TECHNICAL MANUAL

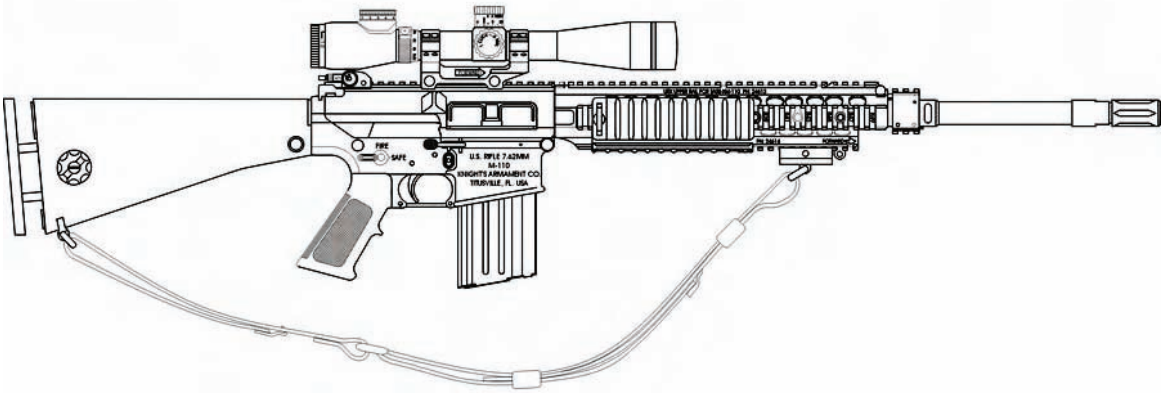
FIELD MAINTENANCE

INCLUDING REPAIR PARTS AND SPECIAL TOOLS LIST (RPSTL)

FOR

M110 SEMI-AUTOMATIC SNIPER SYSTEM (SASS) 7.62MM

(NSN: 1005-01-534-2841)



HEADQUARTERS, DEPARTMENT OF THE ARMY

OCTOBER 2007

WARNING SUMMARY

This warning summary contains general safety warning and hazardous materials warnings that must be understood and applied during operation and maintenance of this equipment. Failure to observe these precautions could result in serious injury or death to personnel. Also included are explanations of safety and hazardous materials icons used within the technical manual.

FIRST AID

Refer to FM 4-25.11 for First Aid information.

EXPLANATION OF SAFETY WARNING ICONS

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

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

EAR PROTECTION – Headphones over ears shows that noise level will harm ears.

WEAPON FIRE - Accidental discharge of a weapon could cause serious injury or death.

GENERAL SAFETY WARNINGS DESCRIPTION

WARNING

EXPLOSION AND ACCIDENTIAL DISCHARGE

Before starting an inspection, be sure weapon is clear. Ensure that NO AMMUNITION is present in the weapon by clearing the weapon using the field strip procedures in TM 9-1005-342-10, WP 0013 00.

Cam pin must be installed or weapon will explode! If cam pin is not installed death or injury of personnel may result.

DO NOT interchange bolt assemblies from one weapon to another, doing so may result in injury or death of personnel.

DO NOT store the weapon with live ammunition in either the chamber or magazine.

Under NO circumstances should the weapon be shipped with live ammunition in the shipping box, magazine, or chamber of the weapon.

Rifle will fire if the safety selector lever is pointed to the fire position on your weapon.

Weapons are to be loaded, fire handled, and maintained in the manner prescribed by the weapon's basic operator's manual and SAR within the bounds of local SOP's and regulations.

All small arms must be inspected at least once annually for safety and serviceability unless usage, deployment or other maintenance indicates need for more frequent inspection. There is no annual headspace gaging required for the M110 rifle.

Only the following U.S. approved 7.62mm ammunition may be fired:

DODIC AA11, M118 Long Range (7.62 x 51mm)
DODIC AA04, M993 Armor Piercing
DODIC AIII, M82 Blank Cartridge
DODIC A122, M80 Ball Cartridge
DODIC A136, M118 Special Ball

GENERAL SAFETY WARNINGS DESCRIPTION - Continued

WARNING

EYE PROTECTION

To avoid injury to eyes, use care when removing or installing spring loaded parts.

WARNING

EAR PROTECTION

Firing without sound suppression requires the shooter and all other personnel at or within 16 meters or the M110 sniper rifle to wear Army approved hearing protection devices.

Firing with sound suppression requires the shooter and all other personnel at or within 2 meters of the M110 sniper rifle to wear Army approved hearing protection devices.

Number of rounds allowed per day is 2,000 rounds with single hearing protection, and 40,000 rounds with double hearing protection.

EXPLANATION OF HAZARDOUS MATERIALS ICONS

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

HAZARDOUS MATERIALS DESCRIPTON

WARNING

WEAPON EXHAUST AND CLEANING SOLVENTS

This weapon should be fired in an open or a well-ventilated area.

Cleaning solvents can emit harmful vapors. Use only in a well-ventilated area away from heat sources.

LIST OF EFFECTIVE PAGES / WORK PACKAGES

NOTE: A vertical line in the outer margins of the page indicates the portion of text affected by a change.

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

Original……..0……..31 October 2007

TOTAL NUMBER OF PAGES FOR FRONT AND REAR MATTER IS 178 AND TOTAL NUMBER OF WORK PACKAGES IS 37, CONSISTING OF THE FOLLOWING:

Page / WP No.	*Change No.	Page / WP No.	*Change No.	Page / WP No.	*Change No.
Cover	0				
a-b	0				
A-B	0				
i-iv	0				
WP 0001 00	0				
WP 0002 00	0				
WP 0003 00	0				
WP 0004 00	0				
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WP 0034 00	0				
WP 0035 00	0				
WP 0036 00	0				
WP 0037 00	0				
Index	0				
DA Form 2028	0				
Authentication Pg	0				
Back Cover	0				

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

HEADQUARTERS
DEPARTMENT OF THE ARMY
WASHINGTON D.C., 31 October 2007

TECHNICAL MANUAL

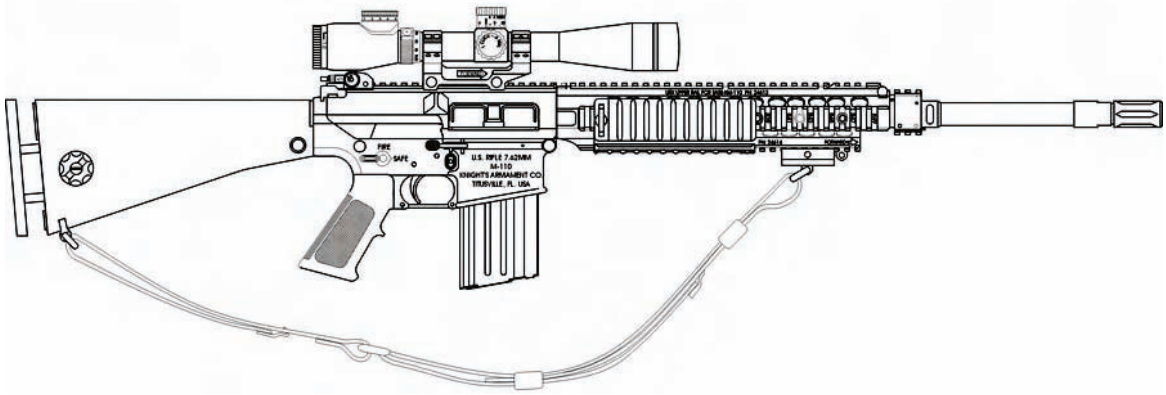
FIELD MAINTENANCE

INCLUDING REPAIR PARTS AND SPECIAL TOOLS LIST (RPSTL)

FOR

M110 SEMI-AUTOMATIC SNIPER SYSTEM (SASS), 7.62MM

(NSN: 1005-01-534-2841)



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 Equipment Technical Publications), through the Internet, on the Army Electronic Product Support (AEPS) website. The Internet address is http://aeps.ria.army.mil. The DA Form 2028 is located under the Public Applications section in the AEPS Public Home Page. 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: TACOM Life Cycle Management Command, AMSTA-LC-LMPP/ TECH PUBS, 1 Rock Island Arsenal, Rock Island, IL 61299-7630. The E-mail address is ROCK-TACOM-TECH-PUBS@conus.army.mil. The fax number is DSN 793-0726 or commercial (309) 782-0726.

DISTRIBUTION STATEMENT C: Distribution authorized to U.S. Government agencies and their contractors. This publication is required for administration and operational purposes. This determination was made on 31 March 2006. Other requests for this document shall be referred to TACOM Life Cycle Management Command, ATTN: AMSTA-LC-LMPP/TECH PUBS, 1 Rock Island Arsenal, Rock Island, IL 61299-7630.

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

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

TABLE OF CONTENTS

WP Sequence No.

HOW TO USE THIS MANUAL

The safest, easiest, and best way to maintain the M110 Sniper System is to use this manual. Learning to use this TM is as easy as reading through the next few pages of this section. Knowing what is in this manual and how to use it will save you time and work and will help you avoid exposing yourself to unnecessary hazards while performing your job.

So, Where Do You Start?

Right here, if this is the first time you are using this TM. Be sure to completely read this section on how to use this manual first. There's a lot of information here that you need to know.

Organization

This manual covers the maintenance of the M110 Sniper System. The manual itself is divided into 3 chapters including Supporting Information. The 3 chapters and what they contain are found in the Table of Contents in the front of this manual. For example, to learn about the maintenance of the M110 Sniper System, you would look in the Table of Contents and discover that Chapter 2 provides all pertinent information about Field Maintenance Instructions of the M110 Sniper System. Since Chapter 2 covers a great deal of information, you will have to scan the chapter to find the specific information you will need.

In Chapter 3, you will find the Supporting Information. Each work package provides specific information that will assist you in performing the various maintenance tasks. The work packages provide such information as additional references (i.e., other TMs or FMs) as in WP 0018 00, and Expendable and Durable Items List as in WP 0035 00. Become familiar with all supporting information work packages and what they contain before beginning any maintenance task.

Am I Ready to Use this TM?

If you've taken the time necessary to read this section, and are sure of the location and arrangement of the different sections of this TM, you are ready to begin. Remember this TM has been arranged with you, the user, in mind. Your safety and ability to perform the maintenance tasks in the most efficient manner possible hinge on your ability to perform and understand the information contained in this manual. If you fully understand the arrangement and purpose of this TM, and have taken the time to read through this section, you will have no trouble maintaining the M110 Sniper System in the manner for which it was designed.

CHAPTER 1

GENERAL INFORMATION, EQUIPMENT DESCRIPTION, AND THEORY OF OPERATION FOR M110 SEMI-AUTOMATIC SNIPER SYSTEM (SASS), 7.62MM

FIELD MAINTENANCE

M110 SEMI-AUTOMATIC SNIPER SYSTEM (SASS), 7.62MM
(NSN: 1005-01-534-2841 – PN: 13013050)

GENERAL INFORMATION

SCOPE

Type of Manual: Field Maintenance Manual (Including Repair Parts and Special Tools List (RPSTL)).

Model Number(s) and Equipment Name: M110 Semi-Automatic Sniper System (SASS), 7.62mm.

Purpose of Equipment: The M110 sniper rifle is a man portable, direct line of sight weapon system capable of providing precision 7.62mm fire on a target at a distance of up to 1000 meters. The M110 sniper rifle is lightweight, direct gas operated, air cooled, magazine fed, shoulder fired weapon that can be fired in a semi-automatic mode. The purpose of the weapon is to provide personnel an offensive / defensive capability to engage targets in the field. The MIL-STD 1913 rail system allows the operator the capability to mount various accessories on the M110 sniper rifle.

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

REPORTING EQUIPMENT IMPROVEMENT RECOMMENDATIONS (EIR). If your M110 sniper rifle needs improvement, let us know. Send us an EIR. You, the user, are the only one who can tell us what you don't like about your equipment. Let us know why you don't like the design or performance. If you have internet access, the easiest and fastest way to report problems or suggestions are to go to http://aeps.ria.army.mil/aepspublic.cfm (scroll down and choose the "Submit Quality Deficiency Report" bar). The internet form lets you choose to submit an Equipment Improvement Recommendation (EIR), a Product Quality Deficiency Report (PQDR or a Warranty Claim Action (WCA)). You may also submit your information using an SF 368, Product Quality Deficiency Report (PQDR). You can send your SF 368 via e-mail, regular mail, or facsimile using the addresses / facsimile numbers specified on DA PAM 750-8, The Army Maintenance Management System (TAMMS). We will send you a reply.

CORROSION PREVENTION AND CONTROL (CPC). Corrosion prevention and control of material 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 the future. 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 (PQDR). Use of key words such as "corrosion", "rust", "deterioration", or "cracking" will assure that the information is identified as a CPC problem. The form should be submitted to Commander, Armament Research, Development and Engineering Center, ATTN: AMSTA-AR-QAW-A / Customer Feed Back Center, 1 Rock Island Arsenal, Rock Island, IL 61299-7300.

DESTRUCTION OF ARMY MATERIEL TO PREVENT ENEMY USE. Procedure and materials used for the destruction of an M110 sniper rifle to prevent enemy use will be found in TM 750-244-7.

PREPARATION FOR STORAGE AND SHIPMENT

STORAGE

WARNING

EXPLOSION AND ACCIDENTIAL DISCHARGE

DO NOT store the weapon with live ammunition in either the chamber or magazine.

1. Ensure the rifle is unloaded, cleared, and the hammer is down (TM 9-1005-342-10, WP 0005 00). Rifle should be clean and lubricated.

2. Preferred method of storage is in a vertical position (muzzle down).

3. Remove battery from day optic scope before storing.

SHIPMENT

Weapons requiring depot level maintenance shall be shipped in accordance with disposition instructions.

WARNING

EXPLOSION AND ACCIDENTIAL DISCHARGE

Under no circumstances should the weapon be shipped with live ammunition in the shipping box, magazine, or chamber of the weapon.

1. Ensure the rifle is unloaded, cleared, and the hammer is down (TM 9-1005-342-10, WP 0005 00).

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

3. Clean the weapon (TM 9-1005-342-10, WP 0014 00).

4. Place weapon / system in the shipping container (including all BII).

5. Mark the shipping container in accordance with MIL-STD-129.

WARRANTY INFORMATION

The M110 sniper rifle is warranted for 1,095 days. The warranty starts on the date found in block 23 of DA Form 2408-9, Equipment Control Record. Report all defects to your supervisor, who will take appropriate action by reporting the defects thru the Army's Electronic Deficiency Reporting System (EDRS) found on the Army Electronic Product Support Website.

NOMENCLATURE CROSS-REFERENCE LIST

Official Name	Common Name
Key, Socket Head Screw; Socket Head Screw; Set Screw	Allen Wrench; Allen Screw
Lower Receiver Extension	Buffer Tube
Cartridge	Round / Ammunition
Carrier Key	Gas Key
Lubricant, CLP	Oil
Bore Cleaner	Solvent
Action Spring	Recoil Spring / Buffer Spring
Day Optic/Primary Daytime Optic	Day Optic Scope
Dewey Rod	One Piece Cleaning Rod
Sniper Rifle / Sniper Rifle System (M110 SASS)	Rifle / Weapon
Ambidextrous Safety Selector Lever	Safety
Upper Rail	Dovetail/MIL-STD 1913 Rail System

LIST OF ABBREVIATIONS / ACRONYMS

Abbreviation/Acronym	Name
API	Armor-Piercing Incendiary
APIT	Armor-Piercing Incendiary Tracer
BUIS	Back Up Iron Sight
CLP	Cleaner, Lubricant, and Preservative
DOS	Day Optic Scope
LAW	Lubricant, Arctic Weather
LSA	Lubricant, Small Arms
LSAT	Lubricant, Small Arms (with Teflon)
MOA	Minute of Angle
RAS	Rail Adapter System
RBC	Rifle Bore Cleaner
SMR	Source, Maintenance, and Recoverability
TM	Technical Manual

QUALITY OF MATERIAL

Material used for replacement, repair, or modification must meet the requirements of TM 9-1005-342-23&P. If the quality of material requirements is not stated in TM 9-1005-342-23&P, 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.

NUCLEAR, BIOLOGICAL, AND CHEMICAL (NBC)

General procedures can be found in FM 3-3, FM 3-4, FM 3-5, and FM 3-100.

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

Common Tools and Equipment

For authorized common tools and equipment, refer to the Modified Table of Organization and Equipment (MTOE), CTA 50-970, Expendable / Durable Items (Except: Medical, Class V, Repair Parts, and Heraldic Items), CTA 50-909, Field and Garrison Furnishings and Equipment or CTA 8-100, Army Medical Department Expendable / Durable Items, as applicable to your unit.

Special Tools, TMDE, and Support Equipment

Repair parts are listed and illustrated in the repair parts (WP 0022 00 thru WP 0032 00), and mandatory replacement parts (WP 0037 00).

END OF WORK PACKAGE

FIELD MAINTENANCE

M110 SEMI-AUTOMATIC SNIPER SYSTEM (SASS), 7.62MM
(NSN: 1005-01-534-2841 – PN: 13013050)

EQUIPMENT DESCRIPTION AND DATA

EQUIPMENT CHARACTERISTICS, CAPABILITIES, AND FEATURES

Characteristics

The M110 sniper rifle is equipped with the MIL-STD 1913 Rail System, Back Up Iron Sight (BUIS), Adjustable Buttstock, Bipod, four 10 round magazines and four 20 round magazines, Rifle Sling, Leupold 3.5 x 10x variable power Day Optic Scope, and Sound Suppressor. The rifle is also supplied with a transportation case, deployment kit, and cleaning kit.

Capabilities and Features

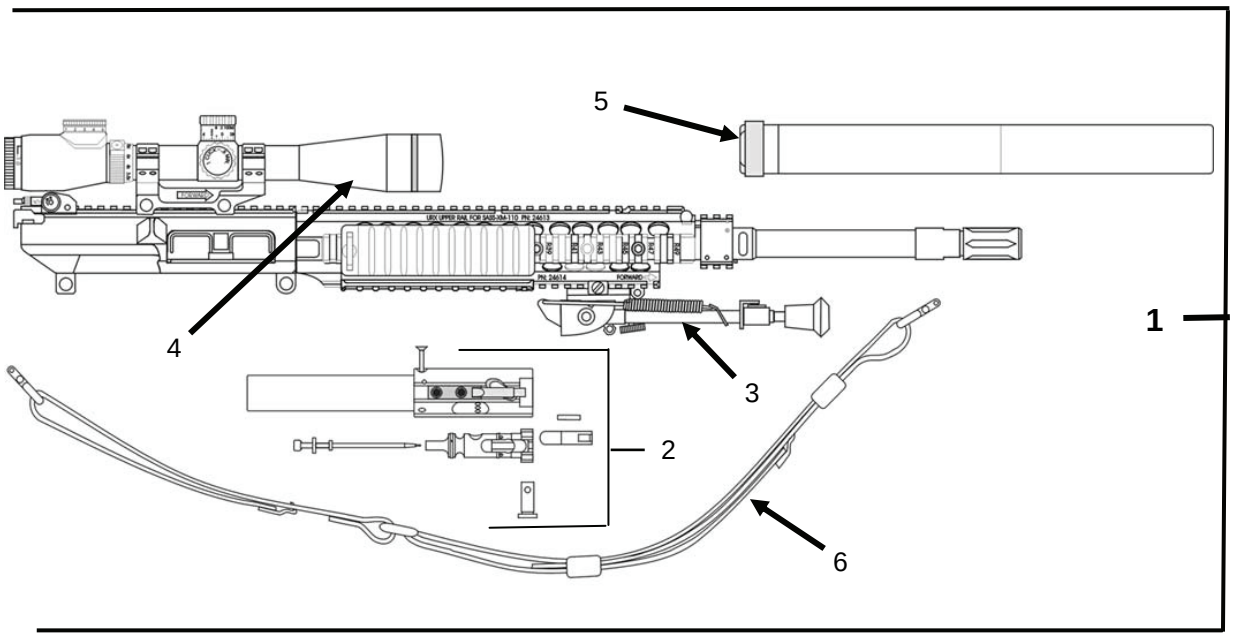
The M110 is a semi-automatic weapon system which utilizes standard 7.62mm precision M118 LR ammunition. The M110 sniper rifle is a man-portable, direct line of sight weapon system capable of providing precision 7.62mm NATO fire on targets at a distance of up to 1000 meters using match grade ammunition.

Features

The M110 sniper rifle is a semi-automatic, direct gas-operated, air-cooled, magazine-fed, shoulder-fired weapon chambered for 7.62mm ammunition.

LOCATION AND DESCRIPTION OF UPPER RECEIVER AND BARREL ASSEMBLY

Location:



1. **Upper Receiver and Barrel Assembly** - Includes the Day Optic Scope (DOS), Back Up Iron Sight (BUIS), MIL-STD 1913 Rail System, Sound Suppressor, Bolt and Carrier Assembly, Charging Handle Assembly, and Barrel. The MIL-STD 1913 rail system is used to attach the DOS and accessory optic sights. The barrel is 20 inches long with five grooves in a uniform right-hand twist, one turn in 11 inches.

2. **Bolt and Carrier Assembly** - Houses the firing pin, extractor, and ejector. Provides stripping, chambering, locking, firing, extraction, and ejection of cartridges using the drive springs and projectile propelling gases for power.

3. **Bipod Assembly** - Detachable forward support system composed of retractable and extendable legs.

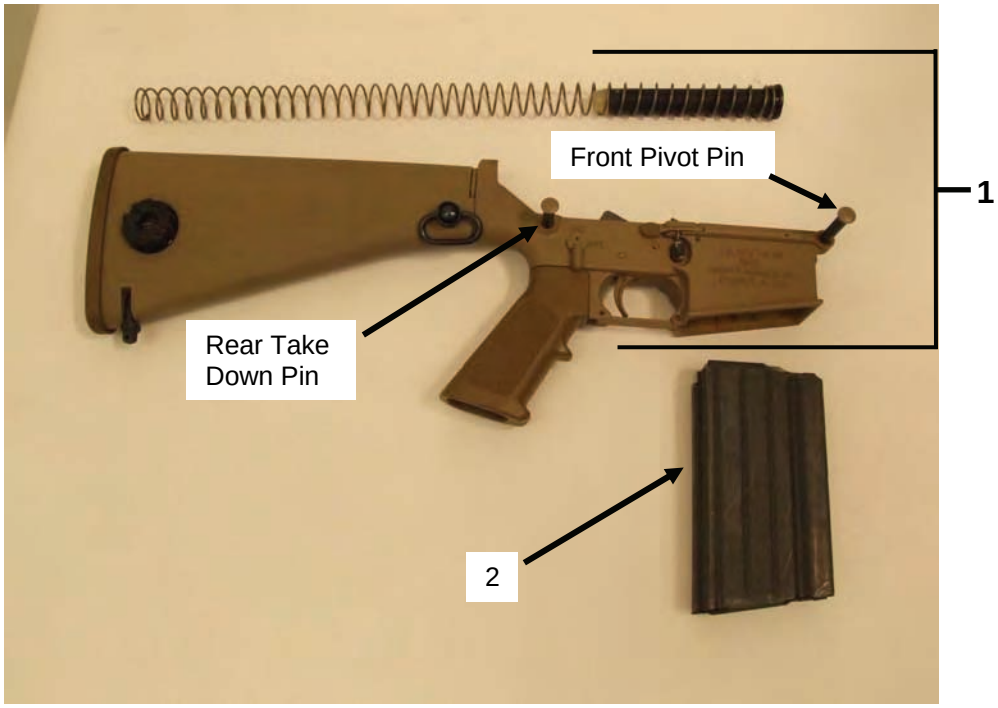
4. **Day Optic Scope** - The day optic scope (DOS) is a 3.5 x 10x variable power rifle scope. The scope has an illuminated, improved Tactical Milling Reticle (TMR) powered by an Army common / standard battery DL 1/3 N.

5. **Sound Suppressor** - The sound suppressor is an integrated acoustic, flash and blast suppressor that is to be attached and detached to the rifle barrel by hand.

6. **Rifle Sling** - Provides the means for carrying the weapon.

LOCATION AND DESCRIPTION OF LOWER RECEIVER AND ADJUSTABLE BUTTSTOCK ASSEMBLY

Location:



1. **Lower Receiver and Adjustable Buttstock Assembly** - Includes magazine catch button, trigger, and safety mechanism, front pivot pin and rear take down pin, buffer, recoil spring, and adjustable buttstock assembly.

2. **Cartridge Magazine** - Holds cartridges ready for feeding and provides a guide for positioning cartridges for stripping; provides quick reload capabilities for sustained firing.

THE FOLLOWING IS FOR ARMY CONUS USE ONLY

Units that DO NOT fall under the category of Divisional Combat Units or rapid deployment type units may have up to 100 percent of the exterior surface of the upper receiver and barrel assembly, coated with Solid Film Lubricant (SFL).

EQUIPMENT DATA

Rifle Length without sound suppressor attached: 40.5 inches (1,028mm).
Without sound suppressor (buttstock extended): 42.0 inches (106cm).
With sound suppressor: 46.5 inches (1,181mm).

Maximum Height: 10.25 inches (260mm) (with 20 round magazine and Day Optic Scope).

Rifle Weight: 13.7 lbs. (6.21 kg). Sound Suppressor Weight: 1.96 lbs. (.89 kg).

Barrel Length: 20 inches.

Barrel Rifling: 5 grooves, right-hand twist (1 turn in 11 inches (279mm).

Muzzle Velocity: 2,571 ft per second (with/M118LR ammunition) unsuppressed.
Maximum Effective Range: 1,000 meters.

Magazine: Weight Unloaded: 0.46 lbs. (.21 kg.).
Weight Loaded: (20 Rounds): 1.62 lbs. (.73 kg.).

Bipod: Weight: .87 lbs. (.39 kg.).
Bipod Adapter Weight: .12 lbs. (.05 kg.).

Leupold 3.5 x 10 Power Illuminated Reticle Day Optic Scope: 1.76 lbs. (.79 kg.).

END OF WORK PACKAGE

FIELD MAINTENANCE

M110 SEMI-AUTOMATIC SNIPER SYSTEM (SASS), 7.62MM
(NSN: 1005-01-534-2841 – PN: 13013050)

THEORY OF OPERATION

CYCLE OF OPERATION

The cycle of operation for the M110 sniper rifle is broken down into 8 basic steps (more than one step may occur at the same time).

1. **Firing**: (Conditions: round in chamber, bolt locked, hammer cocked.) Safety is rotated for FIRE, trigger is pulled releasing hammer. Hammer springs forward under tension of hammer spring. Hammer strikes firing pin and firing pin strikes cartridge primer. Primer detonates from the firing pin impact and ignites propellant (gunpowder) inside cartridge case. Very high pressure (50,000 pounds per square inch) develops inside case as the powder burns. Bullet is pushed from case and accelerated (2,571 fps) down barrel and out muzzle.

2. **Unlocking**: Expanding gas pressure enters the gas tube through a port in the forward area of the barrel. This gas pressure travels through the gas tube into the carrier key. Via the carrier key, high pressure gas enters the carrier interior, but is trapped by the bolt rings at the front. Consequently, expanding gas pressure begins pushing the carrier to the rear, away from the bolt. As this gas continues to expand, (the bullet has already left the barrel) the bolt carrier continues to move rearward overcoming the tension of the action (recoil) spring. The cam groove of the bolt carrier acts on the bolt cam pin which in-turn causes the bolt to rotate and the bolt lugs to disengage from the barrel extension locking lugs.

3. **Extraction**: As the bolt now begins movement to the rear, the lip of the extractor, which is hooked on the rim of the cartridge case, pulls the case out of the chamber. The lip maintains its grip on the rim of the case through tension of the extractor spring as the bolt passes by the ejection port.

4. **Ejection**: As the case clears the barrel extension, the stored energy of the ejector spring is applied to the base of the case by the ejector plunger. The plunger completes its action as the case clears the ejection port and is rotated free of the extractor lip and bolt. If working properly, this sequence throws the case through the ejection port and clear of the rifle.

5. **Cocking**: The thrust of the bolt carrier assembly from the injection of expanding gases is so great, it continues to move the bolt carrier and bolt assembly fully back into the receiver extension. As these parts move to the rear, the bottom surface of the bolt carrier passes over the face of the hammer forcing it back and down against the tension of the hammer spring. With the trigger finger probably still to the rear at this moment, the hook of the disconnector engages the rear hook of the hammer, holding the hammer to the rear and down until the trigger is released (subsequently, the hammer is then held back by the sear as the trigger is released). The action or recoil spring is now fully compressed and prepared to thrust the recoiling mass (bolt carrier and bolt assembly) forward.

6. **Feeding**: As the bolt and bolt carrier assembly begin moving forward under tension of the action spring, the lower feed lug of the bolt strikes the base of the top cartridge in the magazine. The force of the bolt strips a round from the magazine feed lips. As the round begins to move forward, the tip of the bullet hits one of the two feed ramps of the barrel extension. The angle of the feed ramp helps force the round up and into the chamber as the bolt continues to move it forward in the feeding cycle.

7. **Chambering**: Chambering occurs when the cartridge is fully forward in the chamber. If there is an obstruction in the chamber, the cartridge case will not fit the chamber properly and the bolt will be prevented from locking.

CYCLE OF OPERATION - Continued

8. **Locking**: With a cartridge fully in the chamber, the bolt has fully entered the barrel extension and has stopped moving forward. Also at this time, the extractor lip has snapped over the rim into the extractor groove of the cartridge case and the ejector and its spring are fully compressed. The carrier, however, continues forward under continued force of the action spring and through action of its cam pin groove on the cam pin, causes the bolt to rotate. Rotation of the bolt moves its locking lugs into alignment with the barrel extension locking lugs. When this rotation of the bolt is complete, the bolt is locked. If the bolt is fully forward, but the bolt carrier is back slightly out of battery (bolt not fully locked), the firing pin will be prevented from reaching the primer even with a blow of the hammer. As the shooter releases the trigger for the next shot, the firing sear (trigger sear) enters the hammer sear notch through tension from the trigger spring. Simultaneously, the disconnector releases the rear hammer hook. With the hammer fully cocked and the trigger sear engaged with the hammer sear notch, the rifle is ready to fire again or be placed on SAFE and unloaded.

END OF WORK PACKAGE

CHAPTER 2

FIELD MAINTENANCE INSTRUCTIONS

FOR

M110 SEMI-AUTOMATIC SNIPER SYSTEM (SASS), 7.62MM

FIELD MAINTENANCE

M110 SEMI-AUTOMATIC SNIPER SYSTEM (SASS), 7.62MM
(NSN: 1005-01-534-2841 – PN: 13013050)

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 page 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.

MALFUNCTION / SYMPTOM INDEX

END OF WORK PACKAGE

FIELD MAINTENANCE

M110 SEMI-AUTOMATIC SNIPER SYSTEM (SASS), 7.62MM
(NSN: 1005-01-534-2841 – PN: 13013050)

TROUBLESHOOTING PROCEDURES

INITIAL SETUP:

References
WP 0009 00
WP 0011 00
WP 0012 00
WP 0014 00
WP 0015 00

References (cont)
TM 9-1005-342-10

NOTE

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

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

Table 1. Field Maintenance Troubleshooting Procedures for M110 Semi-Automatic Sniper System (SASS), 7.62mm

SYMPTOM	MALFUNCTION	CORRECTIVE ACTION
Failure to Fire.	Firing pin retainer is bent, broken, or missing.	Replace firing pin retainer. (WP 0011 00)
	Broken firing pin; firing pin does not meet protrusion gage requirements.	Replace firing pin. (WP 0011 00)
	Hammer is broken.	Replace hammer. (WP 0014 00)
	Weak or broken hammer spring.	Replace hammer spring. (WP 0014 00)
	Safety selector lever frozen in "SAFE" position.	Disassemble and clean safety selector lever. (WP 0014 00)
	Safety selector lever binding.	Replace detent / spring. Clean and lube. (WP 0014 00)
Failure to Lock.	Burrs on bolt locking lugs.	Remove burrs with fine stone. (WP 0009 00)
	Burrs on barrel extension.	Remove burrs with fine stone. (WP 0009 00)
	Bolt carrier key is damaged.	Repair or replace bolt carrier key. (WP 0011 00)
	Bolt carrier key screws are loose.	Disassemble and reassemble using new screws. (WP 0011 00)

TROUBLESHOOTING PROCEDURES - Continued

Table 1. Field Maintenance Troubleshooting Procedures for M110 Semi-Automatic Sniper System (SASS), 7.62mm- Continued

SYMPTOM	MALFUNCTION	CORRECTIVE ACTION
Failure to Lock (continued).	Gas tube is bent.	Replace gas tube. (WP 0009 00)
	Carrier key is bent.	Replace carrier key. (WP 0011 00)
Failure to Unlock.	Carrier key is loose or bent.	Replace carrier key. (WP 0011 00)
Failure to Extract.	Rounded or chipped extractor.	Replace extractor. (TM 9-1005-342-10)
	Weak extractor spring and buffer insert.	Replace extractor spring or buffer insert. (TM 9-1005-342-10)
Failure to Eject.	Bent, clogged, or damaged gas tube.	Replace gas tube. (WP 0009 00)
	Carrier key bent or damaged.	Replace carrier key. (WP 0011 00)
	Worn or broken ejector.	Replace ejector. (WP 0012 00)
	Weak ejector spring.	Replace ejector spring. (WP 0012 00)
Failure to Cock.	Disconnector hook is worn.	Replace disconnector hook. (WP 0014 00)
	Disconnector spring is weak.	Replace disconnector spring. (WP 0014 00)
	Hammer hook is worn.	Replace hammer hook. (WP 0014 00)
	Hammer spring is broken.	Replace hammer spring. (WP 0014 00)
	Worn or broken trigger.	Return rifle to contractor for repair. (WP 0014 00)
	Worn or broken hammer.	Replace hammer. (WP 0014 00)

SYMPTOM	MALFUNCTION	CORRECTIVE ACTION
Failure to Feed.	Magazine not fully seated; weak catch spring; broken magazine catch.	Replace magazine catch spring. (WP 0014 00)
	Restricted movement of bolt carrier group; bent or restricted gas tube.	Replace gas tube. (WP 0009 00)
	Buffer tube bent or restricted.	Replace buffer tube. (WP 0014 00)
Failure to Chamber.	Worn or broken buffer spring.	Replace buffer spring. (WP 0014 00)
	Bent or broken gas tube.	Replace gas tube. (WP 0009 00)
Failure of Suppressor Alignment.	Bent or broken suppressor locator pin.	Replace suppressor locator pin. (WP 0009 00)
Failure of BUIS.	Adjustment of BUIS is inoperable.	Replace BUIS if defective. (WP 0015 00)

END OF WORK PACKAGE

FIELD MAINTENANCE

M110 SEMI-AUTOMATIC SNIPER SYSTEM (SASS), 7.62MM
(NSN: 1005-01-534-2841 – PN: 13013050)

SERVICE UPON RECEIPT

SERVICE UPON RECEIPT OF MATERIEL

WARNING

EXPLOSION AND ACCIDENTIAL DISCHARGE

DO NOT keep live ammunition near work / maintenance area.

Be sure to clear the weapon before disassembling, cleaning, inspecting, transporting, or storing. Clearing consists of unloading the weapon and visually inspecting weapon and chamber to ensure all rounds have been removed.

Unpacking

When a new or reconditioned M110 sniper rifle is received, check for any shipping damage to packaging container and packaging material. 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 750-8.

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

INSTALLATION INSTRUCTIONS

Refer to the applicable maintenance work package of this manual for installation of individual components.

END OF WORK PACKAGE

FIELD MAINTENANCE

M110 SEMI-AUTOMATIC SNIPER SYSTEM (SASS), 7.62MM
(NSN: 1005-01-534-2841 – PN: 13013050)

PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS) INTRODUCTION

GENERAL

Preventive Maintenance Checks and Services (PMCS) (WP 0008 00) must be performed by field maintenance personnel to be sure the M110 sniper rifle is in good operating condition and ready for its primary mission.

To ensure maximum operational readiness, it is necessary that the M110 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.

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 750-8.

DEFINITION OF THE FOLLOWING ALERTS THROUGHOUT THIS MANUAL:

WARNING – Identifies a clear danger to the person doing that procedure.

CAUTION – Identifies risk of damage to the equipment.

NOTE – Used to highlight essential procedures, conditions, statements, or convey important instructional data to the user.

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 M110 sniper rifle leaving its containment area or performing its mission. DURING checks begin when the M110 sniper rifle is being used and AFTER checks and services begin when the M110 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 M110 sniper rifle to be checked. When recording results of PMCS, entries in the PMCS ITEM NO. Column will be used for the TM Item No. Column on DA Form 2404, Equipment Inspection and Maintenance Worksheet.

The EQUIPMENT NOT READY / AVAILABLE IF Column indicates deficiencies which must be corrected before the M110 sniper rifle system can be operated.

END OF WORK PACKAGE

FIELD MAINTENANCE

M110 SEMI-AUTOMATIC SNIPER SYSTEM (SASS), 7.62MM
(NSN: 1005-01-534-2841 – PN: 13013050)

PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS)

INITIAL SETUP:

Equipment Condition
Weapon field stripped.

References
TM 9-1005-342-10

WARNING

EXPLOSION AND ACCIDENTIAL DISCHARGE

All small arms must be inspected at least once annually for safety and serviceability unless usage, deployment or other maintenance indicates need for more frequent inspection. There is no annual headspace gaging required for the M110 rifle.

Be sure weapon is clear before performing any checks or services.

Table 1. Preventive Maintenance Checks and Services for M110 Semi-Automatic Sniper System (SASS), 7.62mm

Item No.	Interval	Item to be Checked or Serviced	Procedure	Equipment Not Ready / Available If:
1.	Q	Upper Receiver and Barrel Assembly	Check flash suppressor (1) for looseness or damage on barrel. Check gas tube (2) for bends, cracks, or deformation. Check front sight (3) for proper operation; damage and corrosion.	Flash suppressor is loose or damaged. Gas tube is bent, cracked, or deformed. Front sight does not operate properly or shows signs of corrosion.

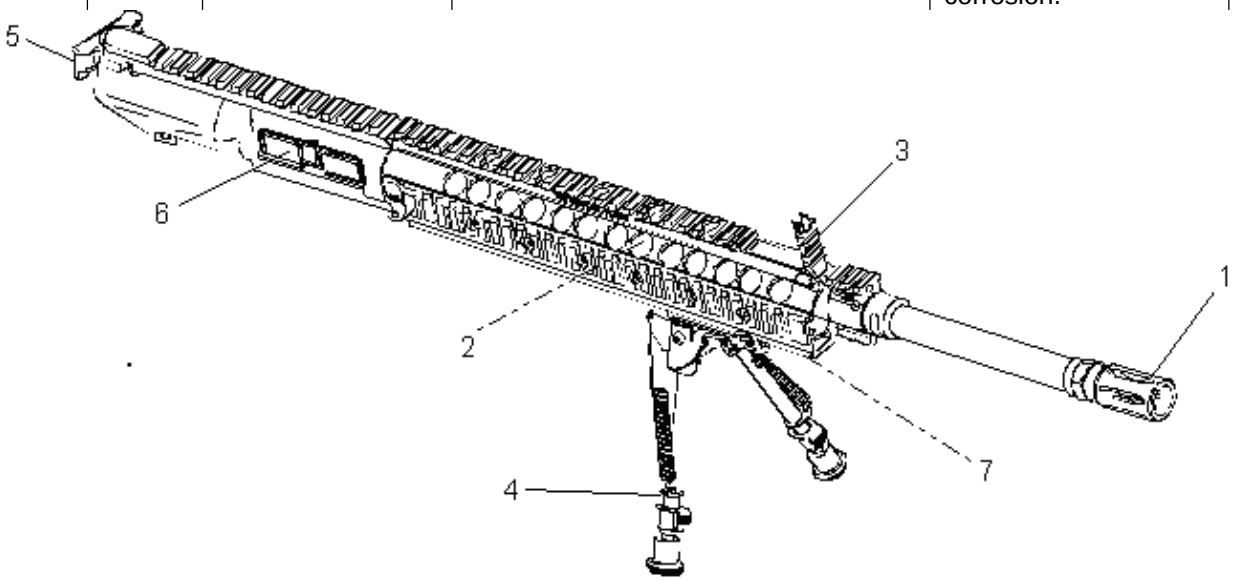
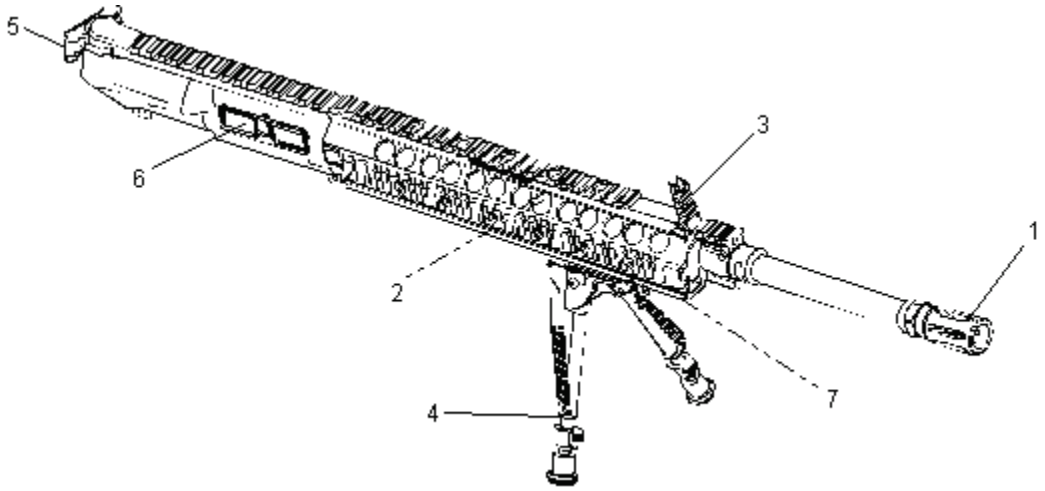
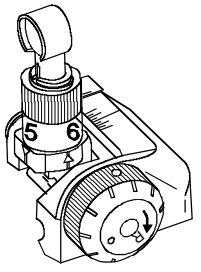


Table 1. Preventive Maintenance Checks and Services for M110 Semi-Automatic Sniper System (SASS), 7.62mm - Continued

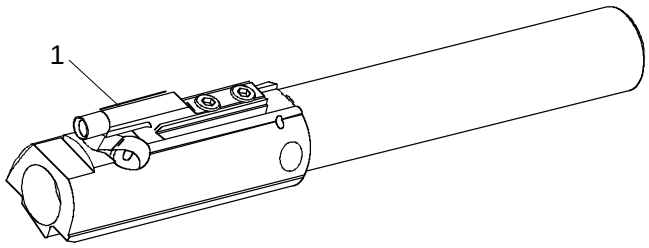
Item No.	Interval	Item to be Checked or Serviced	Procedure	Equipment Not Ready / Available If:
1. (Cont)	Q	Upper Receiver and Barrel Assembly (Cont)	Check bipod (4) for bends, breaks, and proper operation.	Bipod is bent, broken, or does not function properly.
			Check charging handle (5), and ejection port cover (6) for proper function.	Charging handle and ejection port cover do not function properly; are damaged or missing.
			Check sling swivel (7) for proper operation; damage.	Swivel is missing or broken.



			Check back up iron sight (BUIS) for proper operation; damage.	Rear sight does not operate properly.



Item No.	Interval	Item to be Checked or Serviced	Procedure	Equipment Not Ready / Available If:
2.	Q	Bolt Carrier Assembly	Check bolt carrier assembly for damage. Inspect carrier key (1) for damage or looseness.	Bolt carrier assembly is damaged; key is loose or damaged.



3.	Q	Bolt	Check locking lugs (1) for cracks or breaks.	Locking lugs are cracked or broken.
			Check bolt face (2) for chips or pit clusters.	Bolt face is chipped or pit clusters are present.
			Check firing pin hole (3) for elongation (out of round).	Firing pin hole is elongated.
			Check cartridge ejector (4) for chips.	Cartridge ejector is chipped.
			Check for weak, broken or missing ejector spring (5).	Ejector spring is weak, broken, or missing.
			Check bolt rings (6) for damage.	Bolt rings are damaged.

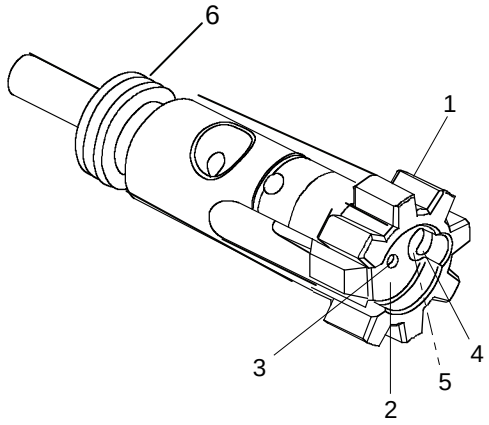
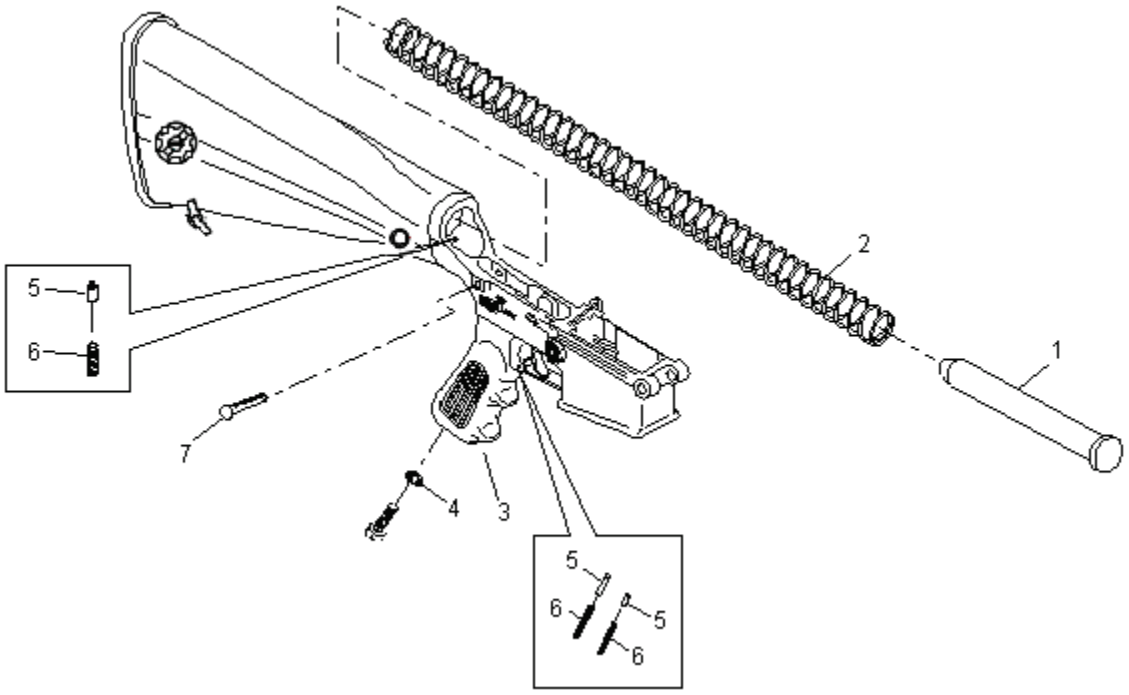
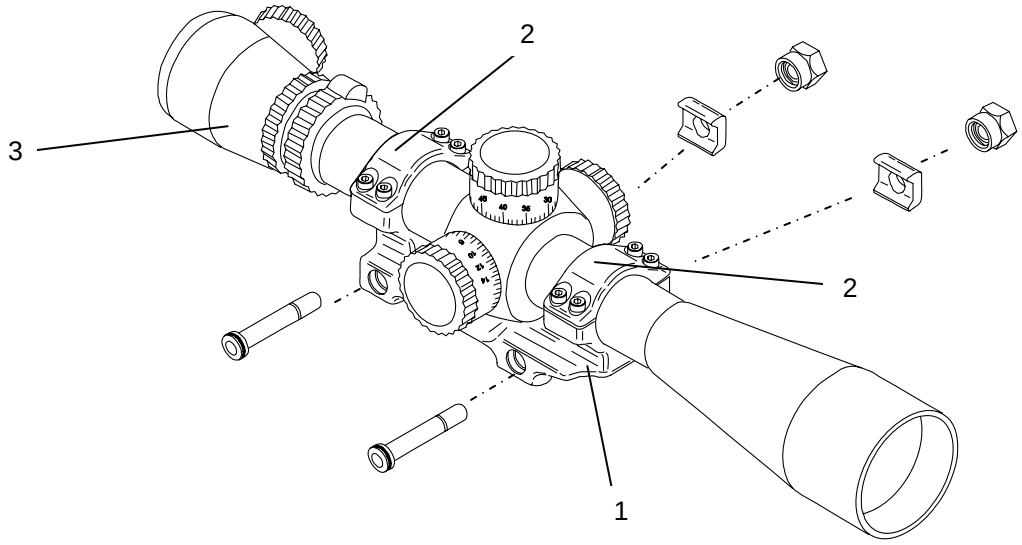


Table 1. Preventive Maintenance Checks and Services for M110 Semi-Automatic Sniper System (SASS), 7.62mm - Continued

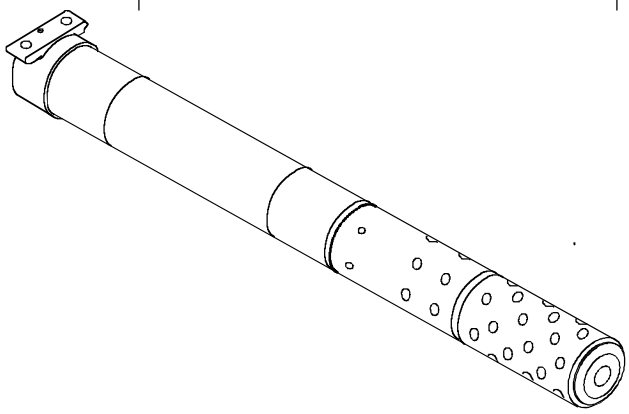
Item No.	Interval	Item to be Checked or Serviced	Procedure	Equipment Not Ready / Available If:
4.	Q	Lower Receiver and Buttstock Assembly	Check lower receiver assembly for any damaged, missing or broken components. Check buffer (1) for cracks. Check buffer spring (2) for kinks, cracks, or breaks. Check for missing, broken, or damaged pistol grip (3), lock washers (4), detents (5), helical springs (6), and rear takedown pin (7).	Lower receiver assembly is damaged, missing, or broken. Buffer is cracked. Buffer spring is kinked, cracked, or broken. Pistol grip (3), lock washers (4), detents (5), helical springs (6), or rear takedown pin (7), are missing, damaged, or broken.



Item No.	Interval	Item to be Checked or Serviced	Procedure	Equipment Not Ready / Available If:
5.	Q	Day Optic Scope	Check for cracked, broken, damaged, loose, or missing parts. Check to ensure scope mount (1) and rings (2) secure the day optic scope (3). Check to see that spacing between scope mount (1) and rings (2) are even.	Any components are cracked, broken, damaged, loose, or missing. Day optic scope will not mount securely.



6.	Q	Sound Suppressor	Check muzzle end of sound suppressor for strike marks. You will notice copper marks or missing metal from end of sound suppressor.	Any damage is found on the sound suppressor. If damage is found, return the sound suppressor to contractor.



END OF WORK PACKAGE

FIELD MAINTENANCE

M110 SEMI-AUTOMATIC SNIPER SYSTEM (SASS), 7.62MM
(NSN: 1005-01-534-2841 – PN: 13013050)

UPPER RECEIVER, BARREL, AND GAS BLOCK ASSEMBLY (NO NSN AVAILABLE - PN: 24727)

INITIAL SETUP:

This task covers: a. Disassembly b. Inspection / Repair c. Cleaning d. Assembly

Tools and Special Tools
Shop Set, Small Arms: Field Maintenance, Basic Less Power (WP 0020 00)
Small Arms Repairman Tool Kit (WP 0020 00)

Materials/Parts
Cleaner, Lubricant, and Preservative (CLP) (item 9, WP 0035 00)
Shim (issued as a set) (PN 24608)
Pin, Spring Slotted (PN 94053)
Pin, Spring, Coiled (PN 20173)
Pin, Taper (2) (PN 21039)

Equipment Condition
Upper receiver and barrel assembly removed from lower receiver and adjustable buttstock assembly. Bolt carrier assembly and charging handle removed from upper receiver and barrel assembly. Day optic scope removed. Bipod assembly removed.

References
TM 9-1005-342-10
WP 0037 00

DISASSEMBLY OF UPPER RECEIVER AND BARREL ASSEMBLY

NOTE
Use care not to damage surface finishes.

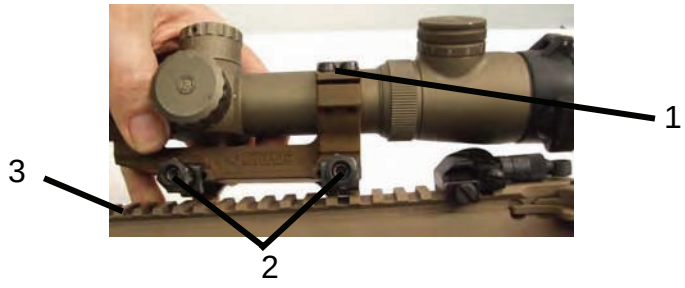
Note position of day optic scope assembly before removal; it must be reinstalled in the same position during assembly.

1. Observe position of the scope ring base (1) in relation to the MIL-STD 1913 rail system for reassembly.

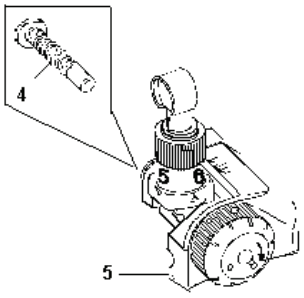
2. Using an adjustable wrench, break nuts and clamps (2) free; loosen nuts and clamps (2) with your fingers. Note that screws on the right side of scope ring base (1) do not need to be completely removed.

3. Tilt the day optic scope assembly to the side and remove from upper rail assembly (3).

NOTE
Further disassembly of the day optic scope is not authorized. If damaged, notify contractor for repair.

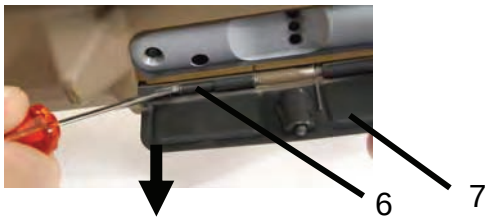


4. Using a flat tip screw driver, loosen machine screw (4) and remove BUIS (5).



DISASSEMBLY OF UPPER RECEIVER AND BARREL ASSEMBLY - Continued

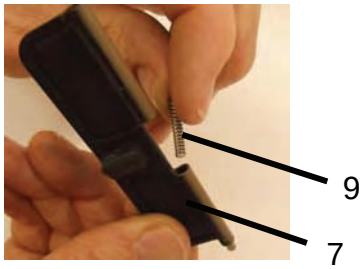
4. Using a small screwdriver, push in cover pin (6) and pivot downwards on the ejection port cover assembly (7).



5. Remove ejection port cover assembly (7) from upper receiver assembly (3).

6. Remove cover pin (6) and ejection port cover spring (8).

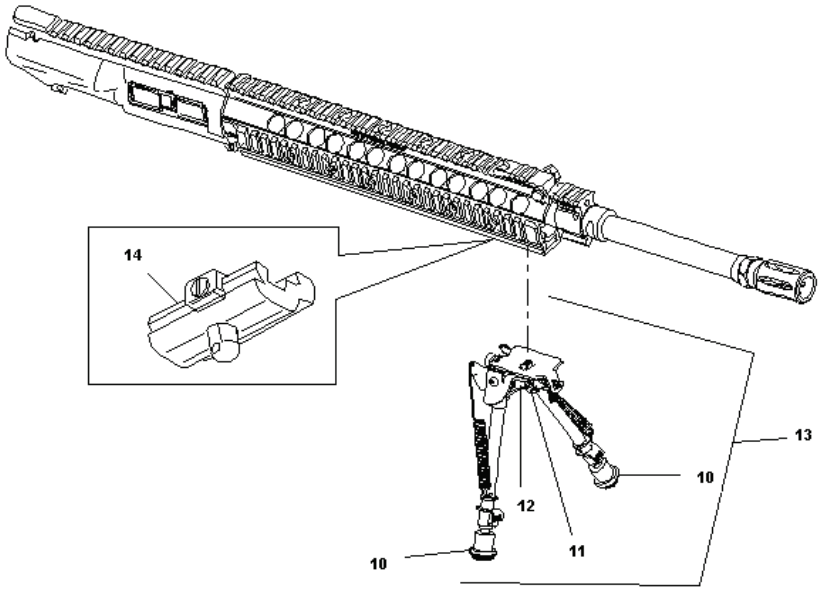
7. Remove spring (9) from ejection port cover assembly (7).



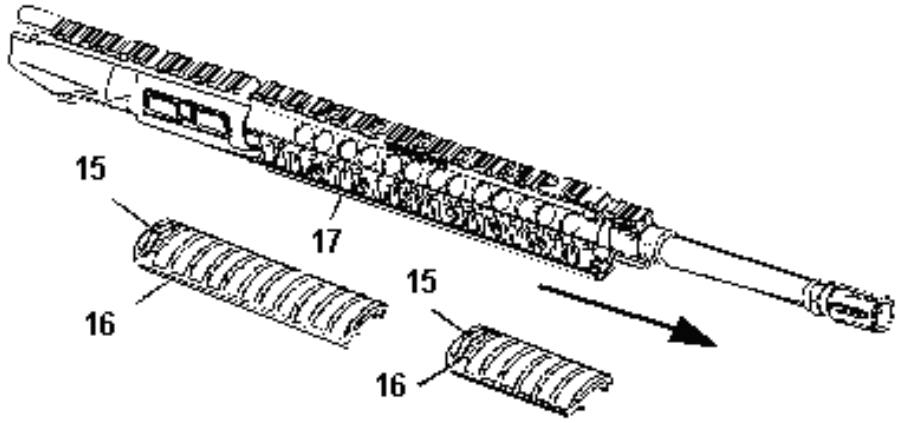
8. Pivot bipod legs (10) forward (toward muzzle).

9. Loosen bipod thumbscrew (11).

10. While squeezing side plates (12) together, lift bipod assembly (13) away from mounting adapter (14).

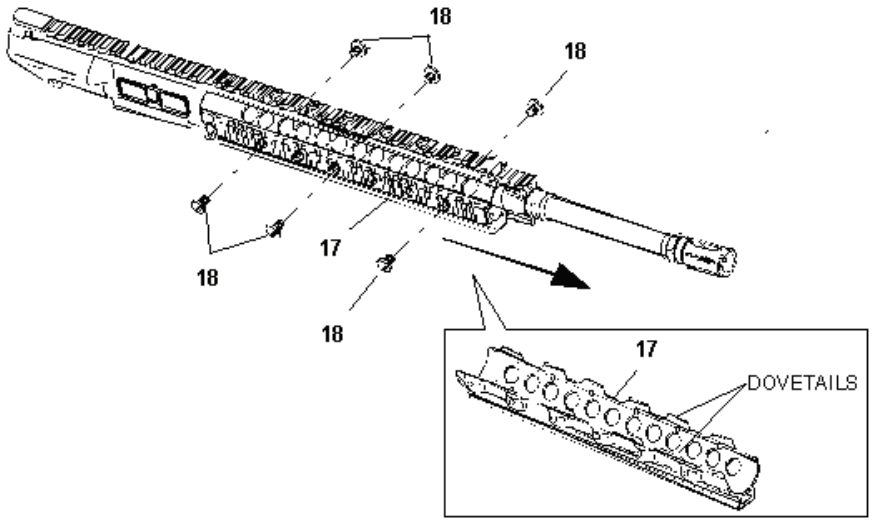


11. Press and hold retaining clip (15) while sliding the rail cover (16) off lower rail (17). Repeat for side rails.



DISASSEMBLY OF UPPER RECEIVER AND BARREL ASSEMBLY - Continued

12. Using a 3/32 in. allen wrench or flat head screwdriver, remove six screws (18) and slide lower rail (17) forward disengaging the dovetails; lift lower rail (17) off the barrel.



DISASSEMBLY OF BARREL AND GAS BLOCK ASSEMBLY

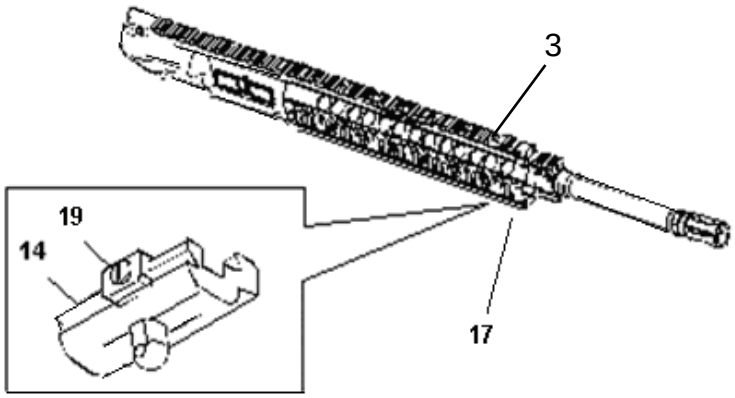
NOTE

Ensure the bipod mounting adapter is installed on the weapon.

Use a bench block to assist in removal of pins.

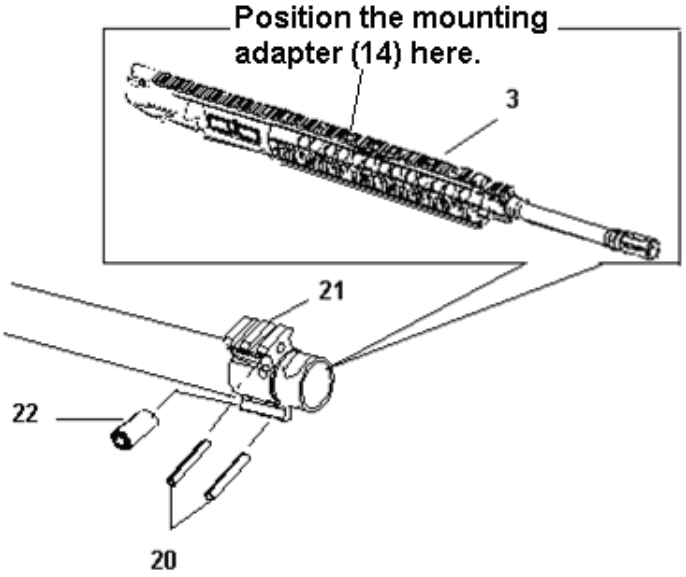
MIL-STD 1913 rail system has been removed for clarity.

13. Loosen screw (19) and remove mounting adapter (14) from lower rail (17). Position mounting adapter (14) approximate center position on the upper rail assembly (3) and tighten screw (19).



14. Place upper receiver assembly (3) in a vise on its right side by inserting the mounting adapter (14) in the vise jaws for retention. Using a 3/32 in. punch and hammer, remove two tapered pins (20) from gas block (21).

15. Using a 3/32 in. punch, drive out roll pin (22). Discard roll pin (22).

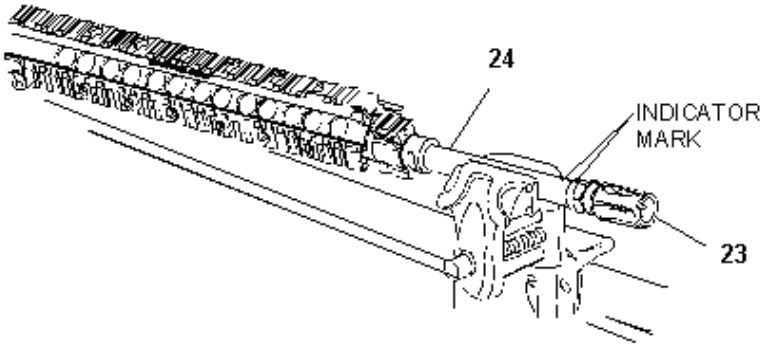


NOTE

DO NOT perform any of these procedures unless repair / replacement of parts is required.

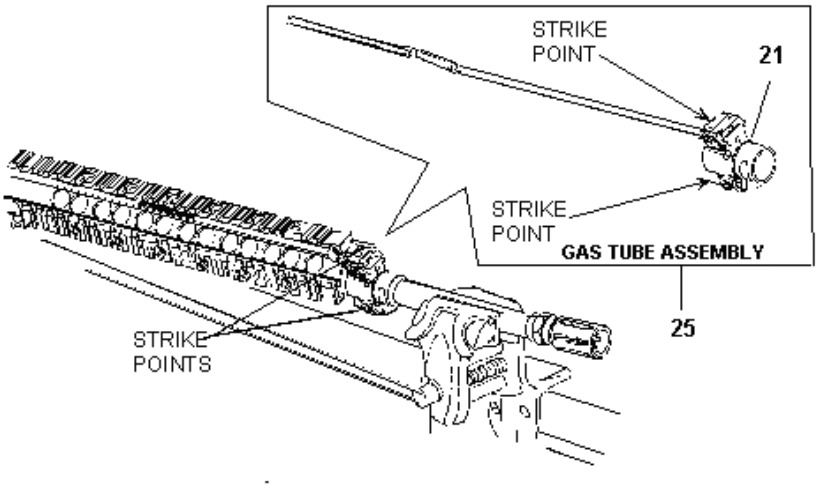
16. To remove the flash suppressor (23), make an indicator mark on the flash suppressor (23) and barrel (24) to indicate relationship for reassembly.

17. Using a 3/4 in. open end wrench, break loose the flash suppressor (23).



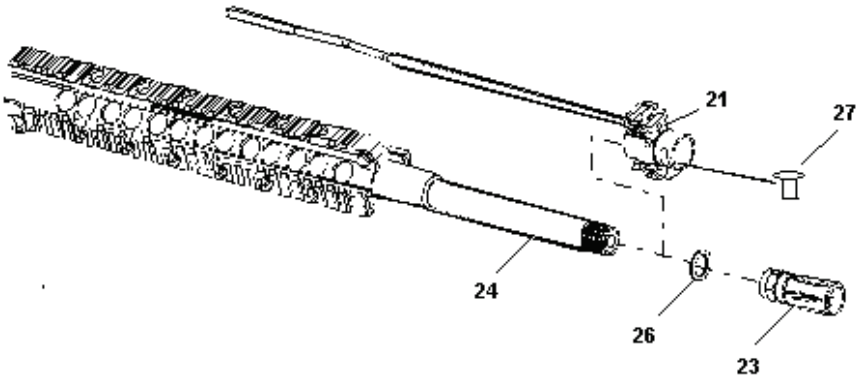
DISASSEMBLY OF BARREL AND GAS BLOCK ASSEMBLY - Continued

18. Using a brass drift and hammer, alternate strikes on the gas block (21) flats from one side to the other, until gas tube assembly (25) is loose.

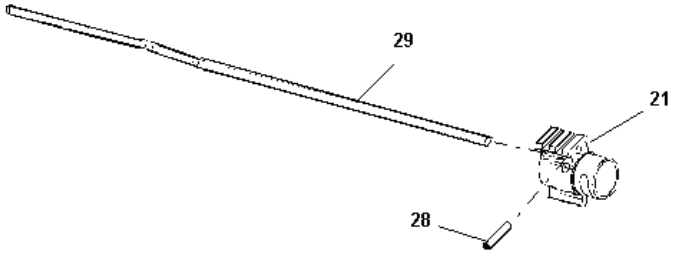


19. Remove the flash suppressor (23) and shim (26); carefully slide the gas tube assembly (25) off end of the barrel (24). To remove the sound suppressor locator pin (27), push up on the sound suppressor locator pin (27) from the gas block (21) and remove from the gas block (21)

20. Reinstall the flash suppressor (23) to protect the crown and threads.



21. Using a 1/16 in. punch, remove spring slotted pin (28) and discard; slide gas tube (29) from gas block (21).



NOTE
Further disassembly of the upper receiver assembly is not authorized.

INSPECTION / REPAIR OF UPPER RECEIVER AND BARREL ASSEMBLY

1. Inspect lower rail (17) for nicks, burrs, and gouges that will prevent attachment of approved devices. Repair is by replacement.

2. Inspect upper receiver assembly (3) for rust or other damage.

3. Inspect upper rail assembly (3) for nicks, burrs, cracks, or breaks. Remove burrs and nicks with a stone. If nicks can not be repaired with stone, or upper rail assembly (3) is cracked or burred, return M110 sniper rifle to the contractor for repair.

4. Inspect rear back up iron sight (BUIS) (5) for proper operation. If damaged or non-functional, replace (TM 9-1005-342-10, WP 0021 00).

5. Inspect ejection port cover assembly (7):

a. For proper operation and retention. If damaged or non-functional, repair/replace as required.

b. Check spring for spring tension.

c. Check hinge pin for bends and breaks.

d. If any of the above checks fail, repair/replace as required.

6. Visually inspect gas tube assembly (25) for dents, breaks and bends. Repair/replace as required.

7. Visually inspect sound suppressor locator pin (27) for excessive burrs and gouges. Replace if damaged.

8. Check rail covers (16) for cracks, breaks, and proper function. Replace if damaged.

9. Inspection of barrel:

a. Inspect barrel for burrs and cracks. If damaged, return M110 sniper rifle to the contractor for repair.

b. Check for pits in the bore no wider than a land or groove and 3/8 in. or less in length are allowable.

c. Check for uniformly fine pits in a densely pitted area of the bore are allowable.

d. Check for lands that appear dark due to coating of guilding metal from projectiles are allowable.

e. Check for striped lands and barrel erosion, using bore erosion gage. If damaged return M110 sniper rifle to the contractor for repair.

f. Check for surface cracks and defects.

g. Check locking lugs for burrs, breaks, or excessive wear.

h. Inspect the barrel for visible bulges. Ringed bores or bores ringed sufficiently to bulge on the outside surfaces of barrel are cause for rejection. Return to contractor for repair.

i. Inspect chamber for pitting. Fine pits or fine gouging in a densely pitted area are allowable. Pits 1/8 in. in length is cause for rejection. Return to contractor for repair.

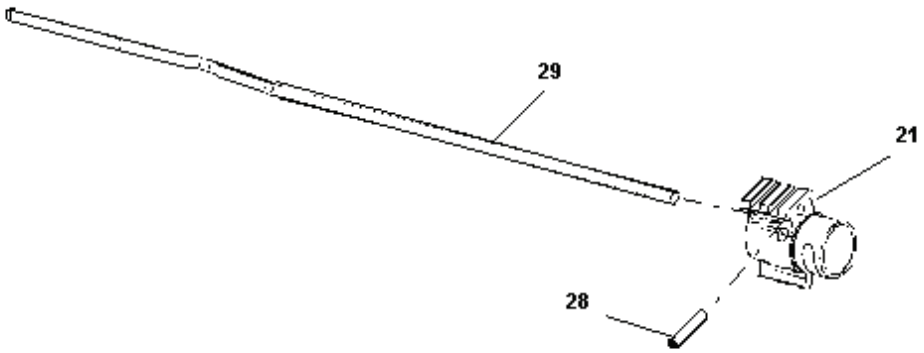
CLEANING

Clean all metal components with CLP; wipe dry and reapply a light coat of lubricant.

ASSEMBLY OF BARREL AND GAS BLOCK ASSEMBLY

1. Insert gas tube (29) into gas block (21). The bend in gas tube (29) should be up and to the rear.

2. Align holes in gas tube (29) with holes in gas block (21) and install new spring slotted pin (28).



3. Reinstall sound suppressor locator pin (27) by placing it into the recessed hole in the gas block (21).

CAUTION

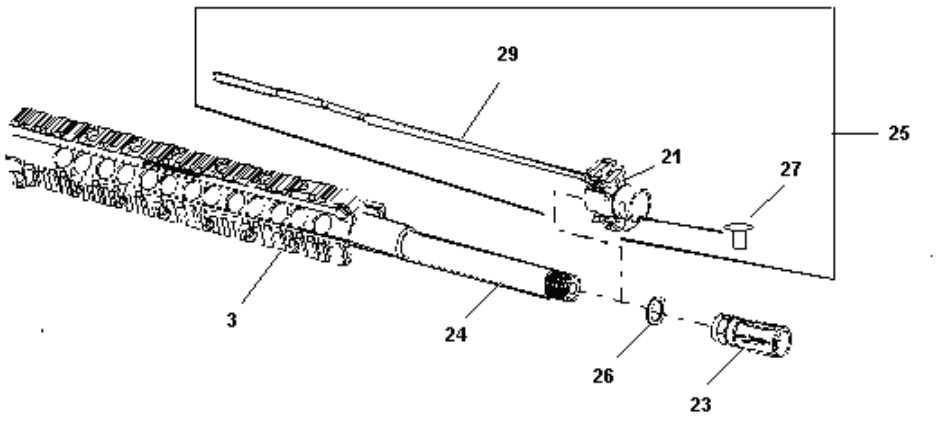
Be careful not to damage the crown or threads on barrel (24) when installing gas tube assembly (25) onto barrel (24).

4. Remove the flash suppressor (23).

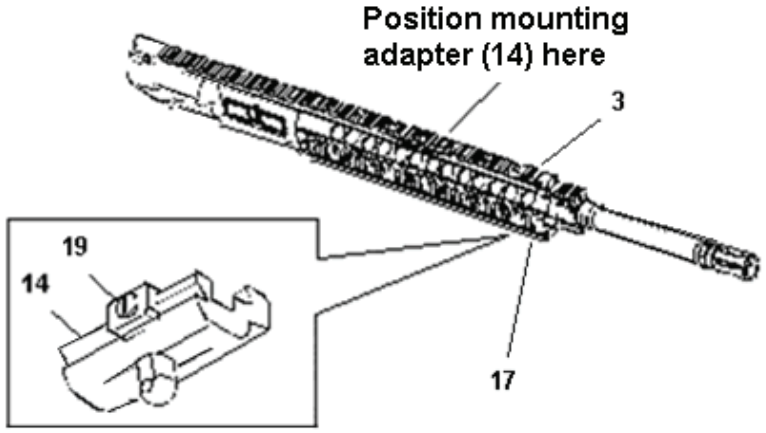
5. Carefully slide gas tube assembly (25) and gas block (21) onto barrel (24).

6. Attach flash suppressor (23) onto end of barrel (24) to protect crown and threads.

7. Turn the upper receiver assembly (3) upside down and check that the gas tube (29) is in the gas tube hole of upper receiver assembly (3).



8. Loosen screw (19) and remove mounting adapter (14) from lower rail (17). Position mounting adapter (14) approximate center position on the upper rail assembly (3) and tighten screw (19).



9. Secure upper receiver assembly (3) in vise with protective jaws by the mounting adapter (14).

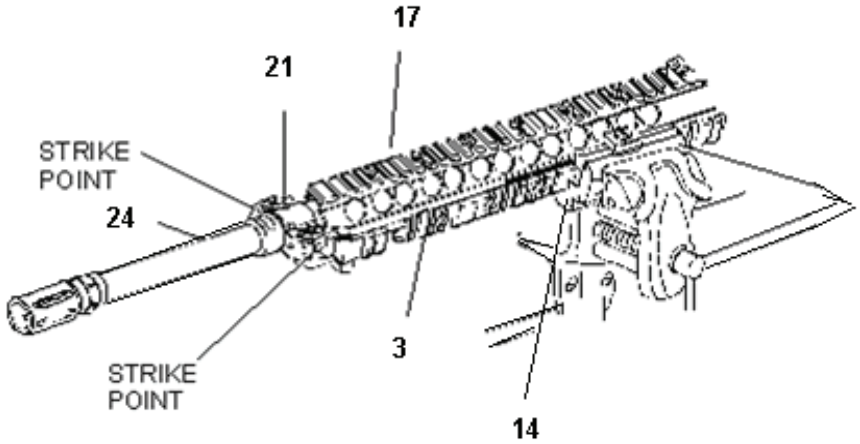
NOTE

Ensure pin holes on gas block (21) are aligned with hole in barrel (24).

10. Using a brass drift and hammer, alternating strikes on the gas block (21) from one side to the other, hammer the gas block (21) and gas tube (29) into position.

11. Remove the upper receiver assembly (3) from vise.

12. Loosen screw (19) and remove mounting adapter (14) from upper receiver assembly (3). Position mounting adapter (14) on lower rail (17) and tighten screw (19).



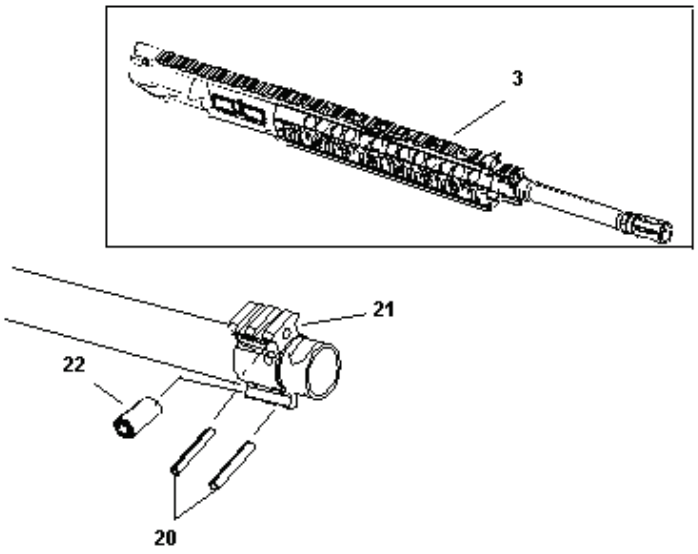
ASSEMBLY OF BARREL AND GAS BLOCK ASSEMBLY - Continued

NOTE
Use a bench block to assist in assembly of pins.

MIL-STD 1913 rail system has been removed for clarity.

13. Place upper receiver assembly (3) on its left side; using a 3/32 in. punch and hammer, install two tapered pins (20) (tapered end first) into gas block (21).

14. Install new roll pin (22). Roll pin (22) should protrude equally on both sides.

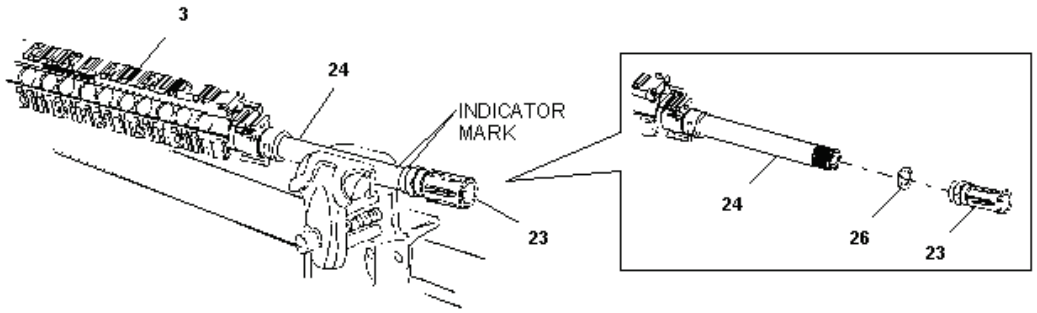


15. Secure the upper receiver assembly (3) in a vise with protective jaws.

NOTE
Once installed, ensure spline of flash suppressor (23) is centered on top of barrel (24). Various sizes of shims (26) are available to accomplish this task.

16. To determine the shim size you will need, place one of the color coded shims (26) into the flash suppressor (23) and hand-tighten the flash suppressor (23) to the barrel (24). Look at the relationship marks you made prior to removal for the flash suppressor (23); if they are approximately 1/8 in. from each other, you have the right shim.

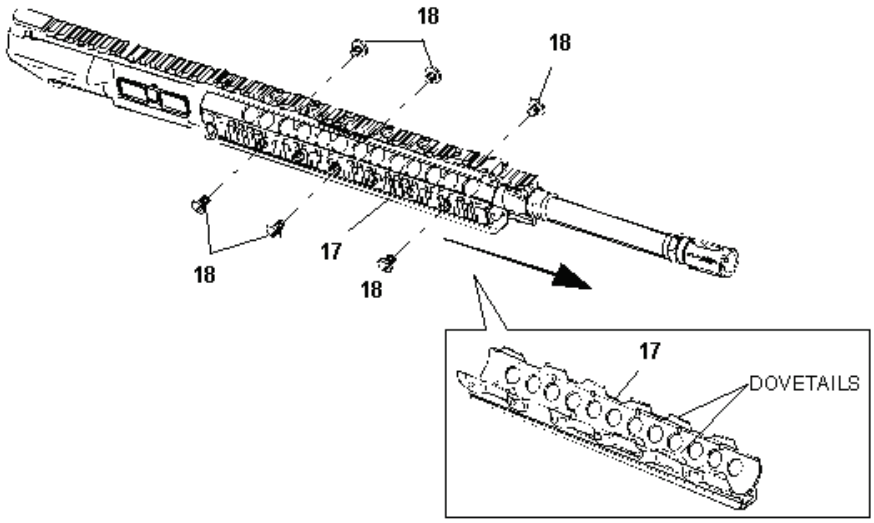
17. Hand-tighten the flash suppressor (23); torque flash suppressor (23) to 35 ft/lbs.



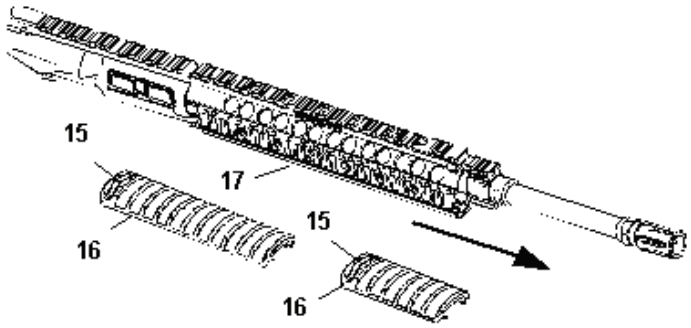
NOTE
Lower rail (17) cannot be installed backwards.

18. Place lower rail (17) over the barrel and into notches; slide lower rail (17) rearward engaging the dovetails.

19. Using a 3/32 in. allen wrench or flat head screw driver, install six screws (18) (three on each side) and hand-tighten.

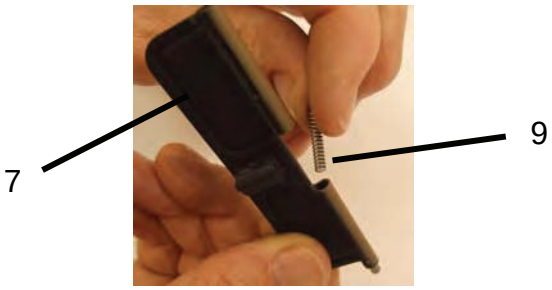


20. Press and hold retaining clip (15) on end of rail cover (16); and slide the rail cover (16) on lower rail (17). Repeat for side rails.



ASSEMBLY OF BARREL AND GAS BLOCK ASSEMBLY - Continued

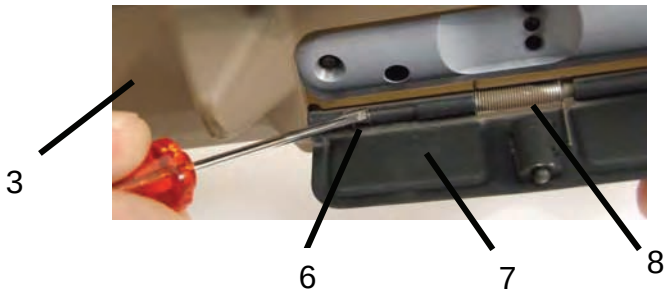
21. Insert spring (9) into ejection port cover assembly (7).



22. Insert cover pin (6) and ejection port cover spring (8) into ejection cover assembly (7) with long leg of spring in downward position.

23. When installing the ejection port cover spring (8), twist long leg down and the short leg up to seat in the slot (30) in the upper receiver (3).

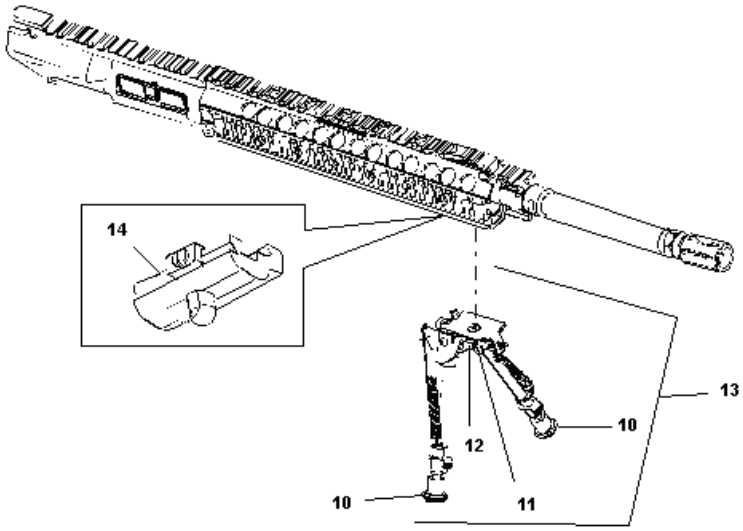
24. Keeping pressure on ejection port cover spring (8), install ejection port cover assembly (7) by pushing in the cover pin (6) with a small screwdriver.



25. Pivot ejection port cover assembly (7) upward and release cover pin (6) so that it seats into the recessed area of the upper receiver (3). Check for proper operation of ejection port cover assembly (7).

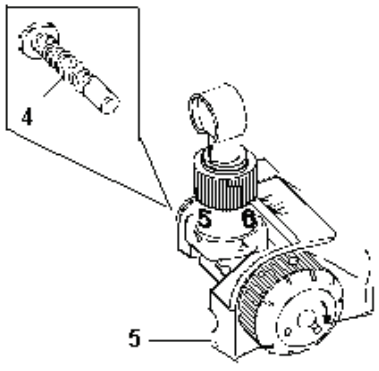
NOTE
Attach bipod with legs forward (muzzle end).

26. Attach bipod by squeezing side plates (12) together and attach bipod assembly (13) to the mounting adapter (14). Hand-tighten bipod thumbscrew (11). Pivot bipod legs (10) downward.



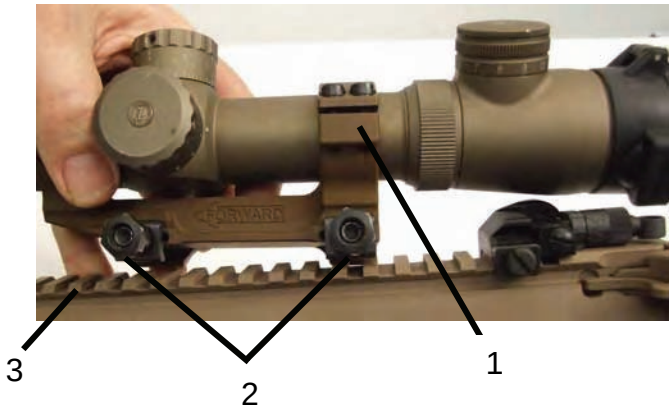
NOTE
Pivot bipod legs down for stabilization.

27. Position BUIS (5) into last slot of MIL-STD-1913 rail and tighten machine screw (4) with a flat tip screw driver.



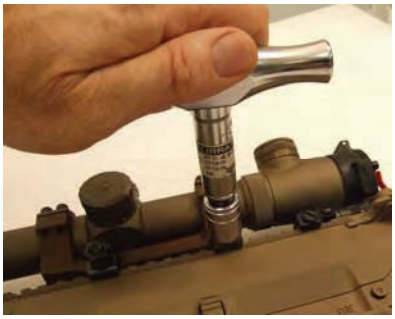
ASSEMBLY OF UPPER RECEIVER AND BARREL ASSEMBLY - Continued

28. Tilt day optic scope to the side and align scope ring base (1) to MIL-STD-1913 rail system (3); place day optic scope in the position noted prior to its removal.



NOTE
T-handle torque wrench can be found in the deployment kit.

29. Finger-tighten nuts and clamps (2) then snug using an adjustable wrench. Torque nuts to 65 in/lbs using the T-handle torque wrench. Repeat torque on each nut twice.



END OF WORK PACKAGE

FIELD MAINTENANCE

M110 SEMI-AUTOMATIC SNIPER SYSTEM (SASS), 7.62MM
(NSN: 1005-01-534-2841 – PN: 13013050)

CHARGING HANDLE ASSEMBLY (NO NSN AVAILABLE - PN: 25359)

INITIAL SETUP:

This task covers: a. Disassembly b. Inspection / Repair c. Cleaning d. Assembly

Tools and Special Tools
Small Arms Repairman Tool Kit (WP 0020 00)

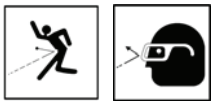
Equipment Condition
Charging handle removed from upper receiver.

Material/Parts
Cleaner, Lubricant, and Preservative (CLP) (item 9, WP 0035 00)
Pin, Charging Handle (PN 8448521-2)

References
TM 9-1005-342-10
WP 0037 00

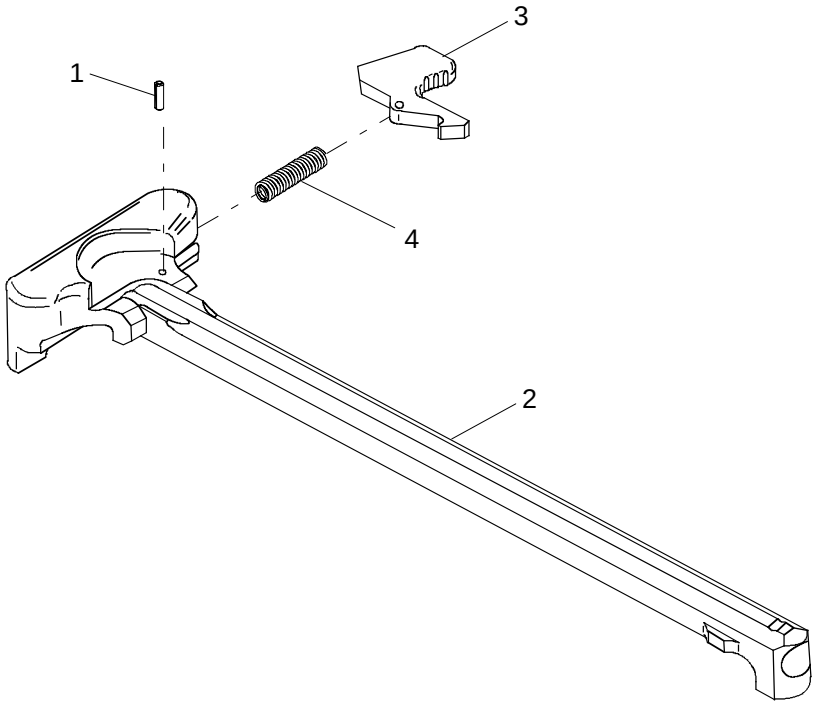
DISASSEMBLY OF CHARGING HANDLE ASSEMBLY

WARNING



SPRING LOADED COMPONENTS
To avoid injury to eyes, use care when removing and installing spring loaded parts.

Remove spring pin (1) from charging handle (2) using a hammer and 1/16 in. punch; remove charging handle latch (3) and helical spring (4). Discard spring pin (1).



INSPECTION / REPAIR OF CHARGING HANDLE ASSEMBLY

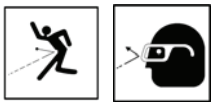
Inspect all parts for breaks, cracks, or damage. Replace all unserviceable items.

CLEANING

Clean all metal components with CLP; wipe dry and reapply a light coat of lubricant.

ASSEMBLY OF CHARGING HANDLE ASSEMBLY

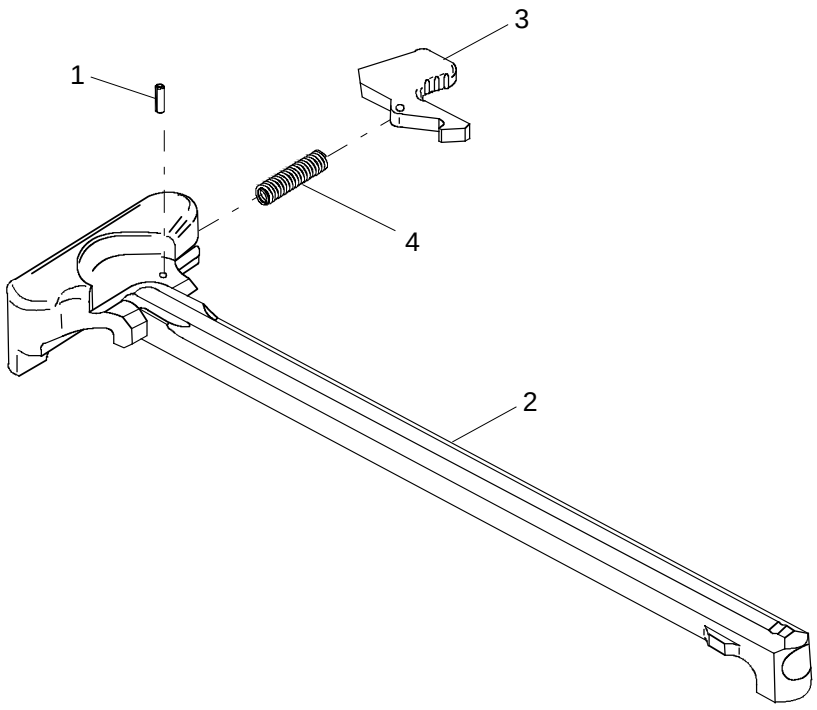
WARNING



SPRING LOADED COMPONENTS

To avoid injury to eyes, use care when removing and installing spring loaded parts.

1. Insert helical spring (4) in charging handle (2).
2. Align holes in charging handle latch (3) and charging handle (2), hold in position with a punch.
3. Install new spring pin (1), using a hammer and 1/16” punch. Make sure spring pin (1) is flush or below charging handle (2).



END OF WORK PACKAGE

FIELD MAINTENANCE

M110 SEMI-AUTOMATIC SNIPER SYSTEM (SASS), 7.62MM
(NSN: 1005-01-534-2841 – PN: 13013050)

BOLT CARRIER ASSEMBLY (NSN: 5306-01-542-8095 - PN: 92026)

INITIAL SETUP:

This task covers: a. Disassembly b. Inspection / Repair c. Cleaning d. Assembly

Tools and Special Tools
Shop Set, Small Arms: Field Maintenance, Basic Less Power (WP 0020 00)
Small Arms Repairman Tool Kit (WP 0020 00)

Equipment Condition
Bolt carrier assembly removed from upper receiver. Bolt removed from carrier assembly. Bolt and firing pin removed from bolt carrier.

Materials/Parts
Cleaner, Lubricant, and Preservative (CLP) (item 9, WP 0035 00)
Pin, Roll, Retainer (PN 94067)
Screw, Bolt Carrier Key (2) (PN 8448508)

References
TM 9-1005-342-10
WP 0037 00

DISASSEMBLY OF BOLT CARRIER ASSEMBLY

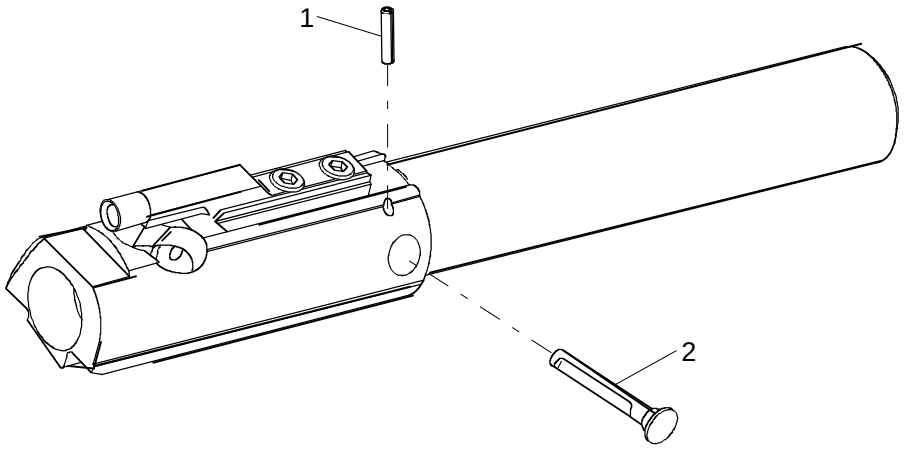
WARNING

EXPLOSION AND ACCIDENTIAL DISCHARGE

DO NOT interchange bolt assemblies from one weapon to another, doing so may result in injury or death of personnel.

1. Using a 3/32 in. punch, remove roll retainer pin (1). Discard roll retainer pin (1).

2. Pull out firing pin retaining pin (2).

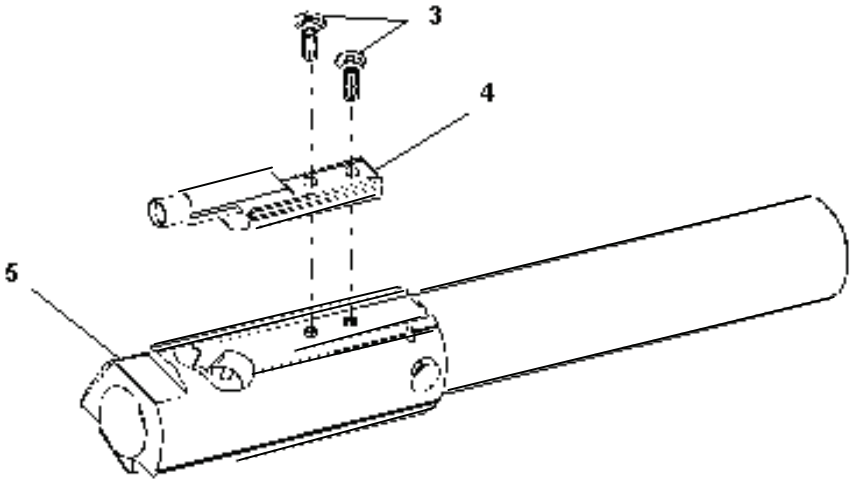


DISASSEMBLY OF BOLT CARRIER ASSEMBLY - Continued

NOTE
Remove key only if replacement is required.

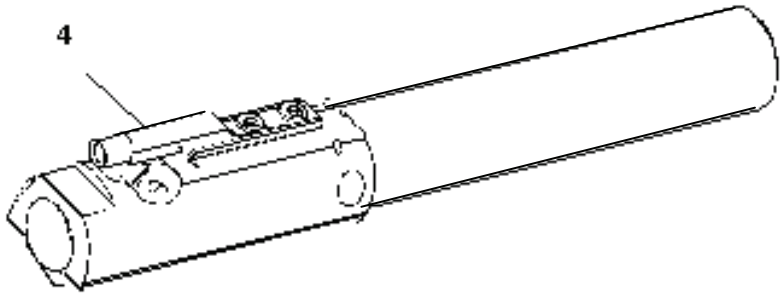
3. Using a 9/64 in. allen wrench, remove two screws (3) from carrier key (4). Discard two screws (3).

4. Strike the carrier key (4), being careful not to damage it, with a dead blow hammer to break the carrier key (4) free from the bolt carrier (5).



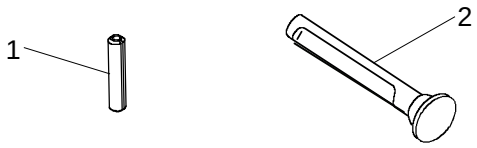
INSPECTION / REPAIR OF BOLT CARRIER ASSEMBLY

1. Inspect carrier key (4) for dents, cracks, breaks, distortion, or looseness. If dented or loose, replace.

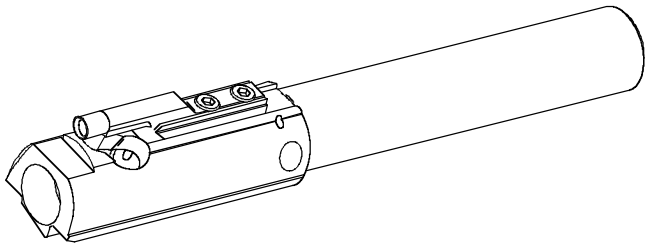


2. If carrier key (4) was removed for replacement, check mating surface of bolt carrier for marks or defects that may cause a gas leak. Replace if damaged.

3. Inspect firing pin retaining pin (2) for cracks, excessive wear, or other damage. Replace if unserviceable. If roll retainer pin (1) is removed, replace with new.



4. Inspect bolt carrier assembly for wear and other damage. Check for burrs, nicks, and cracks. Remove nicks and burrs with a stone; replace if cracked, or if nicks and burrs cannot be removed without damaging bolt carrier assembly.



CLEANING

NOTE

Perform cleaning after carrier key (4) has been assembled to the bolt carrier (5).

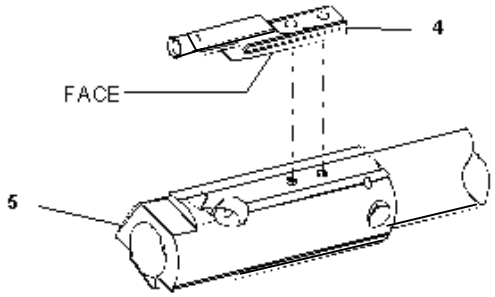
Clean all components with CLP; wipe dry and reapply a light coat of CLP to exterior surface.

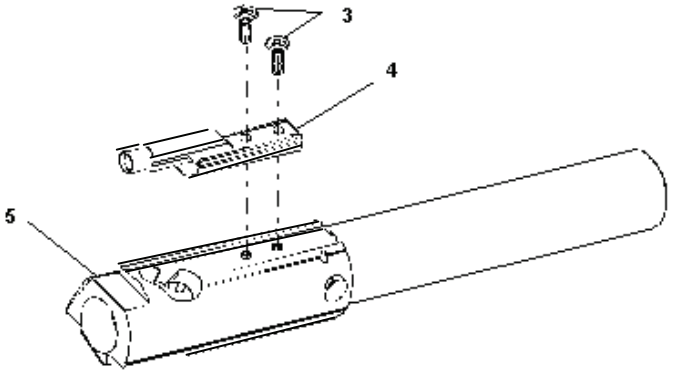
ASSEMBLY OF BOLT CARRIER ASSEMBLY

NOTE

Ensure mating surfaces of carrier key (4) and bolt carrier (5) are clean and oil free prior to assembly.

1. Place the carrier key (4) onto the bolt carrier (5) and install two screws (3).

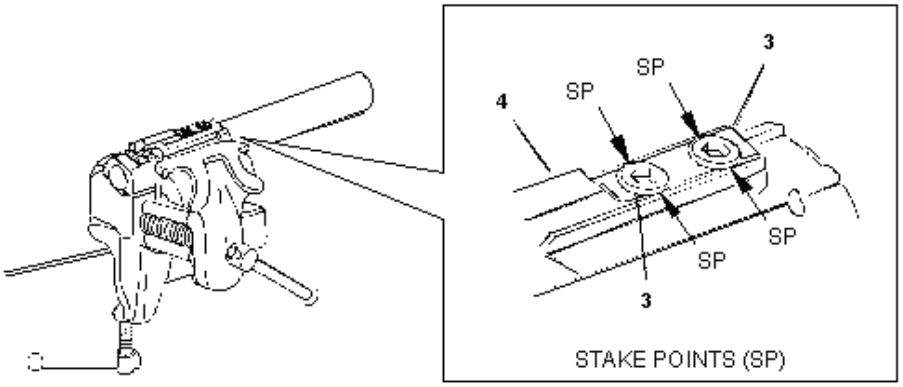




ASSEMBLY OF BOLT CARRIER ASSEMBLY - Continued

2. Place the bolt carrier (5) in vise using vise jaw caps. Torque two screws (3) to 60-65 in/lbs.

3. Using a staking tool, stake two screws (3) and carrier key (4) in four places as shown.



4. Remove bolt carrier assembly (5) from vise and blow air through the carrier key (4) to ensure the gas port is clear.

WARNING

EXPLOSION AND ACCIDENTIAL DISCHARGE

Cam pin must be installed or weapon will explode! If cam pin is not installed, death or injury of personnel may result.

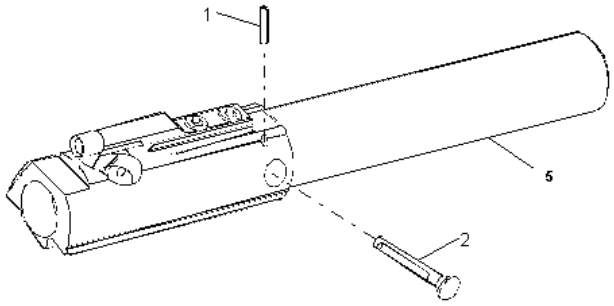
DO NOT interchange bolt assemblies from one weapon to another; doing so may result in injury or death of personnel.

NOTE

DO NOT slam the bolt into bolt carrier assembly (5).

5. Insert firing pin retaining pin (2) into bolt carrier assembly (5) with notch forward (key end).

6. Install new roll retainer pin (1).



END OF WORK PACKAGE

FIELD MAINTENANCE

M110 SEMI-AUTOMATIC SNIPER SYSTEM (SASS), 7.62MM
(NSN: 1005-01-534-2841 – PN: 13013050)

BOLT ASSEMBLY (NO NSN AVAILABLE - PN: 20051)

INITIAL SETUP:

This task covers: a. Disassembly b. Inspection / Repair c. Cleaning d. Assembly

Tools and Special Tools
Small Arms Repairman Tool Kit (WP 0020 00)

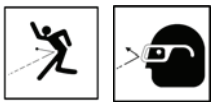
Equipment Condition
Bolt removed from bolt carrier assembly.

Materials/Parts
Cleaner, Lubricant, and Preservative (CLP) (item 9, WP 0035 00)
Spring, Ejector (PN 99076)
Spring Pin, Ejector (PN 99080)

References
TM 9-1005-342-10
WP 0037 00

DISASSEMBLY OF BOLT ASSEMBLY

WARNING



SPRING LOADED COMPONENTS

DO NOT interchange bolt assemblies from one weapon to another, doing so may result in injury or death of personnel.

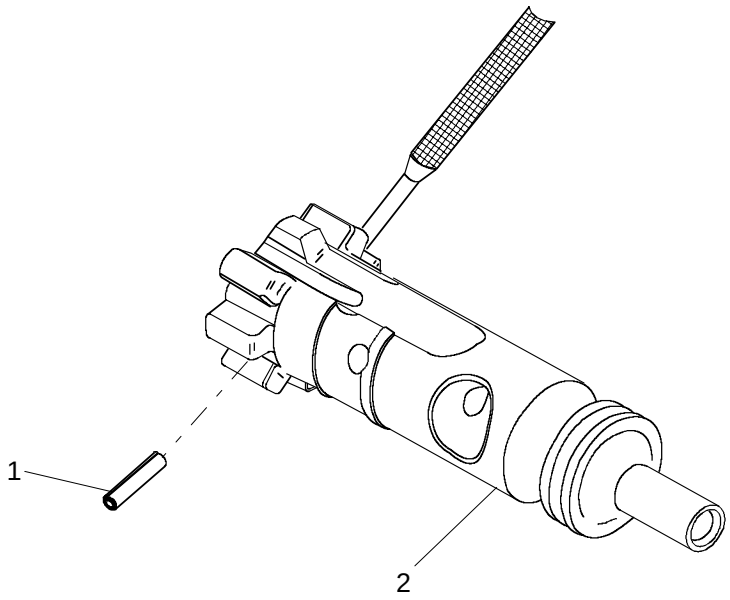
To avoid injury to eyes, use care when removing or installing spring loaded parts.

NOTE

DO NOT remove punch from bolt once ejector spring pin (1) is removed.

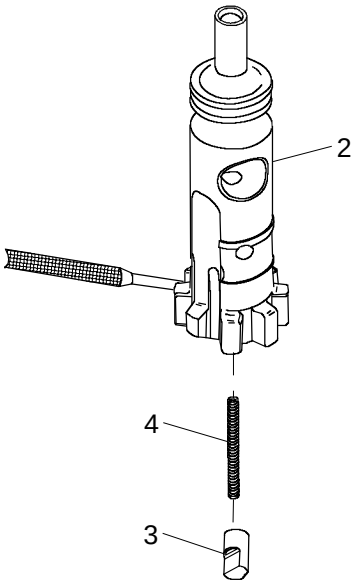
Use a bench block to assist in removal of parts.

1. Using a 1/16 in. punch, remove ejector spring pin (1) from bolt (2). Discard ejector spring pin (1).



DISASSEMBLY OF BOLT ASSEMBLY - Continued

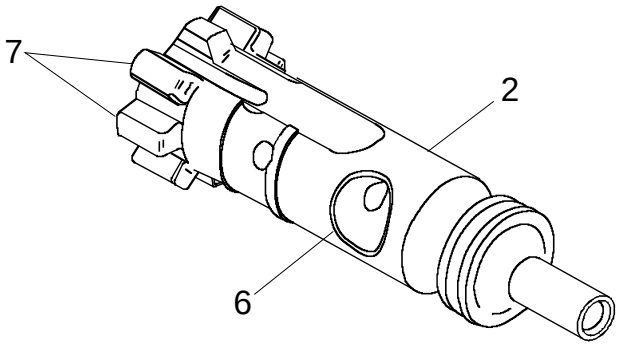
2. Place the bolt (2) face down on a hard surface and slowly remove punch. Carefully release pressure on bolt, remove ejector (3) and ejector spring (4).



3. For removal/replacement of gas rings, refer to TM 9-1005-342-10, WP 0016 00.

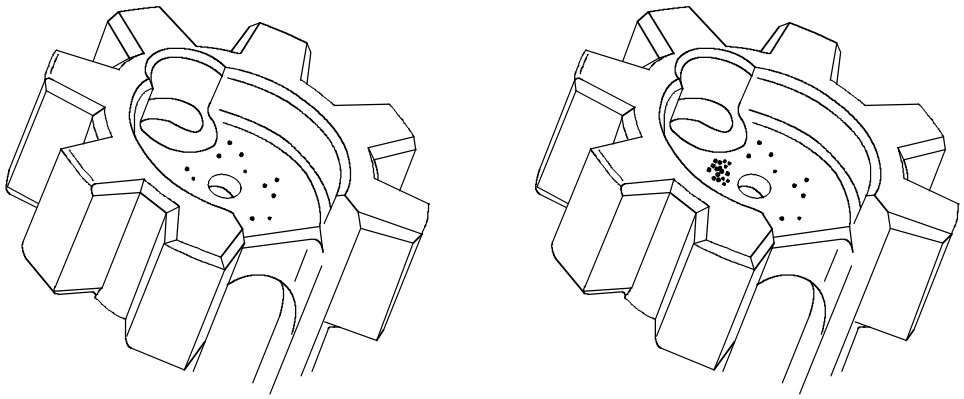
INSPECTION / REPAIR OF BOLT ASSEMBLY

1. Inspect bolt (2) for cracks and damage, especially around bolt cam hole (6) and locking lugs (7). If cracked or damaged, notify direct support maintenance.



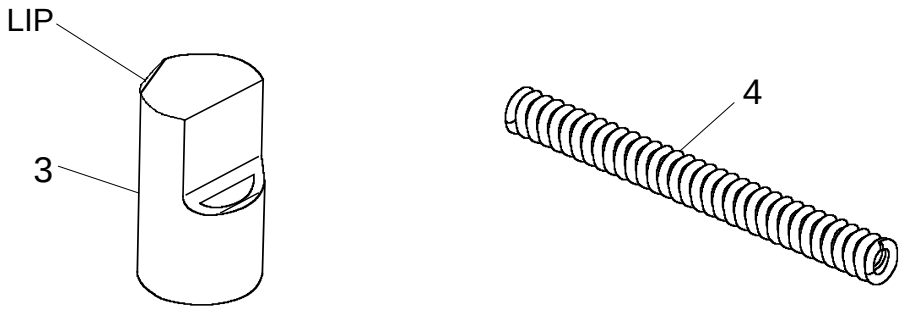
2. Inspect bolt face for clusters of pits that are touching or tightly grouped, measuring approximately 1/8 in. across. If present, bolt shall be replaced. Notify contractor for repair.

3. Rings (machine tool marks), grooves or ridges (less than 0.010 inch) on the bolt face are not cause for rejection.



SERVICEABLE UNSERVICEABLE

4. Inspect ejector (3) and ejector spring (4) for cracks, breaks, chips, and other damage. Pay close attention to ejector lip. Replace if damaged.

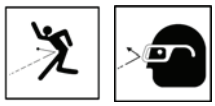


CLEANING OF BOLT ASSEMBLY

Clean all metal components with CLP; wipe dry and reapply a light coat of lubricant.

ASSEMBLY OF BOLT ASSEMBLY

WARNING

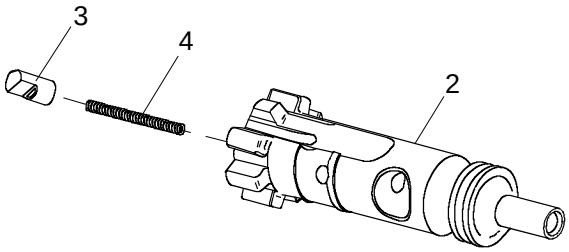


SPRING LOADED COMPONENTS

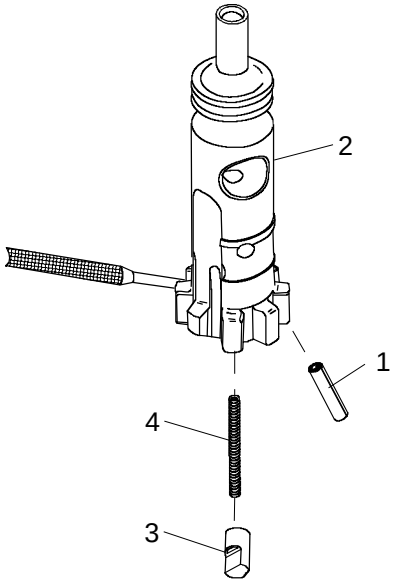
To avoid injury to eyes, use care when removing or installing spring loaded parts.

1. Position the ejector spring (4) into bolt (2).

2. Place ejector (3) on ejector spring (4) with notch of ejector facing out.



3. Place the bolt (2) face down on a hard surface. Compress ejector (3) and align holes; insert a 1/16 in. punch to hold ejector (3) on ejector spring (4) in position. Insert a new ejector spring pin (1). Tap lightly on ejector spring pin (1) forcing the punch out of the bolt. Ejector spring pin (1) should be centered in bolt.



4. For install/replacement of gas rings, refer to TM 9-1005-342-10, WP 0016 00.

END OF WORK PACKAGE

FIELD MAINTENANCE

M110 SEMI-AUTOMATIC SNIPER SYSTEM (SASS), 7.62MM
(NSN: 1005-01-534-2841 – PN: 13013050)

FRONT SIGHT

INITIAL SETUP:

This task covers: a. Disassembly b. Inspection / Repair c. Cleaning d. Assembly

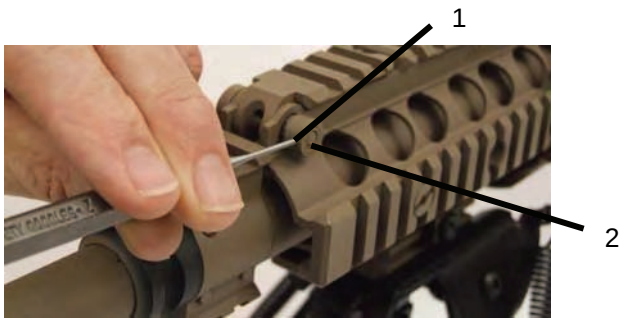
Tools and Special Tools
1/16 inch Punch
Small Arms Repairman Tool Kit (WP 0020 00)

References
TM 9-1005-342-10

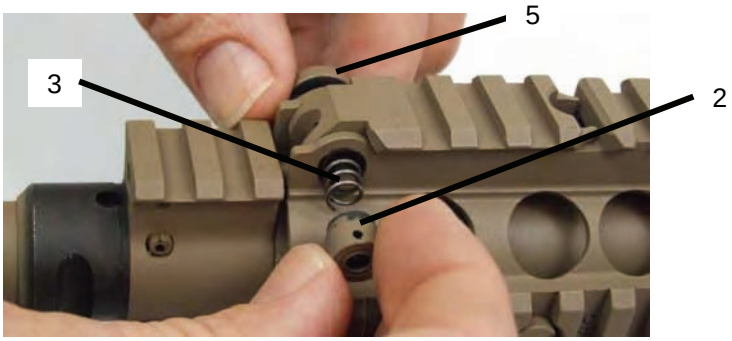
Materials/Parts
Cleaner, Lubricant, and Preservative (CLP)
(item 9, WP 0035 00)

DISASSEMBLY OF FRONT SIGHT

1. Using a 1/16” punch, remove spring slotted pin (1) from the front sight push button (2).



2. Slide front sight push button (2) from front sight spring (3) and front sight locking block (5).

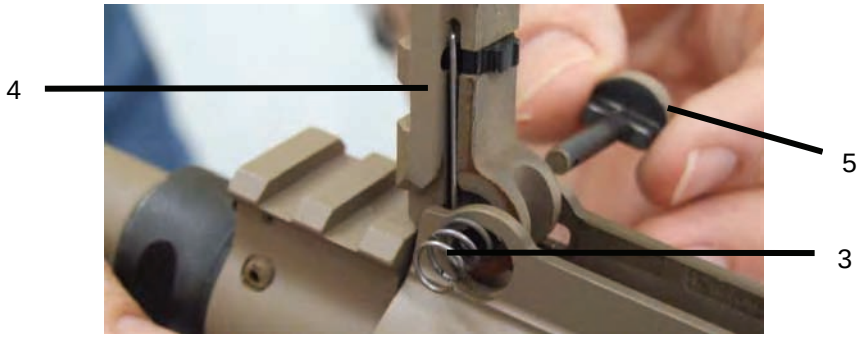


DISASSEMBLY OF FRONT SIGHT - Continued

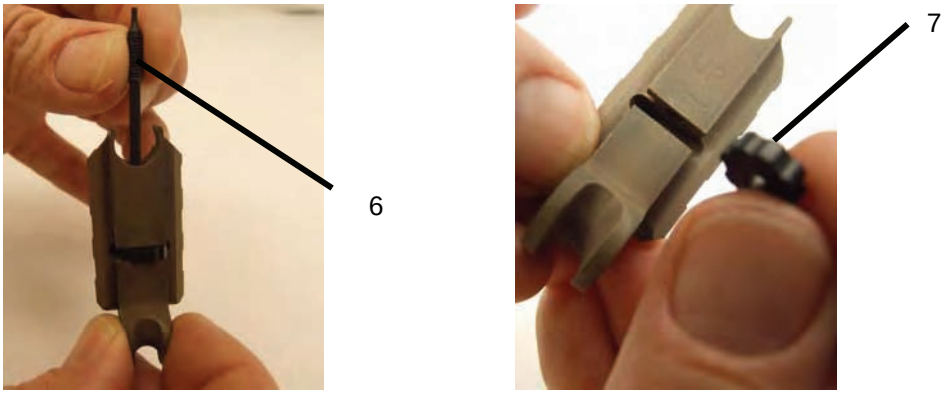
CAUTION

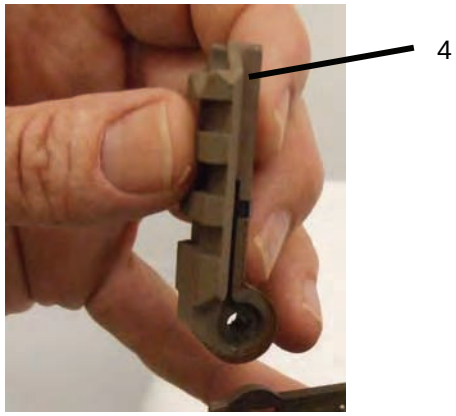
Use care to not bend leg on the front sight spring (3) when removing from front sight leaf (4).

3. Remove front sight locking block (5). Remove front sight spring (3) by pulling at an angle downward away from upper receiver assembly. Lift front sight leaf (4) from upper receiver assembly. Lift front sight leaf (4) from upper receiver.



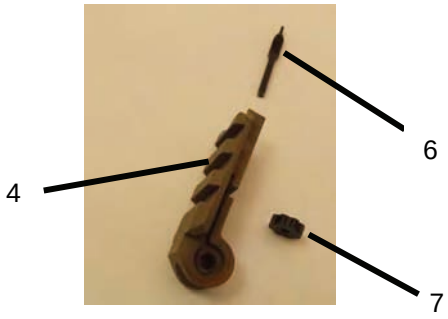
4. To remove front sight post (6), turn elevation knob (7) CCW and remove from front sight leaf (4).





INSPECTION / REPAIR OF FRONT SIGHT

1. Check front sight leaf (4), front sight post (6), and elevation knob (7) for cracks, bends, or breaks. Replace if damaged.



2. Inspect front sight locking block (5) for cracks, bends, or breaks. Replace if damaged.

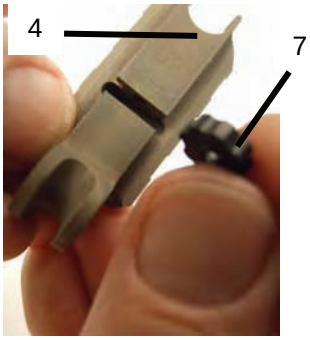
3. Inspect front sight spring (3) for kinks and bends. Replace if damaged.

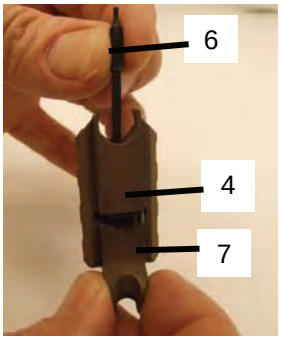
CLEANING

Clean all metal components with CLP; wipe dry and reapply a light coat.

ASSEMBLY OF FRONT SIGHT

1. Install elevation knob (7) into front sight leaf (4). From the top of the front sight leaf (4) line up the square hole in the elevation knob (7), then insert front sight post (6) and align with the hole in the elevation knob (7). Turn elevation knob (7) CW to install front sight post (6) into the top of the front sight leaf (4).



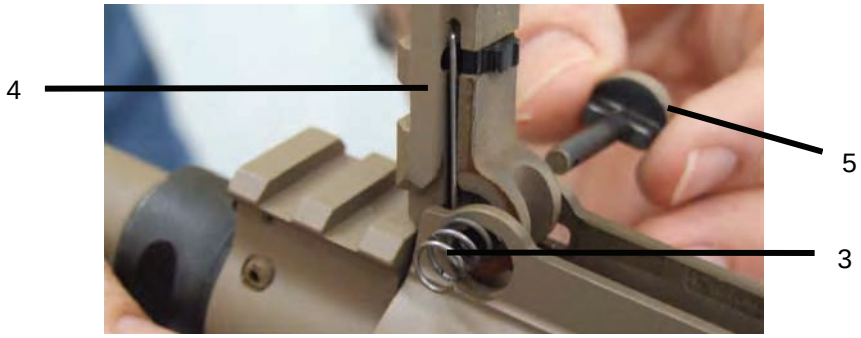


ASSEMBLY OF FRONT SIGHT - Continued

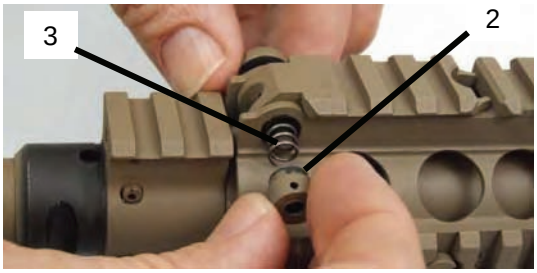
CAUTION

Take care to not bend leg on the front sight spring (3) when reinstalling into front sight leaf (4).

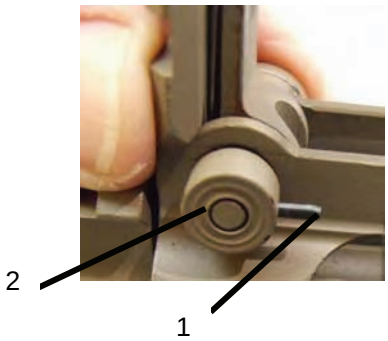
2. Install front sight leaf assembly (4) on upper receiver assembly. Reinsert front sight locking block (5) through the upper receiver assembly from the right side ensuring the flat portion of the front sight locking block (5) is facing downwards. Reinsert front sight spring (3) by inserting at an angle upward through the left hole in the upper rail, ensuring that the long leg of the front sight spring (3) is in the slot of the front sight leaf (4).



3. Slide front sight push button (2) onto front sight spring (3).



4. Using a 1/16” punch, install spring slotted pin (1) into the front sight push button (2) by tapping lightly with a brass hammer.



END OF WORK PACKAGE

FIELD MAINTENANCE

M110 SEMI-AUTOMATIC SNIPER SYSTEM (SASS), 7.62MM
(NSN: 1005-01-534-2841 – PN: 13013050)

LOWER RECEIVER (NO NSN AVAILABLE - PN: 24726)
AND ADJUSTABLE BUTTSTOCK ASSEMBLY (NO NSN AVAILABLE - PN 24122)

INITIAL SETUP:

This task covers: a. Disassembly b. Inspection / Repair c. Cleaning d. Assembly

Tools and Special Tools
Shop Set, Small Arms: Field Maintenance, Basic Less Power (WP 0020 00)
Small Arms Repairman Tool Kit (WP 0020 00)

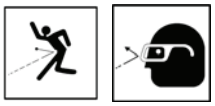
Materials/Parts
Cleaner, Lubricant, and Preservative (CLP) (item 9, WP 0035 00)
Screw, Buttstock (PN 9349128)
Pin, Spring (Trigger Guard) (PN MS16562-129)

Equipment Condition
Upper receiver and barrel assembly removed.

References
TM 9-1005-342-10
WP 0037 00

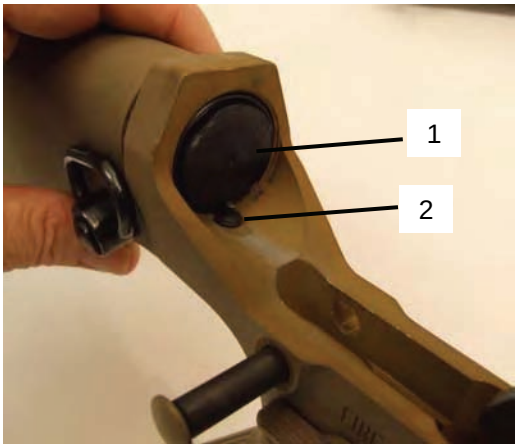
DISASSEMBLY OF LOWER RECEIVER AND ADJUSTABLE BUTTSTOCK ASSEMBLY

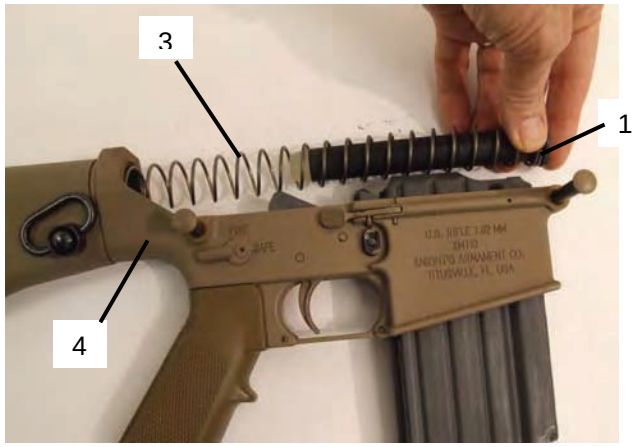
WARNING



SPRING LOADED COMPONENTS
To avoid injury to eyes, use care when removing or installing spring loaded parts.

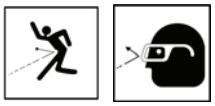
1. Press in on buffer (1) about 1/4 in., depress the buffer retainer detent (2), and remove buffer (1) and buffer spring (3) from the lower receiver (4).





DISASSEMBLY OF LOWER RECEIVER AND ADJUSTABLE BUTTSTOCK ASSEMBLY - Continued

WARNING



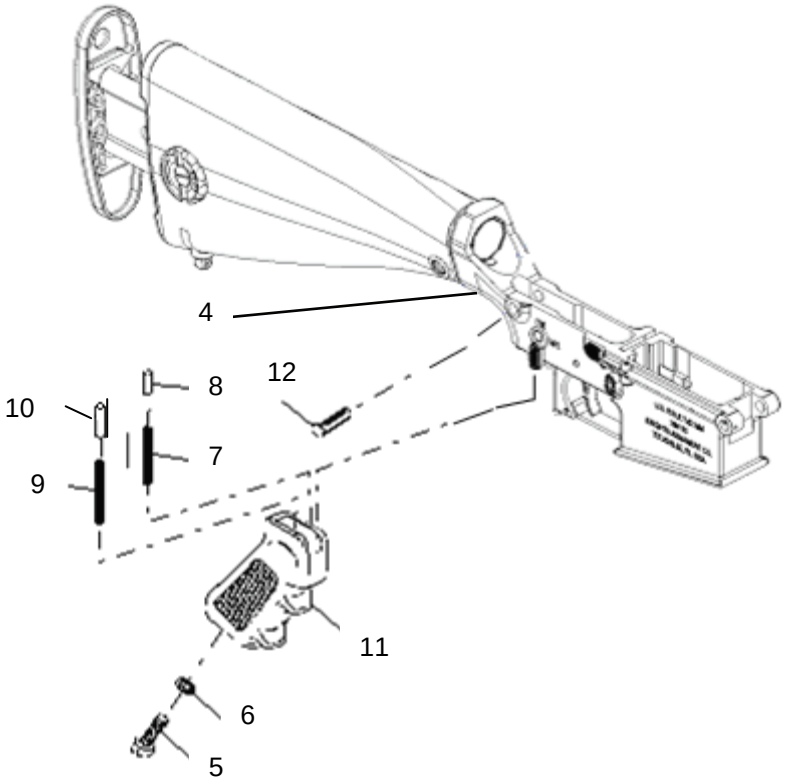
SPRING LOADED COMPONENTS

To avoid injury to eyes, use care when removing or installing spring loaded parts.

2. With a screwdriver, carefully remove pistol grip screw (5) and pistol grip lock washer (6); this releases tension on the safety detent spring (7), safety detent (8), takedown pin spring (9) and takedown pin detent (10).

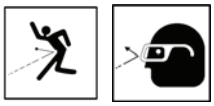
3. Carefully remove pistol grip (11); remove safety detent spring (7), safety detent (8) and takedown pin spring (9) and takedown pin detent (10).

4. Slide rear takedown pin (12) out of lower receiver (4) from left to right.



5. In order to remove buttstock assembly, insert a flat tip screw driver thru hole in buttplate support (13) and unscrew machine screw (14). Discard buttstock screw (14). Remove buttstock assembly from lower receiver (4).

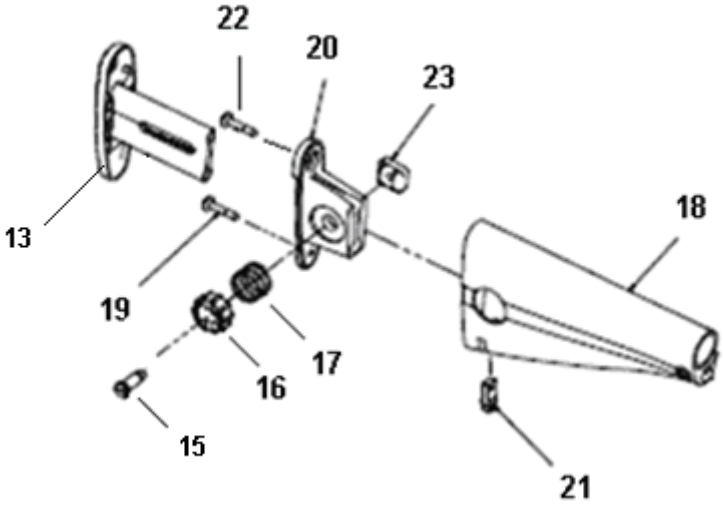
WARNING



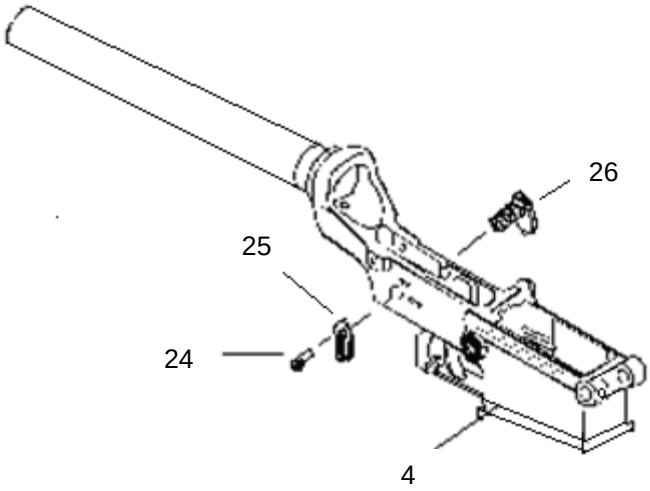
SPRING LOADED COMPONENTS

To avoid injury to eyes, use care when removing or installing spring loaded parts.

6. Using a screw driver, remove buttstock knob screw (15). Carefully remove knob (16), spring (17) from buttstock (18). Slide buttplate support (13) out of buttstock (18). Remove swivel screw (19) from buttstock insert (20) and swivel stud (21) from stock (18). Using a flat tip screwdriver, remove machine screw (22) from buttstock insert (20). Pull out to remove buttstock insert (20) and ratchet lock (23).

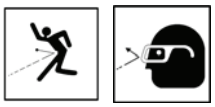


7. Using a 5/64 in. allen wrench, remove screw (24) and right side of ambidextrous safety selector lever (25). Pull left side of ambidextrous safety selector lever (26) out of lower receiver (4).



DISASSEMBLY OF LOWER RECEIVER AND ADJUSTABLE BUTTSTOCK ASSEMBLY - Continued

WARNING



SPRING LOADED COMPONENTS

To avoid injury to eyes, use care when removing or installing spring loaded parts.

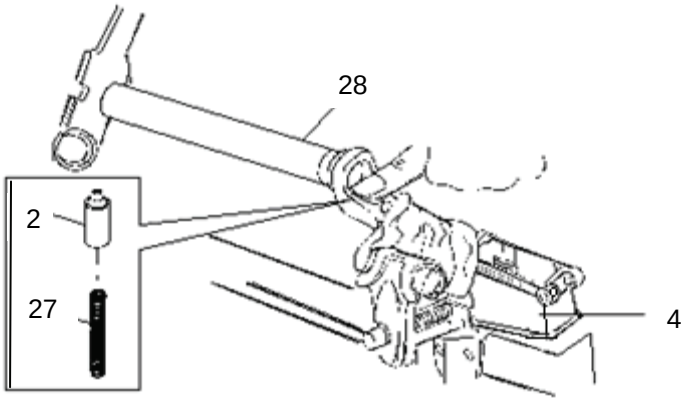
NOTE

Wrap a clean rag around the receiver to protect the finish.

8. Secure lower receiver (4) in a vise with protective jaws.

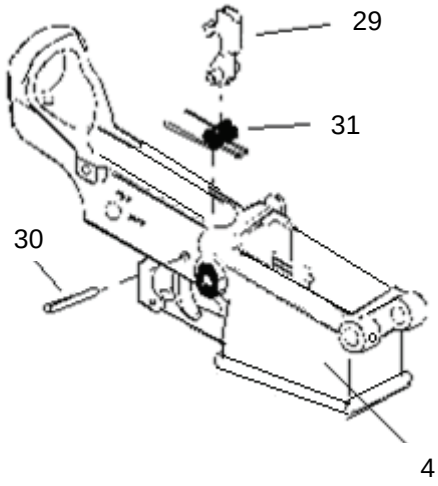
9. Cover the buffer retainer detent (2) and spring (27) with your thumb; then using a combination wrench or adjustable wrench, break loose (unscrew) and remove the buffer tube (28). Remove the buffer retainer detent (2) and spring (27).

10. Remove lower receiver (4) from vise.



11. Release hammer (29) to the upright position.

12. Using a 1/8 in. punch, remove pin (30); remove hammer (29) and hammer spring (31) from lower receiver (4).



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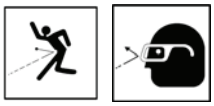
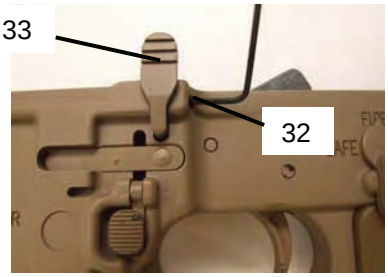
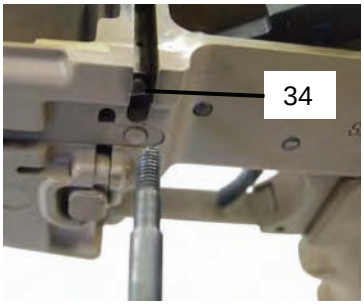


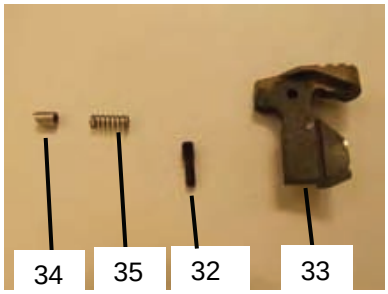
SPRING LOADED COMPONENTS

To avoid injury to eyes, use care when removing or installing spring loaded parts.

13. Using a 1/16 in. allen wrench, turn bolt catch retaining pin (32) counterclockwise and remove. Remove ambidextrous bolt catch (33). Using a plunger head removal tool (fabricated item) (WP 0036 00) remove ambidextrous plunger head (34) by turning CCW, and ambidextrous plunger head spring (35).







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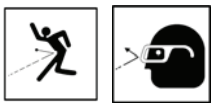


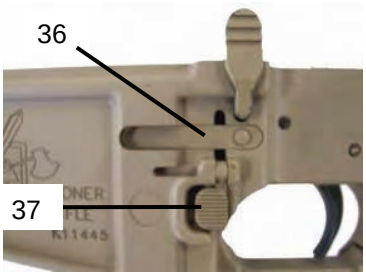
SPRING LOADED COMPONENTS

To avoid injury to eyes, use care when removing or installing spring loaded parts.

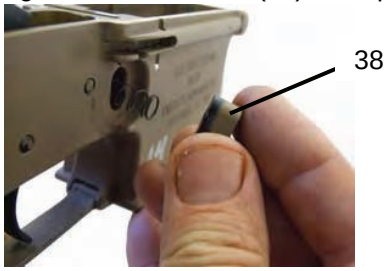
NOTE

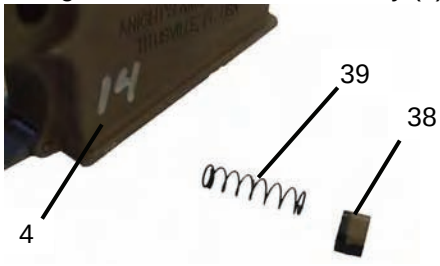
Ambidextrous magazine catch (36) must be removed to remove ambidextrous magazine release lever (37).

14. To remove ambidextrous magazine catch (36), push in on the magazine catch button (38) from right side of receiver and turn magazine catch (36) CCW to remove from left side of receiver.



15. Remove magazine catch button (38) and spring (39) from right side of receiver assembly (4).



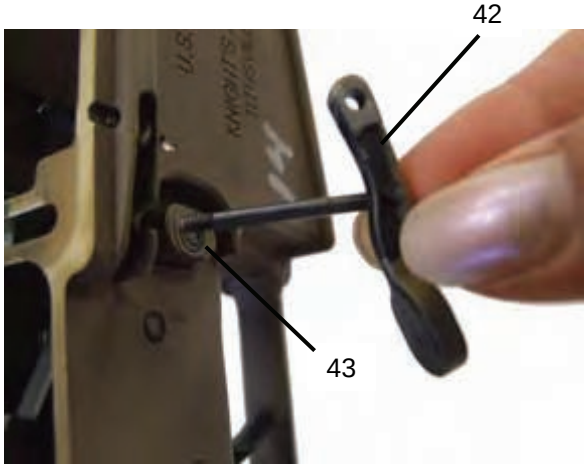


DISASSEMBLY OF LOWER RECEIVER AND ADJUSTABLE BUTTSTOCK ASSEMBLY - Continued

16. With a 3/32” punch and a brass hammer, remove spring pin (40) and remove ambidextrous magazine release lever (37) from left side of receiver.

17. From the right side of weapon use a 1/16” allen wrench, turning CCW to remove setscrew (41).

18. Remove double land lever (42) and bolt catch plunger (43).



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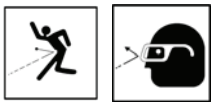
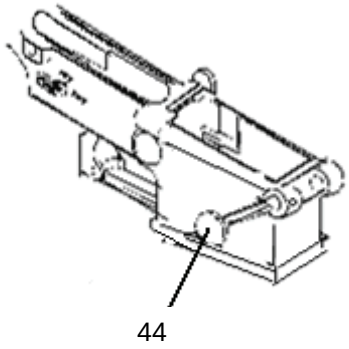


SPRING LOADED COMPONENTS

To avoid injury to eyes, use care when removing or installing spring loaded parts.

19. Pull out front pivot pin (44).



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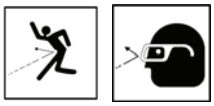


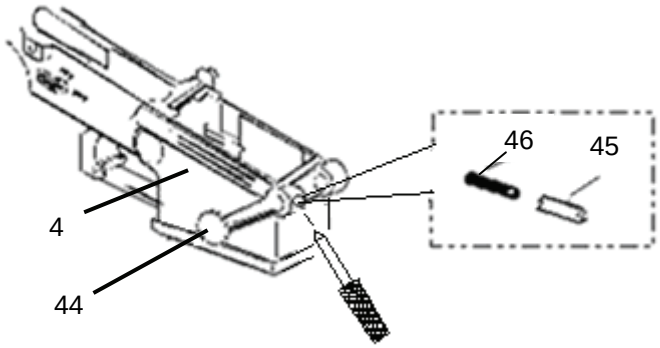
SPRING LOADED COMPONENTS

To avoid injury to eyes, use care when removing or installing spring loaded parts.

NOTE

Be ready to catch front pivot pin detent (45) and front pivot pin detent spring (46). If front pivot pin detent spring (46) will not come out, use a wire to pull it out.

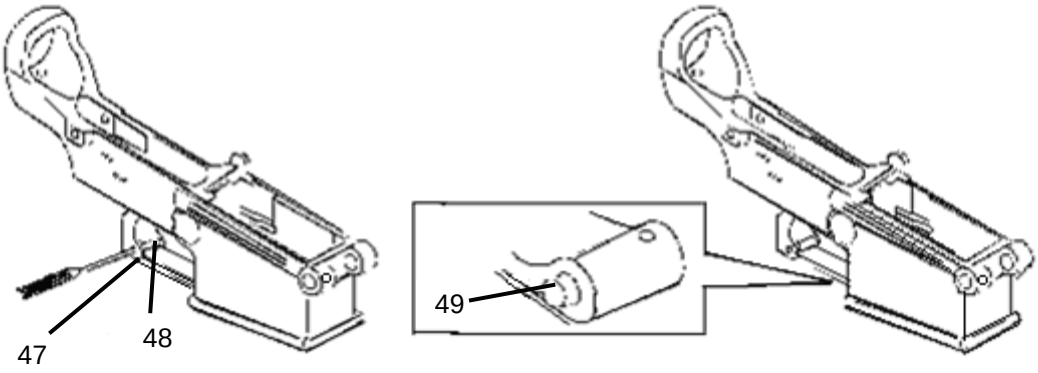
20. Insert a 1/16 in. punch into the hole in the lower receiver (4) and front pivot pin (44), depressing front pivot pin detent (45) and front pivot pin detent spring (46). Turn the front pivot pin (44) enough to retain the front pivot pin detent (45) and front pivot pin detent spring (46); remove the punch. Remove front pivot pin (44), front pivot pin detent (45) and front pivot pin detent spring (46).



DISASSEMBLY OF LOWER RECEIVER AND ADJUSTABLE BUTTSTOCK ASSEMBLY - Continued

NOTE
Remove trigger guard (47) only if replacement is required.

21. Using a punch, remove spring pin (48). Discard spring pin (48). Depress front trigger guard detent pin (49) and remove trigger guard (47).



INSPECTION / REPAIR OF LOWER RECEIVER AND ADJUSTABLE BUTTSTOCK ASSEMBLY

1. Check buffer for cracks or damage. Replace if damaged.

2. Check for worn or broken buffer spring. Replace if damaged.

3. Check lower receiver for legibility of serial number. If illegible, notify contractor.

4. Check lower receiver for bulges, cracks, dents, and legibility of serial number. If any deficiencies are found, return to the contractor.

5. Check trigger guard, buttstock, buttplate, and buffer retainer for cracks or breaks. Replace if damaged.

6. Check ambidextrous safety selector lever, ambidextrous magazine release button, ambidextrous magazine release catch, ambidextrous bolt catch, and hammer for cracks or damage. Replace if damaged.

7. Check ambidextrous safety selector lever for proper operation. If frozen, clean and lube ambidextrous safety selector lever.

8. Check buffer tube for dents, chips, or cracks; deformed threads. If damaged, notify contractor.

9. Check rear takedown pin and front pivot pin for cracks, breaks, or missing parts. Replace if damaged.

10. Check springs for kinks or breaks. Replace if damaged.

11. Check detents for chips and nicks. Replace if damaged.

12. Visually check internal trigger components for missing, broken, or damaged parts; ensure correct assembly. If missing, broken, damaged, or improperly assembled, notify contractor.

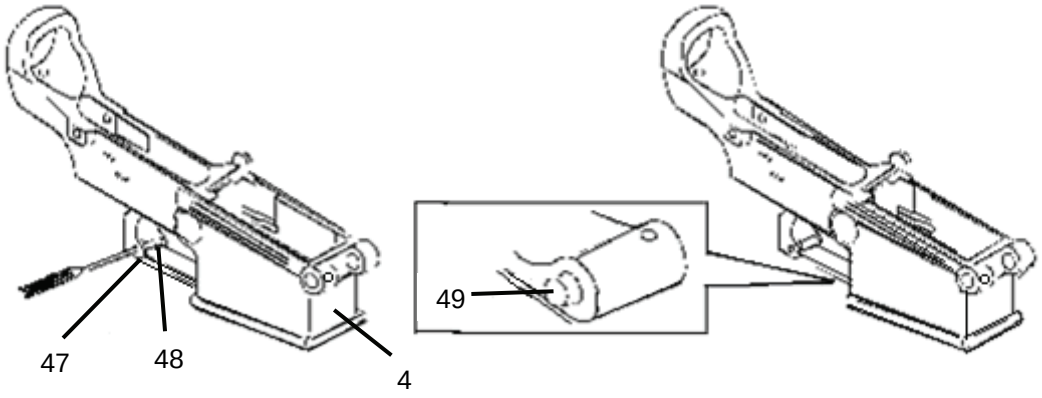
CLEANING

Clean all metal components with CLP; wipe dry and reapply a light coat of lubricant.

ASSEMBLY OF LOWER RECEIVER AND ADJUSTABLE BUTTSTOCK ASSEMBLY

1. Align front trigger guard detent pin (49) (to the front and right) of receiver assembly (4) and insert spring pin (48). Spring pin (48) should be flush or below receiver assembly (4).

2. Depress front trigger guard detent pin (49) and pivot upward to secure trigger guard (47).



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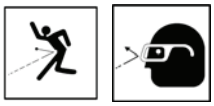
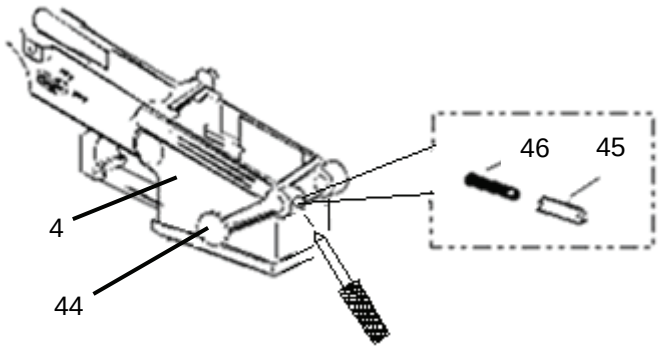


SPRING LOADED COMPONENTS

To avoid injury to eyes, use care when removing or installing spring loaded parts.

3. Insert front pivot pin detent spring (46) and front pivot pin detent (45) into lower receiver (4); insert front pivot pin (44) from right to left.



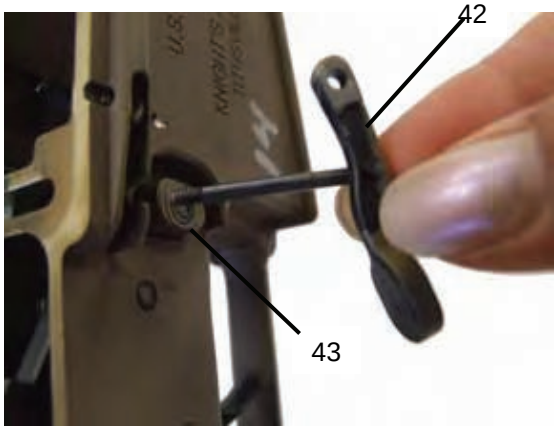
4. Using a 1/16 in. punch, compress front pivot pin detent (45) and front pivot pin detent spring (46).

5. While slowly removing the punch, push the front pivot pin (44) in until the front pivot pin detent (45) is retained by the front pivot pin (44).

6. Turn the front pivot pin (44) until an audible click is heard. This is the front pivot pin detent (45) securing into place.

ASSEMBLY OF LOWER RECEIVER AND ADJUSTABLE BUTTSTOCK ASSEMBLY - Continued

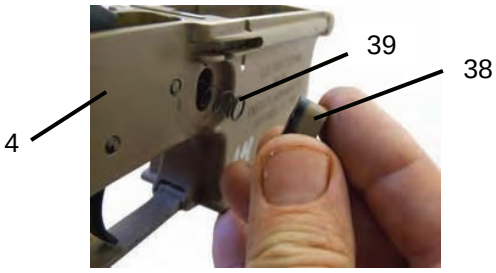
7. Reinsert double land lever (42) and bolt catch plunger (43).



8. From the right side of weapon, use a 1/16” allen wrench turning CW to reinsert the setscrew (41).

9. With a 3/32” punch and a brass hammer, reinsert spring pin (40) and reinsert ambidextrous magazine release lever (37) from left side of receiver.

10. Insert magazine catch spring (39) and magazine catch button (38) into right side of receiver assembly (4).



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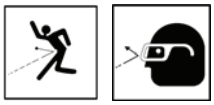
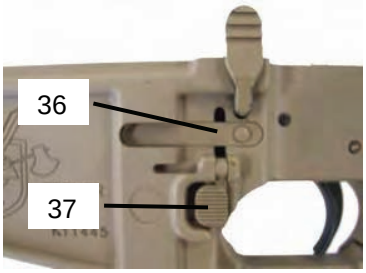


SPRING LOADED COMPONENTS

To avoid injury to eyes, use care when removing or installing spring loaded parts.

11. Reinsert ambidextrous magazine catch (36) into left side of receiver. Push in on the magazine catch button (38) from right side of receiver and turn magazine catch (36) CW to reinsert from left side of receiver. The threaded end of magazine catch should be flush with the face of the magazine catch button to be properly installed.



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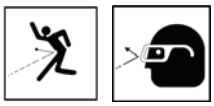
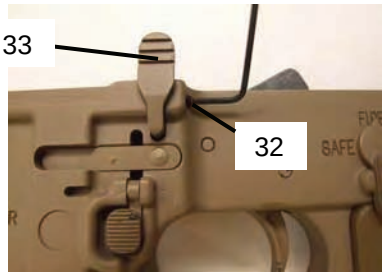
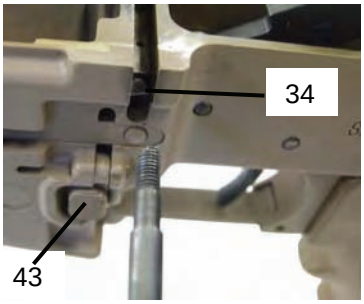


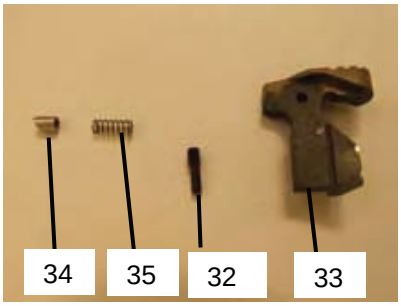
SPRING LOADED COMPONENTS

To avoid injury to eyes, use care when removing or installing spring loaded parts.

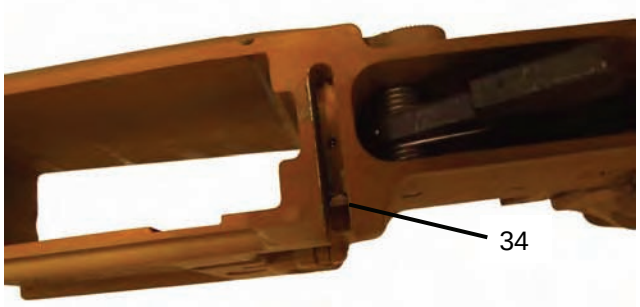
12. Insert ambidextrous bolt catch (33) into lower receiver. Using a 1/16 in. allen wrench, insert bolt catch retaining pin (32) and turn clockwise. Using a plunger head removal tool (fabricated item) (WP 0036 00) reinsert ambidextrous plunger head spring (35) and ambidextrous plunger head (34) into hole in receiver.





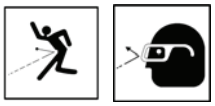


13. Using the plunger head removal tool (fabricated item) (WP 0036 00), turn the ambidextrous plunger head (34) clockwise into the threaded end of the bolt catch plunger (43). Screw in ambidextrous plunger head (34) until the back edge of the taper is flush and parallel with the lower receiver. This will ensure proper adjustment.



ASSEMBLY OF LOWER RECEIVER AND ADJUSTABLE BUTTSTOCK ASSEMBLY - Continued

WARNING



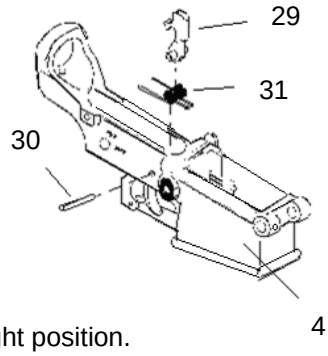
SPRING LOADED COMPONENTS

To avoid injury to eyes, use care when removing or installing spring loaded parts.

NOTE

Wrap a clean rag around the receiver to protect the finish.

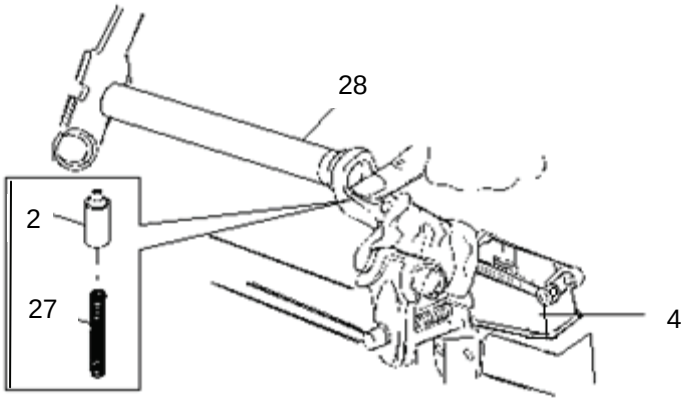
14. Install hammer spring (31) and hammer (29) into lower receiver (4). Using a 1/8 in. punch, install pin (30) into lower receiver (4). Pin (30) should be flush on both sides of lower receiver (4).



15. Release hammer (29) to the upright position.

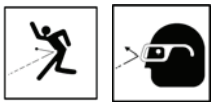
16. Secure lower receiver (4) in a vise with protective jaws.

17. Reinsert the buffer retainer detent (2) and spring (27).



18. Cover the buffer retainer detent (2) and spring (27) with your thumb; then using a combination wrench or adjustable wrench, reinsert the buffer tube (28).

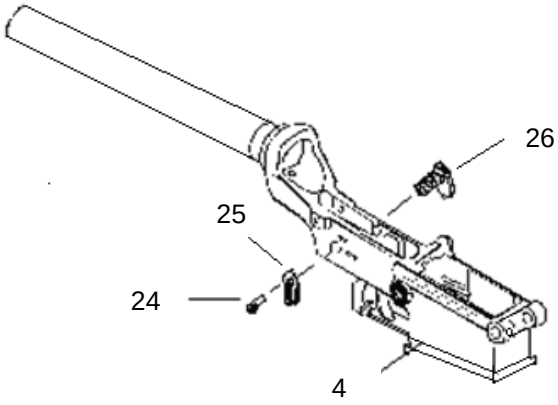
WARNING



SPRING LOADED COMPONENTS

To avoid injury to eyes, use care when removing or installing spring loaded parts.

19. Using a 5/64 in. allen wrench, reinsert screw (24) and right side of ambidextrous safety selector lever (25). Insert left selector lever (26) in lower receiver (4) and tighten screw (24).



NOTE

Ensure that the ratchet lock (23) grooves are to the inside of the buttstock insert (20).

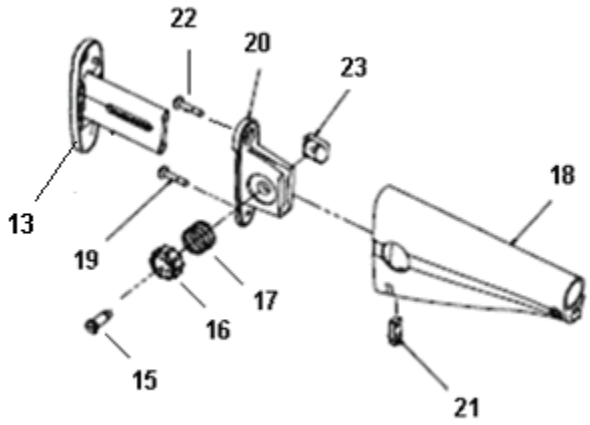
20. Install the ratchet lock (23) into the buttstock insert (20). Slide buttstock insert (20) into buttstock (18).

21. Using a flat tip screwdriver, install machine screw (22) through hole into buttstock insert (20) and tighten machine screw (22).

22. Install swivel stud (21) into buttstock notch. Using a flat tip screwdriver, install swivel screw (19) through bottom hole in buttstock insert (20) and tighten to secure swivel stud (21).

23. Slide buttplate support (13) through slot in buttplate insert (20)

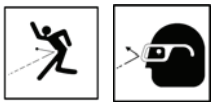
24. Place spring (17), knob (16) and buttstock knob screw (15) into side of buttstock (18). Align buttstock knob screw (15) with knob (16) and ratchet lock (23) and tighten buttstock knob screw (15) with a flat tip screwdriver.



ASSEMBLY OF LOWER RECEIVER AND ADJUSTABLE BUTTSTOCK ASSEMBLY - Continued

25. Install buttstock assembly by sliding it onto the buffer tube (28). To install complete buttstock assembly, insert a flat tip screw driver thru hole in buttplate support (13) and screw in new buttstock screw (14).

WARNING



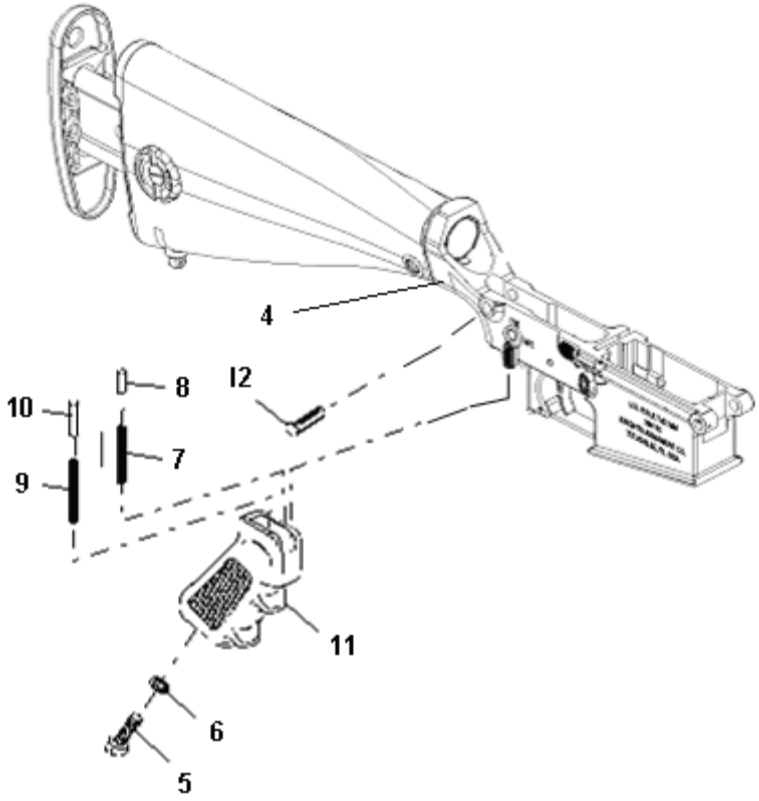
SPRING LOADED COMPONENTS

To avoid injury to eyes, use care when removing or installing spring loaded parts.

26. Slide rear takedown pin (12) into lower receiver (4) from left to right.

27. By turning the lower receiver (4) upside down, insert safety detent (8), safety detent spring (7), takedown pin detent (10), and takedown pin spring (9).

28. Carefully install the pistol grip (11) being careful not to bend the takedown pin spring (9) and safety detent spring (7). Insert pistol grip lock washer (6) and pistol grip screw (5). Tighten with a flat tip screwdriver.



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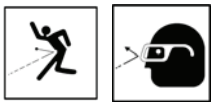
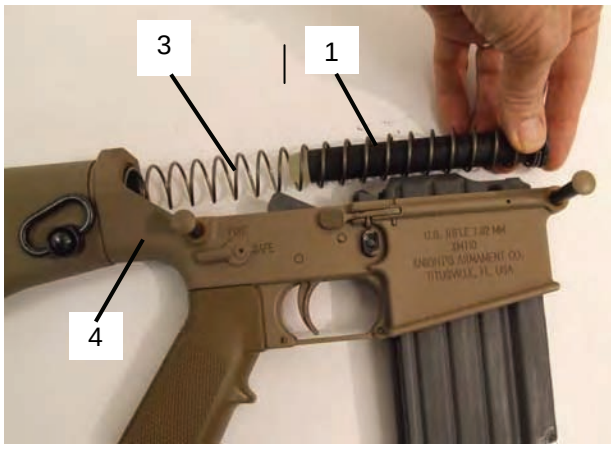
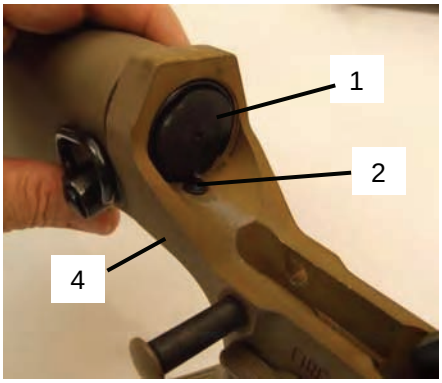


SPRING LOADED COMPONENTS

To avoid injury to eyes, use care when removing or installing spring loaded parts.

29. Install the buffer spring (3) and buffer (1) into the lower receiver (4). Ensure the buffer (1) snaps over the buffer retainer detent (2). Release buffer retainer detent (2) to retain the buffer (1).





END OF WORK PACKAGE

FIELD MAINTENANCE

M110 SEMI-AUTOMATIC SNIPER SYSTEM (SASS), 7.62MM
(NSN: 1005-01-534-2841 – PN: 13013050)

REAR SIGHT ASSEMBLY (NSN: 1005-01-499-6868 - PN: 98474)
DAY OPTIC SCOPE (NSN: 1005-01-544-6092 - PN: 20305)

INITIAL SETUP:

This task covers: a. Disassembly b. Inspection / Repair c. Cleaning d. Assembly

Tools and Special Tools
Shop Set, Small Arms: Field Maintenance, Basic Less Power (WP 0020 00)
Small Arms Repairman Tool Kit (WP 0020 00)

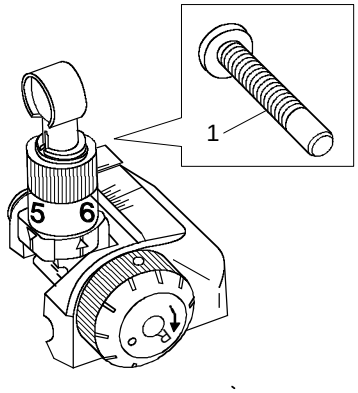
Materials/Parts
Cleaner, Lubricant, and Preservative (CLP) (item 9, WP 0035 00)
Filler (item 21, WP 0035 00)

Equipment Condition
Day optic scope removed from upper receiver and barrel assembly.

References
TM 9-1005-342-10
WP 0037 00

DISASSEMBLY OF REAR SIGHT ASSEMBLY

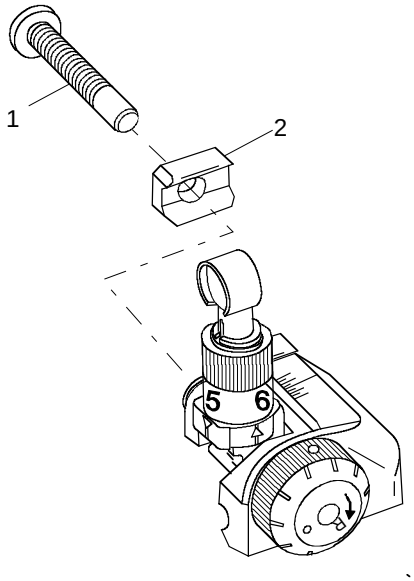
1. Using a flat tip screwdriver, turn machine screw (1) counterclockwise until rear sight is loose and remove from upper rail.



2. Check elevation and windage knob for front movement. Clean and lube.

DISASSEMBLY OF REAR SIGHT ASSEMBLY - Continued

3. Remove machine screw (1) and rear sight clamp (2).



INSPECTION / REPAIR OF REAR SIGHT ASSEMBLY

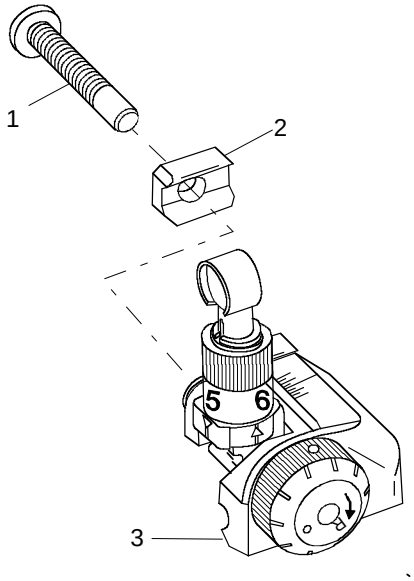
Inspect elevation and adjustable windage knob for free movement. Check for bends, breaks, and legibility of markings. Replace BUIS if bent or broken; use filler in markings.

CLEANING

Clean and lube all metal components with CLP; wipe dry and reapply a light coat of lubricant.

ASSEMBLY OF REAR SIGHT ASSEMBLY

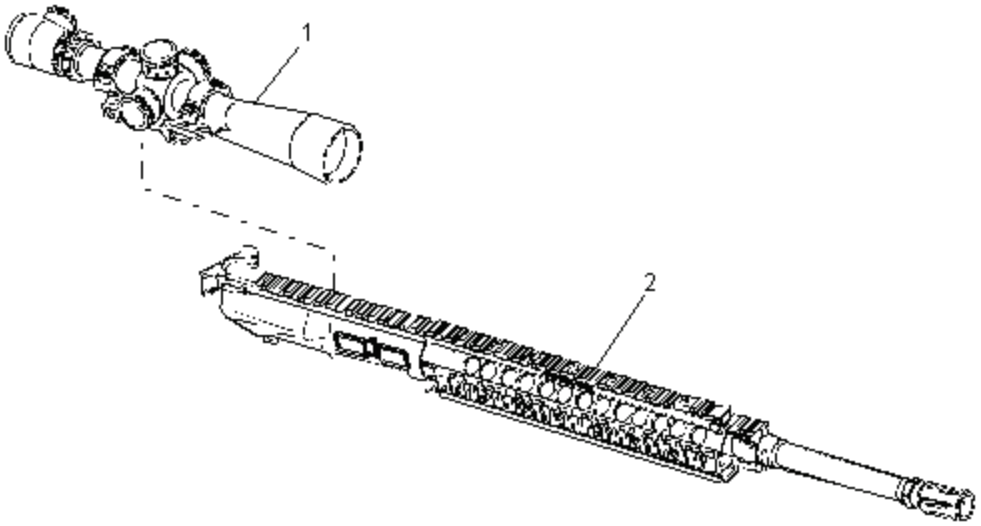
1. Align rear sight clamp (2) to rear sight base (3) and install machine screw (1).



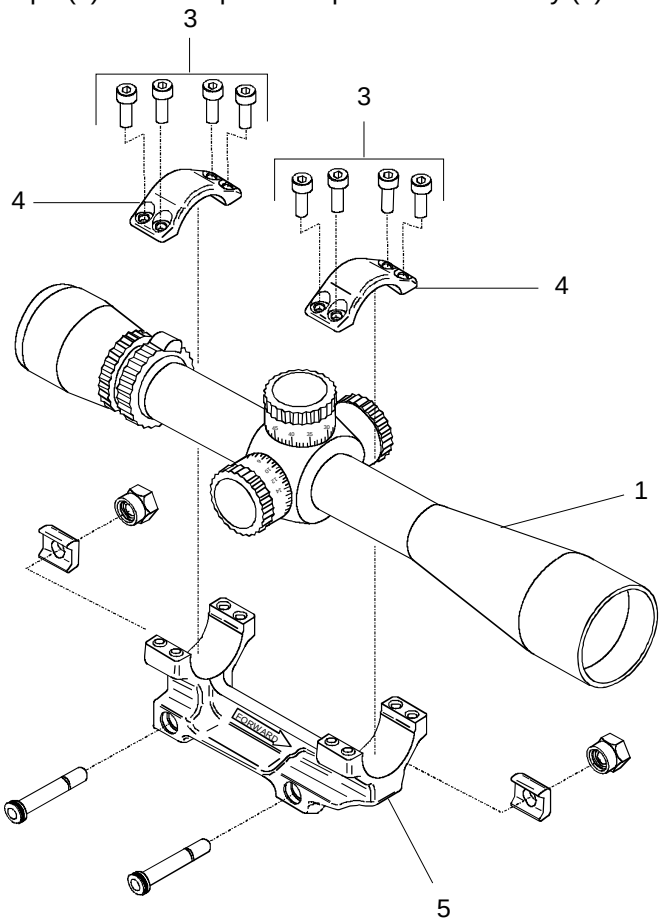
2. Seat BUIS to upper rail and turn clockwise to install using a flat tip screw driver.

DISASSEMBLY OF DAY OPTIC SCOPE

1. Remove day optic scope (1) from upper receiver (2) in accordance with TM 9-1005-342-10 (WP 0013 00).



2. Remove eight cap screws (3) and two scope mount caps (4) from one piece scope mount assembly (5). Remove day optic scope (1) from one piece scope mount assembly (5).



INSPECTION / REPAIR OF DAY OPTIC SCOPE

1. Inspect scope tube, objective lens, and occular lens for dents / damage.

2. Inspect lenses for chips in glass / scratches.

3. Rotate variable power ring to assure proper adjustment of magnification.

4. Inspect turret rings and set screws for proper retention of adjustment rings.

CLEANING

1. Clean all metal components with CLP; wipe dry and reapply a light coat of lubricant.

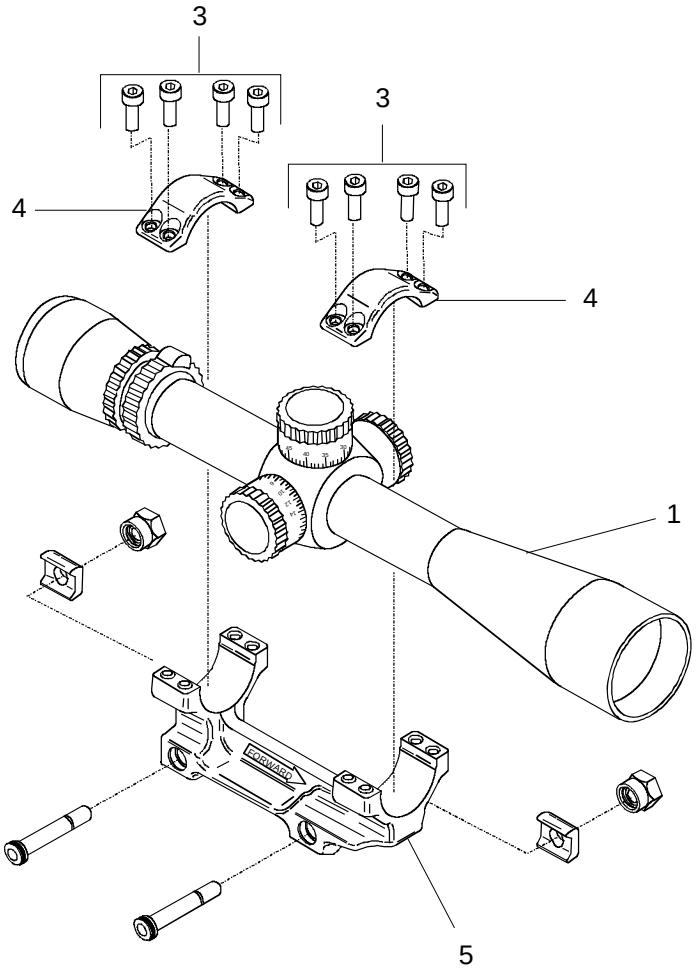
2. Clean lenses using lens cleaning kit.

ASSEMBLY OF DAY OPTIC SCOPE

1. Place day optic scope (1) in one piece scope mount assembly (5).

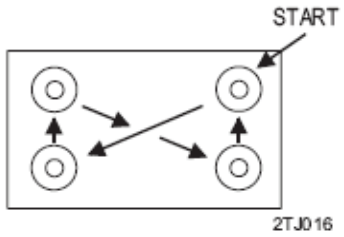
2. Install scope mount caps (4).

3. Install eight cap screws (3) but do not tighten. The day optic scope must be able to turn between the one piece scope mount assembly (5) and scope mount caps (4).



INSPECTION / REPAIR OF DAY OPTIC SCOPE

4. Support the rifle in a steady rest and look through the day optic scope (1). Center the day optic scope (1) in the one piece scope mount assembly (5) by looking at the crosshairs in the optic insuring that the horizontal crosshair is straight horizontally across.



5. Go to WP 0007 00 in TM 9-1005-342-10 on focusing the day optic scope. When focusing has been completed, tighten down the eight new cap screws (3).

END OF WORK PACKAGE

FIELD MAINTENANCE

M110 SEMI-AUTOMATIC SNIPER SYSTEM (SASS), 7.62MM
(NSN: 1005-01-534-2841 – PN: 13013050)

FINAL INSPECTION FOR M110 SEMI-AUTOMATIC SNIPER SYSTEM (SASS), 7.62MM

INITIAL SETUP:

This task covers: a. Testing b. Trigger Pull Test c. Further Testing
d. Using Firing Pin Protrusion Gage to Measure Firing Pin Protrusion
e. Final Inspection

Tools and Special Tools
Firing Pin Protrusion Gage (item 1, WP 0020 00)
Shop Set, Small Arms: Field Maintenance, Basic Less Power (WP 0020 00)

Equipment Condition
Rifle assembled.

References
TM 9-1005-342-10

TRIGGER PULL TEST

WARNING

EXPLOSION AND ACCIDENTIAL DISCHARGE

Before starting inspection, be sure weapon is clear. DO NOT actuate trigger until the rifle has been cleared. Inspect the bore and chamber to ensure that it is empty and free of obstructions.

NOTE

All small arms must be inspected at least once annually for safety and serviceability unless usage, deployment or other maintenance indicates need for more frequent inspection. There is no annual headspace gaging required for the M110 rifle.

1. Place 4 lbs. of weights onto test fixture.

2. Clear the rifle. Charge the rifle, and place safety selector lever to “FIRE”.

3. Hold the rifle in a vertical position. Hook end of test fixture over trigger and raise the rifle until in a line parallel to the bore. Slowly add weight to the test fixture until the hammer trips. Determine weight applied to fixture.

4. Hammer must NOT trip when 4 lbs. (2 kg) have been applied. Hammer MUST trip when 6.5 lbs. (3 kg) is applied.

5. If trigger pull test fails, return M110 sniper rifle to the contractor for repair.

INSPECTION

1. Perform function check.

2. Visually inspect overall appearance of the rifle. Rifle should look almost new. Metal surfaces are to have a dull, rust and corrosion finish with no burrs or deep scratches.

3. Visually inspect barrel for serviceability. Barrels must be straight, clean, free of rust and powder fouling; free of bulges and rings. Fine pitting is allowable.

4. Check front sight for smooth adjustment (up and down) and that it stays locked in selected sight placement.

5. Check day optic scope to ensure it is functional (TM 9-1005-342-10).

6. Visually inspect rifle for missing parts. All parts must be present and functional. Ensure all approved Modification Work Orders (MWOs) have been applied. Metal parts shall be free of corrosion.

7. Spring pins must be secure and screws must be tight.

8. Functionally check the bolt carrier key and gas tube alignment as follows:

a. Disengage the rear takedown pin and open the receiver.

b. Remove bolt carrier assembly.

c. Remove bolt from bolt carrier.

NOTE
Bolt must NOT be installed while performing this test.

d. Insert bolt carrier assembly into the upper receiver and barrel assembly.

e. Slide bolt carrier assembly forward to detect binding between the carrier key and gas tube (by feel).

f. A badly bent gas tube could cause damage to both carrier key / bolt carrier assembly and gas tube. Badly bent gas tubes will be replaced.

g. A slightly bent gas tube will cause unnecessary wear of the key / bolt carrier assembly and gas tube. Correct slight binding by slightly bending the gas tube in the receiver area, repeating this step until no binding is detected.

h. Remove bolt carrier assembly from upper receiver and barrel assembly.

i. Reassemble the firing pin, cam pin, and bolt into bolt carrier assembly.

j. Reinstall bolt carrier assembly into upper receiver and barrel assembly.

k. Lower upper receiver and barrel assembly and engage rear takedown pin.

9. Check scope parts for serviceability. Visually inspect the scope base for cracks, corrosion, or damage. Check for legibility of markings. Replace / repair if damaged.

10. Visually inspect the rear back-up iron sight (BUIS) frame assembly for cracks, corrosion, or damage. Sight aperture should be round. The flip-up sight arm must lock in down position. Replace if damaged.

11. Check sight cam for function, corrosion, or damage. Replace if damaged.

12. Visually check locking bar and recoil screw for damage. Replace if damaged.

13. Check muzzle end of sound suppressor for strike marks. You will notice copper marks or missing metal from end of sound suppressor. If damage is found, return M110 sniper rifle to the contractor for repair.

FUNCTION CHECK

WARNING

EXPLOSION AND ACCIDENTIAL DISCHARGE

Before starting inspection, be sure weapon is clear. DO NOT actuate trigger until the rifle has been cleared. Inspect the bore and chamber to ensure that it is empty and free of obstructions.

If rifle fails the function check, continued use of the rifle could result in injury or death of personnel.

NOTE

For the purpose of this test, “SLOW” is defined as 1/4 to 1/2 the normal rate of trigger release.

1. Pull charging handle assembly to rear. Check that chamber is clear. Leave hammer in cocked position.

2. Place safety selector lever in “SAFE” position. Pull the trigger. Hammer should NOT fall.

3. Place safety selector lever in “FIRE” position. Pull the trigger. Hammer should fall.

4. Hold the hammer to the rear and charge the weapon with the hammer cocked; release the trigger, you should hear an audible “click” as the rear hammer hooks release from the disconnector.

5. Repeat function check. The rifle must not malfunction during either test; if malfunction occurs, return the rifle to the contractor for repair.

FIRING PIN PROTRUSION

1. Remove bolt and firing pin from bolt carrier. Insert firing pin (1) through the bolt (2).

2. Hold the firing pin protrusion gage perpendicular to the bolt face when checking firing pin protrusion.

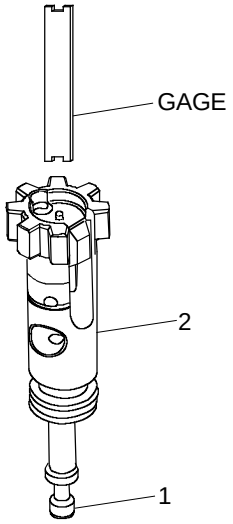
NOTE

Firing pin should touch the gage on minimum protrusion, but should NOT touch on maximum protrusion.

   a. Minimum protrusion is .038 in. (0.10 cm).

   b. Maximum protrusion is .045 in. (0.11 cm).

3. Replace firing pin if it fails either one or both checks.



END OF WORK PACKAGE

FIELD MAINTENANCE

M110 SEMI-AUTOMATIC SNIPER SYSTEM (SASS), 7.62MM
(NSN: 1005-01-534-2841 – PN: 13013050)

TURN-IN PROCEDURES

WARNING

EXPLOSION AND ACCIDENTIAL DISCHARGE

Ensure that NO AMMUNITION is present in the weapon by clearing the weapon using the field strip procedures in TM 9-1005-342-10, WP 0013 00.

NOTICE

Failure to follow these procedures will mandate the TACOM Accountable Property Officer to contact the local Provost Marshal office to report the noncompliance to regulation and loss of control of the weapons which the unit is still accountable for. This report may result in an investigation against the unit and possible criminal penalties to an individual for loss of control of weapon(s) they are accountable for.

1. STANDARD PROCEDURES FOR ALL SHIPPING SITUATIONS.

a. OFF-LINE PROCEDURES FOR ALL SHIPPING SITUATIONS: The following offline procedures must be used for returning the M110 Semi-Automatic Sniper System (SASS), which includes the Day Optic Scope, and the Sound Suppressor Assembly to contractor Knight's Armament Company for repair / replacement. If the procedures are not followed, the repair / replacement will be delayed until the required data is provided. Compliance with these procedures is being emphasized to the contractor. Units that do not comply will be reported to the Provost Marshal.

b. FORMS: For all repair and returns of the M110 SASS, a DA Form 2407 (Maintenance Request) or electronic DA Form 5990-E (Maintenance Request) must be packaged with the weapon(s) being repaired. One Maintenance Request form must be completed for each National Stock Number (NSN) and can contain multiple serial numbers (SN) for that NSN. Complete DA Form 2407 or DA Form 5990-E IAW DA PAM 750-8, The Army Maintenance Management System (TAMMS) User's Manual, and DA PAM 750-1, Army Materiel Maintenance Policy. Describe the required maintenance action as thoroughly as possible and include the DODAAC (Department of Defense Activity Address Code), UIC (unit identification code), NSN, and SN(s).

c. DOCUMENTATION: When repair is required above the Field maintenance level, contact the Unit Accountable Property Book Officer (PBO) and request two document numbers (FTE and A0E) be assigned for the shipment of the M110 SASS. Inform the PBO that the document numbers are to be off-line - DO NOT INPUT THEM INTO THE SYSTEM:

(1) FTE (report of excess) will be used for the shipment of the weapon(s) to the contractor.

(2) A0E (Requisition with exception data) will be used to return the M110 SASS from the contractor to the unit.

(3) The FTE and A0E will be prepared IAW AR 725-50, Requisitioning, Receipt, and Issue System, 15 Nov 95, Chapters 7 and 2, respectively. A0E exception data will include serial number of the M110 SASS and Sound Suppressor Assembly, the FTE document number, POC to include commercial, DSN telephone number and return DODAAC.

(4) Submit the FTE and A0E to TACOM-RI, AMSTA-LC-LSDA, through one of the following methods:

TURN-IN PROCEDURES - Continued

STANDARD PROCEDURES FOR ALL SHIPPING SITUATIONS - Continued

(a) ELECTRONICALLY: ROCK-TACOM-SNIPER-REPAIR@conus.army.mil

(b) TELEPHONE: DSN 793-3849 / Commercial (309) 782-3849.

(c) FAX: DSN 793-2640 / Commercial (309) 782-2640

(5) TACOM-RI will respond with an FTR (Reply to report of excess) directing the shipment of the M110 SASS to the contractor.

(6) These procedures will transfer the accountability of the weapon(s) from the unit to the wholesale system (TACOM-RI)

d. MILITARY PACKAGING: Publications are listed below:

(1) MIL-B-121: Barrier Materials.

(2) ASTM-D-5118: Standard Practice for Fabrication of Fiberboard Shipping Boxes.

(3) A-A1898: Cushioning Material, Cellulose Packaging.

(4) A-A-3129: Cushioning Material, Open Cell Plastic Film.

(5) A-A-1051: Paperboard, Wrapping and Cushioning.

(6) ASTM-D-5486: Standard Specification for Pressure Sensitive Tape for Box Closure and Sealing.

(7) MIL-STD-129: Standard Practice for Military Marking.

WARNING

EXPLOSION AND ACCIDENTIAL DISCHARGE

Ensure that NO AMMUNITION is present in the weapon by clearing the weapon using the field strip procedures in TM 9-1005-342-10, WP 0013 00.

e. SHIPPING MANDATORY REPORTING: It is mandatory to report shipments under DODSASP (also known as Unique Item Tracking-UIT), IAW Chapter 4 of AR 710-3, “Asset and Transaction Reporting System”.

f. SHIPPING OPTIONS: Either of the following two methods may be used to ship your weapon to the contractor for repair or for turn-in. Weapons should be shipped overnight when feasible.

(1) The United States Postal Service (USPS) Registered Mail with return receipt requested can be used to ship up to three (3) weapons in one shipment. The individual package size and weight cannot exceed USPS requirements. The container must be marked with the weapon system NSN, PN and quantity (i.e., 1 of 2).

NOTE

No more than three (3) weapons with day optic scope, sound suppressor assembly, and one empty magazine per weapon may be sent via USPS registered mail with return receipt requested. Weapons must have the day optic scope, sound suppressor assembly, and empty magazine when shipped. Ensure NO AMMUNITION is shipped with the weapon.

(2) Defense Transportation System (DTS) can be used in the event that USPS registered mail is not available for shipping and receiving weapons or when quantities of four or more M110 SASS must be shipped.

(a) Use of DTS for shipment of the M110 SASS requires Category II Transportation Protective Service (TPS) in transit.

(b) Weapons returned through DTS shall have their container marked IAW MIL-STD-129, Standard Practice for Military Marking.

g. PREPARE SHIPMENT:

(1) Clean the weapon IAW TM 9-1005-342-10. Clean the Day Optic Scope (DOS). Be sure that it is attached to the weapon for shipping. Remove and retain the Laser Filter Unit (LFU) and Anti-Reflection Device (ARD). Install the scope covers and ensure they are in a closed position.

(2) Place the cleaned weapon with DOS and sound suppressor attached, one empty magazine and completed forms in the approved shipping container and ship to the address provided below:

h. SHIPPING ADDRESS:

DODAAC (TO BE DETERMINED)
Knight's Armament Company
ATTN: Mike Werner
701 Columbia Blvd.
Titusville, FL 32780
Telephone: (321) 607-9911
Fax: (321) 268-1498

2. PROCEDURE FOR PERMANENT TURN-IN (EXCESS).

NOTE

Complete M110 SASS must be turned in when shipped for permanent turn-in.

a. All permanent turn-in of the M110 SASS can be accomplished through USPS or DTS.

b. For permanent turn-in of the M110 SASS, weapons must be a complete system (rifle, DOS, LFU, ARD, sound suppressor assembly, cases, deployment kit, etc.). The weapons must also be brought back to original configuration prior to shipment. Report of discrepancy will be filed addressing any shortage.

c. Weapons will be turned in using an FTE (Report of Excess) IAW AR 725-50, Requisitioning, Receipt, and Issue System, 15 Nov 95, Chap 7.

d. TACOM-RI will respond with an FTR directing the shipment of the M110 SASS to Knight's Armament Company.

TURN-IN PROCEDURES - Continued

PROCEDURE FOR PERMANENT TURN-IN (EXCESS) - Continued

3. CHECKLIST.

a. User:

(1) Contact PBO with the weapon(s) serial number(s), unit DODAAC, UIC, “in the clear” address and User POC name with commercial telephone number. Obtain FTE and A0E document numbers.

(2) Generate and complete one DA Form 2407 or DA Form 5990-E, Request for Maintenance. Provide completed form to Field Maintenance for packaging with the weapon when returned.

(3) Clean the weapon IAW TM 9-1005-342-10. Clean the DOS and ensure that it is attached to the weapon for shipping. Remove and retain the LFU and ARD. Install the scope covers and ensure they are in closed position.

(4) Package IAW paragraph 1-d.

(5) Place cleaned M110 SASS in approved shipping container along with completed forms and ship to contractor.

b. Field Maintenance: Determine if the M110 SASS requires repair / replacement above Field Maintenance level.

c. Property Book Officer: Prepare FTE and A0E numbers OFFLINE ONLY and submit to TACOM-RI, AMSTA-LC-LSDA.

4. **LONG TERM STORAGE**.

a. Cleaning and drying: Each item is required to be thoroughly cleaned and dried in accordance with MIL-STD-2073-1 prior to proceeding with the specific packaging methods designed for each item.

b. Preservation and Packaging:

(1) The bore of the M110 Sniper Rifle is prepared as follows prior to placing in the carrying case:

(a) A “VCI Bore Tube” (0.19” OD and 19.5” in length) is formed by rolling VCI paper conforming to Class 3, Style A, Specification MIL-PRF-3420, treated side out or CORTEC VpCI-144, CORTEC, St. Paul, Minnesota, Treated Side Out. The rolled tube is secured to maintain shape/OD by a minimum of two pieces of commercially available masking tape (A-A-883).

(b) A commercial grade tag, 4” x 2”, printed with the phrase “REMOVE VCI TUBE BEFORE FIRING”, is hung from a length of string approximately 4.0” in length. The end of the string is secured to the end of the bore tube. Method of securing is at the discretion of the packaging facility.

(c) The VCI tube is inserted into the bore with the tag hanging out the open end. The end is capped or plugged with a commercially available cap/plug of appropriate size. The cap or plug fits snugly but able to be easily grasped and removed without special tools.

5. Following the completion of the above steps, place all components in their respective locations in the carrying case. Close and securely latch the carrying case.

END OF WORK PACKAGE

CHAPTER 3

SUPPORTING INFORMATION

FOR

M110 SEMI-AUTOMATIC SNIPER SYSTEM (SASS), 7.62MM

FIELD MAINTENANCE

M110 SEMI-AUTOMATIC SNIPER SYSTEM (SASS), 7.62MM
(NSN: 1005-01-534-2841 – PN: 13013050)

REFERENCES

SCOPE

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

DEPARTMENT OF THE ARMY PAMPHLETS AND FORMS

DA PAM 25-30	Index of Army Publications and Blank Forms
DA PAM 385-64	Ammunition and Explosive Safety Standards
DA PAM 750-8	The Army Maintenance Management System (TAMMS) Users Manual
DA Form 2028	Recommended Changes to Publications and Blank Forms
DA Form 2404	Equipment Inspection and Maintenance Worksheet
DA Form 2407	Maintenance Request
DA Form 2408-9	Equipment Control Record
DD Form 1750	Packing List
SF 361	Transportation Discrepancy Report
SF 364	Report of Discrepancy (ROD)
SF 368	Product Quality Deficiency Report

FIELD MANUALS

FM 4-25.11	First Aid
FM 23-10	Sniper Training
FM 31-70	Basic Cold Weather Manual
FM 31-71	Northern Operations
FM 90-3	Desert Operations

TECHNICAL MANUALS

TM 9-1005-342-10	Operator’s Manual: M110 Semi-Automatic Sniper System (SASS), 7.62mm
TM 9-1300-206	Ammunition and Explosives Standards

TECHNICAL MANUALS (Cont)

TM 750-244-7 ..... Procedures for Destruction of Equipment in Federal Supply Classifications 1000, 1005, 1010, 1015, 1020, 1025, 1030, 1055, 1090 and 1095 to Prevent Enemy Use

TM 9150-15/1 ..... Military Use of Cleaner, Lubricant, and Preservative (CLP) for Weapons and Support Equipment

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)

DOD 4160.21-M-1 ..... Defense Demilitarization Manual

END OF WORK PACKAGE

FIELD MAINTENANCE

M110 SEMI-AUTOMATIC SNIPER SYSTEM (SASS), 7.62MM
(NSN: 1005-01-534-2841 – PN: 13013050)

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 the two maintenance levels under the Two Level 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:

Field – Includes two subcolumns, Crew maintenance (C), Service maintenance (O), and Field maintenance (F).

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

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 referenced 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. The following are examples of service functions:

a. Unpack. To remove from packing box for service or when required for the performance of maintenance operations.

b. Repack. To return item to packing box after service and other maintenance operations.

c. Clean. To rid the item of contamination.

d. Touch up. To spot paint scratched or blistered surfaces.

e. Mark. To restore obliterated identification.

INTRODUCTION - Continued

MAINTENANCE FUNCTIONS – Continued

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

5. **Align**. To adjust specified variable elements of an item to bring about optimum or desired performance.

6. **Calibrate**. To determine and cause corrections to be made or to be adjusted on instruments of test, measuring, and diagnostic equipment used in precision measurement. Consists of comparisons of two instruments, one of which is a certified standard of known accuracy, to detect and adjust any discrepancy in the accuracy of the instrument being compared.

7. **Remove/Install**. To remove and install the same item when required to perform service or other maintenance functions. Install may be the act of emplacing, seating, or fixing into position a spare, repair part, or module (component or assembly) in a manner to allow the proper functioning of an equipment or system.

8. **Paint (ammunition only).** To prepare and spray color coats of paint so that the ammunition can be identified and protected. The color indicating primary use is applied, preferably, to the entire exterior surface as the background color of the item. Other markings are to be repainted as original so as to retain proper ammunition identification.

9. **Replace**. To remove an unserviceable item and install a serviceable counterpart in its place. “Replace” is authorized by the MAC and assigned maintenance level is shown as the third position code of the Source, Maintenance and Recoverability (SMR) code.

10. **Repair**. The application of maintenance services, including fault location / troubleshooting, removal/ installation, disassembly / assembly procedures, and maintenance actions to identify troubles and restore serviceability to an item by correcting specific damage, fault, malfunction, or failure in a part, sub-assembly, module (component or assembly), end item, or system.

NOTE

The following definitions are applicable to the “repair” maintenance function:
Services. Inspect, test, service, adjust, align, calibrate, and / or replace.

Fault location / troubleshooting. The process of investigating and detecting the cause of equipment malfunctioning; the act of isolating a fault within a system or Unit Under Test (UUT).

Disassembly / assembly. The step-by-step breakdown (taking apart) of a spare / functional group coded item to the level of its least component, that is assigned an SMR code for the level of maintenance under consideration (i.e., identified as maintenance significant).

Actions. Welding, grinding, riveting, straightening, facing, machining, and / or resurfacing.

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

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

Explanation of Columns in the MAC

Column (1) – Group Number. Column (1) lists Functional Group Code (FGC) numbers, the purpose of which is to identify maintenance significant components, assemblies, sub-assemblies, and modules with the Next Higher Assembly (NHA).

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

Column (3) – Maintenance Function. Column (3) lists the functions to be performed on the item listed in column (2). (For a detailed explanation of these functions refer to “Maintenance Functions” outlined above.)

Column (4) – Maintenance Level. Column (4) specifies each level of maintenance authorized to perform each function listed in column (3), by indicating work time required (expressed as 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:

Field:
- C – Operator or Crew maintenance
- O – Unit maintenance
- F - Direct Support maintenance

Sustainment:
- 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 alphabetical order which is keyed to the remarks table entries.

INTRODUCTION - Continued

Explanation of Columns in the Tools and Test Equipment Requirements

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

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

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

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

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

FIELD MAINTENANCE

M110 SEMI-AUTOMATIC SNIPER SYSTEM (SASS), 7.62MM (NSN: 1005-01-534-2841 – PN: 13013050)

MAINTENANCE ALLOCATION CHART (MAC)

Table 1. Maintenance Allocation Chart for M110 Semi-Automatic Sniper System (SASS), 7.62mm

(1)	(2)	(3)	(4) MAINTENANCE LEVEL					(5)	(6)
			FIELD			SUSTAINMENT			
			CREW	SERVICE	FIELD	BELOW DEPOT	DEPOT	TOOLS AND EQUIPMENT REFERENCE CODE	
GROUP NUMBER	COMPONENT/ ASSEMBLY	MAINTENANCE FUNCTION	C	O	F	H	D (CLS)		REMARKS CODE
00	M110 Semi-Automatic Sniper System, (SASS) (PN 13013050)	Inspect	0.2		0.7			2	
		Test			0.2			2,3	
		Service	0.2		0.3				
		Replace			0.1			1, 3	
01	Upper Receiver Assembly (PN 24727)	Inspect	0.1		0.2			1, 3	
		Test			0.2			2	
		Service	0.2		0.2			1	
		Replace	0.1		0.1			1, 3	
		Repair			0.1				
0101	Charging Handle (PN 23262)	Inspect	0.1						
		Service	0.1						
		Replace						1	
		Repair						1	
0102	Bolt Carrier Assembly (PN 92026)	Inspect	0.1		0.1				
		Service	0.1						
		Replace	0.1		0.1				
		Repair			0.2			3	
0103	Bolt (PN 20051)	Inspect	0.1		0.1				
		Service	0.1		0.1				
		Replace	0.1		0.3				
		Repair	0.2		0.1			2	
0104	Front Sight (PN 99051)	Inspect	0.1		0.1			1	
		Service	0.1						
		Replace			0.2			1	
		Repair			0.2			1	
0105	Rear Sight (PN 98474)	Inspect	0.1		0.1			1	
		Service	0.1						
		Replace			0.1			3	
		Repair			0.2			3	
02	Lower Receiver and Adjustable Buttstock Assembly (PN 24726)	Inspect	0.1		0.1				
		Service	0.1		0.1				
		Replace							
		Repair			0.3			1,3	
0201	Buttstock (PN 24122)	Inspect	0.1		0.1			1	
		Service	0.1		0.2			1	
		Replace							
		Repair							

Table 2. Tools and Test Equipment Requirements for M110 Semi-Automatic Sniper System (SASS), 7.62mm

(1) TOOLS OR TEST EQUIPMENT	(2) MAINTENANCE LEVEL	(3) NOMENCLATURE	(4) NATIONAL STOCK NUMBER	(5) TOOL NUMBER
1	F	Firing Pin Protrusion Gage (1S002) P/N 10913	5220-01-503-0006	
2	O/F	Tool Kit, Small Arms Repairman	5180-01-462-4254	SC 5180-95-B71
3	F	Shop Set, Small Arms: Field Maintenance, Basic Less Power	4933-00-754-0664	SC 4933-95-CL-A11

Table 3. Remarks for M110 Semi-Automatic Sniper System (SASS), 7.62mm

(1) REMARKS CODE	(2) REMARKS
	Not Applicable.

END OF WORK PACKAGE

FIELD MAINTENANCE

M110 SEMI-AUTOMATIC SNIPER SYSTEM (SASS), 7.62MM
(NSN: 1005-01-534-2841 – PN: 13013050)

REPAIR PARTS AND SPECIAL TOOLS LIST (RPSTL) INTRODUCTION

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 field maintenance of the M110 Semi-Automatic Sniper System (SASS). 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 this 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 (PN) Index work package. The National Stock Number (NSN) Index work package refers you to the figure and item number. The Part Number (PN) 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:

Table 1. SMR Code Explanation

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

*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 you get an item needed for maintenance, repair, or overhaul of an end item / equipment. Explanations of source codes follows:

Source Code	Application / Explanation
PA	**NOTE** Items coded PC are subject to deterioration.
PB	
PC	
PD	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.
PE	
PF	
PG	
PH	
PR	
PZ	
KD	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.
KF	
KB	

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 requested / requisitioned individually. They must be made from bulk material, which is identified by the part number in the DESCRIPTION AND USABLE ON CODE (UOC) column and listed in the bulk material group work package of the RPSTL. If the item is authorized to you by the 3rd position code of the SMR code, but the source code indicates it is made at a higher level, order the item from the higher level of maintenance.

AO - Assembled by unit/ AVUM level

AF – Assembled by DS/ AVIM level

AH – Assembled by GS level

AL – Assembled by SRA

AD – Assembled by depot

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.

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 part number.

XC - Installation drawings, diagrams, instruction sheets, field service drawings; identified by manufacturer's part number.

XD - Item is not stocked. Order an XD-coded item through normal supply channels using the CAGEC and part number given, if no NSN is available.

NOTE

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

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

Maintenance Code. Maintenance codes tell you the level(s) of maintenance authorized to use and repair support items. The maintenance codes are entered in the third and forth 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
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.
K	- Contractor facility can remove, replace, and use the item.
Z	- Item is not authorized to be removed, replaced, or used at any maintenance level.
D	- Depot can remove, replace, and use the item.

***NOTE**

Army may use C in the third position. However, for joint service publications, Army will use O.

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

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.
K	- Reparable item. Condemnation and disposal to be performed at contractor facility.

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

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

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

NOTE

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

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

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

2. Part numbers of bulk materials are referenced in this column in the line entry to be manufactured or fabricated.

3. Hardness Critical Item (HCI). A support item that provides the equipment with special protection from electromagnetic pulse (EMP) damage during a nuclear attack.

4. The statement “END OF FIGURE” appears just below the last item description in column (6) for a given figure in both the repair parts list and special tools list work packages.

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. NSN's in this index are listed in National Item Identification Number (NIIN) sequence.

STOCK NUMBER Column. This column lists the NSN in NIIN sequence. The NIIN consists of the last nine digits of the NSN. When using this column to locate an item, ignore the first four digits of the NSN. However, the complete NSN should be used when ordering items by stock number.

For example, if the NSN is 5385-01-574-1476, the NIIN is 01-574-1476.

FIG. Column. This column lists the number of the figure where the item is identified / located. The figures are in numerical order in the repair parts list and special tools list work packages.

ITEM Column. The item number identifies the item associated with the figure listed in the adjacent FIG. column. This item is also identified by the NSN listed on the same line.

2. Part Number (PN) Index Work Package. Part numbers in this index are listed in ascending alphanumeric sequence (vertical arrangement of letter and number combinations which places the first letter or digit of each group in order A through Z, followed by numbers 0 through 9 and each following letter or digit in like order).

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

FIG. Column. This column lists the number of the figure where the item is identified / located in the repair parts list and special tools list work packages.

ITEM Column. The item number is the number assigned to the item as it appears in the figure referenced in the adjacent figure number column.

SPECIAL INFORMATION

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. Identification of the UOCs used in the RPSTL are:

Code	Used On
SAS	M110 Semi-Automatic Sniper System (SASS), 7.62mm

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

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

HOW TO LOCATE REPAIR PARTS

1. When NSN's or Part Numbers 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 NSN's and part numbers are on the same line as the associated item numbers.

2. When NSN Is Known.

First. If you have the NSN, look in the STOCK NUMBER column of the NSN Index work package. The NSN is arranged in NIIN sequence. Note the figure and item number next to the NSN.

Second. Turn to the figure and locate the item number. Verify that the item is the one you are looking for.

3. When Part Number Is Known.

First. If you have the part number and not the NSN, look in the PART NUMBER column of the Part Number Index work package. Identify the figure and item number.

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

END OF WORK PACKAGE

FIELD MAINTENANCE

M110 SEMI-AUTOMATIC SNIPER SYSTEM (SASS), 7.62MM
(NSN: 1005-01-534-2841 - PN: 13013050)

REPAIR PARTS LIST FOR M110 SEMI-AUTOMATIC SNIPER SYSTEM (SASS), 7.62MM

REPAIR PARTS LIST FOR M110 SEMI-AUTOMATIC SNIPER SYSTEM (SASS), 7.62MM - Continued

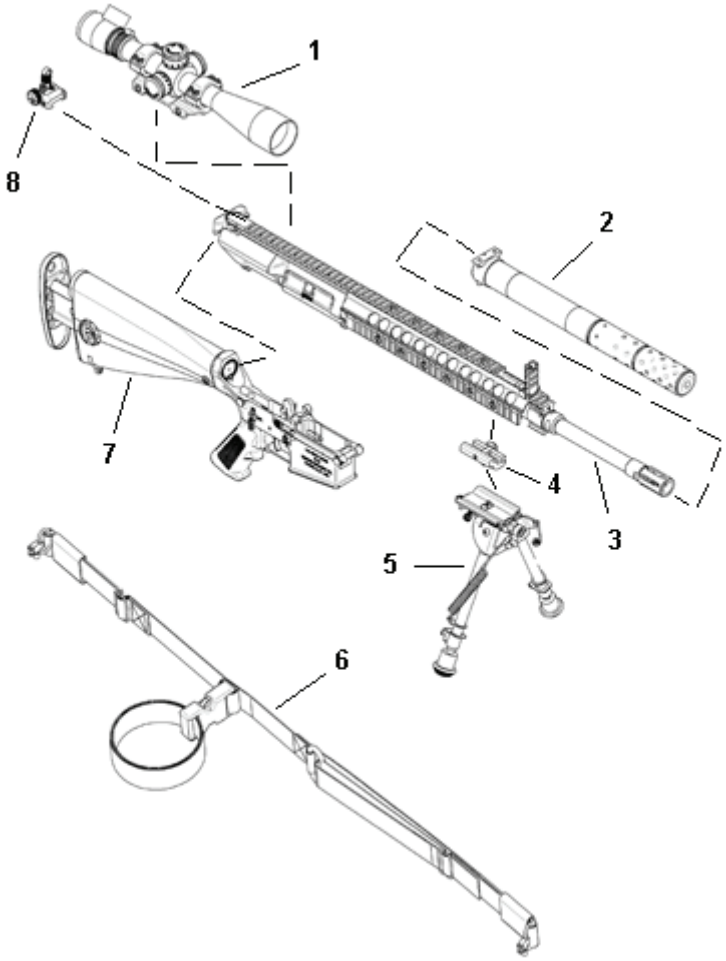


Figure 1. M110 Semi-Automatic Sniper System, (SASS), 7.62mm (Component Assemblies) - PN: 13013050

(1) ITEM NO.	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODE (UOC)	(7) QTY
					GROUP 00	
					FIGURE 1. M110 SEMI-AUTOMATIC SNIPER SYSTEM (SASS), 7.62mm (COMPONENT ASSEMBLIES) – PN: 13013050	
1	AFFFF		19200	13015510	DAY OPTIC SCOPE AND BASE ASSY.....	1
2	PAFKK	1005-01-542-4487	1S002	24611	SOUND SUPPRESSOR	1
3	XAFKK		1S002	24727	UPPER RECEIVER ASSEMBLY SEE FIG. 2 FOR BRKDWN.....	1
4	PAFZZ	1005-01-468-0350	1S002	98060	MOUNTING ADAPTER.....	1
5	PAFZZ	1005-01-260-2665	3A703	96117	BIPOD.....	1
6	PAFZZ	1005-00-714-1245	19204	7141245	SLING	1
7	XAFKK		1S002	24726	LOWER RECEIVER AND ADJUSTABLE BUTTSTOCK ASSEMBLY SEE FIG. 7 FOR BRKDWN.....	1
8	PAFFF	1005-01-499-6868	1S002	98474	BACK UP IRON SIGHT……..	1
					END OF FIGURE	

END OF WORK PACKAGE

FIELD MAINTENANCE

M110 SEMI-AUTOMATIC SNIPER SYSTEM (SASS), 7.62MM
(NSN: 1005-01-534-2841 - PN: 13013050)

REPAIR PARTS LIST FOR
UPPER RECEIVER, BARREL, AND GAS BLOCK ASSEMBLY (NO NSN AVAILABLE - PN: 24727)

REPAIR PARTS LIST FOR UPPER RECEIVER, BARREL AND GAS BLOCK ASSEMBLY - Continued

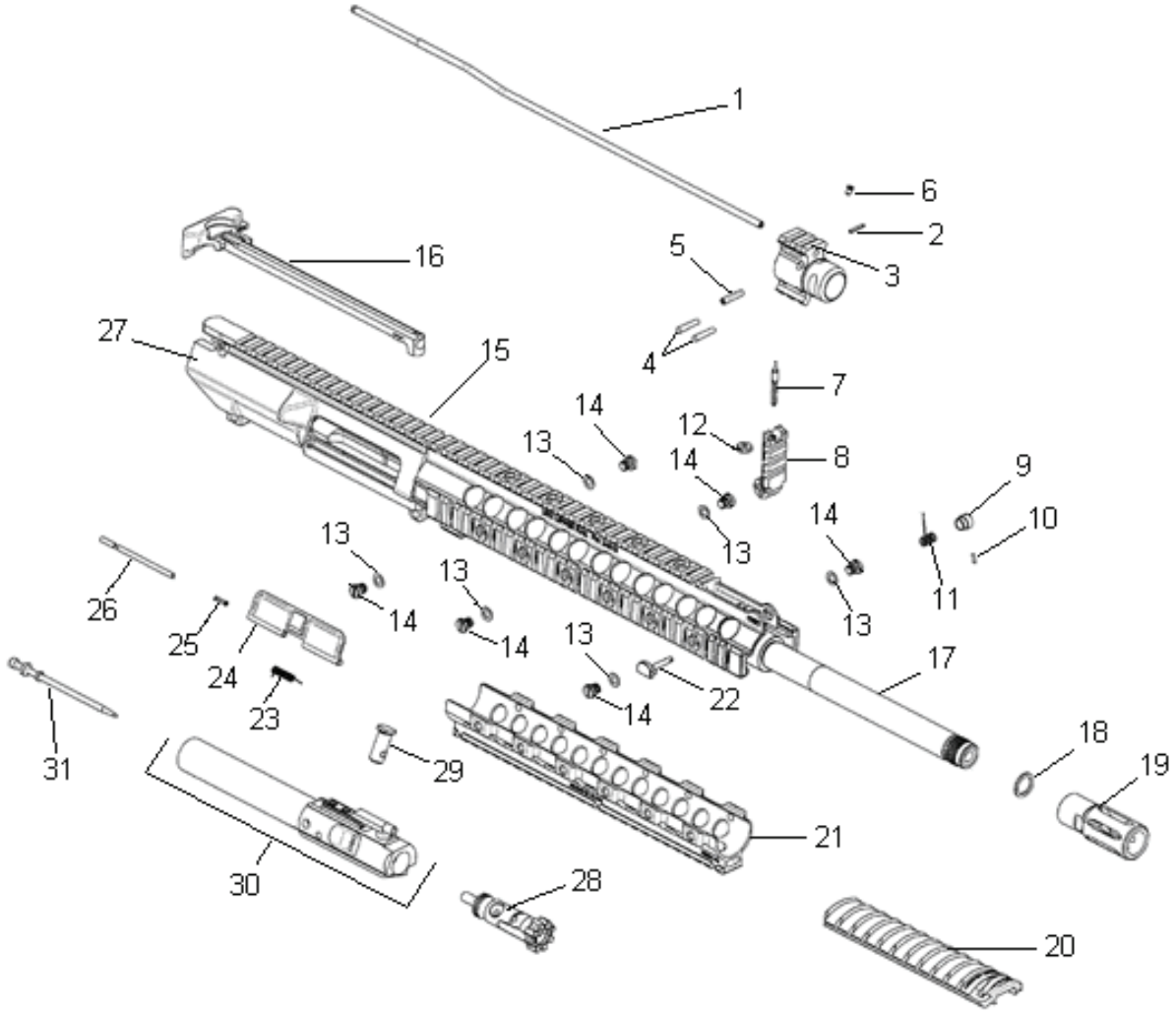


Figure 2. Upper Receiver, Barrel, and Gas Block Assembly – PN: 24727

(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, 0102, 0103, 0104	
					FIGURE 2. UPPER RECEIVER, BARREL, and GAS BLOCK ASSEMBLY- PN: 24727	
1	PAFZZ	4710-00-978-1038	1S002	8448567	GAS TUBE	1
2	PAFZZ	5315-01-502-9990	1S002	94053	PIN, SPRING, SLOTTED	1
3	PAFZZ	1005-01-546-0070	1S002	25190	GAS BLOCK	1
4	PAFZZ	5315-01-503-0002	1S002	21039	PIN, TAPERED	2
5	PAFZZ	5315-01-502-9995	1S002	20173	PIN, SPRING, COILED	1
6	PAFZZ	1005-01-544-0815	1S002	20380	GAS BLOCK PIN, SUPPRESSOR LOCATOR	1
7	PAFZZ	1005-01-541-8973	1S002	20413	SIGHT POST	1
8	PAFZZ	1005-01-541-8971	1S002	24620-Taupe	FRONT SIGHT LEAF	1
9	PAFZZ	1005-01-554-1589	1S002	25368	FRONT SIGHT PUSH BUTTON	1
10	PAFZZ	1005-01-554-0751	1S002	20403	SPRING PIN, SLOTTED	1
11	PAFZZ	5360-01-553-7512	1S002	25369	FRONT SIGHT SPRING	1
12	PAFZZ	5355-01-554-0750	1S002	25347	ELEVATION KNOB	1
13	PAFZZ	1005-01-553-7514	1S002	25120	HAND GUARD SCREW WASHER	6
14	PAFZZ	5305-01-504-4084	1S002	22449	SCREW	6
15	XAKKK		1S002	20414-Taupe	UPPER RAIL	1
16	AFFFF		1S002	25359	CHARGING HANDLE ASSEMBLY SEE FIG. 3 FOR BRKDWN	1
17	XAFKK		1S002	24598	BARREL	1
18	PAFZZ	5365-01-541-8965	1S002	24608	SHIM SET (4 PER SET)	1
19	PAFZZ	1005-01-541-8966	1S002	24596	FLASH SUPPRESSOR	1
20	PAFZZ	1005-01-453-5386	19200	12973132	COVER, RAIL (11 RIB)	*
21	PAFZZ	1005-01-542-1077	1S002	24614-Taupe	LOWER RAIL	1
22	PAFZZ	5306-01-542-8096	1S002	25367	LOCKING BLOCK, FRONT SIGHT	1
23	PAFZZ	5360-00-978-1025	19200	8448532	SPRING, EJECTION PORT COVER	1
24	PAFZZ	1005-01-554-0752	1S002	20401	EJECTION PORT COVER *(CLS) SEE FIG 6 FOR BRKDWN	1
25	PAFZZ	5360-01-553-7516	1S002	20397	SPRING	1
26	PAFZZ	5315-01-554-1583	1S002	20398	PIN, COVER	1
27	XAFKK		1S002	92208-50	UPPER RECEIVER	1
28	XAFKK		1S002	20051	BOLT ASSEMBLY	1
29	PAFZZ	1005-01-505-0304	1S002	91428	PIN, CAM	1
30	PAFFF	5306-01-542-8095	1S002	92026	BOLT CARRIER ASSEMBLY SEE FIG. 4 FOR BRKDWN	1
31	PAFZZ	1005-01-502-9999	1S002	99077	PIN, FIRING	1

END OF FIGURE

***** - As Required
* - Contractor Logistic Support
END OF WORK PACKAGE

FIELD MAINTENANCE

M110 SEMI-AUTOMATIC SNIPER SYSTEM (SASS), 7.62MM
(NSN: 1005-01-534-2841 - PN: 13013050)

REPAIR PARTS LIST FOR
CHARGING HANDLE ASSEMBLY (NO NSN AVAILABLE - PN: 25359)

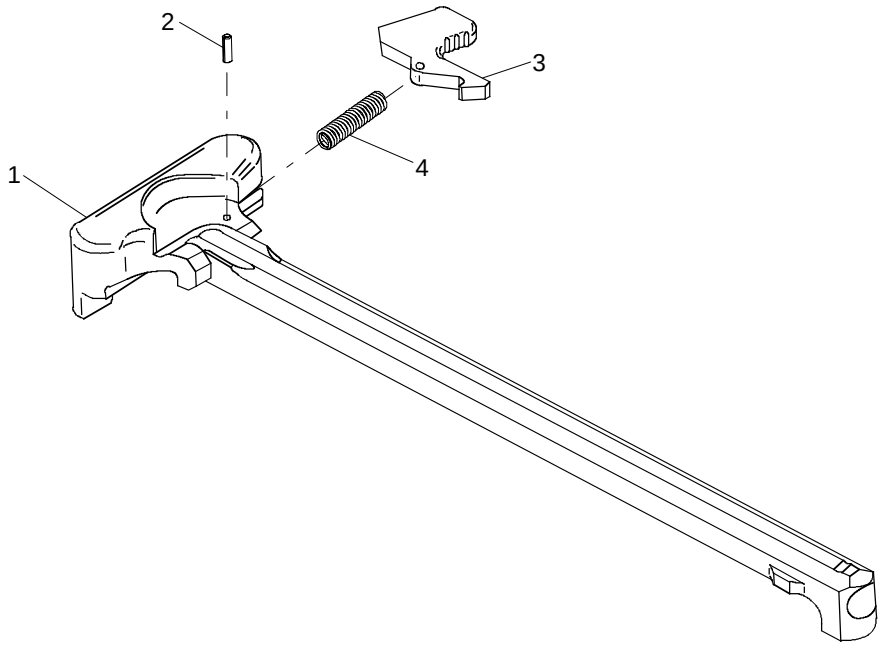


Figure 3. Charging Handle Assembly – PN: 25359

(1) ITEM NO.	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODE (UOC)	(7) QTY
					GROUP 0101	
					FIGURE 3. CHARGING HANDLE ASSEMBLY – PN: 25359	
1.	PAFZZ	1005-01-544-1697	1S002	25357	HANDLE	1
2.	PAFZZ	5315-01-048-9372	19204	8448521-2	PIN, HANDLE, CHARGING	1
3.	PAFZZ	5342-00-999-0405	19200	8448519	LATCH, HANDLE, CHARGING	1
4.	PAFZZ	5360-00-999-0404	19204	8448520	SPRING	1

END OF FIGURE

END OF WORK PACKAGE

FIELD MAINTENANCE

M110 SEMI-AUTOMATIC SNIPER SYSTEM (SASS), 7.62MM
(NSN: 1005-01-534-2841 - PN: 13013050)

REPAIR PARTS LIST FOR
BOLT CARRIER ASSEMBLY (NSN: 5306-01-542-8095 - PN: 92026)

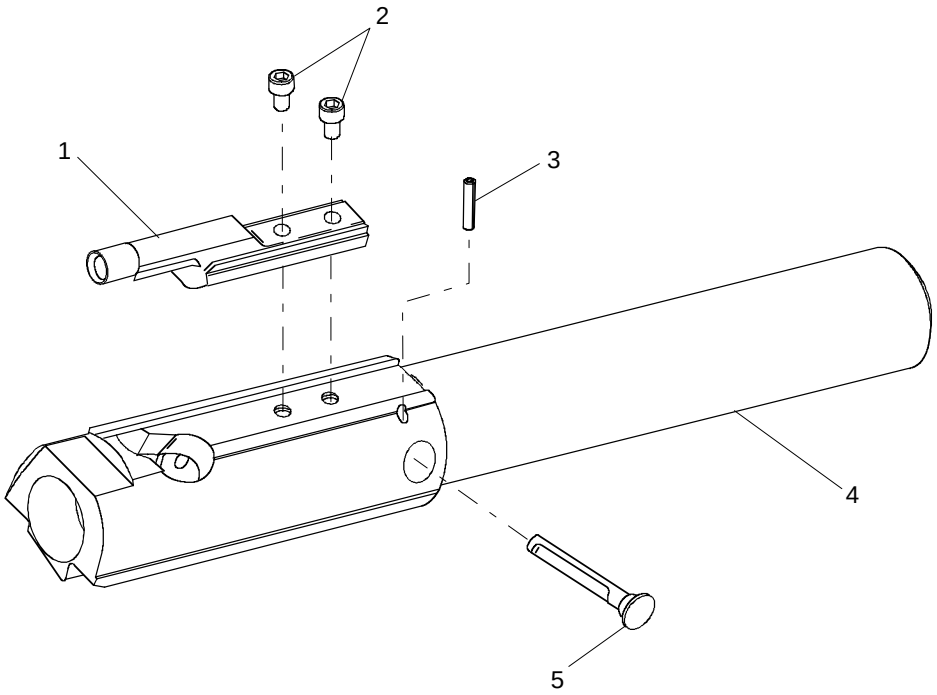


Figure 4. Bolt Carrier Assembly – PN: 92026

(1) ITEM NO.	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODE (UOC)	(7) QTY
					GROUP 0102	
					FIGURE 4. BOLT CARRIER ASSEMBLY – PN: 92026	
1	PAFZZ	1005-00-992-7283	19200	8448506	CARRIER KEY	1
2	PAFZZ	5305-00-992-7284	19204	8448508	SCREW, BOLT CARRIER KEY	2
3	PAFZZ	5315-01-502-9987	1S002	94067	RETAINER, ROLL PIN	1
4	XAFZZ		1S002	91482	BOLT CARRIER ASSY	1
5	PAFZZ	1385-01-504-8374	1S002	91429	RETAINER, FIRING PIN	1

END OF FIGURE

END OF WORK PACKAGE

FIELD MAINTENANCE

M110 SEMI-AUTOMATIC SNIPER SYSTEM (SASS), 7.62MM
(NSN: 1005-01-534-2841 - PN: 13013050)

REPAIR PARTS LIST FOR
FRONT SIGHT

REPAIR PARTS LIST FOR FRONT SIGHT – Continued

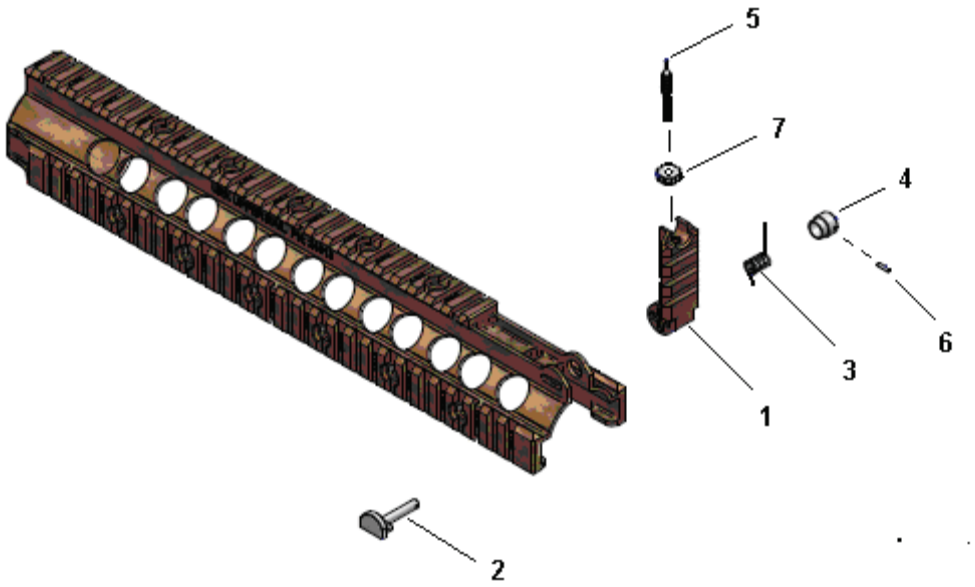


Figure 5. Front Sight – PN: 20414

(1) ITEM NO.	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODE (UOC)	(7) QTY
					GROUP 02	
					FIGURE 5. Front Sight, PN 20414	
1	PAFZZ	1005-01-541-8971	1S002	24620-Taupe	FRONT SIGHT LEAF	1
2	PAFZZ	5306-01-542-8096	1S002	25367	LOCKING BLOCK, FRONT SIGHT	1
3	PAFZZ	5360-01-553-7512	1S002	25369	FRONT SIGHT SPRING	1
4	PAFZZ	1005-01-554-1589	1S002	25368	FRONT SIGHT PUSH BUTTON	1
5	PAFZZ	1005-01-541-8973	1S002	20413	SIGHT POST	1
6	PAFZZ	1005-01-554-0751	1S002	20403	SPRING PIN, SLOTTED	1
7	PAFZZ	5355-01-554-0750	1S002	25347	ELEVATION KNOB	1
					END OF FIGURE	

END OF WORK PACKAGE

FIELD MAINTENANCE

M110 SEMI-AUTOMATIC SNIPER SYSTEM (SASS), 7.62MM
(NSN: 1005-01-534-2841 - PN: 13013050)

REPAIR PARTS LIST FOR
EJECTION PORT COVER ASSEMBLY (NSN: 1005-01-554-0752 - PN: 20401

REPAIR PARTS LIST FOR EJECTION PORT COVER ASSEMBLY – Continued

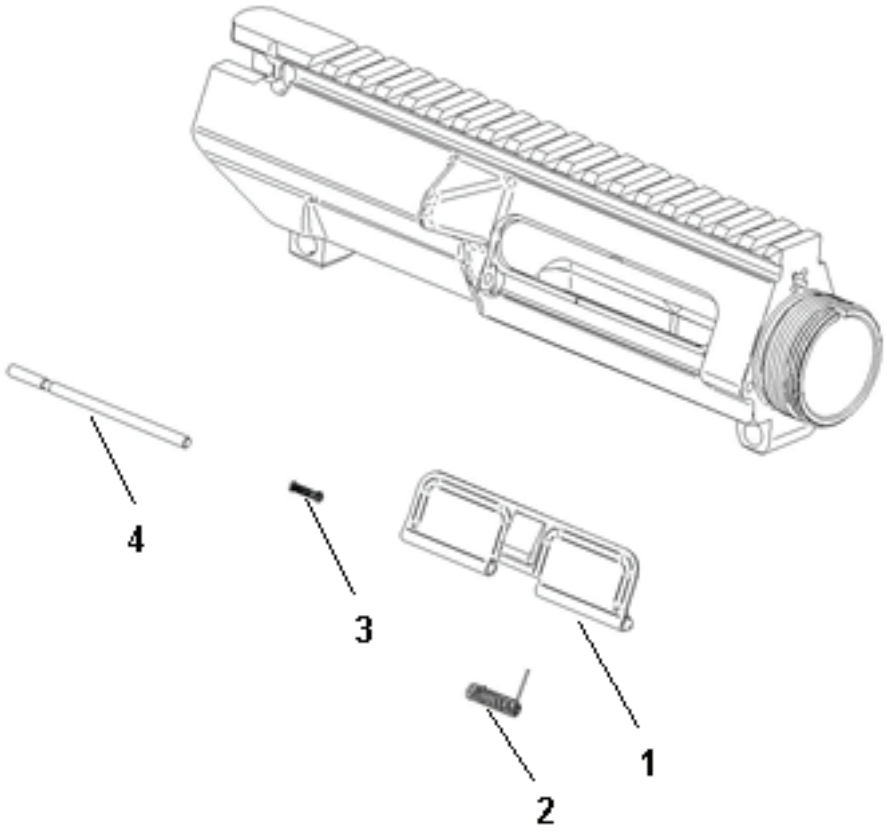


Figure 6. Ejection Port Cover Assembly– PN: 20401

(1) ITEM NO.	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODE (UOC)	(7) QTY
					GROUP 03	
					FIGURE 6. Ejection Port Cover Assembly, PN 20401	
1	PAFZZ	1005-01-554-0752	1S002	20401	COVER, EJECTION PORT ASSEMBLY..	1
2	PAFZZ	5360-00-978-1025	19200	8448532	SPRING, EJECTION PORT COVER……	1
3	PAFZZ	5360-01-553-7516	1S002	20397	SPRING……..	1
4	PAFZZ	5315-01-554-1583	1S002	20398	PIN, COVER ……..	1

END OF FIGURE

END OF WORK PACKAGE

FIELD MAINTENANCE

M110 SEMI-AUTOMATIC SNIPER SYSTEM (SASS), 7.62MM
(NSN: 1005-01-534-2841 - PN: 13013050)

REPAIR PARTS LIST FOR
LOWER RECEIVER AND ADJUSTABLE BUTTSTOCK ASSEMBLY (NO NSN AVAILABLE – PN: 24726)

REPAIR PARTS LIST FOR LOWER RECEIVER AND ADJUSTABLE BUTTSTOCK ASSEMBLY – Continued

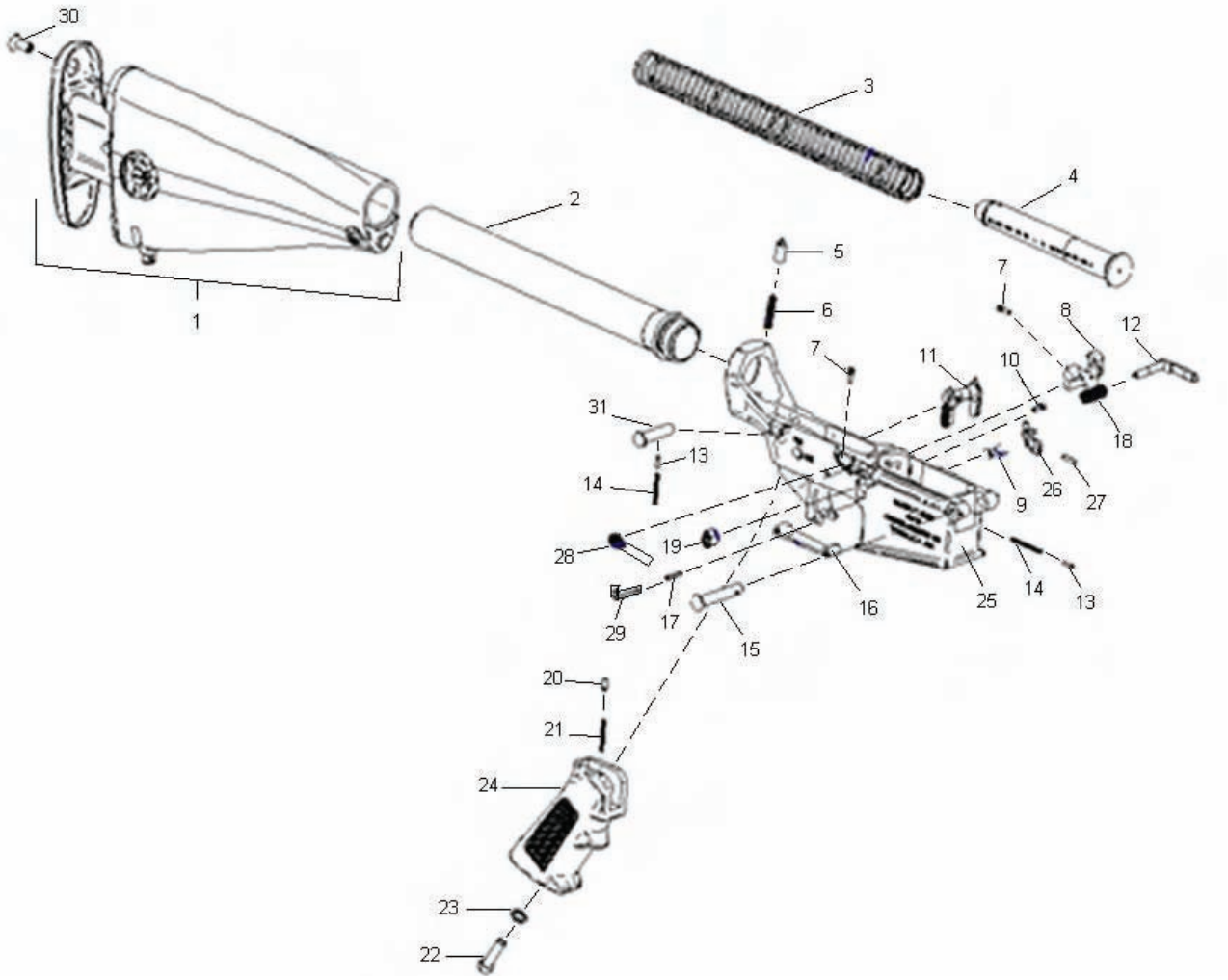


Figure 7. Lower Receiver and Adjustable Buttstock Assembly – PN: 24726

(1) ITEM NO.	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODE (UOC)	(7) QTY
					GROUP 02	
					FIGURE 7. LOWER RECEIVER AND ADJUSTABLE BUTTSTOCK ASSEMBLY PN: 24726	
1	AFFFF		1S002	24122	BUTTSTOCK ASSEMBLY SEE FIG. 8 FOR BRKDWN	1
2	PAFZZ	5340-00-992-7297	19200	8448581	BUFFER TUBE	1
3	PAFZZ	5360-01-502-9982	1S002	91459	ACTION SPRING.....	1
4	PAFZZ	1005-01-502-9997	1S002	99133	BUFFER ASSEMBLY	1
5	PAFZZ	5360-00-992-6652	19204	8448583	DETENT, BUFFER	1
6	PAFZZ	5315-00-992-6651	19204	8448582	SPRING, BUFFER DETENT.....	1
7	PAFZZ	5315-01-502-9998	1S002	94004	SETSCREW.....	2
8	PAFZZ	1005-01-502-9986	1S002	95209	CATCH, BOLT	1
9	PAFZZ	1005-01-555-7276	19204	20448	PLUNGER HEAD, AMBO CATCH, BOLT .	1
10	PAFZZ	5360-00-056-2246	19204	8448633	SPRING, CATCH, BOLT	1
11	XAFFF	1005-01-542-8093	1S002	20385	SELECTOR LEVER, ASSY SEE FIG 11 FOR BRKDWN	1
12	PAFZZ	1005-00-056-2201	19204	94015	CATCH, MAGAZINE.....	1
13	PAFZZ	5315-00-992-6654	19204	8448585	DETENT, PIN, PIVOT/TAKEDOWN	2
14	PAFZZ	5360-00-992-6655	19204	8448586	SPRING, PIVOT/TAKEDOWN.....	2
15	PAFZZ	5415-01-541-8976	1S002	91414	PIN, PIVOT	1
16	PAFZZ	1005-00-992-7299	19204	8448587	TRIGGER GUARD ASSEMBLY	1
17	PAFZZ	5315-00-058-6081	96906	MS16562-129	PIN, TRIGGER GUARD.....	1
18	PAFZZ	5360-00-992-7301	19204	8448637	SPRING, CATCH, MAGAZINE	1
19	PAFZZ	1005-00-992-7302	19204	8448636	BUTTON, CATCH, MAGAZINE	1
20	PAFZZ	1005-00-992-6667	19204	8448631	DETENT, SAFETY.....	1
21	PAFZZ	5360-00-992-7292	19204	8448516	SPRING, DETENT, SAFETY	1
22	PAFZZ	5305-01-268-1191	88044	AN501DD416-18	SCREW, GRIP, PISTOL	1
23	PAFZZ	5310-00-527-3634	96906	MS35335-61	WASHER, PISTOL GRIP.....	1
24	PAFZZ	1005-01-148-4805	19200	9349127	GRIP, RIFLE, ASSEMBLY.....	1
25	XAFKK		1S002	92208-51	RECEIVER, LOWER	1
26	PAFZZ	1005-01-555-6131	1S002	25272	AMBO MAGAZINE RELEASE LEVER…..	1
27	PAFZZ	5315-01-502-9987	1S002	94067	PIN, SPRING SLOTTED……	1
28	PAFZZ	1005-01-555-7277	1S002	20451	DOUBLE LAND LEVER……..	1
29	PAFZZ	1005-01-555-7280	1S002	20449	PLUNGER, AMBO BOLT CATCH…….	1
30	PAFZZ	5305-01-142-8585	19200	9349128	SCREW, BUTTSTOCK.…….	1
31	PAFZZ	1005-01-543-3435	1S002	91413	PIN, TAKEDOWN……	1
					END OF FIGURE	

END OF WORK PACKAGE **0028 00-3/4 blank**

FIELD MAINTENANCE

M110 SEMI-AUTOMATIC SNIPER SYSTEM (SASS), 7.62MM
(NSN: 1005-01-534-2841 - PN: 13013050)

REPAIR PARTS LIST FOR
BUTTSTOCK ASSEMBLY (NO NSN AVAILABLE - PN: 24122)

REPAIR PARTS LIST FOR BUTTSTOCK ASSEMBLY - Continued

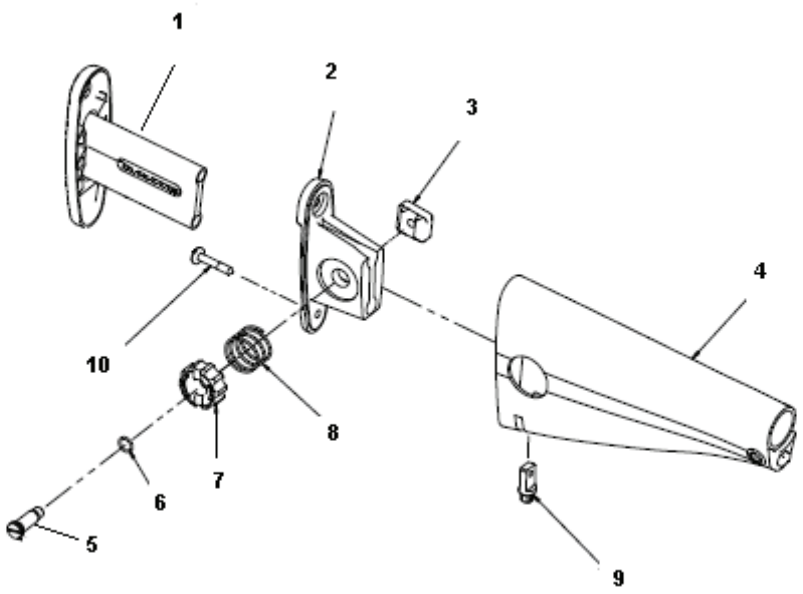


Figure 8. Buttstock Assembly – PN: 24122

(1) ITEM NO.	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODE (UOC)	(7) QTY
					GROUP 0202	
					FIGURE 8. BUTTSTOCK ASSEMBLY, PN: 24122	
1	PAFZZ	1005-01-541-8974	1S002	24766	BUTTPLATE SUPPORT MEMBER WELD	1
2	PAFZZ	1005-01-541-8979	1S002	24765	INSERT, BUTTSTOCK	1
3	PAFZZ	5310-01-546-0566	1S002	24769	LOCK, BUTTSTOCK RATCHET	1
4	PAFZZ	5310-01-541-8975	1S002	25211	BUTTSTOCK SHELL	1
5	PAFZZ	5310-01-541-8970	1S002	25372	SCREW, BUTTSTOCK KNOB	1
6	PAFZZ	1005-01-542-8091	1S002	25371	O RING, BUTTSTOCK	1
7	PAFZZ	5355-01-553-7513	1S002	25340	KNOB	1
8	PAFZZ	5310-01-542-5223	1S002	25375	SPRING, BUTTSTOCK	1
9	PAFZZ	5325-01-541-8980	1S002	24774	STUD, SWIVEL	1
10	PAFZZ	5305-01-144-1494	19200	9349120	SCREW, MACHINE	1

END OF FIGURE

END OF WORK PACKAGE

FIELD MAINTENANCE
M110 SEMI-AUTOMATIC SNIPER SYSTEM (SASS), 7.62MM (NSN: 1005-01-534-2841 - PN: 13013050)
REPAIR PARTS LIST FOR DAY OPTIC SCOPE (NSN: 1005-01-544-6092 - PN: 20305)

REPAIR PARTS LIST FOR DAY OPTIC SCOPE - Continued

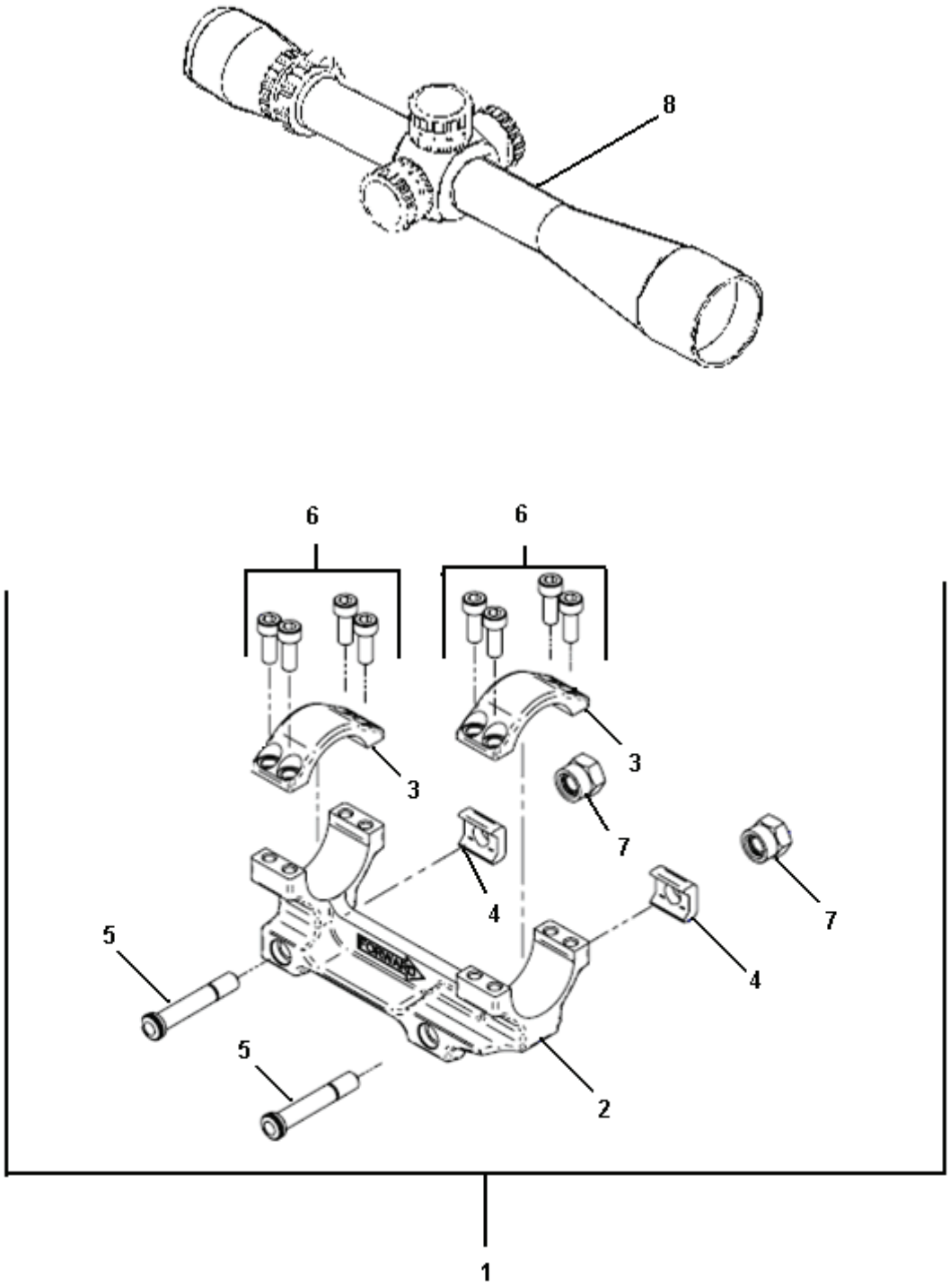


Figure 9. Day Optic Scope - PN: 20305

(1) ITEM NO.	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODE (UOC)	(7) QTY
					GROUP 03	
					FIGURE 9. DAY OPTIC SCOPE, PN: 20305	
1	PAFZZ	1240-01-542-5215	1S002	24755	ONE PIECE SCOPE MOUNT ASSY.....	1
2	XAFZZ		1S002	24609	ONE PIECE SCOPE BASE.....	1
3	PAFZZ	1005-01-542-8094	1S002	24612	CAP, SCOPE MOUNT.....	2
4	PAFZZ	1005-01-543-2184	1S002	94293	CLAMP, STANDARD.....	2
5	PAFZZ	5305-01-543-2917	1S002	93019	MOUNT, BOLT.....	2
6	PAFZZ	5305-01-542-7172	1S002	24729	CAPS, SCREW.....	8
7	PAFZZ	5310-01-541-8969	1S002	94112	NUT, SCOPE, MOUNT.....	2
8	PAFZZ	1005-01-544-6092	1S002	20305	SCOPE ASSY.....	1

END OF FIGURE

END OF WORK PACKAGE

FIELD MAINTENANCE
M110 SEMI-AUTOMATIC SNIPER SYSTEM (SASS), 7.62MM (NSN: 1005-01-534-2841 - PN: 13013050)
REPAIR PARTS LIST FOR REAR SIGHT ASSEMBLY (NSN: 1005-01-499-6868 - PN: 98474)

REPAIR PARTS LIST FOR REAR SIGHT ASSEMBLY - Continued

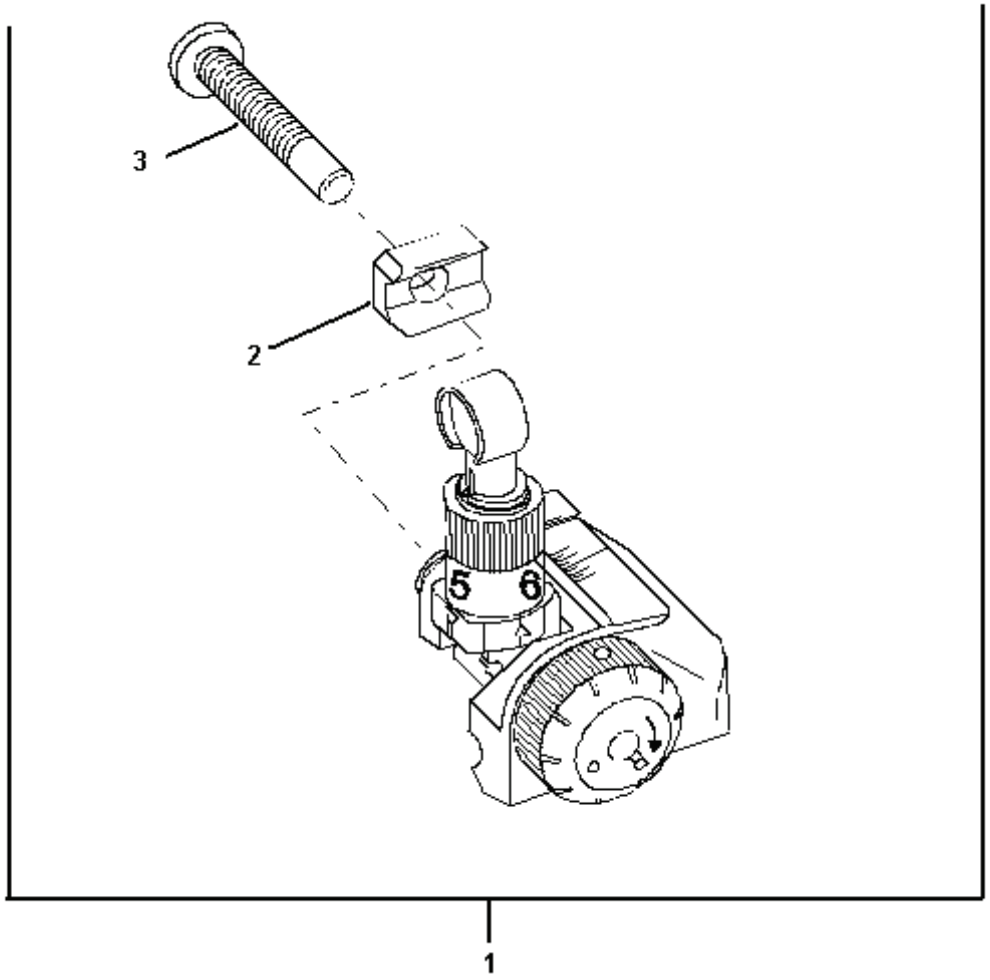


Figure 10. Rear Sight Assembly - PN: 98474

(1) ITEM NO.	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODE (UOC)	(7) QTY
					GROUP 04	
					FIGURE 10. REAR SIGHT ASSEMBLY, PN: 98474	
1	PAFZZ	1005-01-499-6868	1S002	98474	600 METER FOLDING REAR SIGHT ASSY……..	1
2	PAFZZ	1005-01-543-2184	1S002	94293	CLAMP, STANDARD……..	1
3	PAFZZ	5305-01-533-9412	1S002	22030	SCREW, MACHINE……..	1
					END OF FIGURE	

END OF WORK PACKAGE

FIELD MAINTENANCE

M110 SEMI-AUTOMATIC SNIPER SYSTEM (SASS), 7.62MM
(NSN: 1005-01-534-2841 - PN: 13013050)

REPAIR PARTS LIST FOR
AMBIDEXTROUS SAFETY ASSEMBLY
(NO NSN AVAILABLE – PN: 20385)

REPAIR PARTS LIST FOR AMBIDEXTROUS SAFETY ASSEMBLY – Continued

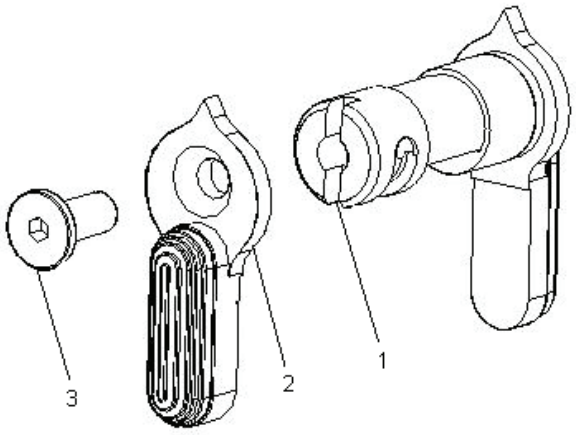


Figure 11. Ambidextrous Safety Assembly – PN: 20385

(1) ITEM NO.	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODE (UOC)	(7) QTY
					GROUP 05	
					FIGURE 11. AMBIDEXTROUS SAFETY ASSEMBLY, PN: 20385	
1	PAFZZ	1005-01-542-8093	1S002	20386	SAFETY SELECTOR……..	1
2	PAFZZ	1005-01-542-8089	1S002	20066	SAFETY SELECTOR, RIGHT SIDE.....	1
3	PAFZZ	5305-01-541-8978	1S002	20118	SCREW, SAFETY	1

END OF FIGURE

END OF WORK PACKAGE

FIELD MAINTENANCE

M110 SEMI-AUTOMATIC SNIPER SYSTEM (SASS), 7.62MM
(NSN: 1005-01-534-2841 - PN: 13013050)

NATIONAL STOCK NUMBER INDEX

STOCK NUMBER	FIGURE	ITEM
1005-00-056-2201	7	12
5360-00-056-2246	7	10
5315-00-058-6081	7	17
5310-00-527-3634	7	23
1005-00-714-1245	1	6
5360-00-978-1025	2 & 6	23 & 2
4710-00-978-1038	2	1
5315-00-992-6651	7	6
5360-00-992-6652	7	5
5315-00-992-6654	7	13
5360-00-992-6655	7	14
1005-00-992-6667	7	20
1005-00-992-7283	4	1
5305-00-992-7284	4	2
5360-00-992-7292	7	21
5340-00-992-7297	7	2
1005-00-992-7299	7	16
5360-00-992-7301	7	18
1005-00-992-7302	7	19
5360-00-999-0404	3	4
5342-00-999-0405	3	3
5315-01-048-9372	3	2
5305-01-142-8585	7	30
5305-01-144-1494	8	10
1005-01-148-4805	7	24
1005-01-260-2665	1	5
5305-01-268-1191	7	22
1005-01-453-5386	2	20
1005-01-468-0350	1	4
1005-01-499-6868	1 & 10	8 & 1
5360-01-502-9982	7	3
1005-01-502-9986	7	8
5315-01-502-9987	4 & 7	3 & 27
5315-01-502-9990	2	2
5315-01-502-9995	2	5
1005-01-502-9997	7	4
5315-01-502-9998	7	7
1005-01-502-9999	2	31
5315-01-503-0002	2	4
5305-01-504-4084	2	14
1385-01-504-8374	4	5
1005-01-505-0304	2	29
5305-01-533-9412	10	3

STOCK NUMBER	FIGURE	ITEM
5365-01-541-8965	2	18
1005-01-541-8966	2	19
5310-01-541-8969	9	7
1005-01-541-8971	2 & 5	8 & 1
1005-01-541-8973	2 & 5	7 & 5
1005-01-541-8974	8	1
5310-01-541-8975	8	4
5415-01-541-8976	7	15
5305-01-541-8978	11	3
1005-01-541-8979	8	2
5325-01-541-8980	8	9
1005-01-542-1077	2	21
1005-01-542-4487	1	2
1240-01-542-5215	9	1
5310-01-542-5223	8	8
5305-01-542-7172	9	6
1005-01-542-8089	11	2
1005-01-542-8091	8	6
1005-01-542-8093	11	1
1005-01-542-8094	9	3
5306-01-542-8095	2	30
5306-01-542-8096	2 & 5	22 & 2
1005-01-543-2184	9 & 10	4 & 2
5305-01-543-2917	9	5
1005-01-543-3435	7	31
1005-01-544-0815	2	6
1005-01-544-1697	3	1
1005-01-544-6092	9	8
1005-01-546-0070	2	3
5310-01-546-0566	8	3
5360-01-553-7512	2 & 5	11 & 3
5355-01-553-7513	8	7
1005-01-553-7514	2	13
5360-01-553-7516	2 & 6	25 & 3
5355-01-554-0750	2 & 5	12 & 7
1005-01-554-0751	2 & 5	10 & 6
1005-01-554-0752	2 & 6	24 & 1
5315-01-554-1583	2 & 6	26 & 4
1005-01-554-1589	2 & 5	9 & 4
1005-01-555-6131	7	26
1005-01-555-7276	7	9
1005-01-555-7277	7	28
1005-01-555-7280	7	29

END OF WORK PACKAGE

FIELD MAINTENANCE
M110 SEMI-AUTOMATIC SNIPER SYSTEM (SASS), 7.62MM
(NSN: 1005-01-534-2841 - PN: 13013050)
PART NUMBER INDEX

PART NUMBER	FIGURE	ITEM
20051	2	28
20066	11	2
20118	11	3
20173	2	5
20305	9	8
20380	2	6
20385	7	11
20386	11	1
20397	2 & 6	25 & 3
20398	2 & 6	26 & 4
20401	6 & 2	1 & 24
20403	2 & 5	10 & 6
20413	2 & 5	7 & 5
20414-Taupe	2	15
20448	7	9
20451	7	28
20449	7	29
21039	2	4
22030	10	3
22449	2	14
24596	2	19
24598	2	17
24608	2	18
24609	9	2
24611	1	2
24612	9	3
24614-Taupe	2	21
24620-Taupe	2 & 5	8 & 1
24726	1	7
24727	1	3
24729	9	6
24755	9	1
24765	8	2
24766	8	1
24769	8	3
24774	8	9
25120	2	13
25190	2	3
25211	8	4
25272	7	26
25340	8	7
25347	2 & 5	12 &7
25357	3	1
25359	2	16
25367	2 & 5	22 & 2
25368	2 & 5	9 & 4
25369	2 & 5	11 & 3
25371	8	6
25372	8	5

PART NUMBER	FIGURE	ITEM
25375	8	8
91413	7	31
91414	7	15
91428	2	29
91429	4	5
91459	7	3
91482	4	4
92026	2	30
92208-50	2	27
92208-51	7	25
93019	9	5
9349120	8	10
9349127	7	24
9349128	7	30
94004	7	7
94015	7	12
94053	2	2
94067	4 & 7	3 & 27
94112	9	7
94293	9 & 10	4 & 2
95209	7	8
96117	1	5
98060	1	4
98474	1 &10	8 & 1
99077	2	31
99133	7	4
7141245	1	6
8448506	4	1
8448508	4	2
8448516	7	21
8448519	3	3
8448520	3	4
8448521-2	3	2
8448532	6	2
8448567	2	1
8448581	7	2
8448582	7	6
8448583	7	5
8448585	7	13
8448586	7	14
8448587	7	16
8448631	7	20
8448633	7	10
8448636	7	19
8448637	7	18
12973132	2	20
13015510	1	1
AN501DD416-18	7	22
MS16562-129	7	17
MS35335-61	7	23

END OF WORK PACKAGE

FIELD MAINTENANCE
M110 SEMI-AUTOMATIC SNIPER SYSTEM (SASS), 7.62MM
(NSN: 1005-01-534-2841 - PN: 13013050)
EXPENDABLE AND DURABLE ITEMS LIST

INTRODUCTION

Scope

This work package lists expendable and durable items that you will need to operate and maintain the M110 Sniper System. This list is for information only and is not authority to requisition the listed items. These items are authorized to you by CTA 50-970, Expendable / Durable Items (Except Medical, Class V Repair Parts, and Heraldic Items), CTA 50-909, Field and Garrison Furnishings and Equipment or CTA 8-100, Army Medical Department Expendable / Durable Items.

Explanation of Columns in the Expendable / Durable Items List

Column (1) – Item Number. This number is assigned to the entry in the list and is referenced in the narrative instructions to identify the item (e.g., “Use wiping rag (item 16, WP 0034 00)”).

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

Field:
C – Operator / Crew
O – Service Maintenance
F – Field Maintenance

Sustainment:
H – Below Depot
D – Depot

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

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

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

EXPENDABLE AND DURABLE ITEMS LIST - Continued

Table 1. Expendable / Durable Items List for M110 Semi-Automatic Sniper System SASS), 7.62mm

(1) ITEM NUMBER	(2) LEVEL	(3) NATIONAL STOCK NUMBER	(4) ITEM NAME, DESCRIPTION, PART NUMBER / (CAGEC)	(5) U / I
1.	C	6810-00-983-8551	Alcohol, Isopropyl (Cleaning Fluid) (81348) PN: TT-1-735 1 qt can	 QT
2.	C	6515-01-234-6838	Applicator (Q-Tips) (5L934) PN: 362 100 per pack	 EA
3.	C	6135-01-398-5922	Battery (90303) PN: DL 1/3 N	 EA
4.	C	8125-00-824-9058	Bottle, Plastic (f / Isopropyl Alcohol) (58536) PN: A-A-685 1 oz. bottle	 EA
5.	C	8020-00-224-8010	Brush, Artist (Cleaning) (58536) PN: A-A-391	 EA
6.	C	1005-00-556-4174	Brush, Bore (19204) PN: 5564174	 EA
7.	C	1005-00-690-8441	Brush, Chamber (19204) PN: 7790463	 EA
8.	C	1005-00-494-6602	Brush, Cleaning Small Arms (19204) PN: 8448462	 EA
9.	C	9150-01-102-1473	Cleaner, Lubricant & Preservative (CLP) (81349) PN: MIL-PRF-63460 1/2 oz. bottle	 BT
10.	C	 6850-00-224-6656 6850-00-224-6657	Rifle Bore Cleaning Compound, (RBC) (81349) PN: MIL-PRF-372 2 oz. can 6 oz. can	 EA EA
11.	C	9920-00-292-9946	Cleaner, Tobacco Pipe: Cotton Tuft, Wire Core (89855) PN: 840509 32 per pack	 BX
12.	C	9150-00-292-9689	Lubricating Oil, Weapons (LAW) (81349) PN: MIL-PRF-14107 1 qt. can	 QT
13.	C	9150-00-935-6597 9150-00-889-3522	Lubricating Oil, Weapons (LSA) Semi-Fluid (81349) PN: MIL-L-46000 2 oz. bottle (19204) PN: 8436793 4 oz. bottle	 BT BT

(1) ITEM NUMBER	(2) LEVEL	(3) NATIONAL STOCK NUMBER	(4) ITEM NAME, DESCRIPTION, PART NUMBER / (CAGEC)	(5) U / I
14.	C	9150-01-260-2534	Lubricant, Solid Film (SFL) (34227) MIL-L-23398 16 oz can	CN
15.	C	6640-00-663-0832	Paper, Lens (Cleaning Tissues) (25518) PN: 65-4900 50 sheet pack	BK
16.	C	7920-00-205-1711	Rag, Wiping (58536) PN: A-A-531 50 bdl.	BE
17.	C	1005-00-288-3565	Swab, Small Arms Cleaning (19204) PN: 5019316 200 per bdl.	PG
18.	C	6850-01-399-3022	Anti-Fogging Compound (9T321) PN: EXS-002	PT
19.	C	6640-01-104-3368	Bottle, Plastic (80063) SM-C-804739	EA
20.	C	6650-01-495-1058	Lens Cleaner, Pen (OSPF5) PN: LP-99	EA
21.	C	8030-00-526-1454	Filler, Engraving, TY1 (81348), TT-F-325	BT

END OF WORK PACKAGE

FIELD MAINTENANCE

M110 SEMI-AUTOMATIC SNIPER SYSTEM (SASS), 7.62MM
(NSN: 1005-01-534-2841 - PN: 13013050)

ILLUSTRATED LIST OF MANUFACTURED ITEMS

INTRODUCTION

This work package includes complete instructions for making items authorized to be manufactured or fabricated at field level maintenance.

A part number index is not applicable.

All bulk materials needed for manufacture of an item are listed by NSN or specification number in a list on the illustration.

INDEX

Figure 1. Cleaning Rod Section (Plunger Head Removal Tool)

1. To fabricate the cleaning rod section, use a section of 5.56mm cleaning rod or 7.62mm cleaning rod.

2. Using a triangular, file a “V” slot in the threaded end of the section of the cleaning rod. See photographs below.

END OF WORK PACKAGE

FIELD MAINTENANCE

M110 SEMI-AUTOMATIC SNIPER SYSTEM (SASS), 7.62MM
(NSN: 1005-01-534-2841 - PN: 13013050)

MANDATORY REPLACEMENT PARTS

The following parts shall be replaced with new parts whenever they are removed from their assembly.

Table 1. Mandatory Replacement Parts List For M110 Semi-Automatic Sniper System (SASS), 7.62mm

ITEM	NATIONAL STOCK NUMBER	PART NUMBER
Pin, Spring Slotted	5315-01-502-9990	94053
Pin, Charging Handle	5315-01-048-9372	8448521-2
Pin, Spring, Coiled	5315-01-502-9995	20173
Pin, Spring, Ejector	5315-01-502-9994	99080
Screw, Bolt Carrier Key	5305-00-992-7284	8448508
Retainer, Roll Pin	5315-01-502-9987	94067
Bolt Rings	1005-01-504-8377	21002
Shim (issued as a set)	5365-01-541-8965	24608
Screw, Buttstock	5305-01-147-8585	9349128
Pin, Spring (Trigger Guard)	5315-00-058-6081	MS16562-129
Detent, Safety	1005-00-992-6667	8448631
Detent, Pin, Pivot	5315-00-992-6654	8448585
Pin, Hammer	5315-00-992-7309	8448609
Pin, Taper	5315-01-503-0002	21039
Spring, Ejector	5360-01-502-9993	99076
Pin, Spring Front Sight	5360-01-553-7512	25369

END OF WORK PACKAGE

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TO: *(Forward to proponent of publication or form) (Include ZIP Code)* AMSTA-LC-LMPP / TECH PUBS, TACOM-RI 1 Rock Island Arsenal Rock Island, IL 61299-7630	FROM: *(Activity and location) (Include ZIP Code)* Your mailing address	

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

PUBLICATION/FORM NUMBER	DATE	Title
TM 9-1005-23&P	31 Oct 07	M110 Semi-Automatic Sniper System 7.62MM

ITEM NO.	PAGE NO.	PARA-GRAPH	LINE NO. *	FIGURE NO.	TABLE NO.	RECOMMENDED CHANGES AND REASON (Provide exact wording of recommended changes, if possible).

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

TYPED NAME, GRADE OR TITLE	TELEPHONE EXCHANGE/AUTOVON, PLUS EXTENSION	SIGNATURE
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TO: (*Forward direct to addressee listed in publication*)	**FROM:** (*Activity and location) (Include ZIP Code)*	**DATE**
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PUBLICATION NUMBER	DATE	TITLE
TM 9-1005-342-23&P	31 Oct 07	M110 Semi-Automatic Sniper System 7.62MM

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

SAMPLE

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.)*

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Your Name		Your Signature

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TM 9-1005-342-23&P	31 Oct 07	M110 Semi-Automatic Sniper System 7.62MM

ITEM NO.	PAGE NO.	PARA-GRAPH	LINE NO. *	FIGURE NO.	TABLE NO.	RECOMMENDED CHANGES AND REASON *(Provide exact wording of recommended changes, if possible).*

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

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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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PUBLICATION NUMBER TM 9-1005-342-23&P	DATE 31 Oct 07	TITLE M110 Semi-Automatic Sniper System 7.62 MM

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.)*

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

PUBLICATION/FORM NUMBER	DATE	TITLE
TM 9-1005-342-23&P	31 Oct 07	M110 Semi-Automatic Snipe rSystem 7.62MM

ITEM NO.	PAGE NO.	PARA-GRAPH	LINE NO. *	FIGURE NO.	TABLE NO.	RECOMMENDED CHANGES AND REASON *(Provide exact wording of recommended changes, if possible).*

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

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

PUBLICATION NUMBER TM 9-1005-342-23&P	DATE 31 Oct 07	TITLE M110 Semi-Automatic Sniper System 7.62MM

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.)*

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PUBLICATION/FORM NUMBER	DATE	TITLE
TM 9-1005-342-23&P	31 Oct 07	M110 Semi-Automatic Snipe rSystem 7.62MM

ITEM NO.	PAGE NO.	PARA-GRAPH	LINE NO. *	FIGURE NO.	TABLE NO.	RECOMMENDED CHANGES AND REASON *(Provide exact wording of recommended changes, if possible).*

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

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

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

PUBLICATION NUMBER TM 9-1005-342-23&P	DATE 31 Oct 07	TITLE M110 Semi-Automatic Sniper System 7.62MM

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Administrative Assistant to the Secretary of the Army
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THE METRIC SYSTEM AND EQUIVALENTS

LINEAR MEASURE

1 Centimeter = 10 Millimeters = 0.01 Meters = 0.3937 Inches
1 Meter = 100 Centimeters = 1000 Millimeters = 39.37 Inches
1 Kilometer = 1000 Meters = 0.621 Miles

WEIGHTS

1 Gram = 0.001 Kilograms = 1000 Milligrams = 0.035 Ounces
1 Kilogram = 1000 Grams = 2.2 Lb
1 Metric Ton = 1000 Kilograms = 1 Megagram = 1.1 Short Tons

LIQUID MEASURE

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

SQUARE MEASURE

1 Sq Centimeter = 100 Sq Millimeters = 0.155 Sq Inches
1 Sq Meter = 10,000 Sq Centimeters = 10.76 Sq Feet
1 Sq Kilometer = 1,000,000 Sq Meters = 0.386 Sq Miles

CUBIC MEASURE

1 Cu Centimeter = 1000 Cu Millimeters = 0.06 Cu Inches
1 Cu Meter = 1,000,000 Cu Centimeters = 35.31 Cu Feet

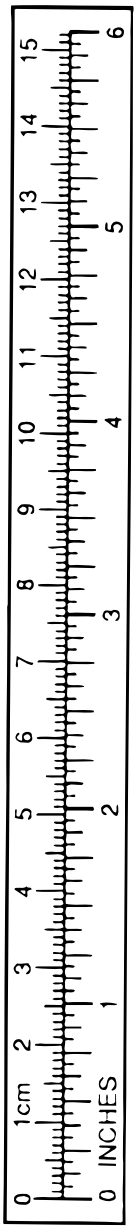
TEMPERATURE

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

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 per Square Inch	Kilopascals	6.895
Miles per Gallon	Kilometers per Liter	0.425
Miles per Hour	Kilometers per Hour	1.609

TO CHANGE	TO	MULTIPLY BY
Centimeters	Inches	0.394
Meters	Feet	3.280
Meters	Yards	1.094
Kilometers	Miles	0.621
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



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