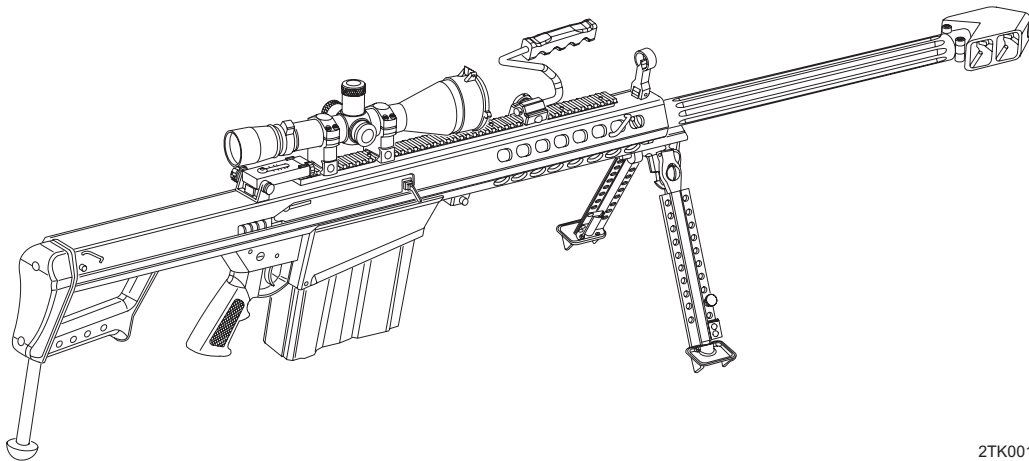


TM 9-1005-239-23&P

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)



2TK001

DISTRIBUTION STATEMENT A – Approved for public release; distribution is unlimited.

HEADQUARTERS, DEPARTMENT OF THE ARMY
MAY 2004

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.

DISTRIBUTION STATEMENT A – Approved for public release; distribution is unlimited.

TABLE OF CONTENTS

WP Sequence No.

WARNING SUMMARY

HOW TO USE THIS MANUAL

CHAPTER 1 — GENERAL INFORMATION, EQUIPMENT DESCRIPTION, AND
THEORY OF OPERATION

General Information	0001 00
Equipment Description and Data	0002 00
Theory of Operation	0003 00

TABLE OF CONTENTS - Continued

	<u>WP Sequence No.</u>
CHAPTER 2 — UNIT TROUBLESHOOTING PROCEDURES	
Troubleshooting Index	0004 00
Troubleshooting Procedures	0005 00
CHAPTER 3 — DIRECT SUPPORT TROUBLESHOOTING PROCEDURES	
Troubleshooting Index	0006 00
Troubleshooting Procedures	0007 00
CHAPTER 4 — UNIT MAINTENANCE INSTRUCTIONS	
Service Upon Receipt	0008 00
Preventive Maintenance Checks and Services Introduction	0009 00
Preventive Maintenance Checks and Services (PMCS), Including Lubrication Instructions	0010 00
Long Range Sniper Rifle Maintenance	0011 00
Lower Receiver Assembly Maintenance	0012 00
Monopod Assembly Maintenance	0013 00
Carrying Handle Assembly Maintenance	0014 00
Front Sight Assembly Maintenance	0015 00
Bolt Assembly Maintenance	0016 00
Cartridge Magazine Maintenance	0017 00
Optic Mount System and Scope Ring Assembly Maintenance	0018 00
CHAPTER 5 — DIRECT SUPPORT MAINTENANCE INSTRUCTIONS	
Service Upon Receipt	0019 00
Lower Receiver Assembly and Trigger Assembly Maintenance	0020 00
Upper Receiver Assembly Maintenance	0021 00
Iron Sight Assembly Maintenance	0022 00
Barrel Assembly Maintenance	0023 00
Bolt and Carrier Assembly Maintenance	0024 00
Bipod Assembly Maintenance	0025 00
CHAPTER 6 — SUPPORTING INFORMATION	
References	0026 00
Maintenance Allocation Chart (MAC) Introduction	0027 00
Maintenance Allocation Chart (MAC)	0028 00
Introduction to Repair Parts and Special Tools List (RPSTL)	0029 00
Long Range Sniper Rifle, M107, Repair Parts List	0030 00
Lower Receiver Assembly, DBC-002, and Trigger Assembly, 82069-2A, Repair Parts List	0031 00
Monopod Assembly, 82226-A, Repair Parts List	0032 00
Upper Receiver Assembly, DBC-004, Repair Parts List	0033 00
Carrying Handle Assembly, LWO19-A1, Repair Parts List	0034 00
Front Sight Assembly Repair Parts List	0035 00
Iron Sight Assembly, ISA1, Repair Parts List	0036 00
Barrel Assembly Repair Parts List	0037 00
Bolt and Carrier Assembly, DBC-006, Repair Parts List	0038 00
Bolt Assembly Repair Parts List	0039 00
Cartridge Magazine, 82166A, Repair Parts List	0040 00
Bipod Assembly, BA-2, Repair Parts List	0041 00
Optic Mount System, OMSYS6, and Scope Ring Assembly, 52083, Repair Parts List	0042 00

TABLE OF CONTENTS - Continued

	<u>WP Sequence No.</u>
CHAPTER 6 — SUPPORTING INFORMATION - Continued	
National Stock Number Index	0043 00
Part Number Index	0044 00
Expendable and Durable Items List	0045 00
Turn-In Procedures for Contractor Repair	0046 00
ALPHABETICAL INDEX	Index-1

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

<u>Common Name</u>	<u>Official Nomenclature</u>
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

<u>Nomenclature</u>	<u>Abbreviation</u>
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**

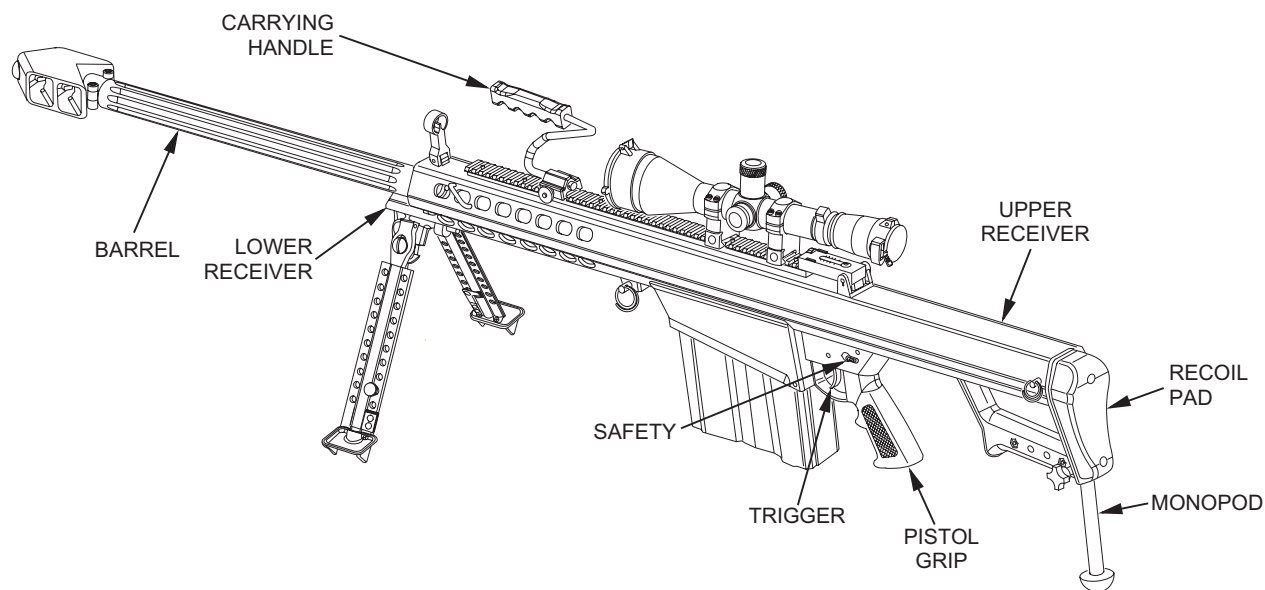
The M107 is a long-range sniper weapon system which utilizes standard .50 caliber ammunition. The M107 is a man-portable, direct line-of-sight system capable of providing precision fire on targets at distances up to 1000 meters.

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.



2TK002

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