-239-10).	Weapon is dirty.
4	Quarterly	Muzzle Brake	Check to see that both muzzle brake screws are secured to the muzzle brake. Ports are at the 3 and 9 o'clock positions.	Threads are missing; muzzle brake is loose or misoriented.
5	Quarterly	Barrel Assembly	Check to ensure bore is free of obstructions and not bulged. Check for excess lubrication in bore area. Swab dry.	Bore is obstructed or bulged.
6	Quarterly	Barrel Assembly	Clean chamber.	Chamber is obstructed.
7	Quarterly	Scope Mounting Hardware	Check to see that all hardware is tight and that scope is secured to weapon.	Scope is loose or hardware is missing.

Table 1. Preventive Maintenance Checks and Services for M107 Long Range Sniper Rifle – Continued.

ITEM NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
8	Quarterly	Lower Receiver Assembly	Check to see that rear and midlock pins are installed so that retaining bearing is visible on opposite side of receiver.	Pin cannot be inserted far enough for bearing to be exposed.
9	Quarterly	Cartridge Magazine	Ensure that magazine has free travel of magazine follower and that magazine tube is not damaged (bent or cracked).	Free travel of follower is not present or magazine tube is damaged.
10	Quarterly	M107	<p style="text-align: center;"><b>WARNING</b></p>  <p>Avoid injury to eyes. Use care when removing and installing spring loaded parts. Failure to comply may result in personnel injury.</p> <p>Fieldstrip weapon. Refer to TM 9-1005-239-10. Inspect all assemblies for missing, broken, or loose parts. Inspect all parts for cracks, dents, burrs, excessive wear, rust, or corrosion.</p>	Parts are missing, broken, or damaged. Evacuate weapon to direct support maintenance if repair is not authorized at field maintenance.

## LUBRICATION INSTRUCTIONS

### 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 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. 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.

### NOTE

When servicing this weapon, performing maintenance, or disposing of materials such as cleaning fluids, cleaning compounds, lubricants, and sealing compounds as well as items contaminated with these substances (such as cleaning rags) 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 Hotline at 1-800-872-3845 / OCONUS: 410-436-1244 or online at <http://aec.army.mil/usaec/contactus.html>. 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.

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. LSAT, LSA, and CLP are the authorized lubricants to use on the rifle at normal temperatures to -10 °F (-23 °C). At temperatures below -10 °F (-23 °C), use LAW. Never mix lubricants on the weapon; always completely remove one lubricant before using another.
4. When operating rifle in extremely cold climates, clean and lubricate rifle indoors at room temperature, if possible. Use LAW.
5. Remember to remove excessive oil from the bore before firing.

## LUBRICATION INSTRUCTIONS – Continued

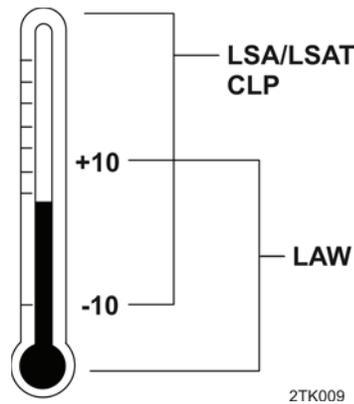


Figure 1. Temperature Ranges and Oil Type.

**NOTE**

Light Lubrication - A film of oil barely visible to the eye.

Generous Lubrication - Heavy enough so that it can be spread with finger.

LSAT, a multi-purpose lubricant containing Teflon, has displayed exceptional lubrication performance as well as resistance to collection of sand.

**Table 2. Environmental Conditions and Lubrication Type.**

<b>HOT, DUSTY, AND SANDY AREAS</b>	<b>EXTREMELY COLD CLIMATE</b>	<b>HOT AND WET CLIMATE</b>
Clean often. Lightly lube.	Use LAW.	Use LSAT, LSA, or CLP and inspect often.
Wipe oil from exposed surfaces with clean wiping rag.	Keep dry.	Use LSAT, LSA, or CLP lightly.
Keep sand out of parts.	Use LAW lightly.	Keep rifle dry.

**GENERAL INSTRUCTIONS**

Put LSAT, LSA, or CLP on a clean swab and generously lubricate the following:

- Bolt – locking lugs and cam slot.
- Bolt Carrier – receiver bearing surfaces.
- Barrel – bolt locking surfaces.
- Receiver – rails on which bolt carrier rides.

**All Other Areas**

Lightly lubricate – including bore.

**END OF WORK PACKAGE**

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## FIELD MAINTENANCE

### SCHEDULED MAINTENANCE (USMC ONLY)

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#### INITIAL SETUP:

##### References

TI 8005-24/20  
TM 9-1005-239-10  
WP 0012

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#### GENERAL

The using unit is responsible for organizational scheduled preventive maintenance. Preventive maintenance consists of inspecting, servicing, lubricating, and adjusting parts.

#### CLEARING/UNLOADING THE WEAPON

##### WARNING



Ensure fingers are outside the trigger guard. Keep the weapon pointed in a safe direction at all times. Failure to comply may result in personnel injury or death.

After unloading the weapon, and with the bolt handle to the rear, visually and physically check the chamber for ammunition. Failure to comply may result in personnel injury or death.

Always assume every weapon is loaded until it is physically and visually determined that it is not. Failure to comply may result in personnel injury or death.

Refer to TM 9-1005-239-10 for procedures for clearing/unloading the weapon.

#### FIELDSTRIPPING THE WEAPON

The weapon is fieldstripped into three major groups to clean, inspect, and repair. Procedures for fieldstripping the weapon are outlined in TM 9-1005-239-10.

#### INSPECTING THE WEAPON

Inspections reveal the need for maintenance, cleaning, or lubrication. When the using unit armory initially receives the weapon, the MOS 2111 Small Arms Repairman (SRA) will perform a limited technical inspection to verify the weapon's serviceability. In order to ensure that every operator is provided a safe, serviceable, and accurate weapon, all Special Application Scoped Rifles (SASRs) will receive periodic inspections.

1. Limited Technical Inspection.
  - a. A MOS 2111 will conduct a pre-fire inspection that is good for 30 days from the date of inspection. The inspection will be conducted in accordance with TI 8005-24/20, Pre-Fire Inspection, Small Arms Weapons, Ordnance Materiel and Trigger Pull Measurement Small Arms Weapons.
  - b. A MOS 2111 will conduct semiannual Preventive Maintenance Checks and Services (PMCS) every 180 days in accordance with WP 0012. Any weapon not repairable at the organizational level will be evacuated to a higher level of maintenance.
  - c. A MOS 2111 will conduct annual gauging inspections in accordance with WP 0012.
  - d. Reserve units will inspect at the same frequency.

**INSPECTING THE WEAPON – Continued**

2. Weapons in Use. A weapon in use and subject to the elements requires no inspection for cleanliness since its use and exposure is sufficient evidence that it requires daily cleaning and lubrication. Combine daily cleaning with the unit armorer's inspection program for damage detection and maintenance repairs. Inspect for obvious damage and repair and evacuate to a higher level of maintenance if necessary.

**END OF WORK PACKAGE**

**FIELD MAINTENANCE**

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

**INITIAL SETUP:**

**Tools and Special Tools**

- Small Arms Repairer Tool Kit (WP 0057, Table 2, Item 9)
- Small Arms Repairer Tool Kit (USMC only) (WP 0057, Table 2, Item 10)
- Tool Kit, Intermediate Maintenance, M107 (USMC only) (WP 0057, Table 2, Item 11)
- Tool Kit, Organizational Maintenance, M107 (USMC only) (WP 0057, Table 2, Item 12)

**Materials/Parts**

- Cleaner, Lubricant, and Preservative (CLP) (WP 0058, Item 12)
- Lubricating Oil, Lubricant Small Arms (LSA) (WP 0058, Item 16)
- Lubricating Oil, Lubricant Small Arms with Teflon (LSAT) (WP 0058, Item 20)

**Materials/Parts - Continued**

- Lubricating Oil, Lubricant Arctic Weather (LAW) (WP 0058, Item 21)
- Rag, Wiping (WP 0058, Item 24)

**References**

- NAVMC 10558A
- TM 9-1005-239-10
- TM 9150-15/1
- WP 0016
- WP 0019
- WP 0026
- WP 0027
- WP 0030
- WP 0032
- WP 0033

**Table 1. Preventive Maintenance Checks and Services for M107.**

ITEM NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
1	Semiannually	Assembled Weapon	<ol style="list-style-type: none"> <li>1. Ensure serial numbers match on upper and lower receiver.</li> <li>2. Inspect muzzle brake for cracks and chips.</li> <li>3. Ensure muzzle brake is tight and parallel to flat area on top of upper receiver.</li> <li>4. Inspect recoil pad for serviceability and for secure installation.</li> </ol>	<p>Serial numbers do not match.</p> <p>Muzzle brake has cracks or chips.</p> <p>Muzzle brake is not secured properly.</p> <p>Recoil pad is unserviceable.</p>

Table 1. Preventive Maintenance Checks and Services for M107 – Continued.

ITEM NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
			<p>5. Inspect bipod assembly for the following:</p> <ul style="list-style-type: none"> <li>a. Legs must unfold and hold position.</li> <li>b. Legs must fold in forward and rearward positions.</li> <li>c. Legs must retract and hold position.</li> <li>d. Feet must be securely fastened and not broken loose from legs.</li> <li>e. Bipod legs must be securely staked to bipod mount yoke.</li> <li>f. Bipod mount must be securely fastened to lower receiver.</li> </ul> <p>6. Inspect carrying handle assembly for serviceability and function.</p> <p>7. Inspect carrying handle mount for serviceability and cracked weldment.</p> <p>8. Inspect front sight for serviceability and spring tension.</p> <p>9. Inspect telescope, testing the function of windage and elevation (TM 9-1005-239-10).</p> <p>10. Inspect telescope mount. Ensure that it is securely fastened to the weapon.</p> <p>11. Test the trigger safety for proper operation.</p> <p>12. Inspect pistol grip for serviceability and that it is securely fastened to the lower receiver (WP 0016).</p> <p>13. Slowly cycle bolt carrier to rear, checking for unusual drag on buffer housing framework of the lower receiver (WP 0027).</p>	<p>Bipod assembly is unserviceable.</p> <p>Carrying handle assembly is unserviceable.</p> <p>Carrying handle mount is unserviceable.</p> <p>Front sight is unserviceable.</p> <p>Telescope is not functional.</p> <p>Telescope mount is not secure.</p> <p>Trigger safety is not functional.</p> <p>Pistol grip is unserviceable.</p> <p>Bolt carrier does not move smoothly.</p>



Table 1. Preventive Maintenance Checks and Services for M107 – Continued.

ITEM NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
2	Semiannually	Telescope	<ol style="list-style-type: none"> <li>1. Ensure the telescope is .50 caliber 10X.</li> <li>2. Check upper elevation O-ring for serviceability.</li> <li>3. Check O-rings on lower elevation and windage knobs for serviceability.</li> <li>4. Ensure elevation knob moves freely from 1 through 18 on elevation scale (WP 0032).</li> <li>5. Check that the elevation fine-tune lever will move to both sides of the scale (WP 0032).</li> <li>6. Check the windage knob to ensure it moves freely from 1 through 8 on the windage scale in both directions (WP 0032).</li> <li>7. Ensure setscrews on the sides of the windage and elevation knobs are present and tight (WP 0032).</li> <li>8. Inspect objective and eyepiece lenses for scratches, pits, or chips that interfere with the field of view (WP 0032).</li> <li>9. Ensure that the reticle has all mil dots in place and that the reticle has not broken loose from the post (WP 0032).</li> <li>10. Check the telescope to ensure it is not bent, damaged, or punctured.</li> <li>11. Check that the objective lock ring is tight and serviceable.</li> <li>12. Check eyepiece focus ring for cracks and serviceability.</li> </ol>	<p>O-ring is unserviceable.</p> <p>O-ring is unserviceable.</p> <p>Elevation knob does not move freely.</p> <p>Elevation fine-tune lever does not move freely.</p> <p>Windage knob does not move freely.</p> <p>Setscrews are missing or loose.</p> <p>View through lenses is obstructed.</p> <p>Telescope is bent, damaged, or punctured.</p> <p>Objective lock ring is unserviceable.</p> <p>Eyepiece focus ring is unserviceable.</p>

Table 1. Preventive Maintenance Checks and Services for M107 – Continued.

ITEM NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
			13. Ensure eyepiece focus lock ring is tight and serviceable. 14. Shake telescope to detect loose glass. 15. Check for moisture (fogging). 16. Check that the eyepiece assembly is attached firmly to the telescope body. 17. Check that the objective assembly is attached firmly to the telescope body. 18. Ensure the telescope mount is securely fastened to the weapon. 19. Ensure the telescope serial number is noted in the Weapon Record Book (NAVMC 10558A).	Eyepiece focus lock ring is unserviceable. Glass is loose. Lenses are fogged. Eyepiece assembly is loose. Objective assembly is loose. Telescope mount is loose.
3	Semiannually	Upper Receiver	1. Inspect bolt latch trip for serviceability and cracked welds (WP 0019). 2. Disengage barrel key from barrel. With barrel return spring assembly relaxed, inspect coils of spring for equal length and gaps/kinks (WP 0019). 3. Inspect barrel return spring setscrews for tightness. 4. Inspect barrel impact bumpers for serviceability. 5. Inspect front barrel bushing for serviceability and no cracked welds. 6. Inspect midlock ring for serviceability and no cracked welds.	Bolt latch trip is unserviceable. Barrel key springs are unserviceable. Setscrews are loose. Barrel impact bumpers are unserviceable. Front barrel bushing is unserviceable. Midlock ring is unserviceable.

Table 1. Preventive Maintenance Checks and Services for M107 – Continued.

ITEM NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
4	Semiannually	Lower Receiver	<ol style="list-style-type: none"> <li>1. Inspect the trigger components for serviceability and cleanliness. Disassemble the trigger components as follows:               <ol style="list-style-type: none"> <li>a. Transfer bar pin (WP 0016).</li> <li>b. Transfer bar assembly (WP 0016).</li> <li>c. Trigger housing pin (WP 0016).</li> <li>d. Trigger (WP 0016).</li> <li>e. Disconnecter (WP 0016).</li> <li>f. Disconnecter spring (WP 0016).</li> <li>g. Trigger spring (WP 0016).</li> </ol> </li> <li>2. Reassemble the trigger components (WP 0016). Inspect the operation of trigger by lifting the transfer bar assembly up and away from the trigger mechanism and squeezing and releasing the trigger.</li> <li>3. Operate disconnecter back and forth. Check function and spring tension.</li> <li>4. Inspect operation of transfer bar assembly.</li> <li>5. Inspect magazine well for any deformation and cracked welds.</li> <li>6. Inspect rear lock pin hole for excessive elongation and/or cracks.</li> <li>7. Inspect midlock pin hole for excessive elongation and/or cracks.</li> <li>8. Inspect all remaining weldments of lower receiver.</li> </ol>	<p>Disconnecter is not functional.</p> <p>Transfer bar assembly is not functional.</p> <p>Magazine well is deformed.</p> <p>Pin hole is elongated or cracked.</p> <p>Pin hole is elongated or cracked.</p> <p>Weldments are damaged.</p>
5	Semiannually	Bolt Group	<ol style="list-style-type: none"> <li>1. Inspect ejector for proper operation and serviceability.</li> </ol>	Ejector is unserviceable.

Table 1. Preventive Maintenance Checks and Services for M107 – Continued.

ITEM NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
			2. Remove extractor (WP 0026) and check for cracks and/or burrs. Inspect extractor detent and spring for serviceability and cleanliness.  3. Inspect bolt for serviceability and that no cracks or burrs are present.  4. Inspect bolt face for pitting and that firing pin hole is not elongated or deformed.  5. Inspect overall condition of bolt for serviceability.  6. Check headspace of weapon (WP 0033). (USMC and USAF only)	Extractor is unserviceable.  Bolt is unserviceable.  Bolt face is pitted or firing pin hole is elongated or deformed.  Bolt is unserviceable.
6	Semiannually	Bolt Carrier Group	1. Inspect accelerator rod for serviceability and free movement.  2. Inspect accelerator for serviceability and free movement.  3. Inspect accelerator spring for serviceability.  4. Inspect bolt latch for serviceability.  5. Remove cocking lever, sear assembly, and firing pin extension assembly from bolt carrier (WP 0026). Inspect retaining pins for serviceability.  6. Inspect sear for cracks and/or burrs.  7. Inspect sear spring for serviceability.  8. Inspect cocking lever/cocking lever spring for serviceability.	Accelerator rod is unserviceable or does not move freely.  Accelerator is unserviceable or does not move freely.  Accelerator spring is unserviceable.  Bolt latch is unserviceable.  Retaining pins are unserviceable.  Sear has cracks or burrs.  Sear spring is unserviceable.  Cocking lever or spring is unserviceable.

Table 1. Preventive Maintenance Checks and Services for M107 – Continued.

ITEM NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
			<p>9. Inspect firing pin extension assembly for the following:</p> <ul style="list-style-type: none"> <li>a. Check firing pin nose for pitting/erosion.</li> <li>b. Check sear engagement notch for cracks and/or burrs.</li> <li>c. Check firing pin extension assembly for free movement inside bolt carrier.</li> <li>d. Check firing pin protrusion. Use firing pin protrusion gage.</li> </ul> <p>10. Inspect bolt carrier for cracks, burrs, and chips.</p> <p>11. Inspect bolt carrier handle weldment for serviceability.</p> <p>12. Inspect bolt cam pin spring tension. Ensure bolt cam pin is held securely.</p> <p>13. Inspect bolt cam pin spring pin for looseness.</p> <p>14. Reassemble all parts of bolt carrier group (WP 0026) and perform a function check of the following:</p> <ul style="list-style-type: none"> <li>a. Cock firing pin extension. Depress bolt latch and work the bolt in and out of carrier. Bolt should operate smoothly and under spring tension.</li> <li>b. Ensure cocking cam of cocking lever is inside the slot of firing pin extension.</li> <li>c. Depress sear until firing pin extension assembly releases.</li> </ul>	<p>Firing pin nose has pits or erosion.</p> <p>Sear engagement notch has cracks or burrs.</p> <p>Firing pin extension assembly does not move freely.</p> <p>Firing pin protrusion is incorrect.</p> <p>Bolt carrier has cracks, burrs, or chips.</p> <p>Weldment is unserviceable.</p> <p>Bolt cam pin is not secure.</p> <p>Spring pin is loose.</p>

Table 1. Preventive Maintenance Checks and Services for M107 – Continued.

ITEM NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
7	Semiannually	Barrel Group	1. Inspect barrel for serviceability and complete the following items: <ol style="list-style-type: none"> <li>a. Check for cleanliness.</li> <li>b. Check for pitting and bulges.</li> <li>c. Check and note breech bore in Weapon Record Book.</li> </ol>	
8	Semiannually	Function Check	1. With an empty magazine and ten .50 caliber dummy rounds, perform the following: <ol style="list-style-type: none"> <li>a. Load ten dummy rounds in magazine.</li> <li>b. Insert the magazine into the weapon.</li> <li>c. Retract bolt fully to rear and release to chamber the first round.</li> <li>d. With the weapon safety selector switch set to SAFE, attempt to fire the weapon. The weapon should not fire.</li> <li>e. With the weapon safety selector switch set to FIRE, attempt to fire the weapon. The weapon should fire.</li> <li>f. While holding the trigger to the rear, pull the bolt all the way to the rear and release the bolt.</li> <li>g. Release the trigger. A click should be heard and the weapon should fire.</li> <li>h. Repeat steps “f” and “g” at least three times to ensure proper functioning.</li> <li>i. Cycle the bolt through the remaining rounds to ensure proper feeding, chambering, extracting, and ejecting.</li> </ol>	

**CLEANING****CAUTION**

Do not allow CLP or any other solvent to come in contact with the telescope lenses. Failure to comply may result in equipment damage.

Cleaning is a vital part of organizational preventive maintenance. The SASR should be cleaned as soon as practically possible after firing and after each time it is exposed to field conditions or moisture, using the procedures outlined in TM 9-1005-239-10.

**LUBRICATION INSTRUCTIONS****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 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. 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**

Never mix lubricants on the weapon, always completely remove one lubricant before using another. Mixing lubricants can cause viscosity change, resulting in weapon damage or malfunction.

**LUBRICATION INSTRUCTIONS – Continued**

**NOTE**

When servicing this weapon, performing maintenance, or disposing of materials such as cleaning fluids, cleaning compounds, lubricants, and sealing compounds as well as items contaminated with these substances (such as cleaning rags) 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 Hotline at 1-800-872-3845 / OCONUS: 410-436-1244 or online at <http://aec.army.mil/usaec/contactus.html>. 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.

LSAT, LSA, and CLP are the authorized lubricants to use on your rifle at normal temperatures up to -10°F (-23°C). At temperatures below -10°F (-23°C) use LAW.

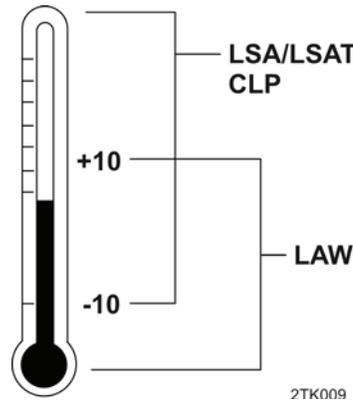


Figure 1. Temperature Ranges and Oil Type.

**NOTE**

Remember to remove excessive oil from the bore before firing.

- Lightly Lube - A film of oil barely visible to the eye.
- Generously Lube - Heavy enough so that it can be spread with finger.

When operating rifle in extremely cold climates, clean and lubricate the rifle inside at room temperature, if possible, using LAW.

**Table 2. Environmental Conditions and Lubrication Type.**

<b>HOT, DUSTY, AND SANDY AREAS</b>	<b>EXTREMELY COLD CLIMATE</b>	<b>HOT AND WET CLIMATE</b>
Clean often. Lightly lube.	Use LAW.	Use LSAT, LSA, or CLP and inspect often.
Wipe oil from exposed surfaces with clean wiping rag.	Keep dry.	Use LSAT, LSA, or CLP lightly.
Keep sand out of parts.	Use LAW lightly.	Keep rifle dry.

Lubricate the weapon in accordance with TM 9-1005-239-10 and TM 9150-15/1, Military Use of CLP for Weapons and Support Equipment.

**GENERAL INSTRUCTIONS**

Put LSAT, LSA, or CLP on a clean swab and generously lubricate the following:

- Bolt – locking lugs and cam slot.
- Bolt Carrier – receiver bearing surfaces.
- Barrel – bolt locking surfaces.
- Receiver – rails that bolt carrier rides on.

**All Other Areas**

Lightly lubricate – including bore.

**Medium-Heavy Lubrication****NOTE**

LSAT, a multi-purpose lubricant containing Teflon, has displayed exceptional lubrication performance as well as resistance to collecting sand.

Generously lubricate (meaning obvious to visual inspection) the following areas:

- Behind the bolt-locking lugs
- Bolt body
- Bolt cam pin
- Moving parts of the bolt and carrier assemblies
- The receiver rails that the bolt and carrier assemblies ride in the lower receiver assembly.
- The barrel extension where it rides in the weapon.

**INTERMEDIATE PREVENTIVE MAINTENANCE CHECKS AND SERVICES**

A MOS 2111 conducts an annual gauging inspection at the intermediate maintenance activity. Conduct the inspection in accordance with Table 1.

**END OF WORK PACKAGE**

**CHAPTER 4**  
**MAINTENANCE INSTRUCTIONS**  
**FOR**  
**LONG RANGE SNIPER RIFLE, M107**



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**FIELD MAINTENANCE****SERVICE UPON RECEIPT OF MATERIEL AND INSTALLATION INSTRUCTIONS**

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**INITIAL SETUP:****References - Continued****References**

AR 735-11-2  
DD Form 361  
DA PAM 25-30

DA PAM 750-8  
SF Form 364  
TM 9-1005-239-10

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**SERVICE UPON RECEIPT OF MATERIEL****Unpacking**

When a new or reconditioned Long Range Sniper Rifle (LRSR)/Special Application Scoped Rifle (SASR) is received, be aware of any shipping damage to packaging material. Report any damage on SF Form 364, Report of Discrepancy (ROD), as prescribed in AR 735-11-2. Retain packaging material 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 (TDR).

Check the equipment against the packing slip to see if the shipment is complete. Report all discrepancies in accordance with the instructions in DA PAM 750-8.

Check to see whether the equipment has been modified. Refer to authorized equipment configuration changes listed in DA PAM 25-30.

**WARNING**

Always assume that every weapon is loaded until personal inspection has determined that it is not. Procedures for clearing/unloading the weapon are outlined in TM 9-1005-239-10, Operator's Manual. Failure to comply may result in personnel injury or death.

DO NOT keep live ammunition near work/maintenance area.

Do not release the bolt or press the trigger.

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.

## SERVICE UPON RECEIPT OF MATERIEL – Continued

Ensure that all components are present and inspect for obvious damage. Conduct detailed inspection as follows:

1. Upper Receiver Assembly.
  - a. Barrel springs must not be overstretched and each coil should be tight, without twisting or spaces between coils.
  - b. Impact bumper and battery bumper should be in good condition (not frayed or cracked).
  - c. Muzzle brake should be tight and fully installed.
  - d. Upper receiver assembly should not be cracked, bent, or burred. Pay special attention to hinge lip at front of receiver to ensure that it is not cracked, bent, or deformed in any way.
  - e. Barrel should be clean and free of obstruction.
  - f. All scope mountings (if scope is present) should be tight, in good condition, and free of oil. Front sight may be lightly oiled at pivot points to prevent corrosion.

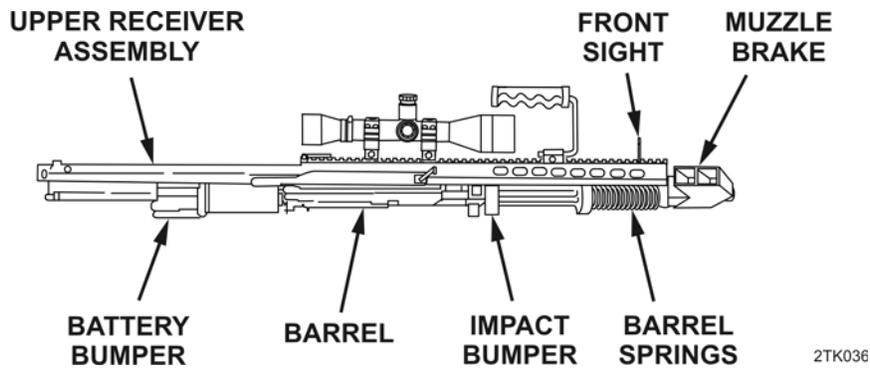


Figure 1. Upper Receiver Assembly.

2. Lower Receiver Assembly.

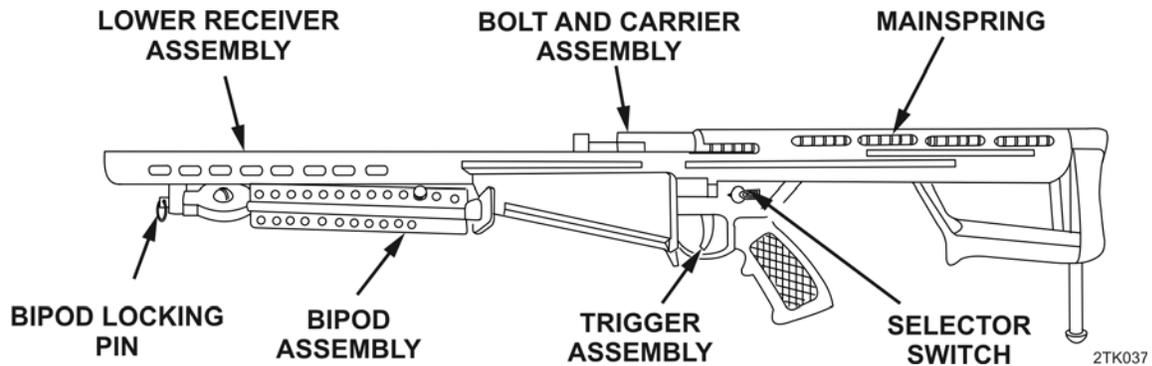
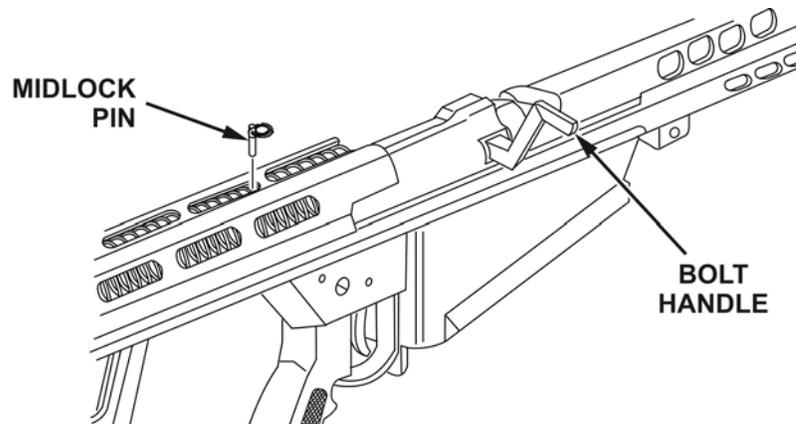


Figure 2. Lower Receiver Assembly.

**SERVICE UPON RECEIPT OF MATERIEL – Continued**

- a. The bolt and carrier assembly is held in place under tension in the lower receiver by the midlock pin, which extends through a locking hole in the receiver's sheet metal.

Standing above and to the rear of the lower receiver, grasp the bolt handle with the right hand and carefully pull back against tension while withdrawing the midlock pin from its retaining hole. Allow the bolt carrier to come forward SLOWLY until there is no more spring tension and it rests in the lower receiver. With bolt carrier in place, pull it rearward and check to see that the mainspring moves freely (full travel) and is not deformed.



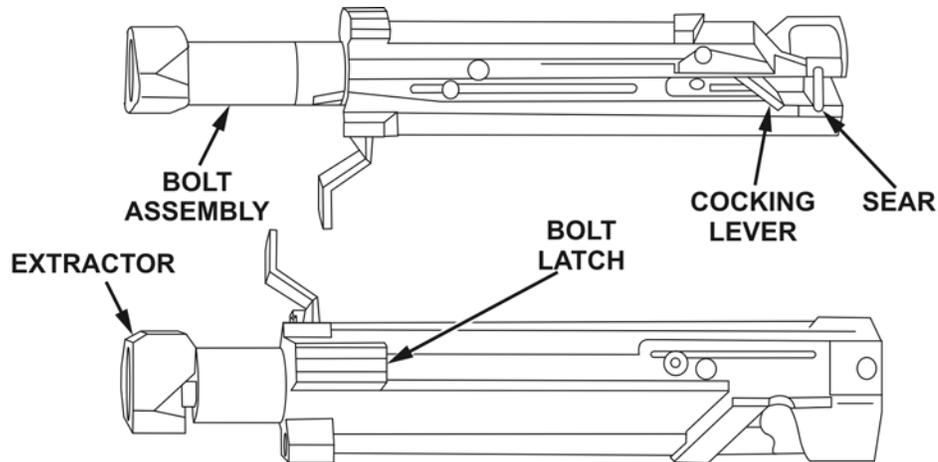
2TK038

Figure 3. Lower Receiver.

- b. Hold bolt carrier back and down approximately 1/4 in. under mainspring housing (sheet metal closure). With safety selector switch on FIRE, pull trigger. Firing mechanism should function (a slight rise in bolt carrier is normal). If housing is bent, bolt carrier will rise excessively as trigger is pulled, preventing proper functioning.
- c. Lower receiver assembly should not be cracked, bent, or burred.
- d. Check bipod assembly and mounting hardware to see that legs extend and hardware functions properly.

**SERVICE UPON RECEIPT OF MATERIEL – Continued**

- e. Use a 1/4-in. punch to push down to check ejector and extractor to ensure that they are under spring tension and neither chipped nor worn.
- f. Cock cocking lever. Push down sear releasing firing pin. Depress bolt latch. Push bolt into carrier and inspect for firing pin protrusion. Check firing pin hole (on bolt face) to ensure that it is not eroded or elongated. Bolt face should not be pitted.
- g. Inspect bolt latch; it should show no deformation.
- h. Swing cocking lever forward. Sear should capture firing pin extension before cocking lever is fully depressed.



2TK039

Figure 4. Bolt and Carrier Assembly.

**SERVICE UPON RECEIPT OF MATERIEL – Continued****Assembly of Equipment**

1. Grasp lower receiver. Extend bipod legs by pulling legs down to front, where they will lock into place. Pull on feet of bipod to cause legs to extend. To retract a leg, depress plunger located on bipod leg and push on foot. Place receiver on level surface. Pull down on leg and wing back into position along receiver.

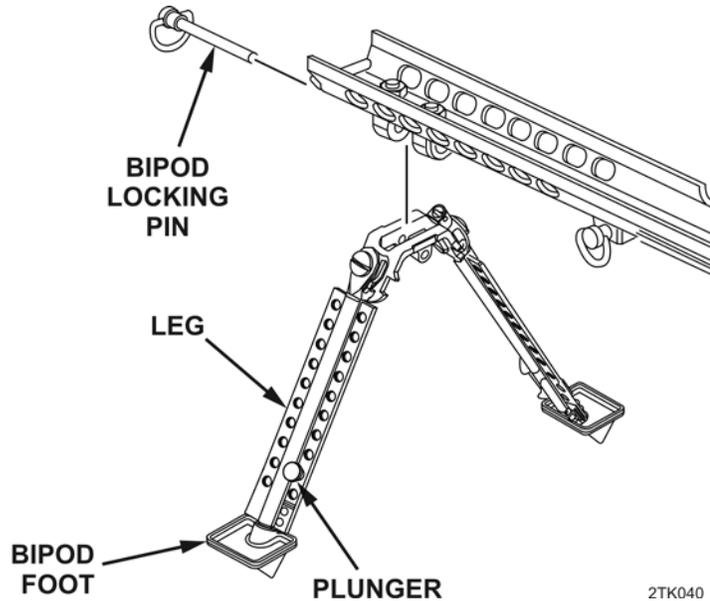


Figure 5. Bipod Legs.

2. Pick up upper receiver assembly carefully. Barrel will be nested inside it for compact storage. Move bumper rings into position on either side of receiver's central barrel bushing so that they rest snugly against bushing. Align barrel so that its feed ramp (slanted entry to firing chamber) is to bottom. Keep fingers away from barrel, hold upper receiver horizontally, and then tilt in direction of muzzle. Barrel should fall into place, at its full forward extension in receiver.

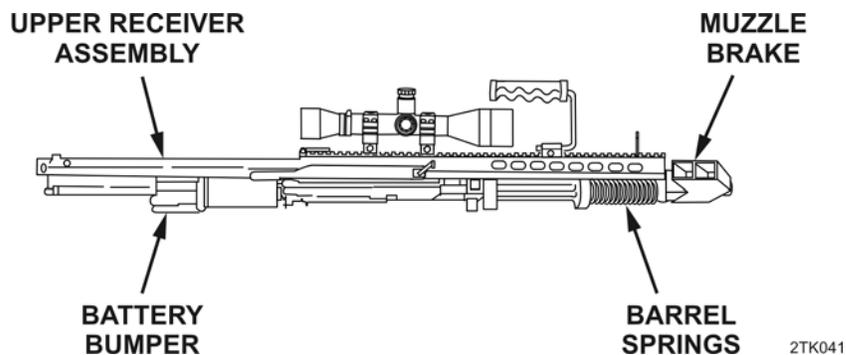


Figure 6. Upper Receiver.

**SERVICE UPON RECEIPT OF MATERIEL – Continued****WARNING**

The tension on the barrel springs is about 70 lb (31.8 kg), which may cause the springs to release suddenly. Failure to comply may result in personnel injury.

Avoid incomplete or improper assembly. Failure to comply may result in personnel injury.

3. Barrel springs in upper receiver are held in place by a spring yoke, the barrel key. Maintain the downward tilt of upper receiver (to keep barrel in place), firmly grasp barrel key, not springs, and pull it into place on forward slot of barrel. Work key from side to side until it is firmly seated in barrel slot. Upper receiver is now fully assembled.

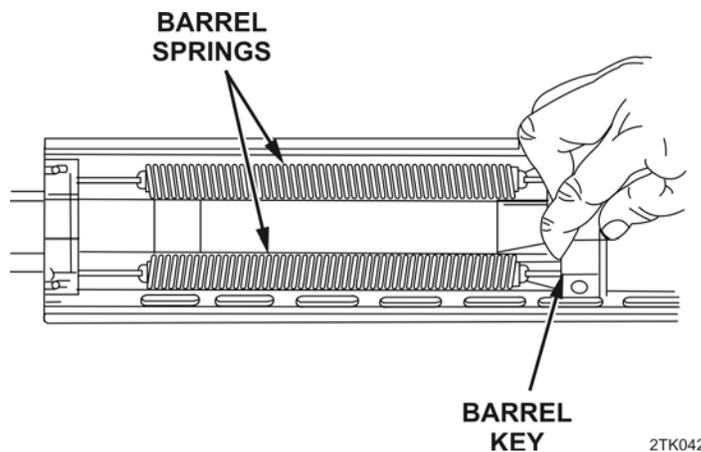


Figure 7. Barrel Springs.

**CAUTION**

Be sure that hook and bar are properly mated so final assembly motion does not damage rifle. Failure to comply may result in equipment damage.

4. Engage front hook of upper receiver over hinge bar of lower receiver assembly. Take position directly behind rifle and grasp bolt charging handle. Withdraw bolt against mainspring tension so bolt will clear barrel when upper receiver is lowered.

SERVICE UPON RECEIPT OF MATERIEL – Continued

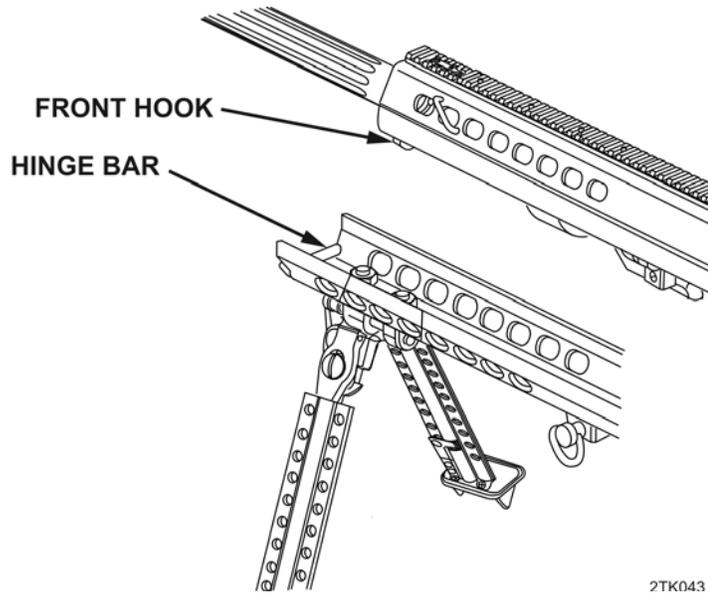


Figure 8. Front Hook and Hinge Bar.

5. Lower and close upper receiver onto lower receiver. Release charging handle slowly until bolt engages barrel.

**WARNING**



Do not fire the rifle without the midlock and rear lock pins firmly in place. Failure to comply may result in personnel injury or death.

6. Place midlock pin through hole near center bottom of rifle until it snaps fully into place to lock upper and lower receivers together. Insert rear lock pin from right to left through rear (buttstock) hole to complete mating of receivers.

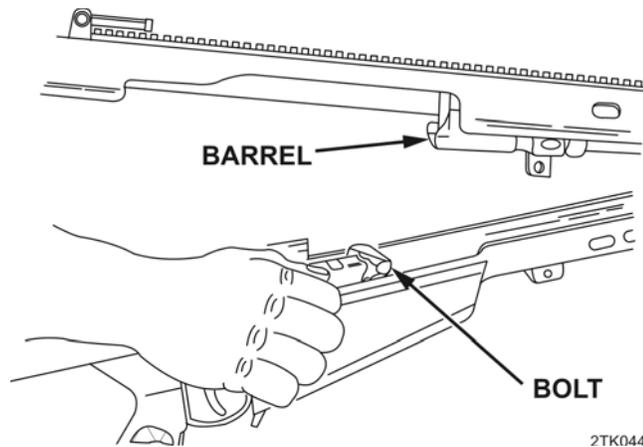


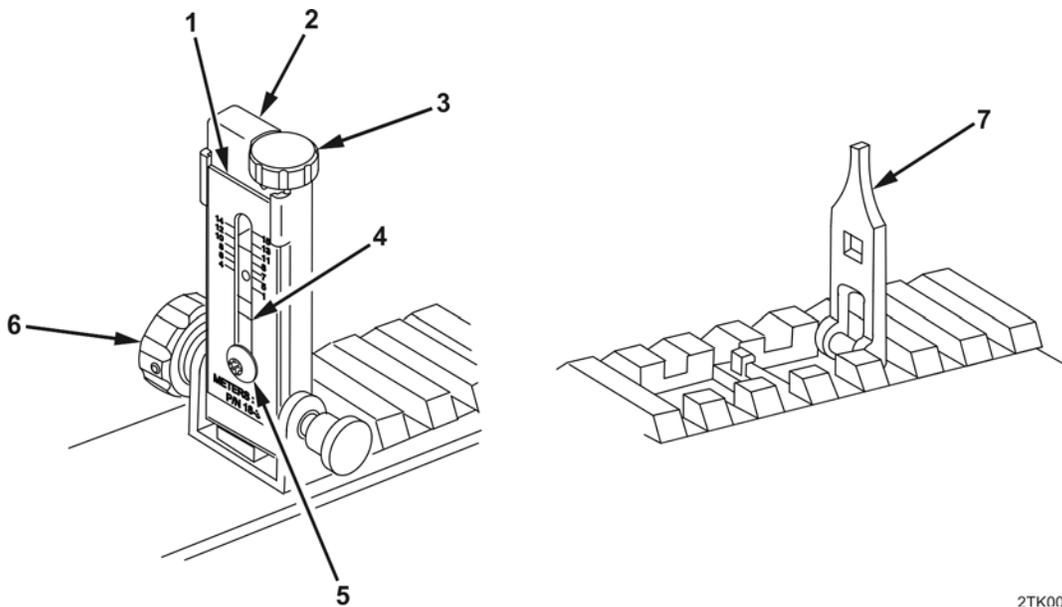
Figure 9. Upper and Lower Receivers.

## SERVICE UPON RECEIPT OF MATERIEL – Continued

### Assembly of Sighting Systems

#### 1. Rear Sights

- a. The rear (Figure 10, Item 2) and front sights (Figure 10, Item 7) are primarily to be used for emergency backup when the optical sights are not available. They flip up for use if the telescope is not mounted. Aiming is accomplished by aligning the target with the aperture (Figure 10, Item 4) of the rear sight (Figure 10, Item 2) and the post of the front sight (Figure 10, Item 7).
- b. The rear sight aperture (Figure 10, Item 4) is raised and lowered to the desired elevation position using the elevation knob (Figure 10, Item 3). The windage knob (Figure 10, Item 6) is used to adjust for proper windage. A rear sight scale (Figure 10, Item 1) has been established that corresponds to the ballistics of the cartridge and is adjustable to accommodate variations in environmental conditions that affect elevation.
- c. Setting the position of the rear sight scale (Figure 10, Item 1) is best done at a range of 1,640 ft (500 m) to give the optimum position for both ball and high explosive ammunition. When the rifle zero point for elevation is found, loosen the rear sight scale screw (Figure 10, Item 5), move the scale to correspond to the range at which the weapon is being tested, and retighten the screw to fix the scale in this position.
- d. The rear sights are correctly aligned when the shooter sights through the aperture (Figure 10, Item 4) in the rear sight (Figure 10, Item 2) and can see the intended target exactly at the top of the front sight post (Figure 10, Item 7).



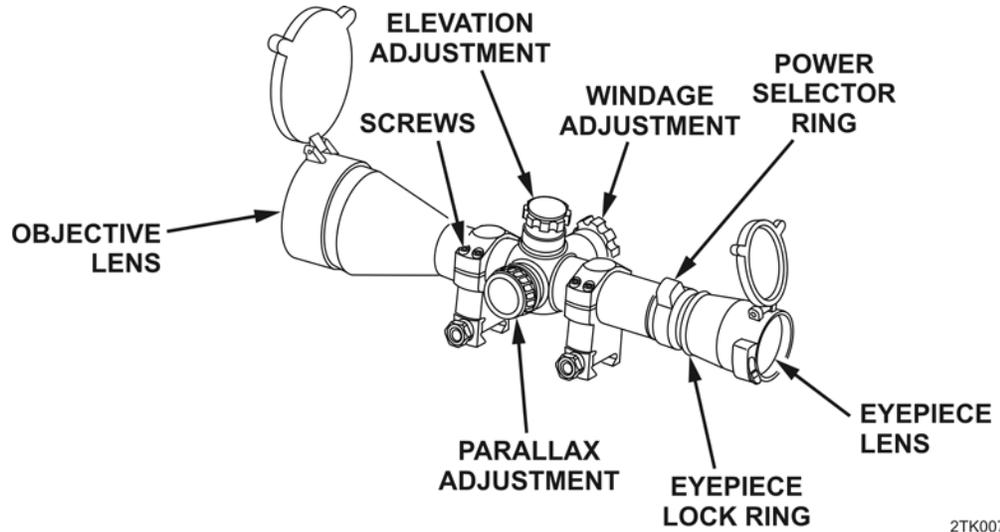
2TK006

Figure 10. Rear Sights.

**SERVICE UPON RECEIPT OF MATERIEL – Continued**

**2. Daylight Scope**

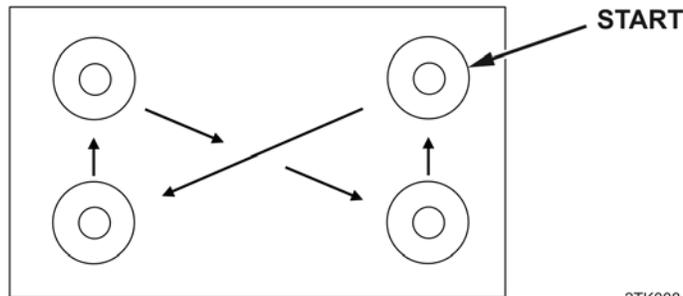
- a. There are seven basic parts to the daylight scope. The objective lens (front lens), the elevation adjustment turret, the windage adjustment turret, the power selector ring, the eyepiece lens, the eyepiece lock ring, and the parallax adjustment turret (left side).



2TK007

Figure 11. Scope.

- b. Tighten scope ring screws evenly and securely. Start in one corner and tighten a small amount, then tighten the screw in the opposite corner. Tighten the screw above/below and then across corner. Continue the pattern until all screws are tightened; this ensures an even tightening and prevents skewing of the scope.



2TK008

Figure 12. Scope Ring Screws.

**END OF WORK PACKAGE**



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**FIELD MAINTENANCE**  
**CORRECTIVE MAINTENANCE (USMC AND USAF ONLY)**

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**INITIAL SETUP:****References**

TM 9-1005-239-10  
WP 0054

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This work package describes disassembly, inspection, and reassembly procedures required for corrective maintenance on the Special Application Scoped Rifle (SASR).

1. Organizational Maintenance. Organizational maintenance is performed at the using unit beyond the capabilities of the operator as identified in TM 9-1005-239-10. Organizational maintenance may replace parts in accordance with the Source, Maintenance, and Recoverability (SMR) codes in the parts list.
2. Intermediate Maintenance. Intermediate maintenance may replace parts in accordance with the SMR codes in the parts list.
3. Special Tools. WP 0054 lists the special tools required in the small arms technician's toolbox. A qualified MOS 2111 Small Arms Repairman will replace weapon components. Either a qualified MOS 2112 (Precision Weapons Repairman) or a MOS 2171 (Optical Instrument Repairman) may repair and replace the telescope.
4. Depot Maintenance. Weapons Training Battalion, Quantico, VA, functions as the weapons rebuild facility and performs both intermediate and depot maintenance.

**END OF WORK PACKAGE**



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**FIELD MAINTENANCE****LONG RANGE SNIPER RIFLE MAINTENANCE**

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**INITIAL SETUP:****Tools and Special Tools**

Small Arms Repairer Tool Kit  
(WP 0057, Table 2, Item 9)  
Small Arms Repairer Tool Kit (USMC only)  
(WP 0057, Table 2, Item 10)

**Tools and Special Tools - Continued**

Tool Kit, Intermediate Maintenance, M107  
(USMC only) (WP 0057, Table 2, Item 11)  
Tool Kit, Organizational Maintenance, M107  
(USMC only) (WP 0057, Table 2, Item 12)

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**DISASSEMBLY****NOTE**

Ensure that the weapon is unloaded and on SAFE before performing these procedures.

1. Press magazine catch (Figure 1, Item 7) forward towards cartridge magazine (Figure 1, Item 6) and remove cartridge magazine from lower receiver assembly (Figure 1, Item 4).
2. Remove rear lock pin (Figure 1, Item 5) and midlock pin (Figure 1, Item 8).
3. Grasp charging handle (Figure 1, Item 2) on bolt and carrier assembly (Figure 1, Item 3) and pull to rear until bolt clears barrel extension.
4. While holding charging handle (Figure 1, Item 2) to rear, lift back end of upper receiver assembly (Figure 1, Item 1) until it clears bolt. Allow bolt carrier assembly to return slowly to its forward position.
5. Disengage front hook of upper receiver assembly (Figure 1, Item 1) from front hook pin on lower receiver assembly (Figure 1, Item 4) and lift upper receiver assembly clear of lower receiver assembly.

**WARNING**

Mainspring buffer and mainspring are under heavy spring tension. Stand to one side to avoid flying parts. Wear eye protection and heavy work gloves. Failure to comply may result in injury.

**CAUTION**

When removing bolt carrier assembly from lower receiver assembly, ensure carrier is completely forward of housing before lifting to avoid damage to lower receiver assembly. Failure to comply may result in weapon damage.

6. Pull bolt and carrier assembly (Figure 1, Item 3) rearward and insert rear lock pin (Figure 1, Item 5) through mainspring buffer and mainspring.
7. Gently pull bolt and carrier assembly (Figure 1, Item 3) forward and lift from lower receiver assembly (Figure 1, Item 4).

DISASSEMBLY – Continued

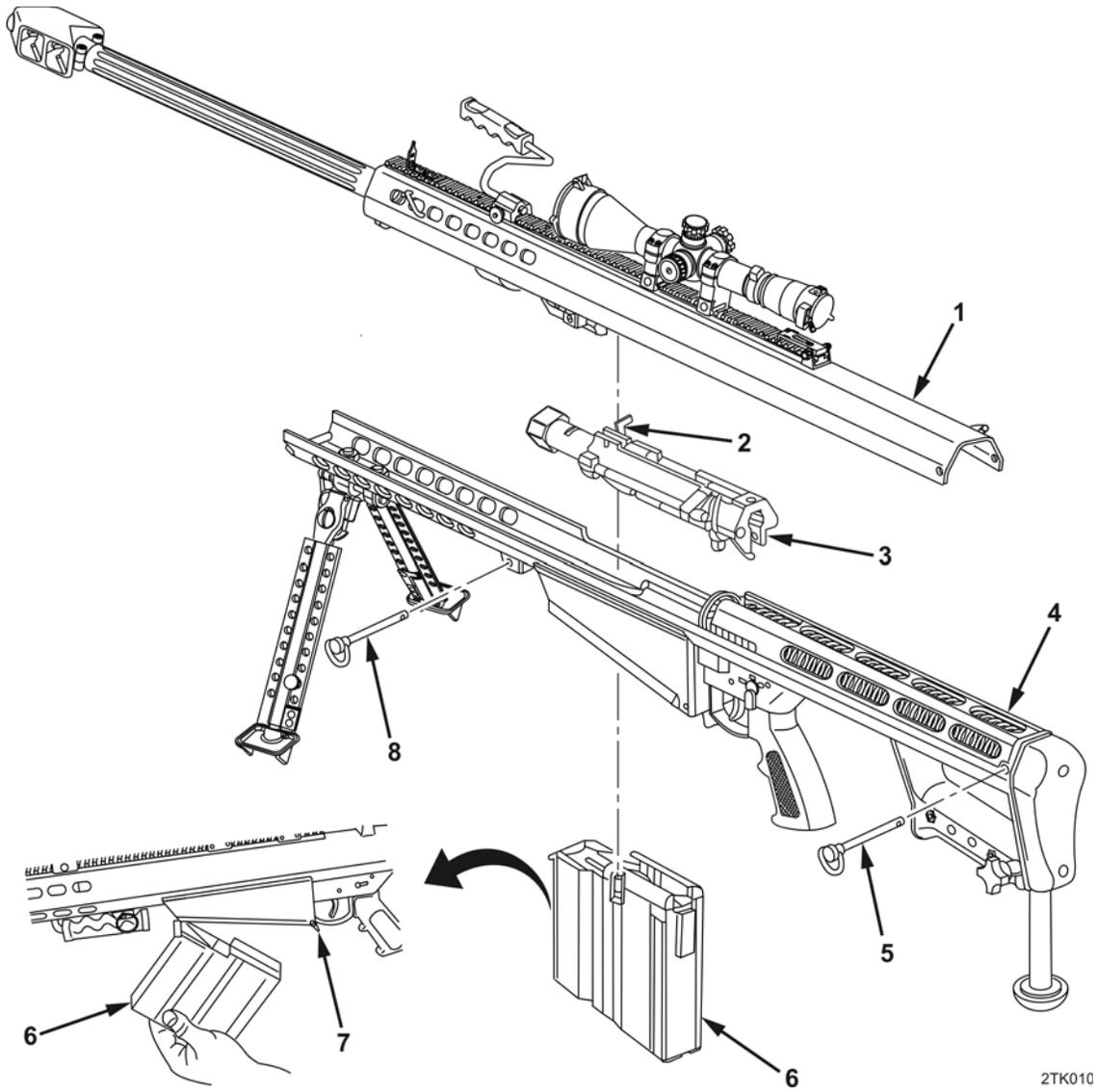


Figure 1. Long Range Sniper Rifle.

END OF TASK

**ASSEMBLY**

1. Place bolt and carrier assembly (Figure 2, Item 2) into forward part of lower receiver assembly (Figure 2, Item 3).

**WARNING**

Mainspring buffer and mainspring are under heavy spring tension. Stand to one side to avoid flying parts. Wear eye protection and heavy work gloves. Failure to comply may result in injury.

2. Pull bolt and carrier assembly (Figure 2, Item 2) rearward and carefully remove rear lock pin (Figure 2, Item 4) from mainspring and mainspring buffer.
3. Align front hook of upper receiver assembly (Figure 2, Item 1) with front hook pin on lower receiver assembly (Figure 2, Item 3).
4. With upper receiver assembly (Figure 2, Item 1) in position on lower receiver assembly (Figure 2, Item 3), secure with rear lock pin (Figure 2, Item 4) and midlock pin (Figure 2, Item 6).
5. Insert cartridge magazine (Figure 2, Item 5) into lower receiver assembly (Figure 2, Item 3).

ASSEMBLY – Continued

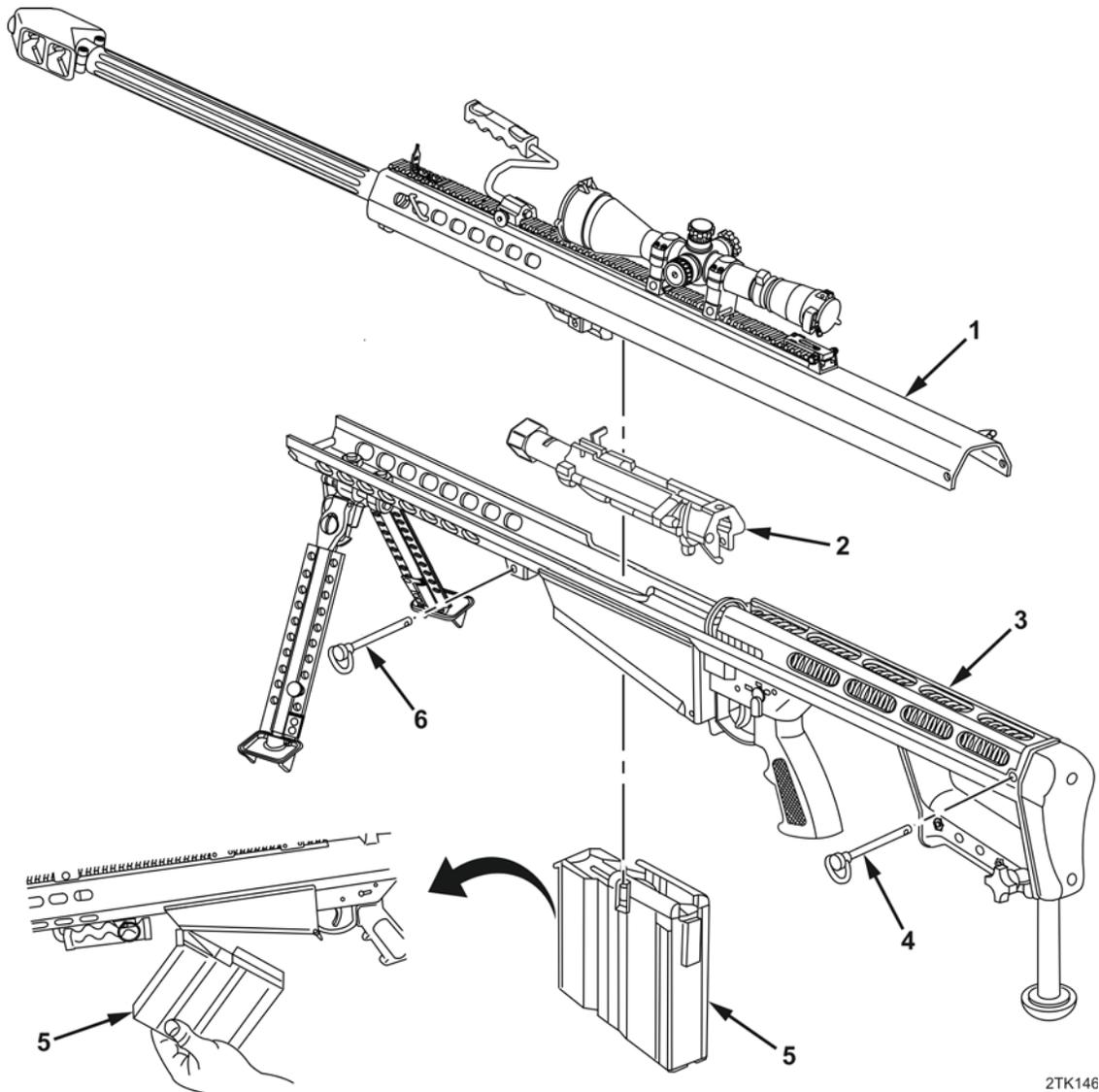


Figure 2. Long Range Sniper Rifle.

END OF TASK

END OF WORK PACKAGE



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**FIELD MAINTENANCE****LOWER RECEIVER ASSEMBLY AND TRIGGER ASSEMBLY**

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**INITIAL SETUP:****Tools and Special Tools**

Screwdriver Set, Six Point Tip, Torx  
(WP 0057, Table 2, Item 7)  
Shop Set, Small Arms: Field Maintenance, Basic  
(WP 0057, Table 2, Item 8)  
Small Arms Repairer Tool Kit  
(WP 0057, Table 2, Item 9)  
Small Arms Repairer Tool Kit (USMC only)  
(WP 0057, Table 2, Item 10)  
Tool Kit, Intermediate Maintenance, M107  
(USMC only) (WP 0057, Table 2, Item 11)

**Tools and Special Tools - Continued**

Tool Kit, Organizational Maintenance, M107  
(USMC only) (WP 0057, Table 2, Item 12)

**References**

WP 0037

**Equipment Condition**

Lower receiver assembly removed from upper  
receiver assembly (WP 0015)

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**DISASSEMBLY**

1. Remove bipod locking pin (Figure 1, Item 1) by pulling on ring to separate bipod assembly (Figure 1, Item 3) from lower receiver assembly (Figure 1, Item 2).

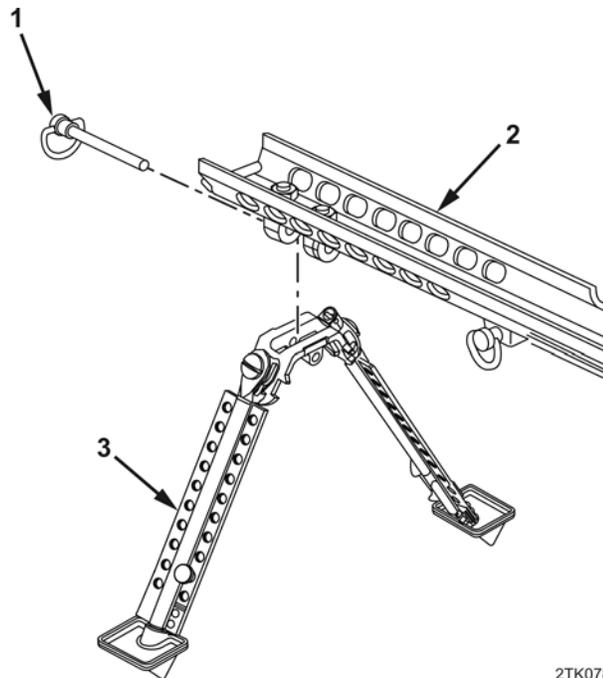


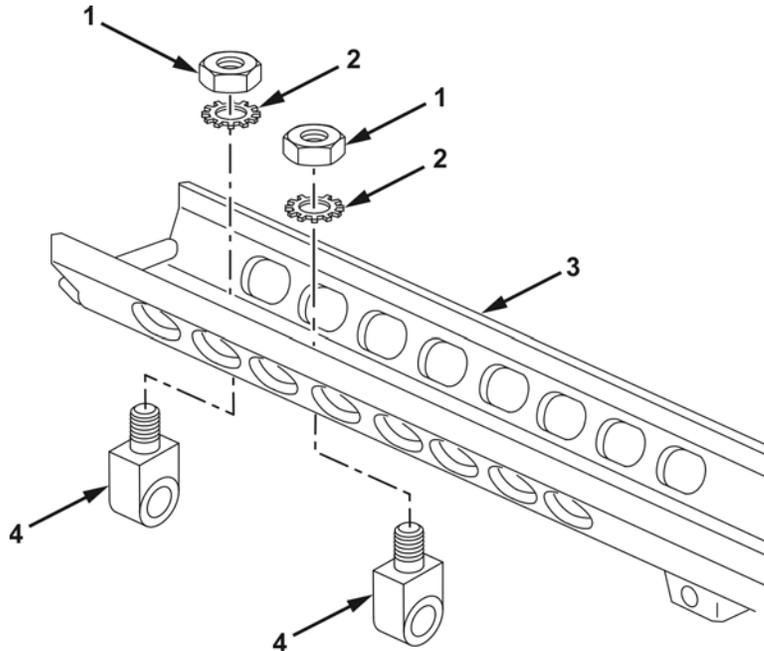
Figure 1. Bipod Assembly.

## DISASSEMBLY – Continued

**NOTE**

Yoke mount contains bushing. Retain for reassembly.

2. Use socket wrench handle and 11/16-in. socket with extension to remove two yoke mount nuts (Figure 2, Item 1), two yoke mount washers (Figure 2, Item 2), and two yoke mounts (Figure 2, Item 4) from lower receiver (Figure 2, Item 3).

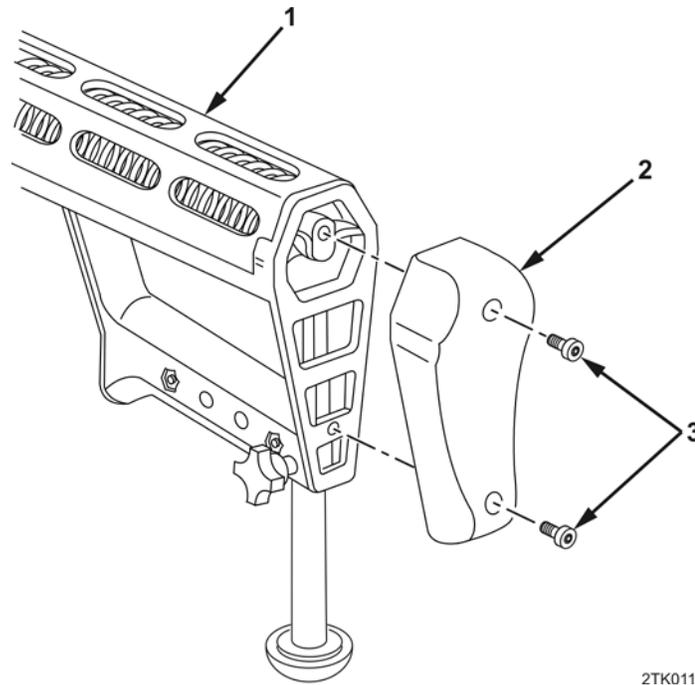


2TK045

Figure 2. Bipod Yoke Mounts.

**DISASSEMBLY – Continued**

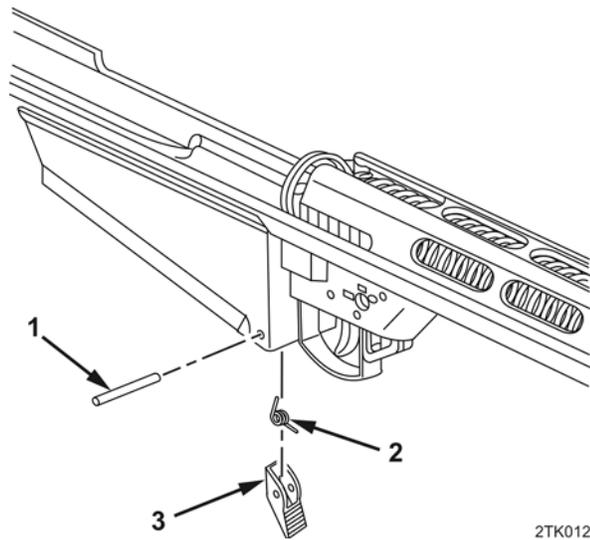
3. Use T-27 Torx screw key to loosen and remove two recoil pad screws (Figure 3, Item 3). Remove recoil pad (Figure 3, Item 2) from lower receiver (Figure 3, Item 1).



2TK011

Figure 3. Recoil Pad.

4. Place 1/8-in. pin punch on magazine catch pin (Figure 4, Item 1) and tap pin out with hammer. Remove magazine catch (Figure 4, Item 3) and magazine catch spring (Figure 4, Item 2).



2TK012

Figure 4. Magazine Catch.

**DISASSEMBLY – Continued****NOTE**

When removing pistol grip, note that safety spring and safety detent are withdrawn at the same time.

The spring and spring detent are held in place via a small hole in top lip of pistol grip.

5. Use T-30 Torx screw key to loosen and remove pistol grip screw (Figure 5, Item 6) and pistol grip washer (Figure 5, Item 5) from pistol grip (Figure 5, Item 4).
6. Use 1/16-in. roll punch to push out safety (Figure 5, Item 1). Remove safety, safety detent (Figure 5, Item 2), safety spring (Figure 5, Item 3), and pistol grip (Figure 5, Item 4).

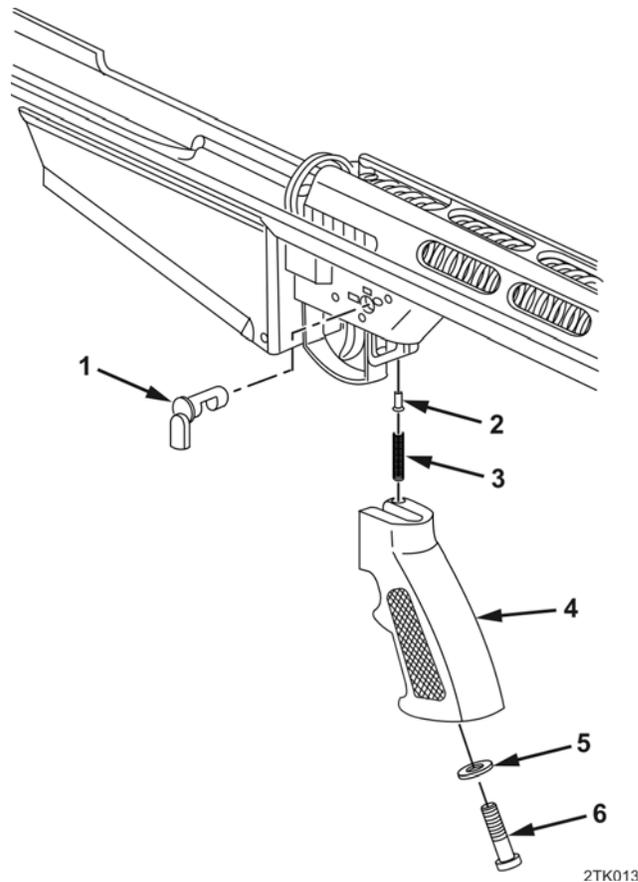


Figure 5. Pistol Grip Assembly.

**DISASSEMBLY – Continued****WARNING**

Mainspring buffer and mainspring are under heavy spring tension. Stand to one side to avoid flying parts. Wear eye protection and heavy work gloves. Failure to comply may result in injury.

Wear eye protection during removal of mainspring or mainspring buffer in case of improper release. Failure to comply may result in personnel injury.

7. Ensure that bolt carrier has been removed. Push (e.g., using a screwdriver) mainspring buffer manually (Figure 6, Item 1) to rear and place rear lock pin (Figure 6, Item 4) or 1/8-in. punch through coils of mainspring (Figure 6, Item 3) and ports in lower receiver (Figure 6, Item 2). This will relieve some of the pressure on the buffer as it is removed.

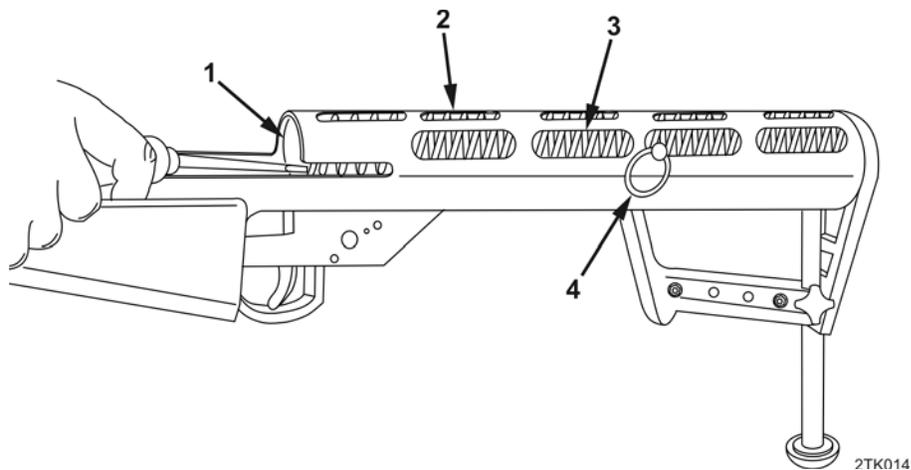


Figure 6. Mainspring and Lower Receiver.

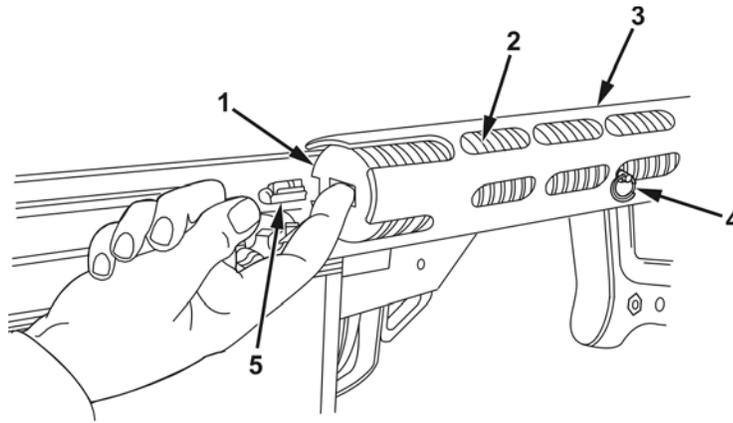
## DISASSEMBLY – CONTINUED

## WARNING



Ensure the rear lock pin is inserted to secure the mainspring buffer and mainspring. Failure to comply may result in personnel injury.

- Place fingertip into slot on mainspring buffer (Figure 7, Item 1), and turn buffer so that groove in its flange lines up with buffer stop (Figure 7, Item 5) on lower receiver (Figure 7, Item 3). Remove the rear lock pin (Figure 7, Item 4). Remove mainspring buffer and mainspring (Figure 7, Item 2) slowly and carefully.

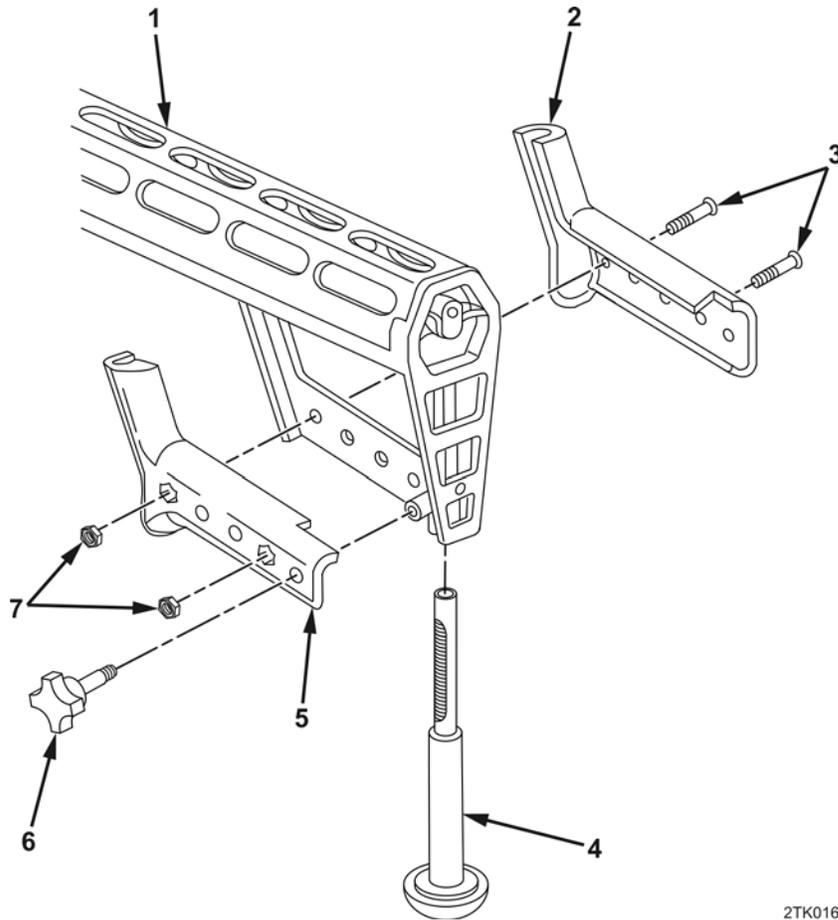


2TK015

Figure 7. Mainspring Buffer and Mainspring.

**DISASSEMBLY – Continued**

9. Remove lock knob (Figure 8, Item 6) from left rear hand grip (Figure 8, Item 5). Remove monopod assembly carefully (Figure 8, Item 4) from lower receiver (Figure 8, Item 1).
10. Use a T-25 T-handle Torx screwdriver to remove two rear hand grip screws (Figure 8, Item 3), two rear hand grip nuts (Figure 8, Item 7), right rear hand grip (Figure 8, Item 2), and left rear hand grip (Figure 8, Item 5) from lower receiver (Figure 8, Item 1).



2TK016

Figure 8. Monopod Assembly and Rear Hand Grips.

**DISASSEMBLY – Continued**

11. Remove transfer bar pin (Figure 9, Item 1) (behind safety in trigger housing) by placing 5/32-in. punch on pin and tapping it out with hammer.

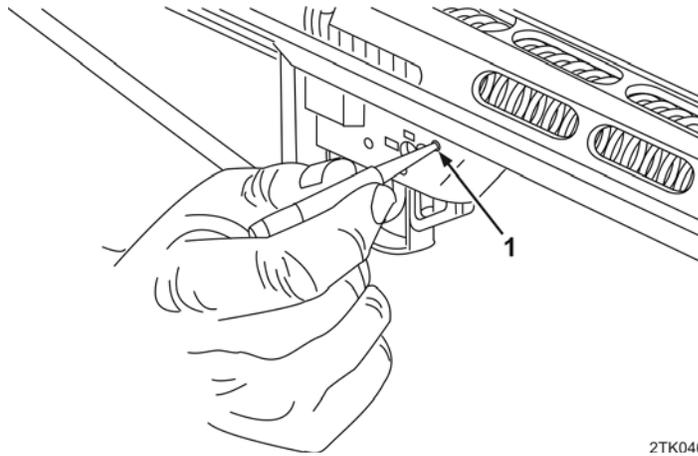


Figure 9. Transfer Bar Pin.

12. Remove transfer bar assembly (Figure 10, Item 1) from lower receiver (Figure 10, Item 2).

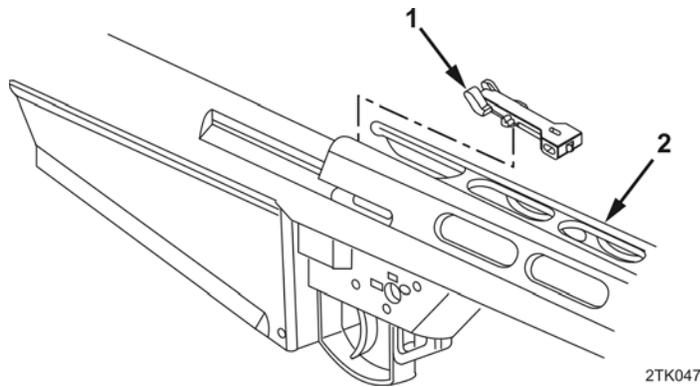
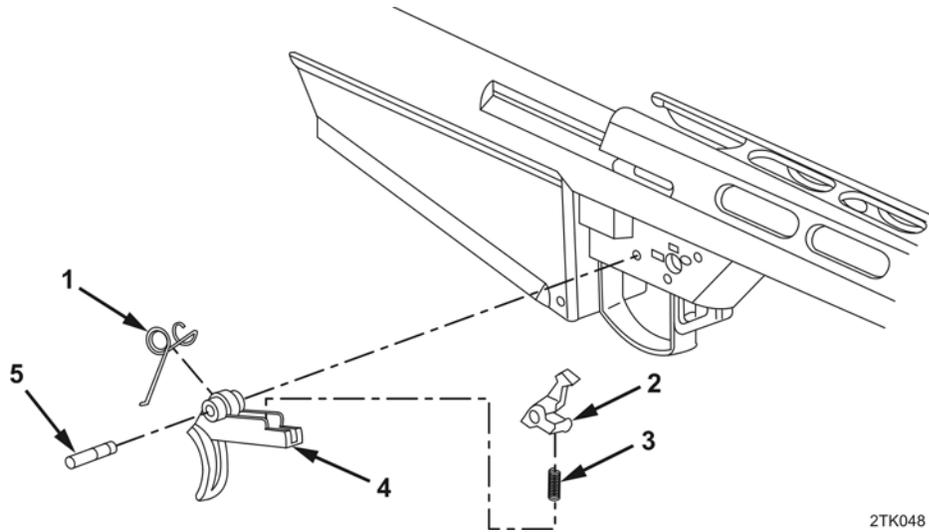


Figure 10. Transfer Bar.

**DISASSEMBLY – Continued**

13. Remove trigger housing pin (Figure 11, Item 5) (in front of safety in trigger housing) by placing 5/32-in. punch on pin and tapping it out with hammer.
14. Lift trigger spring (Figure 11, Item 1) gently over protrusions in side of trigger (Figure 11, Item 4). Separate disconnecter (Figure 11, Item 2) and disconnecter spring (Figure 11, Item 3) from trigger.



2TK048

Figure 11. Trigger Assembly.

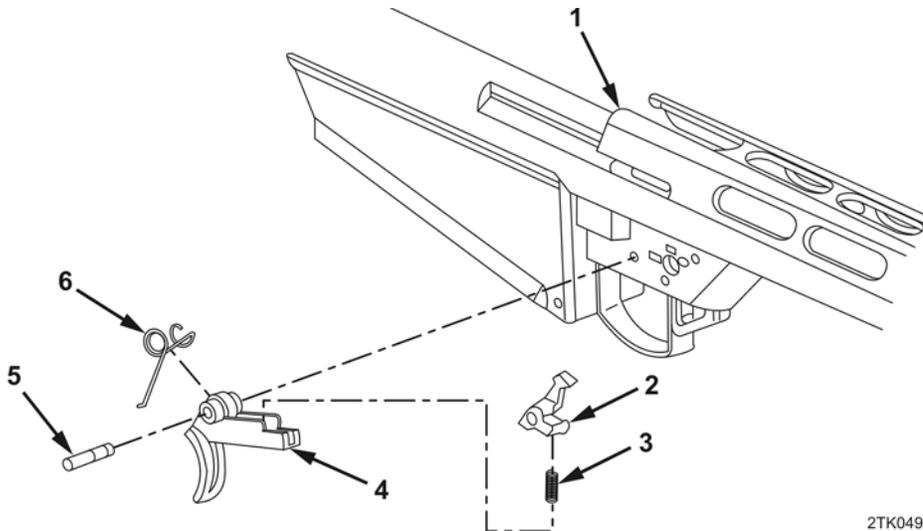
**END OF TASK****REPAIR OR REPLACEMENT**

Repair defective parts as authorized by WP 0037.

**END OF TASK**

**ASSEMBLY**

1. Place disconnecter spring (Figure 12, Item 3) in top of trigger (Figure 12, Item 4).
2. Insert disconnecter (Figure 12, Item 2) into slot on top of trigger (Figure 12, Item 4), ensuring that disconnecter spring (Figure 12, Item 3) fits into slot on bottom of disconnecter.
3. Slip trigger spring (Figure 12, Item 6) gently over protrusions on side of trigger (Figure 12, Item 4) to secure disconnecter (Figure 12, Item 2) and disconnecter spring (Figure 12, Item 3).
4. Place assembly of trigger (Figure 12, Item 4), trigger spring (Figure 12, Item 6), disconnecter (Figure 12, Item 2), and disconnecter spring (Figure 12, Item 3) into lower receiver (Figure 12, Item 1) with long leg of trigger spring pointing forward.
5. Extend trigger (Figure 12, Item 4) into trigger guard area to proper depth.
6. Align trigger assembly visually through trigger housing pin hole on left side of lower receiver (Figure 12, Item 1), and insert trigger housing pin (Figure 12, Item 5). This pin has two spring retention grooves around it, one in the middle and one at the end. The pin used to retain trigger must be inserted with groove-end first. Make minor positioning adjustment of disconnecter (Figure 12, Item 2) with finger while inserting pin. Do not use force or hammer pin into position through a misaligned hole.



2TK049

Figure 12. Trigger Assembly.

**ASSEMBLY – Continued**

7. Place transfer bar assembly (Figure 13, Item 1) into lower receiver (Figure 13, Item 3). Install transfer bar pin (Figure 13, Item 2) to secure transfer bar assembly.

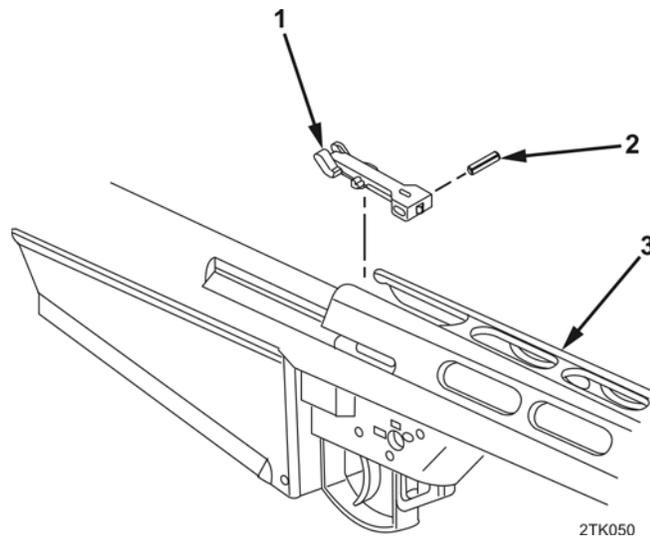
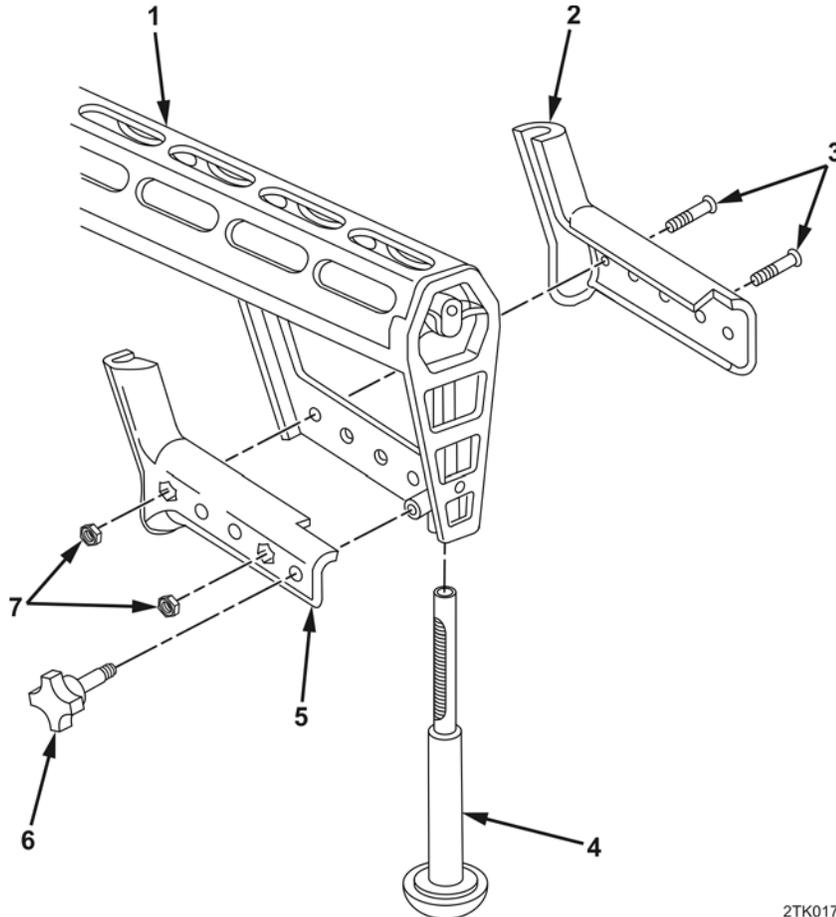


Figure 13. Transfer Bar.

**ASSEMBLY – Continued**

8. Align right rear hand grip (Figure 14, Item 2) and left rear hand grip (Figure 14, Item 5) on lower receiver (Figure 14, Item 1).
9. Use T-25 T-handle Torx screwdriver to install two rear hand grip screws (Figure 14, Item 3) and two rear hand grip nuts (Figure 14, Item 7).
10. Slide monopod assembly (Figure 14, Item 4) into lower receiver (Figure 14, Item 1) and secure with lock knob (Figure 14, Item 6).



2TK017

Figure 14. Monopod Assembly and Rear Hand Grips.

11. Slide mainspring (Figure 15, Item 3) into lower receiver (Figure 15, Item 2).

**WARNING**

Mainspring buffer and mainspring are under heavy spring tension. Stand to one side to avoid flying parts. Wear eye protection and heavy work gloves. Failure to comply may result in injury.

12. Place mainspring buffer (Figure 15, Item 5) on end of mainspring (Figure 15, Item 3). Guide mainspring into housing until buffer is even with housing.

**ASSEMBLY – Continued**

13. Place the end of a screwdriver into slot on mainspring buffer (Figure 15, Item 5), and turn buffer so that groove in its flange lines up with buffer stop (Figure 15, Item 1) on lower receiver (Figure 15, Item 2).
14. Push mainspring buffer (Figure 15, Item 5) to rear after mainspring (Figure 15, Item 3) has passed buffer stop (Figure 15, Item 1).

**WARNING**

Ensure the rear lock pin is inserted to secure the mainspring buffer and mainspring. Failure to comply may result in personnel injury.

15. Turn screwdriver so that groove in mainspring buffer (Figure 15, Item 5) and buffer stop (Figure 15, Item 1) are no longer in line. Insert rear lock pin (Figure 15, Item 4) through mainspring (Figure 15, Item 3) for safety.
16. Ease off pressure applied to screwdriver until mainspring buffer (Figure 15, Item 5) stops on buffer stop (Figure 15, Item 1).

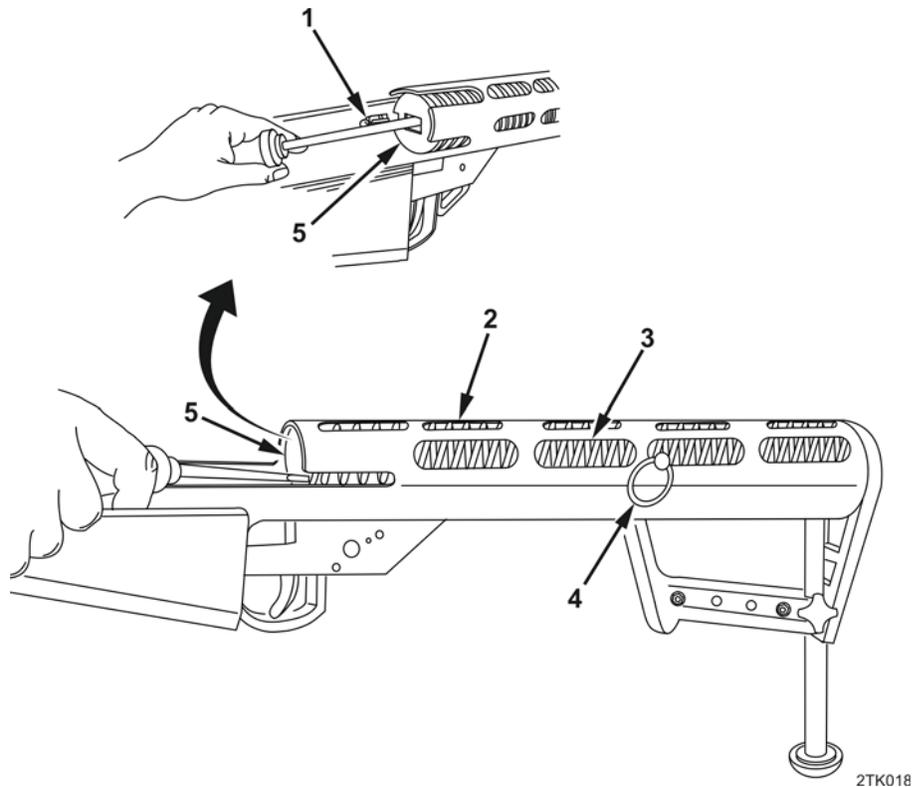


Figure 15. Mainspring Buffer and Mainspring.

**ASSEMBLY – Continued**

17. Install safety (Figure 16, Item 7) (from left to right, indicator between FIRE and SAFE) on lower receiver (Figure 16, Item 1).
18. Invert lower receiver (Figure 16, Item 1). Insert safety detent (Figure 16, Item 2) and safety spring (Figure 16, Item 3).
19. Align pistol grip (Figure 16, Item 4) with lower receiver (Figure 16, Item 1). Ensure that safety spring (Figure 16, Item 3) is in place in the small hole, top lip of the pistol grip.
20. Secure pistol grip (Figure 16, Item 4) to lower receiver (Figure 16, Item 1) with pistol grip screw (Figure 16, Item 6) and pistol grip washer (Figure 16, Item 5) using T-30 Torx screw key.
21. Check safety (Figure 16, Item 7) to ensure proper engagement with safety detent (Figure 16, Item 2) by switching from SAFE to FIRE. The trigger will NOT depress when safety select switch is in the SAFE position.

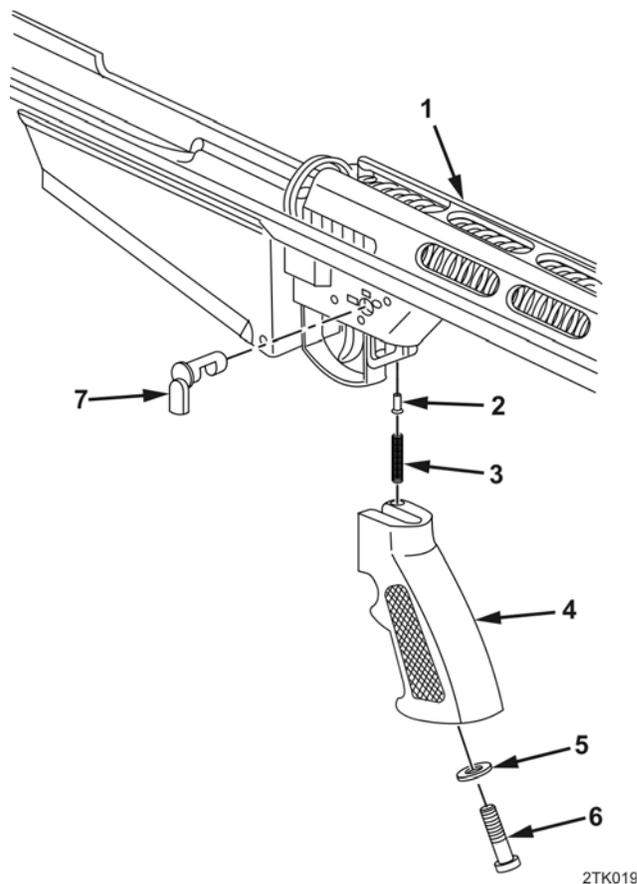


Figure 16. Pistol Grip Assembly.

**ASSEMBLY – Continued****NOTE**

Install magazine catch pin so that it is through the first two holes of the magazine well.

22. Place magazine catch spring (Figure 17, Item 2) in magazine catch (Figure 17, Item 3), aligning center of spring with two holes in magazine catch.
23. Insert magazine catch (Figure 17, Item 3) into bottom rear of magazine well and align magazine catch with two holes at rear of magazine well.
24. Insert 1/8-in. pin punch into one of the holes on side of magazine well and use punch to align holes in side of magazine well.
25. Push punch until it shows on far side. This will hold magazine catch (Figure 17, Item 3) in place against tension of magazine catch spring (Figure 17, Item 2).
26. Place magazine catch pin (Figure 17, Item 1) into hole until it is flush with magazine well.

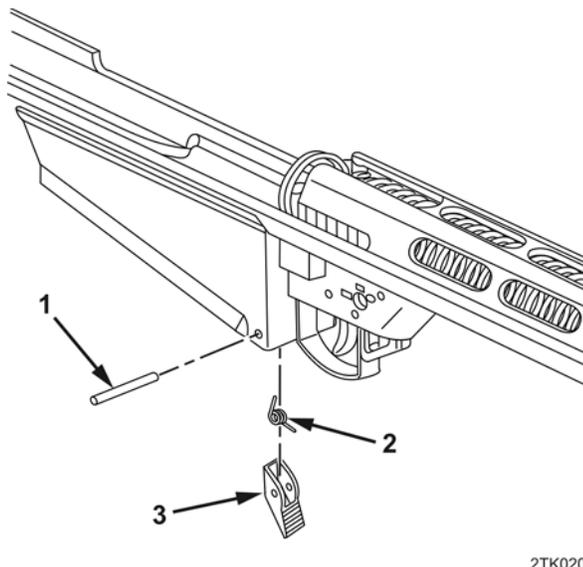
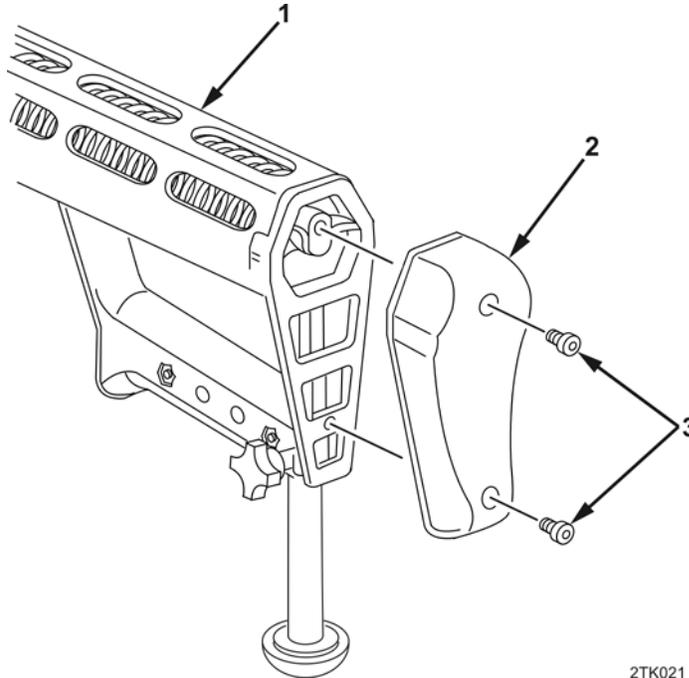


Figure 17. Magazine Catch.

**ASSEMBLY – Continued**

27. Position recoil pad (Figure 18, Item 2) on butt end of lower receiver (Figure 18, Item 1) and align holes in recoil pad with screw holes in lower receiver.
28. Using T-27 Torx screw key, install two recoil pad screws (Figure 18, Item 3) through two holes in recoil pad (Figure 18, Item 2) and into two holes in stock.



2TK021

Figure 18. Recoil Pad.

**ASSEMBLY – Continued****NOTE**

Ensure bushings are in place before installation of yoke mounts.

29. Install two yoke mounts (Figure 19, Item 4), two yoke mount washers (Figure 19, Item 2), and two yoke mount nuts (Figure 19, Item 1) to lower receiver (Figure 19, Item 3).
30. Torque two yoke mount nuts (Figure 19, Item 1) to 30 to 40 lb-ft (40 to 54 N•m).

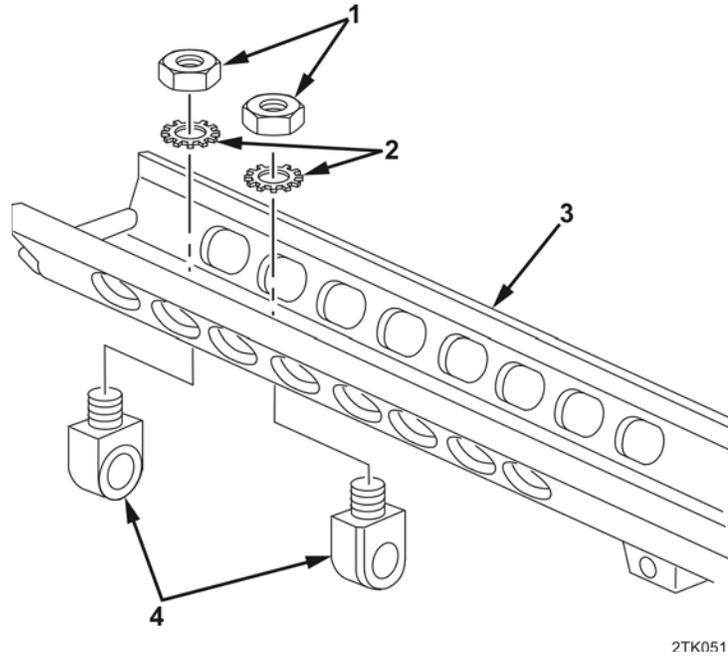
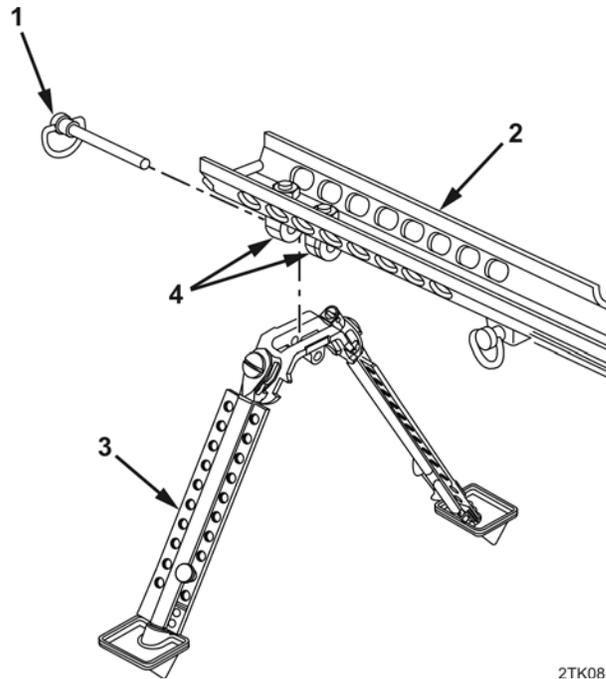


Figure 19. Bipod Yoke Mounts.

**ASSEMBLY – Continued**

31. Align bipod assembly (Figure 20, Item 3) with yoke mounts (Figure 20, Item 4) on lower receiver assembly (Figure 20, Item 2) and secure with bipod locking pin (Figure 20, Item 1).



2TK081

Figure 20. Bipod Assembly.

**END OF TASK**

**FOLLOW-ON TASK**

Lower receiver assembly installed to upper receiver assembly (WP 0015)

**END OF WORK PACKAGE**

## FIELD MAINTENANCE

## TRANSFER BAR ASSEMBLY MAINTENANCE

## INITIAL SETUP:

**Tools and Special Tools**

Small Arms Repairer Tool Kit (USMC only)  
(WP 0057, Table 2, Item 10)  
Tool Kit, Intermediate Maintenance, M107  
(USMC only) (WP 0057, Table 2, Item 11)  
Tool Kit, Organizational Maintenance, M107  
(USMC only) (WP 0057, Table 2, Item 12)

**References**

WP 0038

**Equipment Condition**

Lower receiver assembly removed from upper  
receiver assembly (WP 0015)  
Transfer bar assembly removed from lower receiver  
assembly (WP 0016)

**Materials/Parts**

Spring pin (WP 0038, Item 2)

## DISASSEMBLY

1. Place transfer bar assembly on firm surface.
2. Remove spring pin (Figure 1, Item 1) by placing 1/16-in. punch on pin and tapping it out with hammer. Discard spring pin.
3. Remove headless shoulder pin (Figure 1, Item 3) and helical compression spring (Figure 1, Item 4) from rifle transfer bar (Figure 1, Item 2).

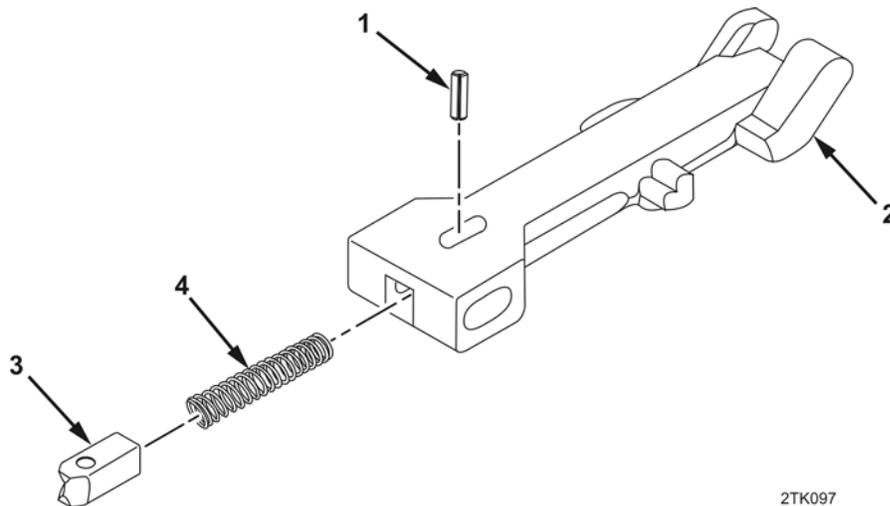


Figure 1. Transfer Bar Assembly.

## END OF TASK

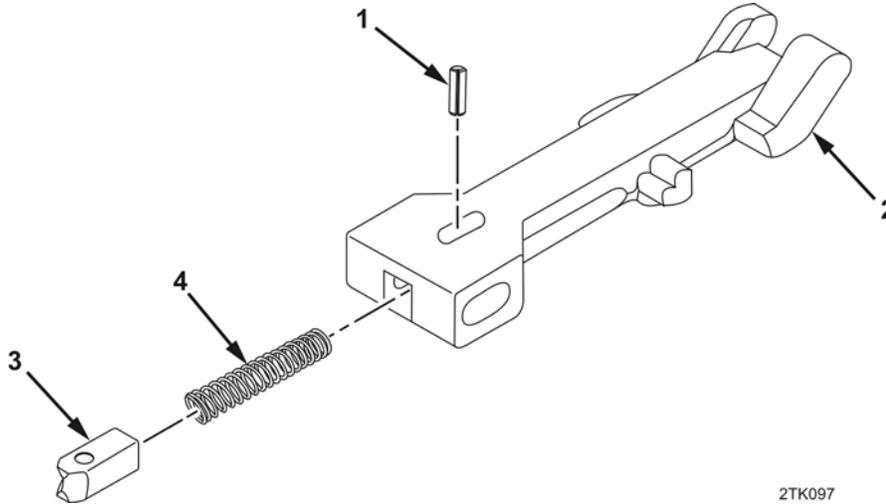
## REPAIR OR REPLACEMENT

Repair or replace defective parts as authorized by WP 0038.

## END OF TASK

**ASSEMBLY**

1. Install helical compression spring (Figure 2, Item 4) and headless shoulder pin (Figure 2, Item 3) into hole at rear of rifle transfer bar (Figure 2, Item 2).
2. Install new spring pin (Figure 2, Item 1) to secure helical compression spring (Figure 2, Item 4) and headless shoulder pin (Figure 2, Item 3).



2TK097

Figure 2. Transfer Bar.

**END OF TASK****FOLLOW-ON TASKS**

1. Transfer bar assembly installed to lower receiver assembly (WP 0016)
2. Lower receiver assembly installed to upper receiver assembly (WP 0015)

**END OF WORK PACKAGE**

**FIELD MAINTENANCE**  
**MONOPOD ASSEMBLY MAINTENANCE**

**INITIAL SETUP:****Tools and Special Tools**

Screwdriver Set, Six Point Tip, Torx  
(WP 0057, Table 2, Item 7)  
Small Arms Repairer Tool Kit  
(WP 0057, Table 2, Item 9)  
Small Arms Repairer Tool Kit (USMC only)  
(WP 0057, Table 2, Item 10)  
Tool Kit, Intermediate Maintenance, M107  
(USMC only) (WP 0057, Table 2, Item 11)  
Tool Kit, Organizational Maintenance, M107  
(USMC only) (WP 0057, Table 2, Item 12)

**Materials/Parts**

Sealing Compound (WP 0058, Item 25)

**References**

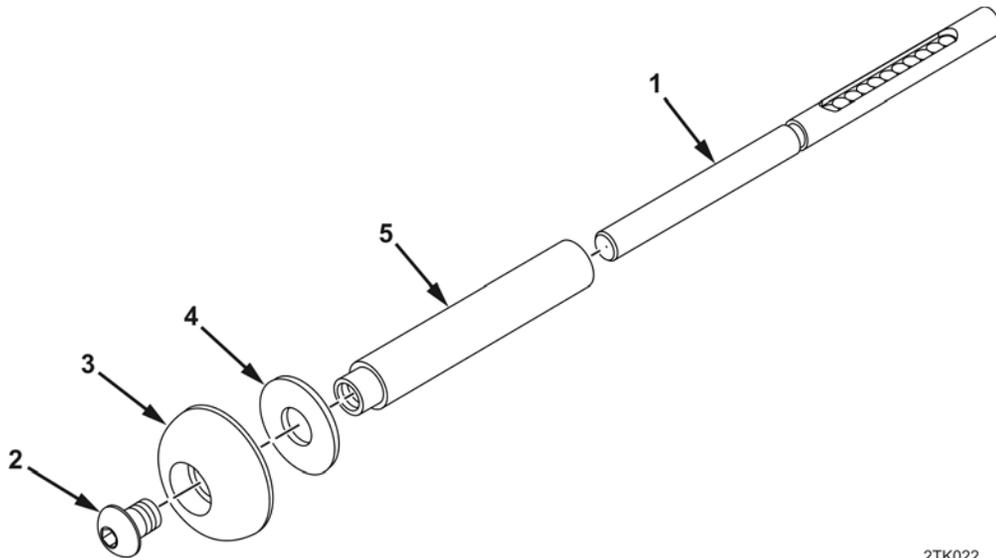
WP 0039

**Equipment Condition**

Monopod assembly removed from lower receiver  
(WP 0016)

**DISASSEMBLY**

1. Use a socket wrench handle and a T-45 Torx socket to remove monopod foot screw (Figure 1, Item 2), monopod foot (Figure 1, Item 3), and monopod foot washer (Figure 1, Item 4) from elevation collar (Figure 1, Item 5).
2. Separate monopod screw (Figure 1, Item 1) from elevation collar (Figure 1, Item 5).



2TK022

Figure 1. Monopod Disassembly.

**END OF TASK**

**CLEANING****NOTE**

When servicing this weapon, performing maintenance, or disposing of materials such as cleaning fluids, cleaning compounds, lubricants, and sealing compounds as well as items contaminated with these substances (such as cleaning rags) 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 Hotline at 1-800-872-3845 / OCONUS: 410-436-1244 or online at <http://aec.army.mil/usaec/contactus.html>. 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.

Remove all old sealing compound from monopod foot screw (Figure 2, Item 2) and elevation collar (Figure 2, Item 5).

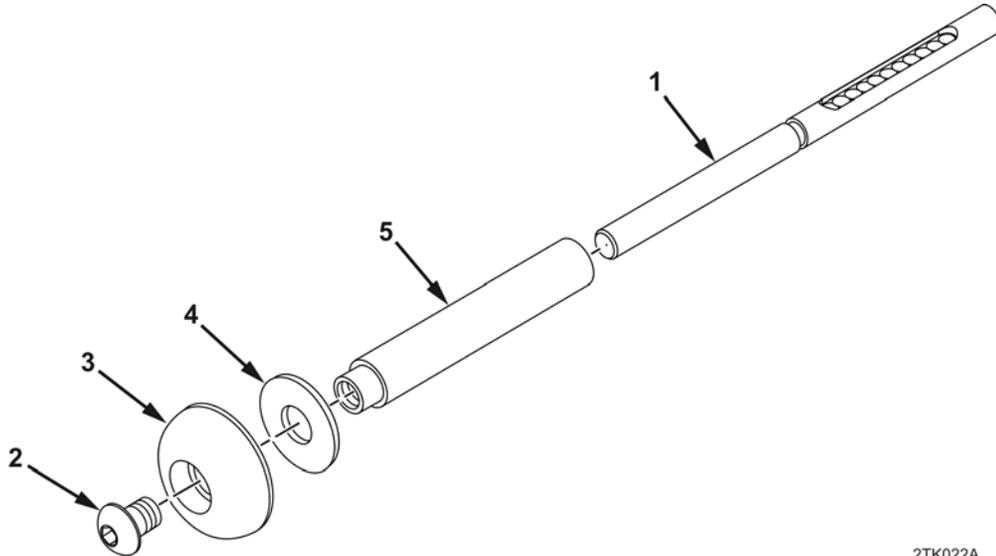
**END OF TASK****REPAIR OR REPLACEMENT**

Repair defective parts as authorized by WP 0039.

**END OF TASK**

**ASSEMBLY**

1. Apply sealing compound to threads of monopod foot screw (Figure 2, Item 2).
2. Install monopod foot washer (Figure 2, Item 4) and monopod foot (Figure 2, Item 3) on elevation collar (Figure 2, Item 5), and secure with monopod foot screw (Figure 2, Item 2). Remove excess sealing compound.
3. Install monopod screw (Figure 2, Item 1) into elevation collar (Figure 2, Item 5).



2TK022A

Figure 2. Monopod Assembly.

**END OF TASK****FOLLOW-ON TASK**

Monopod assembly installed to lower receiver (WP 0016)

**END OF WORK PACKAGE**



## FIELD MAINTENANCE

## UPPER RECEIVER ASSEMBLY MAINTENANCE

## INITIAL SETUP:

**Tools and Special Tools**

Screwdriver Set, Six Point Tip, Torx  
(WP 0057, Table 2, Item 7)  
Shop Set, Small Arms: Field Maintenance, Basic  
(WP 0057, Table 2, Item 8)  
Small Arms Repairer Tool Kit (USMC only)  
(WP 0057, Table 2, Item 10)  
Tool Kit, Intermediate Maintenance, M107  
(USMC only) (WP 0057, Table 2, Item 11)  
Tool Kit, Organizational Maintenance, M107  
(USMC only) (WP 0057, Table 2, Item 12)

**Materials/Parts**

Lubricant, Dry (WP 0058, Item 15)  
Sealing Compound (WP 0058, Item 25)

**References**

WP 0024  
WP 0040

**Equipment Condition**

Upper receiver assembly removed from lower receiver assembly (WP 0015)  
Carrying handle assembly removed from upper receiver assembly (WP 0020, WP 0021 for USMC and USAF only)  
Front sight assembly removed from upper receiver assembly (WP 0022)  
Rear sight assembly removed from upper receiver assembly (WP 0023)  
Muzzle brake removed from barrel (WP 0024)

## DISASSEMBLY

**CAUTION**

Do not pull on barrel springs to remove the barrel key assembly. Doing so may damage the springs. Failure to comply may result in weapon damage.

1. Assume that barrel springs (Figure 1, Item 1) are under tension. Withdraw barrel key assembly (Figure 1, Item 3) from slot in barrel by slowly working it out. Slide barrel out through rear of upper receiver (Figure 1, Item 2) (WP 0024).

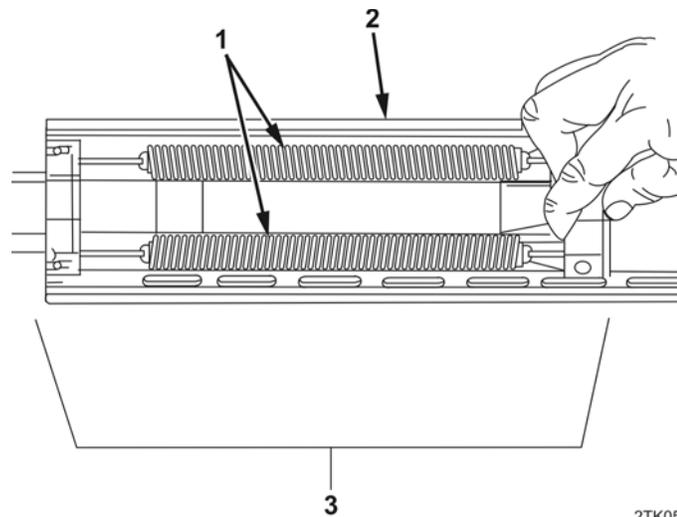


Figure 1. Barrel Key Assembly.

**DISASSEMBLY – Continued**

- Use 1/8-in. hexagon wrench to remove two barrel spring screws (Figure 2, Item 3) from front barrel bushing of upper receiver (Figure 2, Item 1). Drive springs of barrel key assembly (Figure 2, Item 2) from front of upper receiver with 3/32-in. punch. Remove old sealing compound from barrel spring screws.

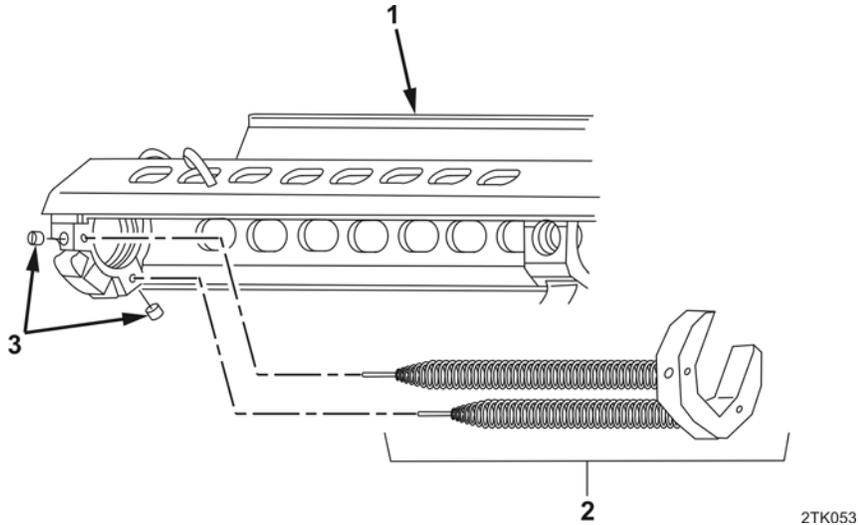


Figure 2. Barrel Spring Screws and Upper Receiver Assembly.

- Use 1/8-in. hexagon wrench to remove barrel spring screws (Figure 3, Item 3). Remove two barrel springs (Figure 3, Item 1) from barrel key (Figure 3, Item 2).

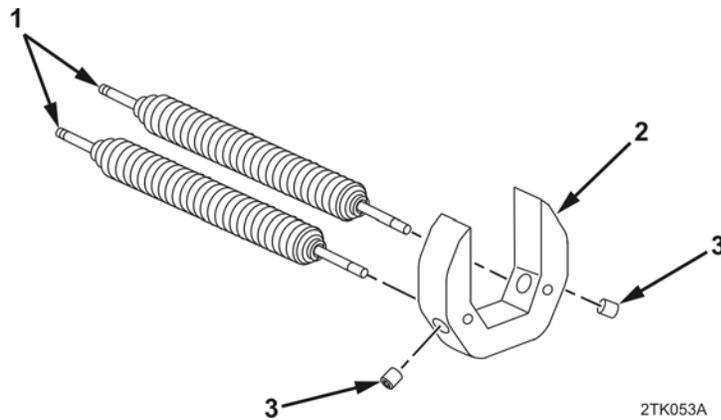


Figure 3. Barrel Spring Screws and Barrel Key.

**DISASSEMBLY – Continued**

4. Use a T-25 Torx socket wrench to remove eight scope base screws (Figure 4, Item 3) and scope base (Figure 4, Item 1) from upper receiver (Figure 4, Item 2). Remove old sealing compound from threads of screws.

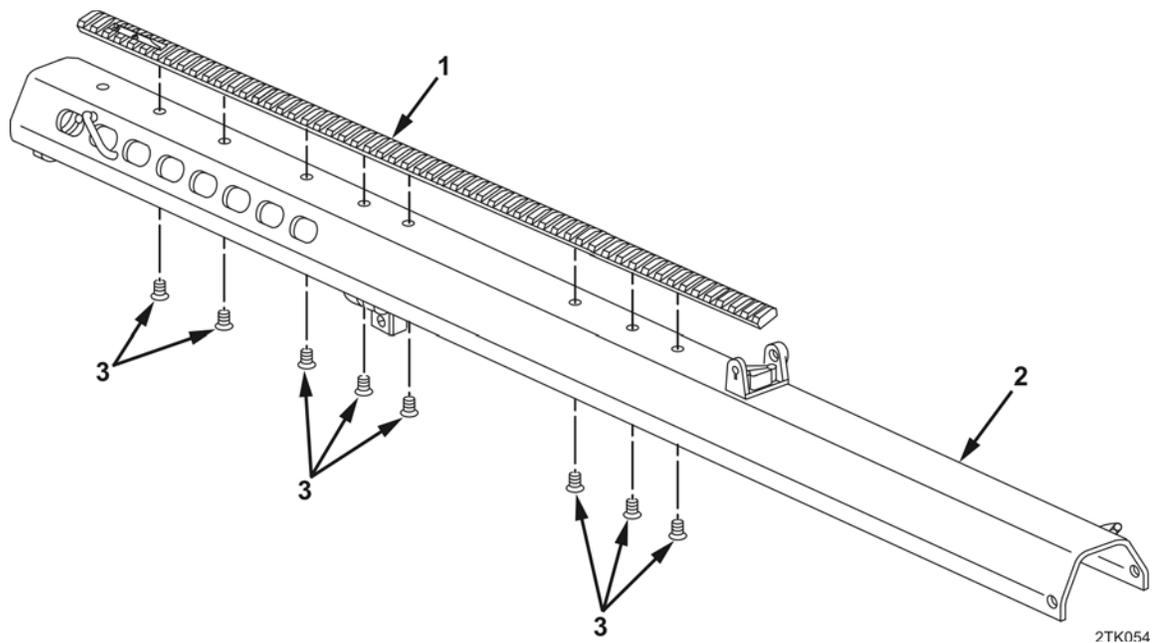


Figure 4. Scope Base and Upper Receiver.

**END OF TASK**

**REPAIR OR REPLACEMENT**

Repair defective parts as authorized by WP 0040.

**END OF TASK**

## ASSEMBLY

## NOTE

When servicing this weapon, performing maintenance, or disposing of materials such as cleaning fluids, cleaning compounds, lubricants, and sealing compounds as well as items contaminated with these substances (such as cleaning rags) 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 Hotline at 1-800-872-3845 / OCONUS: 410-436-1244 or online at <http://aec.army.mil/usaec/contactus.html>. 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.

1. Apply sealing compound to threads of eight scope base screws (Figure 5, Item 3).
2. Align scope base (Figure 5, Item 1) on upper receiver (Figure 5, Item 2) and secure with eight scope base screws (Figure 5, Item 3).
3. Use a T-25 Torx socket wrench to torque eight scope base screws (Figure 5, Item 3) to 65 lb-in. (7.3 N•m).

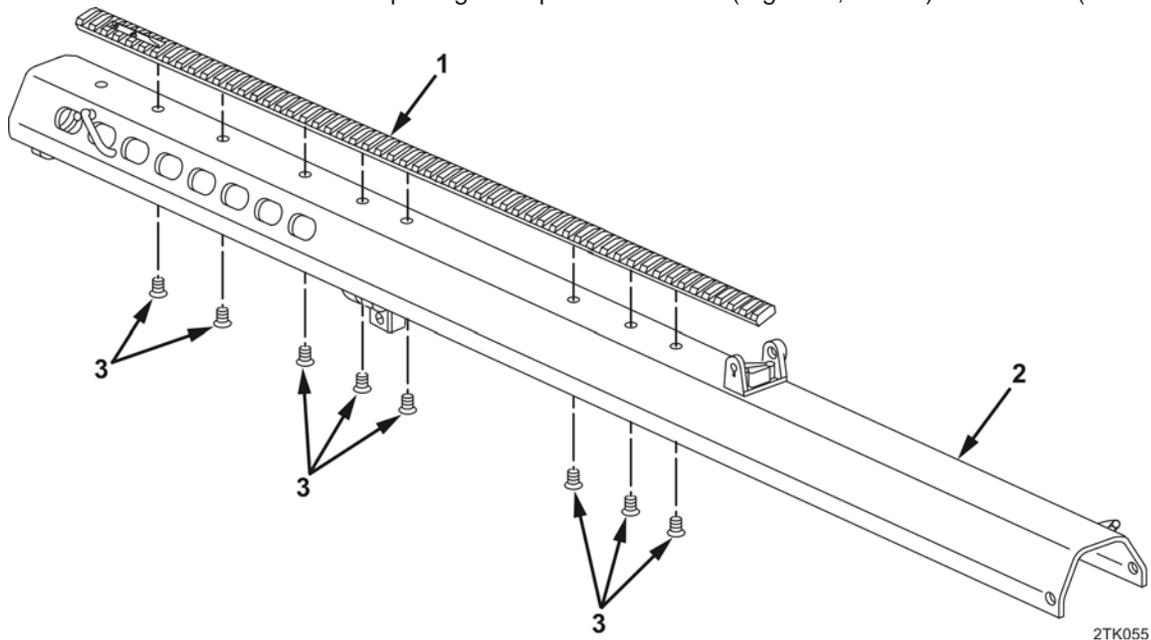


Figure 5. Scope Base and Upper Receiver.

**ASSEMBLY – Continued**

4. Insert end of two barrel springs (Figure 6, Item 1) into barrel key (Figure 6, Item 2).
5. Apply sealing compound to threads of two barrel spring screws (Figure 6, Item 3). Install two barrel spring screws into barrel key (Figure 6, Item 2), using 1/8-in. hexagon wrench. Torque screws to 50 to 60 lb-in. (5.65 to 6.78 N•m).

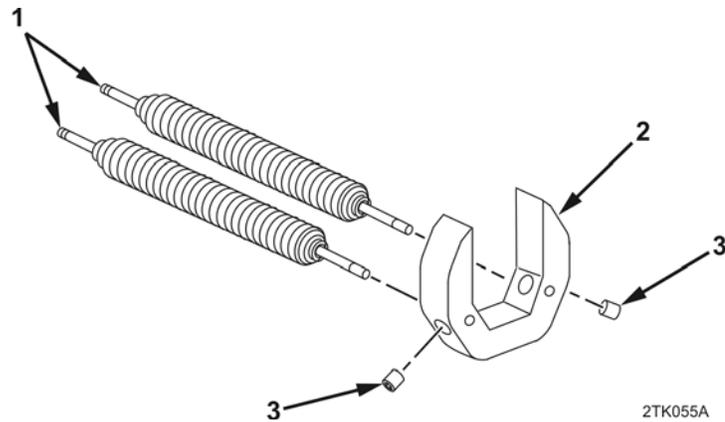


Figure 6. Barrel Spring Screws and Barrel Key.

**ASSEMBLY – Continued**

6. Insert springs of barrel key assembly (Figure 7, Item 2) into front of upper receiver (Figure 7, Item 1).
7. Push spring ends through front of upper receiver (Figure 7, Item 1) until coil of spring abuts against receiver.
8. Apply sealing compound to threads of two barrel spring screws (Figure 7, Item 3).
9. Install two barrel spring screws (Figure 7, Item 3), using 1/8-in. hexagon wrench. Torque screws to 50 to 60 lb-in. (5.65 to 6.78 N•m).
10. File excess spring material until flush with front of upper receiver (Figure 7, Item 1) and touch up bare metal with dry film lubricant.

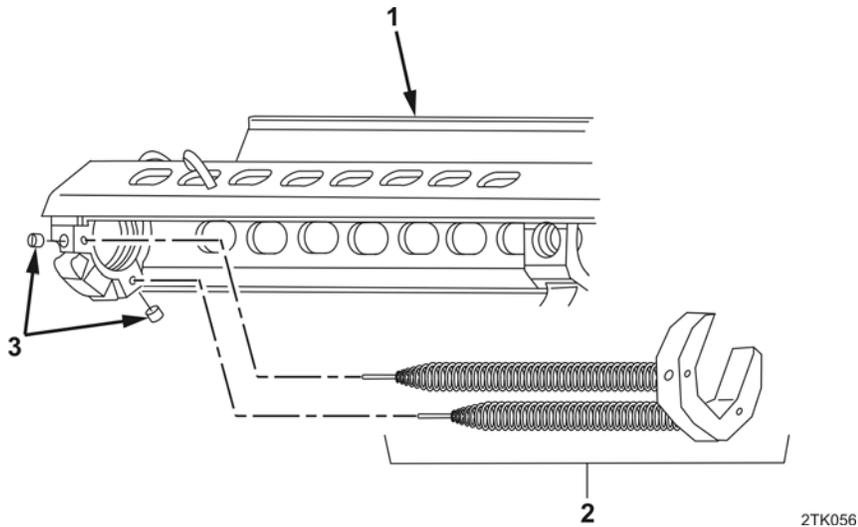


Figure 7. Barrel Spring Screws and Upper Receiver Assembly.

**ASSEMBLY – Continued****NOTE**

Ensure that both battery bumper and impact bumper are in place on barrel before installation (WP 0024).

11. Slide barrel (Figure 8, Item 2) into upper receiver (Figure 8, Item 1) from rear.
12. Hold upper receiver (Figure 8, Item 1) firmly with one hand. With the other hand, pull barrel key assembly (Figure 8, Item 3) toward rear until it can be fitted into slot on barrel (Figure 8, Item 2).
13. Install muzzle brake (WP 0024).

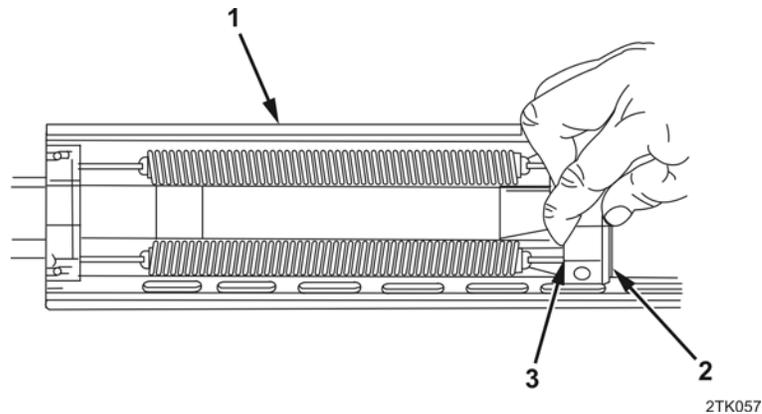


Figure 8. Barrel Key Assembly.

**END OF TASK****FOLLOW-ON TASKS**

1. Muzzle brake installed to barrel (WP 0024)
2. Rear sight assembly installed to upper receiver assembly (WP 0023)
3. Front sight assembly installed to upper receiver assembly (WP 0022)
4. Carrying handle assembly installed to upper receiver assembly (WP 0020, WP 0021 for USMC and USAF Only)
5. Upper receiver assembly installed to lower receiver assembly (WP 0015)

**END OF WORK PACKAGE**



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**FIELD MAINTENANCE**  
**CARRYING HANDLE ASSEMBLY MAINTENANCE**

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**INITIAL SETUP:****Tools and Special Tools**

Small Arms Repairer Tool Kit  
(WP 0057, Table 2, Item 9)

**References**

WP 0041

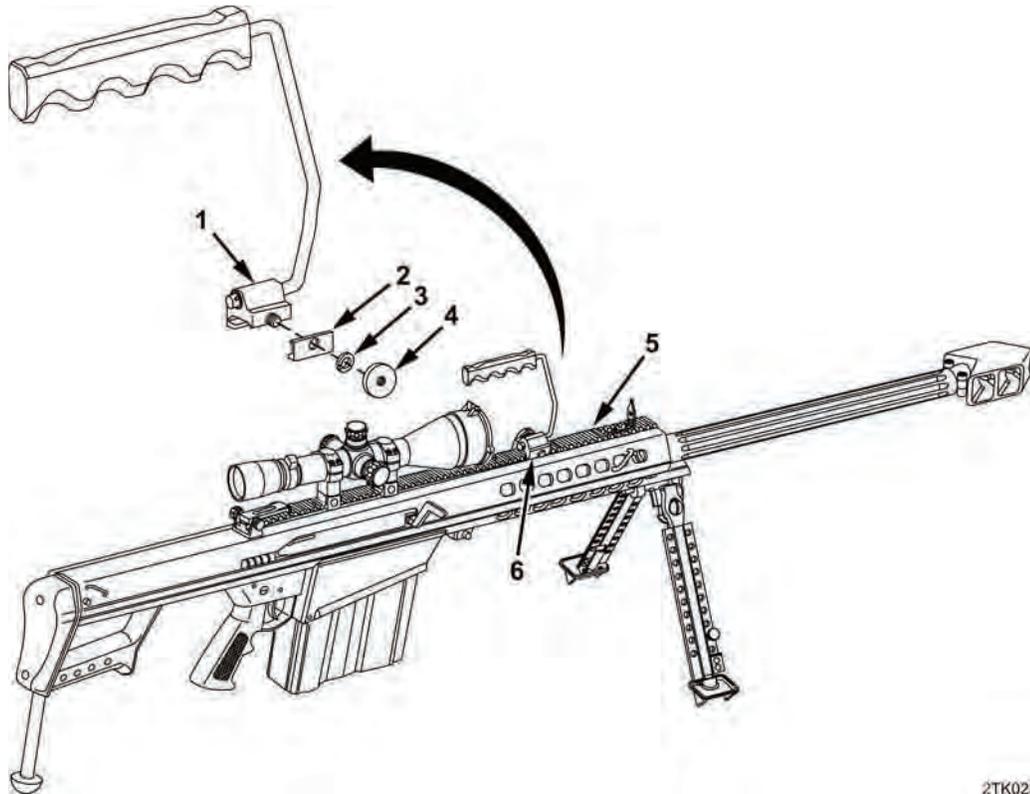
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**REMOVAL**

1. Loosen carrying handle nut (Figure 1, Item 4) by turning counterclockwise.
2. Slide carrying handle clamp (Figure 1, Item 2) away from body (Figure 1, Item 6) of carrying handle assembly (Figure 1, Item 1) and lift handle from rail (Figure 1, Item 5).

**END OF TASK****DISASSEMBLY**

Remove carrying handle nut (Figure 1, Item 4), carrying handle lock washer (Figure 1, Item 3), and carrying handle clamp (Figure 1, Item 2) from carrying handle assembly (Figure 1, Item 1).



2TK023

Figure 1. Carrying Handle.

**END OF TASK**

**REPAIR OR REPLACEMENT**

Replace defective parts as authorized by WP 0041.

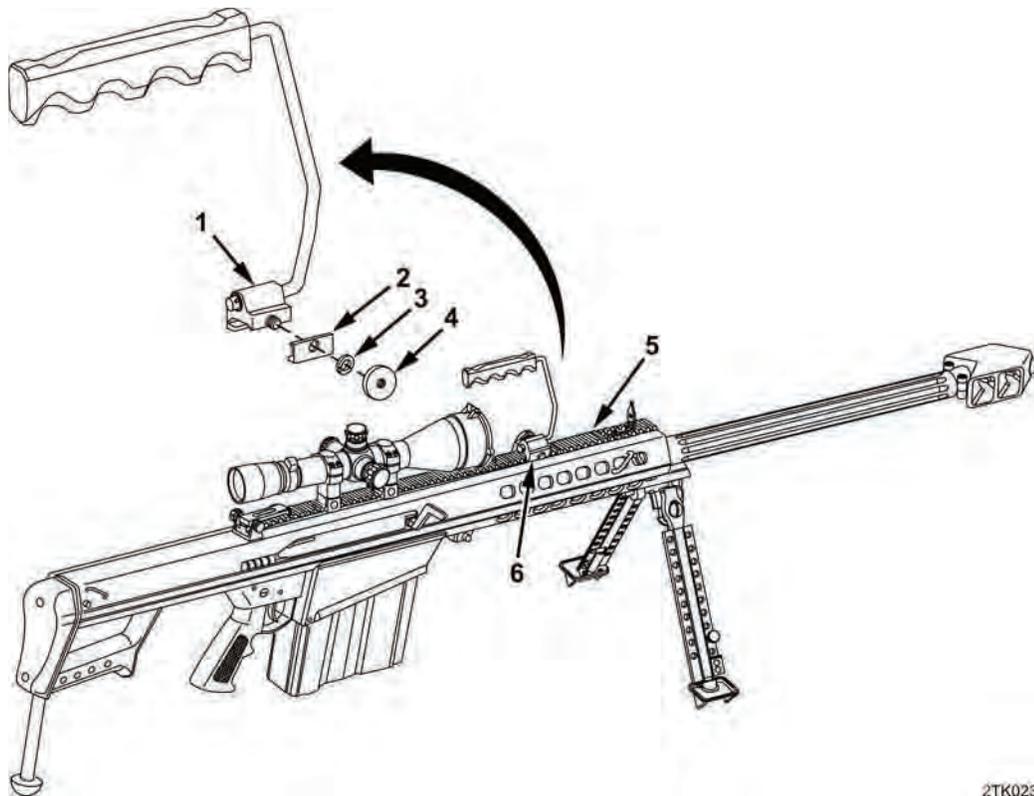
**END OF TASK****ASSEMBLY**

Install carrying handle clamp (Figure 2, Item 2) on carrying handle assembly (Figure 2, Item 1) and secure with carrying handle lock washer (Figure 2, Item 3) and carrying handle nut (Figure 2, Item 4).

**END OF TASK****INSTALLATION**

1. With carrying handle nut (Figure 2, Item 4) loosened, position carrying handle assembly (Figure 2, Item 1) on rail (Figure 2, Item 5). Align carrying handle clamp (Figure 2, Item 2) with body (Figure 2, Item 6) of carrying handle assembly.
2. Tighten carrying handle nut (Figure 2, Item 4).

INSTALLATION – Continued



2TK023

Figure 2. Carrying Handle.

END OF TASK

END OF WORK PACKAGE



## FIELD MAINTENANCE

## CARRYING HANDLE ASSEMBLY MAINTENANCE (USMC AND USAF ONLY)

## INITIAL SETUP:

## Tools and Special Tools

Small Arms Repairer Tool Kit (USMC only)  
(WP 0057, Table 2, Item 10)  
Tool Kit, Intermediate Maintenance, M107  
(USMC only) (WP 0057, Table 2, Item 11)  
Tool Kit, Organizational Maintenance, M107  
(USMC only) (WP 0057, Table 2, Item 12)

## Materials/Parts

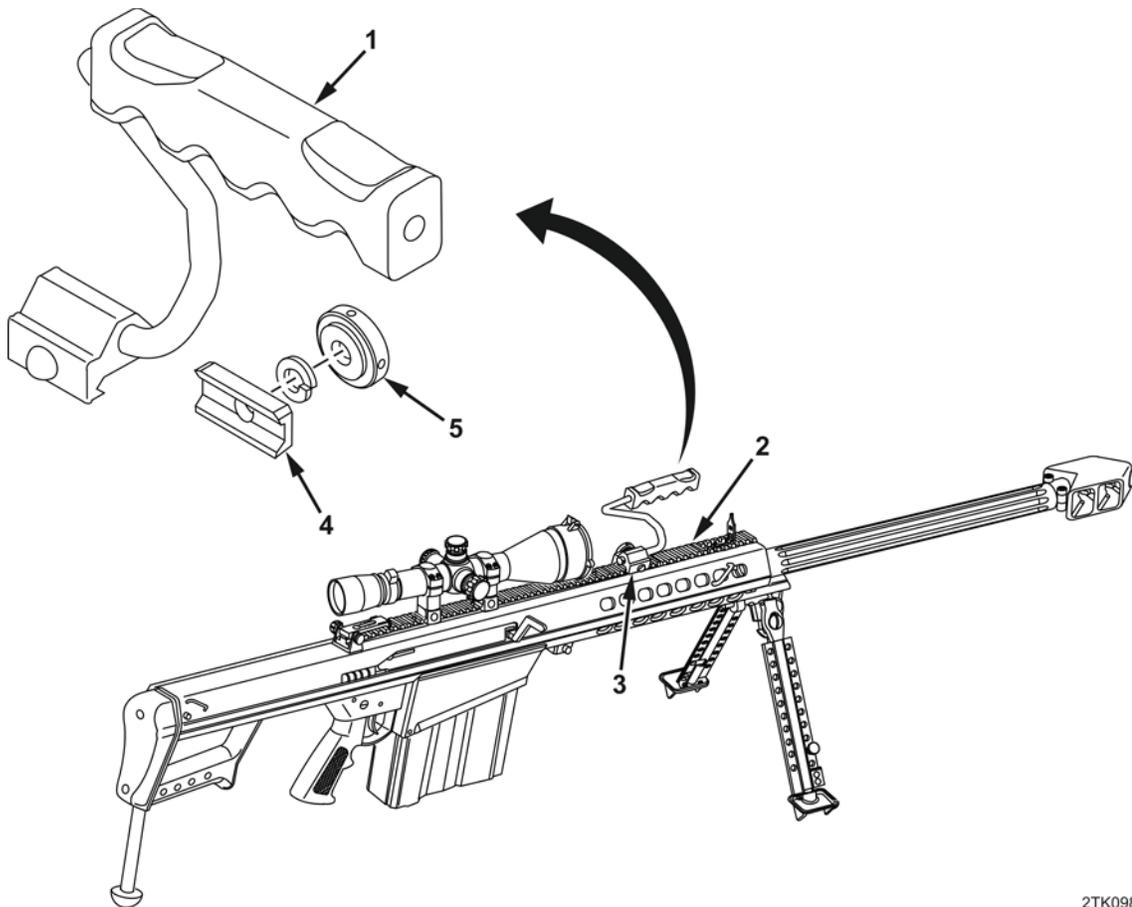
Spring pin (WP 0041, Item 5)

## References

WP 0041

## REMOVAL

1. Loosen carrying handle nut (Figure 1, Item 5) by turning counterclockwise.
2. Slide carrying handle clamp (Figure 1, Item 4) away from handle mount (Figure 1, Item 3) of carrying handle assembly (Figure 1, Item 1) and lift handle from rail (Figure 1, Item 2).



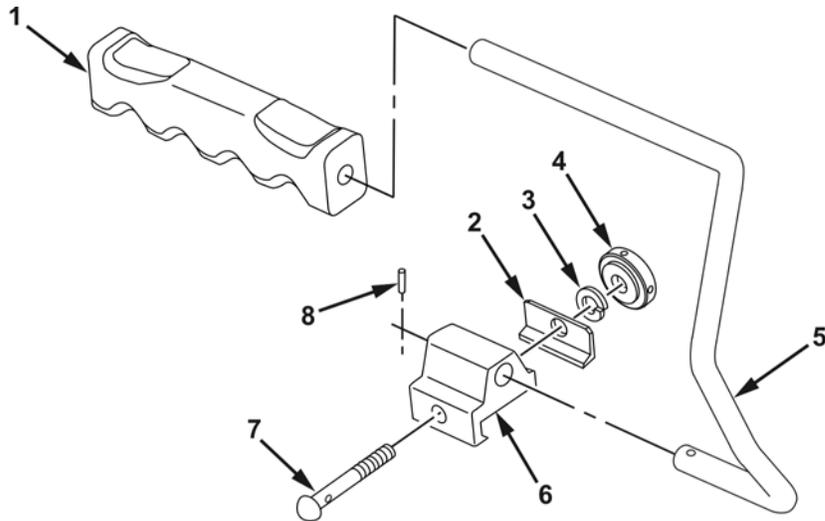
2TK098

Figure 1. Carrying Handle.

END OF TASK

**DISASSEMBLY**

1. Remove and discard spring pin (Figure 2, Item 8).
2. Remove carrying handle nut (Figure 2, Item 4), carrying handle lock washer (Figure 2, Item 3), clamp bolt (Figure 2, Item 7), carrying handle clamp (Figure 2, Item 2), and handle mount (Figure 2, Item 6) from carrying handle (Figure 2, Item 5).
3. Twist carrying handle stock (Figure 2, Item 5) left and right to remove from carrying handle (Figure 2, Item 1).



2TK099

Figure 2. Carrying Handle Stock.

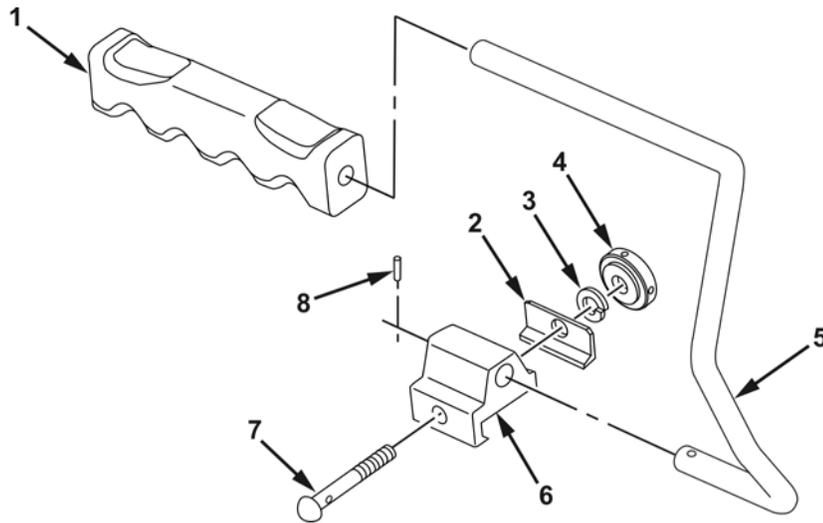
**END OF TASK****REPAIR OR REPLACEMENT**

Replace defective parts as authorized by WP 0041.

**END OF TASK**

**ASSEMBLY**

1. Twist and push carrying handle stock (Figure 3, Item 5) left and right to install on carrying handle (Figure 3, Item 1).
2. Install handle mount (Figure 3, Item 6) and carrying handle clamp (Figure 3, Item 2) on carrying handle (Figure 3, Item 1) and secure with clamp bolt (Figure 3, Item 7), carrying handle lock washer (Figure 3, Item 3), and carrying handle nut (Figure 3, Item 4).
3. Install new spring pin (Figure 3, Item 8).



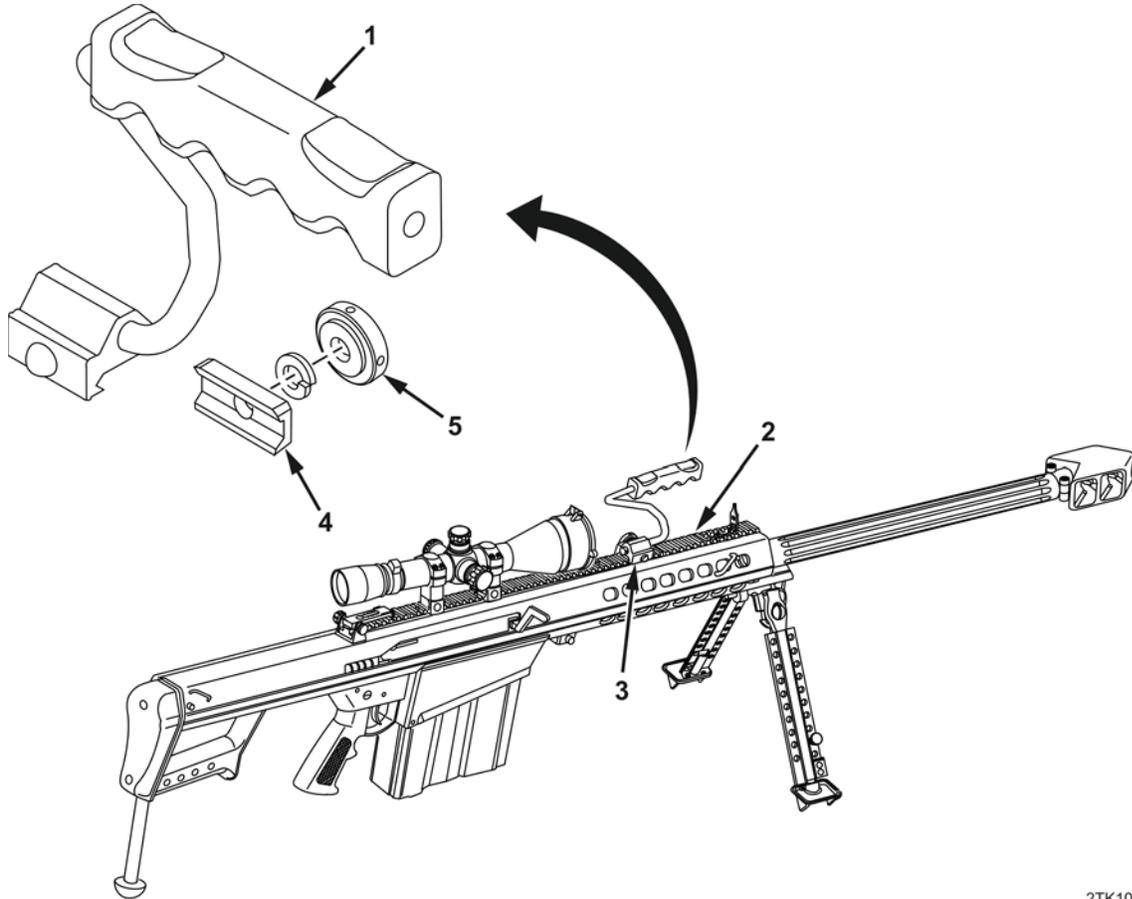
2TK100

Figure 3. Carrying Handle Stock.

**END OF TASK**

**INSTALLATION**

1. With carrying handle nut (Figure 4, Item 5) loosened, position carrying handle assembly (Figure 4, Item 1) on rail (Figure 4, Item 2). Align carrying handle clamp (Figure 4, Item 4) with handle mount (Figure 4, Item 3) of carrying handle assembly.
2. Tighten carrying handle nut (Figure 4, Item 5).



2TK101

Figure 4. Carrying Handle.

**END OF TASK****END OF WORK PACKAGE**

**FIELD MAINTENANCE**  
**FRONT SIGHT ASSEMBLY MAINTENANCE**

**INITIAL SETUP:****Tools and Special Tools**

Small Arms Repairer Tool Kit  
(WP 0057, Table 2, Item 9)  
Small Arms Repairer Tool Kit (USMC only)  
(WP 0057, Table 2, Item 10)  
Tool Kit, Intermediate Maintenance, M107  
(USMC only) (WP 0057, Table 2, Item 11)

**Tools and Special Tools - Continued**

Tool Kit, Organizational Maintenance, M107  
(USMC only) (WP 0057, Table 2, Item 12)

**References**

WP 0042

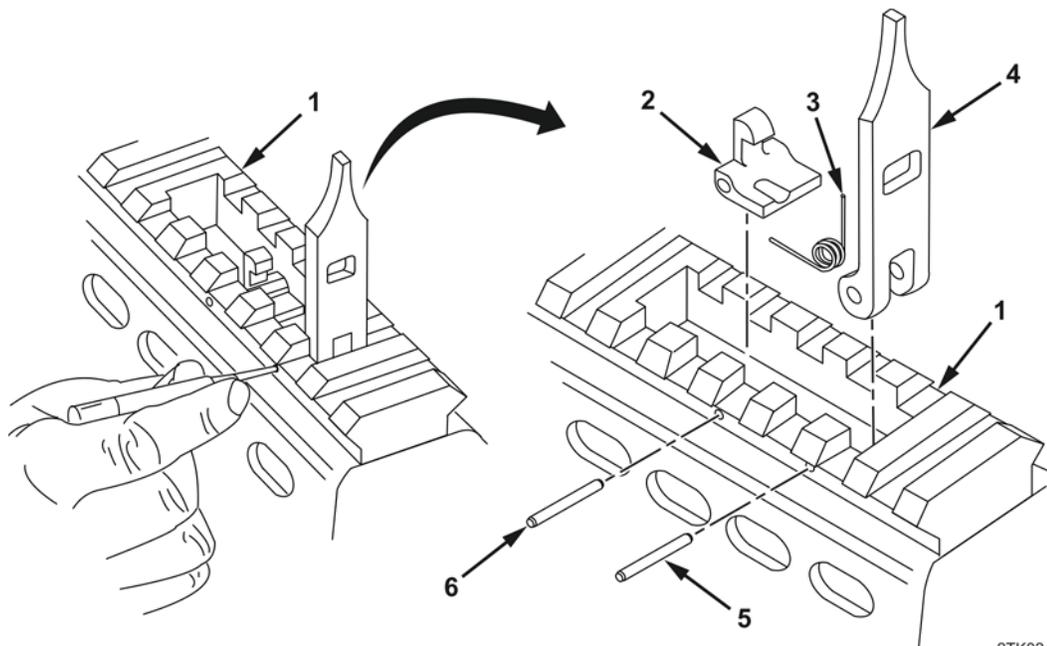
**REMOVAL**

1. Place upper receiver assembly (Figure 1, Item 1) on a firm surface.
2. Push on top of front sight catch (Figure 1, Item 2) to release front sight (Figure 1, Item 4) into upright position.

**NOTE**

Do not lose the front sight spring from upper receiver assembly.

3. Place 3/32-in. pin punch in end of front sight pin (Figure 1, Item 5). Carefully tap punch with hammer to remove front sight pin.
4. Hold front sight (Figure 1, Item 4) in position while removing pin punch.
5. Carefully remove front sight (Figure 1, Item 4) and front sight spring (Figure 1, Item 3).
6. If front sight catch (Figure 1, Item 2) is damaged, partially drive out front sight catch pin (Figure 1, Item 6). Remove front sight catch and complete removal of front sight catch pin. Discard front sight catch pin.



2TK024

Figure 1. Front Sight.

**END OF TASK**

**REPAIR OR REPLACEMENT**

Replace defective parts as authorized by WP 0042.

**END OF TASK****INSTALLATION**

1. Place upper receiver assembly (Figure 2, Item 1) on firm surface.
2. Align hole in front sight (Figure 2, Item 4) with coil of front sight spring (Figure 2, Item 3).
3. Lower front sight (Figure 2, Item 4) and front sight spring (Figure 2, Item 3) into sight well, ensuring lower arm of spring is located in slot of front sight.
4. Secure front sight (Figure 2, Item 4) and front sight spring (Figure 2, Item 3) in position using 1/8-in. pin punch as slave pin.
5. Using 3/32-in. pin punch, drive front sight pin (Figure 2, Item 5) through holes of front sight (Figure 2, Item 4) and coil of front sight spring (Figure 2, Item 3).
6. If removed, install new front sight catch (Figure 2, Item 2) in position in sight well. Drive in new front sight catch pin (Figure 2, Item 6) to secure front sight catch.

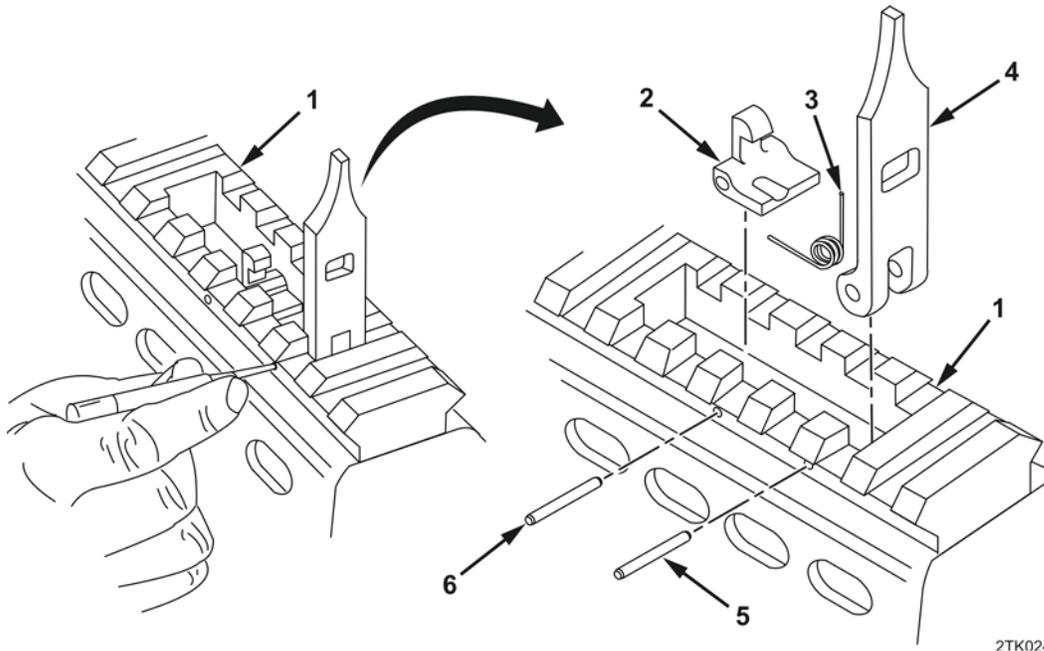


Figure 2. Front Sight.

**END OF TASK****END OF WORK PACKAGE**

**FIELD MAINTENANCE**  
**REAR SIGHT ASSEMBLY MAINTENANCE**

**INITIAL SETUP:****Tools and Special Tools**

Deployment Kit Tool Kit, TK-1  
(WP 0057, Table 2, Item 4)  
Shop Set, Small Arms: Field Maintenance, Basic  
(WP 0057, Table 2, Item 8)  
Small Arms Repairer Tool Kit (USMC only)  
(WP 0057, Table 2, Item 10)

**Tools and Special Tools - Continued**

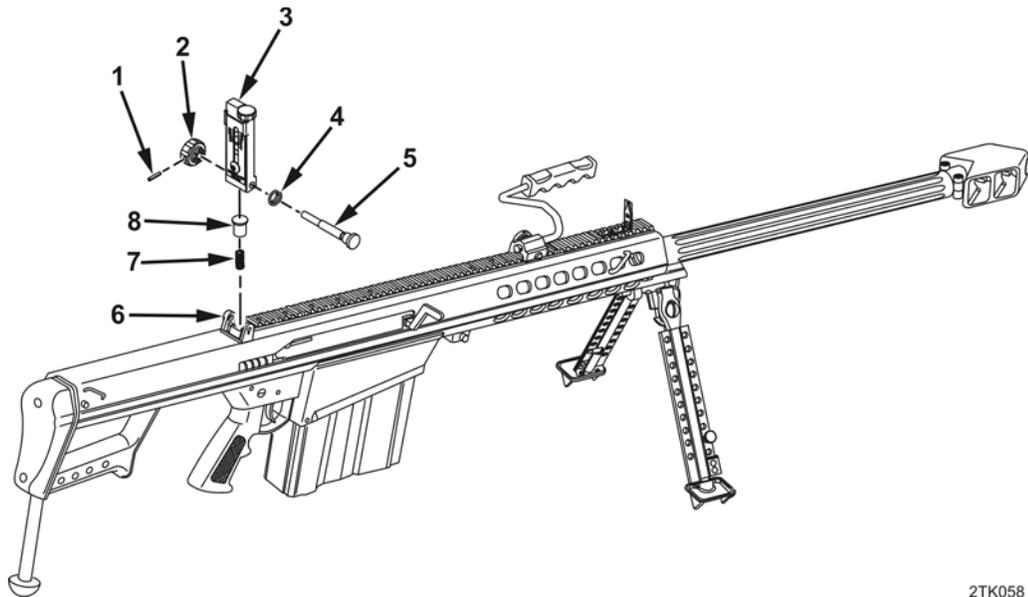
Tool Kit, Intermediate Maintenance, M107  
(USMC only) (WP 0057, Table 2, Item 11)  
Tool Kit, Organizational Maintenance, M107  
(USMC only) (WP 0057, Table 2, Item 12)

**References**

WP 0043

**REMOVAL**

1. Use a pin punch to drive windage knob pin (Figure 1, Item 1) from windage knob (Figure 1, Item 2).
2. Unscrew windage screw (Figure 1, Item 5) slowly (under spring pressure), being careful not to lose windage screw spring (Figure 1, Item 4).
3. Remove rear sight assembly (Figure 1, Item 3) slowly (under spring pressure) from rear sight base (Figure 1, Item 6), being careful not to lose rear sight base spring (Figure 1, Item 7) and rear sight base detent (Figure 1, Item 8).
4. Separate rear sight base spring (Figure 1, Item 7) and rear sight base detent (Figure 1, Item 8) from rear sight assembly (Figure 1, Item 3).



2TK058

Figure 1. Rear Sight.

**END OF TASK**

**DISASSEMBLY**

1. Remove rear sight scale screw (Figure 2, Item 3) by turning counterclockwise.
2. Lift rear sight scale (Figure 2, Item 1) from rear sight body (Figure 2, Item 2).

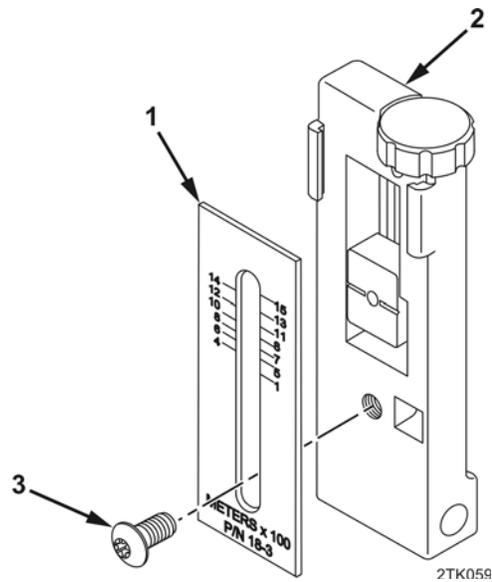


Figure 2. Rear Sight.

**END OF TASK****REPAIR OR REPLACEMENT**

Replace defective parts as authorized by WP 0043.

**END OF TASK**

**ASSEMBLY**

1. Replace rear sight scale (Figure 3, Item 1) by placing it into position on rear sight body (Figure 3, Item 2).
2. Secure rear sight scale (Figure 3, Item 1) with rear sight scale screw (Figure 3, Item 3), using T-10 L-shaped Torx wrench.

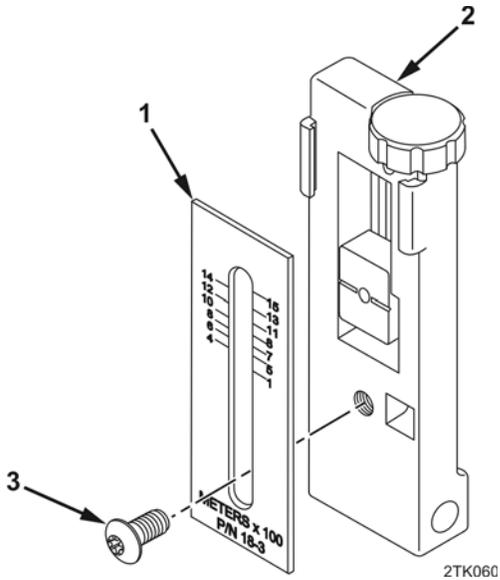


Figure 3. Rear Sight.

**END OF TASK**

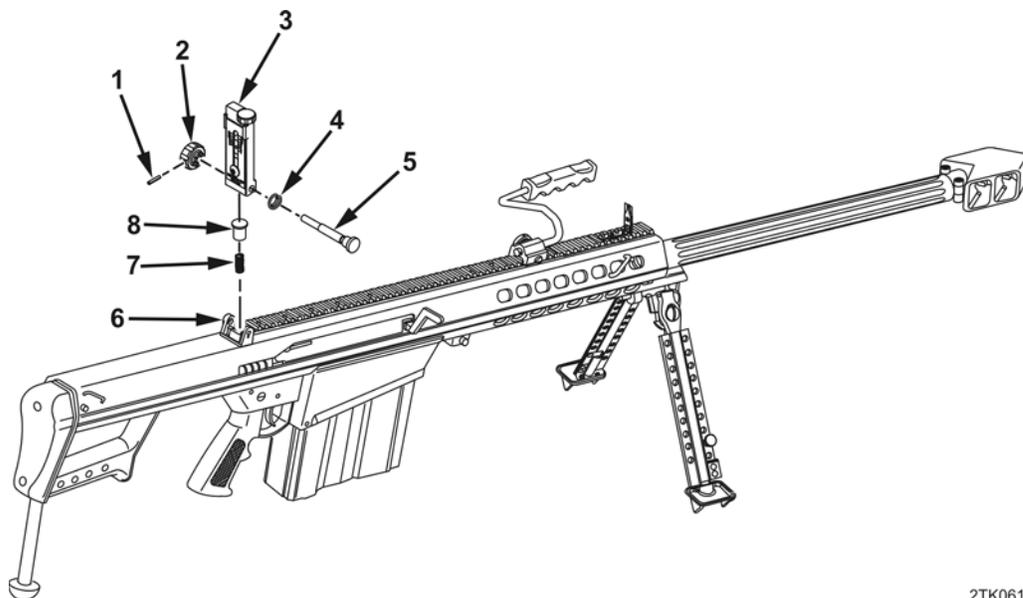
**INSTALLATION**

1. Place rear sight base spring (Figure 4, Item 7) into hole in rear sight base (Figure 4, Item 6); place rear sight base detent (Figure 4, Item 8) on top of spring.
2. Lower rear sight assembly (Figure 4, Item 3) into rear sight base (Figure 4, Item 6), compressing rear sight base spring (Figure 4, Item 7) and rear sight base detent (Figure 4, Item 8). Align holes in rear sight base and rear sight assembly.

**NOTE**

Ensure windage screw spring is recessed into sight base cutaway.

3. With windage screw spring (Figure 4, Item 4) in place on windage screw (Figure 4, Item 5), insert screw through rear sight base (Figure 4, Item 6) and rear sight assembly (Figure 4, Item 3). Screw windage screw into assembly.
4. Mount windage knob (Figure 4, Item 2) onto windage screw (Figure 4, Item 5) and align pin holes.
5. Drive in windage knob pin (Figure 4, Item 1) until flush on both sides of windage knob (Figure 4, Item 2).



2TK061

Figure 4. Rear Sight.

**END OF TASK**

**END OF WORK PACKAGE**

**FIELD MAINTENANCE**  
**BARREL ASSEMBLY MAINTENANCE**

**INITIAL SETUP:****Tools and Special Tools**

Screwdriver Bit Socket Set (WP 0057, Table 2, Item 6)  
 Shop Set, Small Arms: Field Maintenance, Basic (WP 0057, Table 2, Item 8)  
 Small Arms Repairer Tool Kit (USMC only) (WP 0057, Table 2, Item 10)  
 Tool Kit, Intermediate Maintenance, M107 (USMC only) (WP 0057, Table 2, Item 11)  
 Tool Kit, Organizational Maintenance, M107 (USMC only) (WP 0057, Table 2, Item 12)

**References**

WP 0044

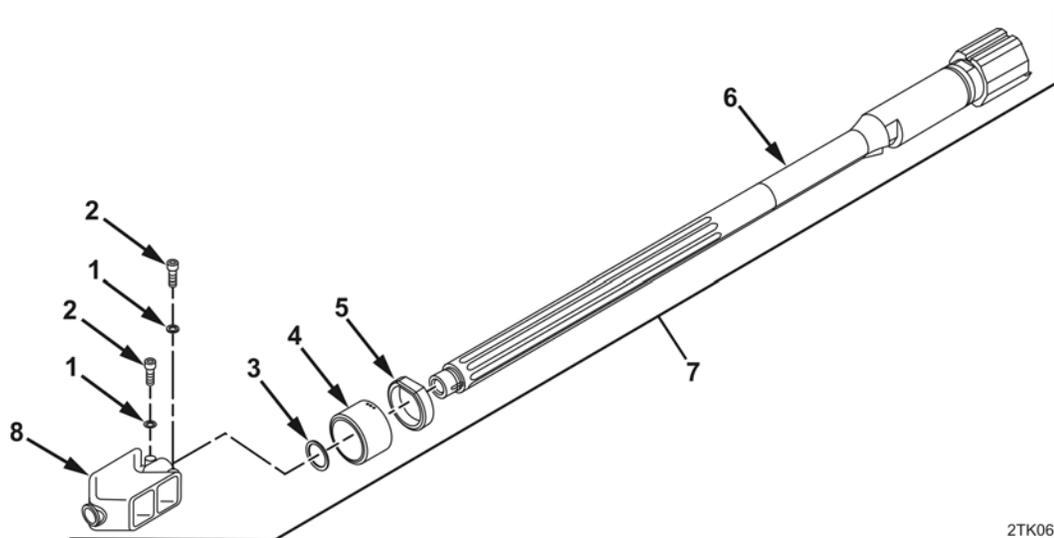
**Equipment Condition**

Upper receiver assembly removed from lower receiver assembly (WP 0015)

**DISASSEMBLY****CAUTION**

Care must be taken with the muzzle brake removed since the crown of the barrel will be exposed. This could affect the accuracy of the rifle. Failure to comply may result in weapon damage.

1. Remove muzzle brake (Figure 1, Item 8) from barrel assembly (Figure 1, Item 7) by using a T-30 Torx wrench to remove two muzzle brake screws (Figure 1, Item 2) and two muzzle brake washers (Figure 1, Item 1). Remove muzzle brake from barrel (Figure 1, Item 6).
2. Place barrel assembly (Figure 1, Item 7) on sturdy surface.
3. Remove muzzle brake shim(s) if present (Figure 1, Item 3).
4. Remove impact barrel bumper (Figure 1, Item 4) and battery bumper (Figure 1, Item 5) from barrel (Figure 1, Item 6).



2TK062

Figure 1. Barrel Assembly.

**END OF TASK**

## REPAIR OR REPLACEMENT

Replace defective parts as authorized by WP 0044.

## END OF TASK

## ASSEMBLY

### CAUTION

Both bumpers are beveled. When assembling, ensure both bevels face the barrel stop. Battery bumper side flat mates to grooved flat of barrel extension. Use a dead blow hammer around barrel to aid in sliding battery bumper onto barrel. Failure to comply may result in equipment damage.

1. Slide battery bumper (Figure 2, Item 10) and impact barrel bumper (Figure 2, Item 9) onto barrel (Figure 2, Item 3). Slide barrel into upper receiver assembly (Figure 2, Item 1) from rear.
2. Hold upper receiver assembly (Figure 2, Item 1) firmly with one hand. With the other hand, pull barrel key (Figure 2, Item 2) toward rear until it can be fitted into slot (Figure 2, Item 4) on barrel (Figure 2, Item 3).

### WARNING



Do not fire the rifle without the muzzle brake firmly in place on the barrel. Failure to comply may result in personnel injury or death.

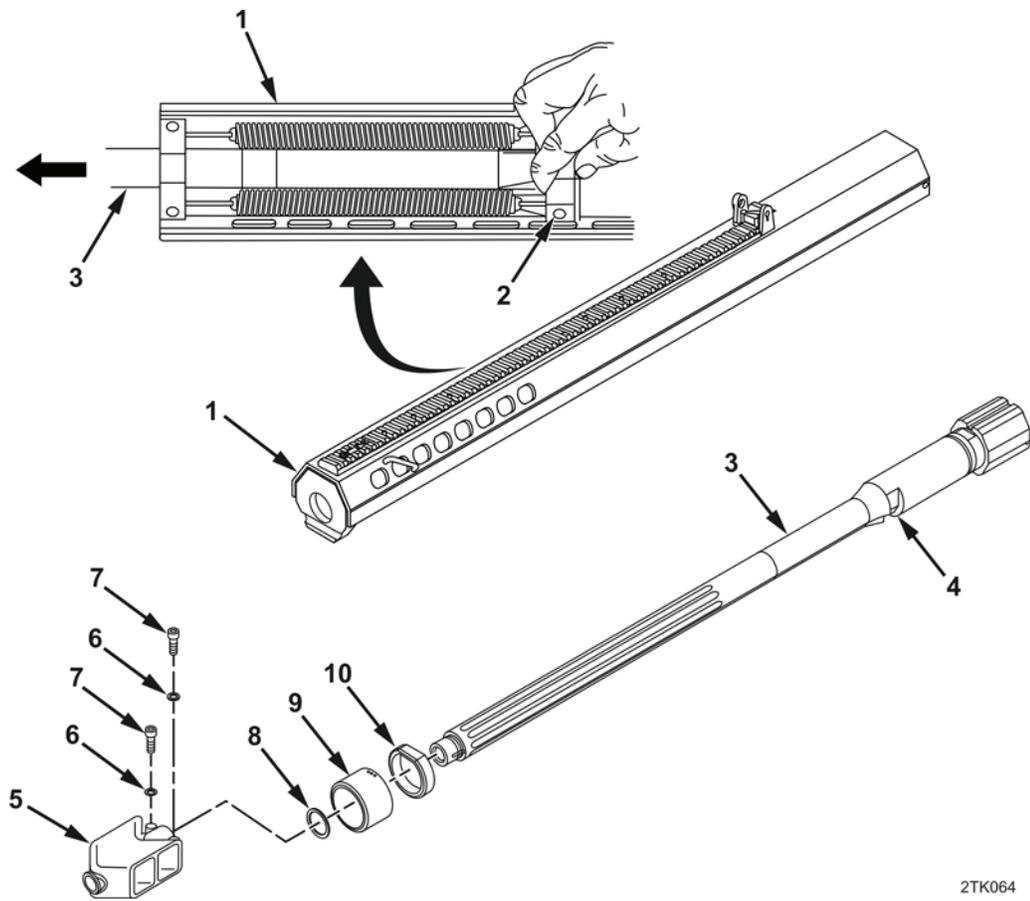
3. Screw muzzle brake (Figure 2, Item 5) onto barrel (Figure 2, Item 3) without using any shim(s) (Figure 2, Item 8).
4. Hand tighten muzzle brake (Figure 2, Item 5) so that, when standing behind the rifle, it is oriented at an 8 o'clock to 2 o'clock position. If not properly aligned (passes 2 o'clock), it will be necessary to use new shims to ensure the proper angle when hand tightened.
5. Back off muzzle brake (Figure 2, Item 5) until washer slots align. Assess need for shims in gap between barrel (Figure 2, Item 3) and brake.

### NOTE

If multiple shims are required, put thinnest shim closest to barrel.

6. Remove muzzle brake (Figure 2, Item 5), put shim(s) (Figure 2, Item 8) onto barrel (Figure 2, Item 3), and replace muzzle brake.
7. Position two muzzle brake washers (Figure 2, Item 6) and two muzzle brake screws (Figure 2, Item 7). Do not tighten.
8. Screw muzzle brake (Figure 2, Item 5) to proper 3 o'clock to 9 o'clock position. Hold barrel (Figure 2, Item 3) and strike muzzle brake with large dead blow hammer to achieve final adjustment. Ensure that muzzle brake screws (Figure 2, Item 7) are aligned with slots in barrel.
9. Use a T-30 Torx screwdriver socket to torque muzzle brake screws (Figure 2, Item 7) to  $95 \pm 5$  lb-in. ( $10.8 \pm 0.6$  N•m).

**ASSEMBLY – Continued**



2TK064

Figure 2. Barrel Assembly.

**END OF TASK**

**FOLLOW-ON TASK**

Install upper receiver assembly to lower receiver assembly (WP 0015)

**END OF WORK PACKAGE**



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**FIELD MAINTENANCE****BOLT AND CARRIER ASSEMBLY MAINTENANCE**

---

**INITIAL SETUP:****Tools and Special Tools**

Screwdriver Set, Six Point Tip, Torx  
(WP 0057, Table 2, Item 7)  
Shop Set, Small Arms: Field Maintenance, Basic  
(WP 0057, Table 2, Item 8)  
Small Arms Repairer Tool Kit (USMC only)  
(WP 0057, Table 2, Item 10)  
Tool Kit, Intermediate Maintenance, M107  
(USMC only) (WP 0057, Table 2, Item 11)  
Tool Kit, Organizational Maintenance, M107  
(USMC only) (WP 0057, Table 2, Item 12)

**References**

WP 0045

**Equipment Condition**

Bolt and carrier assembly removed from lower  
receiver assembly (WP 0015)  
Bolt assembly removed from bolt and carrier  
assembly (WP 0027)

---

**DISASSEMBLY**

1. Place 1/16-in. pin punch on cam pin (Figure 1, Item 2) and tap punch lightly with hammer. Remove cam pin and cam pin assembly (Figure 1, Item 3) from bolt carrier (Figure 1, Item 1).

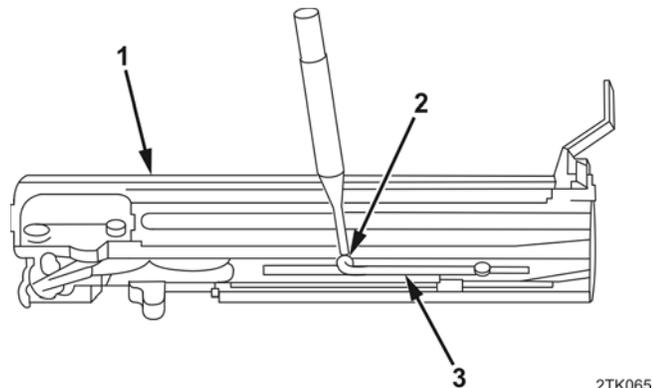


Figure 1. Bolt Carrier.

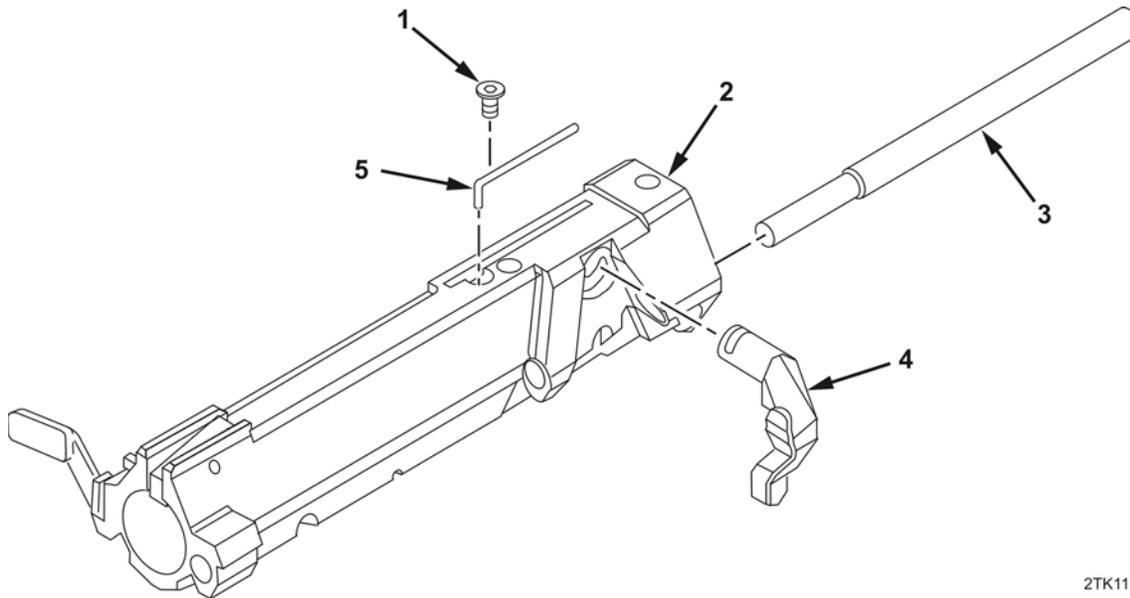
**DISASSEMBLY – Continued**

2. Remove accelerator (Figure 2, Item 4) by pulling it from left side of bolt carrier (Figure 2, Item 2). A pin punch may be used to assist with its removal if necessary. Slide accelerator rod (Figure 2, Item 3) from rear of bolt carrier.

**NOTE**

The accelerator spring, which holds the accelerator in place, should not be staked to prevent its removal.

3. Remove accelerator spring screw (Figure 2, Item 1). Remove accelerator spring (Figure 2, Item 5) by placing a scribe or small jeweler's screwdriver under the elbow of spring, by the vertical portion of the spring, and lifting gently.



2TK110

Figure 2. Accelerator Spring.

**DISASSEMBLY – Continued**

4. Use 1/8-in. pin punch and hammer to tap out bolt latch pin (Figure 3, Item 4). Remove bolt latch (Figure 3, Item 1) and bolt latch spring (Figure 3, Item 2) from bolt carrier (Figure 3, Item 3).

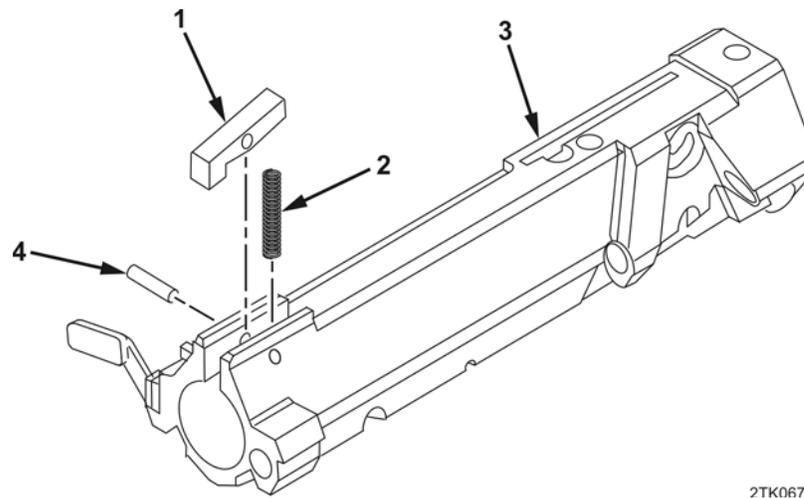


Figure 3. Bolt Latch.

5. Place 1/8-in. punch on split end of cocking lever pin (Figure 4, Item 1) and tap punch with hammer to dislodge pin.
6. Remove cocking lever (Figure 4, Item 2) and cocking lever spring (Figure 4, Item 3) from bolt carrier (Figure 4, Item 4).

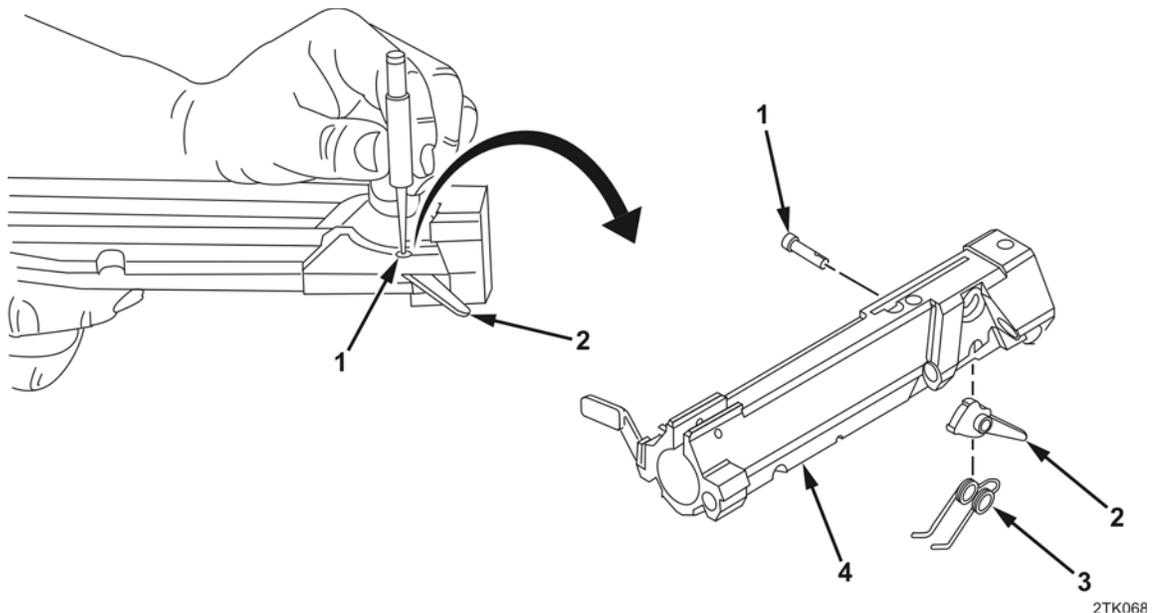


Figure 4. Cocking Lever.

**DISASSEMBLY – Continued**

7. Place 1/8-in. punch on split end of sear pin (Figure 5, Item 2) and lightly tap punch with hammer to dislodge pin.
8. Remove sear (Figure 5, Item 4) and sear spring (Figure 5, Item 3) from bolt carrier (Figure 5, Item 1).

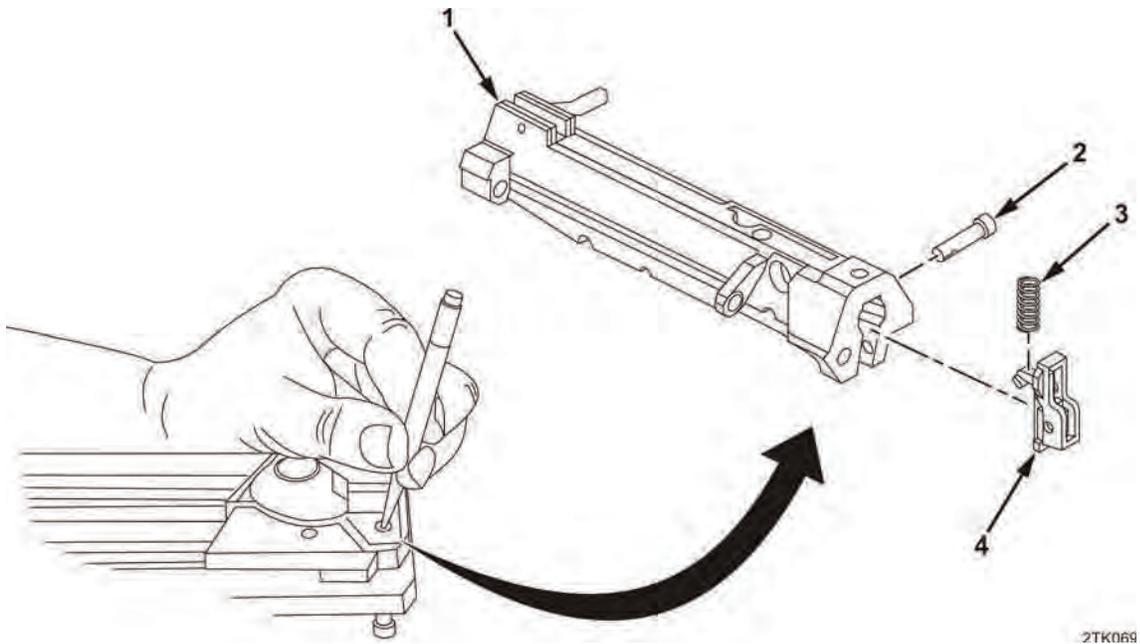
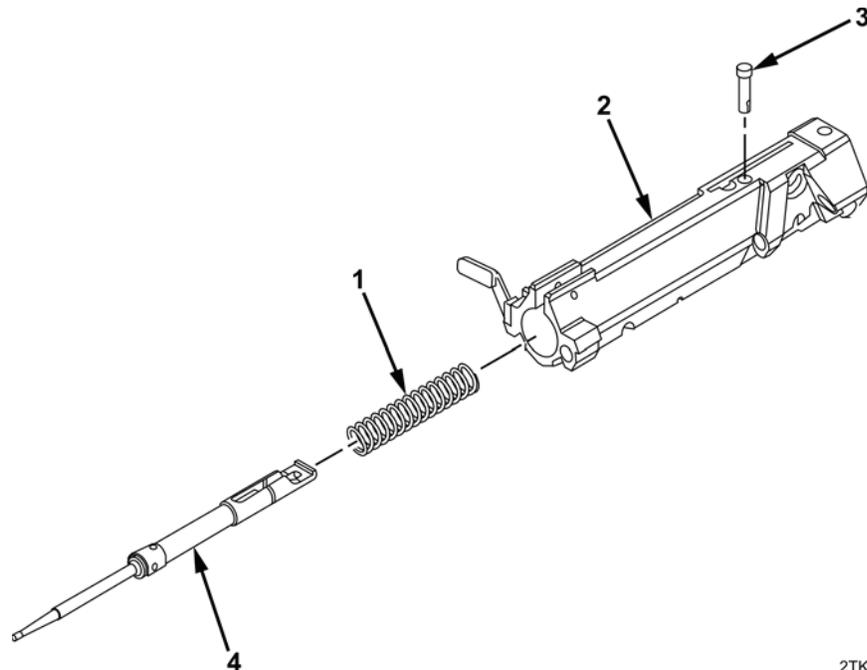


Figure 5. Sear Assembly.

**DISASSEMBLY – Continued**

9. Place end of 1/8-in. punch on split end of extension stop pin (Figure 6, Item 3) located on underside of bolt carrier (Figure 6, Item 2).
10. Lightly tap punch with hammer to dislodge extension stop pin (Figure 6, Item 3) and remove firing pin extension assembly (Figure 6, Item 4) from bolt carrier (Figure 6, Item 2).
11. If damaged, remove bolt spring (Figure 6, Item 1) from bolt carrier (Figure 6, Item 2).



2TK070

Figure 6. Firing Pin Extension Assembly.

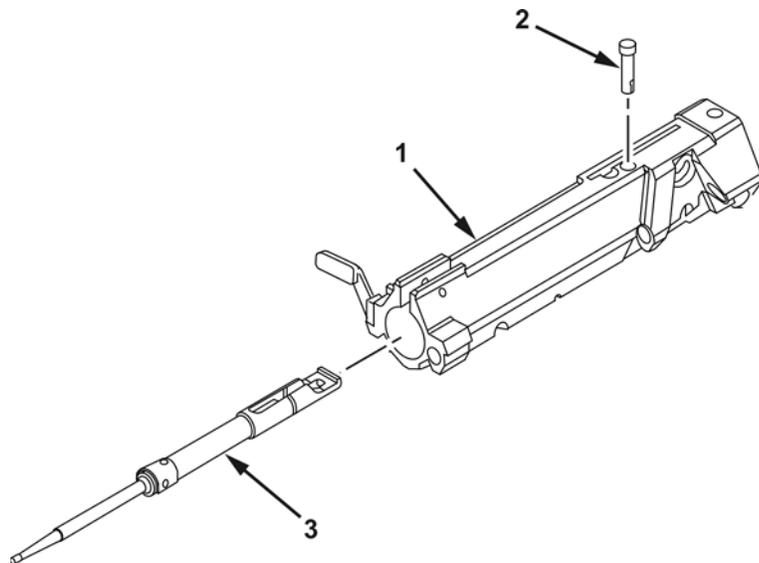
**END OF TASK****REPAIR OR REPLACEMENT**

Replace defective parts as authorized by WP 0045.

**END OF TASK**

**ASSEMBLY**

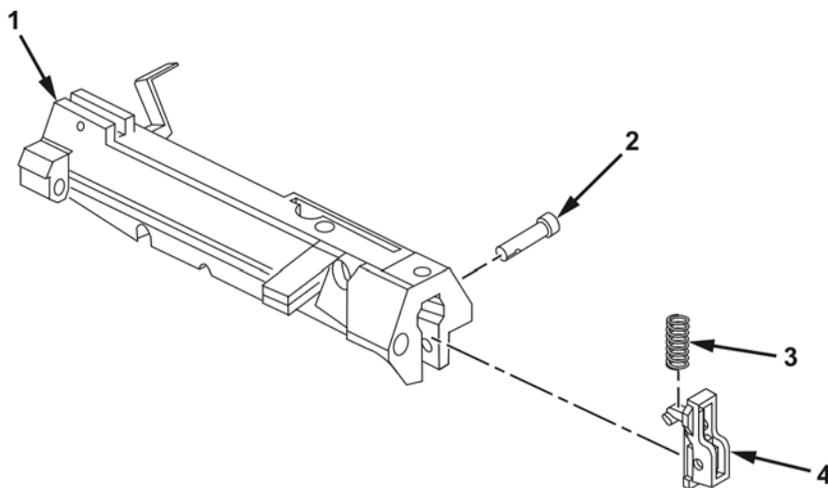
1. Insert firing pin extension assembly (Figure 7, Item 3) carefully into bolt carrier (Figure 7, Item 1) and tap into position. Ensure lock mechanism of firing pin extension assembly is turned to top of bolt.
2. Place extension stop pin (Figure 7, Item 2) into position and ensure there is spring tension.



2TK071

Figure 7. Firing Pin Extension Assembly.

3. Insert sear spring (Figure 8, Item 3) (tapered end first) and sear (Figure 8, Item 4) into bolt carrier (Figure 8, Item 1). Insert split end of sear pin (Figure 8, Item 2) into bolt handle side of bolt carrier and tap in with brass hammer.

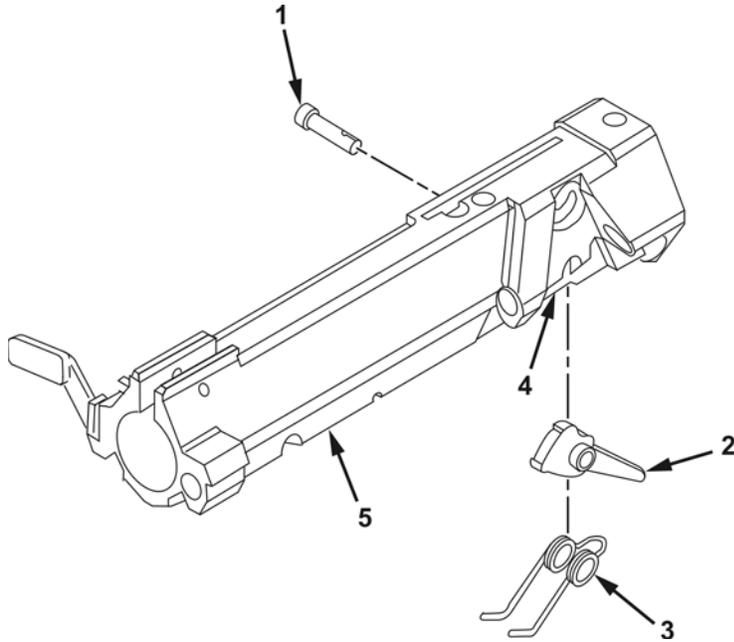


2TK072

Figure 8. Sear Assembly.

**ASSEMBLY – Continued**

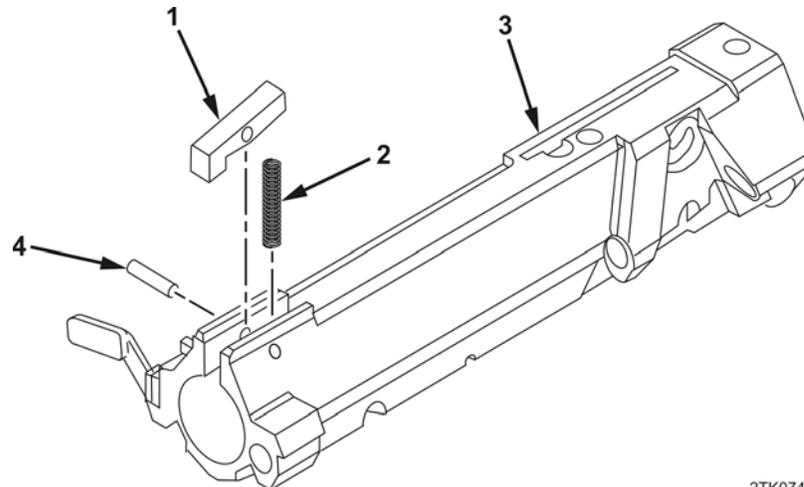
4. Place cocking lever spring (Figure 9, Item 3) on cocking lever (Figure 9, Item 2). Insert both into underside of bolt carrier (Figure 9, Item 5) with ends of spring pointing forward, on either side of bottom of extension stop pin (Figure 9, Item 4).
5. Insert split end of cocking lever pin (Figure 9, Item 1) into side of bolt carrier (Figure 9, Item 5) and lightly tap in with brass hammer.



2TK073

Figure 9. Cocking Lever.

6. Insert bolt latch spring (Figure 10, Item 2) into bolt carrier (Figure 10, Item 3). Place bolt latch (Figure 10, Item 1) on top of spring and align hole in bolt latch.
7. Insert bolt latch pin (Figure 10, Item 4) into bolt carrier (Figure 10, Item 3) and tap in with brass hammer.

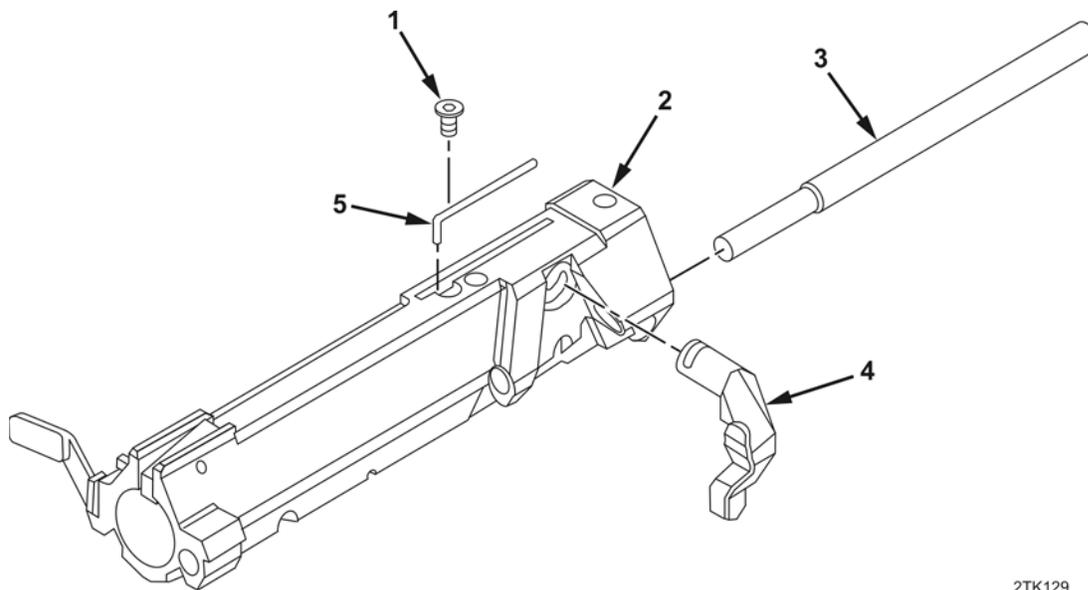


2TK074

Figure 10. Bolt Latch.

**ASSEMBLY – Continued**

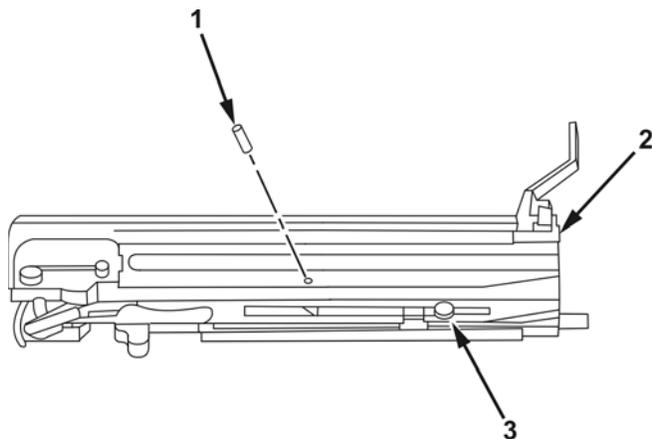
8. Slide accelerator rod (Figure 11, Item 3) into bolt carrier (Figure 11, Item 2) from rear, small end first.
9. Install accelerator (Figure 11, Item 4), inserting it from left side (opposite charging handle) of bolt carrier (Figure 11, Item 2).
10. Install accelerator spring (Figure 11, Item 5) and accelerator spring screw (Figure 11, Item 1), using a T-20 Torx screwdriver.



2TK129

Figure 11. Accelerator Spring.

11. Insert cam pin assembly (Figure 12, Item 3) into position on bolt and carrier assembly (Figure 12, Item 2).
12. While holding down cam pin assembly (Figure 12, Item 3), insert cam pin (Figure 12, Item 1).



2TK077

Figure 12. Bolt Carrier.

**END OF TASK**

**FOLLOW-ON TASKS**

1. Bolt assembly installed to bolt and carrier assembly (WP 0027)
2. Bolt and carrier assembly installed to lower receiver assembly (WP 0015)

**END OF WORK PACKAGE**



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**FIELD MAINTENANCE****BOLT AND CARRIER ASSEMBLY MAINTENANCE (USMC AND USAF ONLY)**

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**INITIAL SETUP:****Tools and Special Tools**

Small Arms Repairer Tool Kit (USMC only)  
(WP 0057, Table 2, Item 10)  
Tool Kit, Intermediate Maintenance, M107  
(USMC only) (WP 0057, Table 2, Item 11)  
Tool Kit, Organizational Maintenance, M107  
(USMC only) (WP 0057, Table 2, Item 12)

**Equipment Condition**

Bolt and carrier assembly removed from lower  
receiver assembly (WP 0015)  
Bolt assembly removed from bolt and carrier  
assembly (WP 0027)

**References**

WP 0012  
WP 0045

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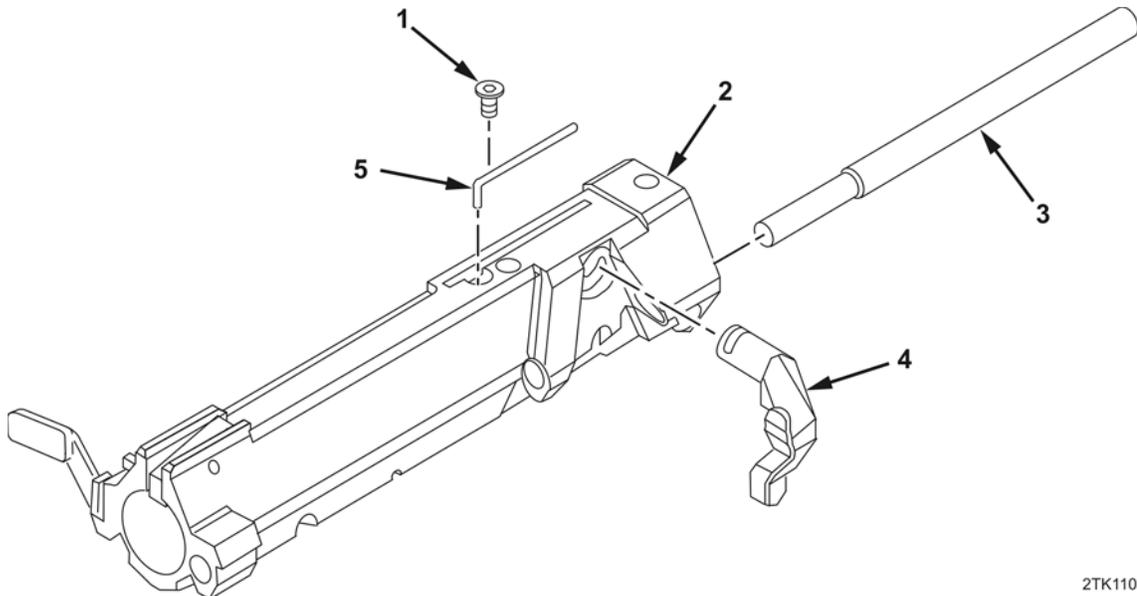
**DISASSEMBLY**

1. Remove accelerator (Figure 1, Item 4) by pulling it from left side of bolt carrier (Figure 1, Item 2). Use a punch to assist with removal if necessary. Slide accelerator rod (Figure 1, Item 3) from rear of bolt carrier.

**NOTE**

The accelerator spring screw and accelerator spring should be removed only if replacement is necessary.

2. Remove accelerator spring screw (Figure 1, Item 1) and accelerator spring (Figure 1, Item 5).



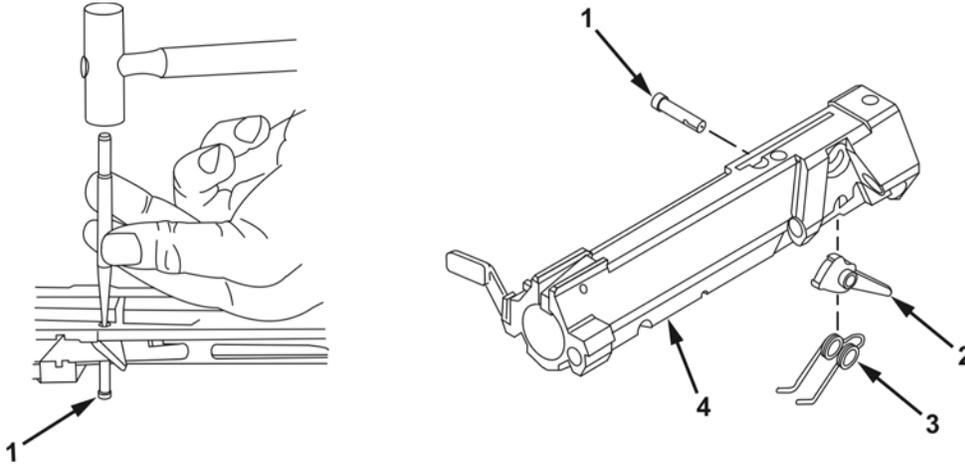
2TK110

Figure 1. Accelerator Spring.

**DISASSEMBLY – Continued****NOTE**

Push down firmly on the cocking lever to release the firing pin before continuing disassembly.

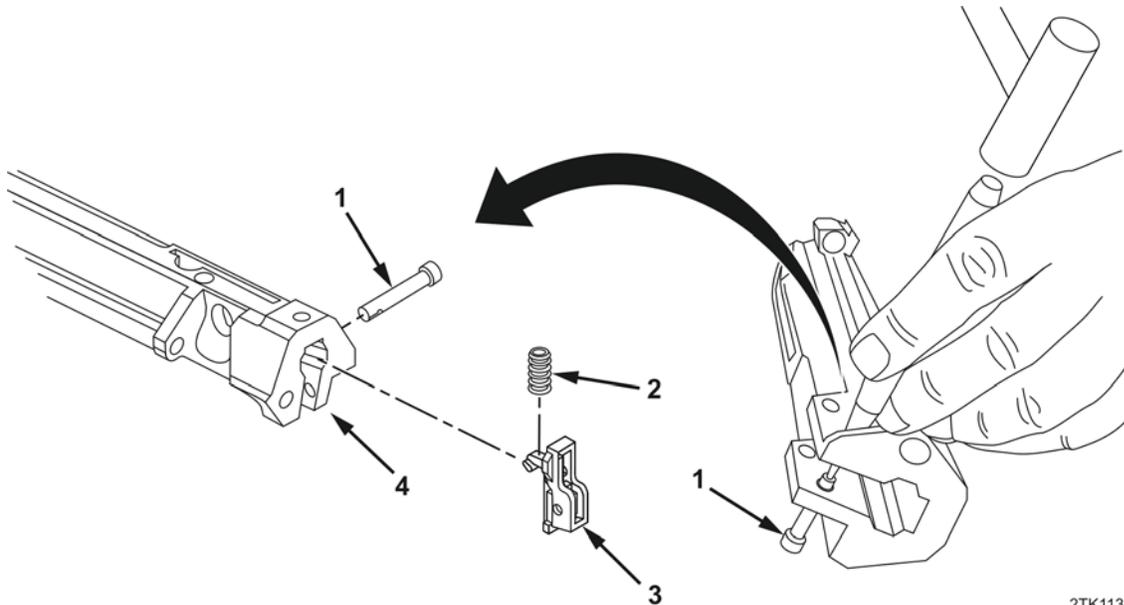
3. Place 1/8-in. punch on split end of cocking lever pin (Figure 2, Item 1). Tap punch with hammer to dislodge pin.
4. Remove cocking lever pin (Figure 2, Item 1), cocking lever (Figure 4, Item 2), and cocking lever spring (Figure 2, Item 3) from bolt carrier (Figure 2, Item 4).



2TK147

Figure 2. Cocking Lever Assembly.

5. Place 1/8-in. punch on split end of sear pin (Figure 3, Item 1) and lightly tap punch with hammer to dislodge pin. Remove sear assembly (Figure 3, Item 3) and sear spring (Figure 3, Item 2) from bolt carrier (Figure 3, Item 4).



2TK113

Figure 3. Sear Assembly.

**DISASSEMBLY – Continued**

- Place 1/8-in. punch on split end of extension stop pin (Figure 4, Item 3) located on underside of bolt carrier (Figure 4, Item 1). Tap punch with hammer lightly to dislodge pin and remove firing pin extension assembly (Figure 4, Item 2) from bolt carrier.

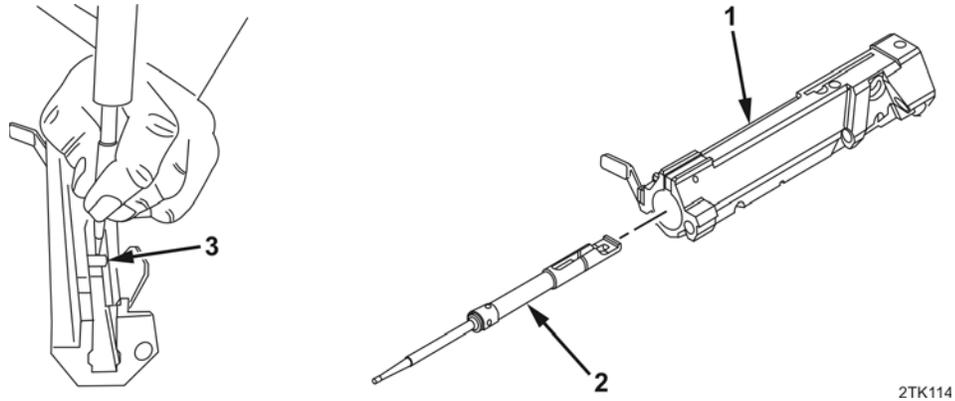


Figure 4. Firing Pin Extension Assembly.

**NOTE**

The cam pin assembly should be removed only if replacement is necessary.

- Place 1/16-in. punch on spring pin (Figure 5, Item 3) and tap punch lightly with hammer. Remove cam pin assembly (Figure 5, Item 1) from bolt carrier (Figure 5, Item 2).

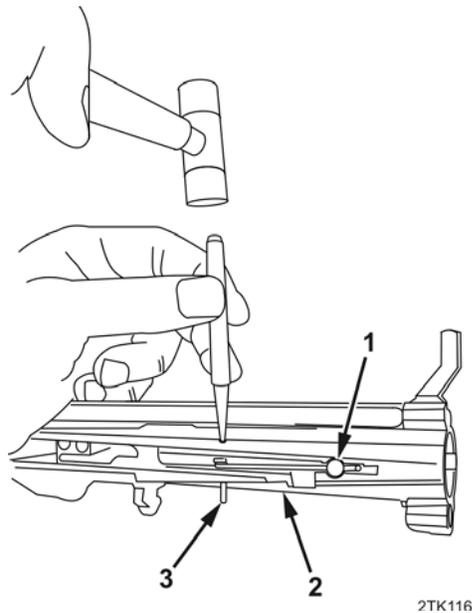


Figure 5. Cam Pin Assembly.

**DISASSEMBLY – Continued**

8. Use a 3/32-in. punch and hammer to tap out headless straight pin (Figure 6, Item 4). Remove bolt latch (Figure 6, Item 1) and compression helical spring (Figure 6, Item 2) from bolt carrier (Figure 6, Item 3).

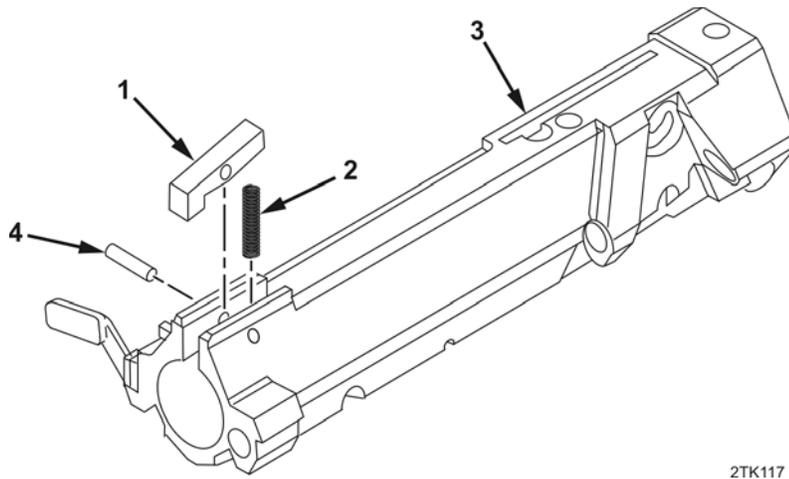


Figure 6. Bolt Latch.

**END OF TASK**

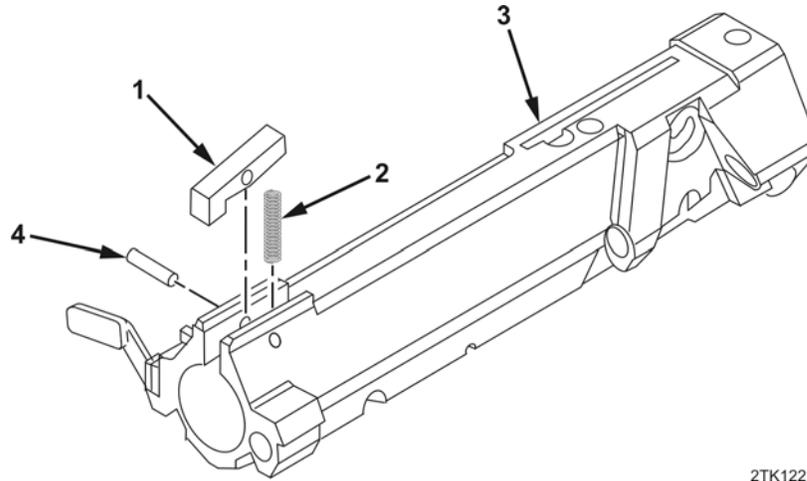
**REPAIR OR REPLACEMENT**

Perform limited technical inspection in accordance with WP 0012. Replace defective parts as authorized by WP 0045.

**END OF TASK**

**ASSEMBLY**

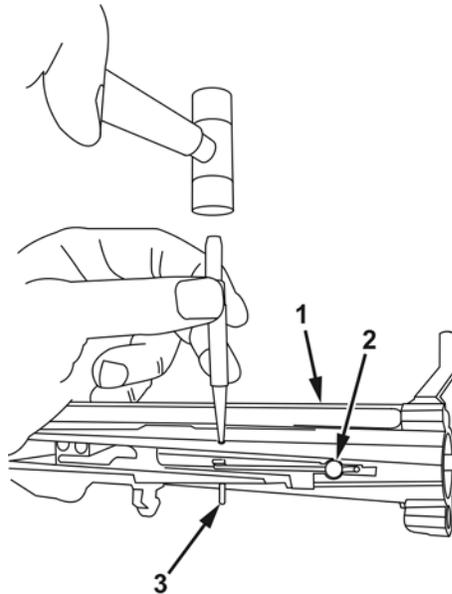
1. Insert compression helical spring (Figure 7, Item 2) into bolt carrier (Figure 7, Item 3). Place bolt latch (Figure 7, Item 1) on top of compression helical spring and align hole in bolt latch with hole in bolt carrier.
2. Insert headless straight pin (Figure 7, Item 4) into bolt carrier (Figure 7, Item 3) and tap in with hammer.



2TK122

Figure 7. Bolt Latch.

3. Compress cam pin spring against bolt carrier (Figure 8, Item 1) until cam pin assembly (Figure 8, Item 2) slips into its groove. Insert spring pin (Figure 8, Item 3) while holding down cam pin assembly.



2TK123

Figure 8. Cam Pin Assembly.

**ASSEMBLY – Continued****NOTE**

When inserting firing pin assembly into bolt carrier, ensure firing pin extension hook is pointing upwards.

4. Install firing pin extension assembly (Figure 9, Item 2) carefully into bolt carrier (Figure 9, Item 1) (ensure firing pin extension hook is pointing upwards) and tap into position.

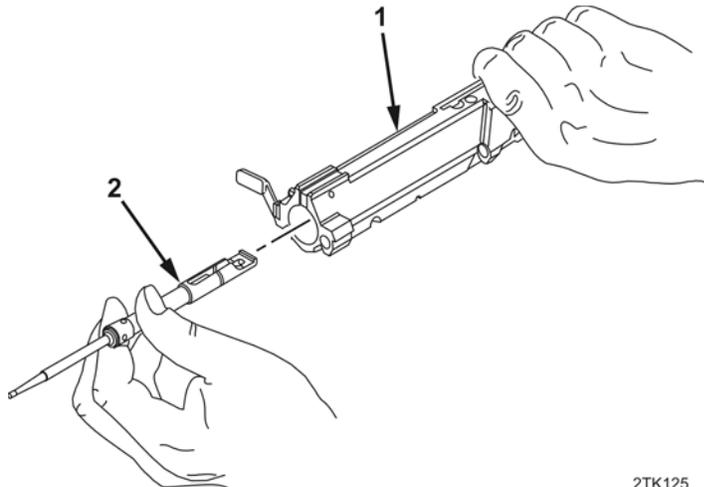


Figure 9. Firing Pin Extension Assembly.

5. Insert sear spring (Figure 10, Item 3) and sear assembly (Figure 10, Item 4) into bolt carrier (Figure 10, Item 1). Insert split end of sear pin (Figure 10, Item 2) into charging handle side of bolt carrier and tap in with hammer.

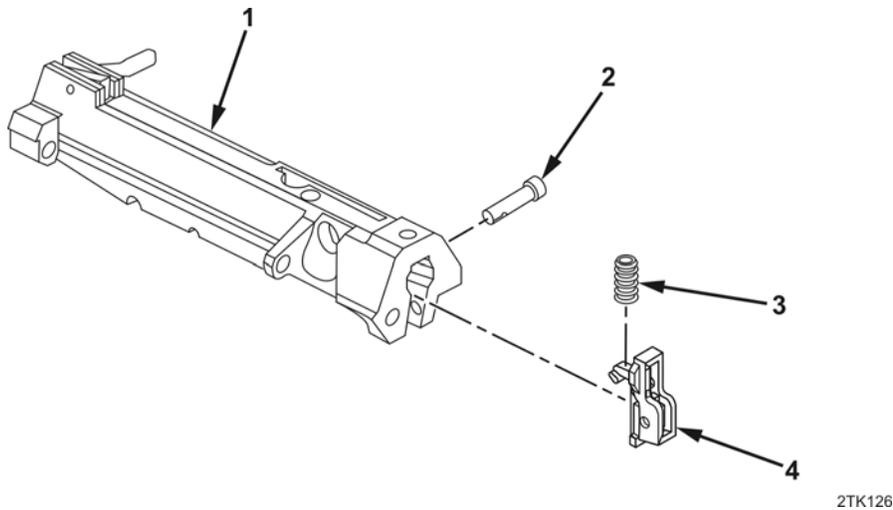
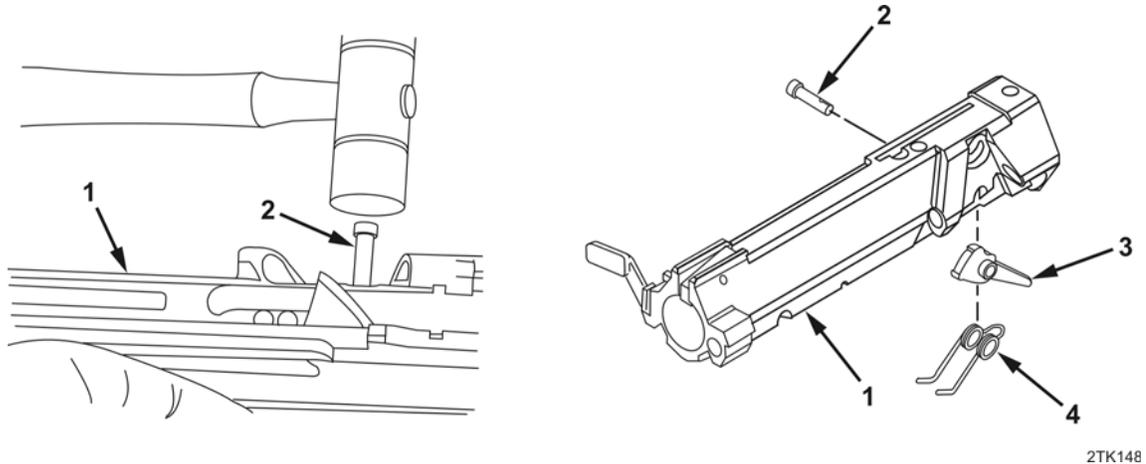


Figure 10. Sear Assembly.

**ASSEMBLY – Continued**

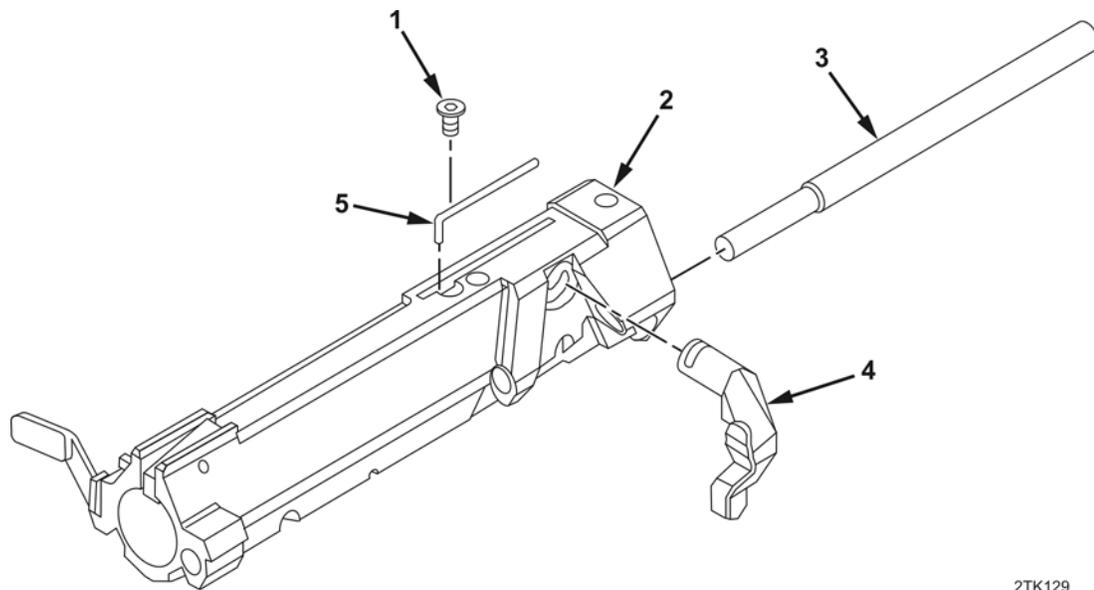
6. Place cocking lever spring (Figure 11, Item 4) on cocking lever (Figure 11, Item 3). Insert both into underside of bolt carrier (Figure 11, Item 1) with ends of spring pointing forward on either side of firing pin.
7. Insert split end of cocking lever pin (Figure 11, Item 2) into side of bolt carrier (Figure 11, Item 1) and lightly tap in with hammer.



2TK148

Figure 11. Cocking Lever Assembly.

8. Slide accelerator rod (Figure 12, Item 3) into bolt carrier (Figure 12, Item 2) from rear. Install accelerator (Figure 12, Item 4), inserting it from left side (opposite charging handle) of bolt carrier.
9. Install accelerator spring (Figure 12, Item 5) and accelerator spring screw (Figure 12, Item 1).



2TK129

Figure 12. Accelerator Spring.

**END OF TASK**

**FOLLOW-ON TASKS**

1. Bolt assembly installed to bolt and carrier assembly (WP 0027)
2. Bolt and carrier assembly installed to lower receiver assembly (WP 0015)

**END OF WORK PACKAGE**

---

**FIELD MAINTENANCE**  
**BOLT ASSEMBLY MAINTENANCE**

---

**INITIAL SETUP:****Tools and Special Tools**

Small Arms Repairer Tool Kit  
(WP 0057, Table 2, Item 9)  
Small Arms Repairer Tool Kit (USMC only)  
(WP 0057, Table 2, Item 10)  
Tool Kit, Intermediate Maintenance, M107  
(USMC only) (WP 0057, Table 2, Item 11)  
Tool Kit, Organizational Maintenance, M107  
(USMC only) (WP 0057, Table 2, Item 12)

**References**

WP 0046

**Equipment Condition**

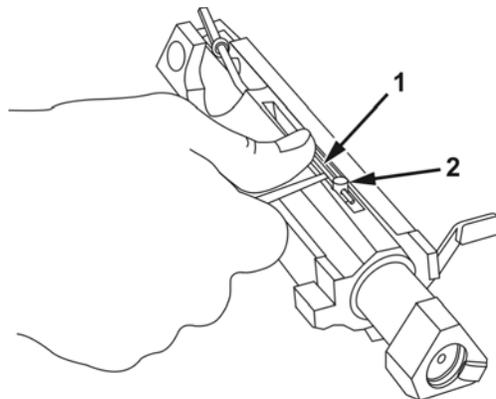
Bolt and carrier assembly removed from upper receiver assembly (WP 0015)

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**REMOVAL****WARNING**

If the spring-loaded cam is lifted too far, the cam pin spring could bend and lose tension. If this occurs, the weapon could malfunction or the weapon could fire when unlocked. Failure to comply may result in personnel injury or death.

1. Use rear lock pin or 1/8-in. punch to disengage cam pin assembly (Figure 1, Item 2). Lift or pry cam pin spring (Figure 1, Item 1) just far enough to clear cam groove in bolt assembly.

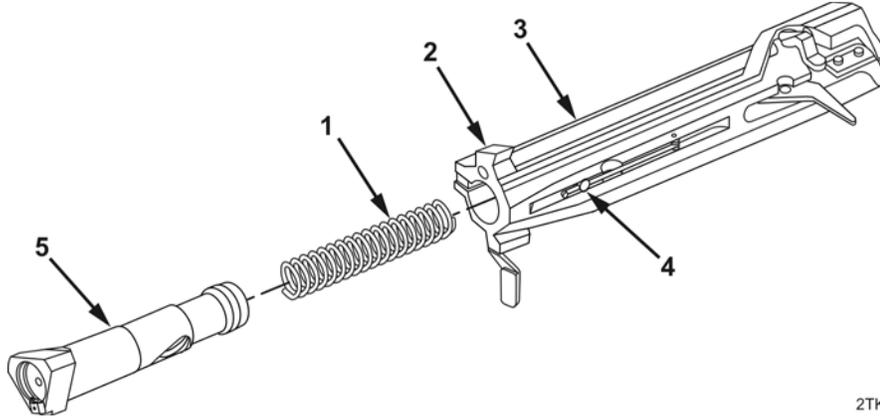


2TK108

Figure 1. Cam Pin Spring.

**REMOVAL – Continued**

2. While holding up cam pin assembly (Figure 2, Item 4), depress bolt latch (Figure 2, Item 2) on its rearward portion. At this point, bolt assembly (Figure 2, Item 5) should spring forward.
3. Grasp bolt assembly (Figure 2, Item 5) and remove it from carrier (Figure 2, Item 3), being careful not to lose or deform bolt spring (Figure 2, Item 1).



2TK030

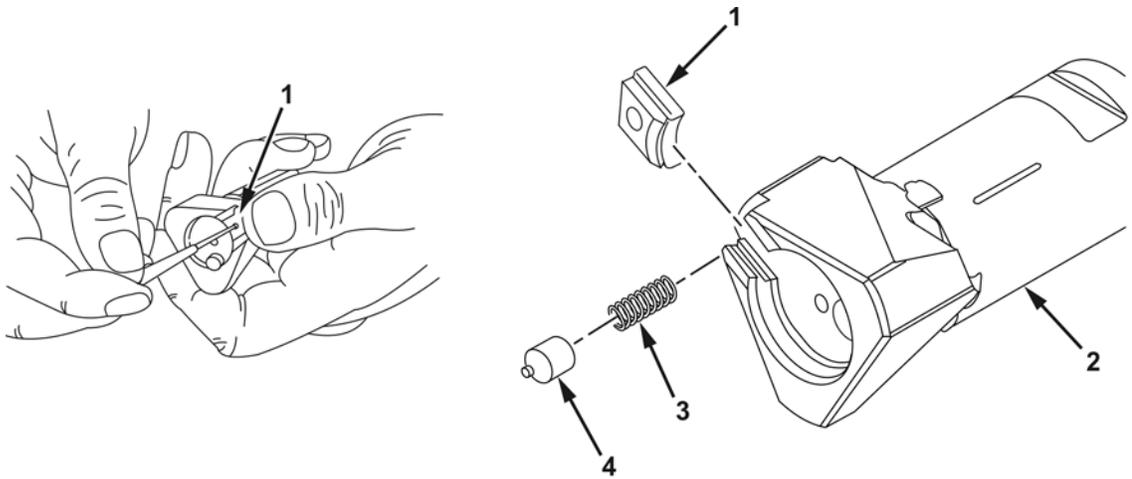
Figure 2. Bolt Assembly and Bolt Carrier.

**END OF TASK**

**DISASSEMBLY****WARNING**

Point bolt away from face while disassembling extractor/ejector, because parts may fly free. Failure to comply may result in personnel injury.

1. Depress extractor plunger (Figure 3, Item 4) by inserting 1/16-in. pin punch through hole of extractor (Figure 3, Item 1) while simultaneously sliding extractor towards firing pin hole.
2. Remove extractor (Figure 3, Item 1), extractor spring (Figure 3, Item 3), and extractor plunger (Figure 3, Item 4) from bolt (Figure 3, Item 2). Use care to contain the spring and plunger.



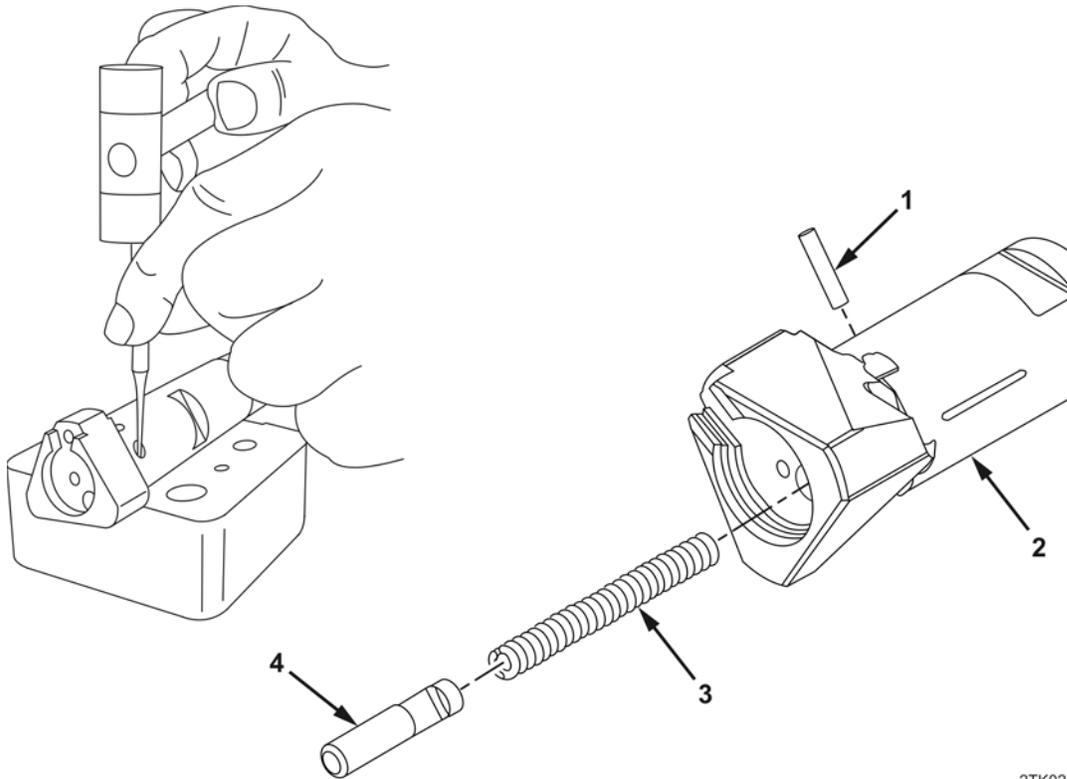
2TK026

Figure 3. Extractor and Bolt.

**DISASSEMBLY – Continued****NOTE**

Cup hand over front of bolt, prior to removing punch, to enable catching of ejector spring and ejector.

3. Place bolt (Figure 4, Item 2) on firm surface. Place end of 1/16-in. pin punch (Figure 4, Item 1), and lightly tap punch with hammer to remove pin.
4. Remove ejector (Figure 4, Item 4) and ejector spring (Figure 4, Item 3) from bolt (Figure 4, Item 2).



2TK027

Figure 4. Ejector and Ejector Spring.

**END OF TASK****REPAIR OR REPLACEMENT**

Replace defective parts as authorized by WP 0046.

**END OF TASK**

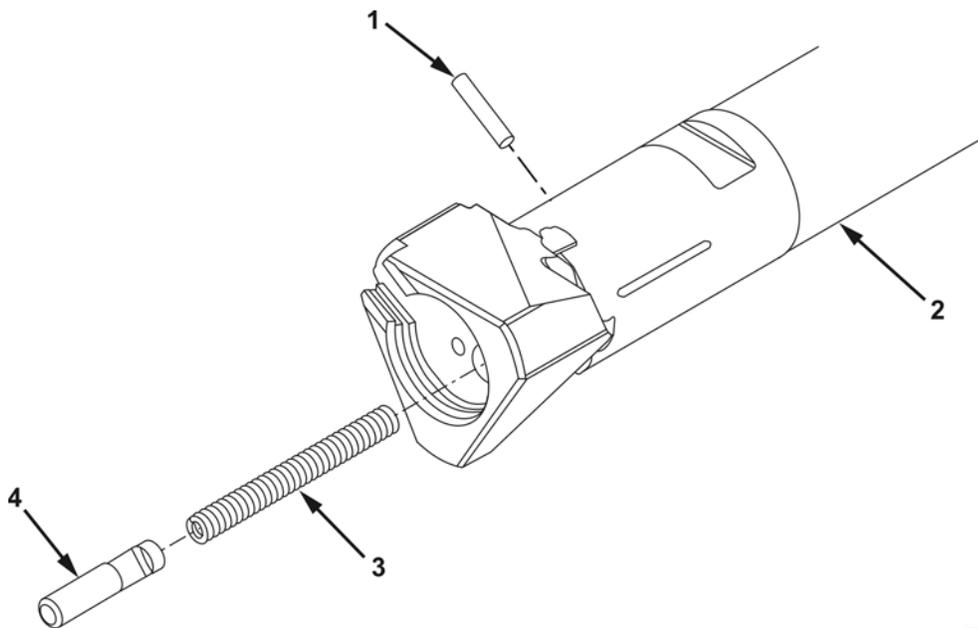
**ASSEMBLY****WARNING**

Point bolt away from face while assembling extractor/ejector, because parts may fly free. Failure to comply may result in personnel injury.

**NOTE**

Assistance may be required to assemble the ejector.

1. Insert ejector spring (Figure 5, Item 3) into bolt (Figure 5, Item 2).
2. Insert ejector (Figure 5, Item 4) into bolt (Figure 5, Item 2).
3. Place a fired brass cartridge into a vise with the base of the cartridge facing outward. Push bolt (Figure 5, Item 2), breech face first, onto the base of the cartridge and carefully tap in ejector pin (Figure 5, Item 4).



2TK028

Figure 5. Ejector and Ejector Spring.

**ASSEMBLY – Continued**

4. Insert extractor spring (Figure 6, Item 3) into bolt (Figure 6, Item 2).
5. Press extractor plunger (Figure 6, Item 4) into bolt (Figure 6, Item 2) and slide extractor (Figure 6, Item 1) over extractor plunger until hole in extractor is over extractor plunger.

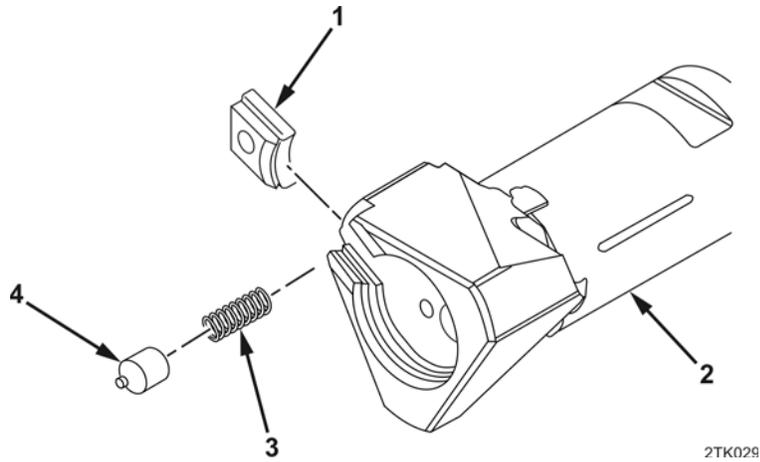


Figure 6. Extractor and Bolt.

**END OF TASK**

**INSTALLATION**

1. Ensure bolt spring (Figure 7, Item 1) is in bolt carrier (Figure 7, Item 3). Depress bolt latch (Figure 7, Item 2) and install bolt assembly (Figure 7, Item 6) into bolt carrier, with cam groove at the bottom.
2. Compress bolt assembly (Figure 7, Item 6) against bolt spring (Figure 7, Item 1) until cam pin assembly (Figure 7, Item 4) slips into cam groove (Figure 7, Item 5).

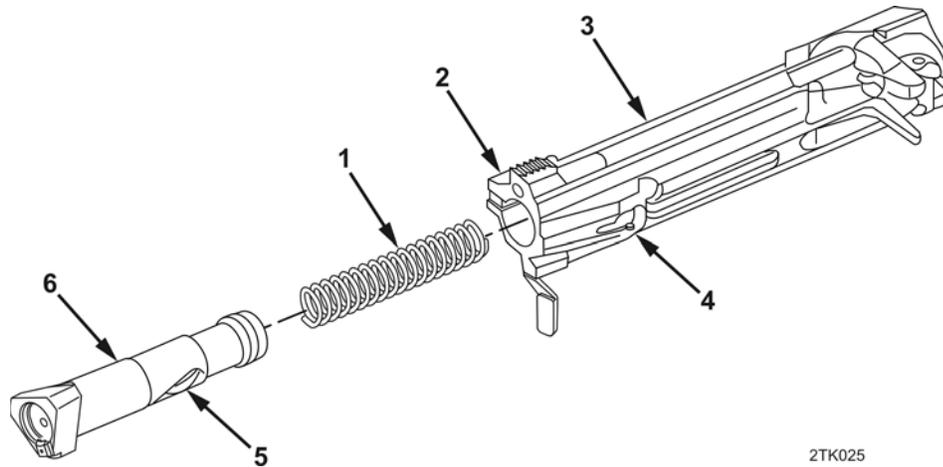


Figure 7. Bolt Assembly and Bolt Carrier.

**END OF TASK****FOLLOW-ON TASK**

Bolt and carrier assembly installed to upper receiver assembly (WP 0015)

**END OF WORK PACKAGE**



**FIELD MAINTENANCE**  
**SEAR ASSEMBLY MAINTENANCE**

**INITIAL SETUP:****Tools and Special Tools**

Small Arms Repairer Tool Kit (USMC only)  
(WP 0057, Table 2, Item 10)  
Tool Kit, Intermediate Maintenance, M107  
(USMC only) (WP 0057, Table 2, Item 11)  
Tool Kit, Organizational Maintenance, M107  
(USMC only) (WP 0057, Table 2, Item 12)

**Equipment Condition**

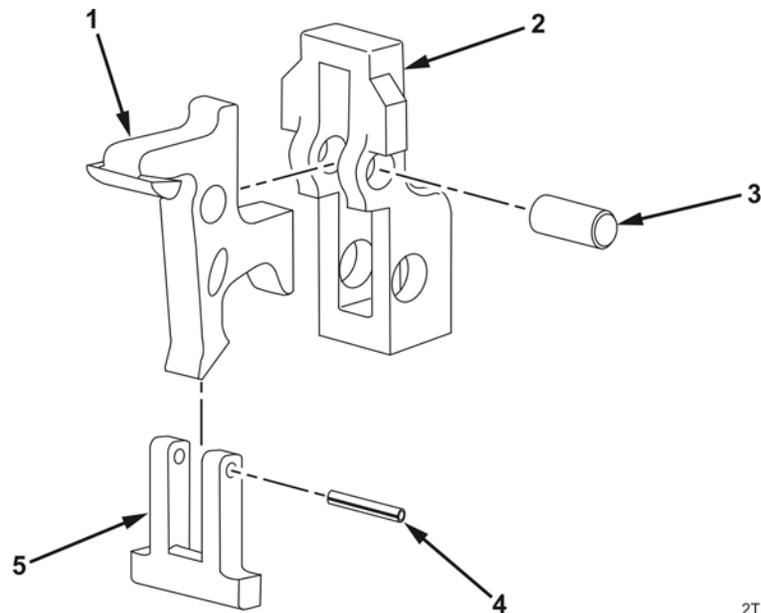
Bolt and carrier assembly removed from lower  
receiver assembly (WP 0015)  
Sear assembly removed from bolt and carrier  
assembly (WP 0026)

**References**

WP 0047

**DISASSEMBLY**

1. Slide sear pin (Figure 1, Item 3) from sear housing (Figure 1, Item 2) and remove the sear (Figure 1, Item 1).
2. Tap out sear lever pin (Figure 1, Item 4) and remove sear lever (Figure 1, Item 5).



2TK145

Figure 1. Sear Assembly.

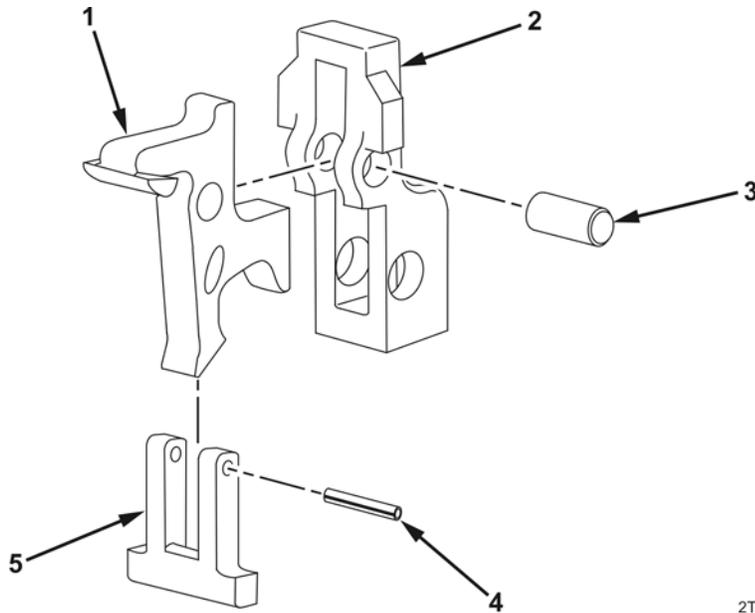
**END OF TASK****REPAIR OR REPLACEMENT**

Replace defective parts as authorized by WP 0047.

**END OF TASK**

**ASSEMBLY**

1. Insert sear lever (Figure 2, Item 5) into the sear (Figure 2, Item 1) and carefully tap in sear lever pin (Figure 2, Item 4).
2. Insert sear (Figure 2, Item 1) into the sear housing (Figure 2, Item 2) and secure with sear pin (Figure 2, Item 3).



2TK145

Figure 2. Sear Assembly.

**END OF TASK****FOLLOW-ON TASKS**

1. Sear assembly installed to bolt and carrier assembly (WP 0026)
2. Bolt and carrier assembly installed to lower receiver assembly (WP 0015)

**END OF WORK PACKAGE**

## FIELD MAINTENANCE

## FIRING PIN EXTENSION ASSEMBLY MAINTENANCE

## INITIAL SETUP:

**Tools and Special Tools**

Small Arms Repairer Tool Kit (USMC only)  
(WP 0057, Table 2, Item 10)

Tool Kit, Intermediate Maintenance, M107  
(USMC only) (WP 0057, Table 2, Item 11)

Tool Kit, Organizational Maintenance, M107  
(USMC only) (WP 0057, Table 2, Item 12)

**References**

WP 0048

**Equipment Condition**

Bolt and carrier assembly removed from lower  
receiver assembly (WP 0015)

Firing pin extension assembly removed from bolt and  
carrier assembly (WP 0026)

## DISASSEMBLY

## WARNING



Wear eye protection and point firing pin extension assembly away from face when removing compression helical spring. Failure to comply may result in personnel injury.

## NOTE

The firing pin extension assembly should be disassembled only when repair is necessary.

1. Tap out headless straight pin (Figure 1, Item 5) and remove firing pin (Figure 1, Item 1).
2. Tap out headless straight pin (Figure 1, Item 3) and remove compression helical spring (Figure 1, Item 2) from firing pin extension (Figure 1, Item 4).

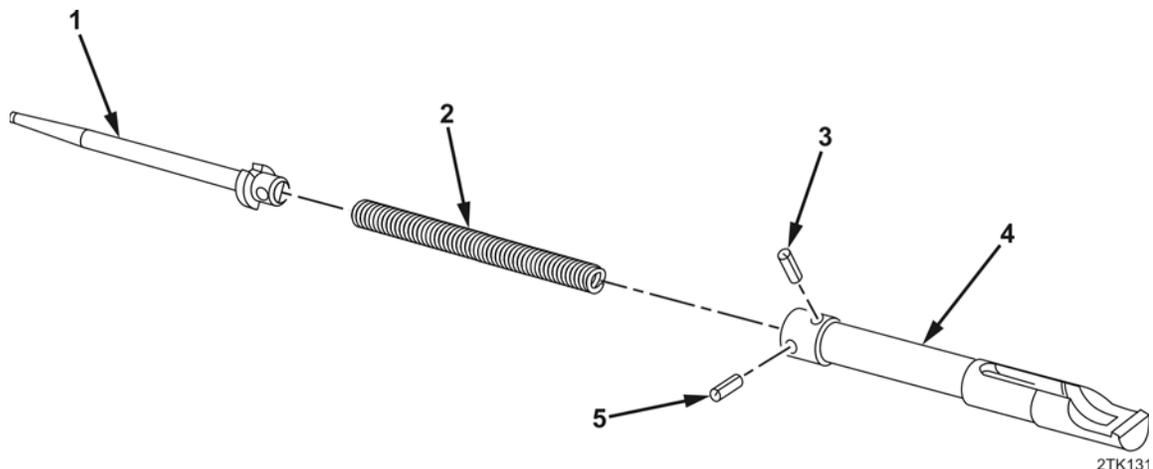


Figure 1. Firing Pin Extension Assembly.

## END OF TASK

**REPAIR OR REPLACEMENT**

Replace defective parts as authorized by WP 0048.

**END OF TASK****ASSEMBLY****WARNING**

Wear eye protection and point firing pin extension assembly away from face during assembly because parts may fly free. Failure to comply may result in personnel injury.

1. Place firing pin extension (Figure 2, Item 4) in vise without applying too much pressure. Insert compression helical spring (Figure 2, Item 2) and firing pin (Figure 2, Item 1). Use punch to depress compression helical spring and hammer two headless straight pins (Figure 2, Item 3; Figure 2, Item 5) into place.
2. Stake two headless straight pins (Figure 2, Item 3; Figure 2, Item 5).

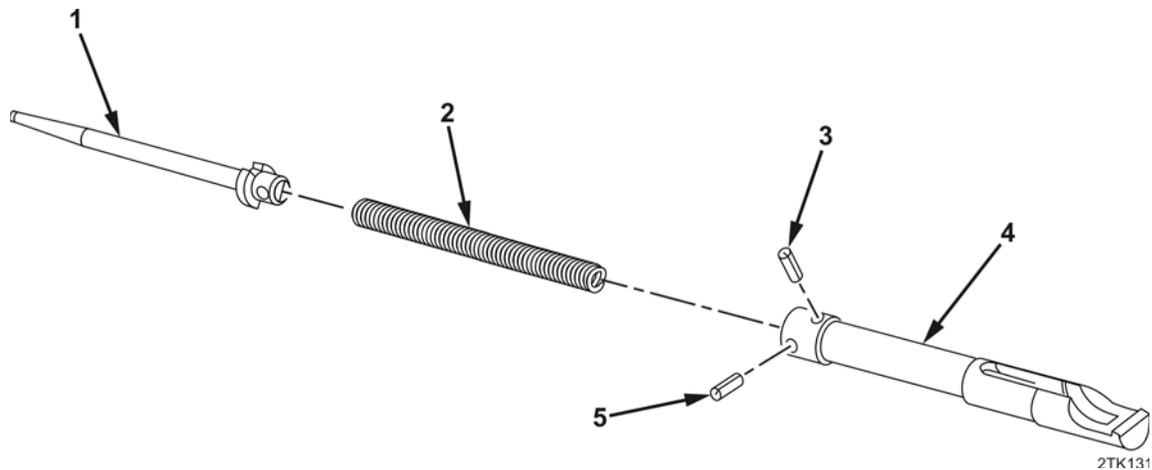


Figure 2. Firing Pin Extension Assembly.

**END OF TASK**

**FOLLOW-ON TASKS**

1. Firing pin extension assembly installed to bolt and carrier assembly (WP 0026)
2. Bolt and carrier assembly installed to lower receiver assembly (WP 0015)

**END OF WORK PACKAGE**



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**FIELD MAINTENANCE****CARTRIDGE MAGAZINE MAINTENANCE**

---

**INITIAL SETUP:****Tools and Special Tools**

Small Arms Repairer Tool Kit  
(WP 0057, Table 2, Item 9)  
Small Arms Repairer Tool Kit (USMC only)  
(WP 0057, Table 2, Item 10)  
Tool Kit, Intermediate Maintenance, M107  
(USMC only) (WP 0057, Table 2, Item 11)  
Tool Kit, Organizational Maintenance, M107  
(USMC only) (WP 0057, Table 2, Item 12)

**References**

WP 0049

**Equipment Condition**

Cartridge magazine removed from weapon  
(WP 0015)

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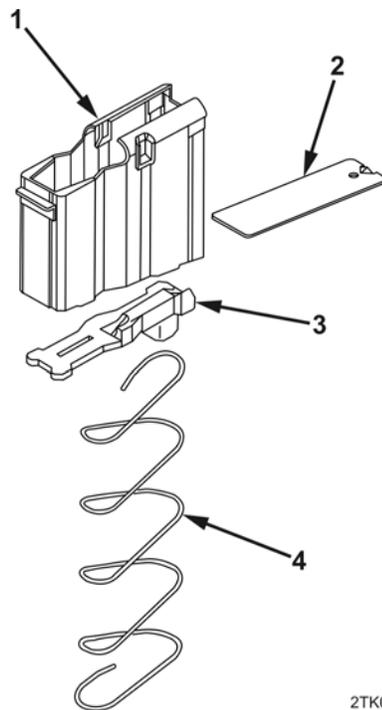
**DISASSEMBLY****WARNING**

Wear eye protection to prevent injury from spring-loaded parts, particularly when removing the magazine base plate. Failure to comply may result in personnel injury.

**NOTE**

Disassembling the magazine is not recommended as a matter of routine maintenance, but it may become necessary for repairs.

1. Hold magazine tube (Figure 1, Item 1) upside down on a firm surface and place end of 1/8-in. punch in hole located on base plate (Figure 1, Item 2). Gently pry upwards to clear locking flange on base plate, and slide base plate off magazine tube. (It may be necessary to tap base plate a few times with punch to get it started).
2. Control magazine spring (Figure 1, Item 4) as base plate (Figure 1, Item 2) is removed. Withdraw magazine spring and magazine follower (Figure 1, Item 3) from magazine tube (Figure 1, Item 1).



2TK031

Figure 1. Cartridge Magazine.

**END OF TASK**

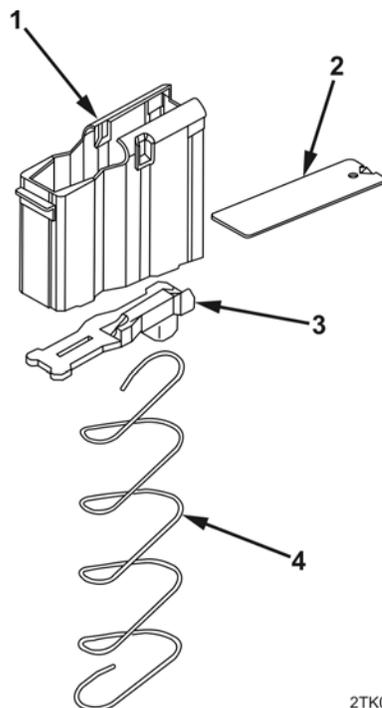
**REPAIR OR REPLACEMENT**

Replace defective parts as authorized by WP 0049.

**END OF TASK****ASSEMBLY****WARNING**

Wear eye protection to prevent injury from spring-loaded parts, particularly when removing the magazine base plate. Failure to comply may result in personnel injury.

1. Ensure that loop of magazine spring (Figure 2, Item 4) is around protrusion located on bottom of magazine follower (Figure 2, Item 3).
2. Install magazine follower (Figure 2, Item 3) and magazine spring (Figure 2, Item 4) into magazine tube (Figure 2, Item 1). Secure with base plate (Figure 2, Item 2).
3. After cartridge magazine has been reassembled, check for proper functioning by loading it with five dummy rounds and pushing downward on the dummy rounds. They should move freely without binding.



2TK031

Figure 2. Cartridge Magazine.

**END OF TASK**

**FOLLOW-ON TASK**

Cartridge magazine installed to weapon (WP 0015)

**END OF WORK PACKAGE**

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**FIELD MAINTENANCE**  
**BIPOD ASSEMBLY MAINTENANCE**

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**INITIAL SETUP:****Tools and Special Tools**

Shop Set, Small Arms: Field Maintenance, Basic  
(WP 0057, Table 2, Item 8)  
Small Arms Repairer Tool Kit (USMC only)  
(WP 0057, Table 2, Item 10)  
Tool Kit, Intermediate Maintenance, M107  
(USMC only) (WP 0057, Table 2, Item 11)  
Tool Kit, Organizational Maintenance, M107  
(USMC only) (WP 0057, Table 2, Item 12)

**References**

WP 0050

**Equipment Condition**

Upper receiver assembly removed from lower  
receiver assembly (WP 0015)

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**REMOVAL**

Remove bipod locking pin (Figure 1, Item 1), by pulling on ring to separate bipod assembly (Figure 1, Item 3) from lower receiver assembly (Figure 1, Item 2).

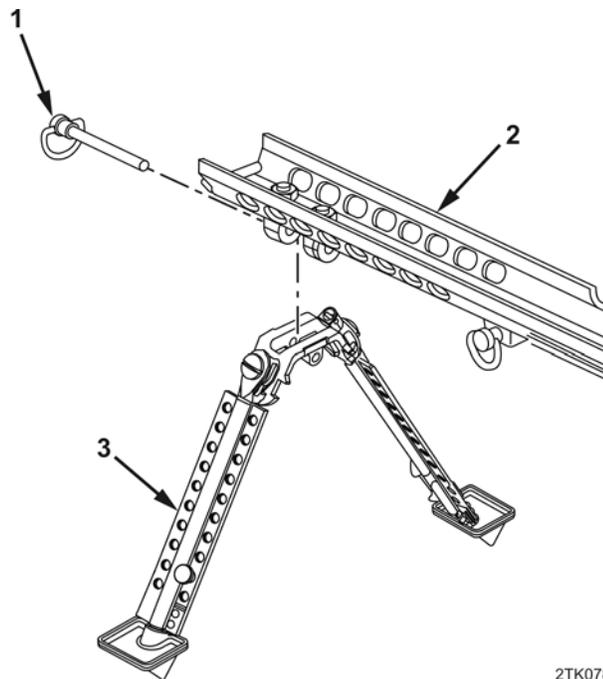


Figure 1. Bipod Assembly.

**END OF TASK**

**DISASSEMBLY**

1. Place 1/8-in. pin punch on end of bipod pin (Figure 2, Item 2) and lightly tap punch with hammer to dislodge pin.
2. Remove bipod spring (Figure 2, Item 1) and bipod detent (Figure 2, Item 5), being careful not to lose them.

**NOTE**

The bipod screw, attaching bipod leg to bipod yoke, is peened (staked) to ensure that bipod leg does not loosen; if the screw is removed it will be destroyed. If the bipod leg is damaged and needs to be removed, the screw must be replaced.

3. File peened end of bipod screw (Figure 2, Item 3) with flat file. Remove bipod screw with flat-tip screwdriver.
4. Remove bipod leg assembly (Figure 2, Item 4) from bipod yoke (Figure 2, Item 6).
5. Repeat steps 1 through 4 for other bipod leg assembly.

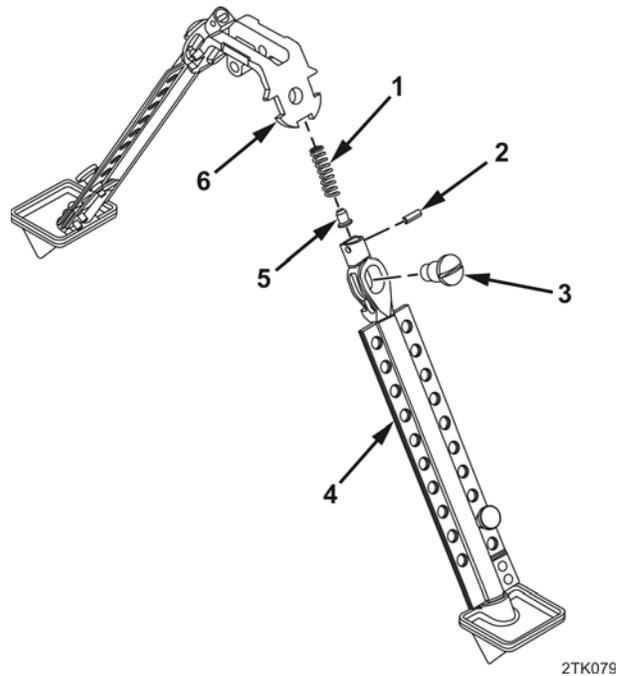


Figure 2. Bipod Leg and Yoke.

**END OF TASK****REPAIR OR REPLACEMENT**

Repair defective parts as authorized by WP 0050.

**END OF TASK**

**ASSEMBLY**

1. Place new bipod screw (Figure 3, Item 3) through slot in top of bipod leg assembly (Figure 3, Item 4).
2. Align bipod leg assembly (Figure 3, Item 4) with bipod yoke (Figure 3, Item 6). Use flat-tip screwdriver to secure bipod screw (Figure 3, Item 3) to bipod yoke.
3. Place bipod yoke (Figure 3, Item 6) on firm surface and, using hammer and punch, peen end of bipod screw (Figure 3, Item 3).
4. Install bipod detent (Figure 3, Item 5) and bipod spring (Figure 3, Item 1) to bipod leg assembly (Figure 3, Item 4). Compress spring and secure with bipod pin (Figure 3, Item 2).

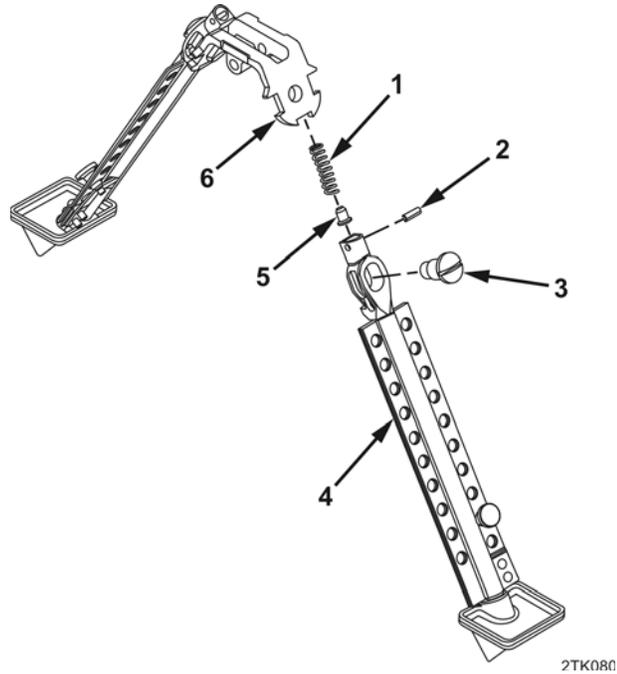
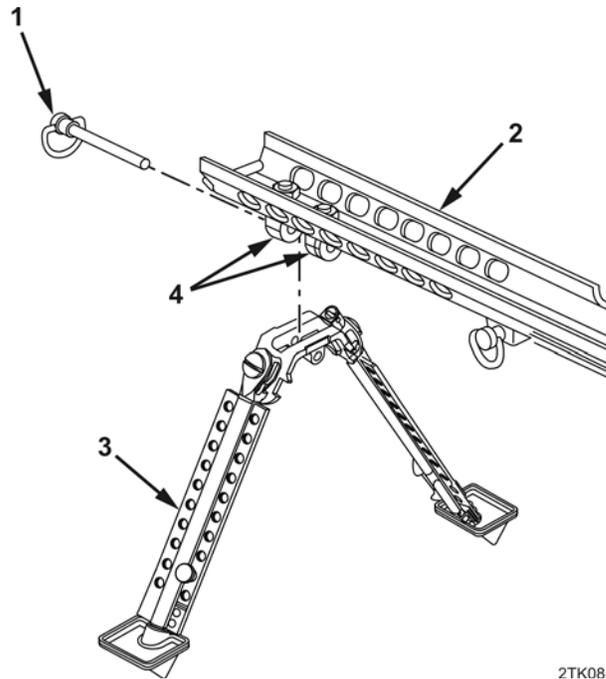


Figure 3. Bipod Leg and Yoke.

**END OF TASK**

**INSTALLATION**

1. Align bipod assembly (Figure 4, Item 3) with yoke mounts (Figure 4, Item 4) on lower receiver assembly (Figure 4, Item 2) and secure with bipod locking pin (Figure 4, Item 1).



2TK081

Figure 4. Bipod Assembly.

**END OF TASK****FOLLOW-ON TASK**

Upper receiver assembly installed to lower receiver assembly (WP 0015)

**END OF WORK PACKAGE**

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**FIELD MAINTENANCE****OPTIC MOUNT SYSTEM AND SCOPE RING ASSEMBLY MAINTENANCE**

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**INITIAL SETUP:****Tools and Special Tools**

Deployment Kit Tool Kit, TK-1  
(WP 0057, Table 2, Item 4)  
Screwdriver Set, Six Point Tip, Torx  
(WP 0057, Table 2, Item 7)  
Small Arms Repairer Tool Kit  
(WP 0057, Table 2, Item 9)  
Small Arms Repairer Tool Kit (USMC only)  
(WP 0057, Table 2, Item 10)  
Tool Kit, Intermediate Maintenance, M107  
(USMC only) (WP 0057, Table 2, Item 11)  
Tool Kit, Organizational Maintenance, M107  
(USMC only) (WP 0057, Table 2, Item 12)

**Materials/Parts**

Brush, Cleaning, Small Arms General Purpose  
(WP 0058, Item 7)

**Materials/Parts - Continued**

Brush, Dusting, Lens and Photographic Negative,  
Camel Hair (WP 0058, Item 10)  
Cleaning Compound, Optical Lens  
(WP 0058, Item 11)  
Cleaner, Lubricant, and Preservative (CLP)  
(WP 0058, Item 12)  
Isopropyl Alcohol, Technical (WP 0058, Item 14)  
Paper, Lens (WP 0058, Item 22)  
Rag, Wiping (WP 0058, Item 24)

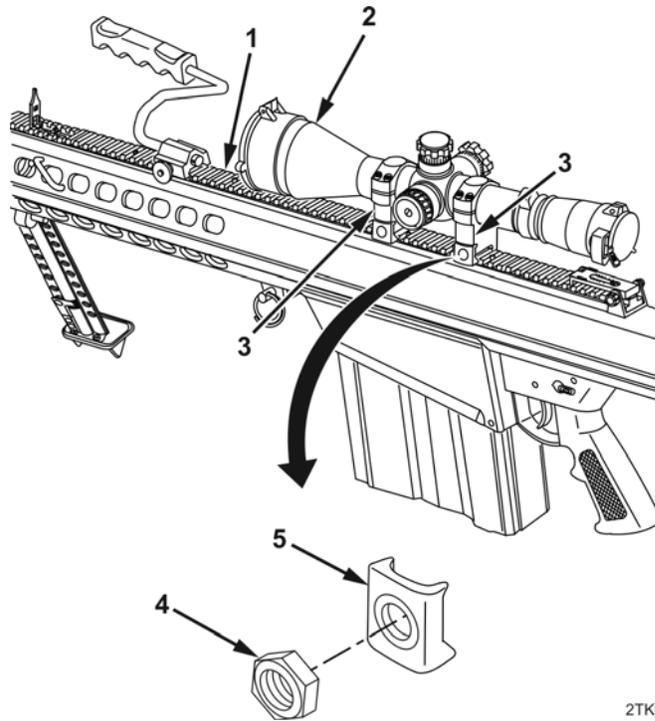
**References**

WP 0013  
WP 0051

**REMOVAL****NOTE**

Before removing the scope, note the scope location on the rail so the scope can be installed in the same location from which it was removed.

1. Loosen two bolt nuts (Figure 1, Item 4) using 1/2-in. box end wrench by turning counterclockwise.
2. Slide two bolt keepers (Figure 1, Item 5) away from two scope rings (Figure 1, Item 3) and lift scope (Figure 1, Item 2) off rail (Figure 1, Item 1).



2TK032

Figure 1. Scope Rings.

**END OF TASK**

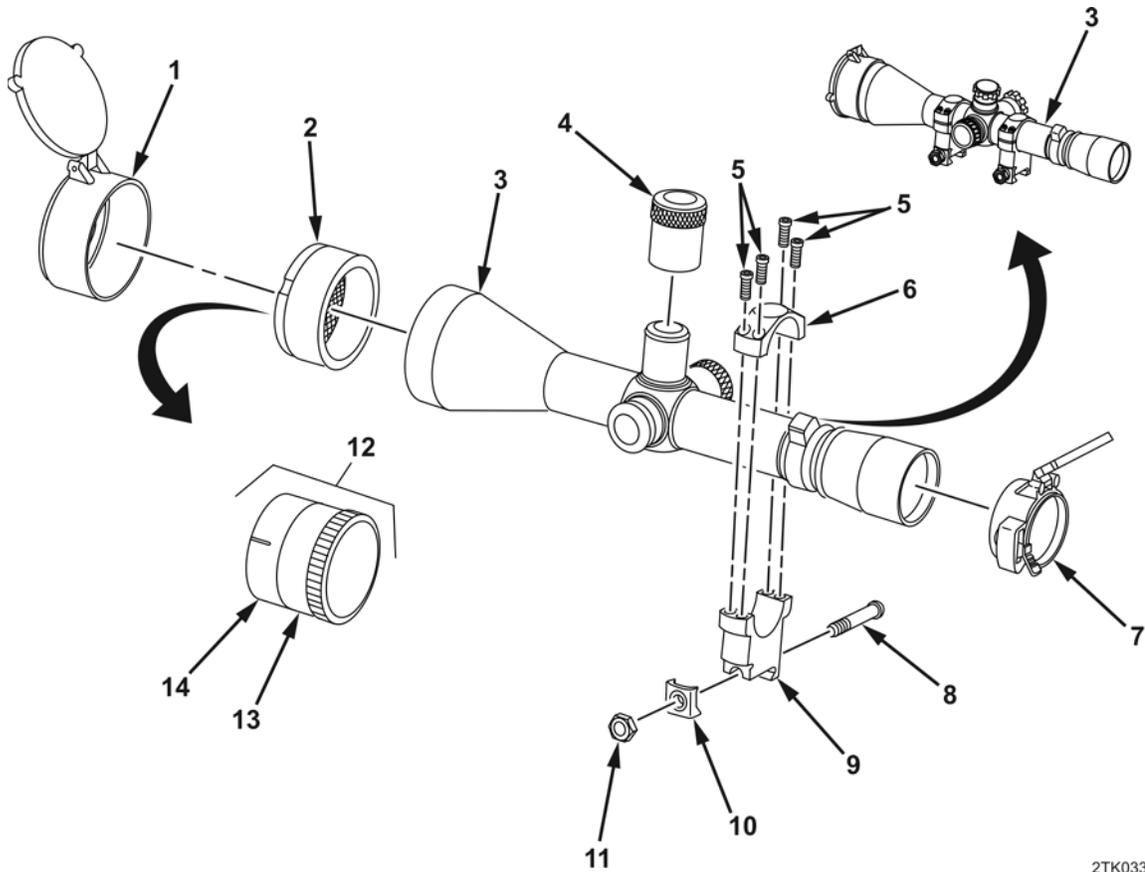
**DISASSEMBLY**

1. Remove bolt nut (Figure 2, Item 11), bolt keeper (Figure 2, Item 10), and scope ring bolt (Figure 2, Item 8) from bottom scope ring (Figure 2, Item 9).
2. Remove four scope ring screws (Figure 2, Item 5) from top scope ring (Figure 2, Item 6) and separate top scope ring from bottom scope ring (Figure 2, Item 9).
3. Repeat steps 1 and 2 with other scope ring assembly.

**NOTE**

Scope, P/N 54560, does not use adjustment turret caps.

4. Remove eyepiece lens cover (Figure 2, Item 7), three adjustment turret caps (Figure 2, Item 4), and objective lens cover (Figure 2, Item 1) from scope (Figure 2, Item 3).
5. Remove anti-reflective device (Figure 2, Item 2) or, if present, laser filter unit (Figure 2, Item 12) from scope (Figure 2, Item 3).
6. If damaged, separate laser filter cell (Figure 2, Item 14) from knurled lock ring (Figure 2, Item 13).



2TK033

Figure 2. Scope Assembly.

**END OF TASK**

**CLEANING****WARNING**

Injury may result if isopropyl alcohol or CLP comes in contact with eyes or unprotected skin. Always wear eye protection when working with these materials. These materials can give off flammable and harmful vapors. Avoid long exposure to vapors. Keep away from open fire, and use in a well-ventilated area. Failure to comply may result in personnel injury. Seek medical attention in event of injury.

**CAUTION**

Use extreme care to protect lenses from cleaning compounds and scratches. Failure to comply may result in equipment damage.

**NOTE**

When servicing this weapon, performing maintenance, or disposing of materials such as cleaning fluids, cleaning compounds, lubricants, and sealing compounds as well as items contaminated with these substances (such as cleaning rags) 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 Hotline at 1-800-872-3845 / OCONUS: 410-436-1244 or online at <http://aec.army.mil/usaec/contactus.html>. 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.

1. Remove dust, lint, and dirt from the lenses and exterior of the scope using a clean camel hair brush.
2. Apply optical lens cleaning compound sparingly and wipe off moisture with lens paper to remove smudges from the lenses. If lens paper is not available, use a soft, clean, dry cloth.
3. Keep all hexagon screw fittings clear of mud and dirt. If they become clogged, use a general purpose cleaning brush or similar item to remove the debris.
4. Keep lenses free of oil and grease. Use isopropyl alcohol with lens paper to remove fingerprints, oil spots, etc. Pat the lens; do not scrub.
5. Apply a very light coat of CLP to the scope body after cleaning.

**END OF TASK****REPAIR OR REPLACEMENT**

Replace defective parts as authorized by WP 0051.

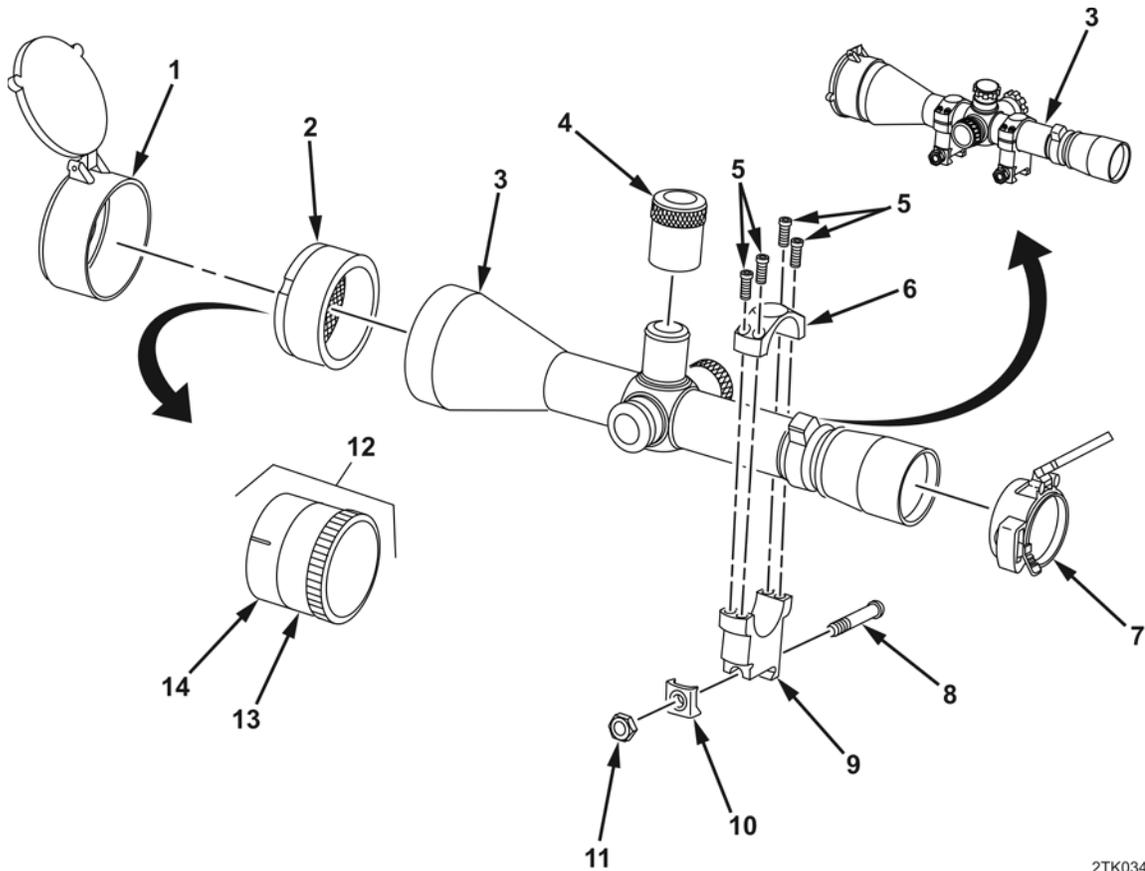
**END OF TASK**

## ASSEMBLY

## NOTE

Scope, P/N 54560, does not use adjustment turret caps.

1. Install objective lens cover (Figure 3, Item 1), three adjustment turret caps (Figure 3, Item 4), and eyepiece lens cover (Figure 3, Item 7) on scope (Figure 3, Item 3).
2. Install laser filter cell (Figure 3, Item 14) on knurled lock ring (Figure 3, Item 13) if separated.
3. Install anti-reflective device (Figure 3, Item 2) or, if desired, laser filter unit (Figure 3, Item 12) on scope (Figure 3, Item 3).
4. Position top scope ring (Figure 3, Item 6) and bottom scope ring (Figure 3, Item 9) around scope (Figure 3, Item 3) and secure with four scope ring screws (Figure 3, Item 5), using T-15 T-handle Torx screwdriver. Tighten the four scope ring screws in the proper sequence (WP 0013).
5. Install scope ring bolt (Figure 3, Item 8), bolt keeper (Figure 3, Item 10), and bolt nut (Figure 3, Item 11) on bottom scope ring (Figure 3, Item 9).
6. Repeat steps 2 and 3 with other scope ring assembly.



2TK034

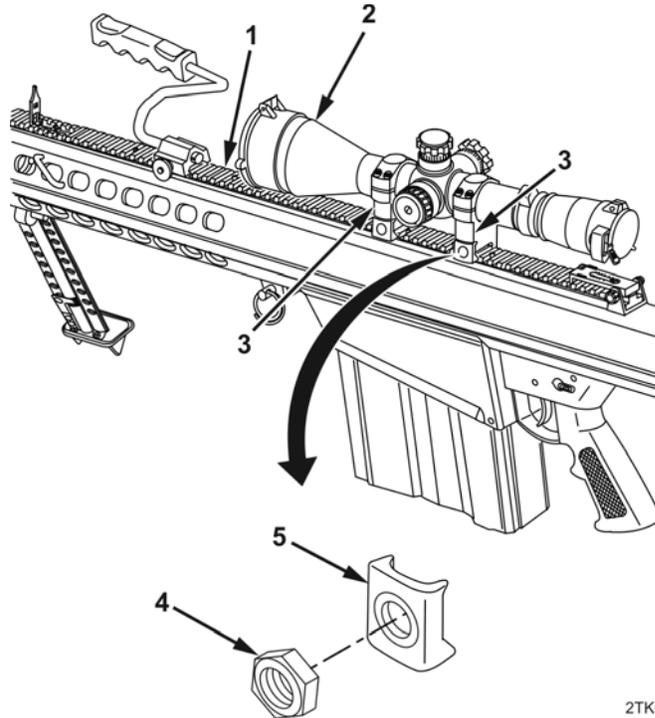
Figure 3. Scope Assembly.

END OF TASK

**INSTALLATION****NOTE**

Install the scope in the same location from which it was removed.

1. Loosen two bolt nuts (Figure 4, Item 4) and position scope (Figure 4, Item 2) on rail (Figure 4, Item 1).
2. Adjust two bolt keepers (Figure 4, Item 5) against two scope rings (Figure 4, Item 3) and tighten two bolt nuts (Figure 4, Item 4) with T-handle torque wrench to 65 lb-in. (7.3 N•m).



2TK035

Figure 4. Scope Rings.

**END OF TASK****END OF WORK PACKAGE**

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**FIELD MAINTENANCE**  
**HEADSPACE PROCEDURE (USMC AND USAF ONLY)**

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**INITIAL SETUP:****Tools and Special Tools**

Small Arms Repairer Tool Kit (USMC only)  
(WP 0057, Table 2, Item 10)  
Tool Kit, Intermediate Maintenance, M107  
(USMC only) (WP 0057, Table 2, Item 11)  
Tool Kit, Organizational Maintenance, M107  
(USMC only) (WP 0057, Table 2, Item 12)

**References**

WP 0019  
WP 0027

## HEADSPACING

This work package contains the procedures and instructions necessary to perform organizational and intermediate maintenance checks and services on the Special Application Scoped Rifle (SASR).

### Organizational Maintenance Headspace Procedure

1. Clean the chamber and locking surfaces in the barrel.
2. Remove the ejector pin, ejector, and ejector spring from the bolt (WP 0027).
3. Clean the bolt face, bolt lugs, and locking surfaces.

#### NOTE

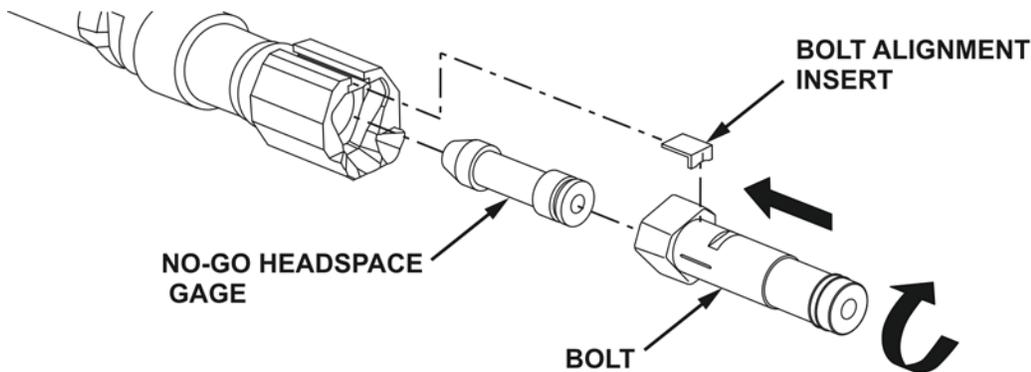
Ensure the barrel is not forward in the upper receiver before performing headspace procedures.

4. Turn upper receiver upside down and remove the barrel key from the barrel (WP 0019). Slide the barrel back into the upper receiver and rotate 1/2 turn (180 degrees).

#### NOTE

Organizational maintenance is authorized to use only the NO-GO headspace gage for inspecting chamber headspace.

5. Insert the NO-GO headspace gage into the chamber of the barrel.



2TK102A

Figure 1. NO-GO Headspace Gage.

6. Insert the bolt into the barrel extension, applying gentle pressure for the extractor to grasp the rear of the gage. The extractor can be removed from the bolt if desired.
7. Install the bolt alignment insert onto the barrel extension.

#### NOTE

Ensure bolt is facing with the bolt reference line on top.

8. Rotate the bolt clockwise until it stops.
9. With the NO-GO headspace gage inserted, the bolt reference line should not fall past the reference window on the bolt alignment insert.

## HEADSPACING – Continued

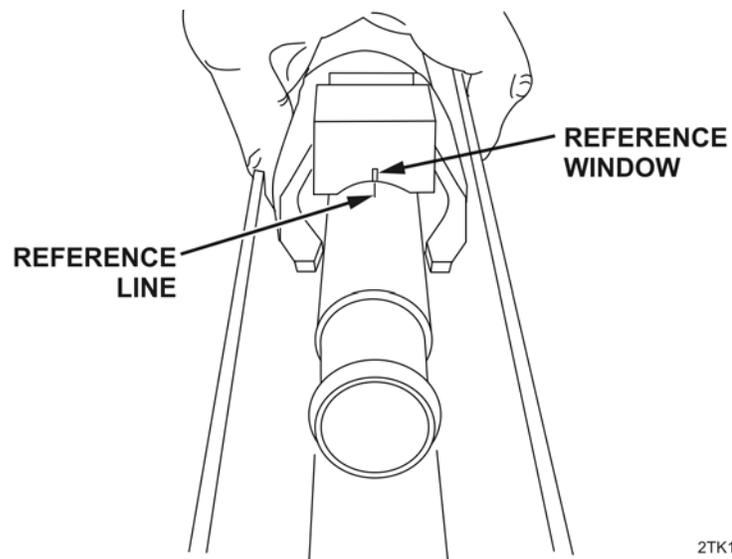


Figure 2. NO-GO Headspace Gage Reference Line.

10. If the headspace is found to be unserviceable, evacuate the weapon to the next higher level of maintenance.

**HEADSPACING – Continued****Intermediate Maintenance Headspace Procedure****CAUTION**

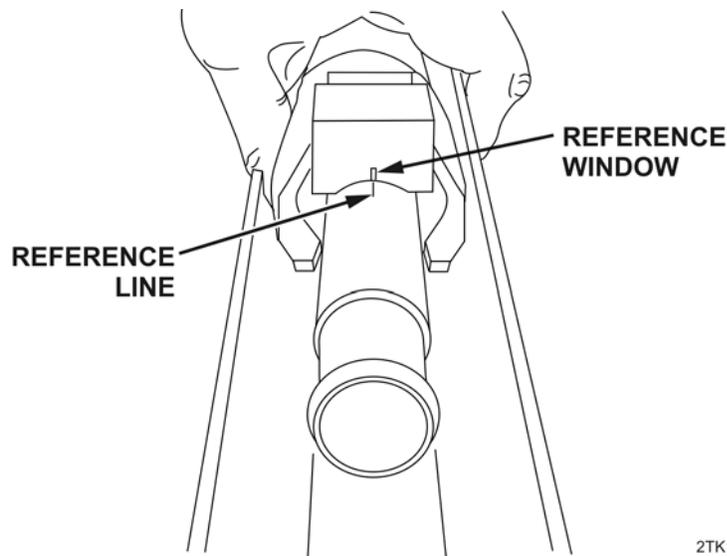
Always check the chamber headspace with the GO gage first. The bolt should close completely. This ensures there are no obstructions in the chamber area. Failure to comply may result in weapon damage.

**NOTE**

The rifle is originally configured from the manufacturer with the #8 bolt.

Repeat steps 1 through 8 in the organizational maintenance headspace procedure. To measure headspace, use the NO-GO gage and the test bolt provided in the Intermediate Maintenance SASR kit.

1. If the reference line on the test bolt falls before the reference window, then a #9 bolt is required.



2TK103

Figure 3. NO-GO Headspace Gage Reference Line Before Window.

2. If the reference line on the test bolt falls within the reference window, then a #10 bolt is required.

HEADSPACING – Continued

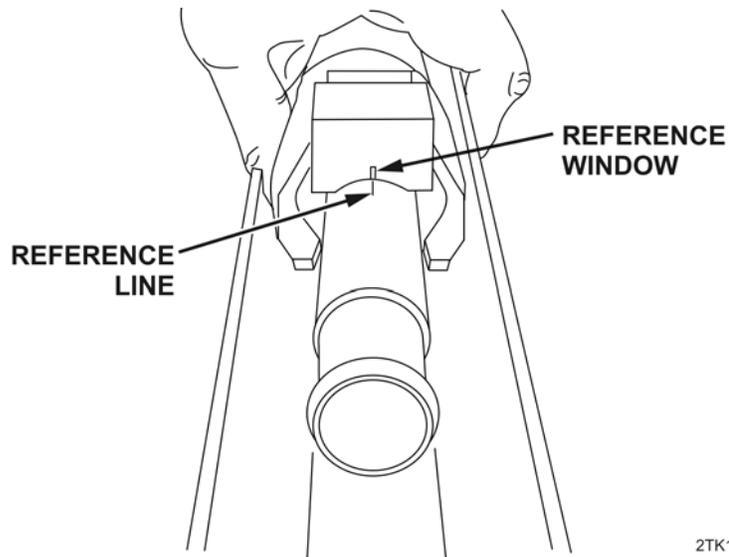


Figure 4. NO-GO Headspace Gage Reference Line Within Window.

3. If the reference line on the test bolt falls after the reference window, then the barrel is unserviceable and must be replaced.

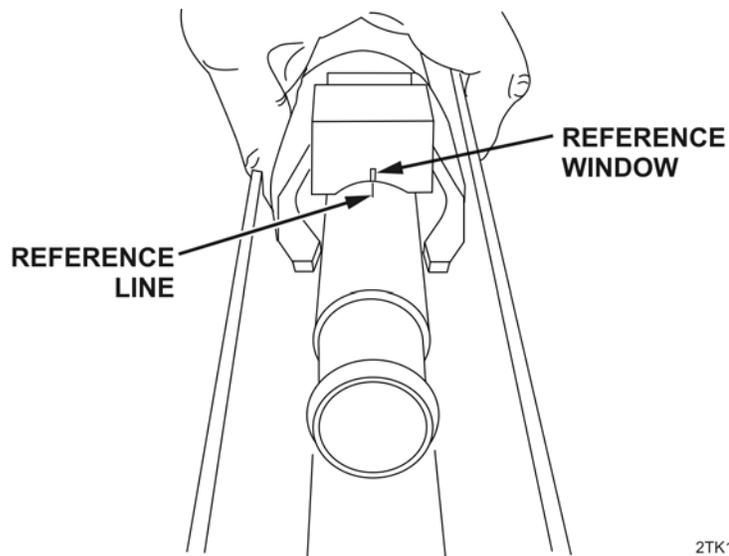


Figure 5. NO-GO Headspace Gage Reference Line After Window.

END OF TASK

END OF WORK PACKAGE



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**FIELD MAINTENANCE****FUNCTIONAL CHECK**

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**INITIAL SETUP:**NOT APPLICABLE

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Whenever the weapon is disassembled beyond normal fieldstripping, perform a functional check when the weapon is reassembled. This quick check indicates whether or not the weapon has been properly assembled with all of its components. A functional check can also reveal the more obvious malfunctions that occur between interactive components of the weapon. To complete a functional check, perform the following procedures:

1. Load ten .50 caliber dummy rounds in magazine.
2. Insert the magazine into the weapon.
3. Retract bolt fully to rear and release to chamber the first round.
4. With the safety selector switch set to SAFE, attempt to fire the weapon. The weapon should not fire.
5. With the safety selector switch set to FIRE, attempt to fire the weapon. The weapon should fire.
6. While holding the trigger to the rear, pull the bolt all the way to the rear and release the bolt.
7. Release the trigger. A click should be heard and the weapon should fire.
8. Repeat steps 6 and 7 at least three times to ensure proper functioning.
9. Cycle the bolt through the remaining rounds to ensure proper feeding, chambering, extracting, and ejecting.

**END OF WORK PACKAGE**



**CHAPTER 5**  
**PARTS INFORMATION**  
**FOR**  
**LONG RANGE SNIPER RIFLE, M107**



**FIELD MAINTENANCE**

**REPAIR PARTS AND SPECIAL TOOLS LIST (RPSTL) INTRODUCTION**

**INTRODUCTION**

**SCOPE**

This Repair Parts and Special Tools List (RPSTL) lists and authorizes spares and repair parts; special tools; Test, Measurement, and Diagnostic Equipment (TMDE); and other special support equipment required for performance of Field level maintenance of the M107 Long Range Sniper Rifle (LRSR)/Special Application Scoped Rifle (SASR). It authorizes the requisitioning, issue, and disposition of spares, repair parts, and special tools as indicated by the Source, 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 components they mount on. Items listed are shown in the associated illustrations.
2. Special Tools List Work Packages. There are no special tools for the M107 LRSR.
3. Cross-Reference Indexes Work Packages. There are two cross-reference index work packages in this RPSTL: the National Stock Number (NSN) Index work package, and the Part Number (P/N) Index work package. The NSN Index work package refers you to the figure and item number. The P/N 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 containing supply/requisitioning information, maintenance level authorization criteria, and disposition instruction, as shown in the following breakout. This entry may be subdivided into 4 subentries, one for each service.

**Table 1. SMR Code Explanation.**

<u>Source Code</u> <u>XX</u>	<u>Maintenance Code</u> <u>XX</u>	<u>Recoverability Code</u> <u>X</u>
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 items on unserviceable items.

\*Complete Repair: Maintenance capacity, capability, and authority to perform all corrective maintenance tasks of the "Repair" function in a use/user environment in order to restore serviceability to a failed item.

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

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

<u>Source Code</u>	<u>Application/Explanation</u>	<b>NOTE</b>
PA		
PB		
PC		Items coded PC are subject to deterioration.
PD		
PE		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.
PF		
PG		
PH		
PR		
PZ		
KD		Items with these codes are not to be requested/requisitioned individually.
KF		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.
KB		
MF-Made at field		Items with these codes are not to be requisitioned/requested individually.
MH-Made at below depot/sustainment level		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 of the SMR code, but the source code indicates it is made at higher level, order the item from the higher level of maintenance.
ML-Made at Specialized Repair Activity (SRA)		
MD-Made at depot		
AF-Assembled by field		Items with these codes are not to be requested/requisitioned individually.
AH-Assembled by below depot sustainment level		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.
AL-Assembled by SRA		
AD-Assembled by depot		
XA		Do not requisition an "XA" coded item. Order the next higher assembly. (Refer to NOTE below.)
XB		If an item is not available from salvage, order it using the Commercial and Government Entity Code (CAGEC) and part number.
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.

### 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.

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

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:

**Maintenance**

<u>Code</u>	<u>Application/Explanation</u>
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 (SRA) can remove, replace, and use the item.
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.

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).

**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**

<u>Code</u>	<u>Application/Explanation</u>
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.
K-	Complete repair is done at contractor facility.
Z-	Nonreparable. No repair is authorized.
B-	No repair is authorized. No parts or special tools are authorized for maintenance of "B" coded item. However, the item may be reconditioned by adjusting, lubricating, etc., at the user level.

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

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:

### Recoverability

<u>Code</u>	<u>Application/Explanation</u>
Z-	Nonreparable item. When unserviceable, condemn and dispose of the item at the level of maintenance shown in the third position of SMR code.
F-	Reparable item. When uneconomical to repair, condemn and dispose of the item at Field level.
H-	Reparable item. When uneconomical to repair, condemn and dispose of the item at the below Sustainment level.
D-	Reparable item. When beyond lower level repair capability, return to depot. Condemnation and disposal of item are not authorized below depot level.
L-	Reparable item. Condemnation and disposal not authorized below 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.
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.

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

### NOTE

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

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.
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, subfunctional 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.

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**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) sequence.

**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.

**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.

**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 line.

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 or 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).

**PART NUMBER Column.** Indicates the part number assigned to the item.

**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 work packages.

**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**

**Index Numbers.** Items which have the word 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.

**Associated Publications.** The publication listed below pertains to the M107 LRSR/SASR.

**Publication**

TM 9-1005-239-10

**Short Title**

M107 LRSR/SASR (USMC)

## HOW TO LOCATE REPAIR PARTS

### 1. When NSNs or Part Numbers Are Not Known.

First. Use the table of contents to 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 divided into the same groups.

Second. Find the figure covering the functional group or the subfunctional group to which the item belongs.

Third. Identify the item on the figure and note the number(s).

Fourth. Look in the repair parts list work packages for the figure and item numbers. The NSNs and part numbers are on the same line as the associated item numbers.

### 2. When NSN Is Known.

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.

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.

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.

Second. Look up the item on the figure in the applicable repair parts list work package.

#### Abbreviation

ANT  
ASS  
ASSE  
ASSY  
BO  
C  
COMP  
DEV  
EXT  
EXTE  
EXTENSI  
HE  
HEADLE  
INSTRU  
MAGAZIN  
MECHA  
MO  
RE  
TELESC  
TORS  
TORSI  
USMC

#### Explanation

Antioscillation  
Assembly  
Assembly  
Assembly  
Bolt  
Cocking  
Compression  
Device  
Extractor  
Extension  
Extension  
Hexagon  
Headless  
Instrument  
Magazine  
Mechanism  
Mount  
Relieved  
Telescope  
Torsion  
Torsion  
United States Marine Corps

**END OF WORK PACKAGE**

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FIELD MAINTENANCE  
GROUP 00 LONG RANGE SNIPER RIFLE (LRSR), M107

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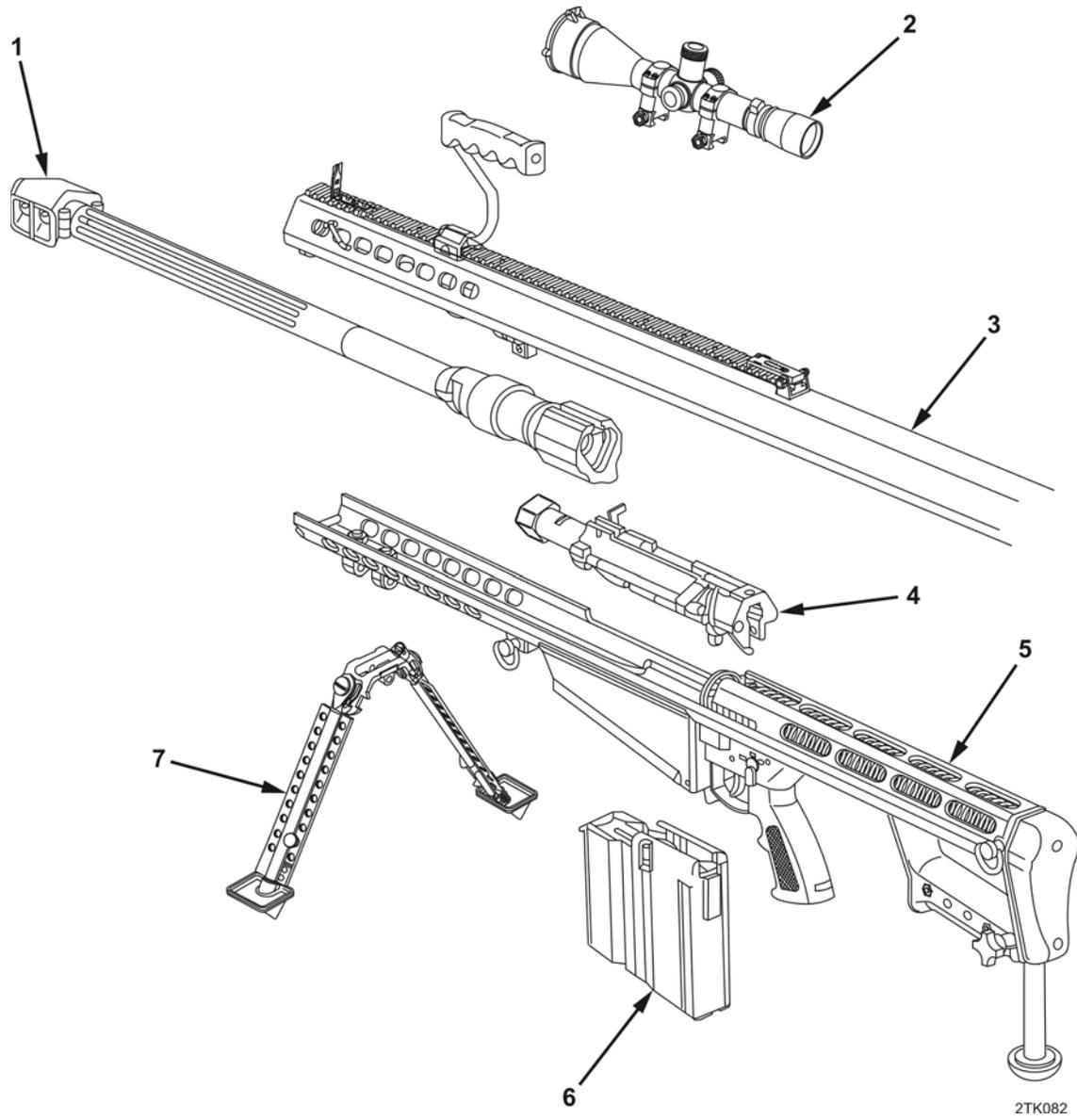


Figure 1. Long Range Sniper Rifle (LRSR), M107 12983075.

(1) ITEM NO.	(2) SMR CODE			(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODE (UOC)	(7) QTY
	a. ARMY	b. AIR FORCE	c. USMC					
							<b>GROUP 00 LONG RANGE SNIPER RIFLE (LRSR), M107</b>	
							<b>FIGURE 1. LONG RANGE SNIPER RIFLE (LRSR), M107, 12983075</b>	
1	XAFDD	XAFDD	XAFDD		0BT64	DBC-005	BARREL ASSEMBLY (SEE FIGURE 9 FOR ASSEMBLY BREAKDOWN)	1
2	PADDD	PADDD			0BT64	OMSYS6	SIGHTING SYSTEM, ANT (SEE FIGURE 16 FOR ASSEMBLY BREAKDOWN)	1
3	XAFDD	XAFDD	XAODD		0BT64	DBC-004	UPPER RECEIVER ASSE (SEE FIGURE 5 FOR ASSEMBLY BREAKDOWN)	1
4	XAFFF	XAFFF	XAOFF		0BT64	DBC-006	BOLT AND CARRIER (SEE FIGURE 10 FOR ASSEMBLY BREAKDOWN)	1
5	XAFDD	XAFDD	XAODD		0BT64	DBC-002	LOWER RECEIVER ASSE (SEE FIGURE 2 FOR ASSEMBLY BREAKDOWN)	1
6	PAFFF	PAFFF	PA OOO	1005-01-358-1342	0BT64	82116A	MAGAZINE, CARTRIDGE (SEE FIGURE 14 FOR ASSEMBLY BREAKDOWN)	1
7	AFFFF	AFFFF	A OOOO		0BT64	BA-2	BIPOD ASSEMBLY (SEE FIGURE 15 FOR ASSEMBLY BREAKDOWN)	1
							END OF FIGURE	

END OF WORK PACKAGE



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FIELD MAINTENANCE

GROUP 01 LOWER RECEIVER ASSEMBLY  
GROUP 0101 TRIGGER ASSEMBLY

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(1) ITEM NO.	(2) SMR CODE			(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODE (UOC)	(7) QTY
	a. ARMY	b. AIR FORCE	c. USMC					
<b>GROUP 01 LOWER RECEIVER ASSEMBLY</b>								
<b>GROUP 0101 TRIGGER ASSEMBLY</b>								
<b>FIGURE 2. LOWER RECEIVER ASSEMBLY, DBC-002, AND TRIGGER ASSEMBLY, 82069-2A</b>								
1	PAFZZ	PAFZZ	PAOZZ	5310-01-261-6678	39428	98438A031	WASHER,LOCK	2
2	PAFZZ	PAFZZ	PAOZZ	5310-01-412-4266	0BT64	82046	NUT,PLAIN,HEXAGON	2
3	PAFZZ	PAFZZ	PAOZZ	1005-01-358-7873	0BT64	82110-1	BUFFER,RECOIL MECHA	1
4	PAFZZ	PAFZZ	PAOZZ	5360-01-359-2751	0BT64	82109	SPRING,HELICAL,COMP	1
5	PAFZZ	PAFZZ	PAOZZ	1005-01-465-5795	0BT64	82162	GRIP,STOCK,RIFLE	1
6	PAFZZ	PAFZZ	PAOZZ	5305-01-465-5694	0BT64	82164	SCREW,MACHINE	2
7	PAFZZ	PAFZZ	PAOZZ	5305-01-286-9783	0BT64	82038	SCREW,CAP,SOCKET HE	2
8	PAFZZ	PAFZZ	PAOZZ	1005-01-358-7874	0BT64	82037-1	PAD,RECOIL	1
9	PAFFF	PAFFF	PAOOO	1005-01-465-5793	0BT64	82226-A	MOUNT,GUN MONOPOD (SEE FIGURE 4 FOR ASSEMBLY BREAKDOWN)	1
10	PAFZZ	PAFZZ	PAOZZ	1005-01-465-5692	0BT64	82163	GRIP,STOCK	1
11	PAFZZ	PAFZZ	PAOZZ	1005-01-465-5708	0BT64	82225	LOCK KNOB,RIFLE	1
12	PAFZZ	PAFZZ	PAOZZ	5305-01-432-0438	0BT64	82052-2	SCREW,CAP,SOCKET HE	1
13	PAFZZ	PAFZZ	PAOZZ	5310-01-382-4094	0BT64	82053-1	WASHER,FLAT	1
14	PAFZZ	PAFZZ	PAOZZ	1005-01-358-8844	0BT64	82051A	GRIP,RIFLE	1
15	PAFZZ	PAFZZ	PAOZZ	5360-01-358-3035	0BT64	82055	SPRING,HELICAL,COMP	1
16	PAFZZ	PAFZZ	PAOZZ	5360-01-358-3042	0BT64	82067	SPRING,HELICAL,TORS	1
17	PAFZZ	PAFZZ	PAOZZ	1005-01-360-1930	0BT64	82066	MAGAZINE CATCH	1
18	PAFZZ	PAFZZ	PAOZZ	1005-01-357-6820	0BT64	82054-1	SAFETY,SMALL ARMS	1
19	PAFZZ	PAFZZ	PAOZZ	5315-01-358-7372	39428	92383A266	PIN,SPRING	1
20	PAFZZ	PAFZZ	PAOZZ	5315-01-210-0923	0BT64	82115-1A	PIN,QUICK RELEASE	1
21	PAFZZ	PAFZZ	PAOZZ	1005-01-502-5660	0BT64	82045-C1	YOKE,TRIPOD	2
22	PAFZZ	PAFZZ	PAOZZ	5315-01-300-2640	0BT64	82114-1A	PIN,QUICK RELEASE	2
23	XADDD	XADDD	XAFDD		0BT64	82000-C107	RECEIVER,AUTOMATIC	1
24	PAFFF	PAFFF	PAOOO	1005-01-514-8427	0BT64	82069-2A	TRIGGER ASSEMBLY	1
25	PAFZZ	PAFZZ	PAOZZ	5360-01-358-0154	0BT64	82071	.SPRING,HELICAL,COMP	1

(1) ITEM NO.	(2) SMR CODE			(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODE (UOC)	(7) QTY
	a.	b.	c.					
	ARMY	AIR FORCE	USMC					
26	PAFZZ	PAFZZ	PAOZZ	1005-01-360-1931	0BT64	82072	.DISCONNECTOR,RIFLE	1
27	PAFZZ	PAFZZ	PAOZZ	1005-01-358-7392	0BT64	82073	.SPRING ASSEMBLY,EXT	1
28	PAFZZ	PAFZZ	PAOZZ	5315-01-359-3152	0BT64	82070	.PIN,SHOULDER,HEADLE	1
29	PAFZZ	PAFZZ	PAOZZ	1005-01-357-4807	0BT64	82069	.TRIGGER	1
30	PAFFF	PAFFF	PAOOO	1005-01-360-1932	0BT64	82074-1A	TRANSFER BAR ASSY (SEE FIGURE 3 FOR ASSEMBLY BREAKDOWN)	1
31	PAFZZ	PAFZZ	PAOZZ	5315-01-359-3152	0BT64	82070	PIN,SHOULDER,HEADLE	1
32	PAFZZ	PAFZZ	PAOZZ	5315-01-359-3147	0BT64	82056	PIN,GROOVED,HEADED	1
33	PAFZZ	PAFZZ	PAOZZ	5310-01-465-5696	0BT64	82165	NUT,PLAIN,HEXAGON	2

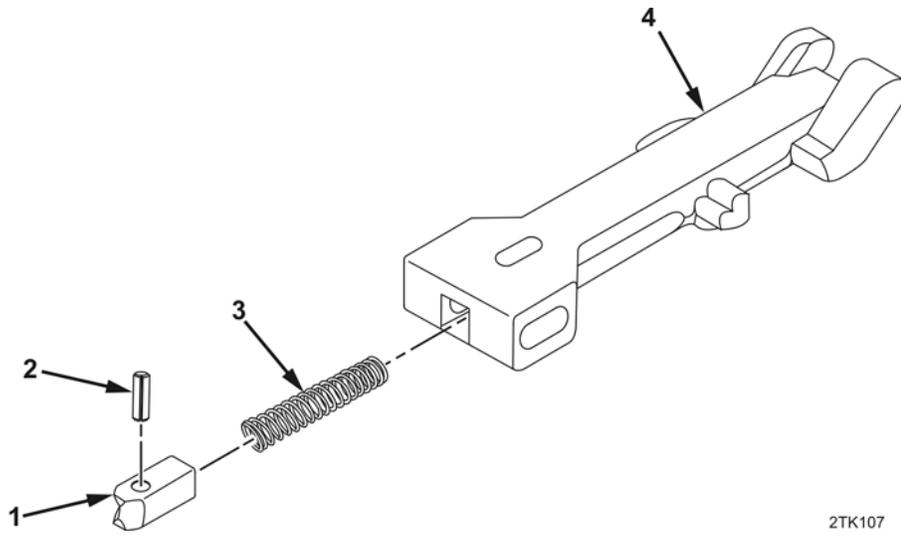
END OF FIGURE

END OF WORK PACKAGE

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FIELD MAINTENANCE  
GROUP 0102 TRANSFER BAR ASSEMBLY

---



2TK107

Figure 3. Transfer Bar Assembly, 82074-1A.

(1) ITEM NO.	(2) SMR CODE			(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODE (UOC)	(7) QTY
	a.	b.	c.					
	ARMY	AIR FORCE	USMC					
							<b>GROUP 0102 TRANSFER BAR ASSEMBLY</b>	
							<b>FIGURE 3. TRANSFER BAR ASSEMBLY, 82074-1A</b>	
1	PAFZZ	PAFZZ	PAOZZ	5315-01-359-6520	0BT64	82076-1	PIN,SHOULDER,HEADLE	1
2	PAFZZ	PAFZZ	PAOZZ	5315-01-358-8821	0BT64	82077	PIN,SPRING	1
3	PAFZZ	PAFZZ	PAOZZ	5360-01-359-3200	0BT64	82075	SPRING,HELICAL,COMP	1
4	PBFZZ	PBFZZ	PBOZZ	1005-01-360-1933	0BT64	82074-1	TRANSFER BAR,RIFLE	1
							END OF FIGURE	

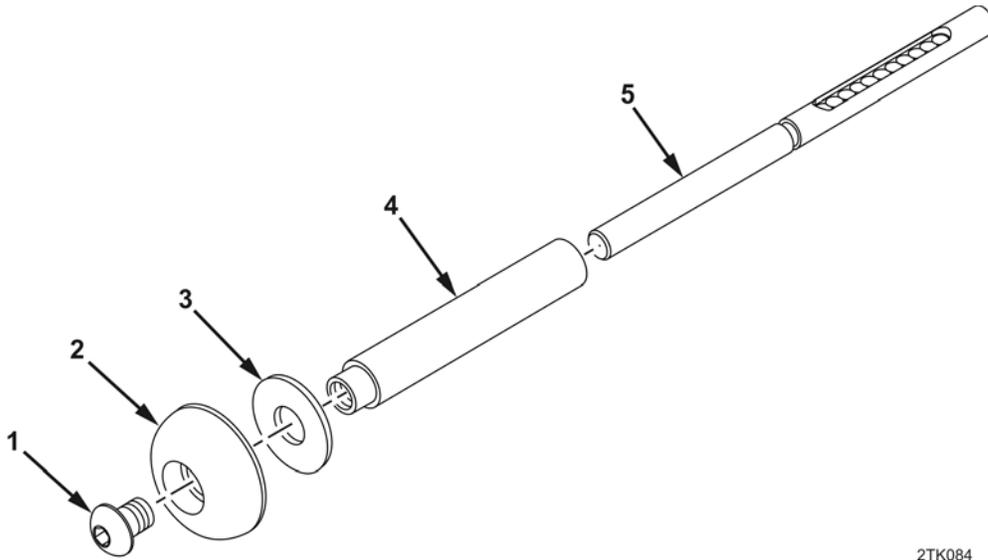
END OF WORK PACKAGE



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FIELD MAINTENANCE  
GROUP 0103 GUN MOUNT

---



2TK084

Figure 4. Gun Mount, 82226-A.

(1) ITEM NO.	(2) SMR CODE			(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODE (UOC)	(7) QTY
	a. ARMY	b. AIR FORCE	c. USMC					
							GROUP 0103 GUN MOUNT (MONOPOD)	
							FIGURE 4. GUN MOUNT, 82226-A	
1	PAFZZ	PAFZZ	PAOZZ	5305-01-501-3224	0BT64	82230	SCREW,CAP,SOCKET HE	1
2	PAFZZ	PAFZZ	PAOZZ	1005-01-465-5702	0BT64	82229	LEG,GUN MOUNT MONOPOD	1
3	PAFZZ	PAFZZ	PAOZZ	5310-01-501-3225	0BT64	82228	WASHER,FLAT	1
4	PAFZZ	PAFZZ	PAOZZ	1005-01-501-3226	0BT64	82227	ELEVATION COLLAR	1
5	PBFZZ	PBFZZ	PBOZZ	1005-01-501-3227	0BT64	82226	ELEVATION SCREW	1
							END OF FIGURE	

END OF WORK PACKAGE



---

FIELD MAINTENANCE  
GROUP 02 UPPER RECEIVER ASSEMBLY

---



(1) ITEM NO.	(2) SMR CODE			(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODE (UOC)	(7) QTY
	a. ARMY	b. AIR FORCE	c. USMC					
<b>GROUP 02 UPPER RECEIVER ASSEMBLY</b>								
<b>FIGURE 5. UPPER RECEIVER ASSEMBLY, DBC-004</b>								
1	PAFFF	PAFFF	PAOOO	1005-01-357-4806	0BT64	82021	SIGHT,FRONT (SEE FIGURE 7 FOR ASSEMBLY BREAKDOWN)	1
2	PAFFF	PAFFF	PAOOO	1005-01-359-2716	0BT64	82048-C3	GRIP,RIFLE CARRYING HANDLE (SEE FIGURE 6 FOR ASSEMBLY BREAKDOWN)	1
3	PAFZZ	PAFZZ	PAFZZ	1240-01-526-4419	0BT64	82330	MOUNT,TELESCOPE	1
4	PAFFF	PAFFF	PAOOO	1005-01-502-5870	0BT64	8SA2	SIGHT,REAR (SEE FIGURE 8 FOR ASSEMBLY BREAKDOWN)	1
5	XADDD	XADDD	XAFDD		0BT64	82313-A	RECEIVER,AUTOMATIC	1
6	PAFZZ	PAFZZ	PAFZZ	5305-01-502-4964	0BT64	82131-2	SCREW,CAP,SOCKET HE	8
7	PAFFF	PAFFF	PAFFF	1005-01-470-9079	0BT64	82061-A	KEY ASSEMBLY,BARREL	1
8	PAFZZ	PAFZZ	PAFZZ	1005-01-360-1929	0BT64	82061	.BARREL KEY,RIFLE	1
9	PAFZZ	PAFZZ	PAFZZ	5305-01-277-5900	0BT64	82063	.SETSCREW	2
10	PAFZZ	PAFZZ	PAFZZ	5360-01-359-3201	0BT64	82062C	.SPRING,HELICAL,EXTE	2
11	PAFZZ	PAFZZ	PAFZZ	5305-01-277-5900	0BT64	82063	SETSCREW	2
END OF FIGURE								

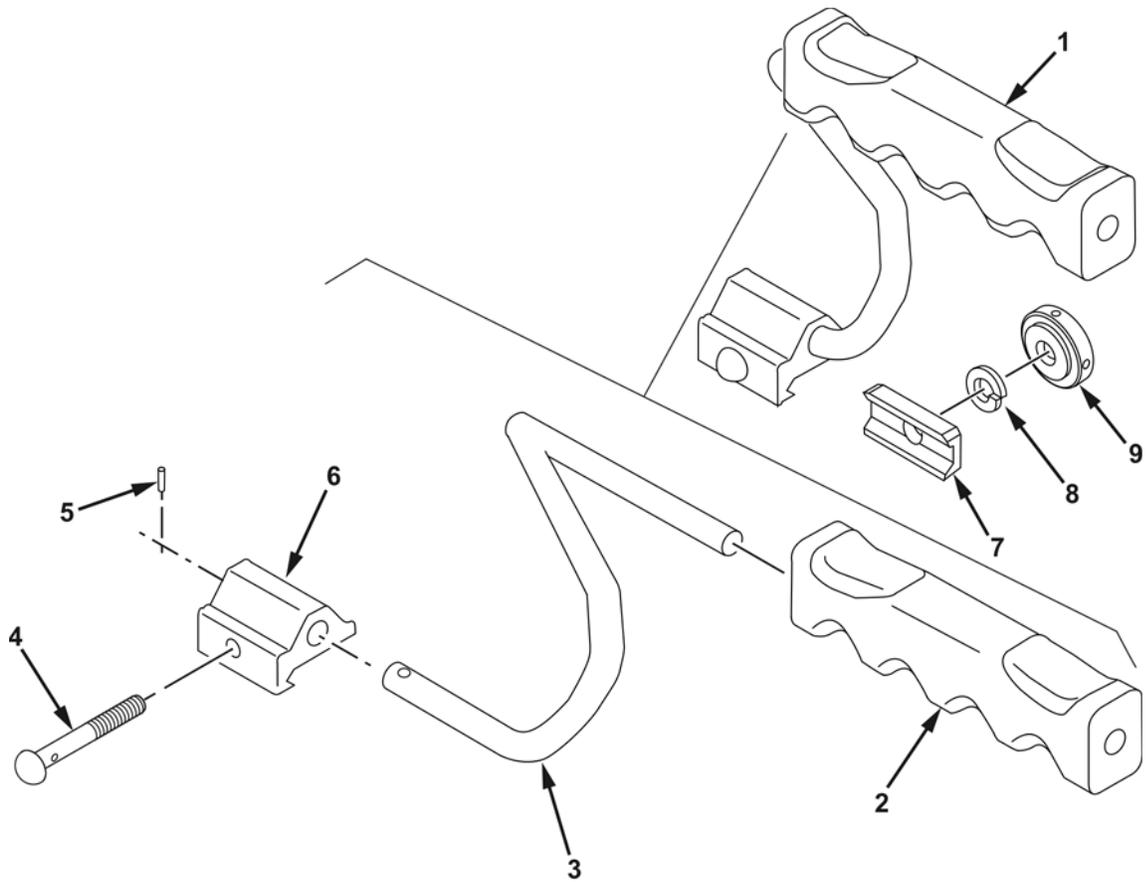
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FIELD MAINTENANCE  
GROUP 0201 RIFLE GRIP

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2TK086

Figure 6. Rifle Grip, 82048-C3.

(1) ITEM NO.	(2) SMR CODE			(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODE (UOC)	(7) QTY
	a. ARMY	b. AIR FORCE	c. USMC					
<b>GROUP 0201 RIFLE GRIP</b>								
<b>FIGURE 6. RIFLE GRIP, 82048-C3</b>								
1	XAFF	XAFF	XAOO		0BT64	10748-A	HANDLE,GUN CARRYING	1
2	PAFZ	PAFZ	PAOZ	1005-01-359-0048	0BT64	82048	.GRIP,RIFLE	1
3	PAFZ	PAFZ	PAOZ	1005-01-357-9883	0BT64	82050	.GRIP,RIFLE ROD	1
4	PAFZ	PAFZ	PAOZ	1005-01-472-5908	0BT64	82127	.SCOPE RING CLAMP BO	1
5	PAFZ	PAFZ	PAOZ	5315-01-358-7371	39428	92383A154	.PIN,SPRING	1
6	PAFZ	PAFZ	PAOZ	1005-01-465-5677	0BT64	LW019	.MOUNT,HANDLE,RIFLE	1
7	PAFZ	PAFZ	PAOZ	1005-01-465-5680	0BT64	LW020	CLAMP,MOUNT,HANDLE	1
8	PAFZ	PAFZ	PAOZ	5310-01-494-9451	0BT64	82129	WASHER,LOCK	1
9	PAFZ	PAFZ	PAOZ	5310-01-502-1446	0BT64	82128-1	NUT,PLAIN,HEXAGON	1
END OF FIGURE								

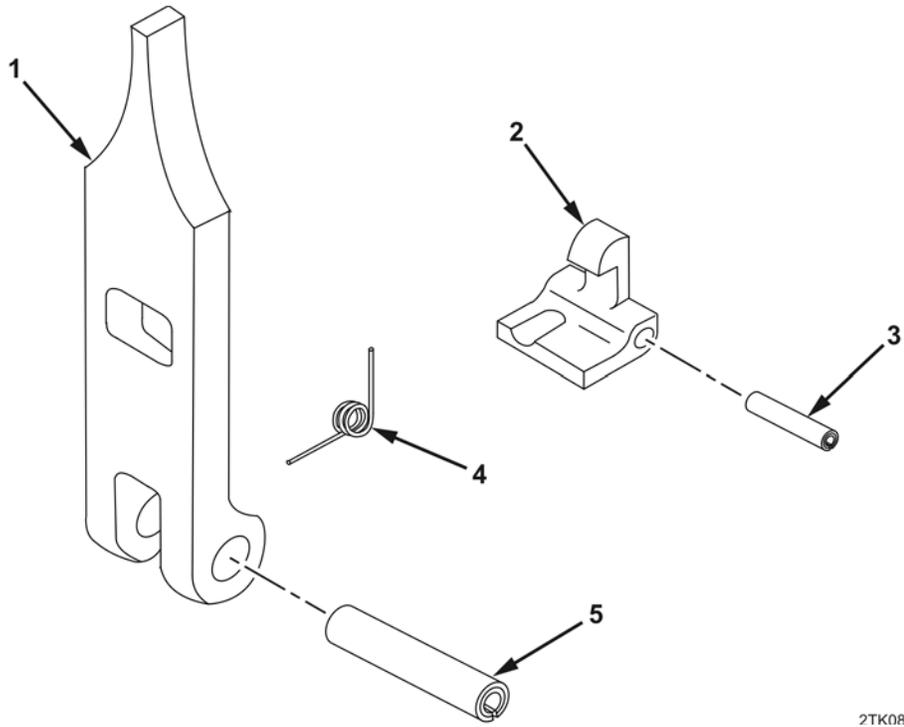
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FIELD MAINTENANCE  
GROUP 0202 FRONT SIGHT ASSEMBLY

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2TK087

Figure 7. Front Sight Assembly, 82021.

(1) ITEM NO.	(2) SMR CODE			(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODE (UOC)	(7) QTY
	a.	b. AIR	c.					
	ARMY	FORCE	USMC					
							<b>GROUP 0202 FRONT SIGHT ASSEMBLY</b>	
							<b>FIGURE 7. FRONT SIGHT ASSEMBLY, 82021</b>	
1	XAFZZ	XAFZZ	XAOZZ		0BT64	82321	SIGHT,FRONT	1
2	XAFZZ	XAFZZ	XAOZZ		0BT64	82323	LOCK,SIGHT	1
3	PAFZZ	PAFZZ	PAOZZ	5315-01-526-4352	0BT64	82324	PIN,FRONT SIGHT	1
4	PAFZZ	PAFZZ	PAOZZ	5360-01-526-4420	0BT64	82322	SPRING,SPIRAL,TORSI	1
5	PAFZZ	PAFZZ	PAOZZ	5315-01-526-4393	0BT64	82320	PIN,SPRING	1
							END OF FIGURE	

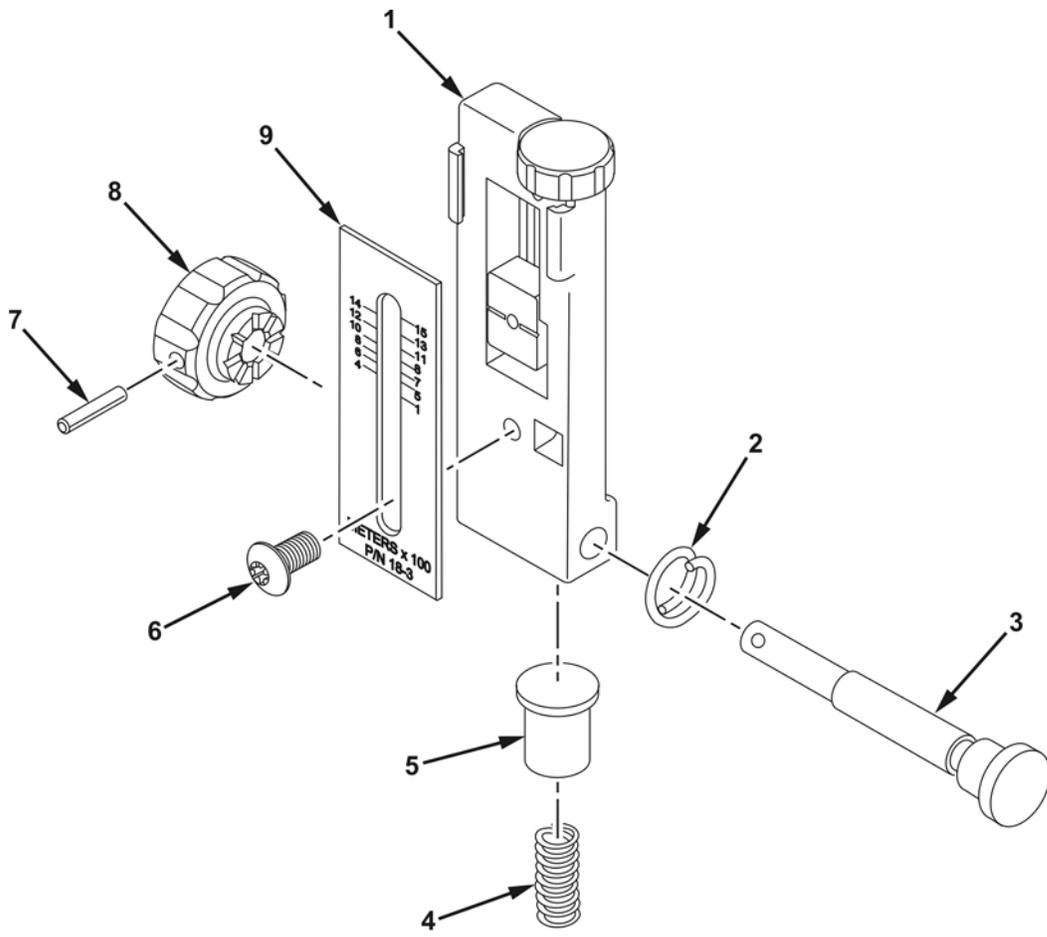
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FIELD MAINTENANCE  
GROUP 0203 REAR SIGHT

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2TK088

Figure 8. Rear Sight, 8SA2.

(1) ITEM NO.	(2) SMR CODE			(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODE (UOC)	(7) QTY
	a. ARMY	b. AIR FORCE	c. USMC					
							<b>GROUP 0203 REAR SIGHT</b>	
							<b>FIGURE 8. REAR SIGHT, 8SA2</b>	
1	XAFZZ	XAFZZ	XAOZZ		0BT64	IS1	BODY,REAR SIGHT	1
2	PAFZZ	PAFZZ	PAOZZ	5360-01-358-3034	0BT64	82029	SPRING,HELICAL,COMP	1
3	PAFZZ	PAFZZ	PAOZZ	5305-01-526-4360	0BT64	82028-2	SCREW WINDAGE	1
4	PAFZZ	PAFZZ	PAOZZ	5360-01-502-6169	0BT64	82027-SPG	SPRING,HELICAL,COMP	1
5	PAFZZ	PAFZZ	PAOZZ	5340-01-501-7229	0BT64	82027	PLUNGER,DETENT	1
6	PAFZZ	PAFZZ	PAOZZ	5305-01-502-4970	0BT64	IS4	SCREW,CAP,SOCKET HE	1
7	PAFZZ	PAFZZ	PAOZZ	5315-01-358-7370	0BT64	82031	PIN,SPRING	1
8	PAFZZ	PAFZZ	PAOZZ	5355-01-359-2593	0BT64	82030-1	KNOB	1
9	PAFZZ	PAFZZ	PAOZZ	1005-01-502-5866	0BT64	IS-3	SLIDE ASSEMBLY,REAR	1
							END OF FIGURE	

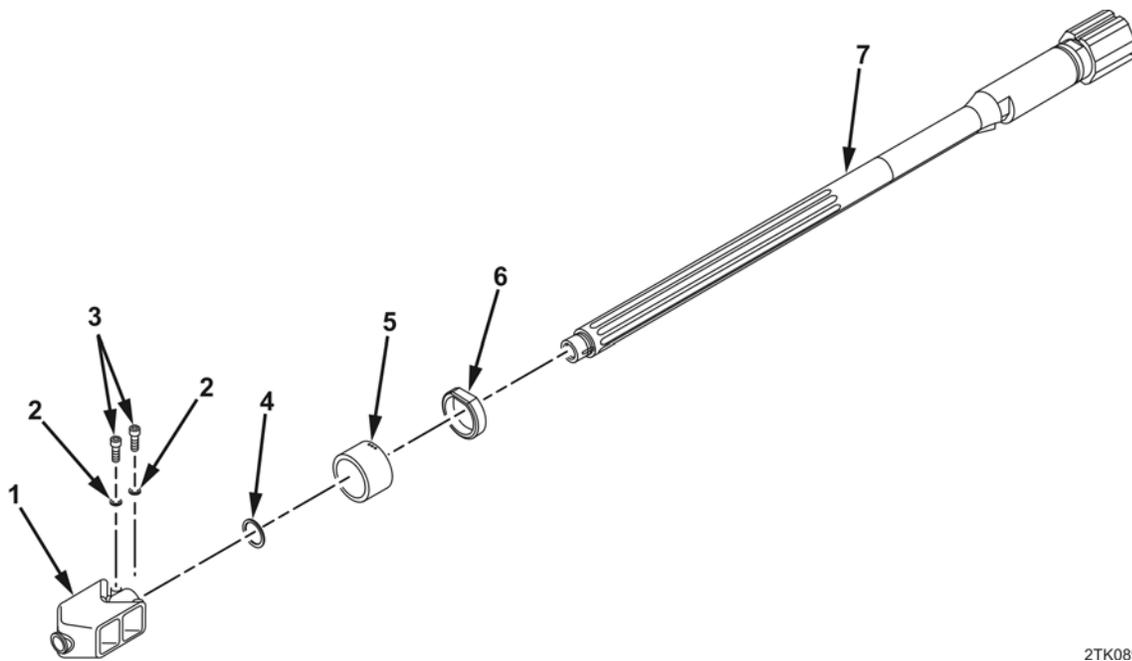
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FIELD MAINTENANCE  
GROUP 03 BARREL ASSEMBLY

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2TK089

Figure 9. Barrel Assembly, DBC-005.

(1) ITEM NO.	(2) SMR CODE			(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODE (UOC)	(7) QTY
	a. ARMY	b. AIR FORCE	c. USMC					
							<b>GROUP 03 BARREL ASSEMBLY</b>	
							<b>FIGURE 9. BARREL ASSEMBLY, DBC-005</b>	
1	PAFZZ	PAFZZ	PAFZZ	1005-01-463-9051	0BT64	82159-2	BRAKE,MUZZLE	1
2	PAFZZ	PAFZZ	PAFZZ	5310-01-502-1864	0BT64	82159-WA	WASHER,FLAT	2
3	PAFZZ	PAFZZ	PAFZZ	5305-01-463-9052	0BT64	82159-S	SCREW,CAP,SOCKET HE	2
4	PAFZZ	PAFZZ	PAFZZ	5365-01-502-4958	0BT64	82145-KIT	SHIM SET	1
5	PAFZZ	PAFZZ	PAFZZ	5340-01-358-8855	0BT64	82065	BUMPER	1
6	PAFZZ	PAFZZ	PAFZZ	5340-01-358-8856	0BT64	82060	BUMPER	1
7	PADDD	PADDD	PAFZZ	1005-01-357-6821	0BT64	82057C	BARREL,RIFLE	1
							END OF FIGURE	

END OF WORK PACKAGE



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FIELD MAINTENANCE  
GROUP 04 BOLT AND CARRIER

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(1) ITEM NO.	(2) SMR CODE			(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODE (UOC)	(7) QTY
	a. ARMY	b. AIR FORCE	c. USMC					
<b>GROUP 04 BOLT AND CARRIER</b>								
<b>FIGURE 10. BOLT AND CARRIER, DBC-006</b>								
1	XAFFF	XAFFF	XAOFF		0BT64	LW078-A	CARRIER ASSEMBLY	1
2	PAFZZ	PAFZZ	PAOZZ	5315-01-359-1068	39428	90145A472	.PIN,STRAIGHT,HEADLE	1
3	PAFZZ	PAFZZ	PAOZZ	5340-01-359-0073	0BT64	82083	.LEVER,LOCK-RELEASE	1
4	PAFZZ	PAFZZ	PAOZZ	5305-01-415-5082	0BT64	82043	.SCREW,EXTERNALLY RE	1
5	PAFZZ	PAFZZ	PAOZZ	5360-01-358-3037	0BT64	82084	.SPRING,HELICAL,COMP	3
6	PAFZZ	PAFZZ	PAOZZ	5315-01-525-9396	0BT64	82094-2	.PIN,STRAIGHT,HEADED	3
7	PAFZZ	PAFZZ	PAOZZ	1005-01-360-7105	0BT64	82087	.ACCELERATOR SPRING	1
8	PAFZZ	PAFZZ	PAOZZ	1005-01-538-4045	0BT64	LW078-C2	.CARRIER,BOLT	1
9	PAFZZ	PAFZZ	PAOZZ	5360-01-526-4403	0BT64	82390	.SPRING,HELICAL,TORS	1
10	AFFFF	AFFFF	AOOOO		0BT64	82389-A	.SEAR ASSEMBLY (SEE FIGURE 12 FOR ASSEMBLY BREAKDOWN)	1
11	PAFZZ	PAFZZ	PAOZZ	1005-01-360-7106	0BT64	82188	.ACCELERATOR ROD	1
12	PAFZZ	PAFZZ	PAOZZ	1005-01-357-6435	0BT64	82086	.ACCELERATOR,RIFLE	1
13	AFFFF	AFFFF	AOOOO		0BT64	82097-1A	.PIN,FIRING (SEE FIGURE 13 FOR ASSEMBLY BREAKDOWN)	1
14	PAFZZ	PAFZZ	PAOZZ	5360-01-358-3039	0BT64	82102	.SPRING,HELICAL,COMP	1
15	PAFZZ	PAFZZ	PAOZZ	1005-01-359-0005	0BT64	82080C	.CAM,BREECHLOCK,MACH	1
16	PAFZZ	PAFZZ	PAOZZ	5315-01-358-7373	39428	92383A204	.PIN,SPRING	1
17	PAFZZ	PAFZZ	PAOZZ	1005-01-358-7883	0BT64	82092	.LEVER,BREECHBLOCK,C	1
18	PAFZZ	PAFZZ	PAOZZ	5360-01-358-3041	0BT64	82093	.SPRING,HELICAL,TORS	1
19	AFFDD	AFFDD	AFFFF		0BT64	82101-A	BOLT ASSEMBLY, SMALL (SEE FIGURE 11 FOR ASSEMBLY BREAKDOWN)	1

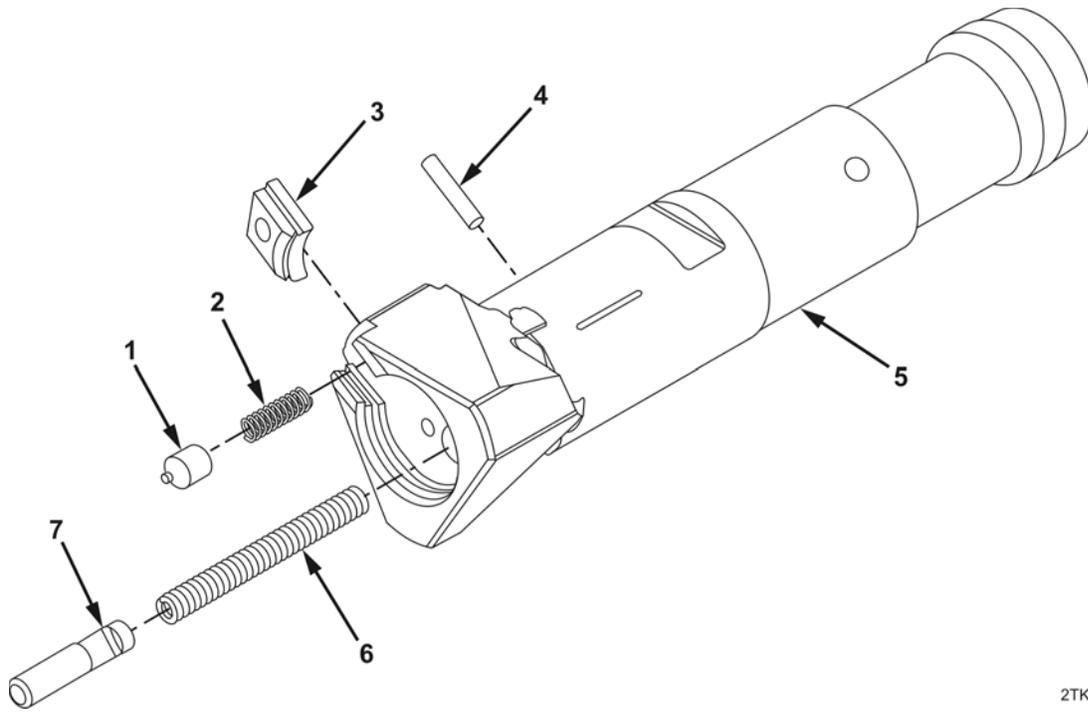
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**FIELD MAINTENANCE**  
**GROUP 0401 SMALL ARMS BOLT ASSEMBLY**

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2TK091

Figure 11. Small Arms Bolt Assembly, 82101-A.

(1) ITEM NO.	(2) SMR CODE			(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODE (UOC)	(7) QTY
	a. ARMY	b. AIR FORCE	c. USMC					
							<b>GROUP 0401 SMALL ARMS BOLT ASSEMBLY</b>	
							<b>FIGURE 11. SMALL ARMS BOLT ASSEMBLY, 82101 -A</b>	
1	PAFZZ	PAFZZ	PAOZZ	1005-01-357-4805	0BT64	82108	EXTRACTOR,CARTRIDGE	1
2	PAFZZ	PAFZZ	PAOZZ	5360-01-358-3036	0BT64	82107	SPRING,HELICAL,COMP	1
3	PAFZZ	PAFZZ	PAOZZ	1005-01-415-3868	0BT64	82106	EXTRACTOR,CARTRIDGE	1
4	PAFZZ	PAFZZ	PAOZZ	5315-01-358-7373	39428	92383A204	PIN,SPRING	1
5	PADZZ	PAFZZ	PAFZZ	1005-01-359-2715	0BT64	82101-8	BOLT,BREECH	1
5		PAFZZ	PAFZZ	1005-01-472-8081	0BT64	82101-9	BOLT,BREECH	1
5		PAFZZ	PAFZZ	1005-01-472-8089	0BT64	82101-10	BOLT,BREECH	1
6	PAFZZ	PAFZZ	PAOZZ	5360-01-358-3038	0BT64	82104	SPRING,HELICAL,COMP	1
7	PAFZZ	PAFZZ	PAOZZ	1005-01-357-4804	0BT64	82103	EJECTOR,CARTRIDGE	1

END OF FIGURE

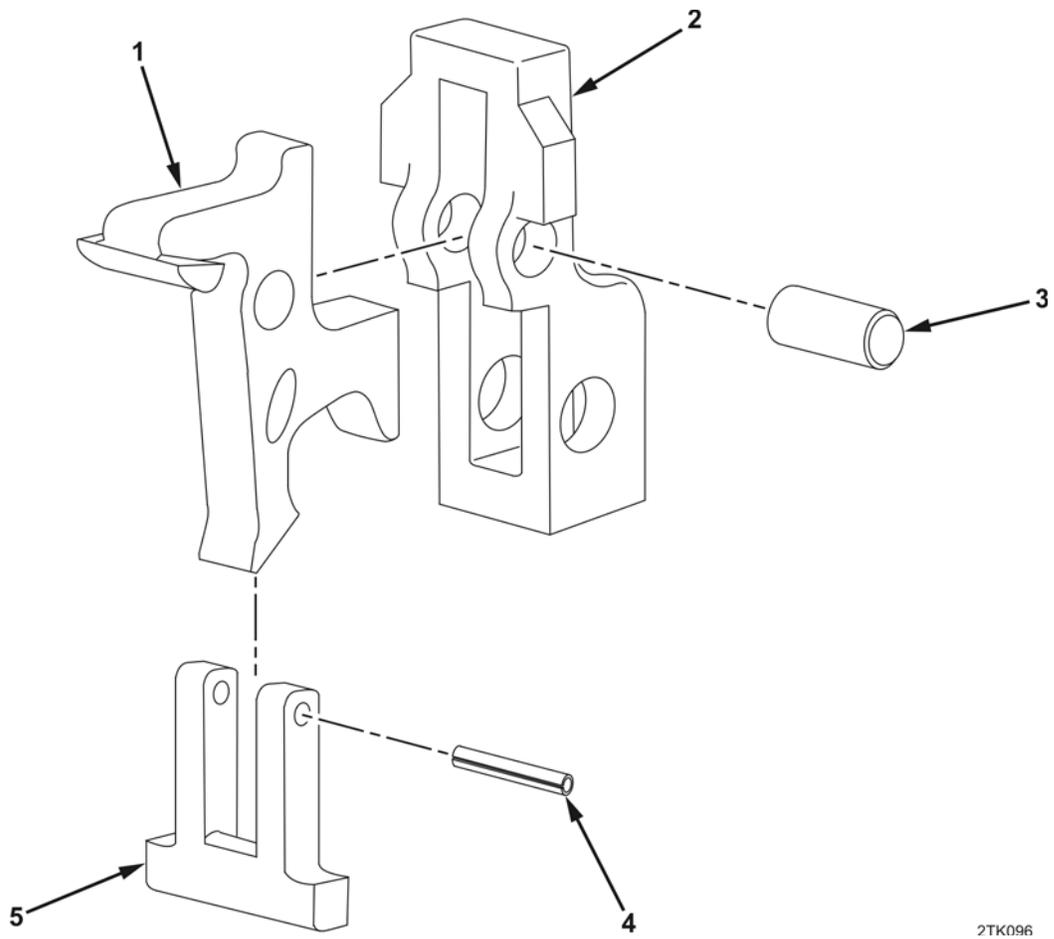
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FIELD MAINTENANCE  
GROUP 0402 SEAR ASSEMBLY

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2TK096

Figure 12. Sear Assembly, 82389-A.

(1) ITEM NO.	(2) SMR CODE			(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODE (UOC)	(7) QTY
	a. ARMY	b. AIR FORCE	c. USMC					

**GROUP 0402 SEAR ASSEMBLY**

**FIGURE 12. SEAR  
ASSEMBLY, 82389-A**

1	PAFZZ	PAFZZ	PAOZZ	1005-01-568-7433	0BT64	82389	SEAR	1
2	PAFZZ	PAFZZ	PAOZZ	1005-01-544-8539	0BT64	82395	SEAR,HOUSING	1
3	PAFZZ	PAFZZ	PAOZZ	1005-01-544-8538	0BT64	82391	SEAR,PIN	1
4	PAFZZ	PAFZZ	PAOZZ	1005-01-544-8540	0BT64	82394	SEAR,LEVER,PIN	1
5	PAFZZ	PAFZZ	PAOZZ	1005-01-544-8542	0BT64	82393	SEAR,LEVER	1

END OF FIGURE

END OF WORK PACKAGE



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FIELD MAINTENANCE  
GROUP 0403 FIRING PIN

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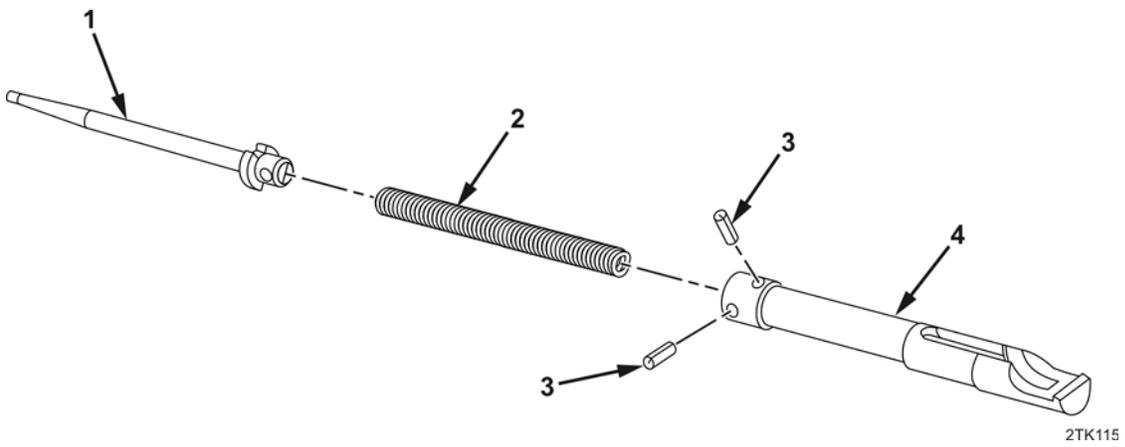


Figure 13. Firing Pin, 82097-1A.

(1) ITEM NO.	(2) SMR CODE			(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODE (UOC)	(7) QTY
	a. ARMY	b. AIR FORCE	c. USMC					
							<b>GROUP 0403 FIRING PIN</b>	
							<b>FIGURE 13. FIRING PIN, 82097-1A</b>	
1	PAFZZ	PAFZZ	PAOZZ	1005-01-357-6108	0BT64	82095	PIN,FIRING	1
2	PAFZZ	PAFZZ	PAOZZ	5360-01-358-7909	0BT64	82098	SPRING,HELICAL,COMP	1
3	PAFZZ	PAFZZ	PAOZZ	5315-01-357-5898	0BT64	82096	PIN,STRAIGHT,HEADLE	2
4	PAFZZ	PAFZZ	PAOZZ	1005-01-359-1177	0BT64	82097	FIRING PIN EXTENSI	1
							END OF FIGURE	

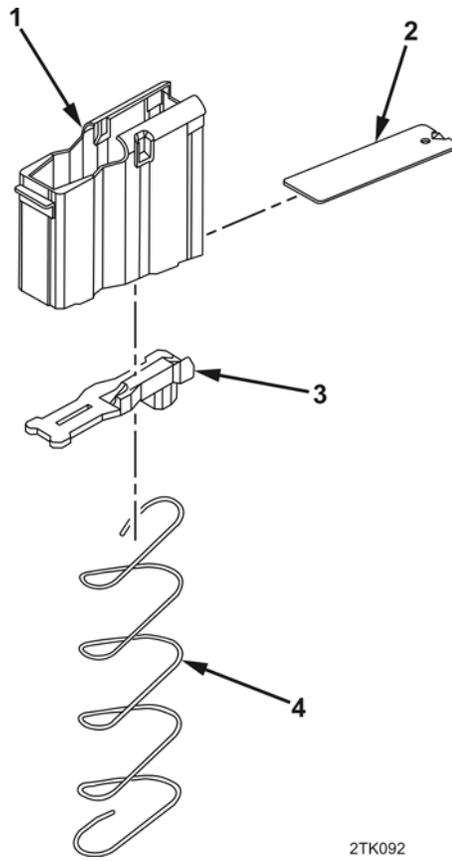
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FIELD MAINTENANCE  
GROUP 05 CARTRIDGE MAGAZINE

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2TK092

Figure 14. Cartridge Magazine, 82116A.

(1) ITEM NO.	(2) SMR CODE			(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODE (UOC)	(7) QTY
	a.	b.	c.					
	ARMY	AIR FORCE	USMC					
							<b>GROUP 05 CARTRIDGE MAGAZINE</b>	
							<b>FIGURE 14. CARTRIDGE MAGAZINE, 82116A</b>	
1	XAFZZ	XAFZZ	XAOZZ		0BT64	82116-C	MAGAZINE	1
2	PAFZZ	PAFZZ	PAOZZ	1005-01-358-9712	0BT64	82122	FLOOR PLATE,MAGAZIN	1
3	PAFZZ	PAFZZ	PAOZZ	1005-01-539-8055	0BT64	82120-1	FOLLOWER,CARTRIDGE	1
4	PAFZZ	PAFZZ	PAOZZ	5360-01-358-7910	0BT64	82121	SPRING,HELICAL,COMP	1
							END OF FIGURE	

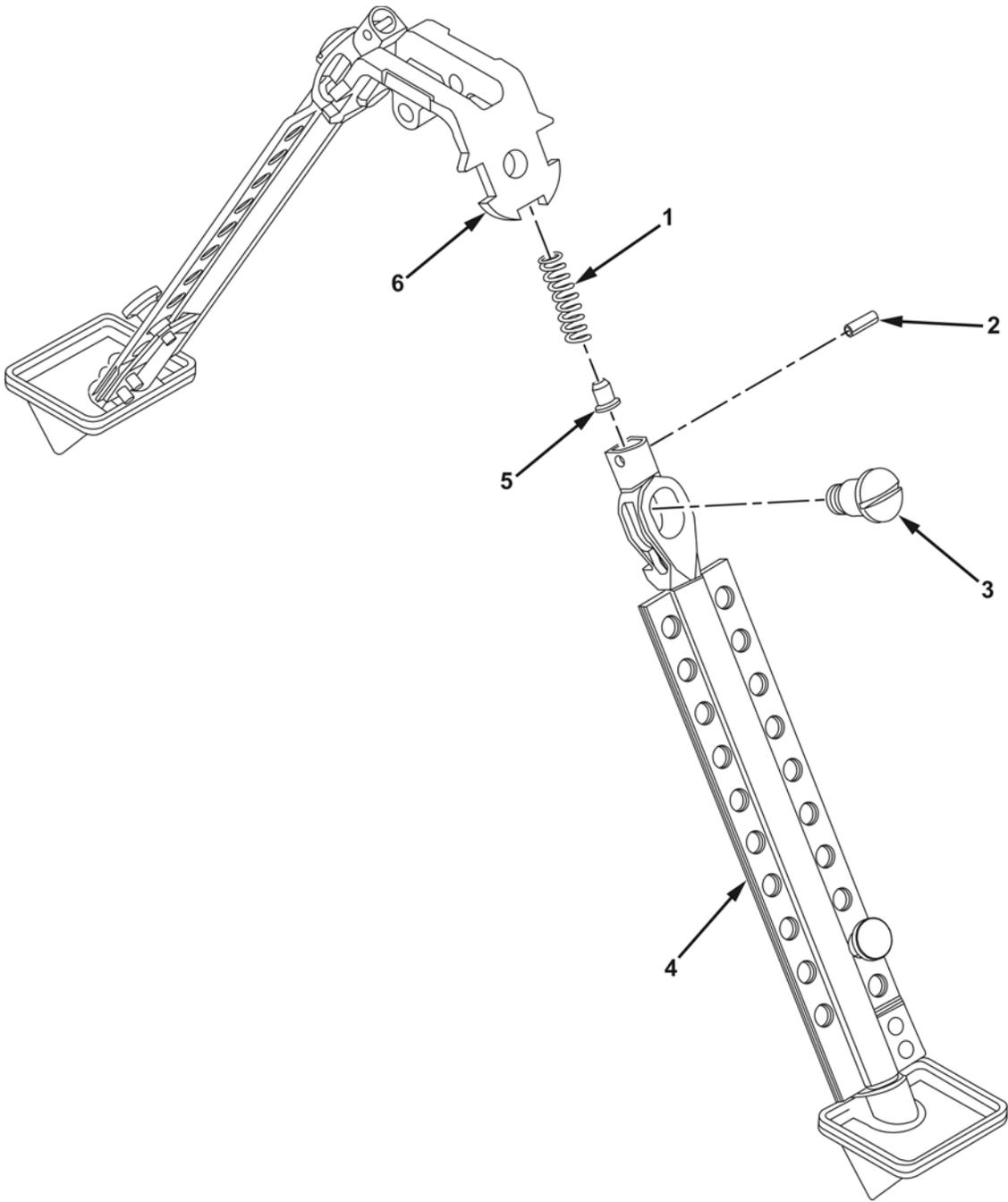
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FIELD MAINTENANCE  
GROUP 06 BIPOD ASSEMBLY

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2TK093

Figure 15. Bipod Assembly, BA-2.

(1) ITEM NO.	(2) SMR CODE			(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODE (UOC)	(7) QTY
	a. ARMY	b. AIR FORCE	c. USMC					
							<b>GROUP 06 BIPOD ASSEMBLY</b>	
							<b>FIGURE 15. BIPOD ASSEMBLY, BA-2</b>	
1	PAFZZ	PAFZZ	PAOZZ	5360-01-358-3033	0BT64	82026	SPRING,HELICAL,COMP	2
2	PAFZZ	PAFZZ	PAOZZ	5315-01-502-6184	0BT64	82024-1	PIN,SPRING	2
3	PAFZZ	PAFZZ	PAOZZ	5305-01-358-9710	0BT64	82041	SCREW,EXTERNALLY RE	2
4	PAFZZ	PAFZZ	PAOZZ	1005-01-465-5791	0BT64	82239-CSHS	LEG,RIFLE BIPOD	2
5	PAFZZ	PAFZZ	PAOZZ	5315-01-358-7368	0BT64	82064	PIN,STRAIGHT,HEADED	2
6	PAFZZ	PAFZZ	PAOZZ	1005-01-472-6045	0BT64	99028	BIPOD YOKE	1
							END OF FIGURE	

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FIELD MAINTENANCE  
GROUP 07 ANTIOSCILLATION SIGHTING SYSTEM  
GROUP 0701 TELESCOPE MOUNT

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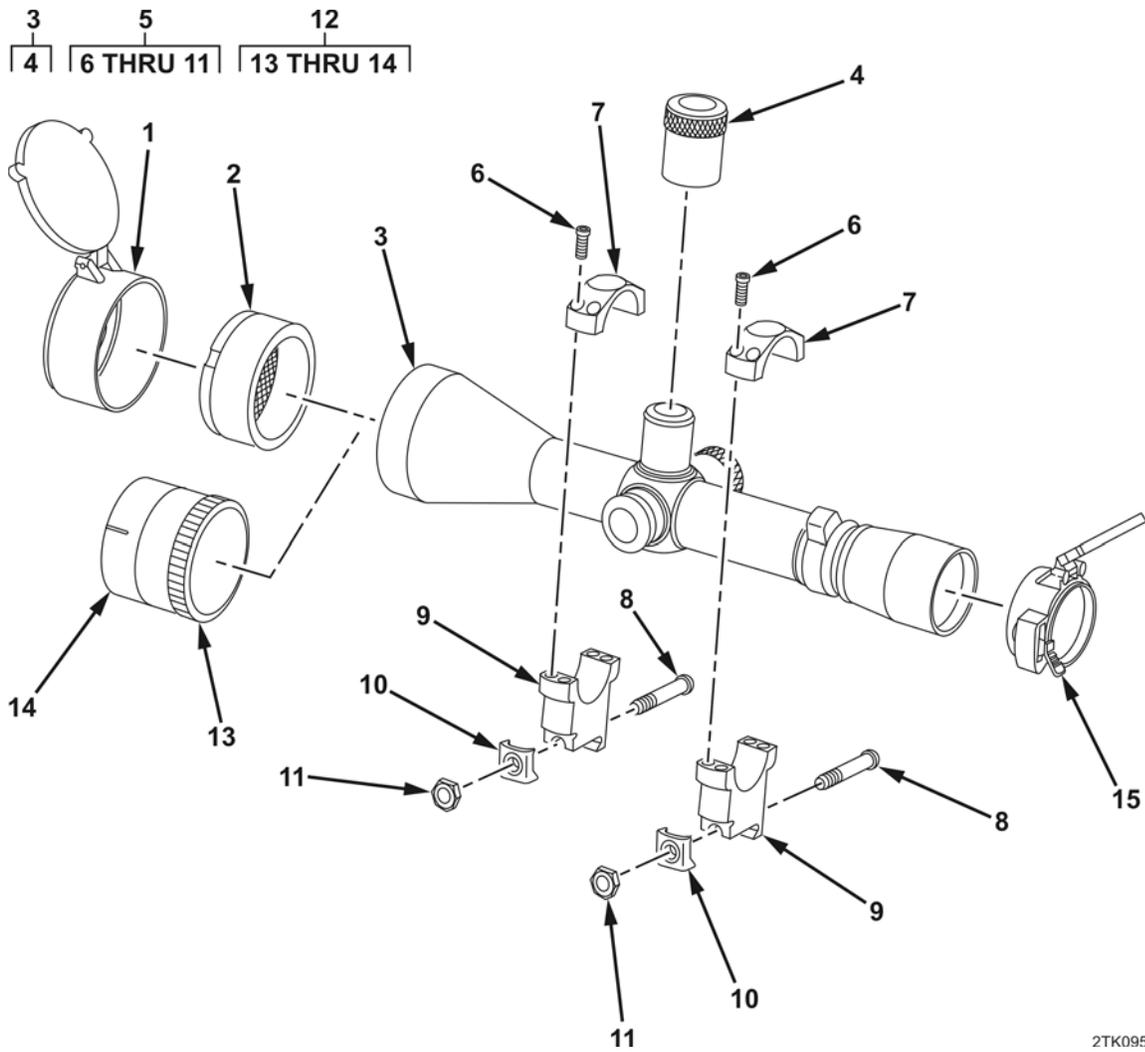


Figure 16. Antioscillation Sighting System, OMSYS6, and Telescope Mount, 60750.

(1) ITEM NO.	(2) SMR CODE			(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODE (UOC)	(7) QTY
	a. ARMY	b. AIR FORCE	c. USMC					
GROUP 07 ANTIOSCILLATION SIGHTING SYSTEM								
GROUP 0701 TELESCOPE MOUNT								
FIGURE 16. ANTIOSCILLATION SIGHTING SYSTEM, OMSYS6, AND TELESCOPE MOUNT, 60750								
1	PAFZZ	PAFZZ		6650-01-502-1871	66575	34344	LENS,OPTICAL INSTRU	1
2	PAFZZ	PAFZZ		6650-01-502-1873	1D2P7	50LC-ARD	EYESHIELD,OPTICAL I ANTI-REFLECTIVE	1
3	XAFDD	XAFDD			35848	54560	SCOPE (LEUPOLD)	1
4	PAFZZ	PAFZZ		5340-01-502-6888	35848	51503	.CAP,PROTECTIVE,DUST	1
5	PAFFF	PAFFF		1240-01-502-8707	35848	60750	MOUNT,TELESCOPE	1
6	PAFZZ	PAFZZ		5305-01-502-4412	35848	53073	.SCREW,MACHINE	8
7	XAFZZ	XAFZZ			35848	52560	.SCOPE RING,UPPER	2
8	PAFZZ	PAFZZ		5306-01-502-4414	35848	42048	.BOLT,MACHINE	2
9	XAFZZ	XAFZZ			35848	52630	.SCOPE RING, LOWER	2
10	PAFZZ	PAFZZ		5310-01-502-1525	35848	60944	.WASHER,LOCK	2
11	PAFZZ	PAFZZ		5310-01-502-1527	35848	42037	.NUT,PLAIN,HEXAGON	2
12	PAFFF	PAFFF		1240-01-502-1295	19200	13001589	FILTER,LIGHT,TELESC	1
13	XDFZZ	XDFZZ			19200	13001590	.NUT,PLAIN,KNURLED	1
14	XAFZZ	XAFZZ			19200	13001591	.CELL	1
15	PAFZZ	PAFZZ		6650-01-502-1874	6F045	MO20130	CAP,LENS	1
END OF FIGURE								

END OF WORK PACKAGE



**FIELD MAINTENANCE  
NATIONAL STOCK NUMBER INDEX**

<b>STOCK NUMBER</b>	<b>FIG.</b>	<b>ITEM</b>	<b>STOCK NUMBER</b>	<b>FIG.</b>	<b>ITEM</b>
5315-01-210-0923	2	20	5315-01-358-7372	2	19
5310-01-261-6678	2	1	5315-01-358-7373	10	16
5305-01-277-5900	5	9		11	4
	5	11	1005-01-358-7392	2	27
5305-01-286-9783	2	7	1005-01-358-7873	2	3
5315-01-300-2640	2	22	1005-01-358-7874	2	8
1005-01-357-4804	11	7	1005-01-358-7883	10	17
1005-01-357-4805	11	1	5360-01-358-7909	13	2
1005-01-357-4806	5	1	5360-01-358-7910	14	4
1005-01-357-4807	2	29	5315-01-358-8821	3	2
5315-01-357-5898	13	3	1005-01-358-8844	2	14
1005-01-357-6108	13	1	5340-01-358-8855	9	5
1005-01-357-6435	10	12	5340-01-358-8856	9	6
1005-01-357-6820	2	18	5305-01-358-9710	15	3
1005-01-357-6821	9	7	1005-01-358-9712	14	2
1005-01-357-9883	6	3	1005-01-359-0005	10	15
5360-01-358-0154	2	25	1005-01-359-0048	6	2
1005-01-358-1342	1	6	5340-01-359-0073	10	3
5360-01-358-3033	15	1	5315-01-359-1068	10	2
5360-01-358-3034	8	2	1005-01-359-1177	13	4
5360-01-358-3035	2	15	5355-01-359-2593	8	8
5360-01-358-3036	11	2	1005-01-359-2715	11	5
5360-01-358-3037	10	5	1005-01-359-2716	5	2
5360-01-358-3038	11	6	5360-01-359-2751	2	4
5360-01-358-3039	10	14	5315-01-359-3147	2	32
5360-01-358-3041	10	18	5315-01-359-3152	2	28
5360-01-358-3042	2	16		2	31
5315-01-358-7368	15	5	5360-01-359-3200	3	3
5315-01-358-7370	8	7	5360-01-359-3201	5	10
5315-01-358-7371	6	5	5315-01-359-6520	3	1

STOCK NUMBER	FIG.	ITEM	STOCK NUMBER	FIG.	ITEM
1005-01-360-1929	5	8	1005-01-501-3227	4	5
1005-01-360-1930	2	17	5340-01-501-7229	8	5
1005-01-360-1931	2	26	1240-01-502-1295	16	12
1005-01-360-1932	2	30	5310-01-502-1446	6	9
1005-01-360-1933	3	4	5310-01-502-1525	16	10
1005-01-360-7105	10	7	5310-01-502-1527	16	11
1005-01-360-7106	10	11	5310-01-502-1864	9	2
5310-01-382-4094	2	13	6650-01-502-1871	16	1
5310-01-412-4266	2	2	6650-01-502-1873	16	2
1005-01-415-3868	11	3	6650-01-502-1874	16	15
5305-01-415-5082	10	4	5305-01-502-4412	16	6
5305-01-432-0438	2	12	5306-01-502-4414	16	8
1005-01-463-9051	9	1	5365-01-502-4958	9	4
5305-01-463-9052	9	3	5305-01-502-4964	5	6
1005-01-465-5677	6	6	5305-01-502-4970	8	6
1005-01-465-5680	6	7	1005-01-502-5660	2	21
1005-01-465-5692	2	10	1005-01-502-5866	8	9
5305-01-465-5694	2	6	1005-01-502-5870	5	4
5310-01-465-5696	2	33	5360-01-502-6169	8	4
1005-01-465-5702	4	2	5315-01-502-6184	15	2
1005-01-465-5708	2	11	5340-01-502-6888	16	4
1005-01-465-5791	15	4	1240-01-502-8707	16	5
1005-01-465-5793	2	9	1005-01-514-8427	2	24
1005-01-465-5795	2	5	5315-01-525-9396	10	6
1005-01-470-9079	5	7	5315-01-526-4352	7	3
1005-01-472-5908	6	4	5305-01-526-4360	8	3
1005-01-472-6045	15	6	5315-01-526-4393	7	5
1005-01-472-8081	11	5	5360-01-526-4403	10	9
1005-01-472-8089	11	5	1240-01-526-4419	5	3
5310-01-494-9451	6	8	5360-01-526-4420	7	4
5305-01-501-3224	4	1	1005-01-538-4045	10	8
5310-01-501-3225	4	3	1005-01-539-8055	14	3
1005-01-501-3226	4	4	1005-01-544-8538	12	3

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<b>STOCK NUMBER</b>	<b>FIG.</b>	<b>ITEM</b>
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1005-01-544-8539	12	2
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1005-01-544-8540	12	4
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<b>STOCK NUMBER</b>	<b>FIG.</b>	<b>ITEM</b>
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1005-01-544-8542	12	5
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1005-01-568-7433	12	1
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**END OF WORK PACKAGE**



**FIELD MAINTENANCE  
PART NUMBER INDEX**

PART NUMBER	FIG.	ITEM	PART NUMBER	FIG.	ITEM
10748-A	6	1	82046	2	2
13001589	16	12	82048	6	2
13001590	16	13	82048-C3	5	2
13001591	16	14	82050	6	3
34344	16	1	82051A	2	14
42037	16	11	82052-2	2	12
42048	16	8	82053-1	2	13
50LC-ARD	16	2	82054-1	2	18
51503	16	4	82055	2	15
52560	16	7	82056	2	32
52630	16	9	82057C	9	7
53073	16	6	82060	9	6
54560	16	3	82061	5	8
60750	16	5	82061-A	5	7
60944	16	10	82062C	5	10
82000-C107	2	23	82063	5	9
82021	5	1		5	11
82024-1	15	2	82064	15	5
82026	15	1	82065	9	5
82027	8	5	82066	2	17
82027-SPG	8	4	82067	2	16
82028-2	8	3	82069	2	29
82029	8	2	82069-2A	2	24
82030-1	8	8	82070	2	28
82031	8	7		2	31
82037-1	2	8	82071	2	25
82038	2	7	82072	2	26
82041	15	3	82073	2	27
82043	10	4	82074-1	3	4
82045-C1	2	21	82074-1A	2	30

PART NUMBER	FIG.	ITEM	PART NUMBER	FIG.	ITEM
82075	3	3	82121	14	4
82076-1	3	1	82122	14	2
82077	3	2	82127	6	4
82080C	10	15	82128-1	6	9
82083	10	3	82129	6	8
82084	10	5	82131-2	5	6
82086	10	12	82145-KIT	9	4
82087	10	7	82159-2	9	1
82092	10	17	82159-S	9	3
82093	10	18	82159-WA	9	2
82094-2	10	6	82162	2	5
82095	13	1	82163	2	10
82096	13	3	82164	2	6
82097	13	4	82165	2	33
82097-1A	10	13	82188	10	11
82098	13	2	82225	2	11
82101-10	11	5	82226	4	5
82101-8	11	5	82226-A	2	9
82101-9	11	5	82227	4	4
82101-A	10	19	82228	4	3
82102	10	14	82229	4	2
82103	11	7	82230	4	1
82104	11	6	82239-CSHS	15	4
82106	11	3	82313-A	5	5
82107	11	2	82320	7	5
82108	11	1	82321	7	1
82109	2	4	82322	7	4
82110-1	2	3	82323	7	2
82114-1A	2	22	82324	7	3
82115-1A	2	20	82330	5	3
82116-C	14	1	82389	12	1
82116A	1	6	82389-A	10	10
82120-1	14	3	82390	10	9

<b>PART NUMBER</b>	<b>FIG.</b>	<b>ITEM</b>	<b>PART NUMBER</b>	<b>FIG.</b>	<b>ITEM</b>
82391	12	3	DBC-002	1	5
82393	12	5	DBC-004	1	3
82394	12	4	DBC-005	1	1
82395	12	2	DBC-006	1	4
8SA2	5	4	IS-3	8	9
90145A472	10	2	IS1	8	1
92383A154	6	5	IS4	8	6
92383A204	10	16	LW019	6	6
	11	4	LW020	6	7
92383A266	2	19	LW078-A	10	1
98438A031	2	1	LW078-C2	10	8
99028	15	6	MO20130	16	15
BA-2	1	7	OMSYS6	1	2

**END OF WORK PACKAGE**



**FIELD MAINTENANCE**  
**SPECIAL TOOLS AND EQUIPMENT (USMC AND USAF ONLY)**

**REPAIR PARTS LIST**

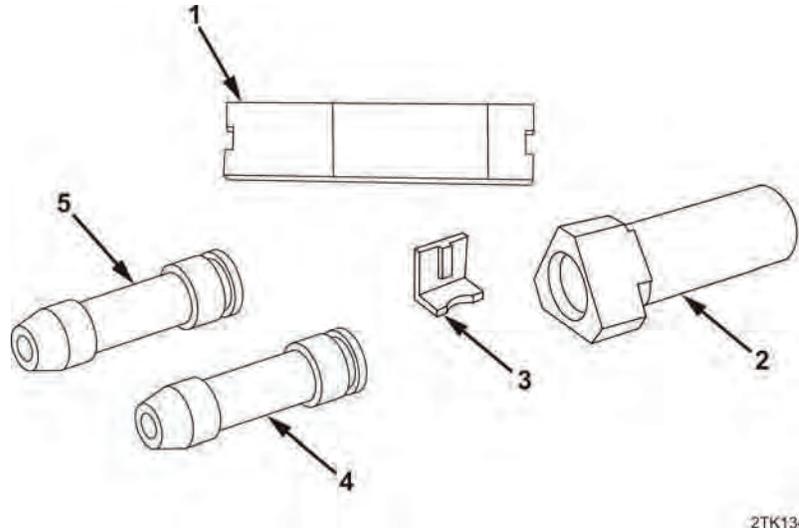


Figure 1. Gage Kit.

(1) ITEM NO.	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODE (UOC)	(7) QTY
					GROUP 08 SPECIAL TOOLS PART NO	
1	PAFZZ *PAOZZ	5220-01-530-5103	0BT64	82160	Gage, Firing Pin Protrusion (*USMC only)	
2	PAFZZ	1005-01-582-2958	0BT64	G82101-10	Gage, Bolt, Test 3.125 in. (7.938 cm) long	
3	PAFZZ *PAOZZ	1005-01-582-2965	0BT64	6-821001-10-1	Insert, Locking, Bolt Alignment (*USMC only)	
4	PAFZZ	5220-01-499-4810	0BT64	82154GO	Gage, Headspace, GO	
5	PAFZZ *PAOZZ	5220-01-499-4814	0BT64	82154NG-C	Gage, Headspace, NO GO (*USMC only)	
END OF FIGURE						

**END OF WORK PACKAGE**



**CHAPTER 6**  
**SUPPORTING INFORMATION**  
**FOR**  
**LONG RANGE SNIPER RIFLE, M107**



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**FIELD MAINTENANCE**
**REFERENCES**


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**SCOPE**

This work package lists all field manuals, forms, Marine Corps publications, miscellaneous publications, and technical manuals referenced in this manual.

**FIELD MANUALS**

AFJMAN 23-215	Air Force Joint Manual
AFMAN 44-163(I)	First Aid, Air Force
FM 4-25.11	First Aid, Army
MCRP 3-02G	First Aid, Marine Corps

**FORMS**

AFTO Form 22	Technical Manual (TM) Change Recommendation and Reply
AFTO Form 105	Inspection, Maintenance, and Firing Data for Ground Weapons
DA Form 2028	Recommended Changes to Publications and Blank Forms
DA Form 2404	Equipment Inspection and Maintenance Worksheet
DD Form 361	Transportation Discrepancy Report (TDR)
NAVMC 1018	Inspection Tag
NAVMC 10520	Weapons Custody Receipt Card
NAVMC 10558A	Weapon Record Book
NAVMC 10576	Memorandum Receipt for Individual Weapons and Accessories
NAVMC 10772	Recommended Changes to Technical Publications
SF Form 364	Report of Discrepancy (ROD)
SF Form 368	Product Quality Deficiency Report (PQDR)
TO 00-35D-54	Material Deficiency Reporting and Investigating System
TO 11W-1-10	Historical Data, Recording of Inspection, Maintenance, and Firing Data for Ground Weapons

**MARINE CORPS PUBLICATIONS**

MCO 4855.10B	Quality Deficiency Report
MCO 5101.8	Ground Mishap Report
MCO 8020.1	Handling, Transportation and Storage
MCO 8025.1E	Class V (W) Malfunctions and Deficiencies
MCO P4450.7E	Preparation for Storage
SL-1-2	Index of Technical Publications
TI 8005-24/20	Pre-Fire Inspection, Small Arms Weapons, Ordnance Materiel and Trigger Pull Measurement, Small Arms Weapons
TM 4700-15/1	Equipment Record Procedures

**MISCELLANEOUS PUBLICATIONS**

AFI 36-2226	Combat Arms Program
AR 25-30	The Army Publishing Program
AR 725-50	Requisition, Receipt, and Issue System
AR 735-11-2	Reporting of Supply Discrepancies
AR 750-1	Army Materiel Maintenance Policy and Retail Maintenance Operations
CTA 8-100	Army Medical Department Expendable/Durable Items
CTA 50-909	Field and Garrison Furnishings and Equipment
CTA 50-970	Expendable/Durable Items (Except Medical, Class V, Repair Parts, and Heraldic Items)
DA PAM 25-30	Consolidated Index of Army Publications and Blank Forms
DA PAM 750-8	The Army Maintenance Management System (TAMMS) Users Manual

**MISCELLANEOUS PUBLICATIONS – Continued**

MIL-STD-129P Standard Practice for Military Marking  
PAM 385-64 Ammunition and Explosives Safety Standards

**TECHNICAL MANUALS**

TM 9-1005-239-10 Long Range Sniper Rifle/Special Application Scoped Rifle (SASR) (USMC ONLY), M107  
TM 750-244-7 Procedures for Destruction of Equipment in Federal Supply Classifications 1000, 1005, 1010, 1015, 1020, 1025, 1030, 1055, 1090 and 1095 to Prevent Enemy Use  
TM 9150-15/1 Military Use of Cleaner, Lubricant, and Preservative (CLP) for Weapons and Support Equipment

**END OF WORK PACKAGE**

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**FIELD MAINTENANCE****MAINTENANCE ALLOCATION CHART (MAC) INTRODUCTION**

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**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, Crew (C) and Maintainer (F).

Sustainment – includes two subcolumns, Below Depot (H) and Depot (D)

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. Maintainer 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 gauging and evaluation of cannon tubes.

**MAINTENANCE ALLOCATION CHART (MAC)****INTRODUCTION – Continued**

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.

**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

**MAINTENANCE ALLOCATION CHART (MAC)****INTRODUCTION – Continued**

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 (FGC) numbers, the purpose of which is to identify maintenance significant components, assemblies, subassemblies, and modules with the Next Higher Assembly (NHA).

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). (For a detailed explanation of these functions refer to "Maintenance Functions" outlined above).

Column (4) Maintenance Level. Column (4) specifies each level of maintenance authorized to perform each function listed in column (3), by indicating work time required (expressed as man hours in whole hours or decimals) in the appropriate subcolumn. This work time figure represents the active time required to perform that maintenance function at the indicated level of maintenance. If the number or complexity of the tasks within the listed maintenance function varies at different maintenance levels, appropriate work time figures are to be shown for each level. The work time figure represents the average time required to restore an item (assembly, subassembly, component, module, end item, or system) to a serviceable condition under typical field operating conditions. This time includes preparation time (including any necessary disassembly/assembly time), troubleshooting/fault location time, and quality assurance time in addition to the time required to perform the specific tasks identified for the maintenance functions authorized in the MAC. 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

**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.

**MAINTENANCE ALLOCATION CHART (MAC)****INTRODUCTION – Continued****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. Maintenance Allocation Chart (MAC) for M107 Long Range Sniper Rifle (LRSR).**

(1) GROUP NUMBER	(2) COMPONENT/ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL				(5) TOOLS AND EQUIPMENT REF CODE	(6) REMARKS CODE
			FIELD		SUSTAINMENT			
			CREW	MAIN- TAINER	BELOW DEPOT	DEPOT		
			C	F	H	D		
00	Rifle, Sniper, Long Range, M107	Repair Repair Overhaul	0.2	0.2		5.0	9, 10, 11, 12 4, 5, 6, 7, 8, 9, 10, 11, 12	
00-01	PMCS (Before)	Inspect	0.2				A	
00-02	PMCS (During)	Inspect	0.1				A	
00-03	PMCS (After)	Inspect	0.1			1	A	
00-04	PMCS (Quarterly)	Inspect		0.5			A	
00-05	PMCS (Final)	Inspect	0.3				A	
01	Lower Receiver Assembly	Repair		0.9			7, 8, 9, 10, 11, 12	
0101	Trigger Assembly	Repair		0.4			7, 8, 9, 10, 11, 12	
0102	Transfer Bar Assembly	Repair		0.3			8, 10, 11, 12	
0103	Monopod Assembly	Repair		0.4			7, 9, 10, 11, 12	
02	Upper Receiver Assembly	Repair		0.5			7, 8, 10, 11, 12	
0201	Carrying Handle Assembly	Repair		0.4			9, 10, 11, 12	
0202	Front Sight Assembly	Repair		0.3			9, 10, 11, 12	
0203	Rear Sight Assembly	Repair		0.5			4, 8, 10, 11, 12	
03	Barrel Assembly	Repair		0.3			6, 8, 10, 11, 12	
04	Bolt and Carrier Assembly	Repair		0.7			7, 8, 10, 11, 12	
0401	Bolt Assembly	Repair		0.7			9, 10, 11, 12	
0402	Sear Assembly	Repair		0.3			8, 10, 11, 12	
0403	Firing Pin Extension Assembly	Repair		0.4			9, 10, 11, 12	
05	Cartridge Magazine	Repair		0.5			9, 10, 11, 12	
06	Bipod Assembly	Repair		0.6			8, 10, 11, 12	
07	Optic Mount System	Repair		0.6			4, 7, 9, 10, 11, 12	
0701	Scope Ring Assembly	Repair		0.1			4, 7, 9, 10, 11, 12	

**Table 2. Tools and Test Equipment for M107 Long Range Sniper Rifle (LRSR).**

TOOLS OR TEST EQUIPMENT REF CODE	MAINTENANCE LEVEL	NOMENCLATURE	NATIONAL STOCK NUMBER	TOOL NUMBER
1	C	Deployment Cleaning Kit		CK-1
2	C	Deployment Parts Kit		PK-1
3	C	Deployment Tool Kit		DK-1
4	C	Deployment Kit Tool Kit, TK-1		TK-1
5	C	Optic Cleaning Kit		OCK-1
6	F	Screwdriver Bit Socket Set	5120-01-178-6342	J-29843
7	F	Screwdriver Set, Six Point Tip, Torx	5120-01-167-1667	5120-01-167-1667
8	F	Shop Set, Small Arms: Field Maintenance, Basic	4933-00-754-0664	SC4933-95A11
9	F	Small Arms Repairer Tool Kit	5180-01-506-8287	GOV92608
10	F	Small Arms Repairer Tool Kit (USMC only)	5180-01-504-5663	SL-3-10919A
11	F	Tool Kit, Intermediate Maintenance, M107 (USMC only)		SL-3-10894A
12	F	Tool Kit, Organizational Maintenance, M107 (USMC only)		SL-3-10893A

**Table 3. Remarks for M107 Long Range Sniper Rifle (LRSR).**

REMARKS CODE	REMARKS
A	PMCS times are rolled up at the end item level from previously identified component level inspect and service times.

**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 Long Range Sniper Rifle (LRSR). This list is for information only and is not authority to requisition the listed items. These items are authorized to you by CTA 50-970, Expendable/Durable Items (Except Medical, Class V Repair Parts, and Heraldic Items), CTA 50-909, Field and Garrison Furnishings and Equipment or CTA 8-100, Army Medical Department Expendable/Durable Items.

**Explanation of Columns in the Expendable/Durable Items List**

Column (1) Item Number. This number is assigned to the entry in the list and is referenced in the narrative instructions to identify the item (e.g., Use wiping rag (WP 0058, Item 24)).

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

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

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

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

**Table 1. Expendable and Durable Items List.**

(1) ITEM NUMBER	(2) LEVEL	(3) NATIONAL STOCK NUMBER	(4) ITEM NAME, DESCRIPTION, CAGEC, AND PART NUMBER	(5) U/I
1	F	6515-01-234-6838	Applicator, Disposable 3Y857 6515012346838	PG
2	C	6515-00-303-8250	Applicator, Disposable 81348 30-011	PG
3	F	8135-00-292-9719	Barrier Material, Greaseproofed-Waterproofed, Flexible B0936 C231 1000X200	RO
4	C	8125-00-824-9058	Bottle, Screw Cap 58536 A-A-685	EA
5	C	8020-00-619-8929	Brush, Artist's 58536 A-A-3191	EA
6	C	1005-00-494-6602	Brush, Cleaning, Small Arms 19204 8448462	EA
7	C	1005-01-502-5815	Brush, Cleaning, Small Arms General Purpose 0BT64 RW-316	EA
8	C	1005-00-550-4037	Brush, Cleaning, Small Arms Bore 19204 5504037	EA
9	C	1005-00-766-0915	Brush, Cleaning, Small Arms Chamber 19204 7790737	EA
10	C	7920-00-205-0565	Brush, Dusting, Lens and Photographic Negative, Camel Hair 80244 7920-00-205-0565	EA

Table 1. Expendable and Durable Items List – Continued.

(1) ITEM NUMBER	(2) LEVEL	(3) NATIONAL STOCK NUMBER	(4) ITEM NAME, DESCRIPTION, CAGEC, AND PART NUMBER	(5) U/I
11	C	6850-00-392-9751	Cleaning Compound, Optical Lens 58536 AA59199-1	BT
12	C	9150-01-102-1473	Cleaner, Lubricant, and Preservative (CLP) 1/2 oz bottle 81349 MIL-PRF-63460	BT
13	F	8135-01-507-7923	Cushioning Material, Packaging 58536 A-A-1898	EA
14	C	6810-00-983-8551	Isopropyl Alcohol, Technical, Cleaning Fluid 1 qt can 81348 TTI735	QT
15	C	9150-01-506-5527	Lubricant, Dry 18632 FLUORO-GLIDE FB-135	CN
16	C	9150-00-935-6597	Lubricating Oil, Semifluid (LSA) 2 oz plastic bottle 81349 MIL-L-46000	BT
17	C	9150-00-889-3522	Lubricating Oil, Semifluid (LSA) 4 oz plastic bottle 19204 8436793	BT
18	C	9150-00-687-4241	Lubricating Oil, Semifluid (LSA) 32 oz plastic bottle 81349 MIL-L-46000	QT
19	C	9150-00-753-4686	Lubricating Oil, Semifluid (LSA) 1 gallon 81349 MIL-L-46000	GL
20	C	9150-00-949-0323	Lubricating Oil, Semifluid (LSAT) 8 oz tube 81349 MIL-L-46150	TU
21	C	9150-00-292-9689	Lubricating Oil, Weapons (LAW) 1 qt can 81349 MIL-PRF-14107	QT
22	C	6640-00-663-0832	Paper, Lens 50 each sheet 25518 65-4900	BK
23	F	8135-00-950-4008	Paperboard, Wrapping and Cushioning 58536 A-A-1051	SH
24	C	7920-00-205-1711	Rag, Wiping 64067 7920-00-205-1711	BE
25	C	8030-00-181-7603	Sealing Compound 05972 63531	BT
26	C	1005-00-288-3565	Swab, Small Arms Cleaning 19204 5019316	PG
27	F	7510-00-074-4952	Tape, Pressure Sensitive Adhesive 81346 ASTM D 5486/D 5486M TY4 WHT 2IN	RO

END OF WORK PACKAGE

## FIELD MAINTENANCE

## COMMERCIAL AND GOVERNMENT ENTITY (CAGE) CODES INDEX (USMC ONLY)

## INTRODUCTION

The following table provides Commercial and Government Entity (CAGE) codes for use by Marine Corps personnel.

## CAGE CODES INDEX

Table 1. Index of Commercial and Government Entity (CAGE) Codes.

CODE	MANUFACTURER
0BT64	Barrett Firearms Manufacturing Inc. 5926 Miller Lane Christiana, TN 37037-5612 (615) 896-2938
0WXH8	Badger Ordnance 1209 Swift Street North Kansas City, MO 54116 (816) 421-4956
19204	Rock Island Arsenal 1 Rock Island Arsenal Rock Island, IL 61201 (309) 782-7380
39428	McMaster Carr Supply Company 600 County Line Road Elmhurst, IL 60126-2081 (732) 329-3200
3A054	McMaster Carr Supply Company 9630 Norwalk Boulevard Santa Fe Springs, CA 90670-2932 (562) 695-2449
3GUL2	United States Marine Corps Precision Weapons Facility 27211 Garand Road Quantico, VA 22134 (703) 784-2121
55719	IDSC Holding LLC A Div of Snap-On Industrial 3011 E. Route 176 Crystal Lake, IL 60014-2256 (888) 418-5600
58536	Federal Commercial Item promulgated by General Services Administration Washington DC
35848	Leupold and Stevens, Inc. 14400 NW Greenbrier Parkway Beaverton, OR 97006-5790 (800) 538-7653
81343	Society of Automotive Engineers 400 Commonwealth Drive Warrendale, PA 15096 (727) 776-4841

**Table 1. Index of Commercial and Government Entity (CAGE) Codes – Continued.**

<b>CODE</b>	<b>MANUFACTURER</b>
81348	Federal Specification Item promulgated by General Services Administration Washington DC
81349	Military Specification Item promulgated by the military/agencies under authority of Defense Standardization Manual 4120-3M
88044	Aeronautical Standards Group Department of Navy and Air Force Federal Specification Item promulgated by General Services Administration Washington DC

**END OF WORK PACKAGE**

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<b>RECOMMENDED CHANGES TO PUBLICATIONS AND BLANK FORMS</b> For use of this form, see AR 25-30; the proponent agency is ODISC4.						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: <i>(Forward to proponent of publication or form) (Include ZIP Code)</i> U.S. Army TACOM Life Cycle Management Command ATTN: AMSTA-LCL-MPP/TECH PUBS 1 Rock Island Arsenal, Rock Island, IL 61299-7630						FROM: <i>(Activity and location) (Include ZIP Code)</i> Your mailing address	
<b>PART I – ALL PUBLICATIONS (EXCEPT RPSTL AND SC/SM) AND BLANK FORMS</b>							
PUBLICATION/FORM NUMBER TM 9-1005-239-23&P				DATE 30 Sep 10	Title Field Maintenance for Long Range Sniper Rifle, M107		
ITEM NO.	PAGE NO.	PARA-GRAPH	LINE NO. *	FIGURE NO.	TABLE NO.	RECOMMENDED CHANGES AND REASON (Provide exact wording of recommended changes, if possible).	
5	0037	00-3				Incorrect NSN for trigger spring, P/N 82071	
<b>SAMPLE</b>							
<i>*Reference to line numbers within the paragraph or subparagraph.</i>							
TYPED NAME, GRADE OR TITLE  Your Name				TELEPHONE EXCHANGE/AUTOVON, PLUS EXTENSION		Signature Your Signature	

<b>TO: (Forward direct to addressee listed in publication)</b> U. S. Army TACOM Life Cycle Management Command ATTN: AMSTA-LCL-MPP/TECH PUBS 1 Rock Island Arsenal, Rock Island, IL 61299-7630	<b>FROM: (Activity and location) (Include ZIP Code)</b> Your address	<b>DATE</b> Date you filled out this form
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**PART II – REPAIR PARTS AND SPECIAL TOOL LISTS AND SUPPLY CATALOGS/SUPPLY MANUALS**

PUBLICATION NUMBER TM 9-1005-239-23&P				DATE 30 Sep 10			TITLE Field Maintenance Manual for Long Range Sniper Rifle, M107	
PAGE NO.	COLM NO.	LINE NO.	NATIONAL STOCK NUMBER	REFERENCE NO.	FIGURE NO.	ITEM NO.	TOTAL NO. OF MAJOR ITEMS SUPPORTED	RECOMMENDED ACTION
<b>SAMPLE</b>								

**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 Your Name	TELEPHONE EXCHANGE/AUTOVON, PLUS EXTENSION	SIGNATURE Your Signature
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<b>RECOMMENDED CHANGES TO PUBLICATIONS AND BLANK FORMS</b>						Use Part II (reverse) for Repair Parts and Special Tool Lists (RPSTL) and Supply Catalogs/Supply Manuals (SC/SM).	DATE
For use of this form, see AR 25-30; the proponent agency is ODISC4.							
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 1 Rock Island Arsenal, Rock Island, IL 61299-7630						FROM: (Activity and location) (Include ZIP Code)	
<b>PART I - ALL PUBLICATIONS (EXCEPT RPSTL AND SC/SM) AND BLANK FORMS</b>							
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ITEM NO.	PAGE NO.	PARA-GRAPH	LINE NO. *	FIGURE NO.	TABLE NO.	RECOMMENDED CHANGES AND REASON (Provide exact wording of recommended changes, if possible).	
TYPED NAME, GRADE OR TITLE				*Reference to line numbers within the paragraph or subparagraph. TELEPHONE EXCHANGE/AUTOVON, PLUS EXTENSION		SIGNATURE	

<b>TO: (Forward direct to addressee listed in publication)</b> U. S. Army TACOM Life Cycle Management Command ATTN: AMSTA-LCL-MPP/TECH PUBS 1 Rock Island Arsenal, Rock Island, IL 61299-7630	<b>FROM: (Activity and location) (Include ZIP Code)</b>	<b>DATE</b>
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**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
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TYPED NAME, GRADE OR TITLE	TELEPHONE EXCHANGE/AUTOVON, PLUS EXTENSION	SIGNATURE
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**By Order of the Secretary of the Army:**

**GEORGE W. CASEY, JR**  
General, United States Army  
Chief of Staff

Official:



JOYCE E. MORROW  
Administrative Assistance to the  
Secretary of the Army  
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**By Order of the Secretary of the Air Force:    By Order of the Secretary of the Navy:**

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General, United States Air Force  
Chief of Staff

**GASKILL**  
Small Arms Program  
Manager Naval Sea Systems Command

**DONALD J. HOFFMAN**  
General, United States Air Force  
Commander, AFMC

**By Order of the Secretary of the Marine Corps:**

**LT COL. MARK T. BRINKMAN**  
Program Manager, Infantry Weapons (PMM-132)  
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## THE METRIC SYSTEM AND EQUIVALENTS

<p><b>Linear Measure</b></p> <p>1 Centimeter = 10 Millimeters = 0.01 Meters = 0.3937 Inches          1 Meter = 100 Centimeters = 1000 Millimeters = 39.37 Inches          1 Kilometer = 1000 Meters = 0.621 Miles</p> <p><b>Weights</b></p> <p>1 Gram = 0.001 Kilograms = 1000 Milligrams = 0.035 Ounces          1 Kilogram = 1000 Grams = 2.2 Pounds          1 Metric Ton = 1000 Kilograms = 1 Megagram = 1.1 Short Tons</p> <p><b>Liquid Measure</b></p> <p>1 Milliliter = 0.001 Liters = 0.0338 Fluid Ounces          1 Liter = 1000 Milliliters = 33.82 Fluid Ounces</p>	<p><b>Square Measure</b></p> <p>1 Sq Centimeter = 100 Sq Millimeters = 0.155 Sq Inches          1 Sq Meter = 10,000 Sq Centimeters = 10.76 Sq Feet          1 Sq Kilometer = 1,000,000 Sq Meters = 0.0386 Sq Miles</p> <p><b>Cubic Measure</b></p> <p>1 Cu Centimeter = 1,000 Cu Millimeters = 0.06 Cu Inches          1 Cu Meter = 1,000,000 Cu Centimeters = 35.31 Cu Feet</p> <p><b>Temperature</b></p> <p><math>9/5 \text{ } ^\circ\text{C} + 32^\circ = \text{ } ^\circ\text{F}</math>  <math>5/9 (\text{ } ^\circ\text{F} - 32^\circ) = \text{ } ^\circ\text{C}</math>          212° Fahrenheit is equivalent to 100° Celsius          90° Fahrenheit is equivalent to 32.2° Celsius          32° Fahrenheit is equivalent to 0° Celsius</p>
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## APPROXIMATE CONVERSION FACTORS

To Change	To	Multiply By	To Change	To	Multiply By
Inches	Centimeters	2.540	Centimeters	Inches	0.394
Feet	Meters	0.305	Meters	Feet	3.280
Yards	Meters	0.914	Meters	Yards	1.094
Miles	Kilometers	1.609	Kilometers	Miles	0.621
Sq Inches	Sq Centimeters	6.451	Sq Centimeters	Sq Inches	0.155
Sq Feet	Sq Meters	0.093	Sq Meters	Sq Feet	10.764
Sq Yards	Sq Meters	0.836	Sq Meters	Sq Yards	1.196
Sq Miles	Sq Kilometers	2.590	Sq Kilometers	Sq Miles	0.386
Acres	Sq Hectometers	0.405	Sq Hectometers	Acres	2.471
Cubic Feet	Cubic Meters	0.028	Cubic Meters	Cubic Feet	35.315
Cubic Yards	Cubic Meters	0.765	Cubic Meters	Cubic Yards	1.308
Fluid Ounces	Milliliters	29.573	Milliliters	Fluid Ounces	0.034
Pints	Liters	0.473	Liters	Pints	2.113
Quarts	Liters	0.946	Liters	Quarts	1.057
Gallons	Liters	3.785	Liters	Gallons	0.264
Ounces	Grams	28.349	Grams	Ounces	0.035
Pounds	Kilograms	0.454	Kilograms	Pounds	2.205
Short Tons	Metric Tons	0.907	Metric Tons	Short Tons	1.102
Pound-Feet	Newton-Meters	1.356	Newton-Meters	Pound-Feet	0.738
Pounds per Sq Inch	Kilopascals	6.895	Kilopascals	Pounds per Sq Inch	0.145
Miles per Gallon	Kilometers per Liter	0.425	Kilometers per Liter	Miles per Gallon	2.354
Miles per Hour	Kilometers per Hour	1.609	Kilometers per Hour	Miles per Hour	0.621

**PIN: 081420-000**