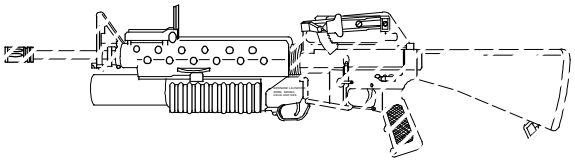
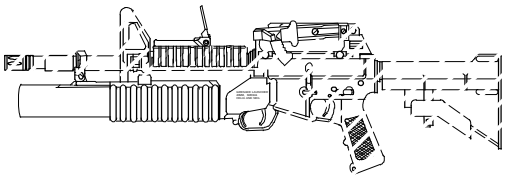
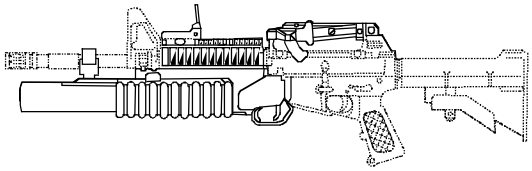
ARMY TM 9-1010-221-23&P
AIR FORCE TO 11W3-9-4-2
MARINE CORPS TM 07700A-23&P/2
NAVY SW 370-AE-MMI-010
Supersedes copy dated August 1985

TECHNICAL MANUAL

UNIT AND DIRECT SUPPORT MAINTENANCE MANUAL INCLUDING REPAIR PARTS AND SPECIAL TOOLS LIST FOR LAUNCHER, GRENADE, 40MM, M203, W/E (1010-00-179-6447) (EIC:4QB) AND LAUNCHER, GRENADE, 40MM, M203A1, W/E (1010-01-434-9028) (EIC:4QH) AND LAUNCHER, GRENADE, 40MM, M203A2, W/E (1010-01-495-8511) (EIC:4QJ)







HEADQUARTERS, DEPARTMENT OF THE ARMY,
AIR FORCE, U.S. MARINE CORPS AND NAVY
JANUARY 1993

WARNING

Clear the weapon before starting an inspection. Do not squeeze the trigger until the weapon has been cleared. Inspect the chamber to be sure that it is empty. Avoid having live ammunition where maintenance is performed.

Using the old style firing pin, Part Number 8448327, can cause injury to personnel and damage to equipment when firing a live round. The old firing pin must be replaced by the new firing pin, Part Number 12002970, whenever the old pin is identified in the weapon.

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

Dry cleaning solvent is FLAMMABLE and TOXIC and must be kept away from open flames and used in a well-ventilated area. Use of rubber gloves is necessary to protect the skin when washing grenade launcher parts.

Appropriate eye protection is recommended when cleaning your weapon and/or its parts.

All Active Army M203/M203A1/M203A2 grenade launchers must be inspected and gaged at least once annually for safety. All Army Reserve and Army National Guard M203/M203A1/M203A2 grenade launchers must be inspected and gaged at least once every two years, after the initial inspection/gaging procedures have been accomplished. The initial gaging procedures for Active Army, Army Reserve, and Army National Guard are required one year from receipt of the weapons. This two-year interval may be maintained unless preventive maintenance checks and services (PMCS) or other physical evidence indicates that an individual unit's M203/M203A1/M203A2 grenade launchers require inspection at a more frequent interval. If it is determined that a yearly inspection is necessary for an individual unit, only that unit will be affected. This will not affect other units in regard to the interval of inspection.

For further information on first aid, refer to FM 4-25.11.

ARMY TM 9-1010-221-23&P
AIR FORCE TO 11W3-9-4-2
MARINE CORPS TM 07700A-23&P/2
NAVY SW 370-AE-MMI-010

CHANGE

NO. 4

HEADQUARTERS
DEPARTMENTS OF THE ARMY,
AIR FORCE, MARINE CORPS,
AND NAVY
Washington, DC, 15 December 2003

UNIT AND DIRECT SUPPORT
MAINTENANCE MANUAL
INCLUDING
REPAIR PARTS AND SPECIAL TOOLS LIST
FOR
LAUNCHER, GRENADE, 40MM, M203, W/E
(1010-00-179-6447) (EIC:4QB)
AND
LAUNCHER, GRENADE, 40MM, M203A1, W/E
(1010-01-434-9028) (EIC:4QH)
AND
LAUNCHER, GRENADE, 40MM, M203A2, W/E
(1010-01-495-8511) (EIC:4QJ)

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3. New or changed illustrations are indicated by a miniature pointing hand highlighting the change.

Remove Pages	Insert Pages
A/(B blank)	A/(B blank)
i through iv	i through iv
v and 1-0	blank/1-0
1-1 through 1-6	1-1 through 1-6
2-3 and 2-4	2-3 and 2-4
2-15 and 2-16	2-15 and 2-16
2-29 and 2-30	2-29 and 2-30
2-37 through 2-40	2-37 through 2-40
2-45/(2-46 blank)	2-45 through 2-62
3-7 through 3-12	3-7 through 3-12
3-21 and 3-22	3-21 and 3-22
3-27 and 3-28	3-27 and 3-28
4-1 through 4-19/(4-20 blank)	None
A-1 and A-2	A-1 and A-2
B-5 through B-7/(B-8 blank)	B-5 through B-7/(B-8 blank)
C-7 and C-8	C-7 and C-8
C-1-1 through C-10-1	C-1-1 through C-10-1
I-1 through I-4	I-1 through I-4
D-1 through D-3/(D-4 blank)	D-1 through D-3/(D-4 blank)
Index 1 and Index 2	Index 1 and Index 2
Cover/Warning	Cover/Warning

4. File this change sheet in the front of the publication for reference purposes.

By Order of the Secretary of the Army:

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

Official:

JOEL B. HUDSON
Administrative Assistant to the
Secretary of the Army
0322402

By Order of the Secretary of the Air Force:

Official:

JOHN P. JUMPER
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Chief of Staff

LESTER L. LYLES
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Commander, AFMC

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Colonel, USMC
Director, Program Support
Marine Corps Systems Command

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ARMY TM 9-1010-221-23&P
AIR FORCE TO 11W3-9-4-2
MARINE CORPS TM 07700A-23&P/2
NAVY SW 370-AE-MMI-010

CHANGE

NO. 3

HEADQUARTERS
DEPARTMENTS OF THE ARMY,
AIR FORCE, MARINE CORPS,
AND NAVY
Washington, DC, 7 September 2001

UNIT AND DIRECT SUPPORT
MAINTENANCE MANUAL
INCLUDING
REPAIR PARTS AND SPECIAL TOOLS LIST
FOR
LAUNCHER, GRENADE, 40MM, M203, W/E
(1010-00-179-6447) (EIC:4QB)
AND
LAUNCHER, GRENADE, 40-MM, M203A1, W/E
(1010-01-434-9028) (EIC:4QH)

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Remove Pages	**Insert Pages**
None	A/(B blank)
i through iv	i through iv
2-7 and 2-8	2-7 and 2-8
2-15 and 2-16	2-15 and 2-16
2-18.1 and 2-18.2	2-18.1 and 2-18.2
2-37 through 2-42	2-37 through 2-42
3-3 through 3-6	3-3 through 3-6
3-11 through 3-14	3-11 through 3-14
4-1 and 4-2	4-1 and 4-2
4-5 through 4-19/20 blank	4-5 through 4-19/20 blank
C-1-1 and Fig C-2	C-1-1 and Fig C-2
C-2-1 and C-2-2	C-2-1 and C-2-2
C-2A-1 through C-10-1	C-2A-1 through C-10-1
I-1 through I-5	I-1 through I-4
D-1 through D-3/4 blank	D-1 through D-3/4 blank
2028s	2028s

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ERIC K. SHINSEKI
General, United States Army
Chief of Staff

Official:

JOEL B. HUDSON
Administrative Assistant to the Secretary of the Army
0114103

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ARMY TM 9-1010-221-23&P
AIR FORCE TO 11W3-9-4-2
MARINE CORPS TM 07700A-23&P/2
NAVY SW 370-AE-MMI-010

CHANGE

NO. 2

HEADQUARTERS
DEPARTMENTS OF THE ARMY,
AIR FORCE, MARINE CORPS,
AND NAVY
Washington, DC, 1 October 1998

UNIT AND DIRECT SUPPORT MAINTENANCE MANUAL INCLUDING REPAIR PARTS AND SPECIAL TOOLS LIST FOR LAUNCHER, GRENADE, 40MM, M203, W/E (1010-00-179-6447) (EIC:4QB)

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Remove Pages	**Insert Pages**
i thru iv	i thru iv
3-6.3 and 3-6.4	3-6.3 and 3-6.4
None	4-1 thru 4-19/(4-20 blank)
B-5 thru B-7/(B-8 blank)	B-5 thru B-7/(B-8 blank)
C-7 and C-8	C-7 and C-8
C-1-1 thru Fig C-5	C-1-1 thru Fig C-5

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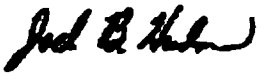
By Order of the Secretary of the Army:

GARY G. BISHOP
Colonel, United States Army
Chief of Staff

Official:



JOEL B. HUDSON
Administrative Assistant to the Secretary of the Army
05184

ARMY TM 9-1010-221-23&P
AIR FORCE TO 11W3-9-4-2
MARINE CORPS TM 07700A-23&P/2
NAVY SW 370-AE-MMI-010

CHANGE

NO. 1

HEADQUARTERS
DEPARTMENTS OF THE ARMY,
AIR FORCE, MARINE CORPS,
AND NAVY
Washington, DC, 1 April 1998

UNIT AND DIRECT SUPPORT MAINTENANCE MANUAL INCLUDING REPAIR PARTS AND SPECIAL TOOLS LIST FOR LAUNCHER, GRENADE, 40MM, M203, W/E (1010-00-179-6447) (EIC:4QB)

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2-13 thru 2-16	2-13 thru 2-16
2-19 thru 2-24	2-18.1 thru 2-24
2-27 and 2-28	2-27 and 2-28
2-33 and 2-34	2-33 and 2-34
2-37 thru 2-42	2-37 thru 2-42
3-3 thru 3-14	3-3 thru 3-14
3-17 thru 3-26	3-17 thru 3-26
3-29 and 3-30	3-29 and 3-30
3-33 thru 3-38	3-33 thru 3-38

Remove Pages	Insert Pages
A-1 and A-2	A-1 and A-2
B-5 thru B-7/(B-8 blank)	B-5 thru B-7/(B-8 blank)
C-5 thru 1-5	C-5 thru 1-4/(1-5 blank)
D-3/(D-4 blank)	D-3/(D-4 blank)
Index 3/(Index 4 blank)	Index 3/(Index 4 blank)
Front cover and a	Front cover and a

4. File this change sheet in the front of the publication for reference purposes.

By Order of the Secretary of the Army:

DENNIS J. REIMER
General, United States Army
Chief of Staff

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JOEL B. HUDSON
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DISTRIBUTION: To be distributed in accordance with the initial distribution for IDN 400545 requirements for TM 9-1010-221-23&P.

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Dates of issue for original and changed pages are:

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Change.....1 ..... 1 April 1998
Change.....2 ..... 1 October 1998
Change.....3 ..... 7 September 2001
Change.....4..... 15 December 2003

TOTAL NUMBER OF PAGES IN THIS PUBLICATION IS 200, CONSISTING OF THE FOLLOWING:

Page No.	Change No.
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iv	4
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2-27	1
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2-33	1
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3-11	3
3-12	4
3-13	1
3-14	3
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3-17 through 3-19	1
3-20	0
3-21	4
3-22 and 3-23	1
3-24 and 3-25	0
3-26	1
3-27	0
3-28	4
3-29 and 3-30	1
3-31 and 3-32	0
3-33 through 3-37	1
3-38	0
A-1	4
A-2	4
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C-5 and C-6	1
C-7	4
C-8	0
C-1-1 through C-9-1	4
C-10-1	4
I-1 through I-4	4
D-1	0
D-2 and D-3/(D-4 blank)	4
E-1 and E-2	0
Index 1 and Index 2	4
Index 3/(Index 4 blank)	1

*ARMY TM 9-1010-221-23&P
AIR FORCE TO 11W3-9-4-2
MARINE CORPS TM 07700A-23&P/2
NAVY SW 370-AE-MMI-010

TECHNICAL MANUAL
ARMY TM 9-1010-221-23&P
AIR FORCE TO 11W3-9-4-2
MARINE CORPS TM 07700A-23&P/2
NAVY SW 370-AE-MMI-010

HEADQUARTERS
DEPARTMENT OF THE ARMY,
AIR FORCE, MARINE CORPS AND NAVY

Washington, DC, 12 January 1993

Unit and Direct Support Maintenance Manual Including Repair Parts and Special Tools List
for
LAUNCHER, GRENADE, 40MM, M203, W/E
(1010-00-179-6447) (EIC:4QB)
AND
LAUNCHER, GRENADE, 40MM, M203A1, W/E
(1010-01-434-9028) (EIC:4QH)
AND
LAUNCHER, GRENADE, 40MM, M203A2, W/E
(1010-01-495-8511) (EIC:4QJ)

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. Army users 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. If you need a password, scroll down and click on "ACCESS REQUEST FORM". The DA Form 2028 is located in the ONLINE FORMS PROCESSING section of the AEPS. Fill out the form and click on SUBMIT. Using this form on the AEPS will enable us to respond quicker to your comments and better manage the DA Form 2028 program. You may also mail, fax or email your letter or DA Form 2028 direct to: AMSTA-LC-CI /TECH PUBS, TACOM-RI, 1 Rock Island Arsenal, Rock Island, IL 61299-7630. The email address is TACOM-TECH-PUBS@ria.army.mil. The fax number is DSN 793-0726 or Commercial (309) 782-0726.

Air Force users submit AFTO Forms 22, Technical Order Improvement Report and Reply, to: WR-ALC/LKCB, Robins AFB, GA 31098-1640.

Marine Corps users submit NAVMC 10772 to: http://pubs.ala.usmc.mil/navmc or hardcopy to Commander, MARCORSYSCOM, 814 Radford Blvd. Suite 314, ATTN: LOG/TP, Albany, GA 31704-5000.

Navy users submit Recommended Changes to Publications to: Commander, Code 4081, Bldg 2521, NAVSURF WARCENDIV, 300 Hwy 361, Crane, IN 47522-5001.

A reply will be furnished to you.

*This manual supersedes TM 9-1010-221-23&P, 15 August 1985, including all changes.

HOW TO USE THIS MANUAL

Read this manual carefully before performing required maintenance. This manual will be referred to for Inspection/Maintenance and Repair procedures. The information in this manual applies to M16 series rifles and M4 series carbines. However, the M16A1 rifle is illustrated in this technical manual.

GENERAL

There are several things you need to know to use this manual efficiently.

1. All references in the manual are to pages only. Reference to maintenance procedures is to the page where the respective initial setup appears.

2. Illustrations for the maintenance procedures show only those parts affected by the operation being performed.

3. Whenever the male gender is mentioned in the manual (i.e., crewman, repairman), it also pertains to females.

4. When the term “evacuate to support maintenance” is used, the entire weapon must be evacuated.

5. When a procedure is common between the M203, M203A1, and M203A2 grenade launchers, ONLY the M203 configuration will be depicted. If a procedure is not common to both weapons, the procedure will be incorporated. Not all paragraph headers were changed to address both weapons; however, the procedures apply to both M203, M203A1, and M203A2 grenade launchers.

INDEXES

This manual is organized to help you find the information you need quickly. There are several useful indexes.

1. Front Cover Index. Is a tabbed index of sections, keyed to boxed entries in table of contents and tabbed pages in this manual.

2. Table of Contents. Lists in order all chapters, sections, and appendixes. Gives page references.

3. Nomenclature Cross-References List.

4. Symptom Index. Located just before the troubleshooting table in each maintenance chapter. Lists, in order of appearance in the troubleshooting table, parts of the weapon with possible malfunctions. References pages of the troubleshooting table.

5. Alphabetical Index. Located at the end of the manual. An extensive subject index for everything in the manual. Gives page references.

MAINTENANCE PROCEDURES

There are two maintenance chapters:

Army and Navy personnel use chapter two for unit maintenance procedures and chapter three for direct support maintenance procedures.

Air Force personnel: Only Air Force Specialty Code 3POXB Combat Arms Training and Maintenance (CATM) specialists, technicians, and gunsmiths are authorized to perform maintenance procedures contained in this manual.

Marine Corps personnel use chapter two for 2nd echelon maintenance procedures and chapter three for 3rd echelon maintenance procedures.

Each maintenance task has an initial setup containing a list of the following things you will need in order to do your maintenance task.

1. Tools and Special Tools. For standard and special tools, see appendixes B and C. Army and Marine Corps users are to use the Tools Set, Gage Set, and/or Tool Kit listed in the initial setup.

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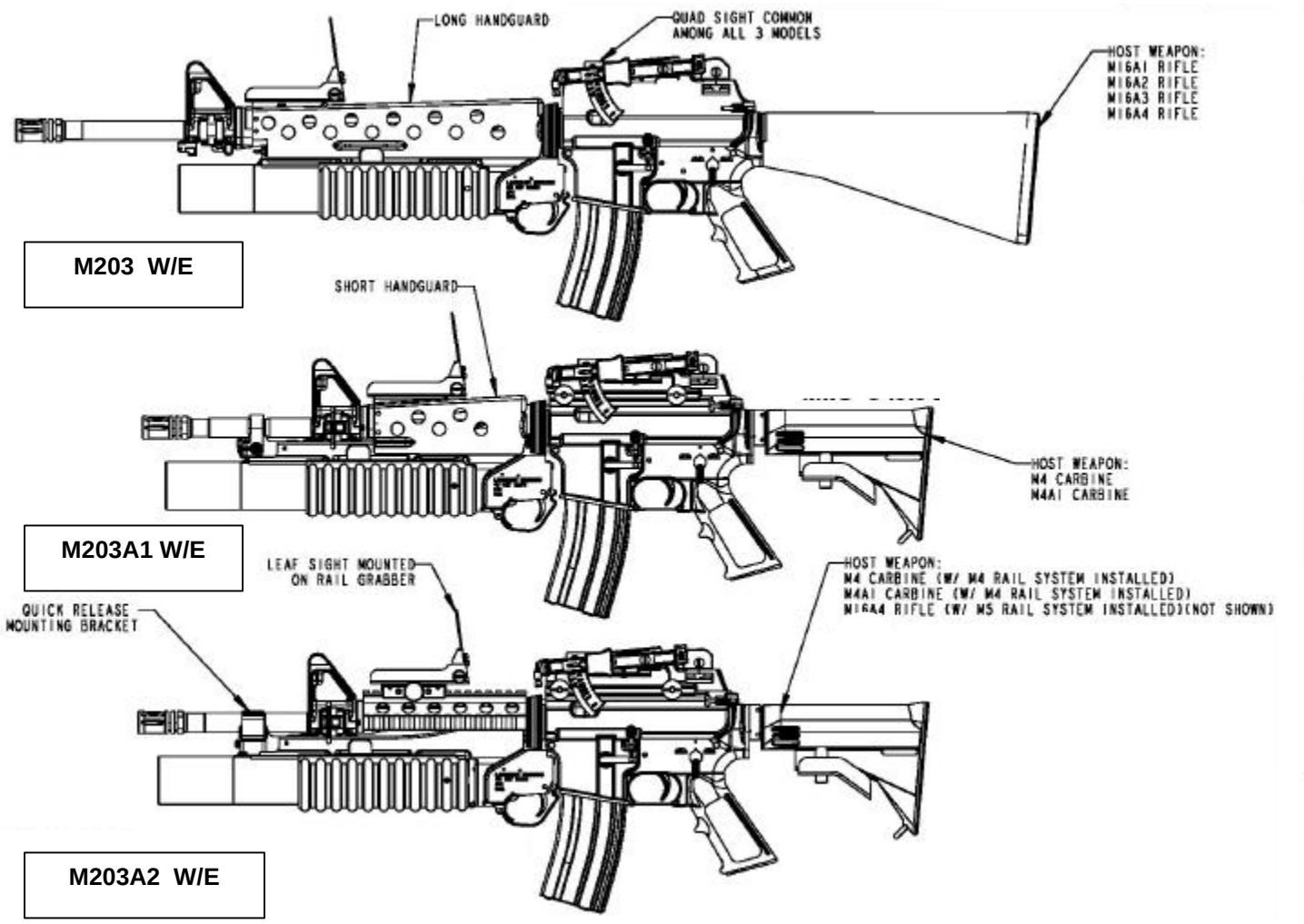

LONG HANDGUARD
QUAD SIGHT COMMON AMONG ALL 3 MODELS
HOST WEAPON:
M16A1 RIFLE
M16A2 RIFLE
M16A3 RIFLE
M16A4 RIFLE
M203 W/E
SHORT HANDGUARD
HOST WEAPON:
M4 CARBINE
M4A1 CARBINE
M203A1 W/E
LEAF SIGHT MOUNTED ON RAIL GRABBER
QUICK RELEASE MOUNTING BRACKET
HOST WEAPON:
M4 CARBINE (W/ M4 RAIL SYSTEM INSTALLED)
M4A1 CARBINE (W/ M4 RAIL SYSTEM INSTALLED)
M16A4 RIFLE (W/ M5 RAIL SYSTEM INSTALLED)(NOT SHOWN)
M203A2 W/E

CHAPTER 1
INTRODUCTION

Section I. GENERAL INFORMATION

1-1. SCOPE

a. Type of Manual. Unit and Direct Support Maintenance, including the Repair Parts and Special Tools List.

b. Model Number and Equipment Name. M203, 40MM Grenade Launcher W/E, is attached to the M16 series rifles and M203A1, 40MM Grenade Launcher, attached to the M4 series carbines. M203A2, 40MM Grenade Launcher W/E, is attached to the M16A4 rifles equipped with the M5 Adapter Rail System (ARS), and to the M4/M4A1 carbines equipped with the M4 Adapter Rail System (ARS). Refer to TM 9-1005-249-23&P for M16 and M16A1 Rifle instructions. Refer to TM 9-1005-319-23&P for M16A2 Rifle and M4/M4A1 Carbine instructions.

c. Purpose of Equipment. Provides 40MM grenade fire power to ground forces equipped with M16 Series Rifles and M4 Series Carbines.

1-2. MAINTENANCE FORMS, RECORDS, AND REPORTS. Department of the Army forms and procedures used for equipment maintenance will be those prescribed by DA PAM 738-750, The Army Maintenance Management System (TAMMS).

Air Force users refer to TO 11W-1-10 for applicable forms and records.

Marine Corps users refer to TM 4700-15/1 (Equipment Record Procedures).

Navy users refer to applicable preventive maintenance system instructions.

1-3. DESTRUCTION OF ARMY MATERIEL TO PREVENT ENEMY USE. See TM 750-244-7.

1-4. PREPARATION FOR STORAGE OR SHIPMENT.

Air Force users refer to Special Package Instruction (SPI) 00-856-6885.

Marine Corps users refer to MCO P4450.7.

1-5. OFFICIAL NOMENCLATURE, NAMES, AND DESIGNATIONS.

NOMENCLATURE CROSS-REFERENCE LIST

Common Name	Official Nomenclature
Barrel stop	Pawl
Cartridge locator spring	Helical compression spring
Handgrip assembly	Grenade launcher grip
Hand guard assembly	Grenade hand guard

1-5. OFFICIAL NOMENCLATURE, NAMES, AND DESIGNATIONS (CONT).

NOMENCLATURE CROSS-REFERENCE LISTS (CONT)

Common Name	Official Nomenclature
Locking wire	Nonelectrical wire
Mounting bolt	Shoulder bolt
Quadrant sight assembly	Rifle grenade launcher sight
Quadrant sight clamp	Rim clenching clamp
Safety detent	Detent plunger
Sight aperture retainer	Spring tension clip
Sight leaf mount	Mounting bracket
Sight pivot screw	Shoulder screw
Sight post	Front sight
Swivel locking bar	Rim clenching clamp
Trigger pin	Headed straight pin

1-6. REPORTING EQUIPMENT IMPROVEMENT RECOMMENDATIONS (EIR). If your grenade launcher 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.

Army users submit Standard Form (SF) 368 (Quality Deficiency Report (QDR)) to: AMSTA-AR-QAW-C, TACOM-ARDEC, 1 Rock Island Arsenal, Rock Island, IL 61299-7300. The preferred method for submitting QDRs is through the Army Electronics Product Support (AEPS) website under the Electronic Deficiency Reporting System (EDRS). The web address is: https://aeps.ria.army.mil. This is a secured site requiring a password which can be applied for on the front page of the website.

Air Force users submit Quality Deficiency Report (QDR) in accordance with Technical Order 00-35D-54, Technical Manual, USAF, Materiel Deficiency Reporting and Investigating System, to: WR-ALC/LKCB, Robins AFB, GA 31098-1640.

USMC users are encouraged to submit SF 368 in accordance with MCO 4855.10 (Quality Deficiency Report (QDR)) to Commander, Marine Corps Logistics Base, Code 808, Albany, GA 31704-5000.

Navy users submit Quality Deficiency Report (QDR) to: Commander, Code 4081 Bldg 2521, NAVSURF WARCENDIV, 300 Hwy 361, Crane, IN 47522-5001.

A reply will be sent to you.

1-7. CORROSION PREVENTION AND CONTROL (CPC). CPC of Army materiel is a continuing concern. It is important that any corrosion problems with this item be reported so that the problem can be corrected and improvements can be made to prevent the problem in future items.

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

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

Army users submit Quality Deficiency Report (QDR) (SF 368) to:

ATTN: AMSTA-AR-QAW-C
TACOM-ARDEC
1 Rock Island Arsenal
Rock Island, IL 61299-7300

Air Force users submit Quality Deficiency Report (QDR) in accordance with Technical Order 00-35D-54, Technical Manual, USAF, Materiel Deficiency Reporting and Investigating System to:

WR-ALC/LKCB
Robins AFB, GA 31098-1640

Marine Corps users submit SF 368 in accordance with MCO 4855.10 (Quality Deficiency Report (QDR)) to:

Commander
Marine Corps Logistics Bases
Code 808
Albany, GA 31704-5000

Navy users submit Quality Deficiency Report (QDR) to:

Commander, Code 4081, Bldg 2521
NAVSURF WARCENDIV, 300 Hwy 361
Crane, IN 47522-5001

Section II. EQUIPMENT DESCRIPTION AND DATA

1-8. GENERAL. This section covers equipment description and data for unit and direct support maintenance. Refer to TM 9-1010-221-10, operator's manual, for lower level equipment description and data.

1-9. EQUIPMENT CHARACTERISTICS, CAPABILITIES, AND FEATURES.

a. The grenade launcher is a breech-loading, pump-action, single-shot, manually operated weapon.

b. It can fire a variety of 40mm ammunition.

c. The secondary sear (sear by nomenclature in accordance with item 13, page C-5-1) prevents accidental firing if the trigger is held down during cocking and loading operations. When the trigger is forward, the firing pin is held to the rear by the sear portion of the trigger, not the sear.

1-9. EQUIPMENT CHARACTERISTIC, CAPABILITIES, AND FEATURES (CONT).

d. Two separate aiming systems are available to the operator.

(1) The folding leaf sight assembly on top of the hand guard assembly is for short-range firing.

(2) The quadrant sight assembly is mounted on the carrying handle of the M16 series rifles, the M4 series carbines and is used for long-range firing.

1-10. LOCATION AND DESCRIPTION OF MAJOR COMPONENTS.

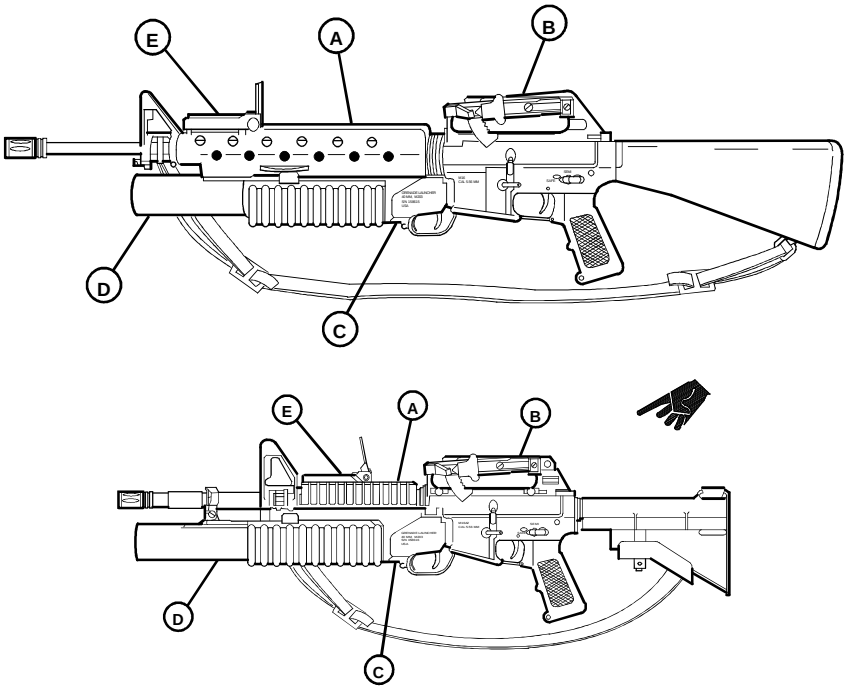
A **HAND GUARD ASSEMBLY.** The molded plastic hand guard assembly fits over the barrel of the M16 series rifle.

B **QUADRANT SIGHT ASSEMBLY.** The quadrant sight assembly is attached to the carrying handle of the M16 series rifles and M4 series carbines. It provides range selection from 50 to 400 meters in 25 meter increments.

C **RECEIVER ASSEMBLY.** The aluminum frame mounts to the underside of the M16 series rifles and M4 series carbines. The receiver assembly houses a firing mechanism and an ejection system, and supports the barrel assembly.

D **BARREL ASSEMBLY.** The barrel assembly consists of a specially treated aluminum barrel and a plastic handgrip assembly. The 12 inch long barrel with six narrow lands is chambered for special 40mm grenade launcher ammunition. The barrel assembly slides forward and backward under the receiver assembly in sliding tracks.

E **LEAF SIGHT ASSEMBLY.** The folding leaf sight assembly, located on top of the hand guard assembly, provides range selection from 50 to 250 meters in 50 meter increments.



1-11. DIFFERENCES BETWEEN MODELS.

NOTE

The M203 attaches to the M16 series rifles and the M203A1 attaches to the M4 series carbines. The M203A2 attaches to M16A4 rifles and M4/M4A1 carbines equipped with either the M5 or M4 Adapter Rail System.

There are remaining old style receivers which require the old style trigger pin. All configurations require the new firing pin.

There is a new front mounting bracket for the M203A1. The new mounting bracket assembly has a bracket clamp assembly and the tang has been removed.

There is a quick release bracket used to attach the M203A2. This bracket is a semi-permanent installation to the M203A2.

1-12. EQUIPMENT DATA.

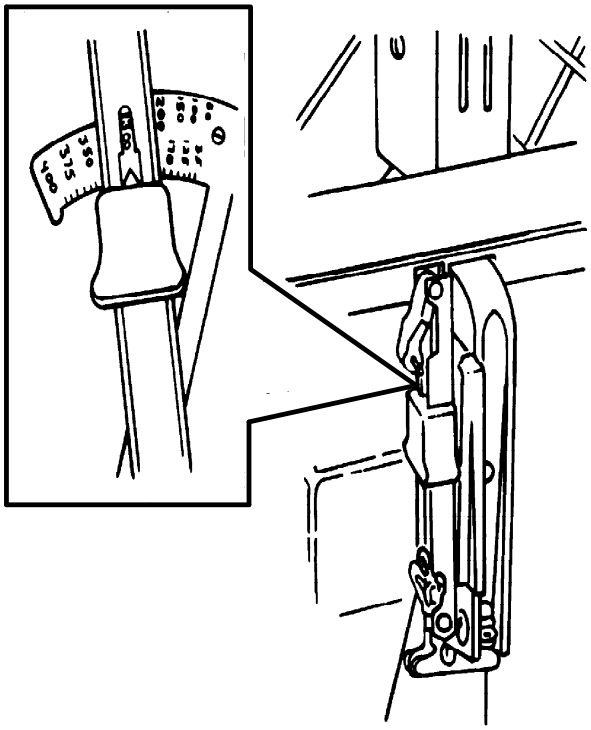
	US CUSTOMARY	METRIC
Barrel length	12 inches	30.5 centimeters
Weight	3 pounds	1.4 kilograms
Rifling data:		
Length of rifling	10 inches	25.4 centimeters
Number of lands	6	

1-13. STORAGE OF GRENADE LAUNCHER M203.

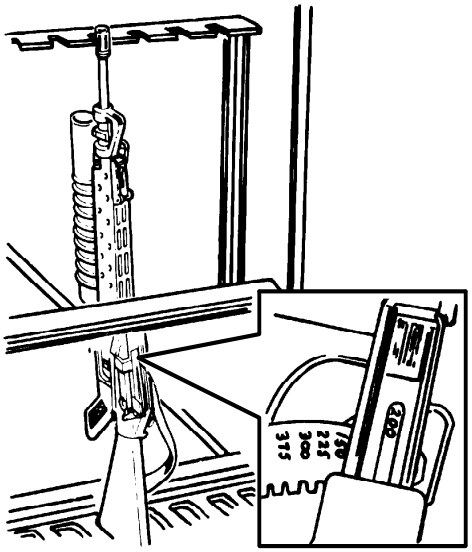
a. M12 Rack. Built for the M16 series rifle and the M203 grenade launcher. Store the launcher in the M12 rack with the sight in the 300-400 meter position so that when you close the locking bar of the rack, the bar misses the sight. The sight has to be above the 300-meter position to avoid damage from the bar of the rack. For the correct way of storing the launcher in the M12 rack, see the illustration below.

b. Modified M11 Rack. Stores most M203 grenade launchers with the sight set in the 175- through 200-meter setting. See the illustration below. Check the rack to see which setting is best. The 175-meter setting is good for some launchers; others need up to 200 meters. Because of the different positions of the bars, the sight on your launcher may not clear the bar at all. In this case, remove the sight and store it separately in the arms room.

NOTE
Keep objects off stored sights and cushion sights between layers.



M12 RACK



MODIFIED M11 RACK

Section III. PRINCIPLES OF OPERATION

1-14. TECHNICAL PRINCIPLES OF OPERATION. The M203 grenade launcher is light-weight and compact and must be attached to M16 series rifles. The M203A1 grenade launcher is light-weight and compact and must be attached to M4 series carbines.

a. Open the launcher, insert a round, and close the launcher.

b. Place on SAFE.

c. Place the launcher to your shoulder. Keep muzzle pointed at target and move the safety from the SAFE to the FIRE position.

d. Align the front and rear of the quadrant sight assembly with the target and squeeze the trigger.

e. Squeezing the trigger releases the firing pin and allows it to impact the primer on the round.

f. The primer ignites the propellant in the round.

g. Gas from the burning propellant pushes the projectile along the barrel of the launcher.

h. The rifling in the barrel causes the projectile to rotate, which provides stability during flight to the target.

CHAPTER 2
UNIT MAINTENANCE PROCEDURES

Section I. LUBRICATION INSTRUCTIONS

2-1. LUBRICATION INSTRUCTIONS. Wherever the term "Cleaner, Lubricant, and Preservative (CLP)" or the words "Lubricant," "Lube," "LSA," or "LAW" are cited in this TM, it is to be interpreted to mean CLP, LSA, or LAW can be utilized as applicable. The following constraints must be adhered to:

a. Under all but the coldest arctic conditions, LSA (item 13, app D) or CLP (item 5, app D) are the lubricants to use on your weapon. Either may be used at -10°F and above. However, do not use both on the same weapon at the same time.

b. LAW (item 12, app D) is the lubricant to use during cold arctic conditions, +10°F and below.

c. Any of the lubricants may be used from -10°F to +10°F.

NOTE
Do not mix lubricants on the same weapon.

d. The weapon must be thoroughly cleaned during change from one lubricant to another. Dry Cleaning Solvent (SD) (item 9, app D) is recommended for cleaning during change from one lubricant to another.

e. Rifle Bore Cleaner (RBC) (item 7, app D) may be used to remove carbon buildup in the bore and other portions of the weapon.

Section II. REPAIR PARTS; TOOLS; SPECIAL TOOLS; TEST, MEASUREMENT AND DIAGNOSTIC EQUIPMENT (TMDE); AND SUPPORT EQUIPMENT

2-2. COMMON TOOLS AND EQUIPMENT. For authorized common tools and equipment, refer to the Modified Table of Organization and Equipment (MTOE), CTA 50-970 or CTA 8-100, as applicable to your unit.

2-3. SPECIAL TOOLS, TMDE, AND SUPPORT EQUIPMENT. Special tools, TMDE, and support equipment are listed in appendixes B and C of this manual.

2-4. REPAIR PARTS. Repair parts are listed and illustrated in appendix C of this manual.

Section III. SERVICE UPON RECEIPT

2-5. SERVICE UPON RECEIPT OF MATERIEL. Refer to the table below.

SERVICE UPON RECEIPT-40MM GRENADE LAUNCHER M203/M203A1

NOTE

The initial gaging procedures for Active Army, Army Reserve, and Army National Guard are required one year from receipt of the weapons.

ACTION	REMARKS
a. Remove grenade launcher and components from packaging. b. Remove protective wrappings. c. Inspect the equipment for damage incurred during shipment.	The grenade launcher, swivel mount, hand guard assembly, quadrant sight assembly, and mounting hardware are packaged in a protective wrapping and shipped as a unit, two to a carton. If the equipment has been damaged, report the damage on SF 364, Report of Discrepancy (ROD).
d. Check the equipment against the packing slip to see if the shipment is complete.	Report all discrepancies in accordance with the instructions of DA PAM 738-750. Air Force users submit MDR and Product Quality Deficiency Report to WR-ALC/LZBS, Robins AFB, GA 31098-5609. Marine Corps users report discrepancies in accordance with MCO P4610.19, Transportation and Travel Record of Transportation Discrepancies. Navy users submit Quality Deficiency Report to: Commander, Code 4081 Bldg 2521, NAVSURF WARCENDIV, 300 Hwy 361, Crane, IN 47522-5001.
e. Check to see whether equipment has been modified. f. Send M203 grenade launcher and 5.56mm M16 series rifles to direct support maintenance for initial installation. g. Send M203A1 grenade launcher and 5.56mm M4 series carbines to direct support maintenance for initial installation.	Check DA PAM 25-30 for current MWO's.

Section IV. UNIT PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS)

2-6. GENERAL. This section contains the procedures and instructions necessary to perform unit preventive maintenance checks and services. These services are to be performed by unit maintenance personnel with the assistance of the operator where practical.

2-7. PREVENTIVE MAINTENANCE CHECKS AND SERVICES.

WARNING

Clear the weapon before starting an inspection. Do not squeeze the trigger until the weapon has been cleared. Inspect the chamber to be sure it is empty. Avoid having live ammunition where maintenance is performed.

NOTE

All active Army M203/M203A1/M203A2 grenade launchers must be inspected and gaged at least annually for safety. All Army Reserve and Army National Guard M203/M203A1/M203A2 grenade launchers must be inspected and gaged at least once every two years, after the initial inspection/gaging procedures have been accomplished. The initial gaging procedures for Active Army, Army Reserve, and Army National Guard are required one year from receipt of the weapons. This two-year interval may be maintained unless PMCS or other physical evidence indicates that an individual unit's M203/M203A1/M203A2 grenade launchers require inspections at a more frequent interval. If it is determined that a yearly inspection is necessary for an individual unit, only that unit will be affected. This will not affect other units in regard to the interval of inspection.

a. General. The PMCS procedures are contained in the following table. They are arranged in logical sequence requiring a minimum amount of time and motion on the part of the persons performing them and are arranged so that there will be a minimum interference between persons performing checks simultaneously on the same end item.

b. Item No. Column. Checks and services are numbered in disassembly sequence. This column shall be used as a source of item numbers for the "TM Number" column on DA Form 2404, Equipment Inspection and Maintenance Worksheet, in recording results of PMCS.

c. Interval Column. This column gives the designated interval when each check is to be performed.

d. Item To Be Checked Or Serviced Column. This column lists the items to be checked or serviced.

e. Procedure Column. This column contains a brief description of the procedure by which the check is to be performed. It contains all the information required to accomplish the checks and services. Information marked SH indicates a specific equipment shortcoming and the procedure needed to correct the shortcoming. Air Force Specialty Code 3POXB Combat Arms Training and Maintenance (CATM) Specialists, Technicians, and Gunsmiths will conduct the PMCS semi-annually on in-use weapons.

f. Not Fully Mission Capable If: Column. This column contains a brief statement of the condition (e.g., malfunction, deficiency (D)) that would cause the covered equipment to be less than fully ready to perform its assigned mission.

2-7. PREVENTIVE MAINTENANCE CHECKS AND SERVICES (CONT).

UNIT PREVENTIVE MAINTENANCE CHECKS AND SERVICES FOR 40MM GRENADE LAUNCHER, M203/M203A1/M203A2

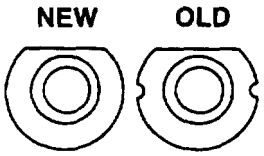
Item No.	Interval	Item To Be Checked Or Serviced	Procedure	Not Fully Mission Capable If:
			WARNING **Clear weapon before starting inspection.**	
1	Quarterly	Grenade launcher with or without M16 series rifles or M4 series carbines	a. Check weapon for cleanliness, sufficient lubrication, and proper assembly.	Weapon not properly assembled.
			WARNING **Using the old style firing pin can cause injury to personnel and damage to equipment when firing a live round.**	
			b. Check for any missing or damaged parts, and for old style firing pin, part number 8448327. Whenever the old pin is identified, evacuate to direct support maintenance.	Parts missing, damaged or old style firing pin is installed.
			c. Check grenade launcher for dents and worn/shiny surfaces.	Grenade launcher is dented, or has worn/shiny surfaces. (See note on p 2-6.1.)
			d. Check for positive retention to rifle/carbine (p 2-27).	Grenade launcher is not positively retained on rifle/carbine. (See p 3-6, 7c.)
			WARNING **The grenade launcher could fire without squeezing the trigger if the sear does not function properly.**	
			e. Check grenade launcher for proper function. Make sure the grenade launcher is cleared. Cock the launcher and squeeze the trigger. Firing pin should release. Hold trigger to rear and cock the launcher. Release trigger and listen for an audible click, then squeeze the trigger. Firing pin should release. If firing pin releases before squeezing the trigger, evacuate to support maintenance.	Grenade launcher does not function properly.
			f. Check locking wire (p 2-27).	

UNIT PREVENTIVE MAINTENANCE CHECKS AND SERVICES FOR 40MM GRENADE LAUNCHER, M203/M203A1 (CONT)

Item No.	Interval	Item To Be Checked Or Serviced	Procedure	Not Fully Mission Capable If:
1	Quarterly (cont)	Grenade launcher with or without M16 series rifle or M4 series carbine (cont)	g. Thoroughly clean areas that are to be touched up using dry cleaning solvent (item 9, app D). Touch up shiny exterior surfaces with solid film lubricant (item 11, app D).	
		Annual direct support safety and serviceability inspection and gaging	h. Check to ensure annual direct support safety and serviceability inspection and gaging has been done, and that the next gaging and inspection is scheduled. If annual gaging has not been performed within the last year, notify direct support maintenance.	Annual gaging has not been performed within the last year.
2	Quarterly	Hand guard assembly and leaf sight assembly	a. Check hand guard assembly for cracks. b. Check leaf sight assembly for bent, broken, or missing parts. Check that markings are legible. Check screws for tightness. If damaged, evacuate to direct support maintenance.	Cracks exceed 1 inch (2.54 cm) and/or if chips are on back lip of hand guard assembly.
3	Quarterly	Barrel assembly	a. Visually inspect barrel assembly for bulges, dents, or cracks. Barrel assembly should be cylindrical in shape.	Barrel has bulges, dents, or cracks or is oval in shape.
			b. Check handgrip assembly for damage and positive retention to barrel. If damaged or no positive retention, evacuate to direct support maintenance.	Handgrip assembly is damaged or is not positively retained on barrel.

2-7. PREVENTIVE MAINTENANCE CHECKS AND SERVICES (CONT).

UNIT PREVENTIVE MAINTENANCE CHECKS AND SERVICES FOR 40MM GRENADE LAUNCHER, M203/M203A1 (CONT)

Item No.	Interval	Item To Be Checked Or Serviced	Procedure	Not Fully Mission Capable If:
3	Quarterly (cont)	Barrel assembly (cont)	c. Check the barrel extension for tightness to the barrel. This will be accomplished by moving the barrel extension up and down, side to side, and front to rear with the thumb and index finger, while visually examining it. If obvious play/movement occurs, evacuate to direct support maintenance.	Barrel extension is loose, bent, or cracked.
			d. Check for defective cartridge locator spring. Push the cartridge locator toward the barrel, and then release. The cartridge locator must move forward and back under spring pressure.	Cartridge locator does not move under spring pressure.
4	Quarterly	Receiver assembly 	**WARNING** Using the old style firing pin, part number 8448327, can cause injury to personnel and damage to equipment when firing a live round. The old firing pin must be replaced by the new firing pin, part number 12002970, whenever the old pin is identified in the weapon.	

UNIT PREVENTIVE MAINTENANCE CHECKS AND SERVICES FOR 40MM GRENADE LAUNCHER, M203/M203A1 (CONT)

Item No.	Interval	Item To Be Checked Or Serviced	Procedure	Not Fully Mission Capable If:
4	Quarterly (cont)	Receiver assembly (cont)	a. Inspect for burrs, nicks, wear, or other damage. b. Inspect for missing finish on weapon. Apply solid film lubricant to shiny surfaces.	Burred, nicked, worn, or damaged.

NOTE

Solid Film Lubricant (SFL) is the authorized touchup for the M203/M203A1 Grenade Launcher and may be used on up to one third of the exterior finish of the weapon.

FOR CONUS USE ONLY: Solid Film Lubricant (item 11, app D) may be used as a touchup without limitation on the receiver assembly. This is to say that units which 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 receiver assembly protected with SFL. Prior to application of SFL, the surface must be thoroughly cleaned and inspected for corrosion and/or damage. If corroded or damaged, the part must be repaired or replaced prior to application of SFL. Continued use under combat conditions would result in an unprotected surface when the SFL wears off. This would result in a large light reflecting surface and accelerated deterioration of the unprotected surface. Therefore, Divisional Combat Units and units which fall under the definition of Rapid Deployment type must adhere to the limitation of NOT over one third of their exterior surface covered by SFL.

If M203/M203A1 Grenade Launcher RECEIVER ASSEMBLY is missing one third or more of its exterior protective finish, resulting in an unprotected/light reflecting surface, it is a candidate for overhaul. This missing finish will be considered a shortcoming. This shortcoming requires action to obtain a replacement weapon. Once a replacement has been received, evacuate the original weapon to depot for overhaul.

Once the missing exterior protective finish of the receiver assembly has exceeded one third of its total surface, the probability of reclaiming the receiver assembly during overhaul diminishes rapidly. In order to extend the life of the receiver assembly, which is the serial numbered item, it is necessary to evacuate the weapon to depot once the missing finish reaches one third of the total surface of the receiver assembly.

UNIT PREVENTIVE MAINTENANCE CHECKS AND SERVICES FOR 40MM GRENADE LAUNCHER, M203/M203A1 (CONT)

Item No.	Interval	Item To Be Checked Or Serviced	Procedure	Not Fully Mission Capable If:
4	Quarterly (cont)	Receiver assembly (cont)	c. Check self-locking screw in back plate for tightness (p 2-32).	Self-locking screw is not tight.
			d. Check the breech insert visually. It should not be above the surface of the breech face. Evacuate to direct support maintenance.	Breech insert protrudes above the breech face.
5	Quarterly	Barrel stop	With barrel assembly installed on the receiver assembly, move barrel assembly forward to barrel stop. Barrel stop must prevent the barrel assembly from being removed from the tracks in the receiver assembly. Verify barrel stop pin is staked on both sides.	Barrel stop does not prevent the barrel assembly from being removed from the receiver assembly.
6	Quarterly	Barrel latch	Pull barrel assembly rearward to close. Barrel latch must lock the barrel assembly fully closed.	Barrel latch does not lock barrel assembly fully closed.
7	Quarterly	Cartridge extractor	Check for broken or missing cartridge extractor, spring pin, or spring.	Cartridge extractor, spring pin, or spring is broken or missing.
8	Quarterly	Cartridge ejector	Visually inspect cartridge ejector for cracks. Push cartridge ejector into breech. Cartridge ejector should move and return under spring pressure.	Cartridge ejector is cracked or not moving and returning under spring pressure.

2-7. PREVENTIVE MAINTENANCE CHECKS AND SERVICES (CONT).

UNIT PREVENTIVE MAINTENANCE CHECKS AND SERVICES FOR 40MM GRENADE LAUNCHER, M203/M203A1 (CONT)

Item No.	Interval	Item To Be Checked Or Serviced	Procedure	Not Fully Mission Capable If:
9	Quarterly	Quadrant sight assembly	a. Check for cracked, broken, or missing teeth (p 2-39). b. If damaged, repair or replace the quadrant assembly. Refer to page 2-39. c. In order to prevent the quadrant sight assembly from being damaged, refer to page 1-6.	
10	Quarterly	Annual DS safety and serviceability inspection and gaging	Check to ensure annual DS safety and serviceability inspection and gaging has been done and that the next gaging and inspection is scheduled. If annual gaging has not been performed within the last year, notify direct support maintenance.	Annual gaging has not been performed.

Section V. UNIT TROUBLESHOOTING

2-8. GENERAL

a. This section contains troubleshooting information for locating and correcting most of the operating troubles which may develop in the 40mm grenade launcher M203. Each malfunction for the individual part or assembly is followed by a list of tests or inspections which will help you to determine the corrective actions to take. Perform the tests/inspections and corrective actions in the order listed.

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

2-9. TROUBLESHOOTING PROCEDURES. Refer to troubleshooting table for malfunctions, tests, and corrective actions. The symptom index is provided for a quick reference of the malfunctions covered in the table.

SYMPTOM INDEX

UNIT TROUBLESHOOTING

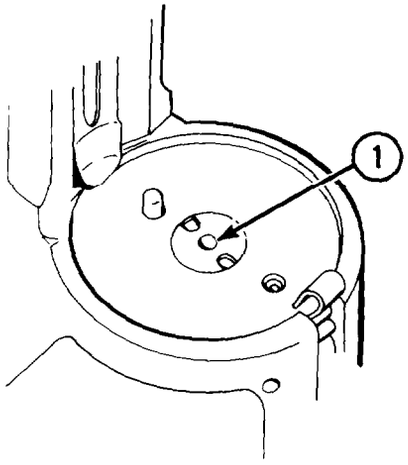
MALFUNCTION
TEST OR INSPECTION
CORRECTIVE ACTION

WARNING
Clear the weapon before starting an inspection.

1. FAILURE TO FIRE.

Step 1. Check for dirt in firing pin recess (1).

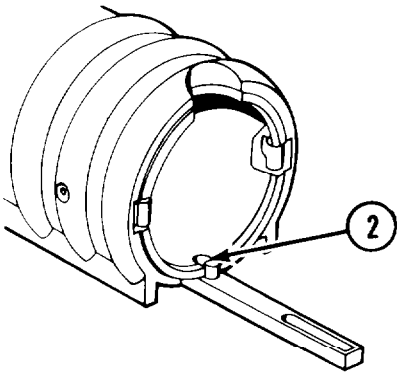
Clean firing pin recess with CLP (item 5, app D) or RBC (item 7, app D) (see TM 9-1010-221-10).



2-9. TROUBLESHOOTING PROCEDURES (CONT).

UNIT TROUBLESHOOTING (CONT)

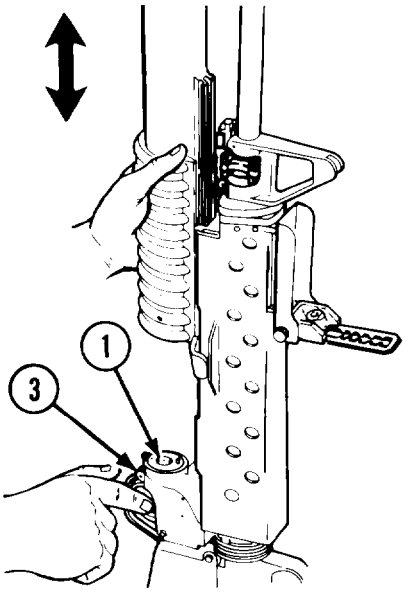
MALFUNCTION / TEST OR INSPECTION	CORRECTIVE ACTION
Step 2. Check for dirt in cartridge locator slot (2).	Clean cartridge locator slot with CLP (item 5, app D) or RBC (item 7, app D) (see TM 9-1010-221-10).



NOTE
Barrel must be closed to function the firing mechanism.

Step 3. Check for water or oil in firing pin recess (1),

Point muzzle up and handfunction barrel and firing mechanism (3).

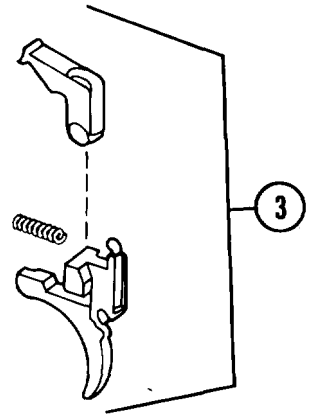


UNIT TROUBLESHOOTING (CONT)

MALFUNCTION
TEST OR INSPECTION
CORRECTIVE ACTION

Step 4. Check for broken or improperly assembled parts of firing mechanism (3).

Evacuate to direct support maintenance if firing mechanism is broken or improperly assembled.

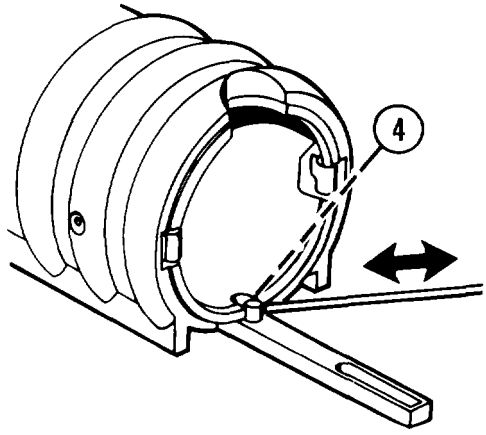


Step 5. Check for defective cartridge locator spring (4):

a. Using cleaning rod section, push cartridge locator toward muzzle, and then release.

b. Cartridge locator must move forward and back under spring pressure.

c. If cartridge locator does not function, evacuate to direct support maintenance.



2-9. TROUBLESHOOTING PROCEDURES (CONT).

UNIT TROUBLESHOOTING (CONT)

MALFUNCTION TEST OR INSPECTION CORRECTIVE ACTION

2. FAILURE TO COCK.

Check for proper installation of follower guide assembly.

Reassemble (p 2-32).

3. FAILURE TO CLOSE OR LATCH.

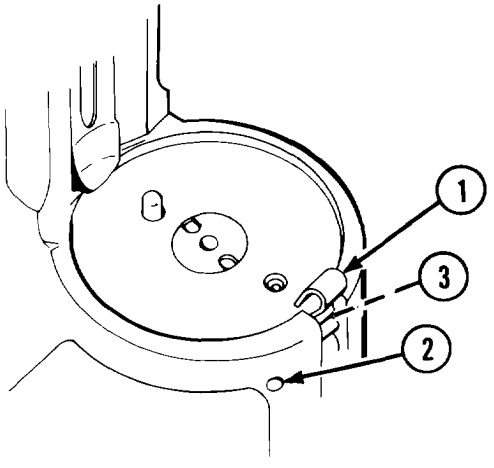
Check for proper installation of follower guide assembly.

Reassemble (p 2-32).

4. FAILURE TO EXTRACT.

Step 1. Check for broken or missing cartridge extractor (1), spring pin (2), or spring (3).

If cartridge extractor, spring pin, or spring is broken or missing, evacuate to direct support maintenance.



Step 2. Check for residue buildup in barrel and chamber area.

Clean and lubricate barrel and chamber area.

UNIT TROUBLESHOOTING (CONT)

MALFUNCTION
TEST OR INSPECTION
CORRECTIVE ACTION

5. FAILURE TO LOCK.

Check for dirty follower guide assembly or receiver cavity.

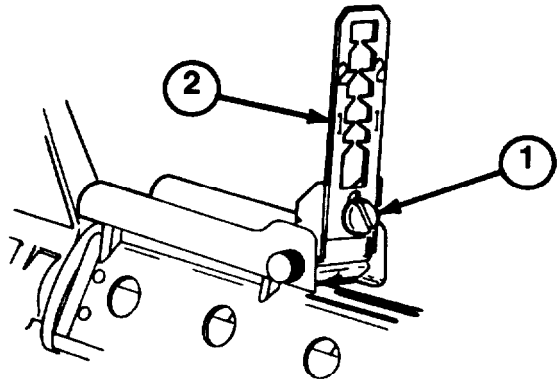
a. Remove back plate and follower guide assembly (p 2-32).

b. Clean and lubricate back plate and follower guide assembly (p 2-33).

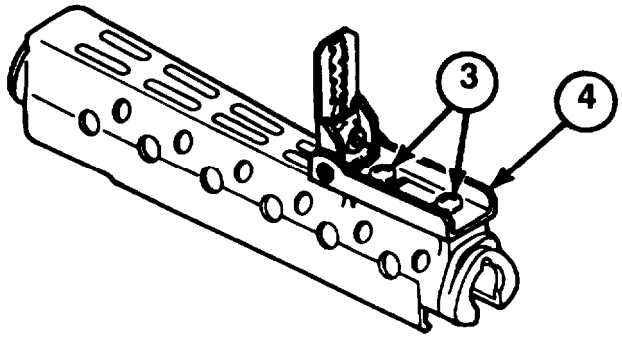
c. Clean and lubricate trigger housing (p 2-34).

6. FAILURE OF THE LEAF SIGHT ASSEMBLY TO REMAIN AT THE SELECTED RANGE.

Step 1. Check for loose machine screw (1) on front folding sight leaf (2). Tighten machine screw.

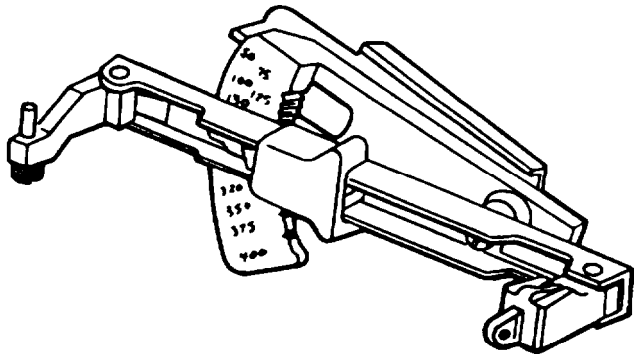


Step 2. Check for loose machine screws (3) on sight leaf vase (4). Tighten machine screws.



2-9. TROUBLESHOOTING PROCEDURES (CONT).

UNIT TROUBLESHOOTING (CONT)

MALFUNCTION TEST OR INSPECTION CORRECTIVE ACTION	
7. FAILURE OF QUADRANT SIGHT ASSEMBLY TO STAY IN SELECTED POSITION. Check quadrant sight assembly for damaged, missing, or dirty parts. Repair (p 2-38).	

Section VI. UNIT MAINTENANCE PROCEDURES

2-10. GENERAL.

a. This section contains procedures for removing or installing the 40mm grenade launcher M203/M203A1 from the M16 series rifle and M4 series carbine. Unit maintenance is authorized to remove and install the M203 grenade launcher after initial installation. The M203 grenade launcher must be installed on the same weapon from which it was removed. The M203A1 may be removed but not reinstalled by the unit armorer. AIR FORCE PERSONNEL ONLY: The grenade launcher should be installed on the same rifle from which it was removed. However, there may be situations where this may not be possible.

b. Direct support maintenance will make the initial installation of both the M203 and M203A1 grenade Launchers. Since there is a torque requirement to the bracket clamp assembly screw of the M203A1, direct support must always perform installation of the M203A1. There is no maintenance requirement to put the M203A1 back on the same weapon.

2-11. 40MM GRENADE LAUNCHER M203/M203A1 W/E - MAINTENANCE INSTRUCTIONS

This task covers:

- **a.** Removal of M203 Grenade Launcher From M16 Series Rifle and M203A1 Grenade Launcher From M4 Series Carbine
- **b.** Inspection/Repair
- **c.** Installation of M203 Grenade Launcher to M16 Series Rifle and M203A1 Grenade Launcher to M4 Series Carbine

INITIAL SETUP

Tools and Special Tools
(Army) Small Arms Repairman Tool Kit (item 5, app B)
(MC) Small Arms Repairman Tool Kit (item 5, app B)

Materials/Parts
Locking wire (MS20995C32) (9505-00-293-4208)
Rivet (8448697) (from TM 9-1005-249-23&P, TM 9-1005-319-23&P, or TM 05538C-23&P/2A (Marine Corps only) (Used to return grenade launcher to the M16 series configuration only.)

References
TM 9-1005-249-10, TM 9-1005-319-10, or TM 05538C-10/1A (Marine Corps only)
TM 9-1005-249-23&P
TM 9-1005-319-23&P or TM 05538C-23&P/2A (Marine Corps only)

Equipment Condition
Grenade launcher installed on M16 series rifle/M4 series carbine.

REMOVAL OF M203/M203A1 GRENADE LAUNCHER FROM M16 SERIES RIFLE/M4 SERIES CARBINE

WARNING
Clear both weapons before disassembly and ensure bolt of the rifle/carbine is forward.

NOTE
The M203 must be reinstalled on the same rifle from which it was removed.

The M203A1 may be switched to a different carbine by direct support.

The M203A2 may be switched to a different rifle or carbine equipped with the M5 or M4 Adapter Rail System. The rifle or carbine **MUST** be re-zeroed to re-establish weapon accuracy.

When mounting an M203A1 or M203A2 grenade launcher, ensure side sling swivel is mounted on the right side of the carbine. If not, remove side sling swivel (TM 9-1005-319-23&P, para 2-16, steps 5A thru 5C and reassemble, steps 4B thru 4D.

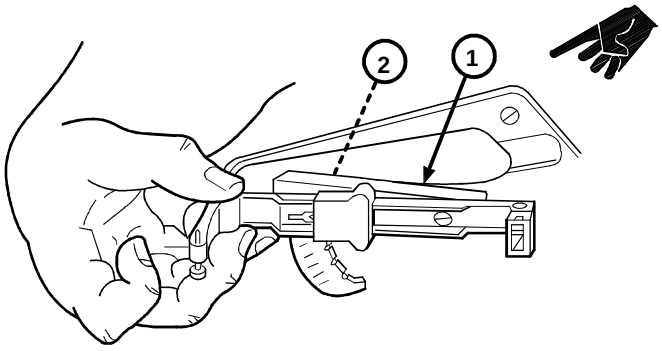
AIR FORCE ONLY: The grenade launcher should be installed on the same rifle from which it was removed. However, there may be situations where this may not be possible.

MARINE CORPS ONLY: Also see pages 3-4 thru 3-10.

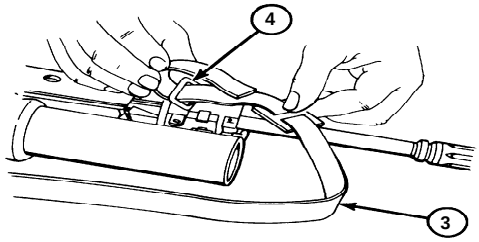
2-11. 40MM GRENADE LAUNCHER M203/M203A1 W/E - MAINTENANCE INSTRUCTIONS (CONT).

REMOVAL OF M203/M203A1 GRENADE LAUNCHER FROM M16 SERIES RIFLE/M4 SERIES CARBINE (CONT)

1. Using a screwdriver, remove the quadrant sight assembly (1) (if used) by loosening the mounting bolt (2) on the right side of the weapon.



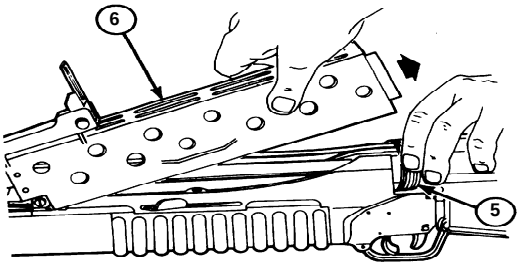
2. Remove sling (3) from front swivel (4).



CAUTION

Do not use a screwdriver or any other tool when removing the hand guard assembly, doing so may damage the hand guard assembly and/or slip ring.

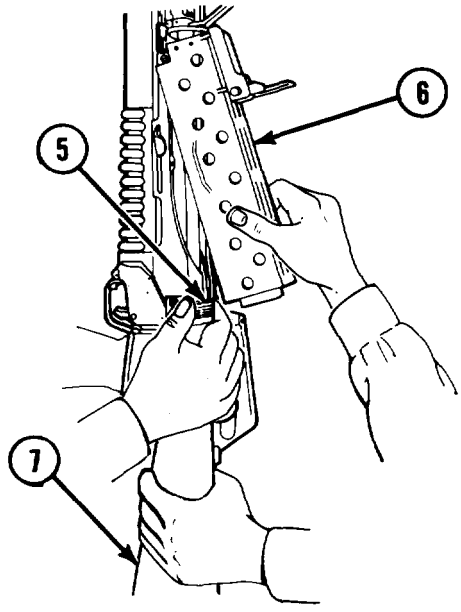
3. Pull back slip ring (5). Lift up on hand guard assembly (6) and pull to rear to remove.



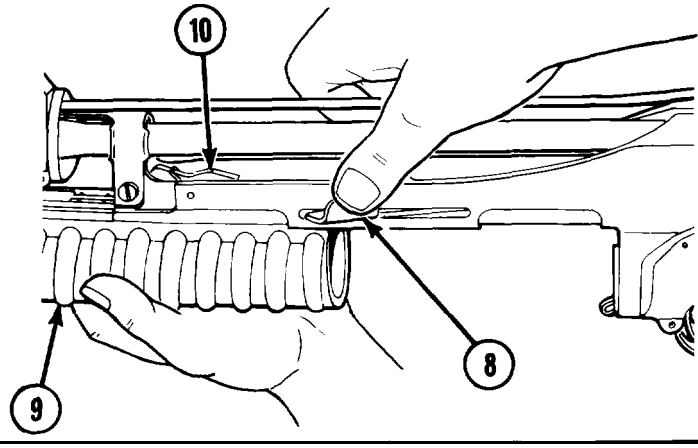
NOTE

If you have difficulty removing the hand guard assembly, use the buddy system. See step 4.

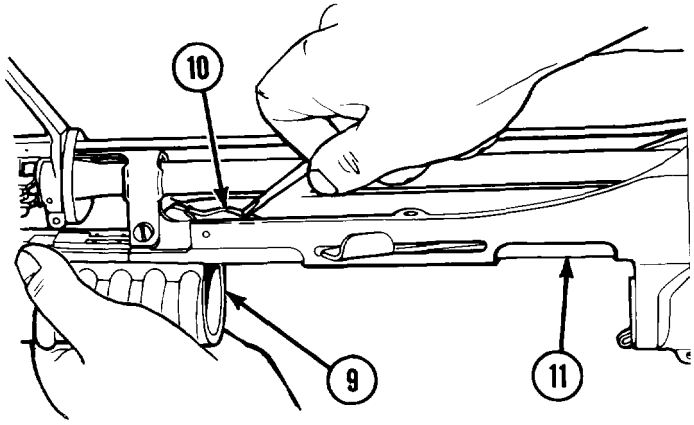
4. Stand the weapon on the buttstock (7 Grip the stock with one hand and the lower end of hand guard assembly (6) with the other hand. Have your buddy press down with both hands on the slip ring (5). Pull hand guard assembly (6) free.



5. Press barrel latch (8) and move barrel assembly (9) forward to barrel stop (10).



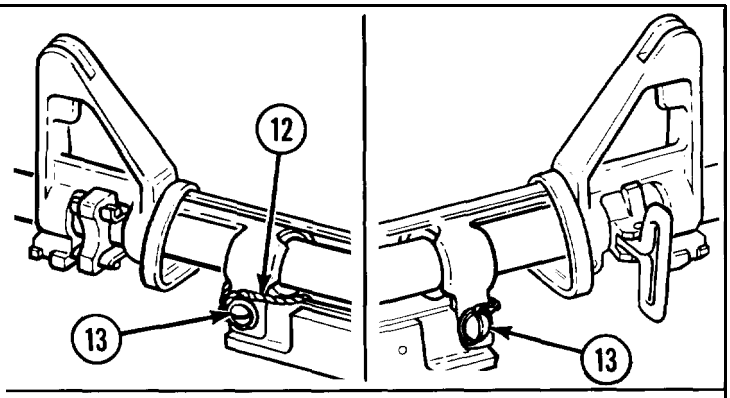
6. Using a screwdriver, press barrel stop (10) and slide barrel assembly (9) from receiver assembly (11).

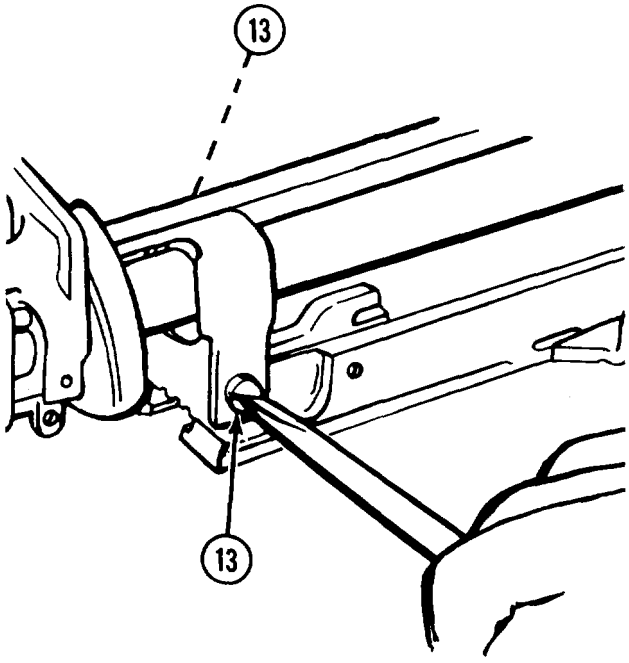


2-11. 40MM GRENADE LAUNCHER M203 W/E–MAINTENANCE INSTRUCTIONS (CONT).

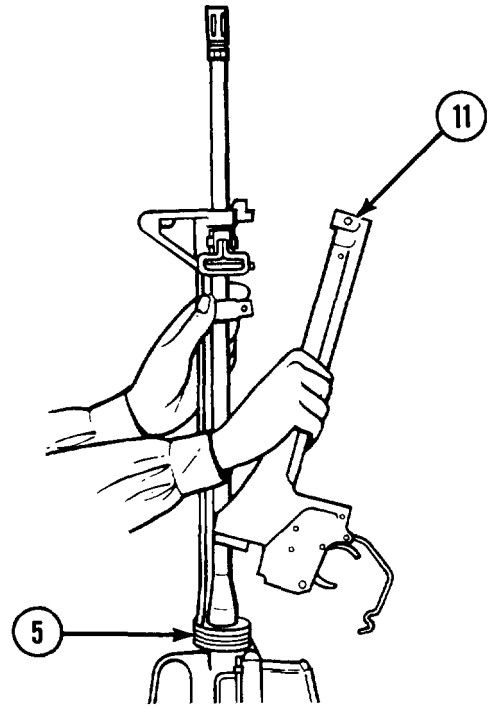
REMOVAL OF M203 GRENADE LAUNCHER FROM M16 SERIES RIFLE (CONT)

7. Cut locking wire (12) at head of two machine screws (13) at points shown. Use pliers to remove locking wire.





8. Remove two machine screws (13).



9. Pull front of receiver assembly (11) away from rifle. Then lift it up and out of the rifle slip ring (5).

NOTE
A bushing half may fall out.

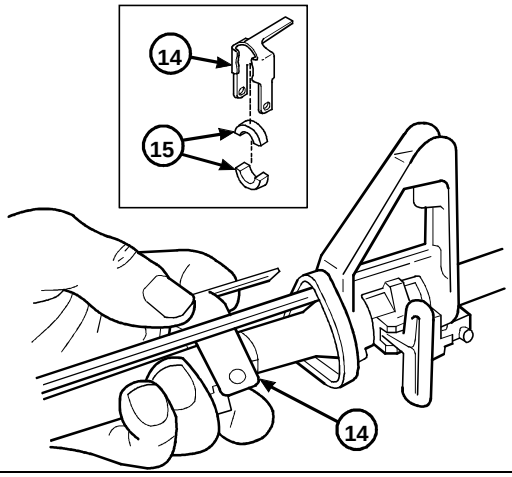
NOTE

Mounting bracket is hand fit at direct support maintenance. Be sure to reinstall on the same weapon from which it was removed.

If the grenade launcher is to be mounted on a different rifle, a new mounting bracket may be required.

10. Remove mounting bracket (14).

11. Remove two bushing halves (15).



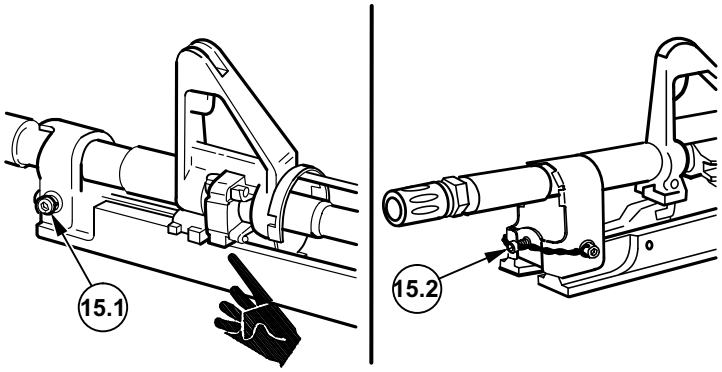
REMOVAL OF M203A1 FROM M4 SERIES CARBINE

NOTE - DELETED

M203A1 ONLY

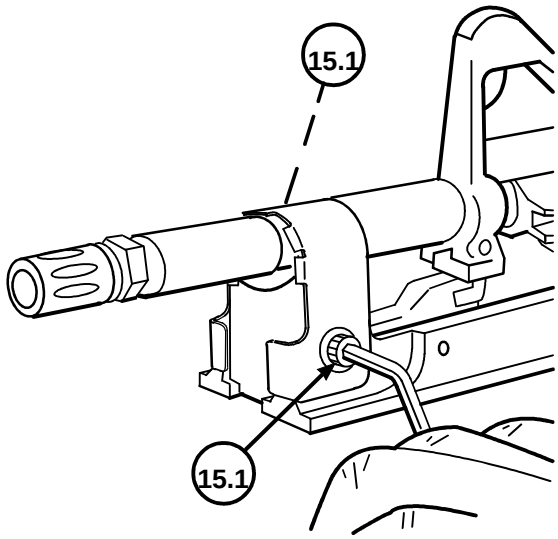
11.1. Cut locking wire at head of two socket head screws (15.1). Use pliers to remove locking wire.

11.2. Cut wire on bracket clamp assembly screw (15.2) and remove wire. Loosen bracket clamp assembly screw and remove bracket clamp assembly.



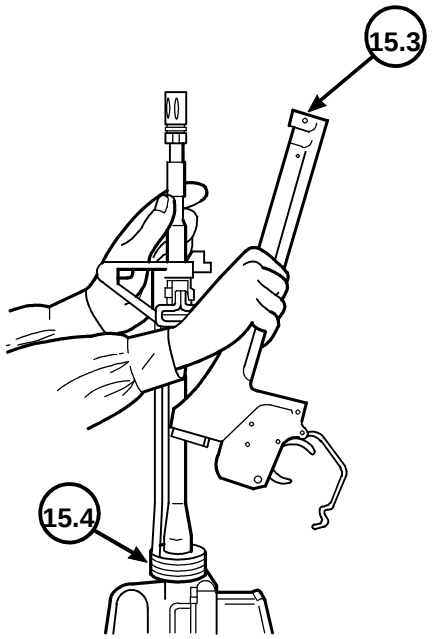
2-11. 40MM GRENADE LAUNCHER M203/M203A1 W/E—MAINTENANCE INSTRUCTIONS (CONT).

REMOVAL OF M203A1 FROM M4 SERIES CARBINE



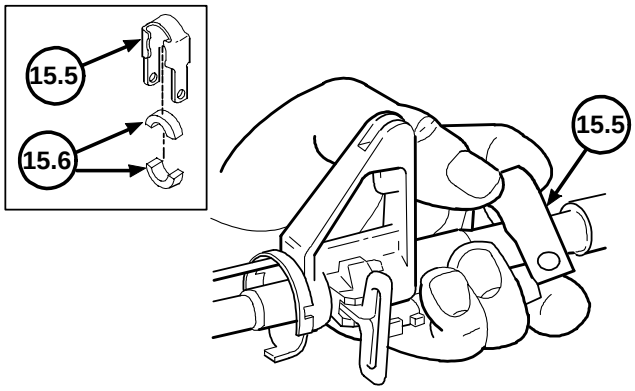
M203A1 ONLY

11.3 Remove two socket head screws (15.1) and washers.



M203A1 ONLY

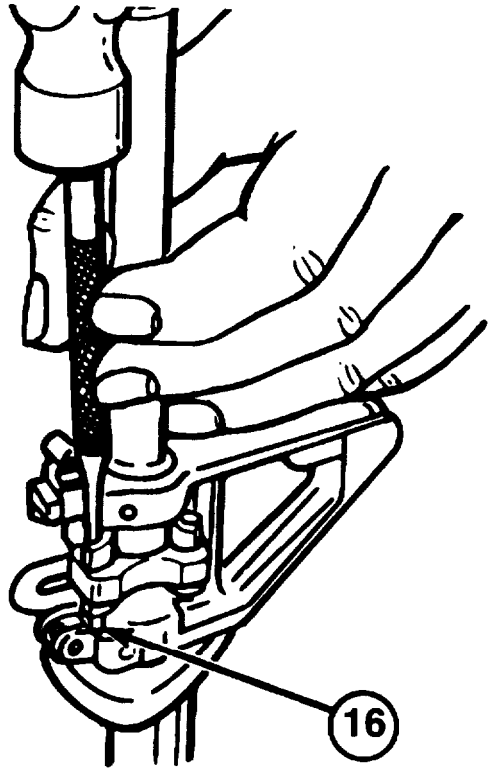
11.4. Pull front of receiver assembly (15.3) away from carbine. Then lift it up and out of the carbine slip ring (15.4).



M203A1 ONLY

11.5. Remove mounting bracket (15.5) and two bushing halves (15.6).

REMOVAL OF M203/M203A1 GRENADE LAUNCHER FROM M16 SERIES RIFLE/M4 SERIES CARBINE (CONT)



NOTE

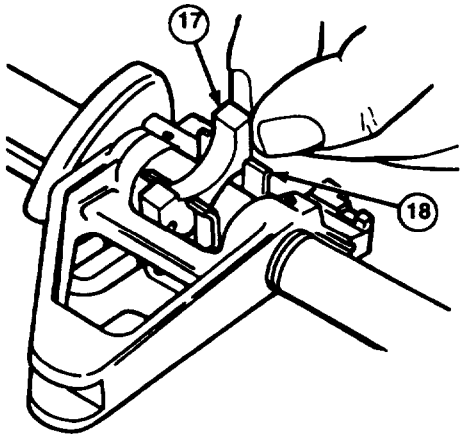
FOR M203: Perform steps 12 thru 19 if weapon is being returned to the M16 series configuration. Skip steps 12 thru 16 and start with step 17 if the M203 grenade launcher is to be sent to direct support for maintenance.

FOR M203A1: Perform steps 17 thru 19 if weapon is being returned to the M4 series configuration.

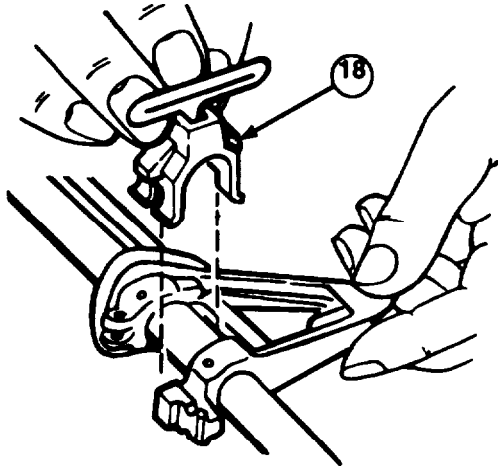
12. Remove two spring pins (16).

2-11. 40MM GRENADE LAUNCHER M203/M203A1 W/E-MAINTENANCE INSTRUCTIONS (CONT).

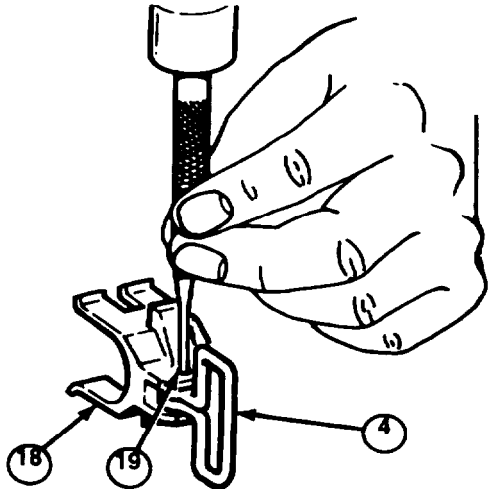
REMOVAL OF M203 GRENADE LAUNCHER FROM M16 SERIES RIFLE (CONT)



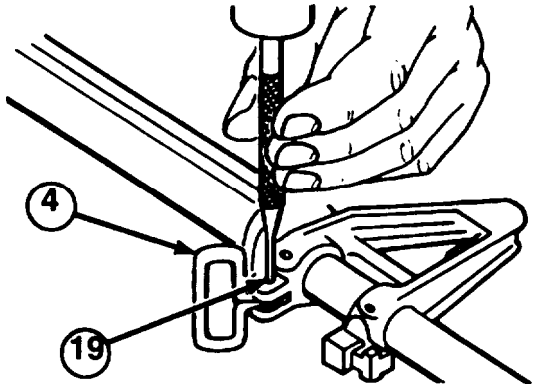
13. Lift swivel locking bar (17) up and out of swivel mount (18).



14. Remove swivel mount (18).



15. Remove rivet (19). Separate front swivel (4) from swivel mount (18).

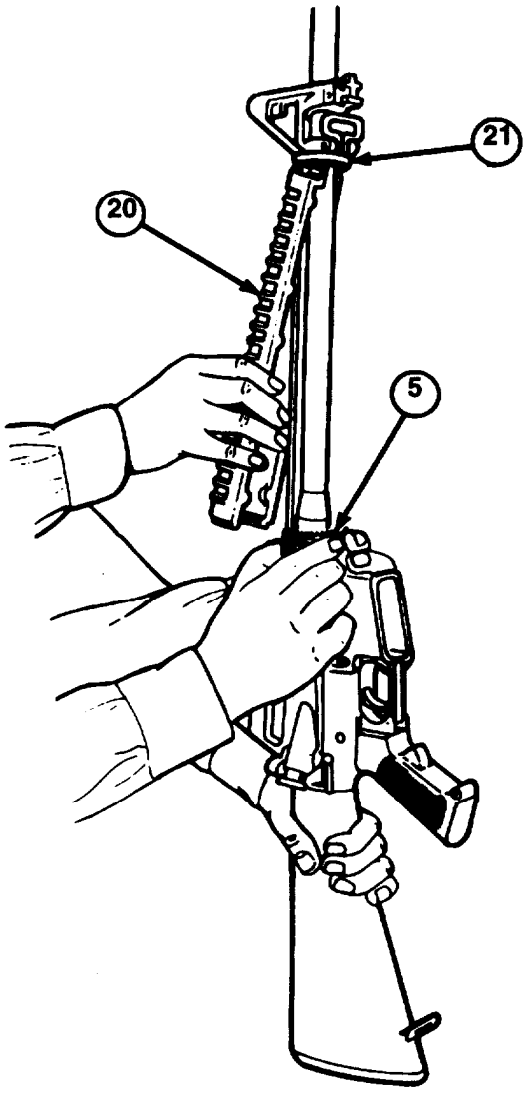


NOTE

Requisition new rivet from TM 9-1005-249-23&P, TM 9-1005-319-23&P, or TM 05538C-23&P/2A (Marine Corps only).

16. Install front swivel (4) with new rivet (19) on bottom of front sight. Flare rivet with punch and hammer.

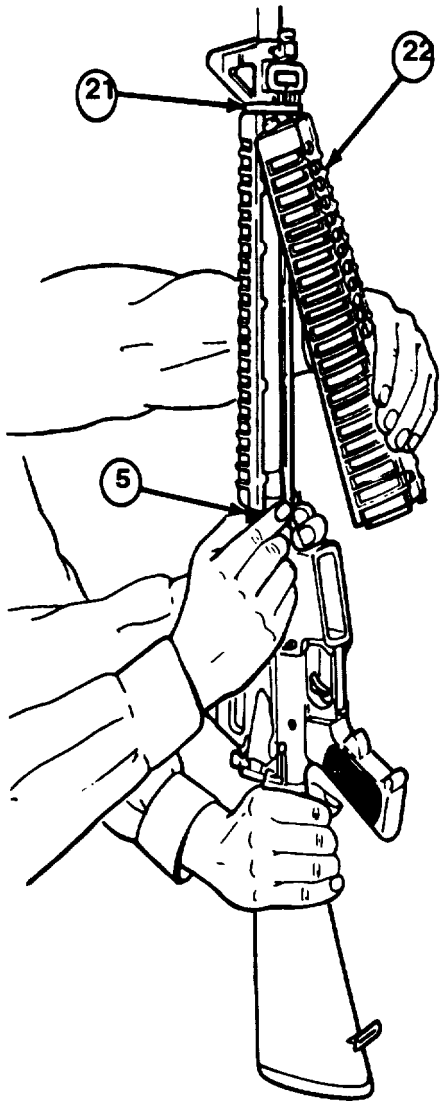
REMOVAL OF M203/M203A1 GRENADE LAUNCHER FROM M16 SERIES RIFLE/M4 SERIES CARBINE (CONT)



NOTE

Refer to operator manuals for the buddy system procedure on installing hand guards.

17. Install hand guard (20) in tube cap (21). Push down on slip ring (5). Push hand guard in place and release slip ring (5).



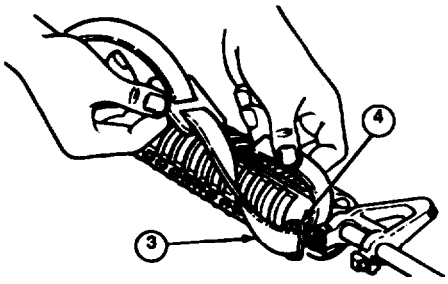
18. Install other hand guard (22) in tube cap (21). Push down on slip ring (5). Push hand guard in place and release slip ring (5).

2-11. 40MM GRENADE LAUNCHER M203/M203A1 W/E - MAINTENANCE INSTRUCTIONS (CONT).

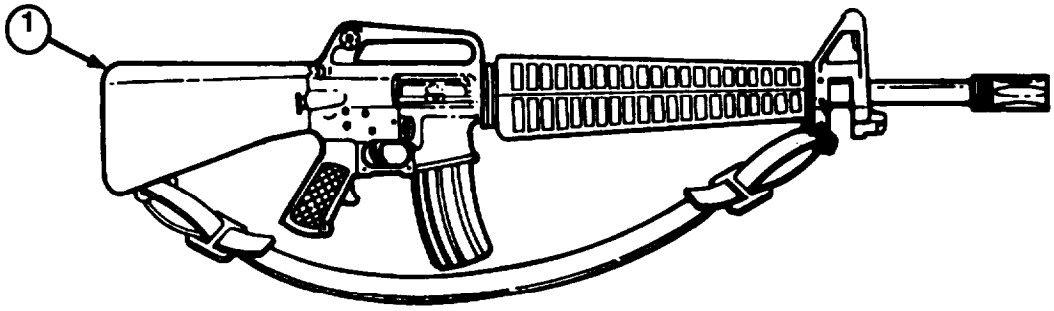
REMOVAL OF M203/M203A1 GRENADE LAUNCHER FROM M16 SERIES RIFLE/M4 SERIES CARBINE (CONT).

19. Install sling (3) in front swivel (4) or side swivel mount.

20. M4 series carbine must be re-zeroed after removal of M203A1 since removal changes the zero.

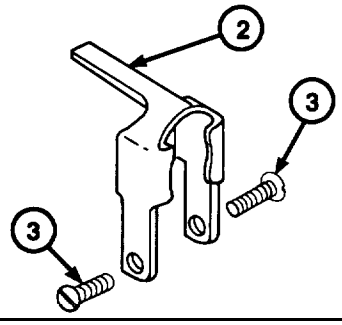


INSPECTION/REPAIR



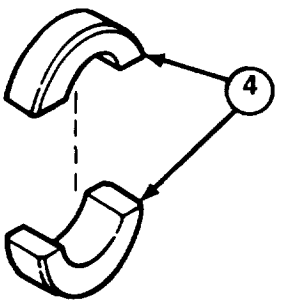
1. Inspect rifle (1). Refer to TM 9-1005-249-23&P, TM 9-1005-319-23&P, or TM 05538C-23&P/2A (Marine Corps only).

2. Inspect mounting bracket (2) for bends or damage. If damaged, evacuate to direct support maintenance. Inspect two machine screws (3). If damaged, replace machine screws. **MARINE CORPS ONLY:** Refer to page 3-4.



3. Inspect bushing halves (4) for chips or wear. If damaged, replace bushing halves.

4. Inspect heat shield for tightness on hand guards. If loose enough to rattle, evacuate grenade launcher to direct support maintenance.



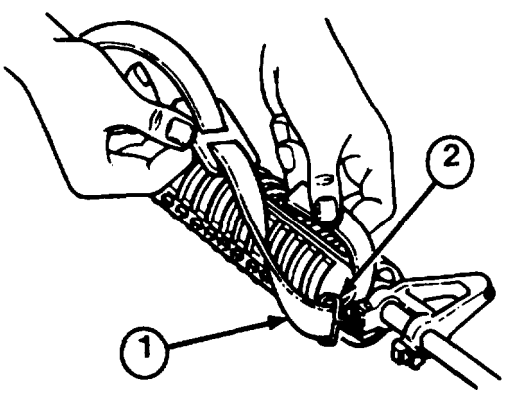
INSTALLATION OF M203 GRENADE LAUNCHER TO M16 SERIES RIFLE

NOTE

The M203 grenade launcher must be reinstalled on the same rifle from which it was removed.

The M203A1 grenade launcher may be switched to a different carbine by direct support.

When mounting an M203A1 grenade launcher, ensure side sling swivel is mounted on the right side of the carbine. If not, remove side sling swivel (TM 9-1005-319-23&P, para 2-16, steps 5A thru 5C and reinstall, steps 4B thru 4D.



1. Remove sling (1) from front swivel (2).

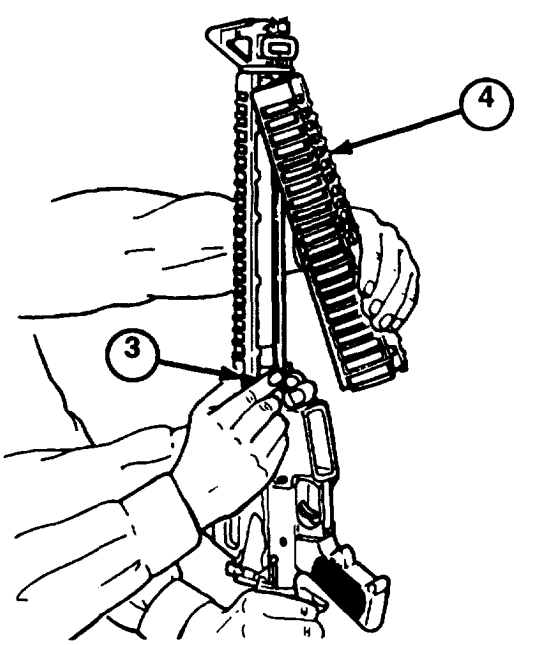
CAUTION

Do not use a screwdriver or any other tool when removing the hand guard, doing so may damage the hand guard and/or slip ring.

NOTE

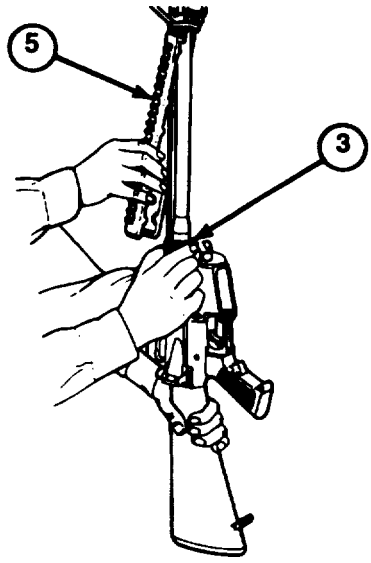
Refer to TM 9-1005-249-10 for the buddy system procedure on installing hand guards. Keep both hand guards at unit maintenance to convert M16 series rifle back to original configuration.

2. Push down on the slip ring (3) and pull out and down on the hand guard (4).

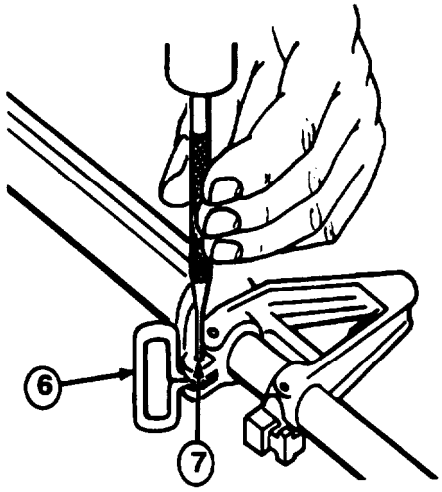


2-11. 40MM GRENADE LAUNCHER M203/M203A1W/E - MAINTENANCE INSTRUCTIONS (CONT).

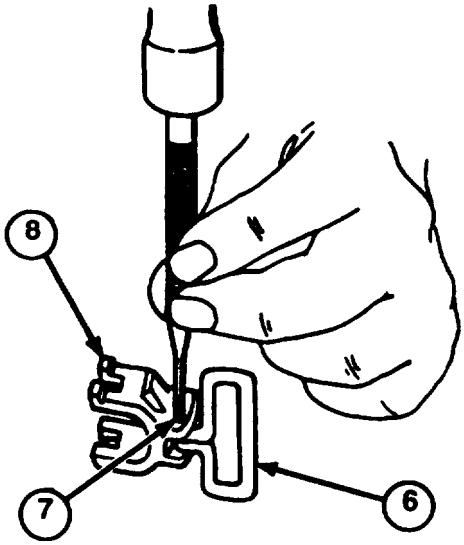
INSTALLATION OF M203 GRENADE LAUNCHER TO M16 SERIES RIFLE (CONT)



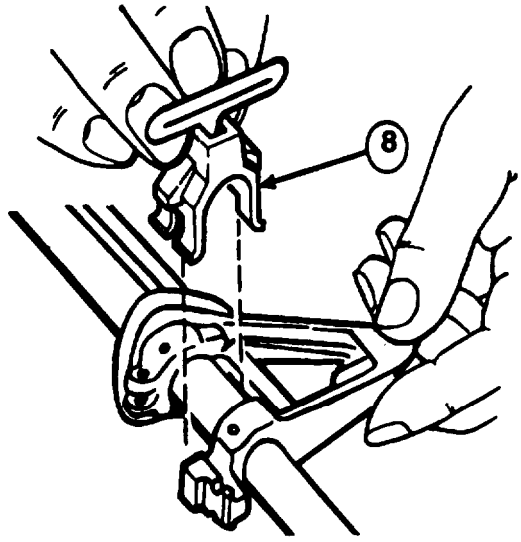
3. Push down on the slip ring (3) and lift the hand guard (5) up and out.



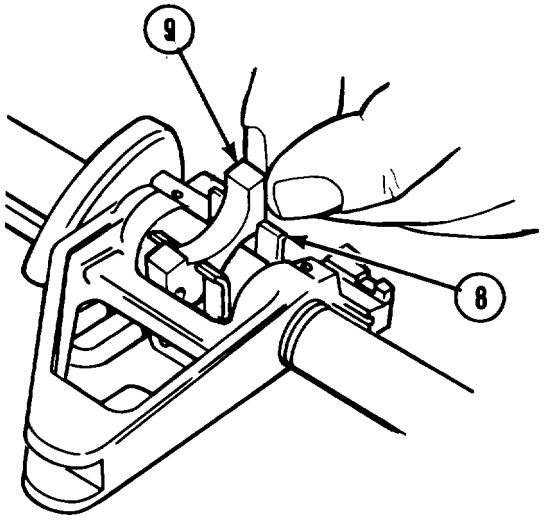
4. Remove front swivel (6) from bottom of front sight by driving out rivet (7).



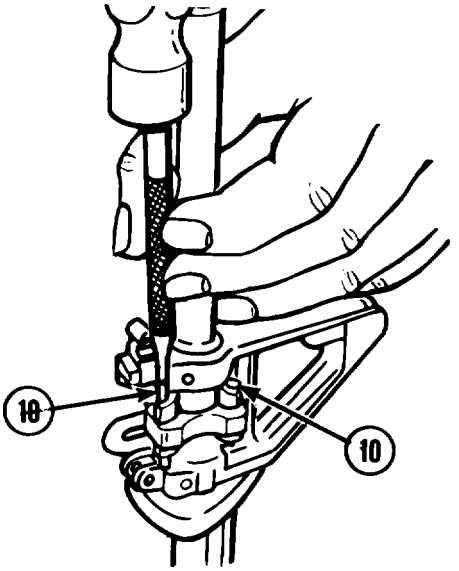
5. Install front swivel (6) to swivel mount (8) with new rivet (7).



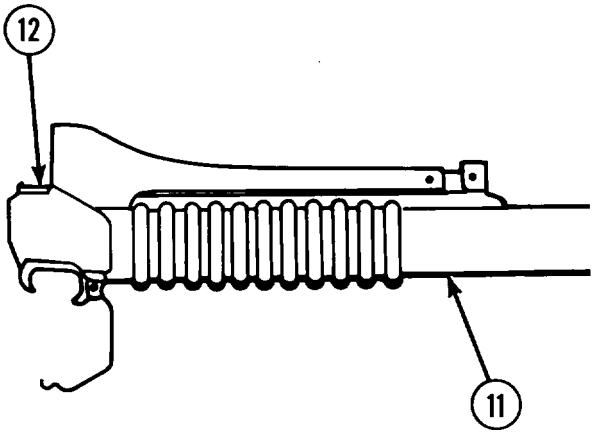
6. Install swivel mount (8).



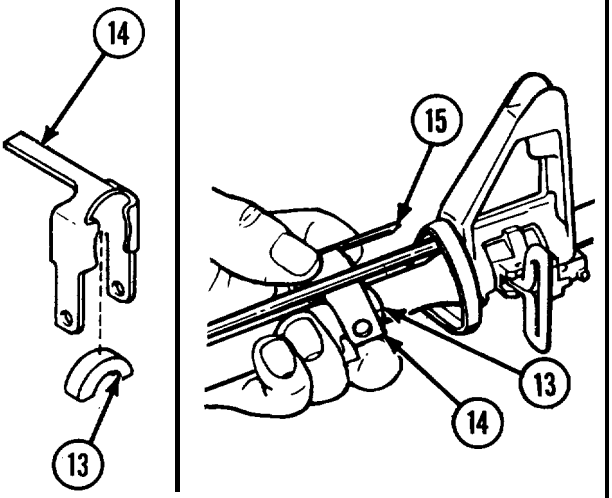
7. Place swivel locking bar (9) in swivel mount (8).



8. Install two spring pins (10).



9. Remove barrel assembly (11) from receiver assembly (12) if assembled. See page 2-17.

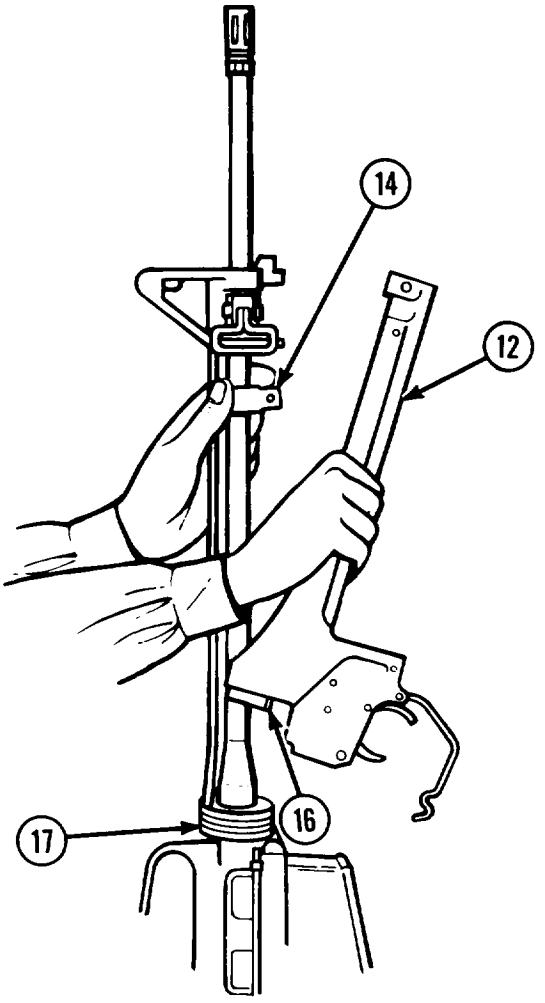


10. Install bushing half (13) in mounting bracket (14).

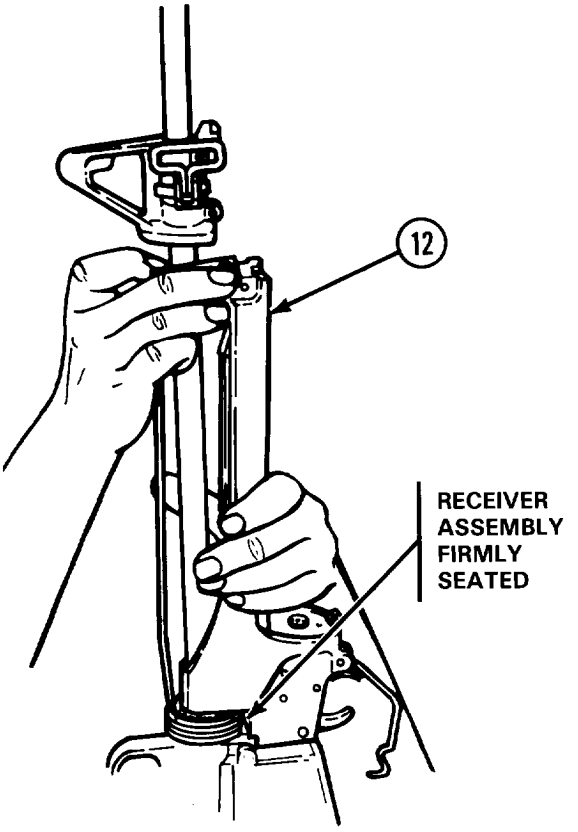
11. Position mounting bracket (14) over rifle barrel with the tip (15) pointing forward. Install other bushing half (13).

2-11. 40MM GRENADE LAUNCHER M203 W/E–MAINTENANCE INSTRUCTIONS (CONT).

INSTALLATION OF M203 GRENADE LAUNCHER TO M16 SERIES RIFLE (CONT)



12. While holding mounting bracket (14) forward, position receiver assembly (12) over rifle barrel. Align spring pin (16) with notch in barrel nut (17). Be sure spring pin is fully seated in notch of barrel nut.



NOTE

For proper alignment, ensure the receiver assembly is centered under the barrel of the rifle.

13. Seat receiver assembly (12) firmly in rifle.

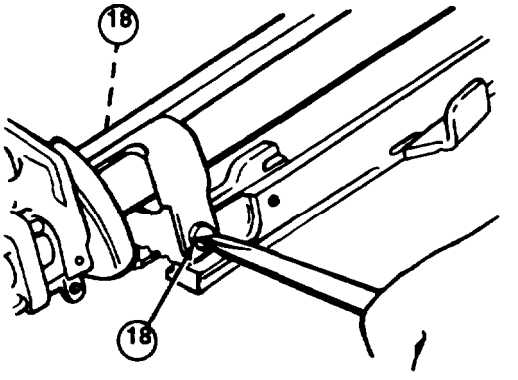
14. Align screw holes in receiver assembly and mounting bracket and install two machine screws (18). Fully tighten machine screws (18).

15. Check installation of receiver assembly as follows:

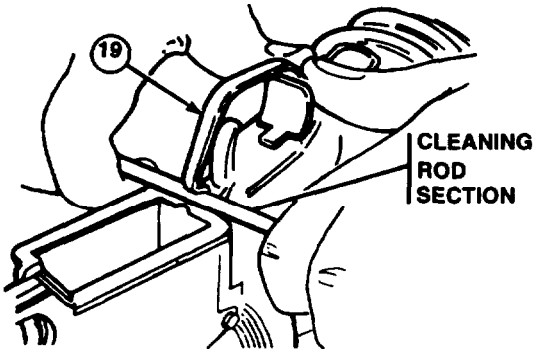
a. The movement from side to side should not exceed 1/8 inch (0.32 cm) left or right of center. Total movement cannot exceed 1/4 inch (0.64 cm).

b. If excess side to side movement exists, replace the bushing halves.

c. There must be no up and down movement between the receiver assembly (M203) and the rifle barrel.



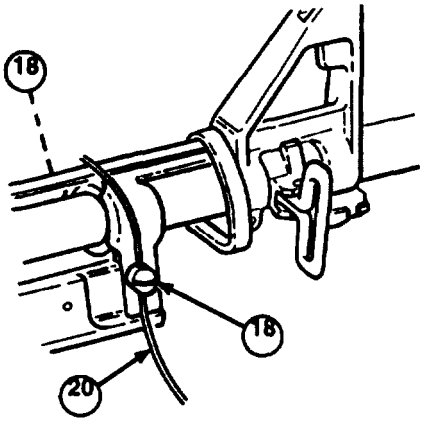
16. Use cleaning rod section to engage trigger guard (19).



17. Install locking wire (20) as follows:

a. Install an 8 inch (20.32 cm) length of locking wire (20); it may be started at either machine screw (18).

b. Insert locking wire (20) approximately halfway through hole in head of machine screw (18).

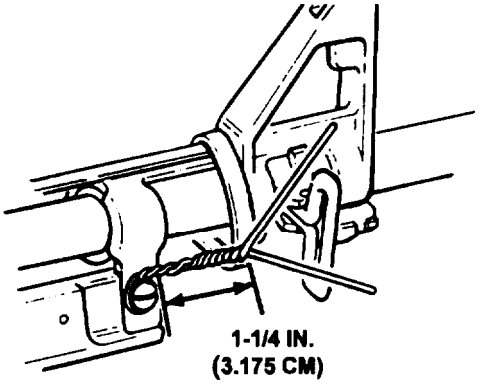


2-11. 40MM GRENADE LAUNCHER M203/M203A1 W/E-MAINTENANCE INSTRUCTIONS (CONT).

INSTALLATION OF M203 GRENADE LAUNCHER TO M16 SERIES RIFLE (CONT)

c. Wrap the half of the wire farthest from the front of the receiver assembly around the head of the mounting screw in a clockwise direction.

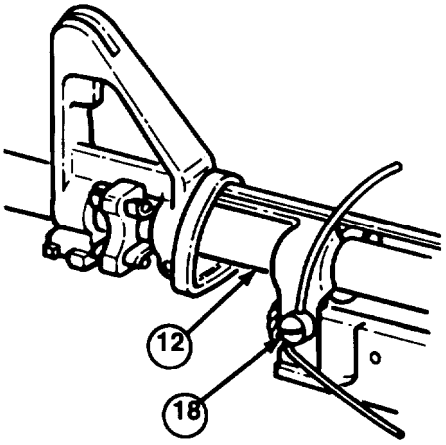
d. Twist wire strands together in either right-hand or left-hand direction. Begin at the screw head until the twisted wire is approximately 1-1/4 inches (3.175 cm) long.



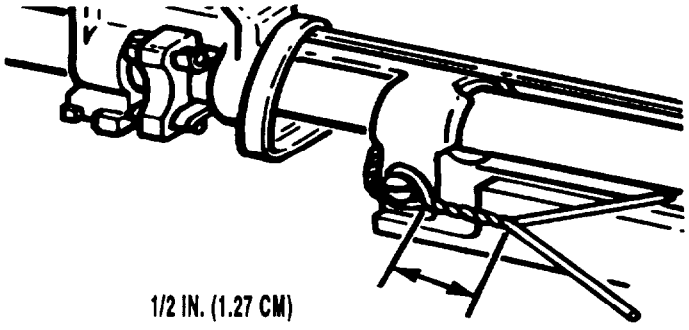
e. Wrap the twisted wire around the front of receiver assembly (12). Insert one strand of wire through machine screw (18) and pull wire tight.

f. Untwist the wire if twisted segments of the wire prevent it from being drawn tightly across the front of receiver assembly. Replace wire if untwisted, because wire will not be tight.

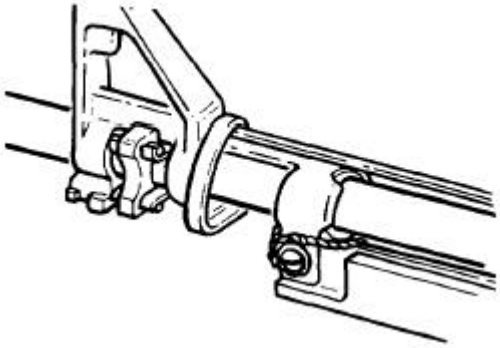
g. Wrap loose strand of wire around head of machine screw (18) in a counterclockwise direction.

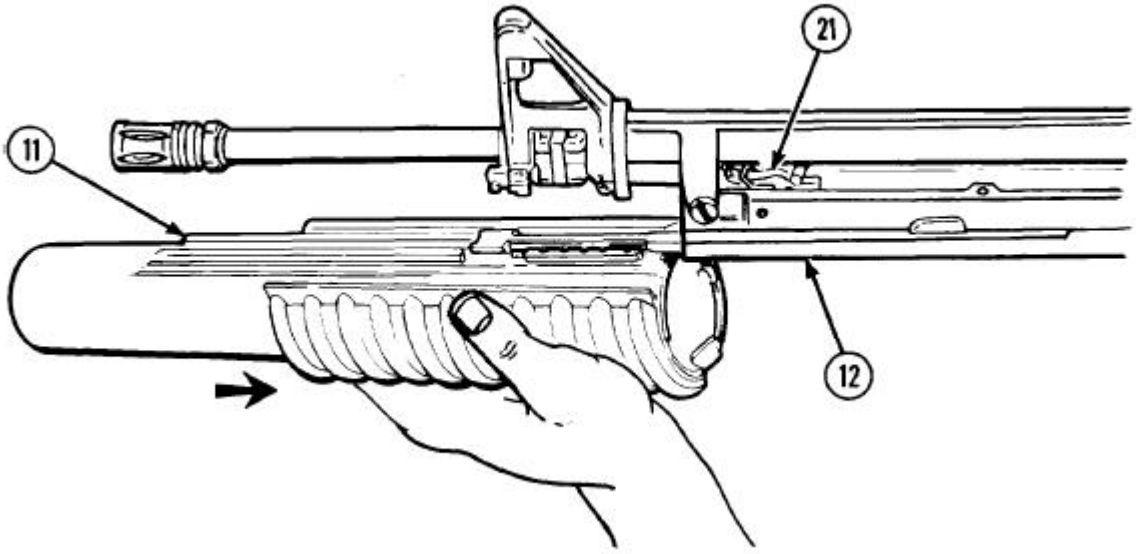


16. Twist wire strands together, beginning at the screw head, until the twisted wire is approximately 1/2 inch (1.27 cm) long.

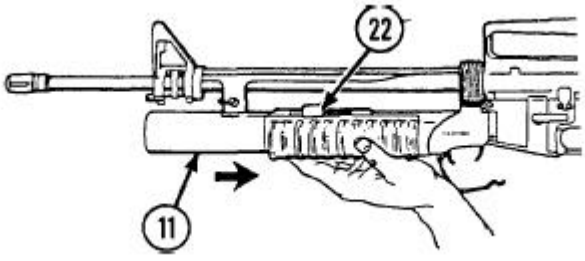


19. Cut off excess wire strands and bend twisted section out of the way.





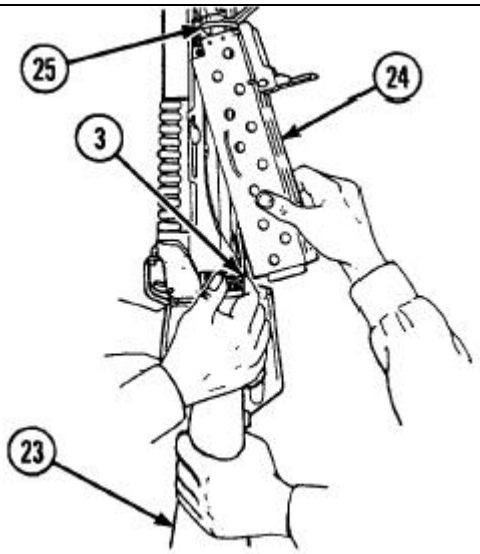
20. Insert tracks on barrel assembly (11) into tracks in receiver assembly (12) and compress barrel stop (21). Pull barrel assembly (11) rearward and barrel stop (21) will snap in place.



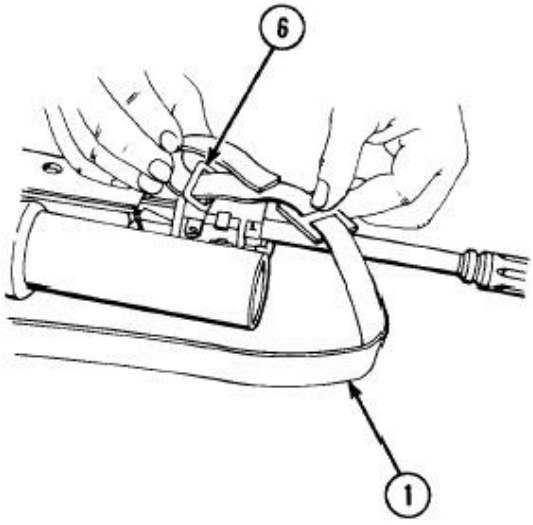
21. Pull barrel assembly (11) rearward to close. Barrel latch (22) must lock barrel assembly (11) fully closed.

2-11. 40MM GRENADE LAUNCHER M203 W/E - MAINTENANCE INSTRUCTIONS (CONT).

INSTALLATION OF M203 GRENADE LAUNCHER TO M16 SERIES RIFLE (CONT)

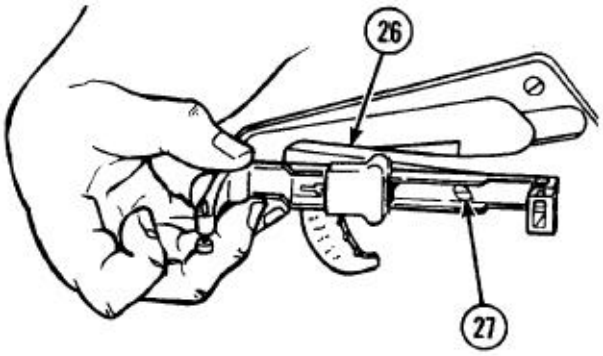


22. Stand the weapon on the buttstock (23). Grip the stock with one hand and the lower end of the hand guard assembly (24) with the other hand. Have your buddy press down with both hands on the slip ring (3). Install hand guard assembly (24) in tube cap (25). Push hand guard assembly in place and release slip ring (3).



23. Install sling (1) in front swivel (6).

24. Install quadrant sight assembly (26); pull it gently to rear until it becomes snug; and using a screwdriver, tighten mounting bolt (27) on right side.



NOTE

When used on the M16A4 rifle, the leaf sight and rail grabber assembly will be attached to slot T38 on the M5 Adapter Rail System.

When used on the M4 or M4A1 carbine, the leaf sight and rail grabber assembly will be attached to slot T24 on the M4 Adapter Rail System.

25. Turn the torque knob of the assembly counterclockwise until it stops turning. Place the assembly on the upper rail and insure the recoil lug is seated in the correct slot. **The torque knob should be to the left of the carbine or rifle**. Turn the torque knob clockwise until you hear two clicks.

2-12. RECEIVER ASSEMBLY-MAINTENANCE INSTRUCTIONS.

This task covers:

a. Removal
b. Disassembly
c. Cleaning
d. Inspection/Repair
e. Lubrication/Reassembly
f. Installation

INITIAL SETUP

Tools and Special Tools
(Army) Small Arms Repairman Tool Kit (item 5, app B)
(MC) Small Arms Repairman Tool Kit (item 5, app B)

Materials/Parts
Cleaner, lubricant, and preservative (CLP) (item 5, app D)
Dry cleaning solvent (item 9, app D)
Rubber gloves (item 10, app D)
Self-locking screw (MS21262-5)
Wiping rag (item 17, app D)

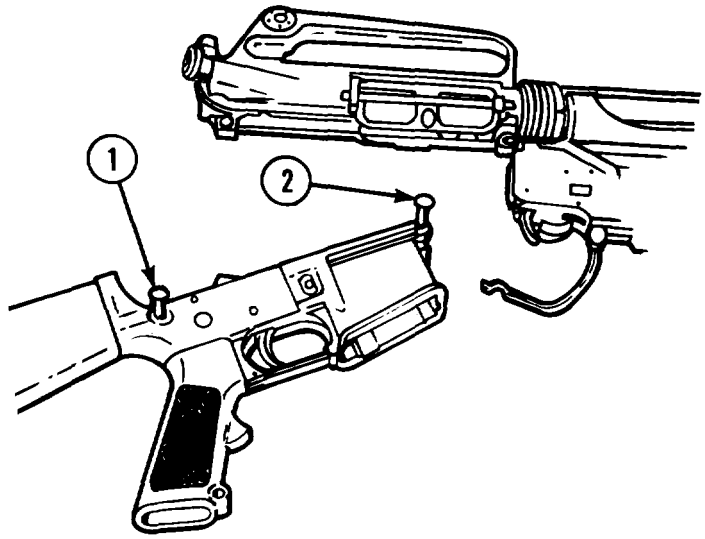
References
TM 9-1010-221-10

Equipment Condition
Grenade launcher installed on M16 series rifle.
Sling and hand guard assembly removed.

REMOVAL

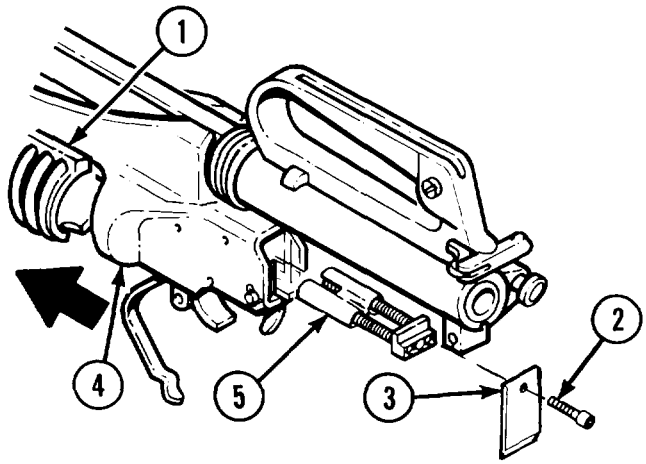
WARNING
Clear both weapons before starting an inspection and ensure the bolt of the rifle is forward.

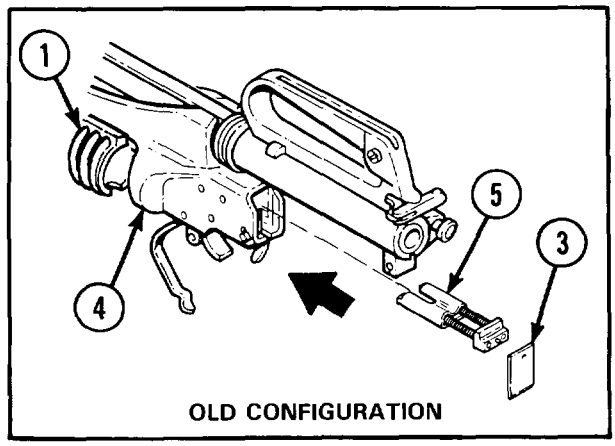
Disengage trigger guard. Push receiver takedown pin (1) and receiver pivot pin (2) out and remove lower receiver.



2-12. RECEIVER ASSEMBLY - MAINTENANCE INSTRUCTIONS (CONT).

DISASSEMBLY





OLD CONFIGURATION

NOTE

The current configuration of the back plate and follower guide assembly is depicted above. The previous configuration follower guide assembly contained a captured spring and detent; therefore, it did not require a screw. The old-type back plate and follower guide assembly only need to be replaced if defective. If the old configuration of either the back plate or the follower guide assembly requires replacement, both parts must be replaced, as the old to new configurations are not compatible.

1. Cock the grenade launcher. Slide the barrel assembly (1) forward. Using allen wrench, remove and discard self-locking screw (2).

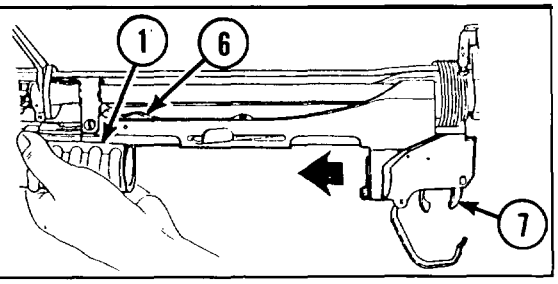
WARNING

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

2. Slide back plate (3) out of receiver assembly (4). Slide barrel assembly rearward and remove follower guide assembly (5).

3. Press barrel stop (6) and remove barrel assembly (1).

4. Squeeze trigger (7) to release firing pin.



CLEANING

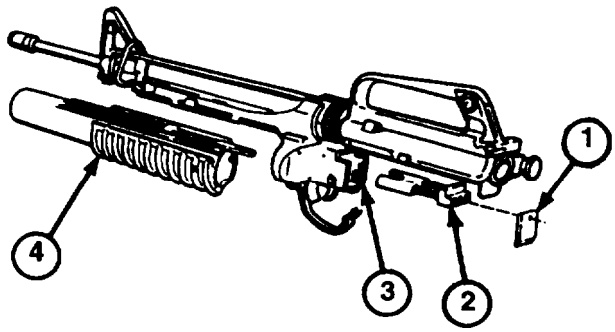
1. Clean back plate (1) and follower guide assembly (2) using wiping rag (item 17, app D) and CLP (item 5, app D).

WARNING

Dry cleaning solvent is FLAMMABLE and TOXIC and must be kept away from open flames and used in a well-ventilated area. Use of rubber gloves is necessary to protect the skin when washing grenade launcher parts.

Appropriate eye protection is recommended when cleaning your weapon and/or its parts.

2. Wash receiver assembly (3) thoroughly in dry cleaning solvent (item 9, app D) to remove oil, dirt, and sand. Wipe with wiping rag (item 17, app D) and allow to air dry. Clean barrel assembly (4) using wiping rag (item 17, app D) and CLP (item 5, app D).



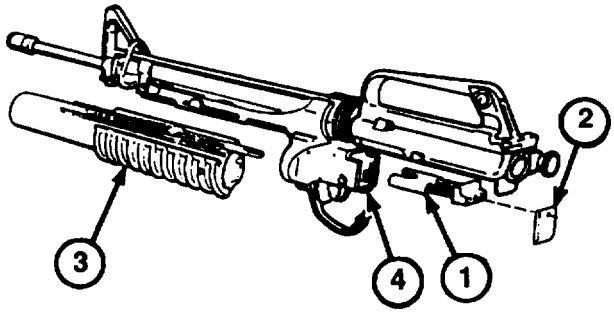
INSPECTION/REPAIR

1. Make sure that follower guide assembly (1) does not have broken springs or bent rods.

2. Inspect back plate (2) and follower guide assembly (1) for serviceability.

3. Inspect barrel assembly (3) for cracks or dents. inspect hand grip assembly for cracks and chipped away material. If damaged, evacuate grenade launcher to direct support maintenance.

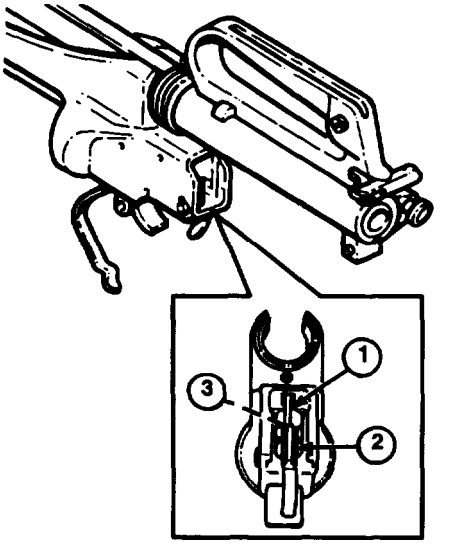
4. Replace all unserviceable authorized parts in the receiver assembly (4).



2-12. RECEIVER ASSEMBLY-MAINTENANCE INSTRUCTIONS (CONT).

LUBRICATION/REASSEMBLY

1. Lubricate the sides of the cocking lever (1) trigger, top of sear (2) and spring (3) with CLP (item 5, app D).

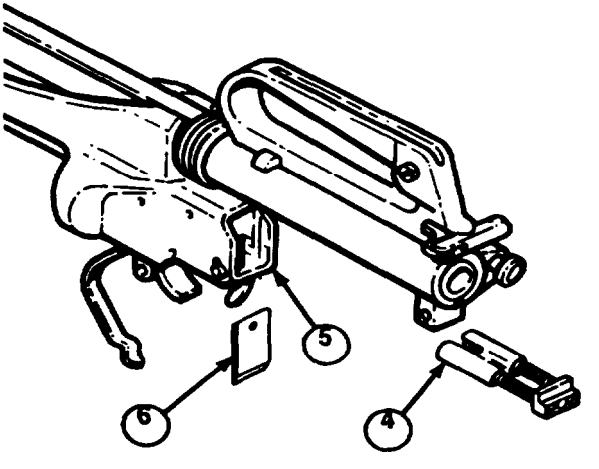


NOTE

Be sure the beveled side of the back plate is down and to the rear of the receiver assembly before placing back plate in slot of receiver assembly.

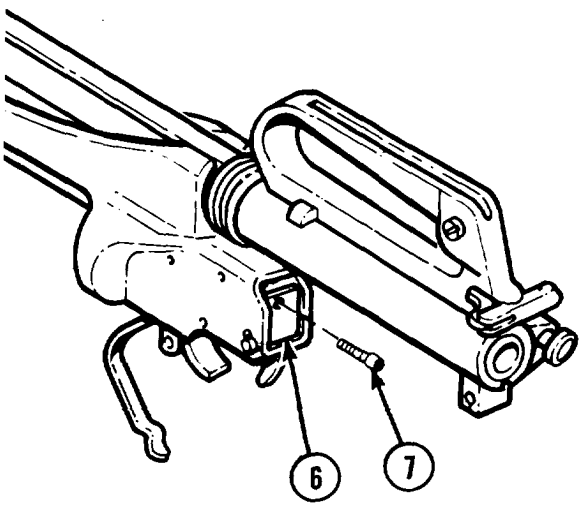
Be sure follower guide assembly is installed as illustrated.

2. Install follower guide assembly (4) in receiver assembly (5). While holding follower guide assembly (4) in place, slide back plate (6) in slot of receiver assembly (5).

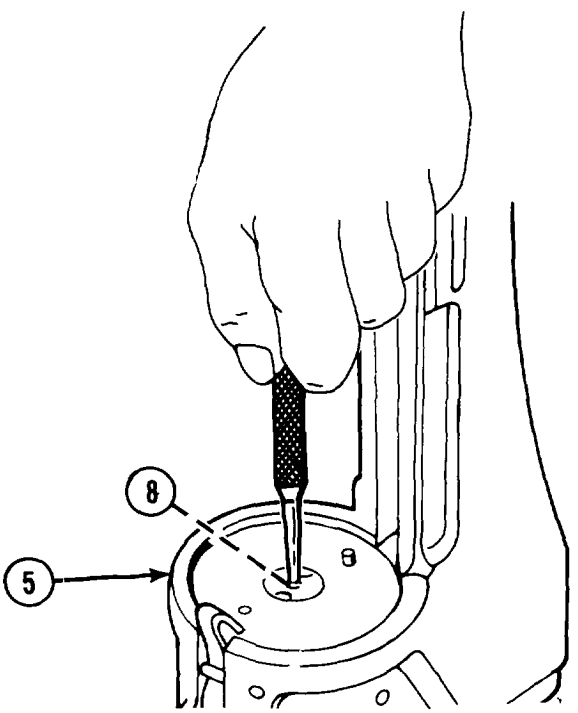


LUBRICATION/REASSEMBLY (CONT)

3. Align screw hole in back plate (6) with threaded hole in follower guide assembly. Install new self-locking screw (7) and tighten securely using allen wrench.



4. Insert a 3/32-inch drive pin punch through the firing pin hole. Push the firing pin (8) into the receiver assembly (5) until it clicks.



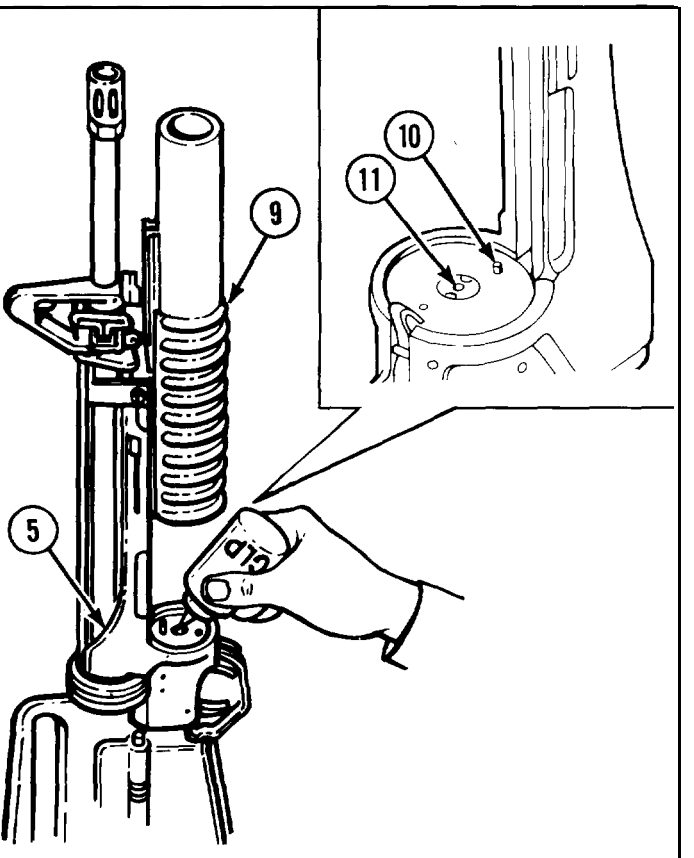
2-12. RECEIVER ASSEMBLY–MAINTENANCE INSTRUCTIONS (CONT).

LUBRICATION/REASSEMBLY (CONT)

5. Install and close barrel assembly (9) on the receiver assembly (5) (p 2-29).

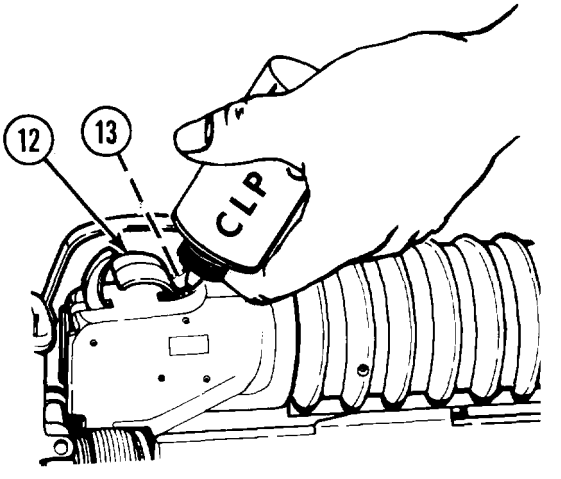
6. Open barrel assembly and place one or two drops of CLP (item 5, app D) on ejector (10). With a punch, press and release ejector several times to spread lubricant.

7. Place one or two drops of CLP (item 5, app D) in firing pin hole (11).



NOTE
The weapon must be cocked in order for safety lever to operate.

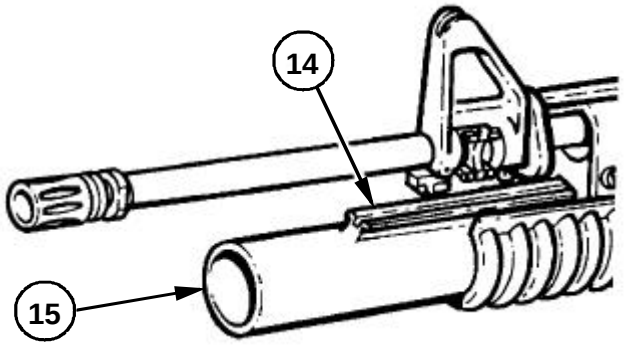
8. Cock grenade launcher. Turn grenade launcher upside down putting safety (12) in safe position. Oil safety detent (13) using one or two drops of CLP (item 5, app D). Operate the safety several times to work in the oil.



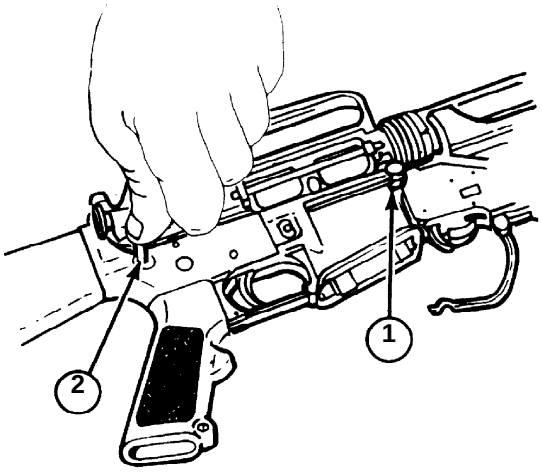
9. Lubricate the barrel assembly track (14) and bore (15) using CLP (item 5, app D). Close barrel assembly.

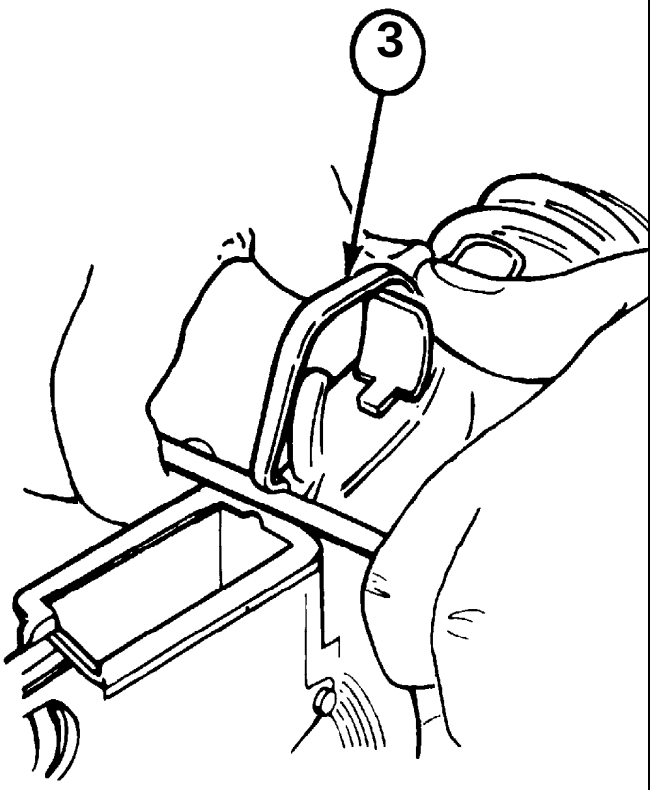
10. Wipe all exposed surfaces of the receiver assembly with wiping rag (item 17, app D) with a small amount of CLP (item 5, app D) applied.

11. Perform function check on receiver assembly in accordance with TM 9-1010-221-10.



INSTALLATION





1. Install upper receiver and barrel assembly to lower receiver and extension assembly and secure with receiver pivot pin (1) and takedown pin (2).

2. Use cleaning rod section to engage trigger guard (3) back in place.

2-13. QUADRANT SIGHT ASSEMBLY - MAINTENANCE INSTRUCTIONS.

This task covers:

a. Disassembly
b. Inspection/Repair
c. Reassembly

INITIAL SETUP

Tools and Special Tools
(Army) Small Arms Repair man Tool Kit (item 5, app B)
(MC) Small Arms Repairman Tool Kit (item 5, app B)

Equipment Condition
Quadrant sight assembly removed from host weapon carrying handle.

NOTE

When replacing Item 2 below for the first time, also replace Item 3, Page 2-40. These are new parts (see Figures C-6 and C-7) and are not compatible with the parts they replace.

DISASSEMBLY

1. Unscrew mounting bolt (1) and remove quadrant sight clamp (2).

2. Unscrew sight pivot screw (3) and separate sightarm assembly (4) from range assembly quadrant (5) or (5.1).

3. Slide latch assembly (6) to the notch in the sightarm assembly (4) and remove latch assembly (6) and helical compression spring (7).

4. Unscrew sight post (8).

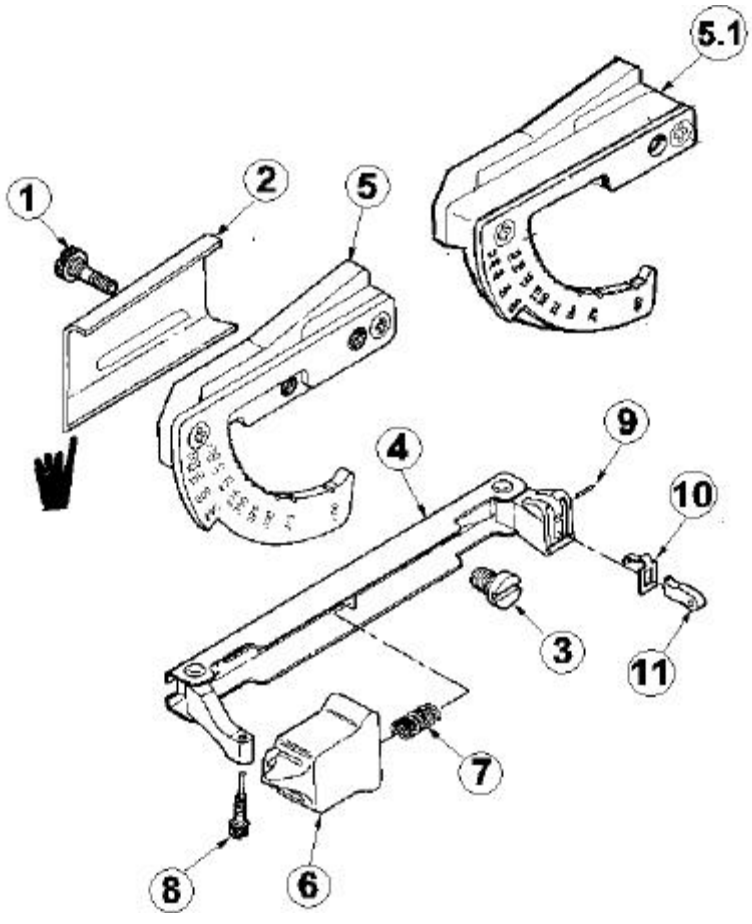
CAUTION

Sightarm assembly (4) is made of light plastic. Take care when driving out spring pin (9) or breakage may occur.

5. Drive out spring pin (9) and remove sight aperture retainer (10) and sight aperture (11) by pushing down on sight aperture retainer (10).

NOTE

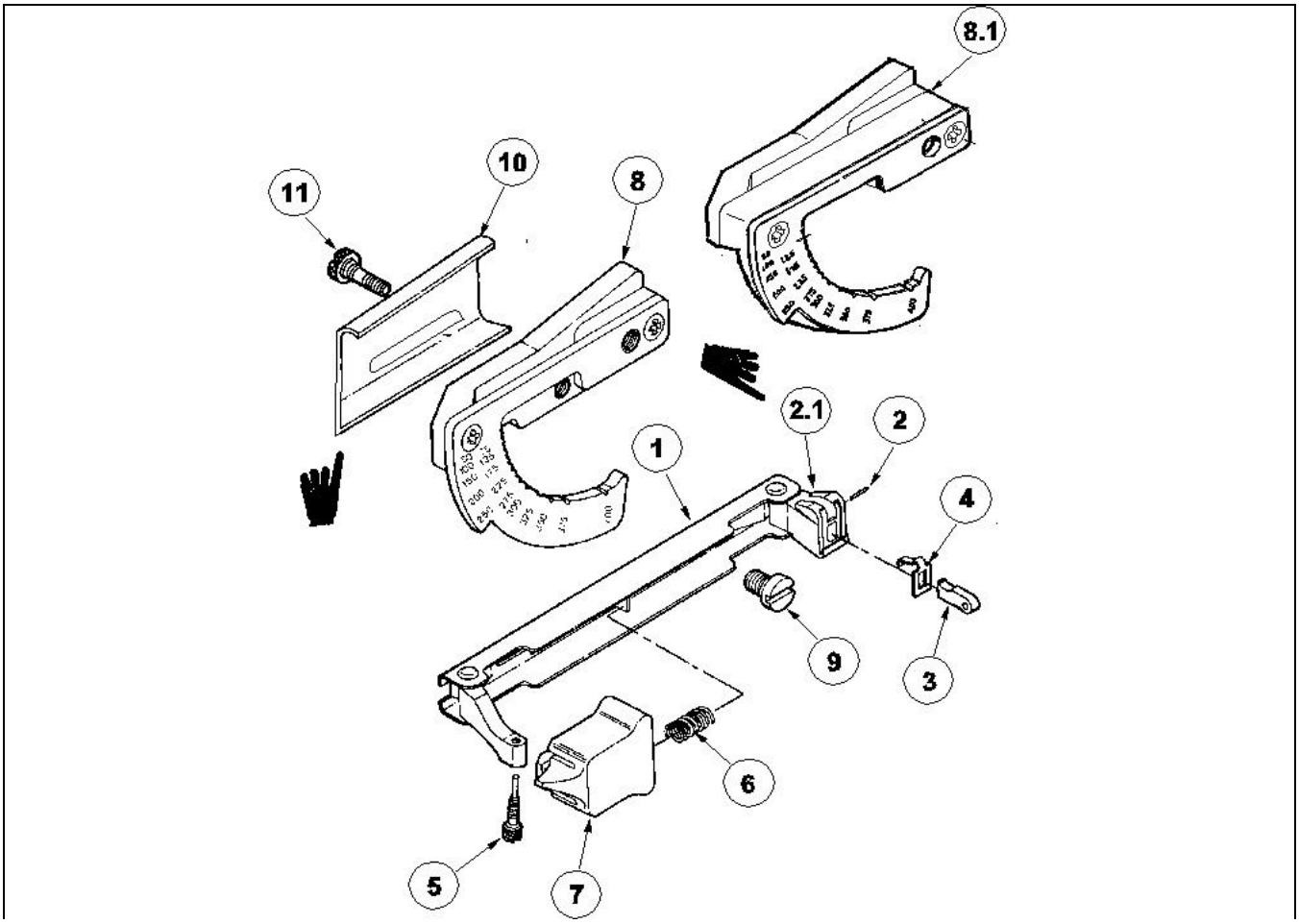
Refer to pages 2-40 thru 2-45 for further breakdown of items 4, 5, and 6.



INSPECTION/REPAIR

Inspect for worn or damaged parts. Replace authorized unserviceable components.

REASSEMBLY



CAUTION

Sight aperture arm (2.1) is made of light plastic. Take care when driving in spring pin (2), or breakage may occur.

1. Place sight aperture (3) and sight aperture retainer (4) in place on sightarm assembly (1) and drive in spring pin (2).

2. Install sight post (5).

3. Place helical compression spring (6) in latch assembly (7). Insert latch assembly (7) in notch of sightarm assembly (1) and slide to the right.

4. Align the screw holes in sightarm assembly (1) and range assembly quadrant (8) or (8.1); install and tighten sight pivot screw (9).

5. Align screw holes in quadrant sight clamp (10) and range assembly quadrant (8) or (8.1); install mounting bolt (11).

2-14. RANGE ASSEMBLY QUADRANT -- MAINTENANCE INSTRUCTIONS.

This task covers:

a. Disassembly
b. Inspection/Repair
c. Reassembly

INITIAL SETUP

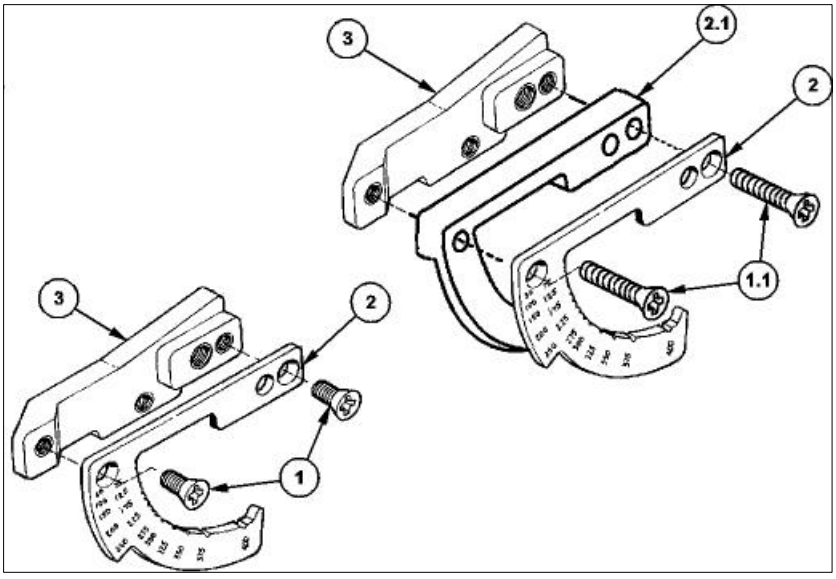
Tools and Special Tools
(Army) Small Arms Repairman Tool Kit (item 5, app B)
(MC) Small Arms Repairman Tool Kit (item 5, app B)

Equipment Condition
Range assembly quadrant removed from quadrant sight assembly. Refer to page 2-38.

NOTE

When replacing Item 3 below for the first time, also replace Item 2, Page 2-38. These are new parts (see Figures C-6 and C-7) and are not compatible with the parts they replace.

DISASSEMBLY



NOTE
Disassemble only to replace unserviceable components.

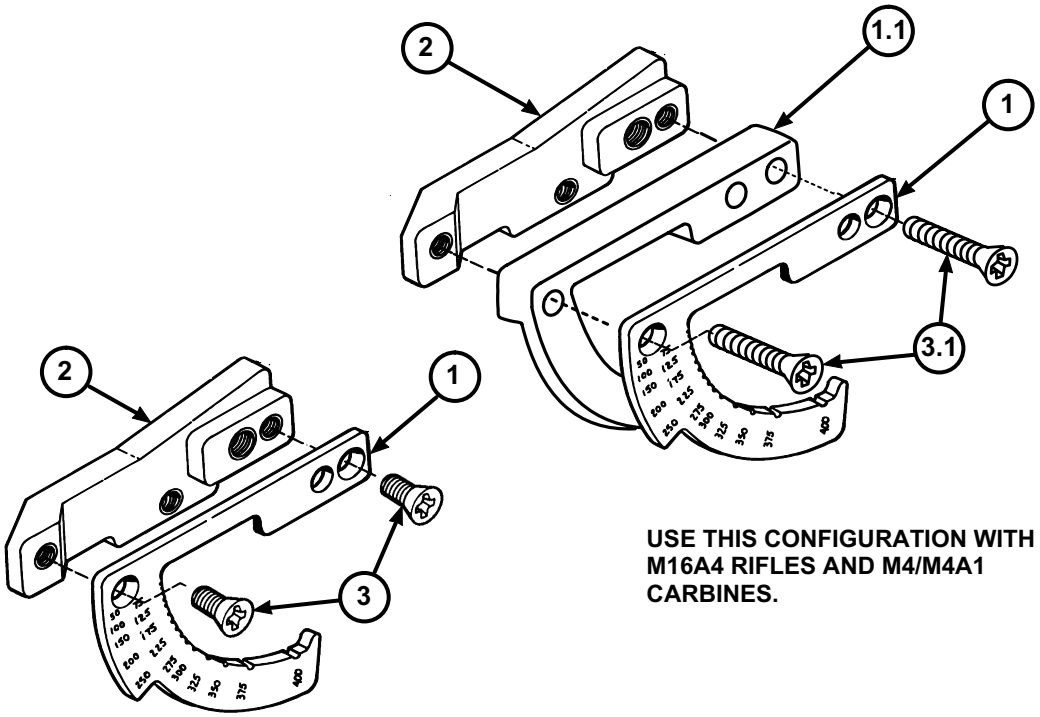
Remove two machine screws (1) and separate fire control quadrant (2) from bracket assembly (3). This configuration is for use with M16A1/M16A2/M16A3 rifles.

Remove two machine screws (1.1) and separate fire control quadrant (2) from spacer (2.1) and bracket assembly (3). This configuration is for use with M16A4 rifles and M4/M4A1 carbines.

INSPECTION/REPAIR

Inspect for worn or damaged parts. Replace authorized unserviceable components.

REASSEMBLY



USE THIS CONFIGURATION WITH M16A4 RIFLES AND M4/M4A1 CARBINES.

USE THIS CONFIGURATION WITH M16A1/M16A2/M16A3 RIFLES.

Position fire control quadrant (1) on bracket assembly (2) or on spacer (1.1) then on bracket assembly (2) and secure with two machine screws (3) or (3.1).

2-15. LATCH ASSEMBLY -- MAINTENANCE INSTRUCTIONS.

This task covers:

a. Disassembly
b. Inspection/Repair
c. Reassembly

INITIAL SETUP

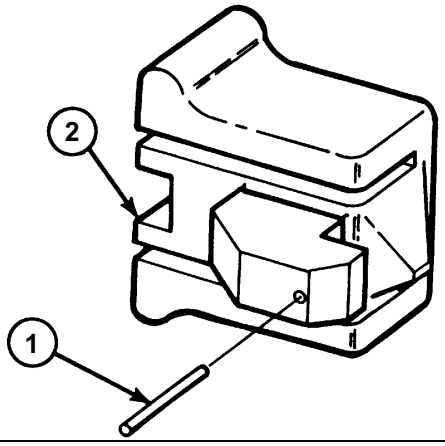
Tools and Special Tools
(Army) Small Arms Repairman Tool Kit (item 5, app B)
(MC) Small Arms Repairman Tool Kit (item 5, app B)

Equipment Condition
Latch assembly removed from quadrant sight assembly. Refer to page 2-38.

DISASSEMBLY

NOTE
Disassemble only to replace unserviceable components.

Remove headless straight pin (1) from sight latch (2).



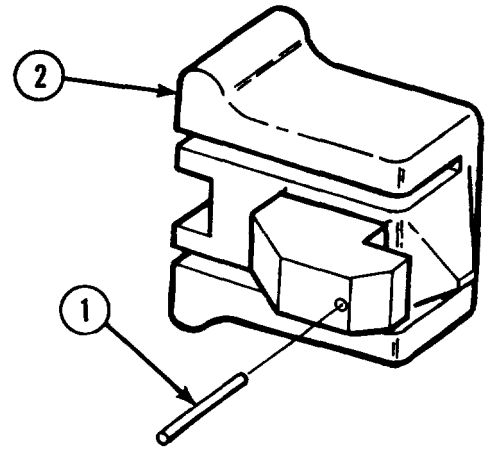
INSPECTION/REPAIR

1. Inspect for worn or damaged parts.

2. Replace authorized unserviceable components.

REASSEMBLY

Drive headless straight pin (1) into sight latch (2).



2-16. SIGHTARM ASSEMBLY–MAINTENANCE INSTRUCTIONS.

This task covers:

a. Disassembly
b. Inspection/Repair
c. Reassembly

INITIAL SETUP

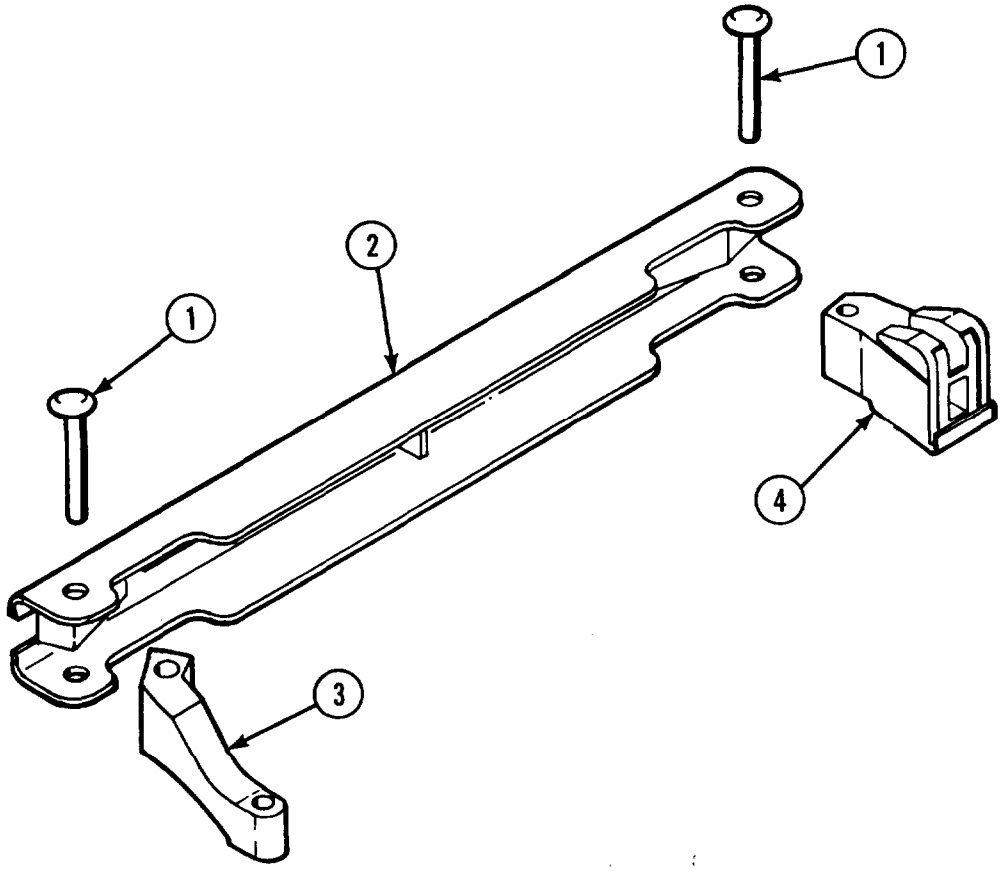
Tools and Special Tools
(Army) Small Arms Repairman Tool Kit (item 5, app B)
(MC) Small Arms Repairman Tool Kit (item 5, app B)

Materials/Parts
Rivet (1 2002884) (two)

Equipment Condition
Sightarm assembly removed from quadrant sight assembly. Refer to page 2-38.

2-16. SIGHTARM ASSEMBLY–MAINTENANCE INSTRUCTIONS (CONT).

DISASSEMBLY



NOTE
Disassemble only to replace unserviceable components.

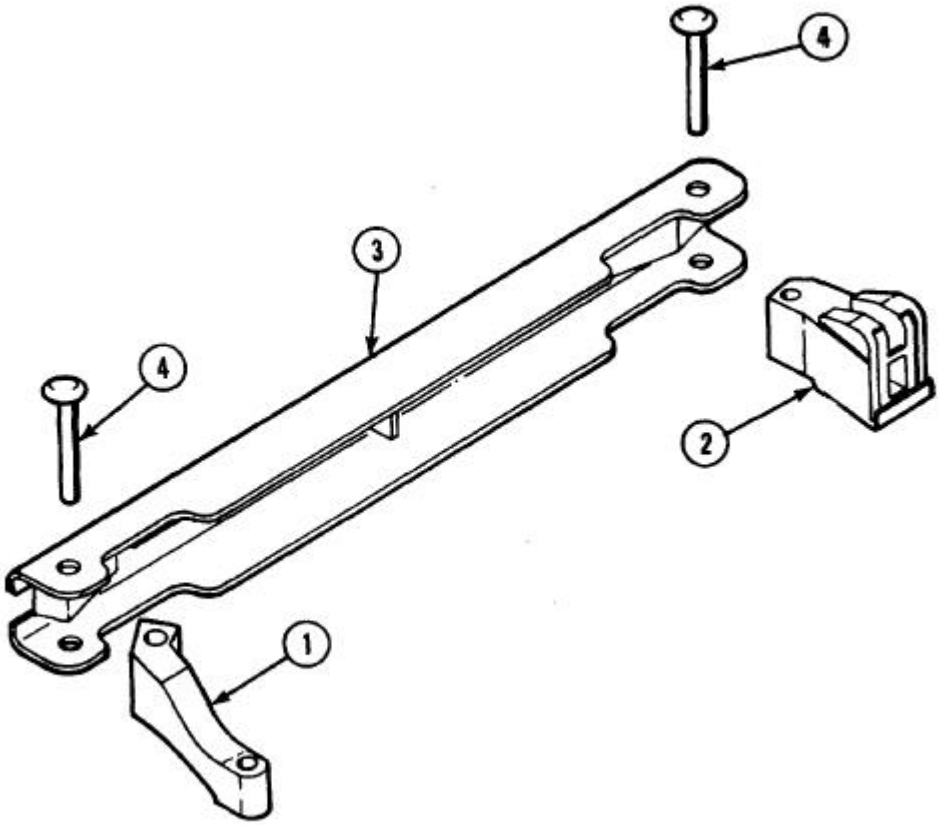
File the peened end from rivets (1) or drive rivets (1) from quadrant sightarm (2) with punch and hammer. Discard rivets. Remove sight post arm (3) and sight aperture arm (4).

INSPECTION/REPAIR

1. Inspect for worn or damaged parts.

2. Replace authorized unserviceable components.

REASSEMBLY



Position sight post arm (1) and sight aperture arm (2) in quadrant sightarm (3). Drive new rivets (4) through quadrant sightarm (3), sight post arm (1), and sight aperture arm (2). Peen the rivets.

2-17. MAINTENANCE OF QUICK RELEASE BRACKET.

This task covers:

a. Installation
b. Removal
c. Inspection/Repair
d. Disassembly/Reassembly
e. Mounting To M4/M4A1 Carbine Equipped with M4 ARS
f. Mounting To M16A4 Rifle Equipped with M5 ARS

INITIAL SETUP

Tools
(ARMY) Small Arms Repairman Tool Kit
(item 5, app B)

NOTE

References to the Retaining Spring, PN 12973125, apply only to the original version of the Quick Release Bracket. The newest version does not require the Retaining Spring to prevent the accidental depression of the Detent Plunger, PN 12973126. PN 12999211 has replaced the old style Detent Plunger. Depress the plunger in the UNLOCK position to open the bracket, then in the LOCK position after the bracket is open to remove or insert the five position shim plate (see illustration below). If the Retaining Spring is lost or broken, order the new Detent Plunger and PN 12999210, Helical Compression Spring, which replaces PN 12973144. All other instructions concerning the installation and operation of the Quick Release Bracket are common to both the old and new versions.

CAUTION

Before the quick release mount is installed on the M203 receiver, both ends of the hole for the M203 barrel stop pin must be staked to prevent loss of the headless pin (figure C-5, item 31).

a. INSTALLATION

WARNING

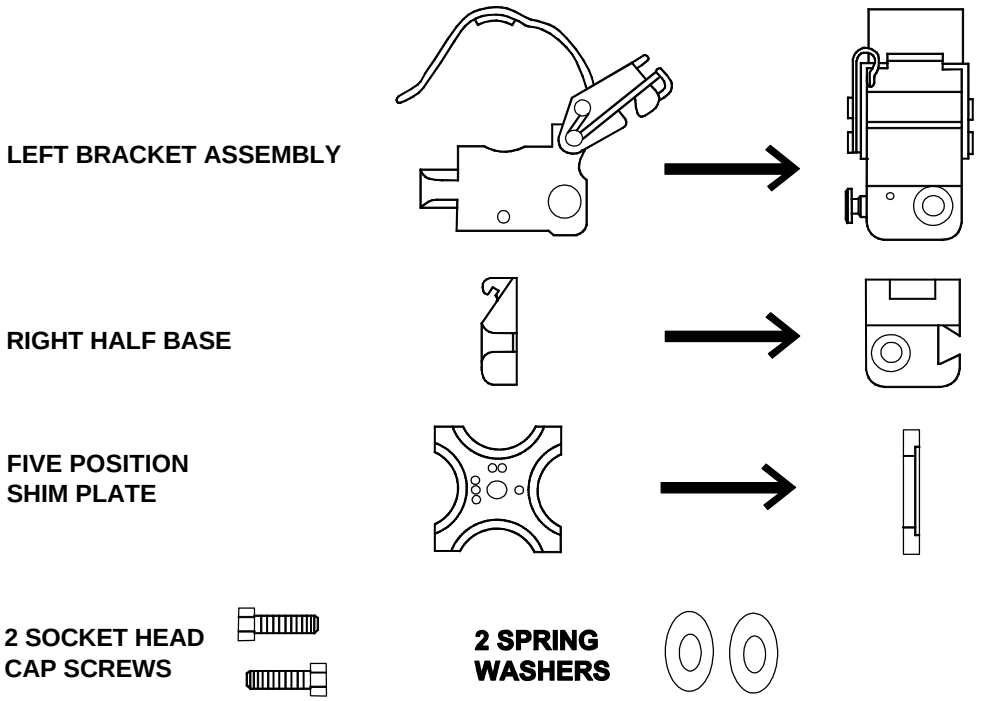
CONFIRM GRENADE LAUNCHER AND HOST WEAPON ARE UNLOADED AND SAFE.

1. Remove the M203 grenade launcher from its host weapon (if it is attached).

2. Remove the original factory mount from the M203 or M203A1 grenade launcher (if it is attached).

3. Thoroughly clean the front mount receiving area of the receiver, and particularly the screw holes and their threads, with degreaser such as dry cleaning solvent (app D, item 9).

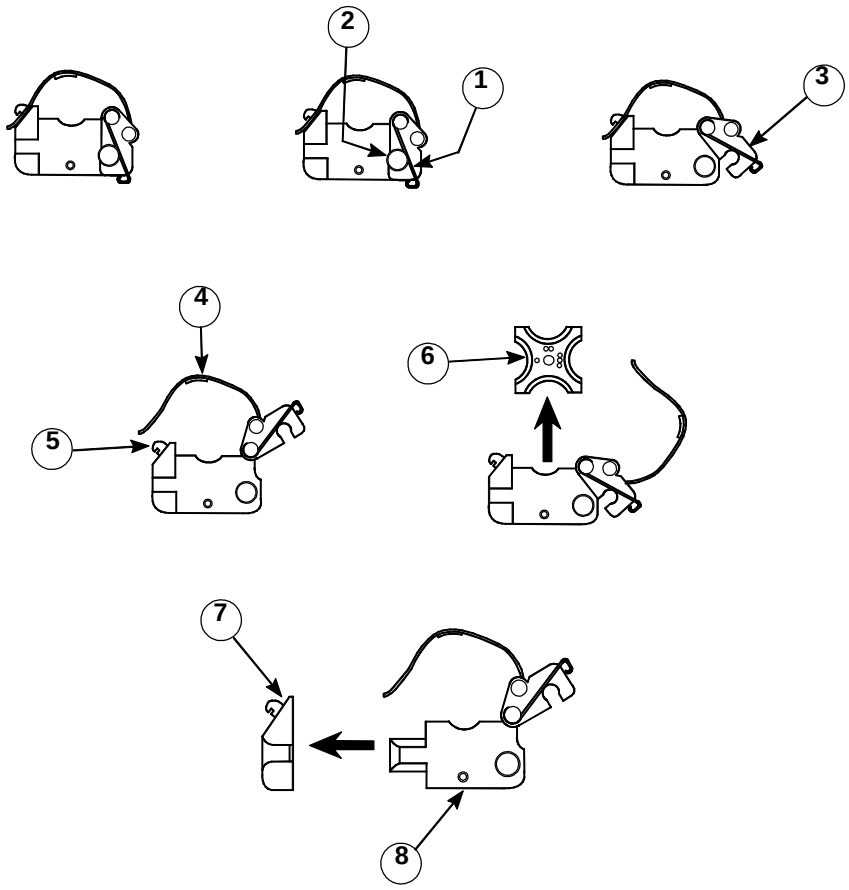
4. Compare the illustration below with the quick release bracket parts for familiarization:



2-17. MAINTENANCE OF QUICK RELEASE BRACKET (CONT).

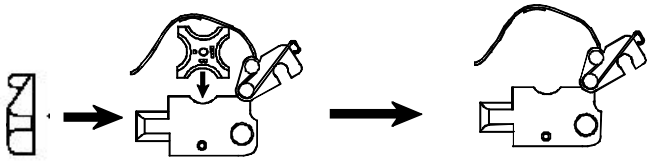
a. INSTALLATION (CONT).

5. As illustrated below, hold the retaining spring (1) away from the plunger (2). Fully depress the plunger and rotate the latch lever (3) fully upward. Lift the latch arm (4) away from the hook (5). It may be necessary to depress the plunger to allow the latch lever to lock. Rotate the latch arm up and out of the way to its fully open position. Depress the plunger and remove the five-position shim plate (6). Remove the right half base (7) by sliding it off the left bracket assembly (8) dovetail.

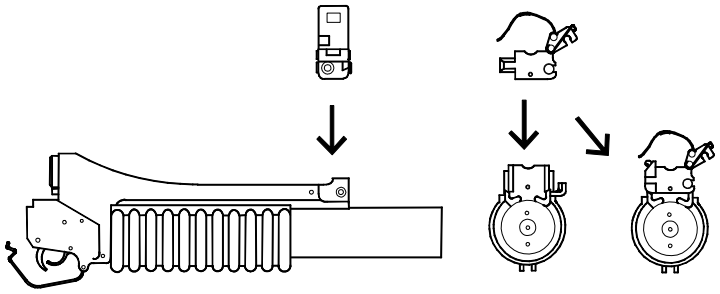


6. Thoroughly clean the 2 socket head cap screws, the right half base, and the left bracket assembly with a degreaser such as dry cleaning solvent (app D, item 9).

7. Slide the right half base onto the left bracket assembly dovetail. Depress the plunger and reinsert the shim plate into the bracket.



8. Slide the quick release bracket onto the forward mount area of the receiver as illustrated. Make sure the quick release bracket is perpendicular to the receiver during this procedure.



9. The purpose of this procedure is to determine if spring washers will be required. In most cases, spring washers will not be required because the five-position shim plate will be retained within the bracket by the plunger, but can be pulled from the groove using finger pressure while the plunger is fully depressed. Do not use spring washers (10) at this time.

Assemble the bracket to the receiver as follows:

a. Start each screw (9) as illustrated below and tighten with a 5/32" hexagonal wrench until each screw head is just below flush.

b. Continue to tighten each screw until there is no play or movement between the bracket and the receiver

c. If you are unable to remove the shim plate, some minor loosening of the screws is allowable in this procedure as long as there is no play or movement between the bracket and the receiver.

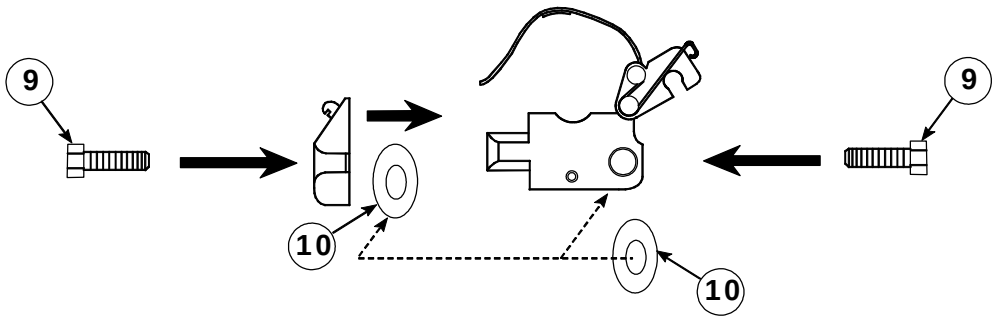
NOTE

If you are unable to tighten the screws enough to completely eliminate play or movement between the bracket and the receiver, the threaded inserts in the receiver might be damaged. Contact Direct Support to correct this condition.

d. If minor loosening of the screws does not result in both the retention of the shim plate, and the ability to remove the shim plate while the plunger is depressed, install one spring washer between the receiver and the right half base. Be sure the screw passes through the hole in the washer to prevent breakage of the washer. If you are still unable to remove the shim plate with your fingers while depressing the plunger, install the second spring washer between the receiver and the left bracket assembly. If you are unable to remove the shim plate with your fingers after installing both washers, the receiver may be undersized and require replacement. Contact Direct Support.

NOTE

Do not use more than two spring washers. This may result in loss of the shim plate. Loss of the shim plate makes the M203A2 non-mission capable. If loss occurs, the shim plate should be replaced as quickly as possible.

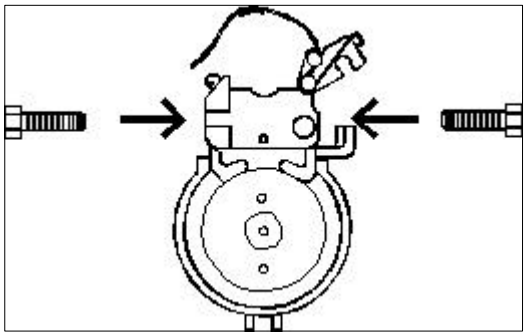


2-17. MAINTENANCE OF QUICK RELEASE BRACKET (CONT).

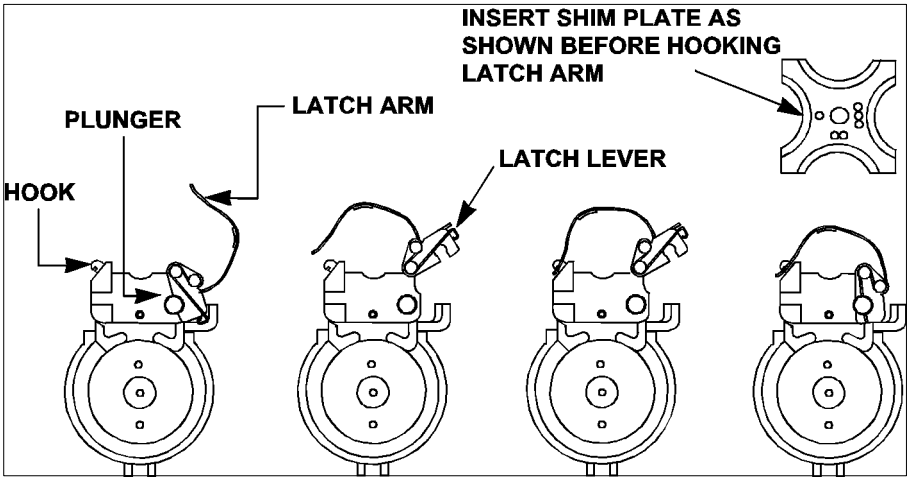
a. INSTALLATION (CONT).

NOTE

A new set of socket head cap screws (and spring washers if needed) must be used each time the quick release bracket is installed on the M203A2.

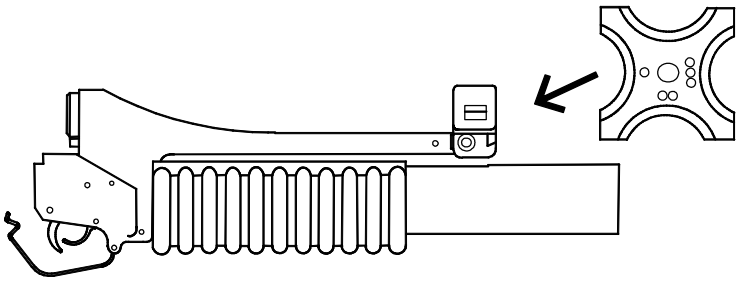


10. Referring to step 5 on page 4-3, re-install the five-position adjustment shim plate while noting the dot pattern on the front face of the shim plate. **The dot pattern should face the muzzle, and the side with 2 dots should be inserted down.** (This is illustrated in the figure below). Close and lock the bracket and latch lever. It may be necessary to depress the plunger to allow the latch to lock. This should keep the shim plate from falling free of the assembly.



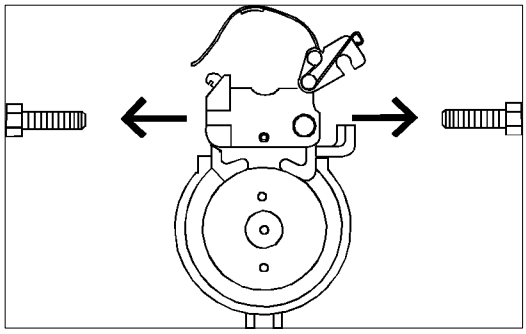
11. Installation of the quick release bracket to the receiver is now complete as illustrated directly below:

NOTE
THE DOT PATTERN ON THE FIVE-POSITION SHIM PLATE SHOWN ON THE RIGHT. THIS SIDE SHOULD FACE THE MUZZLE WHEN INITIALLY INSTALLED ON THE M203. ALSO NOTE THAT THE CURVED SIDE WITH 2 DOTS IS INSERTED DOWN.



b. REMOVAL

Using a 5/32" hexagonal wrench from the standard small arms repairman tool kit, remove each socket head cap screw as illustrated below.



c. INSPECTION/REPAIR

1. Visually inspect the quick release bracket for broken, corroded, or missing parts.

2. Repair the quick release bracket by replacing any broken, corroded, or missing parts.

2-17. MAINTENANCE OF QUICK RELEASE BRACKET (CONT).

d. DISASSEMBLY/REASSEMBLY

1. Remove the M203A2 from the M16A4 rifle or the M4 carbine by performing the following steps:

(a) Hold the retaining spring (1) away from the plunger (2).

(b) Depress the plunger.

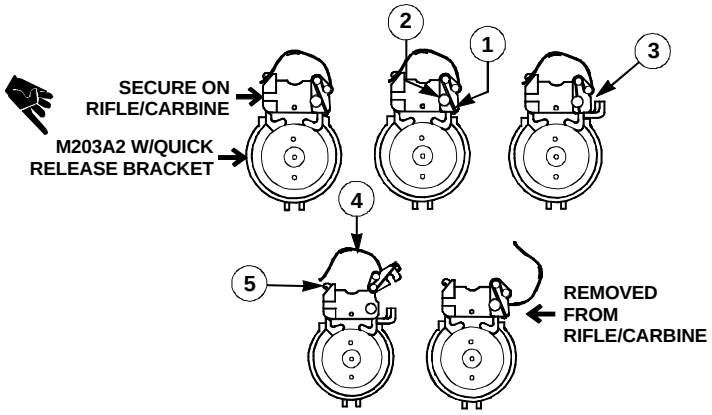
(c) Rotate the latch lever (3) upward.

(d) Lift the latch arm (4) away from the hook (5).

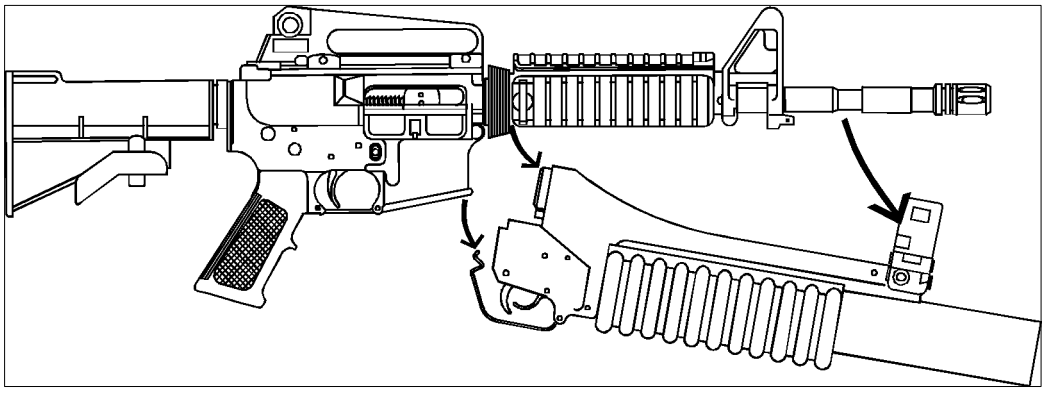
(e) Press the latch lever fully downward to engage the plunger. It will be necessary to depress the plunger to allow the latch lever to engage the plunger. There will be an audible click when the latch lever has engaged the plunger and the plunger will snap forward toward the muzzle.

(f) Rotate the latch arm up and out of the way to its fully open position. When performing this step on the rifle, carefully pull the latch arm from between the gas tube and barrel.

(g) Disengage the trigger guard from the magazine well.

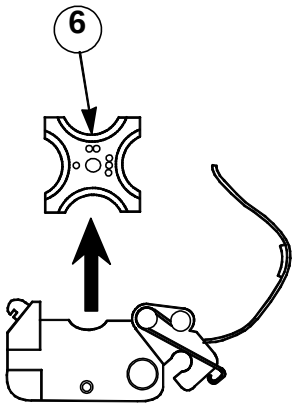


(h) Pivot the M203A2 downward from the host weapon, disengaging the trigger guard and the rear of the receiver from the host weapon.

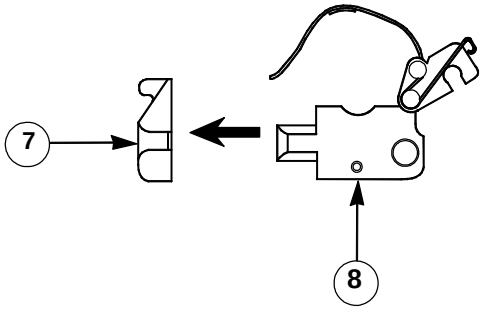


2. Remove the quick release bracket from the M203A2 (see removal, page 4-6).

3. Remove the five-position shim plate (6).

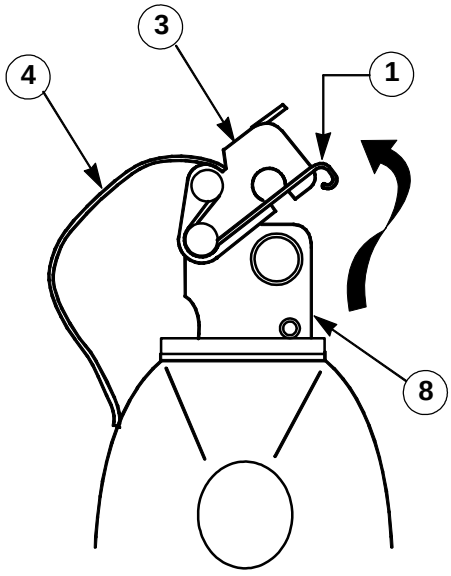


4. Remove the right half base (7) by sliding it off the left bracket assembly (8) dovetail.



5. Secure the left bracket assembly in a vise as illustrated.

6. Remove the retaining spring (1) from the left bracket assembly (8).



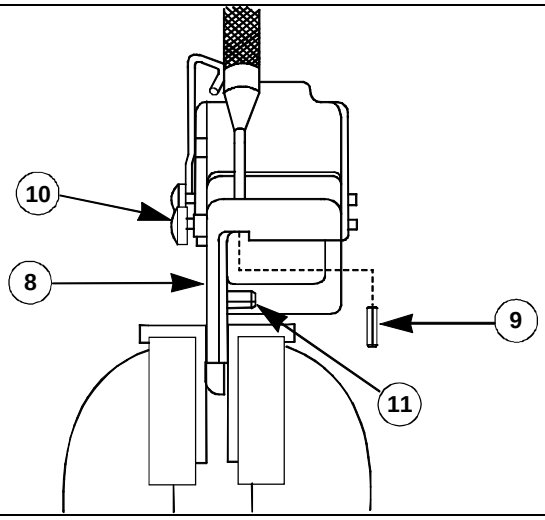
2-17. MAINTENANCE OF QUICK RELEASE BRACKET (CONT).

d. DISASSEMBLY/REASSEMBLY (CONT).

NOTE
The plunger is under spring pressure. Make sure the plunger is facing away from you.

7. Use a 1/16" punch to remove the spring pin (9) which retains the plunger (10) within the left bracket assembly (8). Remove the plunger and the compression spring from the left bracket assembly.

8. Use a 3/32" punch to remove the spring pin (11) only when replacing it.



9. Thoroughly clean the quick release bracket, paying special attention to the pivot points of the latch arm and latch lever. This will insure the quick release bracket operates correctly.

10. Lightly lubricate the quick release bracket surface areas. Generously lubricate the latch arm, latch lever, plunger, and the five-position shim plate. Be sure to generously lubricate all pivot points on the latch arm and latch lever.

NOTE

Before inserting spring pin (9), make sure the plunger (10) is fully depressed.

11. To reassemble, reverse steps 3-8. **Be sure to use a new spring pin.** To remount the M203 w/quick release bracket to the host weapon, reverse step 1.

e. MOUNTING TO THE M4 CARBINE

PRINCIPLE OF THE FIVE-POSITION SHIM PLATE

The basic overall length between the barrel nut roll pin at the rear of the receiver, and the starting position shim plate cutout surface at the front, is approximately 11 inches. As noted in step 5, some sliding motion may be detectable between the carbine barrel shoulder and the front of the five-position shim plate at the starting, or minimum, overall length cutout position.

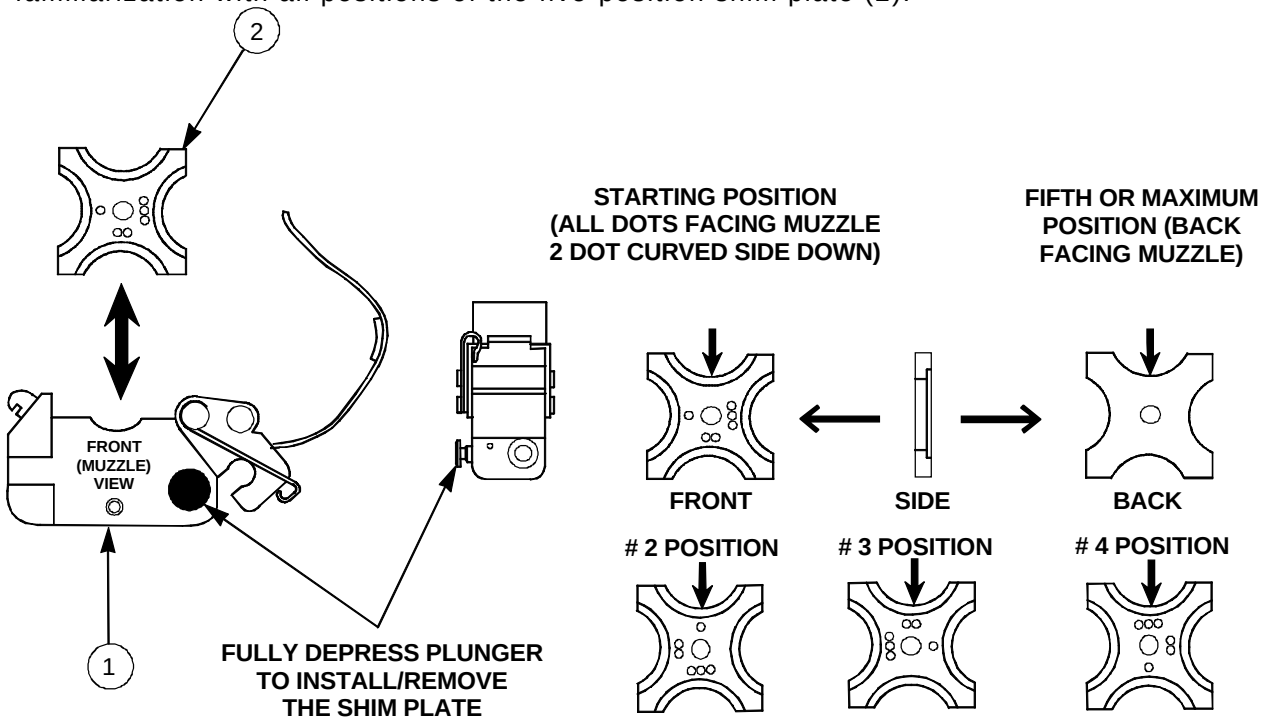
Subsequent re-insertion of the five-position shim plate to its #2, #3, #4, or maximum (fifth) length position (refer to step 2, page 4-10) will slightly increase the overall length of the assembly beyond the basic 11 inches, and therefore tend to minimize or eliminate any sliding motion between the barrel shoulder and the five-position shim plate.

At some point, the unit armorer will note that the shim plate will not fit into the cutout of the carbine barrel shoulder (as indicated as INCORRECT in step 5). At this point, go back to the next lowest position and secure, close, and lock the bracket around the carbine.

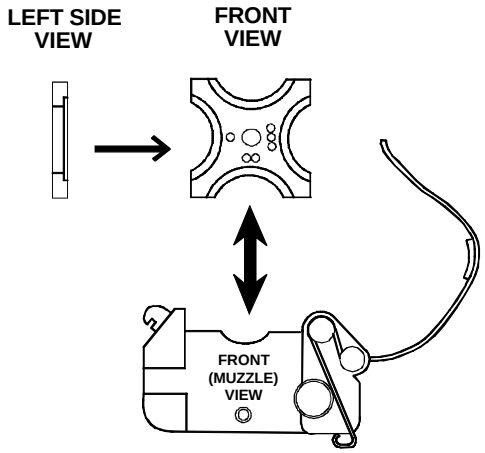
The following steps describe checking for sliding motion with the next or #2 notch up, and against the carbine barrel shoulder. If the #2 position does not minimize the sliding motion, repeat the procedure with the #3 notch up and so on. If the fifth or maximum position is desired, note that the "back" or smooth face of the shim plate is oriented towards the muzzle. Do not be concerned if only a small amount of sliding motion is still detectable with the shim plate in its apparently optimum setting, because the latch arm will compensate for this when it is closed and locked.

1. Follow the steps as described in para a. **Installation** to attach the quick release bracket to the M203.

2. Compare the illustration below with the quick release bracket (1) for the purpose of familiarization with all positions of the five-position shim plate (2):



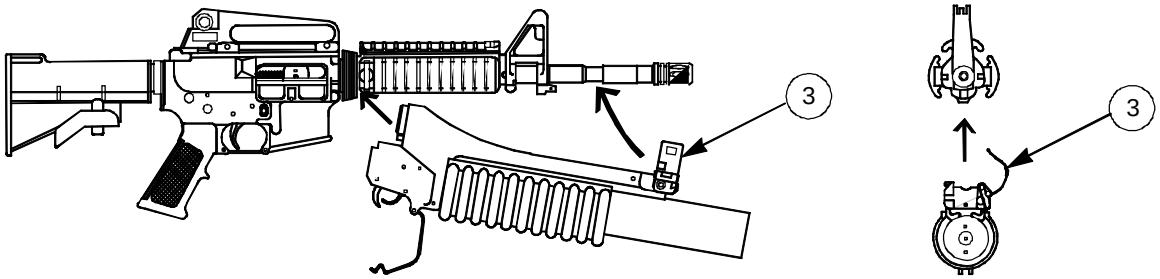
3. Set the five-position shim plate in the bracket to the minimum position as illustrated, with the 2 dots down and facing the muzzle.



2-17. MAINTENANCE OF QUICK RELEASE BRACKET (CONT).

e. MOUNTING TO THE M4 CARBINE (CONT)

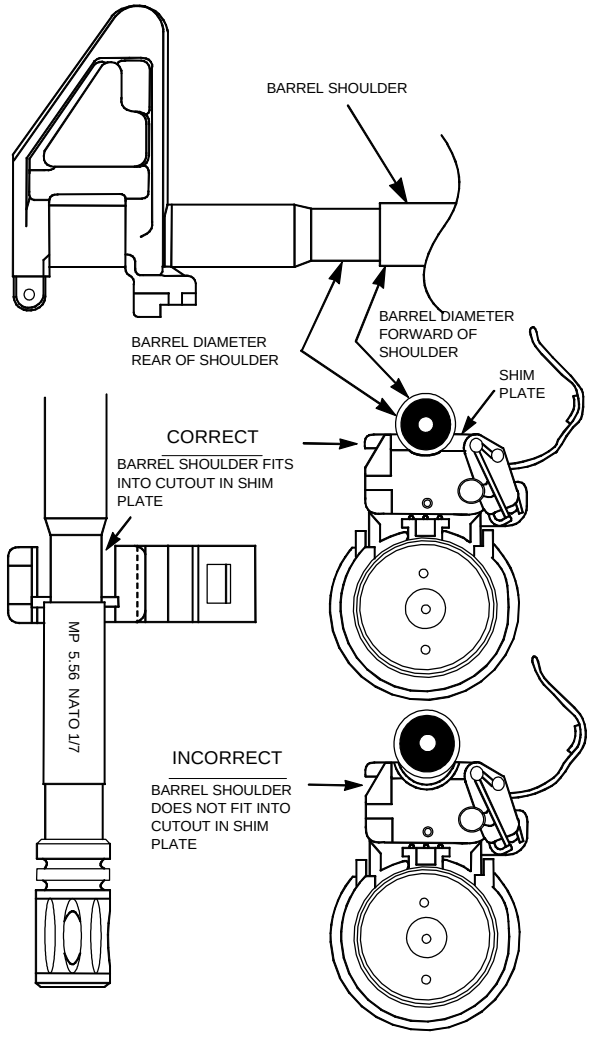
4. If present, remove the lower rail of the M4 adapter rail system from the M4 carbine. Move the rear of the M203A2 receiver into position around the carbine barrel. Confirm that the latch arm (3) of the bracket is fully open. Rotate the muzzle end of the M203A2 towards the carbine barrel while sliding the M203A2 firmly to the rear. **Confirm that the roll pin in the rear of the M203A2 receiver engages the carbine barrel nut at the six o'clock position notch.**



5. Firmly hold the M203A2 in position/back against the barrel nut of the carbine, while also holding the muzzle end of the M203A2 against the carbine's barrel. Inspect the five-position shim plate, looking from the top of the carbine barrel, and also from the front, as illustrated below. The inner notch of the shim plate should rest behind the shoulder of the barrel. Now, try to slide the M203A2 back and forth if possible, and note the distance of any sliding motion. Some motion will be detectable with most carbine barrels with the shim plate in its starting position. **If during this step the cutout in the shim plate does not fit behind the barrel shoulder, it is most probably inserted at its maximum thickness (no dots facing the muzzle), or position #2, #3, or #4 (refer to step 2 on page 4-10).**

NOTE

Endurance testing indicated that it may be necessary to switch to another shim plate (2) position after several thousand rounds have been fired. The unit armorer should check for excessive sliding motion each time the shim plate is removed for cleaning/lubrication and the M203A2 re-mounted to the carbine.



6. Remove the M203A2 from the carbine. Depress the plunger (4), withdraw the shim plate and re-insert it in the #2 position (refer to step 2, page 4-10). **Note that the #2 position is indicated by a single dot stamped on its shim plate cutout, and that this side of the shim plate faces the muzzle.**

7. Re-mount the M203A2 to the carbine's barrel nut and barrel shoulder. Attempt to slide the M203A2 from front to rear.

8. If forward and back motion is detected, repeat step 7 with the shim plate in the #3 position. If the assembly is now too long (it will not engage behind the barrel shoulder, but rides up onto the barrel's major diameter), go back to the last position tried with the shim plate, and complete the M203A2 attachment.

When the optimum position of the shim plate is established:

a. If necessary, hold the retaining spring out of the way and depress the plunger (4) to unlock the latch lever (5).

b. Rotate the latch arm (3) over the carbine barrel.

c. Catch the hook (6) in the hole of the latch arm.

d. Rotate the latch lever (5) down.

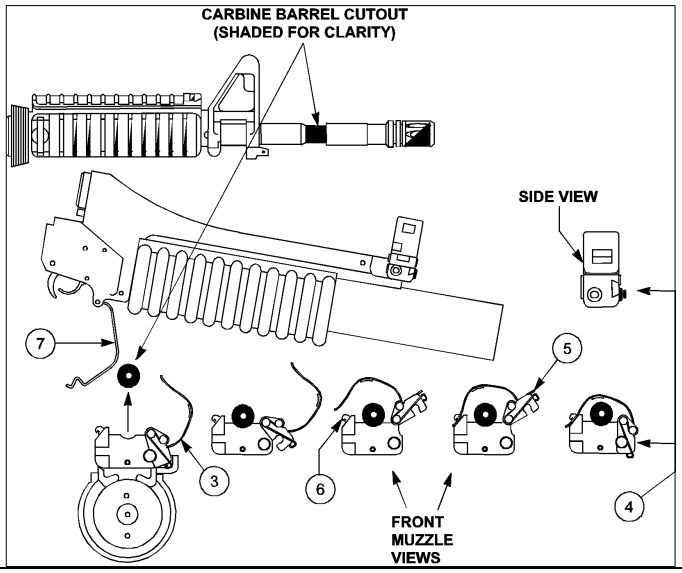
e. Depress the plunger (4). Make sure the retaining spring does not engage the plunger during this step.

f. Squeeze the latch lever fully closed (which allows the plunger to be released and snap forward). This will hold the latch lever in the fully closed/locked position.

NOTE

In its final motion, the latch lever may require very firm pressure against the bracket to allow the plunger to snap back into place, locking the latch lever closed. If necessary, use the buddy system. **DO NOT** use a vise or other mechanical device. Doing so may cause damage to the quick release bracket.

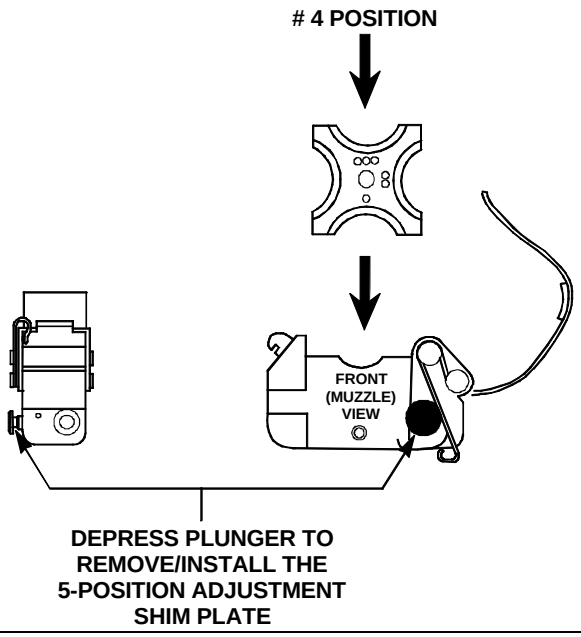
g. Rotate the M203A2 trigger guard (7) to engage the lip of the magazine well.



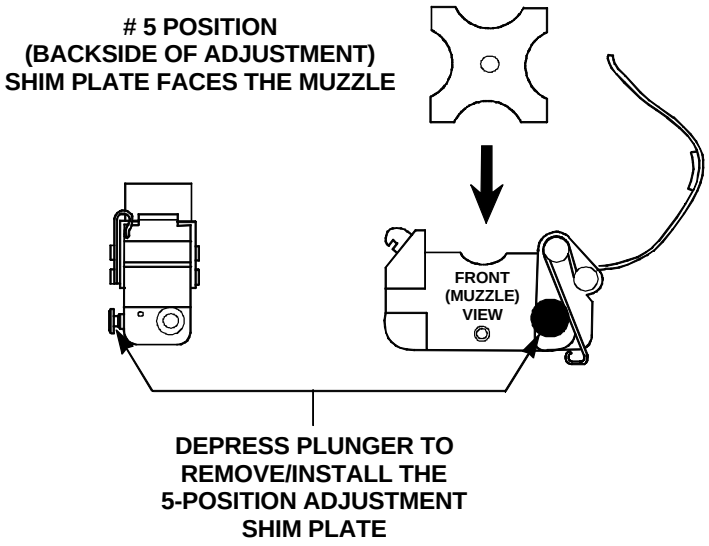
2-17. MAINTENANCE OF QUICK RELEASE BRACKET (CONT).

e. MOUNTING TO THE M4 CARBINE (CONT)

9. If forward and back motion is detected with the shim plate set to its #3 notch, remove the M203A2 from the carbine. Remove and re-insert the shim plate in its #4 position. **Note that the #4 position is indicated by three dots stamped adjacent to its shim plate cutout, and that this side of the shim plate faces the muzzle.**



10. If the #5 or maximum position is required, insert the shim plate as illustrated below.



CAUTION

When detaching the M203A2 for cleaning, inspection, or lubrication, check and note the position of the shim plate for ease of re-attachment.

f. MOUNTING TO THE M16A4 RIFLE

PRINCIPLE OF THE FIVE-POSITION SHIM PLATE

The basic overall length between the barrel nut roll pin at the rear of the receiver, and the starting position shim plate cutout surface at the front, is approximately 11 inches. As noted in step 5, some sliding motion may be detectable between the rifle barrel stop and the front of the five-position shim plate at the starting, or minimum, overall length cutout position.

Subsequent re-insertion of the five-position shim plate to its #2, #3, #4, or maximum (fifth) length position (refer to step 2, page 4-14) will slightly increase the overall length of the assembly beyond the basic 11 inches, and therefore tend to minimize or eliminate any sliding motion between the barrel stop and the five-position shim plate.

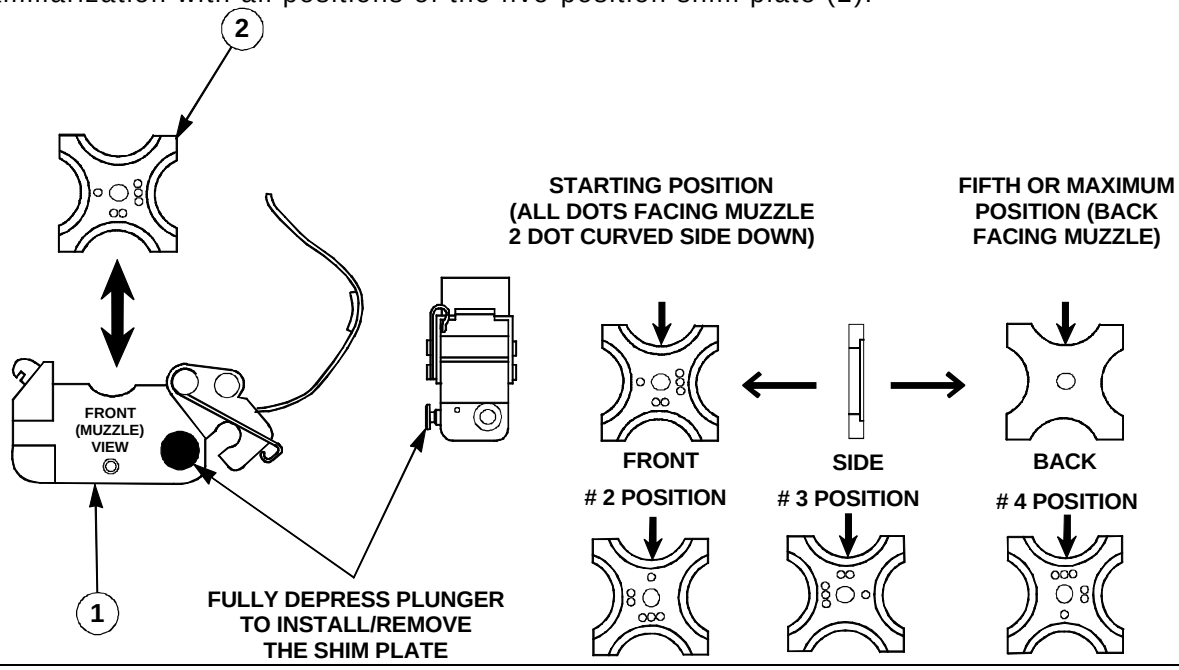
The following steps describe checking for sliding motion with the next or #2 notch up, and against the rifle barrel stop. If the #2 position does not minimize the sliding motion, repeat the procedure with the #3 notch up and so on. If the fifth or maximum position is desired, note that the "back" or smooth face of the shim plate is oriented towards the muzzle. Do not be concerned if only a small amount of sliding motion is still detectable with the shim plate in its apparently optimum setting, because the latch arm will compensate for this when it is closed and locked.

NOTE

Endurance testing indicated that it may be necessary to switch to another shim plate position after several thousand rounds have been fired. The unit armorer should check for excessive sliding motion each time the shim plate is removed for cleaning/lubrication and the M203A2 re-mounted to the rifle.

1. Follow the steps as described in para a. Installation to attach the quick release bracket (1) to the M203A2.

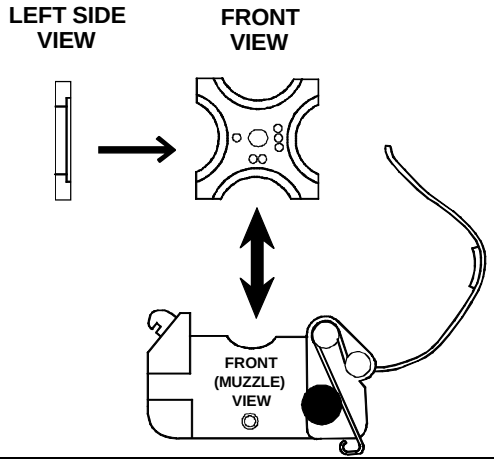
2. Compare the illustration below with the quick release bracket for the purpose of familiarization with all positions of the five-position shim plate (2):



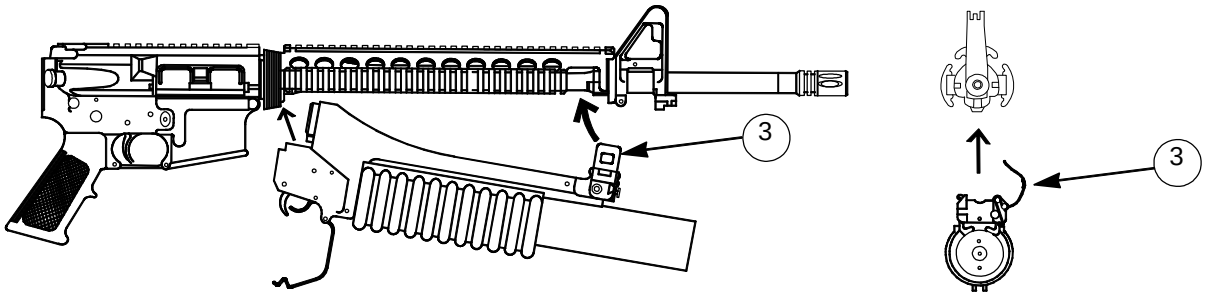
2-17. MAINTENANCE OF QUICK RELEASE BRACKET (CONT).

f. MOUNTING TO THE M16A4 RIFLE (CONT)

3. Set the five-position shim plate in the bracket to the minimum position as illustrated, with the 2 dots down and facing the muzzle.



4. If present, remove the lower rail of the M5 adapter rail system from the M16A4 rifle. Confirm that the barrel stop is installed inside the handguard cap. Move the rear of the receiver into position around the rifle barrel. Confirm that the latch arm (3) of the bracket is fully open. Rotate the muzzle end of the M203A2 towards the rifle barrel while sliding the M203A2 firmly to the rear. **Confirm that the roll pin in the rear of the M203A2 receiver engages the rifle barrel nut at the six o'clock position notch.**



5. Firmly hold the M203A2 in position/back against the barrel nut of the rifle, while also holding the muzzle end of the M203A2 against the rifle's barrel stop. Now, try to slide the M203A2 back and forth if possible, and note the distance of any sliding motion. Some motion may be detectable with the shim plate in its starting position.

6. Remove the M203A2 from the rifle. Depress the plunger (4), withdraw the shim plate and re-insert it in the #2 position (refer to step 2, page 4-14). **Note that the #2 position is indicated by a single dot stamped on its shim plate cutout, and that this side of the shim plate faces the muzzle.**

7. Re-mount the M203A2 to the rifle's barrel nut and barrel stop. Attempt to slide the M203A2 from front to rear.

8. If forward and back motion is detected, repeat step 7 with the #3 notch against the rifle barrel stop. If the assembly is now too long (it will not engage behind the barrel stop), go back to the last position tried with the shim plate, and complete the M203A2 attachment process as described next.

When the optimum position of the shim plate is established:

a. Carefully work the latch arm (3) between the rifle barrel and the gas tube.

b. Hold the retaining spring away from the plunger (4) and depress the plunger to unlock the latch lever (5).

c. Catch the hook (6) in the hole of the latch arm.

d. Rotate the latch lever (5) down.

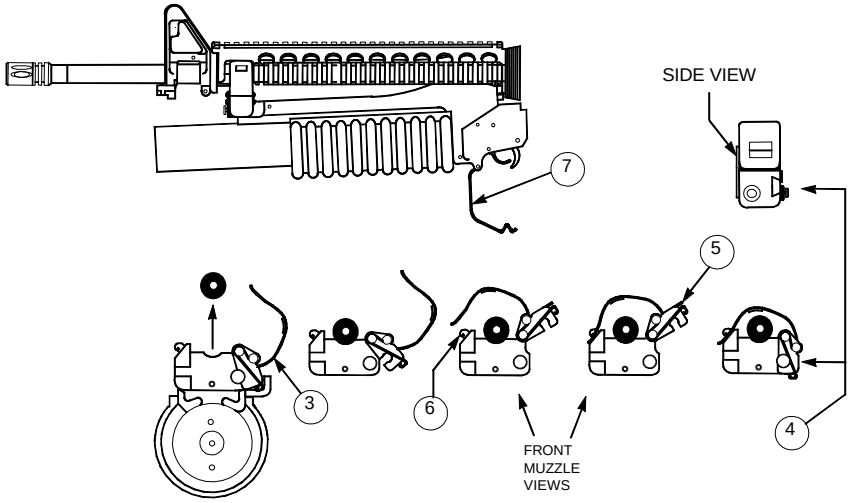
e. Depress the plunger (4). Make sure the retaining spring does not engage the plunger during this step.

f. Squeeze the latch lever fully closed (which allows the plunger to be released and snap forward). This will hold the latch lever in the fully closed/locked position.

NOTE

In its final motion, the latch lever may require very firm pressure against the bracket to allow the plunger to snap back into place, locking the latch lever closed. If necessary, use the buddy system. **DO NOT** use a vise or other mechanical device. Doing so may cause damage to the quick release bracket.

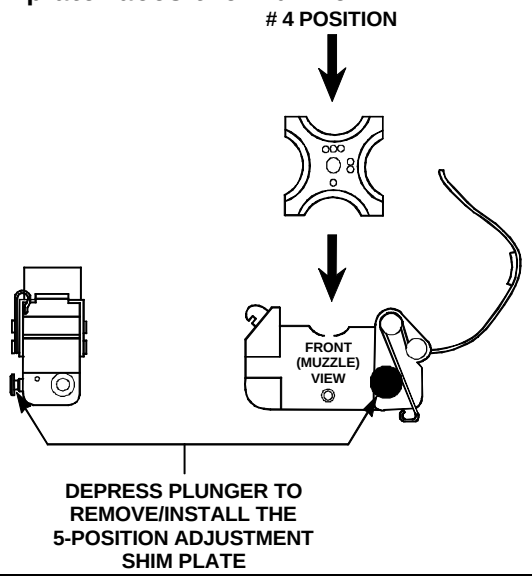
g. Rotate the M203A2 trigger guard (7) to engage the lip of the magazine well.



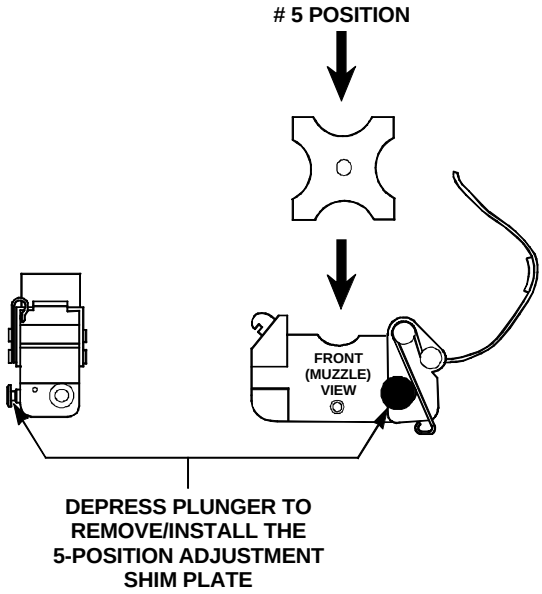
2-17. MAINTENANCE OF QUICK RELEASE BRACKET (CONT).

f. MOUNTING TO THE M16A4 RIFLE (CONT)

9. If forward and back motion is detected with the shim plate set to its #3 notch, remove the M203A2 from the rifle. Remove and re-insert the shim plate in its #4 position. **Note that the #4 position is indicated by three dots stamped adjacent to its shim plate cutout, and that this side of the shim plate faces the muzzle.**



10. If the #5 maximum position is required, insert the shim plate as illustrated below.



CAUTION

When detaching the M203A2 for cleaning, inspection, or lubrication, check and note the position of the shim plate for ease of re-attachment.

CHAPTER 3
DIRECT SUPPORT MAINTENANCE PROCEDURES

Section I. REPAIR PARTS; TOOLS; SPECIAL TOOLS; TEST, MEASUREMENT AND DIAGNOSTIC EQUIPMENT (TMDE); AND SUPPORT EQUIPMENT

3-1. COMMON TOOLS AND EQUIPMENT. For authorized common tools and equipment, refer to the Modified Table of Organization and Equipment (MTOE), CTA 50-970 or CTA 8-100, as applicable to your unit.

3-2. SPECIAL TOOLS, TMDE, AND SUPPORT EQUIPMENT. Special tools, TMDE, and support equipment are listed in appendixes B and C of this manual.

3-3. REPAIR PARTS. Repair parts are listed and illustrated in appendix C of this manual.

Section II. DIRECT SUPPORT TROUBLESHOOTING

3-4. GENERAL.

a. This section contains troubleshooting information for locating and correcting most of the operating troubles which may develop in the 40mm grenade launcher M203. Each malfunction for the individual part or assembly is followed by a list of tests or inspections which will help you to determine the corrective actions to take. Perform the tests/inspections and corrective actions in the order listed.

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

3-5. TROUBLESHOOTING PROCEDURES. Refer to troubleshooting table for malfunctions, tests, and corrective actions. The symptom index is provided for a quick reference of the malfunctions covered in the table.

SYMPTOM INDEX

3-5. TROUBLESHOOTING PROCEDURES (CONT).

DIRECT SUPPORT TROUBLESHOOTING

MALFUNCTION
TEST OR INSPECTION
CORRECTIVE ACTION

1. FAILURE TO FIRE.

Step 1. Check for broken firing pin.

Replace broken firing pin (p 3-21).

Step 2. Check for weak or broken compression helical spring.

Replace weak or broken compression helical spring (p 3-20).

Step 3. Check for burred firing pin or trigger notch.

Remove burrs on firing pin or trigger notch.

2. FAILURE TO COCK.

Step 1. Check for worn or broken sear.

Replace worn or broken sear (p 3-20).

Step 2. Check that cocking lever is correctly assembled.

Reassemble cocking lever (p 3-21).

Step 3. Check for broken or bent spring pin.

Replace broken or bent spring pin (p 3-21).

Step 4. Check for proper assembly of follower guide assembly.

Reinstall follower guide assembly (p 3-31).

3. FAILURE TO EXTRACT,

Check for broken cartridge extractor or compression helical spring.

Replace broken cartridge extractor or compression helical spring (p 3-21).

DIRECT SUPPORT TROUBLESHOOTING (CONT)

MALFUNCTION TEST OR INSPECTION CORRECTIVE ACTION
4. FAILURE OF SAFETY.
Step 1. Check for worn coil compress helical spring.
Replace worn coil compression helical spring (p 3-22).
Step 2. Check for broken grenade launcher safety.
Replace broken grenade launcher safety (p 3-22).
Step 3. Check for broken or missing spring pin.
Replace broken or missing spring pin (p 3-22).
5. FAILURE TO CLOSE OR LATCH.
Step 1. Check for worn barrel extension or barrel assembly.
Replace worn barrel extension (p 3-22).
6. FAILURE TO EJECT.
Check for worn, broken, or missing cartridge ejector, spring, or retainer.
Replace worn, broken, or missing parts (p 3-21).

Section III. DIRECT SUPPORT MAINTENANCE PROCEDURES

3-6. 40MM GRENADE LAUNCHER M203/M203A1 W/E—MAINTENANCE INSTRUCTIONS

This task covers:

Initial installation of the M203 grenade launcher on an M16 series rifle.

INITIAL SETUP

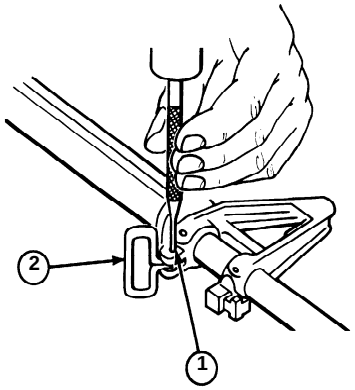
Tools and Special Tools
(Army) Small Arms Repairman Tool Kit (item 5, app B)
(MC) Small Arms Repairman Tool Kit (item 5, app B)

Materials/Parts
Locking wire (MS20995C32) (9505-00-293-4208)
Rivet (8448697) (from TM 9-1005-249-23&P, TM 9-1005-319-23&P, or TM 05538C-23&P/2A (Marine Corps only)) (used to return grenade launcher to the M16 series configuration only)
Spring pin (MS39086-41)
Swivel locking bar (12598618)

Equipment Condition
Sling and hand guards removed from M16 series rifle (p 2-23).

INSTALLATION OF M203

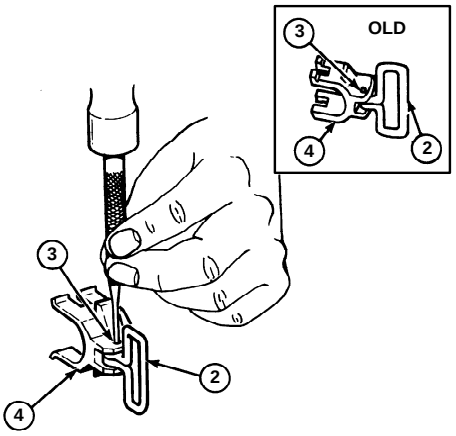
1. Remove rivet (1) and front swivel (2). Discard rivet (1).



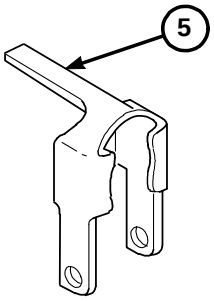
NOTE

The M16/M16A1 rifle uses the old type swivel mount and swivel locking bar. When one or both parts must be replaced, order new type swivel mount (PN 12598617) and swivel locking bar (PN 12012059). M16A2 can only use the new configuration. M4/M4A1 carbines use swivel locking bar (PN 12991254).

2. Install front swivel (2) and new rivet (3) in swivel mount (4). Flare the rivet (3) with a punch and hammer.



3. Refer to page 2-23 and perform steps 1 thru 14 and return here.



CAUTION

The mounting bracket tang has been lengthened and will require filing for proper fit. Remove only the minimum amount of metal from tip to make sure mounting holes are properly aligned.

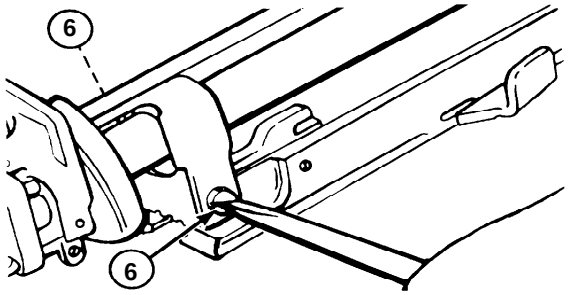
4. If screw holes in receiver assembly and mounting bracket (5) cannot be aligned, remove the mounting bracket and file the tip as required.

5. Install bushing half and repeat steps 12 thru 14 on page 2-26.

3-6. 40MM GRENADE LAUNCHER M203/M203A1 W/E—MAINTENANCE INSTRUCTIONS (CONT).

INSTALLATION OF M203 (CONT).

6. Install two machine screws (6). Fully tighten one machine screw first, and then the other.



7. Check installation of receiver assembly as follows:

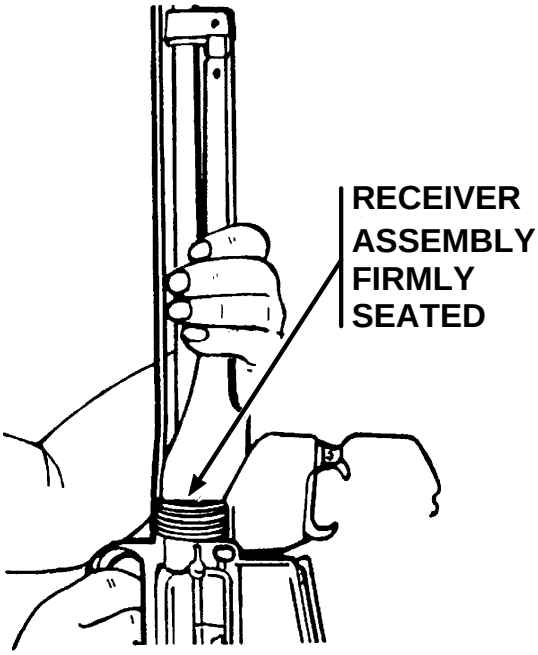
a. While holding rifle in a vertical position with the muzzle up, attempt to move the receiver assembly up and down and from side to side.

b. There must be no up and down movement between the receiver assembly (M203) and the rifle barrel.

c. The movement from side to side should not exceed 1/8 inch (0.32 cm) left or right of center. Total movement cannot exceed ¼ inch (0.64 cm).

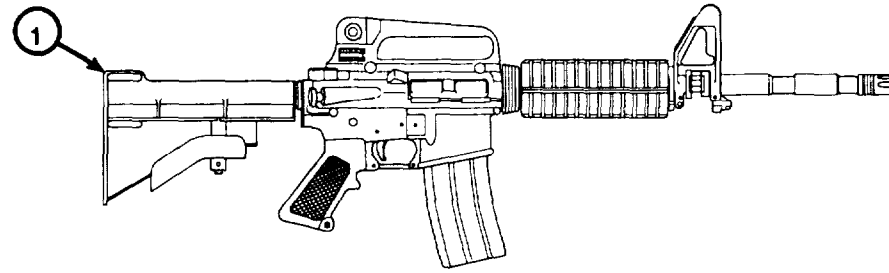
d. If excess side to side movement exists, replace the bushing halves.

e. If excess up and down movement exists, obtain a new mounting bracket and repeat steps 3 thru 6.



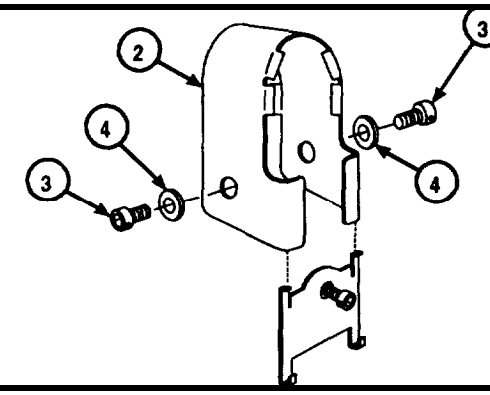
8. Refer to page 2-27 and complete assembly.

INSPECTION/REPAIR



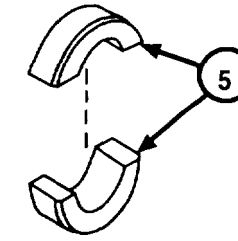
1. Inspect carbine (1). Refer to TM 9-1005-249-23&P, TM 9-1005-319-23&P, or TM 05538C-23&P/2A (Marine Corps only).

2. Inspect mounting bracket assembly (2) for bends or damage. If damaged, replace/repair. Inspect two socket head screws (3) and washers (4). If damaged, replace.



3. Inspect bushing halves (5) for chips or wear. If damaged, replace bushing halves.

4. Inspect heat shield for tightness on hand guard. If loose enough to rattle, replace as necessary.



INSTALLATION OF M203A1

1. Disassemble quadrant sight (see para 2-13, steps 1 and 2).

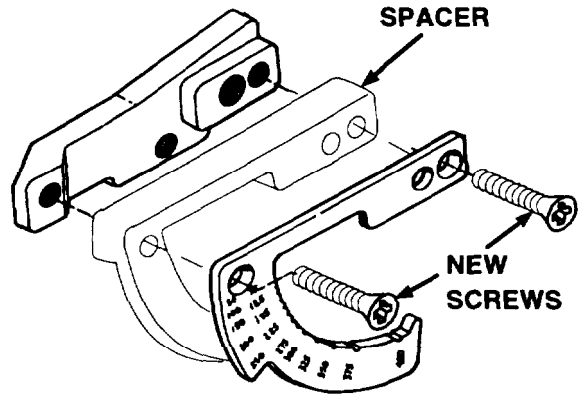
2. Disassemble range quadrant (see para 2-14). Dispose/turn-in two excess machine screws.

INSTALLATION OF M203A1 (CONT)

3. Install quadrant sight spacer between range quadrant and bracket assembly.

4. Reassemble range assembly quadrant using 2 new machine screws.

5. Reassemble quadrant sight assembly (see para 2-13, steps 4 and 5).



6. Remove sling from front swivel (see para 2-11, step 2).

NOTE

Side swivel mount has to be on the right side of the M4/M4A1 when mounting the M203A1 Grenade Launcher.

7. Ensure side swivel mount has the sling swivel located on the right side of the M4/M4A1. If not, disassemble side swivel mount (see para 2-16, step 5A thru 5C).

8. Reassemble side swivel mount (see para 2-16, steps 4B thru 4D).

9. Install M203A1 to the M4/M4A1.

a. Remove handguard.

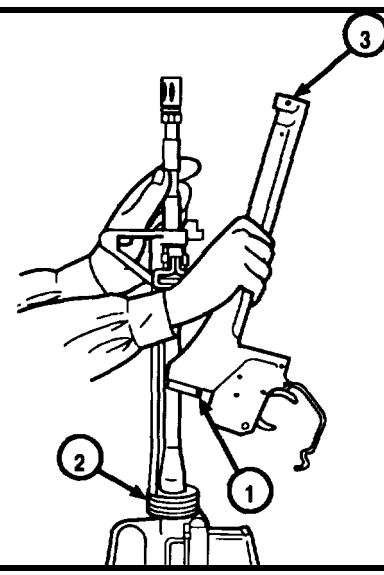
NOTE

The following step is performed without the mounting bracket.

b. Align spring pin (1) with notch in barrel nut (2). Be sure spring pin is fully seated in notch of barrel nut. Seat receiver assembly (3) firmly in carbine.

NOTE

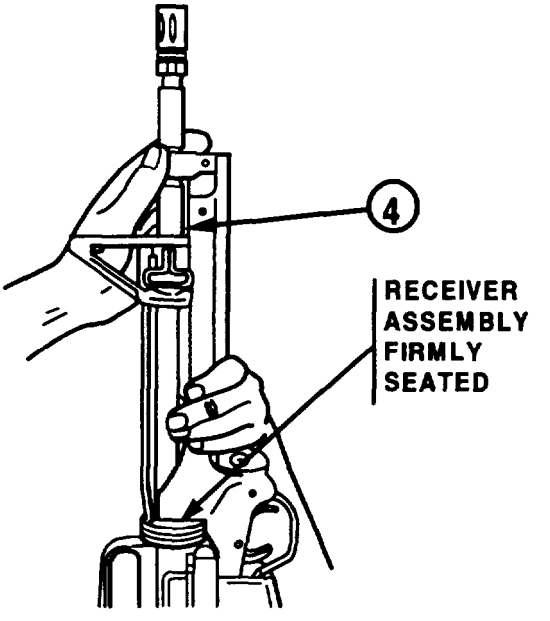
For proper alignment, ensure the receiver assembly is centered under the barrel of the carbine.



c. Depress the barrel stop (4) on the M203A1 receiver and ensure it operates through its full range of motion. If the barrel stop operates through its full range of motion, proceed to step 10.

d. If barrel stop is prevented from operating through its full range of motion by making contact with the bayonet lug on the M4/M4A1 carbine, remove the M203A1 receiver from the M4/M4A1 carbine.

e. Disassemble the barrel stop from the M203A1 receiver (see para 3-10, step 1).



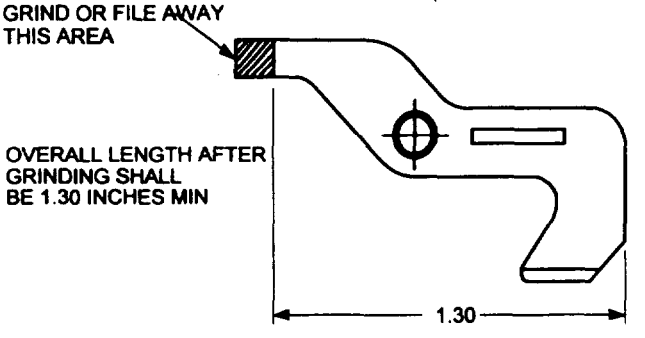
f. Modify barrel stop, as follows:

(1) Grind or file excess material from barrel stop as shown in illustration.

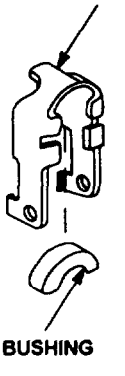
(2) File burrs and sharp edges from barrel stop.

(3) Touch up area of bare metal with solid film lubricant (appendix D, item 11).

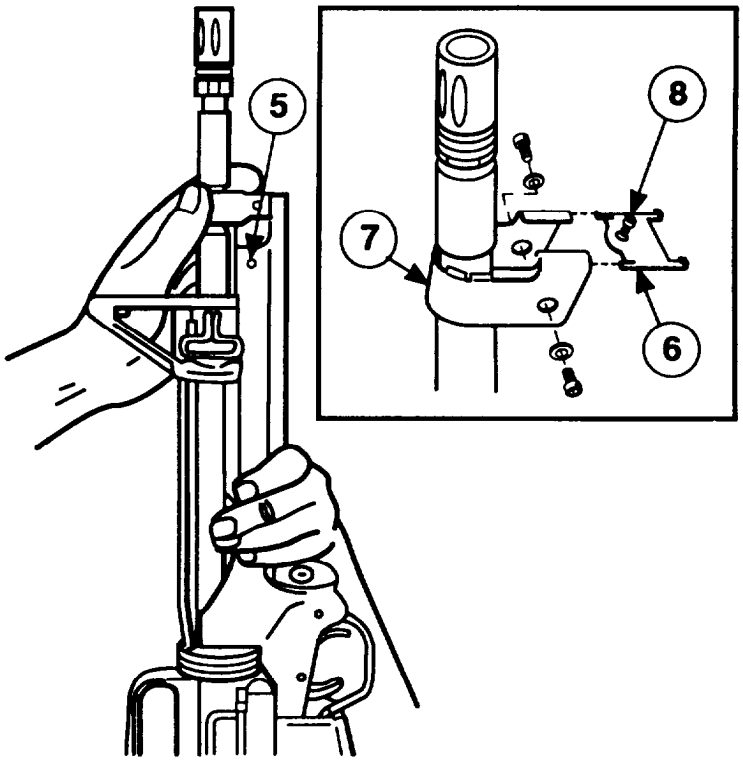
g. Reassemble barrel stop in M203A1 receiver (see para 3-10, step 14).



10. Install bushing half into mounting bracket assembly.



INSTALLATION OF M203A1 CONT)



11. Stake once on each side of barrel stop pin hole (5).

11.1. Position mounting bracket over carbine barrel in step down area between muzzle and front sight with the flanges toward the muzzle.

12. Rotate mounting bracket upward/side ways and insert other bushing half between M203A1 receiver and M4/M4A1 carbine barrel.

13. Insert bracket clamp assembly (6) into mounting bracket (7) behind the mounting bracket flange, with the rounded portion of bracket clamp assembly toward carbine barrel, and slide the bracket clamp assembly in until the bracket clamp assembly tabs hook underneath the mounting bracket flange.

14. Lift up on bracket clamp assembly to avoid binding and align screw holes in receiver assembly and mounting bracket. Install two washers, two socket head screws and tighten snug by hand.

15. Screw in the bracket clamp assembly screw (8) until the bracket clamp (6) is snug against the mounting bracket flange, then tighten the bracket clamp assembly screw an additional ¾ turn. DO NOT OVER TIGHTEN.

16. Fully tighten the two screws on the side of the receiver.

17. Check installation of the M203A1 receiver assembly as follows.

a. The movement from side to side should not exceed 1/8 inch left or right of center. Total movement cannot exceed ¼ inch.

b. If excess side to side movement exist, replace the bushing halves.

c. Check forward and rearward movement of M203A1 receiver. No forward or backward movement is allowed.

18. Engage trigger guard (para 2-11, step 16).

19. Install locking wire:

a. Install an 8 inch (20.32 cm) length of locking wire; it may be started at either socket head screw.

b. Insert locking wire approximately halfway through hole in head of socket head screw.

c. Wrap the half of the wire farthest from the front of the receiver assembly around the head of the mounting screw in a clockwise direction.

d. Twist wire strands together in either right-hand or left-hand direction. Begin at the socket head screw until the twisted wire reaches an appropriate hole in the bracket clamp assembly screw. Insert locking wire through one of the bracket clamp assembly screw holes.

e. Twist wire in same direction used in step “a” until one strand of wire can be inserted through socket head screw on other side of receiver and pull wire tight.

f. Wrap loose strand of wire around head of socket head screw in a counter clock wise direction.

g. Twist wire strands together, beginning at the screw head, until the twisted wire is approximately 1/2 inch (1.27 cm) long.

h. Cut off excess wire strands and bend twisted section out of the way.

20. Install M203 barrel (see para 2-11, steps 20 and 21).

21. Install new handguard and sight assembly (see para 2-11, step 22).

22. Install sling in front swivel (see para 2-11, step 23).

23. Install quadrant sight assembly (see para 2-11, step 24).

24. Function check M203A1, using function checks for the M203 in TM 9-1010-221-10, (page 3-13).

25. Re-zero M4/M4A1 carbine because installation of the M203A1 changes the zero of the M4 carbines.

3-7. 40MM GRENADE LAUNCHER M203/M203A1—MAINTENANCE INSTRUCTIONS.

This task covers:

a. Disassembly
b. Inspection/Repair
c. Reassembly

INITIAL SETUP

Tools and Special Tools
(ARMY) Small Arms Repairman Tool Kit (item 5, app B)
(MC) Small Arms Repairman Tool Kit (item 5, app B)

Materials/Parts
Sealing compound (item 19, app D)

Equipment Condition
a. Hand guard assembly removed from M16 series rifle. Refer to page 2-16.
b. Leaf Sight and Rail Grabber Assembly removal from M5 or M4 Adapter Rail System

DISASSEMBLY

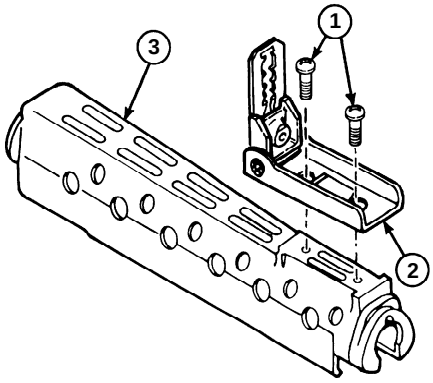
NOTE
Disassemble only to replace unserviceable components.

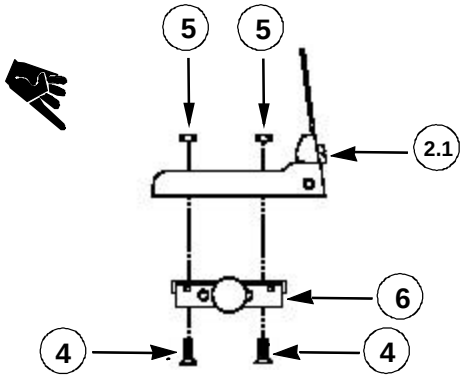
1. Remove two machine screws (1) from leaf sight assembly (2).

1.1 Remove two socket head screws (4) and two hex nuts (5) from leaf sight and rail grabber assembly.

2. Remove leaf sight assembly (2) from hand guard assembly (3).

3. Remove leaf sight assembly (2.1) from rail grabber assembly (6).





3-7. 40MM GRENADE LAUNCHER M203/M203A1—MAINTENANCE INSTRUCTIONS (CONT).

INSPECTION/REPAIR

1. Inspect hand guard assembly for cracks or distortion. Cracks should not exceed 1 inch (2.54 cm) in length.

2. Inspect heat shield for tightness on hand guard. If heat shield is loose enough to rattle, the hand guard assembly must be replaced.

3. Inspect all parts for serviceability.

4. Replace all authorized unserviceable parts.

NOTE

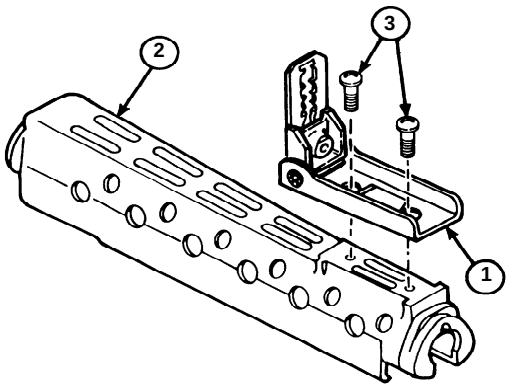
For further breakdown of leaf sight assembly, see page 3-9.

5. Clean hand guard assembly.

6. If the rail grabber assembly is damaged, it must be replaced.

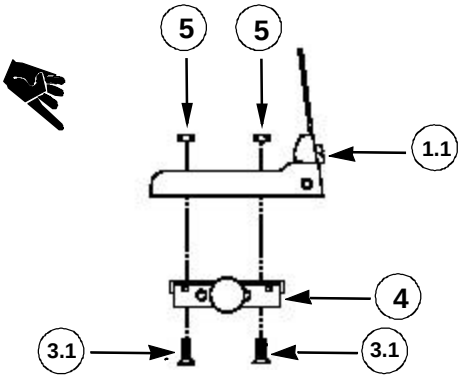
REASSEMBLY

1. Align holes in base of leaf sight assembly (1) with holes in hand guard assembly (2). Apply sealing compound (item 19, app D) to two machine screws (3). Install and fully tighten two machine screws (3).



2. Install hand guard assembly (2) on M16 series rifle (p 2-30).

3. Align holes in base of leaf sight assembly (1.1) with holes in rail grabber assembly (4). Apply sealing compound (item 19, app D) to two socket head screws (3.1) and assemble with two hex nuts (5).



3-8. LEAF SIGHT ASSEMBLY—MAINTENANCE INSTRUCTIONS.

This task covers:

a. Disassembly
b. Cleaning/Inspection/Repair
c. Reassembly/Lubrication

INITIAL SETUP

Tools and Special Tools
(ARMY) Small Arms Repairman Tool Kit (item 5, app B)
(MC) Small Arms Repairman Tool Kit (item 5, app B)

Materials/Parts
Cleaner, lubricant, and preservative (item 5, app D)
Dry cleaning solvent (item 9, app D)
Rubber gloves (item 10, app D)
Spring pin (MS39086-66)
Wiping rag (item 17, app D)

Equipment Condition
a. Leaf sight assembly removed from hand guard (page 3-7).
b. Leaf sight assembly removed from rail grabber assembly (page 3-7).

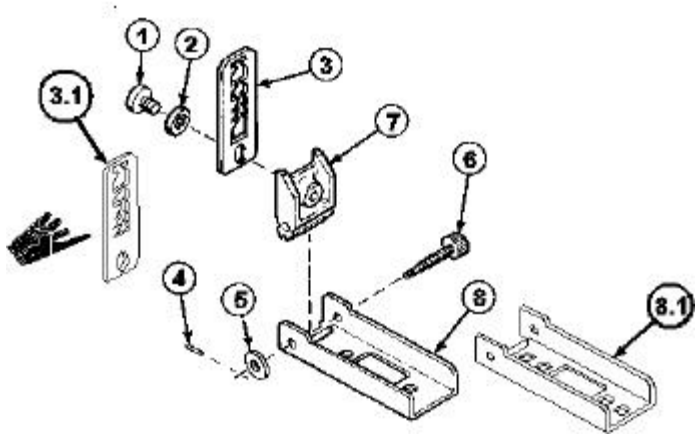
DISASSEMBLY

NOTE
Disassemble only to replace unserviceable components.

1. Remove machine screw (1), lockwasher (2), and front folding sight leaf (3, 3.1).

2. Remove spring pin (4) and flat washer (5) from sight windage screw (6). Discard spring pin (4).

3. Unscrew sight windage screw (6) from sight leaf mount (7) and sight leaf base (8) or (8.1).



3-8. LEAF SIGHT ASSEMBLY - MAINTENANCE INSTRUCTIONS (CONT).

CLEANING/INSPECTION/REPAIR

WARNING

Dry cleaning solvent is FLAMMABLE and TOXIC and must be kept away from open flames and used in a well-ventilated area. Use of rubber gloves is necessary to protect the skin when washing grenade launcher parts.

Appropriate eye protection is recommended when cleaning your weapon and/or its parts.

1. Clean front folding sight leaf with dry cleaning solvent (item 9, app D) and wiping rag (item 17, app D).

2. Inspect all parts for serviceability.

3. Replace all authorized unserviceable parts.

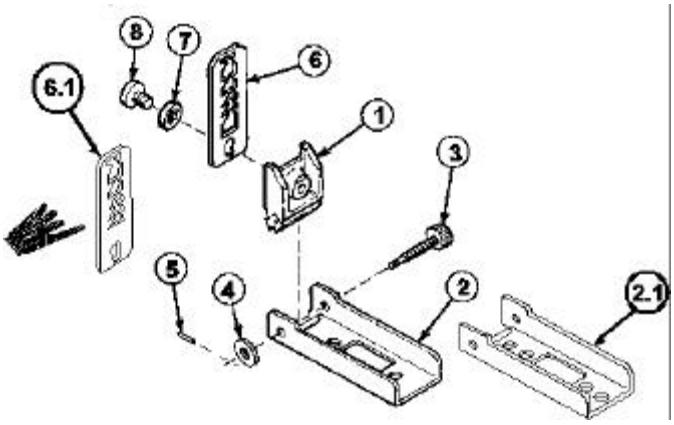
REASSEMBLY/LUBRICATION

1. Lubricate all parts with CLP (item 5, app D).

2. Place sight leaf mount (1) in sight leaf base (2) or (2.1) and align holes as illustrated.

3. Insert and screw in sight windage screw (3) through holes in sight leaf base and sight leaf mount. Secure sight windage screw (3) with flat washer (4) and new spring pin (5).

4. Line up hole in front folding sight leaf (6, 6.1) with hole in sight leaf mount (1). Secure with lockwasher (7) and machine screw (8).



3-9. BARREL ASSEMBLY - MAINTENANCE INSTRUCTIONS

This task covers:

a. Disassembly
b. Cleaning
c. Inspection/Repair
d. Reassembly/Lubrication

INITIAL SETUP

Tools and Special Tools
Barrel extension staking support tool (fig. E-3, app E)
Bore constriction check tool (fig. E-1, app E)
(ARMY) Small Arms Repairman Tool Kit (item 3, app B)
(MC) Small Arms Repairman Tool Kit (item 3, app B)

Materials/Parts
Adhesive (item 1, app D)
Bore brush (7790631)
Cleaner, lubricant, and preservative (CLP) (item 5, app D)
Dry cleaning solvent (item 9, app D)
Penetrant kit (item 15, app D)
Rubber gloves (item 10, app D)
Wiping rag (item 17, app D)

Reference
TM 9-1010-221-10

Equipment Condition
Barrel assembly removed from grenade launcher (page 2-17).

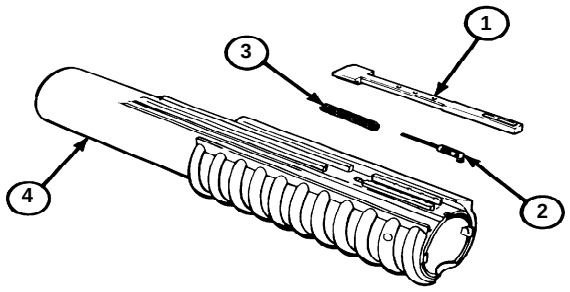
3-9. BARREL ASSEMBLY - MAINTENANCE INSTRUCTIONS

DISASSEMBLY

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

NOTE

- Disassemble only to replace unserviceable components.
- Cartridge locator and/or compression helical spring may have to be replaced if there is no spring tension when the cartridge locator is de-pressed.
- A file may have to be used to remove staked metal. Prying of the barrel extension may be required.



1. Check to see if barrel extension has previously been restaked. If it has been restaked previously, a new barrel extension is necessary.

2. Disassemble staked barrel extension (1), cartridge locator (2), and compression helical spring (3) from barrel (4).

CLEANING

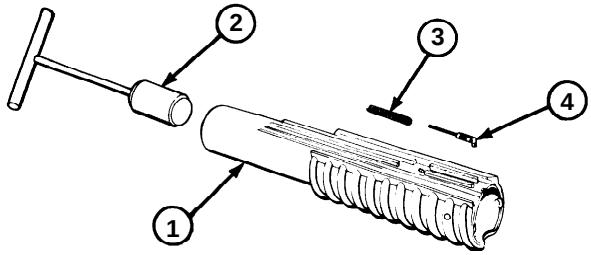
WARNING
Dry cleaning solvent is FLAMMABLE and TOXIC and must be kept away from open flames and used in a well-ventilated area. Use of rubber gloves is necessary to protect the skin when washing grenade launcher parts.

Appropriate eye protection is recommended when cleaning your weapon and/or its parts.

1. Clean components thoroughly of all grease, oil, water and any excessive adhesive using dry cleaning solvent (item 9, app D). After cleaning, dry all parts with a wiping rag (item 17, app D).

2. Clean bore and chamber with bore brush (see TM 9-1010-221-10).

INSPECTION/REPAIR

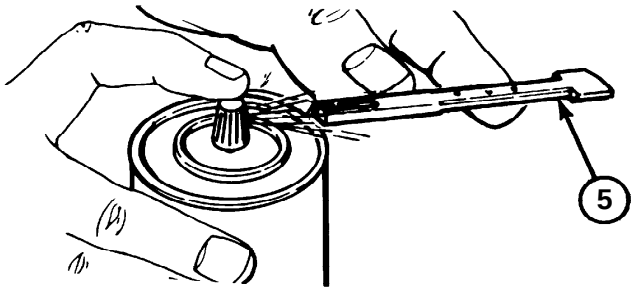


1. Inspect the bore of the barrel (1) for pitting and erosion. Fine pits are allowed. If pits are wider than the lands or grooves and are over 0.38 inch (0.97 cm) in length, replace barrel.

2. Use bore constriction check tool (2) (fig. E-1, app E) to detect dents and minor damage that would interfere with forward progress of fired projectile. Tool must pass freely through entire barrel bore. If it does not pass freely, the barrel is unserviceable and must be replaced.

3. Inspect compression helical spring (3) for breaks and distortion. Replace if necessary.

4. Visually inspect cartridge locator (4) for burrs, pits, and cracks. Replace if necessary.



5. Inspect barrel extension (5) for burrs, pits, and cracks using penetrant kit (item 15, app D) as follows:

WARNING

Dry cleaning solvent is FLAMMABLE and TOXIC and must be kept away from open flames and used in a well-ventilated area. Use of rubber gloves is necessary to protect the skin when washing grenade launcher parts.

Appropriate eye protection is recommended when cleaning your weapon and/or its parts.

a. Make sure area to be inspected is clean, free of oil, etc. by using dry cleaning solvent (item 9, app D). Spray a small amount of remover in penetrant kit on the area to be inspected, let it dry, and wipe with a wiping rag (item 17, app D).

3-9. BARREL ASSEMBLY—MAINTENANCE INSTRUCTIONS (CONT).

INSPECTION/REPAIR (CONT).

b. Spray penetrant to wet component to be inspected.

c. Spray developer over penetrant and let it work. Wherever there is a crack, there will be a change in color. If there are cracks, the component is unserviceable.

d. If no cracks are indicated, spray remover on area. Let dry, and wipe with a wiping rag (item 17, app D).

NOTE

Replace handgrip assembly if it is cracked or has broken cartridge retainers. Repair handgrip assembly if it is loose from the barrel.

6. Remove defective handgrip assembly as follows:

a. With barrel assembly laying so barrel extension is facing up, set external retaining ring pliers between edges of handgrip assembly where it contacts barrel, and spread.

b. Do this in several locations up and down the length of handgrip assembly until handgrip adhesive and barrel separate.

c. With pliers approximately at midpoint, spread handgrip assembly and carefully tap barrel out with rubber/plastic hammer.

NOTE

Early production barrels do not contain the locating rivet in the handgrip assembly or the locating recess in the barrel. If you have this type of barrel, discard it. Do not repair. The hand grip assembly has a locating rivet positioned in about the center on the right side. The head of this rivet, on the inside of the handgrip assembly, enters into a small recess on the right side of the barrel.

7. Spread handgrip assembly away from the barrel sufficiently to release rivets from recess in barrel. Once released from rivet recesses, handgrip assembly should slide off under hand pressure.

8. Clean all the old adhesive from the barrel and dry thoroughly.

REASSEMBLY/LUBRICATION

1. Assemble handgrip assembly to barrel as follows:

NOTE

Take care not to dent or bend the barrel during the repair/reassembly process.

a. Apply adhesive (item 1, app D) to the inside of the new handgrip assembly and work it onto the barrel from the rear, Make sure to get the locating rivet head into the barrel locating recess.

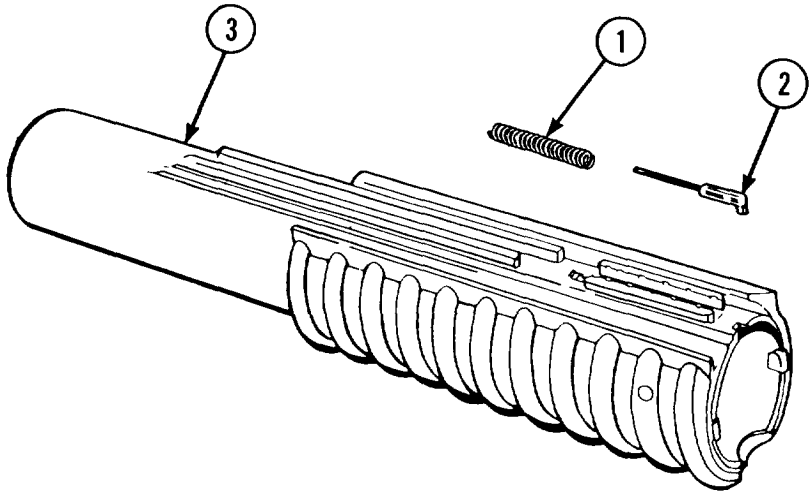
b. Clean all excessive adhesive from the assembled components.

c. Lightly clamp the handgrip assembly in position and allow the adhesive to set for approximately 24 hours.

d. Remove clamps. Assembly is now ready for use.

2. Wipe inside of barrel with wiping rag (item 17, app D) containing a small amount of CLP (item 5, app D).

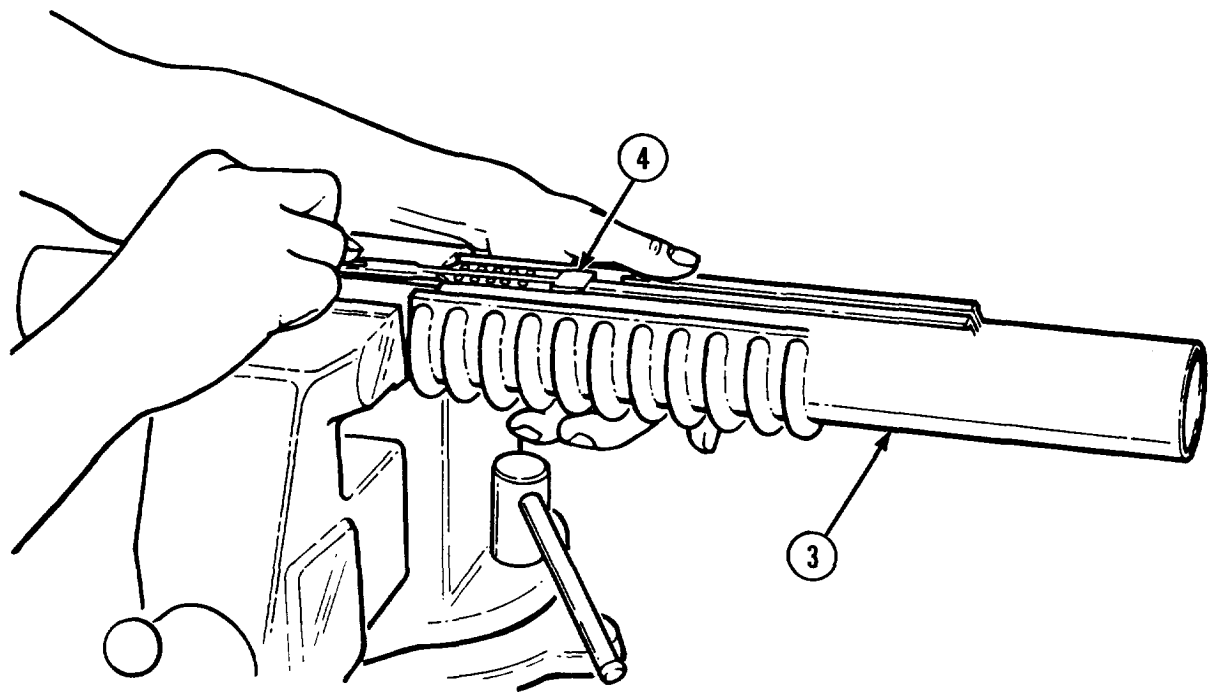
3. Apply light film of CLP (item 5, app D) to bore and outside of barrel.



4. Reassemble compression helical spring (1) and cartridge locator (2) on barrel (3).

3-9. BARREL ASSEMBLY–MAINTENANCE INSTRUCTIONS (CONT).

REASSEMBLY/LUBRICATION (CONT)



5. For support, place barrel extension (4) on barrel extension staking tool (fig. E-3, app E). Clamp and secure in a vise. Slide barrel (3) chamber on barrel extension staking tool.

CAUTION
Do not stake over original staking.

NOTE
Only one time restaking.

6. Using a center punch, securely stake barrel extension (4) to barrel (3) four times on each side, between original stake marks.

7. Use bore constriction check tool (fig. E-1, app E) to ensure barrel has not been dented.

3-10. RECEIVER ASSEMBLY-MAINTENANCE INSTRUCTIONS

This task covers:

a. Disassembly
b. Cleaning
c. Inspection/Repair
d. Reassembly/Lubrication
e. Annual Gaging/Inspection

INITIAL SETUP

Test Equipment
- Firing pin protrusion gage (item 2, app B)
- Shop Set, Small Arms: Field Maintenance, Basic Less Power (item 3, app B)

Tools and Special Tools
- Bore brush (TM 9-1005-249-10, TM 9-1005-319-10, or TM 05538C-10/1A (Marine Corps only))
- Chamber cleaning brush 8432358 (TM 9-1005-249-10, TM 9-1005-319-10, or TM 05538C-10/1A (Marine Corps only))
- Field Maintenance Shop Set (item 3, app B)
- (ARMY) Small Arms Repairman Tool Kit (item 5, app B)
- (MC) Small Arms Repairman Tool Kit (item 5, app B)
- Slave pin (fig. E-2, app E)
- Torque wrench adapter (item 1, app B)

Materials/Parts
- Cleaner, lubricant, and preservative (CLP) (item 5, app D)
- Dry cleaning solvent (item 9, app D)
- Penetrant kit (item 15, app D)
- Pipe cleaner (item 6, app D)
- Rubber gloves (item 10, app D)
- Sealing compound, Devcon F (item 18, app D)
- Self-locking screw (MS21262-5)
- Solid film lubricant (item 11, app D)
- Surface primer (item 16, app D)
- Wiping rag (item 17, app D)

References
- TM 9-1005-249-10
- TM 9-1005-319-10 or TM 05538C-10/1A (Marine Corps Only)
- TM 9-1010-221-10

Equipment Conditions
- Make sure grenade launcher is cleared and cocked before starting disassembly procedures.
- Grenade launcher removed from M16 series rifle (p 2-15 thru 2-19).

3-10. RECEIVER ASSEMBLY--MAINTENANCE INSTRUCTIONS (CONT).

DISASSEMBLY

NOTE

Solid Film Lubricant (SFL) is the authorized touchup for the M203/M203A1 Grenade Launcher and may be used on up to one third of the exterior finish of the weapon.

FOR CONUS USE ONLY: Solid Film Lubricant (item 11, app D) may be used as a touchup without limitation on the receiver assembly. This is to say that units which 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 receiver assembly protected with SFL. Prior to application of SFL, the surface must be thoroughly cleaned and inspected for corrosion and/or damage. If corroded or damaged, the part must be repaired or replaced prior to application of SFL. Continued use under combat conditions would result in an unprotected surface when the SFL wears off. This would result in a large light reflecting surface and accelerated deterioration of the unprotected surface. Therefore, Divisional Combat Units and units which fall under the definition of Rapid Deployment type must adhere to the limitation of NOT over one third of their exterior surface covered by SFL.

If a M203/M203A1 Grenade Launcher RECEIVER Assembly is missing one third or more of its exterior protective finish, resulting in an unprotected/light reflecting surface, it is a candidate for overhaul. This missing finish will be considered a shortcoming. This shortcoming requires action to obtain a replacement weapon. Once a replacement has been received, evacuate the original weapon to depot for overhaul.

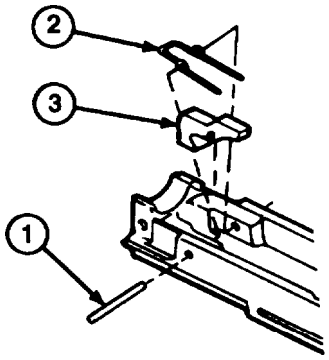
Once the missing exterior protective finish of the receiver assembly has exceeded one third of its total surface, the probability of reclaiming the receiver assembly during overhaul diminishes rapidly. In order to extend the life of the receiver assembly, which is the serial numbered item, it is necessary to evacuate the weapon to depot once the missing finish reaches one third of the total surface of the receiver assembly.

CAUTION

Except for disassembly of the cartridge extractor and trigger guard, disassemble in the following order. Not following this order may result in damage to components.

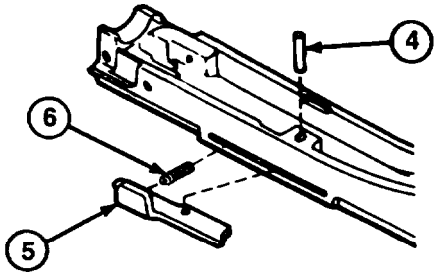
NOTE

Make sure that grenade launcher is cleared and cocked before starting disassembly procedures. Remove screw thread insert when required for repair.



1. Remove headless straight pin (1) to release torsion helical spring (2) and barrel stop (3).

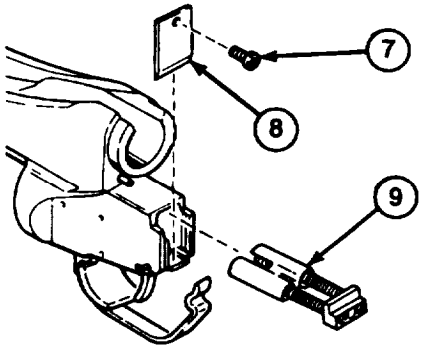
M203A1 requires removal of peening.

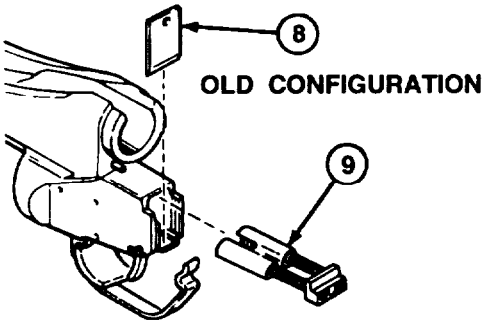


NOTE

Remove headless straight pin only when barrel latch or compression helical spring requires replacement.

2. Remove headless straight pin (4) to release barrel latch (5) and compression helical spring (6).





WARNING

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

3. Remove and discard self-locking screw (7) from back plate (8). Remove back plate (8) and follower guide assembly (9) from receiver.

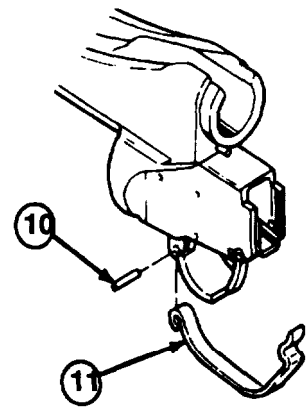
NOTE

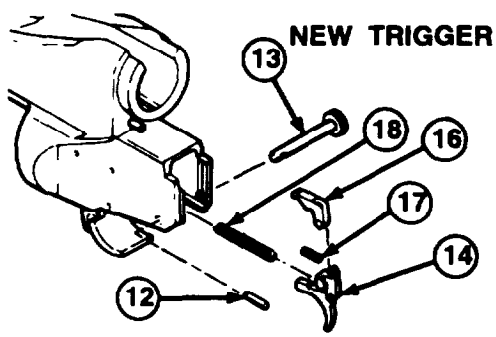
The old part number for the back plate (8) is 8448314, and the old part number for the follower guide assembly (9) is 8448387.. The current configuration of the back plate and follower guide assembly is shown. The previous configuration follower guide assembly contained a captured spring and detent, therefore, it did not require a screw. The old type back plate and follower guide assembly only need to be replaced if defective. If the old configuration or either the back plate or the follower guide assembly requires replacement, both parts must be replaced, as old to new configurations are not compatible.

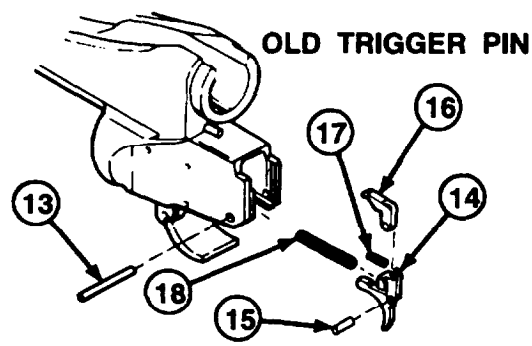
3-10. RECEIVER ASSEMBLY - MAINTENANCE INSTRUCTIONS (CONT).

DISASSEMBLY (CONT)

4. Remove spring pin (10) to release trigger guard (11).







WARNING

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

NOTE

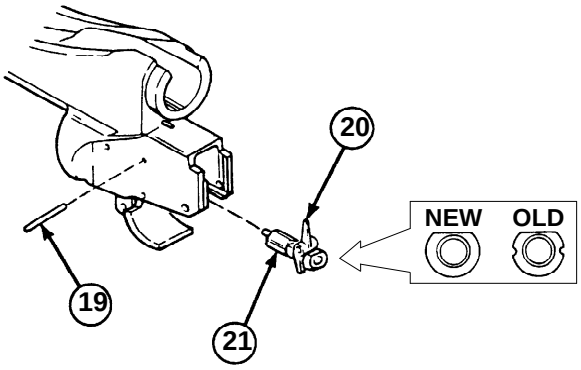
The new trigger pin, part number 12002921, for the receiver assembly is illustrated above. When the new trigger pin is removed, the trigger separates into three parts: the trigger, sear, and compression helical spring.. The old trigger pin is also illustrated above and is a repair part for the old trigger assembly. When the old trigger pin is removed, the trigger assembly remains intact by the sleeve bushing.

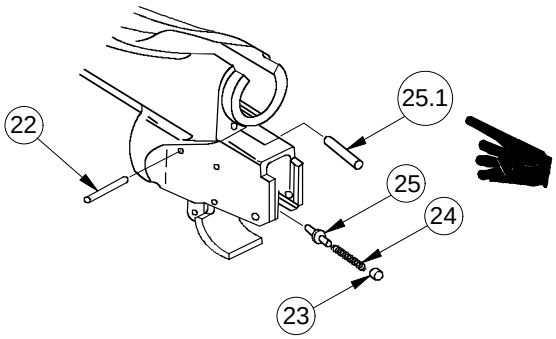
5. Remove spring pin (12), trigger pin (13), and trigger (14). If old trigger pin, remove sleeve bushing (15) from trigger(14). Remove sear (16) and compression helical spring (17) from trigger (14). Remove compression helical spring (18) from receiver assembly.

WARNING

Using the old style firing pin, part number 8448327, can cause injury to personnel and equipment when firing a live round. The old firing pin must be replaced by the new firing pin, part number 12002970, whenever the old pin is identified in the weapon.

6. Remove spring pin (19), cocking lever (20), and firing pin (21).





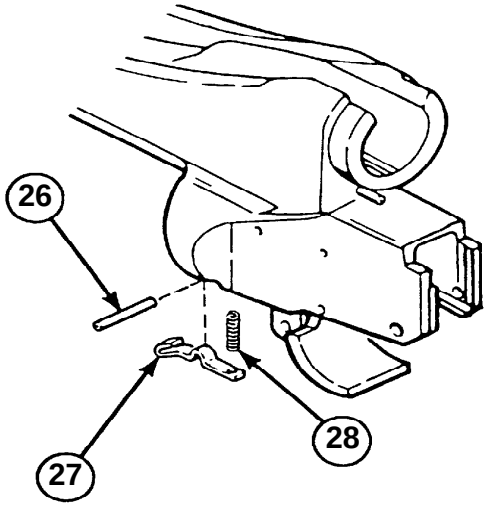
WARNING

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

NOTE

Remove spring pin (25.1) only when damaged.

7. Remove spring pin (22) to release ejector retainer (23), compression helical spring (24), cartridge ejector (25), and spring pin (25.1).



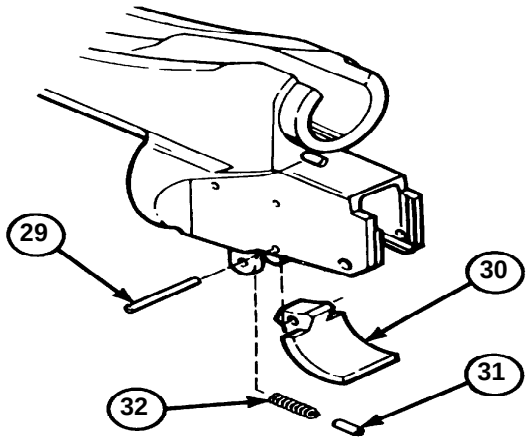
8. Remove spring pin (26) to release cartridge extractor (27). Remove compression helical spring (28).

3-10. RECEIVER ASSEMBLY - MAINTENANCE INSTRUCTIONS (CONT).

DISASSEMBLY (CONT)

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

9. Remove spring pin (29) to release grenade launcher safety (30), safety detent (31), and compression helical spring (32).



CLEANING

WARNING
Dry cleaning solvent is FLAMMABLE and TOXIC and must be kept away from open flames and used in a well-ventilated area. Use of rubber gloves is necessary to protect the skin when washing grenade launcher parts.

Appropriate eye protection is recommended when cleaning your weapon and/or its parts.

Clean parts of all grease, oil, water, and dirt using dry cleaning solvent (item 9, app D). After cleaning, dry all parts with a wiping rag (item 17, app D) and lubricate with CLP (item 5, app D).

INSPECTION/REPAIR

1. Check all parts for damage. Replace all authorized unserviceable parts.

2. Check all springs for breaks, distortion, and cracks. Replace if faulty.

3. Inspect all remaining parts for burrs or deformation. Remove burrs and minor deformations with a fine stone.

4. Check that firing pin, safety, extractor, and extractor pin are not broken. Replace if broken.

5. Inspect the trigger and sear for damage and/or wear. If excessively worn, the trigger pull can be affected. See page 3-34 for trigger pull test. If old trigger assembly is unserviceable, replace it with trigger, sear, and compression helical spring. The new trigger pin and spring pin will also be required.

6. Inspect barrel latch. Use penetrant kit (item 15, app D) to check for cracks as follows.

WARNING

Dry cleaning solvent is FLAMMABLE and TOXIC and must be kept away from open flames and used in a well-ventilated area. Use of rubber gloves is necessary to protect the skin when washing grenade launcher parts.

Appropriate eye protection is recommended when cleaning your weapon and/or its parts.

a. Make sure area to be inspected is clean and free of oil, etc., by using dry cleaning solvent (item 9, app D). Spray a small amount of remover on the area to be inspected, let it dry, and wipe off with a wiping rag (item 17, app D).

b. Spray penetrant to wet component to be inspected.

c. Spray developer over penetrant and let it work. Wherever there is a crack, there will be a change in color. If there are cracks, the component is unserviceable.

d. If no cracks are indicated, spray remover on area, let it dry, and wipe it off with a wiping rag (item 17, app D).

CAUTION

Do not remove breech insert unless damaged or loose.

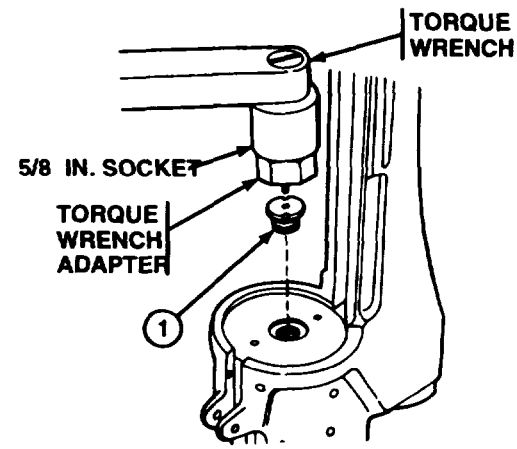
NOTE

For M203 receiver assemblies with serial numbers 39700 and above, go to step 7.
For M203 receiver assemblies with serial numbers 39700 and below, refer to step 8.

3-10. RECEIVER ASSEMBLY-MAINTENANCE INSTRUCTIONS (CONT).

INSPECTION/REPAIR (CONT)

7. Visually inspect the face of the breech insert (1) for damage. Inspect the breech insert; it should not protrude above the breech face and should not be more than 0.007 inches (0.018 cm) below the breech face. If the weapon fails any part of the above inspection, skip to step 9 for repair. If the weapon passes all of the above inspections, skip to page 3-27 for reassembly.



NOTE

There is no reverse torque requirement on receiver assemblies with serial numbers 39700 and above.

Before inspecting an M203 with serial number 39700 and below, check records to see if it has previously had its breech insert repaired. If it has been repaired, inspect in accordance with step 7 above.

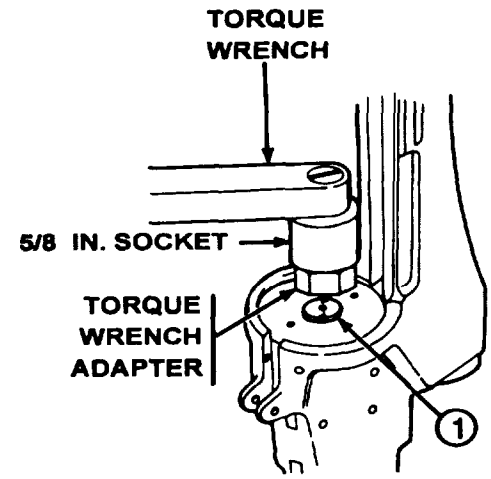
8. Use torque wrench adapter and torque wrench and apply 60 in.-lb (6.78 N-m) of reverse torque to the breech insert (1). If insert indicates no movement and meets the acceptable criteria cited in step 7 above, it is acceptable; skip to page 3-28 for reassembly. If it does not meet this criteria, continue with repair procedures in step 9.

NOTE

A breech insert that has been repaired on receiver assemblies 39700 and below will no longer require a reverse check. Therefore, a record should be maintained to prevent a duplication of effort.

9. Use torque wrench adapter and remove breech insert (1). Discard the breech insert if damaged. Examine the breech insert threads in the receiver assembly for damage. If the threads in the receiver assembly are not damaged, install the breech insert using the procedures on page 3-25. If the threads in the receiver assembly are damaged, install the breech insert using the procedures on page 3-26.

10. Install breech insert (1) in receiver assemblies with no thread damage as follows:



a. Clean all sealing compound residue in the receiver assembly using an M16A1/M16A2 rifle chamber cleaning brush (see TM 9-1005-249-10, TM 9-1005-319-10, or TM 05538C10/1A (Marine Corps only)). Insert brush into the threaded hole and rotate several times.

b. Clean the threads of the new breech insert (1) thoroughly, using the chamber cleaning brush (see TM 9-1005-249-10, TM 9-1005-319-10, or TM 05538C10/1A (Marine Corps only)).

c. Remove all traces of oil and grease so the sealing compound will adhere properly.

d. Use surface primer (item 16, app D) to remove oil and grease and to leave a clean, dry surface. Apply surface primer on the threads in the receiver assembly and on the breech insert (1). Allow primer to dry completely.

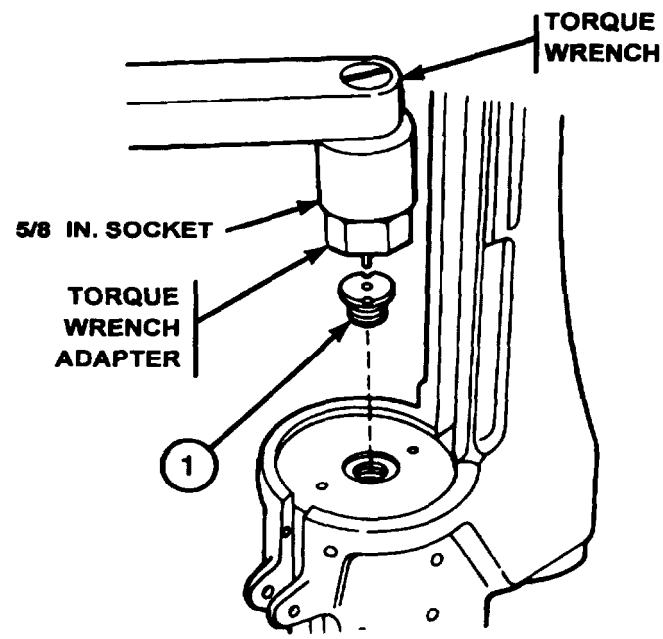
CAUTION
Do not stake the breech insert.

e. Apply sealing compound (item 19, app D) to coat both the threads of the receiver assembly and the threads of the breech insert (1). Install the breech insert in the receiver assembly. Tighten the breech insert (using torque wrench adapter and torque wrench) to 50 ± 5 in.-lb (5.7 ± 0.6 N-m). Check the breech insert to make sure it is flush to 0.007 inch (0.018 cm) below the surface of the breech face. Turn the breech insert in as unserviceable if it protrudes above breech face or if it is more than 0.007 inch (0.018 cm) below the breech face.

f. Allow the repaired grenade launcher to stand for 24 hours before using to permit the sealing compound to cure.

3-10. RECEIVER ASSEMBLY-MAINTENANCE INSTRUCTIONS (CONT).

INSPECTION/REPAIR (CONT)



11. Install breech insert (1) in receiver assemblies with damaged threads as follows:

WARNING

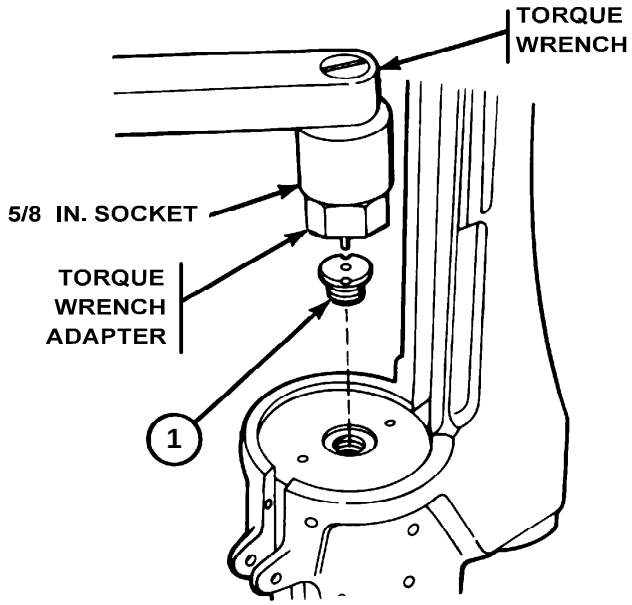
Dry cleaning solvent is FLAMMABLE and TOXIC and must be kept away from open flames and used in a well-ventilated area. Use of rubber gloves is necessary to protect the skin when washing grenade launcher parts.

Appropriate eye protection is recommended when cleaning your weapon and/or its parts.

a. Remove the breech insert from the receiver assembly. Clean thoroughly using dry cleaning solvent (item 9, app D). The threads must be free of all residue, including oils.

b. Clean the stripped hole in receiver assembly using a bore brush (TM 9-1005-249-10, TM 9-1005-319-10, or TM 05538C10/1A (Marine Corps only)) to remove or loosen debris. Clean with dry cleaning solvent (item 9, app D) to remove debris and oils.

c. Apply surface primer (item 16, app D) to the breech insert (1) threads and shoulder area as well as to the receiver assembly hole that has the stripped threads. The primer should be applied to the shoulder area of the hole as well. Allow the primer to dry completely.



d. Apply a coat of sealing compound, DEVCON F (item 18, app D), to the breech insert (1) and the hole area in the receiver assembly. Install the breech insert as if being threaded. When the breech insert is in the final assembled position, flush to 0.007 inch (0.018 cm) below the breech surface of the receiver assembly, remove all excess sealing compound from the breech insert face, including the notches in the breech insert for the torque wrench adapter. Be sure all excess sealing compound is removed from the firing pin hole in the breech insert, including the rear area where the firing pin makes contact with the breech insert. Insert a pipe cleaner (item 6, app D) from the rear of the grenade launcher and through the firing pin hole.

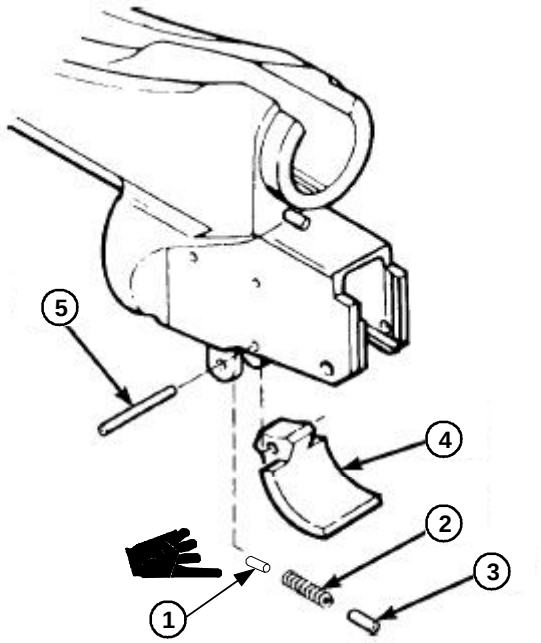
e. Reassemble the back plate to the receiver assembly and place a C-clamp against the breech insert (1) and the back plate. Tighten the C-clamp only enough to hold the breech insert in a tight position to the receiver assembly. Do not bend back plate inward. Let the sealing compound cure for 24 hours.

f. To be sure the repair is satisfactory, remove C-clamp. Use the torque wrench adapter and torque wrench and apply 55 in.-lb (6.22 N-m) reverse torque to the breech insert (1). The breech insert should not move or loosen. If the breech insert loosens, turn the grenade launcher in as unserviceable.

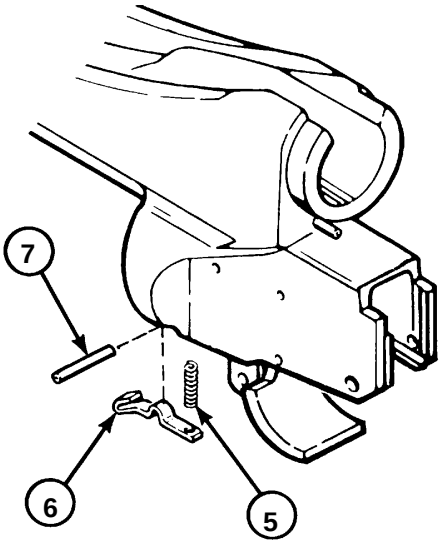
3-10. RECEIVER ASSEMBLY - MAINTENANCE INSTRUCTIONS (CONT).

REASSEMBLY

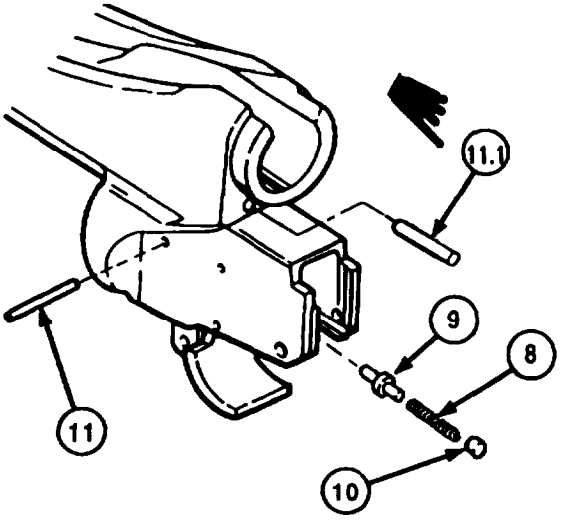
1. Install spring pin (1), helical compression spring (2), safety detent (3), flat end first, and grenade launcher safety (4), and secure with spring pin (5). Spring pin should be equal distance to both sides.



2. Seat compression helical spring (5) in hole in receiver. Install cartridge extractor (6) and secure with spring pin (7). Check that spring pin (7) is equally positioned on both sides.



3. Place compression helical spring (8) on cartridge
ejector (9). Install cartridge ejector in middle hole of receiver as shown. Position ejector retainer (10) on compression helical spring (8). Press on ejector retainer (10) to compress compression helical spring (8) and secure with spring pin (11). If removed, install spring pin (11.1).



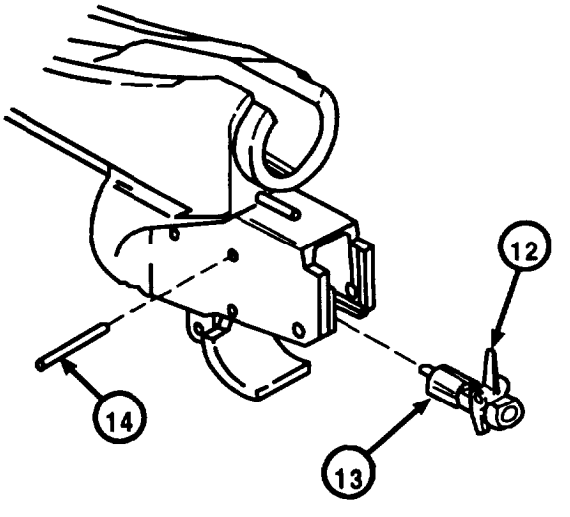
WARNING

Using the old style firing pin, part number 8448327, can cause injury to personnel and damage to equipment when firing a live round. The old firing pin must be replaced by the new firing pin, part number 12002970, whenever the old firing pin is identified in the weapon.

NOTE

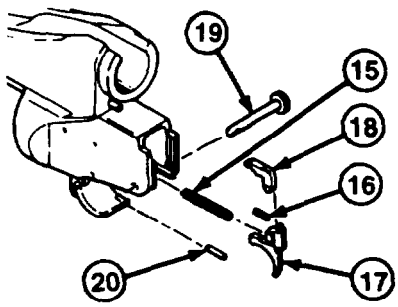
Install firing pin with flat side up. The cocking lever goes in slot in receiver.

4. Seat cocking lever (12) on firing pin (13) as shown.
Install cocking lever (12) and firing pin (13), and secure with spring pin (14).

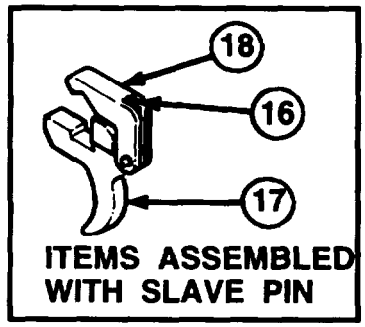


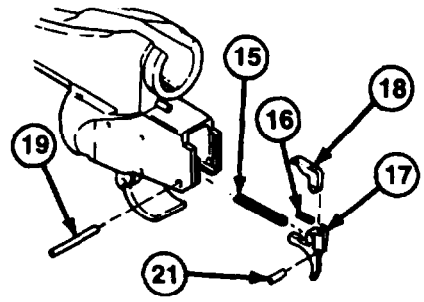
3-10. RECEIVER ASSEMBLY-MAINTENANCE INSTRUCTIONS (CONT).

REASSEMBLY (CONT)



NEW TRIGGER PIN





OLD TRIGGER PIN

NOTE

The new trigger pin for the receiver assembly is illustrated in this procedure. The old trigger pin is also illustrated here. When old trigger pin is unserviceable, replace with new old style trigger pin.

5. Install compression helical spring (15) into the back of the firing pin receiver.

WARNING

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

6. Install new trigger pin as follows:

NOTE

A fabricated slave pin (item E-2, app E) may be used to hold items (16), (17), and (18) together.

a. Place compression helical spring (16) on trigger (17).

b. Position sear (18) on compression helical spring (16) and align trigger pin holes in trigger (17) and sear (18).

c. Install the trigger (17) and secure with trigger pin (19) and spring pin (20). Check that head of trigger pin (19) is located on right side of receiver.

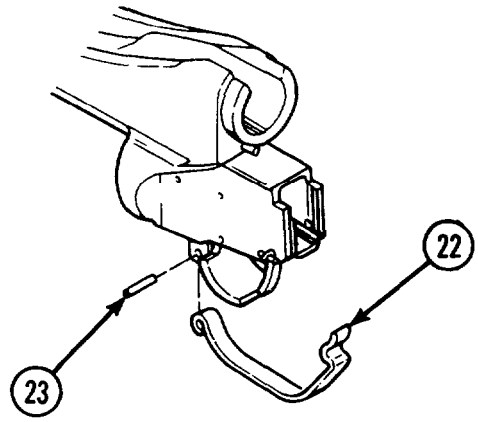
7. Install old trigger pin as follows:

a. Place compression helical spring (16) and sear (18) on trigger (17).

b. Install trigger (17) and secure with trigger pin (19) and sleeve bushing (21).

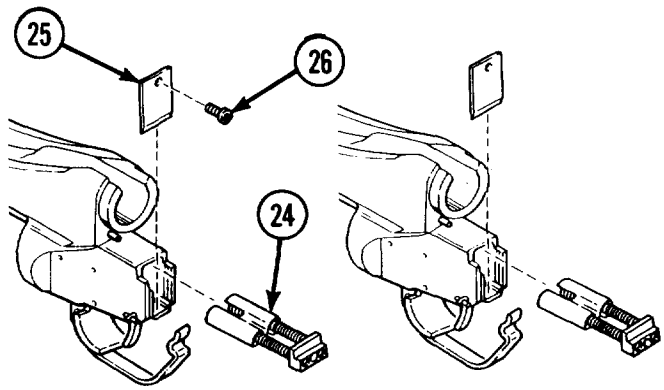
8. For firing pin protrusion test procedures, refer to page 3-35.

9. Line up hole in trigger guard (22) with holes in receiver and secure with spring pin (23).



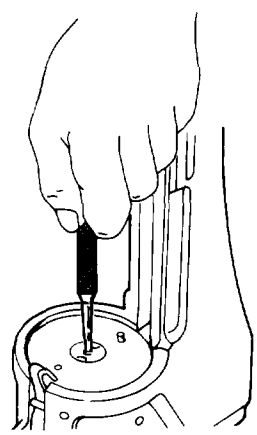
NOTE
Be sure follower guide assembly is installed as shown.

10. Install follower guide assembly (24) in receiver. Install and secure back plate (25) with new self-locking screw (26).



OLD CONFIGURATION

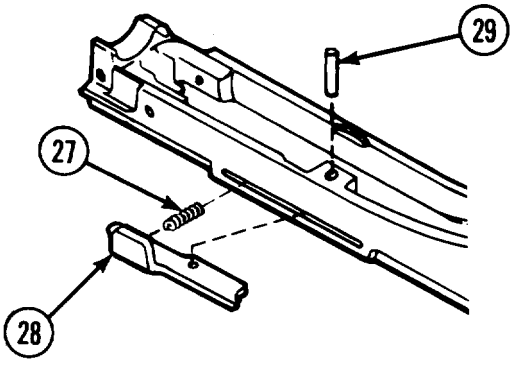
11. Insert 3/32-inch drive pin punch into firing pin hole. To cock the grenade launcher, push punch until a click is heard.



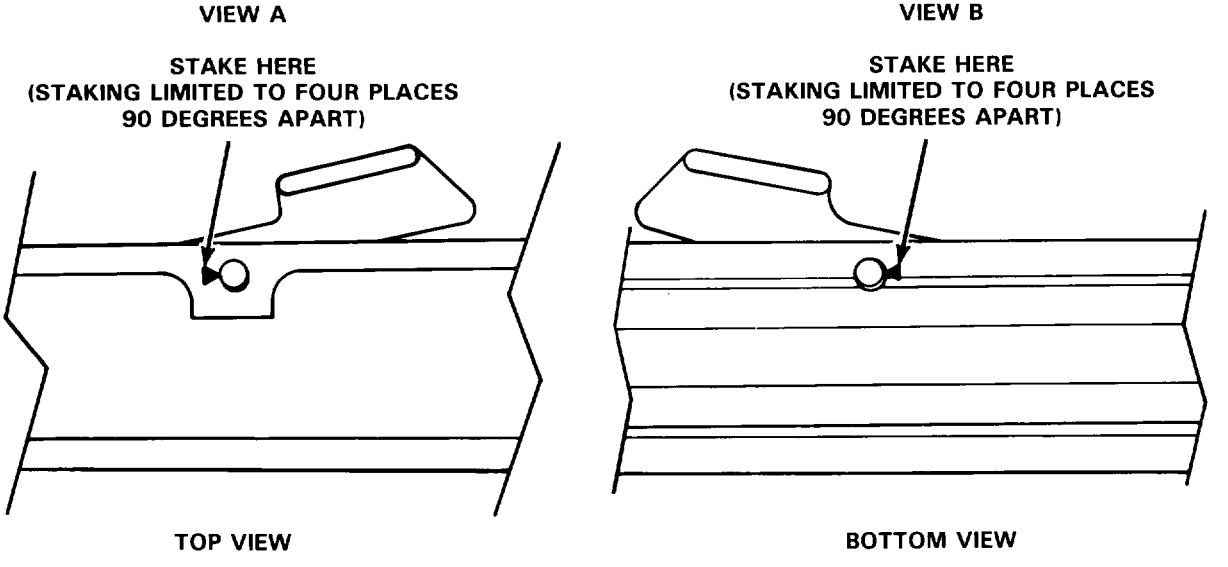
3-10. RECEIVER ASSEMBLY-MAINTENANCE INSTRUCTIONS (CONT).

REASSEMBLY (CONT)

12. Install compression helical spring (27) and barrel latch (28). Secure with headless straight pin (29) by installing headless straight pin flush to 0.030 in. (0.076 cm) slightly below the tip of the receiver. The headless straight pin must not be flush with or extend below the bottom surface.



13. Stake headless straight pin in place as follows:.

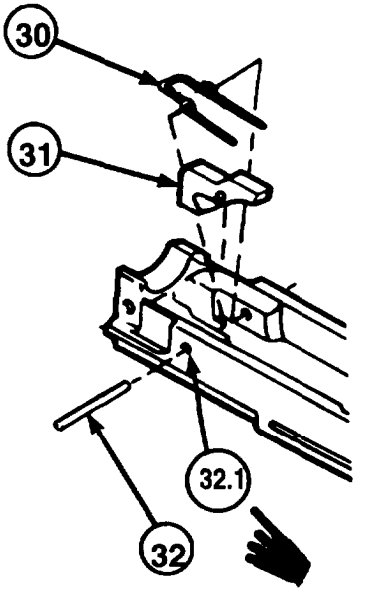


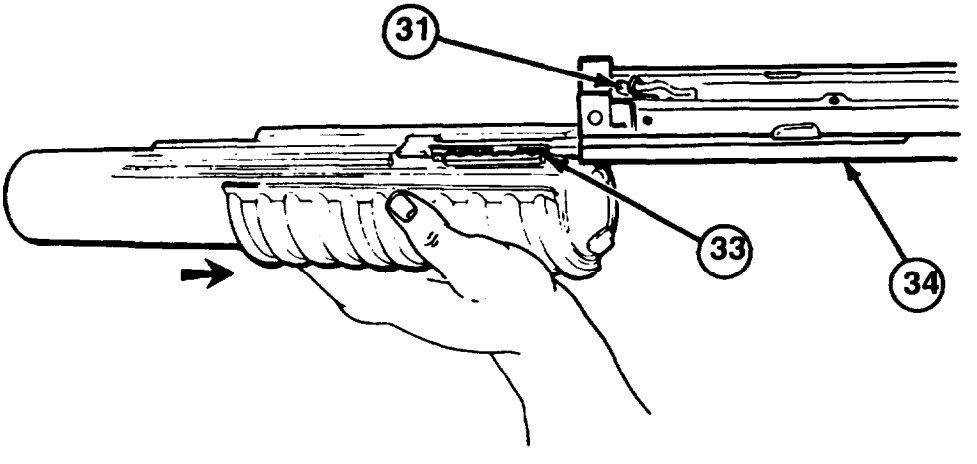
a. Stake pin in place at top and bottom, 180 degrees opposed; do not allow punch to extend or slide into pinhole during staking.

b. Receiver staking shall be limited to four, placed 90 degrees apart at 3, 6, 9, and 12 o'clock.

c. Inspect staked area for cracked or separated material. Replace receivers that have cracked or separated material.

14. Place torsion helical spring (30) on barrel stop (31) and secure with headless straight pin (32).
M203A1 ONLY Handguard assembly does not cover barrel stop pin holes (32.1) therefore one stake each side of receiver is required to retain barrel stop pin.





15. Insert tracks on barrel assembly (33) into tracks in receiver assembly (34). Lift up on barrel assembly (33) and compress barrel stop (31). Pull barrel assembly (33) rearward and barrel stop (31) will snap in place.

16. Perform function checks in accordance with TM 9-1010-221-10.

3-10. RECEIVER ASSEMBLY-MAINTENANCE INSTRUCTIONS (CONT).

ANNUAL GAGING/INSPECTION

1. Test trigger pull as follows:

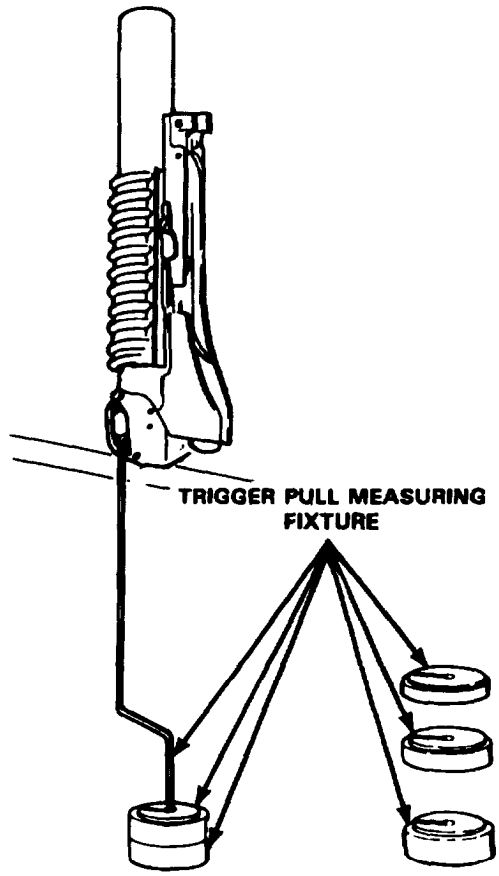
a. Cock grenade launcher.

b. Place safety in FIRE position.

c. Place grenade launcher on edge of table, barrel end up. Support grenade launcher firmly with hand.

d. Place rod on trigger and let it hang freely.

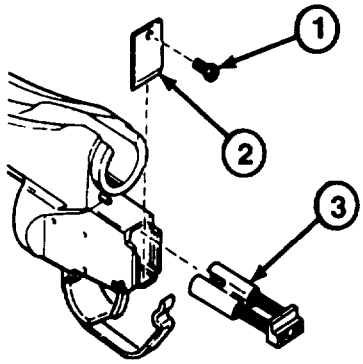
e. Begin adding weights to the rod until trigger releases firing pin. Record the weight.



NOTE

Minimum trigger pull is 5 pounds (2.27 kg); maximum trigger pull is 11 pounds (4.99 kg).

Trigger pull measuring fixture is found in SC 4933-95-CL-A11.



2. Test firing pin protrusion as follows:

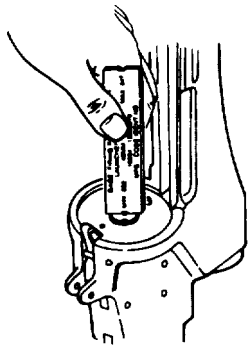
WARNING

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

a. Cock the grenade launcher.

b. Move barrel to forward position.

c. Remove self-locking screw (1), back plate (2), and follower guide assembly (3). Discard self-locking screw (1).



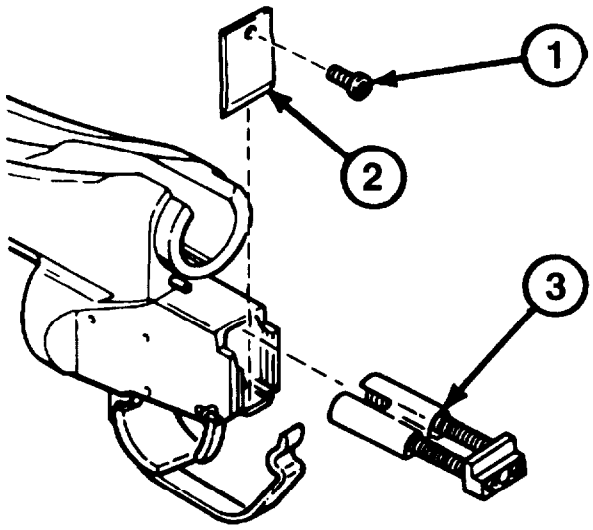
d. Squeeze the trigger and measure firing pin protrusion using firing pin protrusion gage. If firing pin exceeds maximum limit, or if it does not meet the minimum limit, replace it and regage.

e. Install follower guide assembly (3) in receiver. Install and secure back plate (2) with new self-locking screw (1).

3. Each weapon must be hand-functioned to check for unusual binding, positive cocking action, and general operation. Dummy ammunition must be used to be sure of positive chambering, extraction, and ejection action. Dummy rounds can be acquired through local TAS-C.

4. Check for bore constriction (p 3-13).

5. Inspect the weapon for missing finish and touch up with SFL as per instructions (pg 3-18).



Section IV. PREEMBARKATION INSPECTION OF MATERIEL IN UNITS ALERTED FOR OVERSEAS MOVEMENT

3-11. PREEMBARKATION INSPECTION OF MATERIEL IN UNITS ALERTED FOR OVERSEAS MOVEMENT.

a. General. This inspection is conducted on materiel in alerted units scheduled for overseas duty to be sure that such materiel will not become unserviceable in a relatively short time. It prescribes a higher percentage of remaining usable life in serviceable materiel to meet a specific need beyond minimum serviceability.

b. Preinspection Points.

WARNING

Clear the weapon before starting inspection. Do not squeeze the trigger until the weapon has been cleared. Inspect the bore and chamber to be sure they are empty and free from obstructions.

(1) Before inspection, clean the grenade launcher thoroughly of all grease, dirt, or other foreign matter that might keep it from functioning properly or get in the way of gages and tools during inspection.

(2) Grenade launchers must be free of burrs, rust, or corrosion on functional surfaces.

(3) Parts must not be cracked, bent, distorted, or damaged and must not be excessively worn or loose.

(4) Minor defects in metal components do not normally affect their acceptability. For example, scratches and tool marks are ordinarily of no importance.

(5) Inspect finish of metal surfaces. Satisfactory metal surfaces for weapons range from black to light gray. A shiny metal surface is objectionable only when it is capable of reflecting light. No weapon will be rejected unless exterior parts have a shine.

c. Inspection Points.

(1) Springs must not be distorted or broken. Springs must have enough tension to perform their function.

(2) Inspect the barrel for the following:

(a) Barrel must be clean and free of corrosion caused by moisture and powder fouling.

(b) Barrel must pass bore constriction check (p 3-13).

(c) Pits in the chamber are allowable if they do not get in the way of extraction.

(d) Scattered or uniformly fine pits, or fine pits in a densely pitted area, are allowable.

(e) Tool marks are acceptable, regardless of length. They may appear as lines running along the grooves or spiraling across the tops of lands.

(3) The sear and cocking notches must be in good condition. Chipped engaging corners will be cause for rejection. Slight wear on functional surfaces, including engaging corners, shall be acceptable, providing the minimum trigger pull requirements are met.

(4) Chips, flat spots, or bent striker points on firing pin will be cause for rejection.

(5) The cartridge engaging surfaces on extractors must not be chipped or deformed.

(6) Safety must positively position in both SAFE and FIRE positions. When in the SAFE position, the weapon must not fire when the trigger is squeezed; when in the FIRE position, the weapon must fire when the trigger is squeezed.

(7) Each weapon must be hand-functioned to check for unusual binding, positive cocking action, and general operation. Dummy ammunition must be used to be sure of positive chambering, extraction, and ejection action. Dummy rounds can be acquired through local TAS-C.

(8) Rivets and spring pins must be tight.

(9) All markings must be legible.

d. Specific Standards. Refer to the following table:

STANDARDS FOR PREEMBARKATION INSPECTION OF 40MM GRENADE LAUNCHER M203 IN UNITS ALERTED FOR OVERSEAS MOVEMENT

Item	Standard
General	Clear grenade launcher of any ammunition and inspect in accordance with para 3-11. Grenade launcher must pass all testing in paragraph 3-10.
Hand guard assembly	Hand guard assembly must not be damaged so as to prevent positive retention to M16 series rifles.
Barrel assembly	Origin of rifling must not advance to a point more than 3.9 inches (9.91 cm) from breech end of barrel assembly. Barrel assembly must pass bore constriction check as cited on page 3-13. Cartridge locator must function properly under spring tension.
Receiver assembly	Trigger and sear must not have rounded or damaged surfaces.
Trigger pull	Minimum 5 pounds (2.27 kg). Maximum 11 pounds (4.99 kg). Use trigger pull measuring fixture as cited on page 3-34.

3-11. PREEMBARKATION INSPECTION OF MATERIEL IN UNITS ALERTED FOR OVERSEAS MOVEMENT (CONT).

STANDARDS FOR PREEMBARKATION INSPECTION OF 40MM GRENADE LAUNCHER M203 IN UNITS ALERTED FOR OVERSEAS MOVEMENT (CONT)

Item	Standard
Firing pin protrusion	Must pass firing pin protrusion test as cited on page 3-35. Grenade launcher must have latest configuration firing pin (PN 12002970) as cited on page 3-21.
M203 grenade launcher	Perform function checks in accordance with operators manual.

APPENDIX A

REFERENCES

A-1. SCOPE. This appendix lists all technical manuals and field manuals referenced in this manual.

A-2. TECHNICAL MANUALS/TECHNICAL ORDERS

TM 9-1005-249-10.....	Operator's Manual: M16A1 Rifle
TM 9-1005-249-23&P.....	Unit and Direct Support Maintenance Manual (including Repair Parts and Special Tools List) Rifle, 5.56MM, M16 (1005-00-856-6885) Rifle, 5.56MM, M16A1 (1005-00-073-9421)
TM 9-1005-319-10.....	Operator's Manual w/Components List for Rifle, 5.56MM, M16A2 and M4/M4A1 Carbine W/E
TM 9-1005-319-23&P.....	Unit and Direct Support Maintenance Manual (including Repair Parts and Special Tools List) for Rifle, 5.56MM, M16A2 and M4/M4A1 Carbine W/E
TM 9-1010-221-10.....	Operator's Manual: 40MM Grenade Launcher M203/M203A1/ M203A2
TM 9-1300-206.....	Ammunition Explosive Standards
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 4700-15/1.....	Equipment Record Procedures
TM 05538C-10/1A	Operator's Manual w/Components List for Rifle, 5.56MM, M16A2 W/E
TO 00-35D-54	Materiel Deficiency Reporting and Investigating System
TO 11W-1-10	Historical Data Recording of Inspection, Maintenance, and Firing Data for Ground Weapons
TO 33K-1-100	(TMDE) Interval Calibration and Repair Reference Guide and Work Unit Code Manual
SL 3-00607A.....	Marine Corps Tool Kit, Small Arms Repairman

A-3. FIELD MANUALS.

FM 4-25.11	First Aid for Soldiers
FM 3-22.31	40MM Grenade Launchers M203 and M79

A-4. FORMS.

AFTO Form 22	Technical Order System Publications Improvement Report
DA Form 2028	Recommended Changes to Publications and Blank Forms
DA Form 2028-2	Recommended Changes to Equipment Technical Manuals
DA Form 2404	Equipment Inspection and Maintenance Worksheet
NAVMC 10772	Recommended Changes to Technical Publications
SF 364	Report of Discrepancy (ROD)
SF 368	Product Quality Deficiency Report

A-5. DA PAMS.

DA PAM 738-750	The Army Maintenance Management System (TAMMS)
DA PAM 25-30	Consolidated Index of Army Publications and Blank Forms

A-6. MISCELLANEOUS PUBLICATIONS.

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
MCO P4450.7	Marine Corps Warehousing Manual
MCO P4610.19	Transportation and Travel Record of Transportation Discrepancies
MCO 4855.10	Quality Deficiency Report
SPI 00-856-6885	Special Packaging Instructions for M16 Rifle

APPENDIX B

MAINTENANCE ALLOCATION CHART (MAC)

Section I. INTRODUCTION

B-1. THE ARMY MAINTENANCE SYSTEM MAC.

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

b. The Maintenance Allocation Chart (MAC) in section II 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 will be consistent with the capacities and capabilities of the designated maintenance levels, which are shown on the MAC in column (4) as:

Unit-includes two subcolumns, C (operator/crew) and O (unit) maintenance.
Direct Support-includes an F subcolumn.
General Support-includes an H subcolumn.
Depot-includes a D subcolumn.

c. Section Ill lists the tools and test equipment (both special tools and common tool sets) required for each maintenance function as referenced from section II.

d. Section IV contains supplemental instructions and explanatory notes for a particular maintenance function.

B-2. MAINTENANCE FUNCTIONS. Maintenance functions are limited to and defined as follows: (except for ammunition MAC[1]).

a. 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).

b. Test. To verify serviceability by measuring the mechanical, pneumatic, hydraulic, or electrical characteristics of an item and comparing those characteristics with prescribed standards.

c. 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.

[1]Exception is authorized for ammunition MACs to permit use of maintenance function headings that better describe or identify ammunition peculiar maintenance functions. The headings used and their definitions shall be included in the appropriate ammunition technical manual(s).

B-2. MAINTENANCE FUNCTIONS (CONT).

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

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

NOTE

Air Force Precision Measurement Equipment Laboratory (PMEL) personnel will calibrate small arms inspection gages in accordance with TO 33K-1-100.

f. Calibrate. To determine and cause corrections to be made or to be adjusted on instruments or 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.

g. 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.

h. 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 3rd position code of the SMR code.

i. Repair. The application of maintenance services[2] including fault location/troubleshooting[3], removal/installation, and disassembly/assembly[4] procedures, and maintenance actions[5] to identify troubles and restore serviceability to an item by correcting specific damage, fault, malfunction, or failure in a part, subassembly, module (component or assembly), end item, or system.

j. 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 (i. e., DMWR). Overhaul is normally the highest degree of maintenance performed by the Army. Overhaul does not normally return an item to like new condition.

---

[2]Services-inspect, test, service, adjust, align, calibrate, and/or replace.

[3]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).

[4]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).

[5]Actions-Welding, grinding, riveting, straightening, facing, machining, and/or resurfacing.

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

B-3. EXPLANATION OF COLUMNS IN THE MAC, SECTION II (NOT FOR M.C. USE).

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

b. 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 detailed explanation of these functions, see paragraph B-2.)

d. 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 vary 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 maintenance allocation chart, The symbol designations for the various maintenance levels are as follows:

C	Operator or crew maintenance
O	Unit maintenance
F	Direct support maintenance
L	Specialized Repair Activity (SRA)[6]
H	General support maintenance
D	Depot maintenance

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

[6]This maintenance level is not included in Section II, column (4) of the Maintenance Allocation Chart. Functions to this level of maintenance are identified by a work-time figure in the "H" column of Section II, column (4), and an associated reference code is used in the Remarks column (6). This code is keyed to Section IV, Remarks, and the SRA complete repair application is explained there.

f. Column 6, Remarks Code. When applicable, this column contains a letter code, in alphabetical order, which is keyed to the remarks contained in Section IV.

B-4. EXPLANATION OF COLUMNS IN TOOL AND TEST EQUIPMENT REQUIREMENTS, SECTION III.

a. Column 1, Reference Code. The tool and test equipment reference code correlates with a code used in the MAC, Section II, Column 5.

b. Column 2, Maintenance Level. The lowest level of maintenance authorized to use the tool or test equipment.

c. Column 3, Nomenclature. Name or identification of the tool or test equipment.

d. Column 4, National Stock Number. The National Stock Number of the tool or test equipment.

e. Column 5, Tool Number. The manufacturer's part number, model number, or type number,

B-5. EXPLANATION OF COLUMNS IN REMARKS, SECTION IV.

a. Column 1, Remarks Code. The code recorded in column 6, Section II.

b. Column 2, Remarks Code. This column lists information pertinent to the maintenance function being performed as indicated in the MAC, Section II.

Section II. MAINTENANCE ALLOCATION CHART

FOR

40MM GRENADE LAUNCHER M203/M203A1/M203A2 W/E

(1) Group Number	(2) Component/ Assembly	(3) Maintenance Function	(4) Maintenance Level					(5) Tools and Test Eqpt Ref Code	(6) Remarks Code
			Unit		DS	GS	Depot		
			C	O	F	H	D		
00	LAUNCHER, GRENADE, 40MM, M203/M203A1/ M203A2 W/E	Inspect	0.2	0.2	0.2				
		Service	0.2						
		Install			0.3			5	
		Repair		0.5	1.0			5	A
01	LAUNCHER, GRENADE, 40MM, M203/M203A1/ M203A2	Inspect	0.1	0.1	0.2				
		Service	0.1						
		Install		0.2	0.3			5	B
		Repair		0.5	1.0			5	A
0101	MOUNTING BRACKET ASSEMBLY	Inspect	0.1	0.1	0.1				
		Repair			0.2			3,5	
		Replace			0.2			3,5	
02	QUICK RELEASE BRACKET	Install		0.1				5	B
		Remove		0.1				5	B
		Inspect		0.1					
		Repair		0.1				5	A
		Disassemble		0.1					
		Reassemble		0.1					
0201	LEFT BRACKET ASSEMBLY	Inspect		0.1					
		Repair		0.1				5	A
		Disassemble		0.1					
		Reassemble		0.1					
03	LEAF SIGHT AND RAIL GRABBER ASSEMBLY	Disassemble			0.1			5	
		Reassemble			0.1				
04	LEAF SIGHT ASSEMBLY	Inspect	0.1	0.1					
		Service	0.1						
		Repair			0.2			5	
		Replace							
05	BARREL ASSEMBLY	Inspect	0.1	0.1	0.2				
		Service	0.1						
		Replace			0.1			5	
		Repair			0.5			5	C

MAINTENANCE ALLOCATION CHART (CONT)

(1) Group Number	(2) Component/ Assembly	(3) Maintenance Function	(4) Maintenance Level					(5) Tools and Test Eqpt Ref Code	(6) Remarks Code
			Unit		DS	GS	Depot		
			C	O	F	H	D		
06	RECEIVER ASSEMBLY	Inspect	0.1	0.1	0.2				
		Test			0.1			2,3	
		Service	0.2						
		Repair		0.2	1.0			1,3,5	
07	QUADRANT SIGHT ASSEMBLY	Inspect	0.1	0.1					
		Service	0.1						
		Remove/Install	0.1						
		Repair		0.4				5	B
0701	QUADRANT, RANGE ASSEMBLY	Inspect		0.1					
		Repair		0.1				5	
0702	LATCH ASSEMBLY	Inspect		0.1					
		Repair		0.1				5	
0703	SIGHTARM ASSEMBLY	Inspect		0.1					
		Repair		0.1					

Section III. TOOL AND TEST EQUIPMENT FOR 40MM GRENADE LAUNCHER M203/M203A1 W/E

Tool or Test Equipment Ref Code	Maintenance Level	Nomenclature	National Stock Number	Tool Number
1	F	Adapter, Torque Wrench	5120-01-047-3294	12003033
2	F	Gage, Firing Pin Protrusion	5220-00-348-8434	12002976
3 (ARMY ONLY)	F	Shop Set, Small Arms: Field Maintenance, Basic Less Power	4933-00-754-0664	SC 4933-95-A11
4		DELETED		
5 (ARMY AND MC ONLY)	O	Tool Kit, Small Arms Repairman	5180-01-462-4254 MC 5180-00-357-7770	(ARMY) SC 5180-95-B71 (MC) SL 3-00607A

MAINTENANCE OF SMALL ARMS GAGES

Small arms gages are precision tools used to quickly and economically inspect dimensions and interface points on small arms weaponry. They are made of tool steel and machined to extremely tight tolerances. With few exceptions, each small arms weapon system has gages used at Direct Support and Depot maintenance levels.

Gages are susceptible to corrosion. To decrease the frequency and severity of corrosion, small arms gages should be periodically degreased with MIL-PRF-680 Type II, allowed to dry, and then given a light coating of CLP or similar preservative oil. Wipe the preservative off each gage with a soft cloth before use.

When using small arms gages, carefully follow the instructions given in the appropriate technical manual. Never force a gage! This will cause excessive wear and decrease the serviceable life of the gage.

Small arms gages are susceptible to material displacement as a result of impact. For example, a gage dropped onto a concrete floor may appear perfectly fine to the naked eye, but because it is machined to extremely tight tolerances, material displacement may have occurred. This results in the gage being out of tolerance. To prevent this, perform gaging on tables or workbenches that are padded or covered with vinyl or rubber, whenever possible.

Perhaps the most crucial thing you can do to insure your gages are serviceable is to make sure to have them calibrated every 360 days as required by TB 43-180, Calibration and Repair Requirements for the Maintenance of Army Materiel. Direct Support is authorized 2 of each small arms gage; submit gages for calibration on a staggered schedule so one will always be available. Only the Test, Maintenance, and Diagnostic Equipment Laboratories listed in TB 43-180 are authorized and equipped to perform this calibration.

Section IV. REMARKS FOR 40MM GRENADE LAUNCHER M203/M203A1 W/E

REMARKS CODE	REMARKS
A	Repair and replacement of parts performed by unit maintenance is limited to authorized items listed in Appendix C of this manual, except for swivel (8448571) and tubular rivet (8448697) listed in TM 9-1005-249-23&P or TM 9-1005-319-23&P or TM 05538C-23&P/2A (Marine Corps only).
B	Unit maintenance is authorized to install and remove the Quick Release Bracket to the M203A2. All levels of maintenance are authorized to mount and dismount the M203A2 W/Quick Release Bracket to and from host weapon. Crew maintenance is authorized M203A2 to remove/ install the quadrant sight assembly.
C	Bore constriction check tool, manufactured from NSN 9510-00-813-5335.

APPENDIX C

UNIT AND DIRECT SUPPORT MAINTENANCE REPAIR PARTS AND SPECIAL TOOLS LIST

Section I. INTRODUCTION

C-1. SCOPE.

This RPSTL lists and authorizes spares and repair parts; special tools; special test, measurement, and diagnostic equipment (TMDE); and other special support equipment required for performance of unit and direct support maintenance of the grenade launcher. It authorizes the requisitioning, issue, and disposition of spares, repair parts, and special tools as indicated by the Source, Maintenance and Recoverability (SMR) codes.

C-2. GENERAL.

In addition to Section 1, Introduction, this Repair Parts and Special Tools List is divided into the following sections:

a. Section II. Repair Parts List. A list of spares and repair parts authorized by this RPSTL for use in the performance of maintenance. The list also includes 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. Bulk materials are listed by item name in FIG BULK at the end of the section. Repair parts kits or sets are listed separately in their own functional group within section II. Repair parts for repairable special tools are also listed in this section.

b. Section III. Special Tools List. A list of special tools, special TMDE, and other special support equipment authorized by this RPSTL (as indicated by Basis of Issue (BOI) information in DESCRIPTION AND USABLE ON CODE (UOC) column) for the performance of maintenance.

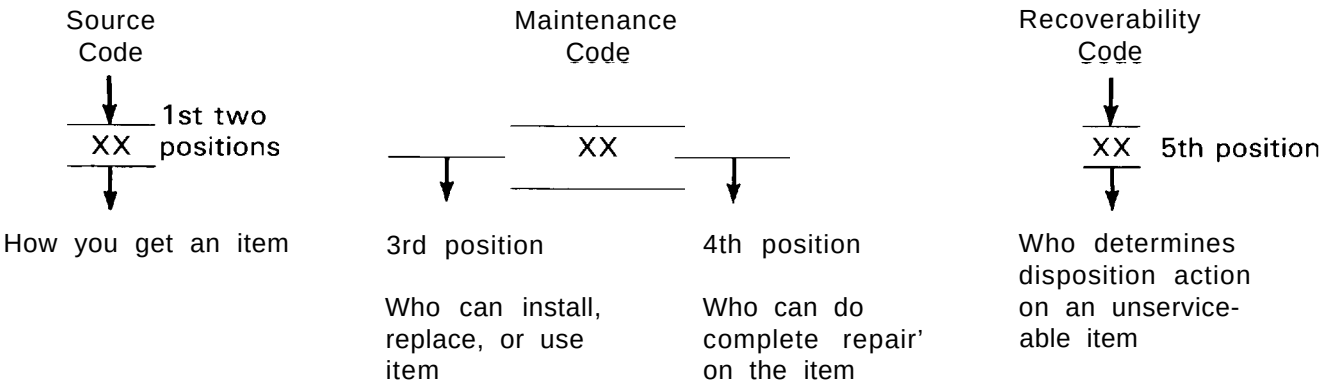
c. Section IV. Cross-Reference Indexes. A list, in National item identification number (NIIN) sequence, of all National stock numbered items appearing in the listings, followed by a list in alphanumeric sequence of all part numbers appearing in the listings. National stock numbers and part numbers are cross-referenced to each illustration figure and item number appearance. The figure and item number index lists figure and item number in alphanumeric sequence and cross--references NSN, CAGEC, and part number.

C-3. EXPLANATION OF COLUMNS (SECTIONS II AND III).

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

C-3. EXPLANATION OF COLUMNS (SECTIONS II AND III) (CONT).

b. SMR CODE (Column (2)). The Source, Maintenance, and Recoverability (SMR) code is a 5-position code containing supply/requisitioning information, maintenance level authorization criteria, and disposition instruction, as shown in the following breakout:



*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.

(1) 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 follow:

Code	Explanation
PA PB PC** PD PF PG	Stocked items; use the applicable NSN to request/requisition items with these source codes. They are authorized to the level indicated by the code entered in the 3rd position of the SMR code. **NOTE: Items coded PC are subject to deterioration.
KD KF KB	Items with these codes are not to be requested/requisitioned individually. They are part of a kit which is authorized to the maintenance level indicated in the 3rd position of the SMR code. The complete kit must be requisitioned and applied.
MO- (Made at unit/ AVUM Level) MF- (Made at DS/ AVIM Level) MH- (Made at GS Level) ML- (Made at Specialized Repair Act (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 in the repair parts list in this 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.

Code	Explanation
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 code 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 its next higher assembly. (Also, refer to the NOTE below.)

XB- If an "XB" item is not available from salvage, order it using the CAGEC and part number given.

XC- Installation drawing, diagram, instruction sheet, field service drawing, that is 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 source coded "XA" or those aircraft support items restricted by requirements of AR 750-1.

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

(a) 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 one of the following levels of maintenance:

Code	Application/Explanation
C	-Crew or operator maintenance done within unit or aviation unit maintenance.
O	-Unit or aviation unit level can remove, replace, and use the item.
F	-Direct support or aviation intermediate level can remove, replace, and use the item.
H	-General support level can remove, replace, and use the item.

C-3. EXPLANATION OF COLUMNS (SECTIONS II AND III) (CONT).

Code	Application/Explanation
L	-Specialized repair activity can remove, replace, and use the item.
D	-Depot level can remove, replace, and use the item.

(b) 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 (i.e., 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.) This position will contain one of the following maintenance codes:

Code	Application/Explanation
0	-Unit or aviation unit is the lowest level that can do complete repair of the item.
F	-Direct support or aviation intermediate 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 (designate the specialized repair activity) is the lowest level that can do complete repair of the item.
D	-Depot is the lowest level that can do complete repair of the item.
Z	-Nonreparable. No repair is authorized.
B	-No repair is authorized. (No parts or special tools are authorized for the maintenance of a “B” coded item.) However, the item may be reconditioned by adjusting, lubricating, etc., at the user level.

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

Recoverability Codes	Application/Explanation
Z	-Nonreparable item. When unserviceable, condemn and dispose of the item at the level of maintenance shown in 3rd position of SMR Code.
O	-Reparable item. When uneconomically reparable, condemn and dispose of the item at unit or aviation unit level.

Recoverability Codes	Application/Explanation
F	-Reparable item. When uneconomically reparable, condemn and dispose of the item at the direct support or aviation intermediate 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 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 (e.g., precious metal content, high dollar value, critical material, or hazardous material). Refer to appropriate manuals/directives for specific instructions.

c. NSN (Column (3)). Indicates the National stock number (NSN) assigned to the item and which will be used for requisitioning.

d. CAGEC (Column (4)). The Contractor and Government Entity Code (CAGEC) is a 5-digit numeric code which is used to identify the manufacturer, distributor, or Government agency, etc., that supplies the item.

e. 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 part ordered.

f. 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) The physical security classification of the item is indicated by the parenthetical entry which is a physical security classification abbreviation, e.g., Phy Sec C1 ( ) -Confidential, Phy Sec C1 (S) -Secret, Phy Sec C1 (T) -Top Secret.

(3) Items that are included in kits and sets are listed below the name of the kit or set.

(4) Spare/repair parts that make up an assembled item are listed immediately following the assembled item line entry.

(5) Part numbers for bulk materials are referenced in this column in the line item entry for the item to be manufactured/fabricated.

C-3. EXPLANATION OF COLUMNS (SECTIONS II AND III) (CONT).

(6) When the item is not used with all serial numbers of the same model, the effective serial numbers are shown on the last line(s) of the description (before UOC).

(7) The usable on code, when applicable (see paragraph 5, Special Information).

(8) In the Special Tools List section, the basis of issue (BOI) appears as the last line(s) in the entry for each special tool, special TMDE, and other special support equipment. When density of equipment supported exceeds density spread indicated in the basis of issue, the total authorization is increased proportionately.

(9) The statement "END OF FIGURE" appears just below the last item description in Column 5 for a given figure in both Section II and Section Ill.

g. 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 in lieu of a quantify indicates that the quantity is variable and the quantity may vary from application to application.

C-4. EXPLANATION OF COLUMNS (SECTION IV).

a. NATIONAL STOCK NUMBER (NSN) INDEX.

(1) STOCK NUMBER column. This column lists the NSN by National item identification number (NIIN) sequence. The NIIN consists of the last nine digits of the NSN (i.e., 5305-01-674-1467). When using this column to locate an item, ignore the first 4 digits of the NSN. However, the complete NSN should be used when ordering items by stock number.

NSN
NIIN

(2) FIG. column. This column lists the number of the figure where the item is identified/ located. The figures are in numerical order in section II and section III.

(3) 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.

b. PART NUMBER INDEX. Part numbers in this index are listed by part number in ascending alphanumeric sequence (i.e., vertical arrangement of letter and number combination which places the first letter or digit of each group in order A through Z, followed by the numbers 0 through 9 and each following letter or digit in like order).

(1) CAGEC column. The Contractor and Government Entity Code (CAGEC) is a 5-digit numeric code used to identify the manufacturer, distributor, or Government agency, etc., that supplies the item.

(2) PART NUMBER column. Indicates the primary number used by the manufacturer (individual, 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.

(3) STOCK NUMBER column. This column lists the NSN for the associated part number and manufacturer identified in the PART NUMBER and CAGEC columns to the left.

(4) FIG. column. This column lists the number of the figure where the item is identified/located in sections II and III.

(5) ITEM column. The item number is that number assigned to the item as it appears in the figure referenced in the adjacent figure number column.

C-5. SPECIAL INFORMATION.

a. ASSEMBLY INSTRUCTION. Detailed assembly instructions for items source coded to be assembled from component spare/repair parts are found in chapters 2 and 3. Items that make up the assembly are listed immediately following the assembly item entry or reference is made to an applicable figure.

b. ASSOCIATED PUBLICATIONS. The publication listed below pertains to the grenade launcher and its components:

Publication	Short Title
TM 9-1010-221-10	Grenade Launcher M203/M203A1/M203A2

c. USABLE ON CODE. The usable on code appears in the lower left corner of the DESCRIPTION column heading, Usable on codes are shown as “UOC…” in DESCRIPTION column (justified left) on the first line applicable item description/nomenclature. Uncoded items are applicable to all models. Identification of the usable on codes used in the RPSTL are:

Code	Used On
401	M203 Grenade Launcher
BC7	M203A1 Grenade Launcher
BJ9	M203A2 Grenade Launcher

C-6. HOW TO LOCATE REPAIR PARTS.

a. When National Stock Number or Part Number is Not Known.

(1) First. Using the table of contents, determine the assembly group or subassembly group to which the item belongs. This is necessary since figures are prepared for assembly groups and subassembly groups, and listings are divided into the same groups.

(2) Second. Find the figure covering the assembly group or subassembly group to which the item belongs.

C-6. HOW TO LOCATE REPAIR PARTS (CONT).

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

(4) Fourth. Refer to the Repair Parts List for the figure to find the part number for the item number noted on the figure.

(5) Fifth. Refer to the Part Number Index to find the NSN, if assigned.

b. When National Stock Number or Part Number is Known:

(1) First. Using the Index of National Stock Numbers and Part Numbers, find the pertinent National stock number or part number. The NSN index is in National Item Identification Number (NIIN) sequence. (See C-4.a.(1). The part numbers in the Part Number Index are listed in ascending alphanumeric sequence. (See C-4.b.). Both indexes cross-reference you to the illustration figure and item number of the item you are looking for.

(2) Second. After the figure and item number, verify that the item is the one you're looking for, then locate the item number in the repair parts list for the figure.

C-7. ABBREVIATIONS.

Not applicable.

SECTION II. REPAIR PARTS LIST

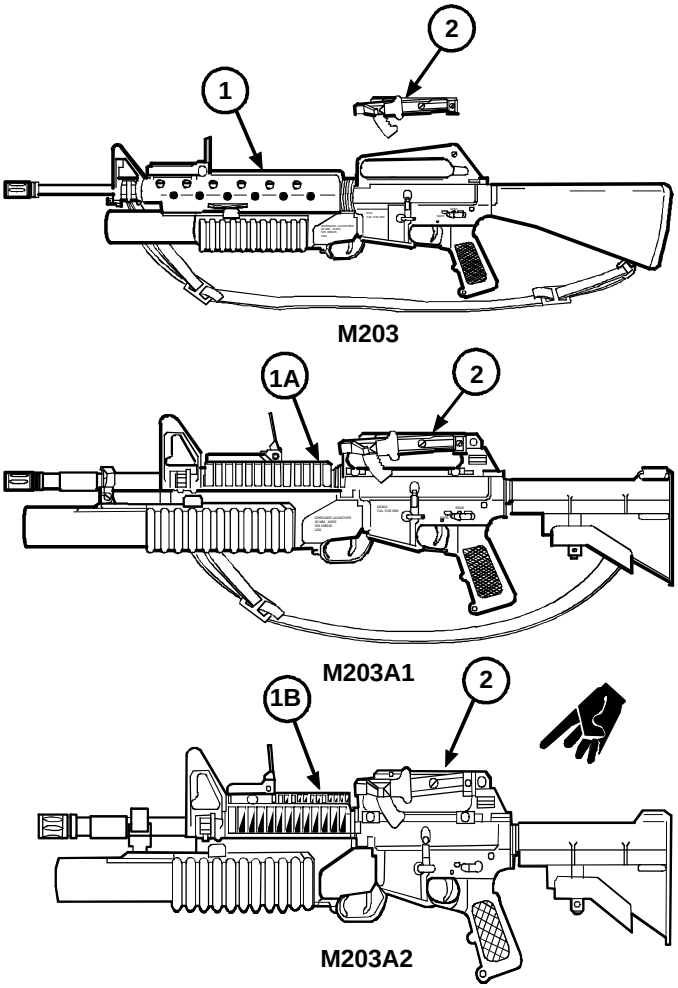


Figure C-1. 40MM Grenade Launcher M203 W/E 11838703, M203A1 W/E 12597125 and M203A2 W/E 12999553

(1) Item No.	(2) SMR Code	(3) NSN	(4) CAGEC	(5) Part Number	(6) Description and Usable On Code (UOC)	(7) Qty
					GROUP 00 40MM GRENADE LAUNCHER M203 W/E 11838703, M203A1 W/E 12597125 AND M203A2 W/E 12999553 FIG. C-1 40MM GRENADE LAUNCHER M203, M203A1 AND M203A2	
1	XAFFA		19204	8448300	LAUNCHER (M203) UOC:401	1
1	XAOFA		19204	8448300	LAUNCHER (MARINE CORPS ONLY) UOC:401	1
1A	XAFFA		19200	12982965	LAUNCHER (M203A1) UOC:BC7	1
1B	XAFFA		19200	12999552	LAUNCHER (M203A2) UOC:BJ9	1
2	PAOOO	1010-01-442-2313	19200	12598114	SIGHT ASSEMBLY, QUADRANT	1
					END OF FIGURE	

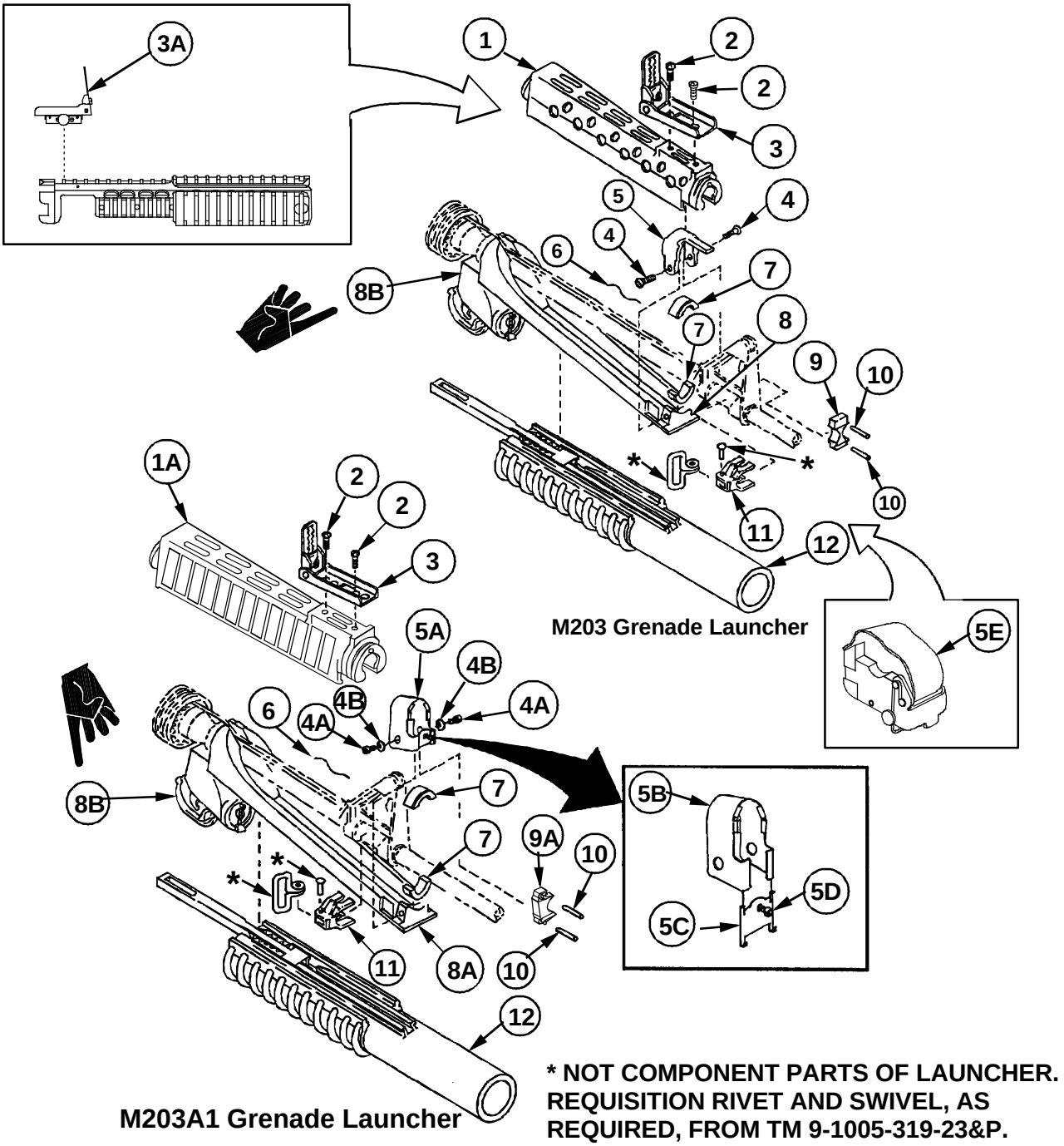


Figure C-2. 40MM Grenade Launcher M203 8448300, M203A1 12982965 and M203A2 12999552

(1) Item No.	(2) SMR Code	(3) NSN	(4) CAGEC	(5) Part Number	(6) Description and Usable On Code (UOC)	(7) Qty
					GROUP 01 40MM GRENADE LAUNCHER M203 8448300, M203A1 12982965 AND M203A2 12999552 AND 0101 MOUNTING BRACKET ASSEMBLY FIG. C-2 40MM GRENADE LAUNCHER M203, M203A1 AND M203A2	
1	PAFZZ	1010-00-438-7431	19204	8448377	GUARD,HAND,GRENADE (HAND GUARD ASSEMBLY UOC:401	1
1	PAOZZ	1010-00-438-7431	19204	8448377	GUARD,HAND,GRENADE (MARINE CORPS ONLY) UOC:401	1
1A	PAFZZ	1010-01-470-7105	19200	12990563	HANDGUARD AND BUSHING ASSEMBLY (M203A1) UOC:BC7	1
2	PAFZZ	5305-00-182-9265	96906	MS51957-43B	SCREW, MACHINE UOC:BC7,401	2
2	PAOZZ	5305-00-182-9265	96906	MS51957-43B	SCREW, MACHINE (MARINE CORPS ONLY) UOC:401	2
3	AFFFF		19204	8448330	LEAF SIGHT ASSEMBLY	1
3	AFOFF		19204	8448330	LEAF SIGHT ASSEMBLY (MARINE CORPS ONLY) UOC:401	1
3A	AFFFF		19200	12598117	ASSEMBLY, LEAF SIGHT AND RAIL GRABBER UOC:BJ9	1
4	PAOZZ	5305-00-150-9212	88044	AN502-10-8	SCREW, MACHINE UOC: 401	2
4A	PAOZZ	5305-01-442-0157	19200	12957129	SCREW, CAP SOCKET HEAD UOC:BC7	2
4B	PAOZZ	5310-00-160-9817	80205	NAS1149C0363B	WASHERS UOC:BC7	2
5	PAFZZ	5340-01-376-0876	19200	12011998	BRACKET, MOUNTING UOC:401	1
5	PAOZZ	5340-01-376-0876	19200	12011998	BRACKET, MOUNTING (MARINE CORPS ONLY) UOC:401	1
5A	PAOFF	5340-01-442-0165	19200	12957126	BRACKET, MOUNTING ASSEMBLY (M203A1) UOC:BC7	1
5B	XAOZZ		19200	12957127	BRACKET, MOUNTING UOC: BC7	1
5C	PAOZZ	1010-01-442-0156	19200	12957128	BRACKET CLAMP ASSEMBLY UOC: BC7	1
5D	PAOZZ	5305-01-442-0157	19200	12957129	SCREW, CAP SOCKET HEAD UOC: BC7	1
5E	PAOOO	1005-01-452-3528	19200	12973116	QUICK RELEASE BRACKET UOC:BJ9	1
6	PAOZZ	9505-00-293-4208	80205	NASM20995C32	WIRE, NONELECTRICAL UOC:BC7,401	V
7	PAOZZ	3120-00-438-7332	19204	8448320	BUSHING HALF, SLEEVE UOC:BC7,401	2
8	XAFFA		19204	8448380-1	RECEIVER ASSEMBLY UOC:401	1
8	XAOFA		19204	8448380-1	RECEIVER ASSEMBLY (MARINE CORPS ONLY) UOC:401	1
8A	XAFFA		19200	8448380-2	RECEIVER ASSEMBLY (M203A1) UOC:BC7	1
8B	XAFFA		19200	8448380-3	RECEIVER ASSEMBLY (M203A2) UOC:BJ9	1

(1) Item No.	(2) SMR Code	(3) NSN	(4) CAGEC	(5) Part Number	(6) Description and Usable On Code (UOC)	(7) Qty
9	PAOZZ	5340-01-440-7610	19200	12012059	BAR, LOCKING UOC: 401,BJ9	1
9A	PAOZZ	5340-01-474-2845	19200	12991254	BAR, LOCKING UOC: BC7,BJ9	1
10	PAOZZ	5315-00-690-0544	96906	MS39086-93	PIN, SPRING UOC:BC7,401,BJ9	2
11	PAOZZ	1010-01-264-6517	19200	12598617	MOUNT, SWIVEL UOC:BC7,401,BJ9	1
12	PAFFF	1010-01-376-3342	19200	12012005	BARREL ASSEMBLY, GRENADE UOC:BC7,401,BJ9	1
12	PAOZZ	1010-01-376-3342	19200	12012005	BARREL ASSEMBLY (MARINE CORPS ONLY) UOC:401 END OF FIGURE	1

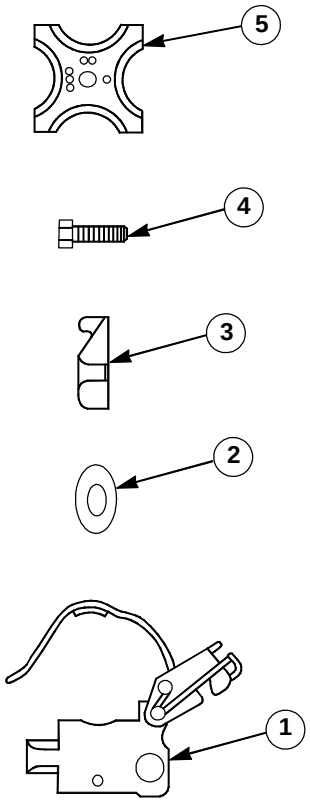


Figure C-2A. Quick Release Bracket 12973116

(1) Item No.	(2) SMR Code	(3) NSN	(4) CAGEC	(5) Part Number	(6) Description and Usable On Code (UOC)	(7) Qty
					GROUP 02 QUICK RELEASE BRACKET 12973116 FIG. C-2A. QUICK RELEASE BRACKET	
1	XAOOO		19200	12973117	ASSEMBLY, LEFT BRACKET UOC:BJ9	1
2	PAOZZ	5310-01-452-9635	19200	12973140	WASHER, SPRING UOC: BJ9	2
3	PAOZZ	1005-01-453-1634	19200	12973127	BASE, RIGHT HALF UOC:BJ9	1
4	PAOZZ	5305-01-452-9639	19200	12973130	SCREW, CAP SOCKET HEAD UOC:BJ9	2
5	PAOZZ	5365-01-453-9287	19200	12973129	SHIM, PLATE UOC:BJ9	1
					END OF FIGURE	

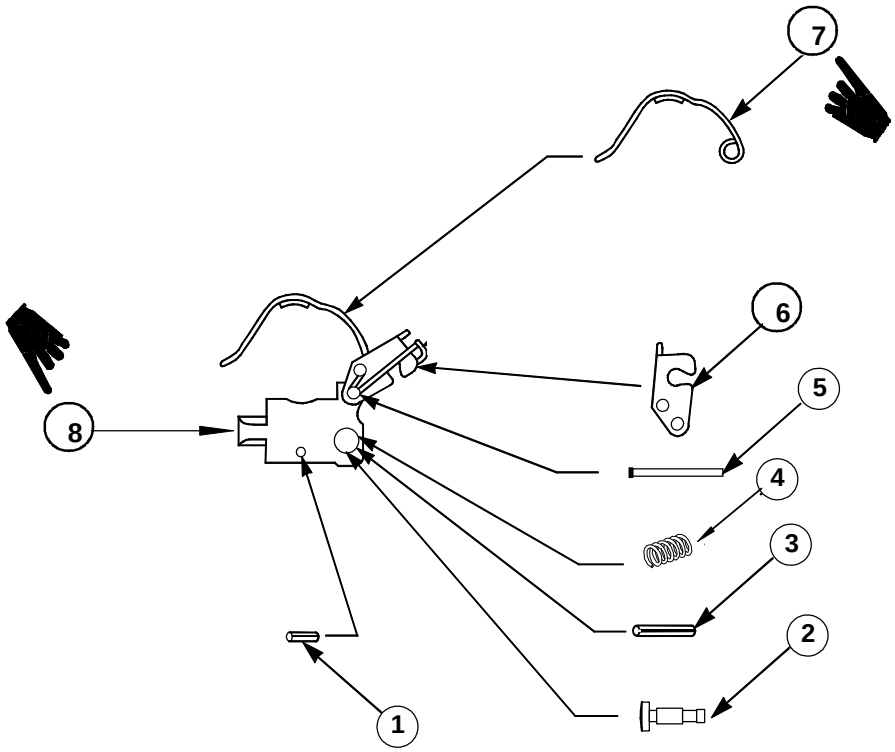


Figure C-2B. Left Bracket Assembly 12973117

(1) Item No.	(2) SMR Code	(3) NSN	(4) CAGEC	(5) Part Number	(6) Description and Usable On Code (UOC)	(7) Qty
					GROUP 0201 LEFT BRACKET ASSEMBLY 12973117 FIG. C-2B. LEFT BRACKET ASSEMBLY	
1	PAOZZ	5315-00-823-8743	80205	MS16562-219	PIN, SPRING UOC:BJ9	1
2	PAOZZ	5340-01-502-5471	19200	12999211	PLUNGER, DETENT UOC:BJ9	1
3	PAOZZ	5315-00-847-3735	80205	MS16562-190	PIN, SPRING UOC:BJ9	1
4	PAOZZ	5360-01-502-5468	19200	12999210	SPRING, COMPRESSION UOC:BJ9	1
5	XAOZZ		19200	12973124	RIVET UOC:BJ9	2
6	XAOZZ		19200	12973120	LATCH LEVER UOC:BJ9	1
7	XAOZZ		19200	12973121	LATCH ARM UOC:BJ9	1
8	XAOZZ		19200	12973118	LEFT HALF BASE UOC:BJ9	1
					END OF FIGURE	

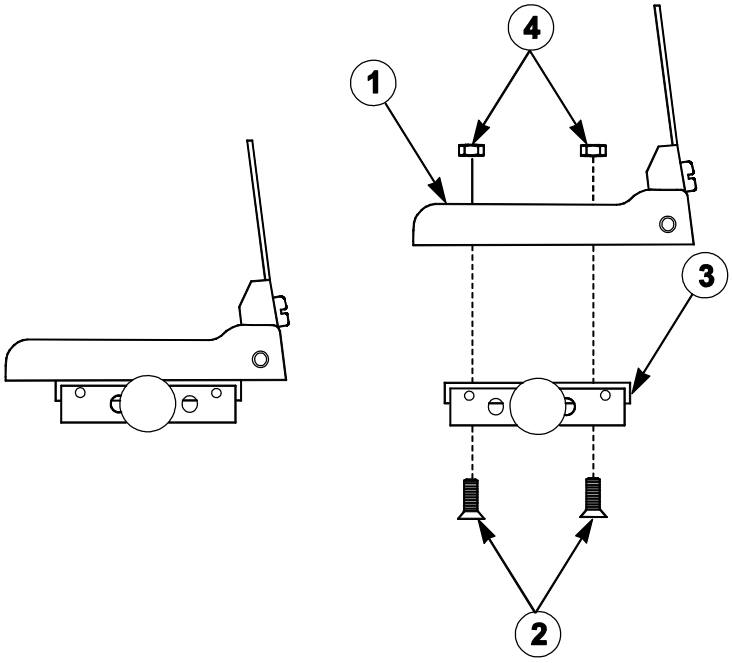


Figure C-2C. Leaf Sight and Rail Grabber Assembly 12598117

(1) Item No.	(2) SMR Code	(3) NSN	(4) CAGEC	(5) Part Number	(6) Description and Usable On Code (UOC)	(7) Qty
					GROUP 03 LEAF SIGHT AND RAIL GRABBER ASSEMBLY 12598117 FIG. C-2C. LEAF SIGHT AND RAIL GRABBER ASSEMBLY	
1	AFFFF		19200	12598115	ASSEMBLY, LEAF SIGHT (SEE FIGURES C-3 AND C-3-1 FOR DOWN PARTS) UOC:BJ9	1
2	PAFZZ	5305-01-463-3305	96906	MS24671-13B	SCREW, CAP, SOCKET HEAD UOC:BJ9	2
3	PAFZZ	5340-01-466-7727	19200	12598130	ASSEMBLY, RAIL GRABBER UOC:BJ9	1
4	PAFZZ	5310-00-420-0737	96906	MS35649-284B	NUT, PLAIN HEX UOC:BJ9	2
					END OF FIGURE	

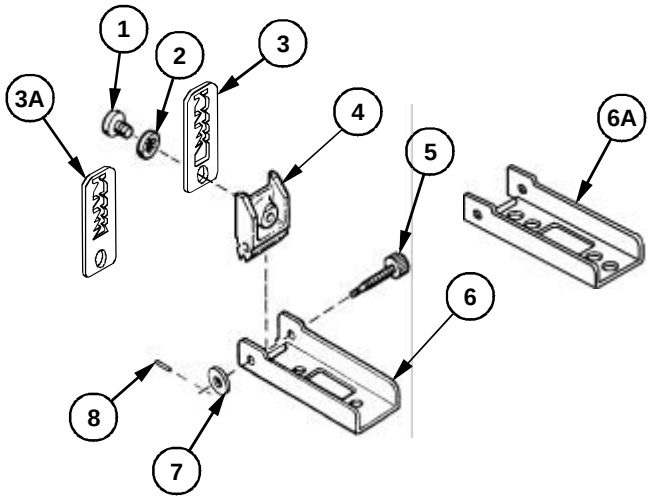


Figure C-3. Leaf Sight Assembly M203 and M203A1 8448330, M203A2 12598115

(1) Item No.	(2) SMR Code	(3) NSN	(4) CAGEC	(5) Part Number	(6) Description and Usable On Code (UOC)	(7) Qty
					GROUP 04 LEAF SIGHT ASSEMBLY M203 AND M203A1 8448330, M203A2 12598115	
					FIG. C-3 LEAF SIGHT ASSEMBLY	
1	PAFZZ	5305-00-182-9241	19204	8448331	SCREW, MACHINE UOC:BC7,401,BJ9	1
1	PAOZZ	5305-00-182-9241	19204	8448331	SCREW, MACHINE (MARINE CORPS ONLY) UOC:401	1
2	PAFZZ	5310-00-176-6362	19204	8448328	WASHER, LOCK UOC:BC7,401,BJ9	1
2	PAOZZ	5310-00-176-6362	19204	8448328	WASHER, LOCK (MARINE CORPS ONLY) UOC:401	1
3	PAFZZ	1010-00-438-7343	19204	8448322	LEAF, SIGHT UOC:BC7,401	1
3	PAOZZ	1010-00-438-7343	19204	8448322	LEAF, SIGHT (MARINE CORPS ONLY) UOC:401	1
3A	PAFZZ	1005-01-454-5541	19200	12598129	LEAF, SIGHT UOC:BJ9	1
4	PAFZZ	5340-00-438-7337	19200	8448321	BRACKET, MOUNTING UOC:BC7,401,BJ9	1
4	PAOZZ	5340-00-438-7337	19204	8448321	BRACKET, MOUNTING (MARINE CORPS ONLY) UOC:401	1
5	PAFZZ	5305-00-492-8196	19200	8448340	SCREW, WINDAGE UOC:BC7,401,BJ9	1
5	PAOZZ	5305-00-492-8196	19200	8448340	SCREW, WINDAGE (MARINE CORPS ONLY) UOC:401	1
6	PRFZZ	1010-00-438-7347	19204	8448323	BASE, SIGHT LEAF UOC:401	1
6	PAOZZ	1010-00-438-7347	19204	8448323	BASE, SIGHT LEAF (MARINE CORPS ONLY) UOC:401	1
6A	PAFZZ	1010-01-441-5507	19200	12012037	BASE, SIGHT LEAF (M203/M203A1) UOC:BC7,401,BJ9	1
7	PAFZZ	5310-01-396-2208	80205	NAS1149CN632B	WASHER, FLAT UOC:BC7,401,BJ9	1
7	PAOZZ	5310-01-396-2208	80205	NAS1149CN632B	WASHER, FLAT (MARINE CORPS ONLY) UOC:401	1
8	PAFZZ	5315-01-475-3483	80205	MS39086-66	PIN, SPRING UOC:BC7,401,BJ9	1
8	PAOZZ	5315-01-475-3483	80205	MS39086-66	PIN, SPRING (MARINE CORPS ONLY) UOC:401	1
					END OF FIGURE	

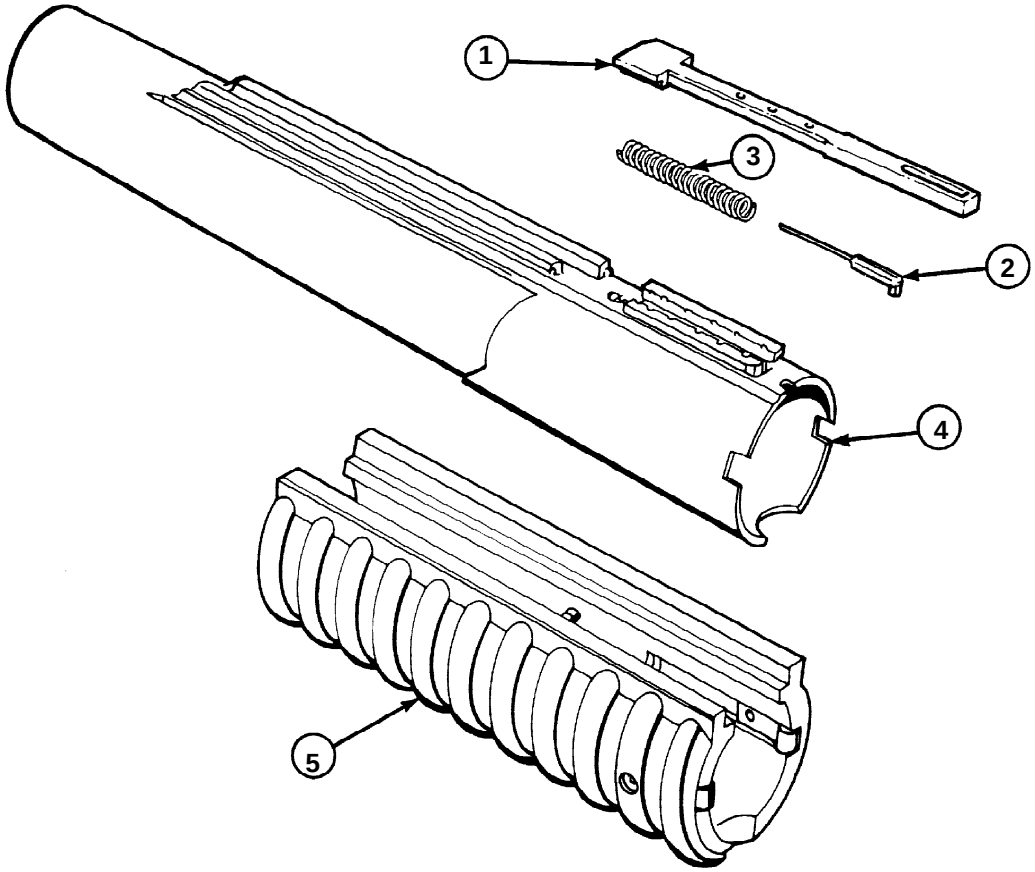


Figure C-4. Barrel Assembly 12012005

(1) Item No.	(2) SMR Code	(3) NSN	(4) CAGEC	(5) Part Number	(6) Description and Usable On Code (UOC)	(7) Qty
					GROUP 05 BARREL ASSEMBLY 12012005 FIG. C-4 BARREL ASSEMBLY	
1	PAFZZ	3040-00-438-7321	19204	8448315	BARREL, EXTENSION UOC:BC7,401,BJ9	1
2	PAFZZ	1010-00-438-7274	19204	8448312	LOCATOR, CARTRIDGE UOC:BC7,401,BJ9	1
3	PAFZZ	5360-00-177-4220	19204	8448306	SPRING, HELICAL, COMPRESSION UOC:BC7,401,BJ9	1
4	XAFZZ		19200	12012006	BARREL UOC:BC7,401,BJ9	1
5	PAFZZ	1010-01-384-3618	19200	12012007	GRIP, GRENADE LAUNCHER UOC:BC7,401,BJ9	1
					END OF FIGURE	

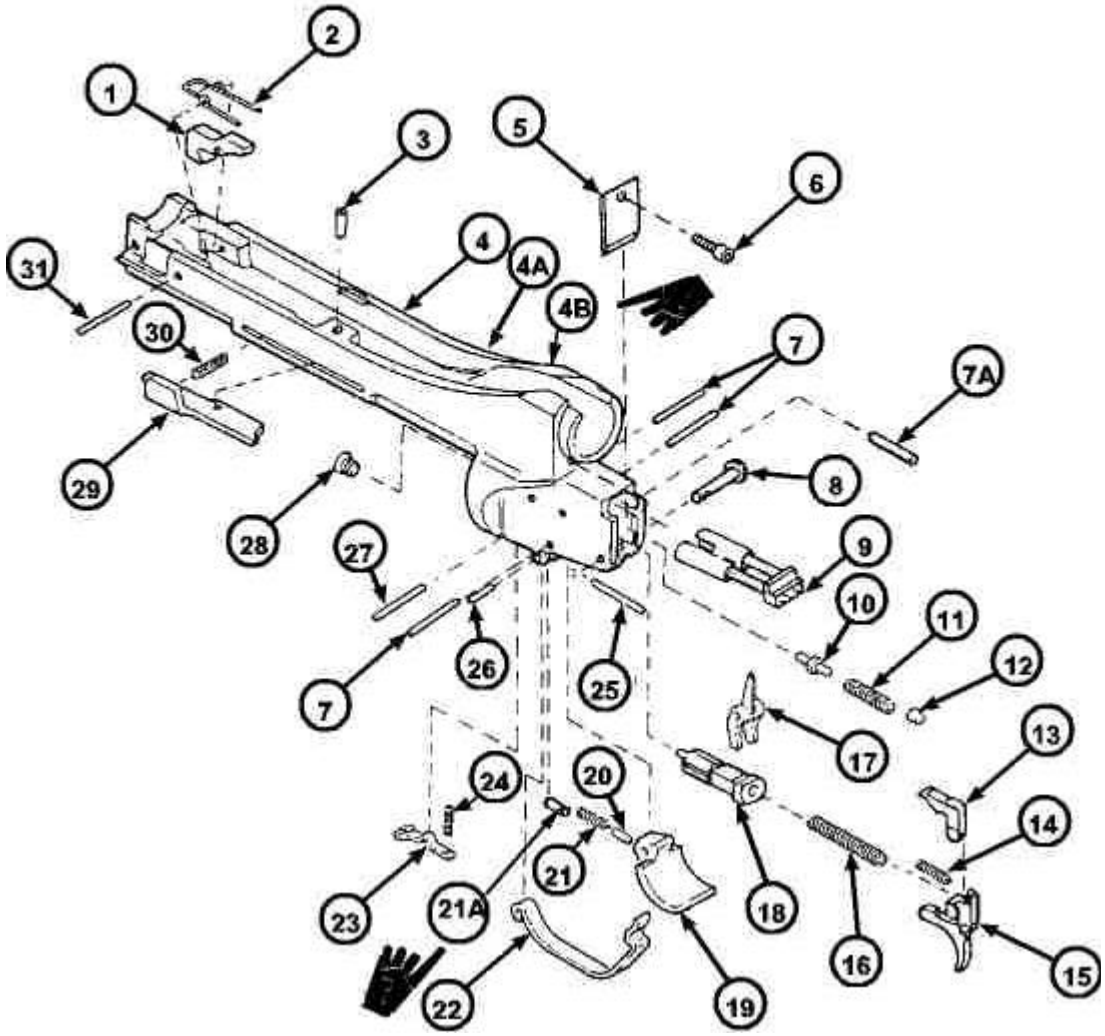


Figure C-5. Receiver Assembly M203 8448380-1, M203A1 8448380-2 and M203A2 8448380-3

(1) Item No.	(2) SMR Code	(3) NSN	(4) CAGEC	(5) Part Number	(6) Description and Usable On Code (UOC)	(7) Qty
					GROUP 06 RECEIVER ASSEMBLY M203 8448380-1, M203A1 8448380-2, AND M203A2 8448380-3 FIG. C-5 RECEIVER ASSEMBLY	
1	PAFZZ	3040-00-438-7375	19204	8448348	PAWL UOC:BC7,401,BJ9	1
2	PAFZZ	5360-00-182-4798	19204	8448326	SPRING, HELICAL, TORSION UOC:BC7,401,BJ9	1
3	PAFZZ	5315-00-176-6387	19204	8448350	PIN, STRAIGHT, HEADLESS UOC:BC7,401,BJ9	1
4	XAFDA		19200	8448338-1	RECEIVER, CARTRIDGE UOC:401	1
4A	XAFDA		19200	8448338-2	RECEIVER UOC:BC7	1
4B	XAFDA		19200	8448338-3	RECEIVER UOC:BJ9	1
5	PAOZZ	1010-00-888-1078	19204	8448776	PLATE, BACK UOC:BC7,401,BJ9	1
6	PAOZZ	5305-01-213-9942	81348	MS16997-18L	SCREW, SELF-LOCKING UOC:BC7,401,BJ9	1
7	PAFZZ	5315-00-103-7099	19204	8448781	PIN, SPRING UOC:BC7,401,BJ9	3
7A	PAFZZ	5315-00-903-7200	96906	MS39086-163	PIN, SPRING (BARREL NUT) UOC:BC7,401,BJ9	1
8	PAFZZ	5315-00-237-1896	19204	12002921	PIN, STRAIGHT, HEADED (TRIGGER PIN) UOC:BC7,401,BJ9	1
9	PAOZZ	1010-00-888-1077	19204	8448775	FOLLOWER GUIDE ASSEMBLY UOC:BC7,401,BJ9	1
10	PAFZZ	1010-00-438-7271	19204	8448302	EJECTOR, CARTRIDGE UOC:BC7,401,BJ9	1
11	PAFZZ	5360-01-113-6247	19204	12006355	SPRING, HELICAL COMPRESSION UOC:BC7,401,BJ9	1
12	PAFZZ	5340-00-438-7292	19200	8448313	DISK, SOLID, PLAIN UOC:BC7,401,BJ9	1
13	PAFZZ	1010-00-181-3413	19204	8448342	SEAR UOC:BC7,401,BJ9	1
14	PAFZZ	5360-00-177-4219	19200	8448305	SPRING, HELICAL, COMPRESSION UOC:BC7,401,BJ9	1
15	PAFZZ	1010-00-439-1773	19204	8448341	TRIGGER UOC:BC7,401,BJ9	1
16	PAFZZ	5360-00-007-4866	19204	8448777	SPRING, HELICAL, COMPRESSION UOC:BC7,401,BJ9	1
17	PAFZZ	1010-00-438-7358	19200	8448332	LEVER, COCKING UOC:BC7,401,BJ9	1
18	PAFZZ	1010-00-348-8433	19204	12002970	PIN, FIRING UOC:BC7,401,BJ9	1
19	PAFZZ	1055-00-888-1072	19204	8448773	SAFETY, GRENADE LAUNCHER UOC:BC7,401,BJ9	1
20	PAFZZ	5340-00-438-7356	19200	8448324	PLUNGER, DETENT UOC:BC7,401,BJ9	1
21	PAFZZ	5360-01-037-6448	96906	AS24585-1025	SPRING, HELICAL, COMPRESSION UOC:BC7,401,BJ9	1

(1) Item No.	(2) SMR Code	(3) NSN	(4) CAGEC	(5) Part Number	(6) Description and Usable On Code (UOC)	(7) Qty
21A	PAFZZ	5315-00-176-6551	96906	MS39086-39	PIN, SPRING UOC:BC7,401,BJ9	1
22	PAFZZ	1010-00-439-1788	19204	8448375	GUARD, TRIGGER UOC:BC7,401,BJ9	1
23	PAFZZ	1010-00-618-1483	19204	8448386	EXTRACTOR, CARTRIDGE UOC:BC7,401,BJ9	1
24	PAFZZ	5360-00-177-4230	19204	8448308	SPRING. HELICAL, COMPRESSION UOC:BC7,401,BJ9	1
25	PAFZZ	5315-00-282-3642	80205	MS16562-96	PIN, SPRING UOC:BC7,401,BJ9	1
26	PAFZZ	5315-00-843-7986	80205	MS16562-33	PIN, SPRING UOC:BC7,401,BJ9	2
27	PAFZZ	5315-00-616-4261	80205	MS16562-28	PIN, SPRING UOC:BC7,401,BJ9	1
28	PAFZZ	1010-00-438-7272	19200	8448303	INSERT, BREECH UOC:BC7,401,BJ9	1
29	PAFZZ	5340-00-438-7376	19200	8448349	LEVER, LOCK-RELEASE UOC:BC7,401,BJ9	1
30	PAFZZ	5360-00-177-4217	19204	8448304	SPRING, HELICAL, COMPRESSION UOC:BC7,401,BJ9	1
31	PAFZZ	5315-00-844-5599	96906	MS16555-632	PIN, STRAIGHT, HEADLESS UOC:BC7,401,BJ9	1
					END OF FIGURE	

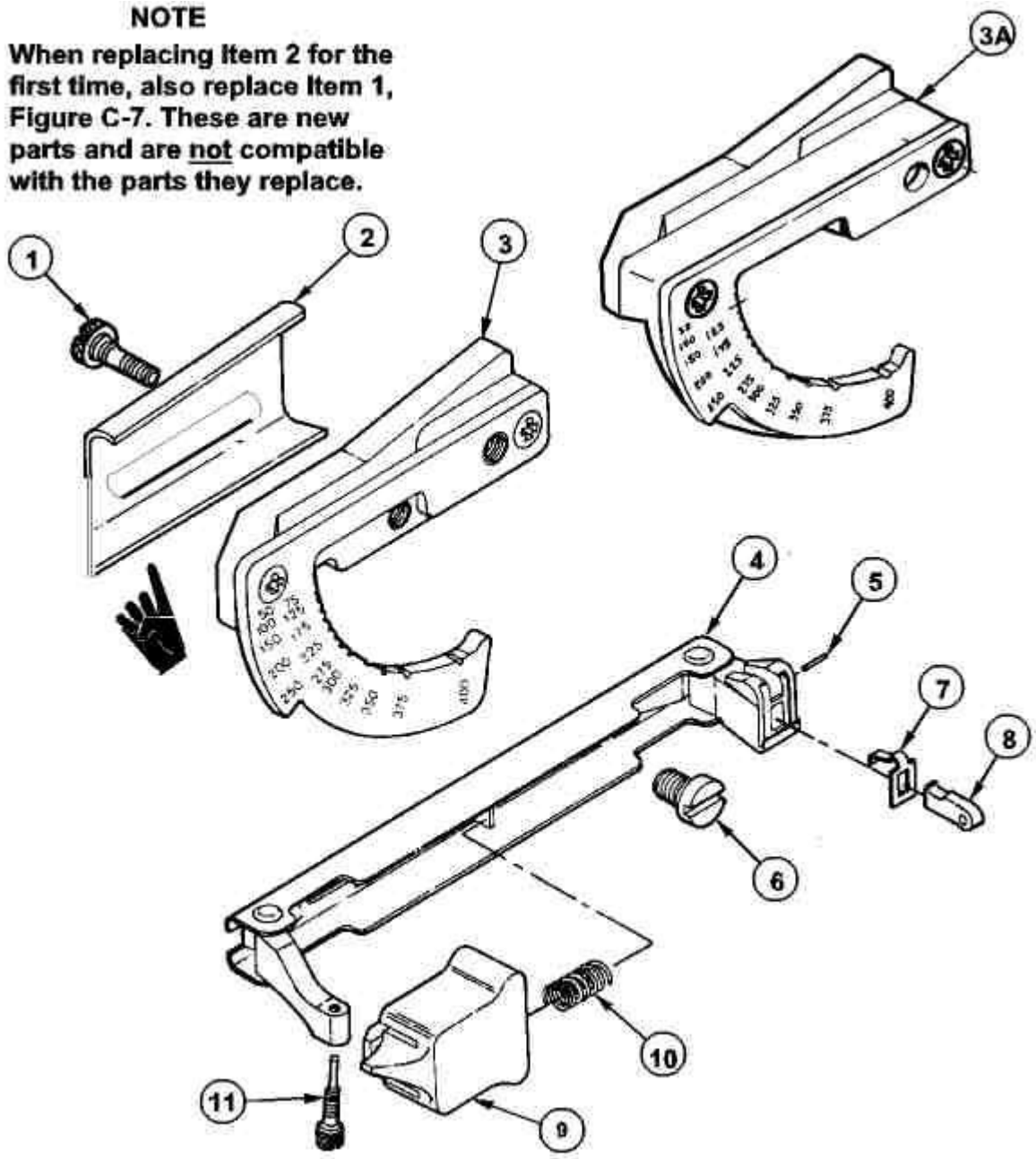


Figure C-6. Quadrant Sight Assembly M203, M203A1 and M203A2 12598114

(1) Item No.	(2) SMR Code	(3) NSN	(4) CAGEC	(5) Part Number	(6) Description and Usable On Code (UOC)	(7) Qty
					GROUP 07 QUADRANT SIGHT ASSEMBLY M203, M203A1 AND M203A2 12598114 FIG. C-6 QUADRANT SIGHT ASSEMBLY M203, M203A1 AND M203A2	
1	PAOZZ	5306-00-185-8016	19200	12002880	BOLT, SHOULDER (MOUNTING) UOC:BC7,401,BJ9	1
2	PAOZZ	5340-01-475-4291	19200	12991504	CLAMP, RIM CLENCHING UOC:BC7,401,BJ9	1
3	AOOOO		19200	9346305	QUADRANT, RANGE UOC:401	1
3A	AOOOO		19200	12598116	QUADRANT, RANGE ASSEMBLY (M203A1) UOC:BC7,BJ9	1
4	PAOOO	1010-01-285-1016	19204	12002885	SIGHTARM ASSEMBLY UOC:BC7,401,BJ9	1
5	PAOZZ	5315-01-013-2553	96906	MS39086-4	PIN, SPRING UOC:BC7,401,BJ9	1
6	PAOZZ	5305-01-135-9500	19204	12002875	SCREW, SHOULDER UOC:BC7,401,BJ9	1
7	PAOZZ	5340-01-122-9409	19200	12002876	CLIP, SPRING TENSION UOC:BC7,401,BJ9	1
8	PAOZZ	1010-01-122-9679	19200	12002878	APERTURE, SIGHT UOC:BC7,401,BJ9	1
9	PAOOO	1010-01-441-1621	19200	9346306	LATCH ASSEMBLY UOC:BC7,401,BJ9	1
10	PAOZZ	5360-01-135-3710	19204	12002874	SPRING, HELICAL, COMPRESSION UOC:BC7,401,BJ9	1
11	PAOZZ	1010-00-438-7385	19200	8448360	SIGHT, FRONT UOC:BC7,401,BJ9	1
					END OF FIGURE	

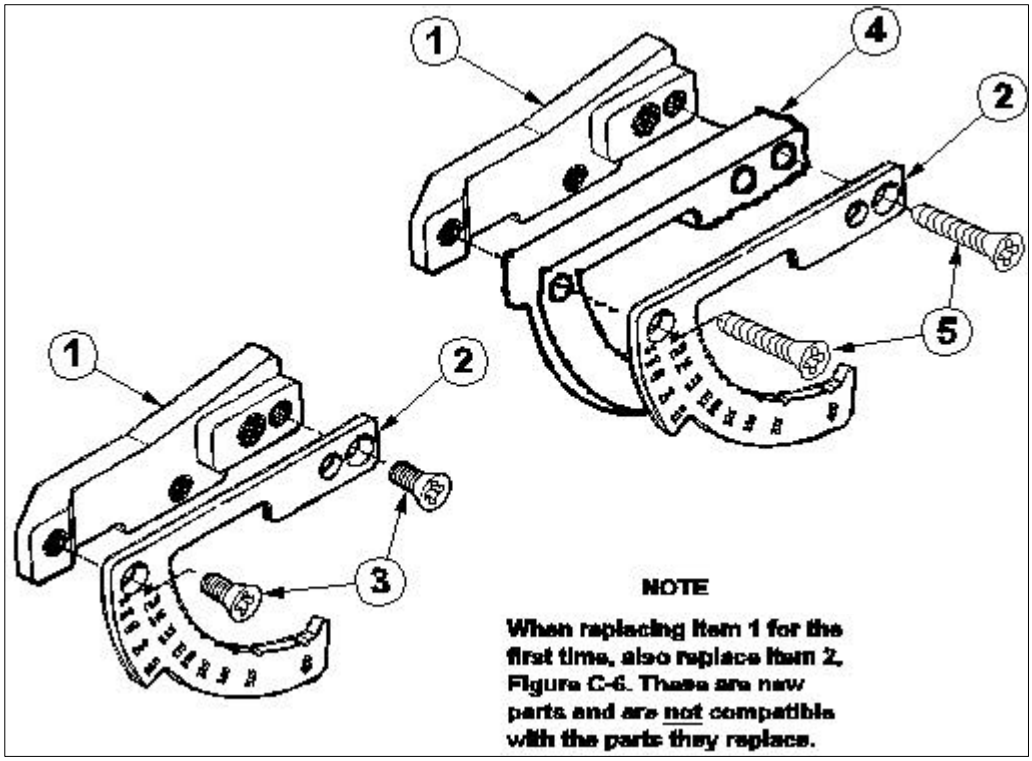


Figure C-7. Quadrant, Range Assembly M203 9346305 and M203A1/M203A2 12598116

(1) Item No.	(2) SMR Code	(3) NSN	(4) CAGEC	(5) Part Number	(6) Description and Usable On Code (UOC)	(7) Qty
					GROUP 0701 QUADRANT, RANGE ASSEMBLY M203 9346305 AND M203A1/M203A2 12598116 FIG. C-7 QUADRANT, RANGE ASSEMBLY	
1	PAOZZ	5340-01-474-9020	19200	12991510	BRACKET ASSEMBLY UOC:BC7,401,BJ9	1
2	PAOZZ	1290-01-124-5213	19200	9346309	QUADRANT, FIRE CONTROL UOC:BC7,401,BJ9	1
3	PAOZZ	5305-00-455-2550	96906	MS51959-28B	SCREW, MACHINE UOC:401	2
4	PAOZZ	5365-01-441-7384	19200	12598113	SPACER, QUADRANT SIGHT UOC:BC7,401,BJ9	1
5	PAOZZ	5305-00-417-5264	96906	MS51959-34B	SCREW, MACHINE UOC:BC7,401,BJ9	2
					END OF FIGURE	

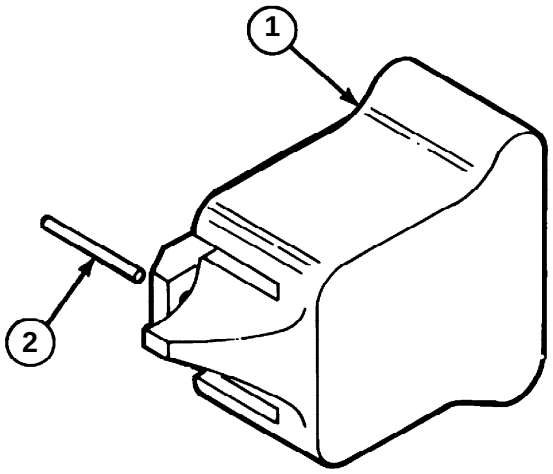


Figure C-8. Latch Assembly 9346306

(1) Item No.	(2) SMR Code	(3) NSN	(4) CAGEC	(5) Part Number	(6) Description and Usable On Code (UOC)	(7) Qty
					GROUP 0702 LATCH ASSEMBLY 9346306 FIG. C-8 LATCH ASSEMBLY	
1	XAOZZ		19200	9346307	LATCH, SIGHT UOC:BC7,401	1
2	PAOZZ	5315-01-137-7188	19204	9346311	PIN, STRAIGHT, HEADLESS UOC:BC7,401	1
					END OF FIGURE	

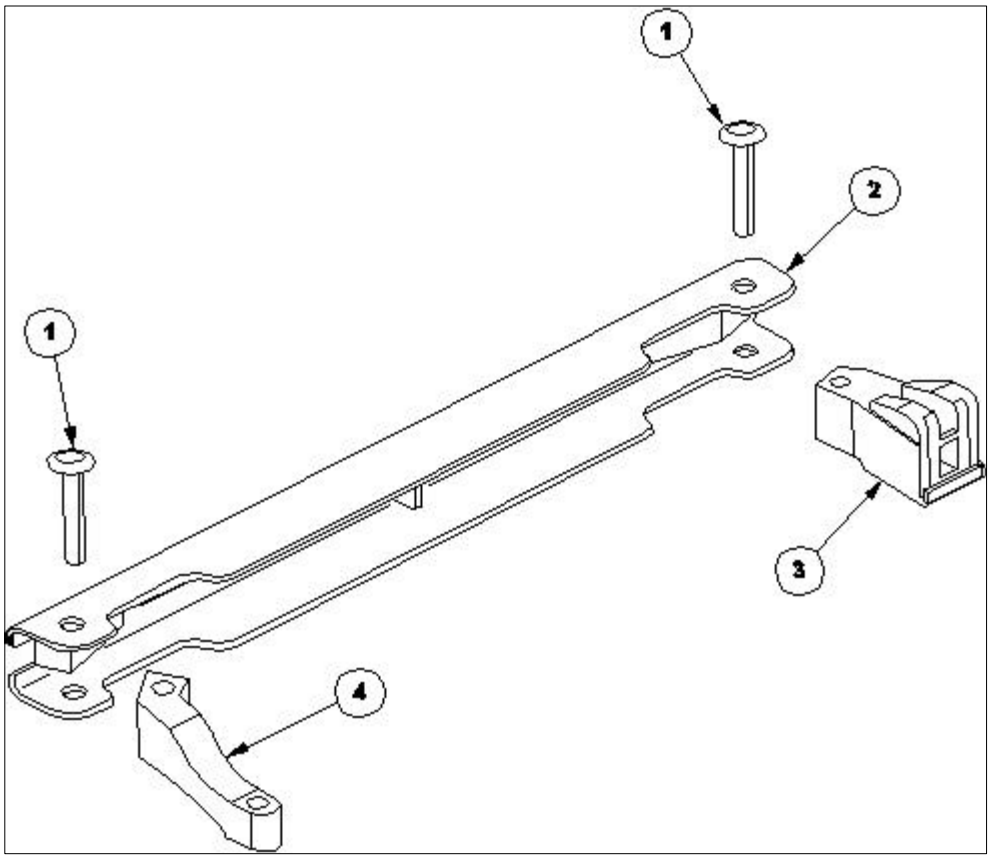


Figure C-9. Sightarm Assembly 12002885

(1) Item No.	(2) SMR Code	(3) NSN	(4) CAGEC	(5) Part Number	(6) Description and Usable On Code (UOC)	(7) Qty
					GROUP 0703 SIGHTARM ASSEMBLY 12002885 FIG. C-9 SIGHTARM ASSEMBLY	
1	PAOZZ	5320-01-136-7161	19204	12002884	RIVET, TUBULAR UOC:BC7,401,BJ9	2
2	XAOZZ		19200	12002881	ARM, QUADRANT SIGHT UOC:BC7,401,BJ9	1
3	PAOZZ	1010-01-122-9410	19200	12002877	ARM, SIGHT APERTURE UOC:BC7,401,BJ9	1
4	PAOZZ	1010-01-122-9408	19200	12002873	ARM, SIGHT POST UOC:BC7,401,BJ9	1
					END OF FIGURE	

Section III. SPECIAL TOOLS LIST

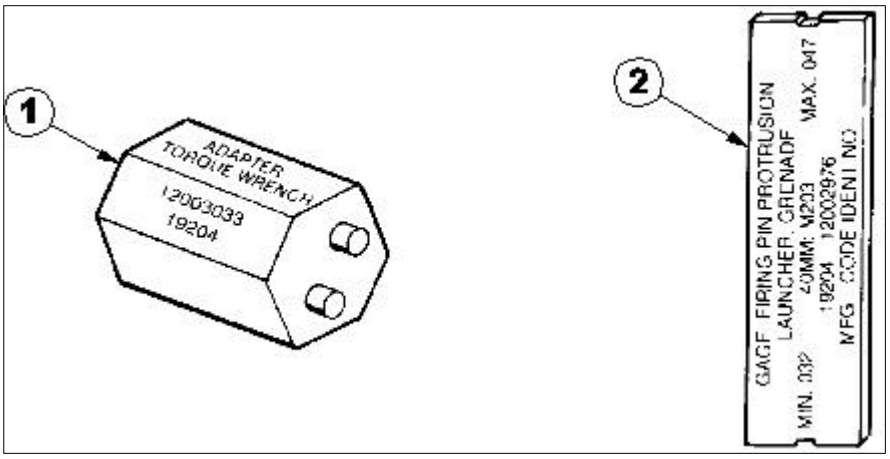


Figure C-10. Special Tools

(1) Item No.	(2) SMR Code	(3) NSN	(4) CAGEC	(5) Part Number	(6) Description and Usable On Code (UOC)	(7) Qty
					GROUP 9500 SPECIAL TOOLS	
					FIG. C-10 SPECIAL TOOLS	
1	PAFZZ	5120-01-047-3294	19204	12003033	ADAPTER, TORQUE WRENCH	1
2	PAFZZ	5220-00-348-8434	19204	12002976	GAGE, FIRING PIN PROTRUSION (2 per DS/GS)	2
					END OF FIGURE	

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CROSS-REFERENCE INDEXES

NATIONAL STOCK NUMBER INDEX

STOCK NUMBER	FIG.	ITEM	STOCK NUMBER	FIG.	ITEM
5360-00-007-4866	C-5	16	1010-00-888-1077	C-5	9
5315-00-103-7099	C-5	7	1010-00-888-1078	C-5	5
5305-00-150-9212	C-2	4	5315-00-903-7200	C-5	7A
5310-00-160-9817	C-2	4B	5315-01-013-2553	C-6	5
5310-00-176-6362	C-3	2	5360-01-037-6448	C-5	21
5315-00-176-6387	C-5	3	5360-01-113-6247	C-5	11
5315-00-176-6551	C-5	21A	1010-01-122-9408	C-9	4
5360-00-177-4217	C-5	30	5340-01-122-9409	C-6	7
5360-00-177-4219	C-5	14	1010-01-122-9410	C-9	3
5360-00-177-4220	C-4	3	1010-01-122-9679	C-6	8
5360-00-177-4230	C-5	24	1290-01-124-5213	C-7	2
1010-00-181-3413	C-5	13	5360-01-135-3710	C-6	10
5360-00-182-4798	C-5	2	5305-01-135-9500	C-6	6
5305-00-182-9241	C-3	1	5320-01-136-7161	C-9	1
5305-00-182-9265	C-2	2	5315-01-137-7188	C-8	2
5306-00-185-8016	C-6	1	5305-01-213-9942	C-5	6
5315-00-237-1896	C-5	8	1010-01-264-6517	C-2	11
5315-00-282-3642	C-5	25	1010-01-285-1016	C-6	4
9505-00-293-4208	C-2	6	5340-01-376-0876	C-2	5
1010-00-348-8433	C-5	18	1010-01-376-3342	C-2	12
5220-00-348-8434	C-10	2	1010-01-384-3618	C-4	5
5305-00-417-5264	C-7	5	5310-01-396-2208	C-3	7
5310-00-420-0737	C-2C	4	5340-01-440-7610	C-2	9
1010-00-438-7271	C-5	10	1010-01-441-1621	C-6	9
1010-00-438-7272	C-5	28	1010-01-441-5507	C-3	6A
1010-00-438-7274	C-4	2	5365-01-441-7384	C-7	4
5340-00-438-7292	C-5	12	1010-01-442-0156	C-2	5C
3040-00-438-7321	C-4	1	5305-01-442-0157	C-2	4A
3120-00-438-7332	C-2	7	5305-01-442-0157	C-2	5D
5340-00-438-7337	C-3	4	5340-01-442-0165	C-2	5A
1010-00-438-7343	C-3	3	1010-01-442-2313	C-1	2
1010-00-438-7347	C-3	6	1005-01-452-3528	C-2	5E
5340-00-438-7356	C-5	20	5310-01-452-9635	C-2A	2
1010-00-438-7358	C-5	17	5305-01-452-9639	C-2A	4
3040-00-438-7375	C-5	1	1005-01-453-1634	C-2A	3
5340-00-438-7376	C-5	29	5365-01-453-9287	C-2A	5
1010-00-438-7385	C-6	11	1005-01-454-5541	C-3	3A
1010-00-438-7431	C-2	1	5305-01-463-3305	C-2C	2
1010-00-439-1773	C-5	15	5340-01-466-7727	C-2C	3
1010-00-439-1788	C-5	22	1010-01-470-7105	C-2	1A
5305-00-455-2550	C-7	3	5120-01-047-3294	C-10	1
5305-00-492-8196	C-3	5	5340-01-474-2845	C-2	9A
5315-00-616-4261	C-5	27	5340-01-474-9020	C-7	1
1010-00-618-1483	C-5	23	5315-01-475-3483	C-3	8
5315-00-690-0544	C-2	10	5340-01-475-4291	C-6	2
5315-00-823-8743	C-2B	1	5360-01-502-5468	C-2B	4
5315-00-843-7986	C-5	26	5340-01-502-5471	C-2B	2
5315-00-844-5599	C-5	31			
5315-00-847-3735	C-2B	3			
1055-00-888-1072	C-5	19			

CROSS-REFERENCE INDEXES

PART NUMBER INDEX

CAGEC	PART NUMBER	STOCK NUMBER	FIG.	ITEM
88044	AN502-10-8	5305-00-150-9212	C-2	4
96906	AS24585-1025	5360-01-037-6448	C-5	21
80205	MS16562-190	5315-00-847-3735	C-2B	3
80205	MS16562-28	5315-00-616-4261	C-5	27
80205	MS16562-96	5315-00-282-3642	C-5	25
96906	MS16555-632	5315-00-844-5599	C-5	31
80205	MS16562-219	5315-00-823-8743	C-2B	1
80205	MS16562-33	5315-00-843-7986	C-5	26
81348	MS16997-18L	5305-01-213-9942	C-5	6
96906	MS24671-13B	5305-01-463-3305	C-2C	2
96906	MS35649-284B	5310-00-420-0737	C-2C	4
96906	MS39086-39	5315-00-176-6551	C-5	21A
96906	MS39086-163	5315-00-903-7200	C-5	7A
96906	MS39086-4	5315-01-013-2553	C-6	5
80205	MS39086-66	5315-01-475-3483	C-3	8
96906	MS39086-93	5315-00-690-0544	C-2	10
96906	MS51957-43B	5305-00-182-9265	C-2	2
96906	MS51959-28B	5305-00-455-2550	C-7	3
96906	MS51959-34B	5305-00-417-5264	C-7	5
80205	NASM20995C32	9505-00-293-4208	C-2	6
80205	NAS1149CN632B	5310-01-396-2208	C-3	7
80205	NAS1149C0363B	5310-00-160-9817	C-2	4B
19200	12002873	1010-01-122-9408	C-9	4
19204	12002874	5360-01-135-3710	C-6	10
19204	12002875	5305-01-135-9500	C-6	6
19200	12002876	5340-01-122-9409	C-6	7
19200	12002877	1010-01-122-9410	C-9	3
19200	12002878	1010-01-122-9679	C-6	8
19200	12002880	5306-00-185-8016	C-6	1
19200	12002881		C-9	2
19204	12002884	5320-01-136-7161	C-9	1
19204	12002885	1010-01-285-1016	C-6	4
19204	12002921	5315-00-237-1896	C-5	8
19204	12002970	1010-00-348-8433	C-5	18
19204	12002976	5220-00-348-8434	C-10	2
19204	12003033	5120-01-047-3294	C-10	1
19204	12006355	5360-01-113-6247	C-5	11
19200	12011998	5340-01-376-0876	C-2	5
19200	12012005	1010-01-376-3342	C-2	12
19200	12012006		C-4	4
19200	12012007	1010-01-384-3618	C-4	5
19200	12012037	1010-01-441-5507	C-3	6A
19200	12012059	5340-01-440-7610	C-2	9
19200	12598113	5365-01-441-7384	C-7	4
19200	12598114	1010-01-442-2313	C-1	2
19200	12598115		C-2C	1
19200	12598116		C-6	3A
19200	12598117		C-2	3A
19200	12598129	1005-01-454-5541	C-3	3A
19200	12598130	5340-01-466-7727	C-2C	3
19200	12598617	1010-01-264-6517	C-2	11

CROSS-REFERENCE INDEXES

PART NUMBER INDEX

CAGEC	PART NUMBER	STOCK NUMBER	FIG.	ITEM
19200	12597126	5340-01-442-0165	C-2	5A
19200	12597127		C-2	5B
19200	12597128	1010-01-442-0156	C-2	5C
19200	12597129	5305-01-442-0157	C-2	4A
19200	12597129	5305-01-442-0157	C-2	5D
19200	12973116	1005-01-452-3528	C-2	5E
19200	12973117		C-2A	1
19200	12973118		C-2B	8
19200	12973120		C-2B	6
19200	12973121		C-2B	7
19200	12973124		C-2B	5
19200	12973127	1005-01-453-1634	C-2A	3
19200	12973129	5365-01-453-9287	C-2A	5
19200	12973130	5305-01-452-9639	C-2A	4
19200	12973140	5310-01-452-9635	C-2A	2
19200	12982965		C-1	1A
19200	12990563	1010-01-470-7105	C-2	1A
19200	12991254	5340-01-474-2845	C-2	9A
19200	12991504	5340-01-475-4291	C-6	2
19200	12991510	5340-01-474-9020	C-7	1
19200	12999210	5360-01-502-5468	C-2B	4
19200	12999211	5340-01-502-5471	C-2B	2
19200	12999552		C-1	1B
19204	8448300		C-1	1
19204	8448302	1010-00-438-7271	C-5	10
19200	8448303	1010-00-438-7272	C-5	28
19204	8448304	5360-00-177-4217	C-5	30
19200	8448305	5360-00-177-4219	C-5	14
19204	8448306	5360-00-177-4220	C-4	3
19204	8448308	5360-00-177-4230	C-5	24
19204	8448312	1010-00-438-7274	C-4	2
19200	8448313	5340-00-438-7292	C-5	12
19204	8448315	3040-00-438-7321	C-4	1
19204	8448320	3120-00-438-7332	C-2	7
19200	8448321	5340-00-438-7337	C-3	4
19204	8448322	1010-00-438-7343	C-3	3
19204	8448323	1010-00-438-7347	C-3	6
19200	8448324	5340-00-438-7356	C-5	20
19204	8448326	5360-00-182-4798	C-5	2
19204	8448328	5310-00-176-6362	C-3	2
19204	8448330		C-2	3
19204	8448331	5305-00-182-9241	C-3	1
19200	8448332	1010-00-438-7358	C-5	17
19200	8448338-1		C-5	4
19200	8448338-2		C-5	4A
19200	8448338-3		C-5	4B
19200	8448340	5305-00-492-8196	C-3	5
19204	8448341	1010-00-439-1773	C-5	15
19204	8448342	1010-00-181-3413	C-5	13

CROSS-REFERENCE INDEXES

PART NUMBER INDEX

CAGEC	PART NUMBER	STOCK NUMBER	FIG.	ITEM
19204	8448348	3040-00-438-7375	C-5	1
19200	8448349	5340-00-438-7376	C-5	29
19204	8448350	5315-00-176-6387	C-5	3
19200	8448360	1010-00-438-7385	C-6	11
19204	8448375	1010-00-439-1788	C-5	22
19204	8448377	1010-00-438-7431	C-2	1
19204	8448380-1		C-2	8
19200	8448380-2		C-2	8A
19200	8448380-3		C-2	8B
19204	8448386	1010-00-618-1483	C-5	23
19204	8448773	1055-00-888-1072	C-5	19
19204	8448775	1010-00-888-1077	C-5	9
19204	8448776	1010-00-888-1078	C-5	5
19204	8448777	5360-00-007-4866	C-5	16
19204	8448781	5315-00-103-7099	C-5	7
19200	9346305		C-6	3
19200	9346306	1010-01-441-1621	C-6	9
19200	9346307		C-8	1
19200	9346309	1290-01-124-5213	C-7	2
19204	9346311	5315-01-137-7188	C-8	2

APPENDIX D

EXPENDABLE AND DURABLE ITEMS LIST

Section I. INTRODUCTION

D-1. SCOPE.

This appendix lists expendable and durable items you will need to maintain the grenade launcher. This listing is for informational purposes 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).

D-2. EXPLANATION OF COLUMNS.

a. Column (1) – Item Number. This number is assigned to the entry in the listing for referencing when required.

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

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

c. Column (3) – National Stock Number. This is the National Stock Number assigned to the item; use it to request or requisition the item.

d. Column (4) – Description. Indicates the Federal item name and, if required, a description to identify the item. The last line for each item indicates the Contractor and Government Entity Code (CAGEC) in parentheses followed by the part number.

e. Column (5) – Unit of Measure (U/M)/Unit of Issue (U/I). This measure is expressed by a two-character alphabetical abbreviation (e.g., ea., in., pr.). If the unit of measure differs from the unit of issue as shown in the Army Master Data File (AMDF), requisition the lowest unit of issue that will satisfy your requirements.

Section II. EXPENDABLE AND DURABLE ITEMS LIST

(1) Item Number	(2) Level	(3) National Stock Number	(4) Description	(5) (U/M)
1	F		ADHESIVE:	
			(73842) PLIOBOND20	
		8040-00-043-1717	2 oz tube	TU
		8040-00-680-1080	3.75 oz tube	
		8040-00-266-7429	8 oz can	CN
			(04963) SCOTCHGRIP 1099	
		8040-01-486-1862	5 oz tube	TU
2	C	1005-00-242-5687	BOTTLE, ASSEMBLY CYLINDRICAL: (19204) 8448444	EA
3	O	8020-00-244-0153	BRUSH, ARTISTS: (81348) H-B-241	EA
4	O	7920-00-205-2401	BRUSH, CLEANING, TOOLS AND PARTS: (81349) MIL-S-43871	EA
5			CLEANER, LUBRICANT, AND PRESERVATIVE: (81349) MIL-L-63460	
	C	9150-01-102-1473	1/2 oz (14.79 ml) bottle (27412) CLP-5, CLP-7	OZ
	O	9150-01-054-6453	1 pt (0.48 l) can	OZ
	O	9150-01-053-6688	1 gal. (3.78 l) container	GL
6	O	9920-00-292-9946	CLEANER, TOBACCO PIPE: (89855) DILLS PIPE CLEANER	EA
7	C		CLEANING COMPOUND, RIFLE BORE: small arms bore cleaning solution (RBC) (81349) MIL-PRF-372	
		6850-00-224-6656	2 fl oz (59.15 ml) bottle	OZ
		6850-00-224-6657	8 oz (236.6 ml) can	OZ
8	O	5350-00-221-0872	CLOTH, ABRASIVE: (81348) PC-458	SH
9	O		DRY CLEANING SOLVENT: type II (81349) MIL-PRF-680	
		6850-01-474-2319	1 gal. (3.78 l)	GL
		6850-01-474-2317	5 gal (18.93 l)	GL
		6850-01-474-2316	55 gal (208.18 l)	GL
10	O		GLOVES, RUBBER: (81349) MIL-DTL-32066	
		8415-00-823-7458	Size 9	PR
		8415-00-823-7459	Size 10	PR
		8415-00-823-7460	Size 11	PR

EXPENDABLE AND DURABLE ITEMS LIST (CONT)

(1) Item Number	(2) Level	(3) National Stock Number	(4) Description	(5) (U/M)/ (U/I)
11	O	9150-01-260-2534	LUBRICANT, SOLID FILM: 16 oz (0.45 kg) spray can (81349) MIL-L-23398	OZ
12	C	9150-00-292-9689	LUBRICATING OIL, WEAPONS: (LAW) 1 qt (0.95 l) can (81349) MILL14107	QT
13			LUBRICATING OIL, WEAPONS: (LSA), semifluid (81349) MILL46000	
	C	9150-00-935-6597	2 fl oz (59.15 ml) plastic bottle	OZ
	C	9150-00-889-3522	4 fl oz (118.30 ml) bottle	OZ
14			DELETED	
15	F	6850-00-826-0981	PENETRANT KIT: (81349) MIL-I-25135	KT
16	F	8030-00-181-8372	PRIMER SEALING COMPOUND: 6 oz (170 g) can (81349) MIL-S-22473	CN
17	C	7920-00-205-1711	RAG, WIPING: 50 lb (22.68 kg) bale (58536) A-A-531	LB
18	F	8030-00-051-4011	SEALING COMPOUND: 1 lb (454 gm) (16059) DEVCON F	KT
19	F	8030-00-081-2335	SEALING COMPOUND: locktite, locking torque 3/8 bolt 70/175, viscosity 100-200, yellow 10 cc bottle (81349) MIL-S-22473	CC
20	O	9505-00-293-4208	WIRE, NONELECTRICAL 0.032 in. (19204) MS20995C32	LB

APPENDIX E

ILLUSTRATED LIST OF MANUFACTURED ITEMS

E-1. INTRODUCTION.

a. This appendix includes complete instructions for making items authorized to be manufactured or fabricated at unit and/or direct support levels.

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

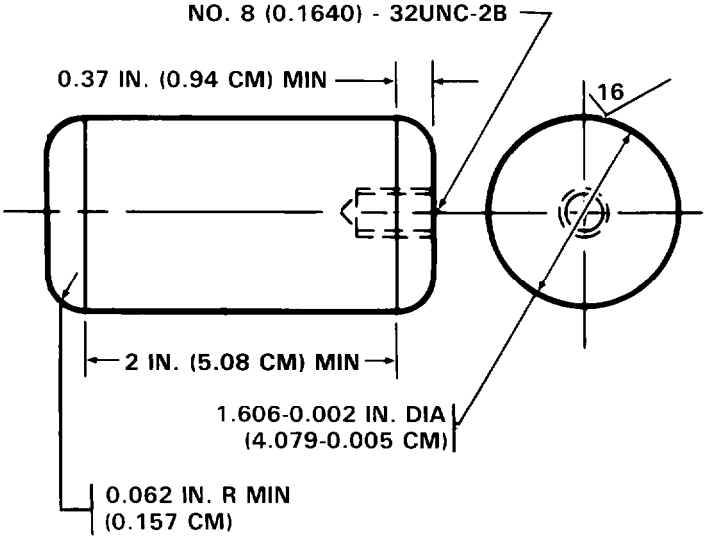

Figure E-1. Fabrication of bore constriction check tool

NOTES:

1. MATERIAL: MILD STEEL (1018) BAR STOCK, 1-3/4 IN. DIA, NSN 9510-00-813-5335, UNIT OF ISSUE: FOOT, QQ-S-634 OR EQUIVALENT.

2. PURPOSE OF TOOL: TO DETECT DENTS AND OR MINOR DAMAGE SUFFICIENT TO IMPEDE FORWARD PROGRESS OF FIRED PROJECTILE.

3. USE HANDLE SECTION OF SMALL ARMS CLEANING ROD (SMALL ARMS REPAIRMAN TOOL KIT).

4. TOOL MUST PASS FREELY THROUGH ENTIRE BARREL BORE,

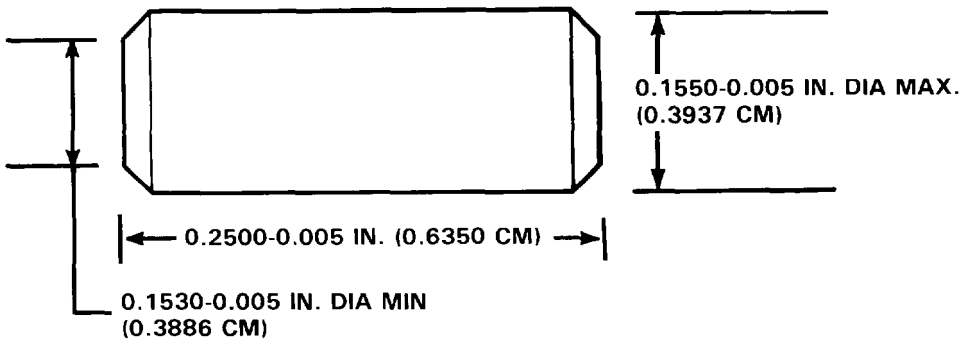

Figure E-2. Slave pin

NOTES:

1. FABRICATE SLAVE PIN FROM MATERIAL BLOCK, WIRE, STEEL ALLOY, GRADE 4140, ASTM-A547 OR EQUIVALENT.

2. PURPOSE OF TOOL: TO HOLD TRIGGER PARTS ASSEMBLED DURING INSTALLATION.

3. ALL DIMENSIONS SHOWN ARE IN INCHES WITH THE METRIC CONVERSION TO CENTIMETERS IN PARENTHESES.

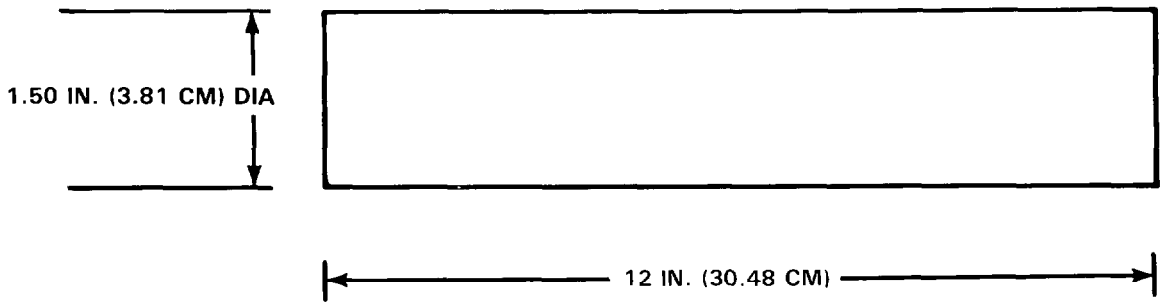

Figure E-3. Barrel extension staking support tool

1. FABRICATE FROM MATERIAL BLOCK, ALUMINUM OR MILD STEEL BAR STOCK, AS AVAILABLE.

2. PURPOSE OF TOOL: FOR SUPPORT DURING STAKING OF BARREL EXTENSION.

3. ALL DIMENSIONS SHOWN ARE IN INCHES WITH THE METRIC CONVERSION TO CENTIMETERS IN PARENTHESES

ALPHABETICAL INDEX

*** Unit maintenance**
**** Direct support maintenance**

*** Unit maintenance**
**** Direct support maintenance**

*** Unit maintenance**
**** Direct support maintenance**

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

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PUBLICATION/FORM NUMBER	DATE	TITLE
TM 9-1010-221-23&P		Unit and Direct Support Maintenance Manual Including Repair Parts and Special Tools List For Launcher, Grenade, 40MM, M203, W/E (1010-00-179-6447) (EIC:4QB) and Launcher, Grenade, 40MM, M203A1, W/E (1010-01-434-9028) (EIC:4QH)

ITEM NO.	PAGE NO.	PARA-GRAPH	LINE NO. *	FIGURE NO.	TABLE NO.	RECOMMENDED CHANGES AND REASON *(Provide exact wording of recommended changes, if possible).*
7	C-2-1			C-2		NSN should be 3120-00-438-7332.

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

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

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

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RECOMMENDED CHANGES TO PUBLICATIONS AND BLANK FORMS

For use of this form, see AR 25-30; the proponent agency is ODISC4.

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

DATE

TO: *(Forward to proponent of publication or form) (Include ZIP Code)*
AMSTA-LC-CI / TECH PUBS, TACOM-RI
1 Rock Island Arsenal
Rock Island, IL 61299-7630

FROM: *(Activity and location) (Include ZIP Code)*

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

PUBLICATION/FORM NUMBER	DATE	TITLE
TM 9-1010-221-23&P		Unit and Direct Support Maintenance Manual Including Repair Parts and Special Tools List For Launcher, Grenade, 40MM, M203, W/E (1010-00-179-6447) (EIC:4QB) and Launcher, Grenade, 40MM, M203A1, W/E (1010-01-434-9028) (EIC:4QH)

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

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

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

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

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

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UASPPC V3.00

070835-003

THE METRIC SYSTEM AND EQUIVALENTS

LINEAR MEASURE

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

WEIGHTS

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

LIQUID MEASURE

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

SQUARE MEASURE

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

CUBIC MEASURE

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

TEMPERATURE

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

APPROXIMATE CONVERSION FACTORS

TO CHANGE	TO	MULTIPLY BY
Inches	Centimeters	2.540
Feet	Meters	0.305
Yards	Meters	0.914
Miles	Kilometers	1.609
Square Inches	Square Centimeters	6.451
Square Feet	Square Meters	0.093
Square Yards	Square Meters	0.836
Square Miles	Square Kilometers	2.590
Acres	Square Hectometers	0.405
Cubic Feet	Cubic Meters	0.028
Cubic Yards	Cubic Meters	0.765
Fluid Ounces	Milliliters	29.573
Pints	Liters	0.473
Quarts	Liters	0.946
Gallons	Liters	3.785
Ounces	Grams	28.349
Pounds	Kilograms	0.454
Short Tons	Metric Tons	0.907
Pound–Feet	Newton–Meters	1.356
Pounds–Inches	Newton–Meters	0.11375
Pounds per Square Inch	Kilopascals	6.895
Ounce–Inches	Newton–Meters	0.007062
Miles per Gallon	Kilometers per Liter	0.425
Miles per Hour	Kilometers per Hour	1.609
Centimeters	Inches	0.394

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

PIN: 070835-000