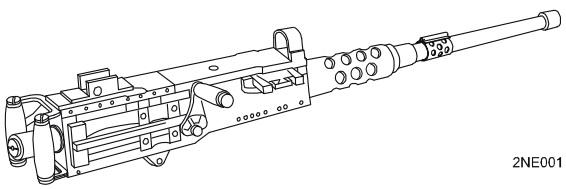
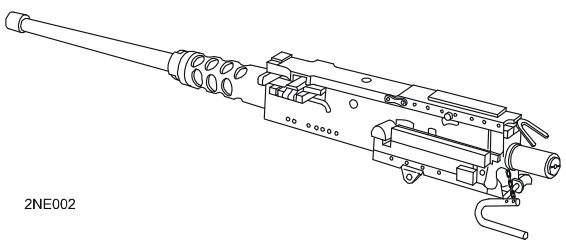
***ARMY TM 9-1005-213-10**
MARINE CORPS TM 02498B-10/2
AIR FORCE TO 11W2-6-3-161
NAVY SW361-AB-MMO-010

OPERATOR'S MANUAL
for
MACHINE GUNS, CALIBER .50; M2, HEAVY BARREL

FLEXIBLE, W/E (1005-00-322-9715) (EIC: 4AG)
M48 TURRET TYPE (1005-00-957-3893) (EIC: 4BB)
FLEXIBLE, W/O EQUIP (1005-00-726-5636) (USMC)
UP GUNNED WEAPONS STATION (UGWS) (1005-01-362-6237 (USMC)
SOFT MOUNT (1005-01-343-0747) (NAVY)
FIXED TYPE RIGHT HAND FEED (1005-00-122-9339) (NAVY)
FIXED TYPE LEFT HAND FEED (1005-00-122-9368) (NAVY)





***Superseded TM 9-1005-213-10, 01 June 2001, including all changes.**

HEADQUARTERS, DEPARTMENTS OF THE ARMY, AIR FORCE, AND NAVY AND COMMANDANT OF THE MARINE CORPS

FEBRUARY 2010

Marine Corps PCN 184 024983 00

WARNING SUMMARY

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

FIRST AID

For first aid information, refer to FM 4-25.11, First Aid.
Air Force personnel should refer to AFMAN 44-163(I).
Marine Corps personnel refer to MCRP 3-02G

EXPLANATION OF SAFETY WARNING ICONS

FLYING PROJECTILE – spring loaded parts could release and hit body causing injury or death.

EAR PROTECTION - headphones over ears shows that noise level will harm ears.

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

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

WEAPON FIRE - accidental discharge of a weapon could penetrate the body causing serious injury or death.

GENERAL SAFETY WARNINGS DESCRIPTION

WARNING

Hearing protection must be worn when firing this weapon.

WARNING

Headspace and timing should be checked and adjusted before firing weapon, after assembling weapon, and after replacing barrel.

Improper headspace and timing can cause malfunctions, damage to the gun, and injury to personnel.

Immediate action should be applied to a hot weapon within 10 seconds (cook-off). If round is not removed within 10 seconds, wait 15 minutes. Keep the weapon trained on the target.

Never open the cover on a hot weapon. An open cover cook-off could occur and result in serious injury or death.

Do not expose ammunition to the direct rays of the sun.

Depending on climate condition, do not leave live rounds laying on top of hot expended brass.

Round may fall to surface and possibly explode.

WARNING

When the machine gun has been in action, clear machine gun before anyone moves in front of the muzzle. Clearing consists of unloading the machine gun and visually inspecting weapon to ensure all rounds have been removed. Do not release the bolt or press the trigger.

To avoid accidental firing, remove ammunition, clear weapon and verify that chamber is clear.

WARNING SUMMARY - Continued

Keep fingers out of chamber to prevent injury.

Chamber may be hot. Use caution while inspecting T-slot.

Use only ammunition authorized for use in the M2 machine gun.

Do not oil or grease ammunition. Oiled cartridges will produce excessive chamber pressure.

Be sure to clear weapon before disassembling, cleaning, inspecting, transporting, or storing.

Never remove backplate assembly from any weapon until the chamber has been cleared.

Do not remove backplate unless the bolt is in the forward position.

Do not attempt to charge machine gun without the backplate assembled to machine gun. Stand to one side when removing backplate.

Never attempt to lift machine gun by the backplate group assembly in the upright position.

Do not attempt to release the firing pin with cocking lever forward. The cocking lever could spring back forcibly and serious injury to the hand.

To prevent accidental firing, immediately after a firing exercise, request field maintenance remove the side plate trigger assembly from the receiver when the M2 flex machine gun has been used on the M63 antiaircraft mount. The side plate trigger is to be stored in the container attached to the M63 antiaircraft mount.

The climatic temperature of various global regions will make a difference as to what constitutes a hot gun. A cook-off can occur within 50 rounds when the weapon and ammunition have been sitting in the sun.

Heat protective mitten should be used when barrel is hot.
When bolt latch release and trigger are both held down, machine gun will fire automatically (flex only).

Do not close cover when bolt is held rearward as damage may occur when bolt goes forward.

WARNING SUMMARY - Continued

While removing barrel buffer assembly and barrel extension assembly, maintain thumb pressure on buffer accelerator.

Firing the M2 machine gun with improperly set headspace or timing, or installing the barrel without retracting the charging handle to view the square on the barrel locking spring through the 3/8 in. hole on the right side of the receiver, will result in an explosion causing damage to the machine gun and/or death or injury to the gun crew.

WARNING

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

EXPLANATION OF HAZARDOUS MATERIALS ICONS

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

EYE PROTECTION - person with goggles shows that material will injure eyes.

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

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

WARNING

Chemical resistant gloves must be worn while using dry cleaning solvent.

DEFINITION OF THE FOLLOWING ALERTS THROUGHOUT THIS MANUAL:

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

CAUTION – Identifies risk of damage to the equipment.

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

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LIST OF EFFECTIVE PAGES/WORK PACKAGES

NOTE: The portion of text affected by the changes is indicated by a vertical line in the outer margins of the page. Changes to illustrations are indicated by miniature pointing hands. Changes to wiring diagrams are indicated by shaded areas.

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

Original..... 12 February 2010

TOTAL NUMBER OF PAGES FOR FRONT AND REAR MATTER IS 50 AND TOTAL NUMBER OF WORK PACKAGES IS 18 CONSISTING OF THE FOLLOWING:

Page/WP No.	*Change No.	Page/WP No.	*Change No.
Title	0	WP 0019 00	0
a - d	0	WP 0021 00	0
A - B	0	WP 0022 00	0
i - iv	0	WP 0023 00	0
WP 0001 00	0	WP 0024 00	0
WP 0002 00	0	WP 0025 00	0
WP 0003 00	0	WP 0026 00	0
WP 0004 00	0	WP 0027 00	0
WP 0005 00	0	WP 0028 00	0
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WP 0008 00	0	WP 0031 00	0
WP 0009 00	0	WP 0032 00	0
WP 0010 00	0	WP 0033 00	0
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WP 0013 00	0	WP 0036 00	0
WP 0014 00	0	WP 0037 00	0
WP 0015 00	0	WP 0038 00	0
WP 0016 00	0	PULLOUT-1/-2	0
WP 0017 00	0	Index	0
WP 0018 00	0		

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

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DEPARTMENTS OF THE ARMY,
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WASHINGTON, D.C., *12 February 2010*

Operator's Manual

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REPORTING ERRORS AND RECOMMENDING IMPROVEMENTS

You can help improve this publication. If you find any errors, or if you would like to recommend any improvements to the procedures in this publication, please let us know. The preferred method is to 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 https://aeps.ria.army.mil. The DA Form 2028 is located under the Public Applications section in the AEPS Public Home Page. Fill out the form and click on SUBMIT. Using this form on the AEPS will enable us to respond quicker to your comments and better manage the DA Form 2028 program. You may also mail, e-mail, or fax your comments or DA Form 2028 directly to the U.S. Army TACOM Life Cycle Management Command. The postal mail address is U.S. Army TACOM Life Cycle Management Command, ATTN: AMSTA-LCL-MPP / TECH PUBS, 1 Rock Island Arsenal, Rock Island, IL 61299-7630. The e-mail address is tacomlcmc.daform2028@us.army.mil. The fax number is DSN 793-0726 or Commercial (309) 782-0726.
Air Force users will submit requests for changes or reports of errors utilizing AFTO Form 22, Technical Manual (TM) Change Recommendation and Reply, in accordance with the guidance in Air Force Technical Order 00-5-1.

***SUPERSEDURE NOTICE.** Supersedes TM 9-1005-213-10, 01 June 2001, including all changes.

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Marine Corps PCN 184 024983 00

TABLE OF CONTENTS

TABLE OF CONTENTS - continued

HOW TO USE THIS MANUAL

GENERAL

Knowing how to use this manual is very important.

a. References are to pages in this manual.

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

INDEXES

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

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

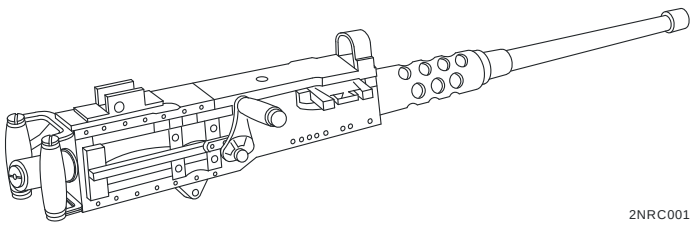
b. **Alphabetical Index.** This index, located in the back, is an extensive subject index for the entire manual. The page numbers following each entry tell where in the manual to find a particular subject.

CHAPTER 1

GENERAL INFORMATION, EQUIPMENT DESCRIPTION AND THEORY OF OPERATION

OPERATOR

GENERAL INFORMATION



SCOPE

Type of Manual: Operator's Manual

Model Number and Equipment Name: Machine Gun, Caliber .50; M2, heavy barrel, flexible type, and Fixed M48 turret type, UGWS, soft mount, and fixed type machine guns. For maintenance of the M3 Tripod Mount, MK93 Mod 0 and Mod 1 Mounts refer to TM 9-1005-245-13&P. Air Force users refer to Air Force Technical Order 11 W2-8-1-322 for maintenance of the M3 Tripod Mount and Air Force Technical Order 11 W2-8-32-4 for MK64 Mount maintenance procedures.

Purpose of Equipment: To provide automatic weapon suppression fire for offensive and defensive purposes. This weapon can be used effectively against personnel, light armored vehicles, and low flying/slow flying aircraft. The caliber .50, M2 flexible version is used as a ground gun on either the M3 Tripod Mount or with the MK 93 Mod 0 Mount on the M3 Tripod. The caliber .50, M2, Fixed M48 turret type, fixed type and soft mount are installed on mounts of several different types of combat vehicles and ships.

MAINTENANCE FORMS, RECORDS, AND REPORTS

Department of Army forms and procedures used for equipment maintenance will be those prescribed by DA PAM 750-8, The Army Maintenance Management System (TAMMS) Users Manual. Navy users refer to applicable preventive maintenance instructions. Marine Corps forms and procedures for equipment maintenance will be those prescribed by TM 4700-15/1. Air Force users refer to TO 11W1-1-10, Historical Data Recording of Inspection, Maintenance, and Firing Data for Ground Weapons, and AFI 36-2226, Combat Arms Program for applicable forms and records.

REPORTING EQUIPMENT IMPROVEMENT RECOMMENDATIONS (EIR)

If your machine gun needs improvement, let us know. Send us an EIR. You, the user, are the only one who can tell us what you don't like about your equipment. Let us know why you don't like the design or performance. If you have Internet access, the easiest and fastest way to report problems or suggestions is to go to https://aeps.ria.army.mil/aepspublic.cfm (scroll down and choose the “Submit Quality Deficiency Report” bar). The Internet form lets you choose to submit an Equipment Improvement Recommendation (EIR), a Product Quality Deficiency Report (PQDR) or a Warranty Claim Action (WCA). You may also submit your information using an SF 368 (Product Quality Deficiency Report). You can send your SF 368 via e-mail, regular mail, or facsimile using the addresses/facsimile numbers specified in DA PAM 750-8, The Army Maintenance Management System (TAMMS) Users Manual or to us at: Commander, RDECOM-ARDEC, ATTN: AMSRD-AAR-QEP-A, 1 Rock Island Arsenal, Rock Island, IL 61299-7300. EIRs may be emailed to ROCK-QDRS@conus.army.mil. We will send you a reply.

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

Air Force users submit Materiel Deficiency Report (MDR) and Quality Deficiency Report (QDR), in accordance with Technical Order 00-35D-54 and Air Force Instruction (AFI) 21-115.

Navy users submit SF 368, Quality Deficiency Report (QDR), to Commanding Officer, Naval Weapons Support Center, Code 4081, Crane, IN 47522-5020.

CORROSION PREVENTION AND CONTROL (CPC)

Corrosion Prevention and Control (CPC) of 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 assure that the information is identified as a CPC problem. The form

should be submitted to: Commander, US Army Armament, Research Development and Engineering Center, ATTN: AMSTA-AR-QAW, Rock Island, IL 61299-7300. Marine Corps personnel 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. Air Force users should submit a Quality Deficiency Report (QDR) in accordance with Technical Order 00-35D-54 and Air Force Instruction (AFI) 21-115.

OZONE DEPLETING SUBSTANCES (ODS)

N/A

DESTRUCTION OF ARMY MATERIAL TO PREVENT ENEMY USE

Refer to TM 750-244-7, for procedures concerning destruction of material to prevent enemy use.

PREPARATION FOR STORAGE OR SHIPMENT

Refer to TM 9-1005-213-23&P.

END OF WORK PACKAGE

OPERATOR

EQUIPMENT DESCRIPTION AND DATA

EQUIPMENT CHARACTERISTICS, CAPABILITIES, AND FEATURES

1. The caliber .50 machine gun, M2, Heavy Barrel, Flexible:
    a. Is a belt-fed, recoil operated, air-cooled, crew-served machine gun. The machine gun is capable of firing single-shot and automatic. Is capable of right and left-hand feed.
    b. Is used as a ground gun mounted on the M3 Tripod, MK 56 Mod 0 and four gun mounts (Navy), MK 93 Mod 0 and Mod 1 mounts, M6 and M7 pedestal, or is installed on the M66 ring mount of several different types of combat vehicles.
2. The caliber .50 machine gun, M2, Heavy Barrel, Fixed M48 Turret type:
    a. Is an air-cooled, recoil operated, alternate-feed, automatic, crew-served weapon.
    b. Is mounted on the M1 and M1A1 Abram's main battle tank commander's station.
3. The caliber .50 machine gun, M2, Up Gunned Weapons Station (UGWS) type:
    a. Is an air-cooled, recoil operated, belt-feed, automatic, solenoid-fired crew-served weapon.
    b. Is mounted on USMC Up-Gunned Weapon Station turret of the Amphibious Assault Vehicle (AAV).
4. The caliber .50 machine gun, M2, Heavy Barrel, Soft Mount type:
    a. Is mounted on the MK 26 Mod 15, 16, and 17 gun mounts.
    b. Is a belt-fed, recoil operated, air-cooled, crew-served machine gun.
5. The caliber .50 machine gun, M2, Heavy Barrel, Fixed type:
    a. Is mounted on the MK 56 Mod 0 and 4 gun mounts.
    b. Is a belt-fed, recoil operated, air-cooled, crew-served machine gun.
    c. Is primarily fired by solenoid and requires a 24-28 Vdc power source.
6. The M3 Tripod Mount: Is a portable folding mount which permits a high degree of accuracy and control of fire. Refer to TM 9-1005-245-13&P. Air Force users refer to TO 11W2-8-1-322.

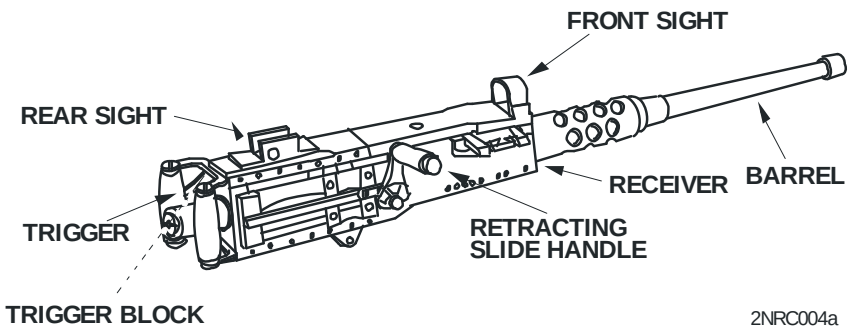
EQUIPMENT CHARACTERISTICS, CAPABILITIES, AND FEATURES - Continued

7. The MK 93 Mod 0: Is an advanced soft recoil (for M2) dual purpose cradle mount to be used on the M3 Tripod or as part of the HMMWV vehicle mount MK 93 Mod 9.

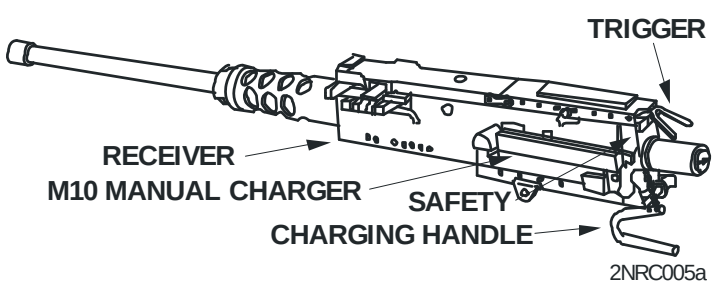
8. The MK 93 Mod 1: Includes the carriage (MK 93 Mod 0), 40-mm ammunition can bracket, .50 Cal ammunition bracket, Traversing and Elevating Mechanism, Universal Pintle Adapter and the Catch Bag Assembly.

LOCATION AND DESCRIPTION OF MAJOR COMPONENTS

The M2 machine gun (Flex Type) is composed of the following: front and rear sights, barrel, receiver, retracting slide handle, trigger and trigger block.



The Fixed M48 Turret Type is composed of the following: trigger, trigger block, charging handle, M10 manual charger, and receiver.



DIFFERENCES BETWEEN MODELS

ASSEMBLY	PART#	FLEX	SOFT MOUNT	TURRET TYPE	FIXED TYPE	UGWS
Machine Gun Barrel	7266131	X	X	X	X	X
Backplate Assembly	6535477	X				X
Backplate Assembly	5564311			X		
Backplate Assembly	5985102		X			
Backplate Assembly	2866381				X	
Breech Bolt Assembly	6528322	X	X	X	X	X
Barrel Extension Assy	5504082	X	X	X	X	X
Retracting Slide Assy	11010439	X	X		X	X
Cover Assembly	6528309	X	X	X	X	X
Receiver Assembly	6535480	X	X	X	X	X
M10 Manual Charger	7267982			X	X	
Rear Sight Assembly	12003047	X				X
Barrel Carrier Assembly	5504080	X				
Top Cover Plate	6008939		X	X		
Front Sight Assembly	6085990		X			
Electrical Solenoid Assy	2846714				X	
Trigger Block	1968	X				
Solenoid	2846714					X

Procedures are written for the M2 Machine Gun (flexible), but apply to all models except where noted.

EQUIPMENT DATA

1. Machine gun data.

Weight of gun (approx) ..... 84 lbs (38.10 kg)
Weight of barrel ..... 26 lbs (11.79 kg)
Length of gun ..... 65.13 in. (165.43 cm)
Length of barrel ..... 45 in. (114.30 cm)
Length of rifling (approx) ..... 41.88 in. (106.38 cm)
Number of lands and grooves 8
Twist, right -hand ..... one turn is 15 in. (38.10 cm)
Feed ..... link-belt
Operation ..... short recoil
Cooling ..... air
Muzzle velocity (approx) ..... 3,050 fps (929.64 mps)
Maximum range (approx) ..... 7,400 yds (6,767 m)
Maximum effective range (approx) ..... 2,000 yds (1,829 m)

EQUIPMENT DATA – Continued

2. Rates of Fire.

NOTE

For Abrams series tanks refer to FM 3-20.12.

a. SINGLE SHOT. Place gun in single shot mode and engage target with well aimed shots. The caliber .50 machine gun is extremely accurate and can effectively engage targets out to 2,000 yards (1,829m). Change barrel at end of firing day or if the barrel is damaged.

b. SLOW FIRE. Slow fire is less than 40 rounds per minute, fired in bursts of six to nine rounds, at 10-15 second intervals. Change barrel at the end of the firing day or if the barrel is damaged.

c. RAPID FIRE. Rapid fire is greater than 40 rounds per minute, fired in bursts of six to nine rounds, at 5-10 second intervals. Change barrel at one hour intervals or if the barrel is damaged.

d. CYCLIC FIRE. This rate represents the maximum amount of ammunition that can be expended by a gun without a break in firing. The cyclic rate of this caliber .50 machine gun is 100 rounds per minute. Change barrel at one-half hour intervals or if the barrel is damaged.

3. M3 Tripod Mount: Refer to TM 9-1005-245-13&P. Air Forces users refer to TO 11W2-8-1-322.

4. MK 93 Mod 0 and MK 93 Mod 1 Mounts: Refer to TM 9-1005-245-13&P.

END OF WORK PACKAGE

OPERATOR

THEORY OF OPERATION

THEORY OF OPERATION

1. Open the cover, place the weapon on safe, insert a round, and close the cover.
2. If applicable, keep muzzle pointed at target and move the safety/trigger block from the safe to the fire position.
3. Align the front and rear sight with the target and press the trigger.
4. Pressing the trigger releases the firing pin and allows it to impact the primer on the round.
5. The primer ignites the propellant in the round.
6. Expanding gas from the burning propellant pushes the projectile through the barrel.
7. The rifling in the barrel causes the projectile to rotate, which provides stability during flight to the target.

END OF WORK PACKAGE

CHAPTER 2

OPERATOR INSTRUCTIONS

OPERATOR

DESCRIPTION AND USE OF OPERATOR CONTROLS AND INDICATORS

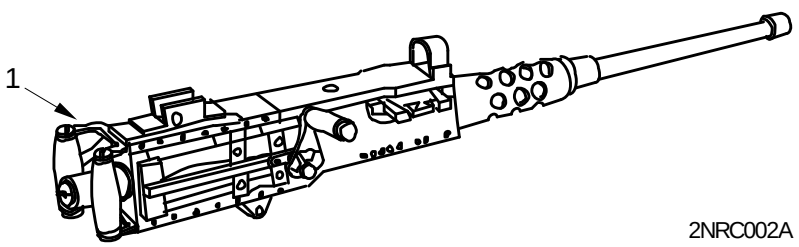
GENERAL

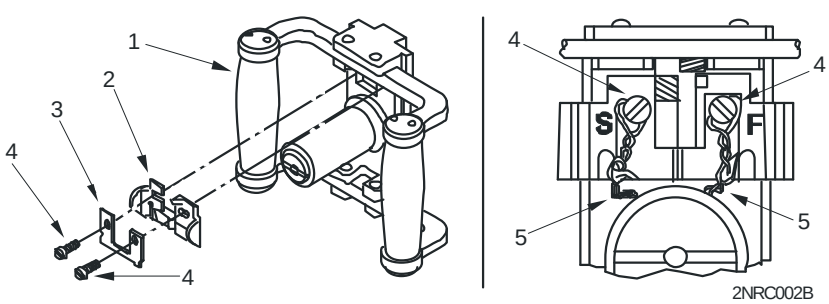
Familiarize yourself with the following parts before operating the machine guns and various mounts.

CALIBER .50 MACHINE GUN, M2, HEAVY BARREL, FLEXIBLE

BACK PLATE ASSEMBLY

The back plate (1) houses the trigger and buffer tube. It also contains a trigger block (2) that slides to select FIRE (F) or NO FIRE (S) (flex type and Fixed M48 turret type only). The trigger block and flat spring (3) are secured onto the back plate with two shoulder screws (4), and lockwire (5).





BARREL

The barrel (6) has rifling to give bullet spin for accuracy and a chamber for firing the cartridge.

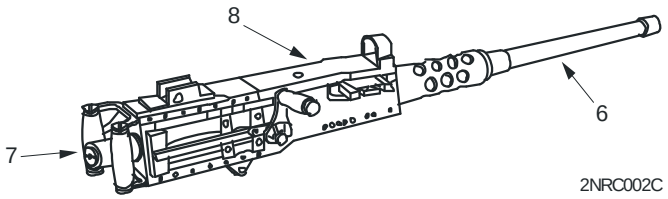
BUFFER TUBE SLEEVE

The buffer tube sleeve (7) locks the bolt latch release in the open position to permit the machine gun to fire automatic or the unlocked position for single shot (flexible type only).

CALIBER .50 MACHINE GUN, M2, HEAVY BARREL, FLEXIBLE – Continued

COVER

The cover (8) feeds the belt and positions and holds the cartridges for chambering.



FRONT AND REAR SIGHTS

The front and rear sights (9) zero and accurately sight the machine gun (Flexible type only).

RECEIVER

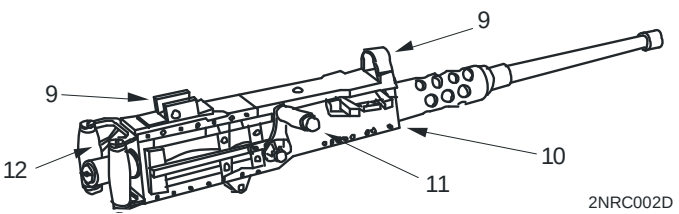
The receiver (10) houses the internal components of the machine gun and serves as support for the entire machine gun.

RETRACTING SLIDE HANDLE

The retracting slide handle (11) is used for cocking the machine gun (flexible type and soft mount type only).

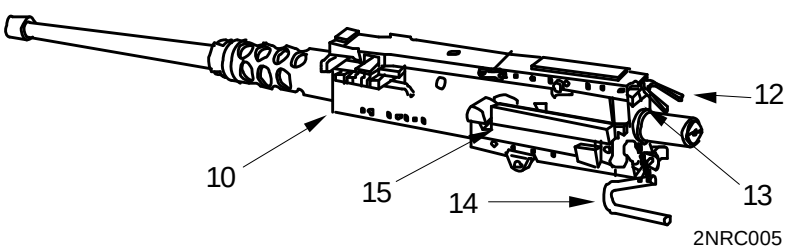
TRIGGER

The trigger (12) controls the firing of the machine gun.



TRIGGER BLOCK

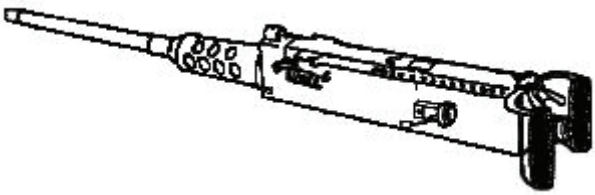
The trigger block (13) slides to select FIRE or NO FIRE (Fixed M48 turret type).



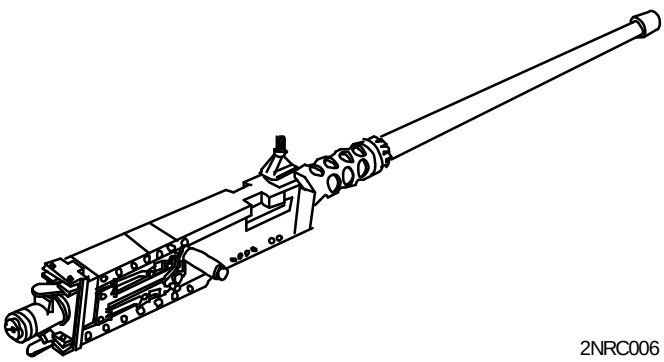
M10 MANUAL CHARGER & CHARGING HANDLE

The M10 manual charger (15) has a cable and charging handle (14) for cocking the machine gun (Fixed M48 turret type and fixed type only).

CALIBER .50 MACHINE GUN, M2, UP GUNNED WEAPONS STATION (UGWS) (USMC)



CALIBER .50 MACHINE GUN, M2, HEAVY BARREL, SOFT MOUNT (NAVY)

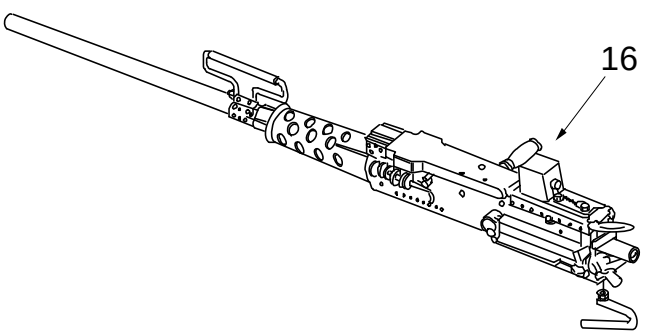


2NRC006

CALIBER .50 MACHINE GUN, M2, HEAVY BARREL, FIXED TYPE (NAVY)

SOLENOID ASSEMBLY

The solenoid assembly (16) operates on a 24-28 Vdc power source to fire the gun (fixed type only). Refer to applicable solenoid technical manual (TM).



2NRC007

MOUNTS

For description, use, and maintenance of the M3 Tripod, MK 93 Mod 0 and Mod 1 machine gun mounts refer to TM 9-1005-245-13&P. Air Force users refer to TO 11W2-8-1-322 for M3 Tripod information.

END OF WORK PACKAGE

OPERATOR

OPERATION UNDER USUAL CONDITIONS
ADJUST HEADSPACE

WARNINGS

Ensure gun is clear of ammunition before starting maintenance procedures (WP 0012 00).

Headspace and timing must be adjusted before firing weapon, after assembling weapon, and after replacing barrel.

Improper headspace and timing can cause malfunctions, damage to gun, and injury to personnel.

If headspace cannot be obtained, turn in weapon to field maintenance.

Installing the barrel without retracting the charging handle to view square on the barrel extension through the 3/8 in. hole on right side of receiver will cause malfunction, damage to the gun, and injury to personnel.

Safety glasses, hearing protection, and protective clothing will be worn when repairing, firing, or cleaning weapon.

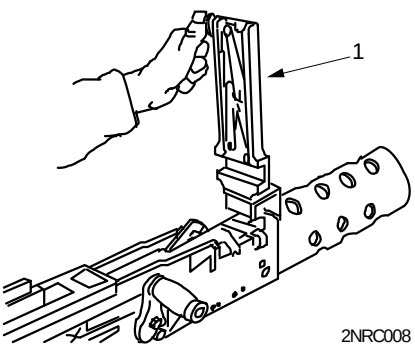
NOTE

Headspace is the distance between the face of the bolt and the shoulder surface in chamber of the barrel. Timing is the adjustment of the gun so that firing takes place when the recoiling parts are in the correct position for firing. Because the cartridge is held by the T-slot of the bolt, headspace with the machine gun is measured as the distance between the rear of the barrel and the face of the bolt. This occurs when the recoiling parts are forward and there is a positive contact between the breech lock recess in the bolt and the lock in the barrel extensions. Headspace and Timing gages must be calibrated at least every 360 days IAW TB 750-25. Contact your TMDE support coordinator.

Headspace and Timing procedures are included on a pullout page following the Index. The pullout page may be removed from the TM and retained by the operator as a handy reference.

ADJUST HEADSPACE

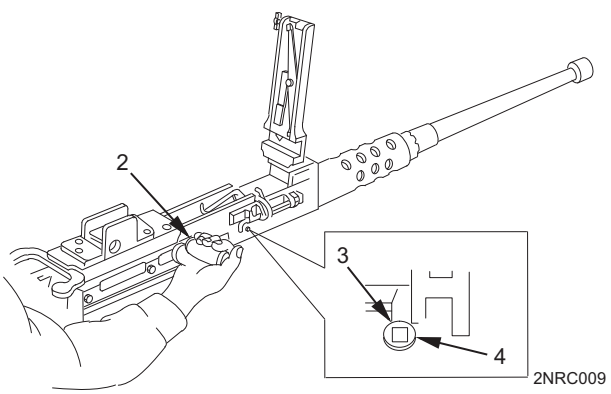
1. Raise top cover (1) all the way up.



WARNING

Weapon will explode if this step is not followed. Ensure retracting slide handle is retracted while inserting barrel.

2. Grasp retracting slide handle (2) and retract bolt to align barrel locking spring lug (3) with the 3/8 inch hole (4) in the right side of receiver while inserting barrel.

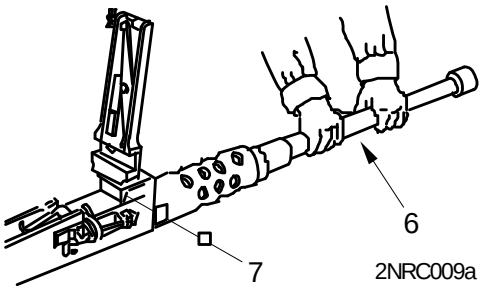


NOTE

Ensure no obstructions are located in the barrel assembly before installing.

3. Holding bolt in this position, screw the barrel (6) fully into the barrel extension (7).

4. With bolt still retracted, unscrew barrel (6) two notches (clicks). Release retracting slide handle (2) and allow bolt to go forward.

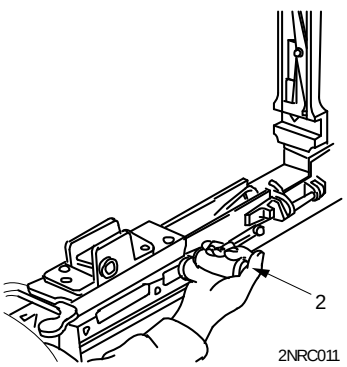


WARNING

Check barrel to ensure it is locked with the bolt in the forward position. Attempt to turn barrel in either direction; barrel should not turn. If barrel does turn, stop here, do not attempt to fire the gun. Notify field maintenance.

5. Pull bolt to rear with retracting slide handle (2) and hold. This charges the weapon (withdraws firing pin into bolt). Otherwise headspace gage won't fit at all.

6. In single shot mode, hold retracting slide handle (2), push the bolt latch release, and slowly return bolt forward (do not slam). Do not fire the weapon.



NOTE

Steps 7 and 8 are for Fixed M48 turret type and fixed type only.

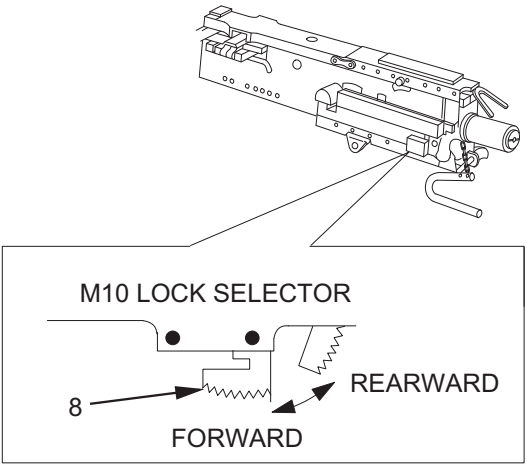
7. Move M10 lock selector (8) to rearward position. Charge weapon locking bolt to rear.

8. Move M10 lock selector (8) to forward position. Pull on the retracting slide handle until a click is heard, then ease bolt forward. (Do not allow bolt to slam forward.)

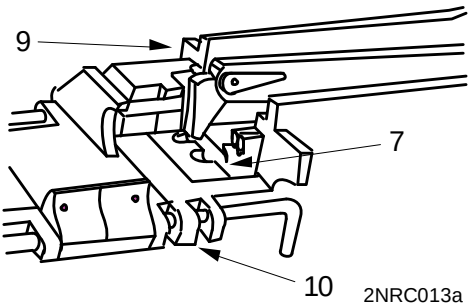
ADJUST HEADSPACE - Continued

NOTE

Do not insert any objects such as coins and feeler gages between the barrel extension and trunnion block while retracting the bolt to verify or adjust headspace. Placing an object between the barrel extension and trunnion can cause excessive headspace adjustment.



9. Remove slack in the bolt (9) and barrel extension (7) by retracting the retracting slide handle until the barrel extension begins to separate (but not more than 1/16 inch) from the trunnion block (10).

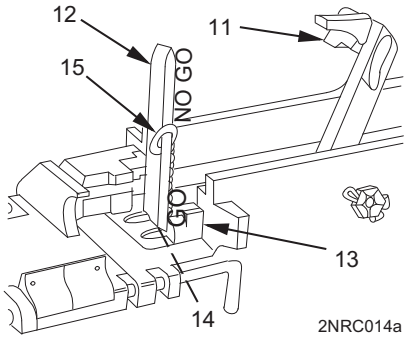


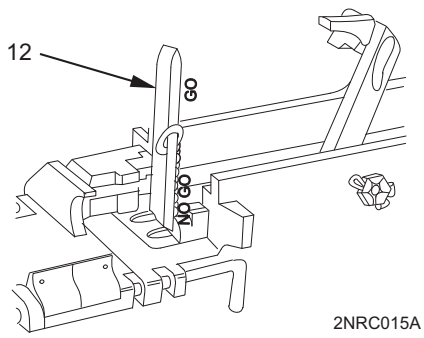
NOTE

Ensure GO/NO GO gage does not have any broken, bent, rusted, or pitted areas or other forms of mutilation that could affect dimensional tolerances.

When the charging handle is retracted a rearward pressure is placed on the bolt, breech lock, and barrel extension, removing slack or clearance between these parts, and all three parts move as one. It is at this point the distance between the bolt face and the end of the barrel reflects a correct headspace.

10. While maintaining 1/16 inch separation, raise cartridge extractor (11) and attempt to insert the GO end of the GO/NO GO headspace gage (12) in the T slot between the face of the bolt (13) and the rear of barrel (14) all the way to the ring (15), then attempt to insert the NO GO end of the GO/NO GO headspace gage.





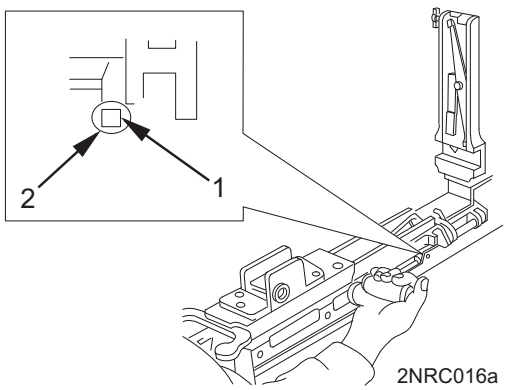
11. If GO end of headspace gage (12) enters freely all the way to the ring (15) and NO GO end does not enter, headspace is correct. Proceed to Adjust Timing (WP 0006 00). If GO end of headspace gage does not enter T-slot freely, headspace is too tight. Proceed to Step 12. If NO GO end of headspace gage enters, headspace is too loose. Proceed to Step 13.

12. Headspace too tight.

    a. If GO end of headspace gage will not enter T-slot, retract bolt so you can see barrel locking spring lug (1) in center of 3/8 inch hole (2) on right side of receiver.

    b. Unscrew barrel one notch (click).

    c. Repeat steps a and b.



WARNING

Check barrel to ensure it is locked with the bolt in the forward position. Attempt to turn barrel in either direction; barrel should not turn. If barrel does turn, stop here, do not attempt to fire the gun. Notify field maintenance.

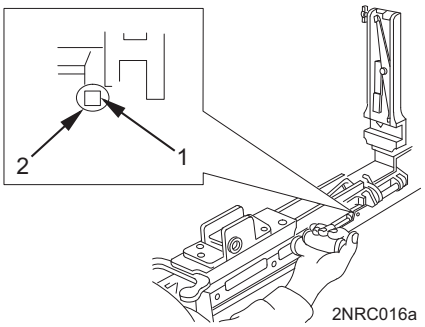
CAUTION

Do not unscrew barrel more than a total of five notches (clicks) beyond the first setting of two clicks for a total of seven. If this condition occurs, turn in machine gun to field maintenance for inspection.

    d. If necessary, repeat steps a through c above until GO end of headspace gage enters and NO GO end of headspace gage does not enter.

ADJUST HEADSPACE - Continued

13. Headspace too loose.



a. If NO GO end of headspace gage enters T-slot, retract bolt so you can see barrel locking spring lug (1) in center of 3/8 inch hole (2) on right side of receiver.

b. Screw barrel in one notch (click).

c. Repeat steps a and b.

WARNING

Check barrel to ensure it is locked with the bolt in the forward position. Attempt to turn barrel in either direction; barrel should not turn. If barrel does turn, stop here, do not attempt to fire the gun. Notify field maintenance.

CAUTION

After obtaining proper headspace, recheck positive locking action of barrel by attempting to screw barrel in or out with bolt in forward position. Do not fire machine gun if barrel can be screwed in or out.

d. If necessary, repeat steps a through c above until NO GO end of headspace gage does not enter and GO end of headspace gage enters.

END OF WORK PACKAGE

OPERATOR

OPERATION UNDER USUAL CONDITIONS
ADJUST TIMING

NOTE

Timing nut must be completely loosened before timing adjustment is started.

Headspace and Timing procedures are included on a pullout page immediately following the Index. The pullout page may be removed from the TM and retained by the operator as a handy reference.

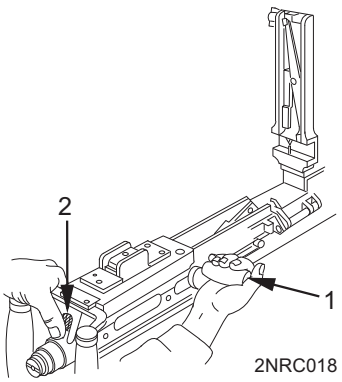
Ensure proper headspace before adjusting timing.

ADJUST TIMING

WARNING

Ensure gun is clear of ammunition before starting maintenance procedures. Improper headspace and timing can cause malfunctions, damage to gun, and injury to personnel.

1. Pull bolt to rear with retracting slide handle (1) to cock machine gun; while holding handle, depress the bolt latch release (2) and slowly return bolt forward. Do not press trigger.



NOTE

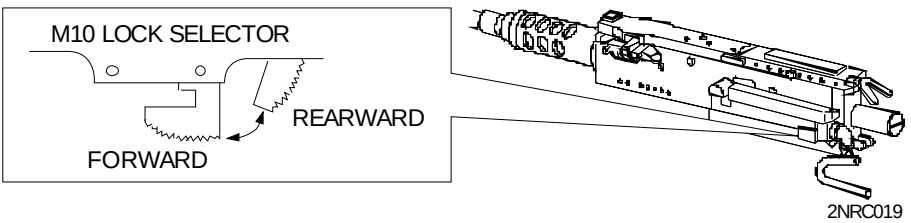
Steps 2 through 4 are for the Fixed M48 turret type and fixed type.

2. Move M10 lock selector to rearward position. Charge the weapon, locking bolt to rear.

ADJUST TIMING – Continued

3. Move M10 lock selector to the forward position. Pull on retracting slide handle until a click is heard, then ease the bolt forward. Do not allow bolt to slam forward.

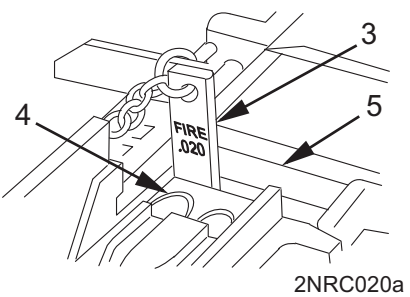
4. Place safety on fire position.



WARNING

Never charge gun with backplate off.

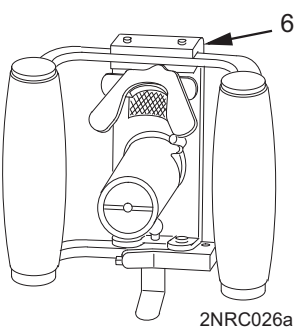
5. Grasp retracting slide handle and retract bolt just enough to insert FIRE gage (3) with beveled edge against barrel notches between barrel extension (4) and trunnion block (5). Release retracting slide handle slowly.



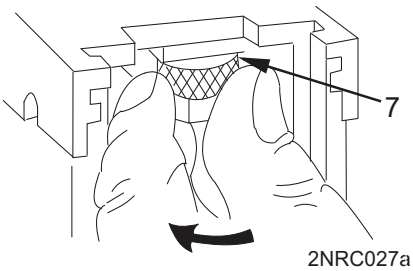
WARNING

Do not stand directly behind gun while removing backplate.

6. Remove backplate assembly (6). Refer to WP 0024 00.



7. Screw timing adjustment nut (7) all the way down (to the left). Nut should turn hard.



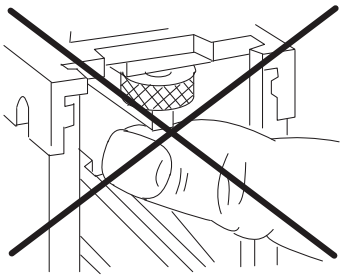
WARNING

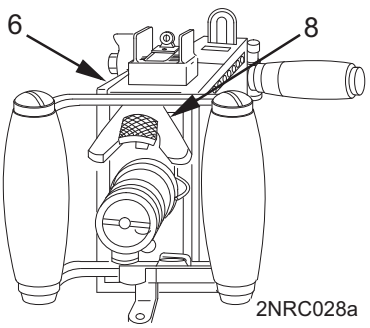
Failure to reinstall the backplate may lead to inconsistent timing adjustment and lead to weapon stoppage or explosion.

NOTE

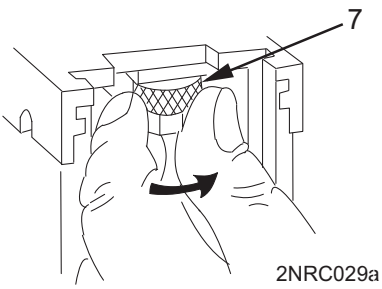
Do not attempt to fire the gun by pushing up on the trigger bar with the backplate assembly removed.

8. Remove FIRE gage, reinstall backplate assembly (6), and reinsert FIRE gage. Attempt to fire gun by depressing trigger (8). Gun should not fire.





9. Remove backplate assembly. Screw timing adjustment nut (7) up (to the right) one click. Remove FIRE gage, reinstall backplate assembly, and reinsert FIRE gage. Attempt to fire by depressing trigger. Repeat, turning timing adjustment nut up one click at a time, until gun fires.



10. Remove backplate assembly and turn timing adjustment nut two more clicks up (to the right). Do not turn the timing adjustment nut any more.

11. Remove FIRE gage.

ADJUST TIMING – Continued

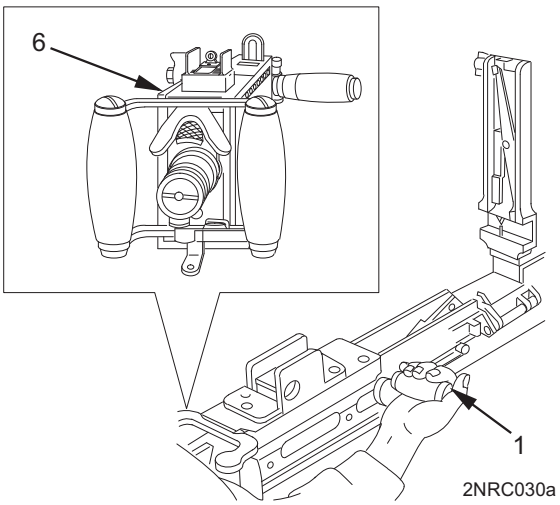
12. Install backplate assembly (6).

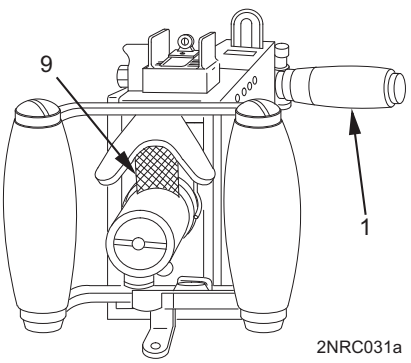
NOTE

After setting headspace and timing, complete the following "function check" for flex and soft mount machine guns.

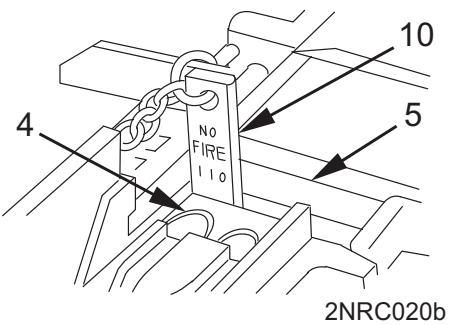
13. Pull retracting slide handle (1) to rear to charge machine gun.

14. Depress bolt latch release (9) and slowly ease bolt forward with retracting slide handle (1).





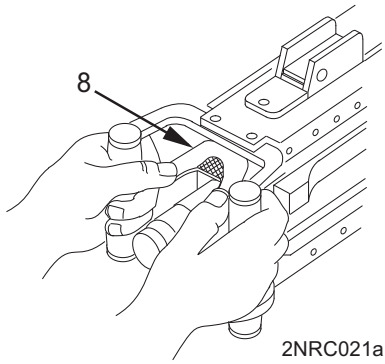
15. Grasp retracting slide handle and retract bolt just enough to insert NO FIRE gage (10) with beveled edge against barrel notches between barrel extension (4) and trunnion block (5). Release retracting slide handle slowly.



16. Depress trigger (8); gun should NOT fire.

NOTE

If machine gun does fire, it has early timing. Re-adjust timing or notify field maintenance.



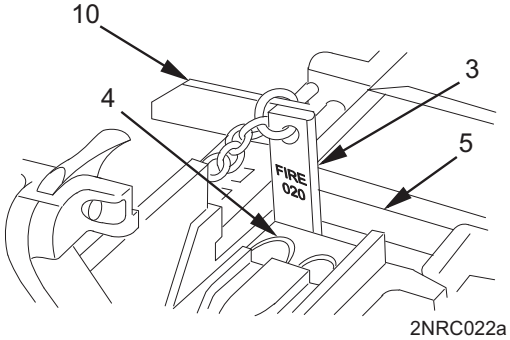
17. Retract bolt just enough to remove NO FIRE gage (10) and insert FIRE gage (3) with beveled edge against barrel notches between barrel extension (4) and trunnion block (5). Release retracting slide handle slowly.

18. Depress trigger; machine gun should fire. Timing is now complete.

NOTE

If machine gun does not fie, it has late timing. Re-adjust timing or notify field maintenance.

19. Repeat steps 13 through 18 with both FIRE and NO FIRE gages two more times to ensure that adjustment is correct.



20. Remove FIRE gage.

NOTE

Steps 21 through 23 are for Fixed M48 turret type, flex type, and fixed type only.

21. Move M10 lock selector to rearward position. Charge weapon locking bolt to rear.

22. Move M10 lock selector to forward position. Pull on charging handle until a click is heard, then ease bolt forward. Verify timing two more times.

23. Perform Safety/Function check for Fixed M48 turret type, flex type, and fixed type.

    a. Place safety to ‘S’ (safe) position.

    b. Move M10 lock selector to the rear.

ADJUST TIMING – Continued

c. Charge weapon.

d. Move M10 lock selector forward.

e. Pull charging handle until a click is heard, then ease bolt forward.

f. Press trigger. Weapon should not fire.

g. Place safety to ‘F’ (fire) position.

h. Press trigger. Weapon should fire.

24. Return to Preventive Maintenance Checks and Services (WP 0022 00) and complete the “before” tasks.

END OF WORK PACKAGE

OPERATOR

OPERATION UNDER USUAL CONDITIONS SINGLE SHOT MODE, AUTOMATIC FIRE, FIRING MACHINE GUN ON M3 TRIP MOUND AND FIRING MACHING GUN ON MK93 MOD 0, MK 93 MOD 1, M6 PEDESTAL AND M7 PEDESTAL MOUNTS

INITIAL SETUP:

Reference
WP 0009 00

WARNING

Never open the cover on a hot weapon. An open cover cook-off could occur and result in serious injury or death.

Do not expose ammunition to the direct rays of the sun.

Do not oil or grease ammunition. Oiled cartridges will produce excessive chamber pressure.

WARNING

When bolt latch release and trigger are both held down, machine gun will fire automatically (flex only).

WARNING

Hearing protection must be worn when firing this weapon.

SINGLE SHOT MODE

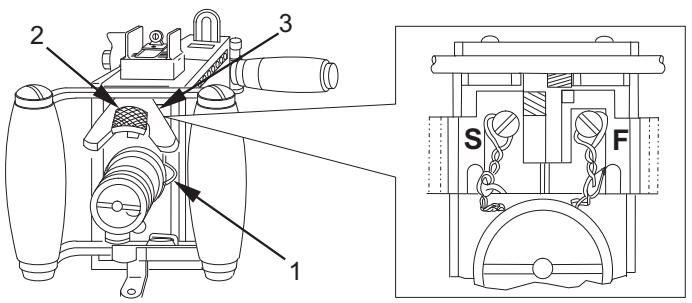
NOTE

If machine gun is set for single shot fire, the bolt assembly will remain in the rearward position. In this event, move the retracting slide handle forward before releasing the bolt with the bolt latch release.

1. Ensure bolt latch release lock (1) is in the unlocked position (turn right). The bolt latch release (2) must be in the up position (not locked down). For each round fired, press the bolt latch release, then the trigger (3).

NOTE

If machine gun is provided with trigger block, trigger block must be placed to “F” (Fire) position while firing.



2NRC036A

AUTOMATIC FIRE

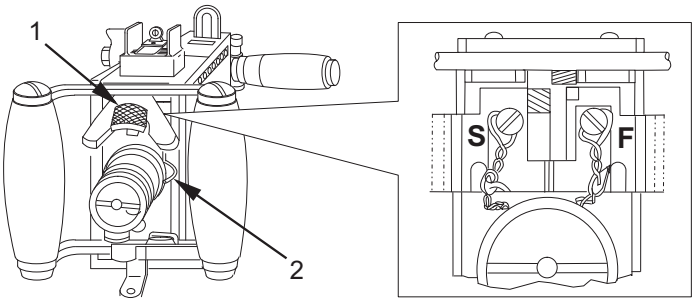
NOTE

If the machine gun is set for automatic fire, the retracting slide handle will go forward with the bolt when released.

1. Press bolt latch release (1) down and lock by turning the bolt latch release lock (2) to the left. Ensure that bolt latch release is held completely down with no movement.

NOTE

If machine gun is provided with trigger block, trigger block must be placed to “F” (Fire) position while firing.



2NRC037A

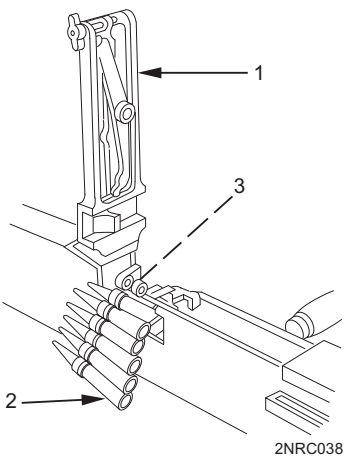
FIRING MACHINE GUN ON M3 TRIPOD MOUNT

NOTE

Ensure bolt is forward.

Ensure the correct front cartridge stop is installed (blank cartridge stop is different).

1. Open machine gun cover (1) and insert the double loop end of ammunition (2) in feedway until first cartridge is held by belt holding pawls (3).



2NRC038

CAUTION

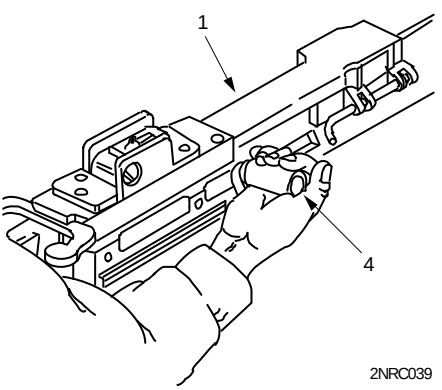
Do not close cover when bolt is held rearward as damage may occur when bolt goes forward.

2. Close cover (1) of machine gun.

NOTE

To half-load the machine gun, complete step 3; to fully load the machine gun, repeat step 3 before moving on to step 4.

3. Pull retracting slide handle (4) rearward, retracting the bolt all the way to the rear. Release the handle.



2NRC039

FIRING MACHINE GUN ON M3 TRIPOD MOUNT – Continued

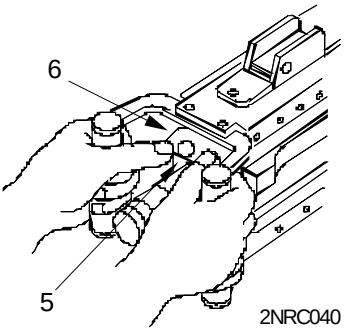
NOTE

If machine gun is set for single shot fire, the bolt will remain in the rearward position. In this event, move the retracting slide handle forward before releasing the bolt with the bolt latch release (5). If the machine gun is set for automatic fire, the retracting slide handle will go forward with the bolt when released.

4. Press trigger (6) to fire the machine gun.

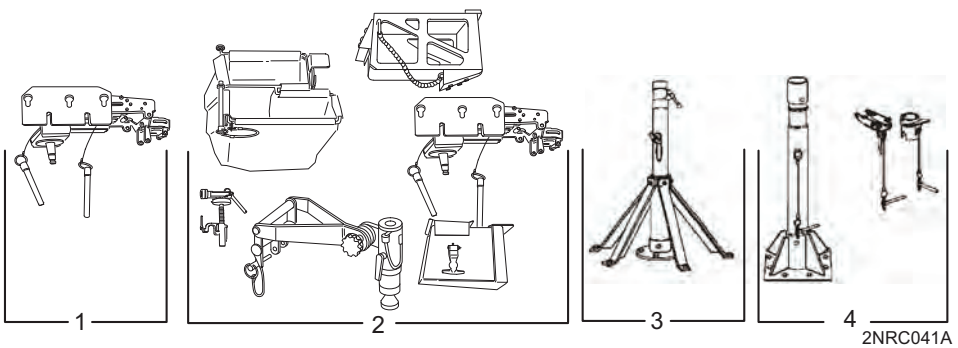
NOTE

In case of failure to fire, refer to Immediate Action, WP 0009 00.



FIRING MACHINE GUN ON MK 93 MOD 0, MK 93 MOD 1, M6 PEDESTAL, AND M7 PEDESTAL MOUNTS

The loading and firing procedures for the machine gun on the MK 93 MOD 0 (1), MK 93 MOD 1 (2), M6 pedestal (3), and M7 pedestal (4) mounts are the same as those for the M3 mount.



END OF WORK PACKAGE

OPERATOR

OPERATION UNDER USUAL CONDITIONS GENERAL, MISFIRE, COOK-OFF, HOT GUN PREVENTION, STOPPAGE, RUPTURED CARTRIDGE CASE REMOVAL

INITIAL SETUP:

Materials/Parts
Heat protective mittens
(Item 4, W.P. 0036 00)

References
WP 0005 00
WP 0009 00
WP 0023 00
WP 0032 00

WARNING

Never open the cover on a hot weapon, if a malfunction occurs. The possibility of a cook-off condition exists when the barrel is hot.

The climatic temperature of various global regions will make a difference as to what constitutes a hot gun. A cook-off can occur within 50 rounds when the weapon and ammunition have been sitting in the sun.

Never open the cover on a hot weapon. An open cover cook-off could occur and result in serious injury or death.

GENERAL

The malfunctions classified as misfires, hangfires, cook-offs, and stoppages are normally the result of improper weapon or ammunition maintenance and/or the use of unauthorized ammunition. The precautions described below are applicable to each specific type of malfunction rather than the occurrence of the malfunction in a specific weapon. All personnel concerned will know the nature of each malfunction, described below, as well as the proper preventive and corrective procedures in order to avoid injury to personnel or damage to materiel. Navy personnel become familiar with SW 300-BC-SAF-010.

MISFIRE

A misfire is the failure of a chambered round to ignite when the firing mechanism is actuated. Such failure can be due to an ammunition defect or faulty firing mechanism in the weapon. A misfire in itself is not dangerous, but because it cannot be immediately distinguished from a hangfire, it should be handled with Immediate Action, WP 0009 00.

COOK-OFF

A cook-off is the igniting of a round, caused by the heat of a very hot barrel, and not caused by actuating the firing mechanism. A cook-off may be avoided by immediately firing ammunition loaded in a hot machine gun or by unloading the weapon in the time specified under Immediate Action, WP 0009 00.

HOT GUN PREVENTION

In order to prevent the machine gun from becoming excessively hot, the barrel should be rotated as follows:

a. SINGLE SHOT: Change the barrel at the end of the firing day or if the barrel is damaged.

b. SLOW FIRE: (less than 40 rounds per minute): Change the barrel at the end of the firing day or if the barrel is damaged.

c. RAPID FIRE: (greater than 40 rounds per minute): Change the barrel at one hour intervals or if the barrel is damaged.

d. CYCLIC FIRE: (100 rounds per minute): Change the barrel at one-half hour intervals or if the barrel is damaged.

STOPPAGE

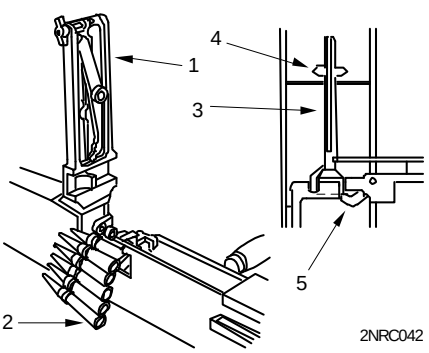
Stoppage is any interruption in the cycle of operation caused by faulty action of the machine gun or ammunition. Any stoppage must be handled as a misfire.

RUPTURED CARTRIDGE CASE REMOVAL

1. Open machine gun cover (1), remove ammunition belt (2).

2. Clear the machine gun of all ammunition.

3. With bolt in the forward position, place the ruptured cartridge case extractor (3) with slot facing up into the feedway (4) against the cartridge stop assembly pawl (5) and hook the extractor assembly of the bolt over the ruptured cartridge case extractor.

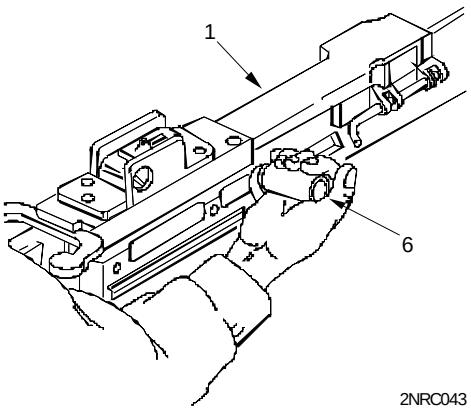


CAUTION

Do not close cover when bolt is held rearward as damage may occur when bolt goes forward.

NOTE

For Fixed M48 turret type and fixed type, proceed to step 7.



4. Close machine gun cover (1), retract the bolt pulling the retracting slide handle (6) rearward, and release to the forward position.

5. Retract the bolt to extract the ruptured cartridge case and extractor from the chamber.

WARNING

Heat protective mitten should be used when barrel is hot.

6. If steps 3 through 5 do not remove the ruptured cartridge case, remove the barrel (WP 0023 00), install the spare barrel (WP 0032 00, step 8), and check headspace (WP 0005 00).

NOTE

If the ruptured cartridge case cannot be removed, notify field maintenance.

After removing ruptured cartridge case, check headspace (WP 0005 00).

Steps 7 through 10 are for the Fixed M48 turret type and fixed type only

7. Close cover and move M10 lock selector to the forward position. Pull charging handle rearward and allow the bolt to go forward.

8. Move M10 lock selector to the rear. Charge the weapon to lock the bolt to the rear.

9. Open the machine gun cover and ensure the ruptured cartridge extractor has extracted the ruptured cartridge. Recheck headspace (WP 0005 00).

10. Repeat step 3 to extract the ruptured cartridge case and extractor from the chamber.

11. If spare barrel is installed, perform headspacing and timing (WP 0005 00 and WP 0006 00).

12. Load and continue firing until time permits to extract the ruptured cartridge case from the original barrel.

END OF WORK PACKAGE

OPERATOR

OPERATION UNDER USUAL CONDITIONS
IMMEDIATE ACTION PROCEDURES

INITIAL SETUP:

References
TM 9-2350-255-10-2
TM 9-2350-264-10-2
WP 0010 00

WARNING

Do not open cover while performing immediate action. Keep the weapon pointed downrange while performing immediate action.

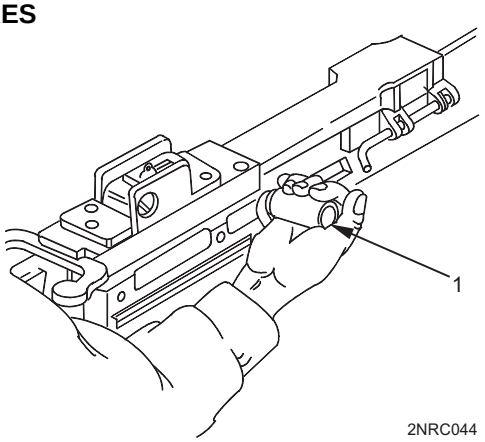
Never remove the backplate assembly from any weapon until the chamber has been cleared.

Depending on climate condition, do not leave live rounds lying on top of hot expended brass.

IMMEDIATE ACTION PROCEDURES

NOTE
If your machine gun stops firing, take the following actions within 10 seconds.

1. Pull retracting slide handle (1) rearward.



IMMEDIATE ACTION PROCEDURES - Continued

2. Observe if round or fired case is ejected, release retracting slide handle, and attempt to fire again.

WARNING

Never open the cover on a hot weapon. An open cover cook-off could occur and result in serious injury or death.

3. If weapon does not fire and the barrel is hot enough to cause a cook-off (100 rounds per minute), place the bolt in the forward position and place the weapon in single action mode.

4. Evacuate immediate area for 15 minutes. For Fixed M48 turret type, refer to TM 9-2350-264-10-2 and TM 9-2350-255-10-2.

5. If immediate action fails to correct stoppage, apply remedial action (WP 0010 00) after the weapon has cooled sufficiently.

END OF WORK PACKAGE

OPERATOR

OPERATION UNDER USUAL CONDITIONS
REMEDIAL ACTION PROCEDURES

INITIAL SETUP:

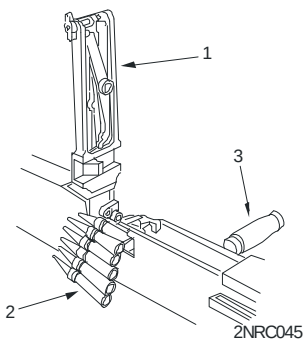
References
WP 0020 00

REMEDIAL ACTION PROCEDURES

WARNING

Keep the weapon pointed downrange while performing the following procedure.

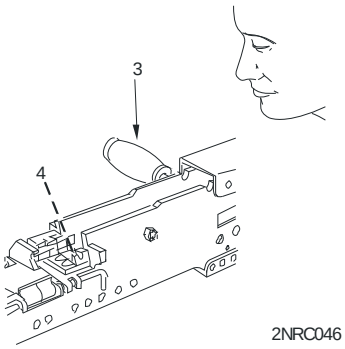
1. Open cover (1) and remove ammunition belt (2).
2. Pull retracting slide handle (3) to the rear.



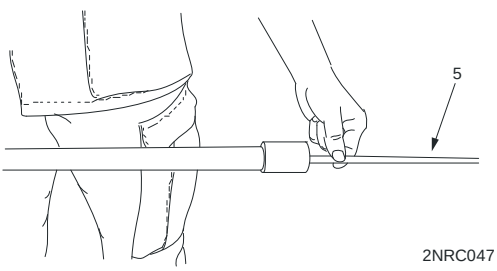
REMEDIAL ACTION PROCEDURES – Continued

3. If round is not ejected, lock bolt to the rear, and if applicable, return retracting slide handle (3) forward.

4. Visually inspect for cartridge in chamber (4).



5. If round is present in the chamber, with a second man standing to the side of the weapon, insert a cleaning rod (5) into the muzzle end of the machine gun and gently tap the round/case from the chamber.



6. The weapon is now clear.

7. Return bolt to forward position.

8. Check the weapon to determine the cause of the stoppage using Troubleshooting Procedures (WP 0020 00) or turn in to field maintenance for repair

END OF WORK PACKAGE

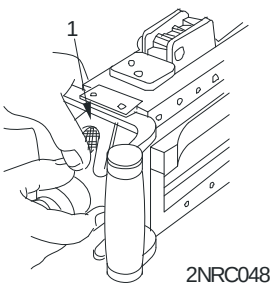
OPERATOR

OPERATION UNDER USUAL CONDITIONS
UNLOADING AND CLEARING THE GUN

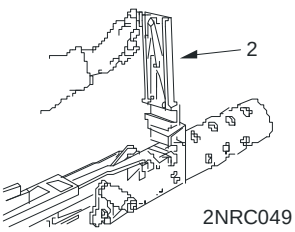
INITIAL SETUP:

References
WP 0022 00

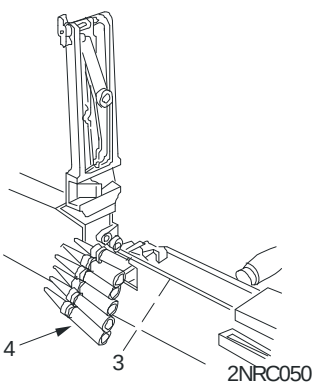
UNLOADING AND CLEARING THE GUN



1. Place safety or trigger block on S (safe) (Fixed M48 turret type, flex type, and fixed type).
2. Unlock the bolt latch release (1).



3. Raise the cover (2).



4. Lift the cartridge extractor (3) and remove the ammunition belt (4) from the feedway.
5. Place cartridge extractor down and close the cover.

UNLOADING AND CLEARING THE GUN – Continued

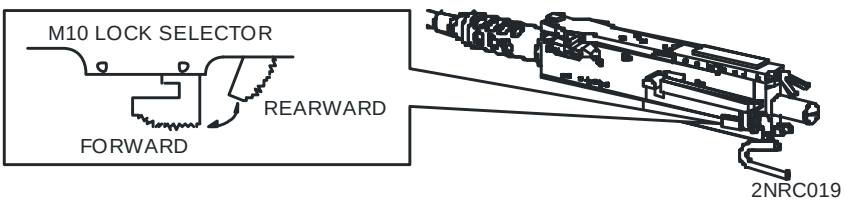
WARNING

Round may fall to surface and possibly explode.

6. Pull and lock the bolt to the rear, leaving the retracting slide handle to the rear. Open the cover.

NOTE

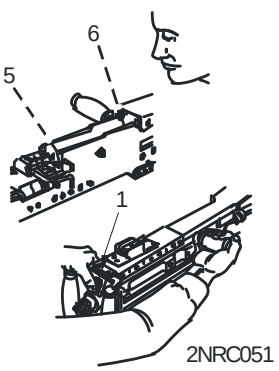
Step 7 is for the Fixed M48 turret type and fixed type.



7. Move M10 lock selector to the rear. Charge the weapon.

WARNING

Chamber may be hot. Use caution while inspecting T-slot.



8. Visually inspect the chamber (5) and T-slot (6) for rounds (in darkness the gunner must feel the chamber and T-slot to ensure they are clear).

9. Press the bolt latch release (1) and ease the bolt forward with retracting slide handle.

NOTE

Step 10 is for Fixed M48 turret type and fixed type.

10. Move the M10 lock selector forward and pull back on the charging handle until a click is heard, then ease the bolt forward.

11. Close the cover.

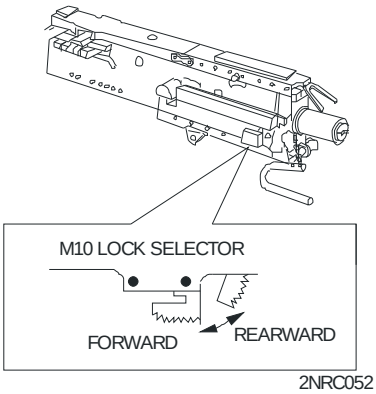
NOTE

Step 12 is for Fixed M48 turret type, flex type, and fixed type.

12. Place the safety or trigger block on F (fire).

13. Press the trigger.

14. Perform “after operation” PMCS (WP 0022 00).



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END OF WORK PACKAGE

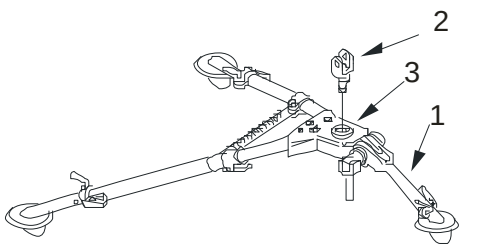
OPERATOR

OPERATION UNDER USUAL CONDITIONS
INSTALLATION OF M3 TRIPOD

INSTALLATION OF M3 TRIPOD

1. Firmly plant M3 tripod (1).

2. Lower MK 93 Mount pintle (2) into the M3 Tripod ground mount bearing sleeve (3) assuring the pintle latch locks the MK 93 in place.



END OF WORK PACKAGE

OPERATOR

OPERATION UNDER USUAL CONDITIONS
INSTALLATION ON MK 93 MOD 0 MOUNT

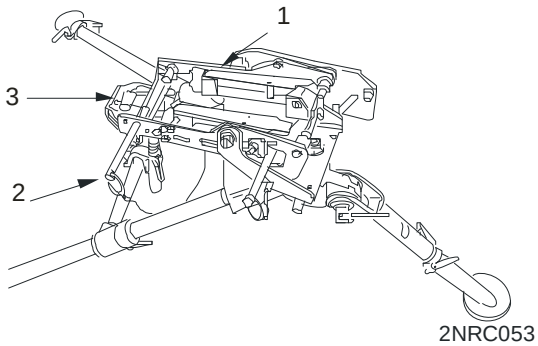
INSTALLATION ON MK 93 MOD 0 MOUNT

NOTE

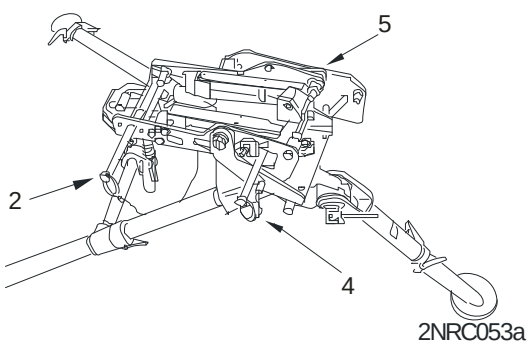
The M2 should be mounted without the barrel.

If required, remove the .50 caliber pin assembly.

1. Rotate shock absorber assemblies (1) to the 'UP' position.
2. Remove rear .50 caliber pin assembly (2) from the rear slider assembly (3).
3. Rotate rear slider assembly (3) to the 'UP' position.



5. Place the M2 in the mount and insert pin assembly (4) through slider and weapon.
6. Align rear mounting hole of the M2 with the rear slider assembly and insert pin (2).
7. Mount the .50 caliber ammunition can bracket on the mount's side plate (5).



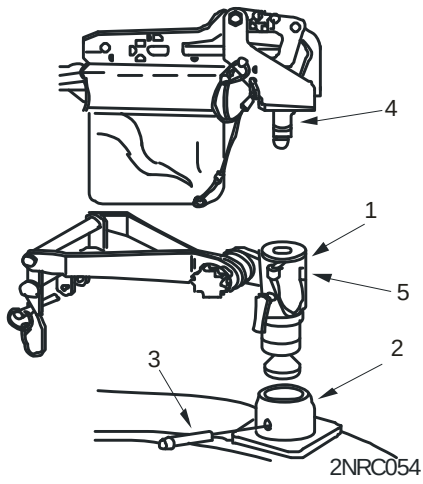
8. To remove, reverse installation procedures.

END OF WORK PACKAGE

OPERATOR

OPERATION UNDER USUAL CONDITIONS
INSTALLATION ON MK 93 MOD 1 MOUNT

INSTALLATION ON MK 93 MOD 1 MOUNT



1. If present, remove original HMMWV pedestal.
2. Place the universal pintle adapter assembly (1) into the HMMWV ring socket (2) and insert the quick release pin (3).
3. Insert the MK 93 mount pintle (4) into the socket and insert quick release pin (5).
4. Lock the lower body at 0 degrees azimuth with the stow lock and adjustable arm assemblies locked at 0 degrees elevation.
5. Install the catch bag.
6. Attach the traversing and elevating mechanism between the universal pintle adapter and the MK 93 MOD 1.
7. Install weapon onto the MK 93 MOD 1.
8. Install the appropriate ammunition can bracket.
9. To remove, reverse installation procedures.

END OF WORK PACKAGE

OPERATOR

OPERATION UNDER UNUSUAL CONDITIONS EXTREME COLD CLIMATES, EXTREME HEAT AND HUMIDITY, HOT DRY CLIMATES, HOT, HUMID, AND SALTY CLIMATES, AND EXPOSURE TO WATER

INITIAL SETUP:

Materials/Parts
Lubricating oil, general purpose (item 10, WP 0038 00)
Lubricating oil, weapons (LAW) (item 11, WP 0038 00)

Materials/Parts (cont)
Rifle bore cleaning compound (RBC) (item 5, WP 0038 00)
Wiping rag (item 14, WP 0038 00)

Reference
FM 31-71

EXTREME COLD CLIMATES

NOTE
Refer to FM 31-71.

1. All moving parts of the machine gun and mounts must be kept free of moisture. Before firing in temperatures below 0° F (-18° C), completely disassemble and clean all parts of the machine gun and oil with weapons lubricating oil (LAW). Remove excess oil from moving parts.

2. When the machine gun and mounts are moved indoors, they must first be brought to room temperature then cleaned and lightly oiled with weapons lubricating oil (LAW).

3. If the machine gun has been fired, the bore must be immediately swabbed out with several patches saturated with rifle bore cleaning compound (RBD). Use dry patches to remove all solvent film.

EXTREME HEAT AND HUMIDITY

In climates where temperature and humidity are high, the weapons and mounts should be thoroughly inspected on a daily basis and disassembled to lubricate.

HOT DRY CLIMATES

NOTE

Hot, dry climates are usually areas containing dust and sand.

1. In climates where sand and dust enter the working parts and bore of the weapon, the machine gun should be disassembled and wiped clean with a wiping rag at least once daily. Remove excess oil from moving parts.

2. The lubricants on exposed and noncritical operating surfaces of the mounts should be wiped. This will prevent wind blown sand from sticking to the lubricating oil and forming an abrasive. Remove excess oil from moving parts.

3. Immediately upon leaving sandy terrain, clean and lubricate with general purpose lubricating oil.

4. After handling, wipe with a wiping rag to remove perspiration, which will cause rust.

5. During sand or dust storms the machine guns and mounts should be kept covered, if possible.

HOT, HUMID, AND SALTY CLIMATES

Hot, humid, and salty atmospheric conditions necessitate more frequent cleaning and lubricating of bore and exposed metal surfaces. When weapon and mounts are not in use, cover surfaces with a film of general purpose lubricating oil, and keep covers in place.

EXPOSURE TO WATER

After exposure to water, especially salt water (accidentally splashed or submerged), drain, wipe dry, clean, and lubricate the weapons and mounts as soon as practical. DO NOT USE HIGH PRESSURE HOSE.

END OF WORK PACKAGE

OPERATOR

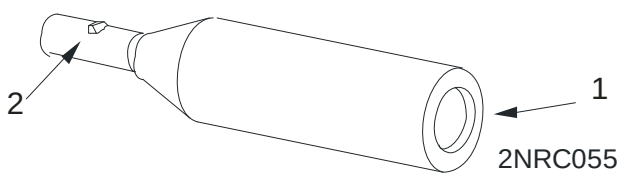
OPERATION UNDER UNUSUAL CONDITIONS
USE OF AUXILIARY BOLT HANDLE

INITIAL SETUP:

Reference
WP 0005 00

USE OF AUXILIARY BOLT HANDLE

When primary method of charging weapon fails, install auxiliary bolt handle (1) on opposite side of bolt stud. Ensure notch (2) is installed toward barrel end. Rotate auxiliary bolt handle 90 degrees. Follow normal procedures to charge the machine gun. Refer to WP 0005 00, step 5.



END OF WORK PACKAGE

OPERATOR

OPERATION UNDER UNUSUAL CONDITIONS
BOLT ASSEMBLY FAILS TO LOCK TO THE REAR

BOLT ASSEMBLY FAILS TO LOCK TO THE REAR

NOTE

An assistant is recommended for this procedure. This procedure can be performed either using primary or auxiliary bolt handle method to charge the weapon.

1. Open cover. Charge the machine gun and hold bolt to the rear.
2. While holding bolt assembly to the rear, lift extractor and ease bolt forward while fitting front edge of the extractor into the notch of the stop.
3. To release bolt assembly, pull rearward to allow extractor to drop and ease bolt assembly forward.

END OF WORK PACKAGE

OPERATOR

OPERATION UNDER UNUSUAL CONDITIONS
CLEARING THE GUN DURING NIGHT OPERATION

CLEARING THE GUN DURING NIGHT OPERATION

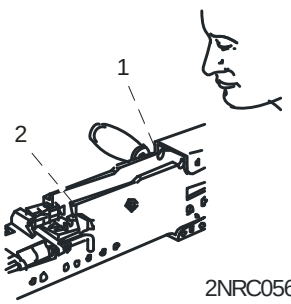
WARNING

Chamber may be hot. Use caution while inspection T-slot.

Keep fingers out of chamber to prevent injury.

Round may fall to surface and possibly explode.

The gunner must ensure gun is clear by feeling the T-slot (1) and chamber (2) for rounds.



END OF WORK PACKAGE

OPERATOR

TROUBLESHOOTING INDEX
INTRODUCTION, MALFUNCTION/SYMPTOM INDEX

INTRODUCTION

The troubleshooting table in WP 0020 00 lists the common malfunctions which you may find during the operation or maintenance of the M2 Machine Gun or its components. You should perform the tests/inspections and corrective actions in the order listed.

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

Numerous malfunctions are caused by improper assembly. Check for proper assembly of all components.

MALFUNCTION/SYMPTOM INDEX

END OF WORK PACKAGE

CHAPTER 3

TROUBLESHOOTING PROCEDURES

OPERATOR

OPERATIONAL CHECKOUT AND TROUBLESHOOTING PROCEDURES
TROUBLESHOOTING PROCEDURES

INITIAL SETUP:

Materials/Parts
- Gage, headspace and timing (item 3, WP 0036 00)
- Lubricating oil, (LSA) (item 12, WP 0038 00)
- Lubricating oil, weapons (LAW) (item 11, WP 0038 00)
- Lubricating oil, (PL-M) (item 10, WP 0038 00)
- Rifle bore cleaning compound (RBC) (item 5, WP 0038 00)

Materials/Parts (cont)
- Small arms cleaning swab (item 13, WP 0038 00)

Reference
- TM 9-2350-255-10
- TM 9-2350-264-10
- WP 0005 00
- WP 0006 00
- WP 0009 00
- WP 0022 00
- WP 0032 00

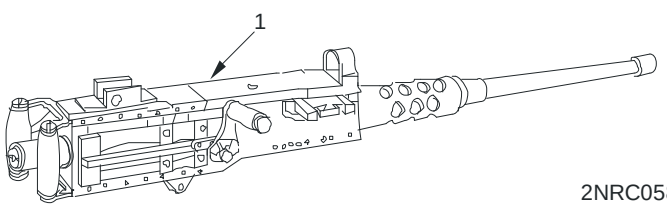
TROUBLESHOOTING PROCEDURES

1. SYMPTOM: WEAPON WILL NOT FEED.

CORRECTIVE ACTION

STEP 1. Check if cover (1) is completely down and latched.

STEP 2. Latch cover.

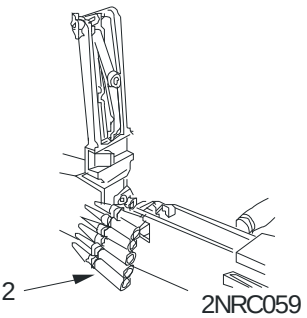


TROUBLESHOOTING PROCEDURES - Continued

1. SYMPTOM: WEAPON WILL NOT FEED - Continued

NOTE
Ensure bolt is forward.

CORRECTIVE ACTION
STEP 1. Check ammunition belt (2) for short round or misfired link.
STEP 2. Open cover, remove short round or align link.

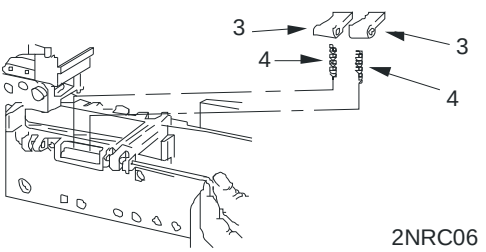


CORRECTIVE ACTION
STEP 1. If weapon repeatedly fires two rounds then fails to feed, check for early timing.
STEP 2. Adjust timing (WP 0006 00).

CORRECTIVE ACTION
STEP 1. Check for weak or broken belt holding pawl assembly (3) or belt feed pawl springs (4).
STEP 2. Notify field maintenance..

NOTE
Cartridge stop for blank ammunition is not the same as for live ammunition.

CORRECTIVE ACTION
STEP 1.Check for correct cartridge stop.
STEP 2. Notify field maintenance..



CORRECTIVE ACTION
STEP 1. Improper lubrication.
STEP 2. Lubricate as necessary (WP 0023 00).

2. SYMPTOM: ROUND WILL NOT CHAMBER.

CORRECTIVE ACTION
STEP 1. Check for corroded or damaged ammunition.
STEP 2. Remove defective ammunition.

CORRECTIVE ACTION
STEP 1. Check chamber and T-slot for obstruction.
STEP 2. Clear and clean chamber. If obstruction was a ruptured cartridge, check headspace (WP 0005 00).

CORRECTIVE ACTION
STEP 1. Check for tight headspace.
STEP 2. Adjust headspace (WP 0005 00).

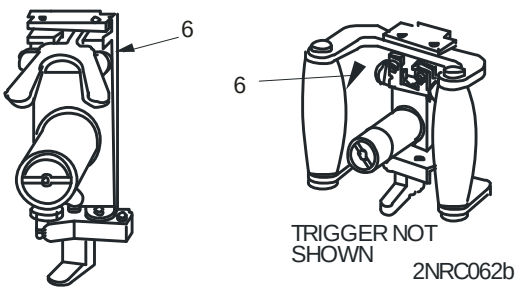
CORRECTIVE ACTION
STEP 1. Check driving spring rod assembly (5) for crack(s), weak or broken springs or cracked/bend rod.
STEP 2. Notify field maintenance..

3. SYMPTOM: BOLT WILL NOT LOCK.

CORRECTIVE ACTION
STEP 1. Check to see if bolt returns to forward position.
STEP 2. Adjust headspace (WP 0005 00).

4. SYMPTOM: WEAPON WILL NOT FIRE.

CORRECTIVE ACTION
STEP 1. Check if safety or trigger block (6) is in S (safe) position (Fixed M48 turret type and flex type only).
STEP 2. Place safety or trigger block in F (fire) position



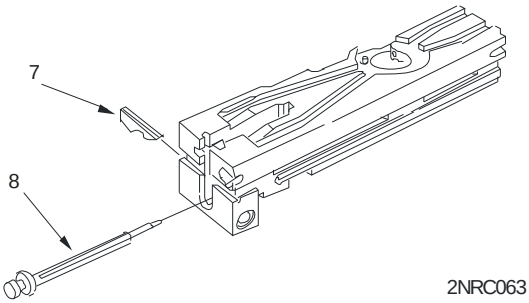
CORRECTIVE ACTION
STEP 1. Check for defective ammunition.
STEP 2. Remove defective ammunition.

TROUBLESHOOTING PROCEDURES - Continued

4. SYMPTOM: WEAPON WILL NOT FIRE - Continued

CORRECTIVE ACTION

STEP 1. Check for incorrectly installed sear slide (7).
STEP 2. Install sear slide from left side.



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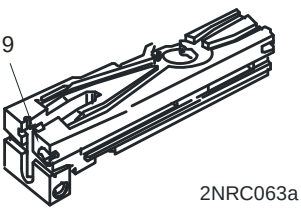
CORRECTIVE ACTION

STEP 1. Check for broken or damaged firing pin (8).
STEP 2. Notify field maintenance..

CORRECTIVE ACTION

STEP 1. Check firing pin well inside bolt (9) for obstruction.
STEP 2. Clean the interior of the bolt with a swab saturated with RBC. Lubricate by applying light coat of lubricating oil (item 7, 8 or 9, WP 0037 00) to interior of bolt.



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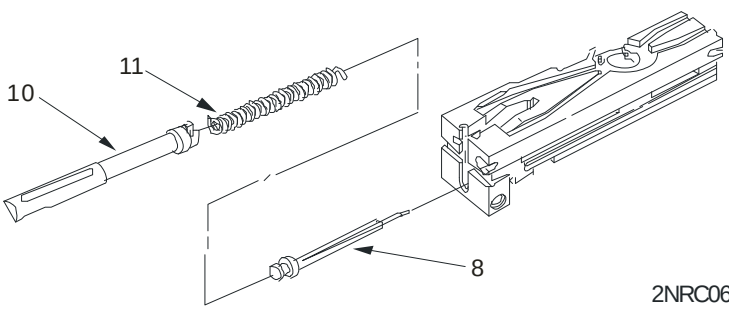
CORRECTIVE ACTION

STEP 1. Inspect firing pin (8) and firing pin extension (10) for burrs or broken firing pin spring (11).
STEP 2. Notify field maintenance..



2NRC064

CORRECTIVE ACTION

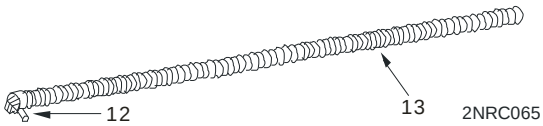
STEP 1. Check for bent/cracked driving spring rod (12) or weak or broken rod springs (13).

STEP 2. Notify field maintenance..

CORRECTIVE ACTION

STEP 1. Check for incorrect timing.

STEP 2. Adjust timing (WP 0006 00).



NOTE

If weapon still will not fire, refer to TM 9-2350-255-10 or TM 9-2350-264-10

5. SYMPTOM: WEAPON WILL NOT UNLOCK.

CORRECTIVE ACTION

STEP 1. Check for incorrect timing.

STEP 2. Adjust timing (WP 0006 00).

6. SYMPTOM: WEAPON WILL NOT EXTRACT.

CORRECTIVE ACTION

STEP 1. Using GO/NO GO headspace gage (item 3, WP 0036 00), check headspace. Tight headspace will cause binding and excessive friction between the moving parts during recoil.

STEP 2. Adjust headspace (WP 0005 00).

CORRECTIVE ACTION

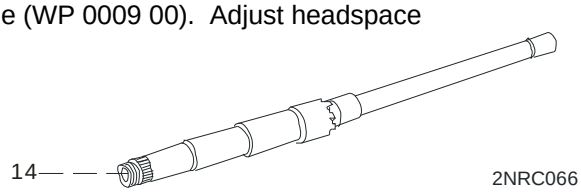
STEP 1. Check for ruptured cartridge.

STEP 2. Remove ruptured cartridge (WP 0009 00). Adjust headspace (WP 0005 00).

CORRECTIVE ACTION

STEP 1. Check chamber (14) for excessive pitting.

STEP 2. Replace barrel. Adjust headspace (WP 0005 00) and timing (WP 0006 00).



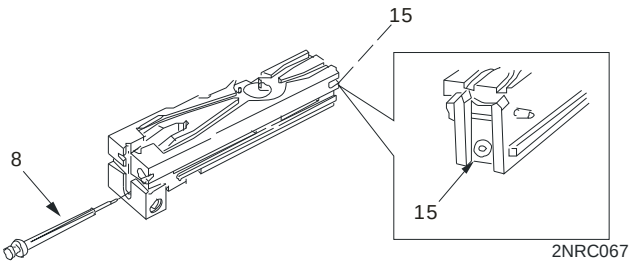
TROUBLESHOOTING PROCEDURES – Continued

7. SYMPTOM: WEAPON WILL NOT EJECT.

CORRECTIVE ACTION

STEP 1. Check bolt space (15) for enlarged firing pin hole and deformed firing pin (8). These can cause the spent brass to bind in the T-slot, preventing ejection.

STEP 2. Notify field maintenance..

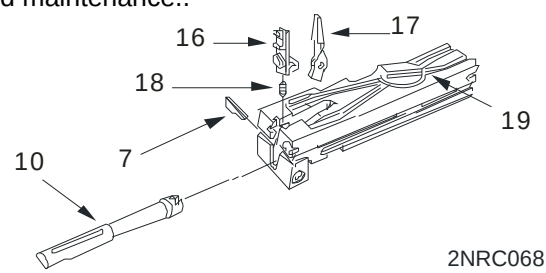


8. SYMPTOM: WEAPON WILL NOT COCK.

CORRECTIVE ACTION

STEP 1. Check notch on sear (16), sear slide (7), and firing pin extension (10). Check cocking lever (17) for wear and proper installation. Check sear spring (18) and bolt switch (19) for proper installation. Determine if left or right hand feed. Weapon will not cock or charging handles will not be easily be pulled to the rear if wrong setup (right/left hand feed) (WP 0032 00, step 5).

STEP 2. Notify field maintenance..



9. SYMPTOM: SLUGGISH OPERATION.

CORRECTIVE ACTION

STEP 1. Check for dirt, carbon, burrs, and lack of lubrication.

STEP 2. Clean and lubricate.

END OF WORK PACKAGE

OPERATOR

PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS) INTRODUCTION PMCS GENERAL PROCEDURES

INITIAL SETUP:

Reference
WP 0022 00

GENERAL

The table in WP 0022 00 has been provided so you can keep your equipment in good operating condition and ready for its primary mission.

WARNINGS AND CAUTIONS

Always observe the WARNINGS and CAUTIONS appearing in your PMCS table. WARNINGS and CAUTIONS appear before applicable procedures. You must observe these WARNINGS and CAUTIONS to prevent serious injury to yourself and others or to prevent equipment from being damaged.

PMCS PROCEDURES

1. Item Number Column. Numbers in this column are for reference. When completing DA Form 2404, Equipment Inspection and Maintenance Worksheet, include the item number for the check/service indicating a fault. Item numbers also appear in the order that you must do checks and services for the intervals listed.

2. Interval Column. This column tells when procedure in the PROCEDURE Column must be performed. Frequencies are as follows:

   a. BEFORE - Checks and services performed prior to the equipment leaving its containment area or performing its intended mission.

   b. DURING - Checks begin when the equipment is being used in its intended mission.

   c. AFTER - Checks and services begin when the equipment is taken out of its mission mode or returned to its containment area.

PMCS PROCEDURES - Continued

3. Item to be Checked/Serviced Column. This column lists the item to be checked or serviced.

4. Procedure Column. This column gives the check or service that must be done for the item listed in the Item to be Checked/Serviced Column to know if the equipment is ready or available for its intended mission or for operation. Procedures must be done in the time stated in the Interval Column.

5. Not Fully Mission Capable If Column. Information in this column lists what faults will keep equipment from being capable of performing its primary mission. Do not operate the equipment that show faults listed in this column. Follow standard operating procedures for maintaining the equipment or reporting equipment failure.

END OF WORK PACKAGE

CHAPTER 4

MAINTENANCE INSTRUCTIONS

OPERATOR

PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS) AND LUBRICATION PROCEDURES

INITIAL SETUP:

Materials/Parts
- Cleaner, lubricant and preservative (CLP) (item 4, WP 0038 00)
- Lubricating oil, (LSA) (item 12, WP 0038 00)
- Lubricating oil, weapons (LAW) (item 11, WP 0038 00)
- Lubricating oil, (PL-M) (item 10, WP 0038 00)

Materials/Parts (cont)
- Rifle bore cleaning compound (RBC) (item 5, WP 0038 00)
- Wiping rag (item 14, WP 0038 00)

Reference
- WP 0005 00
- WP 0006 00
- WP 0023 00
- WP 0032 00
- WP 0036 00

GENERAL CLEANING AND LUBRICATION

CAUTION

Do not use dry cleaning solvent to clean backplate assembly. Use clean wiping rag to remove foreign matter. Lubricate exterior very lightly with oil saturated cloth.

1. Immediately after firing, clean all powder fouled surfaces with rifle bore cleaning compound (RBC).
2. Field strip machine gun into major groups and assemblies (See WP 0023 00).
3. Clean components with RBC.
4. Wipe dry and oil with lubricating oil (LSA) at temperatures above +10° F (-12° C), or lubricating oil (LAW) at temperatures below -10° F (-23°C).
5. Thereafter, clean and oil as above every 90 days, unless inspection reveals more frequent servicing is required.
6. Reassemble major groups and assemblies (See WP 0032 00).
7. Remove oil from barrel bore before firing.

LUBRICATION INSTRUCTIONS

Under all but the coldest arctic conditions, LSA or CLP are the recommended lubricants to use on your machine gun. Remember to remove excessive oil from the bore before firing.

NOTE

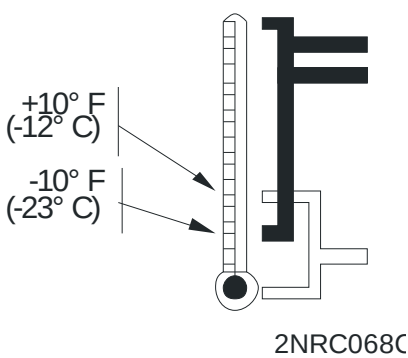
Lubrication instructions are mandatory. Wherever the term CLP or the words lube or lubricant are cited in this TM, it is to be interpreted to mean CLP, LSA, or LAW can be utilized as applicable. The following constraints must be adhered to:

1. Under all but the coldest arctic conditions, LSA or CLP are the lubricants to use on your weapon. Either may be used at -10° F (-23°C) or above. However, do not use both on the same weapon at the same time.

2. Law is the lubricant to use during cold arctic conditions, +10° F (-12° C) or below.

3. Any lubricant may be used from at -10° F (-23°C) to +10° F (-12° C).

4. Do not mix lubricants on the same weapon. The weapon must be thoroughly cleaned during change from one lubricant to another. Dry cleaning solvent is recommended for cleaning during change from one lubricant to another. Only lubricants and cleaners specified in this manual are authorized for use on this weapon.



CLP – Cleaner, lubricant and preservative (item 4, WP 0038 00).

LSA – Weapons lubricating oil, semi-fluid (item 12, WP 0038 00).

Between 10^{O}F (-12^{O}C) and -10^{O}F (-23^{O}C) use CLP, LSA or LAW. Below -10^{O}F (-23^{O}C) use only LAW.

LAW – Weapons lubricating oil, arctic (item 11, WP 0038 00).

PL-M – Lubricating oil, general purpose (item 10, WP 0038 00)

Lightly lube – A film of oil barely visible to the eye.

Generously Lube – Heavy enough so that it can be spread with the finger.

Item No.	Interval	Item to be Checked/ Serviced	Procedure	Not Fully Mission Capable If:

WARNING

Be sure to clear weapon before disassembling, clearing, inspecting, transporting, or storing.

CAUTION

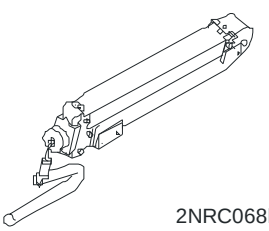
If SLAP ammunition is being used, barrel life will be reduced significantly.

NOTE

If any procedure does not meet "Equipment Not Ready/Available If" criteria, notify field maintenance.

1	Before	Barrel Assembly	Check barrel for obstruction, abnormalities, or damage.	Obstruction in barrel cannot be removed or barrel is damaged.
2	Before	Complete Weapon	Check for proper lubrication. **NOTE** Headspace and Timing Gages must be calibrated annually by the TMDE.	Weapon not properly lubricated.
3	Before	Headspace and Timing Gage	Check that gages are present.	Headspace and Timing Gages are not present.
4	Before	Machine Gun (All types)	a. Hand operate the machine gun with feed tray cover in the closed position. Check to ensure that all moving parts are clean, lightly oiled and function freely.	Weapon will not function.
			b. Visually inspect bolt switch to ensure it is set for the correct feed (left/right hand feed).	Weapons will not cock or charging handles cannot be easily pulled to the rear with wrong setup (right/left hand feed).

Table 1. Preventive Maintenance Checks and Services – Continued

Item No.	Interval	Item to be Checked/ Serviced	Procedure	Not Fully Mission Capable If:
4 (cont)	Before (cont)	Machine Gun (All types) (cont)	c. Adjust headspacing and timing (WP 0005 00 and WP 0006 00).	Proper headspace and timing cannot be obtained. M&T gage is not calibrated.
			d. After headspace and timing have been achieved and with the bolt closed/forward, attempt to unscrew the barrel. Notify field maintenance if headspace and timing cannot be obtained.	Barrel locking spring does not lock barrel in place.
			e, Check to ensure all BII are present and serviceable (WP 0035 00)	One or more BII items, including SMART card, are missing or unserviceable.
5	Before	Backplate Assembly	a. Check latch and latch lock for function and retention of backplate assembly in receiver group. Check that latch completely holds the trigger bar down.  2NRC068b	Backplate will not lock in receiver
			b. Check trigger and bolt latch release for function. Check for cracks and looseness in grips. Check that trigger bar is not bottoming out.	Cracks in backplate assembly.
			c. Inspect backplate buffer tube for any fluids (oil, solvent, or water) coming from the inside of the buffer tube.	Fluids coming from inside of the buffer.

Item No.	Interval	Item to be Checked/ Serviced	Procedure	Not Fully Mission Capable If:
6	Before	Breech Lock/Pin	Check for abnormalities, excessive wear or looseness.	Abnormalities, excessive wear or looseness.
7	Before	Sear Spring	Check for correct installation, deformity, or breakage.	Improperly installed, weak, deformed, or broken.
8	Before	Timing Spring	Check timing.	Not timed properly.
9	Before	M10 Manual Charger (Fixed M48 TT and fixed type only)	a. Inspect safety wire to ensure presence.	Safety wire is missing.
			b. Inspect charger bolt cover and channel housing for deformation, cracks, and damage.	Charger bolt cover is deformed, cracked, or damaged.
			c. Inspect charger cable assembly for kinds, broken strands, and loose or missing ball ends.	Charger cable assembly has broken strands or loose or missing ball ends.
			d. Inspect pulleys for burrs, elongated holes, and distortion.	Pulley has burrs or elongated holes or is distorted.
			e. Inspect for broken or worn latches	Latches are broken or worn.
			f. Inspect ball bearings for damage on swivel.	Ball bearings are damaged.
			g. Inspect charger catch and pulley retainer slide for deformation, burrs, and elongated holes.	Charger catch and pulley retainer slide are deformed or have burrs, or elongated holes.
			h. Inspect bolt stud assembly for deformation, burrs, and worn retaining collar.	Bolt stud assembly is deformed, has burrs, or is worn at retaining collar.

Table 1. Preventive Maintenance Checks and Services – Continued

Item No.	Interval	Item to be Checked/ Serviced	Procedure	Not Fully Mission Capable If:

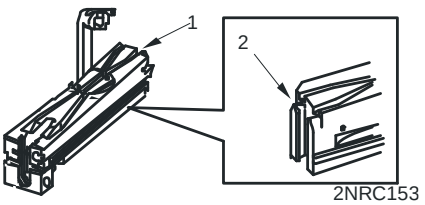
NOTE

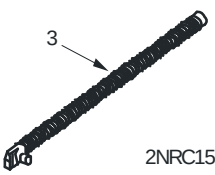
The user and/or field maintenance will be responsible for the serviceability of the gages by performing a visual inspection of the gages prior to issue/use. Those gages that are broken, bent, rusted, pitted or exhibit other forms of mutilation that could affect the dimensional tolerance of the gages, will be turned in for replacement.

10	Before	Bolt Assembly	Check for burred, scored, loose, or deformed cam.	Cam is loose or deformed or contains burrs or scores.

NOTE

Bolt assembly with minor gouging and/or imperfections in locking lug(s) causing no degradation in performance is acceptable. The minor gouging/imperfection can be removed by stoning.



10	Before	a. Bolt	a. Check bolt alternate feed area, cam grooves (1), and T-slot (2) for burrs or cracks. Check for chipped T-slot.	Bolt alternate feed area, cam grooves or T-slot are burred, cracked, or chipped.
			b. Check bolt bottom slot for burrs or cracks.	Bolt bottom slot is burred or cracked.
		b. Drive Spring Rod Assembly	a. Check drive spring rod assembly (3) for broken or cracked springs, collapsed coils, and flat spots on coils. 	Driving spring rod assembly springs are broken or cracked, coils have flat spots, or coils are collapsed.
			b. Check drive spring rod assembly (3) for deformed, cracked, or broken rod.	Drive spring rod is deformed, cracked, or broken.

Item No.	Interval	Item to be Checked/ Serviced	Procedure	Not Fully Mission Capable If:
10. (cont)	Before (cont)	Bolt Assembly (cont) c. Sear Spring	a. Check sear spring (1) for deformity, collapsed coils, weakness, elongation, crisp spring action, and/or incorrect installation (must be in sear hole and recess in bottom of the bolt).	Sear spring is deformed, weak, or incorrectly installed.
			b. Spring should not be able to be compressed fully with fingers.	Sear spring can be compressed fully with fingers.
		d. Bolt Body	Check bolt body for burrs and failure to slide freely.	Bolt body has burrs or fails to slide freely.
		e. Cocking Lever Pin	Check cocking lever pin (2) for burrs or breaks.	Cocking lever pin is burred or broken.
		f. Sear	Check sear (3) for burrs. Ensure sear notch has a sharp edge and is not chipped or broken.	Sear has burrs or sear notch is dull, chipped, or broken.
		g. Sear Slide	a. Check sear slide (4) for free movement in guide grooves.	Sear slide binds.
			b. Check for distorted notch (5) and proper installation; enters from left to right (for left hand feed).	Notch is distorted or improperly installed.
		h. Accelerator Stop	Check accelerator stop (6) and accelerator stop lock (7) for bends and breaks.	Accelerator stop or accelerator stop lock is broken, flat or twisted.

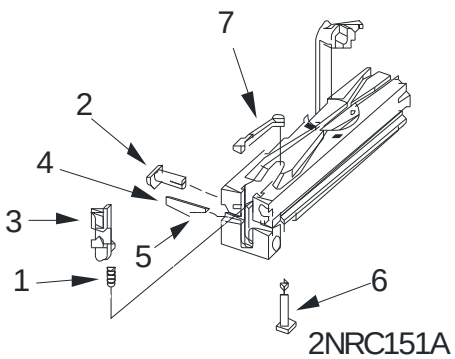
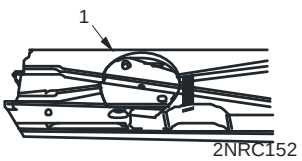
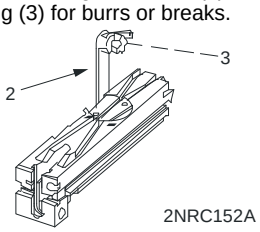
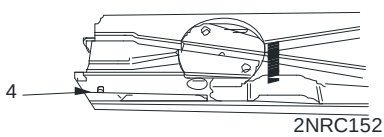
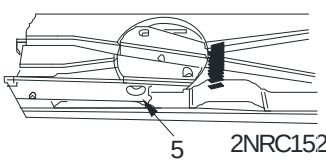


Table 1. Preventive Maintenance Checks and Services – Continued

Item No.	Interval	Item to be Checked/ Serviced	Procedure	Not Fully Mission Capable If:
			CAUTION Incorrect installation of bolt switch can lead to battered belt feed lever if cover is closed and an attempt is made to function test the weapon. **NOTE** Bolt assembly with minor gouging and/or imperfections in locking lug(s) causing no degradation in performance is acceptable. The minor gouging/imperfection can be removed by stoning. Correct installation of bolt switch (1) for left-hand feed is shown on illustration.	
10. (cont)	Before (cont)	Bolt Assembly (cont) i. Bolt Switch	Check bolt switch (1) for burrs, looseness, and incorrect installation.  2NRC152	Bolt switch is burred, loose, or installed incorrectly. If broken, evacuate to field support.
		j. Cartridge Extractor	Check cartridge extractor (2) and spring (3) for burrs or breaks.  2NRC152A	Cartridge extractor or spring is burred or broken.
		k. Extractor Stop Pin	Check for deformed, broken, or missing extractor stop pin (4).	Extractor stop in is missing, deformed, or broken.
		l. Extractor Mounting Arm Support	Check extractor mounting arm support (5) for chips and burrs.	Extractor mounting arm support is chipped or burred.



2NRC152B

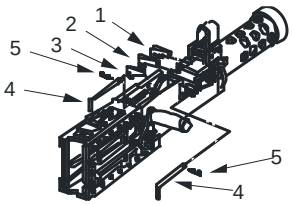


2NRC152C

Item No.	Interval	Item to be Checked/ Serviced	Procedure	Not Fully Mission Capable If:	

NOTE

Cartridge stop (1) for blank ammo is different (longer) than cartridge stop of live ammo. Ensure cartridge stop is changed when firing blank or live ammo. Rear cartridge stop will not replace front cartridge stop.



2NRC155A

11.	Before	a. Front RH/LH Cartridge Stops	Check if front cartridge stop (1) (RH feed)/front cartridge stop (1) (LH feed) is broken, tight fitting, or incorrectly assembled.	Either front cartridge stop is broken, tight fitting, or incorrectly assembled.	
		b. Link Stripper	Check if link stripper (2) (RH feed only) is broken, tight fitting, or incorrectly assembled.	RH feed link stripper is broken, tight fitting, or incorrectly assemble.	
		c. Rear Cartridge Stops	Check if rear cartridge stop (3) (RH feed only) is broken, tight fitting, or incorrectly assembled. Rear cartridge stop will not replace front cartridge stop.	Rear cartridge stop is broken, tight fitting, or incorrectly assembled.	
		d. Pin	Check from broken or missing pin (4) and lock pin (5).	Pin or lock pin are broken or missing.	
12.	During	Machine Gun (All Types)	a. Erratic or sluggish firing may indicate carbon buildup or change in headspace and timing.	Weapon ceases to operate.	
			b. Change barrel and adjust headspace and timing (WP 0005 00 and WP 0006 00).	Headspace and timing cannot be obtained.	
13.	After	Machine Gun (All Types)	Field strip, clean, inspect, and lubricate entire weapon immediately after firing (WP 0024 00). Check all BII is present and serviceable (WP 0035 00).	One or more BII items are missing or unserviceable.	
14.	After	Bolt Group and Rod Assembly	a. Check for sharp edges on any surface of bolt group. Check spring rod assembly for deformation, cracks, bent or broken pin or rod assembly. Check sear for burrs.	Bolt group cracked, missing, or defective.	
			b. Check sear spring for deformation or breakage. Check firing pin and firing pin extension for bends or cracks.	Bolt group cracked, missing, or defective.	

Table 1. Preventive Maintenance Checks and Services - Continued

Item No.	Interval	Item to be Checked/ Serviced	Procedure	Not Fully Mission Capable If:
15.	After	Barrel Extension	a. Check barrel extension for gouges, burrs, and binding. Check barrel locking spring for proper staking in its groove. Check for burred or stripped threads.	Barrel extension threads are damaged.
			b. Check breech lock/pin for cracks and looseness.	Cracked or missing parts.
16.	After	Receiver and Cover Assemblies	a. Check working surfaces for cracks, burrs, and gouges. Check belt holding pawl(s) for binding and broken or missing pawls.	Receiver cracked. Operating parts missing or damaged.
			b. Check compression spring for correct installation. Check feed pawl cotter pin/casing wire.	Feed pawl cotter pin/casing wire missing.
			c. Check lever for cracks or breaks. Check trigger lever and stop assembly for cracks and binding. Check cartridge stops for cracks.	Receiver cracked. Operating parts missing or damaged.
			d. Check retracting slide assembly for broken, missing, or loose lever. Check cover assembly for missing or broken springs.	Cover latch does not lock cover in closed position.
			e. Check belt feed lever and belt feed slide group for binding, cracks, and broken parts. Check function of cover latch.	Cover latch does not lock cover in closed position.
16.	After	Receiver Rivets	a. Inspect receiver rivets. Check for rivets that have relative movement under finger pressure. Rivets may turn. No missing rivets are allowed.	Rivets are missing.
			b. Attempt to move riveted receiver components forward and to the rear, and up or down. Riveted components must not move.	There is movement of riveted components.

Item No.	Interval	Item to be Checked/ Serviced	Procedure	Not Fully Mission Capable If:
			c. A total of eight loose rivets on the receiver are allowed and a total of six loose rivets on the top plate, bottom plate, or trunnion block are allowed.	There are more than eight loose rivets on the receiver or more than six loose rivets on the top plate, bottom plate, or trunnion block.
			d. Loose rivets cannot be side by side and there can be no more than three on either side of the riveted component.	Loose rivets are side by side or there are more than three loose rivets on either side of the riveted component.

END OF WORK PACKAGE

OPERATOR

FIELD STRIP
REMOVAL

INITIAL SETUP:

Tools and Special Tools
Heat protective mitten
(item 4, WP 0036 00)

References
WP 0012 00

REMOVAL

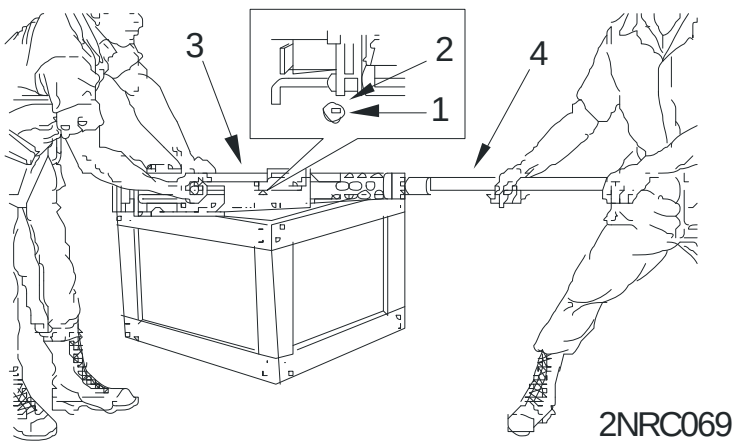
WARNING

To avoid accidental firing, remove ammunition, clear weapon (WP 0012 00), and verify chamber is clear.

Heat protective mitten should be used when barrel is hot.

1. Retract bolt far enough for barrel locking spring lug (1) to center in barrel locking spring hole (2) on right hand side of receiver (3).

2. Unscrew and remove barrel assembly (4).



REMOVAL - Continued

WARNING

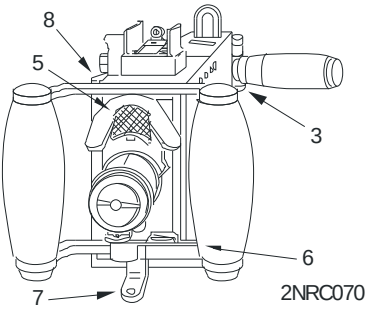
Never remove the backplate assembly from any weapon until the chamber has been cleared.

Do not attempt to remove backplate unless the bolt is in the forward position.

Do not attempt to charge weapon without backplate assembled to the machine gun.

NOTE

Flexible type backplate is shown below. Procedure applies to both flexible and Fixed M48 turret type backplates.



3. Ensure both latch release (5) is in unlocked (single shot) position (flexible type and soft mount type only).

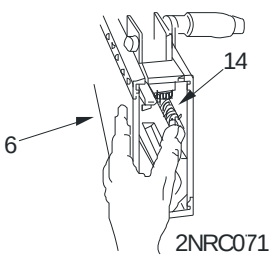
WARNING

Do not stand behind machine gun while While removing backplate or serious injury may result.

4. Pull backplate latch lock (6) straight back, while lifting up on backplate latch (7). Raise backplate assembly (8) straight up and remove from receiver (3).

5. Push rear of driving spring rod assembly (9) forward and to the left until free from the side of receiver (3). Remove driving spring rod assembly.

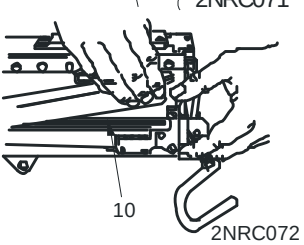
6. Remove M10 charger cover (10) (Fixed M48 turret type only).



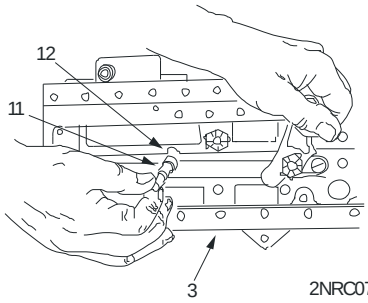
NOTE

The bolt stud is removed from the right side of the receiver for the flex and from the left side of the receiver for the Fixed M48 turret type.

Bolt latch cannot be pushed up until step 7 is completed.



7. Retract bolt assembly far enough to Align bolt stud (11) with (enlarged) Bolt stud hole (12) in receiver (3). Remove bolt stud.

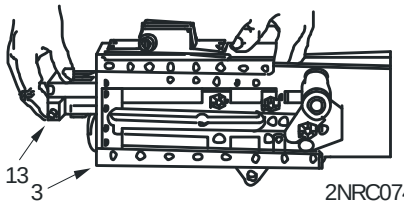


NOTE

For flex type, bolt latch must be pushed up to remove bolt.

8. Remove bolt assembly (13) from receiver (3).

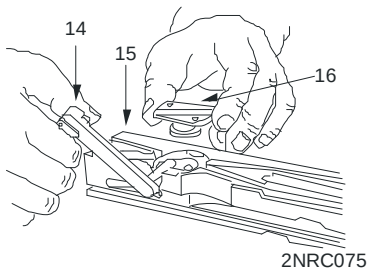
9. Rotate cartridge extractor (14) upward and remove from left side of bolt (15). Remove bolt switch (16) by lifting straight up from bolt.

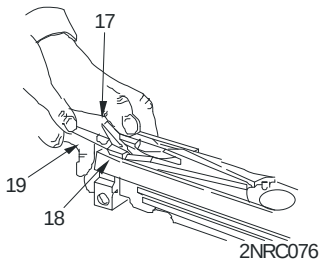


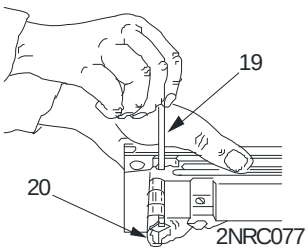
10. Place cocking lever (17) in its rearmost position.

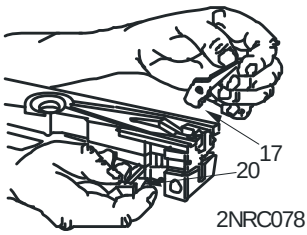
11. Release firing pin spring by pressing down on sear (18) with swab holder section (19).

12. Using swab holder section (19), remove cocking lever pin (20) and cocking lever (17).

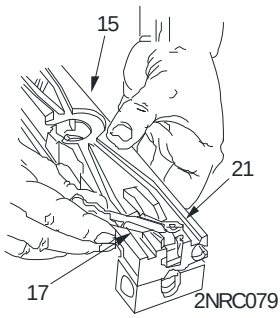






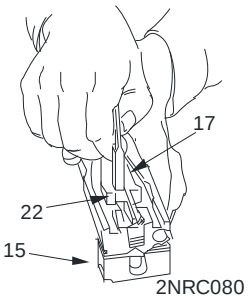


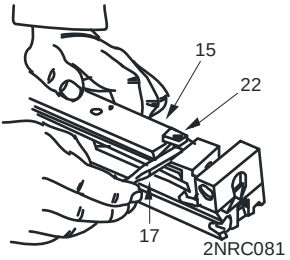
13. Using thin edge of cocking lever (17), rotate accelerator stop lock (21) to center of recess in bolt (15). Pry up accelerator stop lock and remove.



REMOVAL - Continued

14. Using thin edge of cocking lever (17), press accelerator stop (22) from bolt (15). Turn bolt over and use thin end of cocking lever to pry accelerator stop from bottom of bolt.

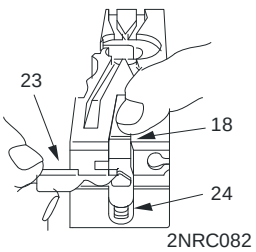


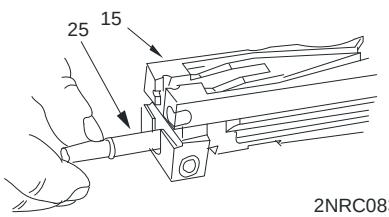


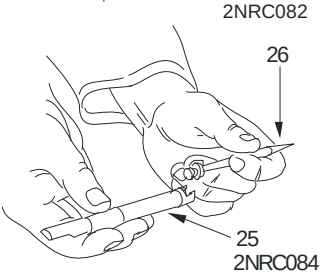
15. Depress sear (18) and remove sear slide (23). Remove sear (18) and sear spring (24).

16. Tip the front end of the bolt (15) upward and remove firing pin extension assembly (25).

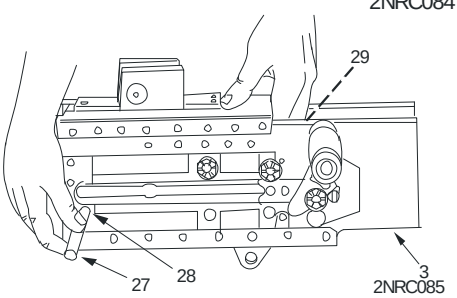
17. Remove firing pin (26) from firing pin extension assembly (25).



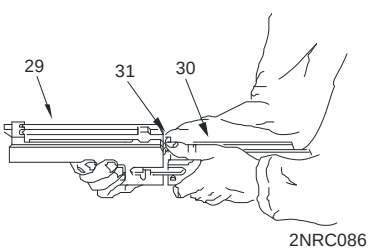




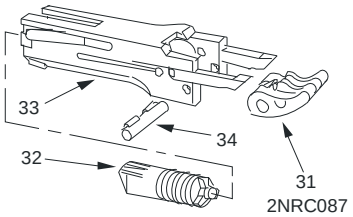
18. Insert pointed end of M4 cleaning rod (27) into hole (28) in receiver (3) and depress buffer body lock while applying rearward pressure on barrel extension assembly (29).



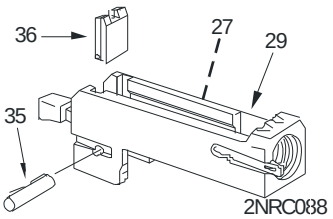
19. Remove barrel buffer assembly (30) and barrel extension assembly (29) together. Separate the assemblies by pushing forward on tips of buffer accelerator (31).



20. Remove buffer assembly (32) by pushing it out rear of barrel buffer body (33). Drive accelerator pin assembly (34) from barrel buffer body with swab holder. Remove buffer accelerator (31).



21. Use pointed end of M4 cleaning rod (27) to remove breech lock pin assembly (35) and breech lock (36) from barrel extension assembly (29).

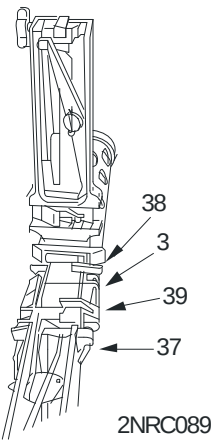


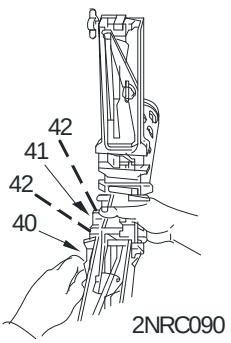
22. Remove belt holding pawl pin (37) attaching front cartridge stop (38) and rear cartridge stop assembly (39) to receiver (3). Remove front cartridge stop and rear cartridge stop assembly.

CAUTION

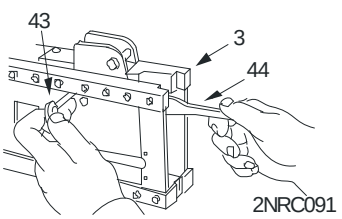
Hold down on belt holding pawl assembly to prevent loss of springs.

23. Remove bolt holding pawl (40), belt holding pawl assembly (41), and two springs (42).





24. Raise loop of trigger lever pin (43) and rotate pin until loop is in vertical position. Reach inside receiver (3) and hold trigger lever (44) while removing trigger lever pin assembly. Remove trigger lever.



END OF WORK PACKAGE

OPERATOR

MAINTENANCE OF BARREL ASSEMBLY CLEANING, INSPECTION, AND LUBRICATION

INITIAL SETUP:

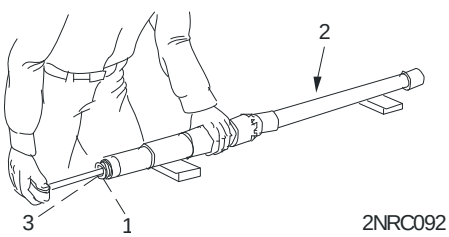
Tools and Special Equipment
- Bore brush (WP 0037 00)
- Chamber brush (WP 0037 00)
- Cleaning rods (WP 0037 00)

Materials/Parts
- Carbon removing compound (item 3, WP 0038 00)
- Lubricating oil, (LSA) (item 12, WP 0038 00)

Materials/Parts (cont)
- Lubricating oil, weapons (LAW) (item 11, WP 0038 00)
- Lubricating oil, (PL-M) (item 10, WP 0038 00)
- Rifle bore cleaning compound (RBC) (item 5, WP 0038 00)
- Small arms cleaning swab (item 13, WP 0038 00)
- Wiping rags (item 14, WP 0038 00)

CLEANING

CAUTION
Do not reverse direction of bore brush while in bore in order to prevent damage to the bore brush and bore.



1. Using the cleaning rods, bore brush, and RBC, dip bore brush in RBC and run through chamber (1) of barrel (2). Unscrew bore brush from cleaning rods. Remove rods from bore; rescrew brush to rods and repeat process until clean.

2. Using cleaning rods and chamber brush, dip chamber brush in RBC and clean chamber (1) using clockwise twisting motion. Unscrew chamber brush from cleaning rods. Remove rods from bore, rescrew chamber brush to rods, and repeat process until clean.

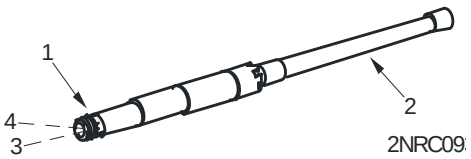
3. Remove chamber brush from swab holder section, insert a cleaning swab in slot, then run clean swab through bore (3), from chamber end and back. Repeat until clean swab is obtained.

CLEANING - Continued

4. Clean outside surface of barrel (2) with carbon removing compound. Wipe all surfaces dry with clean wiping rags.

NOTE

Chamber and bore must be clean, dry, and free of oil before firing and/or inspection.



INSPECTION

1. Inspect barrel locking notices (1) for wear or breakdown.

2. Inspect barrel (2) for rust.

3. Inspect bore (3) for bulges, missing bands, or large pits. (A bulge will appear as a shadowy depression or ring.)

NOTE

Do not be confused by the ring 8 to 10 inches from breech end. This is caused by a “designed in” gap to allow for expansion of the stellite liner when the barrel gets hot.

4. Inspect chamber (4) for bulges or large pits.

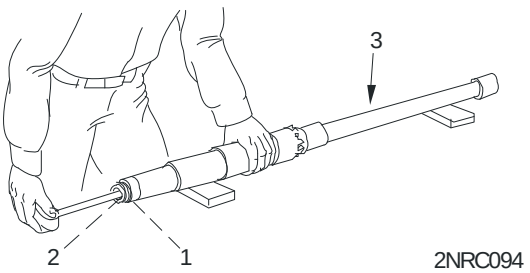
NOTE

If there is any doubt about the condition of the barrel, notify field maintenance.

Unless barrel is to be fired immediately, chamber, bore, and outside surfaces are to be lightly oiled.

LUBRICATION

Place clean cleaning swab in swab holder. Dip swab in lubricating oil (item 10, 11, or 12, WP 0038 00) and run through chamber (1) and bore (2) of barrel (3).



END OF WORK PACKAGE

OPERATOR

MAINTENANCE OF BACKPLATE ASSEMBLY CLEANING, INSPECTION, AND LUBRICATION

INITIAL SETUP:

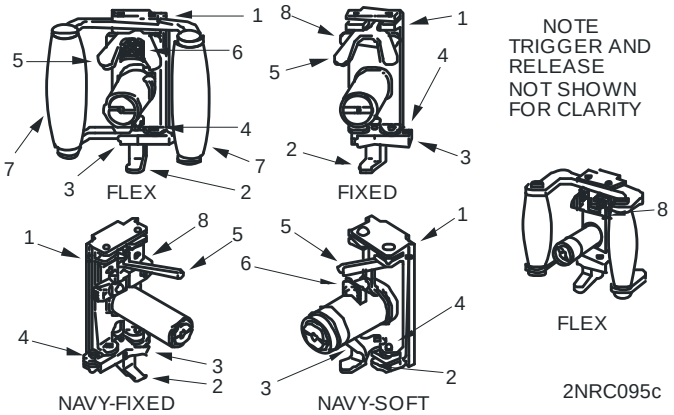
Materials/Parts	Reference
Lubricating oil, (LSA) (item 12, WP 0038 00)	WP 0006 00
Lubricating oil, weapons (LAW) (item 11, WP 0038 00)	
Lubricating oil, (PL-M) (item 10, WP 0038 00)	
Wiping rags (item 14, WP 0038 00)	

CLEANING

NOTE

Do not submerge backplate assembly in any fluid. Use clean wiping rags to remove foreign matter from backplate assembly.

INSPECTION



1. Inspect guides (1) for burrs or bent condition.

2. Check backplate latch (2) and backplate latch lock (3) for proper functioning.

3. Ensure locking pins (4) are in place.

4. Check trigger (5) for proper functioning.

5. Check bolt latch release (6) for proper functioning (flex type only).

6. Handle grips (7) should not move feely and should not be cracked (flex type only).

7. Function test the safety or trigger block (8) (flex and Fixed M48 turret type only). Refer to WP 0006 00.

LUBRICATION

Lubricate exterior of backplate assembly very slightly using a clean wiping rag saturated with lubricating oil (item 10, 11, or 12, WP 0038 00).

END OF WORK PACKAGE

OPERATOR

MAINTENANCE OF BACKPLATE SAFETY AND TRIGGER BLOCK OPERATION, INSPECT/REPAIR

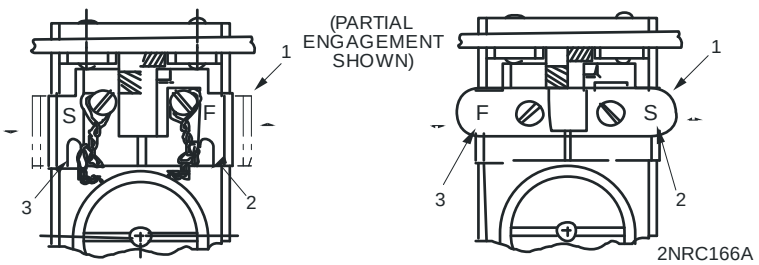
OPERATION

NOTE

The safety (Fixed M48 turret type) and trigger block (flex type) are provided to further ensure that the machine gun is not inadvertently fired (Fixed M48 turret type and flex type only).

1. When the trigger block (1) is pushed to the right (left for the Fixed M48 turret type safety), it allows the trigger to be fully depressed. When the trigger block is pushed to the left (right for the Fixed M48 turret type safety), it prevents the trigger from being fully depressed.

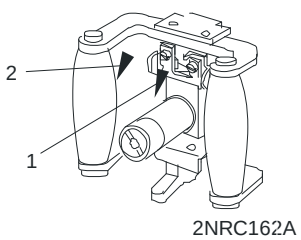
2. Note that a red indicator or letter **F** (2) is visible when in the fire ready mode. A white indicator or letter **S** (3) is visible when the weapon is in safe mode.



INSPECT/REPAIR

1. Check for bent or damaged flat spring (1) on trigger block (2).

2. If repair is needed, notify field maintenance.



END OF WORK PACKAGE

OPERATOR

MAINTENANCE OF BOLT ASSEMBLY AND ROD ASSEMBLY CLEANING, INSPECTION, AND LUBRICATION

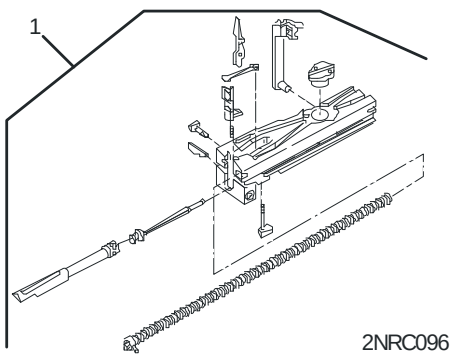
INITIAL SETUP:

Materials/Parts
- Carbon removing compound (item 3, WP 003800)
- Lubricating oil, (LSA) (item 12, WP 0038 00)
- Lubricating oil, weapons (LAW) (item 11, WP 0038 00)
- Lubricating oil, (PL-M) (item 10, WP 0038 00)

Materials/Parts (cont)
- Rifle bore cleaning compound (RBC) (item 5, WP 0038 00)
- Small arms cleaning swab (item 13, WP 0038 00)
- Wiping rags (item 14, WP 0038 00)

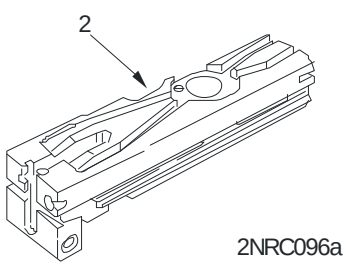
CLEANING

1. Clean all parts of bolt assembly (1) with a cleaning swab saturated with carbon removing compound.
2. Clean face of bolt (2) with a cleaning swab saturated with RBC.
3. Wipe all parts dry with clean wiping rags.

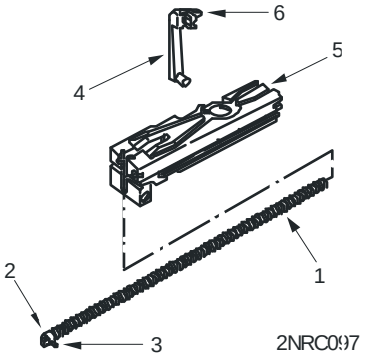


NOTE

Ensure all traces of RBC are removed from bolt assembly before lubricating.

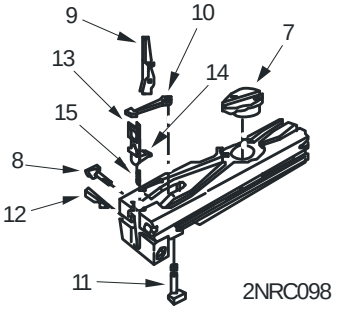


INSPECTION



1. Inspect driving spring rod assembly (1) for flat spots and cracks on springs. Ensure that springs operate freely and that rod (2) and pin (3) are not cracked, bent or broken.

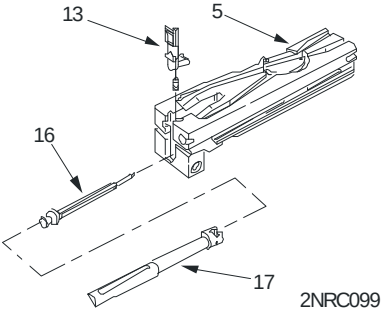
2. Check movement of cartridge extractor (4) in bolt (5). Cartridge extractor (4) should raise and lower without binding. Check movement of cartridge ejector (6). Inspect for cracks and burrs.



3. Inspect bolt switch (7), cocking lever pin (8), cocking lever (9), accelerator stop lock (10), accelerator stop (11), and sear slide (12) for cracks, bends, and burrs.

4. Inspect sear (13) for cracks and burrs, and inspect sear notch (14) for wear, chips, or burrs. Inspect sear spring (15) for breaks of lack of tension.

5. Inspect firing pin (16) for cracks and chipped or sharp tip.



NOTE

Tip should be smooth and well-rounded.

6. Check firing pin extension (17) for cracks, burrs, and free movement in bolt (5). Ensure shoulder that engages sear (13) has a sharp angle and is free of chips and burrs.

7. Ensure bolt (5) is free of burrs and cracks. Firing pin hole must not be visibly out of round. Check hole where cartridge extractor is installed for cracks or burrs.

LUBRICATION

Apply light coat of lubricating oil (item 10, 11, or 12, WP 0038 00) to all parts of the bolt assembly and rod assembly.

END OF WORK PACKAGE

OPERATOR

MAINTENANCE OF BARREL BUFFER ASSEMBLY CLEANING, INSPECTION, AND LUBRICATION

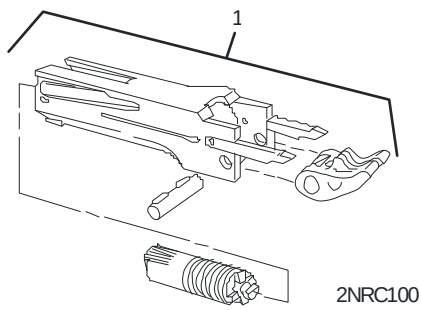
INITIAL SETUP:

Materials/Parts
- Carbon removing compound (item 3, WP 0038 00)
- Lubricating oil, (LSA) (item 12, WP 0038 00)
- Lubricating oil, weapons (LAW) (item 11, WP 0038 00)

Materials/Parts (cont)
- Lubricating oil, (PL-M) (item 10, WP 0038 00)
- Small arms cleaning swab (item 13, WP 0038 00)
- Wiping rags (item 14, WP 0038 00)

CLEANING

1. Clean all parts of barrel buffer assembly (1) with a cleaning swab saturated with carbon removing compound.
2. Wipe all parts dry with clean wiping rag.



INSPECTION

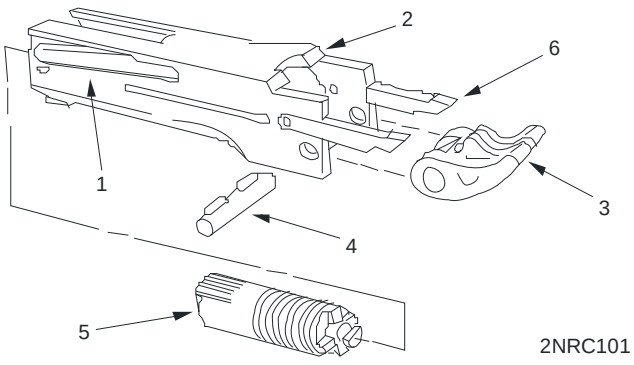
1. Inspect buffer body lock (1) for tension, staking, and retention in barrel buffer body (2).

2. Inspect buffer accelerator (3) for broken claws or tips.

3. Inspect accelerator pin assembly (4) for broken or missing spring.

4. Inspect buffer spring (5) for cracks, breaks, and spring tension.

5. Breech lock depressors (6) may have movement as long as the movement does not cause the weapon to malfunction, or the depressors are damaged or missing.



LUBRICATION

Apply a light coat of lubrication oil (item 10, 11, or 12, WP 0038 00) to all parts of barrel buffer assembly.

END OF WORK PACKAGE

OPERATOR

MAINTENANCE OF BARREL EXTENSION ASSEMBLY CLEANING, INSPECTION, AND LUBRICATION

INITIAL SETUP:

Materials/Parts
- Carbon removing compound (item 3, WP 0038 00)
- Lubricating oil, (LSA) (item 12, WP 0038 00)
- Lubricating oil, weapons (LAW) (item 11, WP 0038 00)

Materials/Parts (cont)
- Lubricating oil, (PL-M) (item 10, WP 0038 00)
- Small arms cleaning swab (item 13, WP 0038 00)
- Wiping rags (item 14, WP 0038 00)

CLEANING

1. Clean all parts of barrel extension assembly with a cleaning swab saturated with carbon removing compound.

2. Wipe all parts dry with clean wiping rag.

INSPECTION

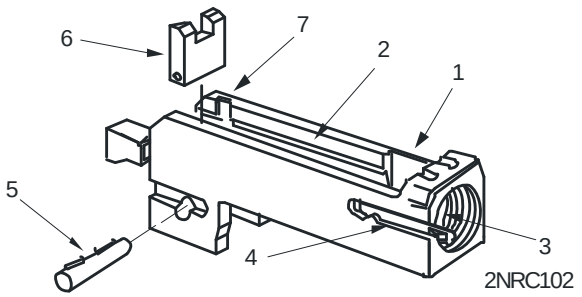
1. Inspect barrel extension assembly (1) to ensure it is not bent and that the bolt guideways (2) are smooth and free of burrs.

2. Visually inspect threads (3) of barrel extension assembly (1) for any damage.

3. Ensure barrel locking spring (4) is staked and fully seated in its groove. Also ensure the locking end of the spring has good tension and the lug is not damaged.

4. Inspect breech lock pin assembly (5) for broken or missing spring.

5. Check breech lock (6) for smooth movement in guideways (7) of barrel extension assembly (1). If breech lock exhibits excessive wear (bolt locking surface and/or mating surfaces appears rounded and/or metal displacement appears cupped), replace breech lock.



LUBRICATION

Apply a light coat of lubrication oil (item 10, 11, or 12, WP 0038 00) to all parts of barrel extension assembly.

END OF WORK PACKAGE

OPERATOR

MAINTENANCE OF RETRACTING SLIDE HANDLE CLEANING, INSPECTION, AND LUBRICATION

NOTE
This work package applies only to the flexible type.

INITIAL SETUP:

Materials/Parts
- Carbon removing compound (item 3, WP 0038 00)
- Lubricating oil, (LSA) (item 12, WP 0038 00)
- Lubricating oil, weapons (LAW) (item 11, WP 0038 00)

Materials/Parts (cont)
- Lubricating oil, (PL-M) (item 10, WP 0038 00)
- Small arms cleaning swab (item 13, WP 0038 00)
- Wiping rags (item 14, WP 0038 00)

CLEANING

1. Clean all surfaces of retracting slide handle with a cleaning swab saturated with carbon removing compound.

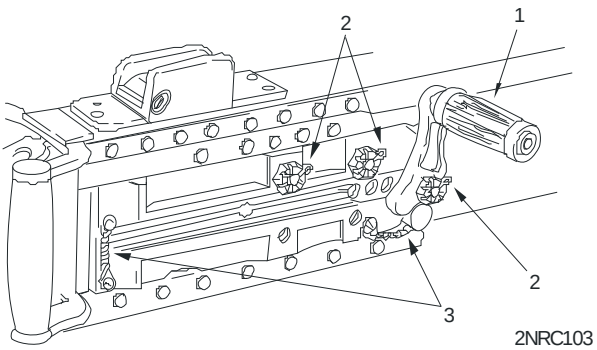
2. Wipe all parts dry with clean wiping rags.

INSPECTION

1. Inspect retracting slide handle (1) for cracks or other visible damage. Inspect for weak or broken retracting springs.

2. Ensure cotter pins (2) are present and in good condition.

3. Ensure safety wire (3) is in place and properly laced.



LUBRICATION

Apply a light coat of lubrication oil (item 10, 11, or 12, WP 0038 00) to all parts of retracting slide handle.

END OF WORK PACKAGE

OPERATOR

MAINTENANCE OF M10 MANUAL CHARGER CLEANING, INSPECTION, AND LUBRICATION

NOTE
This work package applies only to the M48 turret type.

INITIAL SETUP:

Materials/Parts
- Carbon removing compound (item 3, WP 0038 00)
- Lubricating oil, (LSA) (item 12, WP 0038 00)
- Lubricating oil, weapons (LAW) (item 11, WP 0038 00)

Materials/Parts (cont)
- Lubricating oil, (PL-M) (item 10, WP 0038 00)
- Small arms cleaning swab (item 13, WP 0038 00)
- Wiping rags (item 14, WP 0038 00)

CLEANING

1. Clean outside surface of M10 manual charger with a small arms cleaning swab saturated with carbon removing compound.

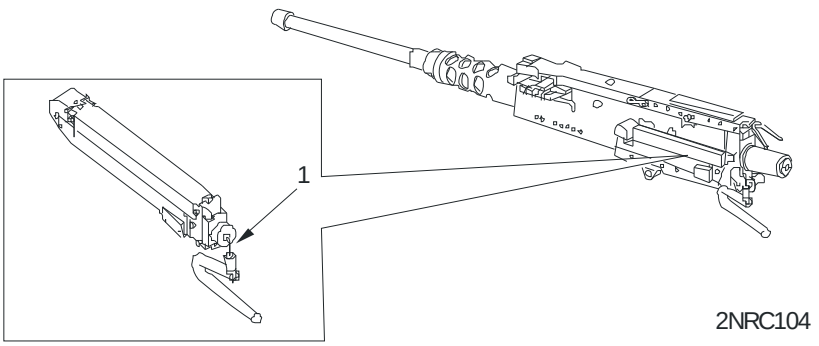
2. Wipe all parts dry with clean wiping rags.

INSPECTION

1. Inspect charger cable (1) for fraying or kinks.

2. Inspect all surfaces (inside and out) for any other visible damage.

3. All other deficiencies noted should be reported to field maintenance.



LUBRICATION

Apply a light coat of lubrication oil (item 10, 11, or 12, WP 0038 00) to all parts of M10 manual charger.

END OF WORK PACKAGE

OPERATOR

MAINTENANCE OF RECEIVER ASSEMBLY CLEANING, INSPECTION, AND LUBRICATION

INITIAL SETUP:

Materials/Parts
- Carbon removing compound (item 3, WP 0038 00)
- Lubricating oil, (LSA) (item 12, WP 0038 00)
- Lubricating oil, weapons (LAW) (item 11, WP 0038 00)

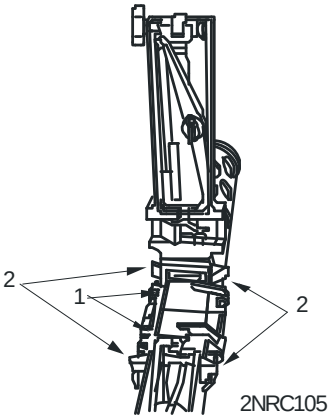
Materials/Parts (cont)
- Lubricating oil, (PL-M) (item 10, WP 0038 00)
- Small arms cleaning swab (item 13, WP 0038 00)
- Wiping rags (item 14, WP 0038 00)

CLEANING

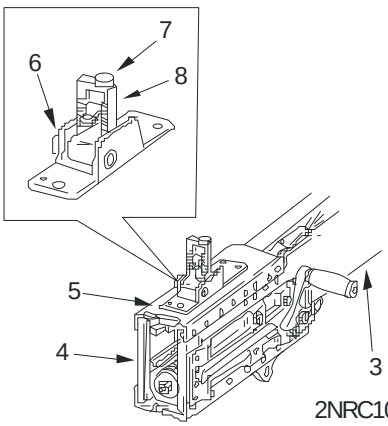
1. Clean all surfaces of receiver assembly with a small arms cleaning swab saturated with carbon removing compound.

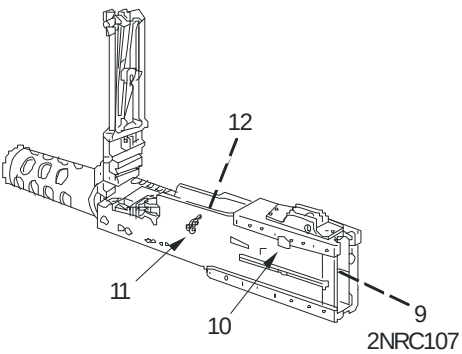
2. Wipe all parts dry with clean wiping rags.

INSPECTION



1. Feedway (1) must be clear of obstructions.
2. Inspect belt holding pawl brackets (2) for looseness, bends, or cracks.
3. Inspect side plates (3) for bends that would affect movement of any internal components.
4. Inspect for cracks and burrs at backplate grooves (4).
5. Check operation of rear sight (5) (flexible type only). Ensure windage screw (6) and elevation screw (7) function without binding. Ensure sight assembly (8) is secured tightly to receiver.
6. Ensure trigger lever (9) moves freely without binding.
7. Ensure trigger lever pin (10) locks in place.
8. Ensure cotter pin (11) is in place on extractor switch.





LUBRICATION

Apply a light coat of lubrication oil (item 10, 11, or 12, WP 0038 00) to all parts of receiver group

END OF WORK PACKAGE

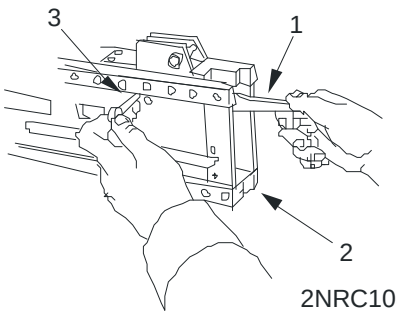
OPERATOR

MAINTENANCE
ASSEMBLY OF M2 MACHINE GUN

INITIAL SETUP:

Materials/Parts	References
Carbon removing compound (item 3, WP 0038 00)	WP 0005 00 WP 0006 00

ASSEMBLY OF M2 MACHINE GUN



2NRC108

1. INSTALL TRIGGER LEVER.

   a. Install trigger lever bar (1) in receiver (1).

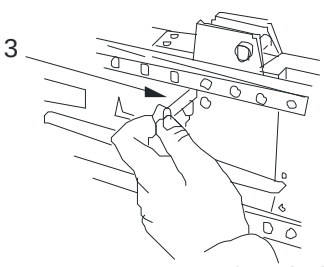
   NOTE
   Ensure trigger lever bar is aligned directly under timing nut.

   b. Align hole in trigger lever bar (1) with mounting hole in receiver (2).

   c. Place trigger lever pin assembly (3), loop end vertical, in assembly hole on left side plate of receiver (2).

   d. Match key on trigger lever pin assembly (3) with keyway in side plate of receiver (2) and install pin completely.

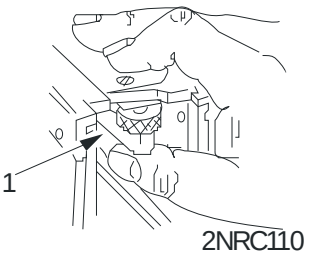
   e. Rotate trigger lever pin assembly (3) 90 degrees to lock securely in place, and fold down out of the way.



2NRC109

ASSEMBLY OF M2 MACHINE GUN - Continued

1. INSTALL TRIGGER LEVER - Continued.

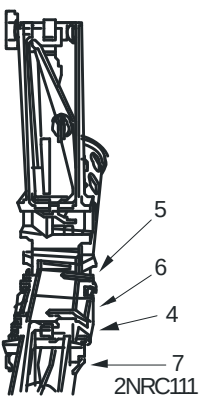


f. Check that trigger lever bar (1) moves freely.

NOTE

Determine direction of feed before proceeding. Left hand feed is shown.

2. INSTALL RECEIVER ASSEMBLY.



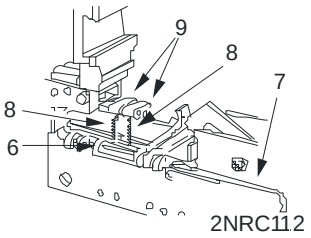
a. Place right hand rear cartridge stop assembly (4) and front cartridge stop (5) on belt holding pawl bracket (6).

b. Install belt holding pawl pin (7) with hooked end to rear.

c. Seat belt holding pawl springs (8) in place on belt holding pawl bracket (6).

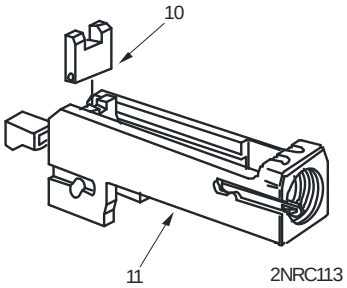
d. Place belt holding pawl assembly (9) on belt holding pawl springs (8). Compress springs and insert belt holding pawl pin (7).

e. Install lock pin on belt holding pawl pin (7).

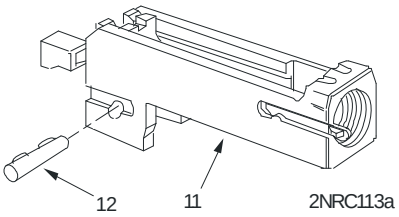


3. INSTALL BARREL EXTENSION ASSEMBLY.

a. Install breech lock (10) in barrel extension assembly (11) with double beveled edge up and to the front of barrel extension assembly.

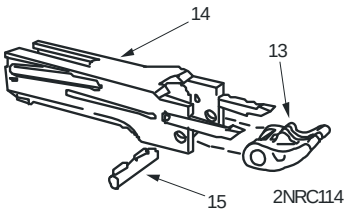


b. Install breech lock pin assembly (12) in barrel extension assembly (11). Ensure both ends of breech lock pin assembly are flush with sides of barrel extension assembly.

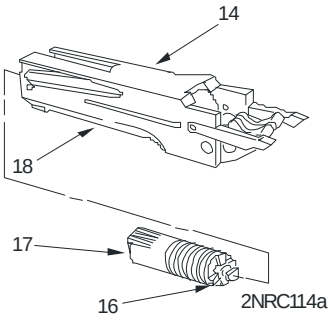


4. INSTALL BARREL BUFFER ASSEMBLY.

a. Place buffer accelerator (13) (tips up) into barrel buffer body (14), aligning mounting holes. Install barrel buffer pin assembly (15). Ensure both ends of the barrel buffer pin assembly are flush with the sides of the barrel buffer body.



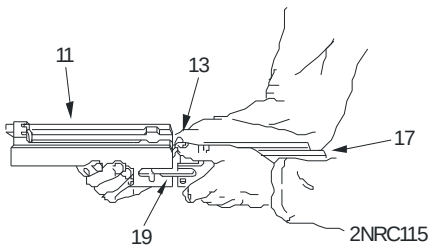
b. Align key (16) on barrel buffer assembly (17) with key slot (18) in barrel buffer body (14), and slide barrel buffer assembly into barrel buffer body.



ASSEMBLY OF M2 MACHINE GUN - Continued

4. INSTALL BARREL BUFFER ASSEMBLY - Continued.

c. Hold barrel buffer assembly (17) with buffer accelerator (13) up and engage notch on shank of barrel extension assembly (11) with cross groove in piston rod of barrel buffer assembly.

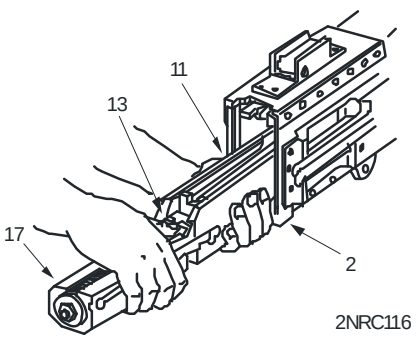


d. Align breech lock depressors (19) in grooves of barrel extension assembly (11) and push barrel buffer assembly (17) forward.

CAUTION

While installing barrel buffer assembly (17) and barrel extension assembly (11) into receiver (2), maintain thumb pressure on buffer accelerator (13).

e. Install barrel buffer assembly (17) and barrel extension assembly (11) in receiver (2).

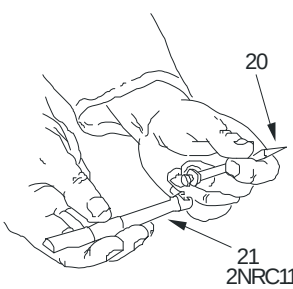


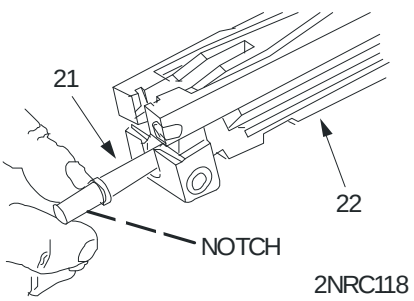
5. INSTALL BOLT ASSEMBLY

a. Attach firing pin (20) to firing pin extension assembly (21).

b. Place firing pin extension assembly (21) into bolt (22) with notch of firing pin extension assembly down.

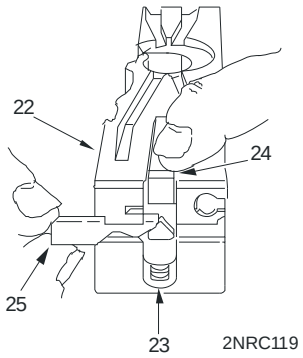
c. Slide firing pin extension assembly (21) forward so that tip of firing pin protrudes from face of bolt (22).





d. Place sear spring (23) in recess on bolt (22). Ensure sear spring is installed correctly.

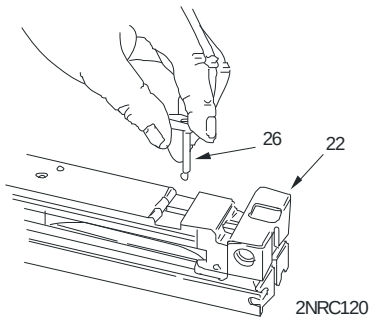
e. Slide sear (24) down into vertical grooves at rear of bolt (22) with wedge shaped lug pointed outward and upward.



NOTE

Ensure that sear and sear spring engage properly. Sear also has a recess for sear spring.

f. Compress sear spring (23) by pressing down on sear (24). Install sear slide (25) from left side of bolt in grooves of bolt (22) with V notch down.



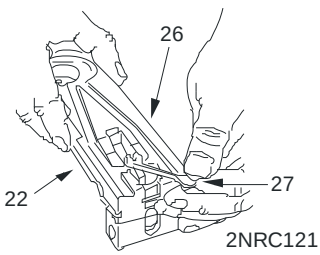
NOTE

Ensure pin end of accelerator stop is installed Behind firing pin spring, not through a coil.

g. Insert pin end of accelerator stop (26) through bottom of bolt (22)

NOTE

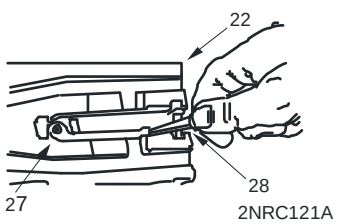
Base end of accelerator stop (26) should be installed with long end forward so beveled edges match.



h. Turn bolt (22) over. Place forked end of accelerator stop lock (27) on notched end of accelerator stop (26).

i. Using wedge shaped end of the cocking lever (28) as a tool, press down on the flat end of the accelerator stop lock (27) and swing it into groove on left side of the bolt (22).

j. Insert cocking lever (28), with rounded nose on lower end of lever to rear, into slot in top of bolt (22).

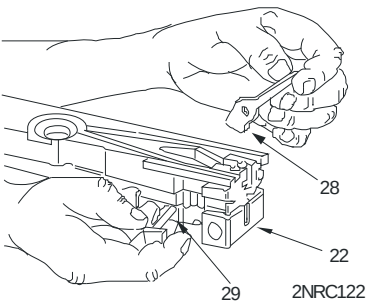


ASSEMBLY OF M2 MACHINE GUN - Continued

5. INSTALL BOLT ASSEMBLY - Continued.

k. Align hole in cocking lever (28) with holes in the bolt (22). Insert cocking lever pin (29) from left side.

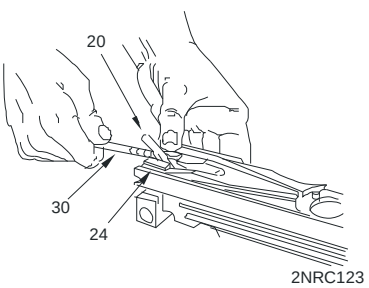
l. Push cocking lever (28) forward to charge firing pin. Return cocking lever to rearward position.



WARNING

Do not attempt to release the firing pin with cocking lever forward. The cocking lever could spring back forcibly and cause serious injury to the hand.

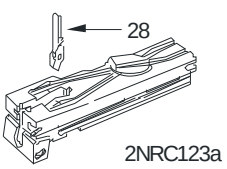
m. Trip firing pin (20) by depressing top of sear (24) with a swab holder section (30).



NOTE

A sharp metallic sound indicates firing pin spring is in good condition.

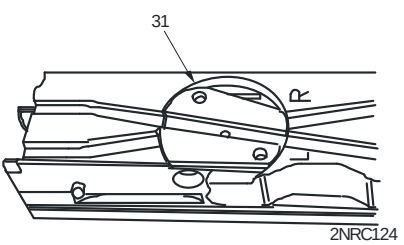
n. Place cocking lever (28) in forward position after testing firing pin release.



NOTE

Determine direction of feed before installing bolt switch left or right. Left hand feed is illustrated.

o. Place bolt switch (31) in position so that the feed groove is continuous for feed direction selected.

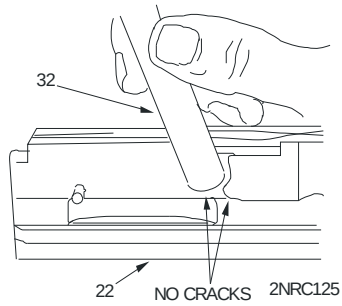


p. Hold cartridge extractor (32) in vertical position. Insert shank end of cartridge extractor into left side of bolt (22).

NOTE

Ensure cartridge extractor (32) fits into bolt (22) as far as possible, with no visible cracks in bolt or extractor.

q. Rotate cartridge extractor (32) downward to full horizontal position.



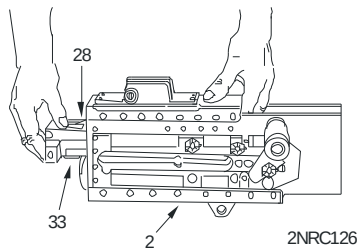
r. Check that flange on bottom of cartridge extractor (32) has engaged shoulder on bolt (22). Ensure flange is not cracked.

CAUTION

When installing bolt assembly, do not trip buffer accelerator.

NOTE

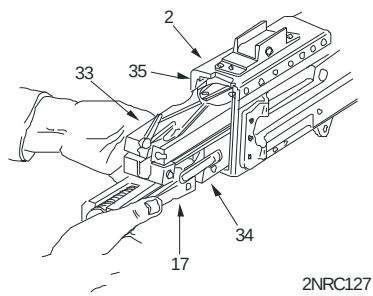
Ensure cocking lever (28) is forward before installing bolt assembly (33) into receiver (2).



s. Push bolt assembly (33) forward into receiver (2) until bolt latch engages notches in top of bolt assembly

NOTE

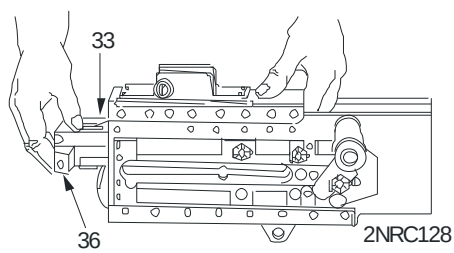
If unable to install by performing step s, perform step t.



t. Remove barrel extension (34) and buffer assembly (17) from the receiver (2). Install bolt assembly (33) into barrel extension and buffer assembly, then install into the receiver.

u. Raise bolt latch (35) and push bolt assembly (33) into receiver.

v. Align hole (36) in bolt assembly (33) with stud assembly hole (37) in receiver (2) and install bolt stud (38) in hole in bolt assembly.

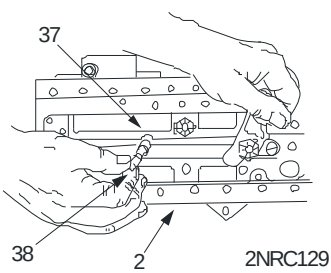


NOTE

The bolt stud is installed in the right side of the receiver and bolt for the flex and in the left side of the receiver and bolt for the Fixed M48 turret type.

w. Plate bolt in forward position.

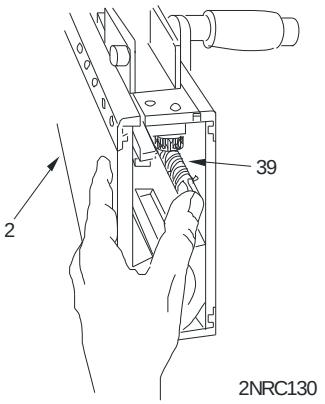
x. Replace M10 charger cover (Fixed M48 turret type and fixed type only).



ASSEMBLY OF M2 MACHINE GUN - Continued

6. INSTALL DRIVE SPRING ROD ASSEMBLY

a. Install driving spring rod assembly (39) in upper right hand corner of bolt. Push forward and to the right until driving spring rod assembly (39) engages in hole in side plate of receiver (2) and not in the groove for the backplate.

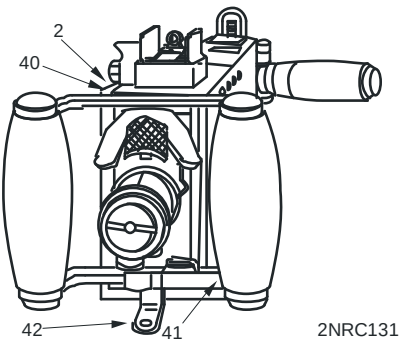


7. INSTALL BACKPLATE ASSEMBLY

NOTE

Illustration shows flexible type backplate. Procedure applies to both the flexible type and Fixed M48 turret type backplates.

a. Install backplate assembly (40) in receiver (2) grooves. Pull backplate latch lock (41) while lifting up on backplate latch (42). Lower backplate assembly down until engaged in receiver.



8. INSTALL BARREL ASSEMBLY

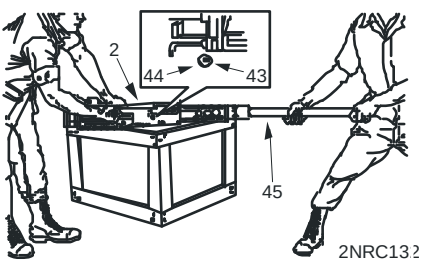
a. Retract bolt far enough for barrel locking spring lug (43) to center in barrel locking spring hole (44) on right hand side of receiver (2).

b. Install and screw barrel assembly (45) completely into receiver (2). Ensure barrel is completely installed. Unscrew barrel assembly until two clicks are heard and adjust headspace. Refer to WP 0005 00.

c. Perform weapon function check to ensure proper assembly. Refer to WP 0006 00.

NOTE

The above procedures are setup for use. If weapon is to be stored after cleaning and lubricating, return weapon to field maintenance.



END OF WORK PACKAGE

OPERATOR

AMMUNITION
AUTHORIZED AMMUNITION, AMMUNITION WHICH FAILS TO FIRE, CARE, HANDLING, AND PRESERVATION

INITIAL SETUP:

Reference
TM 9-1005-314-13&P

AUTHORIZED AMMUNITION

WARNING

This work package lists the only ammunition authorized for use in your machine gun. If it is not shown, it is not authorized.

Because of the potential injury from discarding sabot fragments, neither the M903 nor the M962 should be fired over the heads of friendly personnel.

Normal training mix: 4 ball M2/M33 and one tracer M17 with M9 link.

Normal combat mix: 4 ball API-M8 and one APIT M20 with M9 link.

Normal combat mix: 4 SLAP M903 and one SLAP M962 with M9 link. CAUTION: Do not use with the unlined barrel.

NOTE
All cartridges except the M2 DUMMY have plain cases.

M1A1 blank is to be utilized with the M19 Blank Firing Attachment. Refer to TM 9-1005-314-13&P

AUTHORIZED AMMUNITION – Continued

The sights on the M2 machine gun are designed for conventional ball, tracer, and armor-piercing incendiary ammunition.

CAUTION

SLAP ammunition is NOT to be fired with the unlined barrel; damage to the unlined barrel will occur. Use lined barrel, part number 7266131. If barrel does not have part number 7266131 marked on the outside of barrel, do NOT fire SLAP ammunition.

SLAP Ammunition

Tracer (every 5th round)	1305-01-332-8254	(A518)
SLAP "T"	1305-01-462-0651	(AA38)
M858/M3 Amplifier		M858 Ball/ M860 Tracer

Firing of the SLAP cartridges with the current sight will result in the projectile having a higher trajectory than desired. For targets at 1,000 meters or less, align the sights on the target and then drop two clicks on the sight or traversing and elevating mechanism. For targets beyond 1,000 meters, align the sights and come down three clicks.

M1A1 Blank Cartridge: Used with M19 Blank Firing Attachment. It simulates firing in training exercises.

M33 Ball Cartridge: Used against personnel or unarmored targets. Has a plain bullet tip.

M17 Tracer Cartridge: Permits visible observation of the bullets in-flight path or trajectory to the point of impact.

M20 Armor Piercing Incendiary-Tracer Cartridge: Used against flammable targets and light-armored or unarmored targets. This tracer is dim at near ranges, but increases to bright as it moves further from the weapon. Has red over an aluminum tip.

M8 Armor Piercing Incendiary Ball Cartridge: Combines functions of M2 armor piercing bullet and incendiary bullet. Used against flammable targets and light-armored or unarmored targets. Has an aluminum tip.

MK211 Mod 0 Armor Piercing Incendiary (API) Cartridge: Used against light armored vehicles and aircraft. Provides improved penetration performance against enemy personnel and light armor vehicles.

M962 Saboted Light Armor Penetrator-Tracer (SLAP-T) Cartridge: Used against light armor vehicles and aircraft with additional tracer feature.

M903 Saboted Light Armor Penetrator (SLAP) Cartridge: SLAP is used in combat against current and future light armored targets and Armored Attack Helicopters (AAHs). Capable of defeating these targets at ranges two to three times that of currently available ammunition.

M860 Plastic Practice Tracer Cartridge: Intended for scaled range training to permit visible observation of the bullet's in-flight path or trajectory to the point of impact. Intended to be used with M858 Plastic Practice Ball Cartridge.

M858 Plastic Practice Ball Cartridge: Intended for scaled range training purposes, where range restrictions limit or prohibit the use of one of the other types of live ammunition.

AMMUNITION WHICH FAILS TO FIRE

Ammunition which fails to fire should be reported to supporting ASP and/or QASAS/Ammo LAR for disposition procedures.

CARE, HANDLING, AND PRESERVATION

1. Do not open ammunition containers until the ammunition is to be used. Ammunition removed from the airtight containers, particularly in damp climates, is likely to corrode.

2. Protect ammunition from mud, dirt, and water. If the ammunition gets wet or dirty, wipe it off prior to use. Wipe off light corrosion as soon as it is discovered. Heavily corroded cartridges or cartridges which have dented cases or loose projectiles should not be fired.

3. Do not expose ammunition to the direct rays of the sun. If the powder is hot, excessive pressure may develop when the gun is fired.

4. Do not oil or grease the ammunition. Dust and other abrasive collecting on oiled or greased ammunition will damage the operating parts of the gun. Oiled cartridges will produce dangerously excessive chamber pressures that will damage the weapon or cause operator injury. Oil on cartridges can also penetrate into the cartridge and contaminate the propellant and/or primer causing squibs, hangfires, or duds.

END OF WORK PACKAGE

CHAPTER 5

SUPPORTING INFORMATION

OPERATOR

REFERENCES

SCOPE

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

AIR FORCE REFERENCES

AFI 21-115	Product Quality Deficiency Program
AFI 36-2226	Combat Arms Program
AFMAN 44-163(I)	First Aid
AFTO Form 105	Inspection, Maintenance, Firing Data for Ground
AFTO Form 22	Technical Manual Change Recommendation and Investigating System
TO 00-35D-54	Air Force Materiel Deficiency Reporting and Maintenance and Firing Data for Ground Weapons Reply
TO 11W-1-10	Historical Data Recording of Inspection, Weapons

FIELD MANUALS

FM 4-25.11	First Aid
FM 3-20.12	Tank Gunnery (ABRAMS)
FM 31-71	Northern Operations

FORMS

DA Form 2028	Recommended Changes to Publications and Blank Forms
DA Form 2404	Equipment Inspection and Maintenance Worksheet
SF 368	Product Quality Deficiency Report

MARINE CORPS REFERENCES

NAVMC 10722	Marine Corps Recommended Changes to Publications
MCO 4855.10	Marine Corps Quality Deficiency Report
MCO P4450.7	Marine Corps Warehousing Manual
MCO P4610.19	Marine Corps Transportation and Travel Record Discrepancies
SL 3-02498	Marine Corps Stock list SL-3 Components List for M2 HB Machine Gun
TM 4700-15/1	Equipment Record Procedures

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
DA PAM 750-8	The Army Maintenance Management System (TAMMS) Users Manual
Unknown	Small Arms Integration Booklet (SAIB) (https://www.us.army.mil/suite/folder/4718898)
00-322-9715	Specialized Packaging Instruction

TECHNICAL MANUALS

TB 750-25	Maintenance of Supplies and Equipment: Army Test, Measurement and Diagnostic Equipment (TMDE) Calibration and Repair Support (C&RS) Program
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 9-1005-245-13&P TO 11W2-8-1-322 TM 1005-13&P/1	Machine Gun Mounts and Combinations for Tactical/Armored Vehicles M122 Machine Gun Tripod Mount, M122A1 Machine Gun Mount, M192 Machine Gun Tripod, M3 Machine Gun Mount, M142 Machine Gun Mount, M197 Machine Gun Mount, MK 64 Machine Gun Mount Mod 5, MK 93 Mod 0 Machine Gun Mount (USMC Only), MK93 Mod 2 Machine Gun Mount
TM 9-1005-314-13&P	Blank Firing Attachment (BFA) M19
TM 9-2350-255-10-2	Tank, Combat, Full Tracked 105mm Gun, M1, 1PM1, General Abrams
TM 9-2350-264-10-2 TM 08953A-10/1-2	Tank, Combat, Full Tracked 120mm Gun, M1A1 General Abrams

END OF WORK PACKAGE

OPERATOR

COMPONENTS OF END ITEM (COEI) AND BASIC ISSUE ITEMS (BII) LISTS

INTRODUCTION

Scope. This work package lists Components of End Item and Basic Issue Items for the M2 machine gun to help you inventory items for safe and efficient operation.

General. The Components of End Item and Basic Issue Items Lists are divided into the following lists.

Components of End Item (COEI): This list is for information purposes only and is not authority to requisition replacements. These items are part of the M2 machine gun. As part of the end item, these items must be with the end item whenever it is issued or transferred between property accounts. Items of COEI are removed and separately packaged for transportation or shipment only when necessary. Illustrations are furnished to help you find and identify the items.

Basic Issue Items (BII): These essential items are required to place the M2 machine gun in operation, operate it, and to do emergency repairs. Although shipped separately packaged, BII must be with the M2 machine gun during operation and when it is transferred between property accounts. Listing these items is your authority to request/requisition them for replacement based on authorization of the end item by the TOE/MTOE. Illustrations are furnished to help you find and identify the items.

Explanation of Columns in the COEI List and BII List.

Column (1), Illus Number, gives you the number of the item illustrated.

Column (2), National Stock Number and illustration, identifies the stock number of the item to be used for requisitioning purposes and contains an illustration of the item.

INTRODUCTION – Continued

Column (3), Description, CAGEC, and Part Number, identifies the Federal item name (in all capital letters) followed by a minimum description when needed. The stowage location of COE and BII is also included in this column. The last line below the description is the CAGEC (commercial and government entity code) (in parentheses) and the part number.

Column (4), Usable on code, gives you a code if the item you need is not the same for different models of equipment. These codes are identified below.

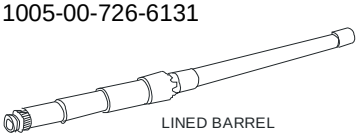
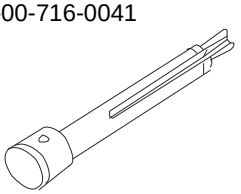
Code	Used on
W08	Flex M2 Machine gun
775	Fixed M48 Turret Type M2 Machine Gun

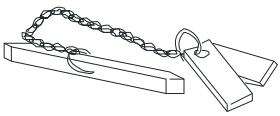
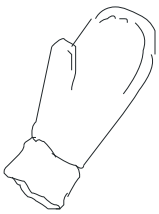
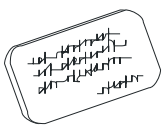
Column (5), U/M (unit of measure), indicates how the item is issued for the National Stock Number shown in column (2).

Column (6), Qty Rqr, indicates the quantity required.

COMPONENT OF END ITEM (COEI) LIST. There are no components of end items.

Table 1. Basic Issue Items

(1) ILLUS NUMBER	(2) NATIONAL STOCK NUMBER	(3) DESCRIPTION (CAGEC)/PART NUMBER	USABLE ON CODE	(4) U/M	(5) QTY RQR
1	1005-00-726-6131  LINED BARREL	BARREL ASSEMBLY (19204) 7266131	W08, 775	EA	1
2	4933-00-716-0041 	EXTRACTOR, RUPTURED CARTRIDGE (19204) 7160041		EA	1

(1) ILLUS NUMBER	(2) NATIONAL STOCK NUMBER	(3) DESCRIPTION CAGEC /PART NUMBER	USABLE ON CODE	(4) U/M	(5) QTY RQR
3	5220-00-535-1217 	GAGE, HEADSPACE AND TIMING (19205) 5351217		EA	1
4	8415-01-092-0039 	MITTEN, HEAT PROTECTIVE (81349) MIL-M-11199F		EA	1
5		M2 HEADSPACE AND TIMING SMART CARD		EA	1
6		OPERATOR'S MANUAL TM 9-1005-213-10		EA	1

END OF WORK PACKAGE

OPERATOR

ADDITIONAL AUTHORIZATION LIST

INTRODUCTION

Scope. This work package lists additional items you are authorized for the support of the M2 machine gun.

General. This list identifies items that do not have to accompany the M2 machine gun and that do not have to be turned in with it. These items are all authorized to you by CTA, MTOE, TDA, or JTA.

EXPLANATION OF COLUMNS in the AAL.

Column (1) National Stock Number (NSN). Identifies the stock number of the item to be used for requisitioning purposes.

Column (2) Description, Part Number/(CAGEC). Identifies the Federal item name (in all capital letters) followed by a minimum description when needed. The last line below the description is the part number and the Commercial and Government Entity Code (CAGEC) (in parentheses).

Column (3) Usable On Code (UoC). When applicable, gives you a code if the item you need is not the same for different models of equipment. These codes are identified below:

Code	Used on
W08	Flex M2 Machine Gun
775	Fixed M48 Turret Type M2 Machine Gun

Column (4) U/I. Unit of Issue (U/I) indicates the physical measurement or count of the item as issued per the National Stock Number shown in column (1).

Column (5) Qty Recm. Indicates the quantity recommended.

Table 1. Additional Authorization List

(1) NATIONAL STOCK NUMBER	(2) DESCRIPTION PART NUMBER/(CAGEC)	(3) UoC	(4) U/I	(5) QTY Recm
	CTA AUTHORIZED ITEMS			
8105-00-921-5821	BAG, ORDNANCE WEAPON SPARE PARTS 11686430 (19204)		EA	1
1005-01-091-7510	BLANK FIRING ATTACHMENT (BFA) M19 9324931 (19200)		EA	1
1005-00-550-4037	BRUSH, CLEANING, SMALL ARMS BORE 5504037 (19204)		EA	1
1005-00-766-0915	BRUSH, CLEANING, SMALL ARMS CHAMBER 7790737 (19204)		EA	1
1005-00-716-2702	BRUSH, CLEANING, SMALL ARMS (FIRING PIN HOLE) 7162702 (19205)		EA	1
1005-00-550-4080	CONTROL HANDLE, MANUAL (19200)		EA	1
1005-00-487-4100	COVER, MACHINE GUN 5504080 (19207) 11631791		EA	1
1005-00-659-1031	COVER, SPARE BARREL 6591031 (19200)		EA	1
5220-01-492-7550	FIRE GAGE 5351214 (19200)		EA	1
1005-00-716-2072	FLASH HIDER 7162072 (19200)		EA	1
4925-00-299-1268	LINKER-DELINKER 7160003 (19204)		EA	1
5220-01-492-9056	NO FIRE GAGE 5351213 (19200)		EA	1
1005-01-323-5406	RECOIL AMPLIFIER, M3 12929082 (19200)		EA	1
4933-00-556-4255	REFLECTOR, GUN BARREL 5564255 (19204)		EA	1

(1) NATIONAL STOCK NUMBER	(2) DESCRIPTION PART NUMBER/(CAGEC)	(3) UoC	(4) U/I	(5) QTY Recm
	SMALL ARMS INTEGRATION BOOKLET (https://www.us.army.mil/suite/folder/4718898)		EA	1
	MTOE AUTHORIZED ITEMS			
5340-01-552-0082	CAP, PROTECTIVE, DUST AND MOISTURE VC-1375-16 (99017)		EA	1
5340-00-600-8583	HANDLE, AUXILIARY BOLT 6008583 (19200)		EA	1
5855-00-629-5327	NIGHT VISION SIGHT CREW SERVED WEAPON, AN/TVS-5 SMD850100-1 (80063)		EA	1
1005-00-653-5441	ROD, CLEANING, SMALL ARMS 6535441 (19204)		ASSY	1
1005-00-556-4102	ROD, CLEANING, SMALL ARMS 5564102 (19204)		SET	1
1005-00-716-2704	SWAB HOLDER SECTION 7162704 (19205)		EA	1

END OF WORK PACKAGE

OPERATOR

EXPENDABLE AND DURABLE ITEMS LIST

This work package lists expendable and durable items that you need to operate and maintain the M2 machine gun. This list is for information only and is not authority to requisition the listed items. These items are authorized to you by CTA 50-970, Expendable/Durable Items (Except Medical, Class V, Repair Parts, and Heraldic items); or CTA 8-100, Army Medical Department Expendable/ Durable Items.

EXPLANATION OF COLUMNS.

Column (1) – Item Number. This number is assigned to the entry in the list and is referenced in the narrative instructions to identify the item (e.g., "Use cleaner, lubricant and preservative (item 4, WP 0038 00)").

Column (2) – Level. This column includes the lowest level of maintenance that requires the listed item (C – Operator/Crew).

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

Column (4) – Item name, Description, Contractor and Government Entity Code (CAGEC), and Part Number. This column provides the other information you need to identify the item.

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

Table 1. Expendable and Durable Items List

(1) ITEM NO.	(2) LEVEL	(3) NATIONAL STOCK NUMBER (NSN)	(4) Item Name, DESCRIPTION, (CAGEC)/Part Number	(5) U/I
1	C	8020-00-244-0153	BRUSH, ARTIST (81343) H-B-241	EA
2	C	7920-00-205-2401	BRUSH, CLEANING, TOOL AND PARTS (80244) 7920-00-205-2401	EA
3	C	6850-00-965-2332	CARBON REMOVING COMPOUND, DIP TYPE, RINSING REQUIRED (81348) P-C-111	GL

Table 1. Expendable and Durable Items List- Continued

(1) ITEM NO.	(2) LEVEL	(3) NATIONAL STOCK NUMBER (NSN)	(4) Item Name, DESCRIPTION, (CAGEC)/Part Number	(5) U/I
4	C		CLEANER, LUBRICANT AND PRESERVATIVE, grade 2, (CLP) (81349) MIL-PRF-63460	
		9150-01-102-1473	½ oz bottle	BT
		9150-01-079-6124	4 oz bottle	BT
		9150-01-053-6688	1 gl can	GL
5	C		CLEANING COMPOUND, SOLVENT: rifle bore cleaner (RBC) (81349) MIL-PRF-372	
		6850-00-224-6656	2 oz bottle	BT
		6850-00-224-6657	8 oz can	CN
6	C	6850-01-486-5448	CLEANING COMPOUND, SOLVENT (0K209) IT-WCP 500 (SMALL)	BX
7	C	5350-00-221-0872	CLOTH, ABRASIVE (80204) ANSI B74.18	PG
8	C	8415-00-823-7460	GLOVES, Chemical Resistant, Type 3 (81348) ZZ-G-381	PR
9	C	9150-01-360-1908	LUBRICANT, SOLID FILM (81349) MIL-PRF-46147 TYPE 1	QT
10	C		LUBRICATING OIL, GENERAL PURPOSE, MEDIUM (PL-M)	
		9150-00-273-2389	4 oz (118.30 ml) can (81349) MIL-PRF-32033	CN
11	C		LUBRICATING OIL, WEAPONS (LAW) (81349) MIL-PRF-14107	
		9150-00-292-9689	1 qt (0.951) can	EA
12	C		LUBRICATING OIL, WEAPONS Semi-fluid (LSA) (81349) MIL-L-46000	
		9150-00-889-3522	4 oz bottle	BT

(1) ITEM NO.	(2) LEVEL	(3) NATIONAL STOCK NUMBER	(4) DESCRIPTION	(5) U/M
13	C	1005-00-288-3565	SWAB, SMALL ARMS CLEANING: cotton (19204) 5019316 1pkg (1000 per pkg)	PG
14	C	7920-00-205-1711	WIPING RAG: cotton (58536) A-A-531 50 lb bale	BE

END OF WORK PACKAGE

M2 MACHINE GUN - HEADSPACE ADJUSTMENT

WARNING

Weapon may explode if not properly headspaced.

NOTE

Ensure charging handle is retracted before inserting barrel. Headspace and timing must be performed each time the barrel is installed.

Ensure barrel is a lined barrel (PN 7266131).

1. Raise cover all the way up; retract bolt to align barrel locking spring lug with 3/8 in. hole in right side of receiver.
2. With bolt retracted, screw barrel completely into barrel extension; then unscrew barrel two clicks. Allow bolt to go forward; barrel should not rotate.
3. Charge the weapon and allow the bolt to go forward. (Do not slam).
4. Retract the bolt until the barrel extension begins to separate (but not more than 1/16 in.) from the trunnion block. **(DO NOT INSERT ANY OBJECT BETWEEN THE BARREL EXTENSION AND TRUNNION BLOCK)**. Hold in this position until gage check is completed.
5. Raise cartridge extractor; Push in on alignment guide to insert gage. (Apply slight pressure on gage). Attempt to insert "**GO**" end of headspace gage in the T-slot between the face of bolt and rear of barrel all the way up to the ring. If "**GO**" end of headspace gage enters down to the ring, attempt to insert the "**NO GO**" end of headspace gage; if "**NO GO**" end does not enter, **headspace is set.** If "**NO GO**" end enters T-slot or "**GO**" end does not enter, retract bolt to align barrel locking spring lug with 3/8 in. hole in right side of receiver.

CAUTION

Do not unscrew barrel more than a total of seven clicks. If condition occurs, turn in machine gun for next echelon inspection.

6. Screw barrel in/out one click at a time rechecking after each click starting from **step 4** above**.**
7. Repeat until "**GO**" end can enter T-slot and "**NO GO**" end will not enter T-slot.
   Reference TM 9-1005-213-10 WP 0005 00.

M2 MACHINE GUN - TIMING ADJUSTMENT

WARNING

Never charge gun with back plate off. Do not stand directly behind gun while removing backplate.

NOTE

Gun must be in single shot mode before removing backplate.

Ensure proper headspace is set before attempting to adjust timing. Barrel must be installed.

1. Raise cover all the way up. (Do not hold barrel while charging weapon). Charge the weapon and allow the bolt to go forward. (Do not slam).
2. Retract bolt just enough to insert "**FIRE**" gage with beveled edge against barrel notches.
3. Remove backplate. (Pull backplate latch lock straight back, while lifting up on backplate latch. Raise backplate assembly straight up and remove from receiver).
4. Turn timing adjustment nut all the way down (to the left), but not completely off the timing stud.
5. Remove "**FIRE**" gage. Reinstall backplate. Insert "**FIRE**" gage and attempt to fire by pressing butterfly trigger; gun should not fire (firing pin not released).
6. Remove "**FIRE**" gage. Remove backplate, screw timing adjustment nut up one click. Reinstall backplate. Insert "**FIRE**" gage and attempt to fire by pressing on butterfly trigger (repeat procedure, turning timing adjustment nut one click at a time, until the gun fires (firing pin releases).
7. After the gun fires, remove backplate, turn timing adjustment nut up two more clicks. Reinstall backplate, charge the weapon and allow the bolt to go forward. (Do not slam).
8. Retract bolt just enough to insert "**NO FIRE**" gage with beveled edge against barrel notches. Attempt to fire by pushing on the butterfly trigger; machine gun should not fire.
9. Retract bolt just enough to remove **"NO FIRE**" gage and insert "**FIRE**" gage with beveled edge against barrel notches. Attempt to fire by pushing on butterfly trigger; machine gun should fire. (Remove "**FIRE**" gage). **Timing adjustment is complete**.

Reference TM 9-1005-213-10 WP 0006 00.
(https://aeps2.ria.army.mil/aepshome.cfm)

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RECOMMENDED CHANGES TO PUBLICATIONS AND BLANK FORMS For use of this form, see AR 25-30; the proponent agency is OAASA	Use Part II *(reverse)* for Repair Parts and Special Tool Lists (RPSTL) and Supply Catalogs/Supply Manuals (SC/SM).	DATE Date you filled out this form.
TO: *(Forward to proponent of publication or form) (Include ZIP Code)* U.S. Army TACOM Life Cycle Management Command ATTN: AMSTA-LCL-MPP/TECH PUBS, 1 Rock Island Arsenal, Rock Island, IL 61299-7630	**FROM:** *(Activity and location) (Include ZIP Code)* Your mailing address	

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

PUBLICATION/FORM NUMBER	DATE	TITLE
TM 9-1005-213-10	12 Feb 10	Operators Manual for Machine Guns, Caliber .50 M2, Heavy Barrel

ITEM	PAGE	PARA-GRAPH	LINE	FIGURE NO.	TABLE	RECOMMENDED CHANGES AND REASON
						SAMPLE

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

TYPED NAME, GRADE OR TITLE	TELEPHONE EXCHANGE/AUTOVON, PLUS EXTENSION	SIGNATURE
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PUBLICATION NUMBER	DATE	TITLE
TM 9-1005-213-10	12 Feb 10	Operators Manual for Machine Guns, Caliber .50, M2, Heavy Barrel

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

SAMPLE

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

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

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ITEM	PAGE	PARA-GRAPH	LINE	FIGURE NO.	TABLE	RECOMMENDED CHANGES AND REASON

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

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TM 9-1005-213-10	12 Feb 10	Operators Manual for Machine Guns, Caliber .50, M2, Heavy Barrel

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

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

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

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RECOMMENDED CHANGES TO PUBLICATIONS AND BLANK FORMS For use of this form, see AR 25-30; the proponent agency is OAASA	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)* U.S. Army TACOM Life Cycle Management Command ATTN: AMSTA-LCL-MPP/TECH PUBS, 1 Rock Island Arsenal, Rock Island, IL 61299-7630	**FROM:** *(Activity and location) (Include ZIP Code)*

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

PUBLICATION/FORM NUMBER	DATE	TITLE
TM 9-1005-213-10	12 Feb 10	Operators Manual for Machine Guns, Caliber .50, M2, Heavy Barrel

ITEM	PAGE	PARA-GRAPH	LINE	FIGURE NO.	TABLE	RECOMMENDED CHANGES AND REASON

** 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)*	FROM: *(Activity and location) (Include ZIP Code)*	DATE
U. S. Army TACOM Life Cycle Management Command ATTN: AMSTA-LCL-MPP/TECH PUBS, 1 Rock Island Arsenal, Rock Island, IL 61299-7630		

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

PUBLICATION NUMBER	DATE	TITLE
TM 9-1005-213-10	12 Feb 10	Operators Manual for Machine Guns, Caliber .50, M2, Heavy Barrel

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

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