TM 9-1005-239-23&P

TECHNICAL MANUAL

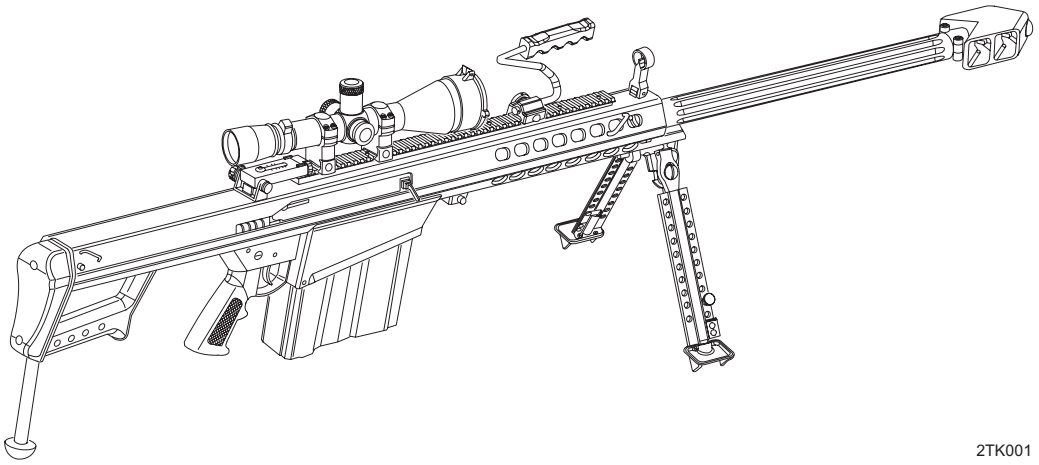
UNIT AND DIRECT SUPPORT MAINTENANCE MANUAL

(INCLUDING REPAIR PARTS AND SPECIAL TOOLS LIST)

FOR

LONG RANGE SNIPER RIFLE (LRSR), M107

(NSN 1005-01-469-2133)



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HEADQUARTERS, DEPARTMENT OF THE ARMY

MAY 2004

WARNING SUMMARY

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.

The tension on the barrel springs is about 70 pounds. Serious injury could result if springs are released suddenly.

Do not fire the rifle without the midlock and rear lock pins firmly in place. Serious injury or death could result.

Do not store the weapon with live ammunition in either the chamber or magazine.

Under no circumstances should the weapon be shipped while it contains live ammunition, either in the shipping box, magazine, or chamber.

Ensure the rear lock pin is inserted to secure the buffer spring. Serious injury may occur.

Do not fire the rifle without the muzzle brake firmly in place on the barrel. Serious injury or death could result.

Wear eye protection during removal of the mainspring or mainspring buffer. Serious injury could result if components are released improperly.

If the spring-loaded cam is lifted too far, the spring may lose tension. If this occurs, the weapon could malfunction, or it could allow the weapon to fire when unlocked, with the potential for serious injury.

Point bolt away from face while disassembling extractor/ejector. Injury may result if parts fly free.

Wear eye protection to prevent injury from spring-loaded parts, particularly when removing or replacing the magazine cover.

CAUTION SUMMARY

Ensure the basic weapons check is performed. Do not allow the bolt to slam home.

Be sure that hook and bar are properly mated so the final assembly motion does not damage the rifle.

Use only authorized lubricants. Do not mix lubricants.

When removing the bolt carrier from the lower receiver, ensure that the bolt carrier is completely forward of the sheet metal closure before lifting to avoid serious damage to the lower receiver.

Do not pull on barrel springs to remove the barrel key. Doing so may damage the springs.

Use caution to avoid loss of the front sight spring during removal from front sight detent.

Do not allow sunlight to shine directly through the scope. Light focused on the crosshairs and mil dots may warp them.

Use extreme care to protect lenses from solvents and scratches.

INSERT LATEST CHANGED PAGES/WORK PACKAGES. DESTROY SUPERSEDED DATA.

LIST OF EFFECTIVE PAGES / WORK PACKAGES

Dates of issue for original and changed pages / work packages are:

Original ..... 0 ..... 15 May 2004

TOTAL NUMBER OF PAGES FOR FRONT AND REAR MATTER IS 28 AND TOTAL NUMBER OF WORK PACKAGES IS 46, CONSISTING OF THE FOLLOWING:

Page / WP No.	*Change No.
Title	0
a	0
b blank	0
A	0
B blank	0
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iv blank	0
WP 0001 00 - WP 0046 00	0
Index-1 - Index-5	0
Index-6 blank	0
Authentication page	0
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Back cover	0

*Zero in this column indicates an original page or work package.

HEADQUARTERS
DEPARTMENT OF THE ARMY
WASHINGTON D.C., 15 MAY 2004

TECHNICAL MANUAL

UNIT AND DIRECT SUPPORT MAINTENANCE MANUAL

(INCLUDING REPAIR PARTS AND SPECIAL TOOLS LIST)

FOR

LONG RANGE SNIPER RIFLE (LRSR), M107

(NSN 1005-01-469-2133)

Current as of 15 December 2003 for RPSTL WP 0030 00 to WP 0044 00

REPORTING ERRORS AND RECOMMENDING IMPROVEMENTS

You can help improve this publication. If you find any mistakes or if you know of a way to improve the procedures, please let us know. Submit your DA Form 2028 (Recommended Changes to Publications and Blank Forms), through the Internet, on the Army Electronic Product Support (AEPS) website. The Internet address is http://aeps.ria.army.mil. If you need a password, scroll down and click on "ACCESS REQUEST FORM". The DA Form 2028 is located in the ONLINE FORMS PROCESSING section of the AEPS. Fill out the form and click on SUBMIT. Using this form on the AEPS will enable us to respond quicker to your comments and better manage the DA Form 2028 program. You may also mail, fax or e-mail your letter or DA Form 2028 direct to: AMSTA-LC-CI Tech Pubs, TACOM-RI, 1 Rock Island Arsenal, Rock Island, IL 61299-7630. The e-mail address is TACOM-TECH-PUBS@ria.army.mil. The fax number is DSN 793-0726 or Commercial (309) 782-0726.

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TABLE OF CONTENTS

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HOW TO USE THIS MANUAL

General

Knowing how to use this manual is very important.

a. References are to pages in this manual.

b. Throughout this manual, text is keyed to illustrations by numbered callouts. When an item is called out in a procedure, a number in parentheses in the text corresponds with a number on the illustration.

Indexes

This manual is organized to help you quickly find the information needed. There are two useful indexes:

a. **Table of Contents.** The Table of Contents lists, in the order of presentation, all chapters, sections, appendixes, and alphabetical index and gives the page numbers where they begin.

b. **Alphabetical Index.** This index, located in the back, is an extensive subject index for the entire manual. The page numbers following each entry tell where to find a particular subject in the manual.

CHAPTER 1

GENERAL INFORMATION, EQUIPMENT DESCRIPTION, AND THEORY OF OPERATION FOR LONG RANGE SNIPER RIFLE, M107

UNIT AND DIRECT SUPPORT

LONG RANGE SNIPER RIFLE, M107
(NSN 1005-01-469-2133)

GENERAL INFORMATION

SCOPE

Type of Manual

Unit and Direct Support Maintenance Manual with Repair Parts and Special Tools List.

Model Number and Equipment Name

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

Purpose of Equipment

The M107 Long Range Sniper Rifle (LRSR) is a man-portable, direct line-of-sight weapon system capable of providing precision fire on targets at a distance of up to 1000 meters.

MAINTENANCE FORMS, RECORDS, AND REPORTS

Department of Army forms and procedures used for equipment maintenance will be those prescribed by DA PAM 738-750, Functional Users Manual for the Army Maintenance Management System (TAMMS). Navy users refer to the applicable Maintenance Requirement Card under the Planned Maintenance System.

REPORTING EQUIPMENT IMPROVEMENT RECOMMENDATIONS (EIR)

If your 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. Put it on an SF 368 (Product Quality Deficiency Report). Mail it to the address specified in DA PAM 738-750, Functional Users Manual for the Army Maintenance Management System (TAMMS), or as specified by the acquiring activity. We will send you a reply.

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.

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

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

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

Refer to TM 750-244-7.

PREPARATION FOR STORAGE OR SHIPMENT

Storage

WARNING

Do not store the weapon with live ammunition in either the chamber or magazine.

Refer to TM 9-1005-239-10, Operator's Manual. Disassemble the weapon into its three major assemblies, apply a coat of CLP (item 10, WP 0045 00), and store the weapon in its carrying case.

Shipping

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

WARNING

Under no circumstances should the weapon be shipped while it contains live ammunition, either in the shipping box, magazine, or chamber.

a. Ensure that the magazine and chamber are clear of ammunition (refer to TM 9-1005-239-10, Operator's Manual).

b. Complete forms in accordance with specifications and detail the required maintenance as thoroughly as possible.

c. Clean the weapon as outlined in TM 9-1005-239-10, Operator's Manual.

d. Place the weapon, broken down into its three major groups, in a carrying case and place it in a shipping box.

e. Mark the box in accordance with MIL-STD-129.

NOMENCLATURE CROSS-REFERENCE LIST

Common Name	Official Nomenclature
Bipod locking pin	Quick release pin
Cocking lever pin	Bolt carrier pin
Extension stop pin	bolt carrier pin
Midlock pin	Quick release pin
Rear lock pin	Quick release pin
sear pin	Bolt carrier pin

LIST OF ABBREVIATIONS/ACRONYMS

Nomenclature	Abbreviation
Ammunition	Ammo
Armor-Piercing Incendiary	API
Armor-Piercing Incendiary Tracer	APIT
Caliber	Cal.
Cleaner, Lubricant, and Preservative	CLP
Feet per Second	FPS
Long Range Sniper Rifle	LRSR
Lubricant, Arctic Weather	LAW
Lubricant, Small Arms	LSA
Lubricant, Small Arms (with Teflon)	LSAT
Meters per Second	MPS
Minute of Angle	MOA
Rifle Bore Cleaner	RBC
Technical Manual	TM

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 TM 9-1300-206 for general ammunition safety, care, and handling.

END OF WORK PACKAGE

UNIT AND DIRECT SUPPORT

LONG RANGE SNIPER RIFLE, M107
(NSN 1005-01-469-2133)

EQUIPMENT DESCRIPTION AND DATA

EQUIPMENT CHARACTERISTICS, CAPABILITIES, AND FEATURES

Capabilities

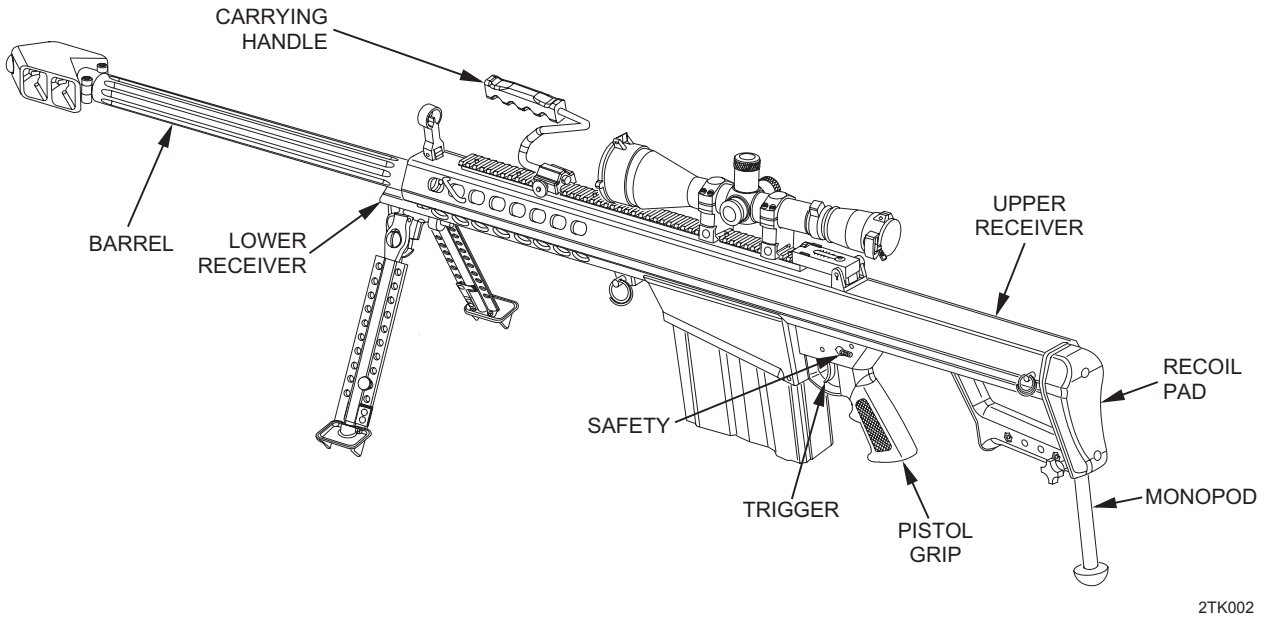
The M107 is a long-range sniper weapon system which utilizes standard .50 caliber ammunition. The M107 is a man-portable, direct line-of-sight system capable of providing precision fire on targets at distances up to 1000 meters.

Functional Description

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

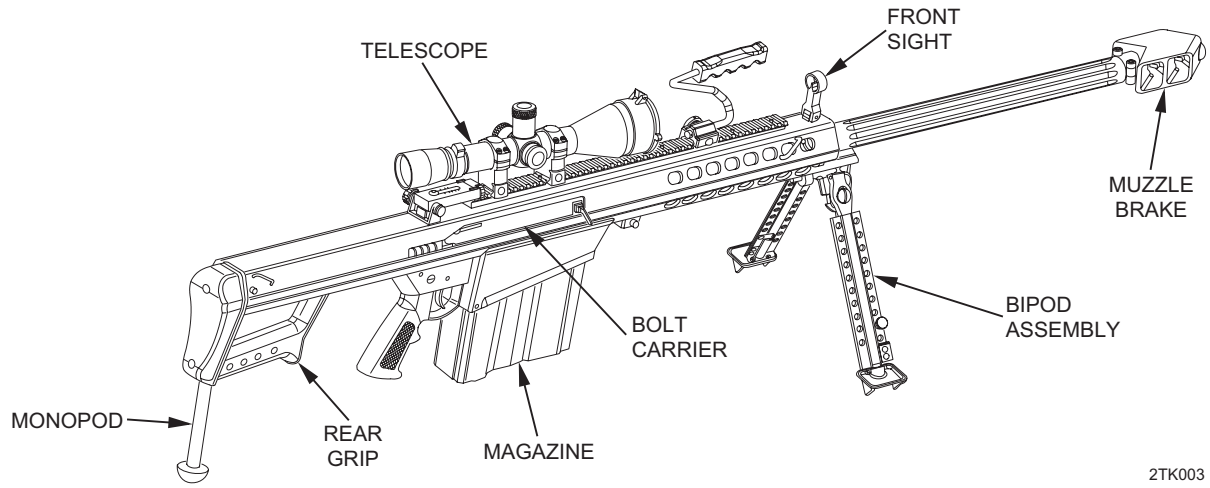
Characteristics

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.



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

EQUIPMENT CHARACTERISTICS, CAPABILITIES, AND FEATURES - Continued



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

LOCATION AND DESCRIPTION OF MAJOR COMPONENTS

a. Upper Receiver Assembly. Includes the front sight, accessory base, carrying handle, muzzle brake, and barrel.

b. Rail. Used to attach the scope, the carrying handle, and accessory optic sights.

c. Carrying Handle. Steel stock with a hard plastic handle.

d. Front Sight. A 0.075 in. (0.19 cm) post with a protective, anti-glare ring.

e. Muzzle Brake. Critical to the functioning of the weapon; absorbs approximately 70 percent of the recoil.

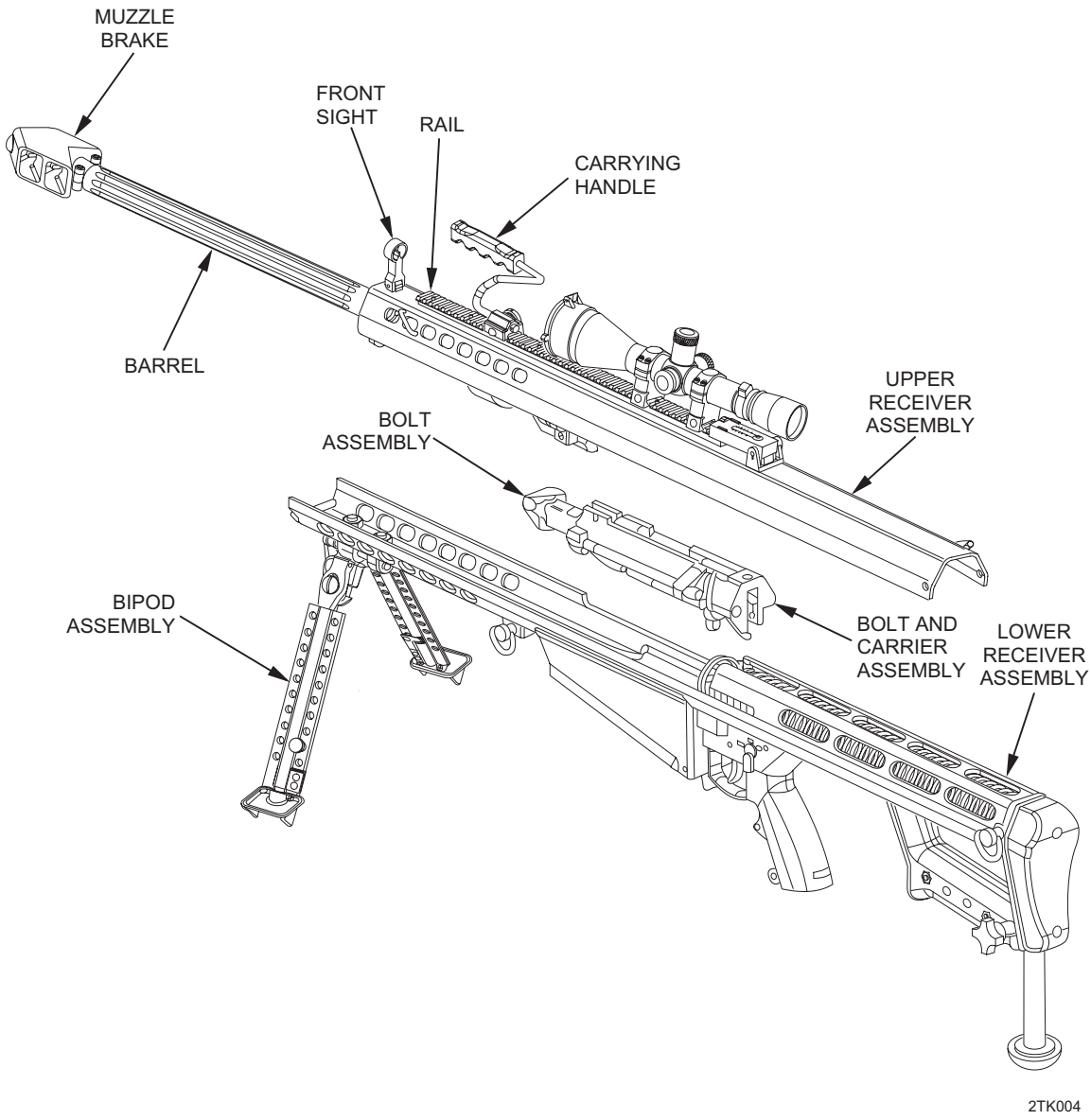
f. Barrel. Length is 29 in. (73.7 cm), with eight lands and grooves in a uniform right-hand twist, one turn in 15 in. (38.1 cm). Muzzle end is threaded to accept a muzzle brake; breech end has a barrel extension integral to the locking function.

g. Bolt Assembly. Houses the firing pin, extractor, and ejector.

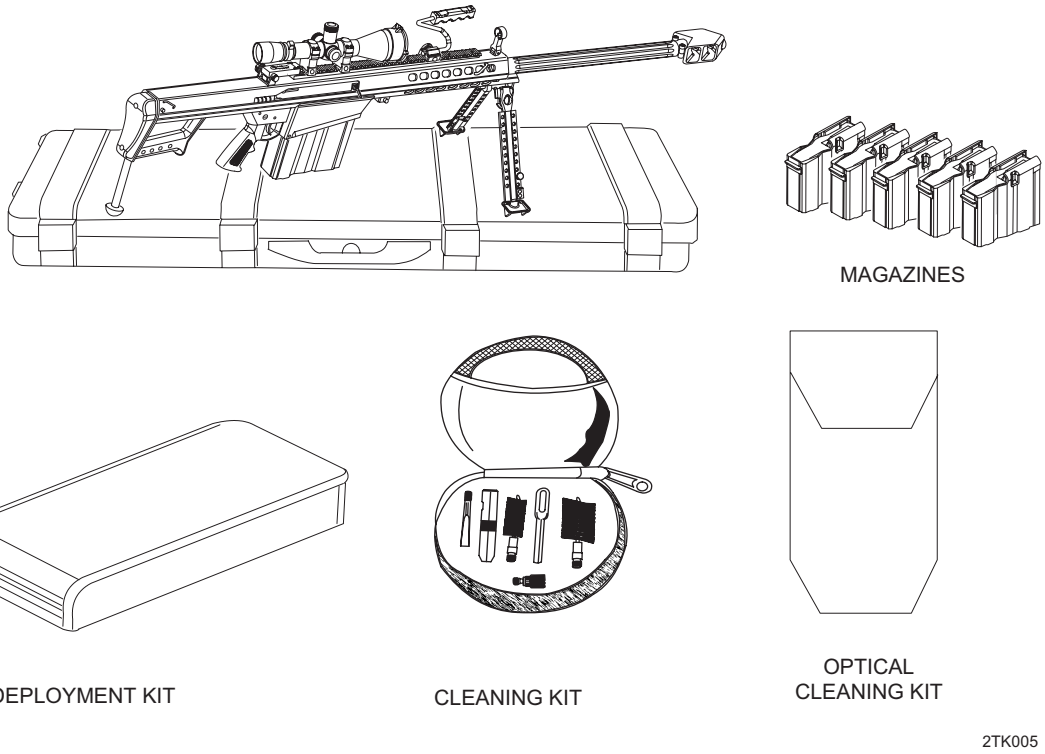
h. Bolt and Carrier Assembly. Consists of the bolt, firing pin, all extraction and ejection mechanisms, cocking lever, and sear.

i. Bipod Assembly. Detachable forward support system composed of retractable legs and extending foot pads.

j. Lower Receiver Assembly. Includes detachable bipod assembly, buffer assembly, midlock pin, and trigger mechanism.


MUZZLE BRAKE
FRONT SIGHT
RAIL
CARRYING HANDLE
BARREL
UPPER RECEIVER ASSEMBLY
BOLT ASSEMBLY
BIPOD ASSEMBLY
BOLT AND CARRIER ASSEMBLY
LOWER RECEIVER ASSEMBLY
2TK004

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.

Specifications

Caliber	50 Browning Machine gun (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 (takedown 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 w/lower receiver (steel)
Safety	Manual thumb-lever
Sights	Telescope

EQUIPMENT DATA - Continued

Specifications - Continued

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 100 meters
Windage	1 click equals 1/4 MOA at 100 meters
Eye Relief	3 to 6 in. (7.6 to 15.2 cm)

Capabilities

Muzzle Velocity	Approx. 2,800 fps (853 mps) (with standard 660 grain bullet)
Muzzle Energy	11,500 ft-lb (15,582 J)
Maximum Range	Approx. 7,450 yd (6,812 m) (with standard 660 grain bullet)
Max. Effective Range	Approx. 2,000 yd (1,829 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
M1A1, Caliber .50 Blank Cartridge

END OF WORK PACKAGE

UNIT AND DIRECT SUPPORT

LONG RANGE SNIPER RIFLE, M107
(NSN 1005-01-469-2133)

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 disconnector 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.

CYCLE OF OPERATION - Continued

8. Ejection: As soon as the fired case has been extracted and has cleared the rear of the barrel extension, it is expelled from the rifle by the spring-powered ejector.

END OF WORK PACKAGE

CHAPTER 2

UNIT
TROUBLESHOOTING PROCEDURES
FOR
LONG RANGE SNIPER RIFLE, M107

UNIT

LONG RANGE SNIPER RIFLE, M107
(NSN 1005-01-469-2133)

TROUBLESHOOTING INDEX

GENERAL

The malfunction/symptom index can be used as a quick guide to troubleshooting. Common malfunctions are listed in cycle of function order with a work package reference to the troubleshooting table where a test or inspection and corrective action are provided.

This manual cannot list all malfunctions that may occur, nor all tests or inspections and corrective actions. If a malfunction is not listed or is not corrected by listed corrective actions, notify direct support maintenance.

MALFUNCTION/SYMPTOM INDEX

END OF WORK PACKAGE

UNIT

LONG RANGE SNIPER RIFLE, M107
(NSN 1005-01-469-2133)

TROUBLESHOOTING PROCEDURES

INITIAL SETUP:

References
WP 0011 00
WP 0012 00
WP 0016 00

LONG RANGE SNIPER RIFLE, M107

Table 1. Troubleshooting Procedures.

MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
1. Failure To Feed	1. Verify sluggish action.	1. Clean and lubricate or (if cold) check for over-lubrication.
	2. Verify short-cycling.	2. Support receiver more firmly in shoulder.
	3. Check for damage to magazine.	3. Replace magazine (see WP 0011 00).
	4. Check for improper seating of magazine.	4. Reinsert magazine properly.
	5. Check for weak or broken mainspring.	5. Replace mainspring (see WP 0012 00).
	6. Check for binding of bolt carrier assembly in receiver.	6. Evacuate to direct support maintenance.
2. Failure To Chamber	1. Check for damaged cartridge.	1. Remove and recharge/reload.
	2. Check for dirty chamber.	2. Clear and clean chamber.
	3. Check for faulty mainspring.	3. Replace mainspring (see WP 0012 00).
	4. Check for bent receiver housing.	4. Evacuate to direct support maintenance.

LONG RANGE SNIPER RIFLE, M107 - Continued

Table 1. Troubleshooting Procedures - Continued.

MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
3. Failure To Lock or Unlock	1. Check for obstruction between firing pin and bolt.	1. Disassemble and clean.
	2. Check for blown primer wedged between firing pin and bolt.	2. Evacuate to direct support maintenance.
	3. Check for excessive dirt, sand, etc. in locking area.	3. Clean chamber.
	4. Verify bolt spring is bent or not seated properly.	4. Replace bolt spring or reinstall (see WP 0016 00).
	5. Check for broken or burred bolt latch or bolt latch spring.	5. Evacuate to direct support maintenance.
4. Failure To Fire	1. Verify faulty ammunition.	1. Replace ammunition.
	2. Verify bolt carrier is not in battery.	2. Manually cycle round.
	3. Check for improper installation of firing mechanism.	3. Assemble properly.
	4. Check for incorrect installation of trigger components.	4. Reinstall trigger components properly.
	5. Check for faulty/broken trigger components.	5. Evacuate to direct support maintenance.
5. Failure To Extract	1. Check for broken extractor.	1. Replace extractor (see WP 0016 00).
	2. Verify extractor is not moving freely in slot.	2. Remove and clean.
	3. Check for dirty chamber.	3. Clean chamber.
6. Failure To Eject	1. Check for frozen or damaged ejector or ejector spring.	1. Remove and replace ejector and/or ejector spring (see WP 0016 00).

Table 1. Troubleshooting Procedures - Continued.

MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
7. Very Hard Recoil	1. Check for faulty/hot ammunition. 2. Check for damage to mainspring or mainspring buffer. 3. Check for loose, missing, or damaged/clogged muzzle brake.	1. Replace or cool ammunition. 2. Remove mainspring and mainspring buffer. Replace as necessary (see WP 0012 00). 3. Evacuate to direct support maintenance.

END OF WORK PACKAGE

CHAPTER 3

DIRECT SUPPORT TROUBLESHOOTING PROCEDURES FOR LONG RANGE SNIPER RIFLE, M107

DIRECT SUPPORT

LONG RANGE SNIPER RIFLE, M107
(NSN 1005-01-239-2133)

TROUBLESHOOTING INDEX

GENERAL

The malfunction/symptom index can be used as a quick guide to troubleshooting. Common malfunctions are listed in cycle of function order with a work package reference to the troubleshooting table where a test or inspection and corrective action are provided.

This manual cannot list all malfunctions that may occur, nor all tests or inspections and corrective actions. If a malfunction is not listed or is not corrected by listed corrective actions, notify depot maintenance.

MALFUNCTION/SYMPTOM INDEX

END OF WORK PACKAGE

DIRECT SUPPORT

LONG RANGE SNIPER RIFLE, M107
(NSN 1005-01-239-2133)

TROUBLESHOOTING PROCEDURES

INITIAL SETUP:

References
WP 0020 00
WP 0023 00
WP 0024 00

LONG RANGE SNIPER RIFLE, M107

Table 1. Troubleshooting Procedures.

MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
1. Failure To Feed	1. Verify binding of bolt carrier assembly in receiver.	1. Replace bolt carrier assembly (see WP 0024 00).
2. Failure To Chamber	1. Verify damage to receiver housing.	1. Replace receiver housing (see WP 0020 00).
3. Failure To Lock or Unlock	1. Verify that blown primer is wedged between firing pin and bolt.	1. Return to depot if problem persists.
	2. Verify damage to bolt latch or bolt latch spring.	2. Replace bolt latch or bolt latch spring (see WP 0024 00).
4. Failure To Fire	1. Verify damage to trigger components.	1. Replace trigger components as necessary (see WP 0020 00).
5. Very Hard Recoil	1. Verify damage to muzzle brake.	1. Replace muzzle brake (see WP 0023 00).

END OF WORK PACKAGE

CHAPTER 4

UNIT
MAINTENANCE INSTRUCTIONS
FOR
LONG RANGE SNIPER RIFLE, M107

UNIT

LONG RANGE SNIPER RIFLE, M107
(NSN 1005-01-469-2133)

SERVICE UPON RECEIPT
SERVICE UPON RECEIPT OF MATERIEL, INSTALLATION INSTRUCTIONS

SERVICE UPON RECEIPT OF MATERIEL

Unpacking

When a new or reconditioned Long Range Sniper Rifle (LRSR) is received, be aware of any shipping damage to packaging materiel. Report any damage on SF 364, Report of Discrepancy (ROD), as prescribed in AR 735-11-2. Retain packaging materiel for future use.

Checking Unpacked Equipment

Inspect the equipment for damage incurred during shipment. If the equipment has been damaged, report the damage on SF 361, Transportation Discrepancy Report.

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 738-750.

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

WARNING

DO NOT keep live ammunition near work/maintenance area.

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.

Table 1. Service Upon Receipt.

Location	Item	Action	Remarks
Container	Sniper Weapons System Parts List	Check for missing parts.	Refer to TM 9-1005-239-10.

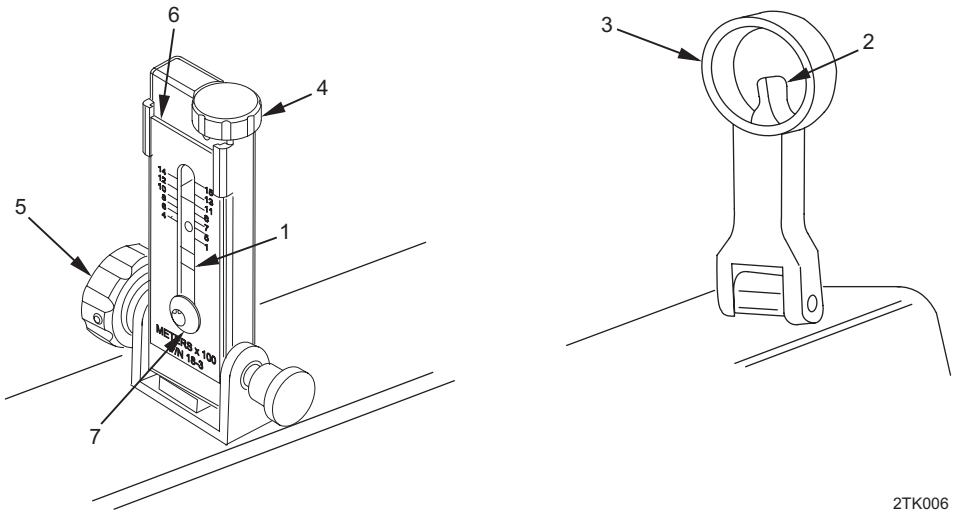
SERVICE UPON RECEIPT OF MATERIEL - Continued

Table 1. Service Upon Receipt - Continued.

Location	Item	Action	Remarks
M107	All Parts	Field strip weapon and inspect for missing parts, damaged parts, and rusted or corroded parts.	Refer to TM 9-1005-239-10.
		Clean and lubricate.	Refer to TM 9-1005-239-10.
		Reassemble.	Refer to TM 9-1005-239-10.
		Function by hand using dummy cartridges.	Refer to TM 9-1005-239-10.
		Check to see whether the equipment has been modified.	Army users see DA PAM 25-30.

INSTALLATION INSTRUCTIONS

Sighting Systems



1. Iron Sights:

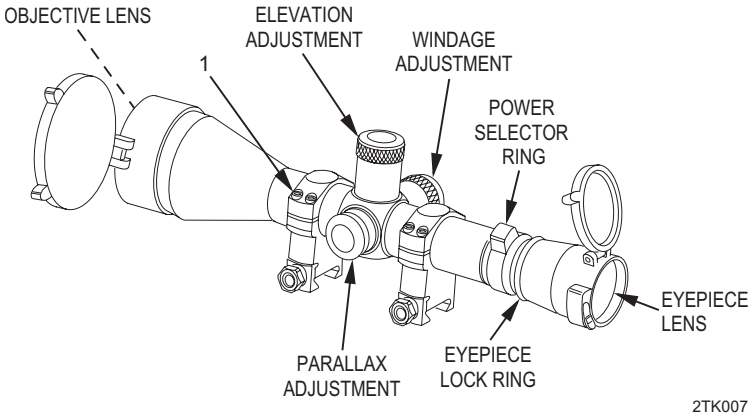
   a. The rear and front iron sights are primarily to be used for emergency back-up when the optical sights are not available. They flip up for use if the telescope is not mounted. Aiming is accomplished by aligning the target with the aperture (1) of the rear sight and the post (2) of the front sight. The front sight post is protected from damage by the anti-glare ring (3).

   b. The rear sight aperture is raised and lowered to the desired elevation position using the elevation knob (4). The windage knob (5) is used to adjust for proper windage. A rear sight scale (6) has been established that corresponds to the ballistics of the cartridge and is adjustable to accommodate variations in environmental conditions that affect elevation.

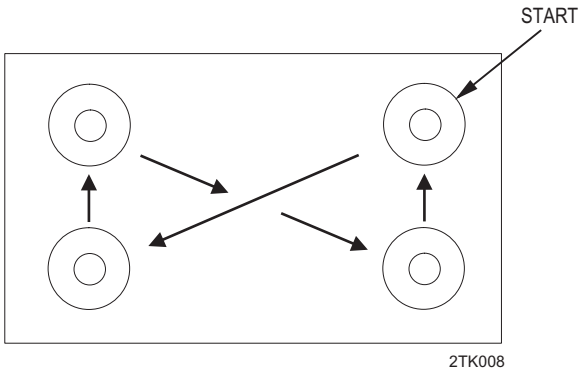
c. Setting the position of the rear sight scale (6) is best done at a range of 500 meters to give the optimum position for both ball and high explosive ammunition. When the rifle zero point for elevation is found, loosen the rear sight scale screw (7), move the scale to correspond to the range at which the weapon is being tested, and re-tighten the screw to fix the scale in this position.

d. The iron sights are correctly aligned when the shooter sights through the aperture (1) in the rear sight and can see the intended target exactly at the top of the front sight post (2).

2. Daylight Scope:



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



b. Tighten scope ring screws (1) 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.

END OF WORK PACKAGE

UNIT

LONG RANGE SNIPER RIFLE, M107
(NSN 1005-01-469-2133)

PREVENTIVE MAINTENANCE CHECKS AND SERVICES INTRODUCTION GENERAL, EXPLANATION OF COLUMN ENTRIES

GENERAL

a. Preventive Maintenance Checks and Services (PMCS) (WP 0010 00) must be performed by unit personnel to be sure the sniper rifle is in good operating condition and ready for its primary mission.

b. 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 that are beyond your authorization will be referred to direct support maintenance for correction.

c. Always observe the WARNINGs and CAUTIONs before and during operation. A WARNING means someone could be hurt. A CAUTION means equipment could be damaged. If the equipment fails to operate, troubleshoot. Report any deficiencies using the proper forms. See DA PAM 738-750.

EXPLANATION OF COLUMN ENTRIES

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 tells you the component of the sniper rifle to be checked. The amount of time required is indicated in the MAN-HOUR column.

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 which must be corrected before the sniper rifle can be operated.

END OF WORK PACKAGE

UNIT

LONG RANGE SNIPER RIFLE, M107
(NSN 1005-01-469-2133)

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

INITIAL SETUP:

Materials/Parts
Cleaner, Lubricant, and Preservative (CLP) (item 10, WP 0045 00)
Lubricant, Arctic Weather (LAW) (item 18, WP 0045 00)
Lubricant, Small Arms (LSA) (item 19, WP 0045 00)
Lubricant, Small Arms (with Teflon) (LSAT) (item 20, WP 0045 00)

References
TM 9-1005-239-10

PREVENTIVE MAINTENANCE INSPECTION

Table 1. Unit Preventive Maintenance Checks and Services.

ITEM NO.	INTERVAL	MAN-HOUR	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
1	Quarterly		M107	WARNING DO NOT keep live ammunition near work/maintenance area. Be sure to clear weapon before disassembling, cleaning, inspecting, transporting, or storing. Clearing consists of unloading the machine gun and visually inspecting weapon and chamber to ensure all rounds have been removed. Do not release the bolt or press the trigger.	

PREVENTIVE MAINTENANCE INSPECTION - Continued

Table 1. Unit Preventive Maintenance Checks and Services - Continued.

ITEM NO.	INTERVAL	MAN-HOUR	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
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. Refer to TM 9-1005-239-10.	Weapon is dirty.
4	Quarterly		Muzzle Brake	Check to see that both muzzle brake screws are secure and that muzzle brake is level to the ground.	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 secure to weapon.	Scope is loose or hardware is missing.
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.

Table 1. Unit Preventive Maintenance Checks and Services - Continued.

ITEM NO.	INTERVAL	MAN-HOUR	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
10	Quarterly		M107	**WARNING** To avoid injury to eyes, use care when removing and installing spring-loaded parts. Field strip 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.	Parts are missing, broken, or damaged. Evacuate weapon to direct support maintenance if repair is not authorized at unit maintenance.

LUBRICATION INSTRUCTIONS

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.

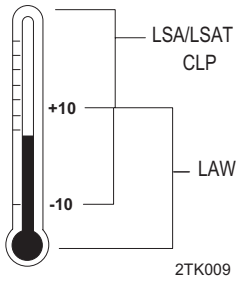
2. 90-Day Intervals. If the weapon is not to be fired for periods up to 90 days, coat with CLP.

3. LSAT, LSA, and CLP are the authorized lubricants to use on the rifle at normal temperatures to -10 °F (-27 °C). At temperatures below -10 °F (-27 °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 inside at room temperature, if possible. Use LAW.

5. Remember to remove excessive oil from the bore before firing.

LUBRICATION INSTRUCTIONS - Continued



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.

HOT, DUSTY, AND SANDY AREAS:
Clean often. Lightly lube.
Wipe oil from exposed surfaces with clean wiping rag.
Keep sand out of parts.

EXTREMELY COLD CLIMATE:
Use LAW.
Keep dry.
Use LAW lightly.

HOT, WET CLIMATE:
Use LSAT, LSA, or CLP and inspect often.
Use LSAT, LSA, or CLP lightly.
Keep rifle dry.

GENERAL INSTRUCTIONS:
External surfaces: Put LSAT, LSA, or CLP on a clean swab and generously lubricate:

a. Bolt – locking lugs and cam slot;
b. Bolt Carrier – receiver bearing surfaces;
c. Barrel – bolt locking surfaces;
d. Receiver – rails on which bolt carrier rides.

All other areas: Lightly lubricate – including bore.

END OF WORK PACKAGE

UNIT

LONG RANGE SNIPER RIFLE, M107
(NSN 1005-01-469-2133)

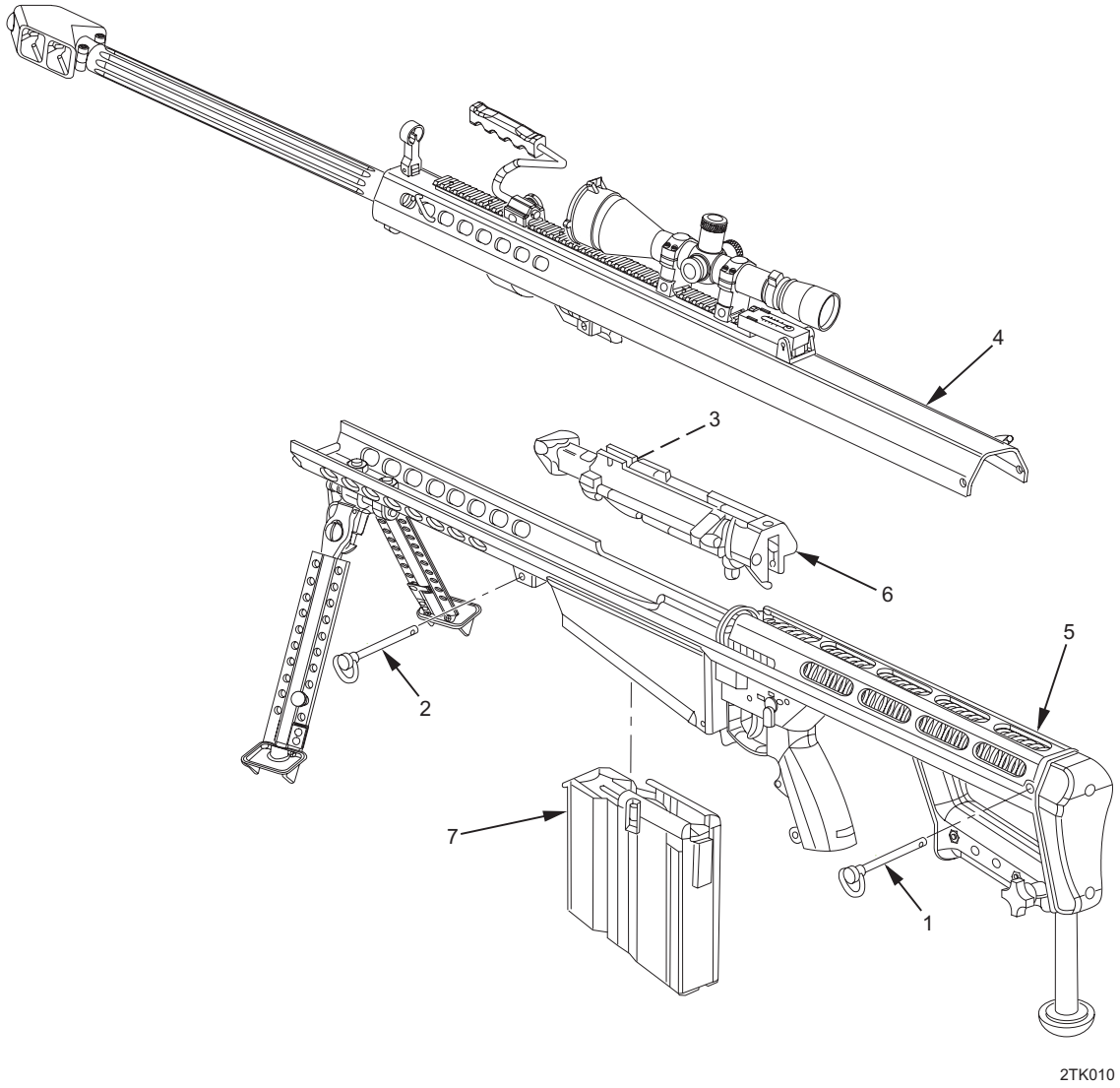
LONG RANGE SNIPER RIFLE MAINTENANCE
DISASSEMBLY, REPAIR OR REPLACEMENT, ASSEMBLY

INITIAL SETUP:

Tools and Special Tools
Small Arms Repairer Tool Kit, SC 5180-95-B71

References
WP 0030 00

DISASSEMBLY



WARNING

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

1. Remove rear lock pin (1) and midlock pin (2).

2. Grasp charging handle (3) (on bolt carrier) and pull to rear until bolt clears barrel extension.

3. While holding charging handle (3) to rear, lift back end of upper receiver assembly (4) until it clears bolt. Allow bolt carrier to return slowly to its forward position.

4. Disengage front hook of upper receiver assembly (4) from front hook pin on lower receiver assembly (5) and lift upper receiver assembly clear of lower receiver assembly.

WARNING

Mainspring buffer and mainspring are under heavy spring tension. Exercise care to avoid injury.

CAUTION

When removing bolt carrier from lower receiver assembly, ensure carrier is completely forward of housing before lifting to avoid damage to lower receiver assembly.

5. Pull bolt and carrier assembly (6) rearward and insert rear lock pin (1) through mainspring buffer and mainspring.
6. Gently pull bolt and carrier assembly (6) forward and lift from lower receiver assembly (5).
7. Grasp cartridge magazine (7) and pull to remove from lower receiver assembly (5).

REPAIR OR REPLACEMENT

Repair defective parts as authorized by WP 0030 00.

ASSEMBLY

1. Insert cartridge magazine (7) into lower receiver assembly (5).
2. Place bolt and carrier assembly (6) into forward part of lower receiver assembly (5)

WARNING

Mainspring buffer and mainspring are under heavy spring tension. Exercise care to avoid injury.

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

END OF WORK PACKAGE

UNIT

LONG RANGE SNIPER RIFLE, M107
(NSN 1005-01-469-2133)

LOWER RECEIVER ASSEMBLY MAINTENANCE
REMOVAL, REPAIR OR REPLACEMENT, INSTALLATION

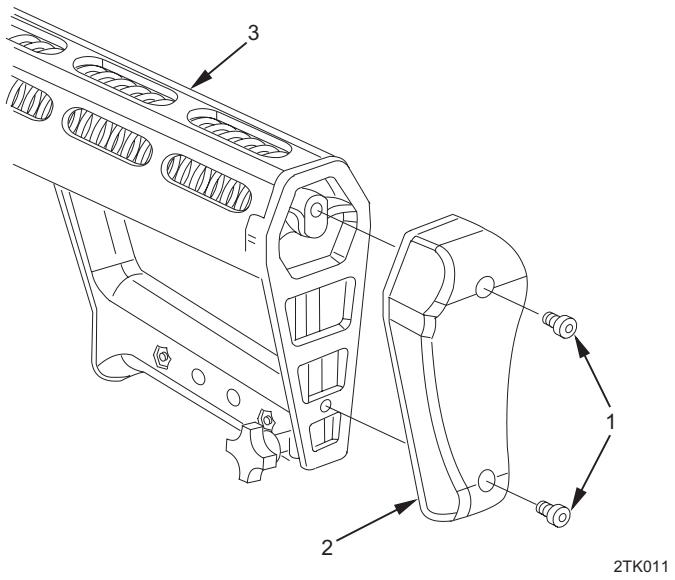
INITIAL SETUP:

Tools and Special Tools
Small Arms Repairer Tool Kit, SC 5180-95-B71
Torx Screwdriver Set, NSN 5120-01-167-1667

References
WP 0031 00

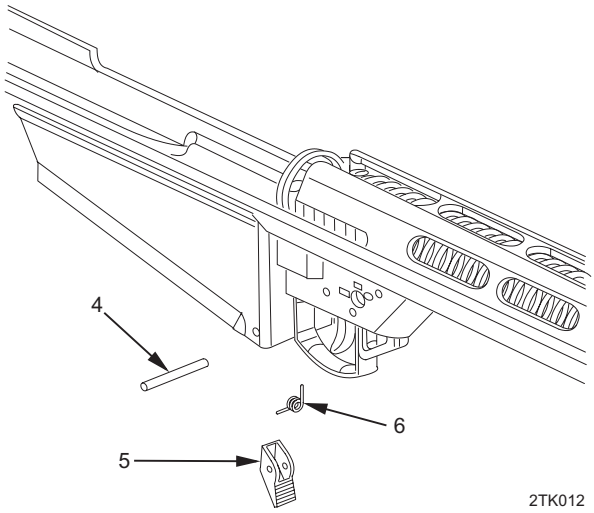
Equipment Conditions
Lower receiver assembly removed from upper receiver assembly (WP 0011 00)

REMOVAL

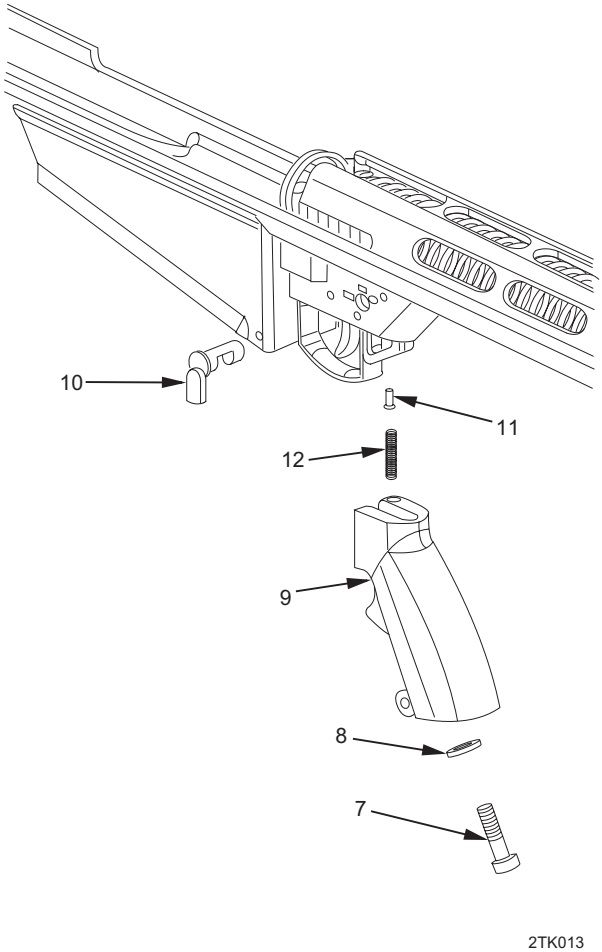


1. Using 5/32 in. Torx screw key, loosen and remove two recoil pad screws (1). Remove recoil pad (2) from lower receiver (3).

REMOVAL - Continued



2. Place 1/8 in. pin punch on magazine catch pin (4) and tap pin out with hammer. Remove magazine catch (5) and magazine catch spring (6).



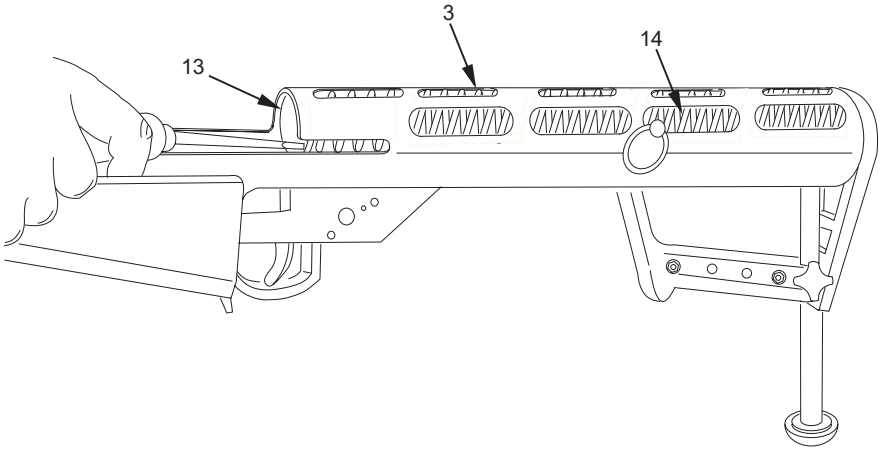
NOTE

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.

3. Remove pistol grip screw (7) and pistol grip washer (8) from pistol grip (9).

4. Using 1/16 in. roll punch, push out safety (10). Remove safety, safety detent (11), safety spring (12), and pistol grip (9).

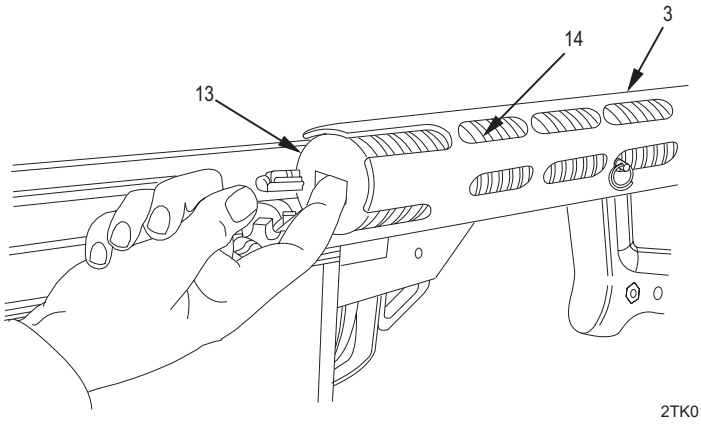


WARNING

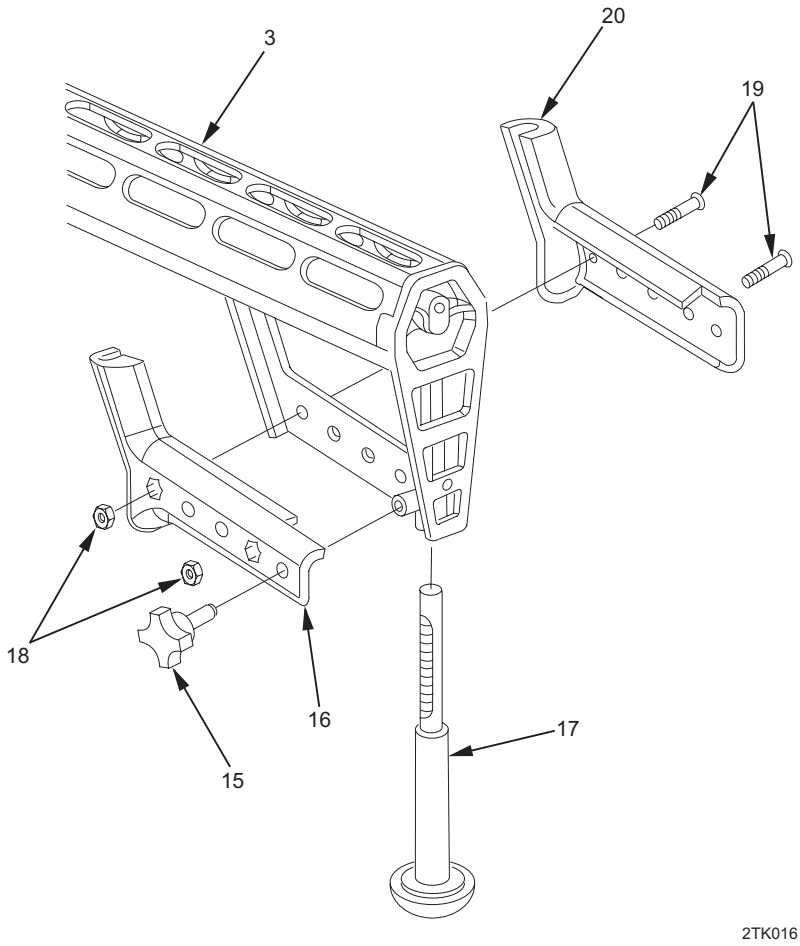
Wear eye protection during removal of mainspring or mainspring buffer. Serious injury could result if they are released improperly.

5. Ensure that bolt carrier has been removed. Manually (e.g., using a screwdriver) push mainspring buffer (13) to rear and place rear lock pin or 1/8 in. punch through coils of mainspring (14) and ports in lower receiver (3). This will relieve some of the pressure on the buffer as it is removed.

REMOVAL - Continued



6. Place fingertip into slot on mainspring buffer (13), and turn buffer so that groove in its flange lines up with buffer stop on lower receiver (3). Slowly and carefully remove mainspring buffer and mainspring (14).



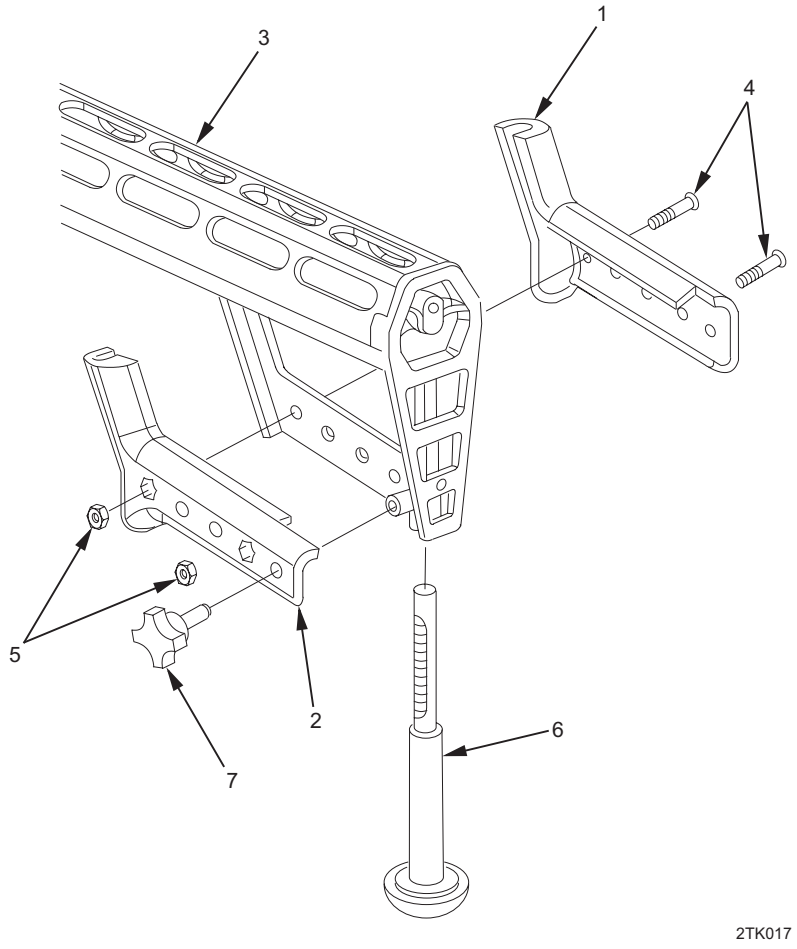
7. Remove lock knob (15) from left rear hand grip (16). Carefully remove monopod assembly (17) from lower receiver (3).

8. Remove two rear hand grip nuts (18), two rear hand grip screws (19), right rear hand grip (20), and left rear hand grip (16) from lower receiver (3).

REPAIR OR REPLACEMENT

Repair defective parts as authorized by WP 0031 00.

INSTALLATION

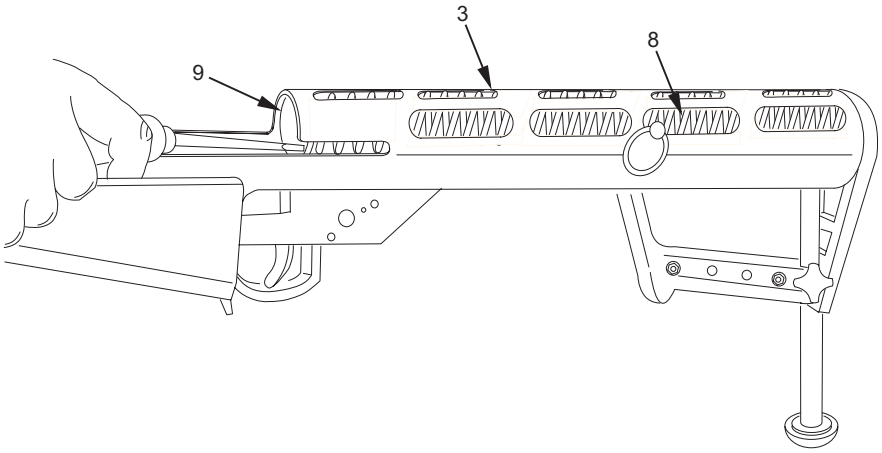


1. Align right rear hand grip (1) and left rear hand grip (2) on lower receiver (3).

2. Using T-27 T-handle Torx screwdriver, install two rear hand grip screws (4) and two rear hand grip nuts (5).

3. Slide monopod assembly (6) into lower receiver (3) and secure with lock knob (7).

INSTALLATION - Continued



4. Slide mainspring (8) into lower receiver (3).

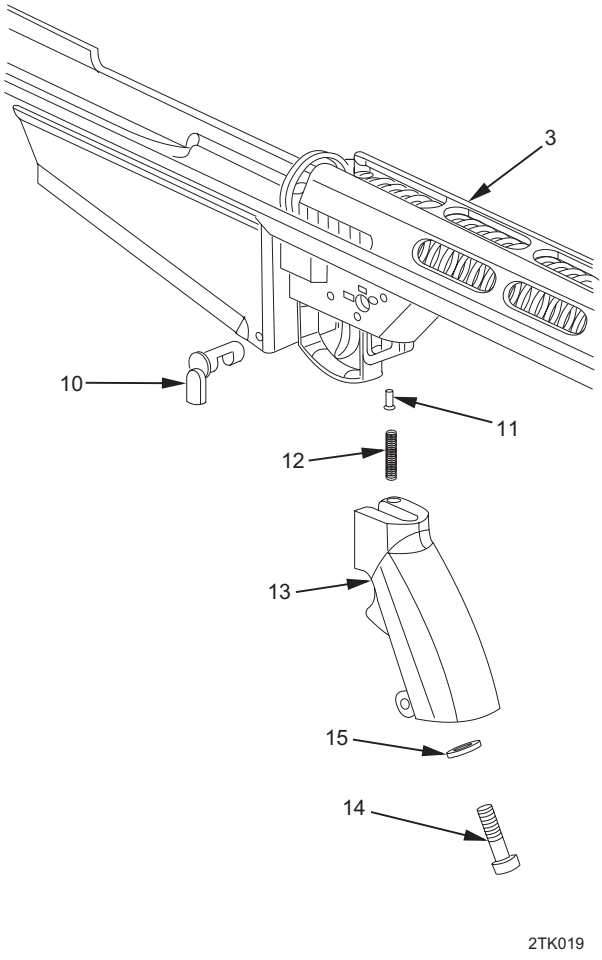
5. Place mainspring buffer (9) on end of mainspring (8). Guide mainspring into housing until buffer is even with housing.

6. Place the end of a screw driver into slot on mainspring buffer (9), and turn buffer so that groove in its flange lines up with buffer stop on lower receiver (3).

7. Push mainspring buffer (9) to rear after mainspring (8) has passed buffer stop.

8. Turn screwdriver so that groove in mainspring buffer (9) and buffer stop are no longer in line. Insert rear lock pin through mainspring (8) for safety.

9. Ease off pressure applied to screwdriver until mainspring buffer (9) stops on buffer stop.



10. Install safety (10) (from left to right, indicator between **FIRE** and **SAFE**) to lower receiver (3).

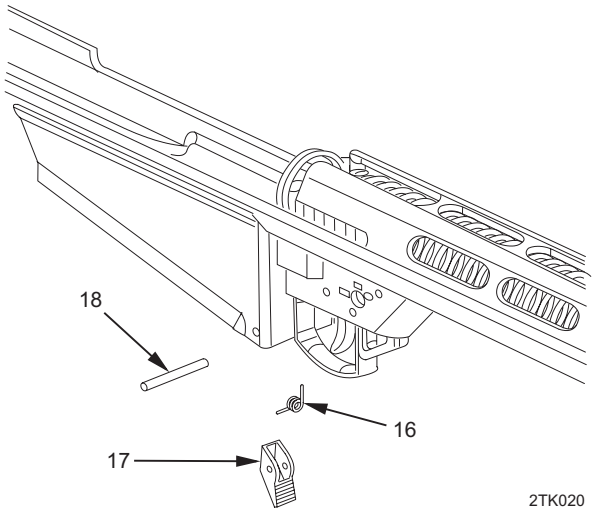
11. Invert lower receiver (3) and insert safety detent (11) and safety spring (12).

12. Align pistol grip (13) with lower receiver (3). Ensure that safety spring (12) is in place in the small hole, top lip of the pistol grip.

13. Secure pistol grip (13) to lower receiver (3) with pistol grip screw (14) and pistol grip washer (15) using T-30 Torx screw key.

14. Check safety (10) to ensure proper engagement with safety detent (11) by switching from **SAFE** to **FIRE**. The trigger will NOT depress when safety select switch is in the **SAFE** position.

INSTALLATION - Continued



NOTE

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

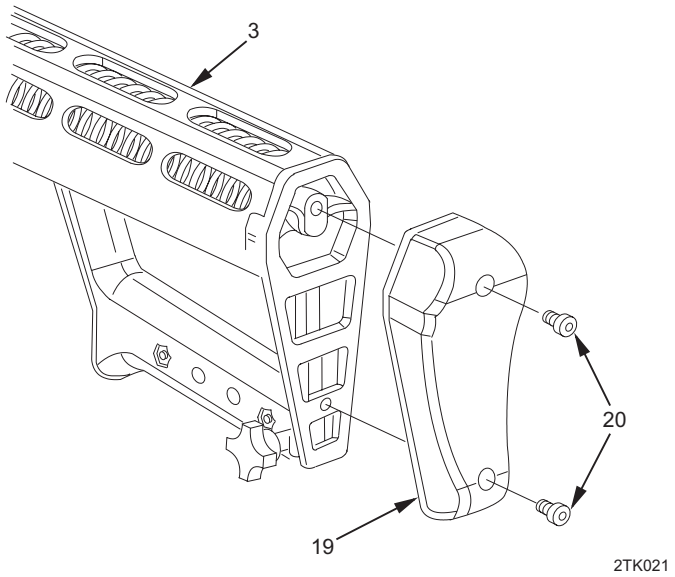
15. Place magazine catch spring (16) in magazine catch (17), aligning center of spring with two holes in magazine catch.

16. Insert magazine catch (17) into bottom rear of magazine well and align magazine catch with two holes at rear of magazine well.

17. 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.

18. Push punch until it shows on far side. This will hold magazine catch (17) in place against tension of magazine catch spring (16).

19. Place magazine catch pin (18) into hole until it is flush with magazine well.



20. Position recoil pad (19) on butt end of lower receiver (3) and align holes in recoil pad with screw holes in lower receiver.

21. Using 5/32 in. T-27 Torx screw key, install two recoil pad screws (20) through two holes in recoil pad (19) and into two holes in stock.

END OF WORK PACKAGE

UNIT

LONG RANGE SNIPER RIFLE, M107
(NSN 1005-01-469-2133)

MONOPOD ASSEMBLY MAINTENANCE
DISASSEMBLY, CLEANING, REPAIR OR REPLACEMENT, ASSEMBLY

INITIAL SETUP:

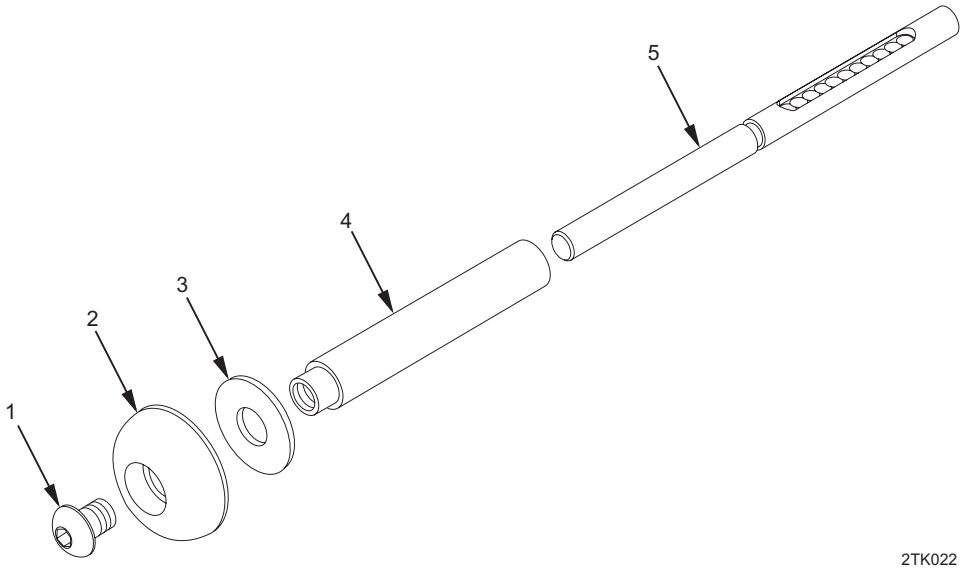
Tools and Special Tools
Small Arms Repairer Tool Kit, SC 5180-95-B71
Torx Screwdriver Set, NSN 5120-01-167-1667

Materials/Parts
Thread-locking Compound (item 26, WP 0045 00)

References
WP 0032 00

Equipment Conditions
Monopod assembly removed from lower receiver (WP 0012 00)

DISASSEMBLY



1. Remove monopod foot screw (1), monopod foot (2), and monopod foot washer (3) from elevation collar (4).
2. Separate monopod screw (5) from elevation collar (4).

CLEANING

Remove all old thread-locking compound from monopod foot screw (1) and elevation collar (4).

REPAIR OR REPLACEMENT

Replace defective parts as authorized by WP 0032 00.

ASSEMBLY

1. Apply thread-locking compound to threads of monopod foot screw (1).
2. Install monopod foot washer (3) and monopod foot (2) on elevation collar (4) and secure with monopod foot screw (1). Remove excess thread-locking compound.
3. Install monopod screw (5) into elevation collar (4).

END OF WORK PACKAGE

UNIT

LONG RANGE SNIPER RIFLE, M107
(NSN 1005-01-469-2133)

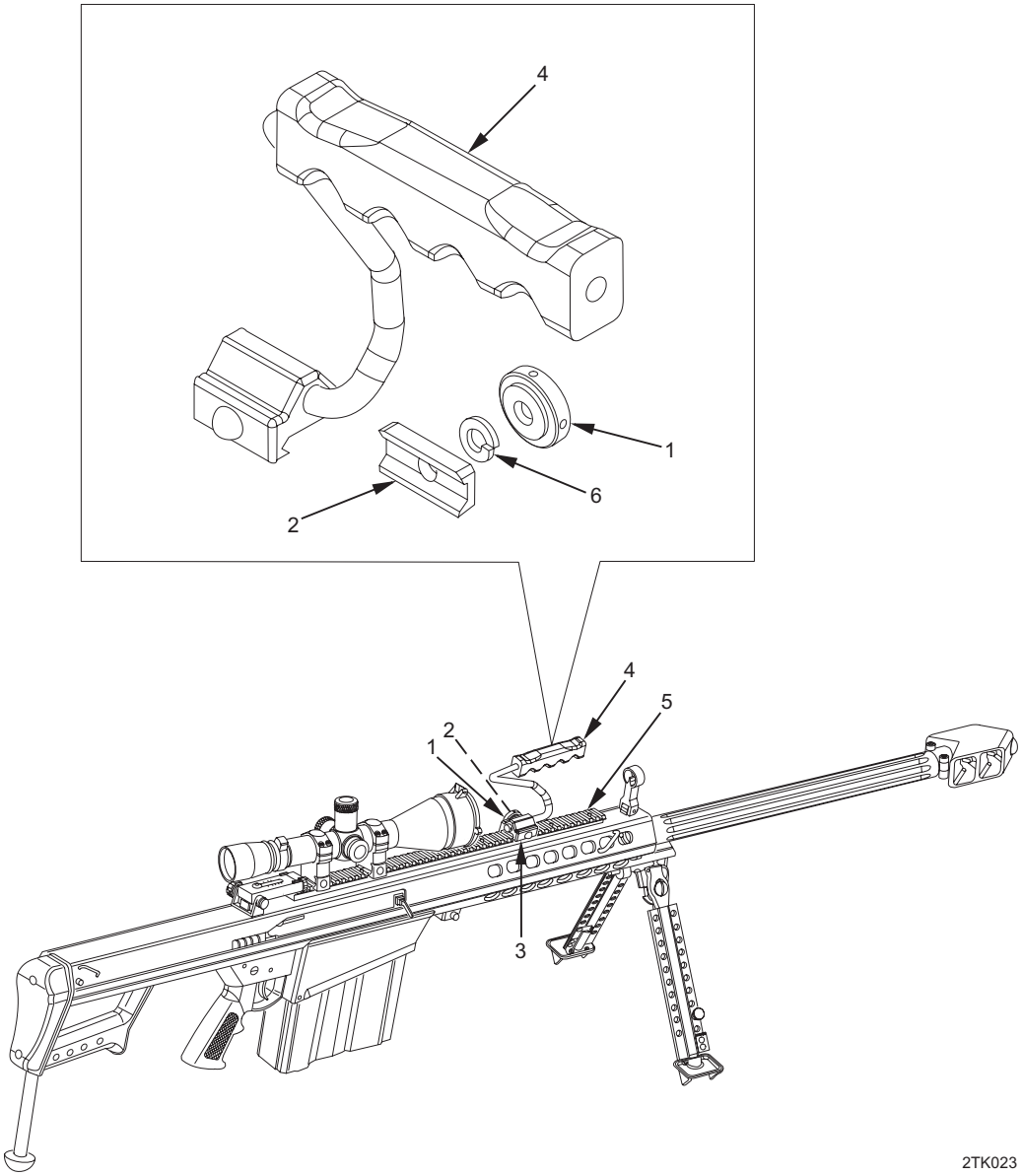
CARRYING HANDLE ASSEMBLY MAINTENANCE
REMOVAL, DISASSEMBLY, REPAIR OR REPLACEMENT, ASSEMBLY, INSTALLATION

INITIAL SETUP:

Tools and Special Tools
Small Arms Repairer Tool Kit, SC 5180-95-B71

References
WP 0034 00

REMOVAL



1. Loosen carrying handle nut (1) by turning counterclockwise.

2. Slide carrying handle clamp (2) away from body (3) of carrying handle assembly (4) and lift handle from rail (5).

DISASSEMBLY

Remove carrying handle nut (1), carrying handle lock washer (6), and carrying handle clamp (2) from carrying handle assembly (4).

REPAIR OR REPLACEMENT

Replace defective parts as authorized by WP 0034 00.

ASSEMBLY

Install carrying handle clamp (2) on carrying handle assembly (4) and secure with carrying handle lock washer (6) and carrying handle nut (1).

INSTALLATION

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

2. Tighten carrying handle nut (1).

END OF WORK PACKAGE

UNIT

LONG RANGE SNIPER RIFLE, M107
(NSN 1005-01-469-2133)

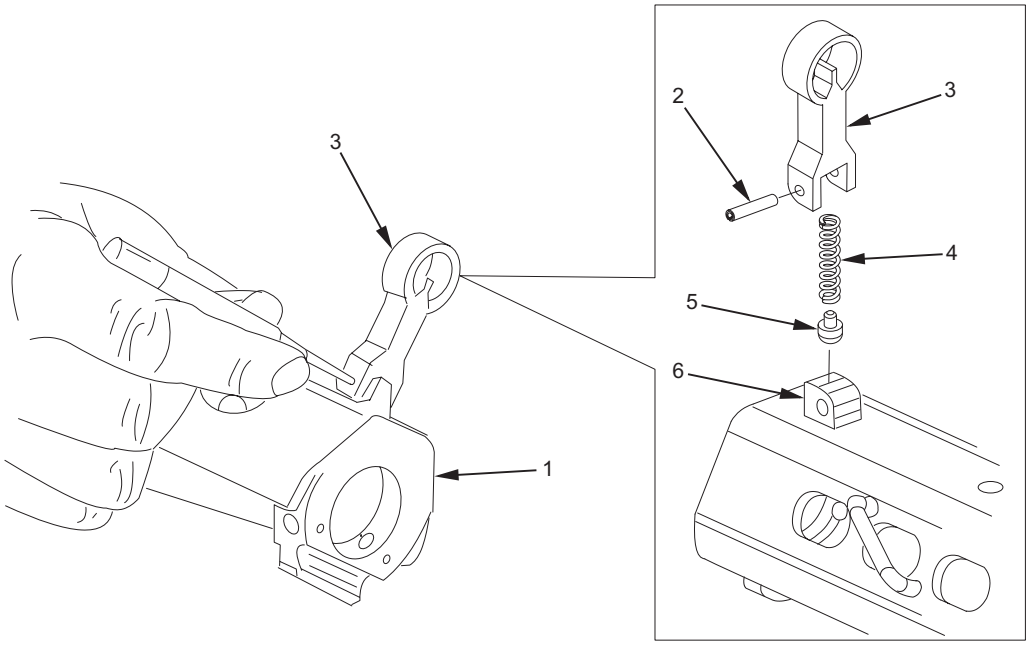
FRONT SIGHT ASSEMBLY MAINTENANCE
REMOVAL, REPAIR OR REPLACEMENT, INSTALLATION

INITIAL SETUP:

Tools and Special Tools
Small Arms Repairer Tool Kit, SC 5180-95-B71

References
WP 0035 00

REMOVAL



CAUTION

Use caution to avoid losing the front sight spring from front sight detent.

1. Place upper receiver assembly (1) on a firm surface and place 1/8 in. pin punch in end of front sight pin (2). Carefully tap punch with hammer to remove front sight pin.
2. Remove front sight (3), front sight spring (4), and front sight detent (5).

REPAIR OR REPLACEMENT

Replace defective parts as authorized by WP 0035 00.

INSTALLATION

1. Insert front sight spring (4) and front sight detent (5) into bottom of front sight (3).
2. Place upper receiver assembly (1) on firm surface and place front sight (3) on front sight base (6).
3. Insert front sight pin (2) into hole on side of front sight (3) and carefully tap it in with hammer.

END OF WORK PACKAGE

UNIT

LONG RANGE SNIPER RIFLE, M107
(NSN 1005-01-469-2133)

BOLT ASSEMBLY MAINTENANCE
REMOVAL, DISASSEMBLY, REPAIR OR REPLACEMENT, ASSEMBLY, INSTALLATION

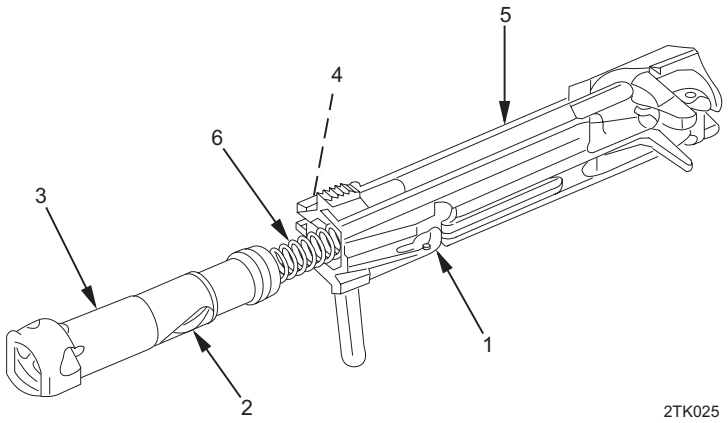
INITIAL SETUP:

Tools and Special Tools
Small Arms Repairer Tool Kit, SC 5180-95-B71

References
WP 0039 00

Equipment Conditions
Bolt and carrier assembly removed (WP 0011 00)

REMOVAL



WARNING

If cam pin assembly is lifted too far, the spring may lose tension. If this occurs, the weapon could malfunction or the weapon could fire when unlocked, with the potential for serious injury.

1. Using rear lock pin or 1/8 in. punch, disengage cam pin assembly (1). Lift or pry cam pin spring up just far enough to clear cam groove (2) in bolt assembly (3).

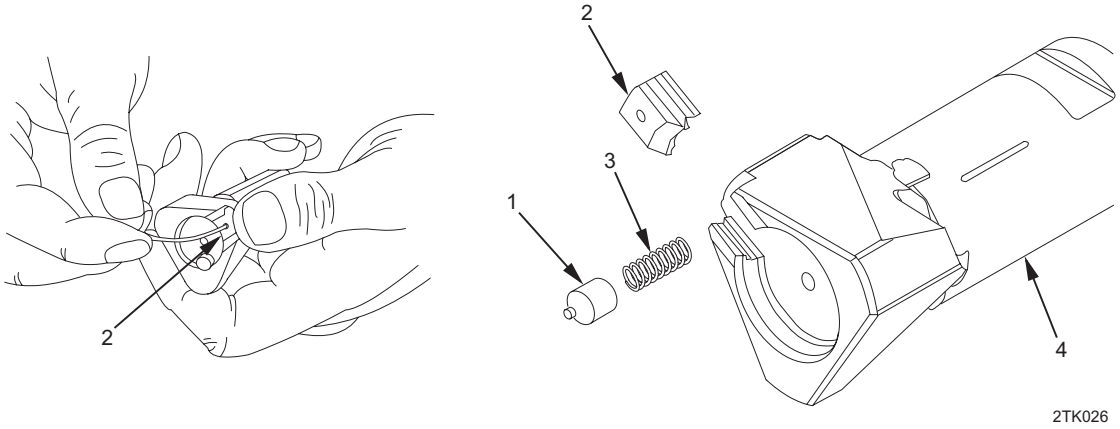
2. Depress bolt latch (4) on its rearward portion. At this point bolt assembly (3) should spring forward.

3. Grasp bolt assembly (3) and remove it from carrier (5), being careful not to lose or deform bolt spring (6).

DISASSEMBLY

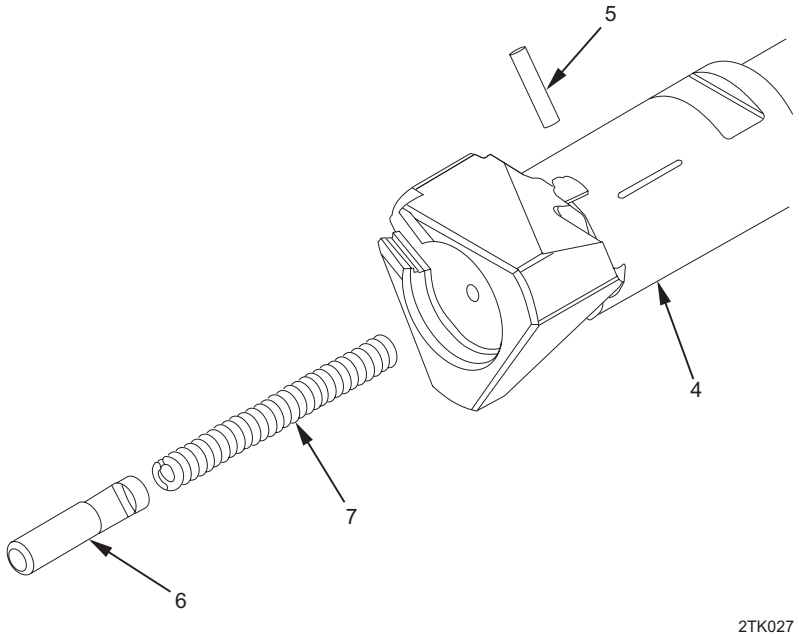
WARNING

Point bolt away from face while disassembling extractor/ejector. Injury may result if parts fly free.



1. Depress extractor plunger (1) by inserting 1/16 in. pin punch through hole of extractor (2) while simultaneously sliding extractor towards firing pin hole.

2. Remove extractor (2), extractor spring (3), and extractor plunger (1) from bolt (4). Use care to contain the spring and plunger.



NOTE

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

3. Place bolt (4) on firm surface. Placing end of 1/16 in. pin punch on end of ejector pin (5), lightly tap punch with hammer to remove pin.

4. Remove ejector (6) and ejector spring (7) from bolt (4).

REPAIR OR REPLACEMENT

Replace defective parts as authorized by WP 0039 00.

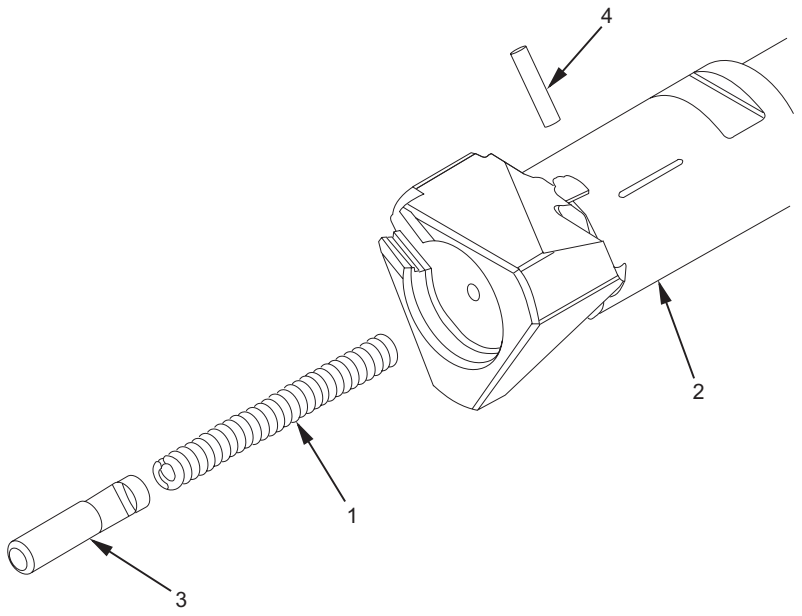
ASSEMBLY

WARNING

Point bolt away from face while assembling extractor/ejector. Injury may result if parts fly free.

NOTE

Assembly of the ejector may require assistance.

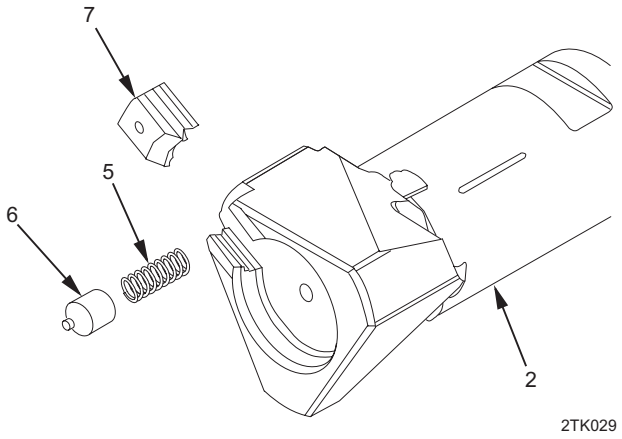


1. Insert ejector spring (1) into bolt (2).

2. Insert ejector (3) into bolt (2).

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

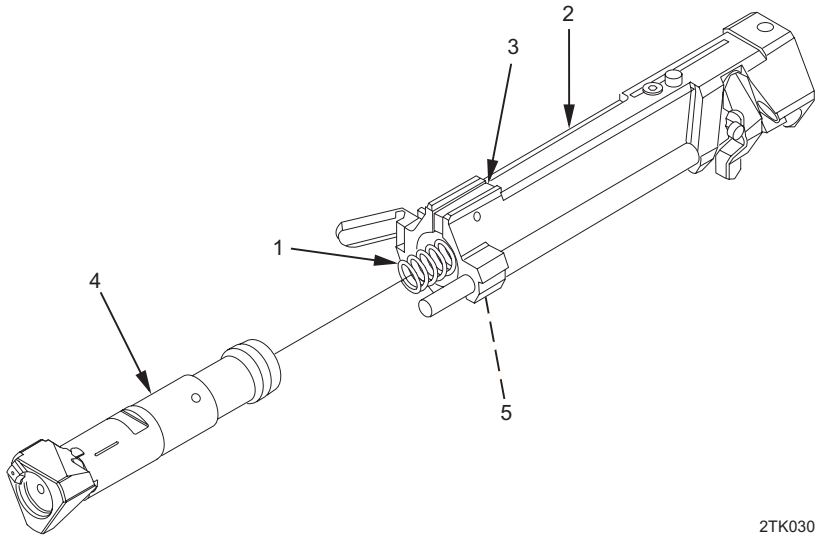
ASSEMBLY - Continued



4. Insert extractor spring (5) into bolt (2).

5. Press extractor plunger (6) into bolt (2) and slide extractor (7) over extractor plunger until hole in extractor is over extractor plunger.

INSTALLATION



1. Ensure bolt spring (1) is in bolt carrier (2). Depress bolt latch (3) and install bolt assembly (4) into bolt carrier, with cam groove at the bottom.

2. Compress bolt assembly (4) against bolt spring (1) until cam pin assembly (5) slips into cam groove.

END OF WORK PACKAGE

UNIT

LONG RANGE SNIPER RIFLE, M107
(NSN 1005-01-469-2133)

CARTRIDGE MAGAZINE MAINTENANCE
DISASSEMBLY, REPAIR OR REPLACEMENT, ASSEMBLY

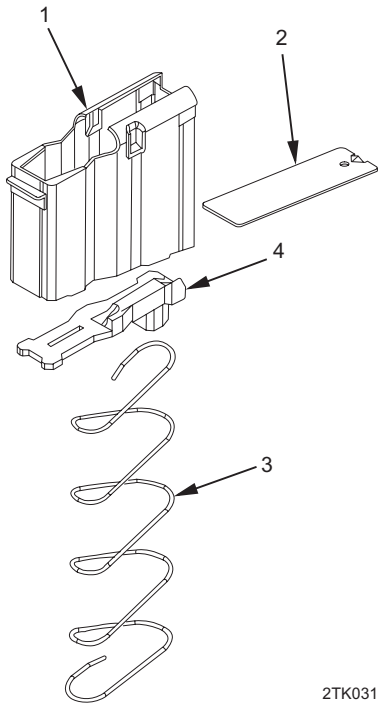
INITIAL SETUP:

Tools and Special Tools
Small Arms Repairer Tool Kit, SC 5180-95-B71

References
WP 0040 00

Equipment Conditions
Cartridge magazine removed from weapon (WP 0011 00)

DISASSEMBLY



WARNING

Wear eye protection to prevent injury from spring-loaded parts, particularly when removing the magazine base plate.

NOTE

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

1. Hold magazine tube (1) upside down on a firm surface and place end of 1/8 in. punch in hole located on base plate (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 (3) as base plate (2) is removed. Withdraw magazine spring and magazine follower (4) from magazine tube (1).

REPAIR OR REPLACEMENT

Replace defective parts as authorized by WP 0040 00.

ASSEMBLY

WARNING

Wear eye protection to prevent injury from spring-loaded parts, particularly when replacing the magazine base plate.

1. Ensure that loop of magazine spring (3) is around protrusion located on bottom of magazine follower (4).

2. Install magazine follower (4) and magazine spring (3) into magazine tube (1). Secure with base plate (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.

END OF WORK PACKAGE

UNIT

LONG RANGE SNIPER RIFLE, M107
(NSN 1005-01-469-2133)

OPTIC MOUNT SYSTEM AND SCOPE RING ASSEMBLY MAINTENANCE
REMOVAL, DISASSEMBLY, CLEANING, REPAIR OR REPLACEMENT, ASSEMBLY, INSTALLATION

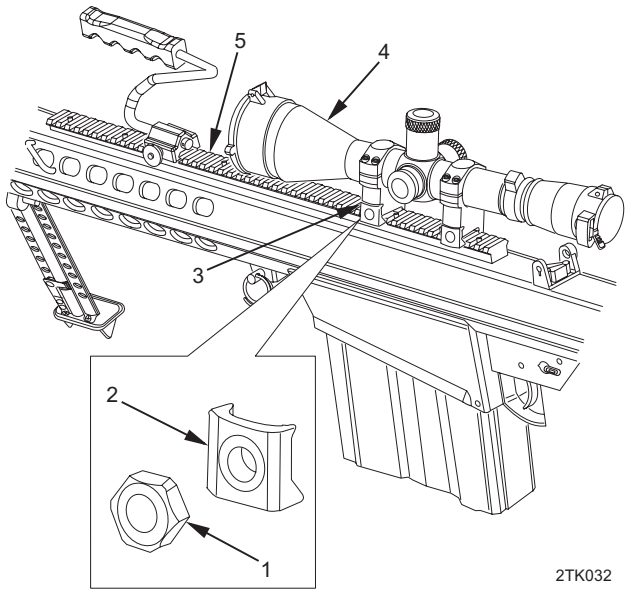
INITIAL SETUP:

Tools and Special Tools
Deployment Kit Tool Kit, TK-1 (item 1, WP 0028 00)
Small Arms Repairer Tool Kit, SC 5180-95-B71
Torx Screwdriver Set, NSN 5120-01-167-1667

Materials/Parts
Artist Brush (item 6, WP 0045 00)
Cleaner, Lubricant, and Preservative (CLP) (item 10, WP 0045 00)
General Purpose Cleaning Brush (item 7, WP 0045 00)
Isopropyl Alcohol (item 1, WP 0045 00)
Lens Paper (item 21, WP 0045 00)
Optical Lens Cleaning Compound (item 12, WP 0045 00)
Wiping Rag (item 23, WP 0045 00)

References
WP 0042 00

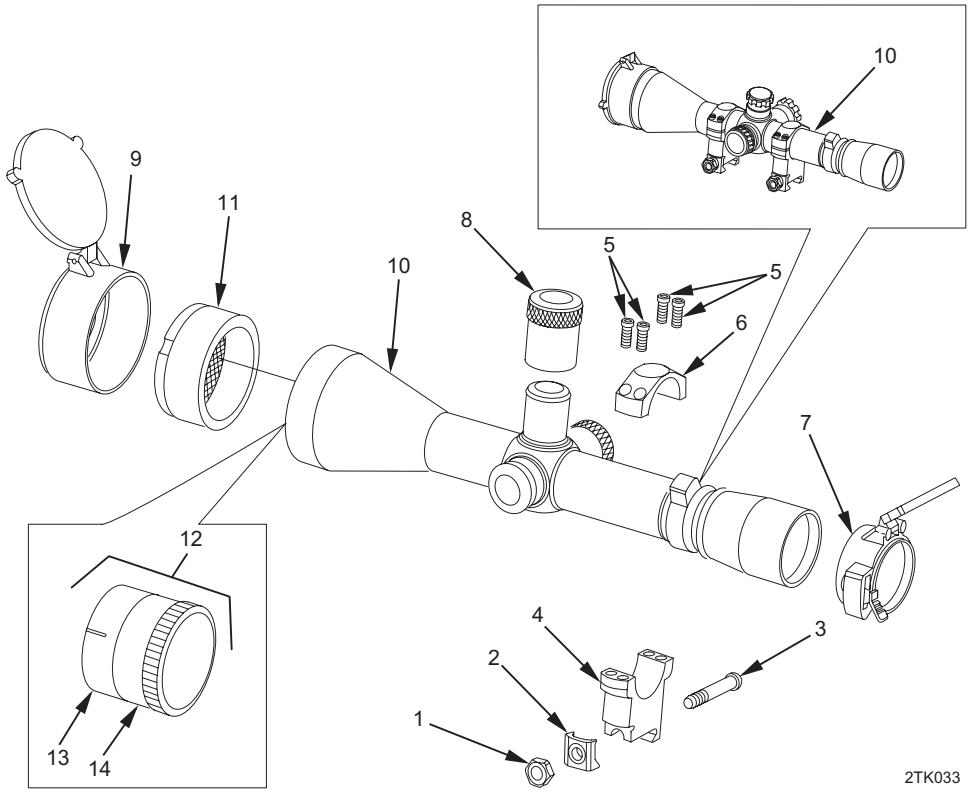
REMOVAL



1. Loosen two bolt nuts (1) using 1/2 in. box end wrench by turning counterclockwise.

2. Slide two bolt keepers (2) away from two scope rings (3) and lift scope (4) off rail (5).

DISASSEMBLY



1. Remove bolt nut (1), bolt keeper (2), and scope ring bolt (3) from bottom scope ring (4).
2. Remove four scope ring screws (5) from top scope ring (6) and separate top scope ring from bottom scope ring (4).
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 (7), three adjustment turret caps (8), and objective lens cover (9) from scope (10).
5. Remove anti-reflective device (11) or, if present, laser filter unit (12) from scope (10).
6. If damaged, separate laser filter cell (13) from knurled lock ring (14).

CLEANING

CAUTION

Use extreme care to protect lenses from solvents and scratches.

1. Remove dust, lint, and dirt from the lenses and exterior of the scope using a clean artist brush.

2. To remove smudges from the lenses, sparingly apply optical lens cleaning compound and wipe off moisture with lens paper. 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.

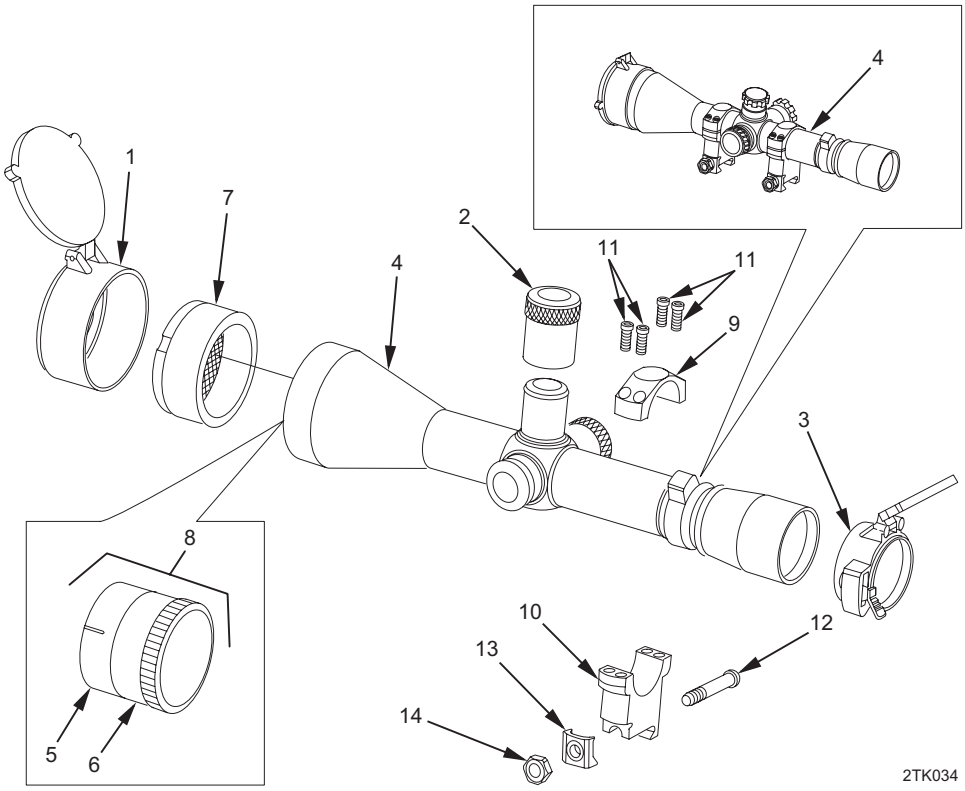
4. Keep lenses free of oil and grease. Use isopropyl alcohol with lens paper to remove fingerprints, oil spots, etc. Pat the lens; do not scrub.

5. After cleaning, apply a very light coat of CLP to the scope body.

REPAIR OR REPLACEMENT

Replace defective parts as authorized by WP 0042 00.

ASSEMBLY



NOTE

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

1. Install objective lens cover (1), three adjustment turret caps (2), and eyepiece lens cover (3) on scope (4).

2. If separated, install laser filter cell (5) on knurled lock ring (6).

3. Install anti-reflective device (7) or, if desired, laser filter unit (8) on scope (4).

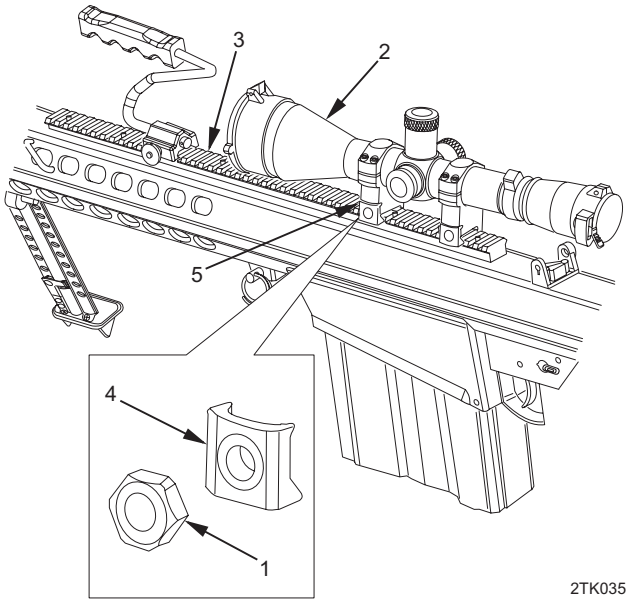
ASSEMBLY - Continued

4. Position top scope ring (9) and bottom scope ring (10) around scope (4) and secure with four scope ring screws (11), using T15 T-handle Torx screwdriver.

5. Install scope ring bolt (12), bolt keeper (13), and bolt nut (14) on bottom scope ring (10).

6. Repeat steps 2 and 3 with other scope ring assembly.

INSTALLATION



1. Loosen two bolt nuts (1) and position scope (2) on rail (3).

2. Adjust two bolt keepers (4) against two scope rings (5) and tighten two bolt nuts (1). Using T-handled torque wrench, torque bolt nuts (refer to WP 0008 00).

END OF WORK PACKAGE

CHAPTER 5

DIRECT SUPPORT MAINTENANCE INSTRUCTIONS FOR LONG RANGE SNIPER RIFLE, M107

DIRECT SUPPORT

LONG RANGE SNIPER RIFLE, M107
(NSN 1005-01-469-2133)

SERVICE UPON RECEIPT
SERVICE UPON RECEIPT OF MATERIEL

SERVICE UPON RECEIPT OF MATERIEL

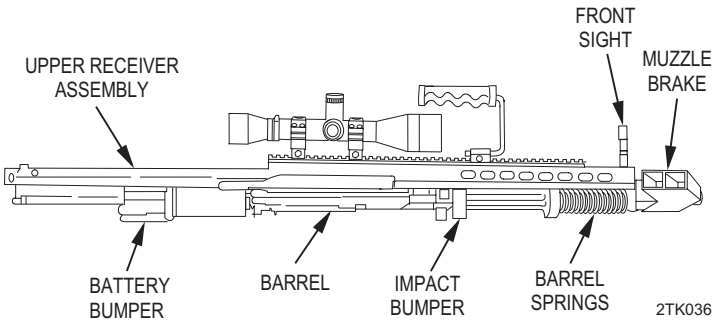
WARNING

To avoid injury, 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.

Checking Unpacked Equipment

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 over-stretched 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.

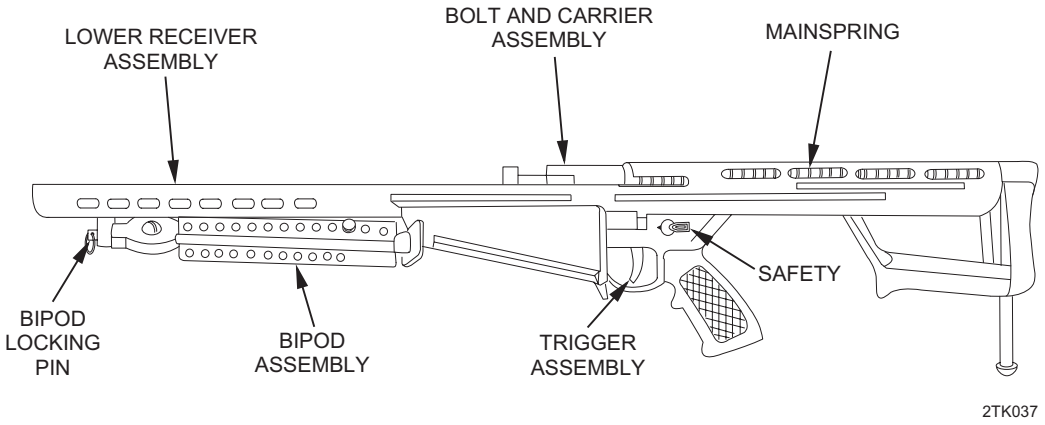
   d. Upper receiver assembly should not be cracked, bent, or burred. Pay special attention to hinge lip at front of receiver to ensure that it is not cracked, bent, or deformed in any way.

   e. Barrel should be clean and free of obstruction.

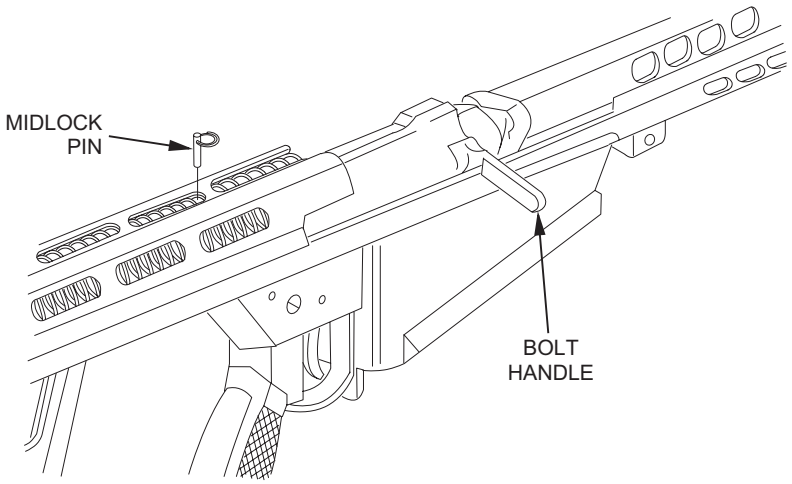
   f. All scope mountings (if scope is present) should be tight, in good condition, and free of oil. Front sight may be lightly oiled at pivot points to prevent corrosion.

SERVICE UPON RECEIPT OF MATERIEL - Continued

2. Lower Receiver Assembly.



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.



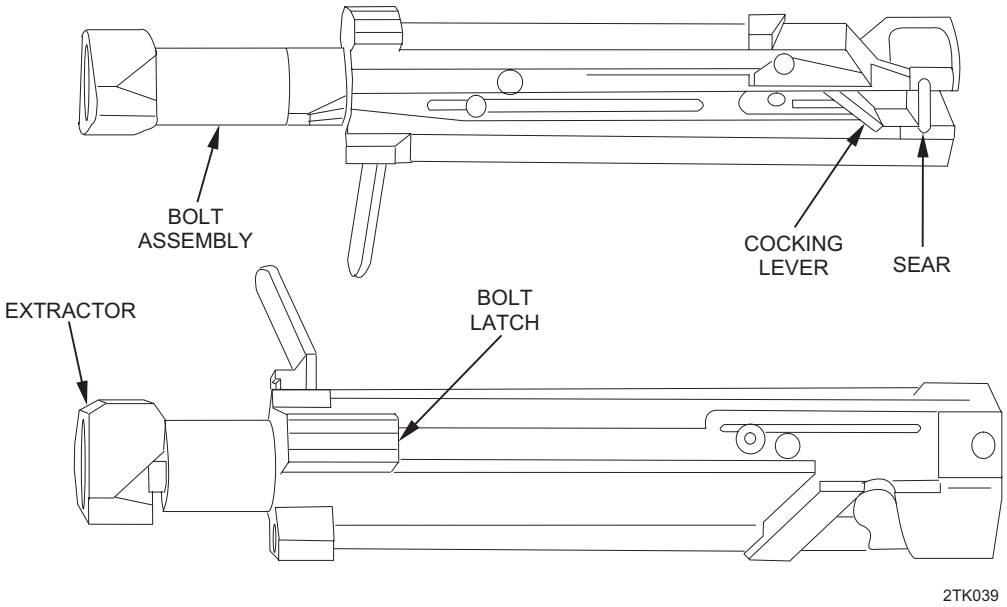
Standing above and to the rear of the lower receiver, grasp the bolt handle with the right hand and carefully pull back, against tension, while withdrawing the midlock pin from its retaining hole. Allow the bolt carrier to come forward SLOWLY until there is no more spring tension and it rests in the 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.

b. Hold bolt carrier back and down approximately 1/4 in. under mainspring housing (sheet metal closure). With thumb safety 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.



e. Using a 1/4 in. punch to push down, check ejector and extractor to ensure that they are under spring tension and neither chipped nor worn.

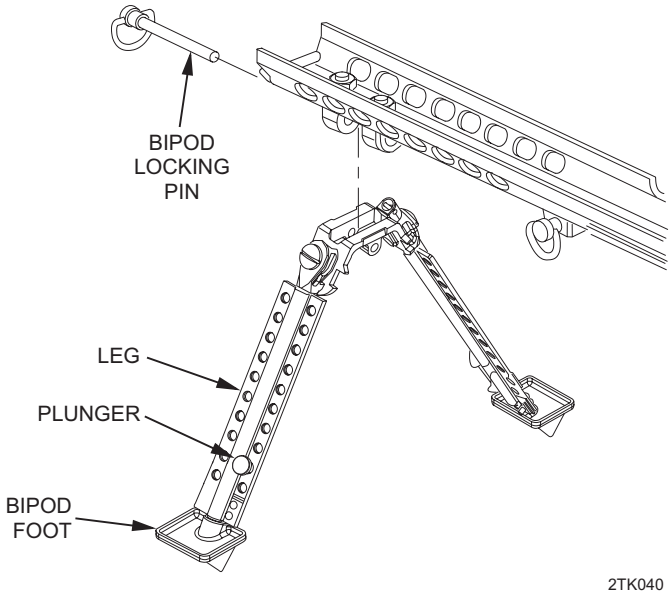
f. Cock cocking lever. Push down sear releasing firing pin. Depress bolt latch. Push bolt into carrier and inspect for firing pin protrusion. Check firing pin hole (on bolt face) to ensure that it is not eroded or elongated. Bolt face should not be pitted.

g. Inspect bolt latch; it should show no deformation.

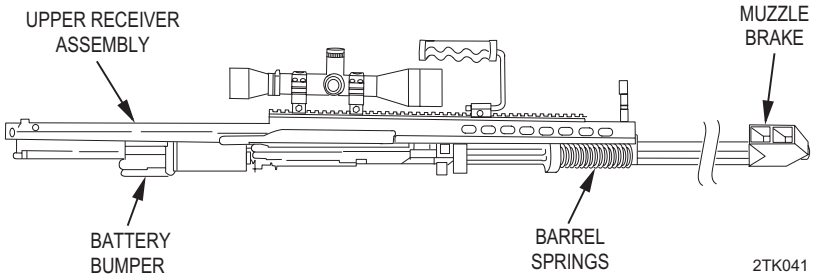
h. Swing cocking lever forward. Sear should capture firing pin extension before cocking lever is fully depressed.

SERVICE UPON RECEIPT OF MATERIEL - Continued

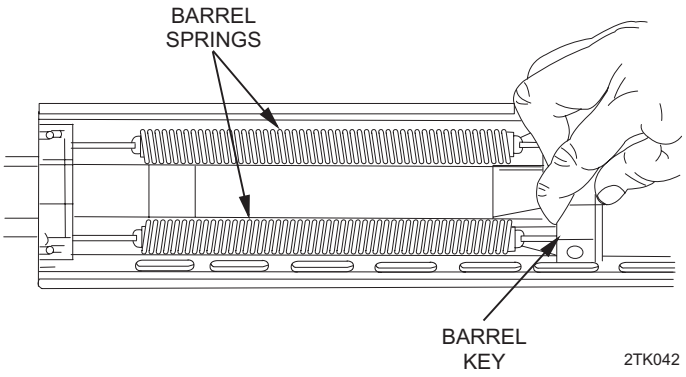
Assembly of Equipment



1. Grasp lower receiver. Extend bipod legs by pulling legs down to front, where they will lock into place. Pulling on feet of bipod causes 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.



2. Carefully pick up upper receiver assembly. 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. Keeping 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.

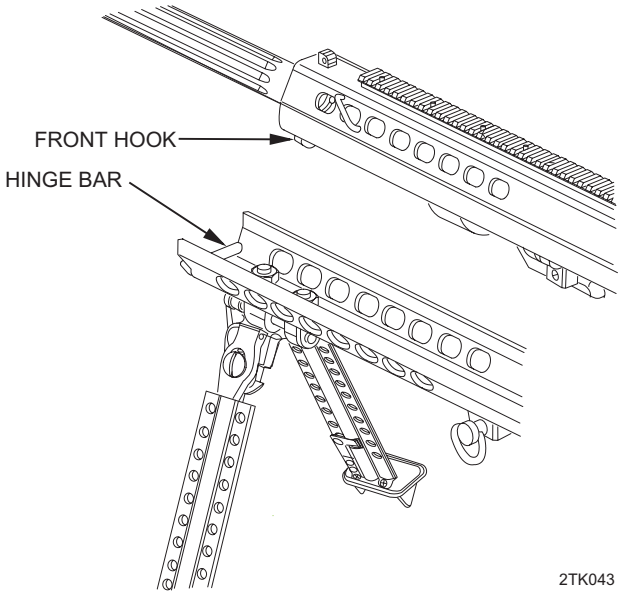


WARNING

The tension on the barrel springs is about 70 lb (31.8 kg). Serious injury can result if springs are released suddenly.

Incomplete or improper assembly may result in injury.

3. Barrel springs in upper receiver are held in place by a spring yoke, the barrel key. Maintaining 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.

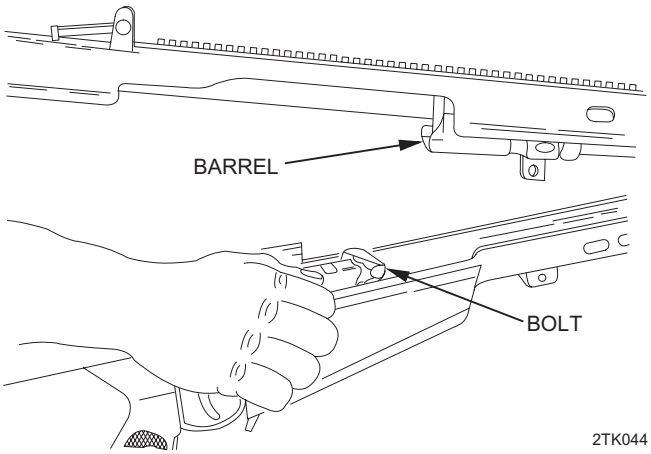


CAUTION

Be sure that hook and bar are properly mated so final assembly motion does not damage rifle.

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



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

WARNING

Do not fire rifle without midlock and rear lock pins firmly in place. Serious injury or death could result.

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.

END OF WORK PACKAGE

DIRECT SUPPORT

LONG RANGE SNIPER RIFLE, M107
(NSN 1005-01-469-2133)

LOWER RECEIVER ASSEMBLY AND TRIGGER ASSEMBLY MAINTENANCE REMOVAL, REPAIR OR REPLACEMENT, INSTALLATION

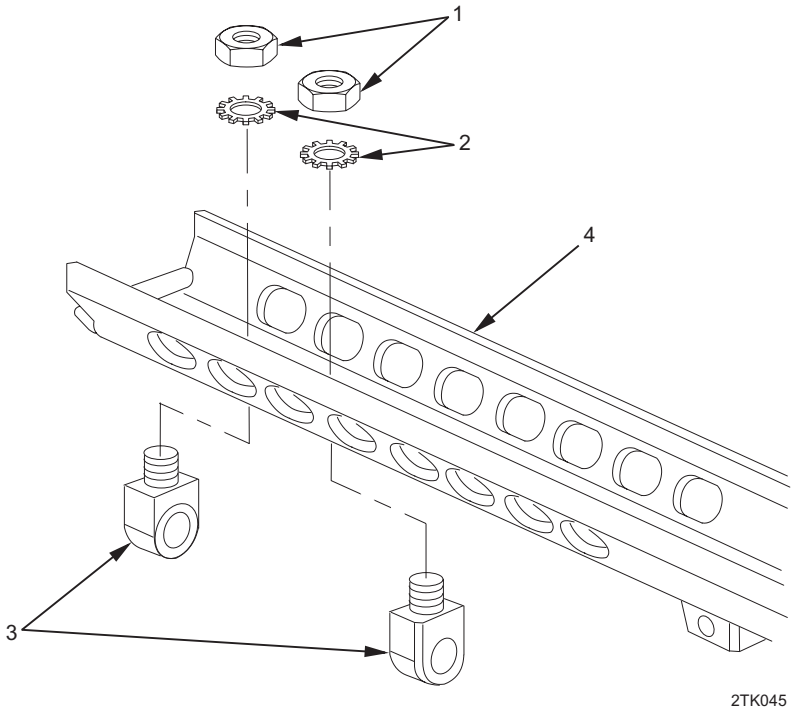
INITIAL SETUP:

Tools and Special Tools
Shop Set, Small Arms: Field Maintenance, Basic, SC 4933-95-A11

References
WP 0031 00

Equipment Conditions
Lower receiver assembly partially disassembled (WP 0012 00)
Bipod assembly removed from lower receiver assembly (WP 0025 00)

REMOVAL

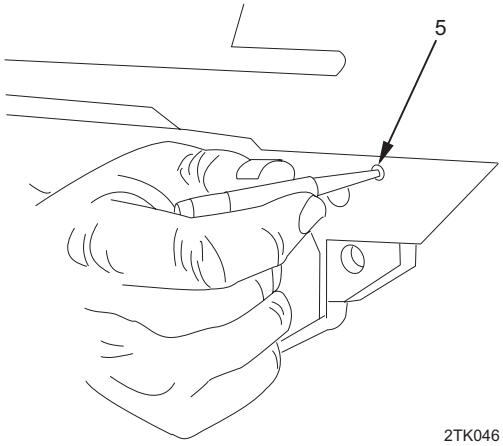


NOTE

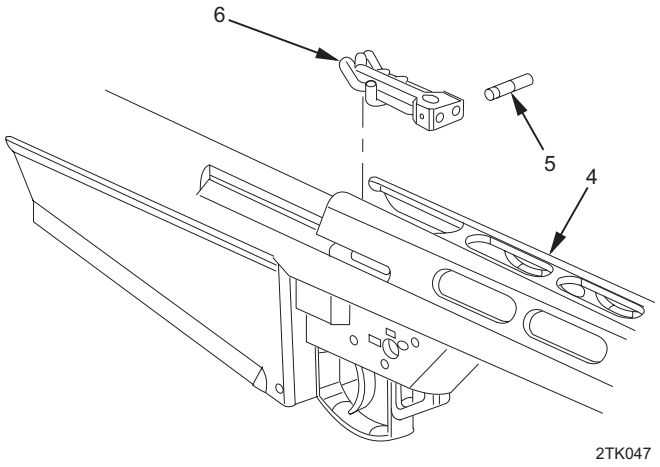
Yoke mount contains bushing. Retain for reassembly.

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

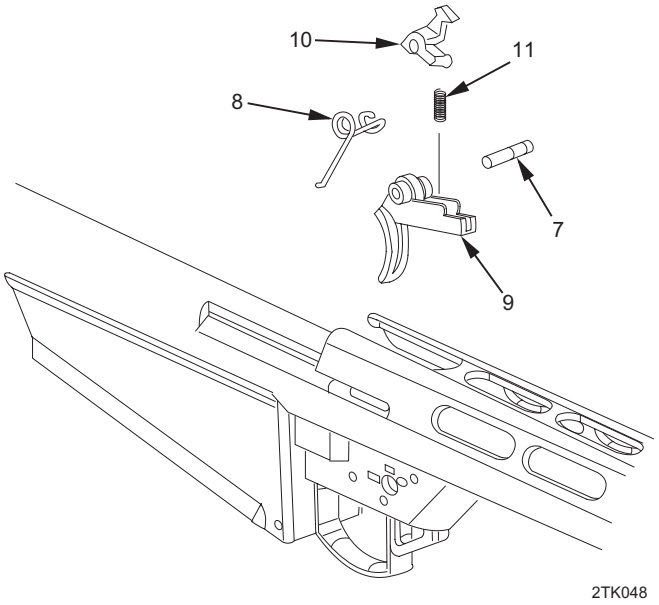
REMOVAL - Continued



2. Remove transfer bar pin (5) (behind safety in trigger housing) by placing 5/32 in. punch on pin and tapping it out with hammer.



3. Remove transfer bar assembly (6) from lower receiver (4).



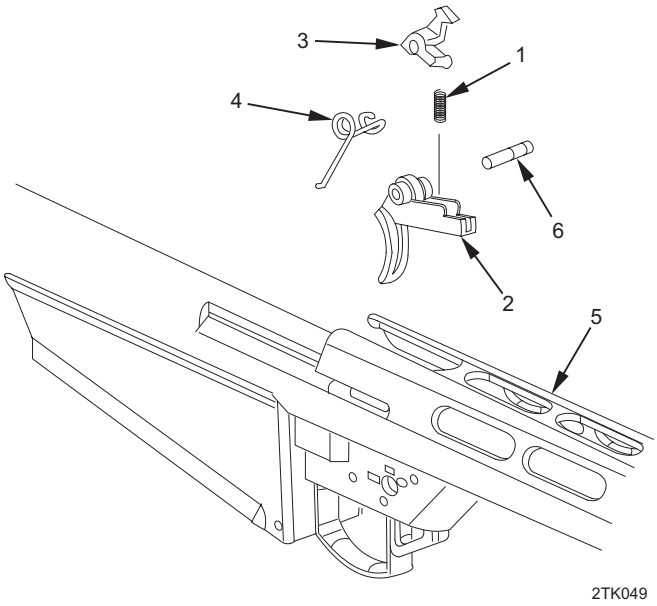
4. Remove trigger housing pin (7) (in front of safety in trigger housing) by placing 5/32 in. punch on pin and tapping it out with hammer.

5. Gently lift trigger spring (8) over protrusions in side of trigger (9). Separate disconnector (10) and disconnector spring (11) from trigger.

REPAIR OR REPLACEMENT

Replace defective parts as authorized by WP 0031 00.

INSTALLATION



1. Place disconnector spring (1) in top of trigger (2).

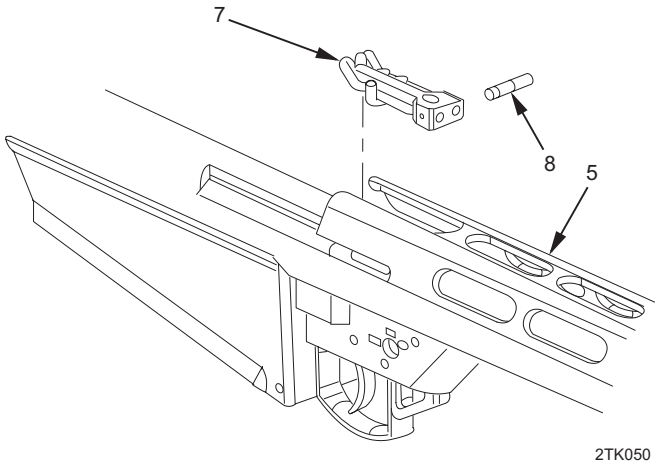
2. Insert disconnector (3) into slot on top of trigger (2), ensuring that disconnector spring (1) fits into slot on bottom of disconnector.

3. Gently slip trigger spring (4) over protrusions on side of trigger (2) to secure disconnector (3) and disconnector spring (1).

4. Place assembly of trigger (2), trigger spring (4), disconnector (3), and disconnector spring (1) into lower receiver (5) with long leg of trigger spring pointing forward.

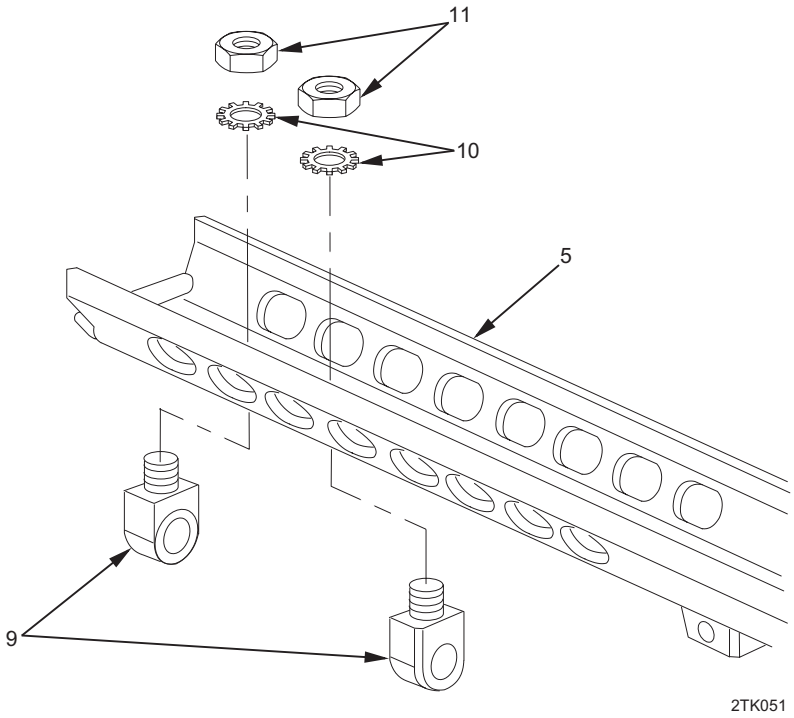
5. Extend trigger (2) into trigger guard area to proper depth.

6. Visually align trigger assembly through trigger housing pin hole on left side of lower receiver (5), and insert trigger housing pin (6). 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 disconnector (3) with finger while inserting pin. Do not use force or hammer pin into position through a misaligned hole.



7. Place transfer bar assembly (7) into lower receiver (5). Install transfer bar pin (8) to secure transfer bar assembly.

INSTALLATION - Continued



NOTE

Ensure that bushings are in place before installation of yoke mounts.

8. Install two yoke mounts (9), two yoke mount washers (10), and two yoke mount nuts (11) to lower receiver (5).

9. Torque two yoke mount nuts (11) to 30 to 40 ft-lb (40 to 54 N-m).

END OF WORK PACKAGE

DIRECT SUPPORT

LONG RANGE SNIPER RIFLE, M107
(NSN 1005-01-469-2133)

UPPER RECEIVER ASSEMBLY MAINTENANCE
DISASSEMBLY, REPAIR OR REPLACEMENT, ASSEMBLY

INITIAL SETUP:

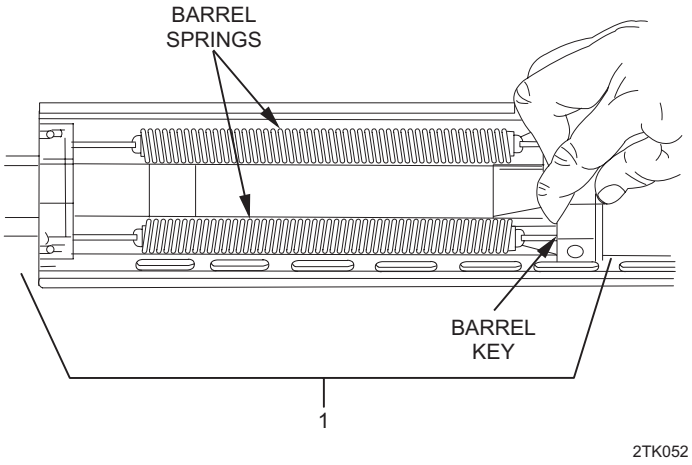
Tools and Special Tools
Shop Set, Small Arms: Field Maintenance, Basic , SC 4933-95-A11
Torx Screwdriver Set, NSN 5120-01-167-1667

Materials/Parts
Dry Film Lubricant (item 17, WP 0045 00)
Thread-locking Compound (item 26, WP 0045 00)

References
WP 0023 00
WP 0033 00

Equipment Conditions
Upper receiver assembly removed from lower receiver assembly (WP 0011 00)
Carrying handle assembly removed from upper receiver assembly (WP 0014 00)
Front sight assembly removed from upper receiver assembly (WP 0015 00)
Iron sight assembly removed from upper receiver assembly (WP 0022 00)
Muzzle brake removed from barrel (WP 0023 00)

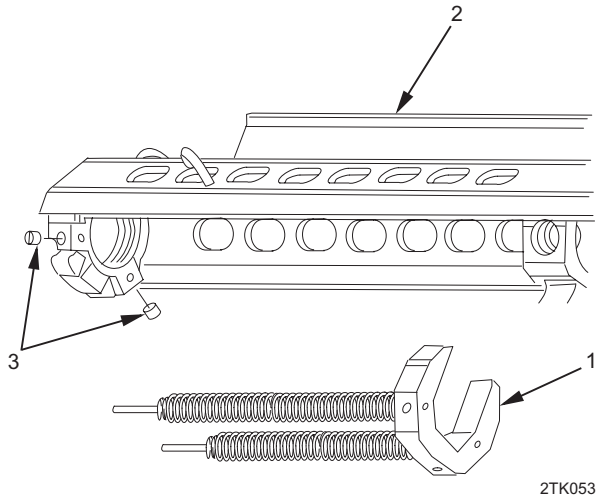
DISASSEMBLY



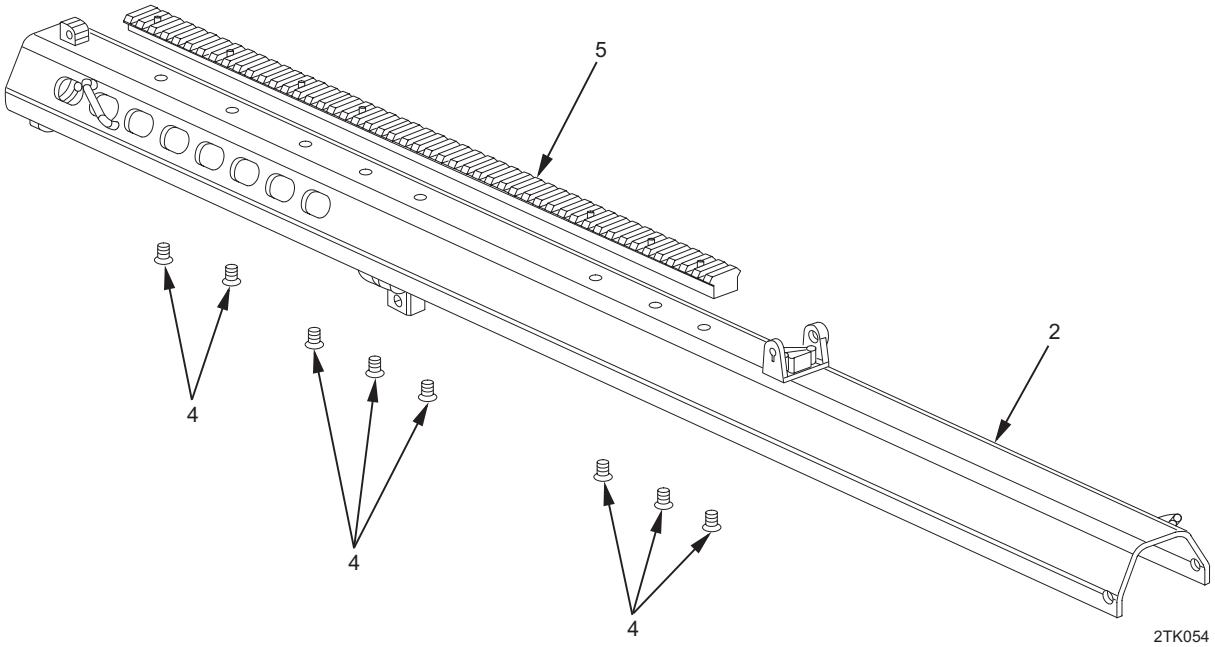
CAUTION

Do not pull on barrel springs to remove barrel key assembly. Doing so may damage the springs.

1. Assume that barrel spring is under tension. Withdraw barrel key assembly (1) from slot in barrel by slowly working it out. Slide barrel out rear of upper receiver (2). Refer to WP 0023 00.



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

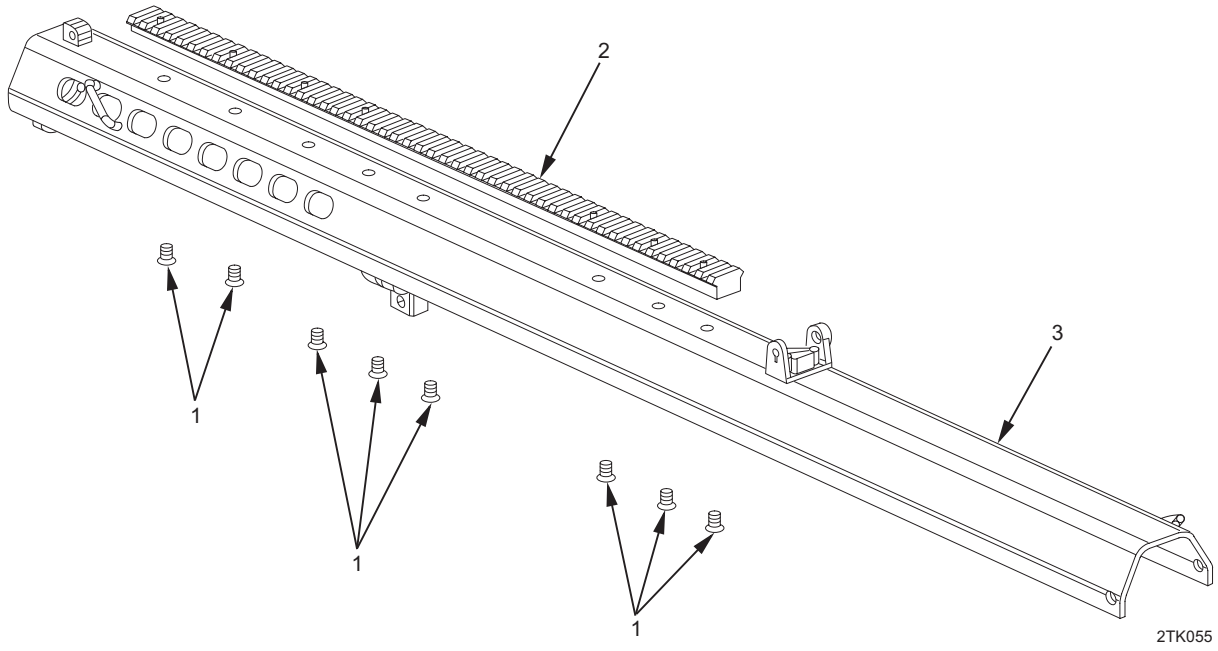


3. Remove eight scope base screws (4) and scope base (5) from upper receiver (2). Remove old thread-locking compound from threads of screws.

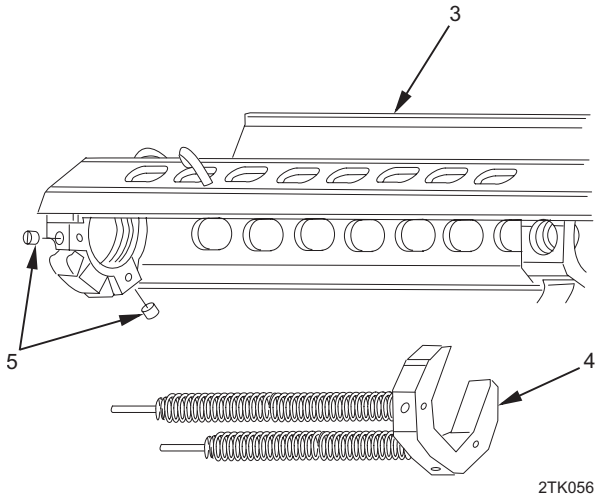
REPAIR OR REPLACEMENT

Replace defective parts as authorized by WP 0033 00.

ASSEMBLY



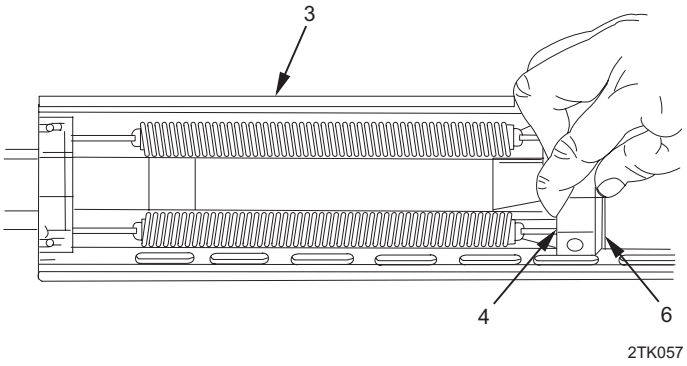
1. Apply thread-locking compound to threads of eight scope base screws (1).
2. Align scope base (2) on upper receiver (3) and secure with eight scope base screws (1).
3. Torque eight scope base screws (1) to 65 in-lb (7.4 N-m).



4. Insert springs of barrel key assembly (4) into front of upper receiver (3).
5. Push spring ends through front of upper receiver (3) until coil of spring abuts.
6. Apply thread-locking compound to threads of two barrel spring screws (5).

7. Install two barrel spring screws (5), using 1/8 in. hexagon wrench. Torque screws to 50 to 60 in-lb (5.69 to 6.83 N-m).

8. File excess spring material until flush with front of upper receiver (3) and touch up bare metal with dry film lubricant.



NOTE

Ensure that both battery bumper and impact bumper are in place on barrel before installation. Refer to WP 0023 00.

9. Slide barrel (6) into upper receiver (3) from rear.

10. Hold upper receiver (3) firmly with one hand. With the other hand pull barrel key assembly (4) toward rear until it can be fitted into slot on barrel (6).

11. Install muzzle brake (refer to WP 0023 00).

END OF WORK PACKAGE

DIRECT SUPPORT

LONG RANGE SNIPER RIFLE, M107
(NSN 1005-01-469-2133)

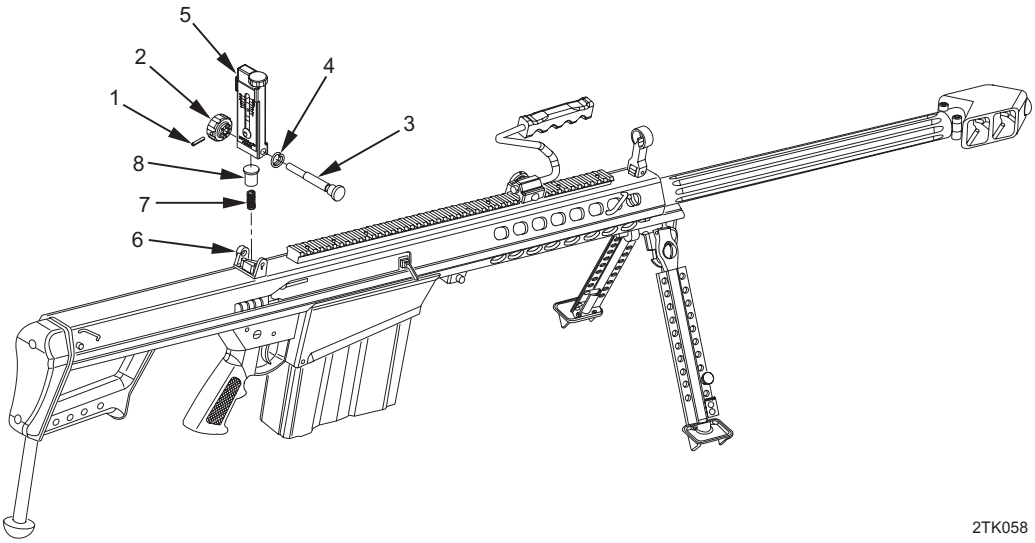
IRON SIGHT ASSEMBLY MAINTENANCE
REMOVAL, DISASSEMBLY, REPAIR OR REPLACEMENT, ASSEMBLY, INSTALLATION

INITIAL SETUP:

Tools and Special Tools
Deployment Kit Tool Kit, TK-1 (item 1, WP 0028 00)
Shop Set, Small Arms: Field Maintenance, Basic, SC 4933-95-A11

References
WP 0036 00

REMOVAL



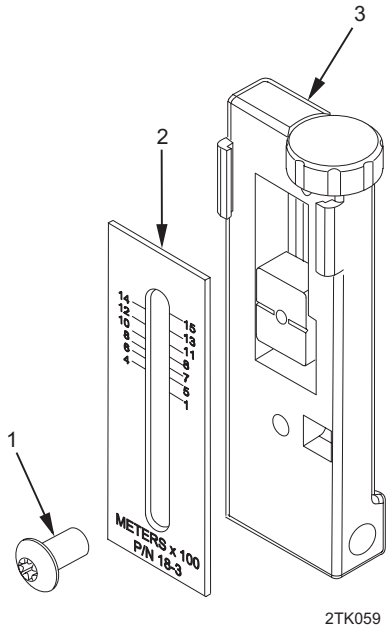
1. Using pin punch, drive windage knob pin (1) from windage knob (2).

2. Unscrew windage screw (3) slowly (under spring pressure), being careful not to lose windage screw spring (4).

3. Remove iron sight assembly (5) slowly (under spring pressure) from rear sight base (6), being careful not to lose rear sight base spring (7) and rear sight base detent (8).

4. Separate rear sight base spring (6) and rear sight base detent (7) from iron sight assembly (5).

DISASSEMBLY

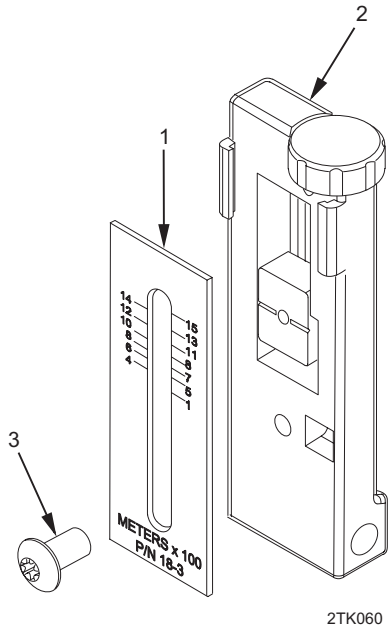


1. Remove rear sight scale screw (1) by turning counterclockwise.
2. Lift rear sight scale (2) from rear sight body (3).

REPAIR OR REPLACEMENT

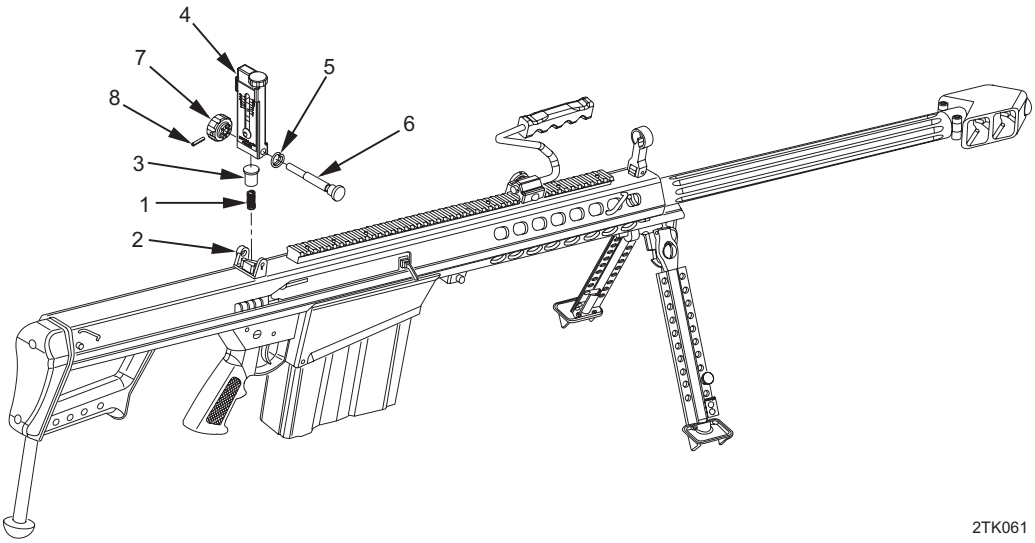
Replace defective parts as authorized by WP 0036 00.

ASSEMBLY



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

INSTALLATION



1. Place rear sight base spring (1) into hole in rear sight base (2); place rear sight base detent (3) on top of spring.

2. Lower iron sight assembly (4) into rear sight base (2), compressing rear sight base spring (1) and rear sight base detent (3). Align holes in rear sight base and iron sight assembly.

3. With windage screw spring (5) in place on windage screw (6), insert screw through rear sight base (2) and iron sight assembly (4). Screw windage screw into assembly.

4. Mount windage knob (7) onto windage screw (6) and align pin holes.

5. Drive in windage knob pin (8) until flush on both sides of windage knob (7).

END OF WORK PACKAGE

DIRECT SUPPORT

LONG RANGE SNIPER RIFLE, M107
(NSN 1005-01-469-2133)

BARREL ASSEMBLY MAINTENANCE
DISASSEMBLY, REPAIR OR REPLACEMENT, ASSEMBLY

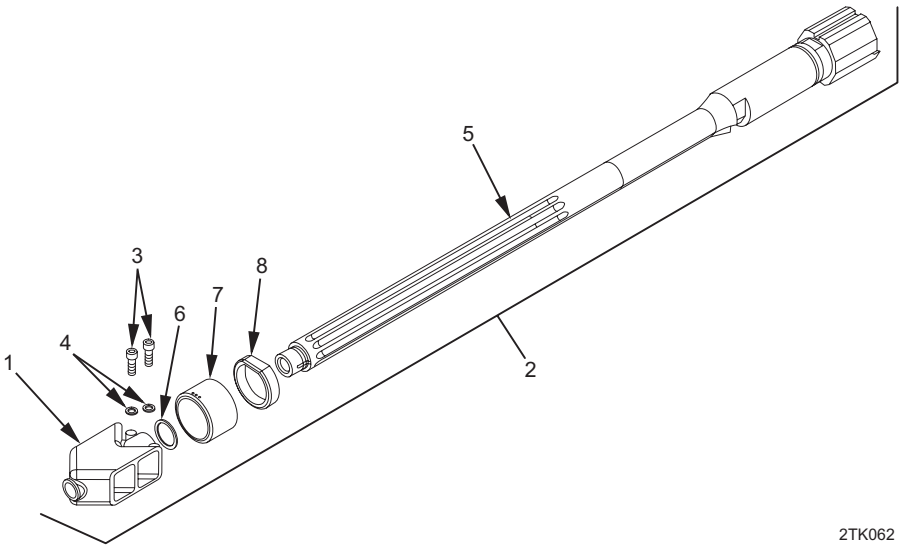
INITIAL SETUP:

Tools and Special Tools
Screwdriver Bit Socket Set, NSN 5120-01-178-6342
Shop Set, Small Arms: Field Maintenance, Basic, SC 4933-95-A11

References
WP 0037 00

Equipment Conditions
Weapon partially disassembled (WP 0011 00)

DISASSEMBLY



1. Separate upper receiver and barrel assemblies from lower receiver assembly. Remove muzzle brake (1) from barrel assembly (2) by removing two muzzle brake screws (3) and two muzzle brake washers (4); remove muzzle brake from barrel (5).

2. Place barrel assembly (2) on sturdy surface.

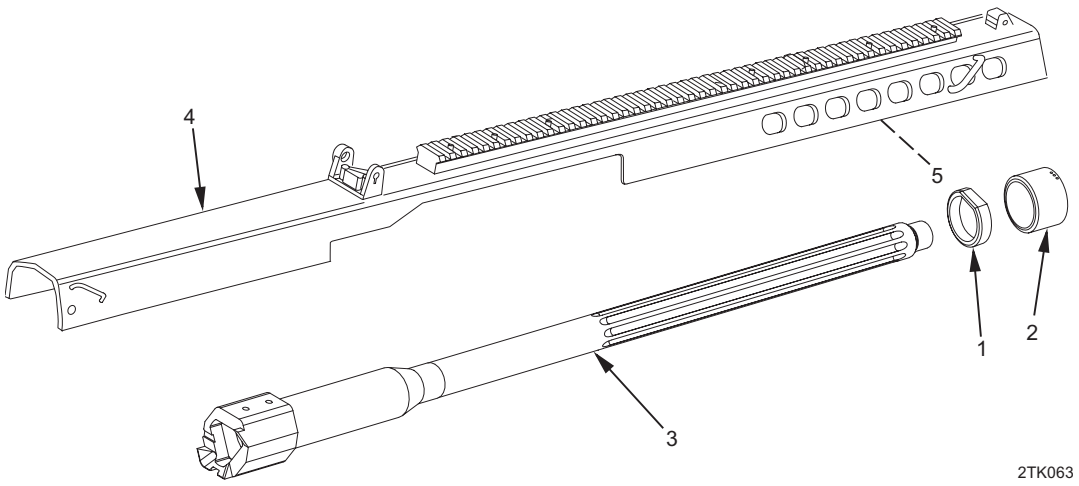
3. If present, remove muzzle brake shim(s) (6).

4. Remove impact barrel bumper (7) and battery bumper (8) from barrel (5).

REPAIR OR REPLACEMENT

Replace defective parts as authorized by WP 0037 00.

ASSEMBLY

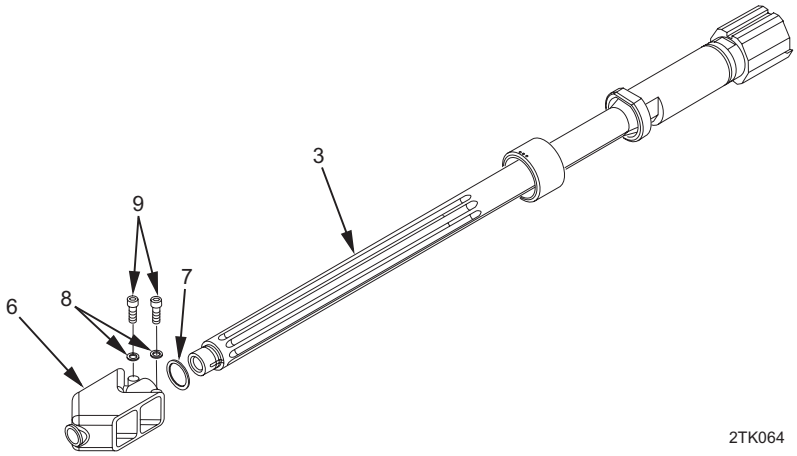


CAUTION

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.

1. Slide battery bumper (1) and impact barrel bumper (2) onto barrel (3). Slide barrel into upper receiver assembly (4) from rear.

2. Hold upper receiver assembly (4) firmly with one hand. With the other hand pull barrel key (5) toward rear until it can be fitted into slot on barrel (3).



WARNING

Do not fire rifle without muzzle brake firmly in place on barrel. Serious injury or death could result.

3. Screw muzzle brake (6) onto barrel (3) without using any shim(s) (7).

4. Hand tighten muzzle brake (6) so that, when standing behind it, it is oriented at an 0830 hours to 1430 hours position. If not properly aligned (passes 1430 hours), it will be necessary to use new shims to ensure the proper angle when hand-tightened.

5. Back off muzzle brake (6) until washer slots align and assess need for shims in gap between barrel (3) and brake.

NOTE

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

6. Remove muzzle brake (6), put shims (7) onto barrel (3), and replace muzzle brake.

7. Position two muzzle brake washers (8) and two muzzle brake screws (9). Do not tighten.

8. Screw muzzle brake (6) to proper 3 o'clock to 9 o'clock position. Hold barrel (3) and strike muzzle brake with large dead blow hammer to achieve final adjustment. Ensure that muzzle brake screws (9) are aligned with slots in barrel.

9. Using T-30 Torx screwdriver socket, torque muzzle brake screws (9) to 95 ± 5 in-lb (10.8 ± 0.6 N-m).

END OF WORK PACKAGE

DIRECT SUPPORT

LONG RANGE SNIPER RIFLE, M107
(NSN 1005-01-469-2133)

BOLT AND CARRIER ASSEMBLY MAINTENANCE
DISASSEMBLY, REPAIR OR REPLACEMENT, ASSEMBLY

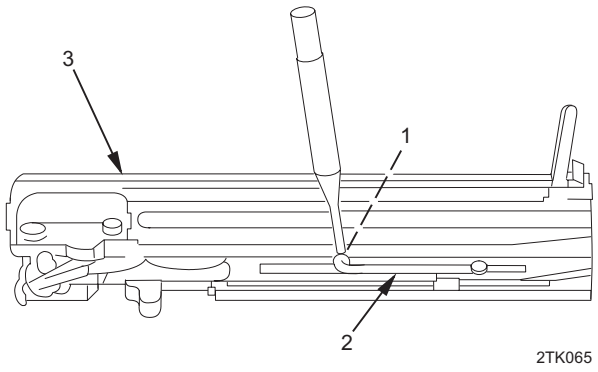
INITIAL SETUP:

Tools and Special Tools
Shop Set, Small Arms: Field Maintenance, Basic, SC 4933-95-A11
Torx Screwdriver Set, NSN 5120-01-167-1667

References
WP 0038 00

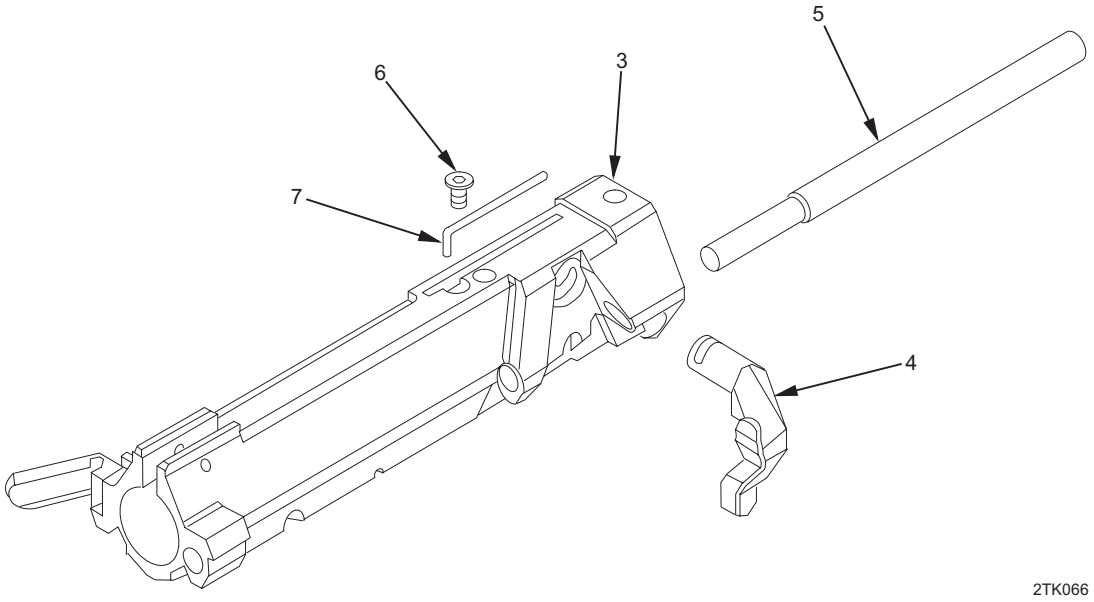
Equipment Conditions
Bolt and carrier assembly removed from lower receiver assembly (WP 0011 00)
Bolt assembly removed from bolt and carrier assembly (WP 0016 00)

DISASSEMBLY



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

DISASSEMBLY - Continued

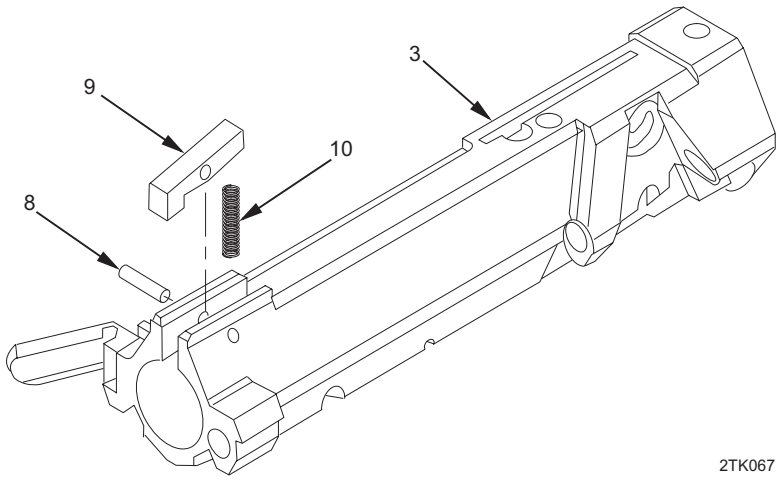


2. Remove accelerator (4) by pulling it from left side of bolt carrier (3). If necessary, a pin punch may be used to assist with its removal. Slide accelerator rod (5) from rear of bolt carrier.

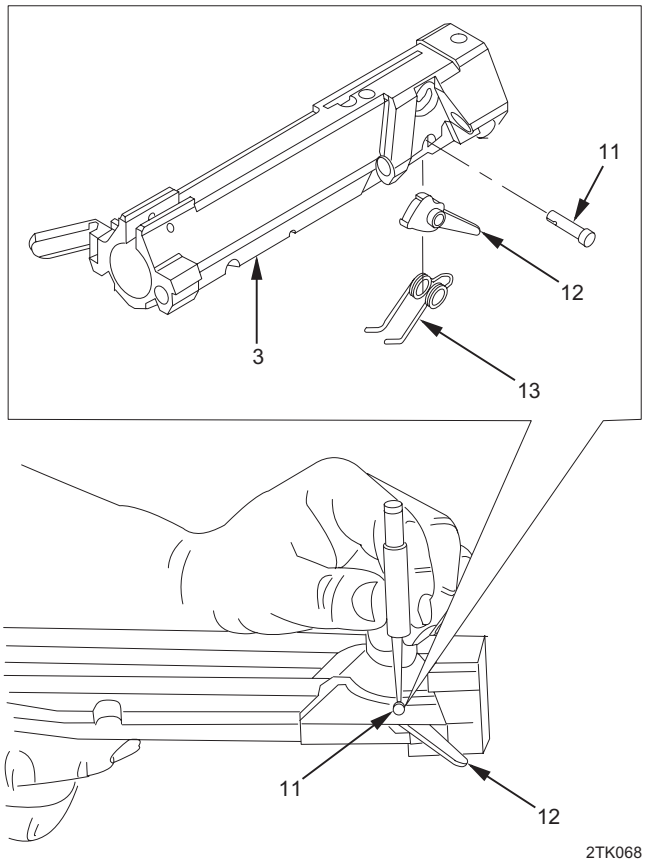
NOTE

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

3. Remove accelerator spring screw (6). Remove accelerator spring (7) by placing a scribe or small jeweler's screwdriver under the elbow of spring, by the vertical portion of the spring, and lifting gently.



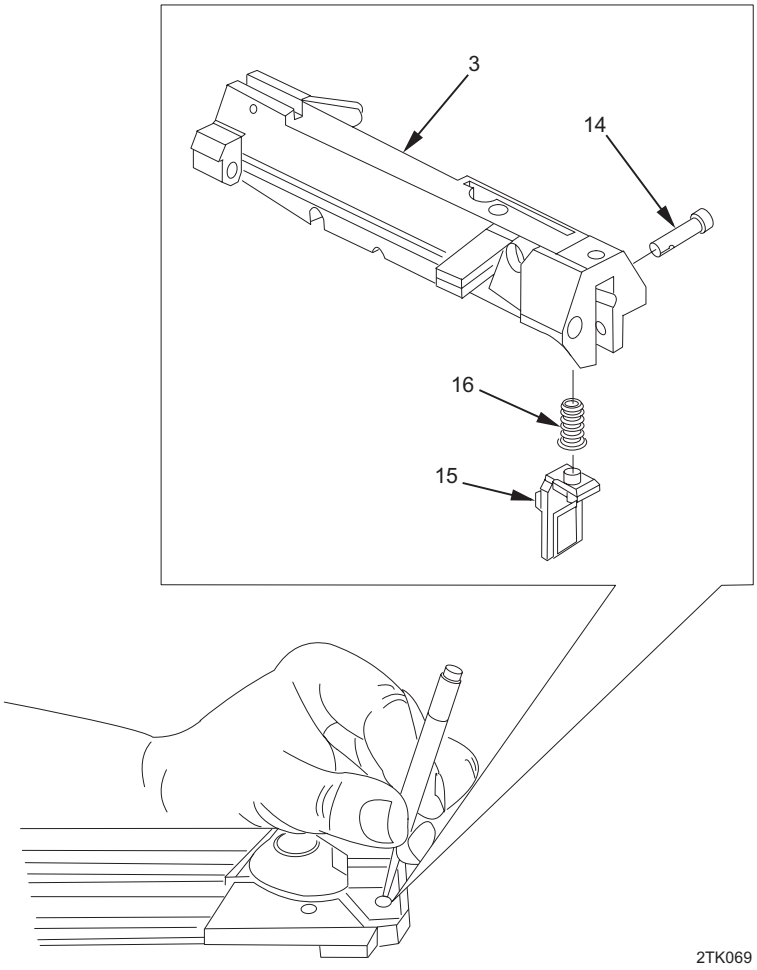
4. Use 1/8 in. pin punch and hammer to tap out bolt latch pin (8). Remove bolt latch (9) and bolt latch spring (10) from bolt carrier (3).



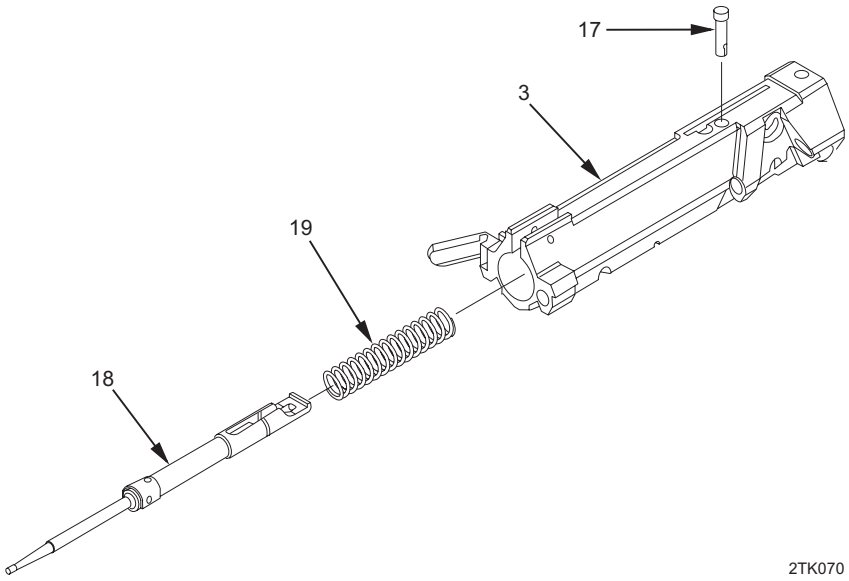
5. Place 1/8 in. punch on split end of cocking lever pin (11) and tap punch with hammer to dislodge pin.

6. Remove cocking lever (12) and cocking lever spring (13) from bolt carrier (3).

DISASSEMBLY - Continued



7. Place 1/8 in. punch on split end of sear pin (14) and lightly tap punch with hammer to dislodge pin.
8. Remove sear (15) and sear spring (16) from bolt carrier (3).



9. Place end of 1/8 in. punch on split end of extension stop pin (17) located on underside of bolt carrier (3).

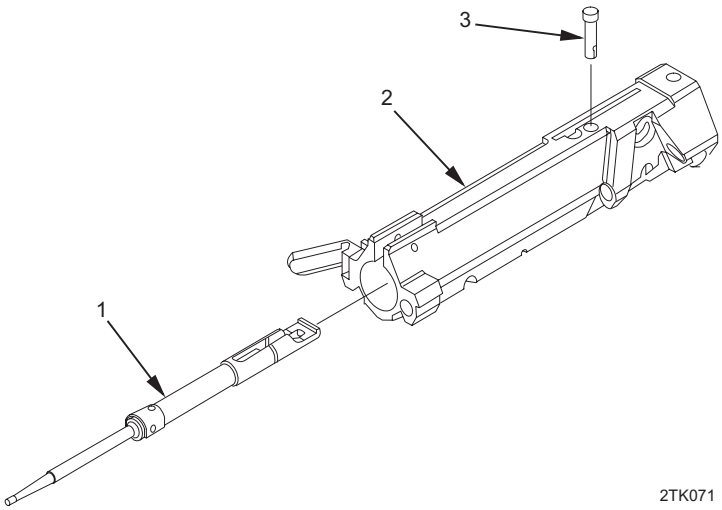
10. Lightly tap punch with hammer to dislodge extension stop pin (17) and remove firing pin extension assembly (18) from bolt carrier (3).

11. If damaged, remove bolt spring (19) from bolt carrier (3).

REPAIR OR REPLACEMENT

Replace defective parts as authorized by WP 0038 00.

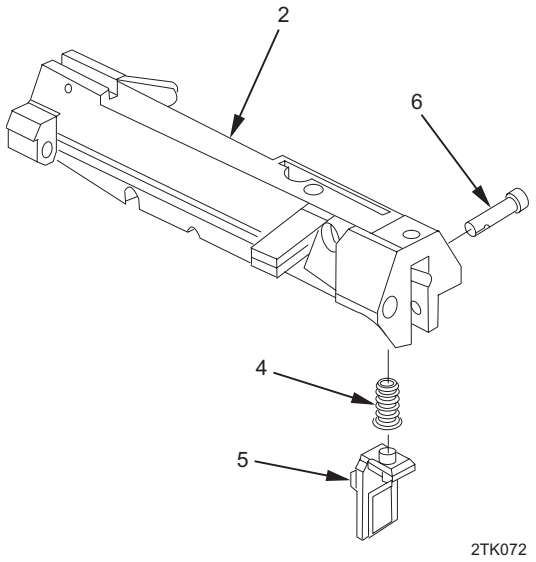
ASSEMBLY



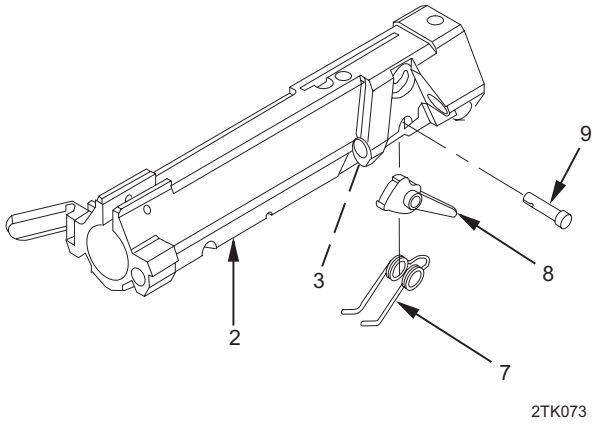
1. Insert firing pin extension assembly (1) carefully into bolt carrier (2) and tap into position. Ensure lock mechanism of firing pin extension assembly is turned to top of bolt.

2. Place extension stop pin (3) into position and ensure there is spring tension.

ASSEMBLY - Continued

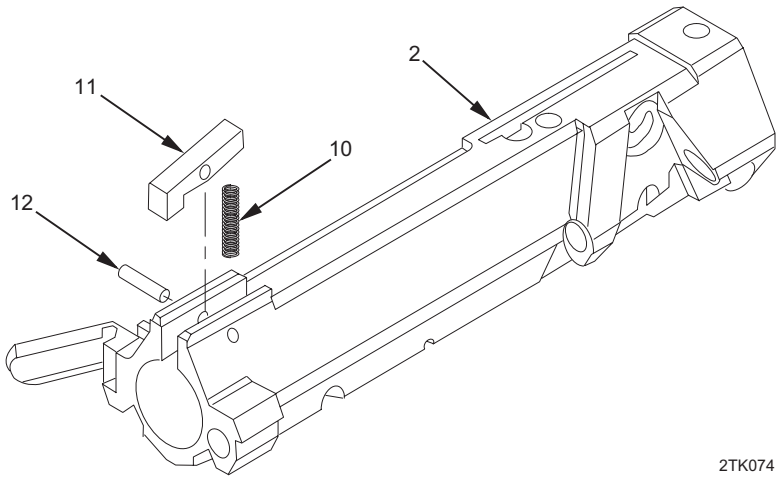


3. Insert sear spring (4) (tapered end first) and sear (5) into bolt carrier (2). Insert split end of sear pin (6) into bolt handle side of bolt carrier and tap in with brass hammer.



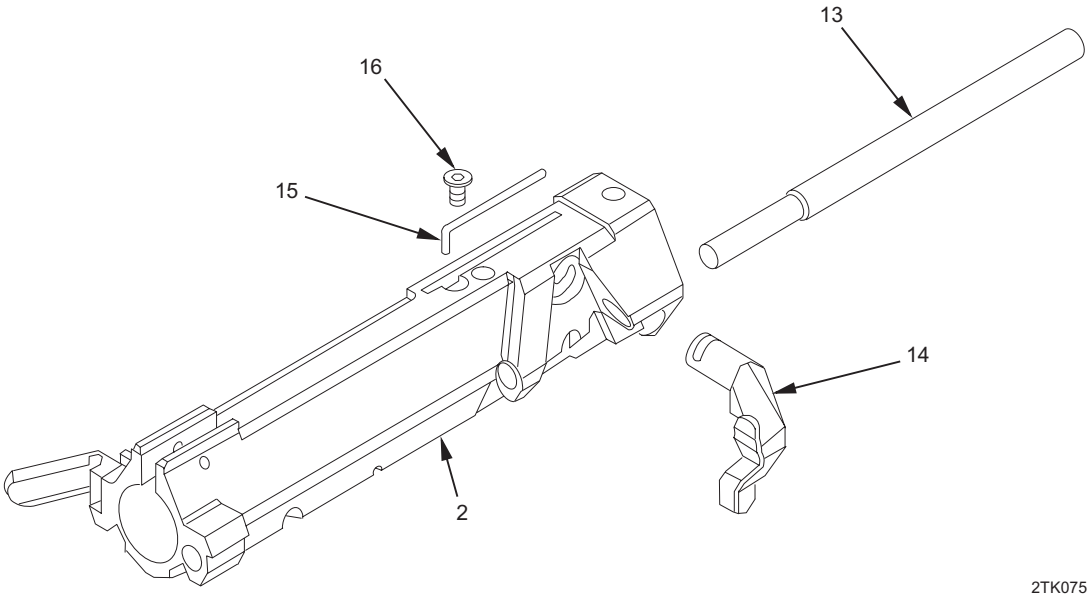
4. Place cocking lever spring (7) on cocking lever (8). Insert both into underside of bolt carrier (2) with ends of spring pointing forward, on either side of bottom of extension stop pin (3).

5. Insert split end of cocking lever pin (9) into side of bolt carrier (2) and lightly tap in with brass hammer.



6. Insert bolt latch spring (10) into bolt carrier (2). Place bolt latch (11) on top of spring and align hole in bolt latch.

7. Insert bolt latch pin (12) into bolt carrier (2) and tap in with brass hammer.

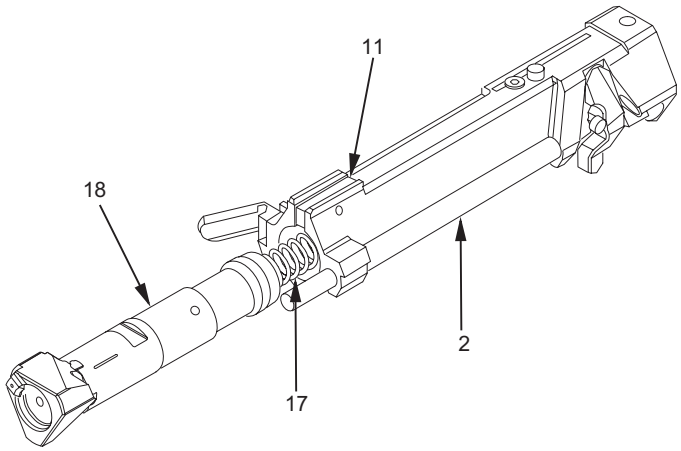


8. Slide accelerator rod (13) into bolt carrier (2) from rear, small end first.

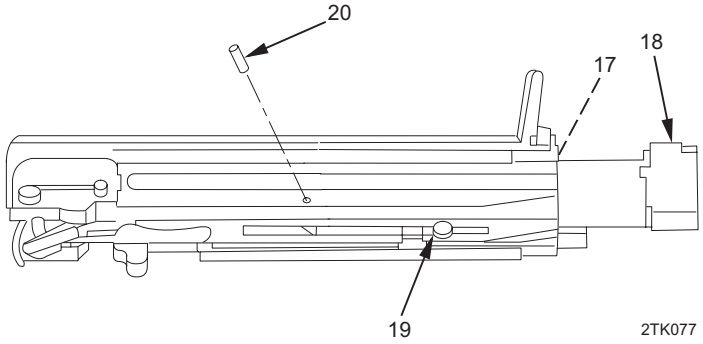
9. Install accelerator (14), inserting it from left side (opposite charging handle) of bolt carrier (2).

10. Install accelerator spring (15) and accelerator spring screw (16), using T-20 Torx screwdriver.

ASSEMBLY - Continued



11. Replace bolt spring (17) and bolt assembly (18) into bolt carrier (2), with cam groove to bottom, while depressing bolt latch (11).



12. Insert cam pin assembly (19) into position. Bolt assembly (18) must be compressed against bolt spring (17) until cam slips into cam groove.

13. While holding down cam pin assembly (19), insert cam pin (20).

END OF WORK PACKAGE

DIRECT SUPPORT

LONG RANGE SNIPER RIFLE, M107
(NSN 1005-01-469-2133)

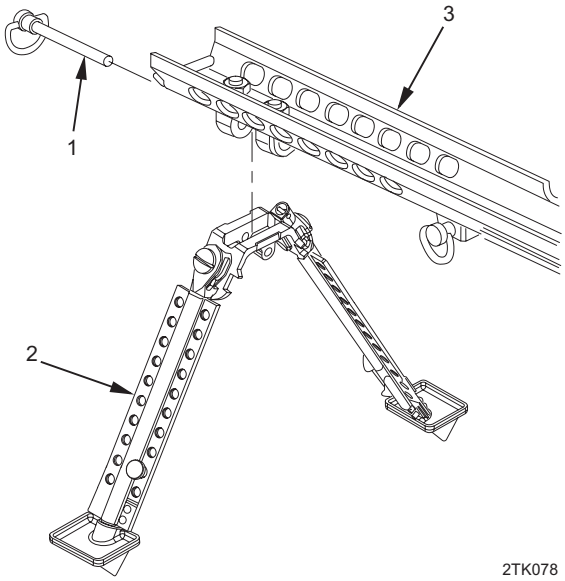
BIPOD ASSEMBLY MAINTENANCE
REMOVAL, DISASSEMBLY, REPAIR OR REPLACEMENT, ASSEMBLY, INSTALLATION

INITIAL SETUP:

Tools and Special Tools
Shop Set, Small Arms: Field Maintenance, Basic, SC 4933-95-A11

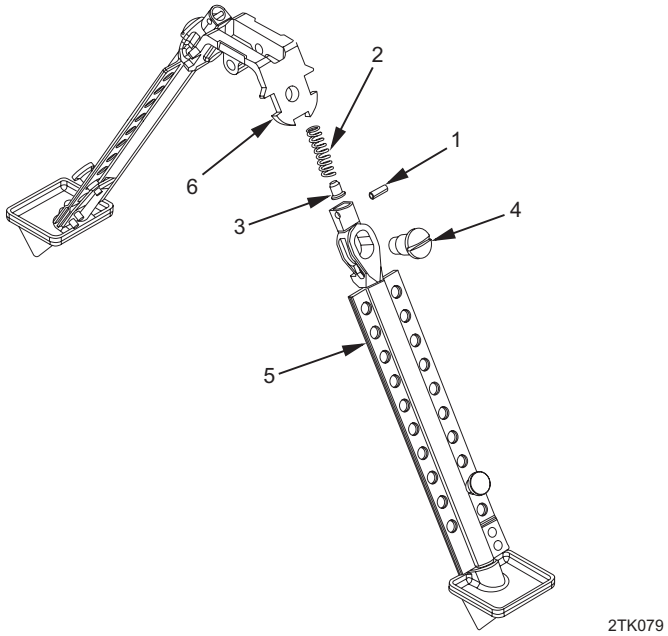
References
WP 0041 00

REMOVAL



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

DISASSEMBLY



1. Place 1/8 in. pin punch on end of bipod pin (1) and lightly tap punch with hammer to dislodge pin.
2. Remove bipod spring (2) and bipod detent (3), being careful not to lose them.

NOTE

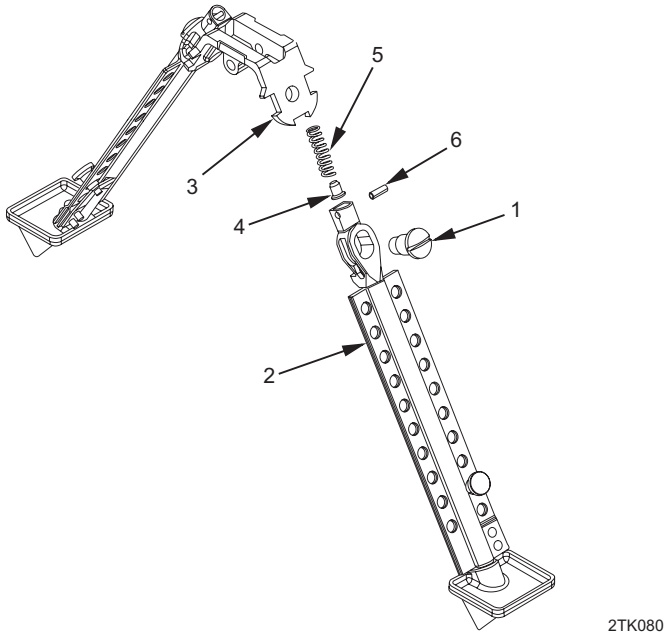
The bipod screw, attaching bipod leg to bipod yoke, is peened (staked) to ensure that bipod leg does not loosen; if the screw is removed it will be destroyed. If the bipod leg is damaged and needs to be removed, the screw must be replaced.

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

REPAIR OR REPLACEMENT

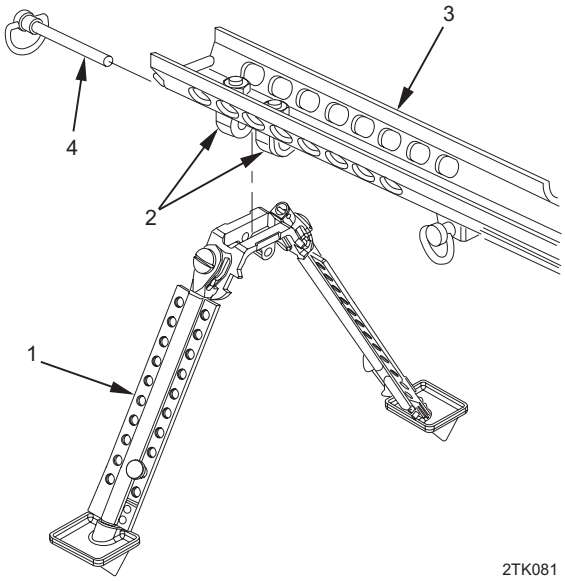
Replace defective parts as authorized by WP 0041 00.

ASSEMBLY



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

INSTALLATION



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

END OF WORK PACKAGE

CHAPTER 6

SUPPORTING INFORMATION
FOR
LONG RANGE SNIPER RIFLE, M107

UNIT AND DIRECT SUPPORT

LONG RANGE SNIPER RIFLE, M107
(NSN 1005-01-469-2133)

REFERENCES

SCOPE

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

FIELD MANUALS

FM 21-11	First Aid for Soldiers
FM 31-70	Basic Cold Weather Manual
FM 31-71	Northern Operations
FM 90-3	Desert Operations

FORMS

DA Form 2028	Recommended Changes to Publications and Blank Forms
DA Form 2404	Equipment Inspection and Maintenance Worksheet
DA Form 2407	Maintenance Request
DD Form 1750	Packing List
SF 361	Transportation Discrepancy Report
SF 364	Report of Discrepancy
SF 368	Product Quality Deficiency Report

MISCELLANEOUS PUBLICATIONS

AR 710-3	Asset and Transaction Reporting System
AR 725-50	Requisition Receipt and Issue System
AR 735-11-2	Reporting of Item Packaging Discrepancies
AR 750-1	Army Materiel Maintenance Policy and Retail Maintenance Operations
CTA 8-100	Army Medical Department Expendable/Durable Items
CTA 50-970	Expendable/Durable Items (Except Medical, Class V, Repair Parts, and Heraldic Items)

MISCELLANEOUS PUBLICATIONS - Continued

DA PAM 25-30	Index of Army Publications and Blank Forms
DA PAM 738-750	Functional Users Guide for the Army Maintenance Management System (TAMMS)
MIL-STD-129	Standard Practice for Military Marking

TECHNICAL MANUALS

TM 9-1005-239-10	Operator's Manual for Long Range Sniper Rifle, M107
TM 9-1300-206	Ammunition and Explosives Standards

END OF WORK PACKAGE

UNIT AND DIRECT SUPPORT

LONG RANGE SNIPER RIFLE, M107
(NSN 1005-01-469-2133)

MAINTENANCE ALLOCATION CHART (MAC) INTRODUCTION

INTRODUCTION

The Army Maintenance System MAC

This introduction provides a general explanation of all maintenance and repair functions authorized at various maintenance levels under the standard Army Maintenance System concept.

The 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:

Unit - includes two subcolumns, C (operator/crew) and O (unit) maintenance

Direct Support - includes an F subcolumn.

General Support - includes an H subcolumn.

Depot - includes a D subcolumn.

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

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

Maintenance Functions

Maintenance functions are limited to and defined as follows:

1. Inspect. To determine the serviceability of an item by comparing its physical, mechanical, and/or electrical characteristics with established standards through examination (e.g., by sight, sound, or feel). This includes scheduled inspection and gagings and evaluation of cannon tubes.

2. Test. To verify serviceability by measuring the mechanical, pneumatic, hydraulic, or electrical characteristics of an item and comparing those characteristics with prescribed standards on a scheduled basis, i.e., load testing of lift devices and hydrostatic testing of pressure hoses.

3. Service. Operations required periodically to keep an item in proper operating condition; e.g., to clean (includes decontaminate, when required), to preserve, to drain, to paint, or to replenish fuel, lubricants, chemical fluids, or gases. This includes scheduled exercising and purging of recoil mechanisms.

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

Maintenance Functions - Continued

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. 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.

9. 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 locate/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.

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

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

Explanation of Columns in the MAC

Column (1) - Group Number. Column (1) lists 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 name 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 manhours 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:

C - Operator or crew maintenance

O - Unit maintenance

F - Direct support maintenance

L - Specialized repair activity (SRA)

H - General support 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 a 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 alphabetic order, which is keyed to the remarks table entries.

Explanation of Columns in the Tools and Test Equipment Requirements

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

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

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

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

Column (5) - Tool Number. The manufacturer's part number, model number, or type 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

UNIT AND DIRECT SUPPORT

LONG RANGE SNIPER RIFLE, M107
(NSN 1005-01-469-2133)

MAINTENANCE ALLOCATION CHART (MAC)

MAINTENANCE ALLOCATION CHART (MAC)

Table 1. MAC for M107 Long Range Sniper Rifle (LRSR).

(1)	(2)	(3)	(4) MAINTENANCE LEVEL					(5) TOOLS AND	(6)
			UNIT		DS	GS	DPT	EQUIPMENT	REMARKS
GROUP NUMBER	COMPONENT/ASSEMBLY	MAINTENANCE FUNCTION	C	O	F	H	D	REF CODE	CODE
00	Rifle, Sniper, Long Range, M107	Inspect							
		Service							
		Replace		0.2				4	
		Repair							
01	Lower Receiver Assembly	Inspect	0.1	0.1	0.2		0.2		
		Test		0.1	0.1				
		Service							
		Repair		0.3	0.5		1.0	3, 4, 5	
0101	Trigger Assembly	Inspect			0.2				
		Test							
		Service							
		Repair			0.4			3	
0102	Monopod Assembly	Inspect	0.1	0.1					
		Test		0.1					
		Service							
		Repair		0.3				4, 5	
02	Upper Receiver Assembly	Inspect			0.3		0.2		
		Test							
		Service							
		Repair			0.5		1.0	3, 5	
		Overhaul					1.0	3, 5	
0201	Carrying Handle Assembly	Inspect	0.1	0.1					
		Test		0.1					
		Service							
		Repair		0.3				4	
0202	Front Sight Assembly	Inspect	0.1	0.1					
		Test		0.1					
		Service							
		Repair		0.3				4	
0203	Iron Sight Assembly	Inspect		0.1	0.1				
		Test							
		Service							
		Repair		0.3	0.5			1, 3	

MAINTENANCE ALLOCATION CHART (MAC) - Continued

Table 1. MAC for M107 Long Range Sniper Rifle (LRSR) - Continued.

(1)	(2)	(3)	(4) MAINTENANCE LEVEL					(5) TOOLS AND	(6)
			UNIT		DS	GS	DPT	EQUIPMENT	REMARKS
GROUP NUMBER	COMPONENT/ASSEMBLY	MAINTENANCE FUNCTION	C	O	F	H	D	REF CODE	CODE
03	Barrel Assembly	Inspect		0.1	0.1		0.2		
		Test							
		Service							
		Repair		0.3	0.3		1.0	1, 3	
		Overhaul					1.0	1, 3	
04	Bolt and Carrier Assembly	Inspect	0.1	0.1	0.1				
		Test		0.1	0.1				
		Service							
		Repair	0.3	0.4	0.4			3, 5	
0401	Bolt Assembly	Inspect	0.1	0.1	0.1				
		Test	0.1						
		Service							
		Repair	0.4	0.3	0.3			4	
05	Cartridge Magazine	Inspect		0.1					
		Test							
		Service							
		Repair		0.5				4	
06	Bipod Assembly	Inspect	0.1	0.1	0.1				
		Test							
		Service							
		Repair	0.1	0.1	0.5			3	
07	Optic Mount System	Inspect	0.1	0.1	0.1		0.5		
		Test	0.3	0.1	0.1		0.2		
		Service	0.3	0.3	0.3		0.5		
		Repair	0.3	0.3	0.3		1.0	4	
		Overhaul					1.0		
0701	Scope Ring Assembly	Inspect		0.1					
		Test							
		Service							
		Repair		0.1				1	

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

TOOL OR TEST EQUIPMENT REF CODE	MAINTENANCE LEVEL	NOMENCLATURE	NATIONAL STOCK NUMBER	TOOL NUMBER
1	C	Deployment Kit Tool Kit, TK-1 Consists of:		
		Punch, Roll Pin, 1/16 in.	5120-01-335-1435	T-33 (OBT64)
		Socket, 1/2 in., 3/8 in. drive (for use with torque wrench)	5120-00-237-0977	B107.1 CL1STA (05047)
		Wrench, Combination, Short Handle, 1/2 in.	5120-00-228-9506	1162 (96508)
		Wrench, Key, L-shaped, 0.050 in.	5120-00-198-5401	AW1-1-2 (55719)
		Wrench, Key, L-shaped, 3/32 in.	5120-00-242-7410	BA27077-4 (92674)
		Wrench, Torque, 65 in-lb, 3/8 in. drive, with Socket	5220-01-260-2645	96059 (3A703)
		Wrench, Torx, L-shaped	5130-01-518-0360	T-10 (0BT64)
		Wrench, Torx, L-shaped		T-15 (0BT64)
		Wrench, Torx, L-shaped	5120-01-518-0363	T-30 (0BT64)
2	F	Screwdriver Bit Socket Set (Torx Tip) Consists of:	5120-01-178-6342	J-29843 (33287)
		Socket, T-25 Torx, 3/8 in. drive		
		Socket, T-30 Torx, 3/8 in. drive		
3	O	Shop Set, Small Arms: Field Maintenance, Basic	4933-00-754-0664	SC 4933-95-A11
4	O	Small Arms Repairer Tool Kit	5180-00-357-7770	SC 5180-95-B71

MAINTENANCE ALLOCATION CHART (MAC) - Continued

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

TOOL OR TEST EQUIPMENT REF CODE	MAINTENANCE LEVEL	NOMENCLATURE	NATIONAL STOCK NUMBER	TOOL NUMBER
5	O	Torx Screwdriver Set Consists of: Screwdriver, Torx, T-handle, T-15 Screwdriver, Torx, T-handle, T-20 Screwdriver, Torx, T-handle, T-25 Screwdriver, Torx, T-handle, T-27 Screwdriver, Torx, T-handle, T-30 Screwdriver, Torx, T-handle, T-45	5120-01-167-1667	5120-01-167-1667 (80244)

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

REMARKS CODE	REMARKS
	Not Applicable.

END OF WORK PACKAGE

UNIT AND DIRECT SUPPORT

LONG RANGE SNIPER RIFLE, M107
(NSN 1005-01-469-2133)

INTRODUCTION TO REPAIR PARTS AND SPECIAL TOOLS LIST (RPSTL)

INTRODUCTION

Scope

This RPSTL lists and authorizes spares and repair parts; special tools; special test, measurement, and diagnostic equipment (TMDE); and other special support equipment required for performance of unit and direct support maintenance of the M107 Long Range Sniper Rifle (LRSR). 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 component they mount on. Bulk materials are listed by item name in FIG. BULK at the end of the work packages. Repair parts kits are listed separately in their own functional group and work package. Repair parts for reparable special tools are also listed in a separate work package. Items listed are shown on the associated illustrations.

2. Special Tools List Work Packages. Work packages containing lists of special tools, special TMDE, and special support equipment authorized by this RPSTL (as indicated by Basis of Issue (BOI) information in the DESCRIPTION AND USABLE ON CODE (UOC) column). Tools that are components of common tool sets and/or Class VII are not listed.

3. Cross-Reference Indexes Work Packages. There are two cross-reference indexes work packages in this RPSTL: the National Stock Number (NSN) Index work package and the Part Number (P/N) Index work package. The National Stock Number Index work package refers you to the figure and item number. The Part Number Index work package refers you to the figure and item number.

Explanation of Columns in the Repair Parts List and Special Tools List Work Packages

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

SMR CODE (Column (2)). The SMR code containing supply/requisitioning information, maintenance level authorization criteria, and disposition instruction, as shown in the following breakout:

Explanation of Columns in the Repair Parts List and Special Tools List Work Packages - Continued

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

*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.

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

Source Code	Application/Explanation
PA PB PC PD PE PF PG	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 3rd position of the SMR code. **NOTE** Items coded PC are subject to deterioration.
KD KF KB	Items with these codes are not to be requested/requisitioned individually. They are part of a kit which is authorized to the maintenance level indicated in the 3rd position of the SMR code. The complete kit must be requisitioned and applied.
MO- Made at unit/ AVUM level MF- Made at DS/ AVIM level MH- Made at GS level ML- Made at SRA MD- Made at depot	Items with these codes are not to be requisitioned/requested individually. They must be made from bulk material which is identified by the P/N 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 3rd position code of the SMR code, but the source code indicates it is made at higher level, order the item from the higher level of maintenance.

AO-	Assembled by unit/AVUM level	Items with these codes are not to be requested/requisitioned individually. The parts that make up the assembled item must be requisitioned or fabricated and assembled at the level of maintenance indicated by the source code. If the 3rd 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.
AF-	Assembled by DS/AVIM level	
AH-	Assembled by GS level	
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 CAGEC and P/N.
XC	Installation drawings, diagrams, instruction sheets, field service drawings; identified by manufacturer's P/N.
XD	Item is not stocked. Order an XD-coded item through normal supply channels using the CAGEC and P/N given, if no NSN is available.

NOTE

Cannibalization or controlled exchange, when authorized, may be used as a source of supply for items with the above source codes, except for those source coded "XA" or those aircraft support items restricted by requirements of AR 750-1.

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 Code		Application/Explanation
C	-	Crew or operator maintenance done within unit/AVUM maintenance.
O	-	Unit level/AVUM maintenance can remove, replace, and use the item.
F	-	Direct support/AVIM maintenance can remove, replace, and use the item.
H	-	General support maintenance can remove, replace, and use the item.
L	-	Specialized repair activity can remove, replace, and use the item.
D	-	Depot can remove, replace, and use the item.

Explanation of Columns in the Repair Parts List and Special Tools List Work Packages - Continued

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 Code		Application/Explanation
O	-	Unit/AVUM is the lowest level that can do complete repair of the item.
F	-	Direct support/AVIM is the lowest level that can do complete repair of the item.
H	-	General support is the lowest level that can do complete repair of the item.
L	-	Specialized repair activity 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.
Z	-	Nonreparable. No repair is authorized.
B	-	No repair is authorized. No parts or special tools are authorized for the maintenance of "B" coded item. However, the item may be reconditioned by adjusting, lubricating, etc., at the user level.

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

Recoverability Code		Application/Explanation
Z	-	Nonreparable item. When unserviceable, condemn and dispose of the item at the level of maintenance shown in the third position of the SMR code.
O	-	Reparable item. When uneconomically reparable, condemn and dispose of the item at the unit level.
F	-	Reparable item. When uneconomically reparable, condemn and dispose of the item at the direct support level.
H	-	Reparable item. When uneconomically reparable, condemn and dispose of the item at the general support 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 Specialized Repair Activity (SRA).
A	-	Item requires special handling or condemnation procedures because of specific reasons (such as precious metal content, high dollar value, critical material, or hazardous material). Refer to appropriate manuals/directives for specific instructions.

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 P/N 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. P/Ns 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.

Explanation of Columns in the Repair Parts List and Special Tools List Work Packages - Continued

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.

Explanation of Cross-Reference Indexes Work Packages Format and Columns

1. National Stock Number (NSN) Index Work Package.

STOCK NUMBER Column. This column lists the NSN in National item identification number (NIIN) sequence. The NIIN consists of the last nine digits of the NSN.

NSN (e.g., 5385-01-574-1476). NIIN	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.

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. P/Ns 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 P/N 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

UOC. The UOC appears in the lower left corner of the Description Column heading. Usable on codes are shown as "UOC:..." in the Description Column (justified left) on the first line under the applicable item/nomenclature. Uncoded items are applicable to all models.

Fabrication Instructions. Bulk materials required to manufacture items are listed in the bulk material functional group of this RPSTL. Part numbers for bulk materials are also referenced in the Description Column of the line item entry for the item to be manufactured/fabricated. Detailed fabrication instructions for items source coded to be manufactured or fabricated are found in the appropriate maintenance work packages of this manual.

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

How To Locate Repair Parts

1. When NSN or P/Ns Are Not Known.

First. Using the table of contents, determine the assembly group to which the item belongs. This is necessary since figures are prepared for assembly groups and subassembly groups, and lists are 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 P/N Is Known.

First. If you have the P/N and not the NSN, look in the PART NUMBER column of the P/N 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.

END OF WORK PACKAGE

UNIT AND DIRECT SUPPORT

LONG RANGE SNIPER RIFLE, M107
(NSN 1005-01-469-2133)

LONG RANGE SNIPER RIFLE, M107

REPAIR PARTS LIST

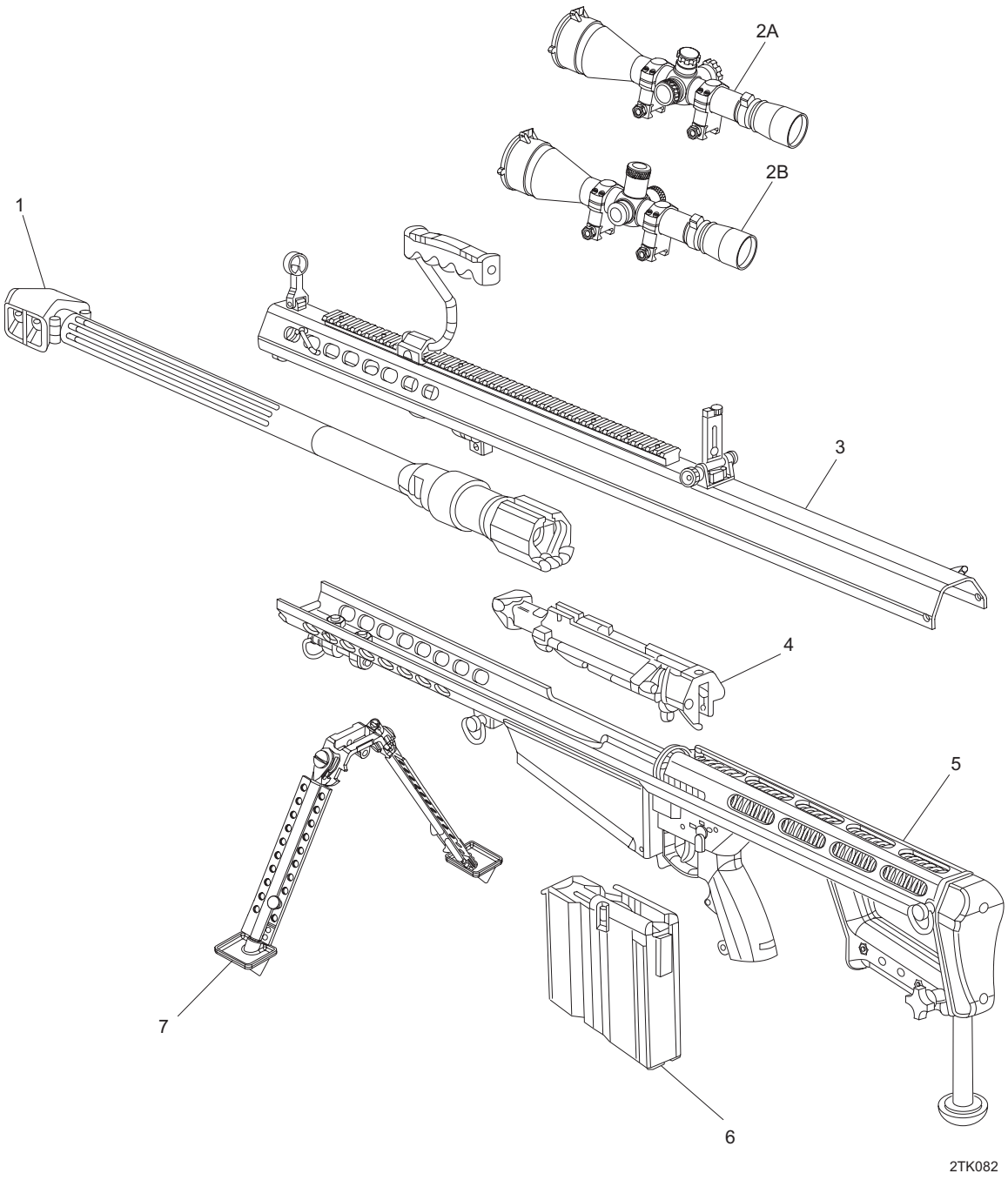


Figure 1. Long Range Sniper Rifle (LRSR), M107.

(1) ITEM NO.	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODE (UOC)	(7) QTY
					GROUP 00 FIG. 1 RIFLE, SNIPER, LONG RANGE (LRSR), M107	
1	XAFDD		OBT64	DBC-005	BARREL ASSEMBLY (SEE FIG. 8 FOR ASSEMBLY BREAKDOWN) UOC:ABA.....	1
2A	PADDD		OBT64		OPTIC MOUNT SYSTEM (SEE FIG. 13 FOR ASSEMBLY BREAKDOWN) UOC:ABA.....	1
2B	PADDD	1240-01-505-5107	OBT64	OMSYS6	OPTIC MOUNT SYSTEM (SEE FIG. 14 FOR ASSEMBLY BREAKDOWN) UOC:ABA.....	1
3	XAODD		OBT64	DBC-004	UPPER RECEIVER ASSEMBLY (SEE FIG. 4 FOR ASSEMBLY BREAKDOWN) UOC:ABA.....	1
4	XAOFF		OBT64	DBC-006	BOLT AND CARRIER ASSEMBLY (SEE FIG. 9 FOR ASSEMBLY BREAKDOWN) UOC:ABA.....	1
5	XAODD		OBT64	DBC-002	LOWER RECEIVER ASSEMBLY (SEE FIG. 2 FOR ASSEMBLY BREAKDOWN) UOC:ABA.....	1
6	PAOOO	1005-01-358-1342	OBT64	82116A	MAGAZINE,CARTRIDGE (SEE FIG. 11 FOR ASSEMBLY BREAKDOWN) UOC:ABA.....	1
7	AFFFF		OBT64	BA-2	BIPOD ASSEMBLY (SEE FIG. 12 FOR ASSEMBLY BREAKDOWN) UOC:ABA.....	1
					END OF FIGURE	

END OF WORK PACKAGE

UNIT AND DIRECT SUPPORT

LONG RANGE SNIPER RIFLE, M107
(NSN 1005-01-469-2133)

LOWER RECEIVER ASSEMBLY, DBC-002, AND TRIGGER ASSEMBLY, 82069-2A

REPAIR PARTS LIST

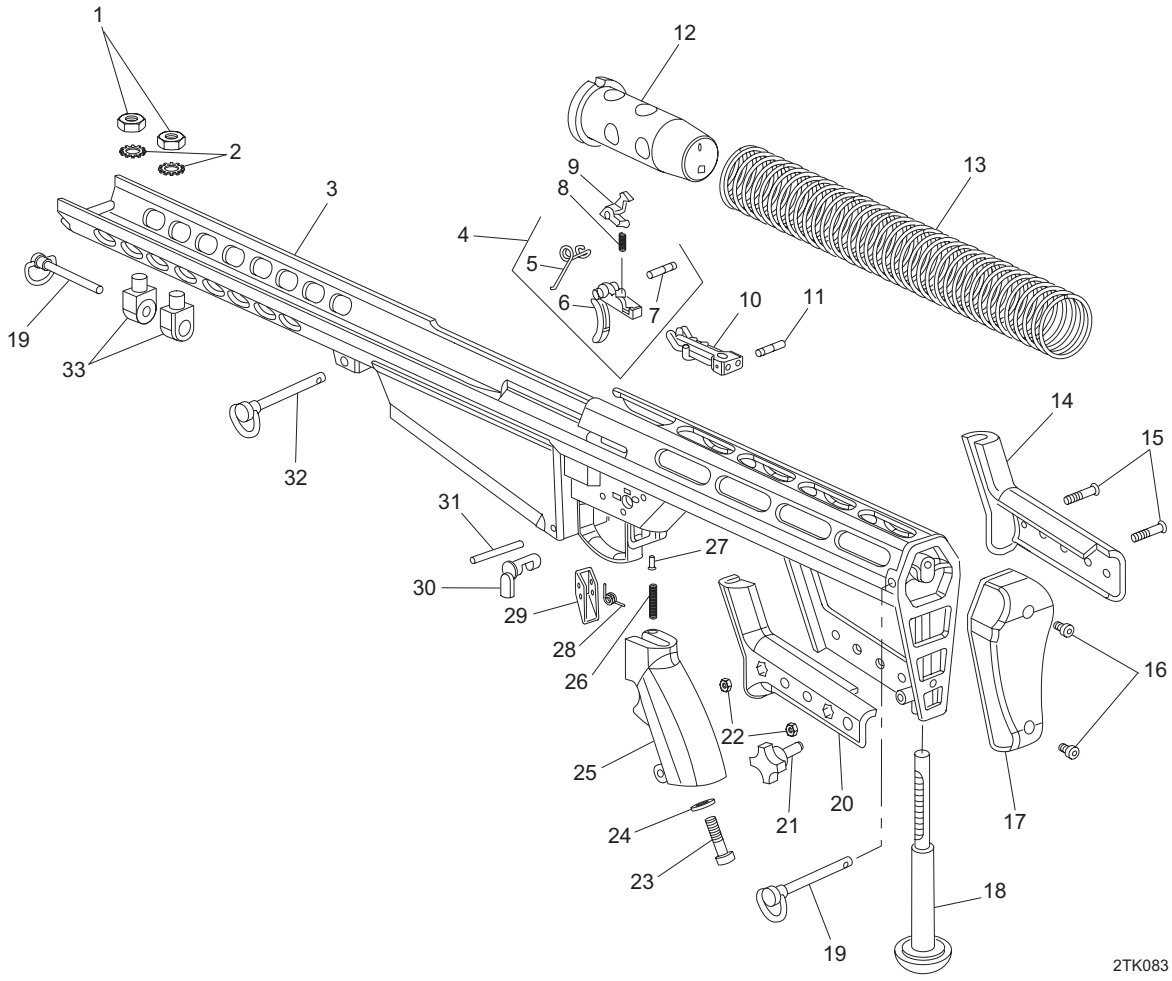


Figure 2. Lower Receiver Assembly, DBC-002, and Trigger Assembly, 82069-2A.

(1) ITEM NO.	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODE (UOC)	(7) QTY
					GROUP 01, 0101 FIG. 2 LOWER RECEIVER ASSEMBLY, DBC-002 TRIGGER ASSEMBLY, 82069-2A	
1	PAFZZ	5310-01-412-4266	OBT64	82046	YOKE MOUNT NUT UOC:ABA	2
2	PAFZZ	5310-01-261-6678	OBT64	82047	YOKE MOUNT WASHER UOC:ABA	2
3	XADDD		OBT64	82000C-107	LOWER RECEIVER UOC:ABA	1
4	PAFFF	1005-01-514-8427	OBT64	82069-2A	TRIGGER ASSEMBLY UOC:ABA	1
5	PAFZZ	5360-01-358-0154	OBT64	82071	. TRIGGER SPRING UOC:ABA	1
6	XAFZZ		OBT64	82069-1	. TRIGGER UOC:ABA	1
7	PAFZZ	5315-01-359-3152	OBT64	82070	. TRIGGER HOUSING PIN UOC:ABA	1
8	PAFZZ	1005-01-358-7392	OBT64	82073	DISCONNECTOR SPRING UOC:ABA	1
9	PAFZZ	1005-01-360-1931	OBT64	82072	DISCONNECTOR UOC:ABA	1
10	PAFZZ	1005-01-360-1933	OBT64	82074-1	TRANSFER BAR ASSEMBLY UOC:ABA	1
11	PAFZZ	5315-01-359-3152	OBT64	82070	TRANSFER BAR PIN UOC:ABA	1
12	PAOZZ	1005-01-358-7873	OBT64	82110	MAINSPRING BUFFER UOC:ABA	1
13	PAOZZ	5360-01-359-2751	OBT64	82109	MAINSPRING UOC:ABA	1
14	PAOZZ	1005-01-465-5795	OBT64	82162	RIGHT REAR HAND GRIP UOC:ABA	1
15	PAOZZ	5305-01-465-5694	0BT64	82164	REAR HANDGRIP SCREW UOC:ABA	2
16	PAOZZ	5305-01-286-9783	39428	82038	RECOIL PAD SCREW UOC:ABA	2
17	PAOZZ	1005-01-358-7874	OBT64	82037-1	RECOIL PAD UOC:ABA	1
18	PAOOO	1005-01-465-5793	OBT64	82226-A	MONOPOD ASSEMBLY (SEE FIG. 3 FOR ASSEMBLY BREAKDOWN) UOC:ABA	1
19	PAOZZ	5315-01-300-2640	OBT64	82114-1A	PIN,QUICK RELEASE UOC:ABA	2
20	PAOZZ	1005-01-465-5692	OBT64	82163	LEFT REAR HAND GRIP UOC:ABA	1
21	PAOZZ	1005-01-465-5708	OBT64	82225	LOCK KNOB UOC:ABA	1
22	PAOZZ	5310-01-465-5696	OBT64	82165	REAR HAND GRIP NUT UOC:ABA	2
23	PAOZZ	5305-01-432-0438	OBT64	82052-1	PISTOL GRIP SCREW UOC:ABA	1
24	PAOZZ	5310-01-382-4094	OBT64	82053-1	PISTOL GRIP WASHER UOC:ABA	1
25	PAOZZ	1005-01-358-8844	OBT64	82051-A	PISTOL GRIP UOC:ABA	1
26	PAOZZ	5360-01-358-3035	OBT64	82055	SAFETY SPRING UOC:ABA	1

(1) ITEM NO.	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODE (UOC)	(7) QTY
27	PAOZZ	5315-01-359-3147	OBT64	82056	SAFETY DETENT UOC:ABA	1
28	PAOZZ	5360-01-358-3042	OBT64	82067	MAGAZINE CATCH SPRING UOC:ABA	1
29	PAOZZ	1005-01-360-1930	OBT64	82066	MAGAZINE CATCH UOC:ABA	1
30	PAOZZ	1005-01-357-6820	OBT64	82054-1	SAFETY UOC:ABA	1
31	PAOZZ	5315-01-358-7372	OBT64	82068	MAGAZINE CATCH PIN UOC:ABA	1
32	PAOZZ	5315-01-210-0923	0BT64	82115-1A	PIN,QUICK RELEASE UOC:ABA	1
33	PAFZZ	1005-01-502-5660	OBT64	82045-C1	YOKE MOUNT UOC:ABA	2
					END OF FIGURE	

END OF WORK PACKAGE

UNIT AND DIRECT SUPPORT

LONG RANGE SNIPER RIFLE, M107
(NSN 1005-01-469-2133)

MONOPOD ASSEMBLY, 82226-A

REPAIR PARTS LIST

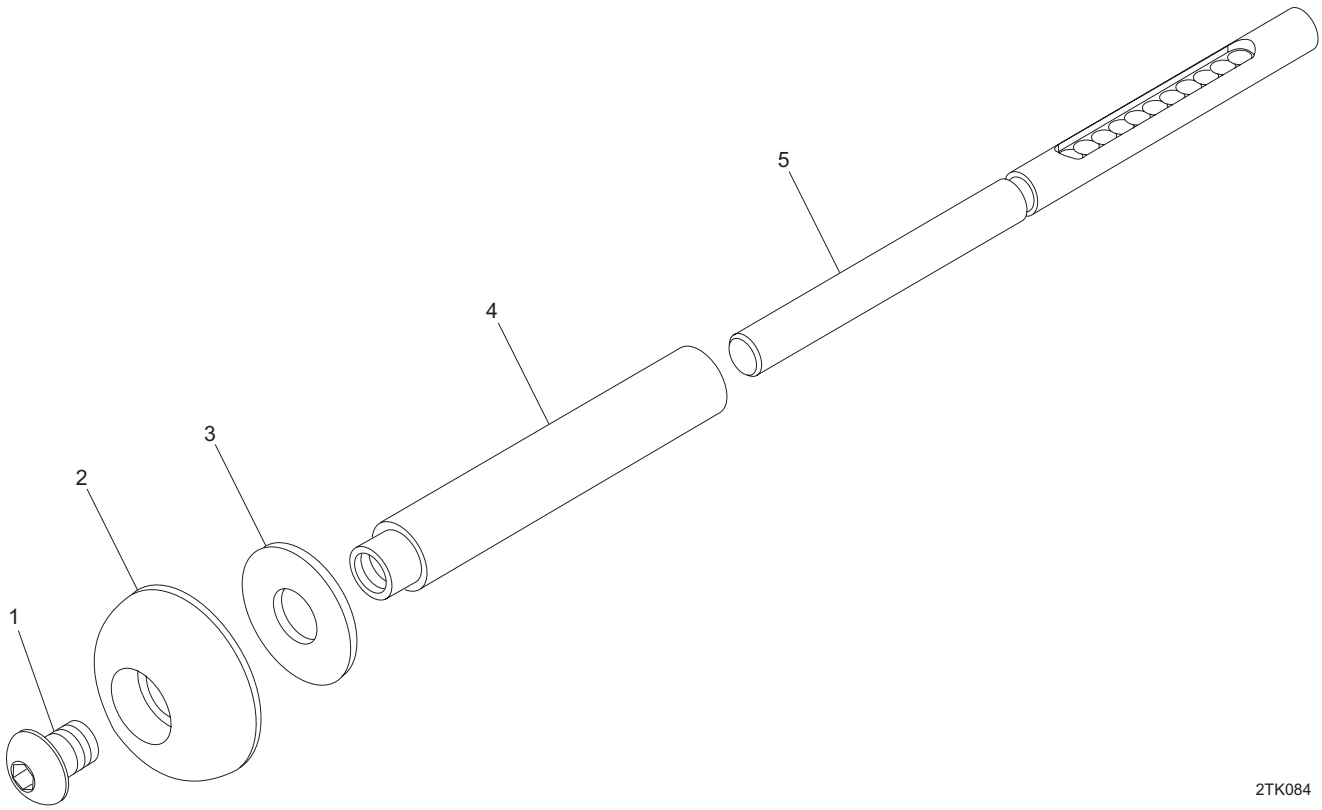


Figure 3. Monopod Assembly, 82226-A.

(1) ITEM NO.	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODE (UOC)	(7) QTY
					GROUP 0102 FIG. 3 MONOPOD ASSEMBLY, 82226-A	
1	PAOZZ	5305-01-501-3224	OBT64	82230	MONOPOD FOOT SCREW UOC:ABA.....	1
2	PAOZZ	1005-01-465-5702	OBT64	82229	MONOPOD FOOT UOC:ABA.....	1
3	PAOZZ	5310-01-501-3225	OBT64	82228	MONOPOD FOOT WASHER UOC:ABA.....	1
4	PAOZZ	1005-01-501-3226	OBT64	82227	ELEVATION COLLAR UOC:ABA.....	1
5	XAOZZ		OBT64	82226	MONOPOD SCREW UOC:ABA.....	1
					END OF FIGURE	

END OF WORK PACKAGE

UNIT AND DIRECT SUPPORT

LONG RANGE SNIPER RIFLE, M107
(NSN 1005-01-469-2133)

UPPER RECEIVER ASSEMBLY, DBC-004

REPAIR PARTS LIST

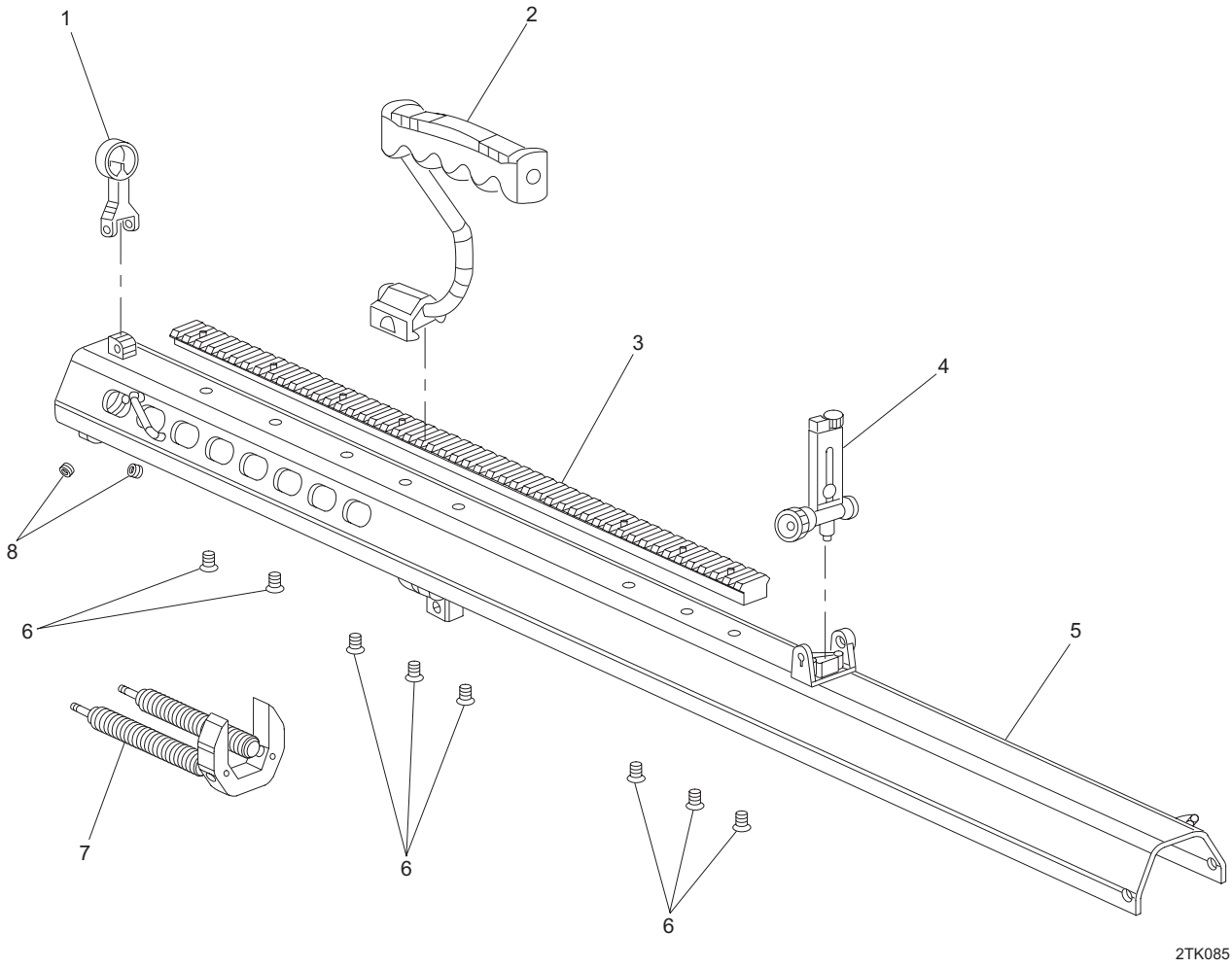


Figure 4. Upper Receiver Assembly, DBC-004.

(1) ITEM NO.	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODE (UOC)	(7) QTY
					GROUP 02 FIG. 4 UPPER RECEIVER ASSEMBLY, DBC-004	
1	AOOOO		OBT64	DBC-07	FRONT SIGHT ASSEMBLY (SEE FIG. 6 FOR ASSEMBLY BREAKDOWN) UOC:ABA.....	1
2	AOOOO		OBT64	LWO19-A1	CARRYING HANDLE ASSEMBLY (SEE FIG. 5 FOR ASSEMBLY BREAKDOWN) UOC:ABA.....	1
3	PAFZZ	1005-01-502-5659	OBT64	82130-15	SCOPE BASE UOC:ABA.....	1
4	PAFFF	1005-01-502-5870	OBT64	ISA1	IRON SIGHT ASSEMBLY (SEE FIG. 7 FOR ASSEMBLY BREAKDOWN) UOC:ABA.....	1
5	XADDD		OBT64	82013-C2	UPPER RECEIVER UOC:ABA.....	1
6	PAFZZ	5305-01-502-4964	OBT64	82131-2	SCOPE BASE SCREW UOC:ABA.....	8
7	PAFZZ	1005-01-470-9079	OBT64	82061-A	BARREL KEY ASSEMBLY UOC:ABA.....	1
8	PAFZZ	5305-01-277-5900	OBT64	82063	BARREL SPRING SCREW UOC:ABA.....	2
					END OF FIGURE	

END OF WORK PACKAGE

UNIT AND DIRECT SUPPORT

LONG RANGE SNIPER RIFLE, M107
(NSN 1005-01-469-2133)

CARRYING HANDLE ASSEMBLY, LWO19-A1

REPAIR PARTS LIST

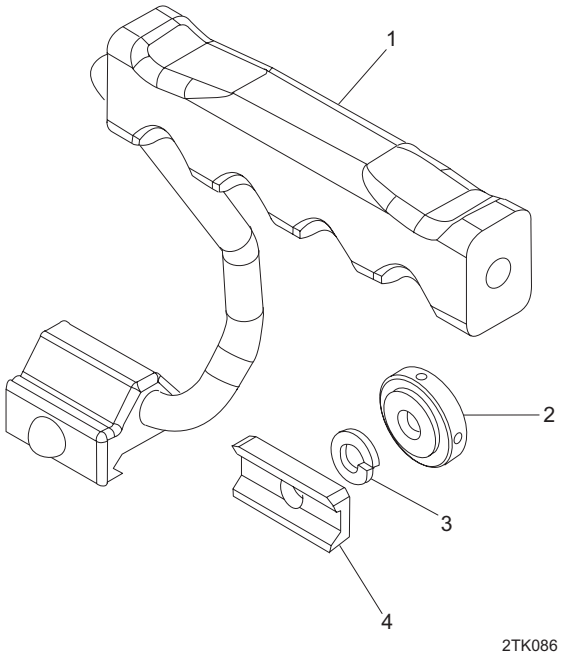


Figure 5. Carrying Handle Assembly, LWO19-A1.

(1) ITEM NO.	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODE (UOC)	(7) QTY
					GROUP 0201 FIG. 5 CARRYING HANDLE ASSEMBLY, LWO19-A1	
1	PAOZZ	1005-01-502-5668	OBT64	10748-A	CARRYING HANDLE ASSEMBLY UOC:ABA.....	1
2	PAOZZ	5310-01-502-1446	OBT64	82128-1	CARRYING HANDLE NUT UOC:ABA.....	1
3	PAOZZ	5310-01-494-9451	OBT64	82129	CARRYING HANDLE LOCK WASHER UOC:ABA.....	1
4	PAOZZ	1005-01-465-5680	OBT64	LW020	CARRYING HANDLE CLAMP UOC:ABA.....	1
					END OF FIGURE	

END OF WORK PACKAGE

UNIT AND DIRECT SUPPORT

LONG RANGE SNIPER RIFLE, M107
(NSN 1005-01-469-2133)

FRONT SIGHT ASSEMBLY, DBC-07

REPAIR PARTS LIST

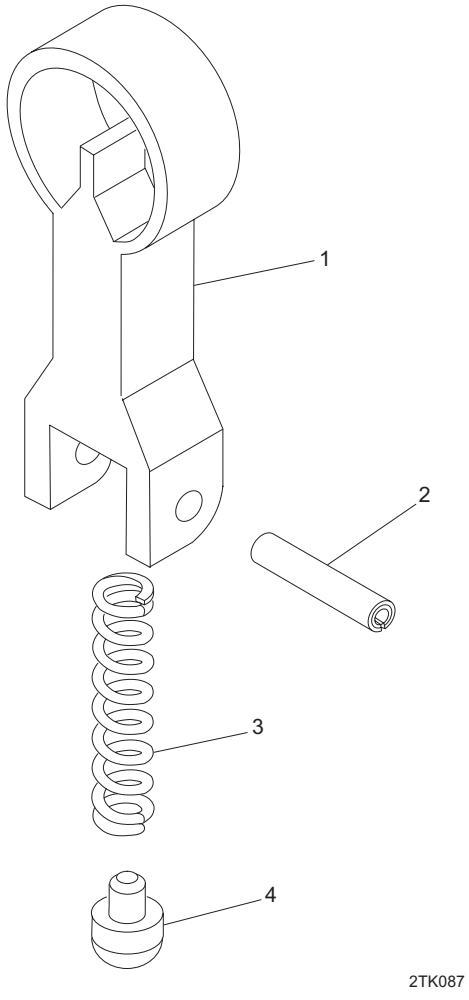


Figure 6. Front Sight Assembly, DBC-07.

(1) ITEM NO.	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODE (UOC)	(7) QTY
					GROUP 0202 FIG. 6 FRONT SIGHT ASSEMBLY, DBC-07	
1	PAOZZ	1005-01-357-4806	OBT64	82021	FRONT SIGHT UOC:ABA	1
2	PAOZZ	5315-01-358-7369	OBT64	82024	FRONT SIGHT PIN UOC:ABA	1
3	PAOZZ	5360-01-358-3032	OBT64	82022	FRONT SIGHT SPRING UOC:ABA	1
4	PAOZZ	5315-01-359-6521	OBT64	82023	FRONT SIGHT DETENT UOC:ABA	1
					END OF FIGURE	

END OF WORK PACKAGE

UNIT AND DIRECT SUPPORT

LONG RANGE SNIPER RIFLE, M107
(NSN 1005-01-469-2133)

IRON SIGHT ASSEMBLY, ISA1

REPAIR PARTS LIST

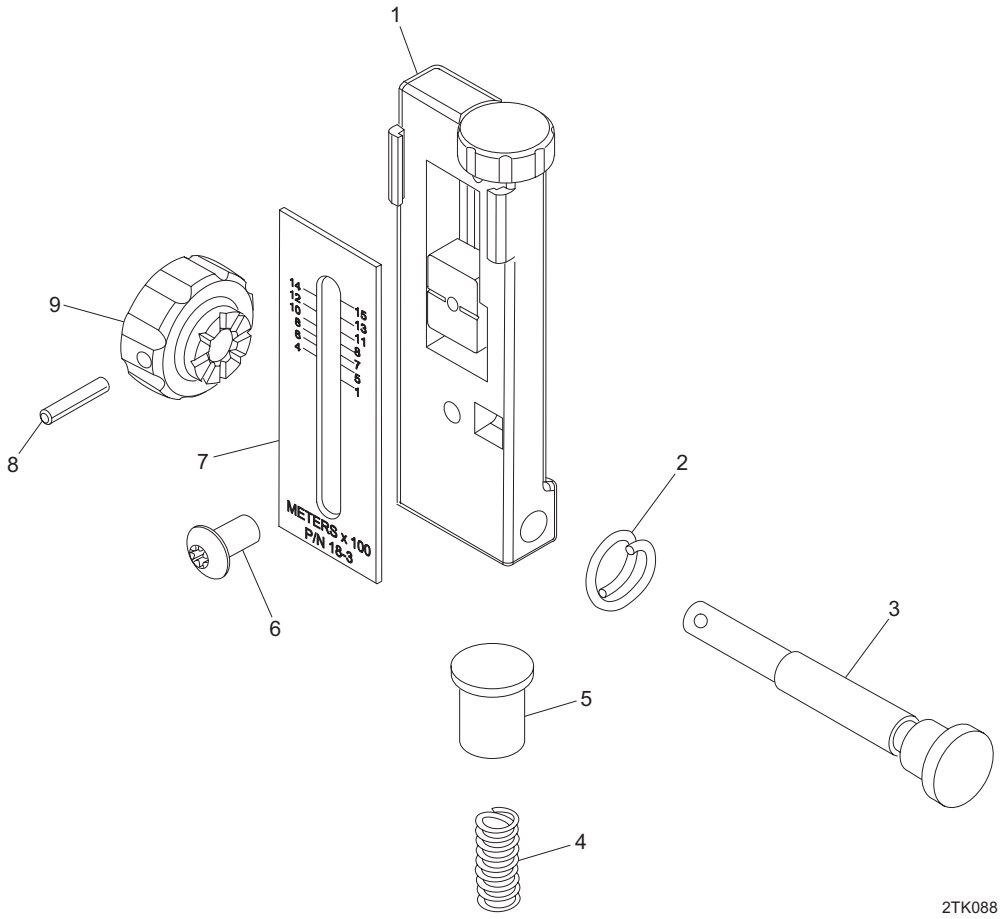


Figure 7. Iron Sight Assembly, ISA1.

(1) ITEM NO.	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODE (UOC)	(7) QTY
					GROUP 0203 FIG. 7 IRON SIGHT ASSEMBLY, ISA1	
1	XAFZZ		OBT64	IS1	REAR SIGHT BODY UOC:ABA.....	1
2	PAFZZ	5360-01-358-3034	OBT64	82029	WINDAGE SCREW SPRING UOC:ABA.....	1
3	PAFZZ	5305-01-465-5673	OBT64	82028-1	WINDAGE SCREW UOC:ABA.....	1
4	PAFZZ	5360-01-502-6169	OBT64	82027-SPG	REAR SIGHT BASE SPRING UOC:ABA.....	1
5	PAFZZ	5340-01-501-7229	OBT64	82027	REAR SIGHT BASE DETENT UOC:ABA.....	1
6	PAFZZ	5305-01-502-4970	OBT64	IS4	REAR SIGHT SCALE SCREW UOC:ABA.....	1
7	PAFZZ	1005-01-502-5866	OBT64	IS3	REAR SIGHT SCALE UOC:ABA.....	1
8	PAFZZ	5315-01-358-7370	OBT64	82031	WINDAGE KNOB PIN UOC:ABA.....	1
9	PAFZZ	5355-01-359-2593	OBT64	82030	WINDAGE KNOB UOC:ABA.....	1
					END OF FIGURE	

END OF WORK PACKAGE

UNIT AND DIRECT SUPPORT

LONG RANGE SNIPER RIFLE, M107
(NSN 1005-01-469-2133)

BARREL ASSEMBLY

REPAIR PARTS LIST

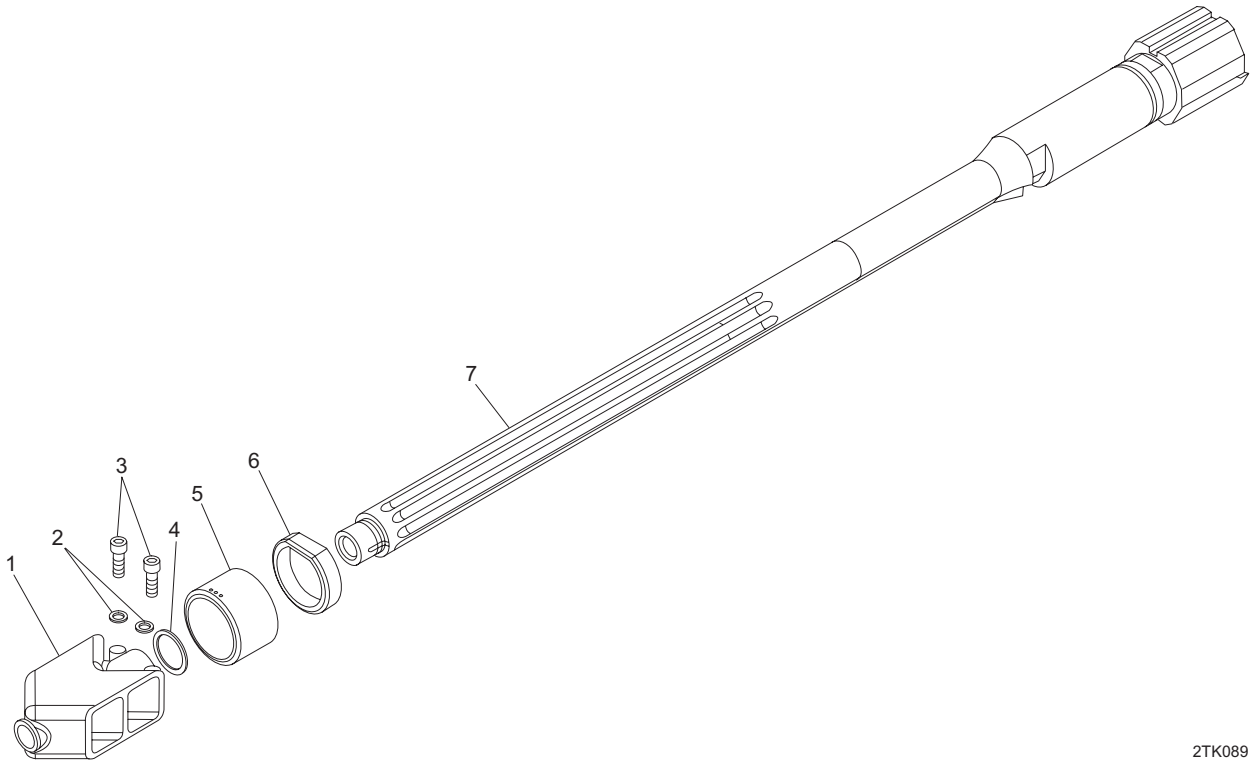


Figure 8. Barrel Assembly.

(1) ITEM NO.	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODE (UOC)	(7) QTY
					GROUP 03 FIG. 8 BARREL ASSEMBLY, NPN	
1	PAFZZ	1005-01-463-9051	OBT64	82159-2	MUZZLE BRAKE UOC:ABA	1
2	PAFZZ	5310-01-502-1864	OBT64	82159-WA	MUZZLE BRAKE WASHER UOC:ABA	2
3	PAFZZ	1005-01-463-9052	OBT64	82159-S	MUZZLE BRAKE SCREW UOC:ABA	2
4	PAFZZ	5365-01-502-4958	OBT64	82145-KIT	MUZZLE BRAKE SHIM UOC:ABA	V
5	PAFZZ	5340-01-358-8855	OBT64	82065	IMPACT BARREL BUMPER UOC:ABA	1
6	PAFZZ	5340-01-358-8856	OBT64	82060	BATTERY BUMPER UOC:ABA	1
7	XADDD		OBT64	82057-C	BARREL UOC:ABA	1
					END OF FIGURE	

END OF WORK PACKAGE

UNIT AND DIRECT SUPPORT

LONG RANGE SNIPER RIFLE, M107
(NSN 1005-01-469-2133)

BOLT AND CARRIER ASSEMBLY, DBC-006

REPAIR PARTS LIST

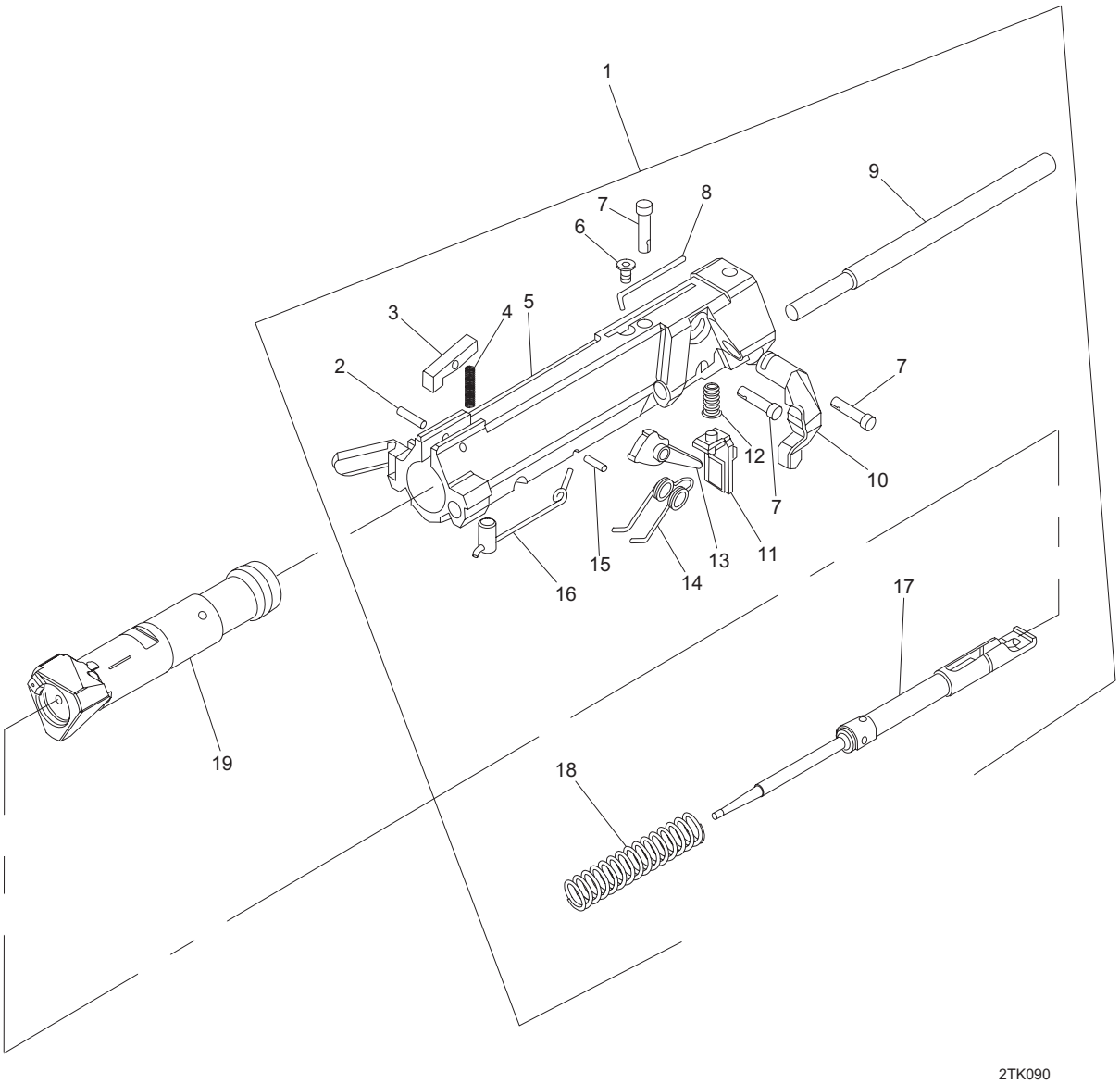


Figure 9. Bolt and Carrier Assembly, DBC-006.

(1) ITEM NO.	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODE (UOC)	(7) QTY
					GROUP 04 FIG. 9 BOLT AND CARRIER ASSEMBLY, DBC-006	
1	XAFZZ		OBT64	LW078-A	CARRIER ASSEMBLY UOC:ABA	1
2	PAFZZ	5315-01-359-1068	OBT64	82085	. BOLT LATCH PIN UOC:ABA	1
3	PAFZZ	5340-01-359-0073	OBT64	82083	. BOLT LATCH UOC:ABA	1
4	PAFZZ	5360-01-358-3037	OBT64	82084	. BOLT LATCH SPRING UOC:ABA	1
5	PAFZZ	1005-01-470-9089	OBT64	LW078C	. BOLT CARRIER UOC:ABA	1
6	PAFZZ	5305-01-415-5082	OBT64	82043	. ACCELERATOR SPRING SCREW UOC:ABA	1
7	PAFZZ	5315-01-359-3149	OBT64	82094	. BOLT CARRIER PIN UOC:ABA	3
8	PAFZZ	1005-01-360-7105	OBT64	82087	. ACCELERATOR SPRING UOC:ABA	1
9	PAFZZ	1005-01-360-7106	OBT64	82188	. ACCELERATOR ROD UOC:ABA	1
10	PAFZZ	1005-01-357-6435	OBT64	82086	. ACCELERATOR UOC:ABA	1
11	PAFZZ	1005-01-358-0136	OBT64	82089	. SEAR UOC:ABA	1
12	PAFZZ	5360-01-358-3040	OBT64	82090	. SEAR SPRING UOC:ABA	1
13	PAFZZ	1005-01-358-7883	OBT64	82092	. COCKING LEVER UOC:ABA	1
14	PAFZZ	5360-01-358-3041	OBT64	82093	. COCKING LEVER SPRING UOC:ABA	1
15	PAFZZ	5315-01-358-7373	39428	92383A204	. CAM PIN UOC:ABA	1
16	PAFZZ	1005-01-359-0005	OBT64	82080-C	. CAM PIN ASSEMBLY UOC:ABA	1
17	PAFZZ	1005-01-502-5874	OBT64	82097-1A	. FIRING PIN EXTENSION ASSEMBLY UOC:ABA	1
18	PAOZZ	5360-01-358-3039	OBT64	82102	. BOLT SPRING UOC:ABA	1
19	XAODD		OBT64	82101-A	BOLT ASSEMBLY (SEE FIG. 10 FOR ASSEMBLY BREAKDOWN) UOC:ABA	1
					END OF FIGURE	

END OF WORK PACKAGE

UNIT AND DIRECT SUPPORT

LONG RANGE SNIPER RIFLE, M107
(NSN 1005-01-469-2133)

BOLT ASSEMBLY, 82101-A

REPAIR PARTS LIST

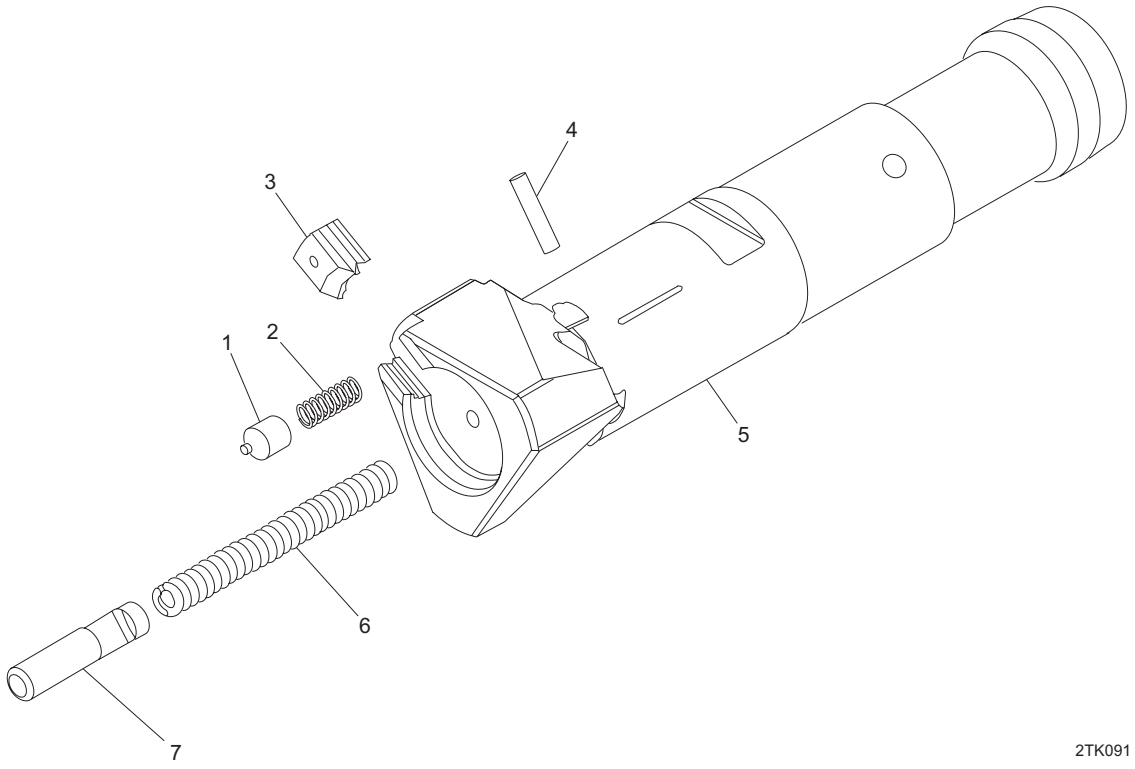


Figure 10. Bolt Assembly, 82101-A.

(1) ITEM NO.	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODE (UOC)	(7) QTY
					GROUP 0401 FIG. 10 BOLT ASSEMBLY, 82101-A	
1	PAOZZ	1005-01-357-4805	OBT64	82108	EXTRACTOR PLUNGER UOC:ABA	1
2	PAOZZ	5360-01-358-3036	OBT64	82107	EXTRACTOR SPRING UOC:ABA	1
3	PAOZZ	1005-01-415-3868	OBT64	82106	EXTRACTOR UOC:ABA	1
4	PAOZZ	5315-01-358-7373	39428	92383A204	EJECTOR PIN UOC:ABA	1
5	PADZZ	1005-01-359-2715	OBT64	82101-8	BOLT UOC:ABA	1
6	PAOZZ	5360-01-358-3038	OBT64	82104	EJECTOR SPRING UOC:ABA	1
7	PAOZZ	1005-01-357-4804	OBT64	82103	EJECTOR UOC:ABA	1
					END OF FIGURE	

END OF WORK PACKAGE

UNIT AND DIRECT SUPPORT

LONG RANGE SNIPER RIFLE, M107
(NSN 1005-01-469-2133)

CARTRIDGE MAGAZINE, 82116A

REPAIR PARTS LIST

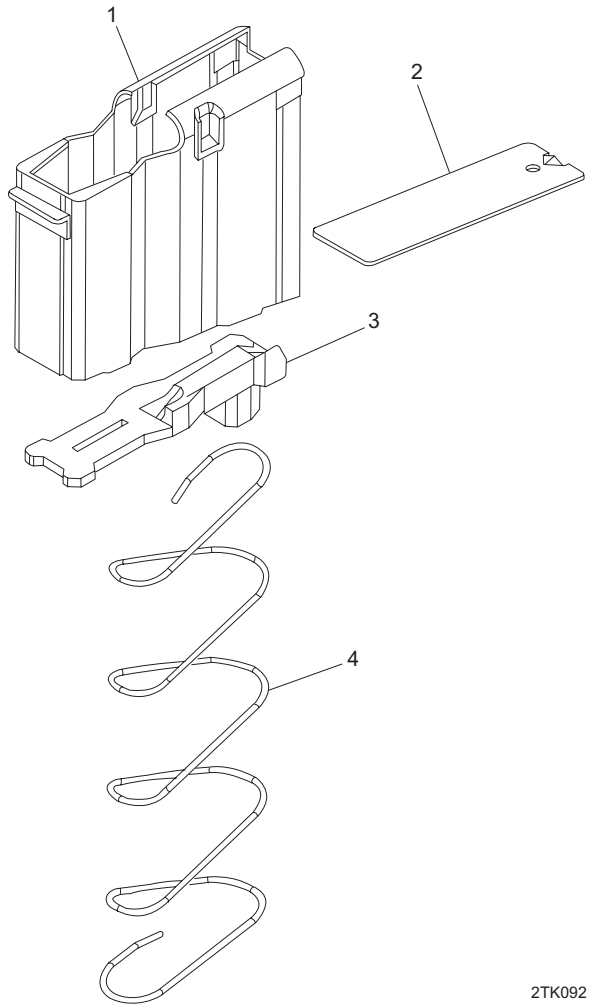


Figure 11. Cartridge Magazine, 82116A.

(1) ITEM NO.	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODE (UOC)	(7) QTY
					GROUP 05 FIG. 11 CARTRIDGE MAGAZINE, 82116A	
1	XAOZZ		OBT64	82116-C	MAGAZINE TUBE UOC:ABA.....	1
2	PAOZZ	1005-01-358-9712	OBT64	82122	BASE PLATE UOC:ABA.....	1
3	PAOZZ	1005-01-358-9718	OBT64	82120	MAGAZINE FOLLOWER UOC:ABA.....	1
4	PAOZZ	5360-01-358-7910	OBT64	82121	MAGAZINE SPRING UOC:ABA.....	1
					END OF FIGURE	

END OF WORK PACKAGE

UNIT AND DIRECT SUPPORT

LONG RANGE SNIPER RIFLE, M107
(NSN 1005-01-469-2133)

BIPOD ASSEMBLY, BA-2

REPAIR PARTS LIST

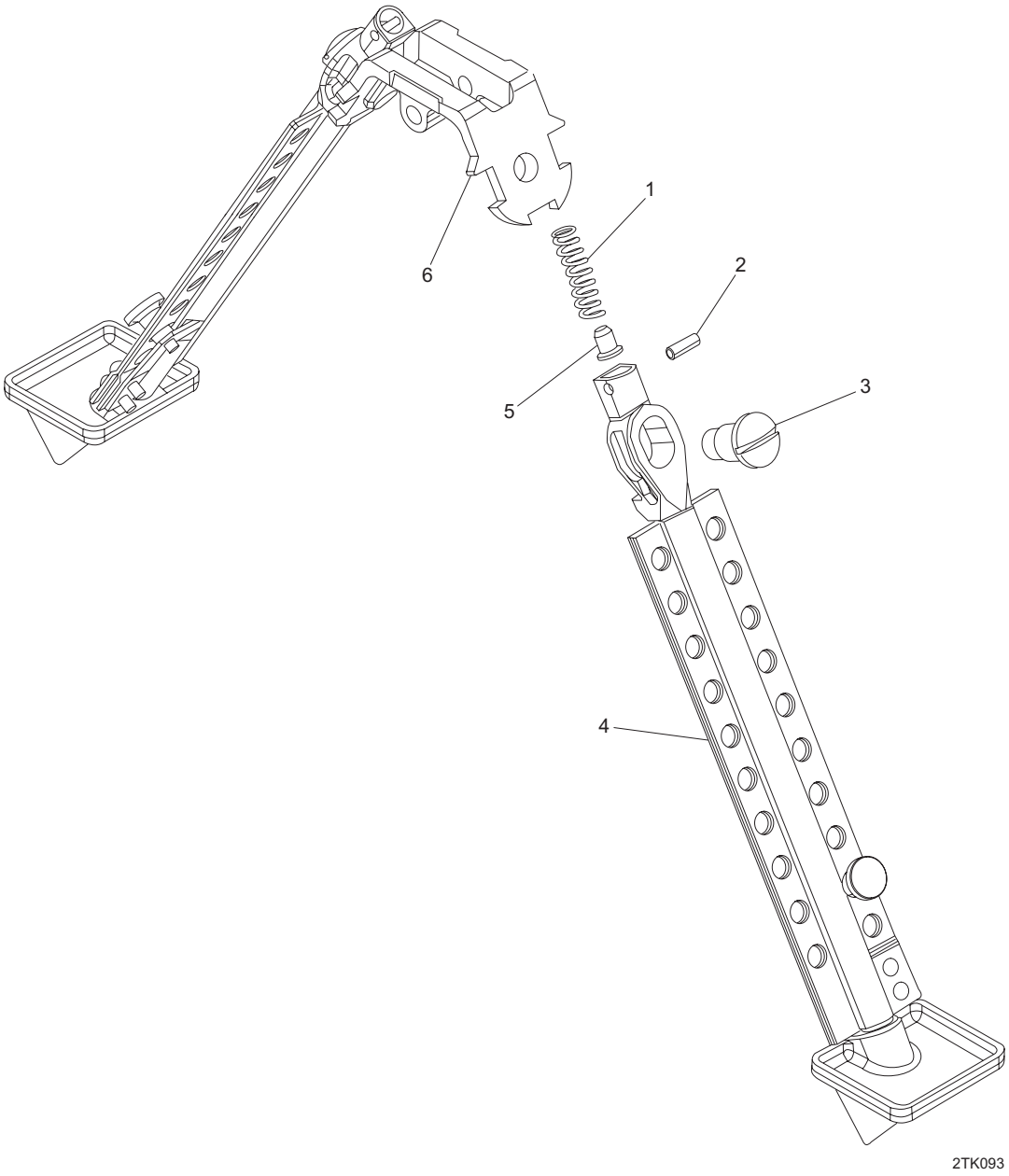


Figure 12. Bipod Assembly, BA-2.

(1) ITEM NO.	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODE (UOC)	(7) QTY
					GROUP 06 FIG. 12 BIPOD ASSEMBLY, BA-2	
1	PAFZZ	5360-01-358-3033	OBT64	82026	BIPOD SPRING UOC:ABA	2
2	PAFZZ	5315-01-502-6184	OBT64	82024-1	BIPOD PIN UOC:ABA	2
3	PAFZZ	5305-01-358-9710	OBT64	82041	BIPOD SCREW UOC:ABA	2
4	PAFZZ	1005-01-465-5791	OBT64	82239-CSHS	BIPOD LEG ASSEMBLY UOC:ABA	2
5	PAFZZ	5315-01-358-7368	OBT64	82064	BIPOD DETENT UOC:ABA	2
6	PAFZZ	1005-01-472-6045	OBT64	99028	BIPOD YOKE UOC:ABA	1
					END OF FIGURE	

END OF WORK PACKAGE

UNIT AND DIRECT SUPPORT

LONG RANGE SNIPER RIFLE, M107
(NSN 1005-01-469-2133)

OPTIC MOUNT SYSTEM, OMSYS6, AND SCOPE RING ASSEMBLY, 52083

REPAIR PARTS LIST

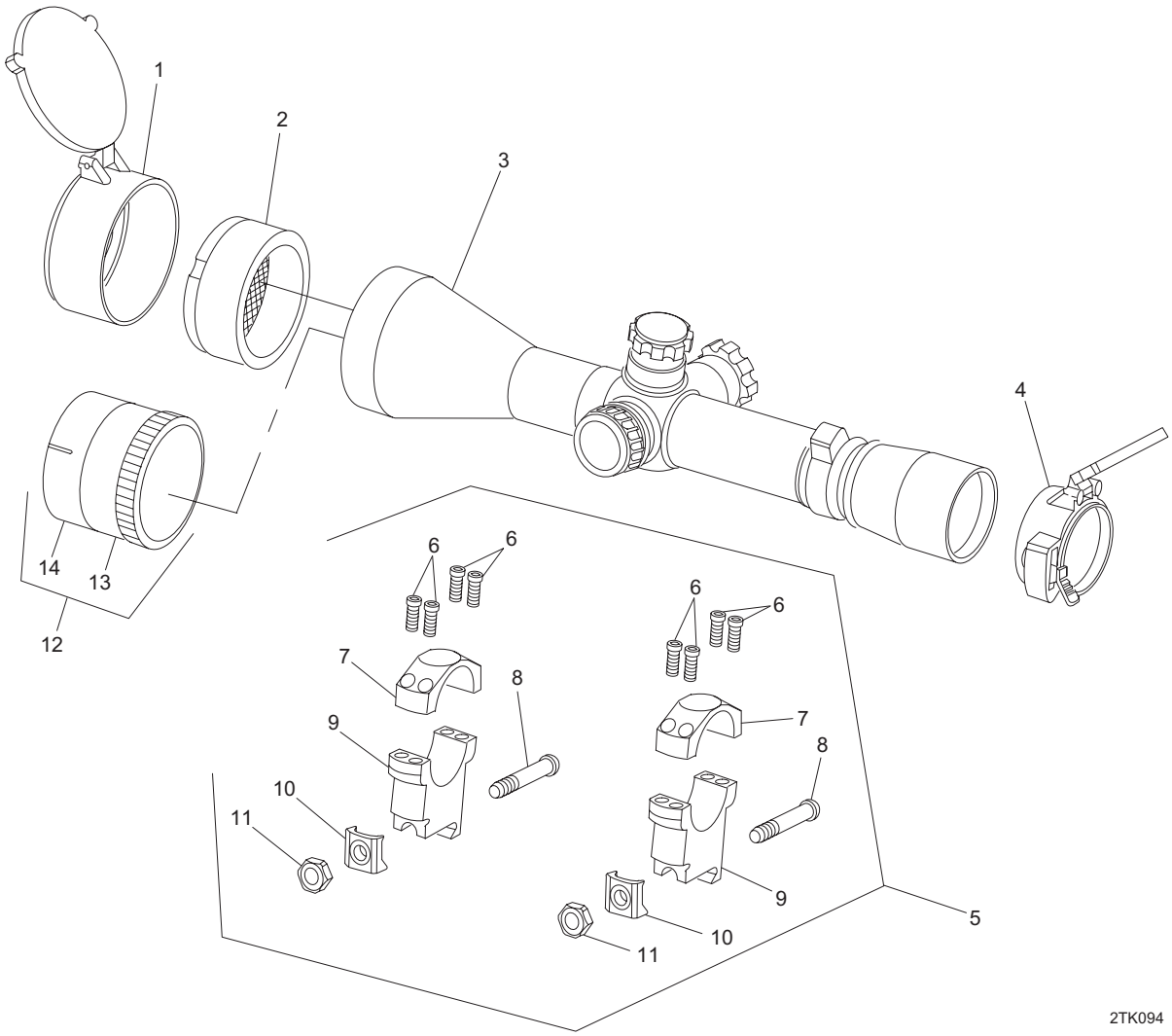


Figure 13. Optic Mount System, OMSYS6, and Scope Ring Assembly, 52083.

(1) ITEM NO.	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODE (UOC)	(7) QTY
					GROUP 07, 0701 FIG. 13 OPTIC MOUNT SYSTEM, OMSYS6 SCOPE RING ASSEMBLY, 52083	
1	PAOZZ	6650-01-502-1871	66575	43OBJ	OBJECTIVE LENS COVER UOC:ABA	1
2	PAOZZ	6650-01-502-1873	1D2P7	50LTC-ARD	ANTI-REFLECTIVE DEVICE (ARD) UOC:ABA	1
3	XAODD		35848	54560	SCOPE UOC:ABA	1
4	PAOZZ	6650-01-502-1874	66575	13EYE	EYEPIECE LENS COVER UOC:ABA	1
5	PAOOO	1240-01-502-8707	35848	52083	SCOPE RING ASSEMBLY UOC:ABA	1
6	PAOZZ	5305-01-502-4412	35848	53073	. SCOPE RING SCREW UOC:ABA	8
7	XAOZZ		35848	52560	. TOP SCOPE RING UOC:ABA	2
8	PAOZZ	5306-01-502-4414	35848	42048	. SCOPE RING BOLT UOC:ABA	2
9	XAOZZ		35848	52630	. BOTTOM SCOPE RING UOC:ABA	2
10	PAOZZ	5310-01-502-1525	35848	53076	. BOLT KEEPER UOC:ABA	2
11	PAOZZ	5310-01-502-1527	35848	42037	. BOLT NUT UOC:ABA	2
12	PAOOO	1240-01-502-1295	19200	13001589	LASER FILTER UNIT (LRU) UOC:ABA	1
13	PAOZZ	5310-01-502-1943	19200	13001590	KNURLED LOCK RING UOC:ABA	1
14	XAOZZ		19200	13001591	LASER FILTER CELL UOC:ABA	1
					END OF FIGURE	

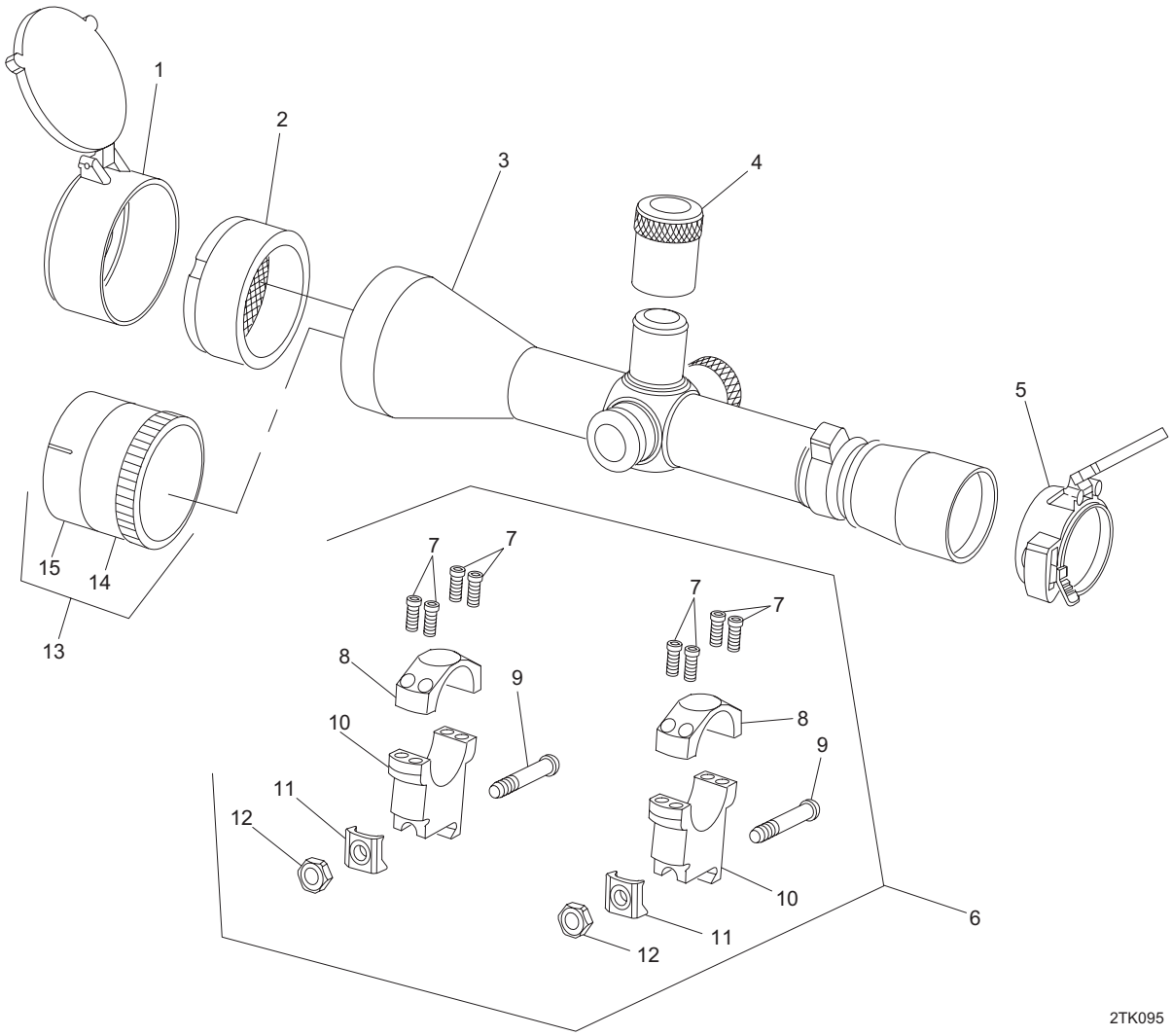


Figure 14. Optic Mount System, OMSYS6, and Scope Ring Assembly, 52083.

(1) ITEM NO.	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODE (UOC)	(7) QTY
					GROUP 07, 0701 FIG. 14 OPTIC MOUNT SYSTEM, OMSYS6 SCOPE RING ASSEMBLY, 52083	
1	PAOZZ	6650-01-502-1871	66575	43OBJ	OBJECTIVE LENS COVER UOC:ABA	1
2	PAOZZ	6650-01-502-1873	1D2P7	50LTC-ARD	ANTI-REFLECTIVE DEVICE (ARD) UOC:ABA	1
3	XAODD		35848	51668	SCOPE UOC:ABA	1
4	PAOZZ	5340-01-502-6888	35848	51503	ADJUSTMENT TURRET CAP UOC:ABA	3
5	PAOZZ	6650-01-502-1874	66575	13EYE	EYEPIECE LENS COVER UOC:ABA	1
6	PAOOO	1240-01-502-8707	35848	52083	SCOPE RING ASSEMBLY UOC:ABA	1
7	PAOZZ	5305-01-502-4412	35848	53073	. SCOPE RING SCREW UOC:ABA	8
8	XAOZZ		35848	52560	. TOP SCOPE RING UOC:ABA	2
9	PAOZZ	5306-01-502-4414	35848	42048	. SCOPE RING BOLT UOC:ABA	2
10	XAOZZ		35848	52630	. BOTTOM SCOPE RING UOC:ABA	2
11	PAOZZ	5310-01-502-1525	35848	53076	. BOLT KEEPER UOC:ABA	2
12	PAOZZ	5310-01-502-1527	35848	42037	. BOLT NUT UOC:ABA	2
13	PAOOO	1240-01-502-1295	19200	13001589	LASER FILTER UNIT (LRU) UOC:ABA	1
14	PAOZZ	5310-01-502-1943	19200	13001590	KNURLED LOCK RING UOC:ABA	1
15	XAOZZ		19200	13001591	LASER FILTER CELL UOC:ABA	1
					END OF FIGURE	

END OF WORK PACKAGE

UNIT AND DIRECT SUPPORT

LONG RANGE SNIPER RIFLE, M107
(NSN 1005-01-469-2133)

NATIONAL STOCK NUMBER INDEX

STOCK NUMBER	FIG.	ITEM
5315-01-210-0923	2	32
5310-01-261-6678	2	2
5305-01-277-5900	4	8
5305-01-286-9783	2	16
5315-01-300-2640	2	19
1005-01-357-4804	10	7
1005-01-357-4805	10	1
1005-01-357-4806	6	1
1005-01-357-6435	9	10
1005-01-357-6820	2	30
1005-01-358-0136	9	11
5360-01-358-0154	2	5
1005-01-358-1342	1	6
5360-01-358-3032	6	3
5360-01-358-3033	12	1
5360-01-358-3034	7	2
5360-01-358-3035	2	26
5360-01-358-3036	10	2
5360-01-358-3037	9	4
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	14	1
6650-01-502-1873	13	2
	14	2
6650-01-502-1874	13	4
	14	5
5310-01-502-1943	13	13
	14	14
5305-01-502-4412	13	6
	14	7
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	14	9
5305-01-502-4694	4	6
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1005-01-502-5866	7	7
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END OF WORK PACKAGE

UNIT AND DIRECT SUPPORT

LONG RANGE SNIPER RIFLE, M107
(NSN 1005-01-469-2133)

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END OF WORK PACKAGE

UNIT AND DIRECT SUPPORT

LONG RANGE SNIPER RIFLE, M107
(NSN 1005-01-469-2133)

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), 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 (item 23, WP 0045 00)").

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

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

Column (4) – Item Name, Description, Commercial and Government Entity Code (CAGEC), and Part Number (P/N). This column provides the other information you need to identify the item.

Column (5) – Unit of Issue (U/I). Indicates the physical measurement or count of the item as issued per the National Stock Number shown in column (3).

EXPENDABLE AND DURABLE ITEMS LIST

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	C	6810-00-983-8551	Alcohol, Isopropyl (Cleaning Fluid) 1 qt can (81348) TTI 735	QT
2	O	6515-01-234-6838	Applicator (Q-Tips) 100 per package (5L934) 362	PK

EXPENDABLE AND DURABLE ITEMS LIST - Continued

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
3	F	8135-00-292-9719	Barrier Material 36 in. wide, 100 yd roll (81348) MIL-B-121	RO
4	C	5120-00-254-4612	Blower, Watchmakers (19200) 8284021	EA
5	C	8125-00-824-9058	Bottle (for containing isopropyl alcohol) (58536) A-A-685	OZ
6	C	8020-00-619-8929	Brush, Artist (Cleaning) (58536) A-A-3191	EA
7	O	1005-01-502-5815	Brush, Cleaning, General Purpose (OBT64) RW-316	EA
8	C	1005-00-766-0915	Brush, Cleaning, Small Arms (Chamber) (19204) 7790737	EA
9	C	1005-00-550-4037	Brush, Cleaning, Small Arms (M4 Bore) (19204) 5504037	EA
10	O	9150-01-102-1473	Cleaner, Lubricant, and Preservative (CLP) (81349) MIL-PRF-63460	OZ
11	C	9920-00-292-9946	Cleaner, Tobacco Pipe (89855) DILLSPIPECLEANERS	BX
12	O	5820-00-392-9751	Cleaning Compound, Optical Lens 2 oz bottle (58536) A-A-59199	OZ
13	C	6850-00-224-6656 6850-00-224-6657	Cleaning Compound, Rifle Bore Compound (RBC) 2 oz can (81349) MIL-PRF-372 8 oz can (81349) MIL-PRF-372	OZ
14	O	6850-00-754-2671	Compound, Anti-fogging (62639) ALFA KLEEN AK-031	OZ

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
15	F	8135-01-507-7923	Cushioning Material, Cellulosic Packaging (58536) A-A-1898	RO
16	F	8135-00-931-1465	Cushioning Material, Open Cell Plastic Film (81348) PPP-C-843	RO
17	O	9150-00-903-6431	Lubricant, Dry Film (18362) FLUORO-GLIDE FB	CN
18	C	9150-00-292-9689	Lubricating Oil (LAW) 1 qt can (81349) MIL-PRF-14107	QT
19	C	 9150-00-935-6597 9150-00-889-3522 9150-00-687-4241 9150-00-753-4686	Lubricating Oil (LSA) 2 oz plastic bottle (81349) MILL46000 4 oz plastic bottle (19204) 8436793 32 oz (81349) MILL46000 1 gallon (81349) MILL46000	OZ
20	C	9150-00-949-0323	Lubricating Oil (LSAT) (81349) MIL-L-46150	TU
21	C	6640-00-663-0832	Paper, Lens (Cleaning Tissues) 50 sheets (25518) 65-4900	PK
22	F	8135-00-950-4008	Paperboard, Wrapping and Cushioning (58536) A-A-1051	BX
23	C	7920-00-205-1711	Rag, Wiping (80244) 7920-00-205-1711	LB
24	C	1005-00-288-3565	Swab, Small Arms Cleaning (Patches) (19204) 5019316	PG

EXPENDABLE AND DURABLE ITEMS LIST - Continued

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
25	F	7510-00-074-4952	Tape, Pressure Sensitive, Cloth-Back, Water-Resistant 2 in. wide, 60 yd roll (81346) ASTM D 5486/D 5486M TY 4 WHT 2IN	YD
26	O	8030-00-181-7603	Thread-locking Compound Grade A Red Type 3 (05972) 63531	OZ

END OF WORK PACKAGE

UNIT AND DIRECT SUPPORT

LONG RANGE SNIPER RIFLE, M107
(NSN 1005-01-469-2133)

TURN-IN PROCEDURES FOR CONTRACTOR REPAIR

TURN-IN PROCEDURES

The following offline procedures must be used for returning the M107 Sniper Rifle for contractor (Barrett Firearms Manufacturing, Inc.) repair. If the procedures are not followed, the repair of the weapon(s) will be delayed until required data is provided. Compliance with these procedures is being emphasized to the contractor. Units, which do not comply upon request, will be reported to the Provost Marshal.

a. Ensure that no ammunition is present in the weapon by clearing the weapon using the field strip procedures (TM 9-1005-239-10).

b. Completely fill in DA Form 2407 in accordance with the instructions provided in DA PAM 738-750, "The Army Maintenance Management System (TAMMS)". Detail the required maintenance action as thoroughly as possible in block 15 of DA Form 2407.

c. Data Fax one copy of "Receipt Copy 1" of DA Form 2407 to:

FAX: 793-6016
COMMERCIAL FAX: (309) 782-6016
Department of the Army
U.S. Army Tank-Automotive and Armaments Command
ATTN: AMSTA-LC-CSIH
Rock Island, IL 61299-7630

d. Place copies 2 through 5 of DA Form 2407 inside the hard case. Ensure that a POC (point of contact) and a commercial telephone number are included.

NOTE

Ensure that the four remaining copies of DA Form 2407 are inside the hard case before closing and sealing the case. Repairs cannot be made unless the deficiency is identified on DA Form 2407.

e. Clean weapon and place in hard case.

f. Clean the day optic sight. Ensure covers are installed on the sight and are in the closed position. Place sight in hard case.

g. Padlock case and ship keys with photocopy of DA Form 2407 to Depot address:

Barrett Firearms Manufacturing, Inc.
5929 Miller Lane
Christiana, TN 37037

Commercial Telephone: (615) 896-2938

DOCUMENTATION FOR TURN-IN

1. For CONUS units and those OCONUS units with access to US Registered Mail service for both shipping and receiving weapons:

   a. When it is determined that the M107 Sniper Rifle requires repair above Direct Support maintenance level, notify the Unit Accountable Property Book Officer.

   b. The Unit Accountable Property Book Officer will process an FTE (Report of Excess) and an AOE (Requisition with Exception Data) IAW the Materiel Returns Program as detailed in Requisition Receipt and Issue System, Chapter 7, AR 725-50, 19 Oct 90. Exception data will include serial number of the M107 Sniper Rifle, document number of the FTE, point of contact to include commercial and/or DSN telephone number, and verification that weapon can be shipped through US Registered Mail.

   c. TACOM – Rock Island will respond with an FTR (reply to report of excess), directing shipment to Barrett Firearms Manufacturing, Inc.

   d. The M107 Sniper Rifle will be returned to the unit, using the document number from the AOE.

2. For OCONUS units without access to US Registered Mail for both shipping and receiving weapons:

   a. The procedures for the units are the same as for CONUS units.

   b. TACOM – Rock Island will respond with an FTR directing shipment of the M107 Sniper Rifle to Defense Distribution Depot Anniston (DDAA) using Defense Transportation Service (DTS).

   c. TACOM – Rock Island will direct DDAA to ship the M107 Sniper Rifle to Barrett Firearms Manufacturing, Inc., for repair.

   d. When the M107 is returned to DDAA, the TACOM – Rock Island item manager will direct shipment of the M107 Sniper Rifle to the unit, using the document number from the AOE.

3. For all repair requirements, the following procedures must be used:

NOTE

Do not submit these transactions through AUTODIN.

   a. The FTE and AOE may be phoned into TACOM-Rock Island, AMSTA-LC-CIAL, DSN 793-2774 or commercial (309) 782-2774.

   b. FAX the above transactions to DSN 793-2640.

   c. If using electronic mail, send to bynumj@ria.army.mil.

4. The above procedures will transfer the accountability of the M107 Sniper Rifle from the unit to the wholesale system. The M107 Sniper Rifle will not be repaired and returned to the unit unless the above procedures are followed. Regardless of how the weapon is delivered to the contractor, these procedures must be followed.

5. Weapons returned through US Registered Mail shall have the container marked with the NSN, part number, and quantity. Weapons returned through DST shall have the container marked in accordance with MIL-STD-129.

6. In the event US Registered Mail is not available, shipment of the M107 Sniper Rifle must be accomplished through the use of the Defense Transportation System (DTS) and requires Category IV Transportation Protective Service (TPS) in transit.

7. Shipment is reportable under DODSASP in accordance with chapter 4 of AR 710-3, "Asset and Transaction Reporting System". The DODAAC to be used for the shipment to Barrett Firearms Manufacturing, Inc., is CMB002 and RIC is C8S. DODSASP reporting is mandatory. These procedures transfer the accountability of the weapon from the unit to TACOM – Rock Island. The exception to reporting in AR 710-3, chapter 4-11, does not apply, since this is a national maintenance point contract and not a repair and return evacuation.

8. For permanent turn-in of the M107 Sniper Rifle, units must turn in a complete system (rifle, scope, cases, deployment kit, etc.) using the FTE (Report of Excess) IAW AR 725-50, chapter 7, 19 Oct 90. The units must bring system back up to standards, prior to shipment. Report of discrepancy will be filed, addressing any shortages.

9. Applicable publications are listed below:

   a. MIL-B-121: Barrier Material;
   b. ASTM D 5118: Standard Practice for Fabrication of Fiberboard Shipping Boxes;
   c. A-A-1898: Cushioning Material, Cellulosic Packaging;
   d. A-A-3129: Cushioning Material, Open Cell Plastic Film;
   e. A-A-1051: Paperboard, Wrapping and Cushioning;
   f. ASTM D 5486: Standard Specification for Pressure Sensitive Tape for Box Closure and Sealing;
   g. MIL-STD-129: Standard Practice for Military Marking.

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By Order of the Secretary of the Army:

PETER J. SCHOOMAKER
General, United States Army
Chief of Staff

Official:

JOEL B. HUDSON
Administrative Assistant to the
Secretary of the Army
0409804

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Use Part II *(reverse)* for Repair Parts and Special Tool Lists (RPSTL) and Supply Catalogs/Supply Manuals (SC/SM).

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TO: *(Forward to proponent of publication or form) (Include ZIP Code)*
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1 Rock Island Arsenal
Rock Island, IL 61299-7630

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

PUBLICATION/FORM NUMBER	DATE	TITLE
TM 9-1005-239-23&P	15 May 2004	Unit and DS Maint. 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	0031 00-3					Incorrect NSN for trigger spring, P/N 82071.

SAMPLE

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

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

TO: (*Forward direct to addressee listed in publication*)	FROM: (*Activity and location) (Include ZIP Code)*	DATE
AMSTA-LC-CI / TECH PUBS, TACOM-RI 1 Rock Island Arsenal Rock Island, IL 61299-7630	Your address	Date you filled out this form

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

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

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

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

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DA FORM 2028, FEB 74 REPLACES DA FORM 2028, 1 DEC 68, WHICH WILL BE USED. USAPPC V3.00

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THE METRIC SYSTEM AND EQUIVALENTS

LINEAR MEASURE

1 Centimeter = 10 Millimeters = 0.01 Meter = 0.3937 Inch
1 Decimeter = 10 Centimeters = 3.94 Inches
1 Meter =10 Decimeters = 100 Centimeters
= 1000 Millimeters = 39.37 Inches
1 Dekameter = 10 Meters = 32.8 Feet
1 Hectometer =10 Dekameters = 328.08 Feet
1 Kilometer =10 Hectometers = 1000 Meters
= 0.621 Mile = 3,280.8 Feet
Millimeters = Inches times 25.4
Inches = Millimeters divided by 25.4

WEIGHTS

1 Centigram = 10 Milligrams = 0.154 Grain
1 Decigram = 10 Centigrams = 1.543 Grains
1 Gram = 0.001 Kilogram = 10 Decigrams
=1000 Milligrams = 0.035 Ounce
1 Dekagram = 10 Grams = 0.353 Ounce
1 Hectogram = 10 Dekagrams = 3.527 Ounces
1 Kilogram = 10 Hectograms = 1000 Grams
= 2.205 Pounds
1 Quintal = 100 Kilograms = 220.46 Pounds
1 Metric Ton = 10 Quintals = 1000 Kilograms
= 1.1 Short Tons

LIQUID MEASURE

1 Milliliter = 0.001 Liter = 0.034 Fluid Ounce
1 Centiliter = 10 Milliliters = 0.34 Fluid Ounce
1 Deciliter = 10 Centiliters = 3.38 Fluid Ounces
1 Liter = 10 Deciliters = 1000 Milliliters
= 33.82 Fluid Ounces
1 Dekaliter = 10 Liters = 2.64 Gallons
1 Hectoliter = 10 Dekaliters = 26.42 Gallons
1 Kiloliter = 10 Hectoliters = 264.18 Gallons

SQUARE MEASURE

1 Sq Centimeter = 100 Sq Millimeters = 0.155 Sq Inch
1 Sq Decimeter = 100 Sq Centimeters = 15.5 Sq Inches
1 Sq Meter (Centare) = 10 Sq Decimeters
= 10,000 Sq Centimeters = 10.764 Sq Feet
1 Sq Dekameter (Are) = 100 Sq Meters = 1,076.4 Sq Feet
1 Sq Hectometer (Hectare) = 100 Sq Dekameters
= 2.471 Acres
1 Sq Kilometer = 100 Sq Hectometers
= 1,000,000 Sq Meters = 0.386 Sq Mile

CUBIC MEASURE

1 Cu Centimeter = 1000 Cu Millimeters = 0.061 Cu Inch
1 Cu Decimeter = 1000 Cu Centimeters = 61.02 Cu Inches
1 Cu Meter = 1000 Cu Decimeters
= 1,000,000 Cu Centimeters= 35.31 Cu Feet

TEMPERATURE

5/9 (°F - 32°) = °C
(9/5 x °C) + 32° = °F
-35° Fahrenheit is equivalent to -37° Celsius
0° Fahrenheit is equivalent to -18° Celsius
32° Fahrenheit is equivalent to 0° Celsius
90° Fahrenheit is equivalent to 32.2° Celsius
100° Fahrenheit is equivalent to 38° Celsius
212° Fahrenheit is equivalent to 100° Celsius

APPROXIMATE CONVERSION FACTORS

TO CHANGE	TO	MULTIPLY BY
Inches	Centimeters	2.540
Feet	Meters	0.305
Yards	Meters	0.914
Miles	Kilometers	1.609
Square Inches	Square Centimeters	6.451
Square Feet	Square Meters	0.093
Square Yards	Square Meters	0.836
Square Miles	Square Kilometers	2.590
Acres	Square Hectometers	0.405
Cubic Feet	Cubic Meters	0.028
Cubic Yards	Cubic Meters	0.765
Fluid Ounces	Milliliters	29.573
Pints	Liters	0.473
Quarts	Liters	0.946
Gallons	Liters	3.785
Ounces	Grams	28.349
Pounds	Kilograms	0.454
Short Tons	Metric Tons	0.907
Pound-Feet	Newton-Meters	1.356
Pounds-Inches	Newton-Meters	0.11375
Pounds per Square Inch	Kilopascals	6.895
Ounce-Inches	Newton-Meters	0.007062
Miles per Gallon	Kilometers per Liter	0.425
Miles per Hour	Kilometers per Hour	1.609

TO CHANGE	TO	MULTIPLY BY
Centimeters	Inches	0.394
Meters	Feet	3.280
Meters	Yards	1.094
Kilometers	Miles	0.621
Square Centimeters	Square Inches	0.155
Square Meters	Square Feet	10.764
Square Meters	Square Yards	1.196
Square Kilometers	Square Miles	0.386
Square Hectometers	Acres	2.471
Cubic Meters	Cubic Feet	35.315
Cubic Meters	Cubic Yards	1.308
Milliliters	Fluid Ounces	0.034
Liters	Pints	2.113
Liters	Quarts	1.057
Liters	Gallons	0.264
Grams	Ounces	0.035
Kilograms	Pounds	2.205
Metric Tons	Short Tons	1.102
Newton-Meters	Pound-Feet	0.738
Kilopascals	Pounds per Square Inch	0.145
Kilometers per Liter	Miles per Gallon	2.354
Kilometers per Hour	Miles per Hour	0.621
°Fahrenheit	°Celsius	°C = (°F-32)x5/9
°Celsius	°Fahrenheit	°F = (9/5x°C)+32

PIN: 081420-000