TM 9-1005-213-10

DEPARTMENT OF THE ARMY TECHNICAL MANUAL

OPERATOR'S MANUAL

MACHINE GUN, CALIBER .50

BROWNING, M2, HEAVY BARREL, FLEXIBLE, W/E

(1005-322-9715)

MOUNT, TRIPOD, MACHINE GUN

CALIBER .50, M3, W/E

(1005-322-9716)

MOUNT, MACHINE GUN, ANTIAIRCRAFT

CALIBER .50, M63, W/E

(1005-673-3246)

This copy is a reprint which includes current pages from Changes 1 through 6.

HEADQUARTERS, DEPARTMENT OF THE ARMY

JULY 1968

TAGO 5200C

TM 9–1005–213–10
C 1

CHANGE
No. 1

HEADQUARTERS
DEPARTMENT OF THE ARMY
WASHINGTON, D.C., *29 August 1973*

Operator's Manual

MACHINE GUN, CALIBER .50
BROWNING, M2, HEAVY BARREL, FLEXIBLE, W/E
(1005–322–9715)
MOUNT, TRIPOD, MACHINE GUN
CALIBER .50, M3, W/E
(1005–322–9716)
MOUNT, MACHINE GUN, ANTIAIRCRAFT
CALIBER .50 M63, W/E
(1005–673–3246)

TM 9–1005–213–10, 12 July 1968, is changed as follows:

Page 3. Paragraph 1–2*b* is superseded as follows:

b. Reporting of Equipment Publication Improvements. The reporting of errors, omissions, and recommendations for improving this publication by the individual user is encouraged. Reports should be submitted on DA Form 2028 (Recommended Changes to Publications) and forwarded direct to Commander, US Army Weapons Command, ATTN: AMSWE–MAS, Rock Island, IL 61201.

Page 49. Make the following changes to table 3–1:

Change	To
Cleaning compound solvent: (CR).	Cleaning compound, rifle bore: (RBC).

Add the following at the end of table:

1005–288–3565 SWAB, SMALL ARMS CLEANING: Cotton, 2½ in sq (1000 in pkg.)

Page 50. Make the following changes to table 3–2 under:

USUAL CONDITIONS

Machine Gun

In step 1, change "(CR) solvent cleaning compound (MIL–C–52399)" to read "(RBC) rifle bore cleaning compound (MIL–C–372)."

In step 4, change "(MIL–L–644)" to "(VV–L–800)."

Tripod Mount M3

In step 3, change "(MIL–L–644)" to "(VV–L–800)."

Page 51.

Antiaircraft Mount M63

In step 3, change "(MIL–L–644)" to "(VV–L–800)."

Page 91. Appendix B (with the exception of illustrations B–1 and B–2) is superseded as follows:

APPENDIX B
BASIC ISSUE ITEMS LIST AND ITEMS TROOP INSTALLED OR AUTHORIZED LIST

Section 1. INTRODUCTION

1. Scope

This appendix lists basic issue items and items troop installed or authorized required by the crew/operator for operation of the M2 machine

gun, M3 tripod mount and M63 antiaircraft mount.

2. General

These basic issue items and items troop installed or authorized lists are divided into the following sections:

a. Basic Issue Items List—Section II. A list in alphabetical sequence of items which are furnished with, and must be turned in with, the end item.

b. Items Troop Installed or Authorized List—Section III. A list in alphabetical sequence of items which, at the discretion of the unit commander, may accompany the end item, but are not subject to be turned in with the end item.

3. Explanation of Columns

The following provides an explanation of columns found in the tabular listings:

a. Federal Stock Number. This column indicates the Federal stock number assigned to the item which will be used for requisitioning purposes

b. Description. This column indicates the Federal item name and a minimum description required to identify the item. The last line indicates the reference number followed by the applicable Federal supply code for manufacturer (FSCM) in parentheses. The FSCM is used as an element in item identification to designate the manufacturer, distributor, or Government agency; etc.,

and is identified in SB 708-42. Items that are included in kits and sets and listed below the name of the kit or set with the quantity of each item in the kit or set indicated in front of the item name.

c. Unit of Measure (U/M). This column indicates the standard or basic quantity by which the listed item is used in performing the actual maintenance function. This measure is expressed by a two-character alphabetical abbreviation; e.g., ea, in., pr; etc., and is the basis used to indicate quantities. When the unit of measure differs from the unit of issue, the lowest unit of issue that will satisfy the required units of measure will be requisitioned.

d. Quantity Furnished with Equipment (Basic Issue Items Only). This column indicates the quantity of the item furnished with the equipment.

e. Quantity Authorized (Items Troop Installed or Authorized Only). This column indicates the quantity authorized to be used with the equipment.

f. Illustration (Basic Issue Items Only). This column is divided as follows:

(1) *Figure Number.* This column indicates the figure number of the illustration in which the item is shown.

(2) *Item Number.* This column indicates the number used to identify each item called out in the illustration.

Section II. BASIC ISSUE ITEMS LIST

(1) Federal stock No.	(2) Description Reference number & mfr. code	(3) Unit of meas	(4) Qty furn with equip	(5) Illustration (a) Fig. No.	(5) Illustration (b) Item No.
1005-726-6131	BARREL ASSEMBLY: 7266131 (19204).	ea	1	B-1	
4933-716-0041	EXTRACTOR, RUPTURED CARTRIDGE CASE: 7160041 (19204).	ea	1	B-2	2
1005-716-2072	FLASH HIDER: 7162072 (19204).	ea	1	B-2	7
4933-535-1217	GAGE, HEADSPACE AND TIMING: 5351217 (19204).	ea	1	B-2	1

Section III. ITEMS TROOP INSTALLED OR AUTHORIZED LIST

(1) Federal stock No.	(2) Description Reference number & mfr. code	(3) Unit of meas	(4) Qty auth.
1005-766-0915	BRUSH, CLEANING, SMALL ARMS: Chamber 7790737 (19204).	ea	1
1005-716-2702	BRUSH, CLEANING, SMALL ARMS: Firing pin hole 7162702 (19204).	ea	1
1005-550-4037	BRUSH, CLEANING, SMALL ARMS: M4 bore 5504037 (19204).	ea	2
8105-921-5821	CASE, SMALL ARMS ACCESSORIES: 11686430 (19204).	ea	1
1005-781-9108	COVER, MACHINE GUN, CAL. .50: Arctic use only 8444960 (19204).	ea	1
1005-659-1031	COVER, SPARE BARREL: 6591031 (19204).	ea	1
8105-555-9696	ENVELOPE: M1, spare parts 5559696 (19204).	ea	1
8415-266-8843	MITTEN, ASBESTOS: 27-M-394 (81349).	ea	1
1005-653-5441	ROD, CLEANING, SMALL ARMS: M7 jointed 6535441 (19204).	ea	1

1005-650-7302	ROLL, ORDNANCE WEAPONS SPARE PARTS: 6507302 (19204).	ea	1
5140-650-7328	ROLL, TOOL: Canvas, empty, M10 6507328 (19204).	ea	1
1005-716-2704	SWAB HOLDER SECTION, SMALL ARMS CLEANING ROD: 7162704 (19204).	ea	1

By Order of the Secretary of the Army:

CREIGHTON W. ABRAMS
General, United States Army
Chief of Staff

Official:
VERNE L. BOWERS
Major General, United States Army
The Adjutant General

Distribution:
To be distributed in accordance with DA Form 12–40 (qty rqr block No. 91) Operator's Maintenance Requirements for Machine Gun, Caliber .50 M2 and Mounts.

Changes in force: C 1 and C 2

TM 9-1005-213-10
C 2

CHANGE
No. 2

HEADQUARTERS
DEPARTMENT OF THE ARMY
WASHINGTON, D.C., *15 October 1973*

Operator's Manual

MACHINE GUN, CALIBER .50
BROWNING, M2, HEAVY BARREL, FLEXIBLE, W/E
(1005-322-9715)
MOUNT, TRIPOD, MACHINE GUN
CALIBER .50, M3, W/E
(1005-322-9716)
MOUNT, MACHINE GUN, ANTIAIRCRAFT
CALIBER .50, M63, W/E
(1005-673-3246)

TM 9-1005-213-10, 12 July 1968, is changed as follows:

Page 4-1. Table 2-7 is superseded as follows:

Table 2-7. Immediate Action in Case of Failure to Fire

Step	*Procedure*
	COOL WEAPON
1	Immediately fully retract the bolt assembly and release it. Observe the ejection as the bolt returns to its battery position.
2	If a live round/fired case ejects, re-lay on the target and attempt to fire.

Table 2–7. Immediate Action in Case of Failure to Fire (Continued)

Step	Procedure
3	If the weapon fires, continue.
4	If the weapon fails to fire, open the cover assembly. Remove the ammunition belt, close the cover, fully retract the bolt assembly and release it. The bolt returns to its battery position. If no ejection occurs, retract the bolt part way back, open the cover, and inspect the chamber. If the chamber is clear, proceed to step 5. If not, a second man (standing off to the side) inserts a cleaning rod into muzzle (bolt held part way back w/cover open), and gently taps the round/case out of the chamber. The weapon is not clear.
5	Check the weapon (disassemble) to determine the cause of the stoppage.

HOT WEAPON

CAUTION

Do not open the cover assembly.

WARNING

Immediate action must be applied within 10 seconds. The danger of a cook-off condition exists when the barrel is hot. Keep the weapon trained on the target.

When a stoppage occurs after firing 150 rounds within a 2-minute period, perform the steps listed below:

NOTE

If bolt cannot be retracted, keep the weapon trained down range. Allow 5 minutes for cooling. Notify organizational

Table 2–7. Immediate Action in Case of Failure to Fire (Continued)

Step	Procedure
	maintenance for assistance. *NEVER* remove the backplate assembly from any weapon until the chamber has been cleared.
1	Apply immediate action. Fully retract the bolt assembly (return handle forward). Observe if the ejection occurs at the same time.
2	If a live round/fired case ejects, attempt to fire the weapon.
3	If the weapon fires, continue to fire.
4	If the weapon fails to fire, allow at least 5 minutes of waiting (cooling period).
5	After 5 minutes cooling, open the cover assembly, remove the ammunition belt, close the cover, retract the bolt assembly (return handle forward), and observe the ejection.
6	If a live round/fired case ejects, proceed to step 8. The weapon is clear.
7	If no ejection, open the cover assembly and retract the bolt assembly part way back. A second man (standing off to the side) inserts a cleaning rod into the muzzle and gently taps the round/case out of the chamber. The weapon is not clear.
8	Check the weapon (disassemble) to determine the cause of the stoppage.

By Order of the Secretary of the Army:

CREIGHTON W. ABRAMS
General, United States Army
Chief of Staff

Official:
VERNE L. BOWERS
Major General, United States Army
The Adjutant General

Distribution:

To be distributed in accordance with DA Form 12-40 (qty rqr block No. 91) Operator and Crew Maintenance Requirements for Machine Gun, Caliber .50, M2 and Mounts.

Changes in force: C1, C2, and C3

TM 9-1005-213-10
C3

CHANGE NO. 3

HEADQUARTERS
DEPARTMENT OF THE ARMY
WASHINGTON, DC, *30 June 1977*

Operator's Manual
MACHINE GUN, CALIBER .50 BROWNING, M2, HEAVY BARREL, FLEXIBLE, W/E (1005-00-322-9715)
MOUNT, TRIPOD, MACHINE GUN CALIBER .50, M3, W/E (1005-00-322-9716)
MOUNT, MACHINE GUN, ANTIAIRCRAFT CALIBER .50, M63, W/E (1005-00-673-3246)

TM 9-1005-213-10, 12 July 1968, is changed as follows:

Page 1. Reporting of Errors is added before table of contents as follows:

REPORTING OF ERRORS

You can help improve this manual by recommending improvements using DA Form 2028 (Recommended Changes to Publications and Blank Forms) and mail the form direct to Commander, US Army Armament Materiel Readiness Command, ATTN: DRSAR-MAS, Rock Island, IL 61201. A reply will be furnished direct to you.

Page 2. Appendix B in table of contents is changed to read as follows:

Page 2. Appendix C and D are added to the table of contents as follows:

Page 3. Paragraph 1-2b is deleted.

Page 49. Table 3-1 is deleted.

Page 52. Section III is superseded as follows:

Section III. PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS)

3-5. General

a. Before You Operate. Always keep in mind the CAUTIONS and WARNINGS. Perform your before (B) PMCS.

b. After You Operate. Be sure to perform your after (A) PMCS.

c. If Your Equipment Fails to Operate. Troubleshoot with proper equipment. Report any deficiencies using the proper forms, see TM 38-750.

3-5.1. Preventive Maintenance Checks and Services (PMCS)

a. PMCS Procedures.

(1) General. The PMCS procedures are contained in table 3-3. They are arranged in logical sequence requiring a minimum amount of time and motion on the part of the persons performing them and are arranged so that there will be a minimum interference between persons performing checks simultaneously on the same end item.

(2) *Item number column.* Checks and services are numbered in chronological order regardless of interval. This column shall be used as a source of item numbers for the "TM Number" column on DA Form 2404, Equipment Inspection and Maintenance Worksheet, in recording results of PMCS.

(3) *Interval columns.* The columns headed "B," "A," and "W" contain a dot (•) opposite the appropriate check. Thus, if a given check is performed before operation, a dot is placed opposite the checks in the "B" column; if the check is accomplished after operation, the dot is placed in the column headed "A," and if the same check is made in two or more periods, a dot is placed in each applicable column.

(4) *Item to be inspected column.* The items to be inspected are to be identified by as few words, usually the common name, as will clearly identify the item, e.g., "Machine Gun," "Barrel Assembly," "Headspace and Timing."

(5) *Procedures column.* This column contains a brief description of the procedure by which the check is to be performed. It contains all the information required to accomplish the checks and services, including appropriate tolerances, adjustment limits, and instrument and gage readings.

(6) *For readiness reporting, equipment is not ready/available if: column.* This column contains the criteria which will cause the equipment to be classified as not ready/available because of inability to perform its primary mission.

b. Special Instructions. If an item in a longer interval chart requires more frequent checking and servicing when the equipment is used in an unusual environment, the special intervals are indicated by an asterisk before the sequence number, and a letter after the sequence number. Footnotes are used to explain special intervals.

Table 3-3. Operator/Crew Preventive Maintenance Checks and Services

NOTE: Within designated interval, these checks are to be performed in the order listed.

B-Before A-After W-Weekly

Item No.	Interval B	Interval A	Interval W	Item to be Inspected	Procedures Check for and have repaired or adjusted as necessary	For Readiness Reporting, Equipment is Not Ready/Available if:
				Caliber .50 Machine Gun M2		
1	•			Machine Gun	Hand operate the gun using dummy cartridges - check feed components and trigger.	Will not function.
2	•	•		Barrel Assembly	Check barrel for obstructions or damage.	Obstruction in barrel or barrel damaged.
3	•			Headspace and Timing	Check for proper headspace and timing (table 2-4 and 2-5)	Proper headspace and timing cannot be obtained.

Table 3-3—Continued

NOTE: Within designated interval, these checks are to be performed in the order listed.

B-Before **A-After** **W-Weekly**

Item No.	Interval B	Interval A	Interval W	Item to be Inspected	Procedures Check for and have repaired or adjusted as necessary	For Readiness Reporting, Equipment is Not Ready/Available if:
4	•			Rear Sight Assembly	Assure sight assembly is clean and lightly oiled. Sight setting should be a 1,000 windage zero and leaf assembly down. (Ref. fig. 3-6.)	
				Caliber .50 Tripod Mount M3		
5	•			Legs and Tripod Head	Legs must be separated and must contact side of tripod head to insure rigidity of mount. Pintle must be secured to tripod head by pintle lock assembly. (Ref. figs. 2-5 and 2-6.)	Pintle will not secure to tripod head.

Table 3-3—Continued

NOTE: Within designated interval, these checks are to be performed in the order listed.

B-Before A-After W-Weekly

Item No.	Interval B	Interval A	Interval W	Item to be Inspected	Procedures Check for and have repaired or adjusted as necessary	For Readiness Reporting, Equipment is Not Ready/Available if:
6	•			Traversing and Elevating Mechanism	Make certain sleeve is secured to the traversing bar assembly when traversing slide lock lever is in locked position. Traversing and elevating handwheels must function properly. (Ref. fig. 2-6.)	Broken, binding, worn or missing parts.
				Caliber .50 AA Mount M63		
7	•			Mount Leg, Elevator Assembly, and Base Assembly Group	Examine pintle lock clamp for freedom of operation. Check lock assembly for freedom of operation. Toggle bolt should operate freely. Check alining lug	Broken, binding, worn, or missing parts.

Table 3-3—Continued

NOTE: Within designated interval, these checks are to be performed in the order listed.

B-Before A-After W-Weekly

Item No.	Interval B	Interval A	Interval W	Item to be Inspected	Procedures Check for and have repaired or adjusted as necessary	For Readiness Reporting, Equipment is Not Ready/Available if:
					on leg for damage. Check headless pin on base assembly for freedom of movement. (Ref. fig. 2-8.)	
8	•		•	Cradle and Yoke Assembly	Check front and rear mounting pins and cradle locking pin to insure that they operate freely. (Ref. fig. 2-9.)	Damaged, binding, or missing parts.
9	•			Ammunition Box Tray	Check lever for proper functioning. (Ref. fig. 2-10.)	Binding, bent, damaged, or missing parts.

Table 3-3—Continued

NOTE: Within designated interval, these checks are to be performed in the order listed.

B-Before A-After W-Weekly

Item No.	Interval			Item to be Inspected	Procedures Check for and have repaired or adjusted as necessary	For Readiness Reporting, Equipment is Not Ready/Available if:
	B	A	W			
10	•			Trigger Frame Assembly	Check positive action of machine gun grips and firing handle rod to operate slide plate trigger assembly. Check lock assembly for proper functioning. (Ref. fig. 2-14.)	
11	•			Side Plate Trigger Assembly	Determine that side plate trigger assembly is secured to side of machine gun and operates freely. (Ref. fig. 2-14.)	

Page 91. Appendix B is superseded as follows:

APPENDIX B

COMPONENTS OF END ITEM LIST

Section I. INTRODUCTION

B-1. Scope

This appendix lists integral components of and basic issue items for Caliber .50 Machine Gun M2, Caliber .50 Tripod Mount M3, and Caliber .50 AA Mount M63 to help you inventory items required for safe and efficient operation.

B-2. General

This Components of End Item List is divided into the following sections:

a. Section II. Integral Components of the End Item. These items, when assembled, comprise the Caliber .50 Machine Gun M2, Caliber .50 Tripod Mount M3, and Caliber .50 AA Mount M63 and must accompany them whenever they are transferred or turned in. The illustrations will help you identify these items.

b. Section III. Basic Issue Items. These are the minimum essential items required to place the Caliber .50 Machine Gun M2, Caliber .50 Tripod Mount M3, and Caliber .50 AA Mount M63 in operation, to operate them, and to perform emergency repairs. Although shipped separately packed they must accompany the Caliber .50 Machine Gun M2, Caliber .50 Tripod Mount M3, and Caliber .50 AA Mount M63 during operation and whenever they are transferred between accountable officers. The illustrations will assist you with hard-to-identify items. This manual is your authority to requisition replacement BII, based on TOE/MTOE authorization of the end item.

B-3. Explanation of Columns

a. Illustration. This column is divided as follows:

(1) *Figure Number.* Indicates the figure number of the illustration on which the item is shown.

(2) *Item Number.* The number used to identify item called out in the illustration.

b. National Stock Number. Indicates the National stock number assigned to the item and which will be used for requisitioning.

c. Part Number. Indicates the primary number used by the manufacturer, which controls the design and characteristics of the item by means of its engineering drawings, specifications, standards, and inspection requirements, to identify an item or range of items.

d. Description. Indicates the Federal item name and, if required, a minimum description to identify the item.

e. Location. The physical location of each item listed is given in this column. The lists are designed to inventory all items in one area of the major item before moving on to an adjacent area.

f. Usable on Code. Not applicable.

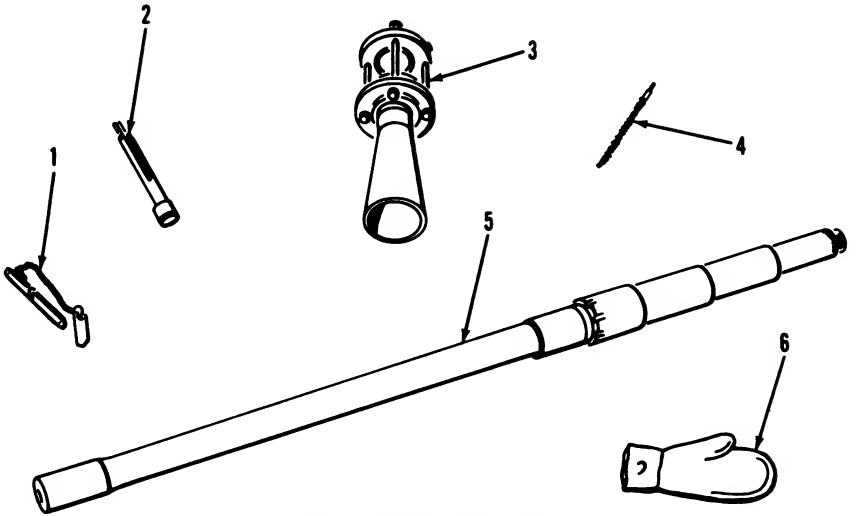
g. Quantity Required (Qty Reqd). This column lists the quantity of each item required for a complete major item.

h. Quantity. This column is left blank for use during an inventory. Under the Rcv'd column, list the quantity you actually receive on your major item. The Date columns are for your use when you inventory the major item at a later date; such as for shipment to another site.

Section II. INTEGRAL COMPONENTS OF END ITEM

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8) QUANTITY			
(a) FIGURE NO.	(b) ITEM NO.	NATIONAL STOCK NUMBER	PART NO.	DESCRIPTION	LOCATION	USABLE ON CODE	QTY REQD	RCV'D	DATE	DATE	DATE
				None							

Section III. Basic Issue Items



B-1. Basic Issue Items

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8) QUANTITY		
(a) FIGURE NO.	(b) ITEM NO.	NATIONAL STOCK NUMBER	PART NO.	DESCRIPTION	LOCATION	USABLE ON CODE	QTY REQD	RCV'D DATE	DATE	DATE
B-1	1	4933-00-535-1217	5351217	GAGE, HEADSPACE AND TIMING:			1			
B-1	2	4933-00-716-0041	7160041	EXTRACTOR, RUPTURED CARTRIDGE CASE:			1			
B-1	3	1005-00-716-2072	7162072	FLASH HIDER:			1			
B-1	4	1005-00-716-2702	7162702	BRUSH, CLEANING: firing pin hole			1			
B-1	5	1005-00-726-6131	7266131	BARREL ASSEMBLY:			1			
B-1	6	8415-00-266-8843	27-M-394	MITTEN, ASBESTOS:			1			
-	-	----------	-------	TM 9-1005-213-10						

Page 107 **Appendix C is added as follows:**

APPENDIX C

ADDITIONAL AUTHORIZATION LIST

Section I. INTRODUCTION

C-1. Scope

This appendix lists additional items you are authorized for the support of the Caliber .50 Machine Gun M2, Caliber .50 Tripod Mount M3, and Caliber .50 AA Mount M63.

C-2. General

This list identifies items that do not have to accompany the Caliber .50 Machine Gun M2, Caliber .50 Tripod Mount M3, and Caliber .50 AA Mount M63 and that do not have to be turned in with them. These items are all authorized to you by CTA, MTOE, TDA, or JTA.

C-3. Explanation of Listing

National stock numbers, descriptions, and quantities are provided to help you identify and request the additional items you require to support this equipment.

Section II. ADDITIONAL AUTHORIZATION LIST

(1) NATIONAL STOCK NUMBER	(2) DESCRIPTION PART NUMBER & FSCM USABLE ON CODE	(3) U/M	(4) QTY AUTH
1005-00-550-4037	BRUSH, CLEANING, SMALL ARMS: M4 bore, 5504037 (19204)	EA	1
1005-00-766-0915	BRUSH, CLEANING, SMALL ARMS CHAMBER: 7790737 (19204)	EA	1
8105-00-921-5821	CASE, SMALL ARMS, ACCESSORIES: 11686430 (19204)	EA	1
1005-00-796-4436	COVER, SPARE BARREL: (for turret type (TT) only), 7964436 (19204)	EA	1
1005-00-487-4100	COVER, MACHINE GUN, CALIBER .50: (for TT only), 11631791 (19204)	EA	1
1005-00-653-5441	ROD, CLEANING, SMALL ARMS: M7 jointed, 6535441 (19204)	EA	1
1005-00-716-2704	SWAB HOLDER SECTION: 7162704 (19204)	EA	1

Page 107 Appendix D is added as follows:

APPENDIX D

EXPENDABLE SUPPLIES AND MATERIALS LIST

Section I. INTRODUCTION

D-1. Scope

This appendix lists expendable supplies and materials you will need to operate and maintain the Caliber .50 Machine Gun M2, Caliber .50 Tripod Mount M3, and Caliber .50 AA Mount M63. These items are authorized to you by CTA 50-970, Expendable Items (Except Medical, Class V, Repair Parts, and Heraldic Items).

D-2. Explanation of Columns

a. Column 1—Item Number. This number is assigned to the entry in the listing and is referenced in the narrative instructions to identify the material (e.g., "Use cleaning compound, item 5, app. D").

b. Column 2—Level. This column identifies the lowest level of maintenance that requires the listed item.

C—Operator/Crew

c. Column 3—National Stock Number. This is the National stock number assigned to the item; use it to request or requisition the item.

d. Column 4—Description. Indicates the Federal item name and, if required, a description to identify the item. The last line for each item indicates the part number followed by the Federal Supply Code for Manufacturer (FSCM) in parentheses, if applicable.

e. Column 5—Unit of Measure (U/M). Indicates the measure used in performing the actual maintenance function. This measure is expressed by a two-character alphabetical abbreviation (e.g., ea, in, pr). If the unit of measure differs from the unit of issue, requisition the lowest unit of issue that will satisfy your requirements.

Section II. EXPENDABLE SUPPLIES AND MATERIALS LIST

(1) ITEM NUMBER	(2) LEVEL	(3) NATIONAL STOCK NUMBER	(4) DESCRIPTION	(5) U/M
1	C	8020-00-244-0153	BRUSH, ARTISTS: H-B-241 (81348)	EA
			CARBON REMOVING COMPOUND: dip type, rinsing required P-C-111, type II (81348)	
2	C	6850-00-965-2332	5 gal can	EA
			CLEANING COMPOUND, SOLVENT: degreasing self emulsifying MIL-C-11090 (81349)	
3	C	6850-00-224-6656	2 oz container	EA
			CLEANING COMPOUND, SOLVENT: rifle bore cleaner (RBC) MIL-C-372 (81349)	
4	C	6850-00-224-6657	8 oz can	EA
5	C	6850-00-224-6663	1 gal can	EA

(1) ITEM NUMBER	(2) LEVEL	(3) NATIONAL STOCK NUMBER	(4) DESCRIPTION	(5) U/M
6	C	6850-00-281-1985	DRY CLEANING SOLVENT: P-D-680, type I, (81349) 1 gal can	EA
7	C	9150-00-190-0907	GREASE, AUTOMOTIVE AND ARTILLERY: (GAA) minus 65° F to plus 125° F efficient temp range. MIL-G-10924 (81349) 35 lb can	EA
8	C	9150-00-273-2389	LUBRICATING OIL, GENERAL PURPOSE: medium (PL-M), VV-L-800M (81349) 4 oz can	EA

(1) ITEM NUMBER	(2) LEVEL	(3) NATIONAL STOCK NUMBER	(4) DESCRIPTION	(5) U/M
			LUBRICATING OIL, GENERAL PURPOSE: special preservative (PL-S) VV-L-800, (81349)	
9	C	9150-00-231-6689	1 qt can	EA
			LUBRICATING OIL, WEAPONS: MIL-L-141 (81349)	
10	C	9150-00-292-9689	1 qt can	EA
			RAG, WIPING: cotton, bleached or unbleached, mixture of white or colored, designed for general purpose use DDD-R-30 (81348)	
11	C	7920-00-205-1711	50 lb bale	EA

By Order of the Secretary of the Army:

BERNARD W. ROGERS
General, United States Army
Chief of Staff

Official:

PAUL T. SMITH
Major General, United States Army
The Adjutant General

Distribution:

To be distributed in accordance with DA Form 12-40, Operator and Crew Maintenance Requirements for Gun, Machine, Cal. 50, M2 and Mounts.

Changes in Force: C1, C2, C3, and C4

TM 9-1005-213-10
C 4

CHANGE
No. 4

HEADQUARTERS
DEPARTMENT OF THE ARMY
WASHINGTON, DC, *20 April 1979*

Operator's Manual
MACHINE GUN, CALIBER .50
BROWNING, M2, HEAVY BARREL,
FLEXIBLE, W/E
(1005-00-322-9715)
MOUNT, TRIPOD, MACHINE GUN
CALIBER .50, M3, W/E
(1005-00-322-9716)
MOUNT, MACHINE GUN, ANTIAIRCRAFT
CALIBER .50, M63, W/E
(1005-00-673-3246)

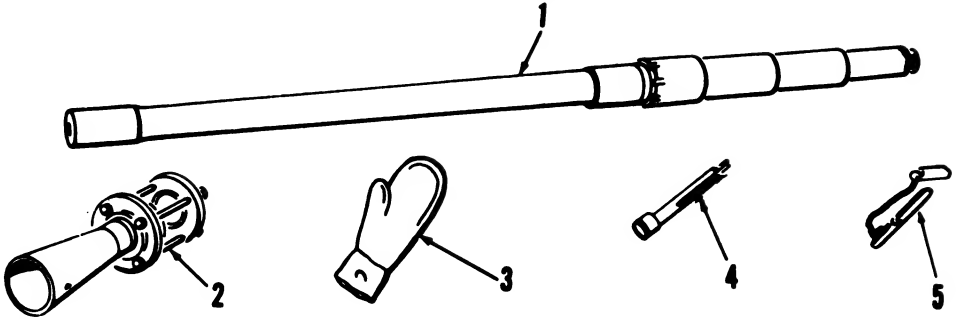
TM 9-1005-213-10, 12 July 1968, is changed as follows:

Page 3. Paragraph 1-2.1 is added as follows:

1-2.1. Hand Receipt
Hand receipts for Basic Issue Items (BII) and Additional Authorized List (AAL) items are published in a Hand Receipt Manual. The Hand Receipt Manual numerical designation is the same as the related Technical Manual with the letters HR added to the number. These manuals are published to aid in property accountability and are available through:
Commander, US Army Adjutant General Publication Center, ATTN: AGDL-OD, 1655 Woodson Road, St. Louis, MO 63114.

Page 97. Section III of Appendix B is superseded as follows:

Section III. Basic Issue Items



B-1. (Superseded) Basic Issue Items

These items must accompany weapon during operation and whenever it is transferred between accountable officers. This manual is your authority to requisition replacement BII.

(1) ILLUS		(2)	(3)	(4)	(5)	(6)	(7)	(8) QUANTITY			
(a) FIG NO.	(b) ITEM NO.	NATIONAL STOCK NUMBER	PART NO.	DESCRIPTION	LOCATION	USABLE ON CODE	QTY REQD	RCV'D	DATE	DATE	DATE
B-1	1	1005-00-726-6131	7266131	BARREL, GUN			1				
B-1	2	1005-00-716-2072	7162072	FLASH HIDER			1				
B-1	3	8415-00-266-8843	11655982	MITTEN, CLOTH ASBESTOS			1				
B-1	4	4933-00-716-0041	7160041	EXTRACTOR, RUPTURED CARTRIDGE			1				
B-1	5	4933-00-535-1217	5351217	GAGE, HEADSPACE AND TIMING			1				

Section II of Appendix C (added by change 3) is superseded as follows:

Section II. ADDITIONAL AUTHORIZATION LIST

(1) NATIONAL STOCK NUMBER	(2) DESCRIPTION PART NUMBER & FSCM USABLE ON CODE	(3) U/M	(4) QTY AUTH
8105-00-921-5821	BAG, ORDNANCE WEAPON 11686430 (19204)	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 7162702 (19205)	EA	1

(1) NATIONAL STOCK NUMBER	(2) DESCRIPTION PART NUMBER & FSCM USABLE ON CODE	(3) U/M	(4) QTY AUTH
1005-00-487-4100	COVER, MACHINE GUN 11631791 (19207)	EA	1
1005-00-796-4436	COVER, SPARE BARREL 7964436 (19207)	EA	1
1005-00-653-5441	ROD, CLEANING, SMALL ARMS 6535441 (19204)	EA	1
1005-00-556-4102	ROD, CLEANING, SMALL ARMS 5564102 (19204)	EA	1
1005-00-716-2704	SWAB HOLDER SECTION 7162704 (19205)	EA	1

Section II of Appendix D (added by change 3) is superseded as follows:

Section II. EXPENDABLE SUPPLIES AND MATERIALS LIST

(1) ITEM NUMBER	(2) LEVEL	(3) NATIONAL STOCK NUMBER	(4) DESCRIPTION	(5) U/M
1	C	7920-00-205-2401	BRUSH, CLEANING TOOL: MIL-S-43871 (81349)	EA
2	C	8020-00-244-0153	BRUSH, ARTISTS: H-B-241 (81348)	EA
			CARBON REMOVING COMPOUND: dip type, rinsing required P-C-111, type II (81348)	
3	C	6850-00-965-2332	5 gal can	EA

(1) ITEM NUMBER	(2) LEVEL	(3) NATIONAL STOCK NUMBER	(4) DESCRIPTION	(5) U/M
			CLEANING COMPOUND, RIFLE: degreasing self emulsifying MIL-C-372 (81349)	
4	C	6850-00-224-6656	2 oz container	EA
			CLEANING COMPOUND, RIFLE: rifle bore cleaner (RBC) MIL-C-372 (81349)	
5	C	6850-00-224-6657	8 oz can	EA
6	C	6850-00-224-6663	1 gal can	EA

(1) ITEM NUMBER	(2) LEVEL	(3) NATIONAL STOCK NUMBER	(4) DESCRIPTION	(5) U/M
7	C	5350-00-221-0872	CLOTH, ABRASIVE P-C-458 (81348) DRY CLEANING SOLVENT: P-S-661 type I, (02978)	SH
8	C	6850-00-281-1985	1 gal can	GL
9	C	9150-00-190-0905	GREASE, AUTOMOTIVE ARTILLERY: BRAYCOTE-610 (98308) GREASE,AUTOMOTIVE AND ARTILLERY: (GAA) minus 65F to plus 125F efficient temp range	LB

(1) ITEM NUMBER	(2) LEVEL	(3) NATIONAL STOCK NUMBER	(4) DESCRIPTION	(5) U/M
			BRAYCOTE-610 (98308)	
10	C	9150-00-190-0907	35 lb can	LB
			LUBRICATING OIL, GENERAL PURPOSE: medium (PL-M) VV-L-800 (81348)	
11	C	9150-00-231-6689	1 qt can	QT
12	C	9150-00-273-2389	4 oz can	OZ
			LUBRICATING OIL, WEAPONS: BRAYCO-855 (79550)	
13	C	9150-00-292-9689	1 qt can	QT

(1) ITEM NUMBER	(2) LEVEL	(3) NATIOAL STOCK NUMBER	(4) DESCRIPTION	(5) U/M
14	C	7920-00-205-1711	RAG, WIPING: cotton, bleached or unbleached, mixture of white or colored, designed for general purpose use DDD-R-30 (81348) 50 lb bale	LB

By Order of the Secretary of the Army:

BERNARD W. ROGERS
General, United States Army
Chief of Staff

Official:

J. C. PENNINGTON
Major General, United States Army
The Adjutant General

Distribution:

To be distributed in accordance with DA Form 12-40, Operator maintenance requirements for Gun, Machine, Cal .50, M2 & Mounts.

Changes in Force: C1, C2, C3, C4, and C5

TM 9-1005-213-10
C5

CHANGE
NO. 5

HEADQUARTERS
DEPARTMENT OF THE ARMY
WASHINGTON, DC, *20 August 1981*

Operator's Manual

MACHINE GUN, CALIBER .50

BROWNING, M2, HEAVY BARREL,

FLEXIBLE, W/E

(1005-00-322-9715)

MOUNT, TRIPOD, MACHINE GUN

CALIBER .50, M3, W/E

(1005-00-322-9716)

MOUNT, MACHINE GUN, ANTIAIRCRAFT

CALIBER .50, M63, W/E

(1005-00-673-3246)

TM 9-1005-213-10, 12 July 1968, is changed as follows:
Add the following warnings on a warning page:

WARNING

Improper headspace can cause malfunctioning of the machine gun and frequent damage to parts and/or injury to personnel.

Do not attempt to remove back plate unless the bolt is in forward position. Do not attempt to cock machine gun without the back plate assembled to machine gun.

This weapon generates harmful levels of noise when firing. Hearing protection must be worn when firing this weapon.

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

When machine gun has been in action, clear machine gun before anyone moves in front of muzzle. Clearing consists of unloading the machine gun, but not releasing the bolt or pressing the trigger.

Because of the possibility of cook-off, never attempt to remove a round that is chambered in a very hot weapon. All personnel should remain clear of the breech.

During the prescribed time intervals, the weapon will be kept trained on the target and all personnel will stand clear of the barrel assembly.

Immediate action must be applied within 10 seconds. The danger of a cook-off condition exists when the barrel is hot. Keep the weapon trained on the target.

Before starting an inspection, be sure to clear the weapon. Do not actuate the trigger until the weapon has been cleared. Inspect the chamber to insure that it is empty, and check to see that no ammunition is in position to be introduced.

Page 18. Change "Table 2-2--Continued" to "Table 2-3--Continued".

Page 34. Add the following warning to table 2-6:

***Warning:* This weapon generates harmful levels of noise when firing. Hearing protection must be worn when firing this weapon.**

Page 61. Change the caution in figure 3-3 to the following warning:

***Warning:* Do not attempt to remove back plate unless the bolt is in forward position. Do not attempt to cock machine gun without the back plate assembled to machine gun.**

By Order of the Secretary of the Army:

E. C. MEYER
General, United States Army
Chief of Staff

Official:

ROBERT M. JOYCE
Brigadier General, United States Army
The Adjutant General

Distribution:

To be distributed in accordance DA Form
Operator and Crew requirements for Gun Machine,
Cal 50, M2 and Mounts.

Changes in Force: C1, C2, C3, C4, C5 and C6

TM 9-1005-213-10
C6

CHANGE
No. 6

HEADQUARTERS
DEPARTMENT OF THE ARMY
WASHINGTON, DC, 14 June 1985

Operator's Manual
MACHINE GUN, CALIBER .50
BROWNING, M2, HEAVY BARREL, FLEXIBLE, W/E
(1005-00-322-9715)
MOUNT, TRIPOD, MACHINE GUN
CALIBER .50, M3, W/E
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MOUNT, MACHINE GUN, ANTIAIRCRAFT
CALIBER .50, M63, W/E
(1005-00-673-3246)

TM 9-1005-213-10, 12 July 1968, is changed as follows:

Change 4, page 4, is further changed as follows. Add the following item:

(1)	(2)	(3)	(4)
1005-00-550-4080	Carrier Assembly Barrel 5504080(19204)	ea	1

Page 4, paragraph 1-4a, line 13, change "7,440 yd or 6,765 meters" to "7,400 yd or 6,764 meters."

Page 18, Table 2-3, add step 5.1, as follows: "Notify organizational maintenance to install side plate trigger assembly before the weapon is installed on the M63 AA mount."

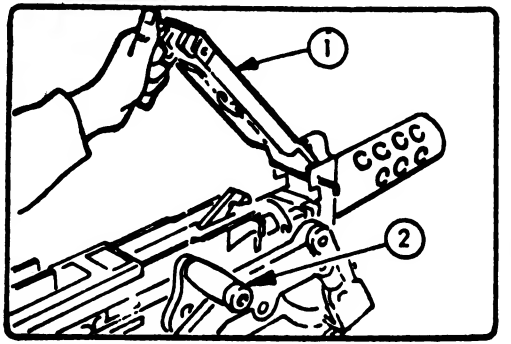
Page 18, para 2-5, Table 2-4 is superseded as follows:

CHECKING AND ADJUSTING HEADSPACE

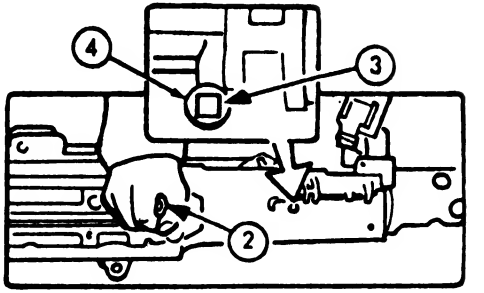
WARNING: Make sure gun is clear of ammo before starting.

Improper headspace and timing can cause malfunctioning of machine gun, damage to gun and injury to soldier.

Note: You'll have to check and adjust headspace before firing . . . after assembling gun . . . and after replacing barrel or receiver group.

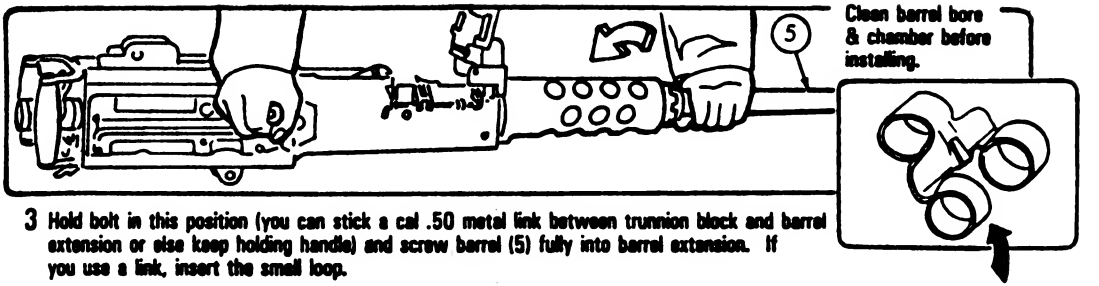


1 Raise cover (1) all the way up. Grasp charging handle (2).



2 With slide handle (2), retract bolt about 3/8 inch until barrel locking spring lug (3) is centered in hole (4) on right side of receiver.

CHECKING AND ADJUSTING HEADSPACE - Continued



3 Hold bolt in this position (you can stick a cal .50 metal link between trunnion block and barrel extension or else keep holding handle) and screw barrel (5) fully into barrel extension. If you use a link, insert the small loop.

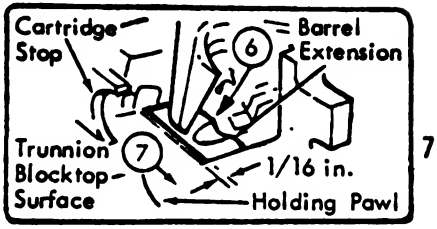
4 With bolt still retracted, unscrew barrel two notches (clicks). Release handle (or remove link, if you use one) and allow bolt to go forward.

WARNING: At this point, check barrel to insure it is locked as follows: 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 the unit armorer to check the barrel notches and/or barrel locking spring for damage. Try both barrels.

CHECKING AND ADJUSTING HEADSPACE - Continued

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

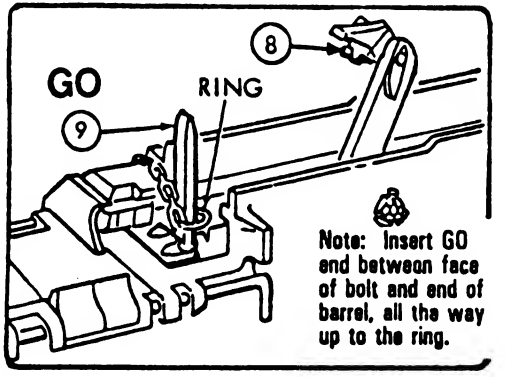
6 Holding handle (2), release bolt and slowly return bolt forward. Don't press trigger . . . and NO SLAMMING!

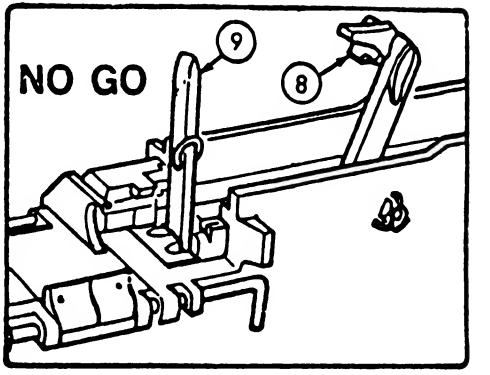


7 Remove slack in the bolt and barrel extension by retracting the charging handle (2) until the barrel extension (6) begins to separate (but not more than 1/16 of an inch) from the trunion block (7).

CHECKING AND ADJUSTING HEADSPACE - Continued

8 Raise extractor (8) out of the way so you can see better and try both ends of GO/NO GO gage (9) as shown below; while holding the operating handle to the rear to keep the 1/16" separation.





9 If GO end of gage enters T-slot to center ring of gage, and the NO GO end will not enter, headspace is correct. Remove gage (9). Headspace adjustment is now complete.

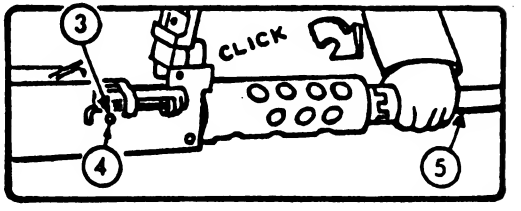
CHECKING AND ADJUSTING HEADSPACE - Continued

HEADSPACE TOO TIGHT

If GO end of gage will not enter T-slot freely, continue as follows:

10 Retract bolt so you can see barrel locking lug spring (3) in center of receiver hole (4) on right side of receiver.

11 Unscrew barrel (5) one notch (click).



12 Slowly return bolt forward: then retract recoiling parts 1/16 inch (Step 7).

13 Recheck head space (Step 9).

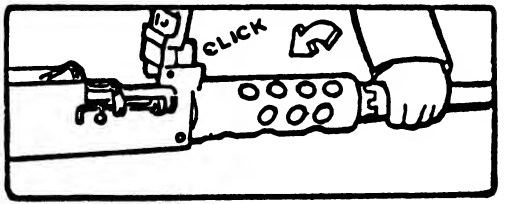
14 Keep repeating steps 10 thru 13 until GO gage fits end NO GO gage does not fit.

Note: Do not unscrew barrel more than a total of five notches (clicks) beyond first setting of two clicks. If this condition occurs, turn in machine gun to unit armorer for inspection.

CHECKING AND ADJUSTING HEADSPACE - Continued

HEADSPACE TOO LOOSE

If NO GO end of gage enters T-slot, adjust using same procedure as above, except that you screw barrel into barrel extension.



Keep repeating above steps, one click at a time, until NO GO gage doesn't fit and GO gage does fit.

Page 18, para 2-6, Table 2-5 is superseded as follows:

CHECKING AND ADJUSTING TIMING

WARNING: Make sure gun is clear of ammunition before starting. Improper headspace and timing can cause malfunctioning of machine gun, damage to gun and injury to soldier.

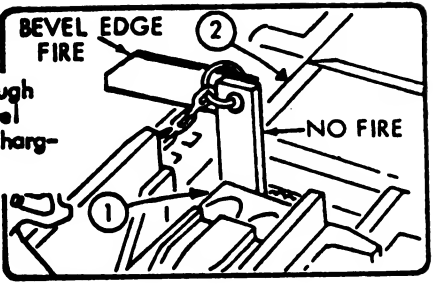
CHECKING TIMING

1 Check headspace first (pages 2 and 3).

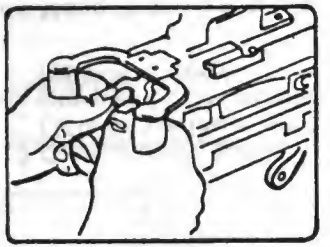
2 Pull bolt to rear with handle and then ease bolt forward to cock machine gun.

3 Grasp charging handle and retract bolt just enough (1/16 in.) to insert NO FIRE gage between barrel extension (1) and trunnion block (2). Release charging handle slowly.

Note: Insert timing gage with bevel against barrel notches.



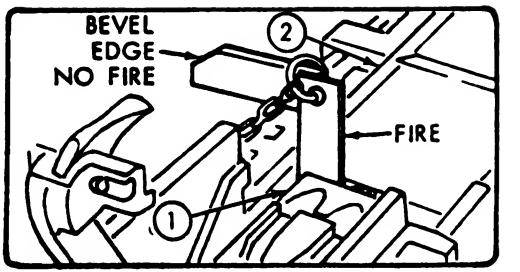
CHECKING AND ADJUSTING TIMING - Continued



4 Depress trigger: gun SHOULD NOT fire. Go to step 5.

Note: If it does tire, you have early timing . . . go on to steps 7 thru 14.

5 Retract bolt just enough to remove NO FIRE gage and insert FIRE gage between barrel extension (1) and trunnion block (2). Release charging handle slowly.



6 Depress trigger: gun SHOULD FIRE. If it does fire, timing adjustment is now complete.

Note: If it does not fire, you have late timing . . . go to step 7 thru 14.

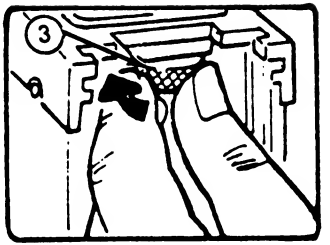
CHECKING AND ADJUSTING TIMING - Continued

ADJUSTING TIMING (EITHER EARLY OR LATE)

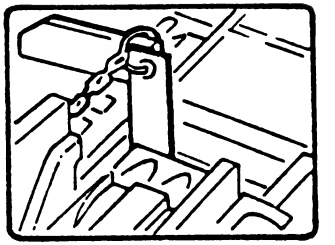
7 Remove gage, cock gun, and return bolt forward as before.

WARNING : Never cock gun with back plate off.

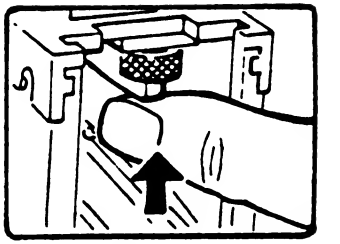
8 Remove back plate.



9 Screw timing adjustment nut (3) all the way down (to the left . . clockwise).



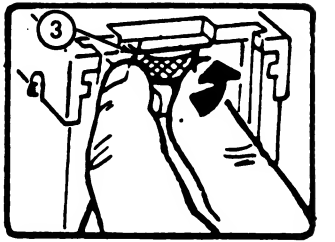
10 Insert FIRE gage as before.



11 Try to fire gun by pushing up on rear of trigger bar. Gun SHOULD NOT fire.

CHECKING AND ADJUSTING TIMING - Continued

12 Screw timing adjustment nut (3) up (to the right . . . counterclockwise) one click at a time. Push up on trigger bar after each click. Keep doing this until gun fires.



13 Now turn nut two more clicks up (to the right). NO MORE.

14 Remove gage, replace back plate, and pull bolt to rear to cock machine gun. Ease bolt forward with charging handle. Do not allow bolt to slam into battery unassisted.

15 Recheck timing with FIRE/NO FIRE gage two more times after backplate is installed to make sure adjustment is correct.

Page 24, Figure 2-2, Step 1 figure is changed as follows:

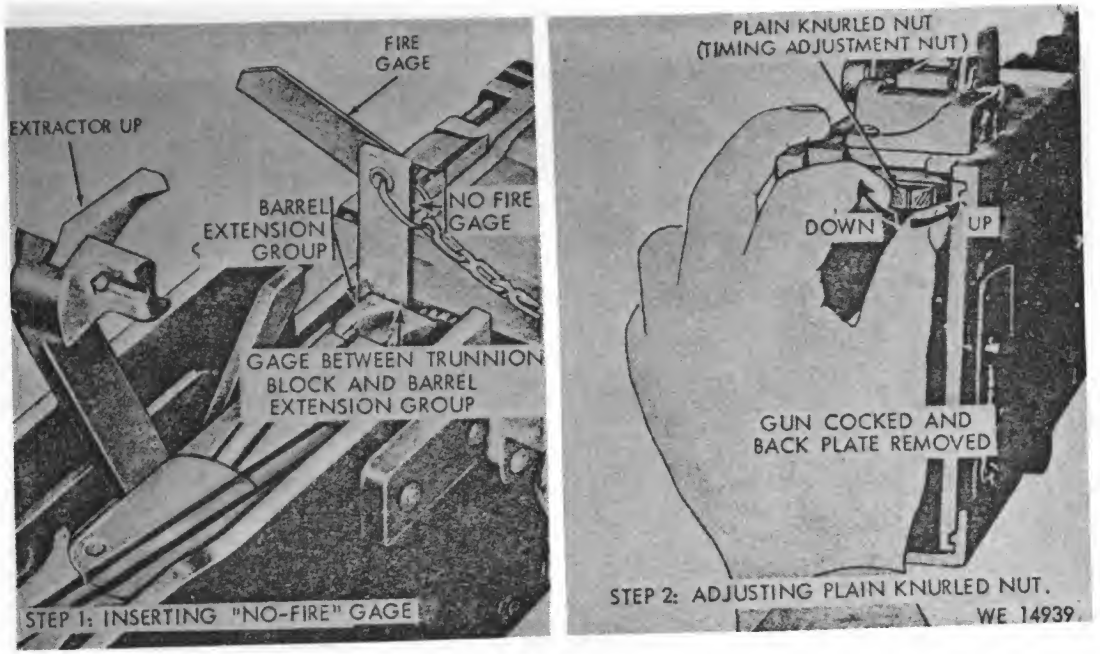


Figure 2-2. Checking and adjusting timing. **(1 of 2)**

Page 25, Figure 2-3, Step 4 figure is changed as follows:

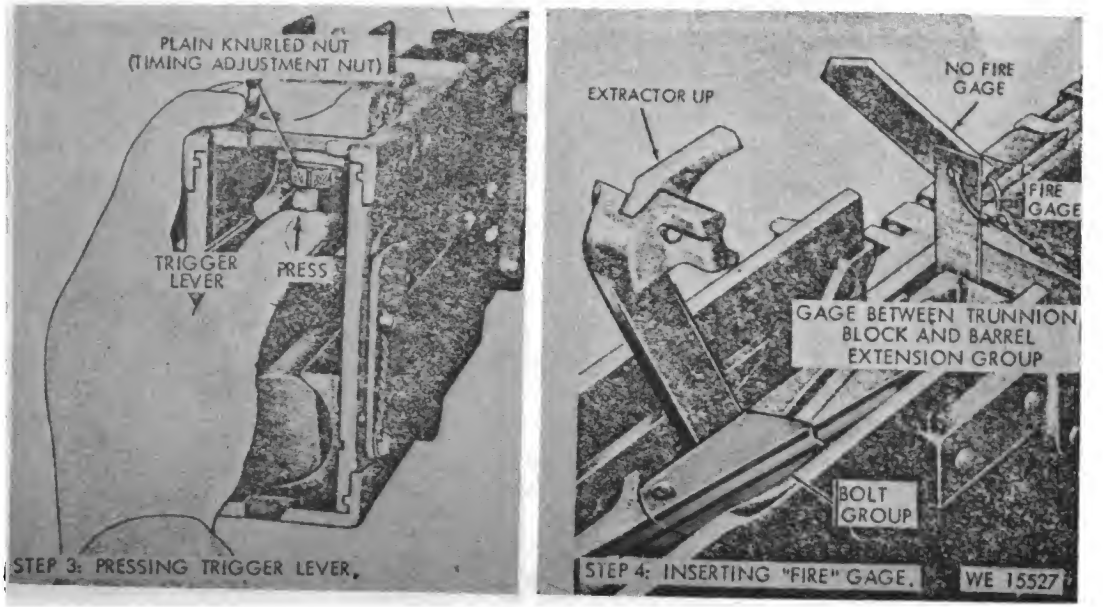


Figure 2-3. Checking and adjusting timing. **(2 of 2)**

Page 37, Table 2-6, step 6, add a second warning and a note as follows: "WARNING: To prevent accidental firing, immediately after a firing exercise organizational maintenance must remove the side plate trigger assembly from the receiver when the M2 flexible machine gun has been used on the M63 AA mount.
"NOTE: The side plate trigger assembly is to be stored in the container attached to the M63 mount."

Page 52, Table 3-3 is continued as follows:

Table 3-3 – Continued

INTERVAL / OPERATOR				B - BEFORE OPERATION A - AFTER OPERATION D - DURING OPERATION		
ITEM NO.	B	D	A	ITEM TO BE INSPECTED	PROCEDURE	REFERENCE
1	X			M10 Charger	Assure the moving parts are kept clean and lubricated.	Fig. 3-21
2	X		X	Charger Housing	Check the housing to make sure its not twisted, cracked, dented or loose on gun.	Fig. 3-21
3	X		X	Spring Housing	Check to make sure the housing is not cracked or busted and that the spring is clean, lubricated and works properly.	Fig. 3-21
4	X		X	Charger Cover	Check to make sure the cover is not cracked, dented, twisted and that the lips are not bent or broken.	Fig. 3-21

Table 3-3 – Continued

INTERVAL / OPERATOR				B - BEFORE OPERATION A - AFTER OPERATION D - DURING OPERATION		
ITEM NO.	B	D	A	ITEM TO BE INSPECTED	PROCEDURE	REFERENCE
5	X		X	Charger Swivel	Check to make sure the swivel moves freely. Does not bind and the roller (pulley) does not have sharp edges, is not burred and rolls freely.	Fig. 3-21
6	X		X	Charger Cable	Check to make sure the cable is not broken, frayed, kinked and that the ball ends are not missing. Make sure the handle is securely fastened to cable and is not cracked or burred.	Fig. 3-21
7	X		X	Charger Slide	Check the slide to make sure it does not bind, is not burred or cracked. Check the pulley for sharp edges and burrs.	Fig. 3-21

Table 3-3 – Continued

INTERVAL / OPERATOR				B - BEFORE OPERATION A - AFTER OPERATION D - DURING OPERATION		
ITEM NO.	B	D	A	ITEM TO BE INSPECTED	PROCEDURE	REFERENCE
8	X		X	Charger Latches	Check the Latches to make sure they hold the cover and swivel pulley plate securely and are not broken or cracked.	Fig. 3-21
9	X		X	Safety Wire	Check the safety wire to make sure it is properly installed and not broken.	Fig. 3-21

Page 54, Table 3-3, change item "7" to item "8". Add a new item 7 as follows; place an "X" in column B; Item to be inspected "Headspace and timing gage"; Procedure "Check for broken, bent, rusted, pitted, or exhibit other forms of mutilation that could affect the dimensional tolerance of the gages."

Page 55, Table 3-3, add new item 3.1 as follows: Place an "X" in column A; Item to be inspected "Side plate trigger "; Procedure "Organizational maintenance must remove the side plate trigger assembly from the receiver when the M2 flexible machine gun has been used on the M63 AA mount. The side plate trigger is to be stored in the container attached to the M63 mount."

Page 75, Figure 3-17 is changed as follows:

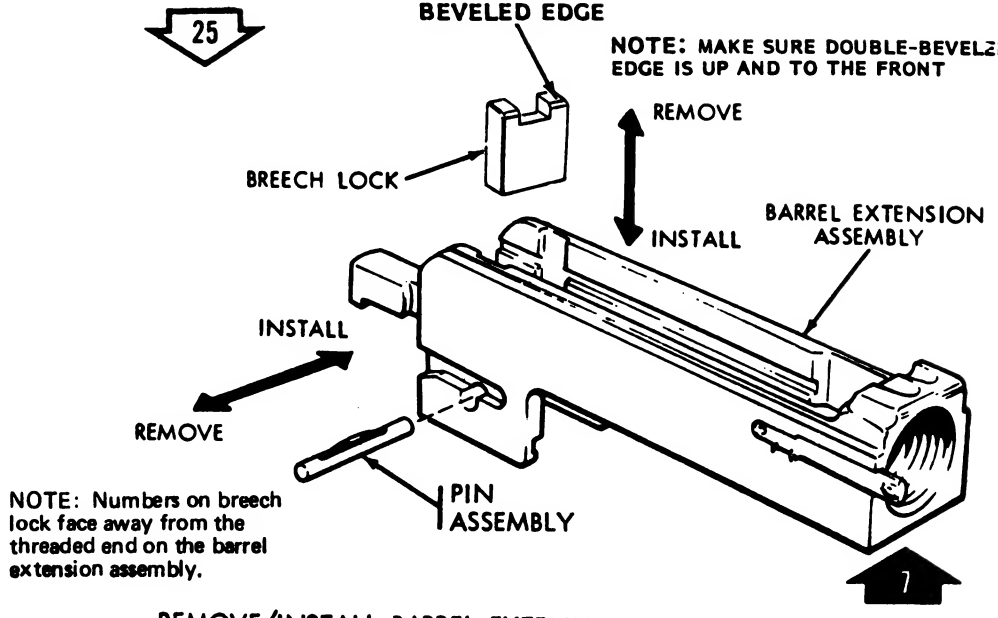


Figure 3-17. Disassembly/assembly of Caliber .50 Machine Gun, M2.

Add Figure 3-21 after Figure 3-20.

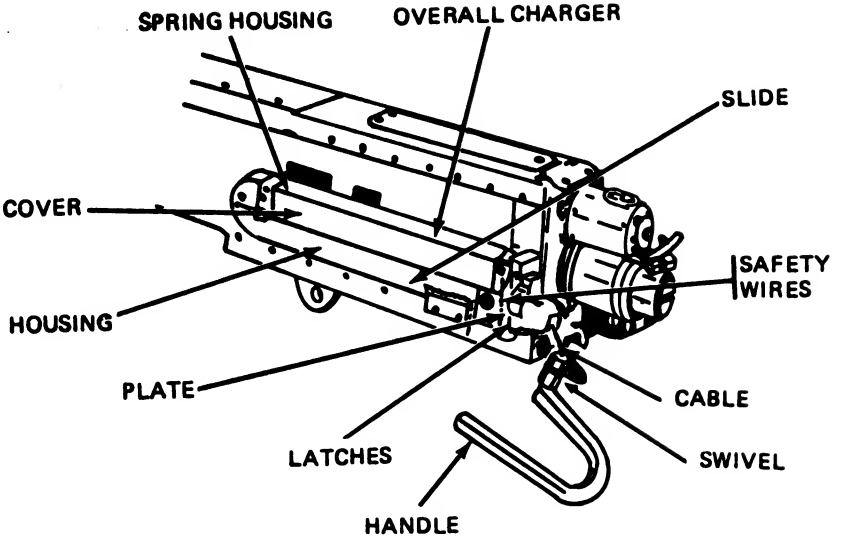


Figure 3-21. M10 MANUAL CHARGER

By Order of the Secretary of the Army:

JOHN A. WICKHAM, JR.
General, United States Army
Chief of Staff

Official:

DONALD J. DELANDRO
Brigadier General, United States Army
The Adjutant General

Distribution: To be distributed in accordance with DA Form 12-40, Operator Maintenance requirements for Machine Gun, Caliber .50, Browning, M2; Mount, Tripod, M3; Mount, Anti-aircraft, M63.

TECHNICAL MANUAL
No. 9-1005-213-10

HEADQUARTERS
DEPARTMENT OF THE ARMY
WASHINGTON, D. C., *12 July 1968*

OPERATOR'S MANUAL

MACHINE GUN, CALIBER .50; BROWNING M2, HEAVY BARREL, FLEXIBLE, W/E (1005-322-9715)

MOUNT, TPIPOD, MACHINE GUN, CALIBER .50, M3, W/E (1005-322-9716)

MOUNT, MACHINE GUN, ANTIAIRCRAFT, CALIBER .50, M63, W/E (1005-673-3246)

This manual is current as of 29 March 1968

*This manual supersedes TB 9-1005-213-10/1, 27 March 1964; and together with TM 9-1005-213-25, 8 July 1968, supersedes TM 9-1005-213-12P, 14 January 1964, including all changes, and so much of LO 9-1000-228-12, 18 May 1966, as pertains to MG, M2, Mt, Trip, M3 and AA, MT, M63. DA Label 19, 1 December 1956, is rescinded.

CHAPTER 1

INTRODUCTION

Section I. GENERAL

1–1. Scope

This manual contains instructions for the operation and maintenance of Caliber .50 Machine Gun, Browning, M2, Heavy Barrel, Flexible, Machine Gun Tripod Mount, M3, and Machine Gun Antiaircraft Mount, M63 allocated to the operator/crew by the MAC.

1–2. Forms, Records and Reports

a. General. DA Forms and procedures used for equipment maintenance will be only those prescribed in TM 38–750, Army Equipment Record Procedures.

b. Recommendations for Maintenance Manual Improvements. Report of errors, omissions, and recommendations for improving this publication by the individual user is encouraged. Reports should be submitted on DA Form 2028 (Recommended Changes to DA Publications) and forwarded direct to Commanding General, U.S. Army Weapons Command, ATTN: AMSWE–SMM–P, Rock Island, Ill. 61201.

Section II. DESCRIPTION AND DATA

1–3. Description

a. Machine Gun. The machine gun (figs. 1–1 and 1–2) is an automatic, recoil-operated, alternate-feed, link-belt fed, air-cooled, crew-operated weapon. It is used as a ground gun mounted on Tripod Mount M3 or Antiaircraft Mount M63.

b. Tripod Mount, M3. The tripod mount (figs. 1–3 and 1–4) is a light weight portable folding mount which permits a high degree of accuracy and control of fire.

c. Antiaircraft Mount, M63. The antiaircraft mount (figs. 1–5 and 1–6) is a four-legged, low silhouette, portable mount used for antiaircraft fire.

1–4. Tabulated Data

a. Machine Gun.

Weight (approx.)	84 lb
Weight of barrel	24 lb
Length of gun	65.13 in
Length of barrel	45 in
Length of rifling (approx)	41.88 in
Number of lands and grooves	8
Twist, right-hand	one turn in 15 in
Feed	link-belt
Operation	short recoil
Cooling	air
Muzzle velocity (approx)	3,050 fps
Rate of fire (cyclic)	450–550 rds/m
Maximum range (approx)	7,440 yd or 6,765 meters
Maximum effective range (approx)	2,000 yd or 1,830 meters

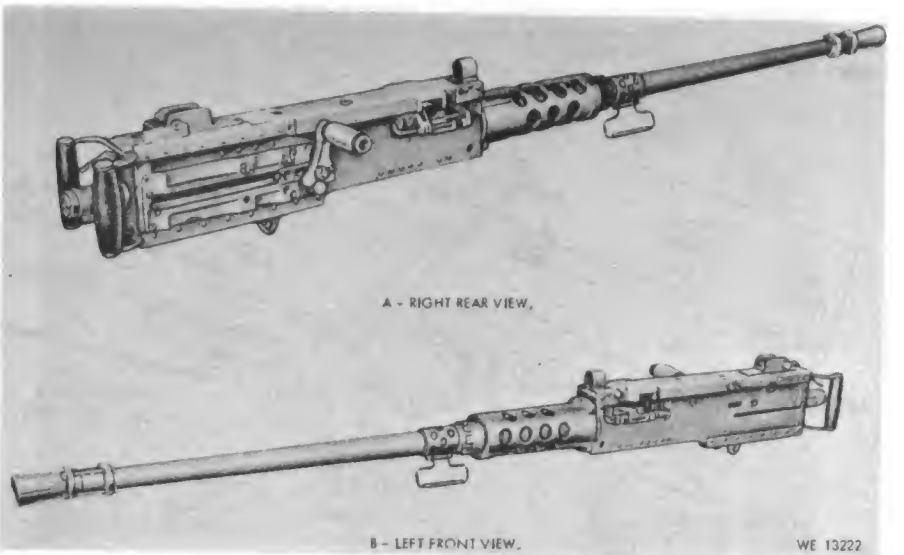


Figure 1–1. Caliber .50 Machine Gun, Browning, M2, HB, Flexible.

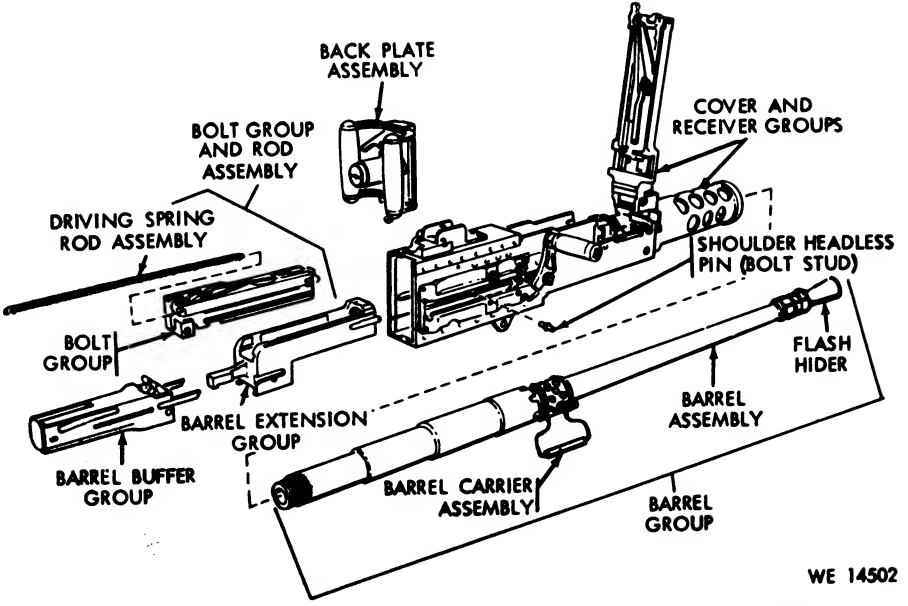


Figure 1–2. Caliber .50 Machine Gun, Browning, M2, HB, Flexible—major groups and assemblies.

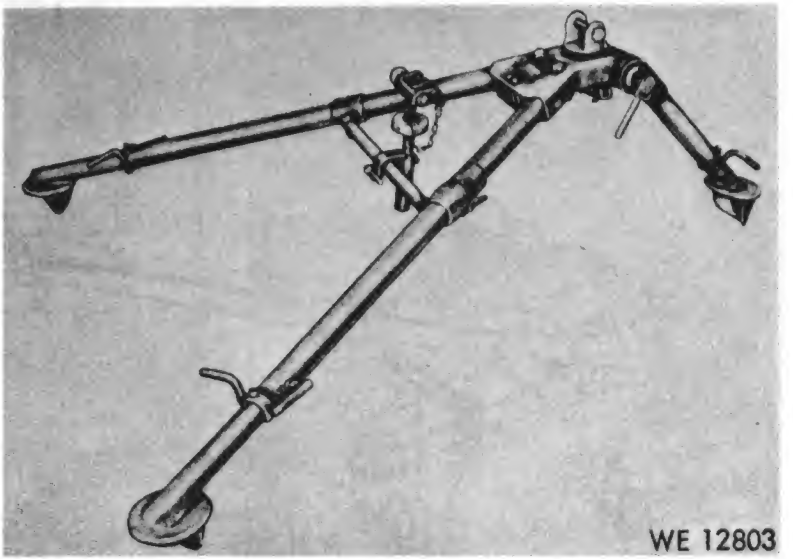


Figure 1-3. Tripod Mount, M3—right rear view.

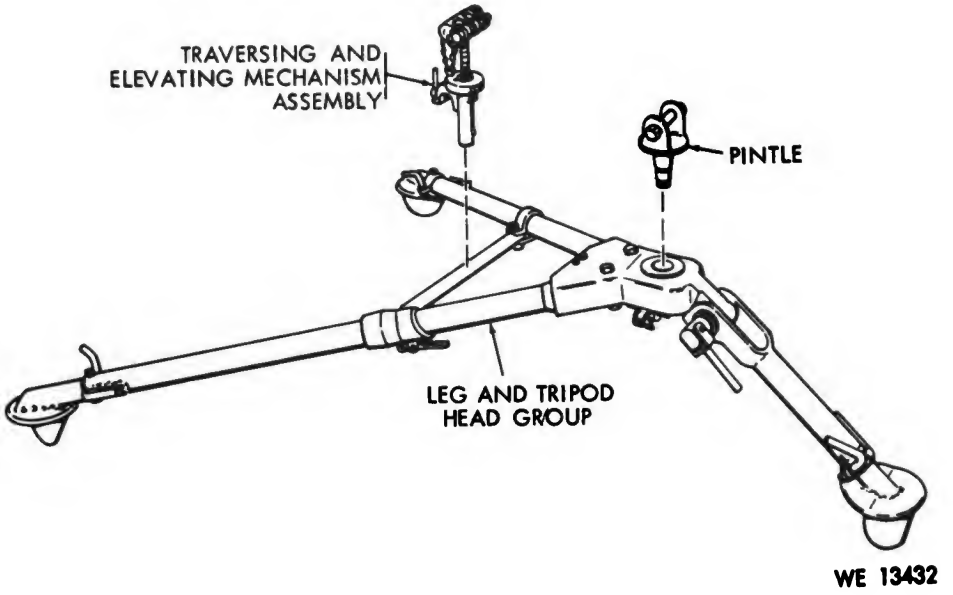


Figure 1-4. Tripod Mount, M3—Major groups and assemblies.

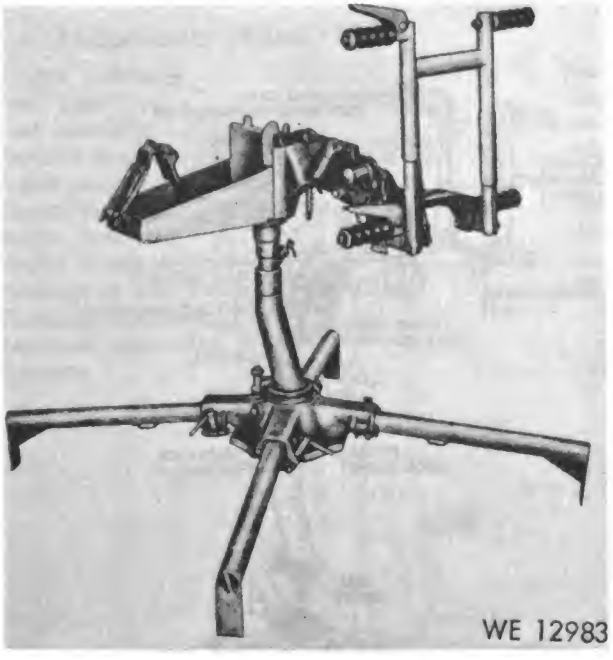


Figure 1–5. Antiaircraft Mount, M63—left rear view.

b. Tripod Mount, M3.

Weight (approx)	44 lb
Length (extended)	74.50 in
Folded	45.50 in
Spread of extended rear legs	61.50 in
Height	14 in
Traversing range without releasing traversing and elevating mechanism assembly	45°
Free	360°
Traversing bar assembly graduation	800 mil

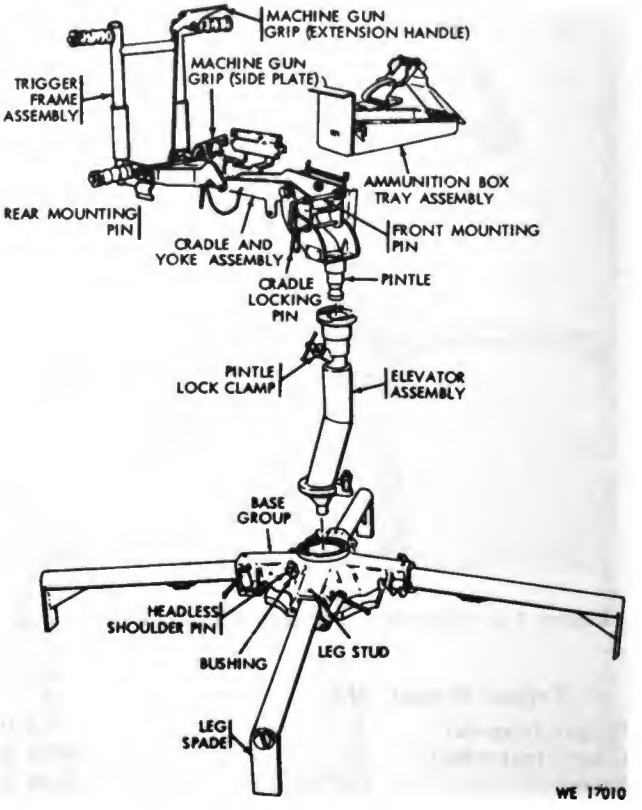


Figure 1–6. Antiaircraft Mount, M63—major groups and assemblies.

Maximum elevation	5.6°
Maximum depression	14°
Least increment of elevation	1 mil

c. Antiaircraft Mount, M63.

Weight (overall)	144 lb
Four legs	24 lb
Base assembly	54 lb
Elevator assembly	12 lb
Cradle assembly	44 lb
Ammunition box tray assembly	10 lb
Height (overall)	42 in
Length of leg	24 in
Diameter of base (with leg assembled)	52 in
Maximum elevation	85°
Maximum depression	29°
Traverse	360°

CHAPTER 2

OPERATING INSTRUCTIONS

Section I. SERVICE UPON RECEIPT OF MATERIEL

2–1. Inspecting and Servicing the Equipment

Refer to table 2–1.

Table 2–1. Service Upon Receipt of Material

Step	Action	Reference
1	Check for missing items. *Note.* Items must agree with Basic Issue Items List.	Appendix B
	Machine Gun	
2	Field strip and inspect for: Missing parts Proper assembly ***Caution:*** **Make Certain buffer assembly does not contain oil. If so, notify organizational maintenance personnel.**	Figs. 1–2 and 3–1—3–20
3	Clean and lubricate, if necessary.	Table 3–1
4	Reassemble weapon, step 2, above. *Note.* **Install spare barrel assembly to make certain it locks securely in receiver.**	
5	Check and adjust headspace and timing.	Tables 2–3 and 2–4
6	Hand function, using dummy cartridge M2, 1305–028–6384.	

Table 2–1—Continued

Step	Action	Reference
	Tripod Mount, M3	
1	Clean and lubricate, if necessary	Table 3–1
2	Check traversing and elevating mechanism assembly for proper function.	
	Antiaircraft Mount, M63	
1	Clean and lubricate, if necessary	Table 3–1
2	Examine mount for completeness	

Section II. CONTROLS AND INSTRUMENTS

2–2. General

This section describes the various controls and instruments and provides the operator/crew sufficient information to insure the proper operation of machine gun, tripod mount, and antiaircraft mount.

2–3. Controls and Instruments

Refer to table 2–2.

Table 2–2. Controls and Instruments

Control or instrument	Function	Reference
	Machine Gun	
Bolt latch release	To release the bolt from the rearward position.	Fig. 2–12
Buffer tube sleeve	To lock the bolt latch release in the open position to permit gun to fire automatically.	Fig. 2–12
Back plate latch	To secure/release back plate on receiver of gun.	Fig. 3–3

Table 2–2—Continued

Control or instrument	Function	Reference
Back plate latch lock	To secure/release back plate latch.	Fig. 3–3
Trigger	To fire the machine gun.	Fig. 2–12
Retracting slide assembly handle	To manually cock the machine gun.	Fig. 2–12
Cover latch	To secure/release cover assembly.	Fig. 3–18
Front and rear sights	To zero and accurately sight the weapon.	Figs. 3–1 and 3–6
Trigger lever	To connect trigger to sear.	Fig. 2–3
Plain knurled nut	To adjust timing.	Fig. 2–3
	Tripod Mount, M3	
Front leg clamping handle	Secures/releases front leg of mount. Keeps mount secured in pre-determined position.	Fig. 2–5
Pintle lock assembly	Secures/releases mount tripod pintle on tripod head.	Fig. 2–6
Sliding sleeve	Secures/releases traversing bar assembly to right rear leg.	Fig. 2–5
Indexing lever assembly	Permits legs to be extended by alining the stud on indexing lever with holes in leg extension. Secures/releases legs by tightening/loosening leg clamping handle.	Fig. 2–5

Table 2–2—Continued

Control or instrument	Function	Reference
Quick release pin	Secures/releases rear of machine gun to/from traversing and elevating mechanism assembly.	Fig. 2–6
Sleeve lock latch	Secures/releases right rear leg for correct extended/open position.	Fig. 2–5
Sliding sleeve stop	Provides support for mount by keeping traversing bar assembly and sliding sleeve in correct position.	Fig. 2–5
Front leg clamping screw nut	Provides support to front leg when clamping handle is secured on leg.	Fig. 2–7
Traversing bar assembly	Secures/releases rear legs of mount when in locked/unlocked position.	Fig. 2–5
Yoke	Provides support with quick release pin in installing/removing machine gun from rear of mount.	Fig. 2–6
	Antiaircraft Mount, M63	
Cradle locking pin	Secures cradle in horizontal or vertical position. Releases when elevation change is desired.	Fig. 2–9
Rear mounting pin	Secures/releases rear of machine gun to mount.	Fig. 2–9
Front mounting pin	Secures/releases front of machine gun to mount.	Fig. 2–9

Table 2–2—Continued

Control or instrument	Function	Reference
Firing handle rod	Provides positive contact with side plate trigger assembly to fire machine gun.	Fig. 2–14
Side plate trigger assembly	Actuates sear slide to fire machine gun.	Fig. 2–14
Pintle lock clamp	Secures/releases pintle of cradle and yoke assembly to/from elevator assembly.	Fig. 2–8
Ammunition box tray lever	Secures/releases ammunition box tray assembly to/from cradle.	Fig. 2–10
Headless shoulder pin	When depressed, locks/releases ball bearing assemby for removal/installation of the elevator assembly.	Fig. 2–8
Leg alining lug	Provides positive lock of mount leg with mount base.	Fig. 2–8
Rear pressure strap	Maintains required pressure on ammunition box to insure continuous feeding of ammunition into machine gun.	Fig. 2–13
Top pressure strap	Insures rapid, continuous feeding of ammunition into gun by keeping belted ammunition from twisting while holding ammunition in place.	Fig. 2–13

Table 2–2—Continued

Control or instrument	Function	Reference
Lock assembly	Secures/releases elevator assembly to/from fixed position when machine gun is being fired.	Fig. 2–8
Machine gun grips	Permits operator to control, aim, and fire machine gun.	Fig. 2–14

Section III. OPERATION UNDER USUAL CONDITIONS

2–4. Preparation for Operation

Refer to table 2–3.

Table 2–3. Preparation for Operation

Step	Procedure	Reference
	Machine Gun	
1	Perform "before firing" preventive maintenance checks and services.	Table 3–3
2	Check and/or adjust headspace.	Table 2–4
3	Check and/or adjust timing.	Table 2–5
4	Install barrel carrier assembly.	Fig. 2–4
	Tripod Mount, M3	
1	Open legs on tripod head group.	Fig. 2–5
2	Install traversing and elevating mechanism assembly.	Fig. 2–6
3	Install machine gun on mount.	Fig. 2–6
4	Install barrel assembly.	Fig. 2–7
5	Check and/or adjust headspace.	Table 2–4
6	Check and/or adjust timing.	Table 2–5

Table 2–2—Continued

Step	Procedure	Reference
	Antiaircraft Mount, M63	
1	Install mount legs on base assembly.	Fig. 2–8
2	Install elevator assembly.	Fig. 2–8
3	Install trigger frame and cradle and yoke assemblies and cradle locking pin to hold in horizontal position.	Fig. 2–9
4	Install ammunition box tray assembly.	Fig. 2–9
5	Lock lever of tray assembly.	Fig. 2–10
6	Install machine gun on mount with the front and rear mounting pins.	Fig. 2–11
	Note. After installation of machine gun, make certain spring plunger lock assembly is in the locked position to prevent accidental firing of machine gun.	Fig. 2–14
7	Install barrel assembly.	Fig. 3–1
8	Check and/or adjust headspace.	Table 2–4
9	Check and/or adjust timing.	Table 2–5

2–5. Checking and Adjusting Headspace

Refer to table 2–4.

2–6. Checking and Adjusting Timing

Refer to table 2–5.

Table 2–4. Checking and Adjusting Headspace

Step	Procedure	Reference
	Note. Headspace must be checked each and every time the barrel is assembled to the machine gun for firing.	
	Warning: **Improper headspace can cause malfunctioning of the machine gun and frequent damage to parts and/or injury to personnel.**	
1	Open cover.	Fig. 3–1
2	Retract bolt (approximately 3/8 inch) using retracting slide handle until locking lug on barrel locking spring is centered in hole of right side plate of receiver.	Fig. 3–1
3	Hold bolt in above position and screw barrel fully into barrel extension.	Fig. 3–1
	Note. Should handle be released, the recoiling parts will remain out of battery position (a separation will exist between barrel extension and trunnion block).	
4	With handle retracted, unscrew barrel two notches (clicks). Release handle.	Fig. 3–1
5	Cock machine gun.	Fig. 2–1
	Note. With machine gun cocked, firing pin is withdrawn into face of bolt allowing headspace gage to be inserted into T-slot on bolt.	
	Caution: **Do not fire machine gun when headspace gage is in T-slot. This could damage firing pin and gage.**	

Table 2–4—Continued

Step	Procedure	Reference
6	Hold handle, release bolt and allow bolt to return to battery position slowly to prevent bolt slamming.	Fig. 3–1
7	Retract recoiling parts approximately 1/16 inch to insure that locking surfaces of breech lock and bolt are in proper contact.	
8	Raise extractor.	Fig. 2–1
9	Insert GO end of headspace gage into center of T-slot between face of bolt and barrel. ***Caution:*** **Do not force gage.**	
10	If GO end of gage enters T-slot, to center ring of gage, and the NO GO end will not enter, headspace is correct.	
	Headspace too Tight	
	If GO end of gage will not enter T-slot freely, perform following procedures:	
11	Retract bolt, step 2 above.	
12	Unscrew barrel one notch (click). Return parts to battery position.	Fig. 3–1
13	Retract recoiling parts, step 7 above.	
14	Check headspace, step 10 above.	
	Headspace Too Loose	
	If NO GO end of gage enters T-slot, perform following procedures:	Fig. 2–1

Table 2–4—Continued

Step	Procedure	Reference
15	Retract bolt, step 2 above.	
16	Screw barrel into barrel extension, one notch (click). Return parts to battery position.	
17	Retract recoiling parts, step 7 above.	
18	Check headspace, step 10 above.	
	Note. If proper headspace adjustment cannot be obtained, notify organizational maintenance personnel.	

Table 2–5. Checking and Adjusting Timing

Step	Procedure	Reference
1	Insure headspace is correct.	Table 2–4
2	Cock machine gun. (Retract bolt assembly to rear position and slowly release to forward position.)	
3	Raise extractor.	Fig. 2–2
4	Retract bolt sufficiently to insert NO FIRE (0.116-inch) gage between trunnion block and barrel extension group. Release retracting slide handle.	
5	Depress the trigger. The firing pin SHOULD NOT RELEASE. In the event it does release repeat steps 2 and 3.	
	Warning: **Do not attempt to remove back plate unless the bolt is in forward position. Do not attempt to cock machine gun without the back plate assembled to machine gun.**	

Table 2–5—Continued

Step	Procedure	Reference
6	Remove back plate.	Fig. 3–3
7	Screw the timing adjustment nut all the way down (counterclockwise).	Fig. 2–3
8	Place the FIRE (0.020-inch) gage between trunnion block and barrel extension group. Release retracting slide handle.	Fig. 2–3
9	Attempt to release firing pin by lifting up on rear end of trigger lever.	Fig. 2–3
10	Screw up (clockwise) on timing adjustment nut one click at a time and attempt to release firing pin after each click until the firing pin does release. When the firing pin does release move the adjusting nut two more clicks clockwise (up).	
11	Replace back plate assembly.	Fig. 3–3
12	Repeat steps 2 through 5. The firing pin SHOULD NOT RELEASE.	
13	Repeat steps 2 and 3.	
14	Place FIRE gage between trunnion block and barrel extension and attempt to release firing pin by pressing the trigger. The firing pin SHOULD RELEASE.	
	Note. If proper timing adjustment cannot be obtained, notify organizational maintenance personnel.	

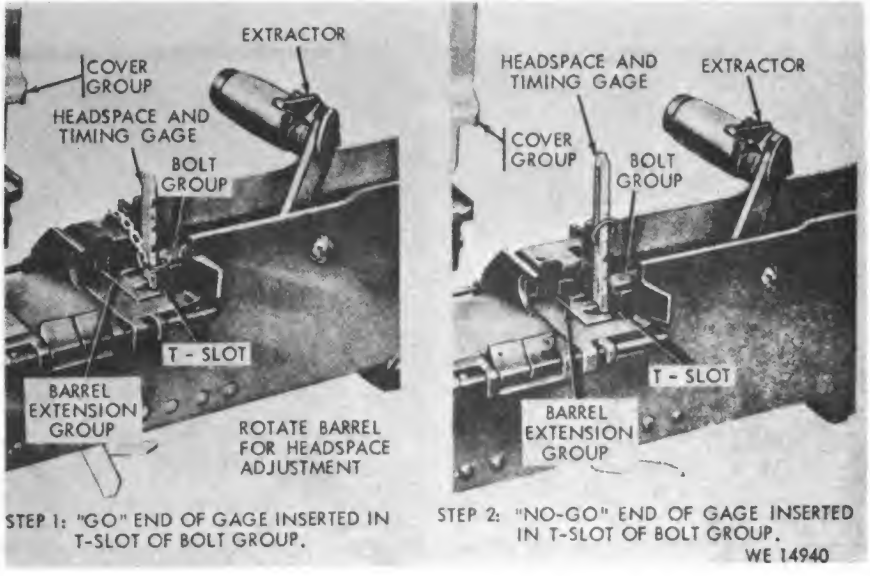


Figure 2-1. Checking and adjusting headspace.

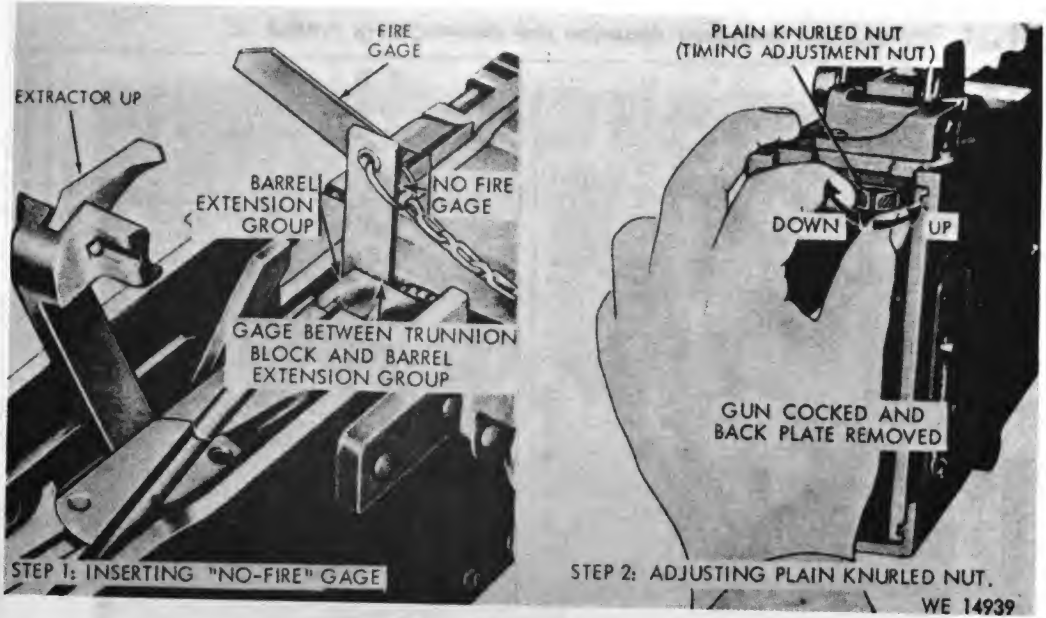


Figure 2–2. Checking and adjusting timing. (1 of 2)

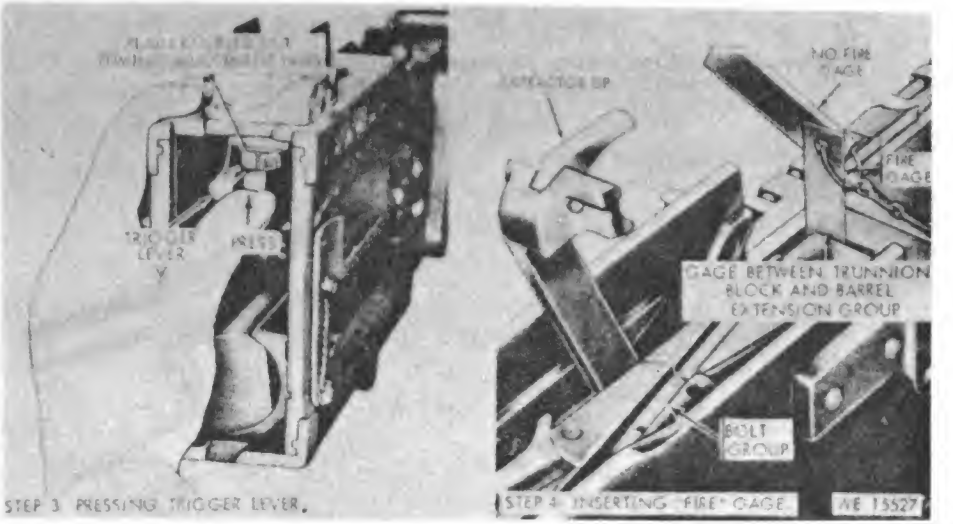


Figure 2–3. Checking and adjusting timing. **(2 of 2)**

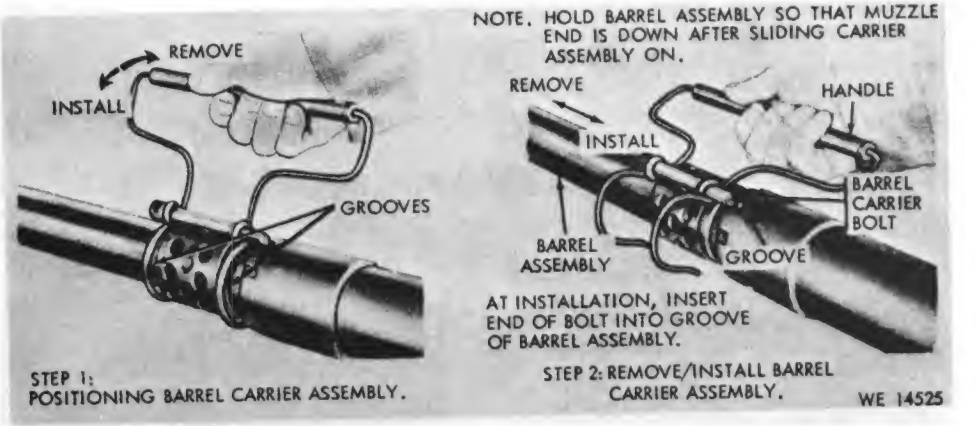


Figure 2-4. Installation/removal of barrel carrier assembly.

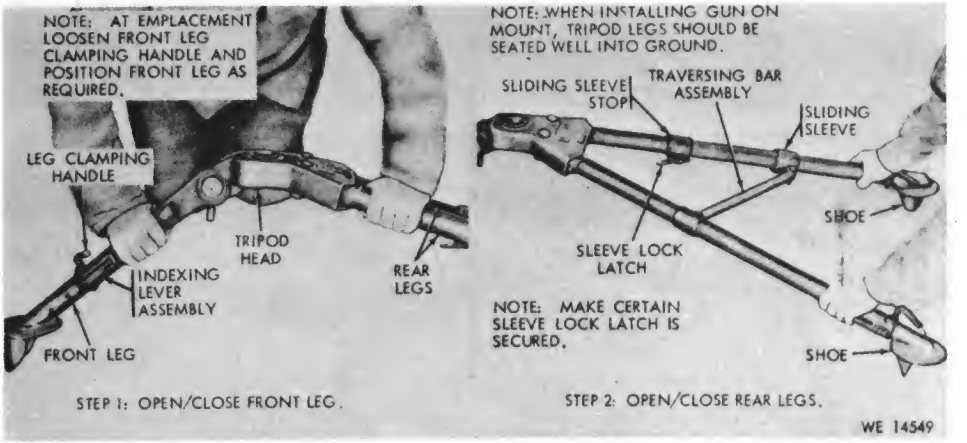


Figure 2–5. Installation/removal of Tripod Mount, M3.

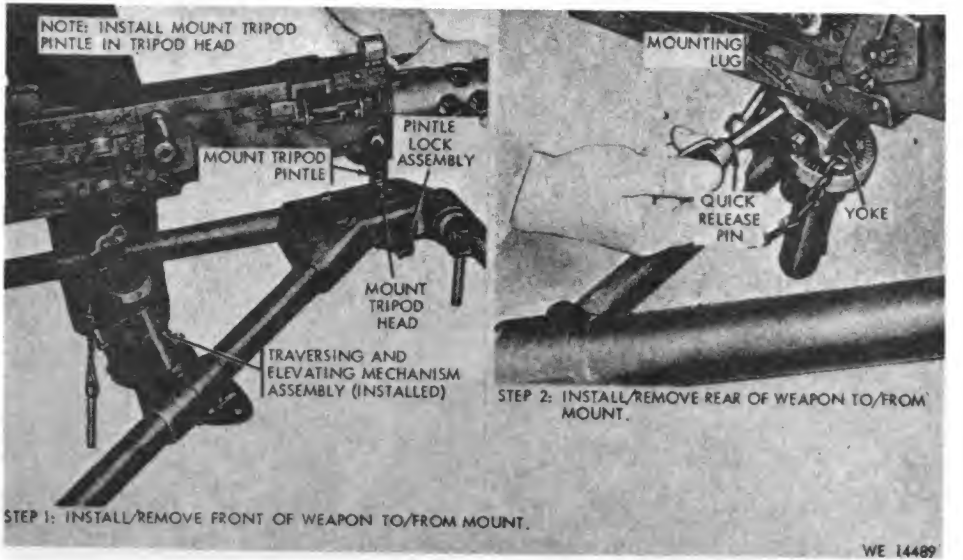


Figure 2–6. Installation/removal of machine gun on Tripod Mount, M3. **(1 of 2)**

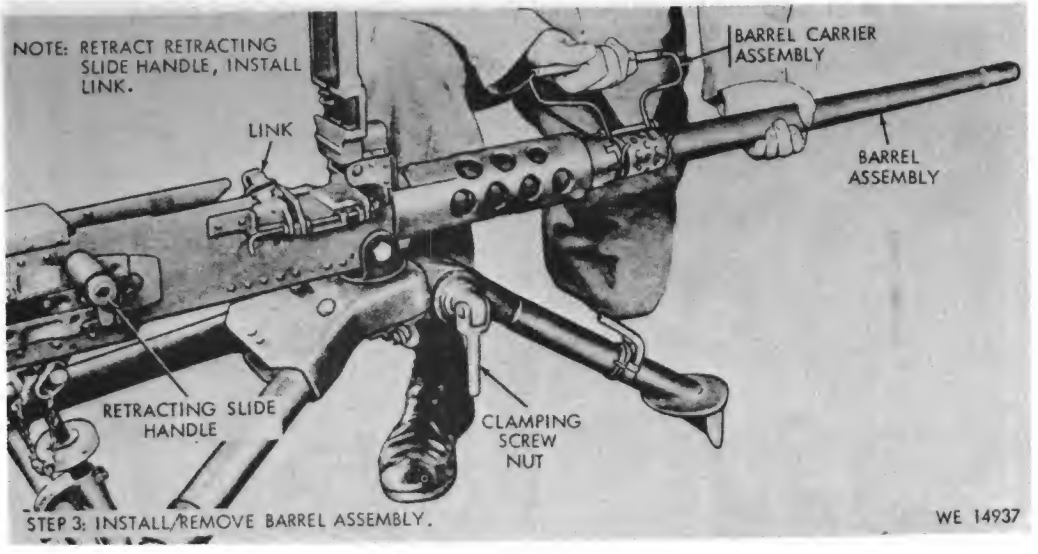


Figure 2–7. Installation/removal of machine gun on Tripod Mount, M3. **(2 of 2)**

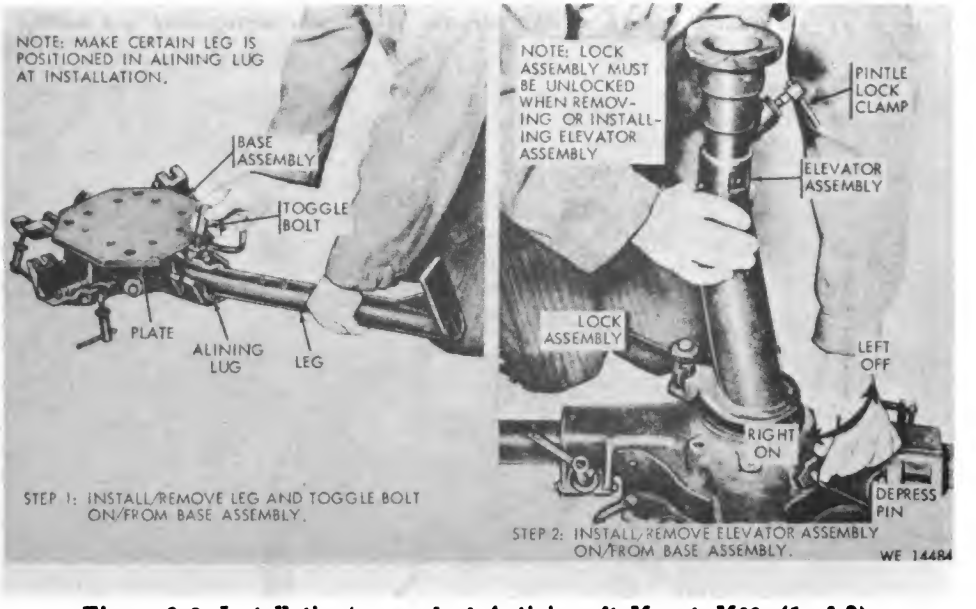


Figure 2–3. Installation/removal of Antiaircraft Mount, M63. (1 of 3)

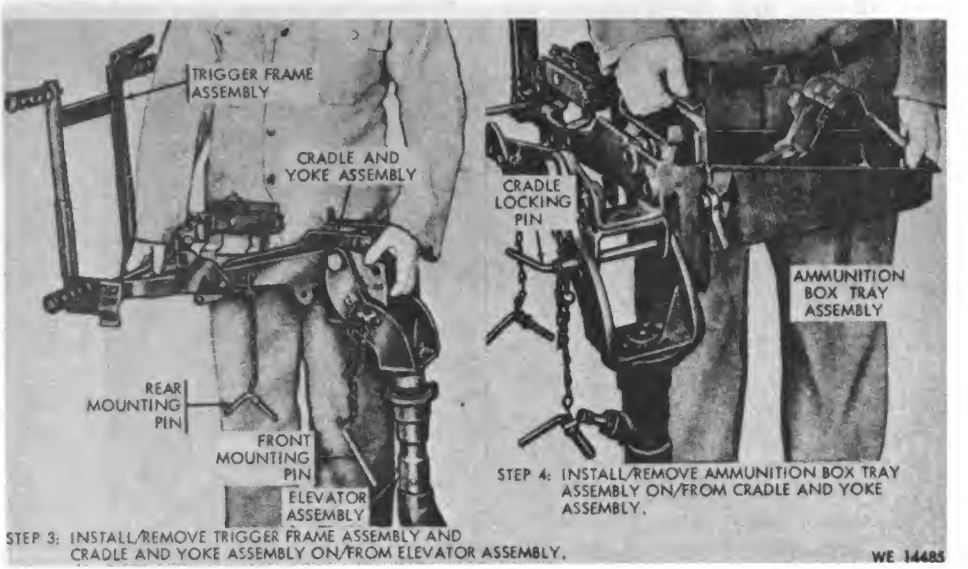


Figure 2-9. Installation/removal of Antiaircraft Mount, M63. (2 of 3)

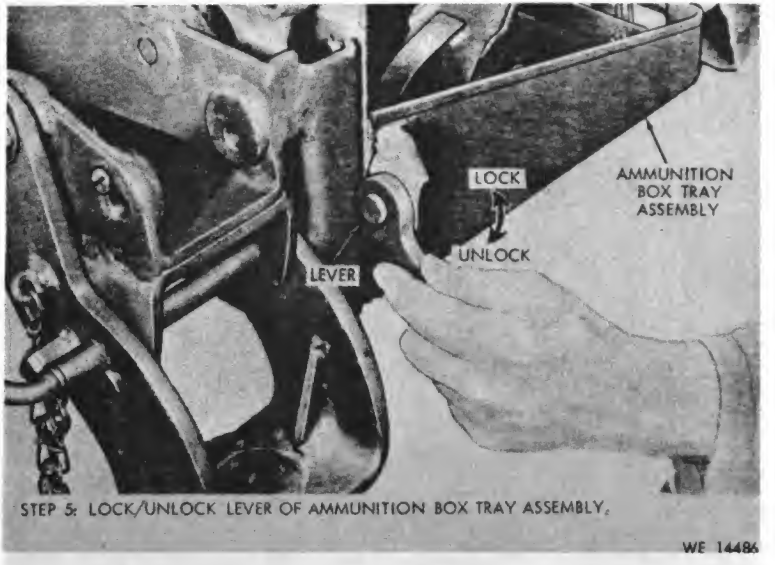


Figure 2–10. Installation/removal of Antiaircraft Mount, M63. (3 of 3)

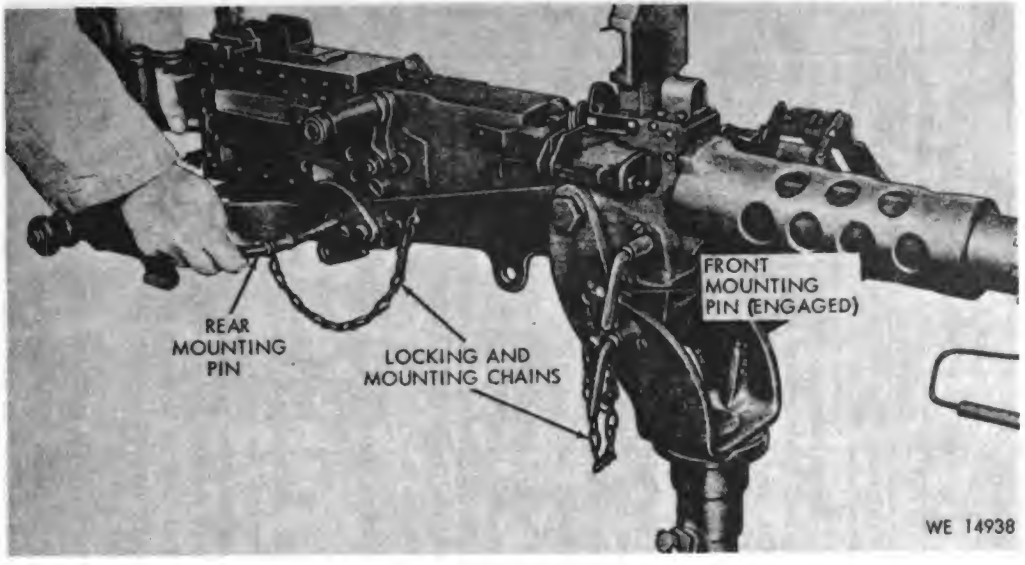


Figure 2–11. Installation/removal of machine gun on Antiaircraft Mount, M63.

2–7. Firing Procedures

Refer to table 2–6.

Table 2–6. Firing Procedures

Step	Procedure	Reference
	Note. Select type of fire desired as outlined below.	
	Semiautomatic Fire	
	The bolt latch release must be in the up position (not locked down). For each round fired, press the bolt latch release, then the trigger.	Figs. 2–12 and 2–14
	Warning. **When bolt latch release and trigger are both held down, machine gun will fire automatically.**	
	Automatic Fire	
	Press bolt latch release down and lock by turning the sleeve lock on the back plate buffer tube sleeve.	Figs. 2–12 and 2–14
	Firing Machine Gun on Tripod Mount, M3	
	Loading	
1	Open ammunition box cover or remove the cover.	Fig. 2–12
2	Open machine gun cover and insert the double loop end of ammunition in feedway until first cartridge is held by belt holding pawls.	
3	Close cover of machine gun.	
	Half-Load Machine Gun	
4	Retract the retracting slide handle assembly, pulling the	Fig. 2–12

Table 2–6—Continued

Step	Procedure	Reference
	bolt all the way to the rear. Release handle.	
	Note. If machine gun is set for SEMI-AUTOMATIC FIRE the bolt assembly will remain in rearward position. In this event move the retracting handle forward before releasing the bolt with the bolt release. If the machine gun is set for AUTOMATIC FIRE the retracting handle will go forward with the bolt when released.	
	Fully Load Machine Gun	
5	Repeat step 4.	
6	Press trigger to fire the machine gun.	Fig. 2–12
	Note. For immediate action in case of failure to fire, refer to table 2–7.	
	Removing Ruptured Cartridge Case	
1	Open cover, remove ammunition belt.	
2	Clear the machine gun of all live ammunition.	
3	With the bolt in the forward position, insert the ruptured cartridge case extractor into the feedway and hook the cartridge extractor assembly of the bolt over the ruptured cartridge case extractor.	
4	Close cover, retract the bolt and release to forward position.	
5	Retract the bolt and the ruptured cartridge case and extractor will be extracted from the chamber.	Fig. 2–15
6	In the event step 3 does not remove the ruptured cartridge	Figs. 2–4 and 2–7

Table 2–6—Continued

Step	Procedure	Reference
	case, remove the barrel assembly and barrel carrier assembly and install the spare barrel and carrier.	
	Note. In the event that the ruptured cartridge case cannot be removed notify organizational maintenance personnel.	
7	Adjust headspace and timing.	Tables 2–4 and 2–5
8	Load and continue firing until time permits to extract the ruptured cartridge case from the barrel.	
	Note. As soon as possible notify organizational maintenance personnel to replace flash hider assembly.	
	Firing Machine Gun on Antiaircraft Mount, M63	
1	The loading and firing procedures are the same as those for the mount, M3, except the machine gun is fired by pressing the machine gun grips which control the firing lever connected by a linkage to the side plate trigger mounted on the left side plate of the machine gun.	Figs. 2–13 and 2–14
	Notes. The side plate trigger operates through the side plate to the sear slide on the bolt assembly. The sear slide must be assembled into the bolt assembly from the LEFT SIDE so the square end of the sear slide will mate with the side plate trigger.	
2	The machine gun may be fired using the trigger on the back plate, if desired.	
3	The mount and machine gun can be traversed by unlocking the	

Table 2–6—Continued

Step	Procedure	Reference
	lock assembly on the elevator assembly.	
4	The firing lock assembly on the left side of the trigger frame is used as a safety. The cradle lock pin must be removed to elevate or depress the machine gun.	
	After Firing	
1	Raise cover and remove ammunition belt.	
2	Close cover.	
3	Retract bolt and lock in rearward position.	
4	Raise cover and inspect chamber.	
5	Hold handle, release bolt, and allow bolt to move slowly forward.	
6	Press trigger. ***Warning.*** **When machine gun has been in action, clear machine gun before anyone moves in front of muzzle. Clearing consists of unloading the machine gun, but not releasing the bolt or pressing the trigger.**	
7	Perform after-operation preventive maintenance checks and services. **Removal of Machine Gun and Tripod Mount, M3** **Refer to figures 2–5 through 2–7.** **Removal of Machine Gun and Antiaircraft Mount, M63** **Refer to figures 2–8 through 2–11.**	Table 3–3

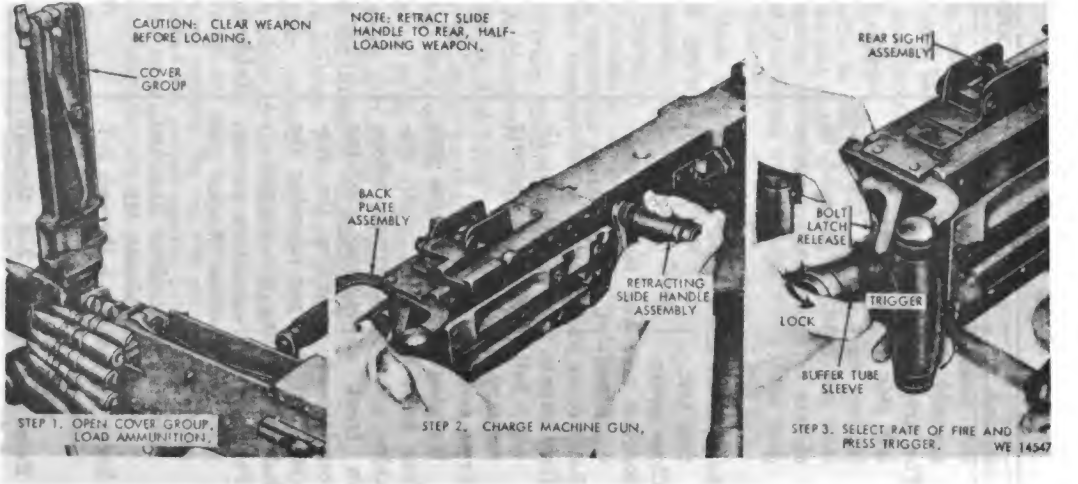


Figure 2–12. Loading, firing and unloading of machine gun on Tripod Mount, M3.

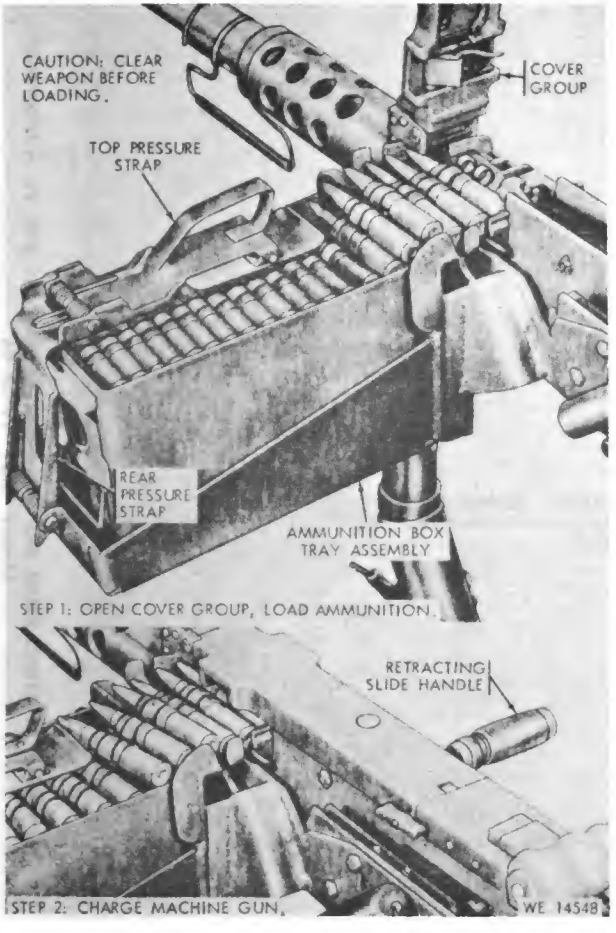


Figure 2–13. Loading, firing and unloading of machine gun on Antiaircraft Mount, M63. **(1 of 2)**

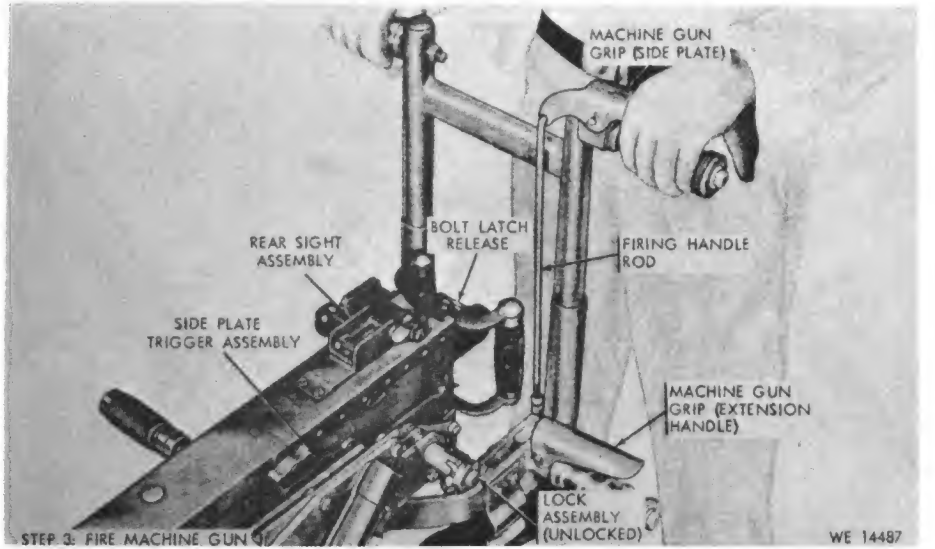


Figure 2–14. Loading, firing and unloading of machine gun on Antiaircraft Mount, M63. (2 of 2)

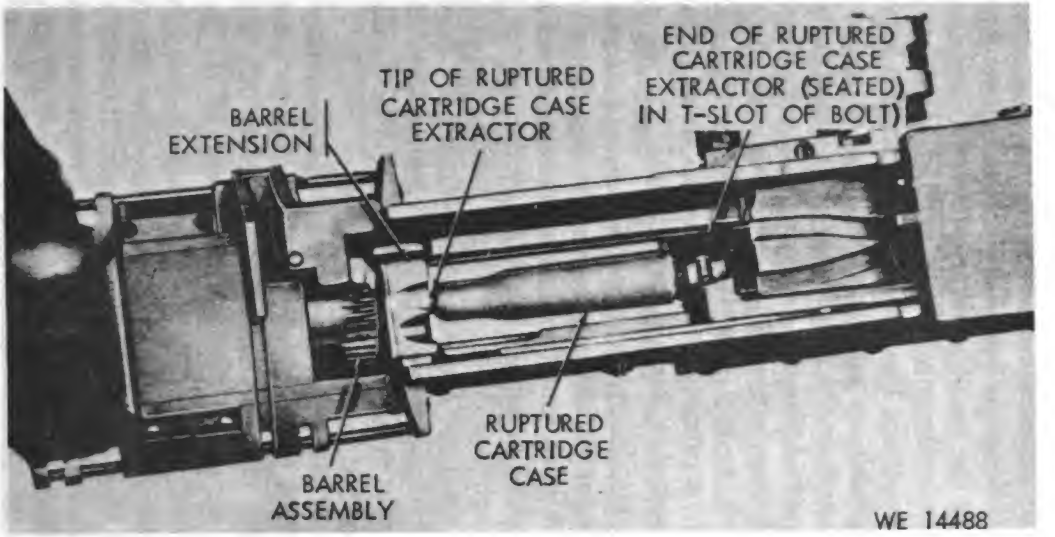


Figure 2–15. Removal of ruptured cartridge case.

2–8. Firing Malfunctions

a. 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 tc personnel or damage to materiel.

b. Misfire, Hangfire, Cook-off, and Stoppage.

(1) *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 as described in table 2–7.

Warning. **Because of the possibility of a cook-off, (3) below, never attempt to remove a round that is chambered in a very hot weapon. All personnel should emain clear of the breech.**

(2) *Hangfire.* A hangfire is a delay in the igniting of the propellant charge after the primer has been struck by the firing pin. It is not easily distinguished from a misfire. Time intervals prescribed in table 2–7 must be observed before open ing the cover after a failure to fire.

Warning. **During the prescribed time intervals, the weapon will be kept trained on the target and all personnel will stand clear of the barrel assembly.**

(3) *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. Observe the same precautions as for a hangfire. 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 in table 2–7.

(4) *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.

c. Immediate Action in Case of Failure to Fire. Refer to table 2–7.

Table 2–7. Immediate Action in Case of Failure to Fire

Step	Procedure
	Cool Weapon
	When a stoppage occurs (failure to fire) before completing a 150-round series (starting from a cool machine gun), perform the steps listed below, in given order:
	Note. Keep weapon trained on target.
1	Wait 5 seconds in the event of a hangfire.
2	Retract bolt, and push retracting slide handle forward.
3	Depress bolt latch (when applicable) to return bolt to battery position.
4	Depress trigger and attempt to fire.
	Note. If the bolt latch release and trigger are depressed at the

Table 2–7—Continued

Step	Procedure
	same time, the bolt goes forward and the weapon should fire automatically.
5	If weapon still fails to fire, wait 5 seconds, retract bolt (engage with bolt latch) and return handle forward.
	Note. If the bolt latch release is in locked (depressed) position, the bolt has moved forward and another round can be chambered.
6	Open cover assembly, and remove belted ammunition.
	Note. Inspect to insure weapon is clear.
7	Check to determine cause of stoppage, refer to table 3–4.
	Hot Weapon
	When a stoppage occurs (failure to fire) after firing 150 rounds, either spasmodically or continuously within 2 minutes, perform the steps listed below, in given order:
	Caution: **Do not open cover assembly.**
1.	Wait 5 seconds in the event of a hangfire.
2	Immediately retract bolt, and return handle forward.
	Warning. **The danger of a cook-off exists when the barrel is hot. Immediate action must be applied within 10 seconds. Under NO circumstances will the cover be opened during this period.**
3	Attempt to fire by depressing bolt latch release and trigger at the same time.
4	If firing cannot be resumed, repeat steps 1 and 2 above and perform following procedures:
	1—Open cover assembly, and remove belted ammunition.
	Note. Inspect to insure weapon is clear.
	2—Check to determine cause of stoppage, refer to table 3–4.
5	If the bolt cannot be retracted when applying immediate action, the bolt must remain locked in battery position (do NOT open cover assembly).

Table 2–7—Continued

Step	Procedure
	Allow weapon to cool at least 5 minutes to guard against a cook-off. After waiting 5 minutes, perform the operations outlined for a cool weapon.
6	In the event a misfire occurs after an intentional cessation of firing, and the bolt is forward at time trigger is depressed, the bolt must remain locked in battery position (do NOT open cover assembly). *Allow weapon to cool at least 5 minutes* to guard aaginst a cook-off. After waiting 5 minutes, perform the operations outlined for a cool weapon.

Section IV. OPERATION UNDER UNUSUAL CONDITIONS

2–9. Operation in Extreme Cold

a. All moving parts of machine gun and mounts must be kept free of moisture. Before firing in temperatures below 0° F., completely disassemble and clean all parts of the machine gun and oil with weapons lubricating oil, LAW (MIL–L–14107).

b. When the machine gun and mounts are moved indoors they must be brought to room temperature, cleaned, and lightly oiled with LAW.

c. If the machine gun has been fired, the bore must be immediately swabbed out with several patches satured with CR (MIL–C–52399), use dry patches to remove all solvent film.

2–10. Operation in Extreme Heat

In climates where temperature and humidity are high, the weapon and mounts should be

thoroughly inspected daily, and if necessary, disassembled to permit drying and oiling of parts.

2–11. Operation in Dusty or Sandy Areas

a. In climates where sand and dust can enter the working parts and bore of the weapon, the machine gun should be disassembled and wiped clean at least once daily.

b. The lubricants on exposed and noncritical operating surfaces of the mounts should be wiped. This will prevent windbown sand from sticking to the lubricating oil and forming an abrasive.

c. Immediately upon leaving sandy terrain, clean and lubricate with general purpose lubricating oil, PL special (MIL–L–644).

d. After handling, wipe with a dry cloth to remove perspiration which will cause rust.

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

2–12. Operation in Hot, Humid or Salty Atmosphere

Hot, humid, or 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, PL special, and keep covers in place.

2–13. Operation After Exposure to Water

After exposure to water (accidentally splashed or submerged), water seepage into lubricated

parts will occur. Drain, wipe dry, clean and lubricate the weapon and mounts which have been exposed to water, especially salt water, as soon as practical.

CHAPTER 3

MAINTENANCE INSTRUCTIONS

Section I. OPERATOR'S TOOLS AND EQUIPMENT

3–1. Special Tools and Equipment

Refer to appendix B.

Section II. LUBRICATION INSTRUCTIONS

3–2. Cleaning and Lubrication Materials

Refer to table 3–1 for cleaning and lubrication materials and stock numbers for requisitioning purposes.

3–3. Detailed Lubrication Information

Refer to table 3–2.

3–4. Reports and Records

Report unsatisfactory performance of material or adverse effect of prescribed lubricants and preserving materials, using DA Form 2407, Maintenance Request.

Table 3–1. Materials Required for Maintenance Functions

Federal stock No.	Item
8020–244–0153	BRUSH, ARTISTS: metal, ferrule, flat, chisel edges, 7/16 w, 1–1/8 lg exposed bristle
7920–205–2401	BRUSH, CLEANING, TOOL AND PARTS: Rd, 100 percent tampico fiber, 1–1/16 at ferrule brush dia, 2–7/8 clear of block brush lg
6850–965–2332	CARBON REMOVING COMPOUND: (P-C-111) (5 gal pail)
	CLEANING COMPOUND SOLVENT: (CR)
6850–224–6656	2 oz can
6850–224–6657	6 oz can
6850–224–6663	1 gal can
5350–221–0872	CLOTH, ABRASIVE: crocus, ferric oxide and quartz, jean-cloth-backing, closed coating, 9 w, 11 lb, 50 sh-sleeve (CA)
6850–281–1985	DRY CLEANING SOLVENT: (SD) (1 gal can)
	LUBRICATING OIL, GENERAL PURPOSE: (PL Special)
9150–273–2389	4 oz can
9150–281–6689	1 qt can
9150–292–9689	LUBRICATING OIL, WEAPONS: (LAW) (1 qt can)
7920–205–1711	RAG, WIPING: cotton (50 lb bale)

Table 3–2. Detailed Lubrication Information

Step	Procedure
	USUAL CONDITIONS
	Machine Gun
1	Immediately after firing, clean all powder fouled surfaces with (CR) solvent cleaning compound (MIL–C–52399).
	Caution: Do not use cleaning solvent to clean back plate assembly. Use clean cloths to remove foreign matter. Lubricate exterior VERY LIGHTLY with oil saturated cloth.
2	Disassemble machine gun into major groups and assemblies (figs. 3–1 through 3–20).
	Note. White arrows shown on illustrations indicate disassembly, black arrows indicate assembly.
3	Clean the components with SD, dry cleaning solvent (P–D–680).
4	Wipe dry and oil with PL special (MIL–L–644) general purpose lubricating oil, above 0° or LAW (MIL–L–14107), weapons lubricating oil, below 0°
5	Thereafter, clean and oil as above every 90 days, unless inspection reveals more frequent servicing is required.
6	Assemble the major groups and assemblies (figs. 3–1 through 3–20).
7	Remove oil from barrel bore before firing.
	Tripod Mount M3
1	Disassemble mount into major groups and assemblies (figs. 2–5 through 2–7).
2	Clean with SD, dry cleaning solvent (P–D–680).
	Note. The traversing and elevating mechanism assembly will be cleaned with a dry cloth only.
3	Wipe dry and oil moving surfaces with PL special (MIL–L–644), general purpose lubricating oil, above 0° or LAW (MIL–L–14107), weapons lubricating oil, below 0°.

Table 3–2—Continued

Step	Procedure
4	Thereafter, clean and oil as above every 90 days unless inspection reveals more frequent servicing is required.
5	Assemble the major groups and assemblies. (Reverse steps in figure 2–5 through 2–7).
	Antiaircraft Mount M63
1	Disassemble mount into major groups and assemblies (figs. 2–8 through 2–10).
2	Clean with SD, dry cleaning solvent (P–D–680).
3	Wipe dry and oil all moving surfaces with PL special (MIL–L–644), general purpose lubricating oil above 0° or LAW (MIL–L–14107), weapons lubricating oil, below 0°.
4	Thereafter, clean and oil as above every 90 days unless inspection reveals more frequent servicing is required. *Note.* Every 30 days notify organizational maintenance personnel for inspection and greasing with artillery grease (GAA) (MIL–G–10924) of the bearing sleeve and bearing assembly, if necessary.
5	Assemble the major groups and assemblies. (Reverse steps in figures 2–8 through 2–10).
	UNUSUAL CONDITION
	Machine Gun and Mounts
1	Reduce lubrication intervals if inspection indicates rust or corrosion.
2	Changing grade of lubricants: *a.* Lubricants are prescribed in accordance with temperature ranges: above zero and below zero. *b.* When to change grade of lubricants is determined by maintaining a close check on the operation of the weapon during the approach to change over periods in accordance with weather forecast data.
3	In extreme cold weather lubricate sparingly.

Table 3–2—Continued

Step	Procedure
	Note. Make certain all parts are dry and free from condensation, then lubricate.
4	Extreme hot weather or humid salt-air conditions require more frequent servicing since these conditions tend to dissipate the lubricants.
5	Lubricated surfaces are to be inspected and cleaned of fouled lubricants under sandy or dusty conditions.
6	After immersion, or as soon as tactical situation permits, accomplish steps 2 through 6, under usual conditions.

Section III. PREVENTIVE MAINTENANCE CHECKS AND SERVICES

3–5. General

To insure that the machine gun and mounts are ready for operation at all times, they must be inspected systematically so that defects may be discovered and corrected before they result in serious damage or failure. The necessary preventive maintenance checks and services to be performed are listed in table 3–3. The item numbers indicate the sequence of minimum inspection requirements. Defects discovered during operation will be noted for future correction, to be made as soon as operation has ceased. Stop operation immediately if a deficiency is noted which would damage the equipment if operation were continued. All deficiencies, shortcomings, and corrective action taken will be recorded on DA Form 2407 at the earliest opportunity.

Table 3-3. Preventive Maintenance Checks and Services

Interval (Operator)							
					B—Before operation D—During operation		A—After operation W—Weekly
Item Number	B	D	A	W	Item to be inspected	Procedure	Reference
1	X			X	Machine Gun	Assure conformance to lubrication instructions. Field strip to insure that all moving parts are clean, lightly oiled and function freely. Assure sear slide is properly assembled.	Table 3-2
2	X		X		Barrel assemblies	Assure that bore and chamber are dry and free of obstruction.	Table 3-2
3	X				Back plate assembly	Assure positive functioning of latch and latch lock.	Fig. 3-3
4	X				Cover group	Assure positive engagement of cover latch.	Fig. 3-18
5	X				Rear sight assembly	Assure sight assembly is clean and lightly oiled. Sight setting should be a 1,000 windage zero and leaf assembly down.	Fig. 3-6
6	X				Retracting	Operate retracting slide assembly to as-	Fig. 3-1

Table 3–3—Continued

Item Number	Interval: Operator B	D	A	W	Item to be inspected	Procedure (B—Before operation, D—During operation, A—After operation, W—Weekly)	Reference
					slide assembly	sure fredom of movement.	
7	X				Headspace and timing	Check and/or adjust headspace and timing.	Tables 2–4 and 2–5
					Tripod Mount, M3		
1	X			X	Traversing and elevating mechanism assembly	Make certain sleeve is secured to the traversing bar assembly when traversing slide lock lever is in locked position. Traversing and elevating handwheels must function properly.	Fig. 2–6
2	X			X	Leg and tripod head	Legs must be forced slightly apart and must contact side of tripod head to insure rigidity of mount. Pintle must be secured to tripod head by pintle lock assembly.	Figs. 2–5 and 2–6

					Antiaircarft Mount, M68		
1	X			X	Ammunition box tray assembly	Check lever for proper functioning.	Fig. 2–10
2	X			X	Trigger frame assembly	Check positive action of machine gun grips and firing handle rod to operate side plate trigger assembly. Check lock assembly for proper functioning.	Fig. 2–14
3	X			X	Side plate trigger	Determine that side plate trigger assembly is secured to side of machine gun and operates freely.	Fig. 2–14
4	X			X	Cradle and yoke assembly	Check front and rear mounting pins and cradle locking pin to insure that they operate freely.	Fig. 2–9
5	X			X	Mount leg, elevator assembly, and base assembly group	Examine pintle lock clamp for freedom of operation. Check lock assembly for freedom of operation. Toggle bolt should operate freely. Check alining lug on leg for damage. Check headless shoulder pin on base assembly for freedom of movement.	Fig. 2–8

Section IV. TROUBLESHOOTING

3–6. Troubleshooting Procedures for Machine Gun

Refer to table 3–4.

Note. For malfunctions encountered but not listed, or if corrective action does not remedy condition, notify organizational maintenance personnel.

3–7. Troubleshooting Procedures for Tripod Mount M3 and Antiaircraft Mount M63

When the mounts fail to traverse and elevate or the machine gun cannot be properly secured to mounts, refer to organizational maintenance personnel.

Table 3–4. Troubleshooting

Malfunction	Probable cause	Corrective action
	Machine Gun	
Failure to feed to feed	Defective ammunition belt	Remove damaged link or reposition rounds
	Defective ammunition (short round)	Remove faulty round
	Improper timing	Adjust timing (table 2–5)
Failure to chamber	Obstruction in barrel assembly chamber or receiver group	Remove obstruction; clean and lubricate, as required (table 3–2)
	Damaged round	Remove round
Failure to lock	Headspace too tight	Adjust headspace (table 2–4)
Failure to fire	Improper timing	Adjust timing (table 2–5)

Figure 3–4—Continued

Malfunction	Probable cause	Corrective action
	Defective ammunition	Remove round
	Incorrectly assembled sear slide	Assemble correctly
	Obstruction in firing pin well	Remove obstruction, clean and lubricate as required (table 3–2)
Failure to unlock	Defective ammunition (short recoil)	Remove round
Failure to extract	Defective ammunition (ruptured cartridge case)	Remove round
	Headspace too loose or independent movement between the bolt and the barrel and barrel extension	Adjust headspace (table 2–4)
	Defective barrel assembly (pitted chamber)	Replace barrel assembly (fig. 3–1)
Failure to eject	Defective ammunition (short recoil)	Clear and reload machine gun
Failure to cook	Incorrect timing	Adjust timing (table 2–5)

Section V. MAINTENANCE OF MACHINE GUN

3–8. Removal/Installation

Refer to table 2–6.

3–9. Disassembly/Assembly

Refer to figures 3–1 through 3–20.

Note. White arrows shown on illustrations indicate disassembly, black arrows indicate assembly.

3–10. Cleaning, Inspection and Repair Procedures

Warning. **Before starting an inspection, be sure to clear the weapon. Do not actuate the trigger until the weapon has been cleared. Inspect the chamber to insure that it is empty, and check to see that no ammunition is in position to be introduced.**

a. Clearing. Refer to table 3–2.

b. Inspection. Refer to table 3–5.

c. Repair. Replace barrel assembly (fig. B–1) if damaged, or unserviceable. Evacuate machine gun to organizational maintenance personnel for further repair.

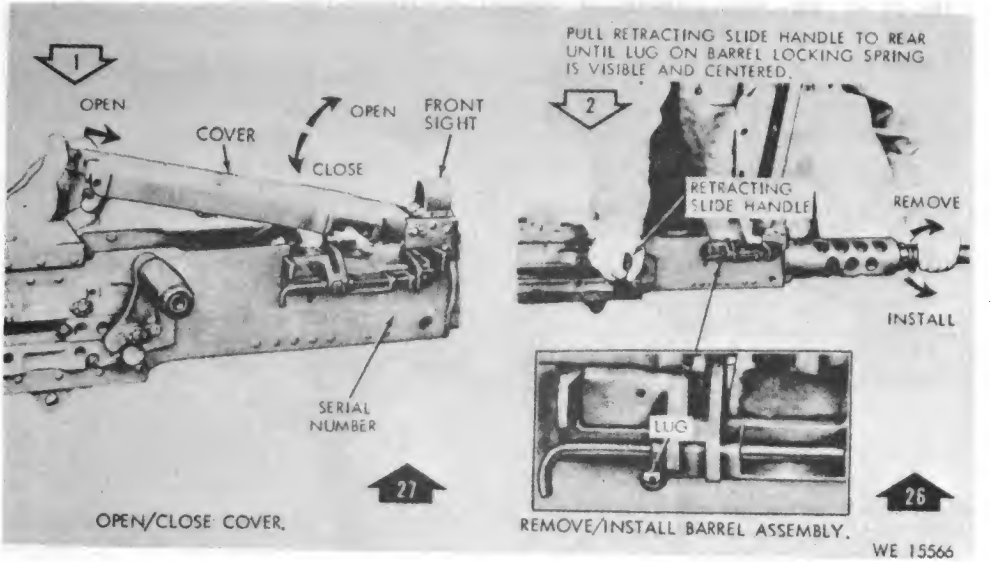


Figure 3–1. Disassembly/assembly of Caliber .50 Machine Gun, M2. **(1 of 20)**

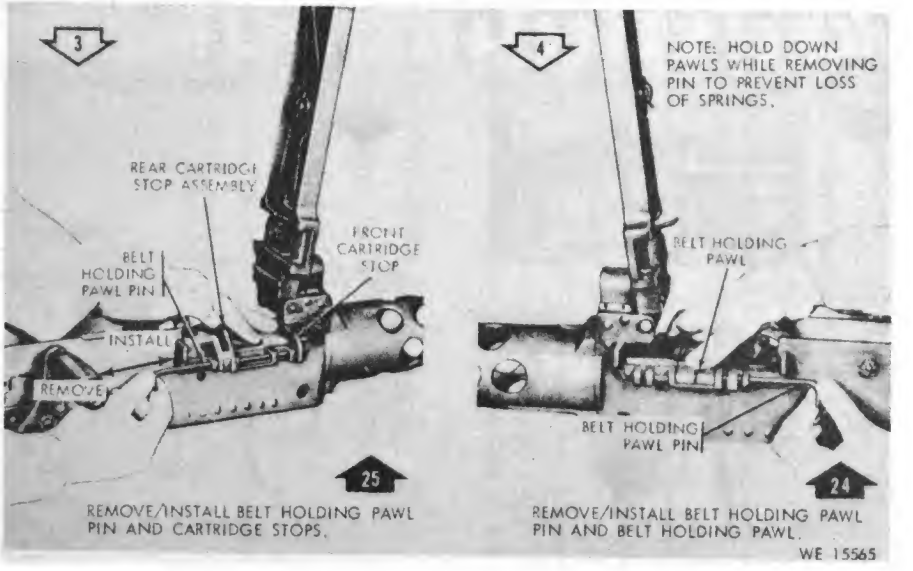


Figure 3-2. Disassembly/assembly of Caliber .50 Machine Gun, M2. **(2 of 20)**

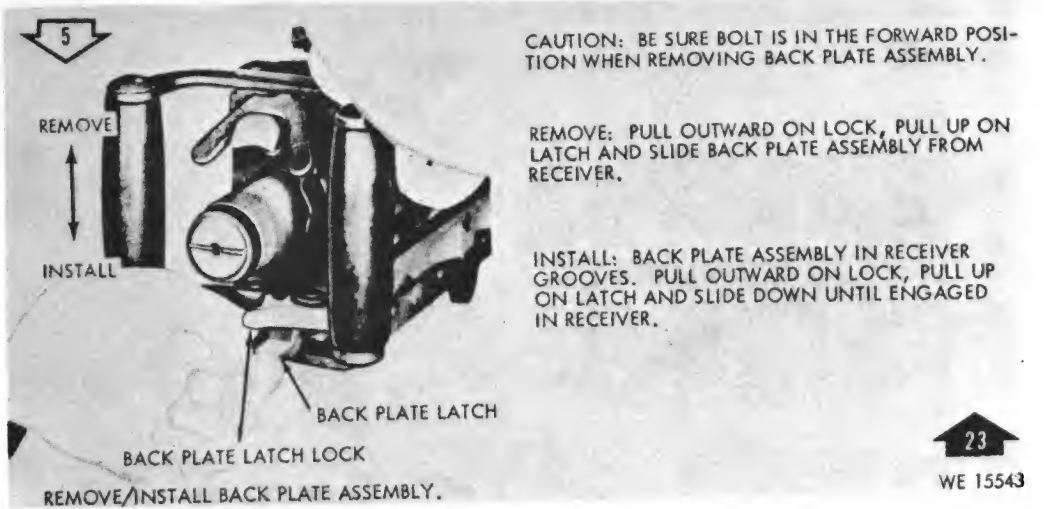


Figure 3–3. Disassembly/assembly of Caliber .50 Machine Gun, M2. **(3 of 20)**

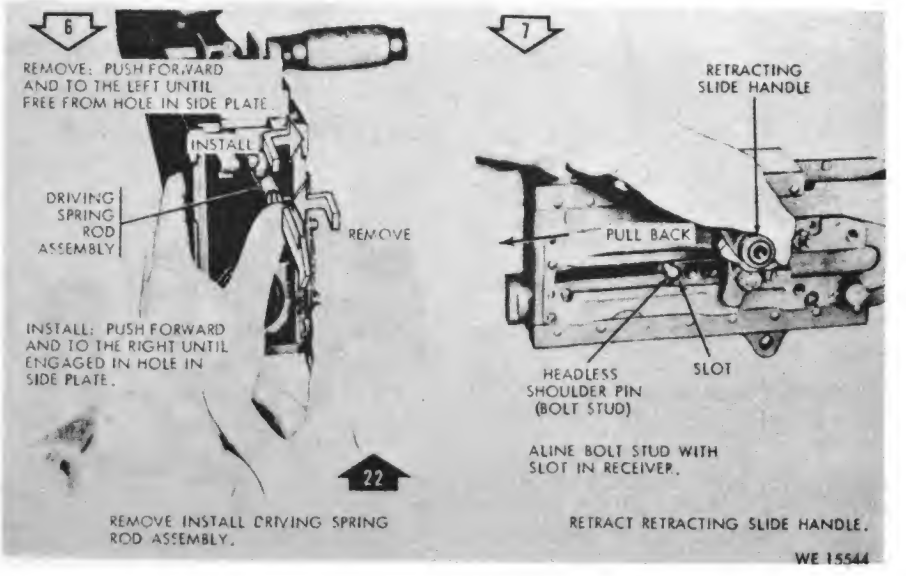


Figure 3–4. Disassembly/assembly of Caliber .50 Machine Gun, M2. **(4 of 20)**

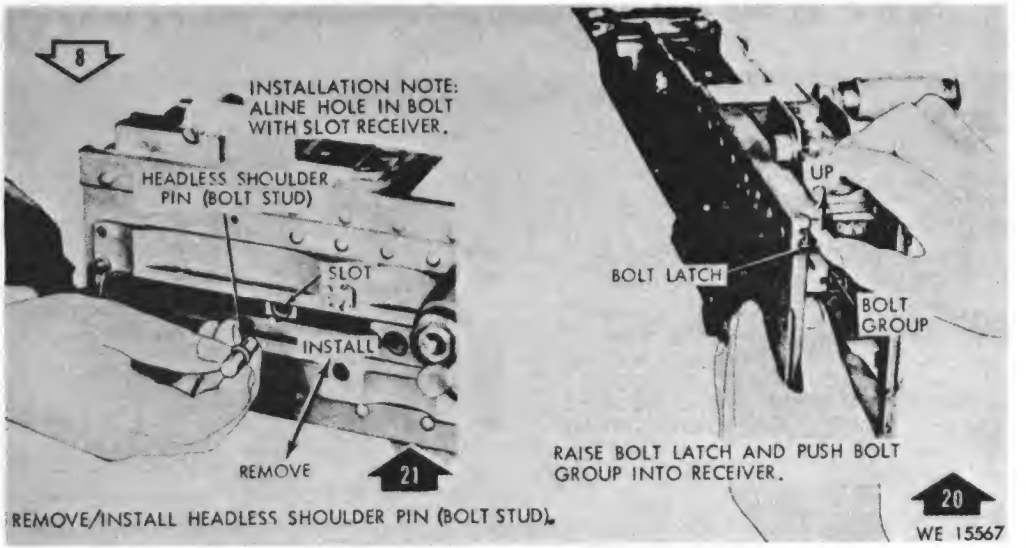


Figure 3–5. Disassembly/assembly of Caliber .50 Machine Gun, M2. **(5 of 20)**

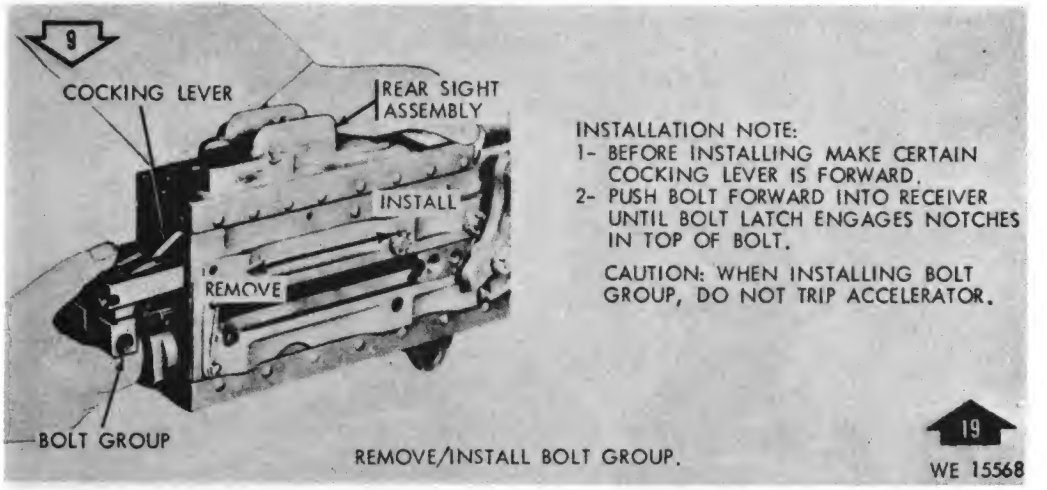


Figure 3–6. Disassembly/assembly of Caliber .50 Machine Gun, M2. **(6 of 20)**

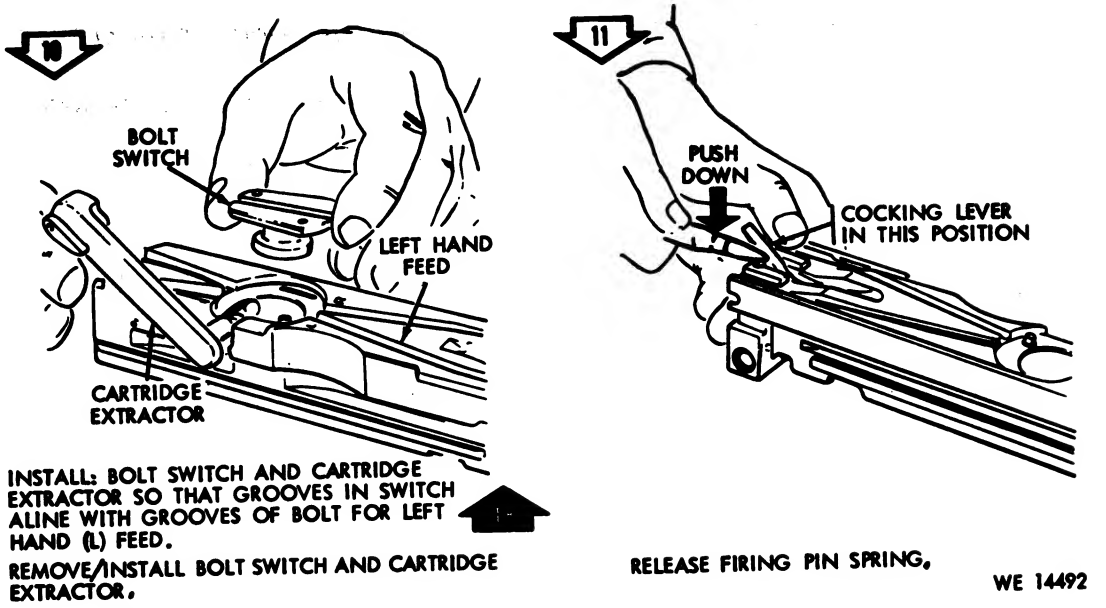
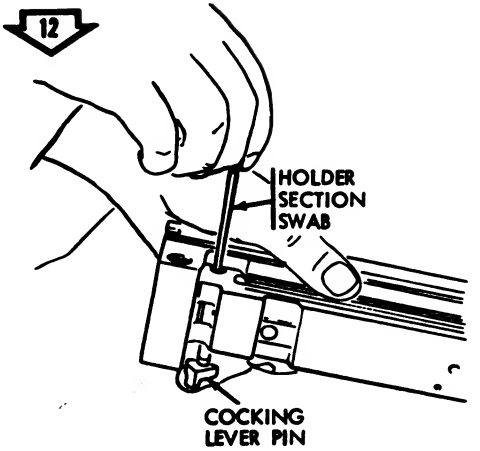
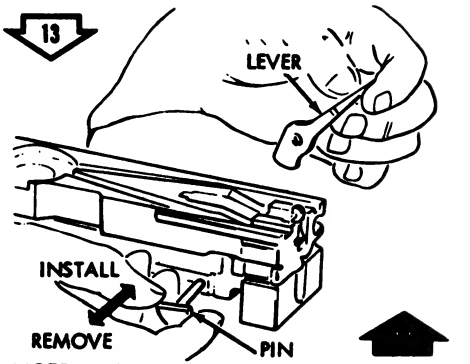


Figure 3-7. Disassembly/assembly of Caliber .50 Machine Gun, M2. (7 of 20)



DISENGAGE COCKING LEVER PIN.

CAUTION: PUSH COCKING LEVER FORWARD BEFORE ASSEMBLY INTO GUN.



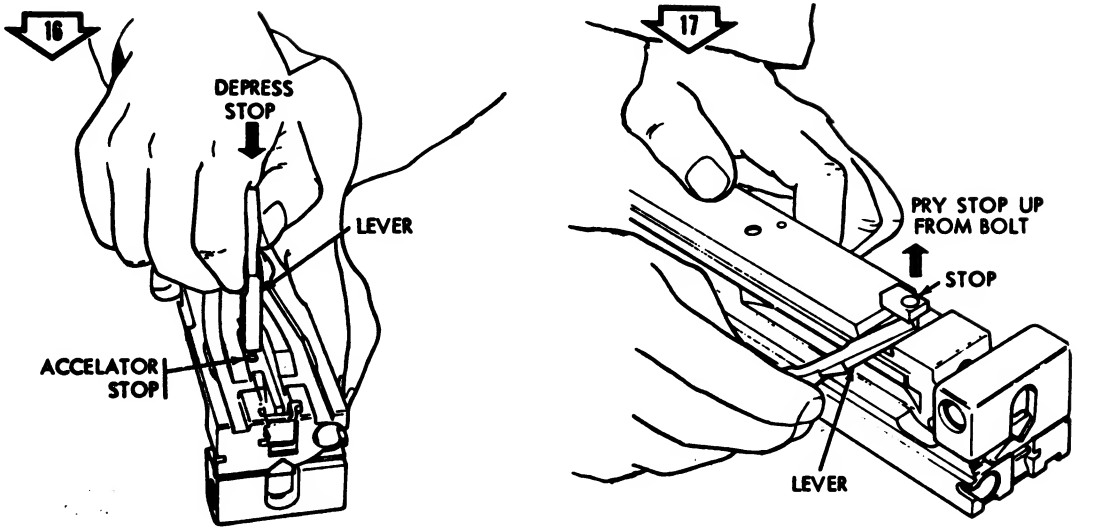
NOTE: AFTER ASSEMBLY, PUSH LEVER TO ITS REAR POSITION. PRESS IN ON SEAR SLIDE. A SHARP CLICK WILL INDICATE BOLT GROUP IS IN WORKING ORDER.

REMOVE/INSTALL COCKING LEVER AND COCKING LEVER PIN.

WE 14493

Figure 3–8. Disassembly/assembly of Caliber .50 Machine Gun, M2. (8 of 20)

Figure 3-9. Disassembly/assembly of Caliber .50 Machine Gun, Ms. (9 of 20)



DEPRESS ACCELERATOR STOP.

REMOVE STOP.

WE 14491

Figure 3-10. Disassembly/assembly of Caliber .50 Machine Gun, M2. (10 of 20)

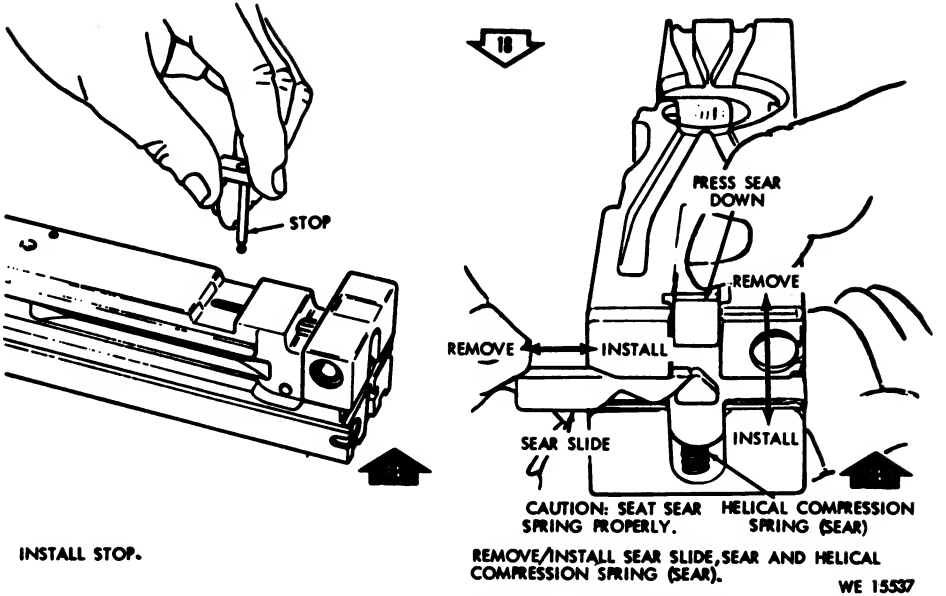


Figure 3–11. Disassembly/assembly of Caliber .50 Machine Gun, M2. (11 of 20)

Figure 3-12. Disassembly/assembly of Caliber .50 Machine Gun, M2. (12 of 20)

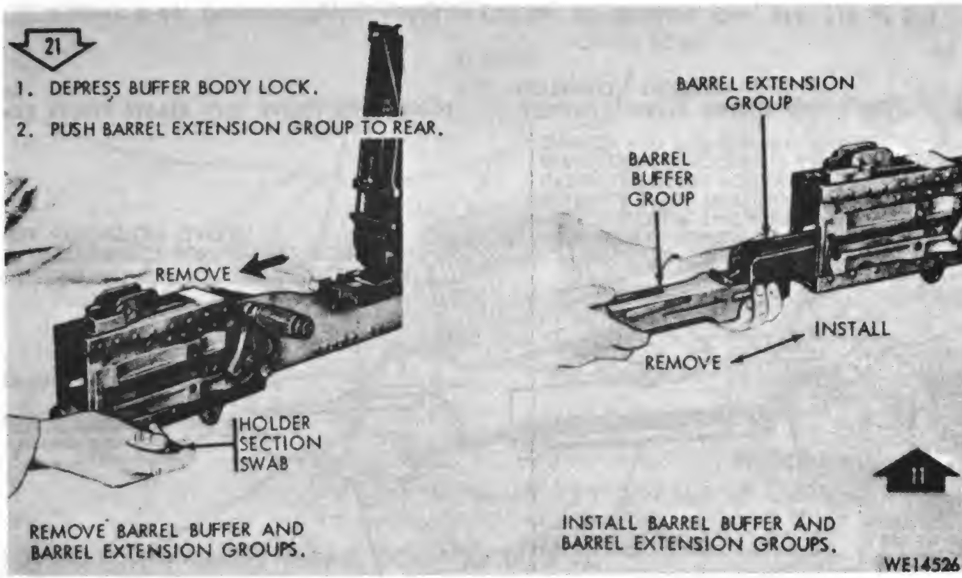
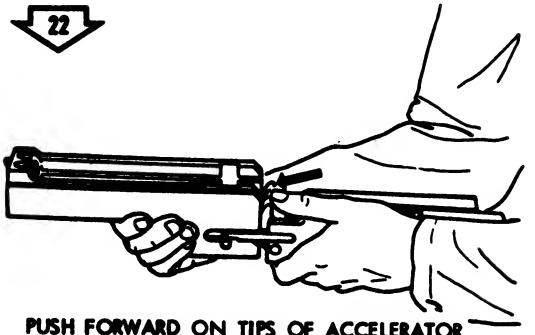
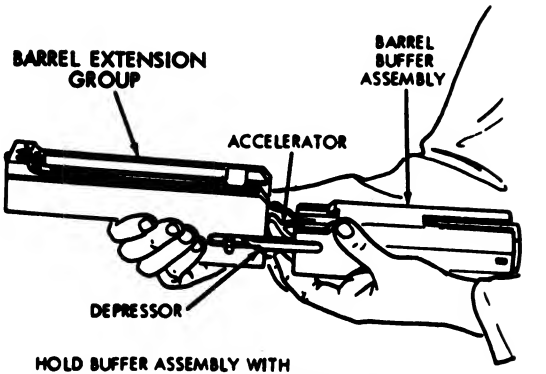


***Figure 3–13. Disassembly/assembly of Caliber .50 Machine Gun, M2.* (18 of 20)**



PUSH FORWARD ON TIPS OF ACCELERATOR AND DISCONNECT BUFFER GROUP FROM BARREL EXTENSION GROUP.

SEPARATE BARREL BUFFER AND BARREL EXTENSION GROUPS.



HOLD BUFFER ASSEMBLY WITH ACCELERATOR UP, ENGAGE NOTCH ON SHANK OF BARREL EXTENSION WITH CROSS-GROOVE IN PISTON ROD OF BUFFER. ALINE DEPRESSORS IN GROOVES OF BARREL EXTENSION AND PUSH BUFFER FORWARD.

ASSEMBLE BUFFER GROUP AND BARREL EXTENSION GROUP.

WE 15539

Figure 3–14. Disassembly/assembly of Caliber .50 Machine Gun, M2. (14 of 20)

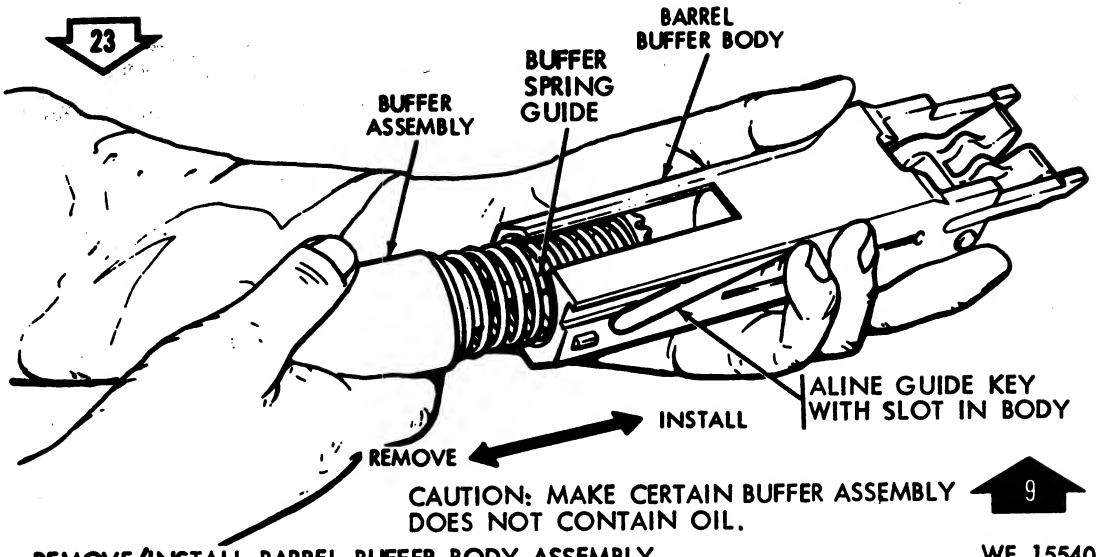


Figure 3–15. Disassembly/assembly of Caliber .50 Machine Gun, M2. (15 of 20)

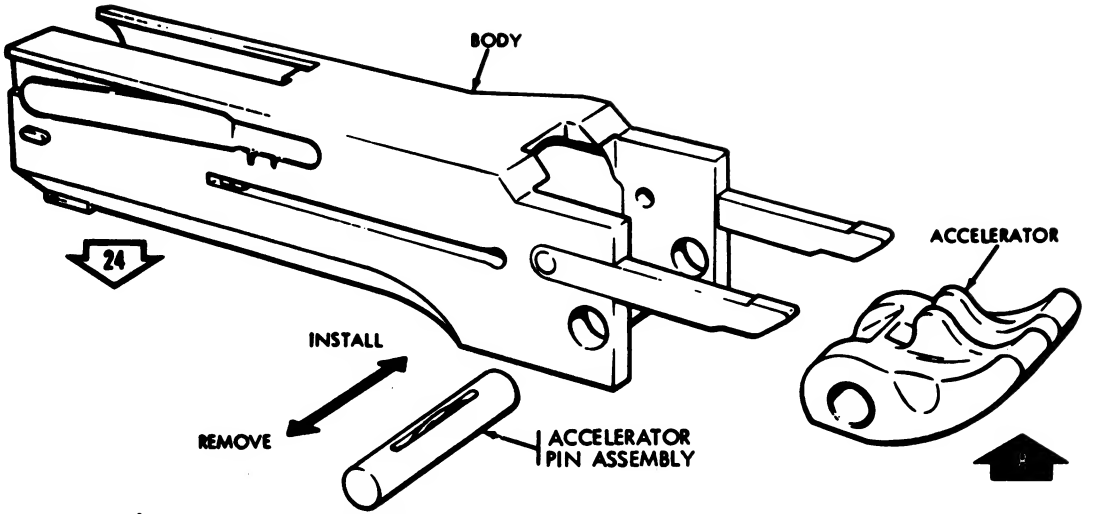


Figure 3-16. Disassembly/assembly of Caliber .50 Machine Gun, M2. (16 of 20)

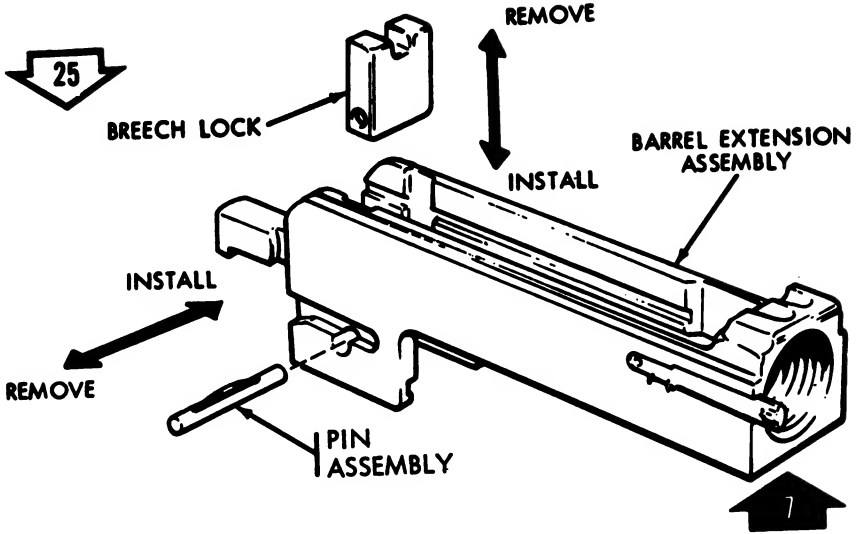


Figure 3–17. Disassembly/assembly of Caliber .50 Machine Gun, M2. (17 of 20)

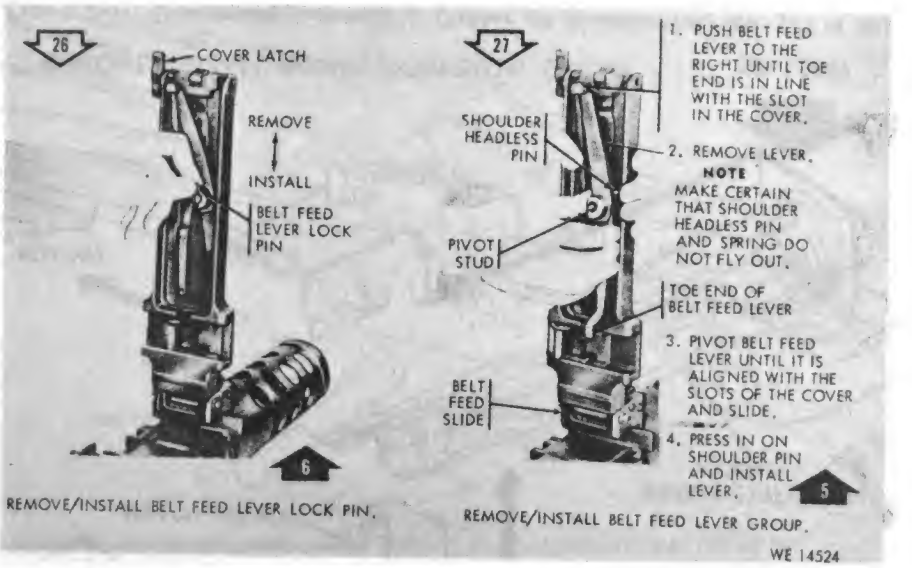


***Figure 3–18. Disassembly/assembly of Caliber .50 Machine Gun, M2.* (18 of 20)**

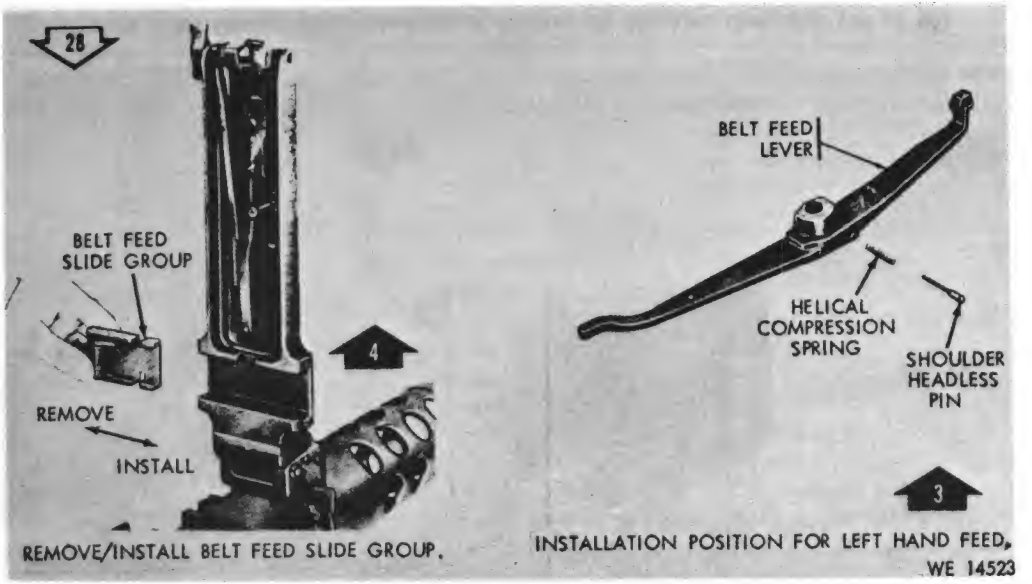


Figure 3–19. Disassembly/assembly of Caliber .50 Machine Gun, M2. **(19 of 20)**

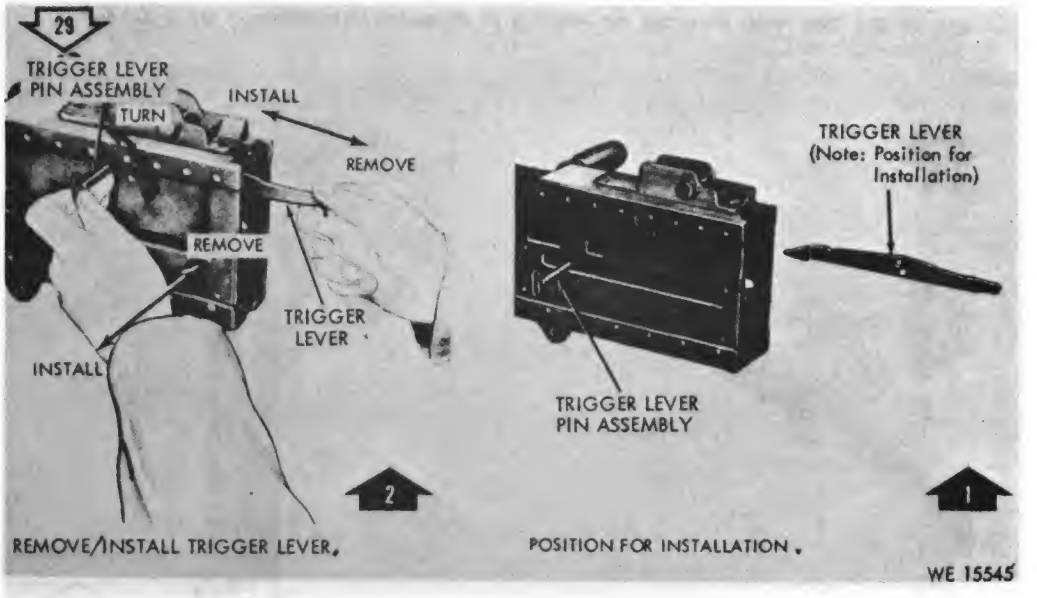


Figure 3–20. Disassembly/assembly of Caliber .50 Machine Gun, M2. **(20 of 20)**

Table 3–5. Inspection Procedures For Machine Gun

Group or assembly	Inspect for
Barrel assemblies	Deformity of lands and grooves, bulges, cracks, and rings in bore.
	Note. A gap between the Stellite liner and tube is allowed at manufacture to permit heat expansion. This gap or ring does not necessarily reflect a ringed or bulged bore.
	Chamber for pits and foreign matter. The barrel locking spring notches for undue damage.
Back plate assembly	Guides for straightness.
	Latch and latch lock for function and retention of back plate assembly in receiver group.
	Missing or broken locking pins.
	Trigger and bolt latch release for function.
Bolt group and rod assembly	Sharp corners on any surface of bolt group.
	Driving spring rod assembly for deformation. Inspect for bent or broken pin or rod assembly.
	Bolt cam grooves and bolt switch for roughness.
	Extractor assembly for deformation, and loose or unstaked ejector pin. Check for broken ejector.
	Cocking lever for deformation, particularly on camming ends.

Table 3–5—Continued

Group or assembly	Inspect for
	Accelerator stop and lock (when assembled) for deformation.
	Sear slide for binding and proper assembly.
	A fine finish on sear engaging notch. (Angle must be sharp without a feather edge.)
	Sear spring for deformation and set.
	Deformation and damaged sear notch on firing pin extension.
	Firing pin in bolt with extension assembled for free movement, deformation or cracked point. (The firing pin point must be smooth and well rounded.)
Barrel buffer group	Body spring lock for tension, staking and retention in body.
	Accelerator for broken claws or tips. Check pin for broken or missing spring.
	Note. Breech lock depressors must have slight vertical play but no longitudinal or lateral movement.
Barrel extension group	Barrel extension for bent condition and defective bolt guideways.
	Barrel locking spring for staking in its groove. Wear on

	the spring detent and be sure that spring has sufficient tension to prevent the barrel from turning during firing.
	Breech lock pin for broken or missing spring.
Retracting slide	Broken segments of wire and incorrect lacing.
	Broken and damaged handle.
	Rust, burs, or cracks on slide and bracket.
Cover group	Cover latch spring for weakness. Distortion of cover extractor spring.
	Belt feed lever for deformation and free movement on pivot stud when assembled in cover and slide (should not bind). Missing plunger and spring.
	Belt feed slide for protruding pin when assembled (should be flush). Pin for broken or missing spring.
	Belt feed pawl for broken pin. Pawl arm for deformation and cracks.
	Correct assembly of all components.
Receiver group	Working surfaces will be smooth and free from defects tending to affect smoothness of operations. Freedom of obstruction in feedway and guide cuts for the back plate assembly.
	Defective or missing bolt stop, loose or bent belt holding pawl brackets.

Table 3–5—Continued

Group or assembly	Inspect for
	Deformation of side plate, cracks at back plate grooves, and clearance for free movement of bolt stud. Binding of the bolt stud against the lower portion of the slot in the side plate. Deformation of trigger lever. Trigger lever must not bind between the plate bracket and top plate bracket stud. Broken lock in trigger lever pin assembly. Belt holding pawls for cracks and proper functioning. Correct operation of front and rear sights. Side plate trigger assembly or tripod mount pintle for damage and make certain it is secure.

Section VI. MAINTENANCE OF TRIPOD MOUNT, M3

3–11. Removal/Installation

Refer to figures 2–5 through 2–7.

3–12. Disassembly/Assembly

No further disassembly is authorized.

3–13. Cleaning, Inspection and Repair Procedures

a. Cleaning. Refer to table 3–2.

b. Inspection. Refer to table 3–6.

c. Repair. Return mount to organizational maintenance personnel for any repairs.

Section VII. MAINTENANCE OF ANTIAIRCRAFT MOUNT, M63

3–14. Removal/Installation

Refer to figures 2–8 through 2–11.

3–15. Disassembly/Assembly

No further disassembly is authorized.

3–16. Cleaning, Inspection and Repair

a. Cleaning. Refer to table 3–2.

b. Inspection. Refer to table 3–6.

c. Repair. Return mount to organizational maintenance personnel for any repairs.

Table 3–6. Inspection Procedures For Mounts

Group or assembly	Inspect for
Tripod Mount, M3	
Traversing and elevating mechanism assembly	Proper functioning of traversing and elevating handwheels. Sleeve for dirt or rust. Lever for correct operation. Quick release pin and chain assembly for burs and other damage.
Leg and tripod head	Bolts, nuts, pintle and tripod head for wear, locking action of pintle lock assembly. Proper function of front leg clamping screw nut. Legs for distortion. Spades for cracks. Leg clamping handle and indexing lever assembly for correct operation.
Antiaircraft Mount, M63	
Ammunition box tray assembly	Top and rear pressure straps for rust and damage. Tray assembly for cracks at weld seams and other damage.
Trigger frame assembly	Cracks in tubes or welds. Security of H-frame to cradle. Grips and firing handle rod for looseness, cracks and correct operation. Support for damage. Side plate trigger container assembly for damage.

Cradle and yoke assembly	**Cradle and yoke for cracks. Front and rear mounting pins and chain for damage.**
Mount leg, elevator assembly and base assembly group	**Cracks in legs. Damage to spade feet. Pintle lock clamp for proper functioning. Lock assembly for retention on elevator assembly and for correct operation. Bottom of elevator assembly for burs or other damage. Base assembly for damage. Leg sockets and toggle bolt for functioning and damage. Headless shoulder pin for positive operation.**

CHAPTER 4

AMMUNITION

4–1. General

The ammunition (fig. 4–1) for the machine gun is classified as small arms ammunition and is issued in the form of a complete round. The round (cartridge) consists of the projectile (bullet), cartridge case, propellant powder, and primer necessary to fire the weapon. For additional information, refer to SC 1305/30–IL.

4–2. Articles for Instructional Use

a. Dummy Cartridge. The following item will be taken into the field upon permanent change of station and into the theater of operations:

FSN	*Item*	*Unit of Measure*
1305–028–6384	DUMMY CARTRIDGE, CAL .50: M2	ea

b. Graphic Training Aid. The following item will not be taken into the field upon permanent change of station or into the theater of operations. Units will turn in all equipment to the Commanding Officer of the station from which it departs. The receiving officer will make a report to the Army Commander, without delay, showing number, type, and condition of item received.

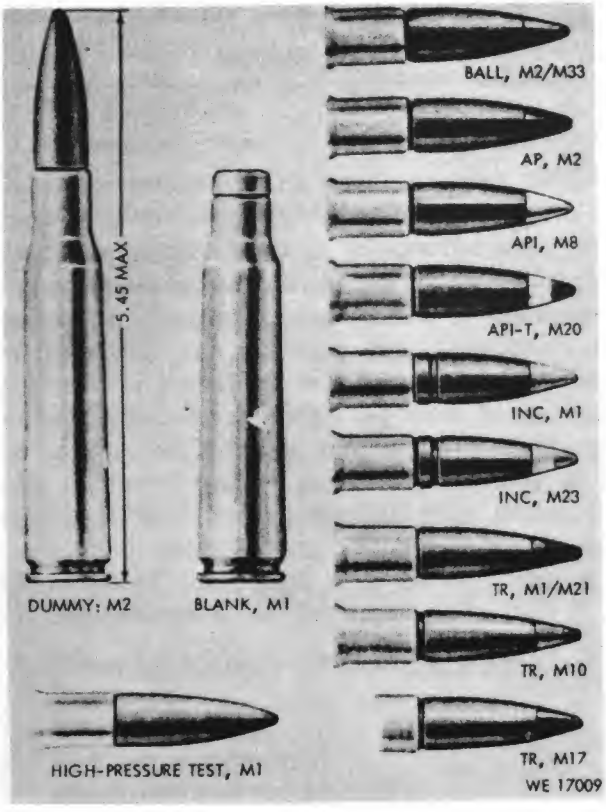


Figure 4–1. Types of caliber .50 ammunition.

Item	Unit of Measure
GRAPHIC TRAINING AID, 9–15 (19 charts)	ea

4–3. Malfunctions Involving Ammunition and Explosives.

Refer to AR 700–1300–8.

CHAPTER 5

DEMOLITION OF MATERIEL TO PREVENT ENEMY USE

5–1. General

a. Destruction of the machine gun, tripod mount, and antiaircraft mount, when subject to capture or abandonment in the combat zone, will be undertaken only when, in the judgment of the Commander concerned, such action is necessary. The authority for ordering the destruction of equipment is vested in divisional or higher commanders when the situation requires. If destruction is resorted to, the equipment must be so badly damaged that it cannot be restored to a usable condition in the combat zone either by repair or cannibalization. The reporting of the destruction of equipment is to be done through command channels.

b. Priorities for destruction of parts are:
Receiver
Barrel Assembly
Sighting equipment
Bolt group and rod assembly
Mounts
All tools and equipment
Firing tables and range cards

APPENDIX A

REFERENCES

The following indexes should be consulted frequently for latest changes or revisions of references given in this appendix and for new publications relating to material covered in this manual.

Index of Administrative Publications ----------DA Pam 310–1

Index of Army Films, Transparencies, GTA Charts, and Recordings--DA Pam 108–1

Index of Blank Forms --------DA Pam 310–2

Index of Doctrinal, Training, and Organizational Publications --DA Pam 310–3

U.S. Army Equipment Index of Modification Work Orders ----DA Pam 310–7

Index of Supply Catalogs and Supply Manuals (excluding types 7, 8, and 9) ----------DA Pam 310–6

Index of Technical Manuals, Technical Bulletins, Suppy Manuals (types 7, 8, and 9) Supply Bulletins, and Lubrication Orders ------DA Pam 310–4

APPENDIX B

BASIC ISSUE ITEMS LIST

Section I. INTRODUCTION

B–1. Scope

This appendix lists items which accompany the machine gun and mounts or are required for installation, operation or operator's maintenance.

B–2. General

This Basic Issue Items List is divided into the following sections:

a. Basic Issue Items—Section II. A list of items which accompany the machine gun and mounts and are required by the operator/crew for installation, operation, or maintenance.

b. Maintenance and Operating Supplies—Section III. A listing of maintenance and operating supplies required for initial operation.

B–3. Explanation of Columns

The following provides an explanation of columns in the tabular list of Basic Issue Items, Section II.

a. Source, Maintenance, and Recoverability Codes (SMR). Column 1:

(1) Source code, indicates the selection status and source for the listed item. Source codes are:

Code	*Explanation*
P	Repair parts which are stocked in or supplied from the GSA/DSA, or Army supply system, and authorized for use at indicated maintenance categories.
M	Repair parts which are not procured or stocked but are manufactured at indicated maintenance categories.
A	Assemblies which are not procured or stocked as such but are made up of two or more units, each of which carry individual FSNs and descriptions and are procured and stocked and can be assemblied by units at indicated maintenance categories.
X	Parts and assemblies which are not procured or stocked; the mortality of which is normally below that of the applicable end item; and the failure of which should result in retirement of the end item from the supply system.
X1	Repair parts which are not procured or stocked, the requirements for which will be supplied by use of next higher assembly or component.
X2	Repair parts which are not stocked. The indicated maintenance category requiring such repair parts will attempt to obtain through cannibalization; if not obtainable through cannibalization such repair parts will be requisitioned with supporting justification through normal supply channels.

Code	Explanation
C	Repair parts authorized for local procurement. When not obtainable from local procurement, such repair parts will be requisitioned through normal supply channels with a supporting statement of nonavailability from local procurement.
G	Major assemblies that are procured with PEMA funds for initial issue only to be used as exchange assemblies at DSU and GSU level. These assemblies will not be stocked above DSU and GSU level or returned to Depot supply level.

(2) Maintenance code, indicates the lowest category of maintenance authorized to install the listed item. The maintenance level code is:

Code	Explanation
C	Operator/crew

(3) Recoverability code, indicates whether unserviceable items should be returned for recovery or salvage. Items not coded are expendable.

Code	Explanation
R	Repair parts and assemblies which are economically repairable at DSU and GSU activities and are normally furnished by supply on an exchange basis.
T	High dollar value recoverable repair parts which are subject to special handling and are issued on an exchange basis. Such repair parts are normally repaired or overhaued at depot maintenance activities.
U	Repair parts specifically selected for salvage by reclamation units because of precious metal content, critical materials, high dollar value reusable casings, etc.

Code	Explanation
S	Repair parts and assemblies which are economically repairable at DSU and GSU activities and normally are furnished by supply on an exchange basis. However, when these items are determined to be uneconomically repairable by a GSU they will be evacuated to a depot for evaluation and analysis before final disposition.
No Code Indicated	Parts will be considered expendable.

b. Federal Stock Number, Column 2. This column indicates the Federal stock number assigned to the item and will be used for requisitioning purposes.

c. Description, Column 3. This column indicates the Federal item name and any additional description of the item required. A part number or other reference number is followed by the applicable five-digit Federal supply code for manufacturers in parentheses.

d. Unit of Measure (U/M), Column 4. A 2 character alphabetic abbreviation indicating the amount or quantity of the item upon which the allowances are based, e.g., ft, ea, pr, etc.

e. Quantity Incorporated in Unit, Column 5. This column indicates the quantity of the item used in the machine gun or mounts.

f. Quantity Furnished with Equipment, Column 6. This column indicates the quantity of an item furnished with the equipment.

g. Illustration, Column 7. This column is divided as follows:

(1) *Figure Number, Column 7a.* Indicates the figure number of the illustration in which the item is shown.

(2) *Item Number, Column 7b.* Indicates the callout number used to reference the item in the illustration.

B–4. Explanation of Columns in the Tabular List of Maintenance and Operating Supplies—Section III.

a. Component Application, Column 1. This column identifies the component application of each maintenance or operating supply item.

b. Federal Stock Number, Column 2. This column indicates the Federal stock number assigned to the item and will be used for requisitioning purposes.

c. Description, Column 3. This column indicates the item name and brief description.

d. Quantity Required for Initial Operation, Column 4. This column indicates the quantity of each maintenance or operating supply item required for initial operation of the equipment.

e. Quantity Required for 8 Hours Operation, Column 5. This column indicates the estimated quantities required for an average 8 hours of operation.

f. Notes, Column 6. This column indicates informative notes keyed to data appearing in a preceding column.

B–5. Abbreviations

Not applicable.

B–6. Federal Supply Code for Manufacturers

Code	*Manufacturer*
19204	Rock Island Arsenal Rock Island, Ill.
19205	Springfield Armory Springfield, Mass.
81348	Federal Specification

Section II. BASIC ISSUE ITEMS LIST

(1) Source, maint. and recov. code (a) Source	(b) Maint.	(c) Recov.	(2) Federal Stock No.	(3) Description Reference Number & Mfg Code — Usable on Code	(4) Unit of meas.	(5) Qty. inc. in unit	(6) Qty. furn. with equip.	(7) Illustration (a) Fig. No.	(b) Item No.
				REPAIR PARTS:					
P	C		1005–726–6131	BARREL ASSEMBLY: 7266131 (19205) ACCESSORIES, TOOLS, AND EQUIPMENT MACHINE GUN, M2	ea	1	1	B1	
P	C		1005–508–2589	BRUSH, CLEANING, SMALL ARMS: 8407954 (19204)	ea		1	B2	4
P	C		1005–716–2702	BRUSH, CLEANING, SMALL ARMS: 7162702 (19205)	ea		1	B2	8

(1) Source, maint. and recov. code			(2)	(3)	(4)	(5)	(6)	(7)	
(a) Source	(b) Maint.	(c) Recov.	Federal Stock No.	Description Reference Number & Mfg Code — Usable on Code	Unit of meas.	Qty. inc. in unit	Qty. furn. with equip.	Illustration (a) Fig. No.	Illustration (b) Item No.
P	C		1005–550–4037	BRUSH, CLEANING, SMALL ARMS: M4, 5504037 (19205)	ea		4	B2	3
P	C		1005–921–5821	CASE, SMALL ARMS, ACCESSORIES: 11686430 (19205)	ea		1	B2	5
P	C		1005–659–1031	COVER, SPARE BARREL: 6591031 (19205)	ea		1	B3	
P	C		1005–555–9696	ENVELOPE: M1, SPARE PARTS 5559696 (19205)	ea		1	B2	11
P	C		4933–716–0041	EXTRACTOR, RUPTURED CARTRIDGE CASE: 7160041 (19205)	ea		1	B2	2
P	C		1005–716–2072	FLASH HIDER: 7162072 (19205)	ea		1	B2	7

P	C	4933–535–1217	GAGE, HEADSPACE AND TIMING: 5351217 (19205)	ea		1	B2	1
P	C	1005–556–4102	ROD, CLEANING, SMALL ARMS: M4 5564102 (19205)	ea		1	B2	10
P	C	1005–653–5441	ROD, CLEANING, SMALL ARMS: M7 6535441 (19205)	ea		1	B2	6
P	C	1005–716–2704	SWAB, HOLDER SECTION, SMALL CLEANING ROD: 7162704 (19205)	ea		1	B2	9
			TECHNICAL MANUAL, TM 9–1005–213–10	ea		1		
P	C	5140–315–2747	TOOL BOX, PORTABLE: S, 16 LG, 7 W AND 7 H O/A, EXCL PROJECTIONS, 1 REMOVABLE TYPE TRAY, GGG–T–00558–1 (81348)	ea		1	B4	
P	C	1005–928–6189	TRIPOD MOUNT, M3 COVER, TRIPOD MOUNT: 11686597 (19205)	ea		1	B5	1

(1) Source, maint. and recov. code			(2)	(3)	(4)	(5)	(6)	(7)	
(a) Source	(b) Maint.	(c) Recov.	Federal Stock No.	Description Reference Number & Mfg Code — Usable on Code	Unit of meas.	Qty. Inc. in unit	Qty. furn. with equip.	Illustration (a) Fig. No.	Illustration (b) Item No.
P	C		1005-716-2099	ANTIAIRCRAFT MOUNT, M63 COVER, BASE AND ELEVATION: 7162099 (19205)	ea		1	B5	2
P	C		1005-716-2102	COVER, BEARING: 7162102 (19205)	ea		1	B6	1
P	C		1005-716-2098	COVER, ELEVATOR BOTTOM: 7162098 (19205)	ea		1	B6	2
P	C		1005-716-2097	COVER, ELEVATOR TOP: 7162097 (19205)	ea		1	B5	3

Figure B–1. Barrel assembly.

Figure B–2. Special tools and equipment.

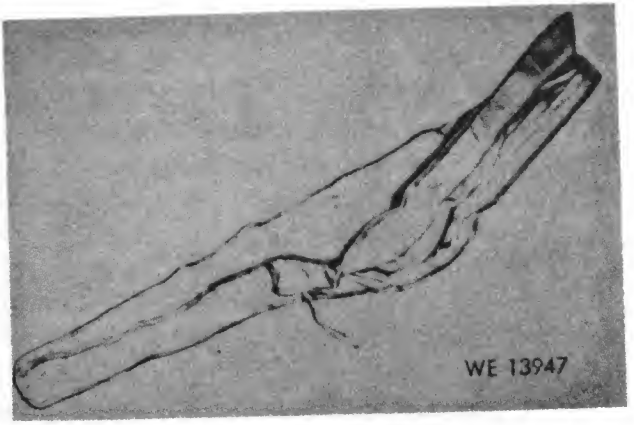


Figure B–3. Spare barrel cover.

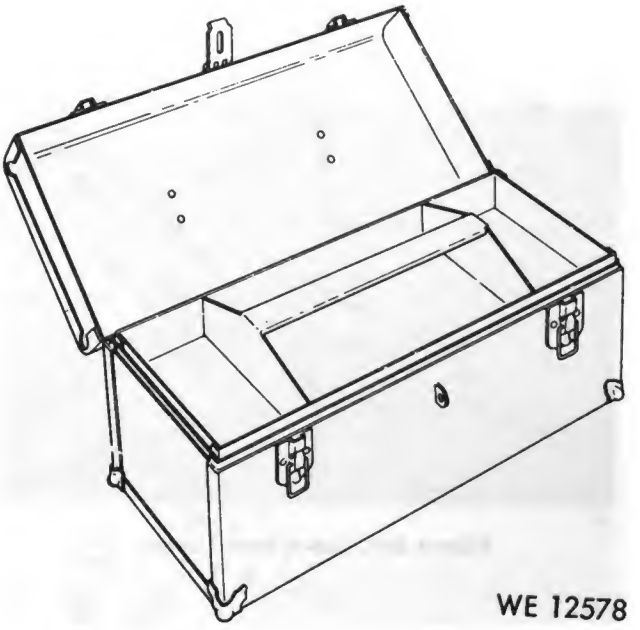


Figure B–4. Portable tool box.

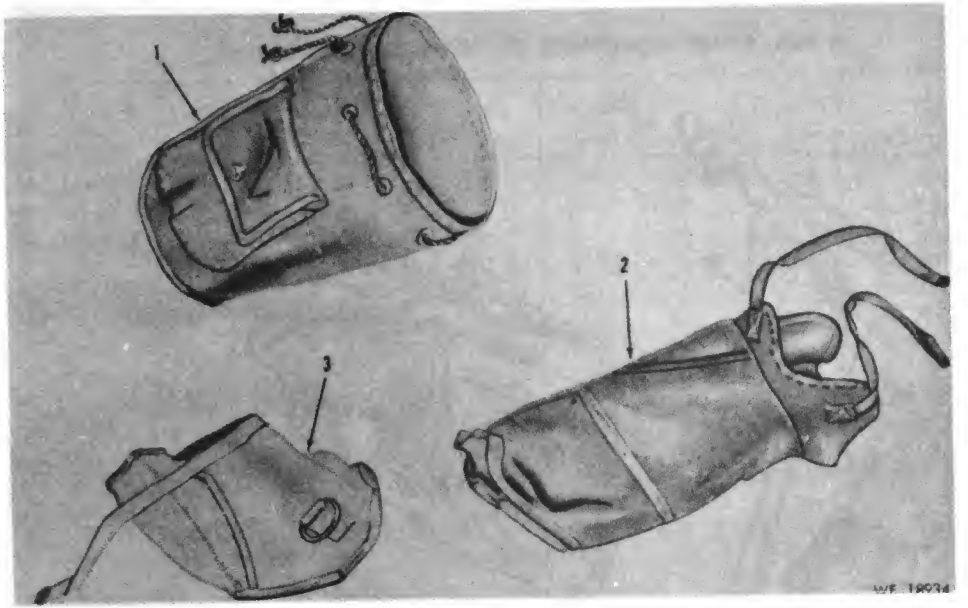


Figure B–5. Cover for mounts.

Figure B–6. Covers for Antiaircraft Mount, M63.

Section III. MAINTENANCE AND OPERATING SUPPLIES

(1) Component application	(2) Federal stock No.	(3) Description	(4) Qty. required for initial operation	(5) Qty. required for 8 hours operation	(6) Notes
MACHINE GUN AND MOUNTS.	1005–288–3565	SWAB, SMALL ARMS CLEANING: COTTON, 2–1/2 SQ (1000 IN PKG) 5019316 (19205)	*		FOR GENERAL CLEANING AND LUBRICATING PURPOSES (ITEM IS AUTHORIZED FOR USE AS INDICATED BY THE ASTERISK)

By Order of the Secretary of the Army:

WILLIAM C. WESTMORELAND,
General, United States Army,
Chief of Staff.

Official:

KENNETH G. WICKHAM,
Major General, United States Army,
The Adjutant General.

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