TECHNICAL MANUAL

OPERATION AND MAINTENANCE INSTRUCTIONS

XM248

LIGHT MACHINE GUN

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Operating and Maintenance Instructions

XM248
LIGHT MACHINE GUN

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CHAPTER 1

INTRODUCTION

Section I. GENERAL

1-1. SCOPE. This manual contains information and instructions for the operation and maintenance of the XM248 Light Machine Gun. The XM248 gives the individual soldier the capability of delivering a large volume of sustained, accurate, automatic fire to both short and long ranges, and greatly reinforces the fire power of the rifle squad.

Section II. DESCRIPTION AND DATA

1-2. XM248 LIGHT MACHINE GUN. The XM248 (frontispiece) is a lightweight, air-cooled, gas- operated automatic weapon. The weapon fires approximately 570 rounds per minute and is fed from a loaded magazine containing 100 or 200 rounds of linked ammunition. A free hanging ammunition belt may be used (fig. 1-1). A fixed head space permits the rapid changing of barrels. The weapon can be fired from any position, and a bipod or tripod may be used.

1-3. ROUTINE MAINTENANCE. The necessary tools for routine cleaning are carried in a pouch located on the sling. The cleaning kit consists of a cleaning rod, cleaning rod tip, two brushes (bore and chamber), oiler, and lubrication applicator.

1-4. AMMUNITION. The weapon uses improved 5.56 mm ball and tracer cartridges (XM777 and XM778 respectively) normally linked in a 4/1 combat mix using the XM21 5.56mm link. The weapon is also capable of firing the standard M193/M 196 ammunition.

1-5. SIGHTING SYSTEM. The sighting system uses a rear sight mounted to the receiver housing and a fixed front sight mounted to the barrel. The rear sight is adjustable for windage and elevation with range settings running from 300 to 1000 meters. Both elevation and windage adjustments are finger operated. The amount of adjustment can be determined either visually, by touch, or by counting clicks. Adaptation of the weapon for a night vision device may be accomplished in such a way that the basic sighting system is still usable.

1-6. WEAPON SUBASSEMBLIES. The main subassemblies (fig. 1-2) of the XM248 are described in the following paragraphs.

a. Magazine. Both 100 and 200 round magazines are available for use with 5.56mm linked ammunition belts. The magazine normally is received loaded with a full belt complement of linked ammunition ready for installation into the weapon. The magazine is inserted into the left side of the lower portion of the receiver housing until it is fully engaged. It is removed from the weapon by depressing the magazine latch and removing the magazine. Refer to paragraph 2-1.h for instructions on reloading an empty magazine.

Figure 1-1. XM248 weapon with free hanging belt.
Bipod set low in forward cant position.

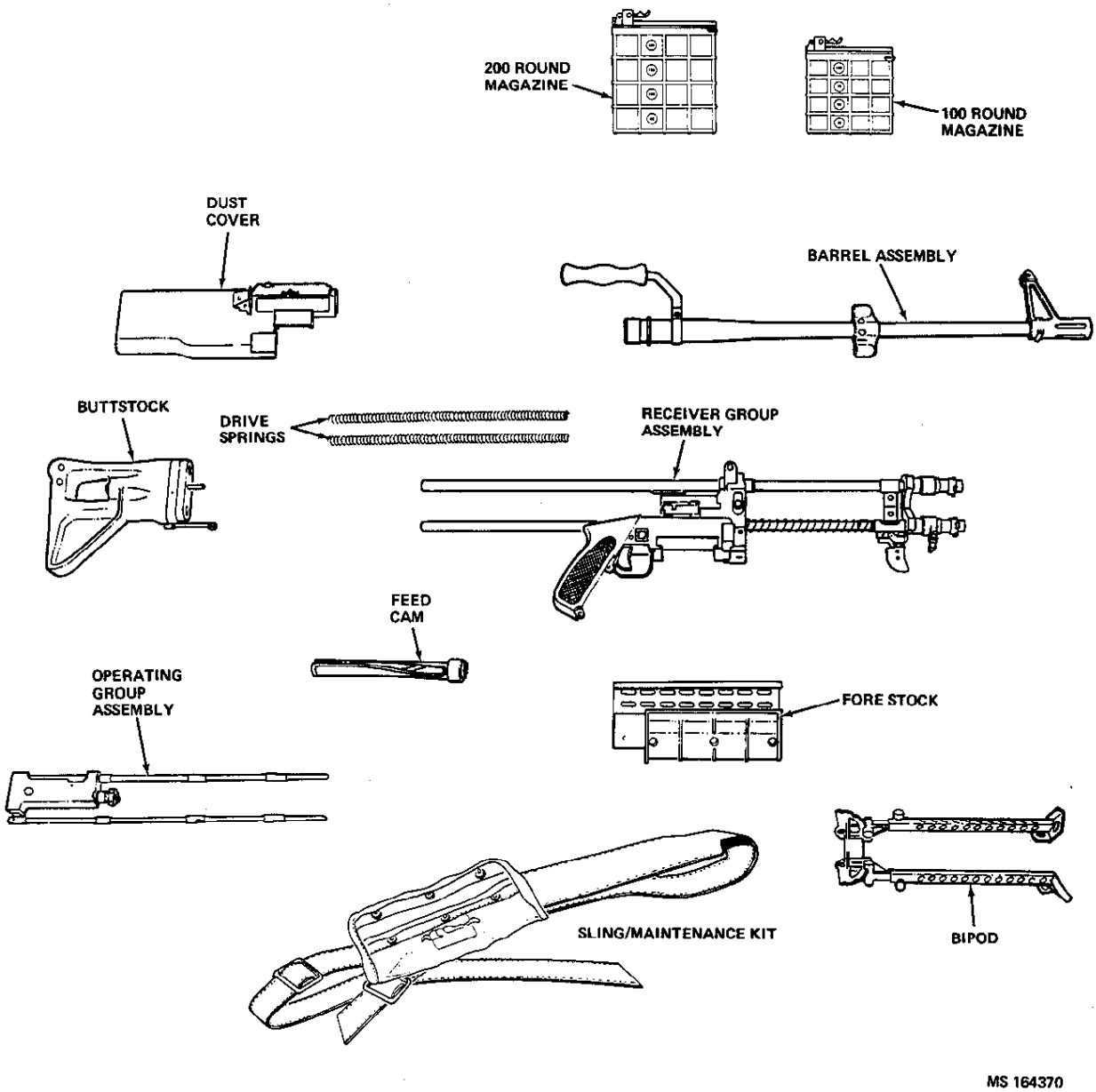


Figure 1-2. XM248 weapon subassemblies.

b. Buttstock. The buttstock assembly houses a hydropneumatic buffer. It also contains a folding buttplate and rotating lock unit which secures the buttstock to the receiver group.

c. Dust Cover. The dust cover serves to protect the operating parts. It also contains the cartridge ejection port cover and link ejection port cover.

d. Drive Springs. The drive springs are placed inside the hollow receiver tubes, one in the upper receiver tube and one in the lower receiver tube. These springs are interchangeable and are located behind the operating rods of the operating group. The springs are compressed when the operating group moves rearward and act as the source of power to drive the operating group forward.

e. Operating Group Assembly. The operating group assembly (fig. 1-3) consists of the bolt carrier assembly, bolt assembly, inertia firing pin, cam pin, upper operating rod and lower operating rod assembly. The operating group assembly is held together by the lower rod assembly. The drive pin, which also actuates the feed mechanism, is securely fastened to the lower operating rod by a spring pin. The drive pin passes through the feed cam roller, the aft end of the bolt carrier, and the aft end of the fixed firing pin. The drive pin is housed in the aft end of the upper operating rod. Care should be exercised when disassembling the operating group because the firing pin can be damaged if allowed to fall out. The bolt carrier contains the bolt locking and unlocking cam. The bolt is a three lug design, with conventional extractor, rammer, and ejector.

f. Barrel. The lightweight, quick-change barrel includes a front sight/flash suppressor, gas port housing, three-lug barrel extension, chrome-plated bore and chamber, and carrying handle.

g. Fore Stock. The fore stock consists of a metal handguard with attached hand grips made of lightweight, synthetic material which provide thermal insulation to protect the operator's hands from heat or extreme cold.

h. Receiver Assembly. The receiver assembly (fig. 1-4) consists of an upper and lower hollow tube, reinforced by the receiver housing and the forward tube guide. The receiver tubes extend as far forward as the tube guide where they terminate. Two gas cylinder assemblies are threaded into the tube guide, one in the upper part of the tube guide and one in the lower part. Each gas cylinder contains a gas piston, and each gas cylinder is tightly torqued to the end of the tube guide. The gas port housing is a permanent part of the barrel. It also serves as a housing for the gas cylinders. The charger handle and charger spring are located on the lower receiver tube between the forward tube guide and the receiver housing. The rear sight is mounted on top of the receiver housing. The tripod adapter is a part of the lower receiver housing. The feed access door is attached to the receiver housing. The trigger, trigger bar, safety, and sear are all part of the receiver assembly. The hollow receiver tubes extend rearward and terminate at the buttstock where both tubes are housed. The load-and-go magazine slides into the left side of the lower portion of the receiver housing.

i. Cam and Ratchet Assembly. The feed cam rotates on the lower receiver tube and consists of a long harmonic drive cam and ratchet drive assembly.

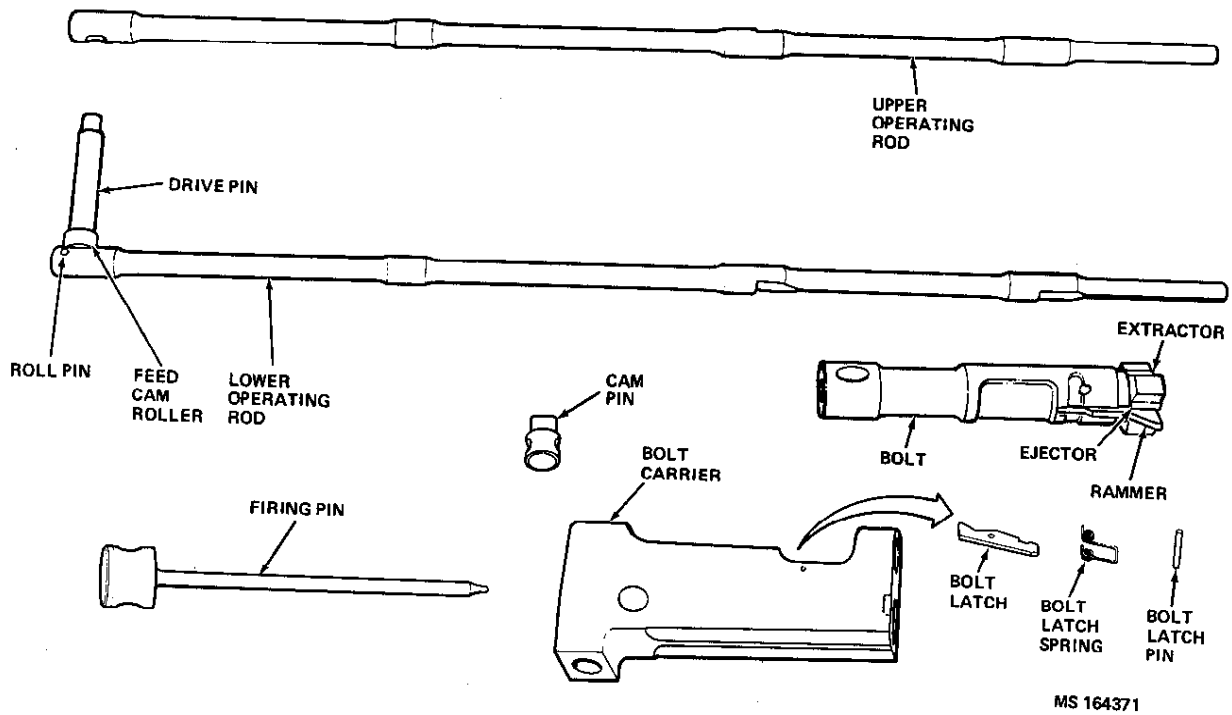
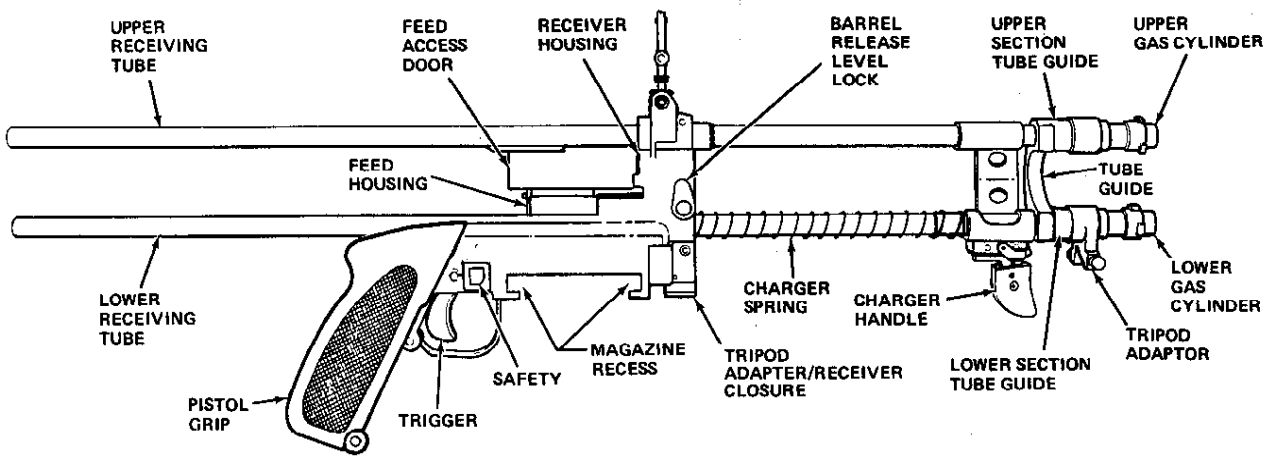
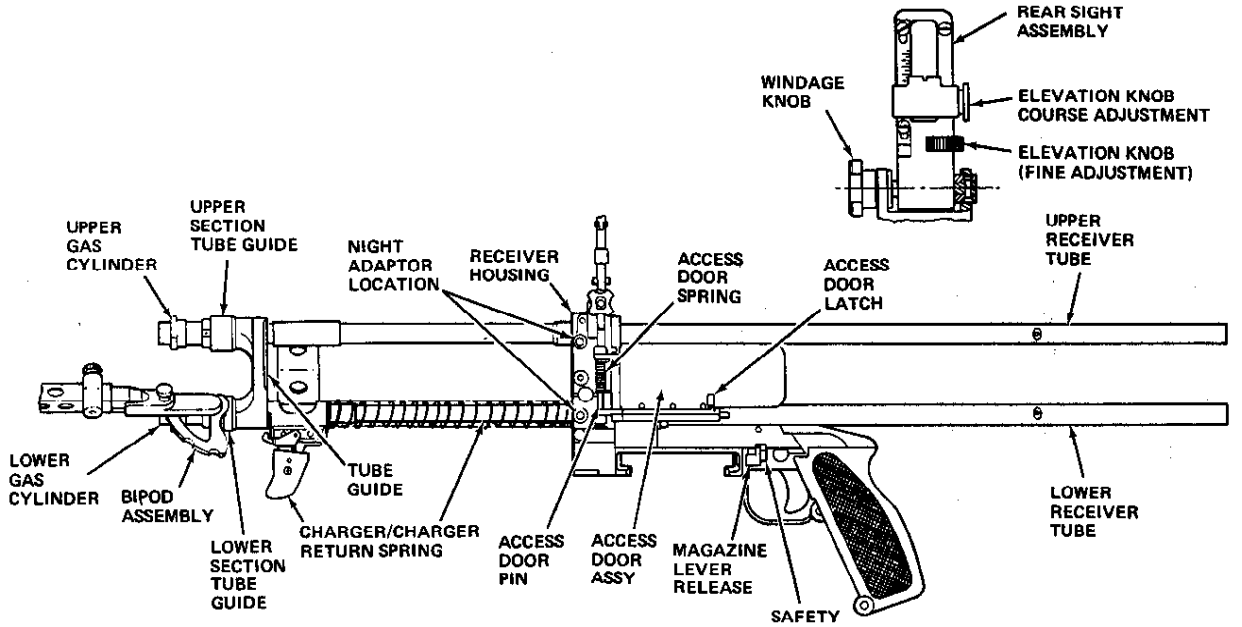


Figure 1-3. Operating Group



RIGHT SIDE OF RECEIVER GROUP



LEFT SIDE OF RECEIVER GROUP

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Figure 1-4. Receiver Group Assembly

j. Feed Housing Assembly. The feed housing is located on the lower receiver tube. It houses the feed sprocket which is operated by the feed cam.

k. Bipod Assembly. The bipod assembly is held in place by the lower gas cylinder. The lower gas cylinder fits through the hole in the bipod yoke and threads into the front tube guide. The bipod is stowed with the legs in the forward position when not in use. To use the bipod, the operator pushes the spring loaded plungers on each leg and adjusts the legs either at 60° or 90° respectively from the stowed position. The legs are also adjustable in length to suit a particular type of terrain or entrenchment.

l. Sling and Maintenance Kit. Each weapon has a sling, maintenance pouch and maintenance kit. The sling, attached to the buttstock assembly and to the sling slot in the tube guide, can be used to carry the weapon or support the weapon in the assault mode. The maintenance pouch, attached to the sling, contains a breakdown cleaning rod with bore and chamber brush, lubricating oil, and an all-purpose cleaning brush and lube applicator.

1-7. TABULATED DATA.

Table 1-1. XM248 Weapon Data

Weight	Empty weapon with bipod	6.66 Kg. *
	Sling and maintenance kit	.425 Kg.
	Loaded 100 round container	1.60 Kg.
	Loaded 200 round container	3.05 Kg.
	Complete weapon with loaded 100 round container	8.27 Kg. *
	Complete weapon with loaded 200 round container	9.72 Kg. *
Dimensions (see fig. 1-5)	Width with bipod stowed 100 round container	140 mm
	200 round container	175 mm
	Width with bipod fully extended	500 mm
	Height with bipod stowed 100 round container	295 mm
	200 round container	335 mm
	Height with bipod fully extended	410 mm
	Overall length	1052 mm
Rate of fire	550 rounds per minute	
Muzzle velocity	998 ±12 m/sec (XM777)	
	987 ±12 m/sec (XM778)	
Capacity of magazine	100 rounds and 200 rounds	
Rifling		
Number of lands	6	
Twist	Right hand, one turn in 30 cm	
Trigger pull	4.0 - 7.3 Kg	
Chamber pressure	52,000 psi (max.)	

*Note: Weight measurement does not include sling and maintenance kit.

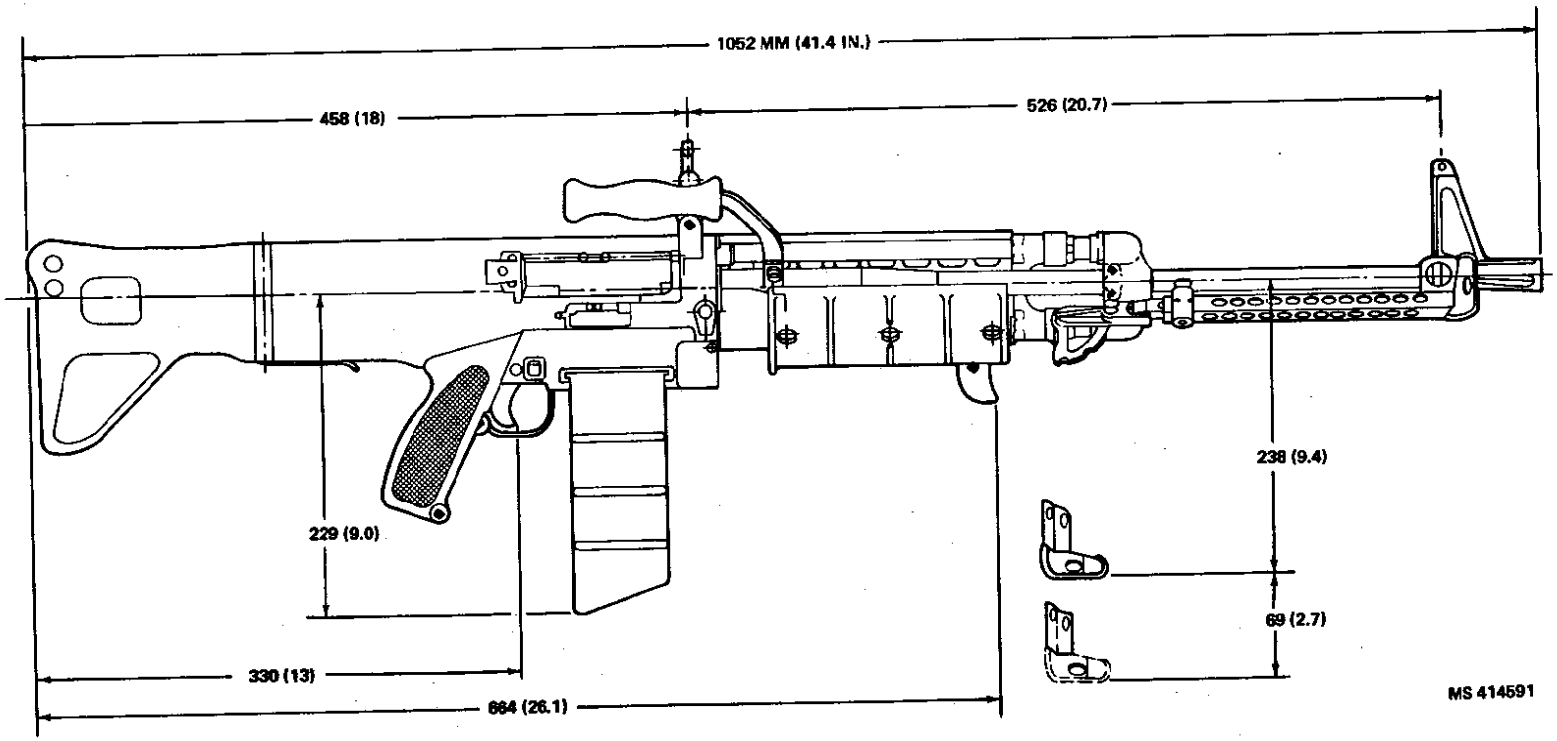


Figure 1-5. XM248 Weapon Dimensions.

1-8. TRIPOD MOUNT. The XM248 machine gun readily mounts on an M122 Tripod without the use of any adaptors (see figure 1-6). The two mounting lugs on the underside of the receiver tube guide mount in the pintle assembly. The mounting plate on the bottom of the receiver closure/tripod adaptor fits into the traverse and elevation mechanism on the rear of the tripod. The bipod does not need to be removed in order to mount the weapon on the tripod.

1-9. NIGHT SIGHT MOUNT. A standard AN/PVS-4 night vision device may be mounted on the left side of the weapon using the night sight adapter (P/N 9325130). The night vision device and adaptor do not interfere with the use of the open metallic sights (see fig. 1-7) and operating procedures for the weapon are not inhibited in any way. Two locating pins on the side of the night sight adaptor fit into mating holes on the left side of the receiver housing. The night sight adaptor is then held in place with a knurled mounting screw. Holes in the head of the mounting screw allow it to be tightened with a bullet tip. The mounting screw also stores in the end of the night sight adaptor when the adaptor is taken off the receiver housing and is not in use. The night vision device fits into a channel in the top of the night sight adaptor and is held securely by a screw.

Section III. PRINCIPLES OF OPERATION

1-10. FUNCTIONAL CYCLE

a. Loading. Start with an empty weapon and closed bolt. Slide loaded magazine into left sid of weapon (fig. 1-8) until it latches. The first round in the magazine is now positioned on the feed sprocket and is ready to be advanced to the stripping position as the weapon charging handle is pulled to the rear.

b. Charging. Pull the charging handle (fig. 1-9) to the rear. A stud at the forward end of the charging handle picks up the lower operating rod and moves the operating group to the rear. The operating group, starting to the rear, causes the cam pin to rotate the bolt to the unlocked position and to latch in the unlocked position.

c. Feeding. As the operating group moves to the rear, the feed cam rotates, which in turn rotates the feed sprocket, thereby feeding the round into the stripping position (fig. 1-8).

d. Sear. Upon full movement to the rear, the operating group passes the sear position and continues until it strikes the rear buffer. The charging handle is then released and returns to its starting position. The operating group advances to the seared position where the sear engages a recess on the lower operating rod and holds the operating group until the trigger is actuated to release it (fig. 1-10).

e. Trigger Action. When the trigger is pulled rearward, it pivots on the trigger pivot pin, bringing pressure to bear on the trigger bar, which moves forward. The forward movement of the trigger bar causes the sear to rotate counterclockwise on the sear pivot pin (when viewed from the right) thus disengaging the sear from the recess on the lower operating rod. The operating group, no longer held in a locked position, moves forward under the influence of the drive springs (fig. 1-10).

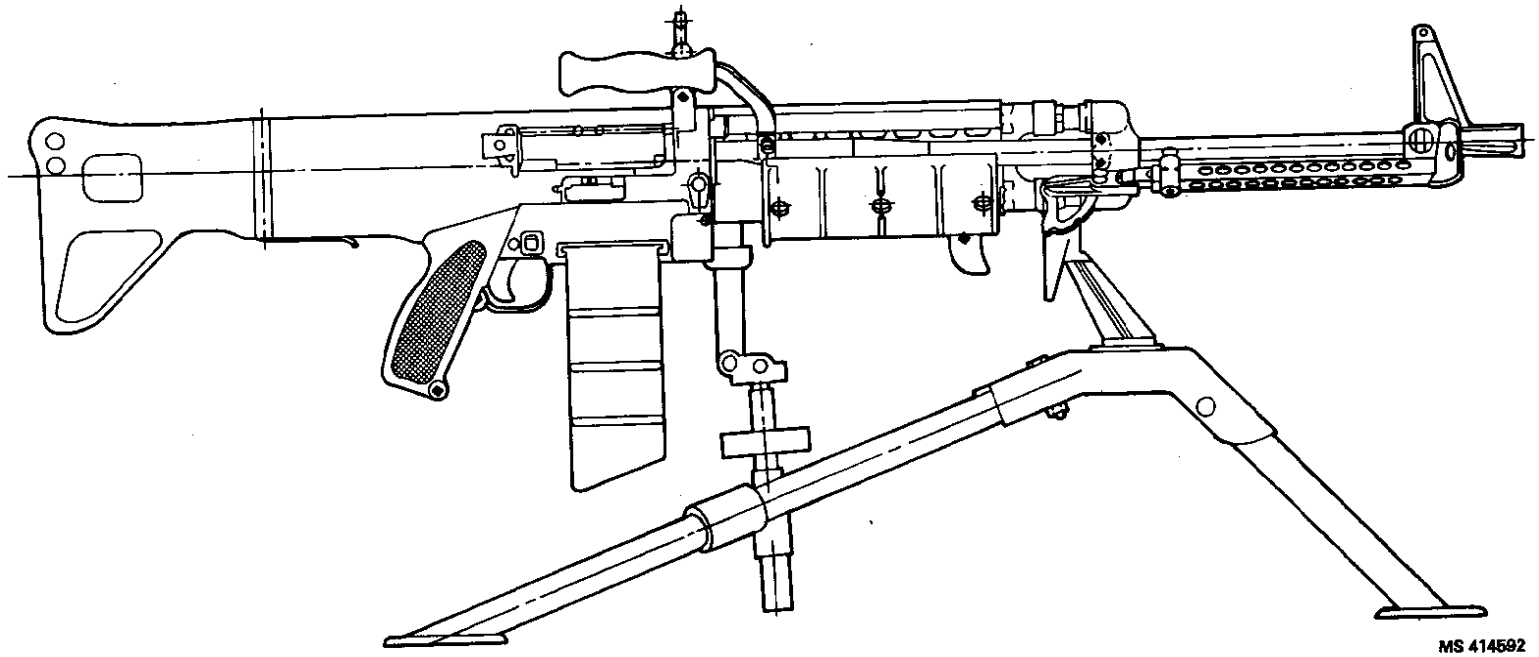
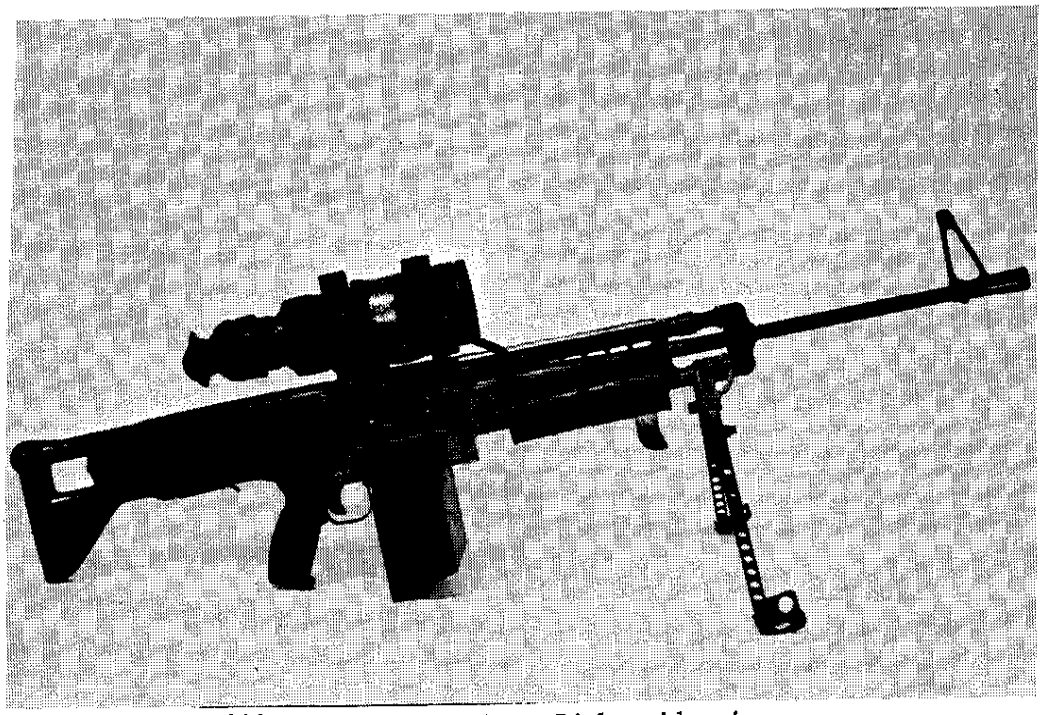
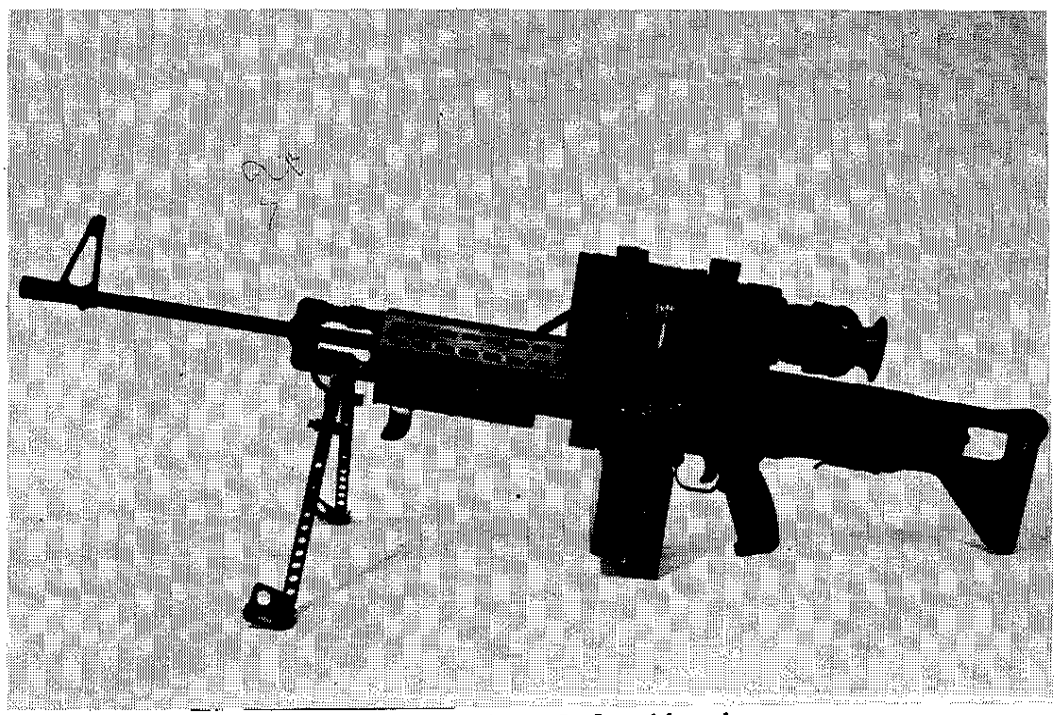


Figure 1-6. Tripod Mount



XM248 with night sight - Right side view.



XM248 with night sight - Left side view.

Figure 1-7. Night sight mounted on XM248 weapon.

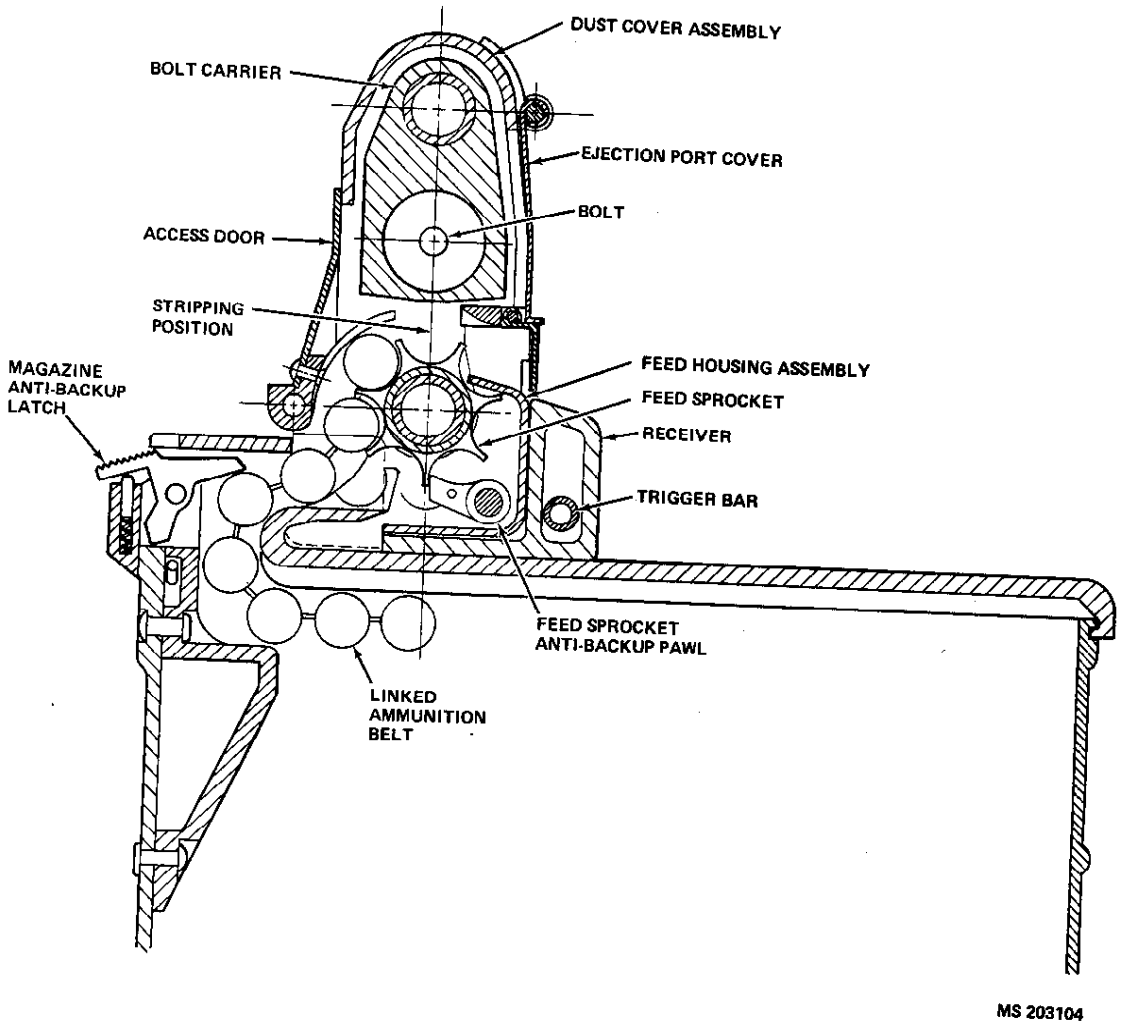


Figure 1-8. Ammunition Feed Cycle

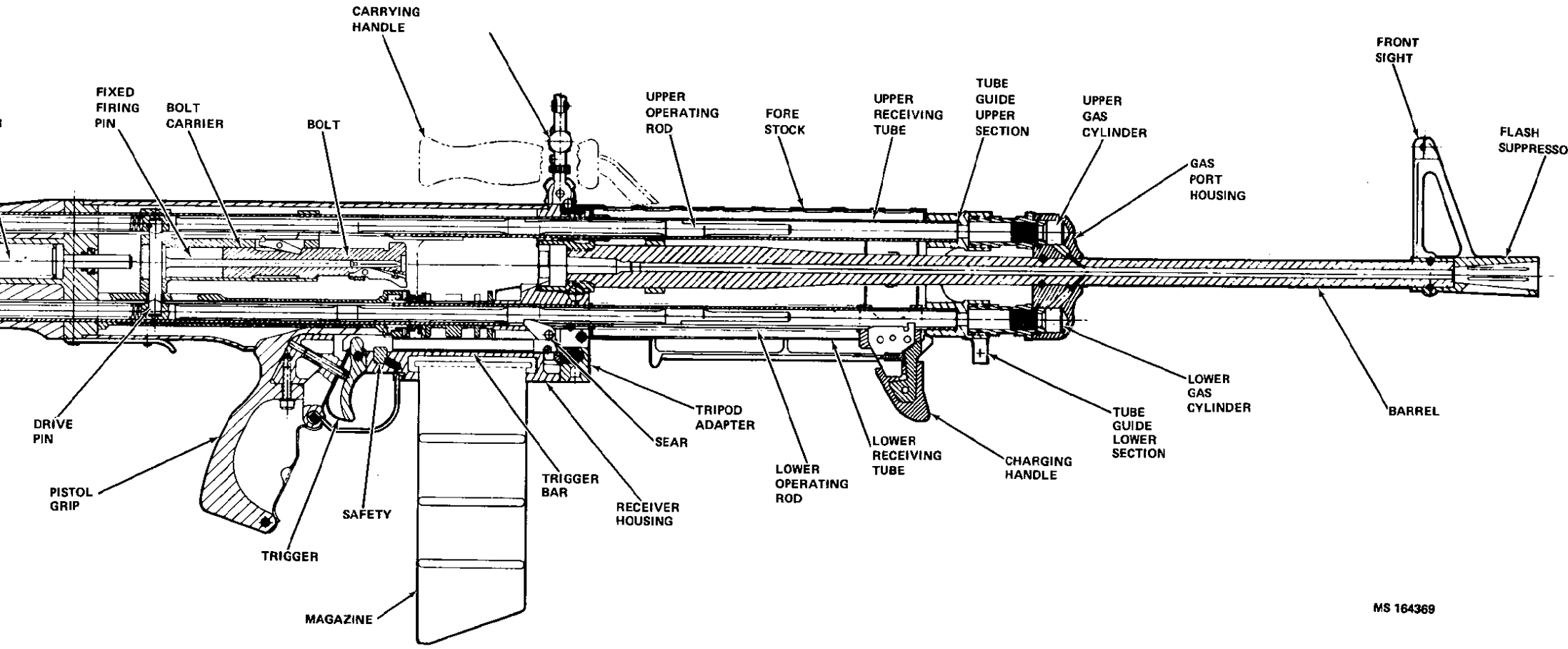


Figure 1-9. Sectional View Right

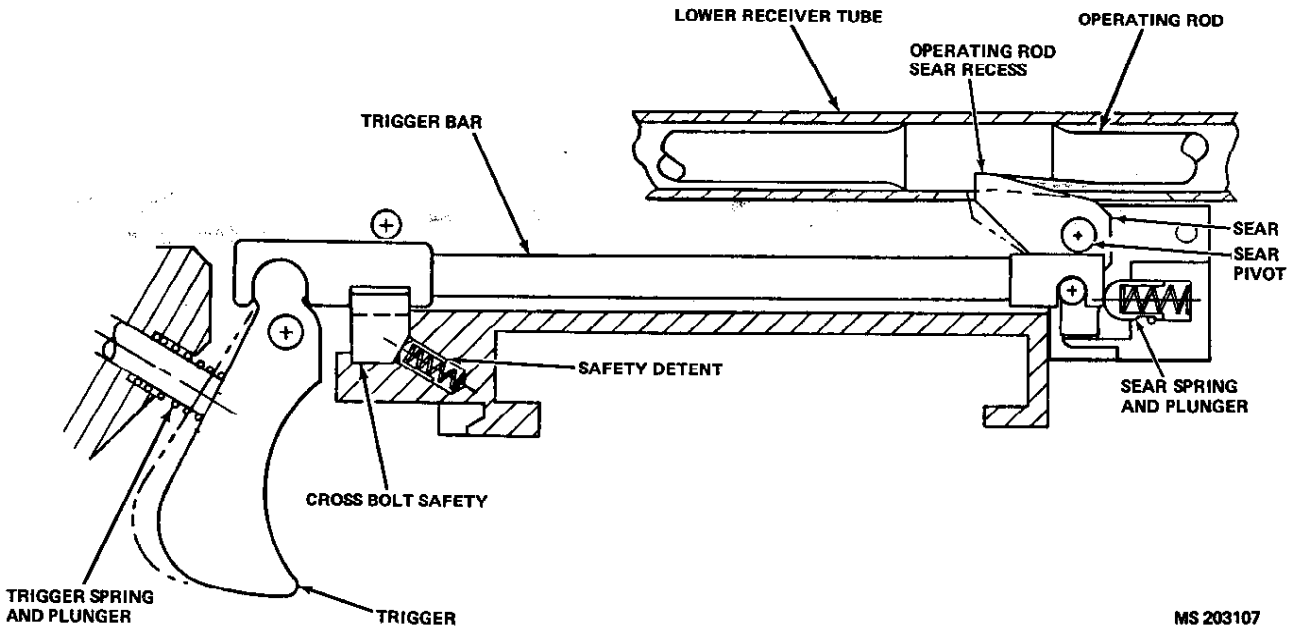


Figure 1-10. Trigger and Sear Assembly

f. Chambering. As the operating group moves forward, the rammer, *located in* the bolt, strips the round forward out of its link. The round is controlled by the feed lips on the access door and on the feed housing, until the projectile enters the barrel. The operating group continues forward until the round is chambered. As the bolt completes chambering the round, the bolt stops against the rear face of the barrel. The bolt carrier continues its forward motion and rotates the bolt by means of a cam pin near the aft end of the bolt, locking the bolt into the barrel extension.

g. Firing. The inertia firing pin is located inside the bolt and is fixed to the operating group by means of a drive pin. The bolt carrier continues forward and is stopped against the rear of the bolt, causing the firing pin to move through the bolt and protrude slightly beyond the bolt, thus striking the primer and firing the round.

h. Dual Gas Pressure Powering System. When the round is fired, all mechanical elements come to rest until the projectile passes the gas ports in the barrel thus allowing the propellant gas to enter the gas cylinders. At this time the propellant gas pressure acts on the gas pistons, which in turn applies a force on the operating rods to drive the operating group rearward to repeat the cycle. The charging handle remains forward in its resting position. The firing cycle will continue until the trigger is released, or until the magazine is empty.

i. Extracting. Extraction of the spent cartridge is accomplished as the bolt moves rearward. The extractor closes over the rim of the cartridge at the same time as the round is chambered. The operating group, starting to the rear, causes the cam pin to rotate the bolt to the unlocked position. The extractor, located on the bolt, pulls the spent case from the chamber.

j. Ejection. As the extractor begins to pull the case from the chamber, the ejector presses on the empty case. When the empty case clears the chamber, the pressure from the ejector causes the case to pivot about the extractor. The case is then thrown out through the ejection port on the right side of the receiver.

k. Link Ejection. The links are ejected through the link ejection port on the right side of the receiver assembly during the feeding stroke of the cycle.

l. Stop Firing. The firing cycle continues until the trigger is released, whereupon the trigger bar moves back to its normal position. This causes the sear to rotate clockwise (when viewed from the right) and engage the recess in the lower operating rod. The sear prevents any further movement of the operating group. The operating group is now locked to the rear and firing stops. The safety can then be applied, preventing any further movement of the sear or trigger.

CHAPTER 2

OPERATING INSTRUCTIONS

Section I. CONTROLS

2-1. WEAPON CONTROLS AND LOADING PROCEDURES

a. Safety, Safe Mode. The safety selects two modes: either safe mode or fire mode. The safety is located immediately above the trigger. Pressing the safety inward on the right hand side of the weapon causes the safety to protrude on the left hand side, placing the weapon in the safe mode.

b. Safety, Fire Mode. Pressing the safety inward on the left hand side of the weapon places the weapon in the fire (F) mode. In the fire mode, the safety protrudes out the right side of the receiver and reveals a red letter F visible from the rear. The location of the safety can also be determined by touch.

NOTE

The weapon must be charged before the safety can be placed in the Safe mode.

c. Charging Mechanism. Pulling the charging handle to the rear causes a stud, located at the forward end of the charger slide, to make contact with the lower operating rod. Continued rearward pressure on the charging handle causes the stud, and therefore the operating rod, to move rearward. The stud on the forward end of the charging handle is located inside the lower receiver tube. As the charging handle moves rearward, the stud moves along a slot in the lower receiver tube. It makes contact with the lower operating rod located inside the lower receiver tube. As the operating group proceeds to the rear, the components of the group are activated. The drive pin/feed cam roller causes the feed cam to rotate the feed sprocket, thereby feeding a round into the stripping position. The operating group will continue rearward until it strikes the buffer in the buttstock. The operating group will now start forward under load from the main drive springs, but is stopped by the sear. The charging handle is returned to its forward position by the charger return spring. The weapon is now charged.

d. Front Sight. The front sight is fixed to the barrel and is non-adjustable.

e. Rear Sight. The rear sight is adjustable for both windage and elevation. The following steps should be followed when adjusting the rear sight for windage:

(1) To adjust for windage, use the adjustment knob on the lower left side of the rear sight. (The rear sight is a modified M60 rear sight) (fig. 1-4).

(2) Rotate the top of the adjusting knob towards the operator to move point of impact to the right.

(3) Rotate the top of the adjusting knob away from the operator to move point of impact to the left.

NOTE

Each click of wind adjustment knob will move point of impact approximately 1 mil (100 mm for each 100m of range).

f. Rear Sight Elevation. The rear sight has a scale on the left side facing the operator. The scale is marked 300, 500, 700, 900, and 1000 meters. An elevation knob, located on the right side of the sight, is pressed in and slid upwards to raise the point of impact, or downwards to lower the point of impact. The elevation fine adjustment, located beneath the elevation knob (fig. 1-4), is used to make the final precise adjustments. The elevation fine adjustment is turned to the right to raise the point of impact, or to the left to lower the point of impact. The following steps should be followed when adjusting the rear sight for elevation.

(1) To raise the point of impact, press in the elevation knob and slide the elevation knob upwards. Use the elevation fine adjustment for final adjustment by turning the elevation fine adjustment to the right.

(2) To lower the point of impact, press in the elevation knob and slide the elevation knob downward. Use the elevation fine adjustment for final adjustment by turning the elevation fine adjustment to the left.

g. Magazine Installation. Perform the following procedures when installing a loaded magazine into the weapon:

(1) Make sure that bolt carrier is forward.

(2) Close the access door and insert the magazine into the gun from the left side until the magazine is fully engaged (fig. 2-1).

(3) Charge gun by pulling charging handle to the full rear position, then release the charging handle. It will be returned to its full forward position by the charger return spring.

(4) Apply safety. (Place safety in safe mode.)

h. Reloading Empty Magazine. To reload the magazine, pull the magazine lock partly out, slide the magazine box cover partially to the side, and insert the linked cartridge belt into the box. Remove the first round from the first link, and discard the loose link. Feed the empty pivot loop end of belt and two linked cartridges through the cover insert. Close the magazine cover, and push in the magazine box pin. Slide a loose round into the first set of plastic gripers on the ammo box lid, passing through the forward empty pivot loop of the link. The open side of the two lead links should be facing up. NEVER SNAP THE ROUND VERTICALLY DOWN INTO PLACE. It may damage the plastic grippers. The magazine is ready for installation. (fig. 2-2, 2-3, 2-4, 2-5).

Figure 2-1. Magazine Installation

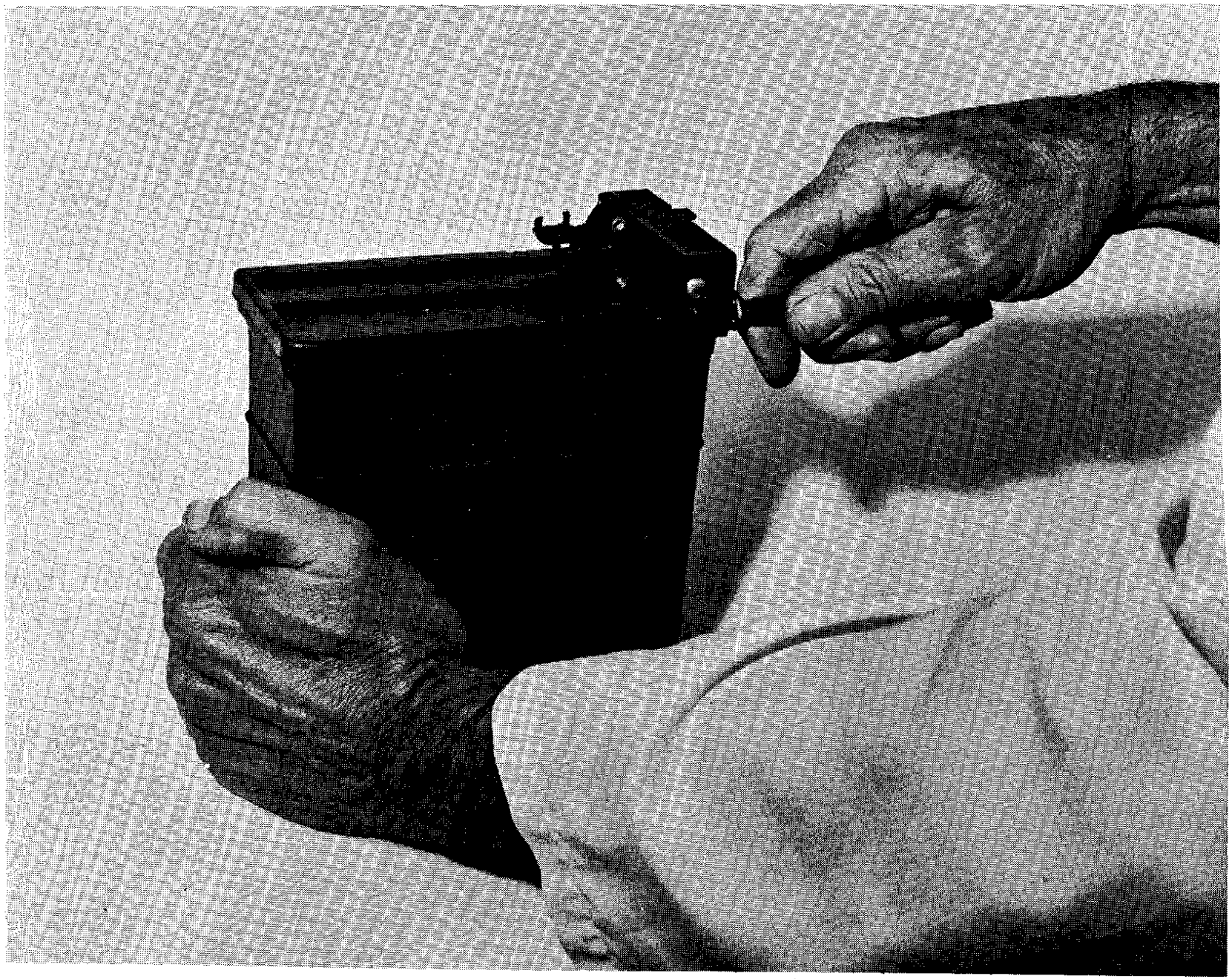


Figure 2-2. Pulling Out Magazine Lock

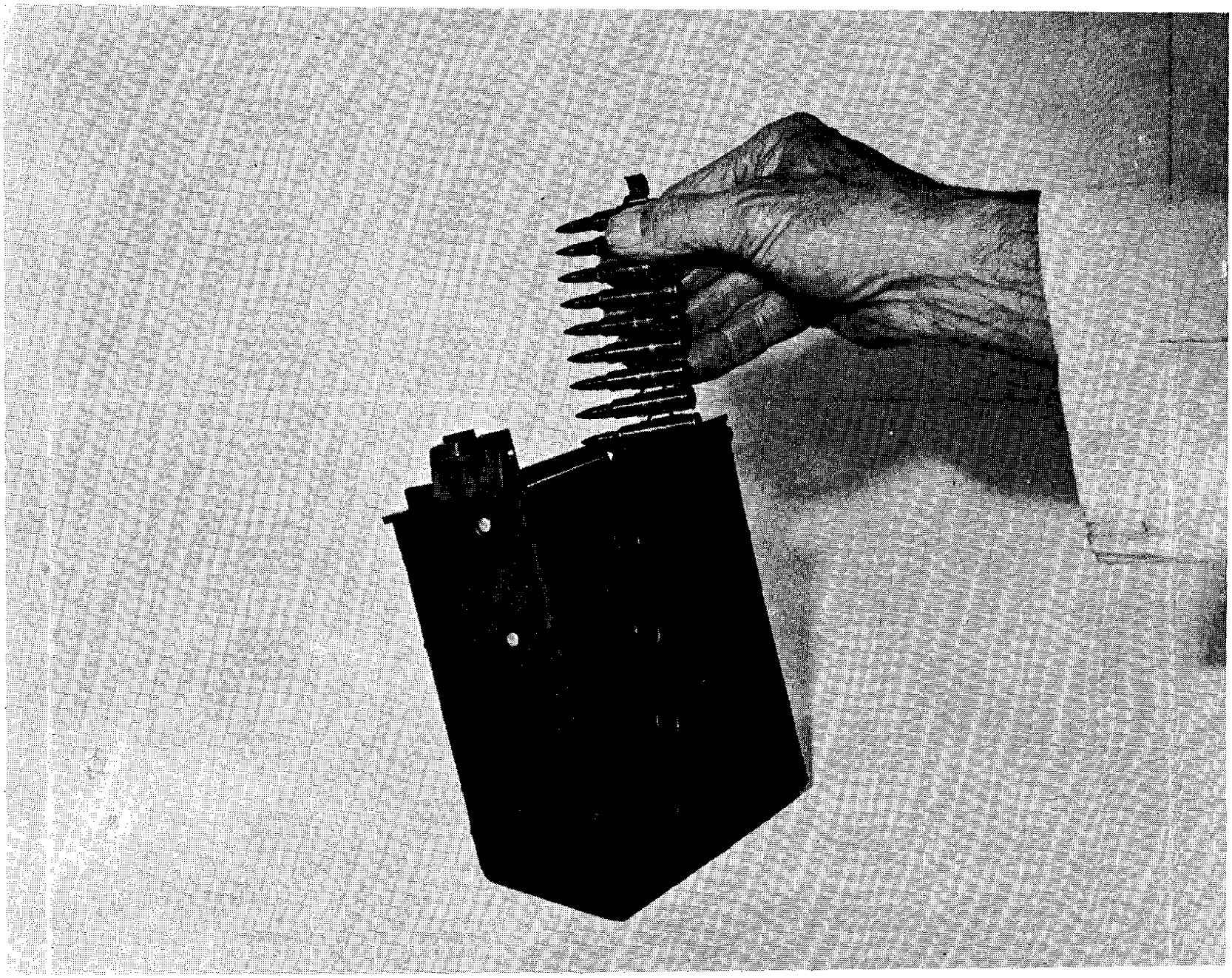


Figure 2-3. Inserting Linked Cartridges

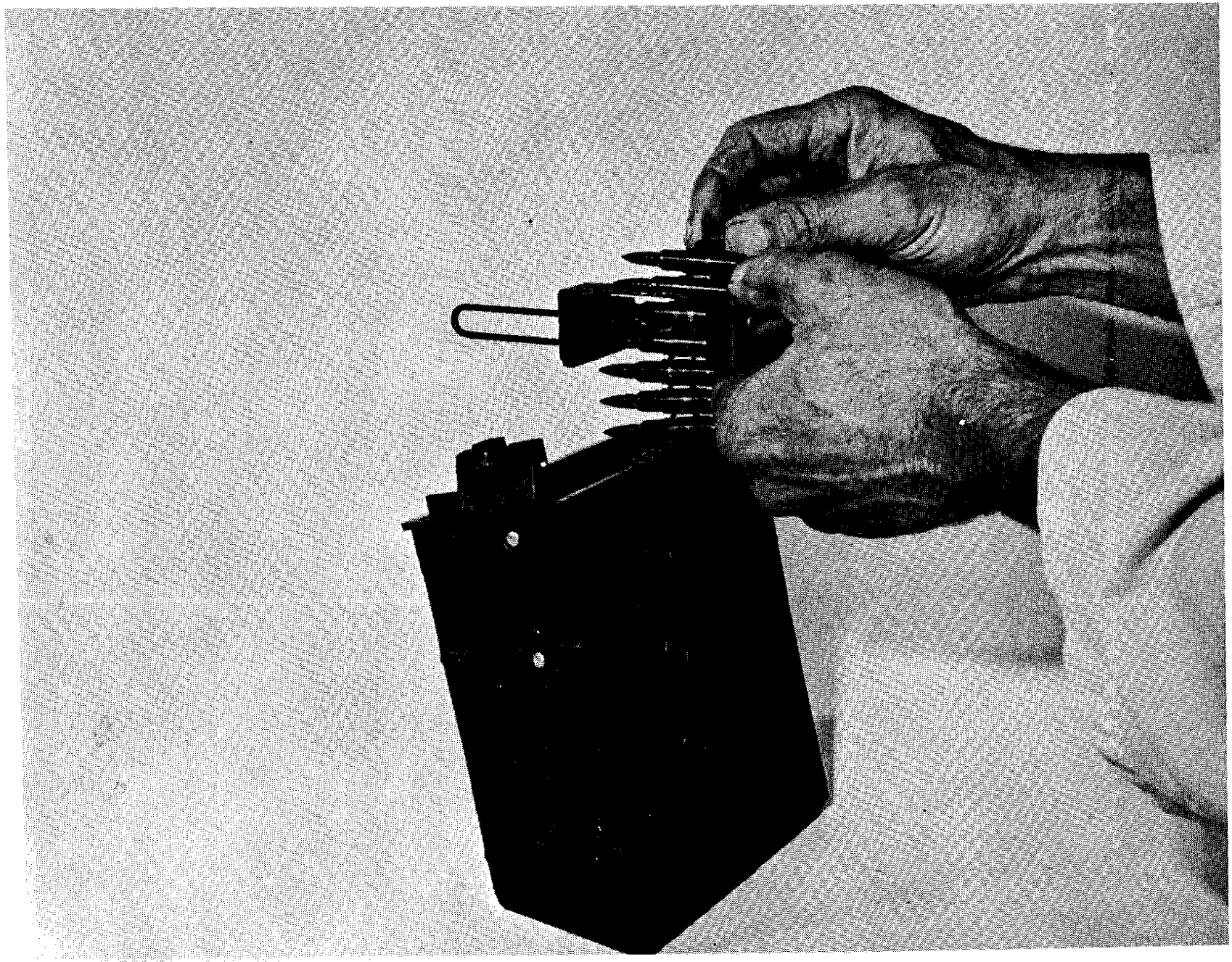


Figure 2-4. Empty Link Pivot Loop

Figure 2-5. Closing Magazine Cover

i. Free Hanging Belt Installation. Perform the following procedures when installing a free hanging belt.

(1) Charge the weapon.

(2) Place the safety in safe mode.

(3) Open the feed access door.

(4) Place links, with rounds attached, on the feed sprocket (fig. 2-6). The closed side of the links should lay on the feed sprocket, and an empty pivot loop should be on the leading end of the belt. With the belt hanging, use thumb to rotate the feed sprocket until the first round is in the stripping position (see figure 1-8).

(5) Close the access door. If the weapon is going to be used, go to steps (6) and (7).

(6) Place the safety in fire (F) mode.

(7) Press the trigger to commence firing.

j. Bipod. Bipod legs may be stowed in the up position, or erected in either the full upright position or the forward cant position at an angle of 60^{o} from the axis of the barrel. The legs may be individually extended for additional height adjustment.

k. Cartridge Ejection Port Cover. It opens automatically when the operating group moves rearward or forward. When closed, it keeps dust and contamination out.

l. Link Ejection Port Cover. It opens automatically when the operating group moves rearward or forward. When closed, it keeps dust and contamination out.

NOTE

The cartridge ejection port cover holds the link ejection port cover closed. To close the ejection port covers, first hold link ejection cover in closed position, then close the cartridge ejection port cover.

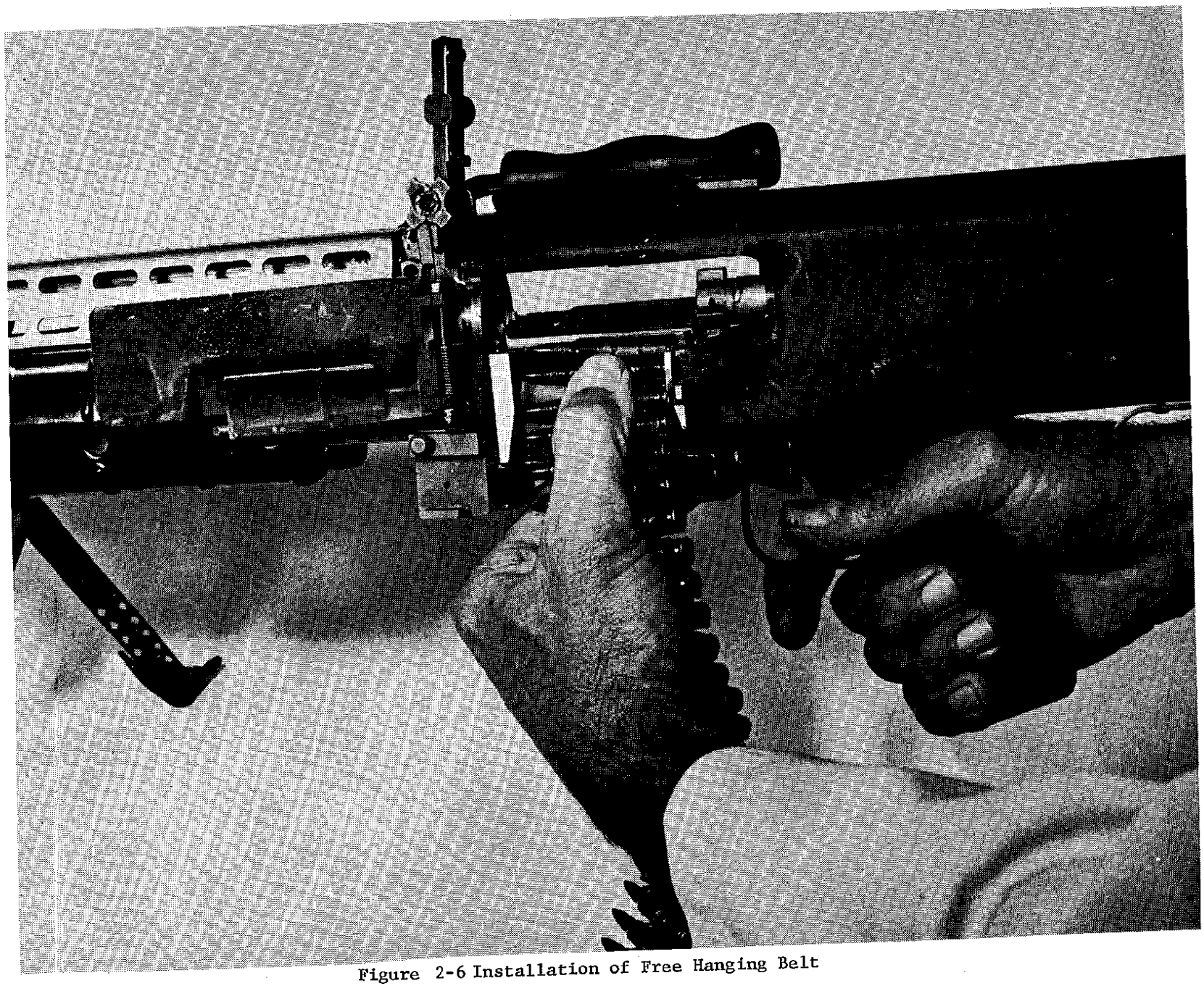


Figure 2-6 Installation of Free Hanging Belt

Section II. OPERATING PROCEDURES

2-2. WEAPON FIRING, DOWNLOADING AND BARREL CHANGE

a. Firing the Weapon. The magazine is normally received loaded with a full belt complement of linked ammunition, and is ready for installation into the weapon. With the bolt in the closed position, load the magazine into the weapon by inserting it into the left side of the weapon until the magazine latch is fully engaged. With the safety in the fire (F) mode, charge the weapon by pulling the charging handle fully to the rear. Release the charging handle making sure that the operating group is first caught by the sear. Charging the weapon will place the first round from the magazine in the stripping position. Press the trigger to fire the weapon. To cease fire, release the trigger and place the safety in the safe mode with the operating group in the sear position.

b. Removing the Empty Magazine. To remove the empty magazine from the weapon depress the magazine latch and remove the magazine. If the weapon is in fire (F) mode, charge the weapon by pulling the charging handle to the rear, and release the charging handle. Looking through the ejection port, verify that the chamber is empty. If the weapon is in the safe mode, the weapon will already be charged. Look through the access door and verify that the chamber is empty.

NOTE

Failure to hold the rounds and depress the magazine latch while removing a partially loaded magazine may cause the ammunition belt to pull out of the magazine.

c. Removing a Partial or Full Magazine. Open the access door, depress the magazine latch, firmly hold the rounds entering the feed housing, and remove the magazine (fig. 2-7). If the weapon is in the fire (F) mode charge the weapon by pulling the charging handle to the rear. Release the charging handle. Look through the ejection port to verify that the chamber is empty. If the weapon is in the safe mode, the weapon will already be charged. Look through the access door and verify that the chamber is empty.

d. Removing Free Hanging Belt. To release the free hanging belt, open the access door, press the magazine release level forward, and pull out the belt.

e. Removing Barrel. If the operating group is in the forward position, charge the weapon by pulling the charging handle rearward until sear position is obtained. Release the charging handle and safe the weapon. Depress the barrel release lever lock and rotate it 180 degrees counterclockwise. Then tap the insulated carrying handle with your hand and remove the barrel.

Figure 2-7. Removing Partially Empty Magazine

NOTE

If an interruption (stoppage) occurs during the firing of the weapon, charge the weapon immediately. If the charging action fails to remove the obstruction and the weapon is hot, do not attempt any further clearing action because of the hazard of cook-off. Allow the weapon to cool for 15 minutes before attempting to clear it.

If a runaway condition in the weapon should occur, grab and pull back on the charging handle and keep the weapon pointed downrange. Pulling back on the charging handle stops the operating group from moving forward and prevents chambering and firing of any remaining rounds. Attempt to charge and clear the weapon immediately. If the charging action fails to clear the weapon and the weapon is hot, allow the weapon to cool for 15 minutes.

f. Replacing Barrel. If the operating group is in the forward position, charge the weapon by pulling the charging handle to the rear until the operating group is seared. Release the charging handle, safe the weapon, and check to see that the bolt is fully forward and latched in the bolt carrier. Insert the barrel extention into the receiver socket, line up the gas port housing with the gas cylinder, firmly press the barrel rearward, depress the barrel release lever lock, and rotate it 180 degrees clockwise. The barrel is now locked in place.

NOTE

Changing the barrel can be accomplished while a magazine or free belt of ammunition is loaded in the weapon. The linked ammunition and feed system does not come into contact with the barrel assembly and does not interfere with barrel changing. When changing the barrel on a loaded weapon, be sure to keep the access door closed and have the operating group seared with with the safety in the safe mode. Follow same barrel changing procedures outlined in paragraphs 2-2e. and 2-2f.

CHAPTER 3

MAINTENANCE INSTRUCTIONS

3-1. GENERAL. The maintenance instructions presented in Chapter 3 cover routine maintenance to be performed on the weapon by the operator, organizational support and direct support/general support maintenance personnel. Routine maintenance to be discussed includes disassembly, cleaning, inspection, lubrication, assembly and servicing for adverse conditions. See Appendix A, Maintenance Charts and Lists, for supplemental maintenance, tool, and supply data.

Section I. OPERATOR LEVEL MAINTENANCE

3-2. FIELD STRIP (OPERATOR LEVEL MAINTENANCE). There are two levels of field strip covered in this manual. Field Strip-Level I is that degree of disassembly which allows the operator a quick means of removing critical major assemblies from the weapon for quick stoppage clearing, inspection and servicing. Field Strip-Level II is a more detailed operator level field strip for periodic clean ing and inspection purposes when time permits.

WARNING

> Before field stripping, remove the magazine. Inspect the chamber to insure that it is empty and that no ammunition is in position to be fired. Do not actuate the trigger until you are sure the weapon is cleared.

3-3. FIELD STRIP-LEVEL I (OPERATOR)

a. Removal of Buttstock Assembly. To remove the buttstock, first verify that the operating group is in the forward position, then rotate the cam lock to the right to unlock position (fig. 3-1). Pull the buttstock rearward (fig. 3-2).

b. Removal of Main Drive Springs. Remove the main drive springs (fig. 3-3) from inside the hollow receiver tubes, one from the upper receiver tube and one from the lower receiver tube. (The springs are interchangeable.)

c. Removal of Dust Cover. Remove the dust cover (fig. 3-4) by sliding it rearward.

d. Removal of Operating Group. Remove the operating group (fig. 3-5) by sliding it rearward.

e. Removal of Feed Cam. Remove the feed cam (fig. 3-6) from the lower reciver tube by sliding it rearward.

f. Removal of Barrel. Removal the barrel by pressing the barrel release lever lock (fig. 3-7) and rotating it 180 degrees counterclockwise. Tap the carrying handle forward with your hand, and remove the barrel (fig. 3-8) from the barrel socket.

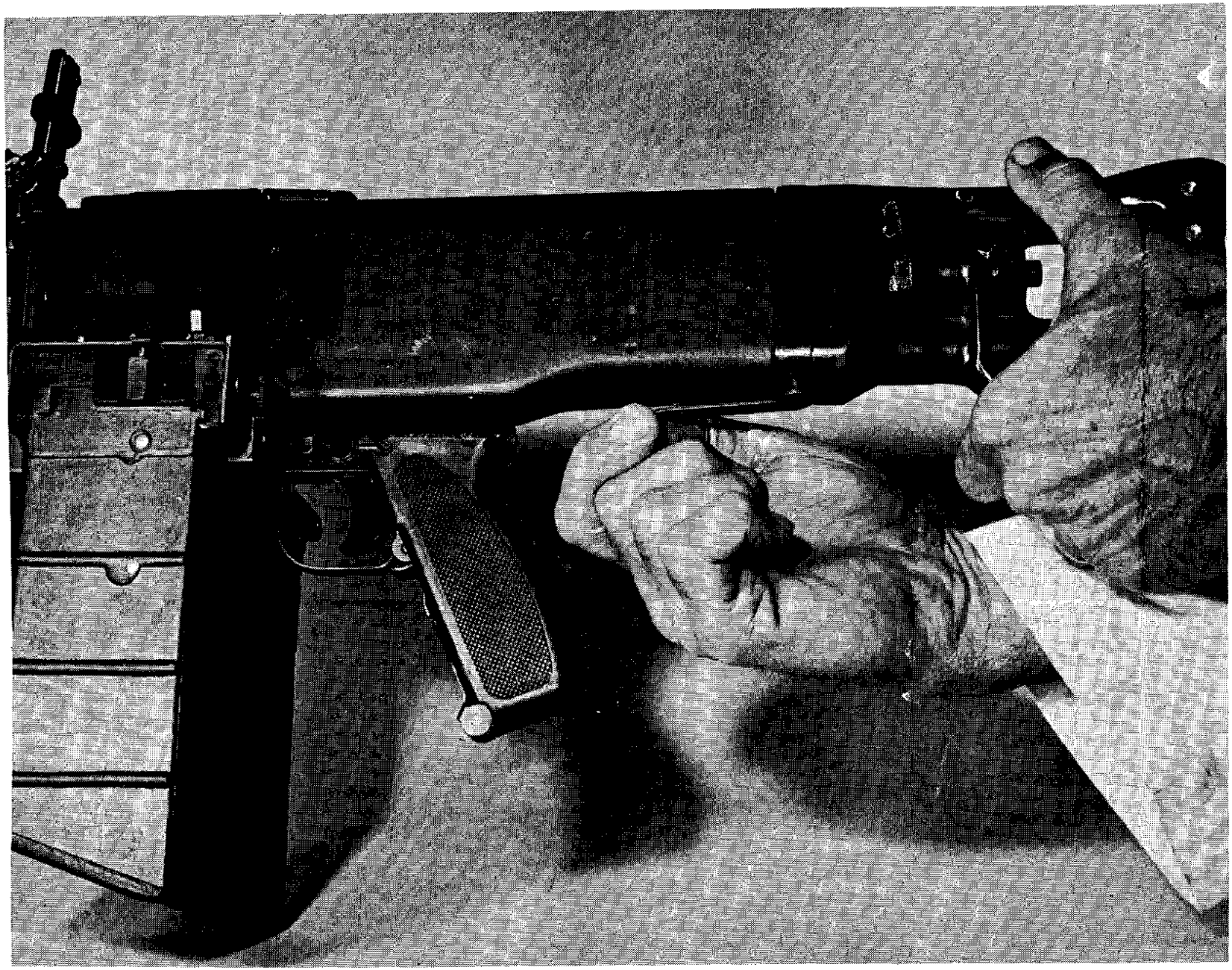


Figure 3-1 Rotating Cam Lock

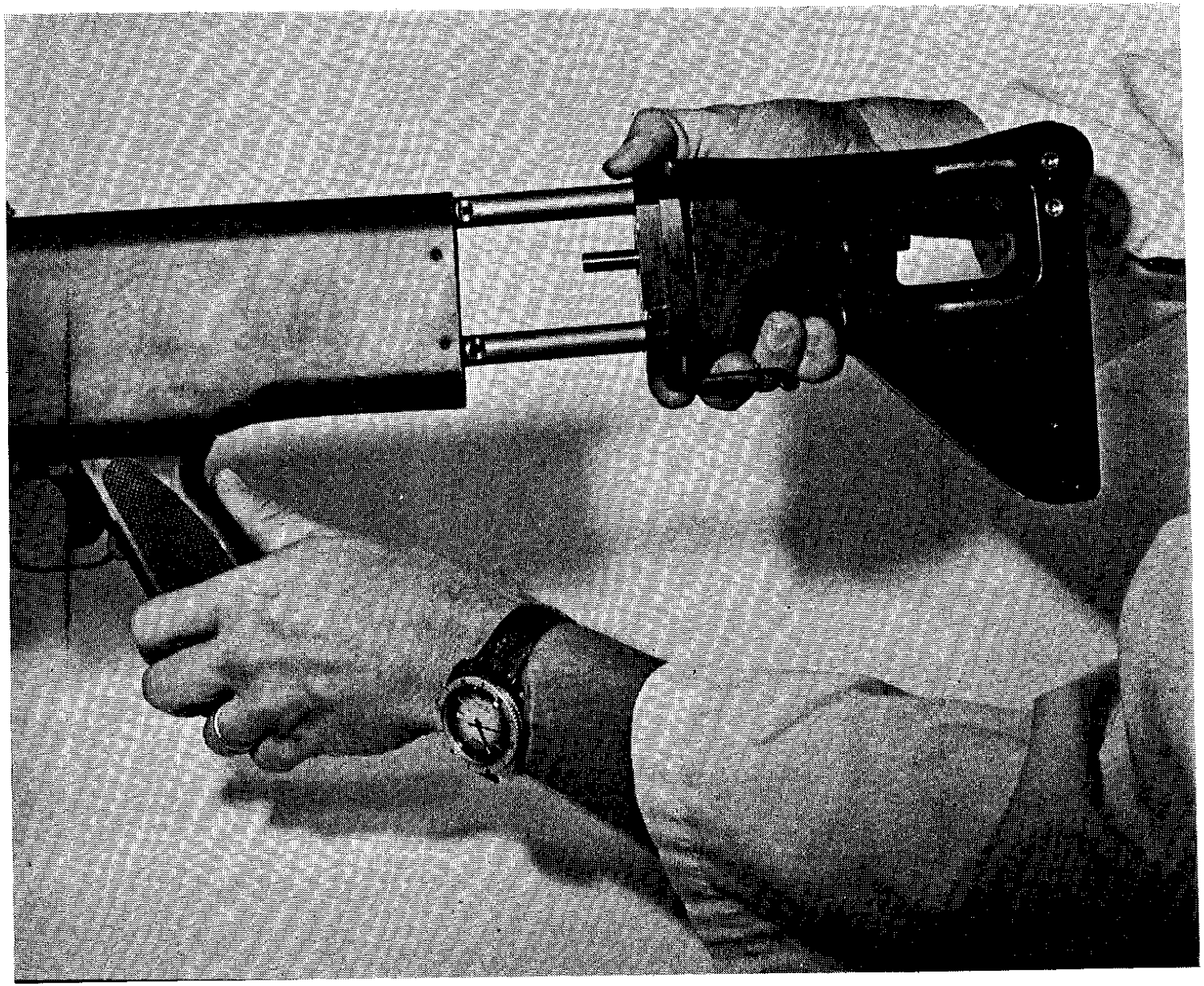


Figure 3-2. Removing Buttstock Assembly

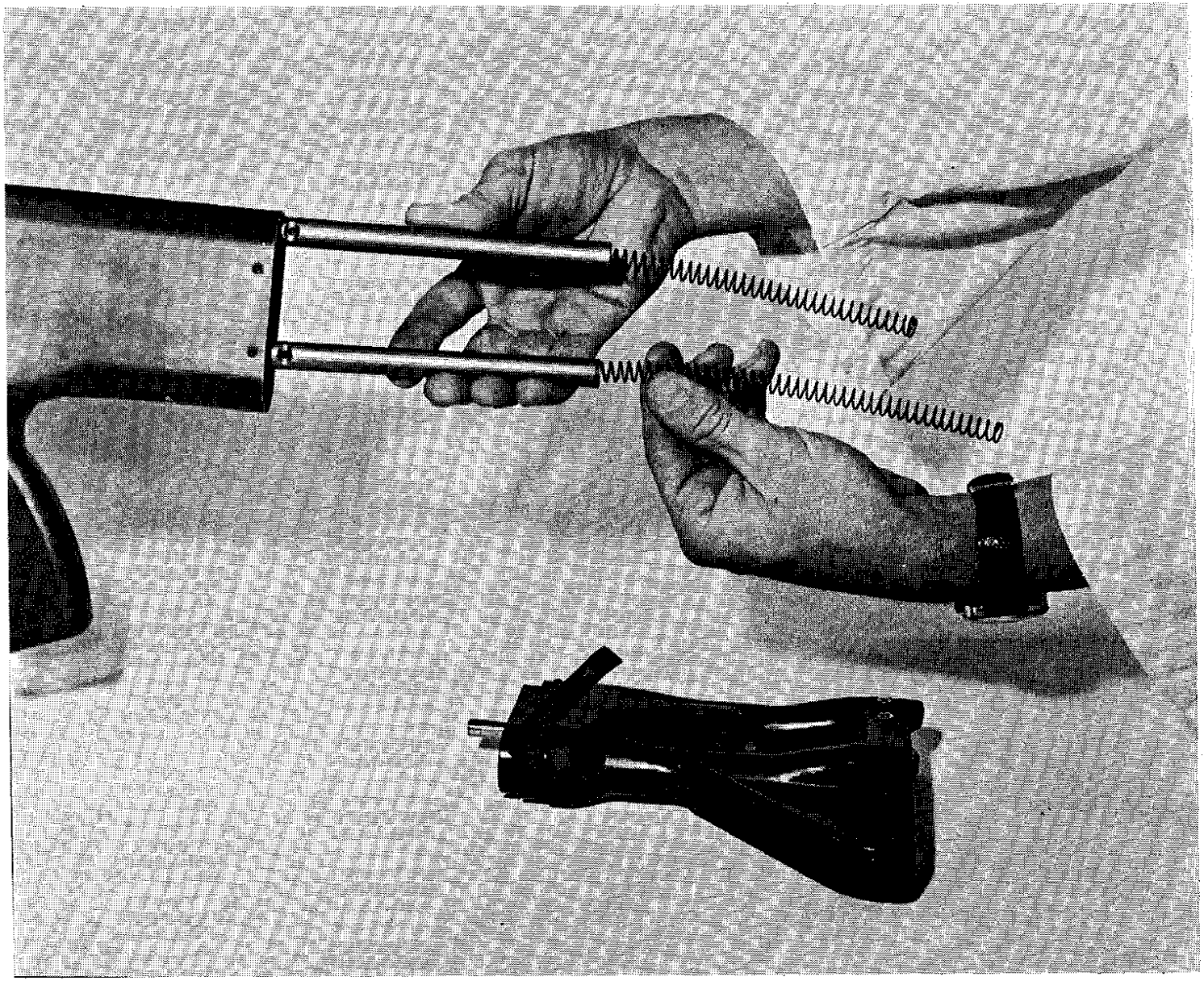


Figure 3-3. Removing Main Drive Springs

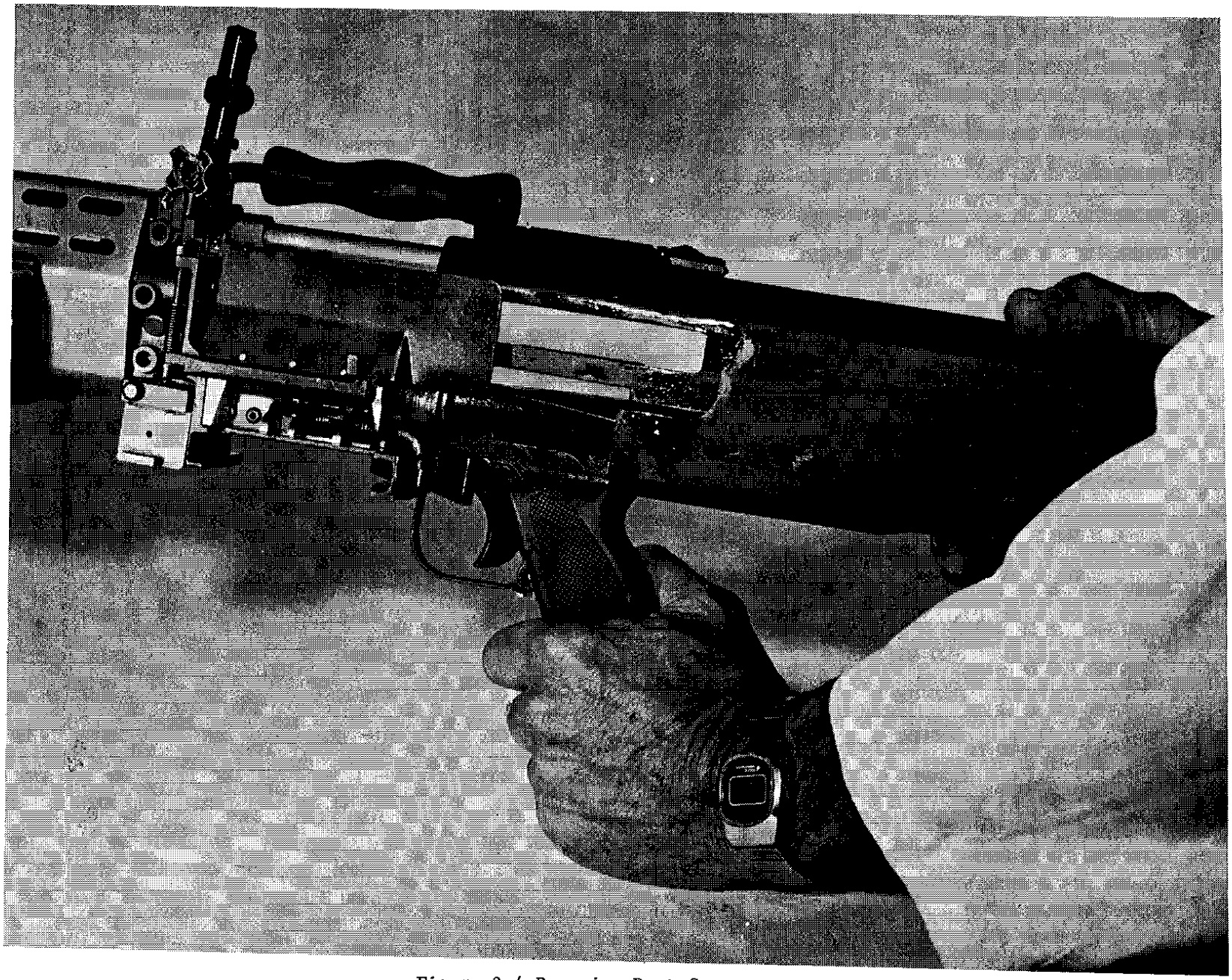


Figure 3-4 Removing Dust Cover

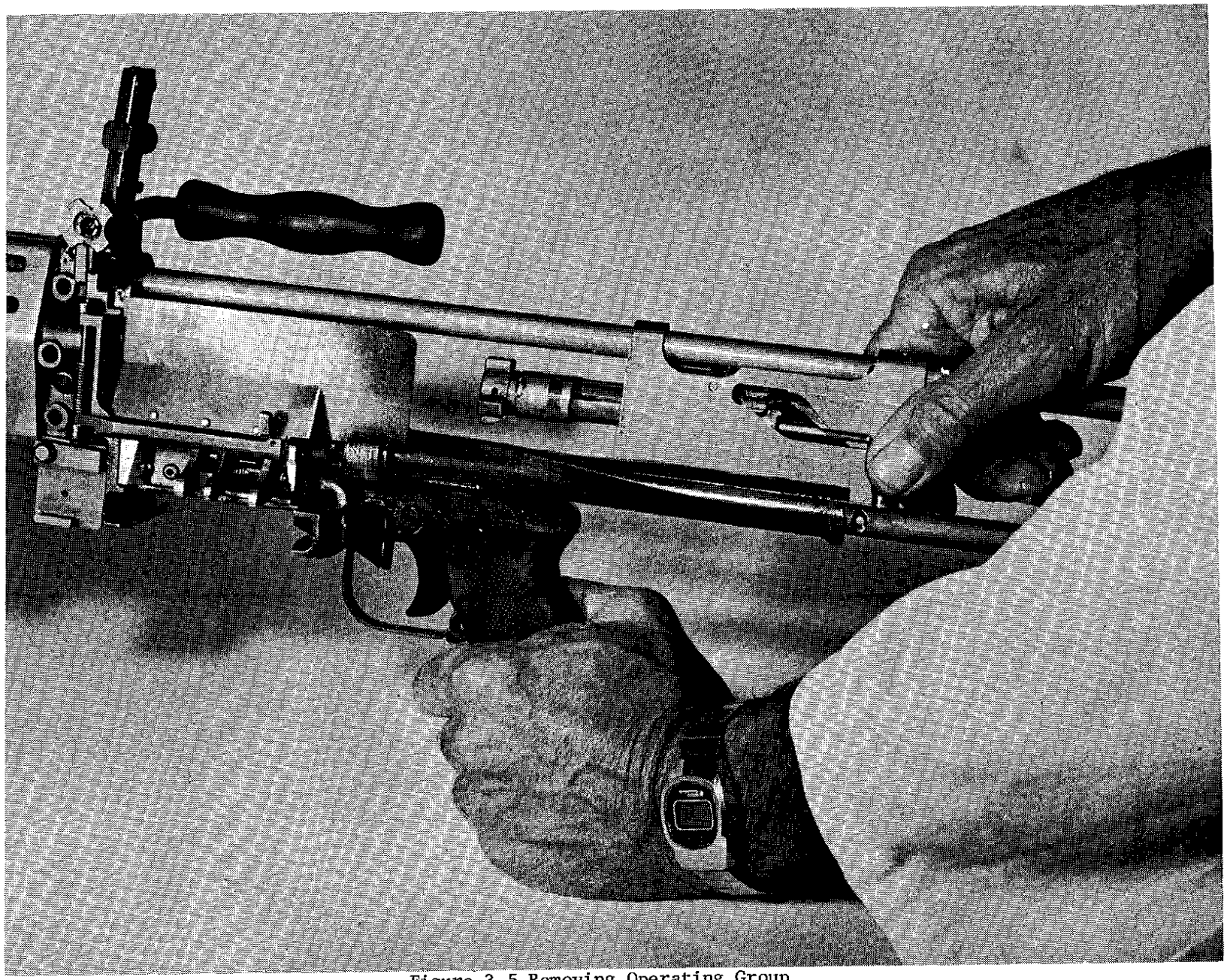


Figure 3-5 Removing Operating Group

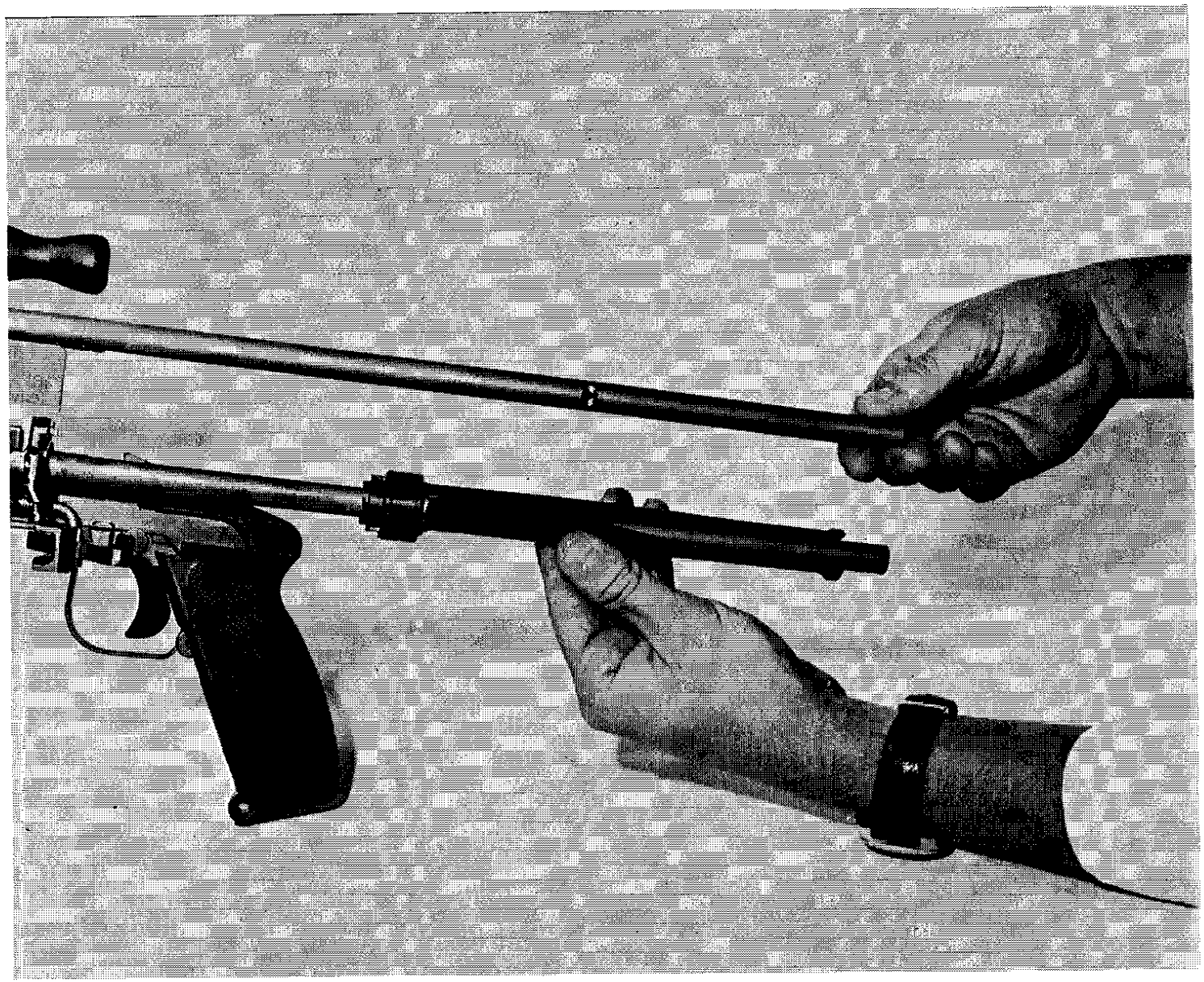


Figure 3-6. Removing Feed Cam

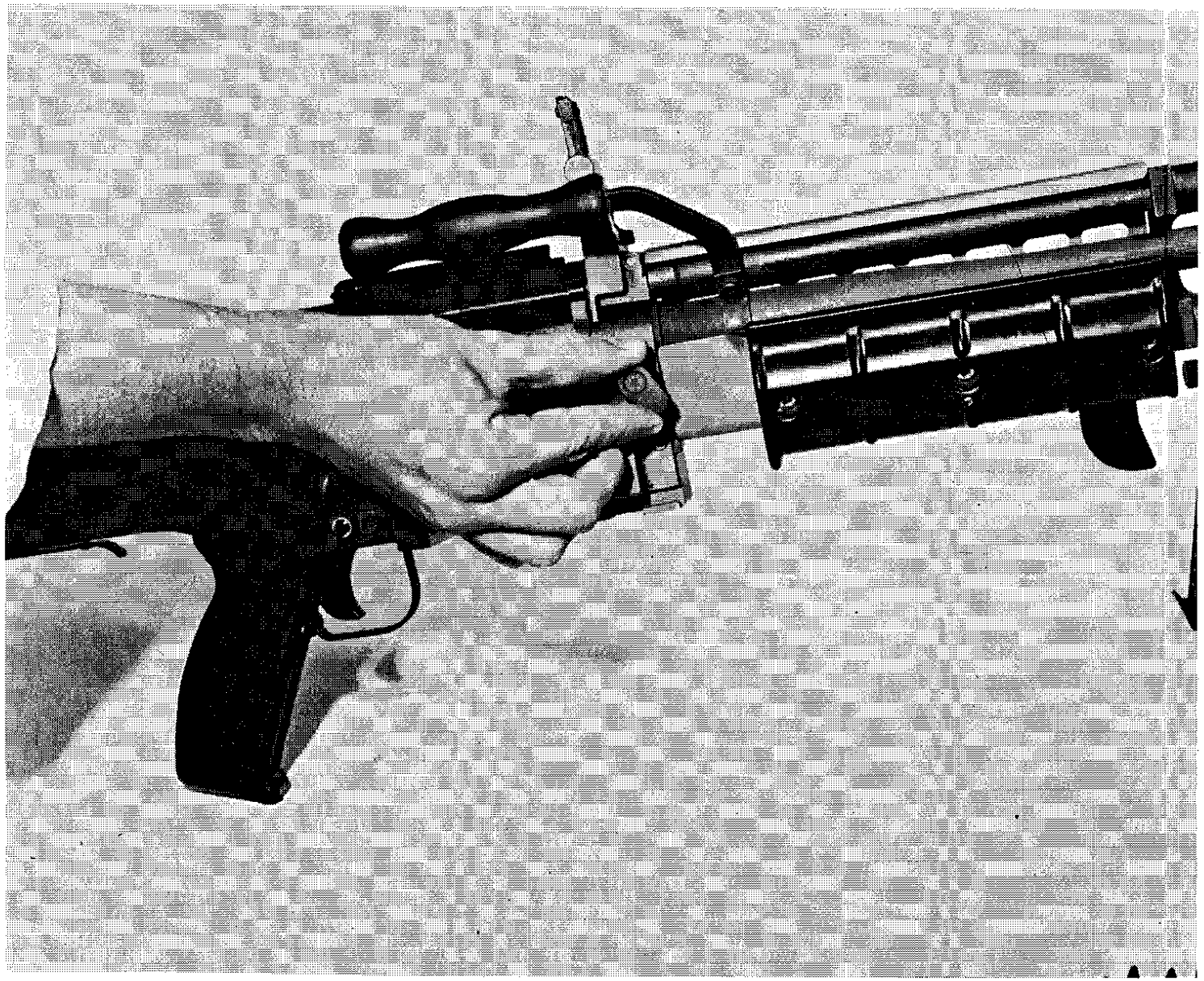


Figure 3-7. Barrel Release Lever

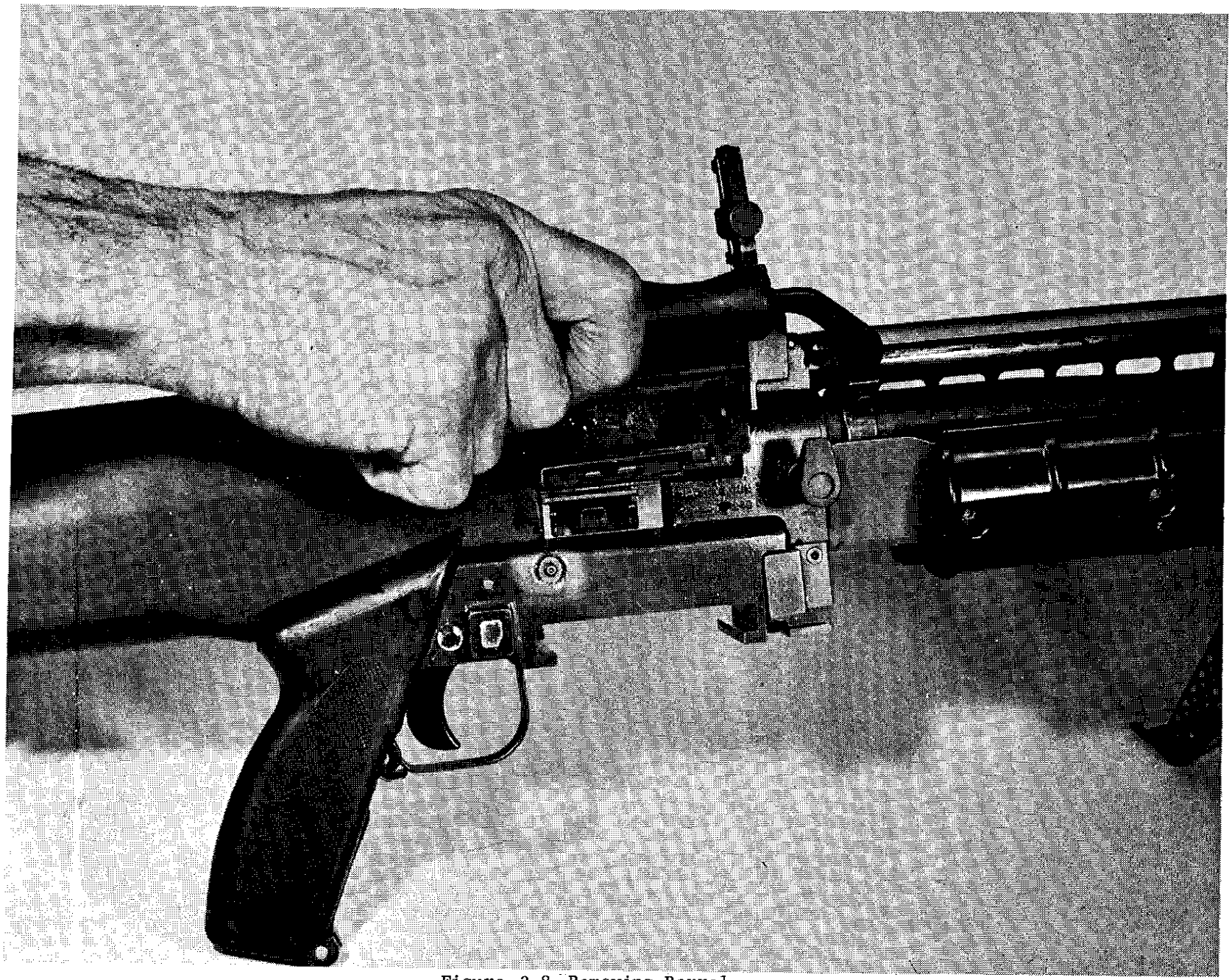


Figure 3-8. Removing Barrel

3-4. FIELD STRIP - LEVEL II (OPERATOR)

a. Removal of Buttstock Assembly. To remove the buttstock, first verify that the operating group is in the forward position, then rotate the cam lock to unlock position (fig. 3-1). Pull the buttstock rearward (fig. 3-2).

b. Removal of Main Drive Springs. Remove the main drive springs (fig. 3-3) from inside the hollow receiver tubes, one from the upper receiver tube and one from the lower receiver tube. (The springs are interchangeable.)

c. Removal of Dust Cover. Remove the dust cover (fig. 3-4) by sliding it rearward.

d. Removal of Operating Group. Remove the operating group (fig. 3-5) by sliding it rearward.

e. Removal of Feed Cam. Remove the feed cam (fig. 3-6) from the lower receiver tube by sliding it rearward.

f. Removal of Barrel. Remove the barrel by pressing the barrel release lever lock (fig. 3-7) and rotating it 180 degrees counterclockwise. Tap the carrying handle forward with your hand, and remove the barrel (fig. 3-8) from the barrel socket.

g. Disassembly of Operating Group. Slide the drive pin (fig. 3-9) and lower operating rod assembly out the bottom of the bolt carrier. This will release the upper operating rod and firing pin from the assembly. Care should be taken not to drop the firing pin (fig. 3-10 and 3-11).

h. Disassembly of Bolt from Bolt Carrier (fig. 3-12 and 3-13). To remove the bolt from the bolt carrier, depress the bolt latch (fig. 3-14) and push the bolt into the bolt carrier until the cam pin is aligned with the hole in the aft end of the bolt carrier. Remove the cam pin (fig. 3-15 and 3-16) and pull bolt out of the carrier (fig. 3-16).

i. Removal of Sling Assembly. Unstrap the sling assembly from the receiver and buttstock.

j. Removal of Gas Cylinder Assemblies (fig. 3-17). Using the barrel extension as a wrench, loosen the gas cylinders on the upper and lower sections of the tube guide. Unscrew and remove the gas cylinders. (Do not use carrying handle or front sight to apply torque).

k. Removal of the Bipod (fig. 3-18). With the lower gas cylinder assembly removed, remove the bipod.

l. Removal of the Forestock Assembly. The forestock is removed by unsnapping the top of the metal handguard over the top of the upper tube. The charger must be unlatched and pulled back slightly to clear the slot in the bottom of the forestock and the rear sight must be in the upright position. After unsnapping the top of the metal cover and pulling slightly back on the charger, pull down on the forestock to remove it from the weapon.

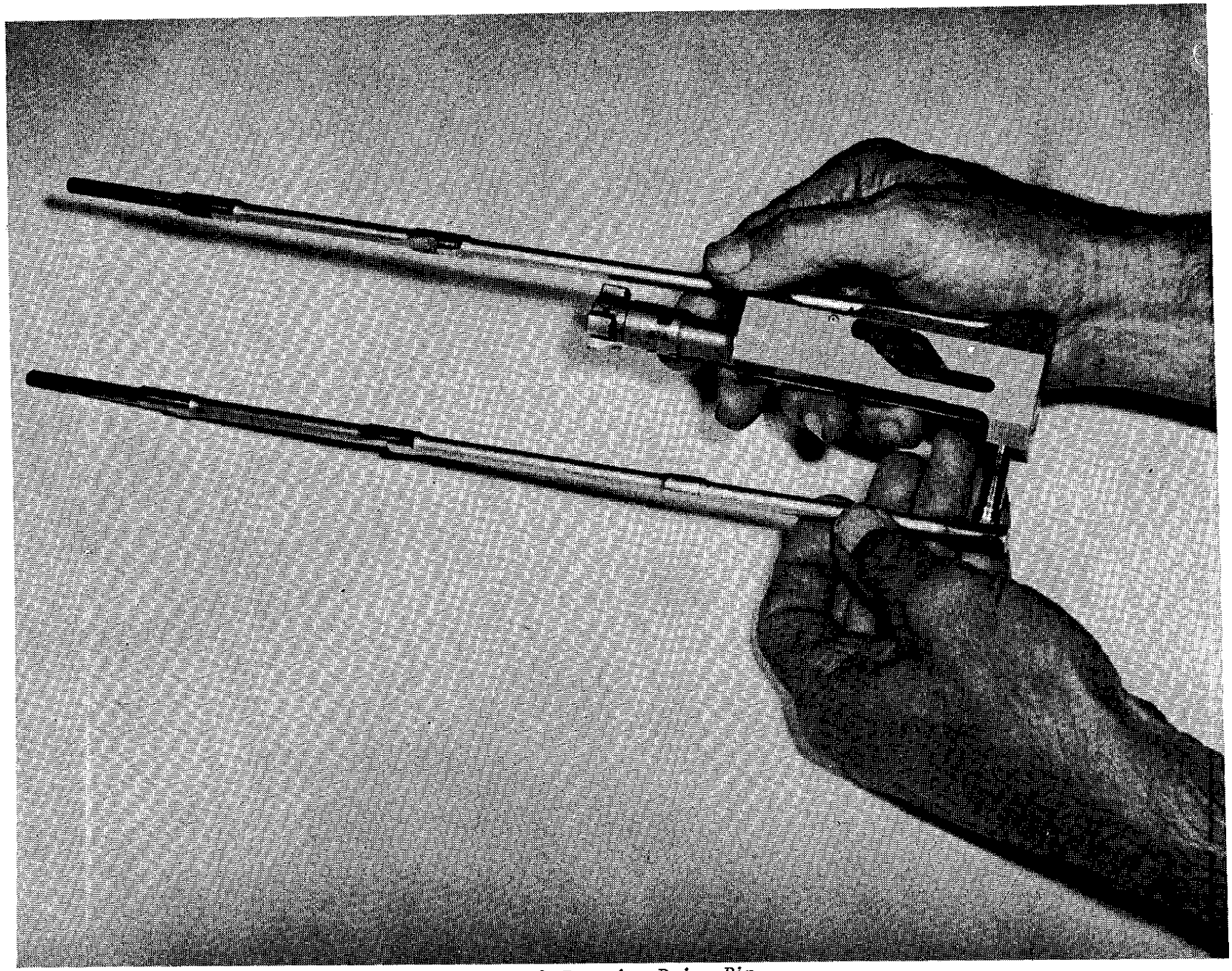


Figure 3-9. Removing Drive Pin

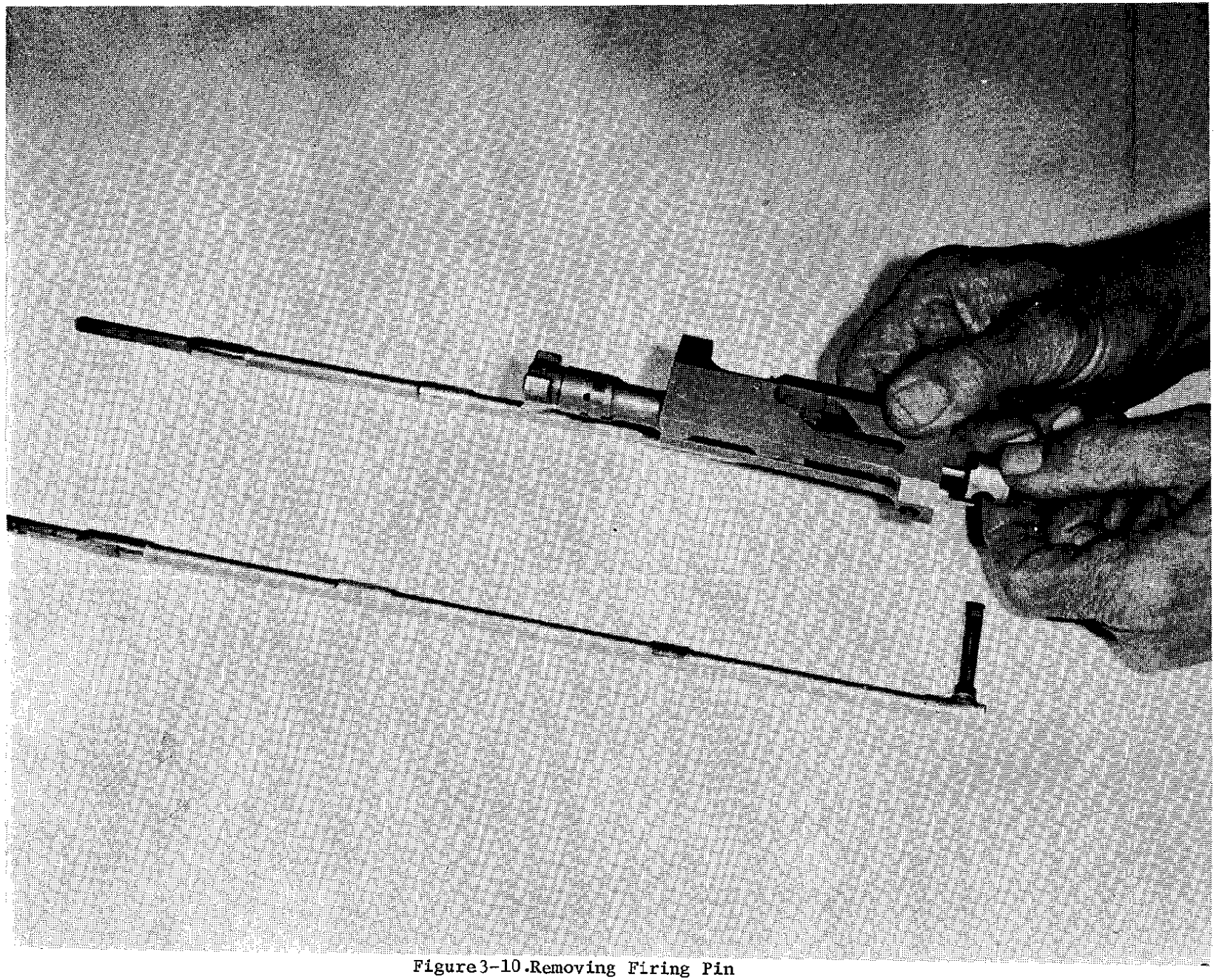


Figure 3-10. Removing Firing Pin

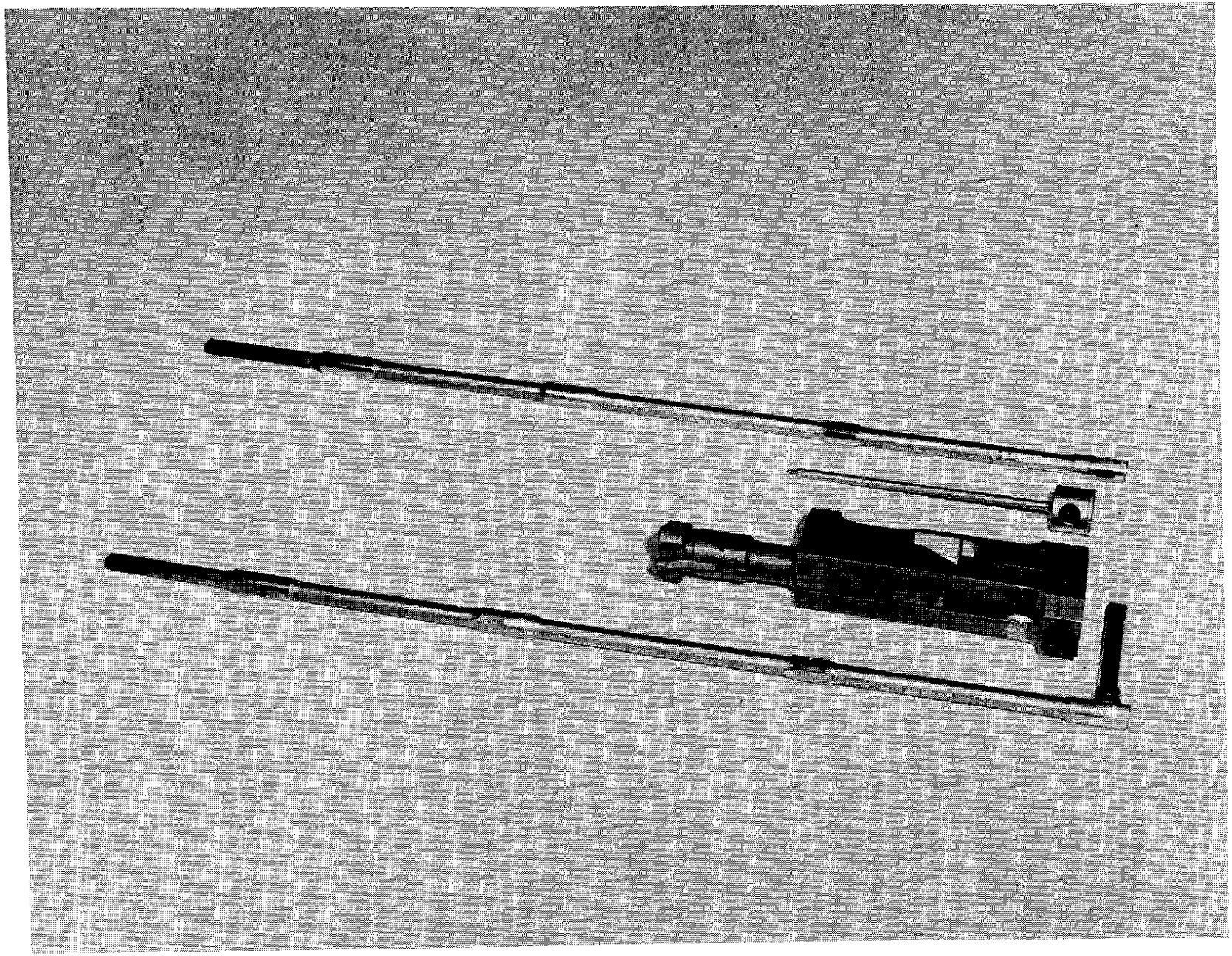


Figure 3-11. Dissassembly of Operating Group

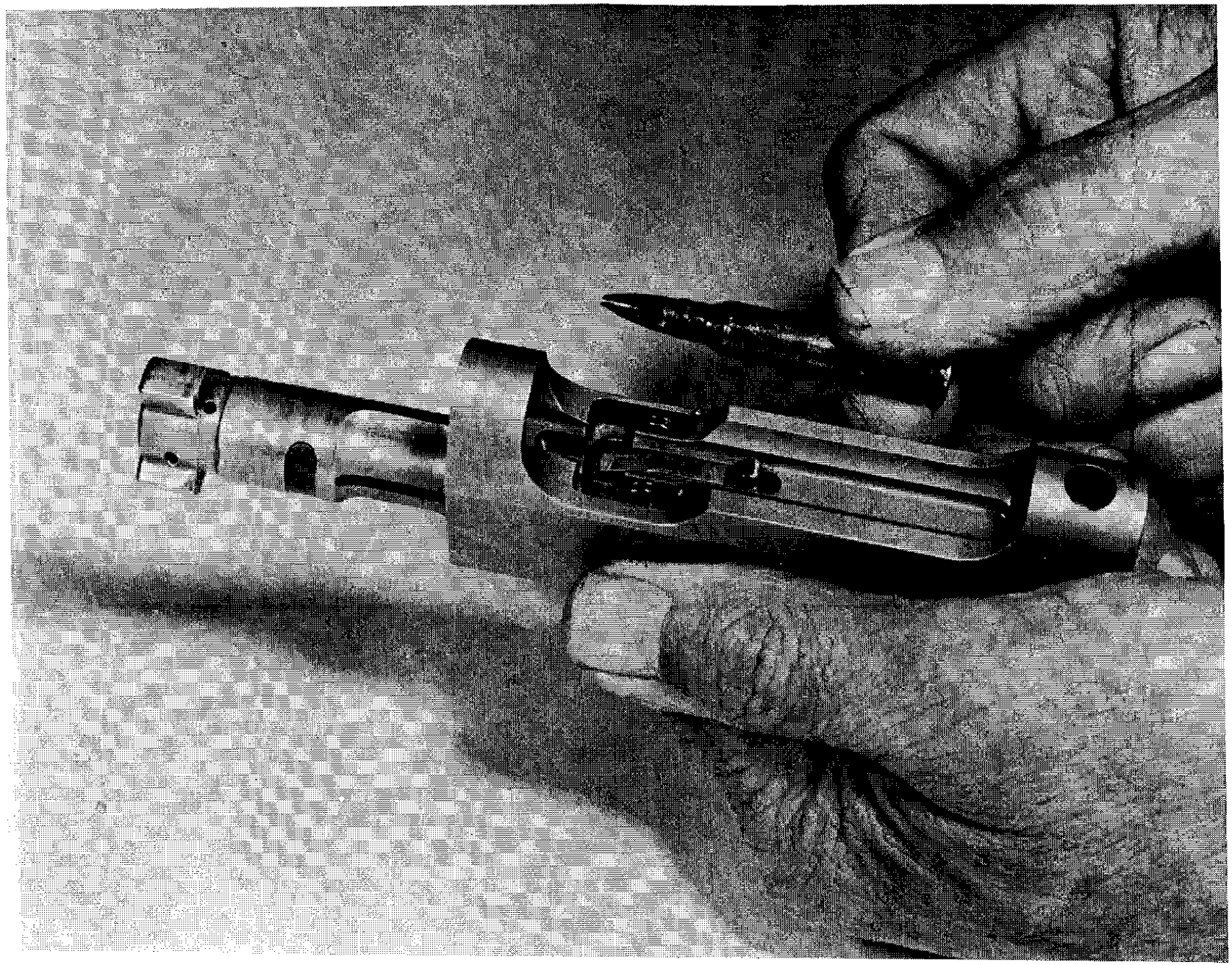


Figure3-12.Preparing to Remove Bolt from Bolt Carrier

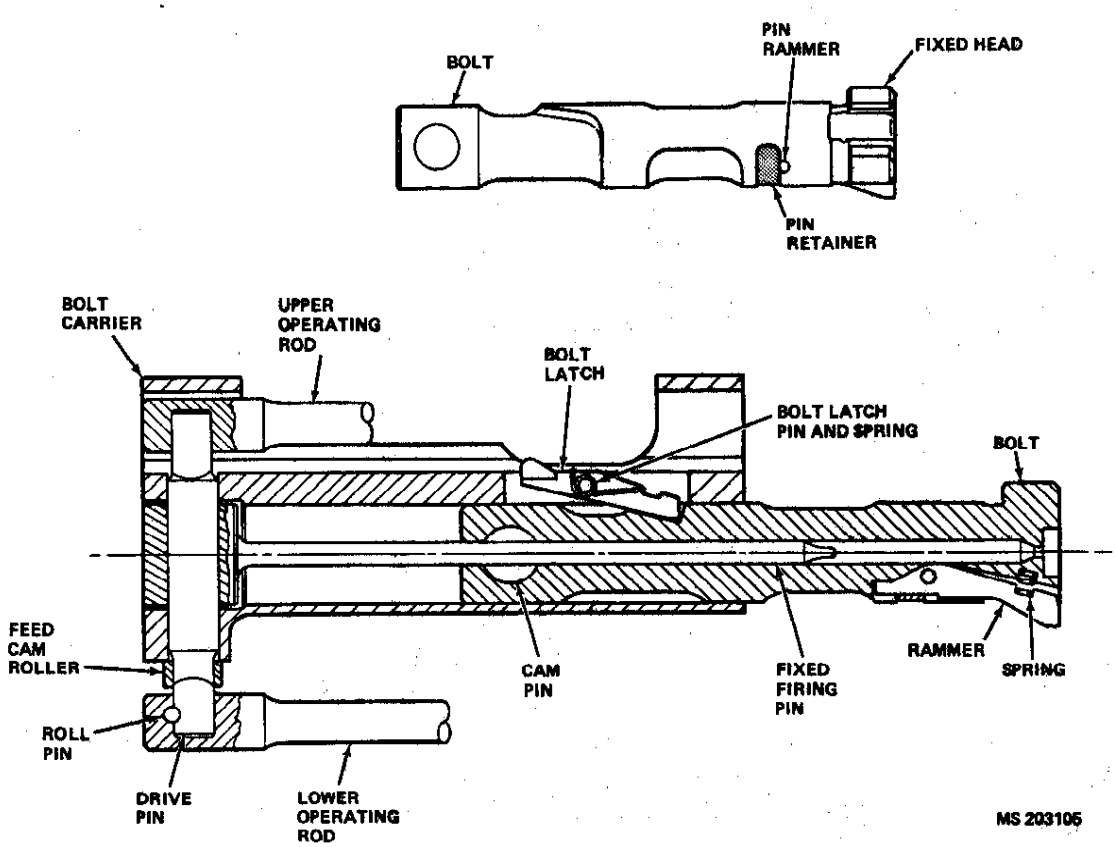


Figure 3-13. Bolt and Bolt Carrier

Figure 3-14. Using Round to Depress Bolt Latch

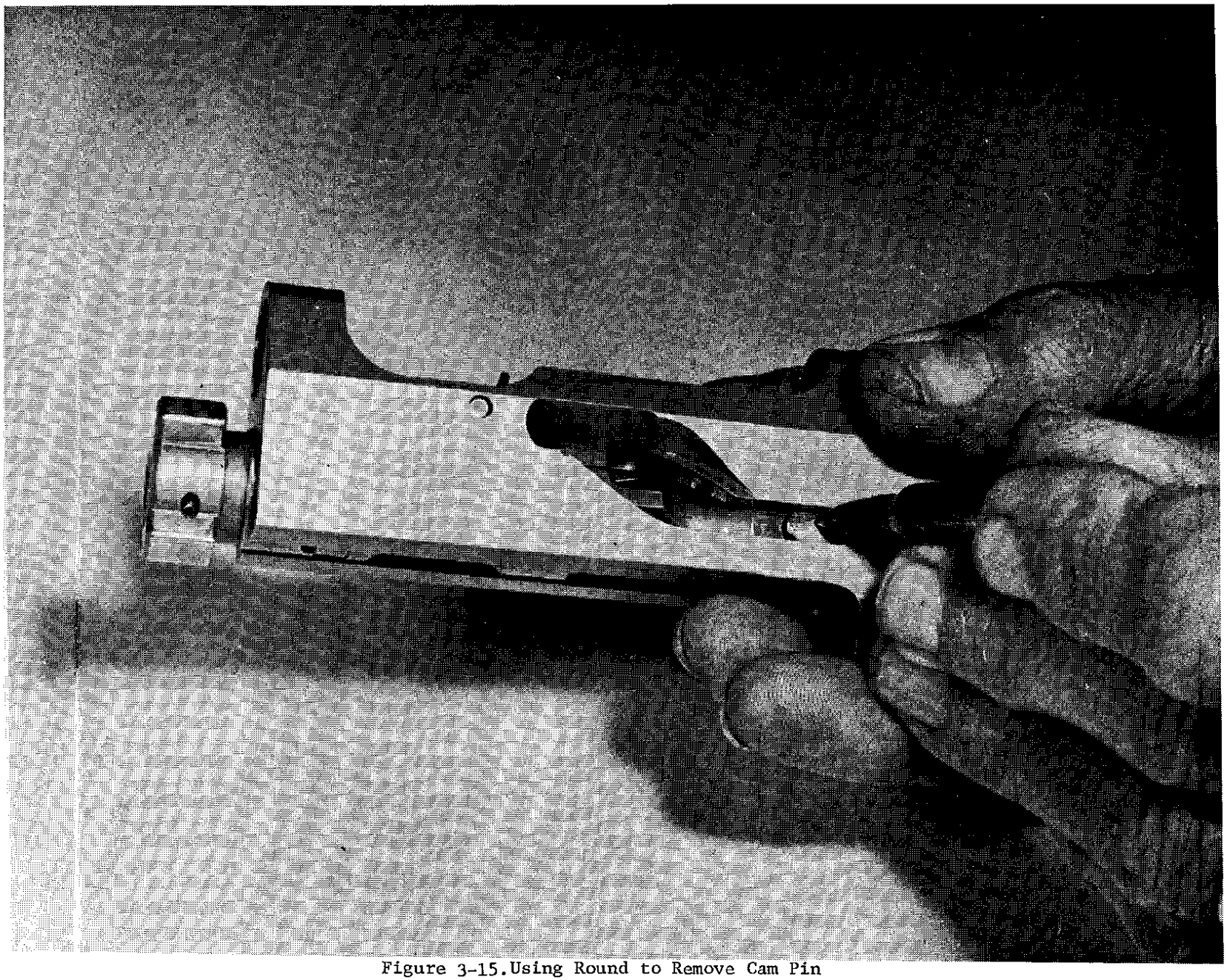


Figure 3-15.Using Round to Remove Cam Pin

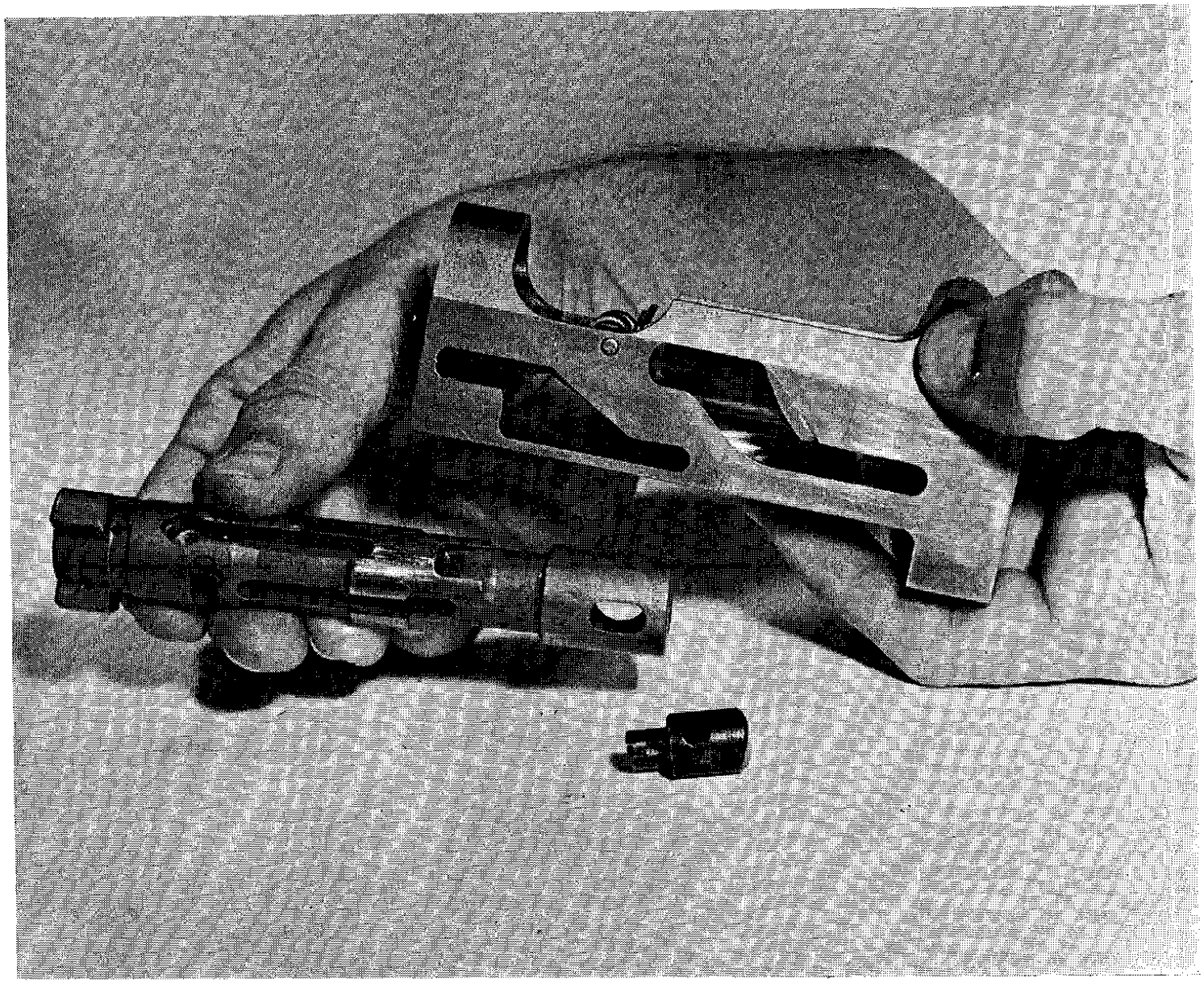


Figure 3-16. Bolt Removed from Bolt Carrier

Figure 3-17. Removing Upper Gas Cylinder

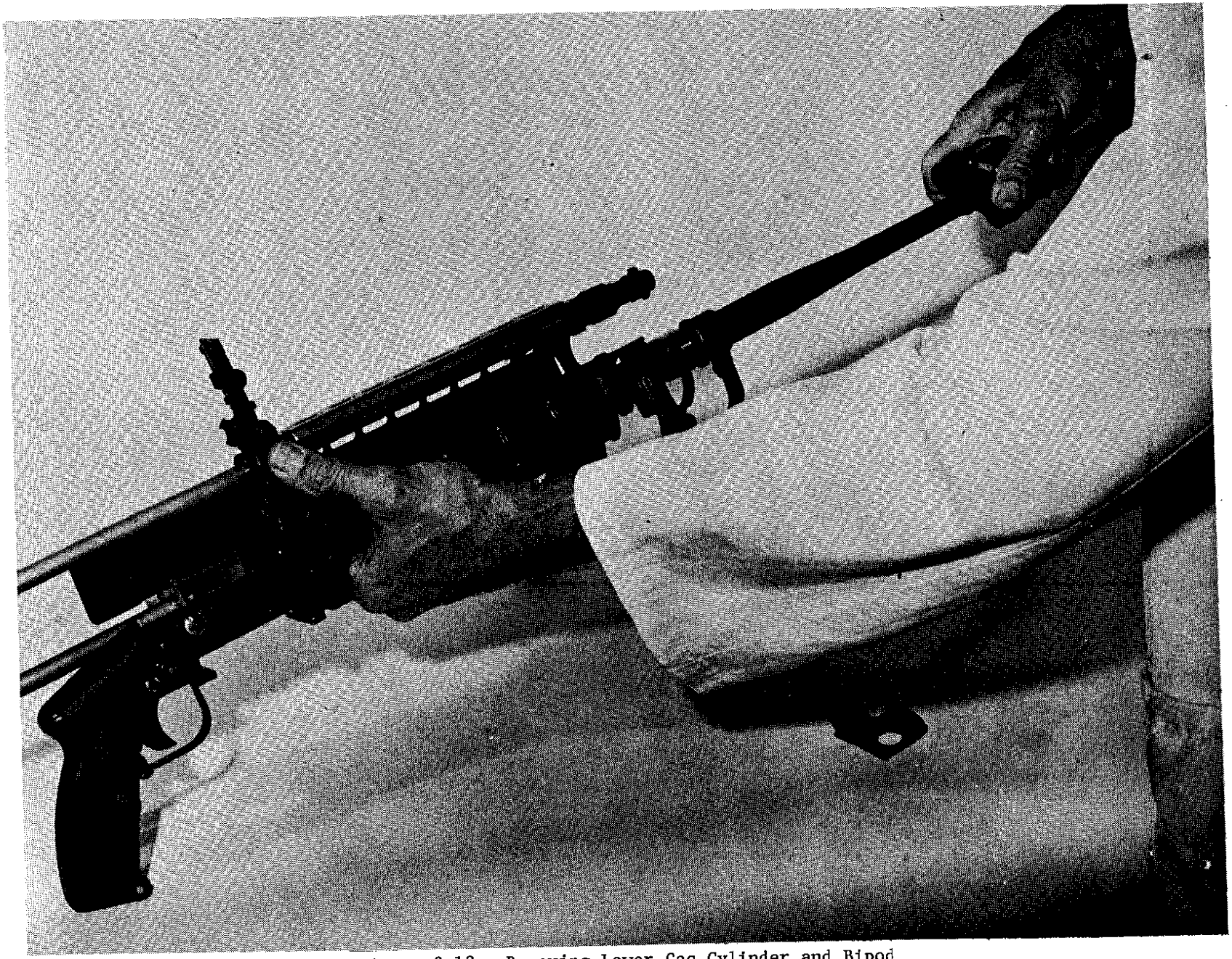


Figure 3-18. Removing Lower Gas Cylinder and Bipod

m. Removal of Receiver Closure/Tripod Adaptor. Push in the receiver closure plunger on the right side of the weapon with a bullet tip. Pull out on the plunger from the left side of the weapon until it unlatches the receiver closure from the receiver. Slide off the receiver closure. Trigger components and sear are exposed for cleaning and inspection purposes.

3-5. CLEANING, INSPECTION AND LUBRICATION (OPERATOR LEVEL). Routine cleaning, inspection and lubrication are necessary for proper functioning of all parts of the weapon. The necessary tools for operator level routine maintenance are carried with the weapon. The cleaning kit is contained in the carrying sling and consists of a cleaning rod, cleaning rod tip, two brushes (bore and chamber), oiler and lubrication applicator. Only the cleaning agents and lubricants listed below are authorized. Under normal operating conditions and temperatures, use oil, medium LSA MIL-L-46000A. For low temperatures, use Preservative Lubricating Oil, MIL-L-14107B (LAW). For removing propellant residue and carbon buildup, use Cleaning Solvent MIL-C-372 (Rifle Bore Cleaner, RBC). For cleaning off old lube and other contaminants, use Cleaning Solvent PD-680 (Solvent, Dry, SD).

a. Buttstock Assembly. Using solvent PD-680 (SD) and a clean rag, clean the assembly. Inspect the front seals around buffer plunger for hydraulic fluid leakage (fluid is red in color).

b. Dust Cover. Clean the dust cover using solvent SD and a clean rag. Inspect to see if the case eject and link eject port doors function properly. Lubricate the port door springs, hinge and detent plunger with LSA.

c. Drive Springs. Clean the drive springs using SD and a clean rag. Inspect to see if there are any damaged spring coils or severe wear on coils. Lubricate with LSA.

d. Cleaning the Operating Group

(1) Clean the upper operating rod using SD. Inspect for wear and for cracks around the spring pin hole where the drive pin seats in the rear of the operating rod. Lubricate with LSA.

(2) Clean the lower operating rod, drive pin, and feed cam roller as one unit using SD. Inspect for wear and galling and for cracks around the spring pin hole in the rear of the lower operating rod. Lubricate with LSA.

(3) Clean the bolt using SD. Brush and clean the bolt locking lugs, bolt face and extractor lip. Dry the bolt with clean rags. Inspect the bolt locking lugs and cam pin hole for cracks. Care should be exercised so that no sand or gravel enters the area where the fixed firing pin is located. Lubricate heavily, with LSA.

(4) Clean the firing pin with SD. Dry and inspect for cracks, wear and straightness. Lubricate with LSA.

(5) Clean the bolt carrier with SD. Dry and inspect for cracks and galling in the cam path. Lubricate heavily with LSA in the cam path and apply a light coat over the remaining area.

(6) Clean the cam pin with SD. Dry and inspect for cracks and galling. Lubricate with LSA.

e. Feed Cam. Clean the feed cam with SD. Dry and inspect helical cam area and ratchet teeth for wear and galling. Lubricate heavily in helical cam and ratchet teeth, and apply a light coat over the remaining area.

f. Receiver Group Assembly. Components of the receiver assembly that are coated with carbon residue will be cleaned with solvent RBC, and brush. Use scrubbing action, as this will remove nearly all carbon residue and foreign material. Use SD in carbon free areas. Inspect for wear. Lightly lubricate all moving parts and surfaces of the receiver group assembly with LSA.

g. Barrel Assembly. Perform the following steps when cleaning the barrel, being careful to hold the rod at joints to prevent flexing or damage to the rod.

(1) Attach wire brush to the cleaning rod. Dip in cleaning solvent RBC and brush the bore thoroughly from chamber to muzzle, using straight through strokes, being careful never to reverse the direction of the brush while in the bore.

(2) Clean the chamber and barrel extension using the chamber brush.

(3) Remove the brush from the cleaning rod, and dry the chamber and bore by pushing through dry, clean patches. Continue until the patches come out clean and dry.

(4) After cleaning, lightly lubricate the chamber and bore with oiled patch to prevent corrosion and pitting.

(5) Rub a light coat of oil on the outside of the barrel and gas housing and on the barrel extension lugs.

(6) Before firing remove oil from the barrel bore by pushing through clean, dry patches.

h. Gas Cylinder Assemblies. Using RBC, scrub the front of the cylinder assemblies with the wire brush. Scrub and clean the threads and outside surfaces. Wipe off solvent. Pistons should shake freely inside the cylinders. If pistons do not shake freely after repeated cleaning attempts, obtain new gas cylinder assemblies. Do not lubricate gas cylinder assemblies.

i. Bipod Assembly. Clean the bipod using dry rags and SD. Oil lightly with LSA, and check that all moving parts are working smoothly.

3-6. ASSEMBLY (OPERATOR LEVEL). The order for assembly is the reverse of disassembly. Omit steps a. through f. for Level I field strip. Assemble the weapon as follows:

a. Installation of Receiver Closure/Tripod Adaptor. Place the reciever closure on the receiver so that the exposed plunger is on the left side of the weapon and the tripod mounting fixture is on the bottom of the unit. Push in on the plunger until it latches positively in place.

b. Installation of Forestock Assembly. Pull back slightly on the charger and place the forestock assembly over the lower tube so that the exposed, open side of the forestock is on the right side of the weapon. Push up on the forestock, making sure it clears the charger and the charger spring, and snap it into place over the upper tube.

c. Installation of the Bipod. To install the bipod, align the bipod yoke opening with the forward end of the lower section of the tube guide. Take one gas cylinder (the gas cylinders are interchangeable) and insert the gas cylinder through the bipod yoke opening and thread the gas cylinder onto the forward end of the lower section of the tube guide. Screw the gas cylinder finger tight. The bipod is held in place by the lower gas cylinder. Using the barel extension as a wrench, tighten the gas cylinder onto the forward end of the lower section of the tube guide. The bipod is now in place.

d. Installation of the Gas Cylinders. Take the second gas cylinder, and check that the piston is present. Thread the gas cylinder onto the forward end of the upper section of the tube guide. Using the barrel extension as a wrench, tighten the gas cylinder.

e. Installation of the Sling Assembly. Reattach the sling to the buttstock and to the sling loop on the left side of the receiver assembly.

f. Replacing the Bolt in the Bolt Carrier. Depress the bolt latch, insert the bolt into the bolt carrier, and slide the bolt to the rear. Align the cam pin holes, and insert the cam pin. (If bolt slides freely into the bolt carrier without depressing the bolt latch, the latch is upside down.)

g. Reassembly of the Operating Group. Pull the bolt, in the bolt carrier, fully forward, and insert the inertia firing pin into the bolt. (The drive pin, feed cam roller and lower operating rod, are treated as one unit.) Slip the drive pin through the aft end of the bolt carrier and the aft end of the fixed firing pin. Engage the drive pin in the upper operating rod.

h. Installation of the Barrel. Insert the barrel extension into the receiver socket. Align the gas port housing with the gas port cylinders, and using the carrying handle, press the barrel rearward, depress the barrel release lever lock, and rotate it 180 degrees clockwise. The barrel is now locked in place.

i. Installation of Feed Cam. Slide the feed cam over the aft end of the lower receiver tube, and move it forward until it reaches the feed housing.

j. Installation of the Operating Group. Install the operating group by inserting the upper and lower operating rods inside the upper and lower receiver tubes. Slide the operating group forward, while depressing the trigger, until the operating group is fully forward and the bolt is locked in the barrel extension.

k. Installation of the Dust Cover. The dust cover is replaced by sliding it over the aft end of the receiver tubes and moving it forward over the receiver tubes until it reaches the receiver housing. It serves to protect the operating group and contains the cartridge ejection port cover and link ejection port cover.

l. Installation of the Drive Springs. Insert the drive springs, one in the upper receiver tube and one in the lower receiver tube. The springs are inserted immediately behind the operating rods. (The springs are interchangeable).

m. Installation of the Buttstock. Place the buttstock tightly against the dust cover. Rotate the cam lock to secure the buttstock to the upper and lower receiver tubes. DO NOT FORCE THE CAM LOCK. You may damage the receiver tubes.

3-7. POST OPERATIVE MAINTENANCE. Post operative maintenance should be performed on the weapon by the operator/crew after every day's firing or after every 2000 rounds fired, whichever occurs first. The maintenance consists of disassembly, cleaning, inspection, lubrication, reassembly and a functional check by dry cycling the weapon. The post operative maintenance should be performed in accordance with the applicable portions of Section I, Operator Level maintenance, of Chapter 3, Maintenance Instructions. The weapon should be returned to a higher level of maintenance if questions arise concerning the serviceability of the weapon.

Section II. ORGANIZATIONAL LEVEL MAINTENANCE

3-8. FIELD STRIP (ORGANIZATIONAL LEVEL). Follow the same procedures as outlined in Section I, paragraph 3-4, Field Strip - Level II for disassembly of weapon. In addition, the organizational level is also authorized to remove the bolt latch from the bolt carrier. To remove the bolt latch, use a 2 mm punch to press the bolt latch pin so that it comes out the left side of the bolt carrier. Both the spring and bolt latch fall out after removal of the bolt latch pin.

3-9. CLEANING, INSPECTION AND LUBRICATION (ORGANIZATIONAL LEVEL). Follow the same procedures as outlined in Section I, paragraph 3-5, Cleaning, Inspection and Lubrication (Operator Level). The bolt latch, spring and pin must also be cleaned with SD and inspected for wear, galling and cracks. Lubricate the bolt latch, spring and pin with LSA.

3-10. ASSEMBLY (ORGANIZATIONAL LEVEL). Follow the same procedures as outlined in Section I, paragraph 3-6, Assembly (Operator Level). The bolt latch can be installed by placing the bolt latch and spring in place and sliding the pin into the left side of the bolt carrier.

Section III. DIRECT/GENERAL SUPPORT

3-11. DISASSEMBLY (DIRECT/GENERAL SUPPORT). Additional disassembly other than field stripping the weapon is authorized at this level.

a. Removal of Feed Housing. Remove the feed housing as follows:

(1) Remove the pistol grip.

(2) Remove receiver closure.

(3) Remove sear by driving the sear pin out the right side of weapon.

(4) Remove trigger pivot pin by removing retaining ring and sliding the pivot pin out of the receiver.

(5) Remove trigger, trigger plunger, and plunger spring.

(6) Slide trigger bar forward out of receiver.

(7) Remove magazine release lever by driving out roll pin.

(8) Depress safety detent and remove safety, plunger, and safety spring.

(9) Remove feeder retaining screw from right hand side of receiver.

(10) Remove the feeder from the lower receiver tube by sliding it rearward.

b. Disassembly of Bolt (fig. 3-19). To remove the bolt from the bolt carrier, depress the bolt latch and push the bolt into the bolt carrier until the cam pin is aligned with the hole in the aft end of the bolt carrier. Remove the cam pin and pull bolt out of the carrier. Disassemble the bolt as follows:

(1) Remove the pin retainer.

(2) Using a 2 mm punch, remove the rammer pin, spring, and rammer.

CAUTION

Exercise care, the extractor and ejector springs are under high tension.

(3) With the bolt held firmly in a vise, pull rearward on the extractor plunger using a pointed 2 mm punch, and lift out the extractor. Do not use tools to lift out extractor. Remove the plunger and spring.

(4) With the bolt held firmly in a vise, use a machinist's hammer and 2 mm punch to punch out the ejector pin. Remove the ejector and spring.

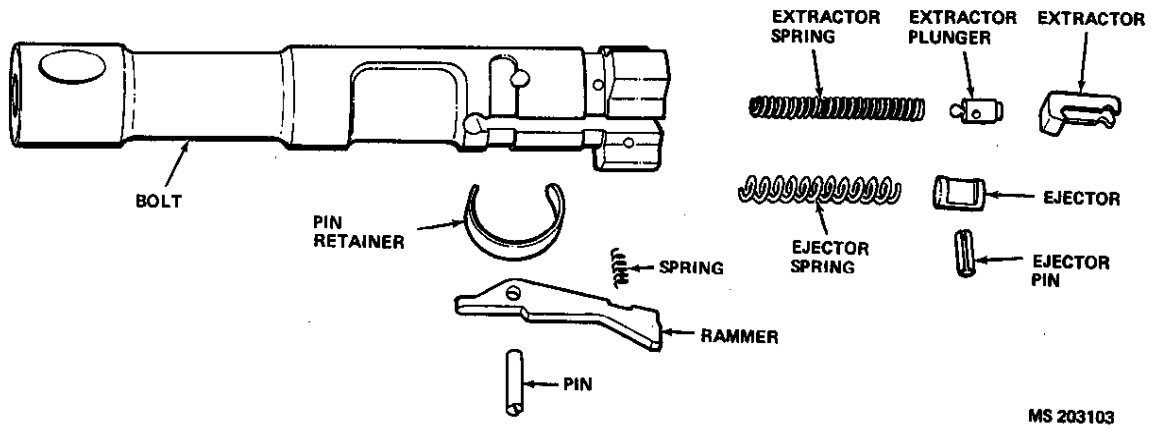


Figure 3-19. Bolt Breakdown

3-12. INSPECTION (DIRECT/GENERAL SUPPORT LEVEL).

a. Bolt Assembly. Inspect the bolt assembly components for wear, galling and cracks.

b. Receiver Assembly. Inspect individual receiver components such as the trigger components for evidence of wear, galling and cracks.

c. Weapon Subassemblies. Inspect modular subassemblies such as the feed cam, buttstock, barrel, etc., for evidence of wear, galling and cracks as outlined in Section I, paragraph 3-5, Cleaning, Inspection and Lubrication (Operator Level).

3-13. ASSEMBLY (DIRECT/GENERAL SUPPORT LEVEL).

a. Assembly of the Bolt.

(1) With the bolt held firmly in a vise, lubricate and install the extractor spring and plunger as shown in figure 3-19. Using a 3 mm flat punch against the plunger, compress the spring and insert a pointed 2 mm punch through the slot in the bolt into the hole in the plunger. Using pressure on the pointed 2 mm punch, pull the plunger toward the rear of the bolt and insert the extractor into the extractor pocket. Remove the pointed 2 mm punch.

(2) With the bolt held firmly in a vise, lubricate and insert the ejector spring and ejector. Align the slot in the ejector with the pin holes in the bolt. Using a flat 3 mm punch on the face of the ejector, compress the ejector spring and insert a 2 mm punch through the pin holes in the bolt and the ejector slot. Drive the ejector pin into the bolt simultaneously pushing out the 2 mm punch. Center the pin in the bolt using the 2 mm punch.

(3) Install the rammer spring, rammer, and pin. Be sure that the end of the pin with the curved cut is inserted first.

(4) Install the pin retainer. Inspect to see that the pin retainer is under the surface of the bolt.

b. Installation of Feed Housing. The feed housing is installed as follows:

(1) Place the feeder over the aft end of the lower receiver tube, and slide it forward.

(2) Replace feeder retaining screw on right hand side of the receiver.

(3) Replace safety spring, plunger, and safety.

(4) Slide the trigger bar into the receiver.

(5) Replace trigger spring, plunger, and trigger.

(6) Replace trigger pivot pin and retaining ring.

(7) Replace magazine release level, and insert roll pin.

(8) Replace sear and insert sear pin from the right side of the receiver.

(9) Replace receiver closure.

(10) Replace pistol grip.

Section IV. REPLACEMENT CYCLE

3-14. REPLACEMENT

This section presents a recommended parts replacement schedule for key components. Replacing these parts at the prescribed schedule will improve the functional reliability of the weapon.

TABLE 3-1. RECOMMENDED PARTS REPLACEMENT SCHEDULE

Part Number	Part Number	Parts Replacement Schedule (Rounds)
9325240	Operating Group Asembly	-
9325247	Bolt Carrier	30,000
9325203	Bolt Latch Pin	10,000
9325204	Bolt Latch	10,000
9325205	Latch Spring	10,000
9325206	Drive Pin	30,000
9325207	Feed Cam Roller	20,000
9325209	Operating Rod (2)	10,000
9325242	Firing Pin	10,000
9325248	Cam Pin	5,000
9325239	Cam Pin, Alternate	10,000
9325244	Bolt Assembly (All components including the bolt)	10,000
9325170	Buttstock Assembly	-
9325154	Buffer Spring	20,000
11010520-1	Scraper Ring	20,000
11010520-2	Cushion	20,000
11010542	Retaining Ring	20,000
MIL-S-22473	Sealing Compound	20,000
MS28775-018	"O" Ring	20,000
MS28775-011	"O" Ring	20,000

TABLE 3-1. RECOMMENDED PARTS REPLACEMENT SCHEDULE (Cont)

Part Number	Part Number	Parts Replacement Schedule (Rounds)
MIL-H-5606	Hydraulic Fluid (11.5cc)	20,000
9325285	Cam and Ratchet Assembly	30,000
9325250	Feed Housing Assembly	-
9325269	Feed Housing	30,000
9325259	Sprocket Pawl	30,000
9325258	Pawl Spring	30,000
DIN 1481 Ø 2.5 x 6 LG	Spring Pin	30,000
9325127	Drive Spring (2)	10,000
9325500	Barrel Assembly	10,000
9325530	Dustcover Assembly	30,000
9325390	Receiver Group Assembly	-
9325324	Sear	30,000
9325431	Gas Cylinder Assembly	20,000
9325379	Bullet Guide Spring	20,000
MS20600M4W5	Blind Rivet (2)	20,000

Section V. ADVERSE ENVIRONMENTS

3-15. LSA AND LAW LUBE GUIDE

a. For temperatures of -25°F and warmer. Use LSA (Lubricating oil, semifluid, automatic weapons MIL-L-46000A).

b. For temperatures of 0°F and colder. Use LAW (Lubricating oil, Arctic weapons MIL-L-14107B).

c. OR, for temperatures between 0°F and -25°F use either LSA or LAW.

3-16. EXTREME COLD.

a. Clean and lubricate weapon with LAW.

b. Operate controls through entire range at intervals to keep them from freezing up.

c. When the weapon is not being used and kept outside, protect it with a proper cover.

3-17. HOT CLIMATES

a. Clean, inspect and oil the weapon more frequently. Look for corrosion, expecially the hidden surfaces of the operating group, gas cylinder assemblies and moving components.

b. When handling, make certain to wipe dry, as moisture from the skin could cause corrosion. After drying, lubricate with LSA.

3-18. DUSTY AND SANDY AREAS.

a. Clean and inspect the weapon more frequently.

b. Lubricate exposed surfaces sparingly to prevent the entrapment and buildup of sand and dust on operating parts.

c. Make certain to keep sand out of parts when inspecting and lubricating the rifle. Protect components from sand during disassembly of weapon.

CHAPTER 4

STOPPAGES

Section I. STOPPAGES

4-1. STOPPAGE. A stoppage is an unintentional interruption in the cycle of operation. If a stoppage occurs, charge the weapon immediately. If the weapon is hot, leave the weapon 15 minutes. If the stoppage continues after the weapon has cooled, use table 4-1 to troubleshoot the weapon. If the weapon is cold and a stoppage occurs, charge the gun immediately and if this fails to clear the stoppage use table 4-1 to troubleshoot the weapon.

NOTE

When removing a magazine that is not empty, open the access door, and depress the magazine latch. Firmly hold the rounds entering the feed housing and remove the magazine. Failure to hold the rounds may cause the ammunition belt to pull out of the magazine. To release a free hanging belt, open the access door, press magazine release lever forward, and pull out the belt.

Table 4-1. Troubleshooting

Malfunction	Probable Cause	Remedy
While operating the weapon on automatic fire, the weapon stops with the trigger pressed and bolt carrier fully closed.	Light firing pin strike. Dud Round. Broken firing pin Broken Operating Group Component. Improper loading of ammo belt/box. Short Recoil Stroke (Improper Cleaning). Link jam. Foreign Object Lodged in mechanism. Lack of Lubrication.	1. Charge the weapon immediately by pulling charging handle to the rear and releasing. This action should remove the round from the chamber. If this action fails to clear the weapon and the weapon is hot, leave the weapon for 15 minutes before attempting any further clearing action, because of the danger of cook-off. 2. After 15 minutes (when the weapon is cool) open access door, remove magazine or hanging belt. Charge the weapon, then place safety in safe mode. Inspect, clear and verify that the chamber is empty. 3. Note what was present in chamber upon initial attempt to charge weapon. (a) empty case? (b) complete round? (c) nothing in chamber?

Table 4-1. Troubleshooting (Continued)

Malfunction	Probable Cause	Remedy
		4. Empty Case - Stoppage most likely a short recoil stroke of operating group or broken operating group component. Check gas cylinder assemblies for sticking pistons and operating group for failed components. Check weapon for presence of foreign objects or debris. 5. Complete Round - check for primer indent. If primer indent present, stoppage was most likely a dud round or light firing pin strike. Dispose of round. Field strip weapon and inspect gas cylinder assemblies and operating group components. 6. Nothing in chamber - Indicates short recoil stroke of operating group or improper feed of advancing round into chamber. Field strip weapon and inspect gas cylinder assemblies and operating group. Check for foreign matter, excess residue, lack of lubrication or debris.

Table 4-1. Troubleshooting (Continued)

Malfunction	Probable Cause	Remedy
Weapon stops firing with bolt carrier partly closed.	Damaged cartridge or link obstructing the bolt. Failure to extract (broken extractor, spring, or plunger). Failure to eject (broken ejector, spring or spring pin). Improper loading of ammo belt/box. Bolt did not latch when assembled into bolt carrier.	1. Charge the weapon immediately by pulling charging handle to the rear and releasing. This action should remove the round from the chamber. If this action fails to clear the weapon and the weapon is hot, leave the weapon for 15 minutes before attempting any further clearing action, because of the danger of cook-off. 2. After 15 minutes (when the weapon is cool), open access door, remove magazine or hanging belt. Charge the weapon, then place safety in safe mode. Inspect, clear and verify that the chamber is empty. 3. After the weapon is determined to be safe, view the operating group through the access door and the case ejection port door. Links obstructing the bolt/bolt carrier can usually be cleared with the fingers or by field stripping the weapon. 4. If stoppage is not link jam related, field strip the weapon and inspect operating group for failed parts and/or improper assembly. Look for foreign matter, dirt or debris. Check for

Table 4-1 . Troubleshooting (Continued)

Malfunction	Probable Cause	Remedy
		lack of lubrication. Clean and lubricate if necessary. Replace any failed parts, assemble weapon and continue firing. If stoppages continue and are ejector-extractor related (such as case spinback) and no failed parts are found, check ejector and extractor springs to see if they have taken a permanent set.
		5. If stoppages continue after complete inspection and maintenance action on the operating group, check drive springs, feed housing assembly and gas cylinder assy for worn or failed parts.

Section II. SERVICE UPON RECEIPT

4-2. RECEIPT OF WEAPON. The operator, upon receipt of weapon, should inspect to determine if the weapon is loaded. Looking through the feed access door, the operator will be able to determine the presence of ammunition, if bolt carrier is to the rear.

4-3. INSPECTION UPON RECEIPT. The following inspection should be completed upon receipt.

a. Inspect the shipping container for external damage, mishandling, proper labeling, complete packing slip, and proper securing devices.

b. Remove cover and inspect interior of container and contents for proper securing devices, barrier material, excessive moisture and desiccants (if applicable).

c. Remove weapon from container and inspect for damage, completeness of assembly, if properly lubricated for shipping and/or storage, and any loose or missing hardware.

d. Weapon shall be free from burrs, chips, cracks, nicks, and distortions.

e. The finished surface of the weapon shall contain no bare spots or corrosion.

f. Ammunition magazines must have no dents, distortions, cracks, or any sign of discoloration.

4-4. SERVICE UPON RECEIPT. Refer to table 4-2.

Table 4-2. Service Upon Receipt of Weapon

Step	Procedure
1	Remove weapon and items from container.
2	Check for missing items. Refer to figure 1-2.
3	Field strip weapon (Chapter 3) and inspect for: Missing parts. Proper assembly.
4	Clean and lubricate, if necessary.
5	Assemble.
6	Operate weapon using dummy cartridges.

CHAPTER 5

PART LIST

Section I. ILLUSTRATED PARTS LIST

5-1. SCOPE.

a. This chapter includes a parts list followed by a list in alphanumeric sequence of all part numbers appearing in the parts list.

5-2. EXPLANATION OF COLUMNS.

a. Illustration. This column is divided as follows.

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

(2) Item Number. Column (1) (b). The number used to identify each item called out in the illustration

(3) Maintenance Code. Column (2). Indicates by the letter code the lowest level of maintenance authorized for disassembly, replacement, adjustment, and assembly of individual parts and subassemblies. No letter code (dashed mark) indicates no field maintenance action is authorized for the indicated components. Disposition and serviceability of parts is to be determined at the Direct/General Support Maintenance Level.

CODE	EXPLANATION
C	Crew/Operator
O	Organizational Support
F	Direct/General Support

(4) Part Number. Column (4). Indicates the primary number used by the manufacturer (individual, company, firm, corporation, or Government activity), which controls the design and characteristics of the item by means of its engineering drawings, specifications, standards, and inspection requirements to identify an item or range of items.

(5) Quantity. Column (8). Indicates the quantity of the item used.

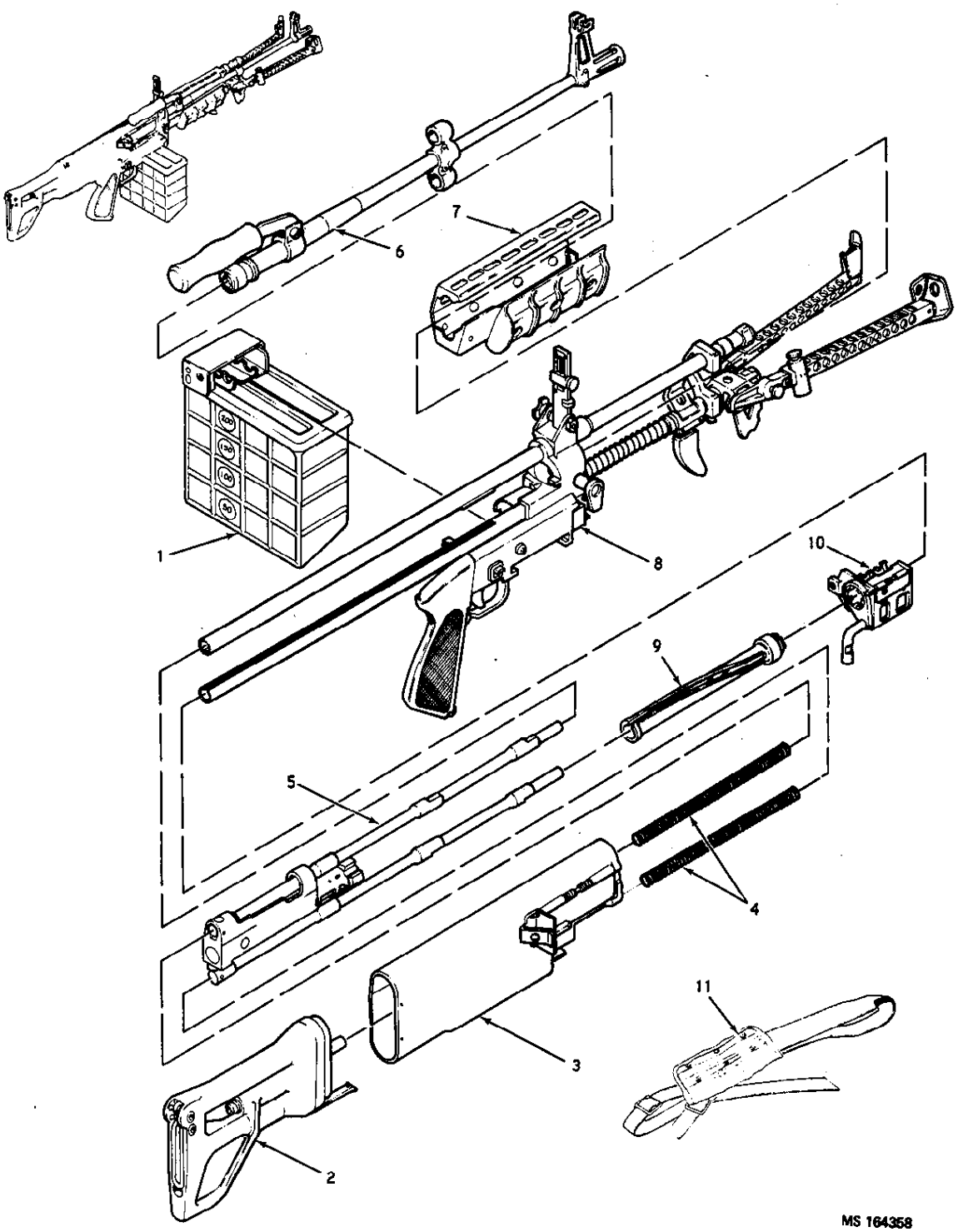


Figure 5-1. XM248 Light Machine Gun

(1) ILLUSTRATION (a) FIG NO.	(1) ILLUSTRATION (b) ITEM NO.	(2) MAINT. CODE	(3) FEDERAL STOCK NUMBER	(4) PART NUMBER	(5) FSCM	(6) DESCRIPTION USABLE ON CODE	(7) U/M	(8) QTY INC IN UNIT
5-1				9325590		XM248 LIGHT MACHINE GUN		
	1			9325560		. MAGAZINE ASSEMBLY (SEE FIG. 5-2 FOR BREAKDOWN)	EA	1
	2			9325170		. BUTTSTOCK ASSEMBLY (SEE FIG. 5-3 FOR BREAKDOWN)	EA	1
	3			9325530		. DUST COVER ASSEMBLY (SEE FIG. 5-4 FOR BREAKDOWN)	EA	1
	4			9325126		. SPRING, HELICAL-DRIVE	EA	2
	5			9325240		. OPERATING GROUP ASSEMBLY (SEE FIG. 5-5 FOR BREAKDOWN)	EA	1
	6			9325500		. BARREL ASSEMBLY (SEE FIG. 5-6 FOR BREAKDOWN)	EA	1
	7			9325470		. FORE STOCK ASSEMBLY (SEE FIG. 5-7 FOR BREAKDOWN)	EA	1
	8			9325390		. RECEIVER GROUP (SEE FIG. 5-8 FOR BREAKDOWN)	EA	1
	9			9325285		. CAM AND RATCHET ASSEMBLY (SEE FIG. 5-9 FOR BREAKDOWN)	EA	1
	10			9325250		. FEED HOUSING ASSEMBLY (SEE FIG. 5-10 FOR BREAKDOWN)	EA	1
	11			9325140		. SLING, ADJUSTABLE (SEE FIG. 5-11 FOR BREAKDOWN	EA	1

*See Subassembly Parts List for maintenance level instructions.

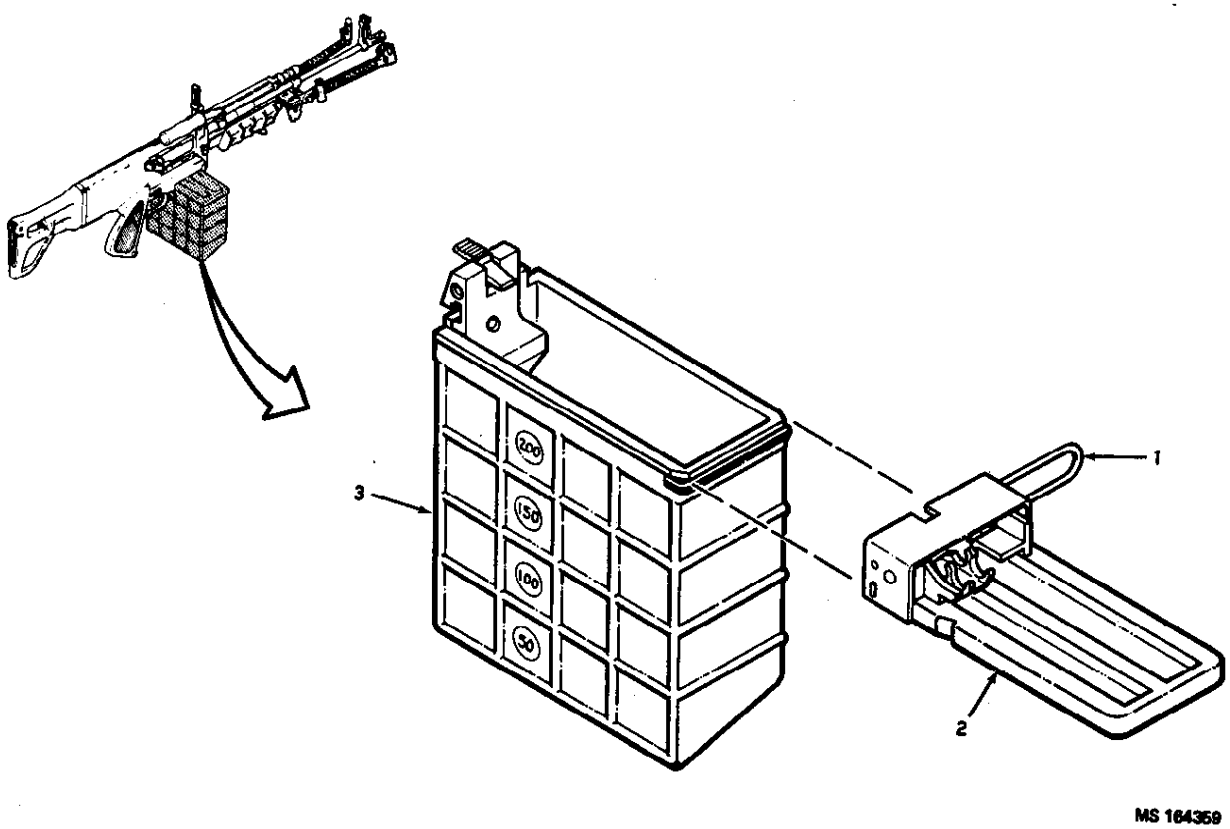


Figure 5-2. Magazine Assembly

(1) ILLUSTRATION (a) FIG NO.	(1) ILLUSTRATION (b) ITEM NO.	(2) MAINT. CODE	(3) FEDERAL STOCK NUMBER	(4) PART NUMBER	(5) FSCM	(6) DESCRIPTION USABLE ON CODE	(7) U/M	(8) QTY INC IN UNIT
5-2		O		9325560		MAGAZINE ASSEMBLY (SEE FIG. 5-1 FOR NHA)		
	1	O		9325573		. LOCK, MAGAZINE	EA	1
	2	O		9325567		. COVER, MAGAZINE	EA	1
	3	O		9325562		. AMMUNITION CONTAINER	EA	1

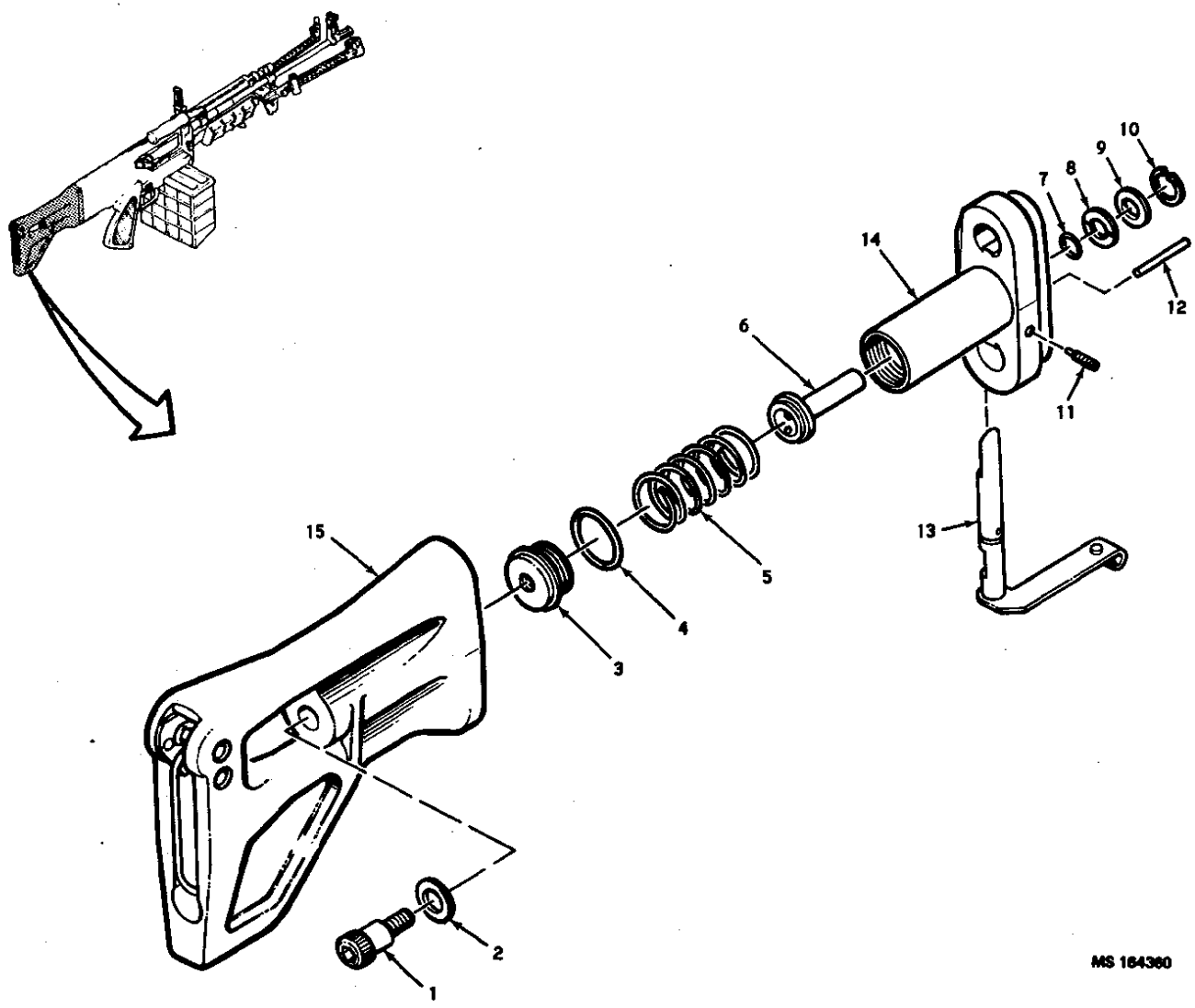


Figure 5-3. Buttstock Assembly

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	MAINT. CODE	FEDERAL STOCK NUMBER	PART NUMBER	FSCM	DESCRIPTION USABLE ON CODE	U/M	QTY INC IN UNIT
5-3		O		9325170		BUTTSTOCK ASSEMBLY (SEE FIG. 5-1 FOR NHA)		
	1	F		9325181		. CAB SCREW SOC HD MI6X1X25	EA	1
	2	F		MS27183-12		. WASHER FLAT 08	EA	2
	3	F		9325155		. CAP BUFFER	EA	1
	4	F		MS28775-018		. O RING PACKING	EA	1
	5	F		9325154		. SPRING, HELICAL COMP BUFFER	EA	1
	6	F		9325153		. PLUNGER BUFFER	EA	1
	7	F		MS28775-011		. O RING PACKING	EA	1
	8	F		11010520-1		. SCRAPER RING	EA	2
	9	F		11010520-2		. CUSHION RING	EA	1
	10	F		11010542		. RETAINING RING	EA	1
	11	-		9325428		. PLUNGER, SPRING (10-32 UNF-2A)	EA	1
	12	F		9325426-7		. PIN SPRING (3X30 HCP)	EA	1
	13	-		9325180		. CAM LOCK ASSEMBLY	EA	1
	14	F		9325152		. END CAP	EA	1
	15	F		9325171		. BUTTSTOCK	EA	1

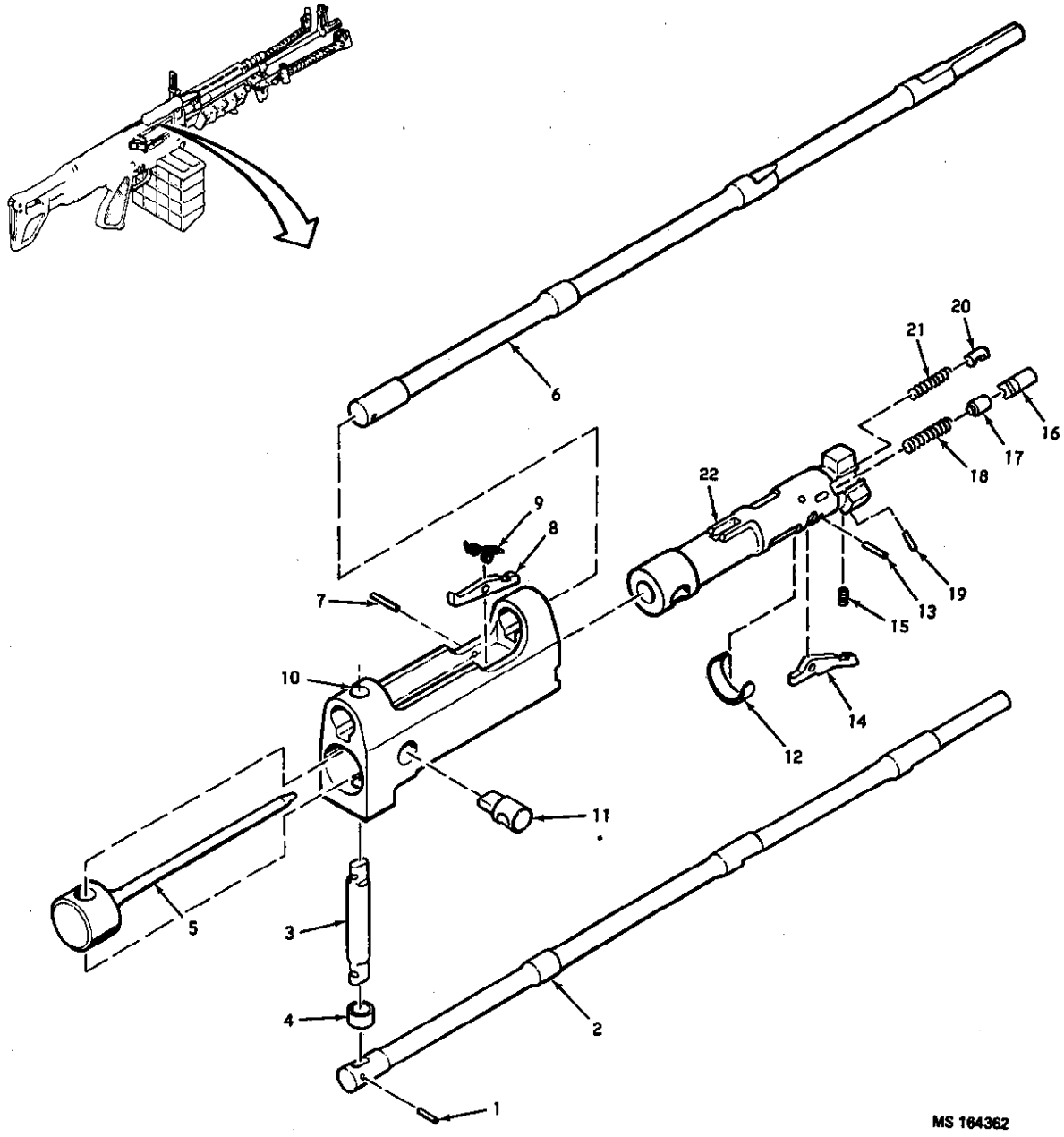


Figure 5-5. Operating Group Assembly

(1) ILLUSTRATION (a) FIG NO.	(1) ILLUSTRATION (b) ITEM NO.	(2) MAINT. CODE	(3) FEDERAL STOCK NUMBER	(4) PART NUMBER	(5) FSCM	(6) DESCRIPTION USABLE ON CODE	(7) U/M	(8) QTY INC IN UNIT
5-5		O		9325240		OPERATING GROUP ASSEMBLY (SEE FIG. 5-1 FOR NHA)		
	1	O		MS171492		. PIN, SPRING	EA	1
	2	O		9325209		. ROD, OPERATING (LOWER)	EA	1
	3	O		9325206		. PIN, DRIVE	EA	1
	4	O		9325207		. ROLLER, FEED CAM	EA	1
	5	O		9325242		. PIN, FIRING	EA	1
	6	O		9325209		. ROD, OPERATING (UPPER)	EA	1
	7	O		9325203		. PIN, BOLT LATCH	EA	1
	8	O		9325204		. LATCH, BOLT	EA	1
	9	O		9325205		. SPRING, TORSION BOLT LATCH	EA	1
	10	O		9325247		. CARRIER, BOLT	EA	1
	11	O		9325239		. CAM, PIN	EA	1
		O		9325244		. BOLT ASSEMBLY	EA	1
	12	F		9325229		. PIN, RETAINER	EA	1
	13	F		9325227		. PIN, RAMMER	EA	1
	14	F		9325226		. SPRING, COMP RAMMER	EA	1
	15	F		9325225		. RAMMER	EA	1
	16	F		9325219		. EXTRACTOR	EA	1
	17	F		9325220		. PLUNGER EXTRACTOR	EA	1
	18	F		9325221		. SPRING, EXTRACTOR	EA	1
	19	F		9325231		. PIN, SPRING (2.5X6 LCP)	EA	1
	20	F		9325222		. EJECTOR	EA	1
	21	F		9325223		. SPRING COMP EJECTOR	EA	1
	22	F		9325249		. BOLT	EA	1

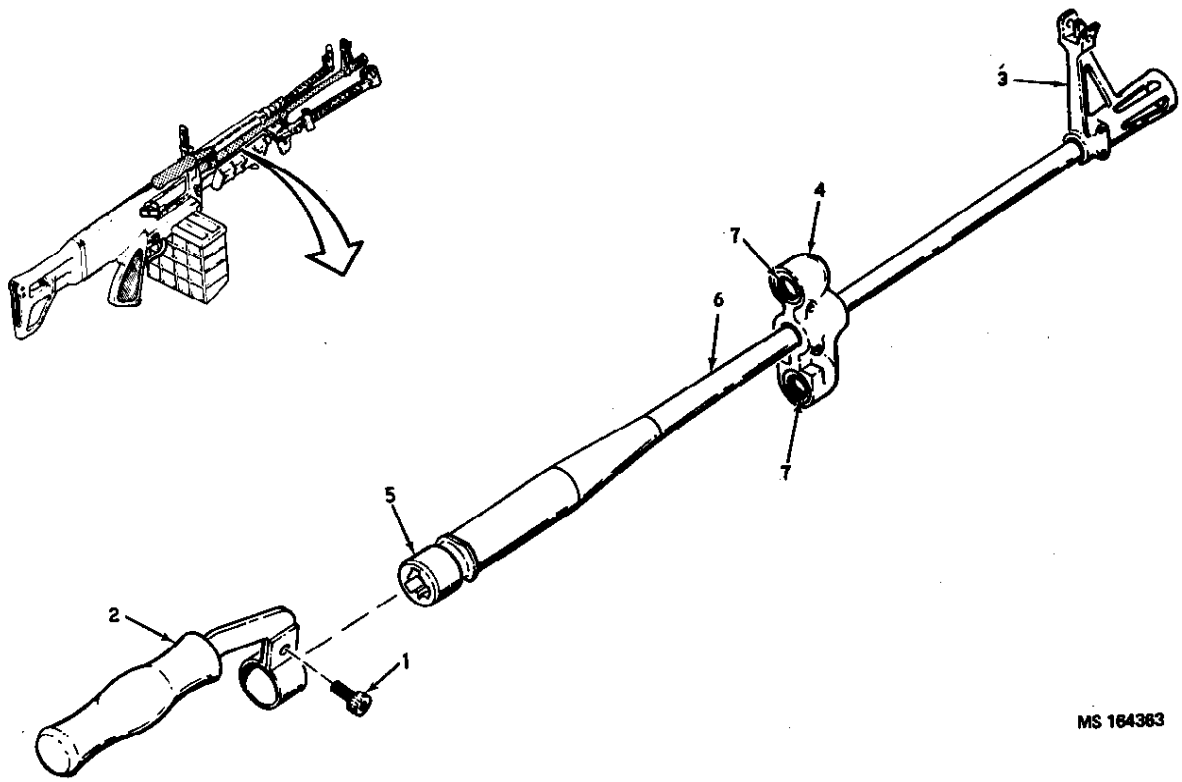


Figure 5-6. Barrel Assembly

(1) ILLUSTRATION (a) FIG NO.	(1) ILLUSTRATION (b) ITEM NO.	(2) MAINT. CODE	(3) FEDERAL STOCK NUMBER	(4) PART NUMBER	(5) FSCM	(6) DESCRIPTION USABLE ON CODE	(7) U/M	(8) QTY INC IN UNIT
5-6		O		9325500		BARREL ASSEMBLY (SEE FIG. 5-1 FOR NHA)		
	1	F		9325427-2		. SCREW, S.H.C. 8 MM LG (M5X08)	EA	1
	2	F		9325509		. HANDLE	EA	A/R
	3	-		9325507		. FRONT SIGHT AND FLASH SUPPRESSOR	EA	1
	4	-		9325504		. GAS HOUSING	EA	1
	5	-		9325513		. BARREL EXTENSION	EA	1
	6	-		9325512		. BARREL	EA	1
	7	F		9325506		. GAS RING	EA	4

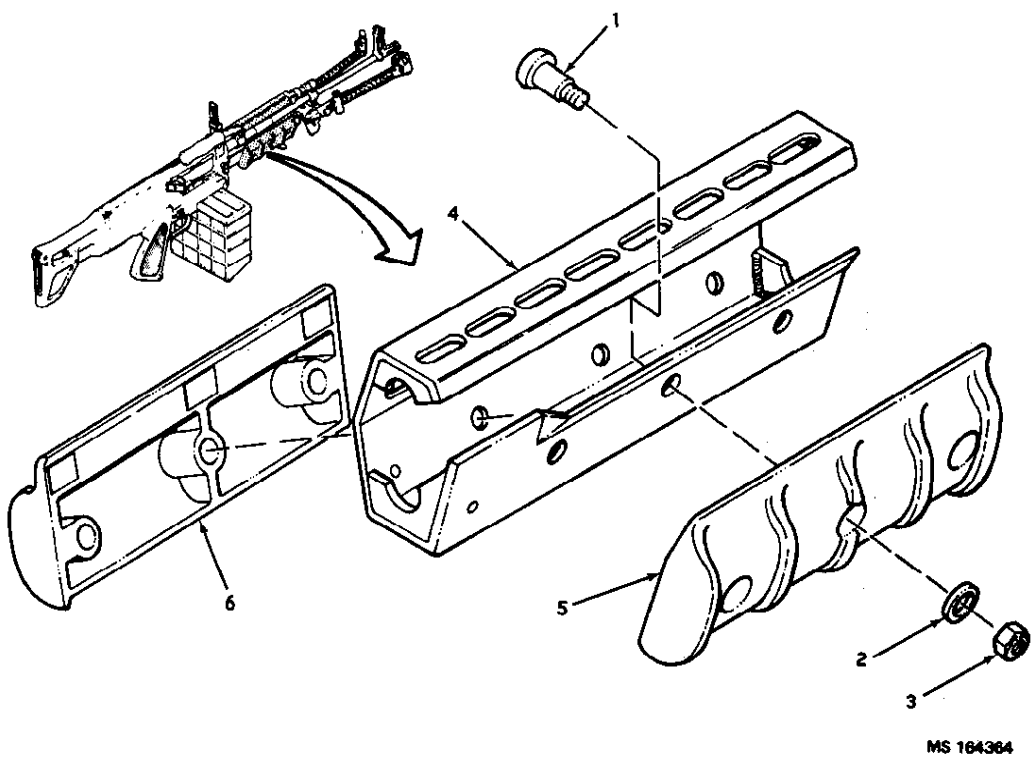


Figure 5-7. Fore Stock Assembly

(1) ILLUSTRATION (a) FIG NO.	(1) ILLUSTRATION (b) ITEM NO.	(2) MAINT. CODE	(3) FEDERAL STOCK NUMBER	(4) PART NUMBER	(5) FSCM	(6) DESCRIPTION USABLE ON CODE	(7) U/M	(8) QTY INC IN UNIT
5-7		0		9325470		FORE STOCK ASSEMBLY (SEE FIG. 5-1 FOR NHA)		
	1	F		MS51957-46		. SCREW (ALTERNATE FOR MS51957-46B)	EA	6
	2	F		MS15795-807		. WASHER PLAIN (0.375 OD)	EA	6
	3	F		MS21042-08		. NUT (ALTERNATE FOR MS21042-108)	EA	6
	4	F		9325472		. GUARD HAND	EA	1
	5	F		9325478		. GRIP, FORESTOCK RIGHT HAND	EA	1
	6	F		9325484		. GRIP, FORESTOCK LEFT HAND	EA	1

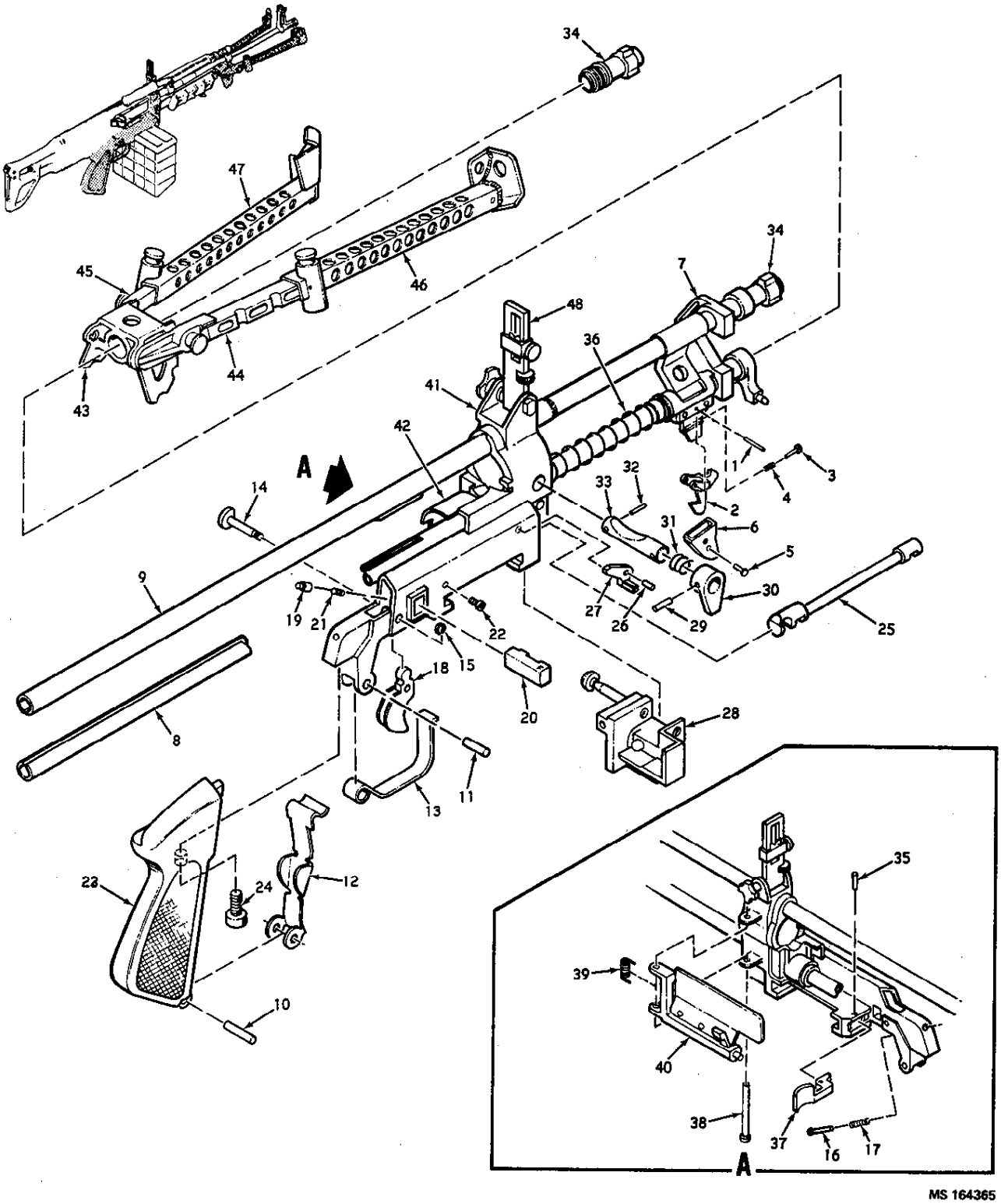


Figure 5-8. Receiver Group

(1) ILLUSTRATION (a) FIG NO.	(b) ITEM NO.	(2) MAINT. CODE	(3) FEDERAL STOCK NUMBER	(4) PART NUMBER	(5) FSCM	(6) DESCRIPTION USABLE ON CODE	(7) U/M	(8) QTY INC IN UNIT
5-8				9325370B		RECEIVER GROUP (SEE FIG. 5-1 FOR NHA)		
	1	F		MS9390-18		. PIN, DOWEL	EA	1
	2	F		9325389		. LATCH	EA	1
	3	F		9325394		. PIN, CHARGER	EA	1
	4	F		9325429-4		. SPRING	EA	1
	5	F		MS20426D5		. RIVET	EA	1
	6	F		9325393		. GRIP, CHARGER	EA	1
	7	F		9325304		. GUIDE TUBE	EA	1
	8	F		9325373		. TUBE LOWER	EA	1
	9	F		9325371		. TUBE UPPER	EA	1
	10	0		MS35677-29		. PIN, GRIP GUARD COVER	EA	1
	11	F		9325425-6		. PIN, TRIGGER GUARD (05X15 LG)	EA	1
	12	0		9325335		. COVER, GRIP GUARD	EA	1
	13	F		9325333		. GUARD TRIGGER	EA	1
	14	F		9325368		. PIN, PIVOT TRIGGER	EA	1
	15	F		MS16624-5019		. RING, RETAINING	EA	1
	16	F		9325327		. PIN TRIGGER SPRING	EA	1
	17	F		9325377		. SPRING, TRIGGER	EA	1
	18	F		9325325		. TRIGGER	EA	1
	19	F		9325331		. PLUNGER SAFETY	EA	1
	20	F		9325326		. SAFETY	EA	1
	21	F		9325429-3		. SPRING SAFETY	EA	1
	22	F		MS35206-205		. SCREW	EA	1
	23	F		9325319		. GRIP PISTOL	EA	1
	24	F		9325427-4		. SCREW (AP) (M5X20 LONG)	EA	1
	25	F		9325320		. TRIGGER BAR	EA	1
	26	F		9325347		. PIN SEAR PIVOT	EA	1
	27	F		9325324		. SEAR	EA	1
	28	0		9325361		. RECEIVER CLOSURE/TRIPOD ADAPTER	EA	1
	29	F		DIN-1481		. PIN, SPRING BARREL LOCK KNOB (03X14 HCP)	EA	1
	30	F		9325344		. KNOB, BARREL LOCK	EA	1
	31	F		9325345		. SPRING, BARREL LOCK	EA	1
	32	F		DIN-1481		. PIN, SPRING (3X12HCP)	EA	1
	33	F		9325343		. PIN, BARREL LOCK	EA	1
	34	0		9325431		. GAS, CYLINDER ASSY	EA	2
	35	F		DIN-1481		. PIN, SPRING RELEASE LEVER (03X16 HCP)	EA	1
	36	F		9325369		. SPRING, CHARGER	EA	1

(1) ILLUSTRATION (a) FIG NO.	(1) ILLUSTRATION (b) ITEM NO.	(2) MAINT. CODE	(3) FEDERAL STOCK NUMBER	(4) PART NUMBER	(5) FSCM	(6) DESCRIPTION USABLE ON CODE	(7) U/M	(8) QTY INC IN UNIT
5-8	37	F		9325367		. LEVER RELEASE MAGAZINE	EA	1
	38	O		9325358		. PIN ACCESS DOOR	EA	1
	39	O		9325359		. ACCESS DOOR	EA	1
	40	O		9325348		. ACCESS DOOR ASSEMBLY	EA	1
	41	F		9325302		. RECEIVER	EA	1
	42	F		9325379		. SPRING, BULLET GUIDE	EA	1
	43	F		9325451		. YOKE, BIPOD	EA	1
	44	F		9325454		. SHAFT ASSEMBLY, LEG, R.H.	EA	1
	44	F		9325454		. SHAFT ASSEMBLY, LEG, R.H.	EA	1
	45	F		9325457		. SHAFT ASSEMBLY, LEG, L.H.	EA	1
	46	F		9325455		. EXTENSION ASSEMBLY, LEG, R.H.	EA	1
	47	F		9325458		. EXTENSION ASSEMBLY, LEG, L.H.	EA	1
	48	F		9325380		. REAR SIGHT ASSEMBLY	EA	1

*Replacement of Receiver Not Authorized

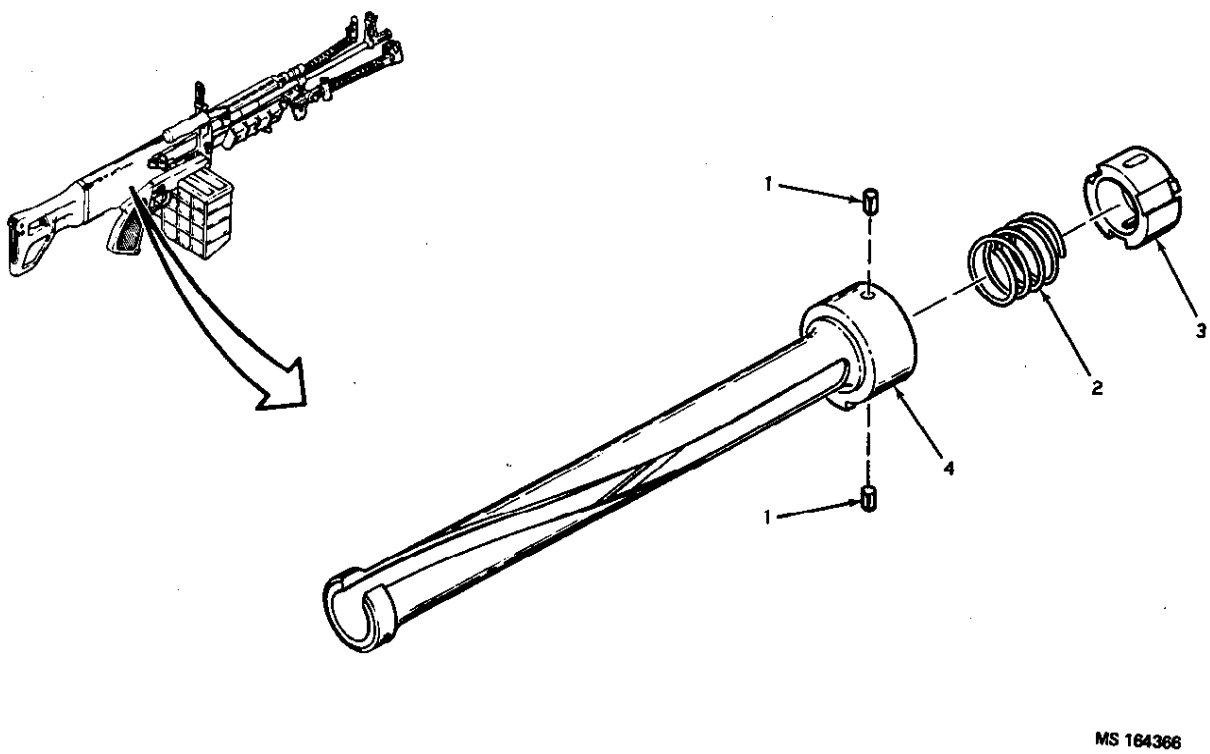


Figure 5-9. Cam and Ratchet Assembly

(1) ILLUSTRATION (a) FIG NO.	(1) ILLUSTRATION (b) ITEM NO.	(2) MAINT. CODE	(3) FEDERAL STOCK NUMBER	(4) PART NUMBER	(5) FSCM	(6) DESCRIPTION / USABLE ON CODE	(7) U/M	(8) QTY INC IN UNIT
5-9		0		9325285		CAM AND RATCHET ASSEMBLY (SEE FIG. 5-1 FOR NHA)		
	1	F		9325291		. PIN GROOVE	EA	2
	2	F		9325290		. SPRING, HELICAL, COMP, RATCHET	EA	1
	3	F		9325288		. RATCHET SPROCKET DRIVE	EA	1
	4	F		9325296		. FEED CAM	EA	1

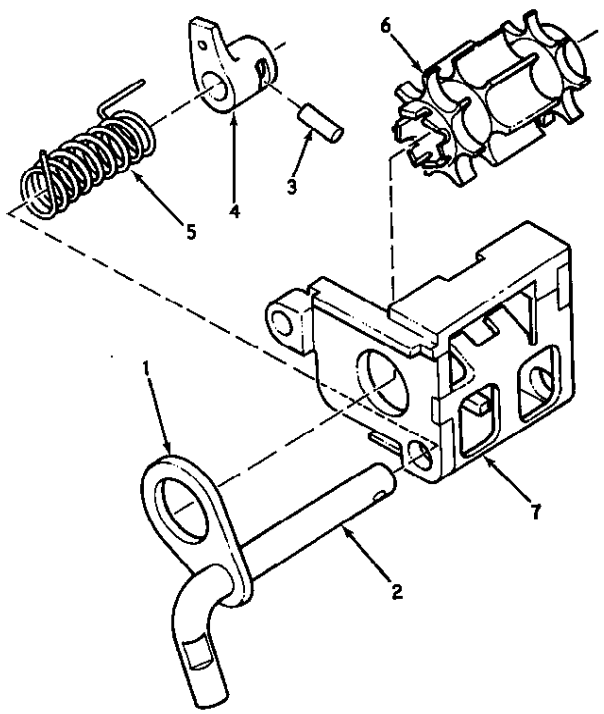


Figure 5-10. Feed Housing Assembly

(1) ILLUSTRATION (a) FIG NO.	(1) ILLUSTRATION (b) ITEM NO.	(2) MAINT. CODE	(3) FEDERAL STOCK NUMBER	(4) PART NUMBER	(5) FSCM	(6) DESCRIPTION / USABLE ON CODE	(7) U/M	(8) QTY INC IN UNIT
5-10		F		9325250		FEED HOUSING ASSEMBLY (SEE FIG. 5-1 FOR NHA)		
	1	F		9325263		. SHOE, FEED RELEASE	EA	1
	2	F		9325262		. SHAFT FEED RELEASE	EA	1
	3	F		DIN1481		. PIN, SPRING (2.5X6 LG)	EA	1
	4	F		9325259		. PAWL, SPROCKET	EA	1
	5	F		9325258		. SPRING, PAWL	EA	1
	6	F		9325260		. FEED SPROCKET	EA	1
	7	F		9325269		. HOUSING FEED	EA	1

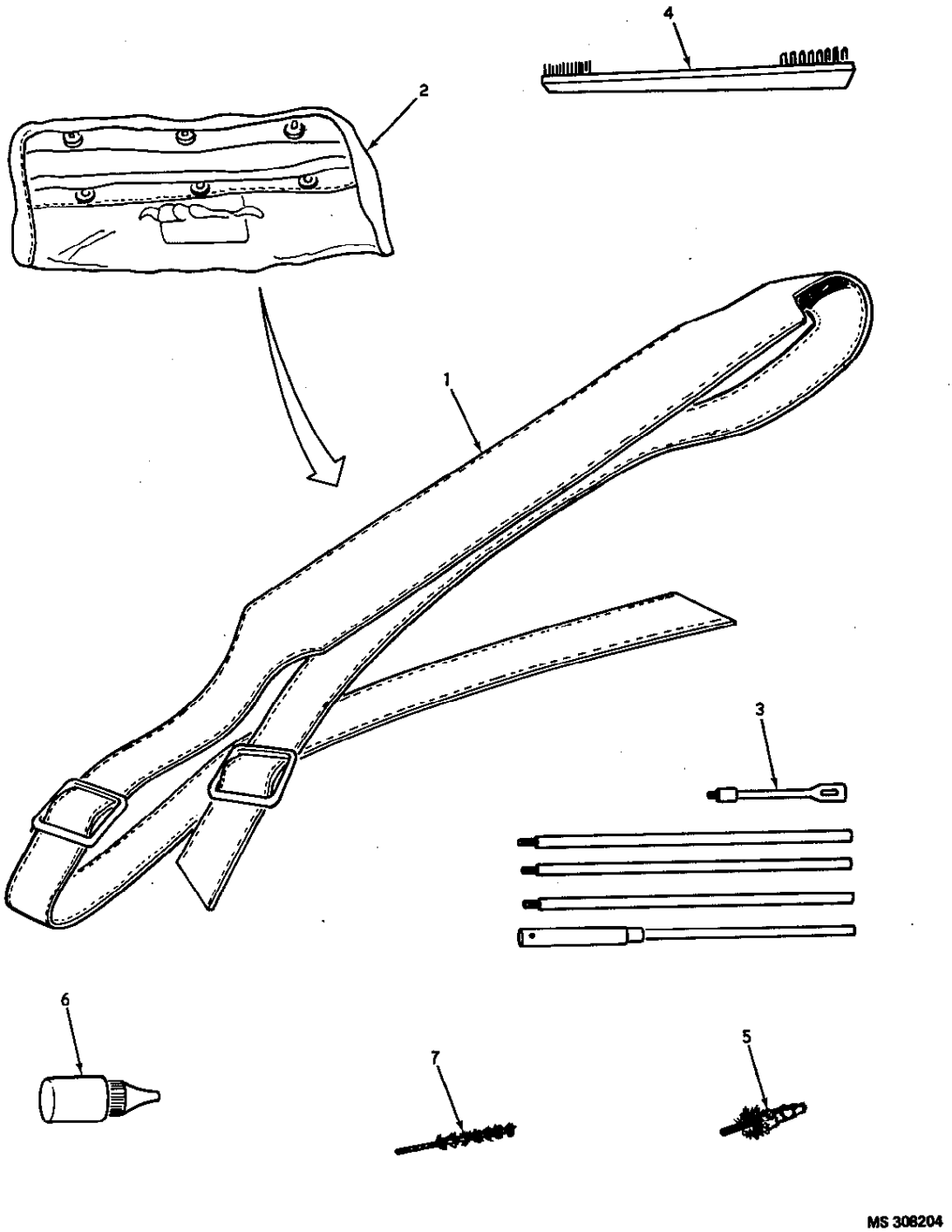


Figure 5-11. Sling Assembly

(1) ILLUSTRATION (a) FIG NO.	(1) ILLUSTRATION (b) ITEM NO.	(2) MAINT. CODE	(3) FEDERAL STOCK NUMBER	(4) PART NUMBER	(5) FSCM	(6) DESCRIPTION USABLE ON CODE	(7) U/M	(8) QTY INC IN UNIT
5-11		0		9325140		SLING, ADJUSTABLE, WITH CLEANING EQUIPMENT POUCH (SEE FIG 5-1 FOR NHA)		
	1	0		12002983		. SLING, ADJUSTABLE, M60 MODIFIED	EA	1
	2	0		NSN1005-781-9564		. POUCH	EA	1
	3	0		NSN1005-089-3994		. CLEANING ROD	EA	1
	4	0		NSN1005-903-1296		. BRUSH, BORE	EA	1
	5	0		NSN1005-999-1435		. BRUSH CHAMBER	EA	1
	6	0		NSN1005-242-5687		. BOTTLE, LUBE	EA	1
	7	0		NSN1005-494-6602		. BRUSH, ALL PURPOSE	EA	1

Section II. ALPHANUMERIC LISTING

5-3. LISTING.

a. This list of part numbers is in alphanumeric sequence, cross-referenced to the illustration figure number and item number.

b. After finding the figure and item number in the illustration, locate the figure and item number in the parts list.

NOTE

Breakdown of assemblies are for supply purposes only and should be accomplished at higher level maintenance.

PART NUMBER	FSCM	FIG. NO.	ITEM NO.
AMS4951	96906	7	
MS15795-807	96906	7	2
MS16624-5019	96906	8	15
MS16632-1012	96906	4	2
MS171492	96906	5	3
MS19061	96906	8	
MS1957-46	96906	7	1
MS20426D	96906	8	5
MS21042-08	96906	7	3
MS27183-12	96906	3	2
MS28775-011	96906	3	7
MS28775-018	96906	3	4
MS35206-205	96906	8	22
MS35677-29	96906	8	10
MS9390-18	96906	8	1
DIN-1481	96906	8	32
DIN-1481	96906	8	29
DIN-1481	96906	8	35
3605		6	2
9325126	19204	1	4
9325152	19204	3	14
9325153	19204	3	6
9325154	19204	3	5
9325155	19204	3	3
9325170	19204	1	2
9325171	19204	3	15
9325180	19204	3	13
9325181	19204	3	1
9325203	19204	5	3
9325204	19204	5	7
9325205	19204	5	9
9325206	19204	5	3
9325207	19204	5	4
9325209	19204	5	2
9325219	19204	5	16
9325220	19204	5	17
9325221	19204	5	18
9325222	19204	5	20
9325223	19204	5	23
9325225	19204	5	15
9325226	19204	5	14
9325227	19204	5	13
9325229	19204	5	12
9325239	19204	5	11
9325240	19204	1	5
9325242	19204	5	8
9325244	19204	5	9
9325247	19204	5	10
9325244	19204	5	11
9325249	19204	5	22
9325250	19204	1	7
9325257	19204	10	1
9325258	19204	10	5
9325259	19204	10	4
9325260	19204	10	6
9325262	19204	10	2
9325263	19204	10	1
9325264	19204	10	3
9325265	19204	10	2
9325269	19204	10	10
9325285	19204	1	9
9325288	19204	9	3
9325290	19204	9	2
9325291	19204	9	1
9325296	19204	9	4
9325302	19204	8	41
9325304	19204	8	7
9325319	19204	8	23
9325320	19204	8	25
9325321	19204	5	16
9325324	19204	8	27
9325325	19204	8	18
9325326	19206	8	20
9325327	19204	8	16
9325331	19204	8	19
9325333	19206	8	13
9325335	19204	8	12
9325337	19204	8	3
9325343	19204	8	33
9325344	19204	8	30
9325345	19204	8	31
9325347	19204	8	26
9325248	19204	8	37
9325451	19204	8	43
9325454	19204	8	44
9325358	19204	8	38
9325359	19204	8	39
9325361	19204	8	28
9325367	19204	8	37
9325368	19204	8	14
9325369	19204	8	36
9325371	19204	8	9
9325373	19204	8	8
9325377	19204	8	17
9325379	19204	8	42
9325380	19204	8	48
9325389	19204	8	2
9325390	19204	1	8
9325393	19204	8	6
9325394	19204	8	3
9325425-6	19204	8	11
9325426-2	19204	10	6
9325426-7	19204	3	12
9325426-16	19204	4	6
9325426-17	19204	8	29
9325427-2	19204	6	1
9325427-3	19204	3	1
9325427-4	19204	8	24
9325428-1	19204	3	11
9325429-1	19204	4	5
9325429-3	19204	8	21
9325429-4	19206	8	4
9325431	19204	8	34
9325451	19204	8	43
9325454	19204	8	38
9325455	19204	8	46
9325457	19204	8	45
9325458	19204	8	47
9325459	19204	8	34
9325470	19204	1	7
9325472	19204	7	4
9325478	19204	7	5
9325484	19204	7	6
9325500	19204	1	6
9325504	19204	6	4
9325507	19204	6	3

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PART NUMBER	FSCM	FIG. NO.	ITEM NO.
9325509	19204	6	2
9325512	19204	6	6
9325513	19204	6	5
9325530	19204	1	3
9325531-2	19204	4	8
9325537	19204	4	4
9325539	19204	4	1
9325540	19204	4	3
9325543	19204	4	7
9325545	19204	4	11
9325546	19204	4	5
9325560	19204	1	1
9325562	19204	2	3
9325567	19204	2	2
9325573	19204	2	1
9325590	19204	1	
11010520-1	19204	3	8
11010520-2	19204	3	9
11010542	19204	3	10

Section III. INDENTED PARTS LIST

5-4. INDENTED LISTING.

a. This parts list lists all the drawings used in the assembly of the XM248 Light Machine Gun, the indentation showing the relationship to the next higher assembly (NHA).

PART NUMBER	CH LT	TITLE	Fig. No.	Item No.
9325590	B	XM248 GUN ASSY	1	
9325170	B	BUTTSTOCK ASSY	1	2
9325171		BUTTSTOCK	3	15
9325152	B	END CAP	3	14
9325153		PLUNGER BUFFER	3	6
9325154		SPRING, BUFFER	3	5
9325155		CAP, BUFFER	3	3
9325180		CAM LOCK ASSY	3	13
9325179	A	PIN, CAM LOCK		
9325162		HANDLE, CAM LOCK		
9325162-1		HANDLE		
MS20613-3P3		RIVET		
9325428-1		PLUNGER, SPRING	3	11
9325181		SHOULDER, SCREW	3	1
11010520-1		RING, SCRAPER	3	8
11010520-2		CUSHION	3	9
11010542		RING, RETAINING	3	10
MIL-S-22473		SEALING COMPOUND		
MS28775-018		'O' RING	3	4
MS28775-011		'O' RING	3	7
MIL-H-5606		HYDRAULIC FLUID 11.5 CC		
9325426-7		PIN, SPRING	3	12
9325175		SUPPORT		
9325173		SUPPORT HOUSING ASSY		
9325172		SUPPORT HOUSING		
9325174		PIN, SUPPORT HOUSING		
9325177		RIVET, BUTT PLATE		
MS27183-12		WASHER, FLAT	3	2
9325250	C	FEED HOUSING ASSY	1	7
9325269	C	HOUSING, FEED	10	10
9325261	C	FEED RELEASE ASSY		
9325262		SHAFT, FEED RELEASE	10	2
9325263		SHOE, FEED RELEASE	10	1
9325259	A	PAWL, SPROCKET	10	4
9325258	A	SPRING, PAWL	10	5
9325260		FEED SPROCKET	10	6
DIN1481 02.5X6 LG		PIN, SPRING	10	3
9325285		CAM & RATCHET ASSY	9	
9325296	G	FEED CAM	9	4
9325288		RATCHET, SPROCKET DRIVE	9	3
9325290		SPRING, RATCHET	9	2
9325291		PIN, GROOVE	9	1
MS35671-16		PIN, GROOVE		
9325126		SPRING, DRIVE	1	4
9325127		SPRING, DRIVE ALTERNATE FOR 9325126	1	
9325140		SLING, ADJ. W/CLEANING EQUIP. POUCH		
9325240	C	OPERATING GROUP ASSY	1	
9325247		CARRIER BOLT	5	10
9325203	A	PIN, BOLT LATCH	5	7
9325204		LATCH, BOLT	5	8
9325205		SPRING LATCH	5	9
9325206	A	PIN, DRIVE	5	3
9325207		ROLLER FEED CAM	5	4
9325209	E	ROD OPERATING	5	2
MS171492		PIN, SPRING	5	1

PART NUMBER	CH LT	TITLE	Fig. No.	Item No.
9325242	C	PIN, FIRING	5	5
9325239	A	CAM PIN	5	11
9325244	C	BOLT ASSY	5	
9325249	C	BOLT	5	22
9325219		EXTRACTOR	5	16
9325220		PLUNGER, EXTRACTOR	5	17
9325221		SPRING, EXTRACTOR	5	18
9325222		EJECTOR	5	20
9325223		SPRING, EJECTOR	5	21
9325225	B	RAMMER	5	15
9325226		SPRING, RAMMER	5	14
9325227		PIN, RAMMER	5	13
9325229		RETAINER, PIN	5	12
9325231		PIN, EJECTOR	5	19
9325470		FORESTOCK ASSY	1	7
9325471	C	GUARD ASSY		
9325472	E	GUARD HAND	7	4
9325473	A	GUSSETT, LOWER		
9325474	B	GUSSETT, UPPER FRONT		
9325476	B	GUSSETT, UPPER REAR		
9325477		GRIP ASSY R.H.		
9325478		GRIP, FORESTOCK R.H.	7	5
9325479		SPACER, THERMAL		
9325480		SLEEVE, THERMAL		
9325482		STRIP, THERMAL		
4000		ADHESIVE		
9325483		GRIP ASSY L.H.		
9325484		GRIP, FORESTOCK, L.H.	7	6
9325479		SPACER, THERMAL		
9325480		SLEEVE, THERMAL		
9325482		STRIP THERMAL		
4000		ADHESIVE		
MS51957-46B		SCREW		
MS15795-807		WASHER	7	2
MS21042-L08		NUT		
MS51957-46		SCREW, ALTERNATE	7	1
MS21042-08		NUT, ALTERNATE FOR MS21042-L08	7	3
9325500	D	BARREL ASSY	1	6
9325506		RING, GAS		
9325507		FRONT SIGHT	6	3
9325508	C	FRONT SIGHT CASTING		
9325509	A	HANDLE CARRYING	6	2
9325510	A	BRACKET HANDLE		
9325427-2		SCREW, SOC. HD.	6	1
3605		PLASTIC CASTING		
9325511		BARREL & EXT ASSY		
9325425-1	B	PIN, DOWEL		
9325504	B	GAS HOUSING	6	4
9325505		GAS HOUSING CASTING		
9325512	A	BARREL	6	6
9325513	A	BARREL EXTENSION	6	5
9325425-1	B	PIN, DOWEL		
DIN 7ST-04X8		PIN, DOWEL		

PART NUMBER	CH LT	TITLE	Fig. No.	Item No.
9325530	D	DUST COVER ASSY	1	3
9325531	F	DUST COVER WELDMENT		
9325531-2		DUST COVER	4	8
9325532	B	HINGE		
9325541	B	BOTTOM DUST COVER		
9325544		BLOCK HINGE		
9325533	B	DOOR, EJECTION ASSY		
9325534	B	EJECTION DOOR WELDMENT		
9325536		HOUSING PLUNGER		
9325543		DOOR, EJECTION PORT	4	7
9325429-1		SPRING	4	5
9325537		PLUNGER DETENT	4	4
MS171462		PIN SPRING	4	6
9325539	B	PIN HINGE	4	1
9325540		SPRING	4	3
9325542		CASE DEFLECTOR		
9325545		DOOR, LINK	4	11
9325546		PIN LINK DOOR	4	9
MS16632-1012		RING RETAINING	4	2
MS20426A04-4		RIVET		
9325390	B	RECEIVER GROUP ASSY	1	8
9325319		GRIP PISTOL	8	23
9325320	C	TRIGGER BAR	8	25
9325321		TUB ASSY. TRIGGER BAR		
9325322		FITTING FWD. TRIGGER BAR		
9325323		TUBE, TRIGGER BAR		
9325364		FITTING AFT, TRIGGER BAR		
9325325	C	TRIGGER	8	18
9325326	A	SAFETY	8	20
9325327	A	PIN, TRIGGER SPRING	8	16
9325331		PLUNGER SAFETY	8	19
9325333		GUARD TRIGGER	8	13
9325335	A	COVER, GRIP GUARD	8	12
9325344		KNOB, BARREL LOCK	8	30
9325345		SPRING, BARREL LOCK	8	31
9325346	A	PIN ASSY. BARREL LOCK		
9325343	A	PIN BARREL LOCK	8	33
DIN-1481		0/ 3 x 12 SPRING PIN	8	32
9325348	B	ACCESS DOOR ASSY.	8	40
9325349	B	FRAME, ACCESS DOOR		
9325350		LATCH ASSY, ACCESS DOOR		
9325352	A	LATCH ACCESS DOOR		
9325353	A	KNOB LATCH		
9325351		COVER, ACCESS DOOR		
9325353	B	GUIDE, CARTRDGE		
9325378		SPRING, HELICAL		
MS171462		RIVET ACCESS DOOR		
9325347		SEAR PIN	8	26
9325358		PIN, ACCESS DOOR	8	38
9325359		SPRING ACCESS DOOR	8	39
9325360	A	RECEIVER CLOSURE		
9325361	C	RECEIVER CLOSURE/ADAPTER	8	28
9325362		PIN, LOCKING		
9325365		SPRING, HELICAL		
9325366		PLUNGER, RECEIVER CLOSURE		
9325428-2		PLUNGER, SPRING		
MS171505		PIN, SPRING		
9325367	B	LEVER, RELEASE MAGAZINE	8	37
9325367-1	B	LEVER		
MS35671-16		PIN, GROOVE		
9325368		PIN, PIVOT TRIGGER	8	14
9325380		REAR SIGHT ASSY	8	18
9325381		SCALE		
7269290		LEAF		
7269287		SPRING		
7269288		CAP		
7269289		SLIDE		
7269291		KNOB		

PART NUMBER	CH LT	TITLE	Fig. No.	Item No.
7269292		RELEASE ASSY		
7269293		RIVET		
7269294		RIVET		
7269295		SCREW		
7269296		SCREW		
7269298		SPRING		
7269299		SPRING		
MS14061-3		BALL		
9325383		SLEEVE, WINDAGE KNOB		
MS35206-265		SCREW	8	22
9325431		GAS CYLINDER ASSY	8	34
9325340	E	GAS CYLINDER		
9325341	A	GAS PISTON		
9325377		SPRING, TRIGGER	8	15
9325425-6		PIN, TRIGGER GUARD	8	11
9325427-4		SCREW, SOC. HD. CAP	8	24
9325429-3		SPRING, SAFETY	8	21
9325370	B	RECEIVER ASSY		
9325302	C	RECEIVER	8	41
9325303	E	RECEIVER CASTING		
9325304	B	GUIDE, TUBE	8	7
9325305		GUIDE, TUBE CASTING		
9325329		PIN, GUIDE		
9325339		INSERT		
9325369		SPRING CHARGER	8	36
9325372		UPPER TUBE ASSY		
9325308		CAM BOLT LATCH		
9325309		SLEEVE UPPER TUBE		
9325334		TAB, PIN		
9325371		TUBE UPPER	8	9
9325373		TUBE LOWER	8	8
9325379		SPRING BULLET GUIDE	8	42
9325389		LATCH	8	2
9325392		SLIDE ASSY		
9325338		SLIDE CHARGER		
9325384		GUIDE CHARGER		
9325384-1		TUBE		
9325384-2		BRACE		
9325384-3		CAP		
9325393		GRIP CHARGER	8	6
9325394		PIN CHARGER	8	3
9325398		FEED HOUSING RETAINER		
9325399		PIN, FEED HOUSING RETAINER		
9325425-3		PIN, DOWEL		
9325425-4		PIN, DOWEL		
9325429-4		SPRING	8	4
MS9390-18		PIN, DOWEL	8	1
MS20426D5		RIVET	8	5
MS20600M4W5		RIVET, BLIND		
DIN7ST Ø 4 x 20		PIN, DOWEL		
9325450		BIPOD ASSY		
9325451	B	YOKE BIPOD MACHINED	8	43
9325452		YOKE BIPOD CASTING		
9325453		LEG ASSY R.H.		
9325454		SHAFT ASSY	8	44
7790837		ASSY		
9325455	A	EXTENTION ASSY	8	46
9325459	C	PLATE BIPOD SHOE		
7790835		EXTENSION ASSY LEG		
7790836		PLUNGER		
7790838		SPRING		
MS16562-99		PIN, SPRING		
MS39086-88		PIN, SPRING		
9325456		LEG ASSY. L.H.		
9325457		SHAFT ASSY	8	45
7790840		ASSY		
9325458	A	EXTENSION ASSY	8	47
9325459	C	PLATE BIPOD SHOE		
7790839		EXTENSION ASSY LEG		

PART NUMBER	CH LT	TITLE	Fig. No.	Item No.
7790836		PLUNGER		
7790838		SPRING		
MS16562-99		PIN, SPRING		
MS39086-88		PIN, SPRING		
7790820		BUTTON		
7790824		SPRING		
7792846		PLUNGER		
MS16562-96		PIN		
7269280		RIVET, SLIDE		
7269281		SCREW, WINDAGE		
7269282		SLIDE, SCREW		
7269283		SPRING		
7269285		KNOB, WINDAGE		
7269287		SPRING		
MS16624-5019		RING RETAINING	6	15
MS19061-3		BALL		
MS19061-5		BALL		
MS35677-29		PIN	8	10
DIN-1481 Ø 3 x 14		PIN	8	29
DIN-1481 Ø 3 x 16		PIN	8	35
9325560		MAGAZINE ASSY	1	1
9325566		COVER ASSY		
9325567	B	COVER MAGAZINE	2	2
9325568		REINFORCEMENT COVER		
MS16535-223		RIVET TUBULAR		
9325573	B	LOCK, MAGAZINE ASSY	2	1
9325578	A	AMMO. CONT. ASSY		
9325562		AMMUNITION CONTAINER	2	3
9325570		AXLE HOLDING PAWL		
9325574	B	GUIDE, BELT		
9325575		PAWL, HOOLDING		
9325576		PLUNGER		
9325577		SPRING		
MS16535-122		RIVET, TUBULAR		

APPENDIX A

MAINTENANCE CHARTS AND LISTS, XM 248 WEAPON

A-1. General. Presented in this appendix are supplemental maintenance data in the form of a maintenance allocation chart and lists of tools, equipment and expendable supplies for each level of maintenance. The maintenance allocation chart assigns specific maintenance functions, both scheduled and unscheduled, to the proper maintenance levels. Sections A-1 through A-3 explain maintenance functions, and level breakdown. Table A-1 lists various subassemblies under assigned assembly part number, maintenance level at which maintenance function is to be performed and reference code for tools required for maintenance action. Table A-2 lists the tools and consumable items (reference in Table A-1) by maintenance level: Crew-Operator, Organization maintenance, and Direct Support - General Support and Depot.

A-2. Maintenance Functions. Maintenance functions on the maintenance allocation chart (Table A-1) are defined as follows:

a. Inspect - To determine serviceability of weapon assemblies/components by comparing its physical and mechanical characteristics with established standards.

b. Test - To verify serviceability and to detect mechanical failure by use of prescribed test methods.

c. Service - To clean mechanical components to keep weapon/subassemblies in proper operating order.

d. Adjust - To rectify to the extent necessary to bring into proper operating range.

e. Remove/Replace - To remove and replace unserviceable subassemblies and/or components with serviceable like items.

f. Lubricate - To lubricate mechanical components to keep weapon/subassemblies in proper operating order.

g. Disassemble/Assemble - Disassembly and assembly of weapon, subassemblies and components at various maintenance levels.

h. Repair - Maintenance operations necessary to restore weapon and/or subassemblies to serviceable condition through correction of material damage or specific failure.

A-3. Explanation of Format (For Table A-2).

a. Group Number - Column 1 lists group number of weapon and modular subassemblies (Group number is also drawing number for each assembly/component).

b. Part Assembly/Maintenance Function - Column 2 lists proper part assembly name and maintenance functions performed on the part assembly.

c. Maintenance Level - Explanation of codes in maintenance level, column 3, is as follows:

Code	Explanation
C	Operator/Crew
O	Organizational Maintenance
F	Direct Support/General Support Maintenance
D	Depot Maintenance

d. Tools/Equipment - Column 4 lists support tools/equipment, by code, to support a designated maintenance function.

Table A-1. Maintenance Allocation Chart - XM248 Weapon

Group Number	Part Assembly/ Maintenance Function		Maintenance Level C	O	F	D(1)	Tools/Equipment C	O	F
9325590	XM248 Weapon								
	Inspect	I	X	X	X				
	Test	T			X				
	Service	S	X	X	X		1,2,5,6	2,5,6	
	Adjust	A	X	X	X				
	Remove/Replace	R/R		X	X				
	Lubricate	L	X	X			3,4,5,6	3,4,5,6	
	Disassemble/ Assemble	D	X	X	X				
	Repair	R		X	X				
o 9325170	Buttstock Assy								
		I	X	X	X				
		T			X				
		S	X	X	X		2,5,6	2,5,6	
		A	X	X	X				7,8,9,12,19,21
		R/R		X	X				7,8,9,12,19,21
		L	X	X			3,4,5,6	3,4,5,6	
		D			X				7,8,9,12,19,21
		R			X				7,8,9,12,19,21
o 9325127	Drive Springs								
		I	X	X	X				
		T		X	X			20	20
		S	X	X	X		2,5,6	2,5,6	
		A							
		R/R		X	X				
		L	X	X			3,4,5,6	3,4,5,6	
		D							
		R							
o 9325530	Dustcover Assy								
		I	X	X	X				
		T							
		S	X	X	X		2,5,6	2,5,6	
		A			X			9,12,13	
		R/R		X	X			9,12,13	
		L	X	X			3,4,5,6		
		D			X			9,12,13	
		R			X			9,14	
o 9325240	Operating Group Assy								
		I	X	X	X				
		T			X				
		S	X	X	X		2,5,6	2,5,6	
		A			X			9,12	9,12
		R/R		X	X			9,12	9,12
		L	X	X			3,4,5,6	3,4,5,6	
	(2)	D	X	X	X			9,12	9,12
		R			X				9,12
oo 9325244	Bolt Assy								
		I	X	X	X				
		T			X				
		S	X	X	X		2,5,6	2,5,6	
		A			X				9,12,22
		R/R		X	X				9,12,22
		L		X	X		3,4,5,6	3,4,5,6	
		D							9,12,22
		R			X				9,12,22

Table A-1. Maintenance Allocation Chart - XM248 Weapon (Continued)

Group Number	Part Assembly Maintenance Function		Maintenance Level C	O	F	D(1)	Tools/Equipment C	O	F
o 9325285	Cam and Ratchet Assy								
		I	X	X	X				
		T			X				
		S	X	X	X		2,5,6	2,5,6	
		A			X				9,12
		R/R		X	X				9,12
		L	X	X			3,4,5,6	3,4,5,6	
		D			X				9,12
		R			X				9,12
o 9325500	Barrel Assy								
		I	X	X	X				
		T			X				
		S	X	X	X		1,5,6	1,5,6	
		A			X				17
		R/R		X	X				9,17
		L	X	X			3,4,5,6	3,4,5,6	
		D			X				9,17
		R			X				9,17
o 9325470	Forestock Assy								
		I	X	X	X				
		T			X				
		S	X	X	X		2,5,6	2,5,6	
		A		X	X				7,10,11
		R/R		X	X				7,10,11
		L	X	X			3,4,5,6	3,4,5,6	
		D		X	X				7,10,11
		R		X	X				7,10,11
o 9325390	Receiver Group Assy								
		I	X	X	X				
		T			X				
		S	X	X	X		2,5,6	2,5,6	
		A		X	X			9,12	9,12,13,14,15,16,17,18
		R/R		X	X			9,12	9,12,13,14,15,16,17,18
		L	X	X			3,4,5,6	3,4,5,6	
	(2)	D		X	X			9,12	9,12,13,14,15,16,17,18
		R			X				9,12,13,14,15,16,17,18
oo 9325250	Feed Housing Assy								
		I	X	X	X				
		T			X				
		S	X	X	X		2,5,6	2,5,6	
		A			X				9,12,13(2)
		R/R			X				9,12,13(2)
		L	X	X			3,4,5,6	3,4,5,6	
		D			X				9,12,13(2)
		R			X				9,12,13(2)

NOTE:

1) No depot level maintenance identified at this time

2) Partial disassembly for crew see maintenance manual - field strip instructions

o Indicates Modular Subassembly - Field Strip Level by Crew/Operator

oo Indicates Modular Subassembly - Not to be Field stripped by Crew/Operator

Table A-2. Support Tools/Equipment for Various Maintenance Levels, XM248 Weapon

Item	Consummable Items/ Support Tools	Specification/ Part No.	Federal Stock No.
Crew-Operator			
1)	Cleaning Solvent (Rifle Bore Cleaner), RBC	MIL-C-372	6850-00-224-6663
2)	Dry Cleaning Solvent, SD	PD-680-Type 1	6850-22-281-1985
3)	Preservative Oil, Lubricating Low Temperature, LAW	MIL-L-14107B	9150-00-292-6989
4)	Preservative Oil, Lubricating Medium, LSA	MIL-L-46000	9150-00-889-3522
5)	Rag, wiping	DDD-R-30	7910-00-205-1711
6)	Sling w/cleaning equipment pouch. Includes cleaning rod, bore and chamber brushes, oil applicator, cleaning brush	9325140	-
Organizational Level			
1) - 6)	(Same as crew)		
Supply Tools			
9)	Hammer, Hand, Machinist	GGG-H-86	5120-00-061-8544
10)	Punch, Pin Set (2,3,4,5,6,8mm)	15650002-15650008	
Direct Support/General Support			
1) - 6)	(Same as crew)		
7)	Sealing Compound, Grade C	MIL-S-22473C	8030-00-043-1688
8)	Hydraulic Oil, Petroleum Base	MIL-H-5606	9150-00-223-4134
Supply Tools			
9) -10)	(SAME AS ORGANIZATIONAL LEVEL)		
11)	Screwdriver, Phillips, Offset 90° type		
12)	7/32" hex head driver		
13)	Pliers, Needle Nose (2)	12211100-2	5120-00-247-5177
14)	Pliers, Retaining Ring		
15)	Screwdriver, Flat Tip		5120-00-234-8910
16)	Screwdriver, Cross Tip, Phillips	GGG-5-121	5120-00-764-8097
17)	Wrench, Hex Key Type (4mm)		
18)	Drift pin, 1.5mm x 75mm		
19)	Wrench, Hex Key Type (6mm)		
20)	Steel Rule (300mm)	R300	
21)	Wrench, Open end adjustable	GGG-W-631	5120-00-449-8083
22)	Vise, metal, bench		

APPENDIX B

CRITICAL DIMENSION GAGES FOR THE BARREL ASSEMBLY

B-1. General: Weapon locking compatibility (i.e., headspace) and firing pin indent measurements are made on all weapons after proof firing and are recorded in the critical dimension log accompanying each weapon. Periodic measurement of the weapon using the following gages and techniques can monitor any change in barrel and operating group conditions that might occur during the life of the weapon.

B-2. Weapon Locking Compatibility (Headspace):

a. Inspection Gages P/N 9325400-1 through 9325400-10 (make from 7799734).

b. Objective - For proper locking function when employing the XM777/778 ammunition; each weapon including spare barrel shall be inspected to assess locking compatibility, i.e., headspace.

c. Criterion - Weapon headspace is defined in terms of the axial dimension from the bolt face with the bolt fully locked to the 8.382mm diameter datum of the first shoulder in the chamber. A dimension of less than 37.187mm or more than 37.287mm shall be undersirable.

d. Method - After proof firing, headspace of the weapon shall be determined when employing the assigned bolt with both the assigned barrel and the spare barrel by using inspection gages designed to check dimensions from 37.147mm to 37.327mm in increments of 0.020mm. Starting with the smallest gage length insert gage into barrel chamber (with barrel removed from receiver) and attempt to manually insert and rotate the bolt to the fully locked position. If the fully locked position can be achieved with minimal required effort, (a "GO CONDITION"), repeat above using successively larger length gages until one is found for which the bolt cannot be fully locked or which requires that an excessive amount of force be applied to complete lock. The compatibility dimension for the bolt-barrel combination being checked shall be equal to the largest gage length which provides a "GO CONDITION". If the bolt cannot be locked with the smallest gage in the chamber, the compatibility dimension shall be recorded as "less than 37.147mm." If the bolt can be locked with the largest gage in the chamber, record compatibility dimension as "Greater than 37.327."

e. Data - Record the headspace dimension of the weapon with the assigned barrel and that with the spare barrel. Also record the distance from the bolt lug locking sureface to the bolt face for the weapon bolt and for any spare bolt(s).

B-3. Firing Pin Indent:

a. Inspection Gages -

M16A1 rifle plug gage (8440219)

M16A1 rifle plug gage (8440220)

Copper compression cylinder (8440920)

b. Objective - To determine weapon firing pin indent as measured by the copper compression cylinder and concentricity of the indent with respect to the chamber with both its assigned and spare barrel assemblies.

c. Criterion - Firing pin indent shall be no less than 0.51mm and shall not be off center more than one-half the diameter of the firing pin indent.

d. Method After cocking the weapon, insert the M16A1 rifle plug gage (8440219) containing the copper compression cylinder (8440920) into the barrel chamber and pull the trigger to release the operating group from sear and indent the copper cylinder. Remove copper cylinder from weapon and determine the data noted below. Repeat above using plug gage (8440220). If any firing pin indent is not within the desired range, three more impressions shall be taken and the average depth of the three indents of each test determined.

e. Data - Record the depth of the indent in the copper cylinder computed by measuring the distance from the original surface of the cylinder to the bottom of the firing pin indent. If the impression is off center by more than one-half the firing pin point, as evidenced by visual examination, measure and record the distance the center of the indent is off the center of the cylinder.